MATANUSKA-SUSITNA BOROUGH
ADMINISTRATIVE HEARING AGENDA

Edna DeVries, Mayor

PLANNING & LAND USE DIRECTOR
Alex Strawn

PLANNING DEPARTMENT
ADMIN. SPECIALIST
Lacie Olivieri

Assembly Chambers of the
Dorothy Swanda Jones Building
350 E. Dahlia Avenue, Palmer

Michael Brown, Borough Manager

PLANNING & LAND USE DEPARTMENT
Jason Ortiz, Planning and Land Use Deputy Director
Wade Long, Development Services Manager
Fred Wagner, Platting Officer

February 26, 2026
REGULAR MEETING
9:00 A.M.

Ways to participate in the Administrative Permit meetings:

IN-PERSON: You will have 3 minutes to present your oral comment.

IN WRITING: You can submit written comments to the Planning Department Admin. at planning@matsugov.us.

TELEPHONIC TESTIMONY:

- Dial 1-855-290-3803; you will hear "Joining conference" when you are admitted to the meeting.
- You will be automatically muted and able to listen to the meeting.
- When the Chair announces audience participation or a public hearing you would like to speak to, press *3; you will hear, "Your hand has been raised."
- When it is your turn to testify, you will hear, "Your line has been unmuted."
- State your name for the record, spell your last name, and provide your testimony.

I. PLEDGE OF ALLEGIANCE

II. PUBLIC HEARING

A. An Administrative Permit In Accordance With MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, For A Cell Tower Located at 3600 E. Bogard Road, Tax ID# 2327B01L004. (Applicant: Justin Abbott, on behalf of AT&T Mobility; Staff: Rebecca Skjothaug, Current Planner)

B. An Administrative Permit In Accordance With MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, For A Cell Tower Located at 27950 E Knik River, Tax ID# 8274000L001A. (Strumpher, Helmundt, on behalf of ATLAS; Staff: Rebecca Skjothaug, Current Planner)

C. An Administrative Permit In Accordance With MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, For A Cell Tower Located at 36956 W Parks Hwy, Tax ID# 20N05W25A011.

(Strumpher, Helmundt, on behalf of ATLAS; Staff: Rebecca Skjothaug, Current Planner)

III. ADJOURNMENT

Disabled persons needing reasonable accommodation in order to participate at a Planning Commission Meeting should contact the Borough ADA Coordinator at 861-8432 at least one week in advance of the meeting.

PUBLIC HEARING

An Administrative Permit In Accordance With MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, For A Cell Tower Located at 3600 E. Bogard Road, Tax ID# 2327B01L004. (Applicant: Justin Abbott, on behalf of AT&T Mobility; Staff: Rebecca Skjothaug, Current Planner)

Staff Report

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822
www.matsu.gov

DEVELOPMENT SERVICES DIVISION STAFF REPORT

Date:	February 26, 2026
File Number:	TOWER-2025-010040
Applicant:	Justin Abbott, on behalf of AT&T Mobility
Property Owner:	CRYSTAL INVESTMENTS LLC
Request:	Administrative Permit in accordance with MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures
Location:	3600 E. Bogard Road, Tax ID# 2327B01L004
Size of Property:	Approximately 1.35 acres
Proposed Lease Area:	Approximately 40’ x 40’ within Tax ID# 2327B01L004
Reviewed By:	Wade Long, Development Services Manager
Staff:	Rebecca Skjothaug, Current Planner
Staff Recommendation:	Approval with conditions

EXECUTIVE SUMMARY

An Administrative Permit application under MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, has been submitted to construct a 120-foot-tall, steel monopole tower on the above-referenced property within a 40’ x 40’ leased area. The applicant is requesting a variance to setback regulations based on structural engineering certifications, provided by the applicant.

A tall structure exceeding 85 feet in height is only permitted upon the issuance of an Administrative or Conditional Use Permit. Unless this type of use is maintained under and in accordance with a lawfully issued permit, a tall structure is declared to be a public nuisance. The operation of such a land use without a permit is prohibited.

LAND USE

Existing Land Use:
The subject parcel is privately owned, approximately 1.35 acres in size, and located within Ancient Tree Estates subdivision and the North Lakes Community Council area. as the parcel itself is listed as an 8,000-sf building on 1.35 acres formerly used for glass and door fabrication and currently zoned "Industrial/Commercial." The commercial building is currently leased to Alaska Department of Transportation for an administrative and storage location for ongoing projects on E. Bogard. The proposed tower location is in the northeast corner of the subject property.

The subject property has a chain link fence that runs the northern and eastern property lines while connecting to the commercial facility. Currently ADOT is using this secure area to store vehicles. An additional six-foot fence is proposed to be installed surrounding the equipment compound MSB 17.67.090(C)(2)).

Surrounding Land Use:

The subject site at 3600 E Bogard Road lies within a predominantly industrial/commercial corridor east of downtown Wasilla with scattered residential houses within Ancient Tree Estates Subdivision. To the west and immediately south are other warehouse/light-industrial uses. To the north and east, the pattern shifts toward mixed commercial and smaller-scale service businesses, with undeveloped or developable land noted in transportation plans along E Bogard Road. Farther toward the corridor closer to E Swanson and Main Street, commercial development such as retail, financial institutions, and offices is present, indicating the broader area is transitioning toward higher commercial intensity. The combination of industrial, service, and commercial uses in the vicinity suggests the site is well-integrated into an evolving mixed employment and commercial node, rather than a purely residential neighborhood.

REVIEW OF APPLICABLE CRITERIA AND FINDINGS

MSB 17.03 – Public Notification
Staff have conducted three opportunities for public comment. The last public notice mailed 184 notices to all property owners within approximately ½ mile radius of the subject property and to the North Lakes Community Council on February 6, 2026. The Frontiersman published the public hearing announcement in the February 6, 2026, edition. Staff posted the application material on the Borough website for public review on October 31, 2025. Staff received five responses from the public opposing the proposed tower.

Section 17.67.040 Types of Permits Available

(A) There are three types of permits available for tall structures:

(1) Administrative permit: new tall structures that are greater than 85 feet but less than or equal to 125 feet. The applicant may request that the decision on an administrative permit be made by the planning commission. The request shall be in writing at the time of application and all requirements for a conditional use permit shall be followed.

(2) Conditional use permit: new tall structures greater than 125 feet; or tall structures that exceed the height threshold at which a conditional use permit within a special land use district is required.
(3) Network improvement permit: allows legally constructed telecommunication towers to be increased in height in accordance with MSB 17.67.110.

Findings of Fact:

1. According to the application material, the proposed tall structure will be a 120-foot-tall, steel monopole telecommunications tower.
2. The applicant has not requested that the Planning Commission decide on this Administrative Permit application.

Conclusion of Law: Based on the above findings, the proposed use meets the criteria to qualify for an Administrative Permit for the construction of a 125-foot-tall structure (MSB 17.67.040(A)(1)).

Section 17.60.080 Standards for Approval of New Tall Structures

(A) A permit for a new tall structure may only be approved if it meets the requirements of this section in addition to any other applicable standards required by this chapter.
(B) In granting or denying a permit, the commission or director shall make findings on whether the applicant has demonstrated that:
(1) To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized;

Findings of Fact:

1. According to the application material, the proposed tall structure equipment compound will be located approximately 20 feet from the northern property line, 40 feet from the eastern property line, 240 feet from the southern property line, and 240 feet from the western property line.
2. According to the application materials the base of the equipment compound will be approximately 120 feet from the commercial structure on the property
3. The closest residential structure to the west is approximately 899 feet from the proposed tower.
4. The closest structure to the north is approximately 660 feet from the proposed tower.
5. The closest residential structure to the east is approximately 211 feet from the proposed tower.
6. The closest residential structure to the south is approximately 160 feet from the proposed tower.
7. Adjacent parcels to the north, east, south, and west range in size from 1.06 to 320 acres and are residential, undeveloped or primarily developed as commercial properties.
8. The Alaska Department of Natural Resources owns the adjacent parcel to the west.
9. The Mat-Su Education association owns the adjacent parcels to the north.

10. Private residential (Browder, Chistopher and Stacy) owns the adjacent parcel to the east.
11. The Tadesa LLC owns the adjacent parcel to the south.
12. East Bogard Road abuts the subject property to the west, and North Creekview Drive abuts the subject property to the south-east. The subject parcel is near the intersection of Seward Meridian and E Bogard, but it does not abut Seward Meridian.
13. Larger undeveloped parcels exist further west and north-west of the subject parcel and range from 320 acres to 60 acres.
14. Existing vegetation, the proposed location of the tower, the proposed parcel has been used for various commercial business and maintains some vegetation. The tower location would be on the back eastern part of the parcel adjacent to the existing tree lines to the north and eastern parcel this creates barriers that help to minimize the visual impacts on the surrounding parcels.

Conclusion of Law: Based on the above findings, and with conditions, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized (MSB 17.67.080(B)(1)).

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(2) Visibility of the tall structure from public parks, trails recognized within adopted borough plans, and water bodies has been minimized to the extent that is technically feasible and potentially available;

Findings of Fact:

1. There are two large water bodies adjacent to the proposed location – Wasilla Lake (.5 miles) & Cottonwood Lake (.7 miles) and Mud Lake (.30 Miles). The tower will have some visibility from both these lakes (via boats) but the distance and top portion of the tower will not negatively impact the visual resources of the area.
2. The closest park is Cottonwood Creek Park which is 1.9 miles away from the subject property. The tower will not be visible from this treed park location
3. Existing vegetation, the proposed location of the tower, commercial development in the area, and the existing site provide some natural barriers that help to minimize the visual impacts on the surrounding parcels.

Conclusion of Law: Based on the above findings, the proposed tall structures' visibility from public parks and trails has been minimized (MSB 17.67.080(B)(2)).

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(3) The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the borough's regional aviation system plan or by the Alaska State Aviation System Plan; and

Findings of Fact:

1. According to the Matanuska-Susitna Borough's database of registered airports and landing strips, Green Strip Airport, and Gattis Strip Airport are less than 1 mile from the proposed site.

2. According to the application material, the proposed tower will not interfere with the approaches or departures to Green Strip Airport, or any other existing airport or airfield as clarified from the FAA accompanying documents.
3. According to the application materials "The FAA does not protect for Private Airports, that is why the determination indicates IYS and not AK65. Local and state governments can always be more restrictive than the FAA when it comes to permitting structures that affect airports (including private-use airports)."
4. According to the application materials the proposed tower will be approximately 882 feet northwest of Green Strip Airport.
5. According to the application materials the proposed tower will be located in the transition zone to Green Strip Airport.
6. According to the Regional Aviation System Plan there are over 200 private airstrips in the Matanuska-Susitna Borough (RASP 2017).
7. According to the Regional Aviation System Plan, discussion point, (pg 81) "airport owner should be responsible for purchasing easements to restrict heights of development and protect the airspace around his airport."
8. FAA § 91.119. recommend that airstrips register their flight pattern as a certified approach, Green Strip Airport does not have a certified flight pattern, and it is the responsibility of the pilot for obstacle clearance.
9. FAA 14 CFR 91.119 states "Over any congested area of a city, town, or settlement, or over any open-air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
10. According to the RASP – "FAA 14 CFR 77, land developers must notify the FAA of proposed development that penetrates certain airspace surfaces that surround any public use airport. The FAA reviews the proposed development then issues a determination. The FAA airspace determinations are advisory only and have no enforcement authority, however, they may have implications regarding the developer's liability and ability to obtain insurance."
11. FAA Advisory Circular AC 90-66C – Non-Towered Airport Flight Operations, issued June 6, 2023, Federal Aviation Administration, Office of AFS-800, U.S. Department of Transportation. The circular addresses recommended traffic pattern entry, self-announcement procedures, and standard traffic pattern operations at airports without an operating control tower, and notes its relationship to existing FAA regulatory provisions (e.g., 14 CFR §§ 1.1, 91.13, 91.113, and 91.126). According to the document the proposed tower will be lower than the recommended final approach elevation of 500 feet.

Discussion: The owner of Green Strip Airport expressed concern regarding the proposed tower location in relation to an existing tower on parcel Tax ID #18N01W36C001, located approximately 2,160 feet northwest of the airport. The proposed tower, including the elevation increase, would be approximately 200 feet tall and situated about 882 feet northwest of Green Strip Airport. The comment raised potential safety concerns related to the proximity of the two towers, describing it as "threading the needle" between them. However, the proposed tower would be located within the transition zone and outside of the approach zone of the airstrip and therefore would not interfere with aircraft approach or departure operations. Additionally, the existing tower lies outside of the

transition zone and does not pose a safety concern. The FAA recommended flight elevation is 1,000 feet above ground level, neither tower will be within the advised flight pattern. The FAA recommended final approach elevation is 500 feet above ground level, neither tower is located within the final approach of Green Strip Airport. Although it is recommended by staff that a light beacon installed on top of the tower would be recommended to mitigate safety concerns.

Conclusion of Law: Based on the above findings, the proposed tall structure will not interfere with the approaches to any existing airport or airfield, but will be located within a transition zone of the Green Strip Airport. There are no other airstrips that are identified in the Borough's regional aviation system plan or by the Alaska State Aviation System Plan that the tower will interfere with approaches or departure. (MSB 17.67.080(B)(3)).

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(4) Granting the permit will not be harmful to the public health, safety, convenience, and welfare.

Findings of Fact:

1. The subject parcel is privately-owned, approximately 1.35 acres in size, and located within Ancient Tree Estates subdivision and the North Lakes Community Council area.
2. On November 14, 2025, one comment opposing the proposed tower was received from the public.
3. According to the application material, the proposed tall structure equipment compound will be located approximately 20 feet from the northern property line, 40 feet from the eastern property line, 240 feet from the southern property line, and 240 feet from the western property line.
4. According to the application materials the base of the equipment compound will be approximately 120 feet from the commercial structure on the property.
5. According to the application materials the eastern side of the property is fenced and does not allow the public to enter the area of the proposed tower location.
6. Access to the tower equipment compound is made via existing state-permitted driveways on East Bogard Road and the Matanuska-Susitna permitted driveway on North Creekview Drive.
7. Access to the equipment compound is secured by an external fence located on the northern and eastern end of the property, and connecting to the commercial building.
8. According to the application material, the proposed tower is located within an six-foot-tall secured and fenced area with slats for screening.
9. According to the application material, the gate providing access to the equipment compound will be secured by a steel locking rod.
10. The applicant submitted site plans for the proposed tower and compound, which contains certified drawings from David H. Dean, an Alaska Registered Professional Engineer.
11. The applicant submitted structural design criteria for the proposed tower by Amy R. Herbst, an Alaska Registered Structural Engineer with Mastec Network Solutions Group,

indicating the tower can sustain basic wind speeds of 120 mph or 60 mph with a ½ inch radial ice build-up.

12. According to the application material, zero fall radius technology is engineered into the proposed tower's design.

13. According to the application material "*should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. This would effectively result in a zero fall radius."*

14. The closest residential structure to the west is approximately 899 feet from the proposed tower.

15. The closest structure to the north is approximately 660 feet from the proposed tower.

16. The closest residential structure to the east is approximately 211 feet from the proposed tower.

17. The closest residential structure to the south is approximately 160 feet from the proposed tower.

18. Adjacent parcels to the north, east, south, and west range in size from 1.06 to 320 acres and are residential, undeveloped or primarily developed as commercial properties.

19. According. to the application material, the proposed tower will expand coverage and improve cellular and data performance in the area.

20. The applicant provided information obtained from the Federal Aviation Administration's (FAA) online Notice Criteria Tool indicating that the proposed tower does not require a determination of no hazard to air navigation because it does not exceed thresholds requiring notice to the FAA.

21. According to the application material, the FAA does not require lighting on the proposed tower.

22. The applicant submitted documentation demonstrating that the Federal Communications Commission (FCC) has approved the proposed telecommunications tower at the location identified in the application material.

23. According to the application materials "The FAA does not protect for Private Airports, that is why the determination indicates IYS and not AK65. Local and state governments can always be more restrictive than the FAA when it comes to permitting structures that affect airports (including private-use airports)."

24. According to the application materials the proposed tower will be approximately 882 feet northwest of Green Strip Airport.

25. According to the application materials the proposed tower will be located in the transition zone to Green Strip Airport.

26. According to the Regional Aviation System Plan there are over 200 private airstrips in the Matanuska-Susitna Borough (RASP 2017).
27. According to the Regional Aviation System Plan, discussion point, (pg 81) "airport owner should be responsible for purchasing easements to restrict heights of development and protect the airspace around his airport."
28. FAA § 91.119. recommend that airstrips register their flight pattern as a certified approach, Green Strip Airport does not have a certified flight pattern, and it is the responsibility of the pilot for obstacle clearance.
29. FAA 14 CFR 91.119 states "Over any congested area of a city, town, or settlement, or over any open-air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
30. According to the RASP – "FAA 14 CFR 77, land developers must notify the FAA of proposed development that penetrates certain airspace surfaces that surround any public use airport. The FAA reviews the proposed development then issues a determination. The FAA airspace determinations are advisory only and have no enforcement authority, however, they may have implications regarding the developer's liability and ability to obtain insurance."
31. FAA Advisory Circular AC 90-66C – Non-Towered Airport Flight Operations, issued June 6, 2023, Federal Aviation Administration, Office of AFS-800, U.S. Department of Transportation. The circular addresses recommended traffic pattern entry, self-announcement procedures, and standard traffic pattern operations at airports without an operating control tower, and notes its relationship to existing FAA regulatory provisions (e.g., 14 CFR §§ 1.1, 91.13, 91.113, and 91.126). According to the document the proposed tower will be lower than the recommended final approach elevation of 500 feet.

Discussion: Staff received one comment opposing the proposed tower from a commercial property approximately .25 miles North. The residents noted their objection to the proposed tower due to its potential to negatively affect property values and expose the public to Radiofrequency (RF) Electromagnetic Radiation (EMR). This public comment also highlighted the Ancient Tree Subdivision Covenants.

The United States Congress adopted the Telecommunications Act of 1996 (TA96), which requires cellular towers to comply with the Federal Communication Commission (FCC) health and safety standards for RF-EMR emissions. TA96 also preempts local governments from making zoning and land use decisions based on the environmental effects of RF-EMF emissions. As such, this review does not contemplate the potential environmental effects of electromagnetic radiation. In addition, there is no evidence to support that the proposed tower will negatively affect surrounding property values.

The Borough generally cannot enforce restrictive covenants noted on plats, since such notations do not show intent for Borough enforcement. Restrictive covenants are private land-use tools, the Borough also cannot rely on them as a substitute for zoning and platting. While the Borough may use restrictive covenants in certain situations such as when it owns the land using them broadly for land-use control would conflict with Alaska law.

The owner of Green Strip Airport expressed concern regarding the proposed tower location in relation to an existing tower on parcel Tax ID #18N01W36C001, located approximately 2,160 feet northwest of the airport. The proposed tower, including the elevation increase, would be approximately 200 feet tall and situated about 882 feet northwest of Green Strip Airport. The comment raised potential safety concerns related to the proximity of the two towers, describing it as "threading the needle" between them. However, the proposed tower would be located within the transition zone and outside of the approach zone of the airstrip and therefore would not interfere with aircraft approach or departure operations. Additionally, the existing tower lies outside of the transition zone and does not pose a safety concern. The FAA recommended flight elevation is 1,000 feet above ground level, neither tower will be within the advised flight pattern. The FAA recommended final approach elevation is 500 feet above ground level, neither tower is located within the final approach of Green Strip Airport.

Conclusion of Law: Based on the above findings, and with conditions, the proposed tower will not be harmful to public health, safety, convenience, and welfare (MSB 17.60.080(B)(4)).

Section 17.67.090 Operation Standards for New Tall Structures

(A) The following setback requirements shall apply to all new telecommunications towers regulated under this chapter:

(1) The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55.

Findings of Fact:

1. According to the application material, the proposed tall structure equipment compound will be located approximately 20 feet from the northern property line, 40 feet from the eastern property line, 240 feet from the southern property line, and 240 feet from the western property line.
2. The subject parcel is privately owned, approximately 1.35 acres in size, and located within Ancient Tree Estates subdivision and the North Lakes Community Council area.
3. According to the application material, the proposed tower and compound will be within a 40' x 40' leased area on the subject property.
4. According to the application materials MSB Code 17.125: Strict construction of the code language: The area occupied by the tower is the physical tower foundation, tower, mount and antennas, airspace above, including area occupied by any framework. The proposed tower compound is setback 25-feet from the property line, equipment cabinets, ancillary structures (generators, etc.), and equipment enclosure is over 17-feet from the property line.

Conclusion of Law: Based on the above findings, and with conditions, the proposed equipment compound meets the minimum setback distances from all property lines in accordance with MSB 17.55 (MSB 17.67.090(A)(1)).

(2) Minimum setback for the tower base shall be a distance equal to the height of the tower.

(a) The commission, or director if it is an administrative permit, may reduce the setback to a distance less than the height of the tower, if the applicant

demonstrates there is no risk to public health, safety, or welfare of adjacent property owners.

Findings of Fact:

1. According to the application material, the proposed tall structure will be a 120-foot-tall, steel Sabre Monopole telecommunications tower.
2. According to the application material, the proposed tall structure equipment compound will be located approximately 20 feet from the northern property line, 40 feet from the eastern property line, 240 feet from the southern property line, and 240 feet from the western property line.
3. Adjacent parcels to the north, east, south, and west range in size from 1.06 to 320 acres and are residential, undeveloped or primarily developed as commercial properties.
4. The Alaska Department of Natural Resources owns the adjacent parcel to the west.
5. The Mat-Su Education association owns the adjacent parcels to the north.
6. Private residential (Browder, Chistopher and Stacy) owns the adjacent parcel to the east.
7. The Tadesa LLC owns the adjacent parcel to the south.
8. The closest residential structure to the east is approximately 211 feet from the proposed tower.
9. According to the application material, the proposed tower is located within a six-foot-tall secured and fenced area with slats for screening.
10. According to the application material, the gate providing access to the equipment compound will be secured by a steel chain locking rod.
11. The applicant submitted site plans for the proposed tower and compound, which contains certified drawings from David H. Dean, an Alaska Registered Professional Engineer.
12. The applicant submitted structural design criteria for the proposed tower by Amy R. Herbst, an Alaska Registered Structural Engineer with Mastec Network Solutions Group, indicating the tower can sustain basic wind speeds of 120 mph or 60 mph with a ½ inch radial ice build-up.
13. According to the application material, zero fall radius technology is engineered into the proposed tower's design.
14. According to the application material "*should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. This would effectively result in a zero fall radius."*
15. There are no residential homes within the 120-foot fall radius of the proposed tower.

Discussion: The equipment compound will not be within proximity of any structure. Amy R. Herbst, an Alaska Registered Structural Engineer with Mastec Network Solutions Group certified

the tower for a zero-fall radius, resulting in the tower collapsing in on itself. There are no structures that are located within 120 feet of the proposed tower location.

Conclusion of Law: Based on the above findings, the applicant has demonstrated there is no risk to the public health, safety, or welfare of adjacent property owners (MSB 17.67.090(A)(2)(a)).

(B) For all tall structures regulated under this chapter, adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way, to enable emergency vehicle access.

(1) No more than two spaces per provider shall be required.

Findings of Fact:

1. According to the application material, two parking spaces are provided at the proposed tower location.

Conclusion of Law: Based on the above finding, adequate vehicle parking has been provided (MSB 17.67.090(B)(1)).

(C) The following requirements apply to all new and existing telecommunication towers and wind energy conversion systems regulated under this chapter:

(1) The following signage shall be visibly posted at the equipment compound:

(a) informational signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission (FCC), as well as the party responsible for the operation and maintenance of the facility;

Findings of Fact:

1. According to the application material, signage will be posted identifying the tower's FCC registration number and the party responsible for the operation and maintenance.

Conclusion of Law: Based on the above finding, adequate signage has been provided (MSB 17.67.090(C)(1)(a)).

(b) if more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER"; and

Findings of Fact:

1. The proposed communications facility will operate with 240 volts/200 AMP service from the adjacent electrical transformer. A HIGH VOLTAGE WARNING sign will be installed on the outside of the fenced compound.

Conclusion of Law: Based on the above findings, a "*HIGH VOLTAGE - DANGER*" sign is required to be displayed on the equipment compound (MSB 17.67.090(C)(1)(b)).

(c) a 24-hour emergency contact number.

Findings of Fact:

1. According to the application material, signage identifying the tower and the party responsible for the operation and maintenance will be posted.
2. According to the application material, a 24-hour contact number will be posted at the proposed tower location.
3. The AT&T NOC Phone # is 800-331-0500. This is the 24/7 phone contact phone number and will be displayed on the fence surrounding the equipment compound.

Conclusion of Law: Based on the above findings, a 24-hour emergency contact number has been provided (MSB 17.67.090(C)(1)(c))

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(2) A fence or wall not less than six feet in height with a secured gate shall be maintained around the base of the tower.

Findings of Fact:

1. According to the application material, the proposed tower is located within a six-foot-tall secured and fenced area with slats for screening.
2. According to the application material, the gate providing access to the equipment compound will be secured by a steel chain locking rod.

Conclusion of Law: Based on the findings above, a fence not less than six feet in height with a secured gate, is being provided (MSB 17.67.090(C)(2)).

STAFF RECOMMENDATIONS

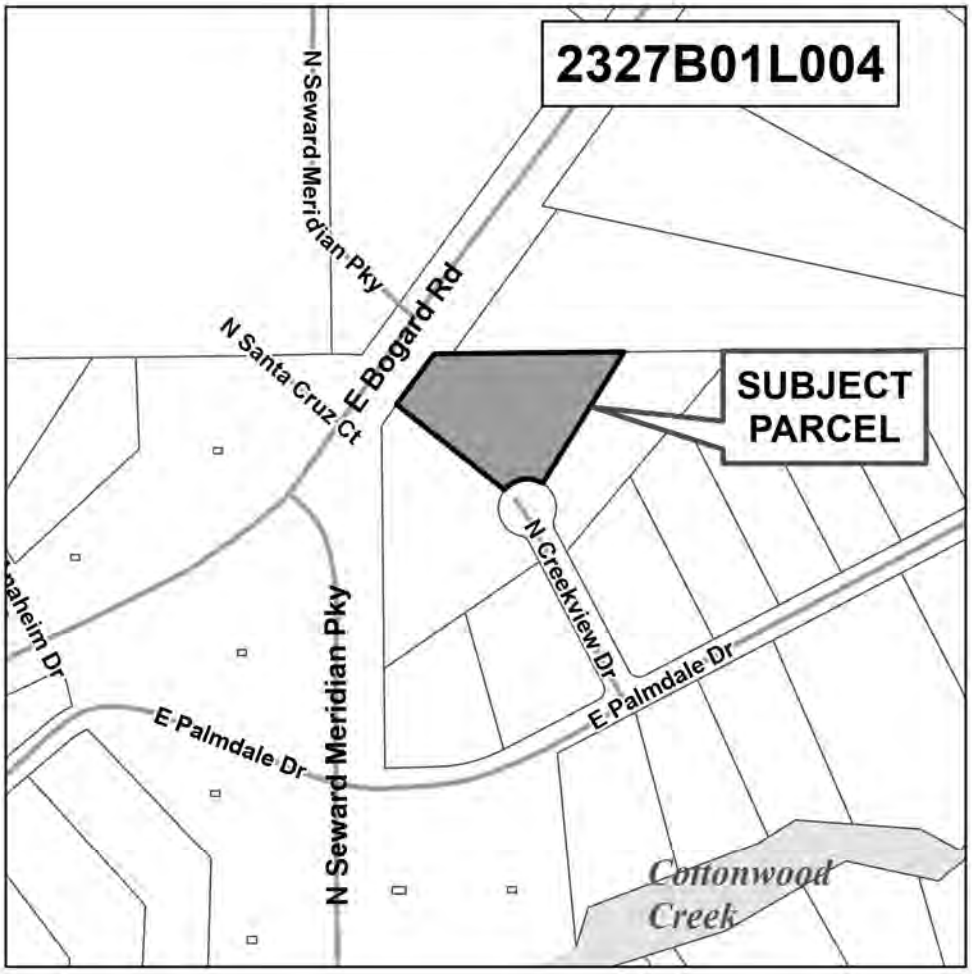
Staff recommends approval of the Administrative Permit to construct a 120-foot-tall, steel Sabre monopole telecommunications tower on the subject parcel. This application meets all the applicable standards of MSB 17.67, and staff recommends approval of this request with the following conditions:

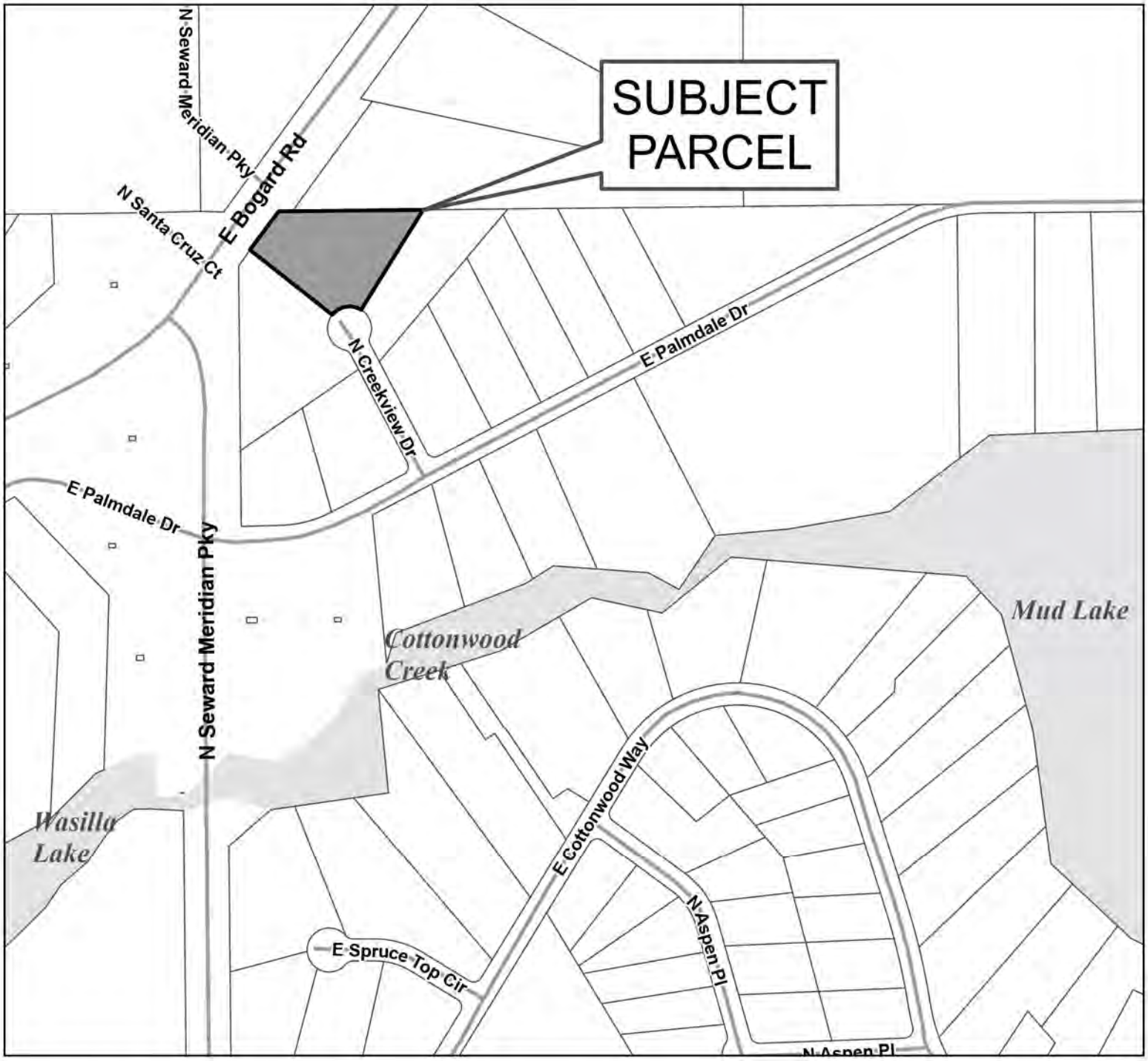
1. All aspects of the operation shall comply with the description detailed in the application material and with the conditions of this permit. Before any change of the conditional use, an amendment to the Administrative Permit shall be required.
2. The operation shall comply with all federal, state, and local regulations.
3. Borough-authorized representatives shall be allowed to inspect the site and related records at reasonable times to monitor compliance with all permit conditions. Upon reasonable notice from the Borough, the permittee shall provide necessary assistance to facilitate authorized inspections (MSB 17.67.300(D)).
4. The operation shall obtain a Network Improvement Permit from the Borough to increase the overall height or location of the telecommunications tower on the site in accordance with MSB 17.67.110.
5. The equipment compound and telecommunications tower shall be removed, at the owner's expense within 90 days after abandonment or termination of the permit in accordance with MSB 17.67.130(A)(1).

6. The permittee shall install and maintain any FAA-required aviation marking and lighting on the tower in accordance with FAA determinations to ensure air navigation safety.

Blank

Maps


2327B01L004
N Seward Meridian Pky
E Bogard Rd
N Santa Cruz Ct
SUBJECT PARCEL
N Creekview Dr
E Palmdale Dr
E Palmdale Dr
N Seward Meridian Pky
Cottonwood Creek



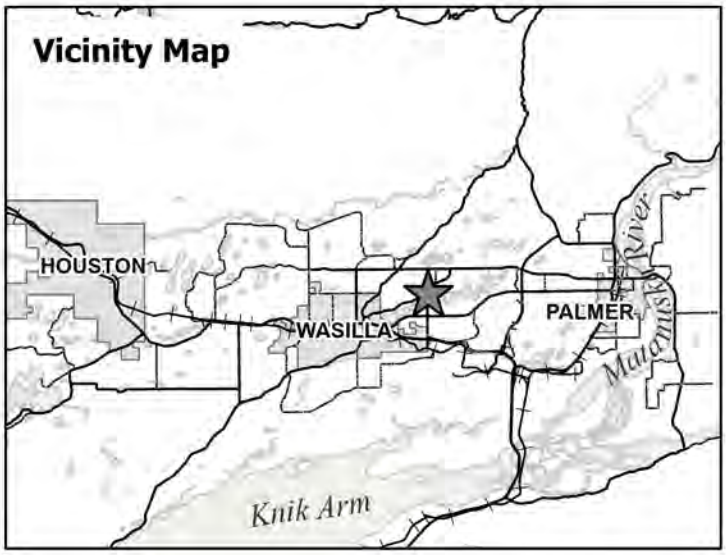
2327B01L004

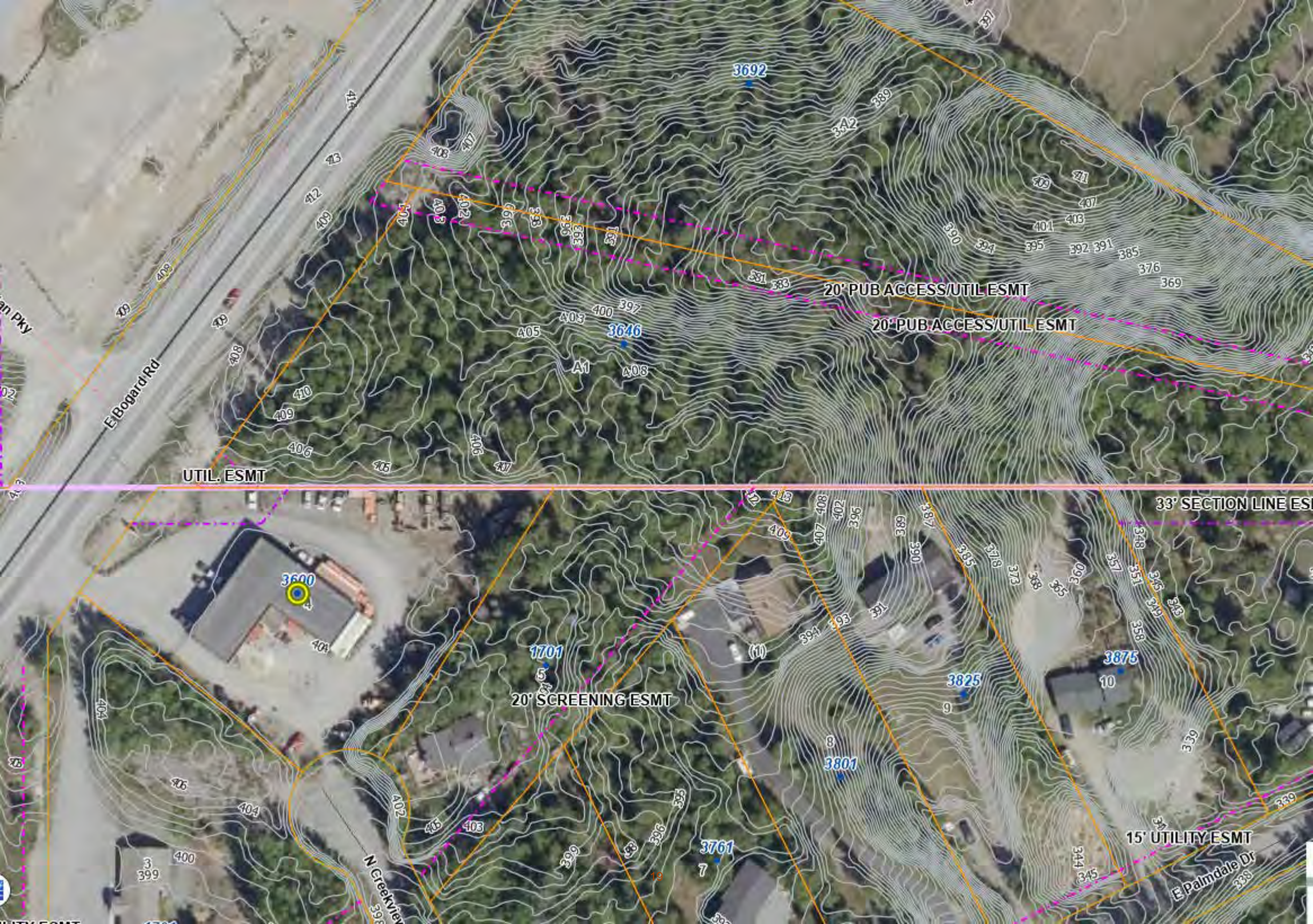
0 1,000 Feet

N

This map is solely for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.

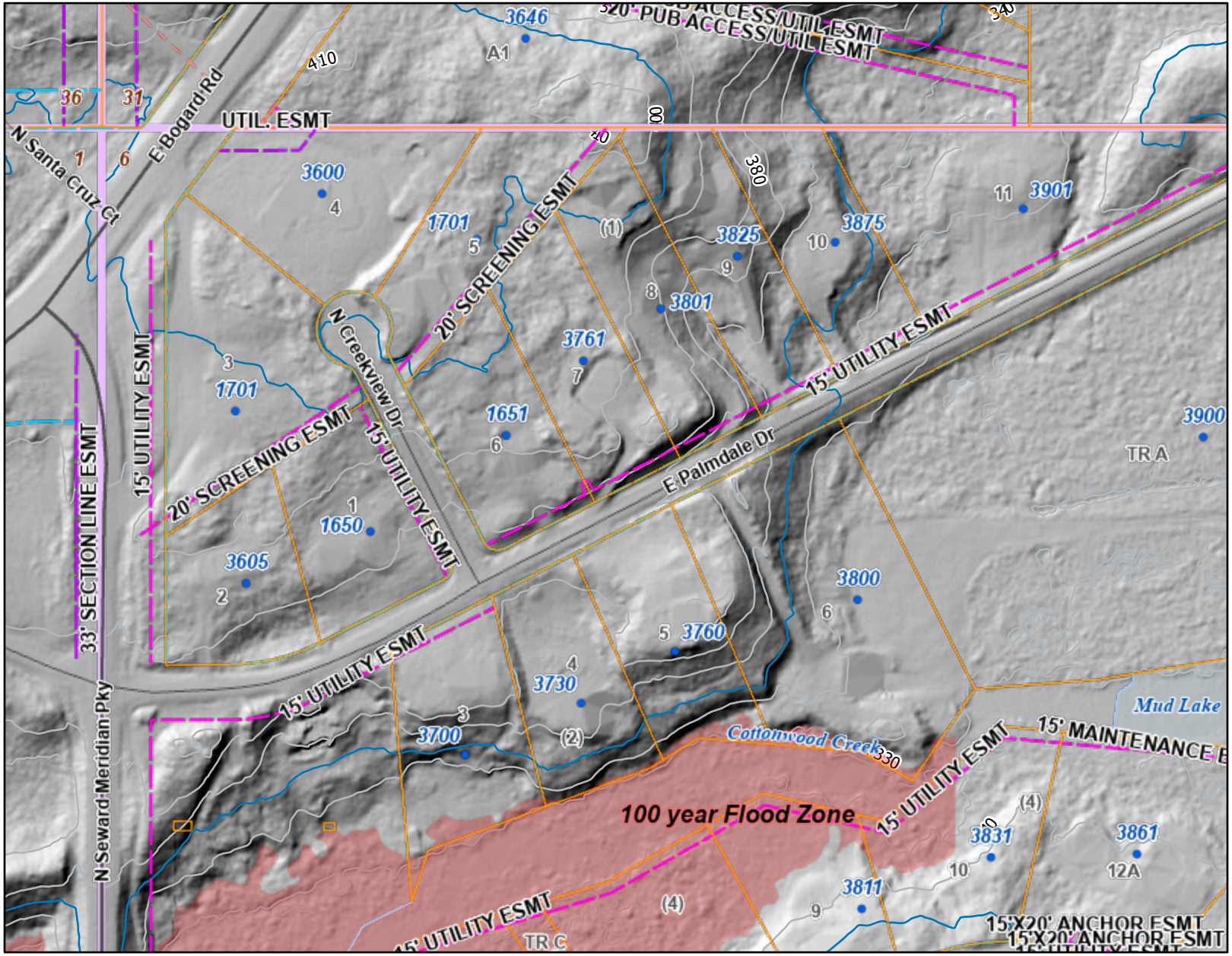
MSB Information Technology/GIS
October 17, 2025

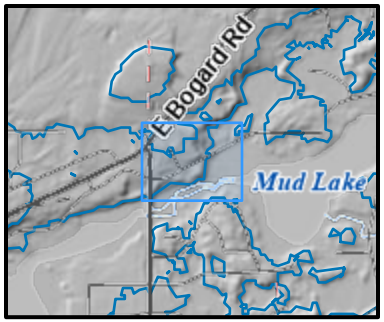



E Bogard Rd
UTIL. ESMT
20' PUB ACCESS/UTIL ESMT
20' PUB ACCESS/UTIL ESMT
3692
3646
A1
A2
A3
A4
A5
A6
A7
A8
33' SECTION LINE ESMT
3600
1701
20' SCREENING ESMT
3825
3875
3801
3761
15' UTILITY ESMT
E Palmdale Dr
N Creekview

Matanuska-Susitna Borough, AK

Parcel Map





Legend

- Major Road
- Minor Road
- Not Constructed
- Mat-Su Borough Boundary
- Address Numbers
- Parcels
- Lot and Block Numbers
- ROW and Easements

Layer

- ROW Easement
- Easement
- Section Line Easement
- Lakes and Rivers
- Streams
- 100 year Flood Zone
- Section Lines

Value

THIS MAP IS NOT TO BE USED FOR NAVIGATION

0 210 420 630 840 ft

N

NAD 1983 State Plane Alaska 4 FIPS 5004 Feet

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Notes

Generated on 15.01.2026 (dd/mm/yyyy)

AN2043 Cottonwood Lake NSB
RF Justification

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AT&T, the Globe logo and other marks are trademarks and service marks of AT&T Intellectual Property and/or AT&T affiliated companies.

Coverage Justification

OVERVIEW

AT&T is proposing to build a new wireless communication facility ("WCF" or "facility"), AN2043 Cottonwood (61.599413, -149.357384), 3600 E Bogard Rd, AK 99654 in Wasilla County. This proposed facility meets AT&T's coverage objectives (providing outdoor, in-vehicle, and in-building wireless coverage) within a geographic area not presently served by AT&T's network. Specifically, this proposed new wireless facility will improve capacity and coverage in E Bogard Rd and N Seward Meridian Pkwy and surrounded areas. This coverage objective was determined through a combined analysis of the coverage from current sites in the area, customer complaints, service requests, and radio frequency engineering design. This facility will allow AT&T to provide uninterrupted wireless service with fewer dropped calls, improved call quality, and improved access to additional wireless services that the public now demands. This includes emergency 911 calls throughout the area.

In addition to AT&T 4G LTE commercial facilities, this proposed WCF will include facilities to support FirstNet. As a FirstNet site, this proposed WCF is part of a more significant initiative by AT&T to upgrade existing wireless sites and to build new sites to support FirstNet and deploy the new frequency band for first responders ("Band 14").

SEARCH RING

AT&T's radio frequency ("RF") engineers performed an RF engineering study, considering multiple objectives, to determine the approximate site location and antenna height required to fulfill the noted network objectives for the targeted service area. From this study, AT&T's RF engineers identified a "search ring" area where a WCF may be located to provide effective service in the target coverage area. Candidates need to have good height and location, overlooking major roads and highways. This was the primary criteria to identify the search ring.

Figure A—Targeted Search Ring indicates the search ring AT&T's RF engineers established for this proposed site. A discussion of the methodology AT&T's RF engineers used to identify the search ring is included at the end of this RF Justification document.

Coverage Justification—Con't

COVERAGE OBJECTIVE

Figure B—Existing AT&T Coverage shows existing AT&T wireless services in the general area of the proposed new site. The red star indicates the location of the proposed new WCF. The blue diamonds indicate the location of existing AT&T WCF sites; coverage from AT&T's existing WCF sites is shaded in green. As can be seen, there is a coverage gap in areas not shaded in green which may have minimal to no 4G voice service and does not have adequate 4G LTE service.

Figure C—Projected New AT&T Coverage identifies the projected coverage from the proposed new WCF with the requested antenna tip height of 120ft. The proposed antenna tip height is the necessary to help fill the coverage gap relative to nearby complementary wireless facilities and to support the FirstNet Network. This is also the height where an AT&T wireless device can be reliably used to make and receive telephone calls and use data service in the presence of varying signals. The new WCF will provide coverage and capacity enhancement on E Bogard Rd, N Seward Meridian Pkwy and surrounded areas.

ANTENNAS AND EQUIPMENT

To meet the above coverage objectives, this proposed site will contain up to 6 panel antennas and 6 RRH units (together with all associated accessory equipment).

Figure A—Targeted Search Ring

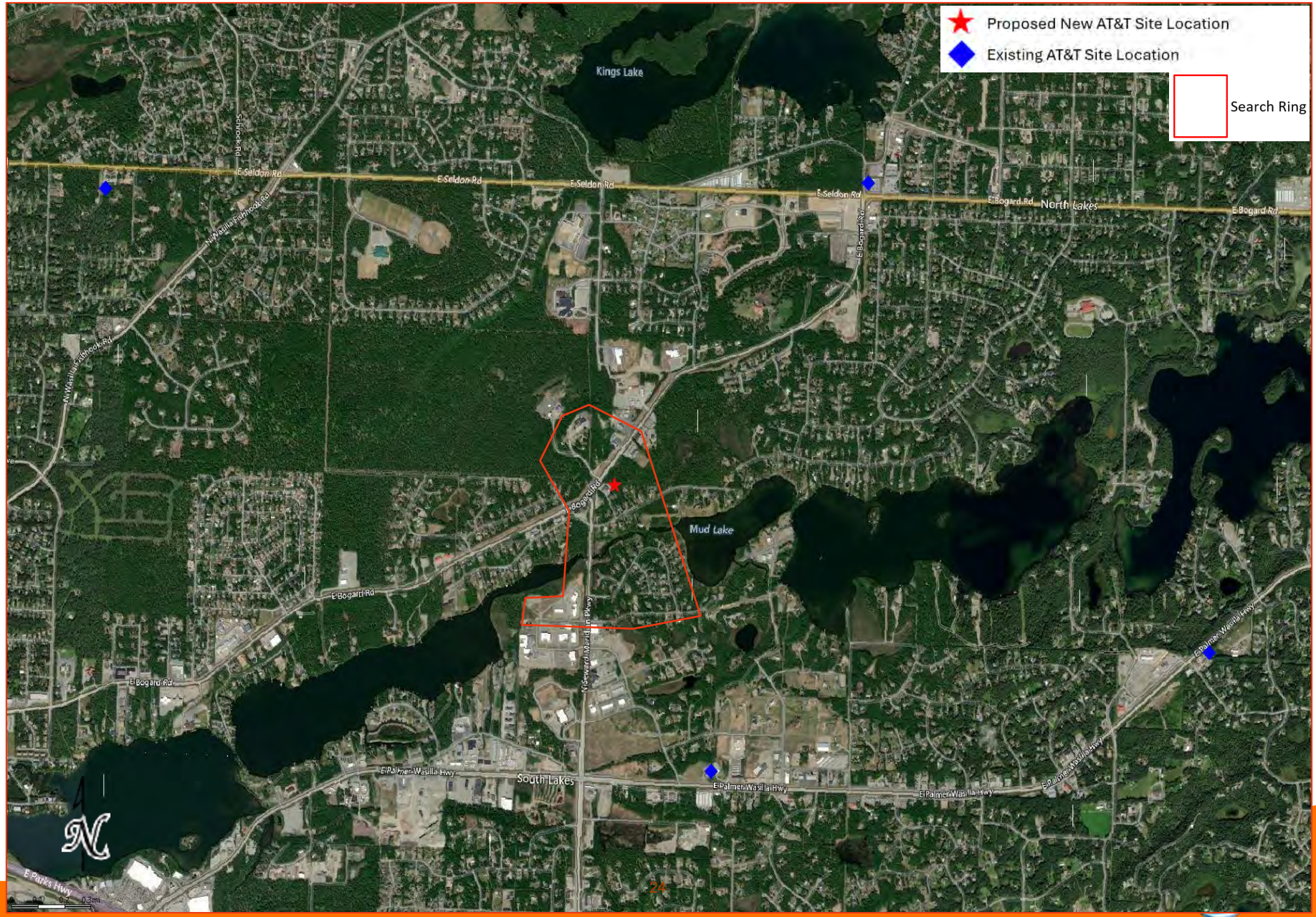
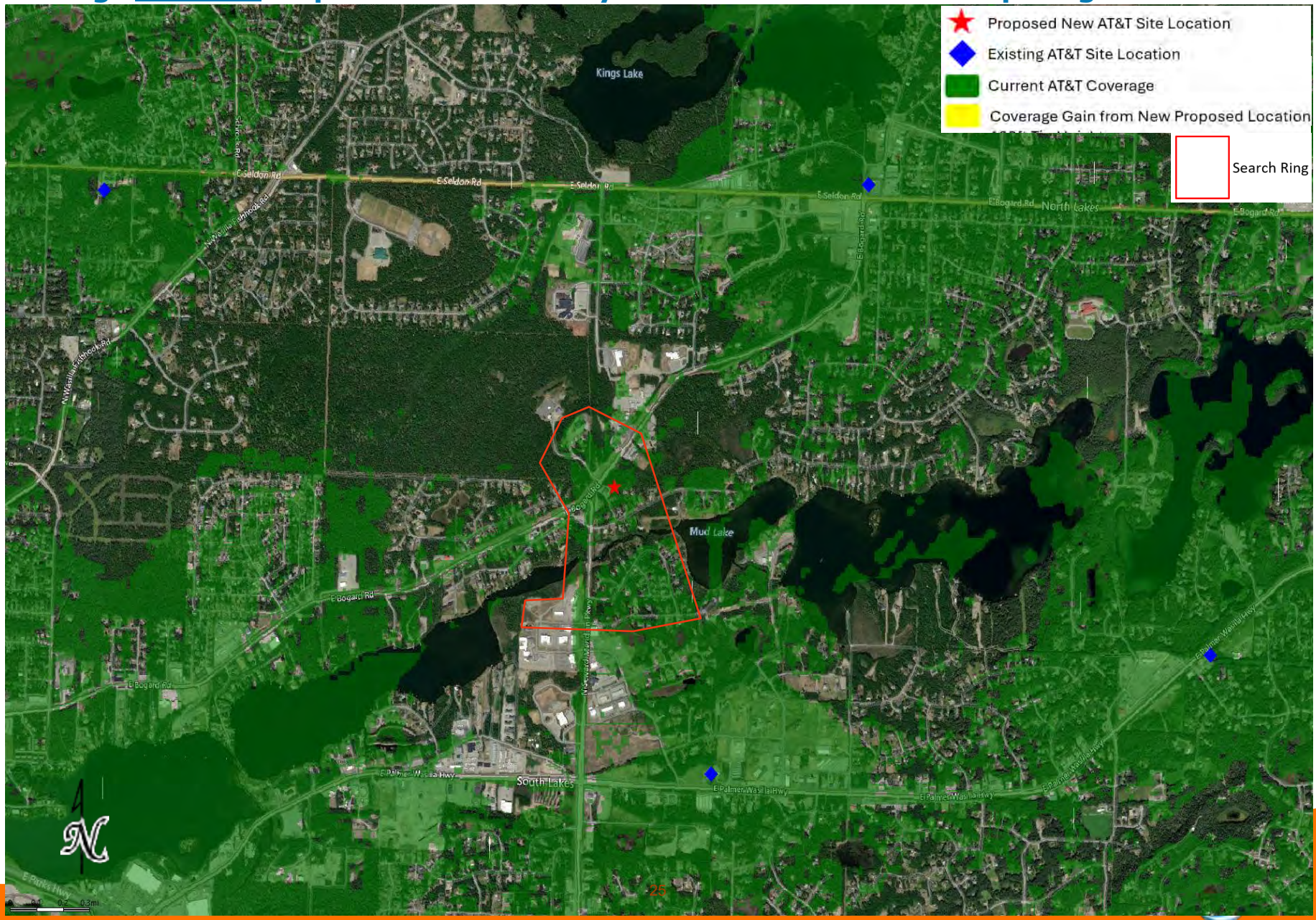


Figure B—Existing AT&T Coverage

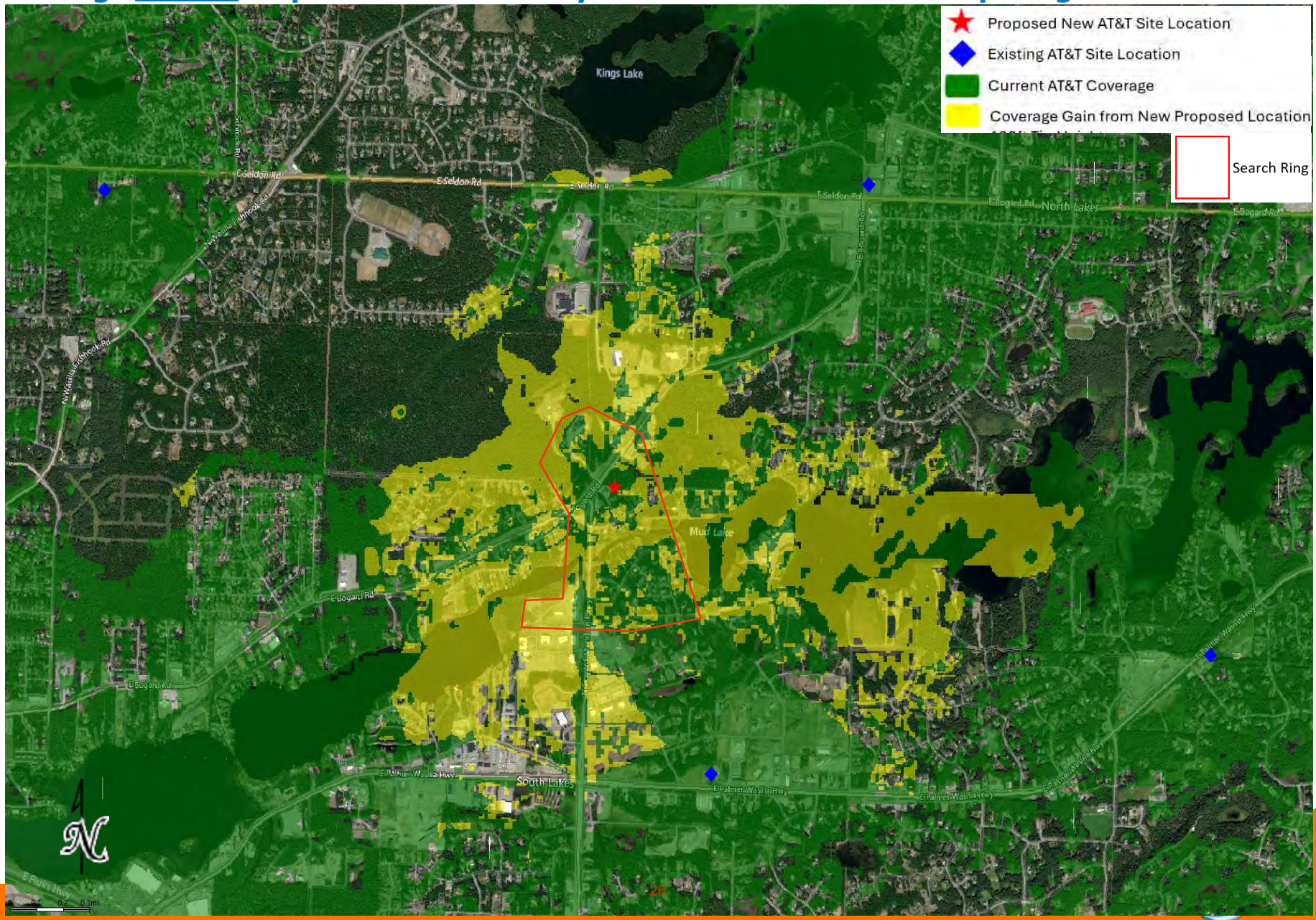
Coverage BEFORE Proposed AT&T Facility On-Air—120ft Antenna Tip Height



The data above are the engineering design assumptions that were use in generating the propagation map simulations. AT&T constantly does extensive propagation model adjustments to insure they accurately reflect actual wireless signal conditions.

Figure C—Existing AT&T Coverage

Coverage AFTER Proposed AT&T Facility On-Air—120ft Antenna Tip Height



The data above are the engineering design assumptions that were use in generating the propagation map simulations. AT&T constantly does extensive propagation model adjustments to insure they accurately reflect actual wireless signal conditions.

Search Ring Methodology

AT&T's RF engineers used coverage propagation software systems to predict the coverage provided by the proposed new WCF. The software and AT&T's RF engineers considered the general factors outlined below, as well as more project-specific factors such as the type of antenna, antenna tilt, etc.

Coverage. The antenna site must be located in an area where the radio frequency broadcasts will provide adequate coverage within the targeted service area. The RF engineer must take into consideration the coverage objectives for the site as well as the terrain in and around the area to be covered. Because radio frequency broadcasts travel in a straight line and diminish as they travel further away from the antennas, it is generally best to place an antenna site near the center of the desired coverage area. However, in certain cases, the search ring may be located away from the center of the desired coverage area due to the existing coverage, the surrounding terrain, or other features which might affect the radio frequency broadcasts, *e.g.* buildings or sources of electrical interference.

Clutter. AT&T's WCFs must "clear the clutter"—the WCF site must be installed above or close to RF obstructions (the "clutter") to enable the RF to extend beyond and clear the clutter. AT&T's radio frequencies do not penetrate mountains, hills, rocks, or metal, and are diminished by trees, brick and wood walls, and other structures. Accordingly, AT&T's antennas must be installed above or close to the "clutter" to provide high quality communications services in the desired coverage areas. Additionally, if the local code requires us to accommodate additional carriers on the support structure, the structure must be even taller to also allow the other carriers' antennas to clear the clutter.

Call Handoff. The WCF site must be in an area where the radio broadcasts from the site will allow seamless "call handoff" with adjacent WCF sites. Call handoff is a feature of a wireless communications system that allows an ongoing telephone conversation to continue uninterrupted as the user travels from the coverage area of one antenna site into the coverage area of an adjacent antenna site. This requires coverage overlap for a sufficient distance and/or period of time to support the mechanism of the call handoff.

Quality of Service. Users of wireless communications services want to use their services where they live, work, commute and play, including when they are indoors. AT&T's coverage objectives include the ability to provide indoor coverage in areas where there are residences, businesses and indoor recreational facilities.

at&t

Search Ring Methodology—Con't

Radio Frequencies used by System. The designs of wireless communications systems vary greatly based upon the radio frequencies that are used by the carrier. If the carrier uses radio frequencies in the 700 MHz to 850 MHz range, the radio signals will travel further and will penetrate buildings better than the radio frequencies in the 1900 MHz band. As a result, wireless communications systems that use lower radio frequencies will need fewer sites than wireless communications systems that use higher radio frequencies.

Land Use Classifications. AT&T's ability to construct a WCF site on any particular property is affected by state and local regulations, including zoning and comprehensive plan classifications, goals, and policies. AT&T's search rings take these laws and regulations into consideration.

Blank

Application

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822 • Fax (907) 861-8158
Email: permitcenter@matsugov.us

APPLICATION FOR A TALL STRUCTURE – MSB 17.67

Carefully read instructions and applicable borough code. Fill out forms completely. Attach information as needed. Incomplete applications will not be processed.

Application fee must be attached:
_____**$1,500** for **Conditional Use Permit** - > 125 feet in height
__X__**$ 500** for **Administrative Permit** – 85' to 125' in height
_____**$ 100** for **Network Improvement Permit** – In accordance with MSB 17.67.110.

*Prior to the public hearing, the applicant must also pay the mailing and advertising fees associated with the application. Applicants will be provided with a statement of advertising and mailing charges. Payment must be made **prior** to the application presentation before the Borough Planning Commission or Planning Director decision.*

Subject Property Township: 17, Range: 01, Section: 06, Meridian____
MSB Tax Account # 2327B01L004
SUBDIVISION: Ancient Tree Est BLOCK(S): 1, LOT(S): 4
STREET ADDRESS: 3600 E. Bogard Road
(US Survey, Aliquot Part, Lat. /Long. etc) See drawings attached for more details.

Ownership A *written authorization by the owner must be attached for an agent or contact person, if the owner is using one for the application.* Is authorization attached? ☒ **Yes** ○ **No** ○ **N/A**

Name of Property Owner
Hans Hanson - Crystal Investments LLC
Address: PO Box 190801
Anchorage, AK 99519
Phne: Hm _____ Fax_____
Wk_____ Cell 907-230-0321
E-mail hans@workingzonesafetysupply.com

Name of Agent/ Contact for application
Justin Abbott on behalf of AT&T Mobility
Address: 870 Oravetz Road SE
Auburn, WA 98092
Phne: Hm_____ Fax_____
Wk_____ Cell 206-790-4655
E-mail justin.abbott@selectsiteacq.com

Special Land Use District *(if applicable)*: N/A

Pre-Application Requirements for New Tall Structures that Require a Conditional Use Permit	
Prior to applying for a conditional use permit for a new tall structure, the applicant shall hold at least one community meeting.	
1. The meeting shall be held at the nearest facility where community council meetings are regularly scheduled. If the facility is not available, the nearest available public facility that is capable of seating a minimum of 20 people shall be utilized.	
2. The meeting shall be held at least 15 calendar days after mailing of the notification.	
3. The meeting shall not start prior to 5:00 p.m. and no later than 7:00 p.m.	
4. Notification of the meeting shall, at a minimum, include the following: • Legal description and map of the general parcel, or parcels, within the coverage area under consideration for the telecommunication facility. • Description of the proposed development including height, design, lighting, potential access to the site and proposed service. • Date, time, and location of the informational meeting. • Contact name, telephone number, and address of applicant. • Comment form created by the borough that has a comment submittal deadline and provides options for submitting comments.	
5. At a minimum, the notification area for the meeting shall include the following: • Property owners within one-half mile of the parcels under consideration for the proposed tall structure. • The nearest community council and any community council whose boundary is within 1200 feet of the parcels under consideration for the tall structure.	
A written report summarizing the results of the community meeting shall be prepared that includes the following information:	**Attached**
1. Dates and locations of all meetings where citizens were invited to discuss the potential applicant's proposal.	
2. Content, dates mailed, and numbers of mailings, including letters, meeting notices, newsletters and other publications.	
3. Sign-in sheet(s) used at the meeting, that includes places for names, address, phone numbers and other contact information such as e-mail addresses.	
4. A list of residents, property owners, and interested parties who have requested in writing that they keep informed of the proposed development through notices, newsletters, or other written materials.	
5. The number of people who attended meetings.	
6. Copies of written comments received at the meeting.	
7. A certificate of mailing identifying all who were notified of the meeting.	
8. A written summary that addresses the following: • The substance of the public's written concerns, issues, and problems. • How the applicant has addressed, or intends to address, concerns, issues and problems expressed during the process. • Concerns issues, and problems the applicant has not addressed or does not intend to address and why.	

General application requirements for <u>Administrative</u> and <u>Conditional Use Permits</u>	**Attached**
1. Design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect.	Included
2. Citizen participation report *(if applying for a Conditional Use Permit)*	N/A
3. Certified site plan *(As defined in MSB 17.125.010)*	Included
4. Copy of a determination of no hazard to air navigation from the Federal Aviation Administration.	No FAA Filing is required.
5. If breakpoint technology is intended to be utilized, a written statement specifying the height at which the engineered structural weakness will be located.	Included

In order to grant a <u>Conditional Use Permit</u> or <u>Administrative Permit</u> the Planning Commission or Planning Director must find that each of the following criteria has been met. Explain the following in detail:	**Attached**
1. To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized.	See project description
2. Visibility of the tall structure from public parks, trails recognized within adopted MSB plans, and waterbodies has been minimized to the extent that is technically feasible and potentially available.	See project description
3. The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the MSB Regional Aviation System Plan or by the Alaska State Aviation System Plan.	Towair Report shows no interference
4. That granting the permit will not be harmful to the public health, safety, convenience, and welfare.	See project description

Application requirements for a <u>Network Improvement Permit</u>	**Attached**
1. A description of the proposed modifications to the telecommunication tower, including a description of the height, type, and lighting of the new or modified structure and the existing structure.	
2. A certified site *(as defined in MSB 17.125.010)* for purposes of setback verification.	
3. Design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect.	

In order to grant a <u>Network Improvement Permit</u> the Planning Director must find that each of the following criteria has been met. Explain the following in detail.	**Attached**
1. The proposed development conforms to setback requirements of MSB 17.55.	
2. The telecommunication tower being extended was lawfully constructed at the time of application for a Network Improvement Permit.	
3. The proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided that the condition being violated does not limit height of the structure.	

Operation Standards for New Tall Structures – Conditional Use Permit, Administrative Permit, and Network Improvement Permit	**Attached**
1. The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55	See attached
2. Setbacks shall be determined from the dimensions of the entire lot, even though the tower may be located on lease areas within the lot.	See attached
3. Adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way to enable emergency vehicle access. No more than two spaces per provider shall be required.	See attached
4. Information signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission, as well as the party responsible for the operation and maintenance of the facility shall be visibly posted at the equipment compound.	See attached
5. If more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER".	N/A
6. A 24-hour emergency contact number shall be visibly posted at the equipment compound.	See attached
7. A fence or wall not less than six (6) feet in height with a secured gate shall be maintained around the base of the tower.	See attached

Additional Standards for <u>Wind Energy Conversion Systems</u> (WECS) – In addition to the operations standards for new tall structures, the following standards shall apply to WECS	**Attached**
1. WECS shall be equipped with an automatic overspeed control device designed to protect the system form sustaining structural failure such as splintered or thrown blades and the overturning or breaking of towers due to an uncontrolled condition brought on by high winds.	
2. WECS shall have a manually operable method that assures the WECS can be brought to a safe condition in high winds. Acceptable methods include mechanical or hydraulic brakes or tailvane deflection systems which turn the rotor out of the wind.	

OWNER'S STATEMENT: I am owner of the following property: Hans Hanson

MSB Tax parcel ID #(s) Account # 52327B01L004 and, I hereby apply for approval conditional use permit on that property as described in this application.

I understand all activity must be conducted in compliance with all applicable standards of MSB 17 and with all other applicable borough, state or federal laws.

I understand that other rules such as local, state and federal regulations, covenants, plat notes, and deed restrictions may be applicable and other permits or authorization may be required. I understand that the borough may also impose conditions and safeguards designed to protect the public's health, safety and welfare and ensure the compatibility of the use with other adjacent uses.

I understand that it is my responsibility to identify and comply with all applicable rules and conditions, covenants, plat notes, and deed restrictions, including changes that may occur in such requirements.

I understand that this permit and zoning status may transfer to subsequent owners of this land and that it is my responsibility to disclose the requirements of this status to the buyer when I sell the land.

I understand that changes from the approved conditional use permit may require further authorization by the Borough Planning Commission. I understand that failure to provide applicable documentation of compliance with approved requirements, or violation of such requirements will nullify legal status, and may result in penalties.

I grant permission for borough staff members to enter onto the property as needed to process this application and monitor compliance. Such access will at a minimum, be allowed when the activity is occurring and, with prior notice, at other times necessary to monitor compliance.

The information submitted in this application is accurate and complete to the best of my knowledge.

Signature: Property Owner	Printed Name	Date
Justin Abbott Digitally signed by Justin Abbott DN: cn=Justin Abbott, o, ou, email=justin.abbott@selectsiteacq.com, c=US Date: 2025.06.10 09:29:29 -07'00'	Justin Abbott	June 10, 2025
Signature: Agent	Printed Name	Date

MSB USE ONLY

Date application submitted:

Date application determined complete: _____

I understand that it is my responsibility to identify and comply with all applicable rules and conditions, covenants, plat notes, and deed restrictions, including changes that may occur in such requirements.

I understand that this permit and zoning status may transfer to subsequent owners of this land and that it is my responsibility to disclose the requirements of this status to the buyer when I sell the land.

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The information submitted in this application is accurate and complete to the best of my knowledge.

Signature: Property Owner	Printed Name	Date
Hans E. Hanson	Hans E. Hanson	6/10/2025
Signature: Agent	Printed Name	Date
Justin Abbott (Digitally signed by Justin Abbott, DN: cn=Justin Abbott, o, ou, email=justin.abbott@selectsteacq.com, c=US, Date: 2025.06.10 09:29:29 -07'00')	Justin Abbott	June 10, 2025

MSB USE ONLY

Date application submitted:

Date application determined complete: _____

AT&T – AN2043 Cottonwood Lake – Administrative Permit

Project Description: AT&T Mobility proposes to install a 120-foot monopole (tall structure) with associated antennas/equipment on the tower and an outdoor cabinet/generator inside a 40' by 40' lease area. The Matsu Borough allows for this type of facility as an "Administrative Permit". The proposed tall structure is the minimum height required to meet the coverage objectives for AT&T in this part of the Wasilla area.

Please see the submitted drawings showing the details of the 120-foot tower with all associated equipment. The proposed AT&T ground equipment is to be located inside a fenced/lease area (40' x 40'). Specifically, an outdoor cabinet and emergency generator on a proposed concrete slab. Power and Fiber services are to be extended from the existing service points to the proposed location.

An FAA Towair analysis of the proposed tower height of 120-feet AGL shows that the structure will not impede local airspace; and therefore no FAA lighting on the tower will be required. This Towair document is included in the application.

A copy of the survey site plan is included in the application materials. This survey shows the tower and the proposed AT&T cabinet/generator in relations to the property lines. The proposed tower is 25-feet from the North property line, which will require a setback variance. The tower is designed, in the event of failure, to have a zero fall zone radius. This means that the tower would remain on the subject property and not impact the adjacent parcels. No location on the subject property would meet the 1:1 tower setback requirements, which is why a variance is being requested. Additionally, the proposed AT&T cabinet is not considered a structure and therefore meets of the local setback requirements. Please see the drawings/tower design documents for all of the details.

The proposed facility has adequate access for emergency vehicles via the existing access roads to the facility; and parking space for at least 2 vehicles.

The proposed facility will have the required signage posted on the fencing including the FCC Tower Registration # and emergency contact information for AT&T.

A proposed power meter bank is planned inside the fenced compound and will be used to power the proposed AT&T equipment. Electrical warning signage will be installed as required by the Borough.

The proposed facility is to be surrounded by a 6-foot tall chain-link fence/gates with barbwire for security.

The proposed tall structure is located in the back of an existing commercially used property, adjacent to existing trees on the property to the North, which is not planned for development in the near future. The trees and location of the tower will provide partial screening of the facility from adjacent properties. Please see the photo-simulations of the facility in the application materials.

AT&T is the State of Alaska First Net provider, meaning the tower will be transmitting frequencies reserved for First Responders (Police, Fire, etc). This First Net facility will improve emergency response times in this area, thereby improving the health safety and welfare of the local community.

Additionally, the tower is designed to accommodate future carriers to be co-located on this proposed tower, which will reduce the need for another tall structure to be needed in this part of Wasilla.

MATANUSKA-SUSITNA BOROUGH

Real Property Detail for Account: 52327B01L004

Site Information

Account Number	52327B01L004	Subdivision	ANCIENT TREE EST
Parcel ID	26233	City	None
TRS	S17N01E06	Map WA10	Tax Map
Abbreviated Description (Not for Conveyance)	ANCIENT TREE EST BLOCK 1 LOT 4		
Site Address	3600 E Bogard Rd		

Ownership

Owners	CRYSTAL INVESTMENTS LLC	Buyers	
Primary Owner's Address	PO BOX 190801 ANCHORAGE AK 99519	Primary Buyer's Address	

Appraisal Information

Year	Land Appraised	Bldg. Appraised	Total Appraised
2025	$73,400.00	$999,800.00	$1,073,200.00
2024	$73,400.00	$992,800.00	$1,066,200.00
2023	$73,400.00	$969,400.00	$1,042,800.00

Assessment

Year	Land Assessed	Bldg. Assessed	Total Assessed[1]
2025	$73,400.00	$999,800.00	$1,073,200.00
2024	$73,400.00	$992,800.00	$1,066,200.00
2023	$73,400.00	$969,400.00	$1,042,800.00

Building Information

Structure 1 of 1

Residential Units	0	Use	Construction Services
Condition	Standard	Design	Commercial
Basement	None	Construction Type	Frame
Year Built	2003	Grade	None
Foundation	Slab on Grade	Well	Well 1 - Drilled Well
Septic	Septic - 1 - Septic Tank		

Building Item Details

Building Number	Description	Area	Percent Complete

Tax/Billing Information

Year	Certified	Zone	Mill	Tax Billed
2025	Yes	0007	12.035	$12915.97
2024	Yes	0007	12.374	$13193.17
2023	Yes	0007	12.083	$12600.15

Recorded Documents

Date	Type	Recording Info (offsite link to DNR)
5/14/2024	WARRANTY DEED (ALL TYPES)	Palmer 2024-007550-0
10/29/2010	WARRANTY DEED (ALL TYPES)	Palmer 2010-021609-0
6/27/2007	QUITCLAIM DEED (ALL TYPE)	Palmer 2007-015880-0

Tax Account Status [2]

Status	Tax Balance	Farm	Disabled Veteran	Senior	Total [3]	LID Exists
Current	$0.00	$0.00	$0.00	$0.00	$0.00	No

Land and Miscellaneous

Gross Acreage	Taxable Acreage	Assembly District	Precinct	Fire Service Area	Road Service Area
1.35	1.35	Assembly District 006	28-450	130 Central Mat-Su	025 Bogard RSA

[1] Total Assessed is net of exemptions and deferments.rest, penalties, and other charges posted after Last Update Date are not reflected in balances.
[2] If account is in foreclosure, payment must be in certified funds.
[3] If you reside within the city limits of Palmer or Houston, your exemption amount may be different.

Last Updated: 7/24/2025 8:00:00 AM

ENTRY AND TESTING AUTHORIZATION

Market: Alaska PNW	Property Owner(s): Crystal Investments, LLC
Site Number: AN2043	Property Address: 3600 E. Bogard Road Wasilla, AK 99654
Site Name: Cottonwood Lake	

This Entry and Testing Authorization is granted by the Owner(s) of the Property described above, to New Cingular Wireless PCS, LLC, a Delaware limited liability company ("AT&T"), in connection with AT&T's desire to lease space on the Property for a wireless communications facility.

Owner hereby grants to AT&T and its authorized agents, a revocable right to enter the Property to perform any reasonable tests that AT&T deems desirable at AT&T's expense to determine the feasibility of constructing and operating a communications facility upon the Property, including but not limited to: (1) radio frequency testing; (2) soils testing; (3) environmental audits; (4) boundary surveys; (5) on-site feasibility assessment; (6) utilities ordering, coordination and installation; and/or (7) filing of zoning and other permit applications (the "Access Rights").

By exercising any of the Access Rights, AT&T agrees to: (a) repair any damage to the Property caused by AT&T's use of the Access Rights; and (b) indemnify, defend and hold Owner harmless from and against any and all claims, damages, losses and expenses arising out of the negligence or willful misconduct of AT&T or its agents in connection with the Access Rights.

THE OWNER HEREBY ACKNOWLEDGES THAT THE AT&T HAS MADE NO REPRESENTATIONS OR COMMITMENTS THAT A LEASE AGREEMENT CONCERNING THE PROPERTY WILL BE ENTERED INTO IN THE FUTURE.

This constitutes the entire understanding between the parties regarding the Access Rights. Any prior understandings, whether oral or written are superseded. This authorization is governed by the laws of the State in which the Property is located.

Hans Hanson

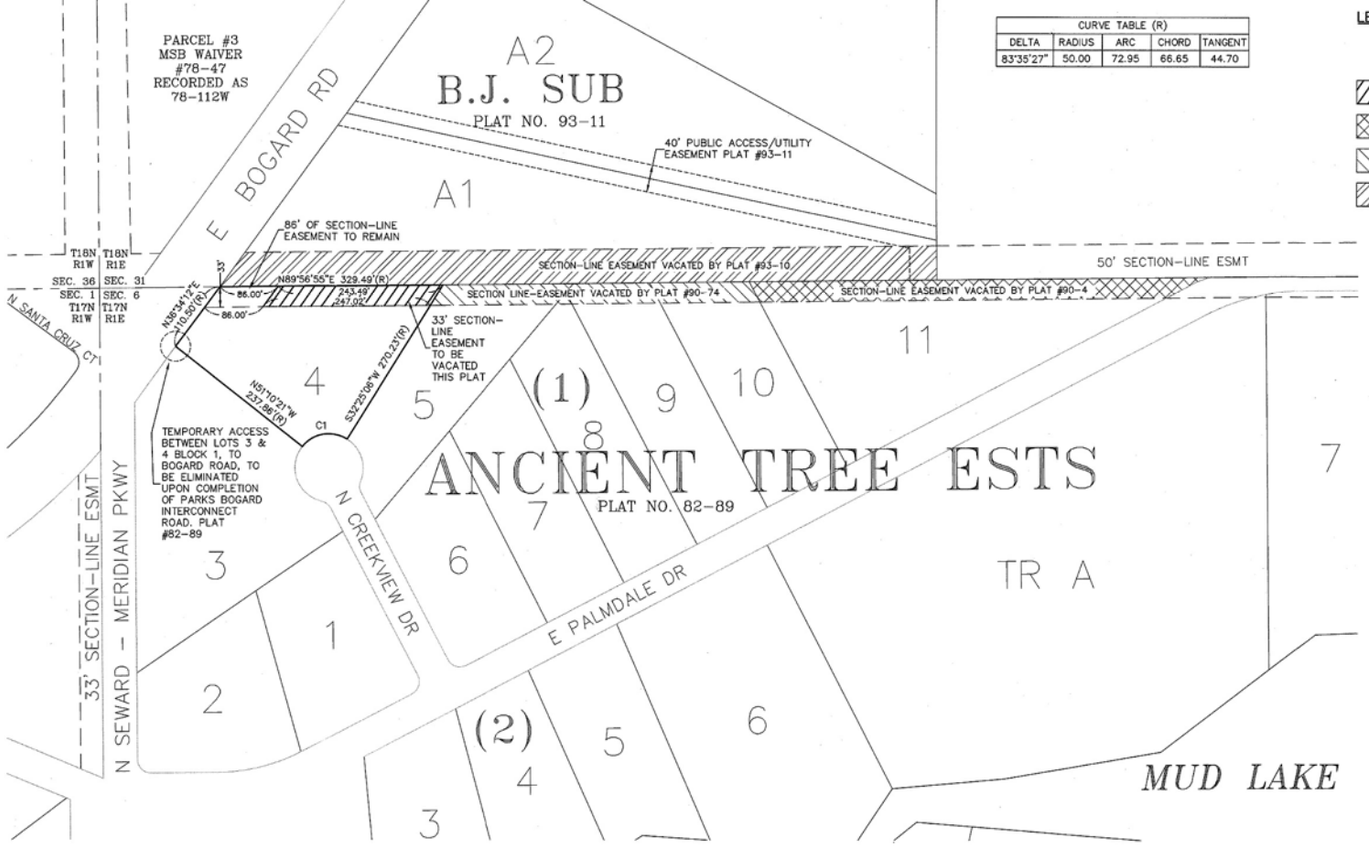
Signature

Hans Hanson, Manager

Printed Name and Title

6-27-2024

Date



CURVE TABLE (R)				
DELTA	RADIUS	ARC	CHORD	TANGENT
83°35'27"	50.00	72.95	66.65	44.70

LEGEND

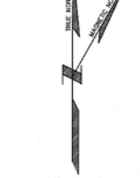
(R) RECORD DATA PER PLAT #82-89

SECTION LINE-EASEMENT TO BE VACATED THIS PLAT

SECTION LINE-EASEMENT VACATED BY PLAT #90-4

SECTION LINE-EASEMENT VACATED BY PLAT #90-74

SECTION LINE-EASEMENT VACATED BY PLAT #93-10





VICINITY MAP
SCALE 1"= 1 MILE
TAX MAP H007, H008, H009 & H010

CERTIFICATE OF OWNERSHIP

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM THE OWNER OF OF ANCIENT TREE ESTATES, BLOCK 1, LOT 4, AS SHOWN AND DESCRIBED HEREON AND THAT I APPROVE THE SECTION-LINE EASEMENT VACATION PLAT BY MY FREE CONSENT.

3/26/25
DATE

HANS HANSON, MANAGER
CRYSTAL INVESTMENTS, LLC
PO BOX 190801
ANCHORAGE, AK 99519

NOTARY'S ACKNOWLEDGEMENT

STEFANIE VAN KLAVEREN
Notary ID #134901873
My Commission Expires
May 15, 2028

SUBSCRIBED AND SWORN TO BEFORE ME THIS 26 DAY OF MARCH 2025, FOR: HANS HANSON

Stefanie Van Klaveren

NOTARY FOR THE STATE OF ~~ALASKA~~ TEXAS
MY COMMISSION EXPIRES May 15, 2028

SURVEYOR'S CERTIFICATE

STATE OF ALASKA
49TH
Robert J. Farmer
10615-S
REGISTERED PROFESSIONAL LAND SURVEYOR

I, HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA, THAT THIS PLAT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT.

DATE 2-7-25 REGISTRATION NO. 10615-S

ROBERT J. FARMER
REGISTERED LAND SURVEYOR

NOTES

1. THERE MAY BE FEDERAL, STATE AND LOCAL REQUIREMENTS GOVERNING LAND USE. IT IS THE RESPONSIBILITY OF THE INDIVIDUAL PARCEL OWNER TO OBTAIN A DETERMINATION WHETHER SUCH REQUIREMENTS APPLY TO THE DEVELOPMENT OF THE PARCELS SHOWN HEREON.
2. DIAGONALLY HATCHED AREA INDICATES PORTIONS OF THE SECTION-LINE EASEMENT BEING VACATED WITHIN SECTION 6, T.17N., R.1E., S.M., ALASKA. IT IS NOT THE INTENT OF THIS PLAT TO VACATE ANY OTHER DEDICATED PUBLIC RIGHTS-OF-WAY OR EASEMENTS.
3. THIS SECTION-LINE EASEMENT VACATION IS IN COMPLIANCE WITH THE FINAL DECISION EV-3-367 APPROVED DECEMBER 2, 2024.
4. THE ALTERNATE ROUTE IN ACCORDANCE WITH AS 19.30.410 AND/OR 11 AAC 51.065 IS VIA N. CREEKSIDE DR., E. PALMDALE DR., N. SEWARD-MERIDIAN PKWY., AND E. BOGARD RD.
5. NO FIELD SURVEY HAS BEEN CONDUCTED IN RELATION TO THE PREPARATION OF THIS SECTION-LINE EASEMENT VACATION PLAT. ALL DIMENSIONS AND OTHER DETAILS AS SHOWN HEREON ARE FROM THE PLAT OF ANCIENT TREE ESTATES ON FILE AT THE PALMER RECORDING DISTRICT AS PLAT 82-89.

SECTION-LINE EASEMENT VACATION CERTIFICATE APPROVAL RECOMMENDATION

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

THE VACATION STATEMENT, AS SHOWN HEREON, HAS BEEN REVIEWED BY THE CENTRAL REGIONAL OFFICE AND IS HEREBY RECOMMENDED FOR APPROVAL BY THE COMMISSIONER.

RECOMMENDED BY _____ DATE 5/13/2025
TITLE: REGIONAL CHIEF RIGHTS-OF-WAY AGENT

STATE OF ALASKA DIVISION OF MINING, LAND & WATER

THE VACATION STATEMENT, AS SHOWN HEREON, HAS BEEN REVIEWED BY THE DIVISION OF MINING, LAND & WATER AND IS HEREBY RECOMMENDED FOR APPROVAL BY THE COMMISSIONER.

RECOMMENDED BY _____ DATE 5/8/2025
TITLE: DIRECTOR, DIVISION OF MINING, LAND & WATER

THE STATE OF ALASKA, ACTING BY AND THROUGH THE COMMISSIONER OF THE DEPARTMENT OF NATURAL RESOURCES AND THE COMMISSIONER OF THE DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, DOES HEREBY STATE AND DECLARE THAT THE STATE OF ALASKA VACATES AND RELEASES ALL RIGHTS AND TITLE TO ANY AND ALL PORTIONS OF SECTION-LINE EASEMENTS FOR PUBLIC HIGHWAYS RESERVED TO IT UNDER A.S. 19.10.010 (SPECIFIC AREA DELINEATED BY DIAGONAL HATCHING ON THIS PLAT).

DATE: 5/13/25 APPROVED: _____
COMMISSIONER
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

DATE: 5/8/2025 APPROVED: _____
COMMISSIONER
DEPARTMENT OF NATURAL RESOURCES

CERTIFICATE OF PAYMENT OF TAXES

I HEREBY CERTIFY THAT ALL TAXES AND SPECIAL ASSESSMENTS, THROUGH December 31, 2025, AGAINST THE PROPERTY, INCLUDED IN THIS PLAT, HEREON HAVE BEEN PAID.

_____ 4/15/25
BOROUGH TAX COLLECTION OFFICIAL DATE

PLANNING DIRECTOR'S CERTIFICATE

I CERTIFY THAT THE SECTION-LINE EASEMENT VACATION SHOWN HEREON HAS BEEN APPROVED BY THE MATANUSKA-SUSITNA BOROUGH PLATTING AUTHORITY FOR VACATION BY RESOLUTION NO. 2025-038 DATED September 19, 2024, AND THAT THIS PLAT HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE RECORDER IN THE PALMER RECORDING DISTRICT, THIRD JUDICIAL DISTRICT, STATE OF ALASKA, IN WHICH THE PLAT IS LOCATED.

_____ May 15, 2025
PLANNING DIRECTOR DATE

ATTEST: _____
PLATTING CLERK

MATANUSKA-SUSITNA BOROUGH SEAL STATE OF ALASKA PLATTING BOARD

SCALE

0 50' 100' 200' 300' 400 500 FT.
0 25 50 75 100 125 150 M

1 METER = 3.2808333 U.S. SURVEY FEET, 1 U.S. ACRE = 0.4047 HECTARE

DATE OF SURVEY:	NAME OF SURVEYOR:
NO FIELD SURVEY	FARMER SURVEYING, LLC; #126467 9131 E. FRONTAGE RD., PALMER, AK 99645 OFFICE:(907)745-0222; CELL: (907)982-4989

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
ANCHORAGE, ALASKA

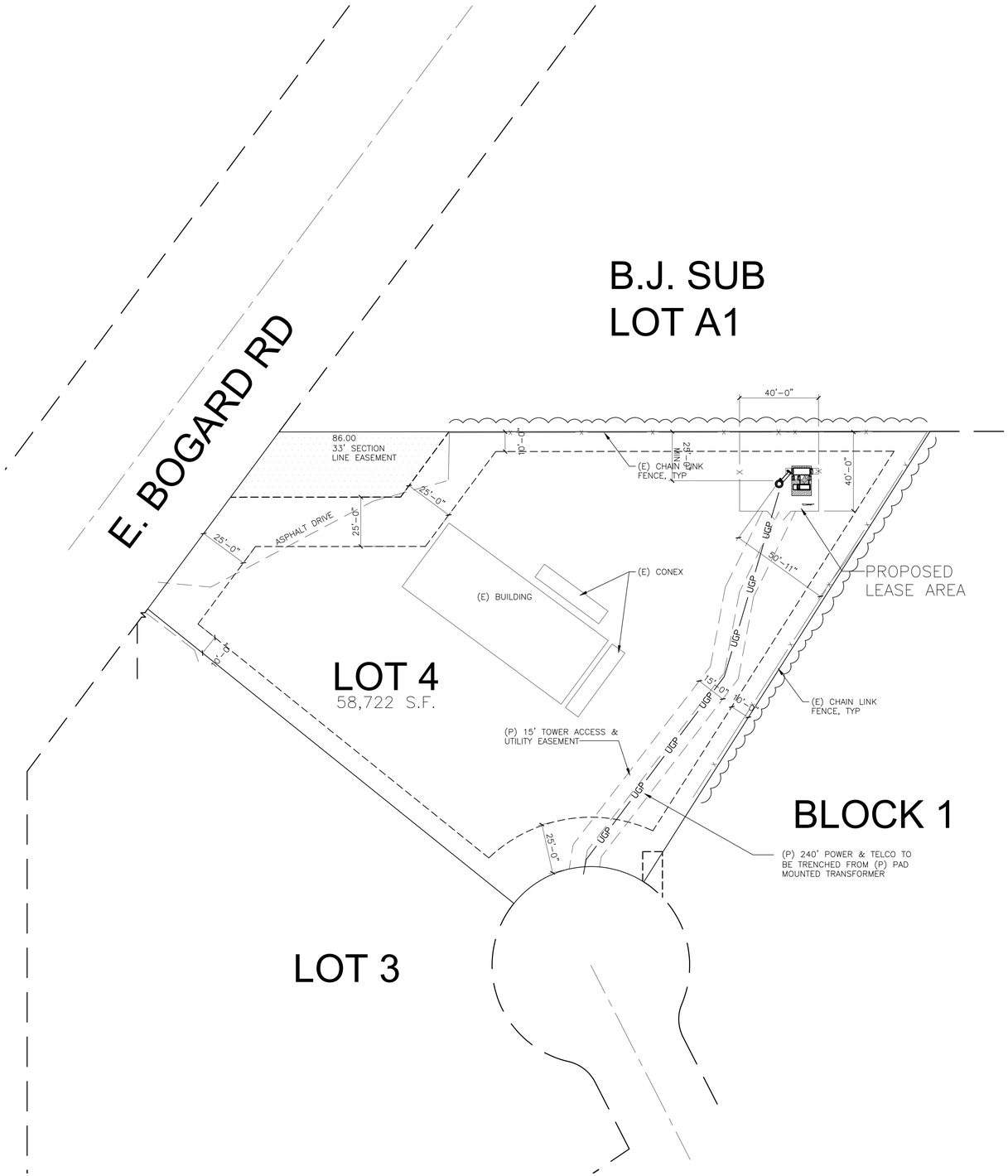
SECTION-LINE EASEMENT VACATION PLAT

ASSOCIATED WITH
LOT 4, BLOCK 1 ANCIENT TREE ESTATES, PLAT 82-89

LOCATED WITHIN
SEC. 6, T. 17 N., R. 1 E., S. M., AK.
PALMER RECORDING DISTRICT
THIRD JUDICIAL DISTRICT, STATE OF ALASKA

2025-56
Plat # Palmer
Rec Dist
5/16/ 2025
Date
Time 9:15 AM

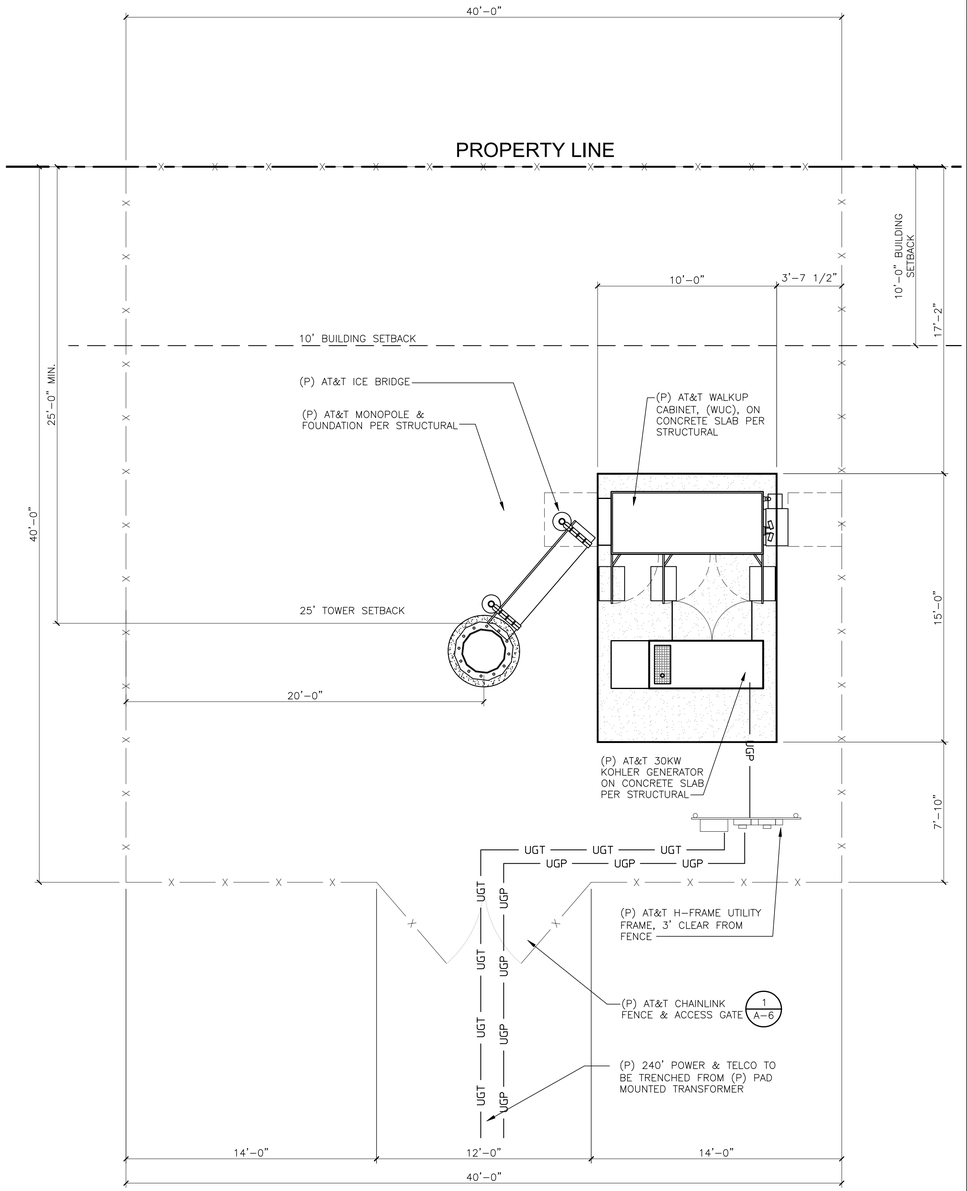
DRAWN BY: KJA	APPROVAL RECOMMENDED:
DATE: 02/04/2025	Elizabeth Andrason 5/8/2025
WO: 2200039_VAC	PLATTING SUPERVISOR DATE



SITE PLAN

SCALE: 1" = 30'-0"

NORTH



ENLARGED SITE PLAN

SCALE: 1/8" = 1'-0"

NORTH

at&t
Your world. Delivered.

MasTec
Network Solutions

Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019

DHD
ARCHITECTURE PLLC
13424 246TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2043
COTTONWOOD NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

ISSUED DATE:
06-25-2025

NO.	DATE	ISSUE BLOCK
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1

at&t
Your world. Delivered.

AN2043 COTTONWOOD LAKE NSB

FA LOCATION CODE: 15712364

3600 E BOGARD ROAD, WASILLA, AK 99654

PROJECT INFORMATION

PROJECT DESCRIPTION:

SCOPE OF WORK FOR NEW SITE BUILD (NSB):

INSTALL (3) COMMSCOPE & (3) CELLMAX PANEL ANTENNAS & (12) RRUS ON AN PROPOSED 120' MONOPOLE. INSTALL A PRE FABRICATED EQUIPMENT WALK UP CABINET, (WUC), WITHIN A PROPOSED AT&T FENCED AREA.

APPLICANT:

MASTEC NETWORK SOLUTIONS – ALASKA
2240 E. DOWLING ROAD
ANCHORAGE, AK 99507
253-709-0317

PROPERTY OWNER:

HANS HANSON
CRYSTAL INVESTMENTS, LLC
3600 E. BOGARD RD.
WASILLA, AK 99654

CODE INFORMATION:

ZONING CLASSIFICATION:	UNDESIGNATED
BUILDING CODE:	INTERNATIONAL BUILDING CODE CURRENT CODE 2018
PARCEL NUMBER:	52327B01L004
CONSTRUCTION TYPE:	II-B
JURISDICTION:	MATANUSKA SUSITNA BOROUGH
LOT SIZE:	TBD
CURRENT USE:	COMMERCIAL GLASS BUSINESS WITH OPEN LOT SPACE
PROPOSED USE:	SAME W/ TELECOM FACILITY
POWER SERVICE:	MATANUSKA ELECTRIC
TELCO SERVICE:	ACS / GCI

TOWER OWNER:

AT&T TOWERS
1025 LENOX PARK BLVD NE
3RD FLOOR
ATLANTA, GA 30319

SITE LOCATION:

LATITUDE:	61° 35' 57.886" N 61.599413
LONGITUDE:	149° 21' 26.584" W -149.357384
TOWER:	120'
OVERALL HEIGHT AGL:	120'
BASE OF STRUCTURE AMSL:	405.4'

PERMITTING:

CONTACT: JUSTIN ABBOTT
SELECT SITE ACQUISITION LLC
206-790-4655

SITE ACQUISITION:

CONTACT: PAT HINMAN
SELECT SITE ACQUISITION LLC
425-306-2733

CONSTRUCTION:

JASON ESLINGER
SR. CONSTRUCTION MANAGER – AK
MASTEC NETWORK SOLUTIONS
2240 E DOWLING ROAD
ANCHORAGE, AK 99507
MOBILE: (503) 798-1288
EMAIL:
JASON.ESLINGER@MASTEC.COM

PROJECT TEAM

PROJECT ARCHITECT:

DHD ARCHITECTURE PLLC:
DAVID H. DEAN, ARCHITECT
13424 246TH AVE SE
ISSAQUAH, WA 98027
425.503.0637 P
DAVIDHDEAN@MSN.COM

PROJECT CONSULTANT:

MASTEC NETWORK SOLUTIONS – ALASKA
2240 E. DOWLING ROAD
ANCHORAGE, AK 99507
253-709-0317

VICINITY MAP



DRIVING DIRECTIONS

TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT
5000 W INTERNATIONAL AIRPORT RD, ANCHORAGE, AK 99502

TAKE W INTERNATIONAL AIRPORT RD AND A ST TO AK-1 N/E 5TH AVE
16 MIN (6.8 MI)

CONTINUE ON AK-1 N TO MATANUSKA-SUSITNA. TAKE THE SEWARD MERIDIAN PARKWAY EXIT FROM AK-3 N
38 MIN (39.2 MI)

FOLLOW SEWARD MERIDIAN RD/S SEWARD MERIDIAN PKWY TO E BOGARD RD
4 MIN (1.9 MI)
3600 E BOGARD RD
WASILLA, AK 99654

DRAWING INDEX

SHEET	DESCRIPTION
T-1	TITLE SHEET
G-1	GENERAL NOTES
A-1	SITE PLAN
A-2	ENLARGED PLANS – EXTERIOR ELEVATIONS EXISTING SITE IMAGES
A-3	EQUIPMENT DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
A-7	EQUIPMENT DETAILS
RF-1	ANTENNA PLANS & SCHEDULE
RF-2	RFDS PLUMBING DIAGRAMS
RF-3	RF SIGNAGE
S-1	EQUIPMENT PLATFORM & SLAB TITLE SHEET
S-2	CONCRETE SLAB GENERAL NOTES
S-3	CONCRETE SLAB PLANS & SECTIONS
E0.1	LEGEND & SPECIFICATIONS
E1.1	POWER & SIGNAL PLAN
E1.2	GROUNDING PLAN
E2.1	ONE-LINE DIAGRAMS, DETAILS, & SCHEDULES
E2.2	GROUNDING DETAILS
E2.3	LABELING

APPROVALS LIST

APPROVAL	DATE	SIGNATURE
MNS ENGINEERING – SSA		
MNS SCOPING		
MNS SAQ PROJECT MANAGER		
MNS CX PROJECT MANAGER		
AT&T SAQ PROJECT MANAGER		
AT&T CX PROJECT MANAGER		

CONSTRUCTION DOCUMENTS REVIEW ROUTING ORDER. REVIEWERS MUST SIGN THEIR NAME ON THE APPROPRIATE SIGNATURE BLOCK ABOVE.

LEGAL DESCRIPTION

LOT 4, BLOCK 1, ANCIENT TREE ESTATES, ACCORDING TO PLAT NO. 82-89, LOCATED IN THE PALMER RECORDING DISTRICT, THIRD JUDICIAL DISTRICT, STATE OF ALASKA

SITE ACCESS REQUIREMENTS

GATE CODES:	TBD
DOOR CODES:	TBD
POINT OF CONTACT FOR FACILITIES:	HANS HANSON CRYSTAL INVESTMENTS, LLC 3600 E. BOGARD RD. WASILLA, AK 99654
SITE TECH CONTACT – NUMBER:	TBD
SITE ACCESS TIME FRAME:	TBD

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING
811
OR
(800) 478-3121 (ALASKA)
EMERGENCY:
CALL 911

811 Know what's below. Call before you dig.

at&t
Your world. Delivered.

MasTec Network Solutions

Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019

DHD
ARCHITECTURE PLLC
13424 246TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2043
COTTONWOOD LAKE NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

ISSUED DATE:
06-25-2025

NO.	DATE	ISSUE BLOCK
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

GENERAL NOTES:

1. DRAWINGS ARE NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE, THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE PROJECT AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.
2. PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION/CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.
3. THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
6. ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
7. GENERAL CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED "FOR CONSTRUCTION" AND EACH SUCCESSIVE SHEET BEARS THE ARCHITECT'S SIGNED WET STAMP.
8. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
9. SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.
10. CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.
11. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. CONTRACTOR SHALL KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. CONTRACTOR SHALL REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
14. THE CONTRACTOR SHALL PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
15. THE CONTRACTOR SHALL PROVIDE AT&T WIRELESS, LLC. PROPER INSURANCE CERTIFICATES NAMING AT&T WIRELESS, LLC. AS ADDITIONAL INSURED, AND AT&T WIRELESS, LLC. PROOF OF LICENSE(S) AND PE & PD INSURANCE.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL INSPECTIONS.
17. CAUTION! CALL BEFORE YOU DIG! BURIED UTILITIES EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE ONE-CALL UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. DIAL 811
18. CONTRACTOR TO DOCUMENT ALL WORK PERFORMED WITH PHOTOGRAPHS AND SUBMIT TO AT&T WIRELESS, LLC. ALONG WITH REDLINED CONSTRUCTION SET.
19. CONTRACTOR TO DOCUMENT ALL CHANGES MADE IN THE FIELD BY MARKING UP (REDLINING) THE APPROVED CONSTRUCTION SET AND SUBMITTING THE REDLINED SET TO AT&T WIRELESS, LLC. UPON COMPLETION.
20. FOR COLLOCATION SITES: CONTACT TOWER OWNER REPRESENTATIVE FOR PARTICIPATION IN BID WALK.
21. GENERAL CONTRACTOR IS TO COORDINATE ALL POWER INSTALLATION WITH POWER COMPANY AS REQUIRED. CONTRACTOR TO REPORT POWER INSTALLATION COORDINATION SOLUTION(S) TO NETWORK CARRIER REPRESENTATIVE, PROJECT CONSTRUCTION MANAGER AND ARCHITECT.
22. ANY SUBSTITUTIONS OF MATERIALS AND/OR EQUIPMENT, MUST BE APPROVED BY AT&T CONSTRUCTION MANAGER.
23. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE PENETRATION OF EXISTING ROOFING MATERIALS OCCUR, THE GENERAL CONTRACTOR SHALL COORDINATE WITH BUILDING OWNER AND BUILDING ROOFING CONTRACTOR OF RECORD FOR INSTALLATION, PATCH, REPAIR OR ANY AUGMENTATION TO THE ROOF, AND HAVE THE WORK GUARANTEED UNDER THE ROOFING CONTRACTOR'S WARRANTY FOR MOISTURE PENETRATION OR AND OTHER FUTURE BREACH OF ROOFING INTEGRITY.
24. IN THE CASE OF ROOFTOP SOLUTIONS WITH THE INSTALLATION OF ANTENNAS WITHIN CONCEALED (SHROUDED) SUPPORT FRAMES OR TRIPODS, THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE FRP DESIGNER/FABRICATOR TO ENSURE THAT THE FINAL FRP SHROUD IS SIMULATING (IN APPEARANCE) DESIGNATED EXISTING EXTERIOR BUILDING FACADE MATERIALS, TEXTURES, AND COLORS. THE CONTRACTOR SHALL FURTHERMORE ENSURE THE USE OF COUNTERSUNK FASTENERS IN ALL FRP CONSTRUCTION. WHEN PHOTO SIMULATIONS ARE PROVIDED, THE CONTRACTOR SHALL ENSURE THAT FINAL CONSTRUCTION REPRESENTS WHAT IS INDICATED IN PHOTO SIMULATIONS. SHOP DRAWINGS SHALL BE PROVIDED TO THE GENERAL CONTRACTOR, CONSTRUCTION COORDINATOR, AND ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION.

GENERAL NOTES (CONT'D):

25. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE ANCHORING TO A CONCRETE ROOF SLAB IS REQUIRED, CONTRACTORS SHALL CONFIRM (PRIOR TO SUBMITTING BID) WITH CONSULTING CONSTRUCTION COORDINATOR AND ARCHITECT THE PRESENCE OF POST TENSION TENDONS WITHIN THE ROOF SLAB - RESULTING FROM AN UNDOCUMENTED DESIGN CHANGE IN THE EXISTING BUILDING "AS-BUILT DRAWING SET" - HAVING INDICATED AN ORIGINAL DESIGN SOLUTION OF REINFORCED CONCRETE W/ EMBEDDED STEEL REBAR. IN THE EVENT POST TENSION SLAB SOLUTION IS PRESENT, CONTRACTOR SHALL INCLUDE PROVISIONS FOR X-RAY PROCEDURES (INCLUDED IN BID) FOR ALL PENETRATION AREAS WHERE ANCHORING OCCURS.
26. GENERAL & SUB CONTRACTORS SHALL USE STAINLESS STEEL METAL LOCKING TIES FOR ALL CABLE TRAY TIE DOWNS AND ALL OTHER GENERAL TIE DOWNS (WHERE APPLICABLE). PLASTIC ZIP TIES SHALL NOT BE PERMITTED FOR USE ON AT&T PROJECTS. RECOMMENDED MANUFACTURE SHALL BE: PANDUIT CORP. METAL LOCKING TIES MODEL NO. MLT4S-CP UNDER SERIES-304 (OR EQUAL). PANDUIT PRODUCT DISTRIBUTED BY TRIARC OF TACOMA, WA.

DESIGN CRITERIA:

1. THE STRUCTURAL DESIGN OF THIS PROJECT IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2021 1608.1 GENERAL & CHAPTER 7 OF ACSE 7.
2. **DESIGN LOADS:**

-ROOF SNOW LOAD	_____	PER STRUCTURAL
-BASIC WIND SPEED	_____	PER STRUCTURAL
-WIND EXPOSURE	_____	PER STRUCTURAL

CONCRETE NOTES:

1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI-318.
2. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH CHAPTER 19 OF THE IBC 2021. STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS.

TYPE OF CONSTRUCTION	28 DAY STRENGTHS (f'c)	W/C RATIO	MINIMUM CEMENT CONTENT PER CUBIC YARD
A. SLABS ON GRADE TOPPING SLABS CONCRETE PIERS	3,000 PSI	≤ .45	5 1/2 SACKS
B. ALL STRUCTURAL CONCRETE EXCEPT WALLS	4,000 PSI	≤ .45	6 1/2 SACKS
C. CONCRETE WALLS	4,000 PSI	≤ .45	6 1/2 SACKS

CEMENT SHALL BE ASTM C150, PORTLAND CEMENT TYPE II U.N.O.

3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND BE RESPONSIBLE FOR THE METHODS AND PROCEDURES OF CONCRETE PLACEMENT.
4. ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, C618, C989 AND C1017. TOTAL AIR CONTENT SHALL BE IN ACCORDANCE WITH TABLE 1904.2.1 OF THE IBC 2021.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, fy=60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, fy=40,000 PSI. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCING COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN A.W.S. D14 ARE SUBMITTED.
6. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH AC1 315 AND 318. LAP ALL CONTINUOUS REINFORCEMENT AT LEAST 30 BAR DIAMETERS OR A MINIMUM OF 2'-0". PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS AT LEAST 30 BAR DIAMETERS OR A MINIMUM OF 2'-0". LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.
7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
8. SPIRAL REINFORCEMENT SHALL BE PLAIN WIRE CONFORMING TO ASTM A615, GRADE 60, fy=60,000 PSI.
9. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE CONSULTANT.
10. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

- FOOTINGS AND OTHER UNFORMED SURFACES, EARTH FACE		3"
- FORMED SURFACES EXPOSED TO EARTH OR WEATHER	(#6 BARS OR LARGER)	2"
	(#5 BARS OR SMALLER)	1 1/2"
- SLABS AND WALLS (INTERIOR FACE)		3/4"

11. BARS SHALL BE SUPPORTED ON CHAIRS OR DOBIE BRICKS.
12. ANCHOR BOLTS TO CONFORM TO ASTM A307.
13. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3,000 PSI MINIMUM).
14. ALL EXPANSION ANCHORS TO BE HILTI BRAND. ADHESIVE ANCHORS REQUIRE TESTING TO CONFIRM CAPACITY UNLESS WAIVED BY ENGINEER.

STRUCTURAL STEEL NOTES:

1. SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW PRIOR TO FABRICATION.
2. STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION (INCLUDING FIELD WELDING, HIGH STRENGTH FIELD BOLTING, EXPANSION BOLTS, AND THREADED EXPANSION ANCHORS) SHALL BE BASED ON THE A.I.S.I. "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" LATEST EDITION. SUPERVISION SHALL BE IN ACCORDANCE WITH IBC 2021 CHAPTER 22, BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE CONSULTANT. THE CONSULTANT SHALL BE FURNISHED WITH A COPY OF ALL INSPECTION REPORTS AND TEST RESULTS.
3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	
A. WIDE FLANGE SHAPE	ASTM A992, Fy 50 KSI
B. OTHER SHAPE, PLATES AND ROD	ASTM A36, Fy 36 KSI
C. PIPE COLUMNS	ASTM A53, Fy 35 KSI
D. STRUCTURAL TUBING	ASTM A500, Fy 46 KSI
E. ANCHOR BOLTS	ASTM A307
F. CONNECTION BOLTS	ASTM A325

4. ALL MATERIAL TO BE HOT DIPPED GALVANIZED AFTER FABRICATION PER A123/A123M-00.
5. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.I. AND AWS STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70 XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. WELDING OF GRADE 60 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING E70 XX ELECTRODES. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING STEEL IS NOT PERMITTED. SEE REINFORCING NOTE FOR MATERIAL REQUIREMENTS OF WELDED BARS.
6. COLD-FORMED STEEL FRAMING MEMBERS SHALL BE OF THE SHAPE, SIZE, AND GAGE SHOWN ON THE PLANS. PROVIDE MINIMUM SECTION PROPERTIES INDICATED. ALL COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE A.I.S.I. "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
7. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (3/4" DIA.) AND SHALL HAVE A MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
8. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A307 BOLTS UNLESS NOTED OTHERWISE.
9. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE DESIGN & CONSTRUCTION SPECIFICATION AND IN ACCORDANCE WITH ASTM A36 UNLESS NOTED OTHERWISE.
10. ALL WELDS TO BE 1/4" FILLET UNLESS NOTED OTHERWISE.
11. TOUCH UP ALL FIELD DRILLING AND WELDING WITH 2 COATS OF GALVACON (ZINC RICH PAINT) OR APPROVED EQUAL.

TOWER/POLE NOTES:

1. VERIFICATION THAT THE PROPOSED TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY OTHERS.
2. PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

ABBREVIATED ROOF TOP SAFETY PROCEDURES (WHEN APPLICABLE):

(AS PER "ACCIDENT PREVENTION PROGRAM" - BY PERMISSION OF WREN CONSTRUCTION, INC. - 03/01/99)

FALL PROTECTION METHODS AND EQUIPMENT
ROOF TOP INSTALLATIONS

1. FOR WORK IS BEING PERFORMED WITHIN 25' OF AN UNPROTECTED ROOF EDGE, THE CONSTRUCTION SUPERVISOR SHALL DESIGNATE A TRAINED SAFETY MONITOR TO OBSERVE THE MOVEMENTS AND ACTIVITIES OF THE CONSTRUCTION WORKERS.
2. SAFETY MONITOR SHALL WARN CONSTRUCTION WORKERS OF HAZARDS (I.E., BACKING UP TOWARD A ROOF EDGE, ETC.) OR UNSAFE ACTIVITIES. THE SAFETY MONITOR MUST BE ON THE SAME ROOF AND WITHIN VISUAL AND VERBAL DISTANCE OF THE CONSTRUCTION WORKERS.
3. CONSTRUCTION INVOLVING WORKERS TO APPROACH WITHIN 6' OR LESS OF AN UNPROTECTED ROOF EDGE, REQUIRES WORKERS TO USE SAFETY LINE.
4. SAFETY LINE SHALL BE MINIMUM ½" DIAMETER NYLON, WITH A NOMINAL TENSILE STRENGTH OF 5400 LBS.
5. SAFETY LINE SHALL BE ATTACHED TO A SUBSTANTIAL MEMBER OF THE STRUCTURE.
6. SAFETY LINE LENGTH SHALL BE SET ALLOWING CONSTRUCTION WORKER TO REACH EDGE OF ROOF, BUT NOT BEYOND.
7. SAFETY BELTS SHALL BE WORN BY ALL CONSTRUCTION WORKERS.
8. MONTHLY SAFETY INSPECTION AND MAINTENANCE OF THE FALL PROTECTION EQUIPMENT SHALL OCCUR BY THE SAFETY COMMITTEE REPRESENTATIVES, INCLUDING:

   INSPECTION OF CONSTRUCTION AREA FOR HAZARDS
   USE OF AN INSPECTION CHECKLIST
   INTERVIEWING COWORKERS REGARDING SAFETY CONCERNS
   REPORTING AND DOCUMENTING ANY HAZARDS
   REPORTING HAZARDS TO THE SAFETY COMMITTEE FOR CONSIDERATION
   POSTING RESULTS OF INSPECTION AND ANY ACTION TAKEN
   RECEIVING AN UNBIASED REVIEW OF ONE'S OWN WORK AREA BY ANOTHER COWORKER SAFETY REPRESENTATIVE

REFER TO ROOFTOP WORK AREA SAFETY PROTOCOL
NATIONAL ASSOCIATION OF TOWER ERECTORS 2000 PUBLICATION

REFERENCED OSHA REGULATION/STANDARDS SHALL BE REVIEWED BY TOWER ERECTORS,
EQUIPMENT INSTALLERS, AND TOWER/ROOF TOP CONTRACTORS/SUBCONTRACTORS
29 CFR 1926.500 - SCOPE, APPLICATION, AND DEFINITIONS
29 CFR 1926.501 - DUTY TO HAVE FALL PROTECTION
19 CFR 1926.502 - FALL PROTECTION SYSTEMS CRITERIA AND PRACTICES

SYMBOLS AND ABBREVIATIONS

A/C	AIR CONDITIONING	LBS	POUNDS
AGL	ABOVE GRADE LEVEL	MAX	MAXIMUM
APPROX	APPROXIMATELY	MECH	MECHANICAL
		MTL	METAL
BLDG	BUILDING	MFR	MANUFACTURE
BLK	BLOCKING	MGR	MANAGER
		MIN	MINIMUM
CLG	CEILING	MISC	MISCELLANEOUS
CLR	CLEAR		
CONC	CONCRETE	NA	NOT APPLICABLE
CONST	CONSTRUCTION	NIC	NOT IN CONTRACT
CONT	CONTINUOUS	NS	NEAR SIDE
		NTS	NOT TO SCALE
DBL	DOUBLE		
DIA	DIAMETER	OC	ON CENTER
DIAG	DIAGONAL	OD	OUTSIDE DIAMETER
DN	DOWN		
DET	DETAIL	PLYWD	PLYWOOD
DWG	DRAWING	PROJ	PROJECT
		PROP	PROPERTY
EA	EACH	PT	PRESSURE TREATED
EL	ELEVATION	REQ	REQUIRED
ELEC	ELECTRICAL	RM	ROOM
EQ	EQUAL	RO	ROUGH OPENING
EQUIP	EQUIPMENT		
EXT	EXTERIOR	SHT	SHEET
		SIM	SIMILAR
FIN	FINISH	SPEC	SPECIFICATION
FLUOR	FLUORESCENT	SF	SQUARE FOOT
FLR	FLOOR	SS	STAINLESS STEEL
FS	FAR SIDE	STL	STEEL
FT	FOOT	STRUCT	STRUCTURAL
		STD	STUD
GA	GAUGE	SUSP	SUSPENDED
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR	THRU	THROUGH
GRND	GROUND	TNNG	TINNED
GYP BD	GYPSUM WALL BOARD	TYP	TYPICAL
HORZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
HR	HOUR		
HT	HEIGHT	VERT	VERTICAL
HVAC	HEATING VENTILATION AIR CONDITIONING	VIF	VERIFY IN FIELD
		W/	WITH
ID	INSIDE DIAMETER	W/O	WITHOUT
IN	INCH	WP	WATER PROOF
INFO	INFORMATION		
INSUL	INSULATION		
INT	INTERIOR		
IBC	INTERNATIONAL BUILDING CODE		

T — T	TELEPHONE
P — P	POWER
- - - - - -	GROUND WIRE
COAX — COAX	COAXIAL CABLE
	ANTENNA
℄	CENTERLINE
(E)	EXISTING
X / C-X	DETAIL NUMBER / SHEET NUMBER

TRANSMITTING NOTES:

APPLICABLE BUILDING CODES AND STANDARDS:

- ALL TRANSMITTING ANTENNAS WILL BE INSTALLED IN A MANNER AS SET FORTH BY THE MANUFACTURER AND BY THE FEDERAL COMMUNICATIONS COMMISSION AS MEETING THE CURRENT AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD FOR NONIONIZING ELECTROMAGNETIC RADIATION (NIER).

- TELECOMMUNICATIONS INDUSTRY ASSOCIATION, (TIA) 222-G, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES.

- INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1000 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT.

- IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE").

- TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

GENERATOR NOTES:

APPLICABLE BUILDING CODES AND STANDARDS:

VERIFY GENERATOR COMPLIES WITH THE FOLLOWING. UL 2200 LISTING AS SHOWN ON PRODUCT SPECIFICAITON SHEET. 2021 IMC SECTION 915.1 GENERAL - THE INSTALLATION OF LIQUID-FUELED STATIONARY INTERNAL COMBUSTION ENGINES AND GAS TURBINES, INCLUDING EXHAUST, FUEL STORAGE AND PIPING, SHALL MEET THE REQUIREMENTS OF HFPA 37. STATIONARY ENGINE GENERATOR ASSEMBLES SHALL MEET THE REQUIREMENTS OF UL 2200.

VERIFY SEISMIC RESTRAINT PER 2021 IBC AND/OR MANUFACTURER'S INSTALLATION INSTRUCTIONS . NFPA 37-2018 EDITION.

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AN2043
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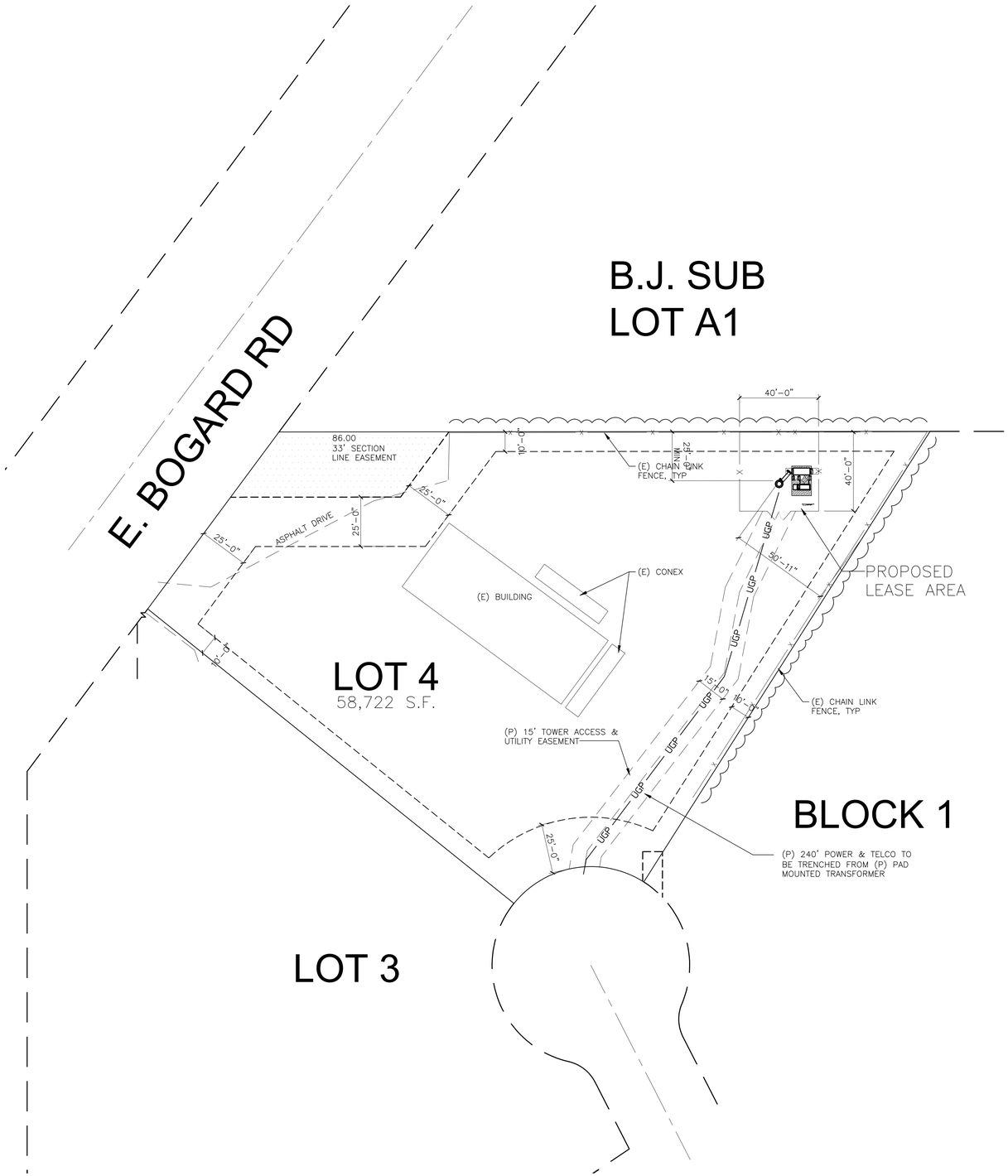
ISSUED DATE:
06-25-2025

NO.	DATE	ISSUE BLOCK
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:
GENERAL NOTES

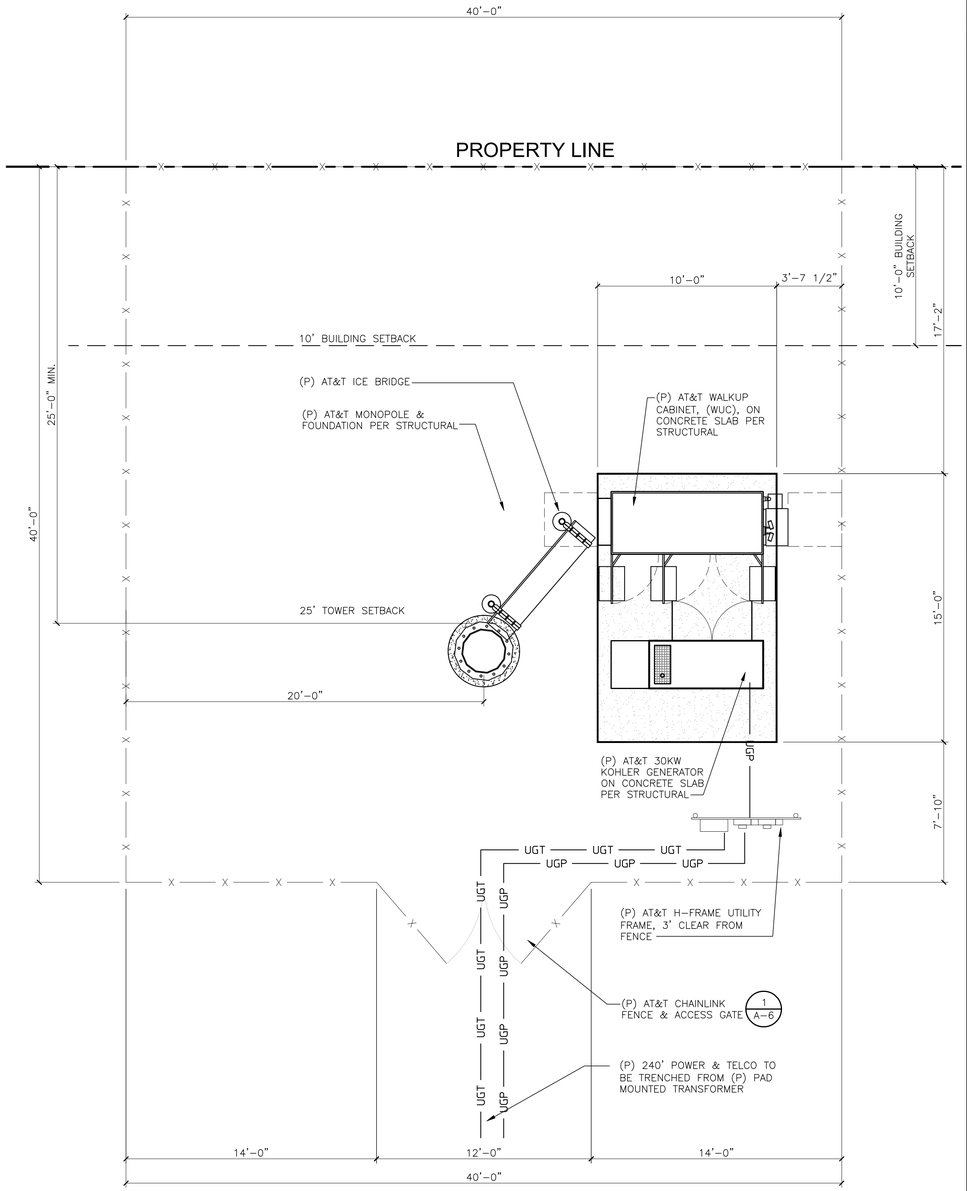
SHEET NUMBER:
N-1



SITE PLAN

SCALE: 1" = 30'-0"

NORTH



ENLARGED SITE PLAN

SCALE: 1/8" = 1'-0"

NORTH

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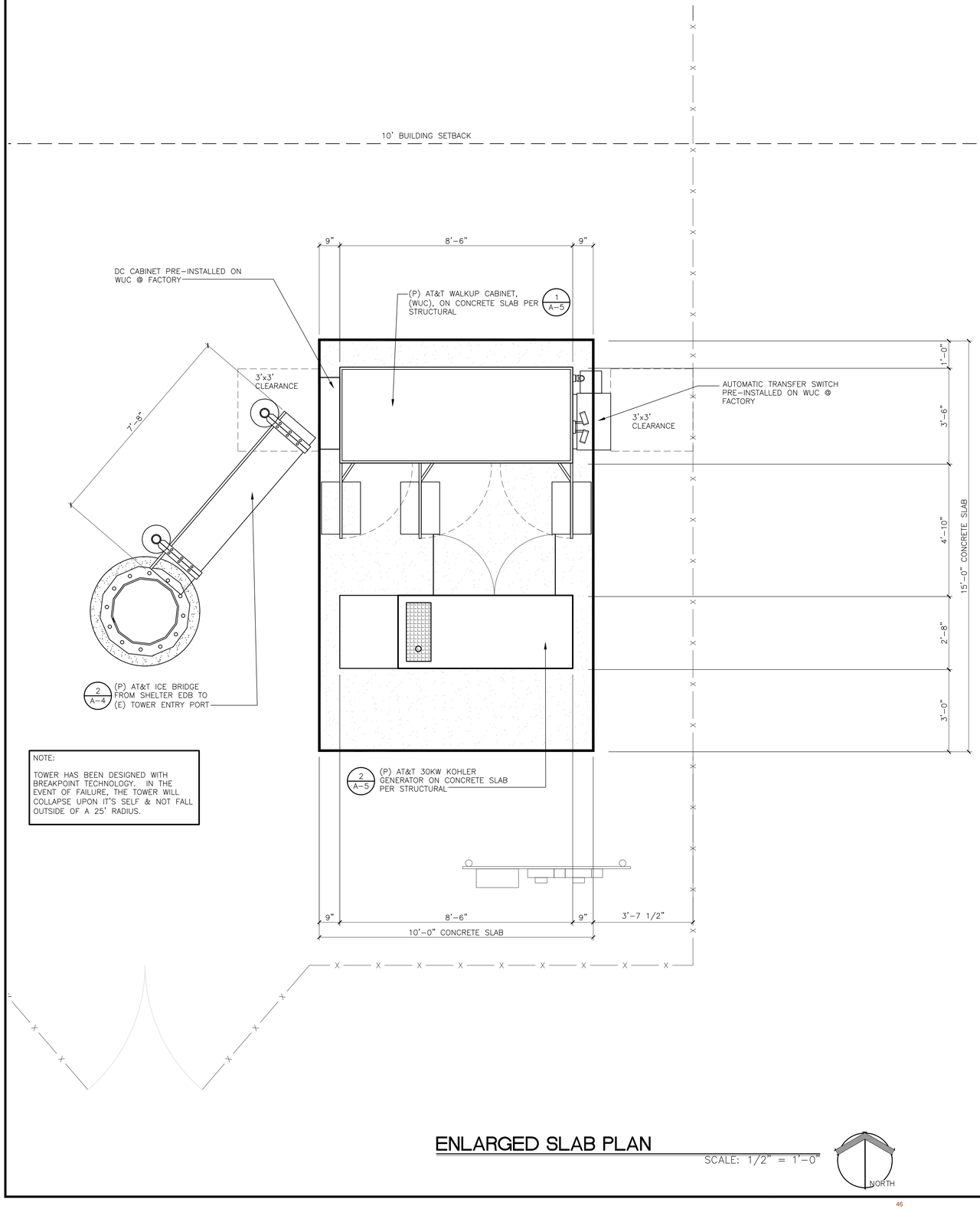
ISSUED DATE:
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NO.	DATE	ISSUE BLOCK
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1		
2		

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1



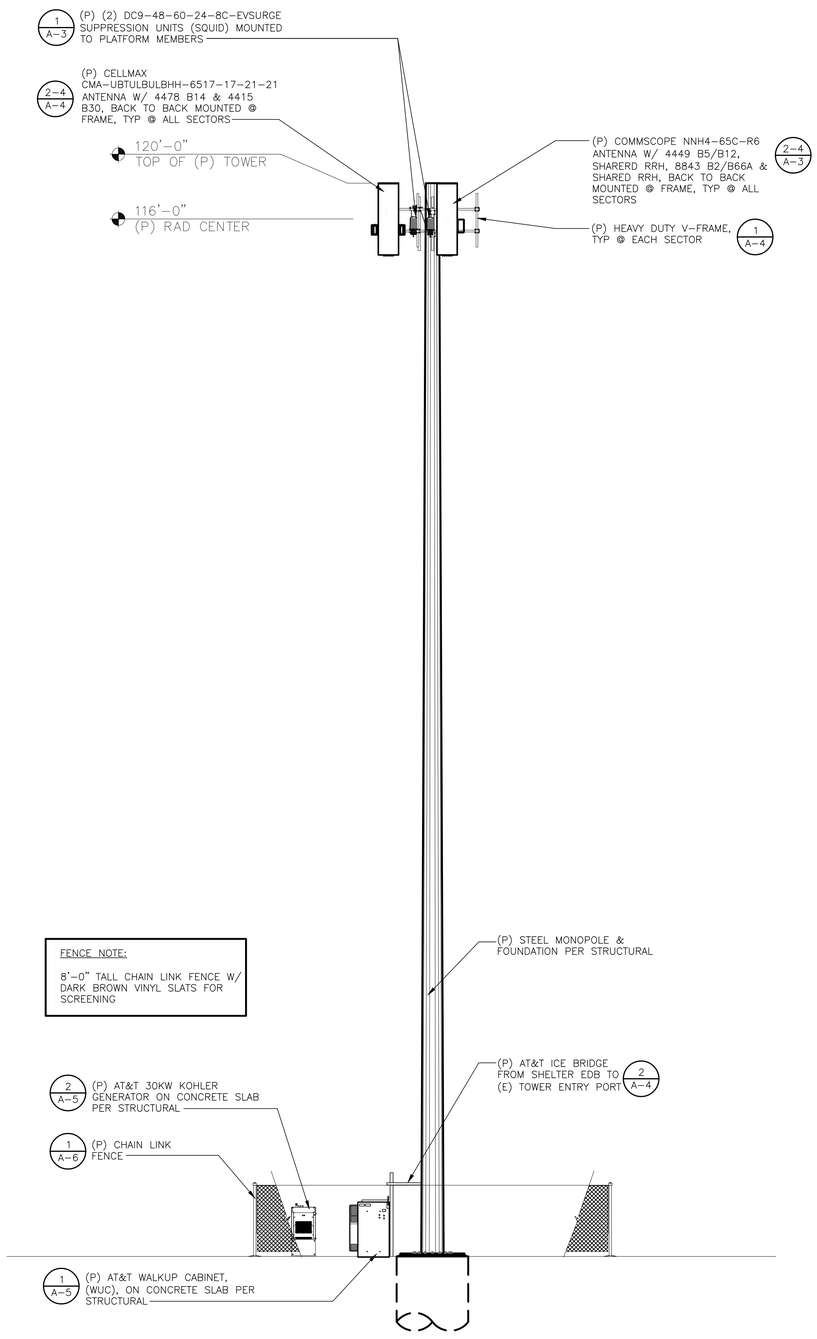
ENLARGED SLAB PLAN

SCALE: 1/2" = 1'-0"

NORTH

NOTE:

TOWER HAS BEEN DESIGNED WITH BREAKPOINT TECHNOLOGY. IN THE EVENT OF FAILURE, THE TOWER WILL COLLAPSE UPON IT'S SELF & NOT FALL OUTSIDE OF A 25' RADIUS.



EXTERIOR ELEVATION

SCALE: 1/8" = 1'-0"

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ISSUE BLOCK

NO.	DATE	
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2		

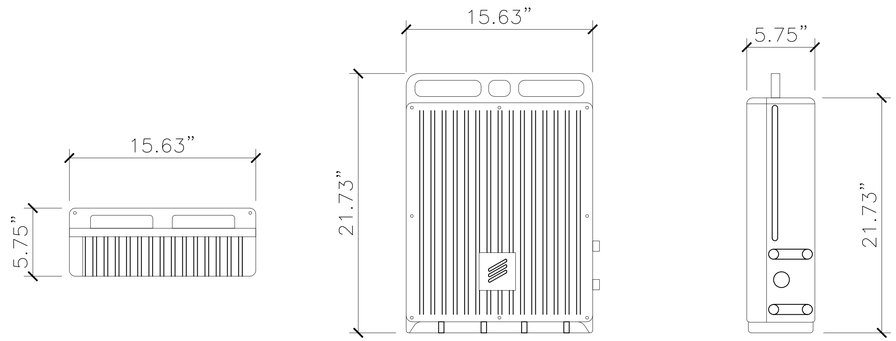
STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:
EXTERIOR ELEVATIONS

SHEET NUMBER:
A-2

ERICSSON 4490 B5/B12

COLOR:	GRAY
DIMENSIONS, HxWxD:	21.73"x15.63"x5.75"
WEIGHT:	65.0 LBS.



PLAN VIEW FRONT ELEVATION SIDE ELEVATION

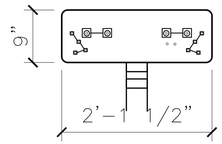
RRUS 4490 B5/B12

4 / A-3

1/2" = 1'-0"

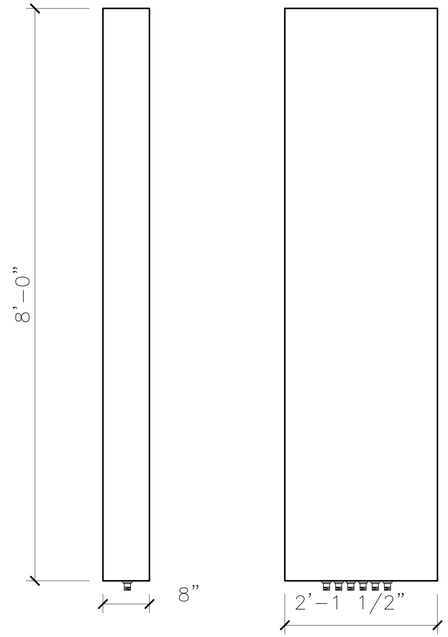
COMMSCOPE COMM-NNH4-65C-R6
12 PORT SECTOR ANTENNA

WIDTH:	25.197"
DEPTH:	9.252"
LENGTH:	95.984"
WEIGHT;	99.2 lbs (45.0 kg)
WIND LOAD;	954 N @ 150 km/h
	214.5 lbf @ 150 km/h



INCLUDED PRODUCTS

BSAMNT-1 WIDE PROFILE ANTENNA DOWNTILT MOUNTING KIT FOR 2.5-4.5" OD ROUND MEMBERS



ANTENNA SPEC

3 / A-3

NTS

RRUS 8843 B2, B66A

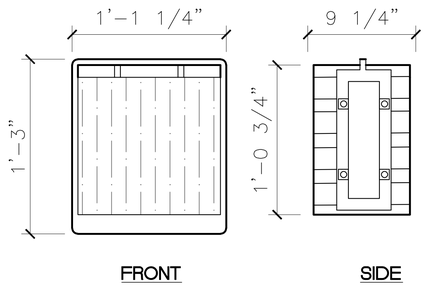
DIMENSIONS (WITH SUNSHIELD)

WIDTH:	14.96 in
HEIGHT:	13.19 in
DEPTH:	9.25 in
WEIGHT:	70 lbs

4TX/4RX PER BAND
320W OF TOTAL POWER
4x40 W PER BAND OR 2x60 W & 2x80 W FOR B66A
LTE: MAX OF 3 CARRIERS PER PORT (DL), MAX 3 CARRIERS PER PORT (UL)

-48 VDC 3-WIRE (2-WIRE W/ ADAPTER)

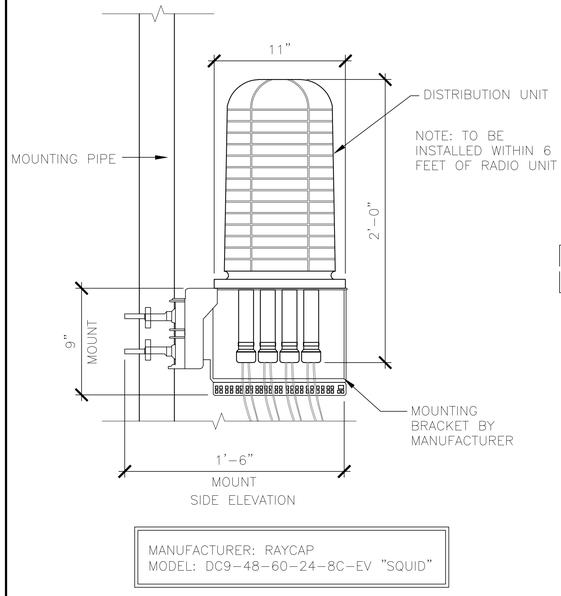
- ADAPTER IS REQUIRED FOR 2-WIRE CONNECTION
- SHIELDED DC CABLE IS REQUIRED
- GROUND CABLE SIZE = 2AWG



RRUS 8843 B2/B66A

2 / A-3

NOT TO SCALE



MANUFACTURER: RAYCAP
MODEL: DC9-48-60-24-8C-EV "SQUID"

USE 24-PAIR FIBER TRUNK CAPABLE OF TERMINATING 3 DC TRUNK CABLES - SOME PROJECTS ONLY REQUIRE 2

SIZE:	18.28"x10.24"x31.4"
WEIGHT:	16.0lbs MOUNT 10.2lbs TOTAL 26.3 lbs

WIND LOADING: 150 MPH 195 MPH GUST

SURGE SUPPRESSION UNIT

1 / A-3

NTS

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1		
2		

STATE OF ALASKA 49TH
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No.11332
December 31, 2025
REGISTERED PROFESSIONAL ARCHITECT

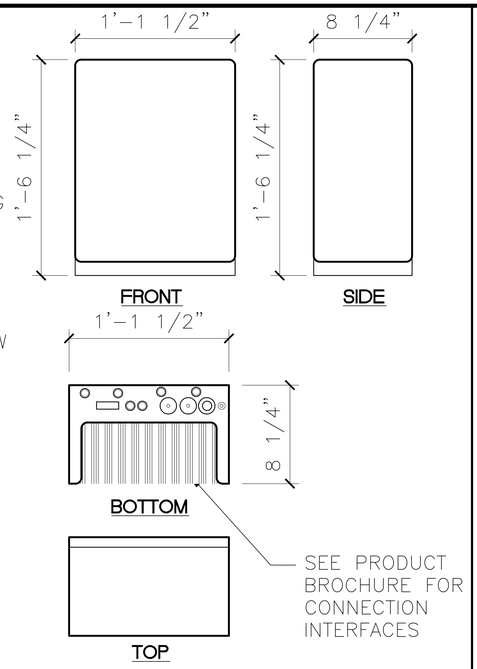
SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A-3

RRUS 4478 B14

DIMENSIONS (WITH HANDLES & FAN UNIT)
WIDTH: 13.40 in
HEIGHT: 18.1 in
DEPTH: 8.26 in
WEIGHT: 59.4 lbs

CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS. INSTALL 1 SFP AND CONNECT 1 FIBER PAIR TO THE RRUSS 4415 DURING INITIAL INSTALL.
ONLY USE ERICSSON SUPPLIED AND APPROVED SFPS RDH10265/25
2 EXTERNAL ALARM INPUTS
MAX WIND LOAD @ 50M/SEC = 260N
BREAKER SIZE = 25A, DC POWER CONSUMPTION = 650 W (FOR DIMENSIONING)
200MM HORIZONTAL SEPARATION REQUIRED FOR SIDE BY SIDE MOUNTING
200MM SEPARATION REQUIRED FROM ANTENNA BACKPLANE TO RADIO
400MM VERTICAL OUTDOOR/INDOOR SEPARATION REQUIRED BETWEEN 2 RADIOS
500MM VERTICAL SEPARATION BELOW ANTENNA
MIN, MAX DC CABLE SIZE FROM SQUID TO RADIO = 10,8 AWG

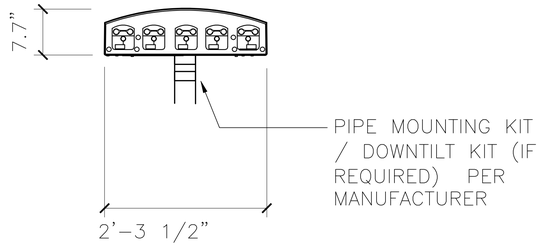


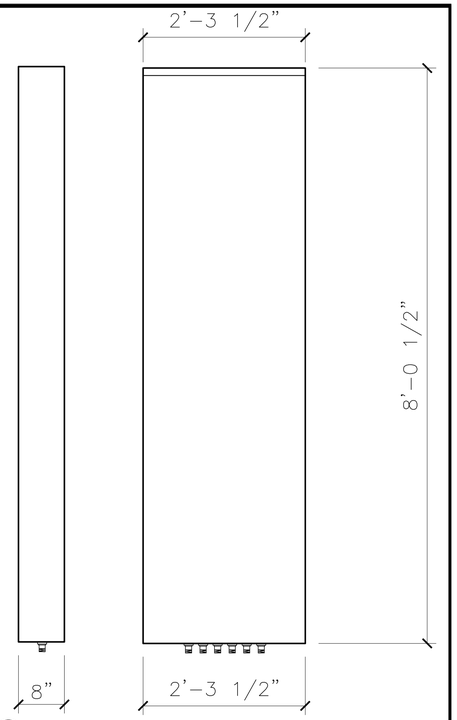
4 A-4 RRUS 4478 B14

1 1/2" = 1'-0"

CELLMAX CMA-UBTULBULBHH-6517-17-21-21

WEIGHT; 112 lbs
WIND LOAD @ 94 MPH
FRONTAL: 928 N (224.1 LBF
LATERAL: 322 N (72.4 LBF)
REAR: 67 m/s (150 MPH)





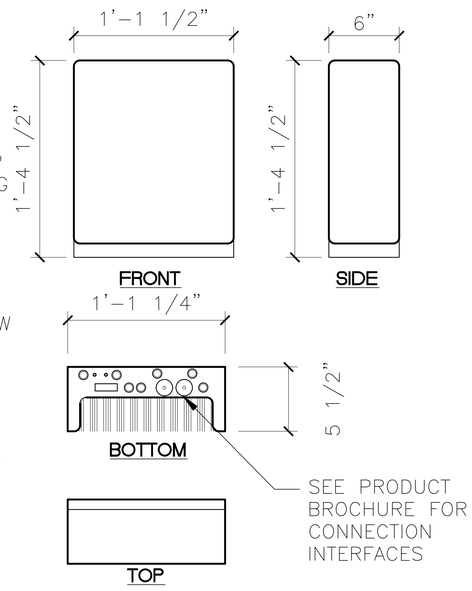
3 A-4 CELLMAX ANTENNA SPEC

NOT TO SCALE

RRUS 4415 B30

DIMENSIONS (WITH SUNSHIELD)
WIDTH: 13.4 in
HEIGHT: 16.5 in
DEPTH: 5.9 in
WEIGHT: 46 lbs

CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS. INSTALL 2 SFP AND CONNECT 2 FIBER PAIR TO THE RRUSS 4415 DURING INITIAL INSTALL.
ONLY USE ERICSSON SUPPLIED AND APPROVED SFPS RDH10265/25
2 EXTERNAL ALARM INPUTS
MAX WIND LOAD @ 50M/SEC = 260N
BREAKER SIZE = 25A, DC POWER CONSUMPTION = 670 W (FOR DIMENSIONING)
200MM HORIZONTAL SEPARATION REQUIRED FOR SIDE BY SIDE MOUNTING
200MM SEPARATION REQUIRED FROM ANTENNA BACKPLANE TO RADIO
400MM VERTICAL OUTDOOR/INDOOR SEPARATION REQUIRED BETWEEN 2 RADIOS
500MM VERTICAL SEPARATION BELOW ANTENNA
MIN, MAX DC CABLE SIZE FROM SQUID TO RADIO = 10,8 AWG



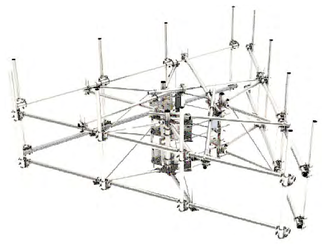
2 A-4 RRUS 44415 B30

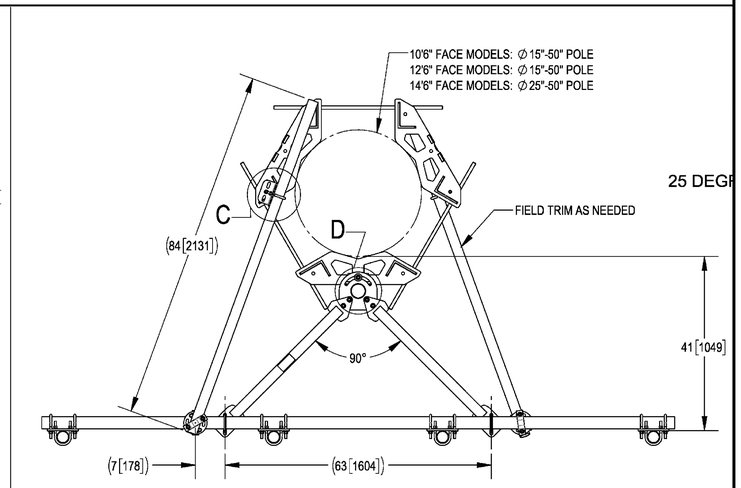
1 1/2" = 1'-0"

MCG22HDX15-12-H10

COMMSCOPE SEE PLANS OR STRUCTURAL FOR SITE SPECIFIC INFORMATION

SEE COMMSCOPE ASSEMBLY DRAWINGS FOR MOST UP TO DATE INFORMATION ON MOUNT AND COLLAR ATTACHMENT TO POLE





1 A-4 ANTENNA SECTOR FRAME

NOT TO SCALE

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Select Site Acquisition, LLC
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DHD ARCHITECTURE PLLC
13424 246TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2043
COTTONWOOD NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

ISSUED DATE: 06-25-2025

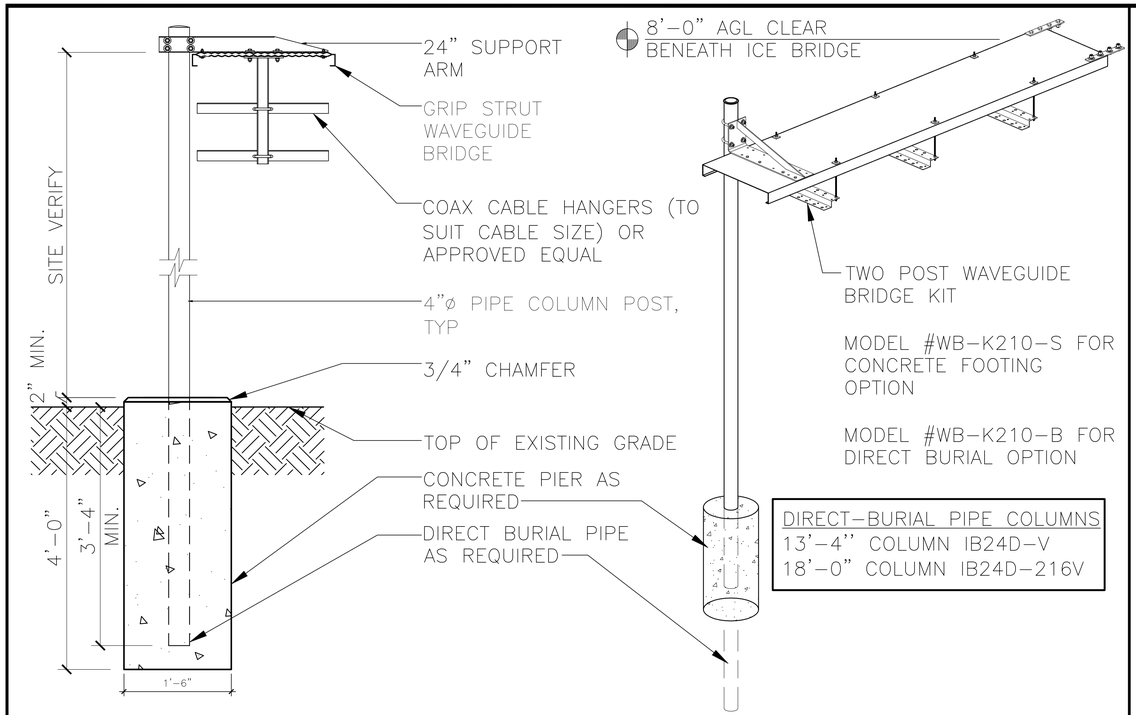
ISSUE BLOCK

NO.	DATE	
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

STATE OF ALASKA 49TH
DAVID H DEAN
No.11332
December 31, 2025
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A-4



4 / A-5 **ICE BRIDGE**

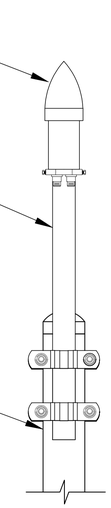
NTS

HIGH REJECTION 40 dB GPS
GPS-TMG-HR-40N

WEIGHT; 0.6 lbs
DIMENSIONS: 5.0" x 3.2"ø

FREQUENCY RANGE: 1575.42+/-10 MHz
ANTENNA GAIN: 3.5 dBic
AMPLIFIER GAIN: 40 dB+/-4 dB

DC VOLTAGE: 3.0-12.0 V (OPERATING)
28 V (SURVIVABILITY)



NOTES:

1. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.

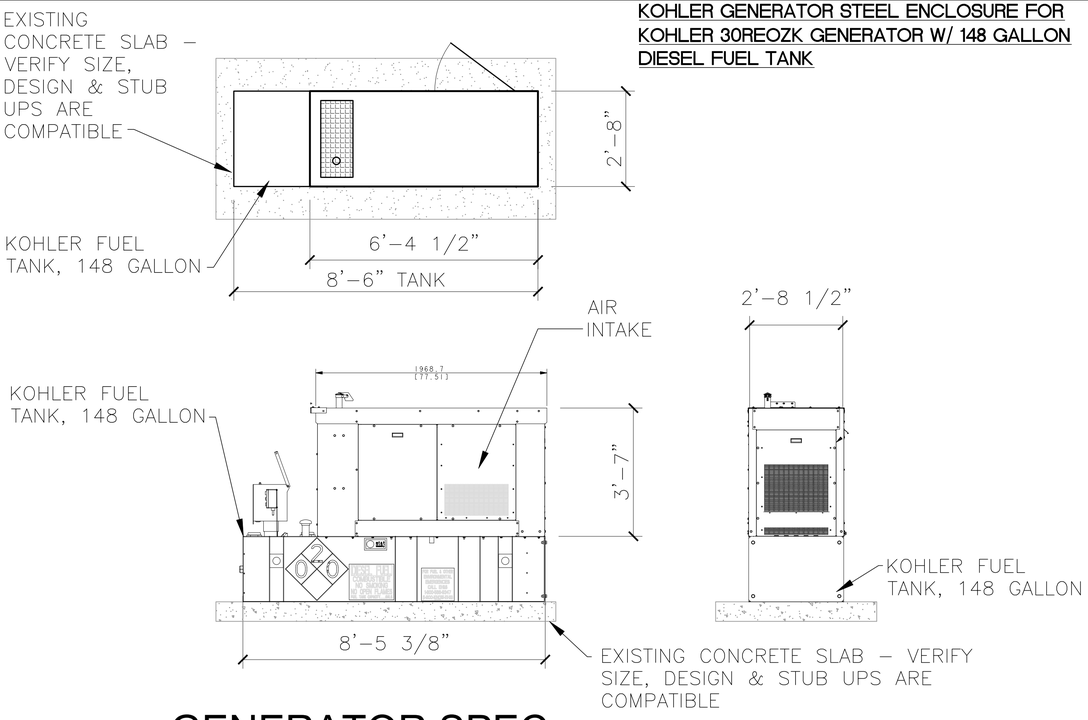
2. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.

3 / A-5 **GPS ANTENNA**

NOT TO SCALE

EXISTING CONCRETE SLAB - VERIFY SIZE, DESIGN & STUB UPS ARE COMPATIBLE

KOHLER GENERATOR STEEL ENCLOSURE FOR KOHLER 30REOZK GENERATOR W/ 148 GALLON DIESEL FUEL TANK



2 / A-5 **GENERATOR SPEC**

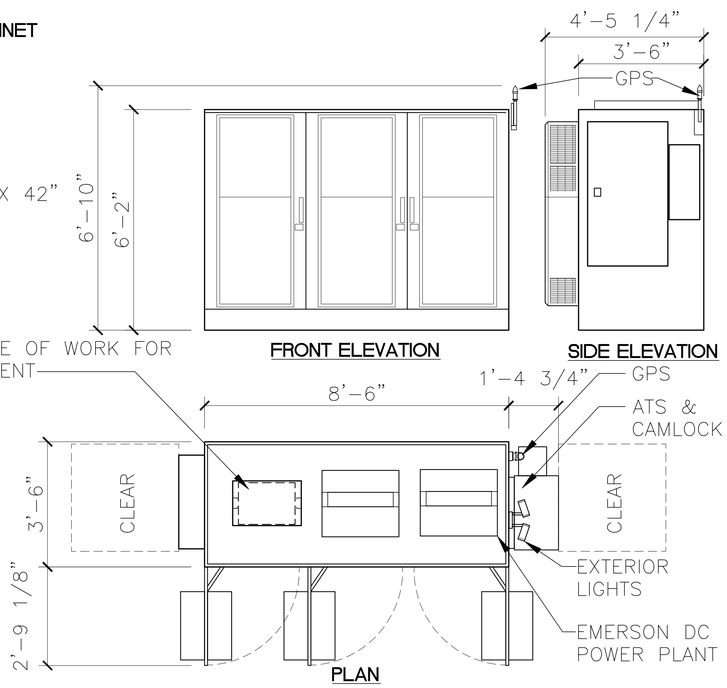
1 1/2" = 1'-0"

VERTIV NETSURE X701 WALK UP CABINET (WUC)
THREE-BAY

WEIGHT	1,650 lbs
DIMENSION	(HxWxD)
INCHES	74" X 102.31" X 42"

MOUNTING PAD OR PLATFORM RACKS ADJUSTABLE

AT&T DATA RACK - SEE SCOPE OF WORK FOR EXISTING & PROPOSED EQUIPMENT



1 / A-5 **WALK UP CABINET**

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13424 240TH AVE SE
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EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2043
COTTONWOOD NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

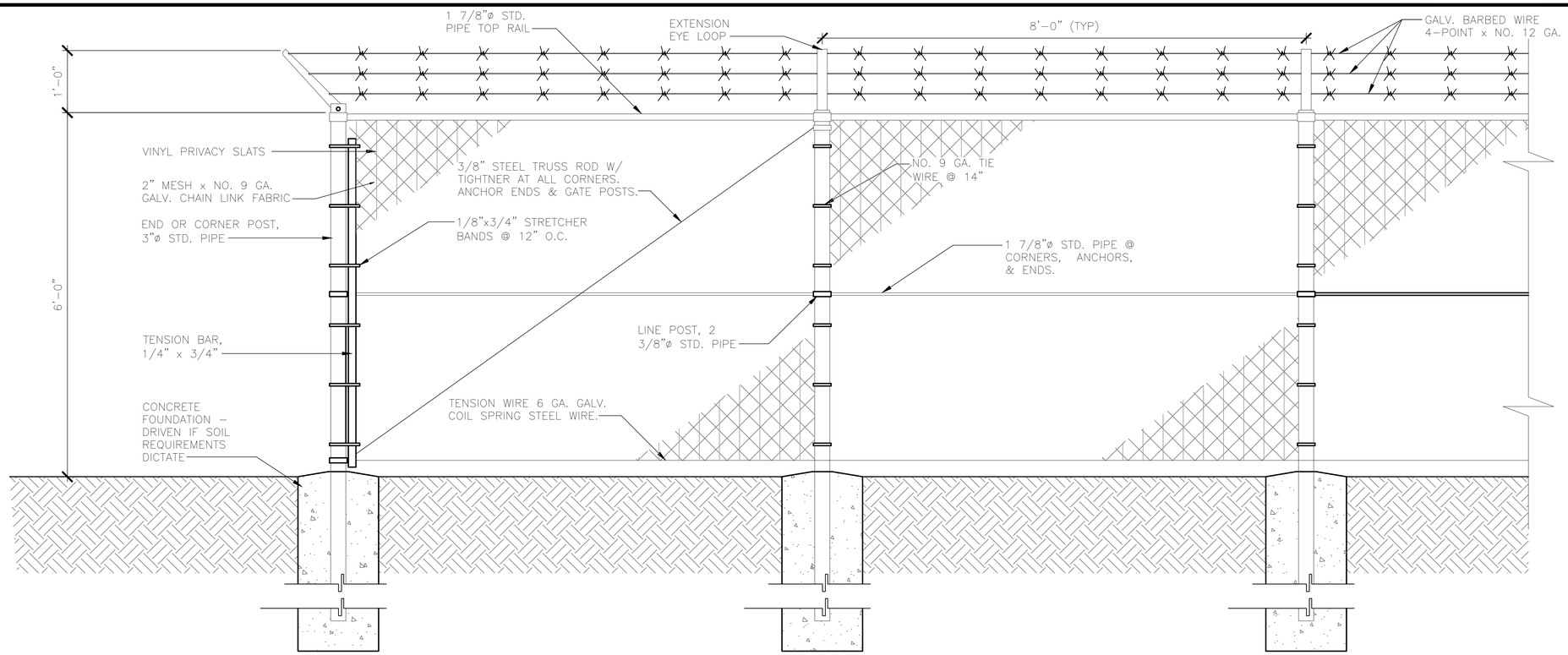
ISSUED DATE: 06-25-2025

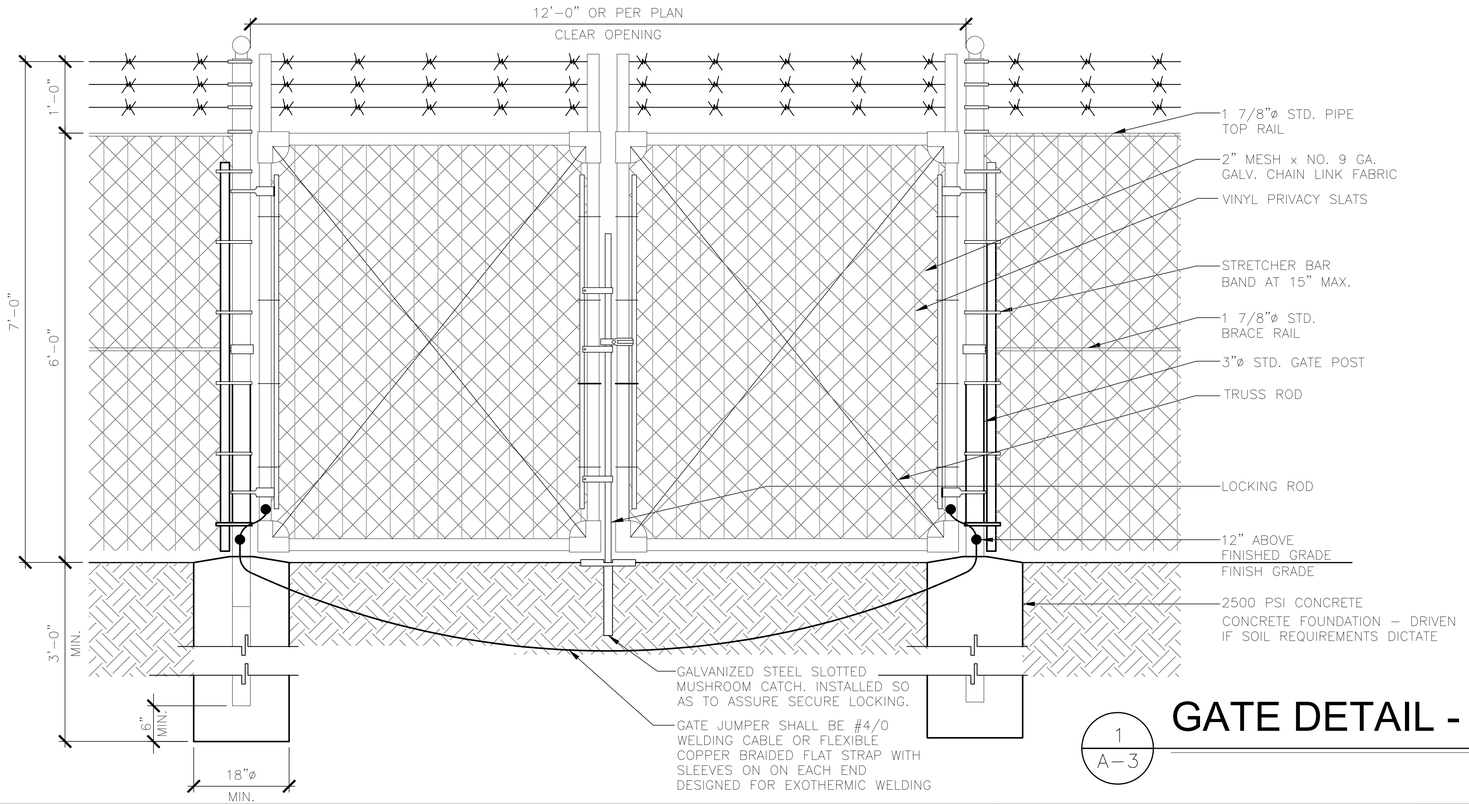
NO.	DATE	ISSUE BLOCK
0	07-31-24	TURF4:NSB 1C-5C RFDS
1		DATED 07-11-22
2		

STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A-5





1 / A-3

GATE DETAIL - ELEVATION

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AN2043
COTTONWOOD NSB
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NO.	DATE	
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
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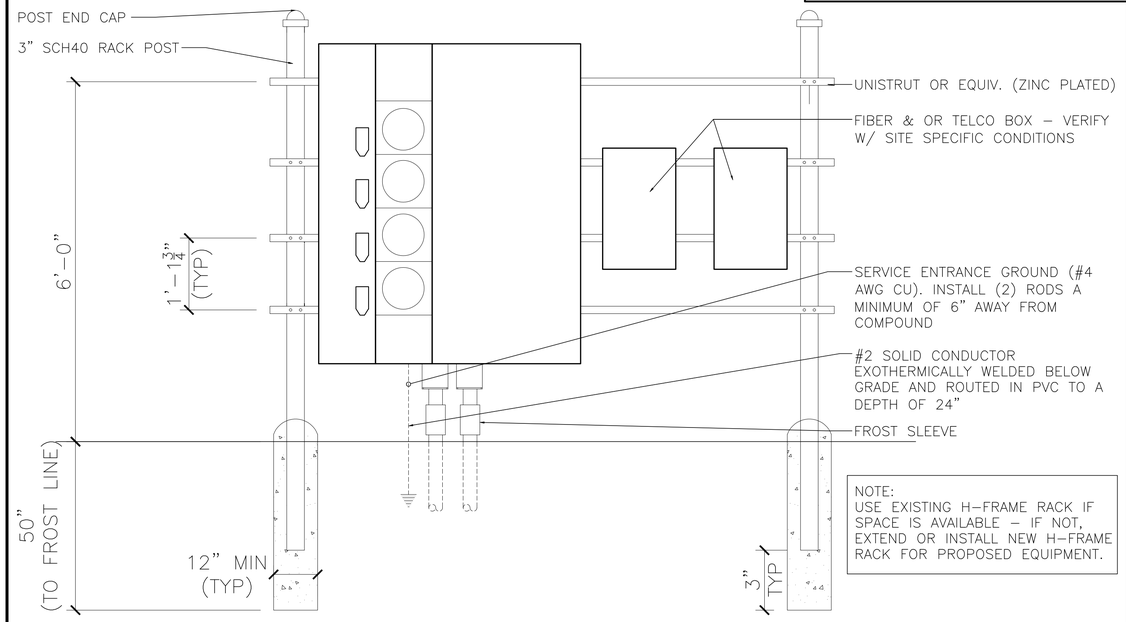
STATE OF ALASKA
49TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A-6

PROPOSED H–FRAME W/ 4–GANG METER BASE, TELCO BOX, FIBER BOX, DMARC ETC. – VERIFY W/ SITE SPECIFIC CONDITIONS

NOTE:
SEE SITE PLANS, SCOPE OF WORK TEXT & E SHEETS FOR PROJECT SPECIFIC SERVICE REQUIREMENTS



NOTE:
USE EXISTING H–FRAME RACK IF SPACE IS AVAILABLE – IF NOT, EXTEND OR INSTALL NEW H–FRAME RACK FOR PROPOSED EQUIPMENT.

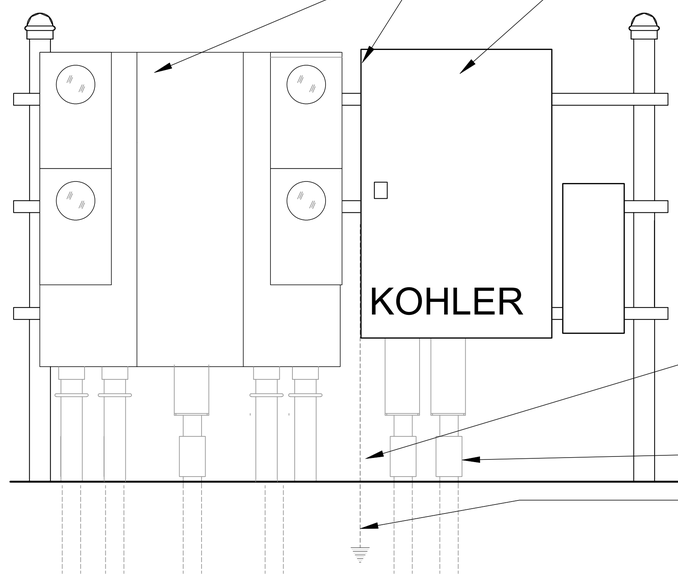
4 / A–7 UTILITY H-FRAME

NOT TO SCALE

PROPOSED 4 GANG, 200 AMP SERVICE W/ METER BASE, TELCO BOX, FIBER BOX, DMARC ETC. – VERIFY W/ SITE SPECIFIC CONDITIONS

AUTOMATIC TRANSFER SWITCH, ATS W/ CAM LOCK IF REQUIRED

NOTE:
USE EXISTING H–FRAME RACK IF SPACE IS AVAILABLE – IF NOT, EXTEND OR INSTALL NEW H–FRAME RACK FOR PROPOSED EQUIPMENT.



3 / A–7 UTILITY H-FRAME

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DHD ARCHITECTURE PLLC
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AN2043
COTTONWOOD NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

ISSUED DATE:
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1	DATED 07–11–22	
2		

STATE OF ALASKA 49TH
DAVID H DEAN
No.11332
December 31, 2025
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A–7

Sabre Industries™
INNOVATION DELIVERED

PROPOSAL

Prepared for: **MASTEC NETWORK SOLUTIONS GROUP**
2240 E Dowling Road
Anchorage, AK 99507
Attn: Jay Rodriguez

Proposal No.: **26-0479-RSS**
Date: **6/5/2025** **Page 1 of 3**
Reference: **120' Monopole/Cottonwood NSB, AK AN2043**
Freight: **Origin**

SABRE MONOPOLE

The monopole has an overall height of 120'. The overall height of this monopole includes the foundation projection.

The monopole will be eighteen-sided and tapered in design with a top diameter of 14" and a base diameter of 38.14".

See the tower profile included in this proposal for the design parameters.

The monopole will be designed to support the following equipment:

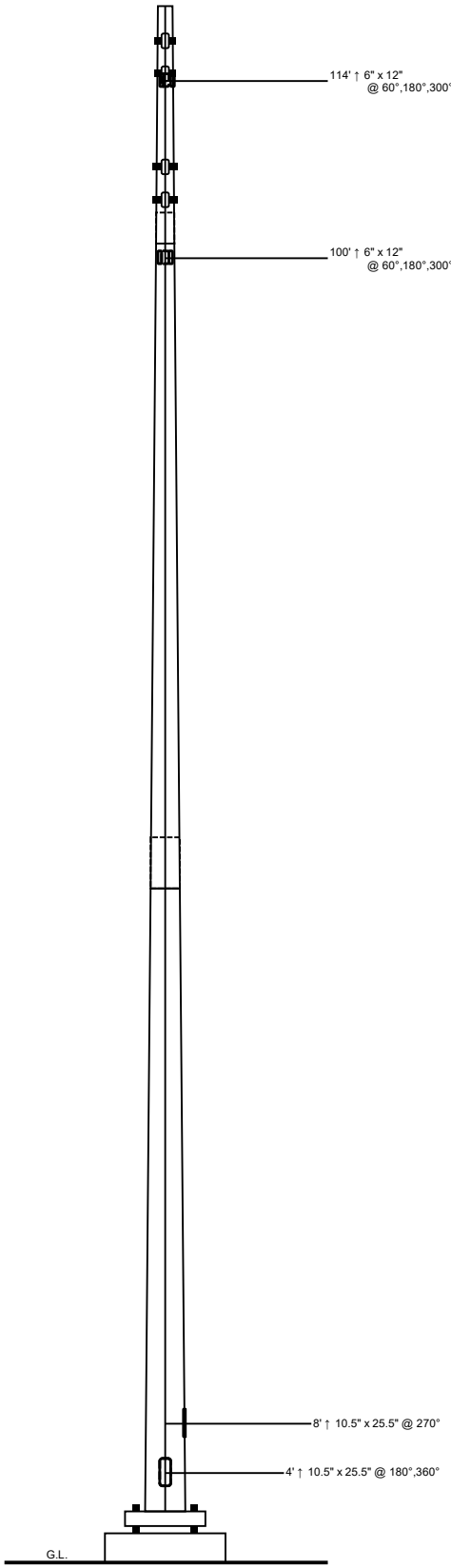
	ANTENNA MODEL NUMBER (QTY)	RADOME YES	RADOME NO	ELEVATION C.O.R.	TX. LINE SIZE & TYPE	FREQUENCY	AZIMUTH TO NORTH	ANTENNA MOUNT	MOUNT PROVIDED YES	MOUNT PROVIDED NO
1	(3) NNH4-65C-R6		X	116'	(3) DC/Fiber Trunks	N/A	Unknown	Three (3) 6' HD V-Boom Sector Mounts with 3' Standoff with Collar Mount	X	
2	(3) CMA-UBTULBULBHH/6517/17/21/21		X	116'	(3) DC/Fiber Trunks	N/A	Unknown	Same as above	X	
3	(3) RRUS-4449		X	116'	N/A	N/A	Unknown	Same as above	X	
4	(3) 8843 B2 + B66A		X	116'	N/A	N/A	Unknown	Same as above	X	
5	(3) B14 4478		X	116'	N/A	N/A	Unknown	Same as above	X	
6	(3) RRUS 4415 B30		X	116'	N/A	N/A	Unknown	Same as above	X	
7	(2) DC9-48-60-24-8C-EV		X	116'	N/A	N/A	Unknown	Same as above	X	
8	(3) NNH4-65C-R6		X	106'	(3) DC/Fiber Trunks	N/A	Unknown	Three (3) 6' HD V-Boom Sector Mounts with 3' Standoff with Collar Mount		X
9	(3) CMA-UBTULBULBHH/6517/17/21/21		X	106'	(3) DC/Fiber Trunks	N/A	Unknown	Same as above		X
10	(3) RRUS-4449		X	106'	N/A	N/A	Unknown	Same as above		X
11	(3) 8843 B2 + B66A		X	106'	N/A	N/A	Unknown	Same as above		X
12	(3) B14 4478		X	106'	N/A	N/A	Unknown	Same as above		X
13	(3) RRUS 4415 B30		X	106'	N/A	N/A	Unknown	Same as above		X
14	(2) DC9-48-60-24-8C-EV		X	106'	N/A	N/A	Unknown	Same as above		X

Note: This structure has been designed for a zero-fall radius.

7101 Southbridge Drive - P.O. Box 658 - Sioux City, IA 51102-0658 - 712.258.6690 - Fax 712.279.0814

SIZES ARE PRELIMINARY AND MAY CHANGE UPON FINAL DESIGN

Length (ft)	18'-9"	53'-6"	53'-3"						
Number Of Sides		18							
Lap Splice (ft)			4' - 0"	A					
Top Diameter (in)					14"	16.93"	26.89"		
Bottom Diameter (in)					17.96"	28.24"	38.14"		
Taper (in/ft)					0.2113				
Grade					A572-65				
Weight (lbs)	938	3525	6990						
Overall Steel Height (ft)	119								



Designed Appurtenance Loading

Elev	Description	Tx-Line
116	3 HD V-Boom - 6ft Face - 3ft Standoff	
116	(3) NNH4-65C-R6	(3) DC/Fiber Trunks
116	(3) CMA-UBTULBULBHH/6517/17/21/21	(3) DC/Fiber Trunks
116	(3) RRUS-4449	
116	(3) 8843 B2 + B66A	
116	(3) B14 4478	
116	(3) RRUS 4415 B30	
116	(2) DC9-48-60-24-8C-EV	
106	3 HD V-Boom - 6ft Face - 3ft Standoff	
106	(3) NNH4-65C-R6	(3) DC/Fiber Trunks
106	(3) CMA-UBTULBULBHH/6517/17/21/21	(3) DC/Fiber Trunks
106	(3) RRUS-4449	
106	(3) 8843 B2 + B66A	
106	(3) B14 4478	
106	(3) RRUS 4415 B30	
106	(2) DC9-48-60-24-8C-EV	

Design Criteria - ANSI/TIA-222-H

Wind Speed (No Ice)	120 mph
Wind Speed (Ice)	60 mph
Design Ice Thickness	0.50 in
Risk Category	II
Exposure Category	C
Topographic Factor Procedure	Method 1 (Simplified)
Topographic Category	1
Ground Elevation	404 ft
Seismic Importance Factor, Ie	1.00
0.2-sec Spectral Response, Ss	1.734 g
1-sec Spectral Response, S1	0.905 g
Site Class	D (DEFAULT)
Seismic Design Category	E
Basic Seismic Force-Resisting System	Telecommunication Tower (Pole: Steel)

Limit State Load Combination Reactions

Load Combination	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
1.2 D + 1.0 Wo	19.04	15.91	1442.8	9.15	8.4
0.9 D + 1.0 Wo	14.31	15.89	1420.68	8.95	8.2
1.2 D + 1.0 Ev + 1.0 Eh	23.41	5.94	645.99	4.37	4.01
0.9 D - 1.0 Ev + 1.0 Eh	9.86	5.92	615.33	4.1	3.74
1.0 D + 1.0 Wo (Service @ 60 mph)	15.88	3.56	322.55	2.08	1.89

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	46.75"	1.75"	43"	18	1.5"

Material List

Display	Value
A	2' - 6"

Notes

1) Antenna Feed Lines Run Inside Pole
2) All dimensions are above ground level, unless otherwise specified.
3) Weights shown are estimates. Final weights may vary.
4) Full Height Step Bolts
5) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2021 International Building Code.

Sabre Industries
INNOVATION DELIVERED

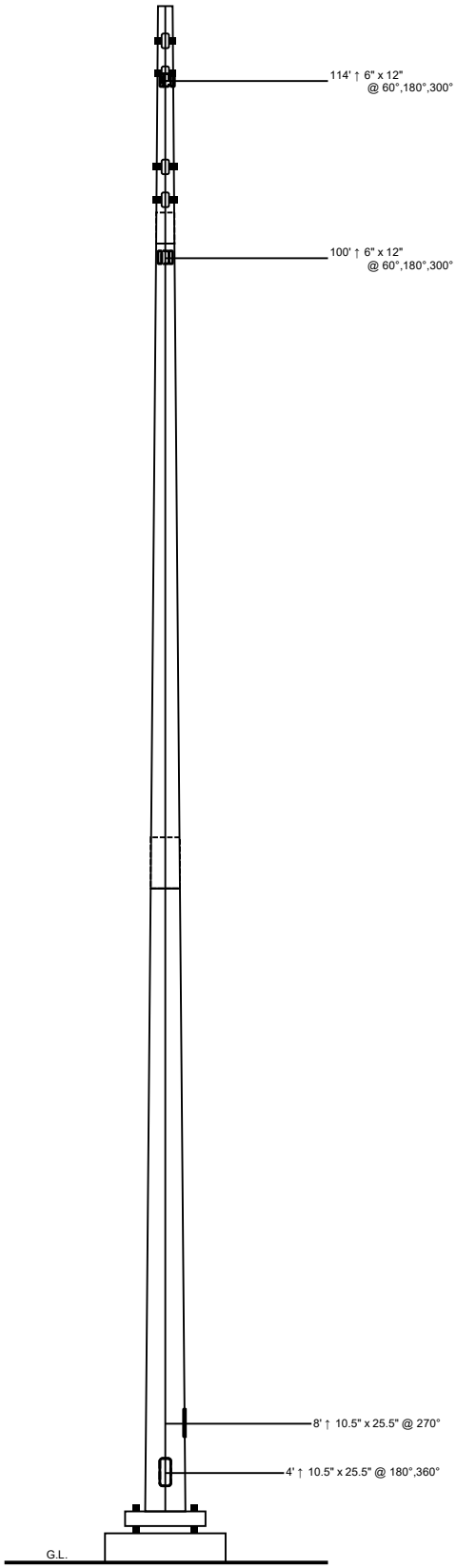
Sabre Industries
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone: (712) 258-6690
Fax: (712) 279-0814

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Quote:	**26-0479-RSS**
Customer:	MASTEC NETWORK SOLUTIONS GROUP
Site Name:	Cottonwood NSB, AK AN2043
Description:	120' Monopole
Date:	6/4/2025 By: KJT Page: 1

SIZES ARE PRELIMINARY AND MAY CHANGE UPON FINAL DESIGN

Length (ft)	18'-9"	53'-6"							53'-3"
Number Of Sides			18						
Lap Splice (ft)				A				4' - 0"	
Top Diameter (in)					14"	16.93"			26.89"
Bottom Diameter (in)					17.96"	28.24"			38.14"
Taper (in/ft)							0.2113		
Grade							A572-65		
Weight (lbs)					938	3525			6990
Overall Steel Height (ft)							119		



Designed Appurtenance Loading

Elev	Description	Tx-Line
116	3 HD V-Boom - 6ft Face - 3ft Standoff	
116	(3) NNH4-65C-R6	(3) DC/Fiber Trunks
116	(3) CMA-UBTULBULBHH/6517/17/21/21	(3) DC/Fiber Trunks
116	(3) RRUS-4449	
116	(3) 8843 B2 + B66A	
116	(3) B14 4478	
116	(3) RRUS 4415 B30	
116	(2) DC9-48-60-24-8C-EV	
106	3 HD V-Boom - 6ft Face - 3ft Standoff	
106	(3) NNH4-65C-R6	(3) DC/Fiber Trunks
106	(3) CMA-UBTULBULBHH/6517/17/21/21	(3) DC/Fiber Trunks
106	(3) RRUS-4449	
106	(3) 8843 B2 + B66A	
106	(3) B14 4478	
106	(3) RRUS 4415 B30	
106	(2) DC9-48-60-24-8C-EV	

Design Criteria - ANSI/TIA-222-H

Wind Speed (No Ice)	120 mph
Wind Speed (Ice)	60 mph
Design Ice Thickness	0.50 in
Risk Category	II
Exposure Category	C
Topographic Factor Procedure	Method 1 (Simplified)
Topographic Category	1
Ground Elevation	404 ft
Seismic Importance Factor, Ie	1.00
0.2-sec Spectral Response, Ss	1.734 g
1-sec Spectral Response, S1	0.905 g
Site Class	D (DEFAULT)
Seismic Design Category	E
Basic Seismic Force-Resisting System	Telecommunication Tower (Pole: Steel)

Limit State Load Combination Reactions

Load Combination	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
1.2 D + 1.0 Wo	19.04	15.91	1442.8	9.15	8.4
0.9 D + 1.0 Wo	14.31	15.89	1420.68	8.95	8.2
1.2 D + 1.0 Ev + 1.0 Eh	23.41	5.94	645.99	4.37	4.01
0.9 D - 1.0 Ev + 1.0 Eh	9.86	5.92	615.33	4.1	3.74
1.0 D + 1.0 Wo (Service @ 60 mph)	15.88	3.56	322.55	2.08	1.89

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	46.75"	1.75"	43"	18	1.5"

Material List

Display	Value
A	2' - 6"

Notes

1) Antenna Feed Lines Run Inside Pole
2) All dimensions are above ground level, unless otherwise specified.
3) Weights shown are estimates. Final weights may vary.
4) Full Height Step Bolts
5) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2021 International Building Code.

Sabre Industries
INNOVATION DELIVERED

Sabre Industries
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone: (712) 258-6690
Fax: (712) 279-0814

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Quote:	**26-0479-RSS**
Customer:	MASTEC NETWORK SOLUTIONS GROUP
Site Name:	Cottonwood NSB, AK AN2043
Description:	120' Monopole
Date:	6/4/2025 By: KJT Page: 1

Blank

Communication and Deficient Application Material

MATANUSKA-SUSITNA BOROUGH

Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822
www.matsugov.us

July 11, 2025

AT&T Mobility
Attn: Justin Abbott
870 Oravetz Road SE,
Auburn, WA, 98092

SUBJECT: Administrative Permit Application – Request for Required Information
LOCATION: 3600 E. Bogard Road, Tax ID #2327B01L004

Dear Mr. Abbott,

Borough staff has reviewed the application material and site plan(s) submitted via mail on June 27, 2025, requesting an Administrative Permit for a Tall Structure on the above referenced property. It has been determined that the following information needs to be provided and/or clarified in order to process this request:

1) The submitted application is not complete.
   a) Provide a statement within the written narrative confirming voltage of the facility to verify compliance with signage per MSB 17.67.090(C)(1)(b).

2) As per MSB 17.125.010 a *"certified site plan": means a site plan that is prepared and sealed by an architect, professional engineer, or land surveyor, authorized to engage in that profession by the state of Alaska. The certified site plan shall be at a scale of one-inch equals 50 feet (or less) showing dimensions and locations of all existing and proposed development on the site in relationship to all property lines."*
   a) Identify distances from the base of the tall structure to all existing or proposed structures.
   b) The site plan does not adequately portray the commercial building located on the subject property. Update site plan to provide current building and other building information.
   c) Adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way to enable emergency vehicle access. Indicate on the site plan the location and dimensions of the proposed parking area (no more than two spaces are required). Current site plans does not indicate parking. Please provide a narrative reflected in the lease agreement indicating utilization of the proposed parking area.

3) MSB 17.67.090(A)(2)(a) states *"The commission, or director if it is an administrative permit, may reduce the setback to a distance less than the height of the tower, if the applicant demonstrates there is no risk to public health, safety, or welfare of adjacent property owners."*
   a) According to 17.67.090 (A)(2) The minimum setback for the tower base shall be a distance equal to the height of the tower.
   b) Provide rationale and justification that demonstrates there is no risk to public health, safety, or welfare of adjacent property owners by not meeting setback requirements on the north and east side of the proposed tower.
   c) Provide a narrative to describe if other sites were considered on the subject property and whether they could achieve similar results for the desired coverage area.

4) MSB 17.67.060(C) allows conditions of approval by the Planning Commission and/or Director for height limitations, structural capacity, tower type, color, landscaping, parking, screening, and increased setbacks. The application materials indicate two setback requirements will not be met, and there is limited screening in the area from the public and residents. Provide a narrative discussing the following bullet points:
   a) Describe any available options for the proposed tower's color, available camouflage techniques, additional landscaping and screening, reduced tower height, and/or tower type to mitigate the visual effects of the tower to the public.
   b) MSB 17.67.080(B)(1) requires to the extent technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized.
   c) MSB 17.67.010(B)(6) encourages the placement of tall structures in a manner that minimizes the negative effects on the visual and scenic resources of all surrounding areas.

5) MSB 17.67.080(B)(2) requires that the visibility of the tall structure from public parks, trails recognized within adopted borough plans, and water bodies have been minimized to the extent that is technically feasible and potentially available. https://matsugov.us/plans/
   a) Please include the nearest distances from the proposed tower base to the referenced locations and a description of whether the proposed tower will be visible.

6) MSB 17.67.070(A)(7) requires a written statement if breakpoint technology is utilized that specifies the height at which the engineered structural weakness will be located. According to the architect David H. Dean documents dated December 31, 2025, the tower is designed within a theoretical zero fall radius.
   a) Clarify the application narrative concerning the zero fall radius and the heights at which the breakpoint technology will be utilized.
   b) Provide certified engineering plans for the built-in structural weaknesses and heights at which the breakpoint technology is built into the proposed tower.

7) Provide a statement within the written narrative describing compliance with design mitigation for approaches to existing airports and/or airfields per MSB 17.67.080(B)(3). Please include the nearest distances (within 2 miles) from the proposed tower base to airports and/or airfields identified in the borough's Regional Aviation System Plan or by the Alaska State Aviation System Plan.

a) MSB 17.67.070(A)(6)) states “copy of a determination of no hazard to air navigation from the Federal Aviation Administration”. A third-party contractor does not meet the requirements.
b) It has been determined that Green Strip Airport, and Gattis Strip Airport are less than 1 mile from the proposed site; provide a written statement reflecting this information and all other applicable information. Airport/Facility Directory – Advanced Search

8) The Borough has a record of a driveway permit application for the issuance of access onto N. Creekview Drive. The proposed lot does have access to E Bogard Road. A copy of the Alaska State Department of Transportation (ADOT) driveway permit will be required or the applicant can provide specification within the narrative detailing the intended access to the lease area.

9) Provide detailed maps and/or pictures reflecting the existing coverage and the additional proposed coverage area with the installation of the proposed communications tower as indicated in the narrative.

10) For staff clarification, provide photos with renderings that clearly and accurately depict the height of the tower in relation to the surrounding tree line and visibility in relation to the road.

Once an application has been determined complete, staff will begin the public notice process. Should you have any questions or require additional information, please feel free to contact me by phone or email. Thank you for your time and consideration on this matter.

Kind Regards,

Rebecca Skjothaug

Rebecca Skjothaug
Current Planner
Matanuska–Susitna Borough

September 4, 2025

Matanuska-Susitna Borough – Development Services
Attn: Rebecca Skjothaug
350 East Dahlia Avenue
Palmer, AK 99645

RE: Administrative Tall Structure Application – 360 E. Bogard Road

Dear Mrs. Skjothaug,

Please see the enclosed/attached additional information requested for this application.

1. The proposed communications facility will operate with 240 volts/200 AMP service from the adjacent electrical transformer. A HIGH VOLTAGE WARNING sign will be installed on the outside of the fenced compound.
2. Please see the attached Certified Site Plan showing the proposed lease area/tower location on the subject property, including an accurate representation of the existing development on the property.
   There are two types of vehicle parking provided for this facility. One type of parking is for the maintenance of the facility, one parking spot located inside the fenced compound and the other spot is outside the fenced lease area but within the established access easement which is part of the lease agreement with the property owner. This parking will only be used one-time per month for maintenance checks on the electronic equipment.
   The second type of parking shown on the construction drawings (Sheet A-1), is for emergency vehicle access/parking. These two parking spots are adjacent to the leased premises and would only be used during an emergency situation. Additionally, the other Certified Site Plan on Sheet A-1 shows the distances from the proposed tower to the existing building and other distances on the subject property.
3. The subject property will not allow for a location anywhere that would meet the 1:1 setback distance from the proposed tower base, due to the size/configuration. The proposed location was chosen to keep the tower as far as possible from the adjacent neighboring residential areas and allow for the property owner to maintain trucking access to the backside of the property. The proposed location was determined to be the best possible location from the owner's perspective. A State of AK section line easement was abandoned as part of this location.
4. The proposed tower is located on the backside of an existing commercial business and adjacent to vacant treed property that will provide some screening of the tower from adjacent properties. The tower height is the lowest possible height needed to meet the minimum coverage objectives (See RF Engineer Maps/Statement). The tower design is a monopole, which is the least obstructive visual design available. The proposed tower could be painted a dark green color, if the jurisdiction feels this would provide additional visual mitigation.
   The tower location on the subject property was determined through technical analysis of the topography, existing tower locations, uses of the properties, and impacts to surrounding properties. The adjacent residential properties will have the least visual impacts, as shown in the photo-simulations. Existing trees on those properties provide a visual wall in which the

tower is located behind. Impacts from the adjacent roadways are part of the technology as they require line-of-sight to these high traffic locations.
The proposed location on the subject property provides a location that minimizes overall visual impacts to surrounding properties, through use of a monopole design, siting on an existing commercial property and location adjacent to existing trees on the adjacent property. There is an adjacent government owned guyed tower to the northwest that has far more visual impacts to the scenic resources of the surrounding areas. See photo-simulations of the proposed tower location from four different directions.

5. The proposed tower is located in an existing commercial area node and situated along the major arterials of Bogard Road / Seward Meridian Road. There are two large water bodies adjacent to the proposed location – Wasilla Lake (.5 miles) & Cottonwood Lake (.7 miles). The tower will have some visibility from both these lakes (via boats) but the distance and top portion of the tower will not negatively impact the visual resources of the area. Utility poles create a far more visual impact to surrounding lakes, parks & trails. The closest park is Cottonwood Creek Park which is 1.9 miles away from the subject property. The tower will not be visible from this treed park location. No tower lighting is required by the FAA so visual impacts will be minimized through the tower design, location and existing trees. See photo-simulations for visual impacts.
6. Please see the enclosed PE stamped letter from the tower manufacturer that describes the fail-safe technology incorporated in the tower design. These towers are designed to not fail even during extreme weather events but in the rare case of a failure the tower will partially lean and not leave the subject property (Zero Fall Radius). There are no breakpoint elevations to allow the tower to fall over. See PE stamped letter for details.
7. Please see the attached FAA determination issued by the agency on July 30th, 2025. This letter from the FAA provides a complete aeronautical study from the proposed location and height showing that it would not pose any hazards to air navigation. See FAA determination letter for complete analysis and finding of no hazard from all adjacent airports. No additional information or statements are required by law as the FAA provides a comprehensive aeronautical study.
8. The proposed communications facility/property is to be accessed from N. Creekside Drive. No access from E. Bogard Road is proposed.
9. Please see the enclosed RF Justification document showing the mapped service levels with and without the proposed facility. Additionally, the RF Engineer has provided a detailed statement describing the need for this proposed facility.
10. Please see the enclosed photo-simulations of the tower from four different directions which accurately show the tall structure rendering from those locations.

Please feel free to contact me with any questions on where the information is provided in the application materials.

Thank you,

Justin Abbott

Justin Abbott, representing AT&T Mobility in Alaska
(206) 790-4655

July 17, 2025

Jay Rodriguez
Mastec Network Solutions Group
2240 E Dowling Road
Anchorage, AK 99507

RE: Proposed 120' Sabre Monopole for Cottonwood NSB, AK (Sabre #564425)

Dear Rodriguez,

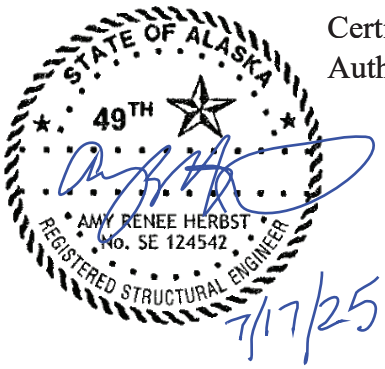
Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for an Ultimate Wind Speed of 120 mph without ice and 60 mph + 1/2" ice, Risk Category II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA 222-H-2017 "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. This would effectively result in a zero fall radius. *Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Industries.*

Sincerely,

Certificate of
Authorization #113307



Amy R. Herbst, P.E.
Senior Design Engineer

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2025-AAL-390-OE

Issued Date: 07/30/2025

AT&T (JC)
JANEL CHAPMAN
208 S Akard St,
Dallas, TX 75202

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Monopole FA15712364 Cotton Lakewood
County, State: Matanuska-Susitna, Alaska

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
	61-35-57.90N	149-21-26.60W	406 Ft	125 Ft	531 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 01/30/2027 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination does not constitute authority to transmit on the frequency(ies) identified in this study. The proponent is required to obtain a formal frequency transmit license from the Federal Communications Commission (FCC) or National Telecommunications and Information Administration (NTIA), prior to on-air operations of these frequency(ies).

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at 1-206-231-2993, or lynnette.farrell@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-AAL-390-OE.

Signature Control No: 671383014-671838417 (DNE)
lynnette.farrell@faa.gov
Technician

Attachment(s)
Frequency Data
Map(s)

cc: FCC

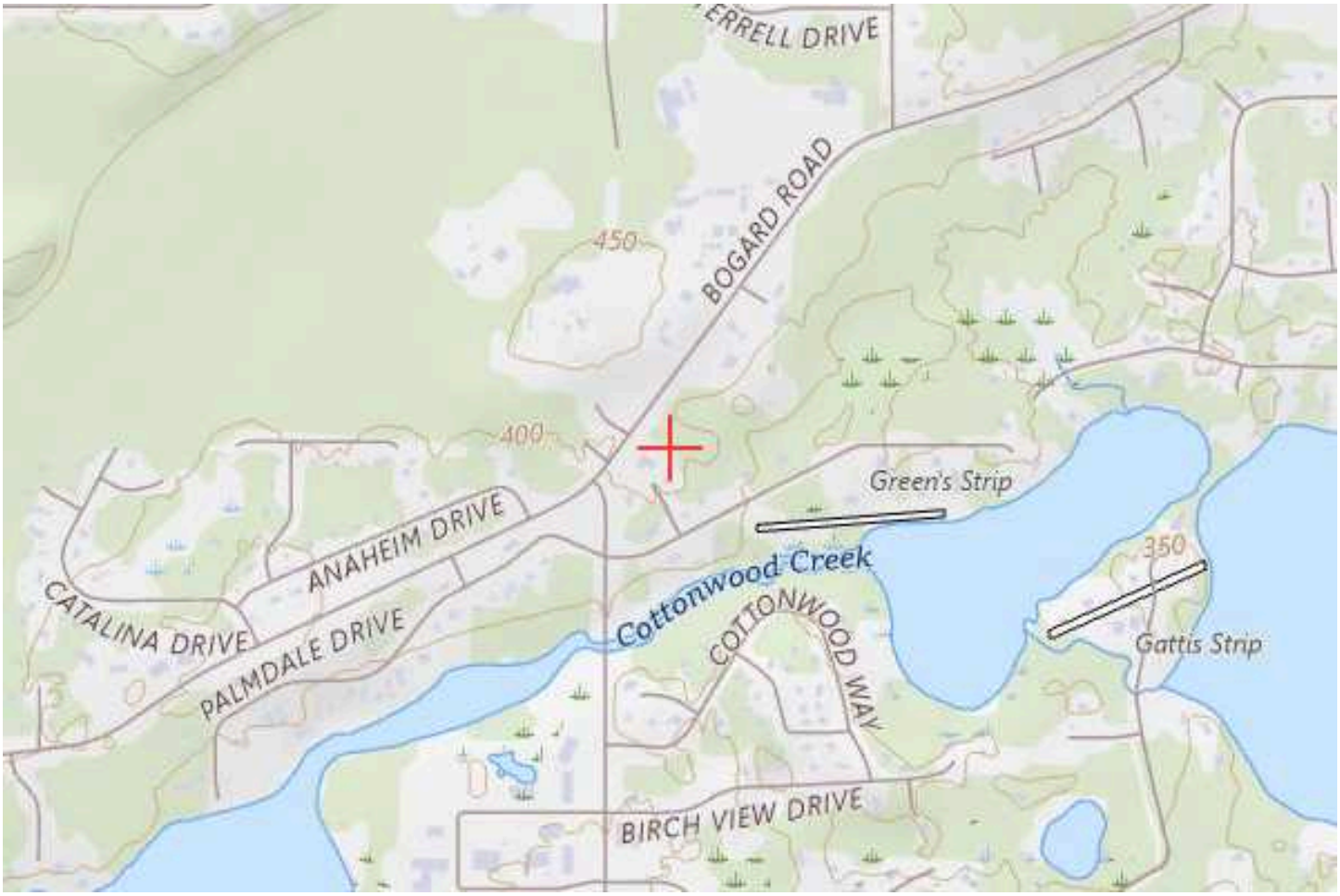
Frequency Data for ASN 2025-AAL-390-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	42	dBW
6	7	GHz	55	dBW
10	11.7	GHz	42	dBW
10	11.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
21.2	23.6	GHz	42	dBW
21.2	23.6	GHz	55	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	824	MHz	500	W
806	901	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Verified Map for ASN 2025-AAL-390-OE

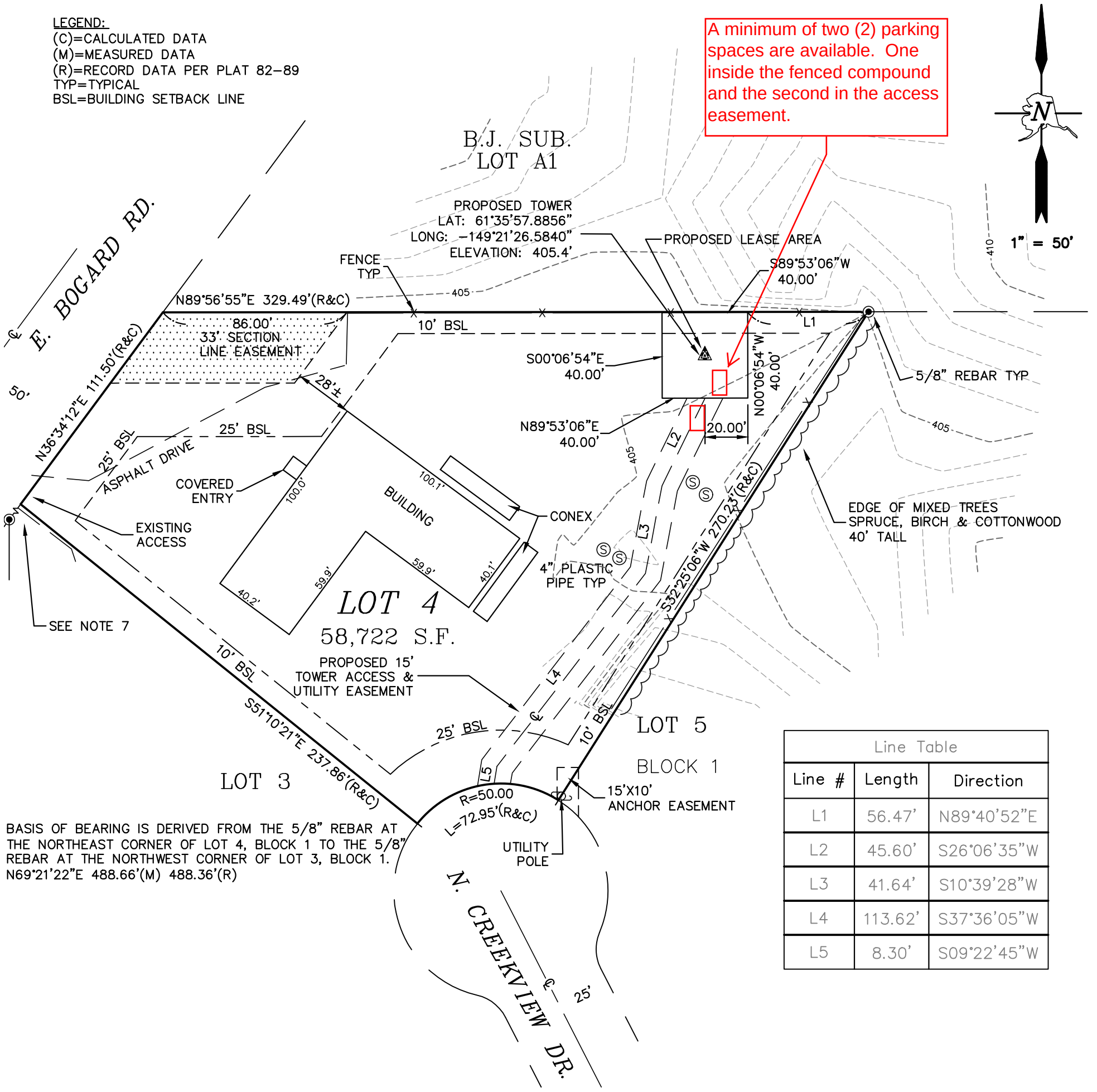


TOPO Map for ASN 2025-AAL-390-OE



LEGEND:
(C)=CALCULATED DATA
(M)=MEASURED DATA
(R)=RECORD DATA PER PLAT 82-89
TYP=TYPICAL
BSL=BUILDING SETBACK LINE

A minimum of two (2) parking spaces are available. One inside the fenced compound and the second in the access easement.



Line Table		
Line #	Length	Direction
L1	56.47'	N89°40'52"E
L2	45.60'	S26°06'35"W
L3	41.64'	S10°39'28"W
L4	113.62'	S37°36'05"W
L5	8.30'	S09°22'45"W

BASIS OF BEARING IS DERIVED FROM THE 5/8" REBAR AT THE NORTHEAST CORNER OF LOT 4, BLOCK 1 TO THE 5/8" REBAR AT THE NORTHWEST CORNER OF LOT 3, BLOCK 1.
N69°21'22"E 488.66'(M) 488.36'(R)

NOTES:
1. THIS SURVEY REPRESENTS VISIBLE IMPROVEMENTS AND CONDITIONS ON THE DATE OF SURVEY.
2. THE PURPOSE OF THIS SURVEY IS TO DEPICT THE PROPOSED CELL TOWER IMPROVEMENTS AS THEY RELATE TO PROPERTY LINES. THIS SURVEY DOES NOT DEPICT ALL IMPROVEMENTS LOCATED ON THIS PARCEL.
3. ELEVATION AT THE GROUND OF THE PROPOSED TOWER SITE HAS A GEOID12B (NAVD88) ELEVATION OF 405.4' FEET, DERIVED FROM AN OPUS SOLUTION OF A STATIC SURVEY USING A TRIMBLE R10-2 SURVEY GRADE GPS RECEIVER.
4. IT IS THE USERS RESPONSIBILITY TO DETERMINE THE EXISTENCE OF ANY EASEMENTS, COVENANTS, OR RESTRICTIONS WHICH DO NOT APPEAR ON THE RECORDED PLAT OR IS SUPPLIED BY CLIENT.
5. THIS DOCUMENT DOES NOT CONSTITUTE A BOUNDARY SURVEY AND IS SUBJECT TO ANY INACCURACIES THAT A SUBSEQUENT BOUNDARY SURVEY MAY DISCLOSE
6. ELEVATION DERIVED FROM A TOPOGRAPHIC SURVEY PERFORMED BY THIS FIRM, CONTOURS ARE IN 1 FOOT INTERVALS.
7. TEMPORARY ACCESS BETWEEN LOTS 3 & 4 BLOCK 1, TO BOGARD ROAD, TO BE ELIMINATED UPON COMPLETION OF PARKS BOGARD INTERCONNECT ROAD PER PLAT NOTE.
8. BUILDING SETBACKS ARE PER PLAT NOTES.

REVISION NOTE 1	CORRECTED SPELLING, UPDATED NOTES AND TITLE BLOCK, ADJUSTED SITE TO 30'x40'	11/13/24
REVISION NOTE 2	ADJUSTED SITE TO 40'x40', REMOVED DUMPSTER, CENTERED ACCESS EASEMENT ON LEASE AREA	11/18/24
REVISION NOTE 3	ADDED BUILDING DIMENSIONS, ADDED COVERED ENTRY, REMOVED TREE LINE TO THE NORTH, REMOVED NOTE No. 9	08/21/25

8.25.25

STATE OF ALASKA 49TH
Robert J. Farmer
10615-S
REGISTERED PROFESSIONAL LAND SURVEYOR

SITE PLAN
AN2043
KA
#126467
FS LLC
Surveyors : Planners

FARMER SURVEYING
9131 E. FRONTAGE RD.
PALMER, ALASKA 99645
PH: (907)745-0222
bob@farmersurveying.com www.farmersurveying.com

WO: 22-00039	FB: 22-02
PAGE: 1 of 1	
SCALE: 1" = 50'	FILE: 2200039AS3

I HEREBY CERTIFY THAT A SITE PLAN SURVEY WAS PERFORMED UNDER MY DIRECTION ON THE FOLLOWING DESCRIBED PROPERTY:
ANCIENT TREE ESTATES SUBDIVISION, BLOCK 1, LOT 4, PLAT No. 82-89, PALMER RECORDING DISTRICT, PALMER, ALASKA.
SURVEYED ON THE 17th OF MARCH, 2022.

©2025

at&t
Your world. Delivered.

AN2043 COTTONWOOD LAKE NSB

FA LOCATION CODE: 15712364

3600 E BOGARD ROAD, WASILLA, AK 99654

PROJECT INFORMATION

PROJECT DESCRIPTION:

SCOPE OF WORK FOR NEW SITE BUILD (NSB):

INSTALL (3) COMMSCOPE & (3) CELLMAX PANEL ANTENNAS & (12) RRUS ON AN PROPOSED 120' MONOPOLE. INSTALL A PRE FABRICATED EQUIPMENT WALK UP CABINET, (WUC), WITHIN A PROPOSED AT&T FENCED AREA.

APPLICANT:

MASTEC NETWORK SOLUTIONS – ALASKA
2240 E. DOWLING ROAD
ANCHORAGE, AK 99507
253-709-0317

PROPERTY OWNER:

HANS HANSON
CRYSTAL INVESTMENTS, LLC
3600 E. BOGARD RD.
WASILLA, AK 99654

CODE INFORMATION:

ZONING CLASSIFICATION:	UNDESIGNATED
BUILDING CODE:	INTERNATIONAL BUILDING CODE CURRENT CODE 2018
PARCEL NUMBER:	52327B01L004
CONSTRUCTION TYPE:	II-B
JURISDICTION:	MATANUSKA SUSITNA BOROUGH
LOT SIZE:	TBD
CURRENT USE:	COMMERCIAL GLASS BUSINESS WITH OPEN LOT SPACE
PROPOSED USE:	SAME W/ TELECOM FACILITY
POWER SERVICE:	MATANUSKA ELECTRIC
TELCO SERVICE:	ACS / GCI

TOWER OWNER:

AT&T TOWERS
1025 LENOX PARK BLVD NE
3RD FLOOR
ATLANTA, GA 30319

SITE LOCATION:

LATITUDE:	61° 35' 57.886" N 61.599413
LONGITUDE:	149° 21' 26.584" W -149.357384
TOWER:	120'
OVERALL HEIGHT AGL:	120'
BASE OF STRUCTURE AMSL:	405.4'

PERMITTING:

CONTACT: JUSTIN ABBOTT
SELECT SITE ACQUISITION LLC
206-790-4655

SITE ACQUISITION:

CONTACT: PAT HINMAN
SELECT SITE ACQUISITION LLC
425-306-2733

CONSTRUCTION:

JASON ESLINGER
SR. CONSTRUCTION MANAGER – AK
MASTEC NETWORK SOLUTIONS
2240 E DOWLING ROAD
ANCHORAGE, AK 99507
MOBILE: (503) 798-1288
EMAIL:
JASON.ESLINGER@MASTEC.COM

PROJECT TEAM

PROJECT ARCHITECT:

DHD ARCHITECTURE PLLC:
DAVID H. DEAN, ARCHITECT
13424 246TH AVE SE
ISSAQUAH, WA 98027
425.503.0637 P
DAVIDHDEAN@MSN.COM

PROJECT CONSULTANT:

MASTEC NETWORK SOLUTIONS – ALASKA
2240 E. DOWLING ROAD
ANCHORAGE, AK 99507
253-709-0317

VICINITY MAP



DRIVING DIRECTIONS

TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT
5000 W INTERNATIONAL AIRPORT RD, ANCHORAGE, AK 99502

TAKE W INTERNATIONAL AIRPORT RD AND A ST TO AK-1 N/E 5TH AVE
16 MIN (6.8 MI)

CONTINUE ON AK-1 N TO MATANUSKA-SUSITNA. TAKE THE SEWARD MERIDIAN PARKWAY EXIT FROM AK-3 N
38 MIN (39.2 MI)

FOLLOW SEWARD MERIDIAN RD/S SEWARD MERIDIAN PKWY TO E BOGARD RD
4 MIN (1.9 MI)
3600 E BOGARD RD
WASILLA, AK 99654

DRAWING INDEX

SHEET	DESCRIPTION
T-1	TITLE SHEET
G-1	GENERAL NOTES
A-1	SITE PLAN
A-2	ENLARGED PLANS – EXTERIOR ELEVATIONS EXISTING SITE IMAGES
A-3	EQUIPMENT DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
A-7	EQUIPMENT DETAILS
RF-1	ANTENNA PLANS & SCHEDULE
RF-2	RFDS PLUMBING DIAGRAMS
RF-3	RF SIGNAGE
S-1	EQUIPMENT PLATFORM & SLAB TITLE SHEET
S-2	CONCRETE SLAB GENERAL NOTES
S-3	CONCRETE SLAB PLANS & SECTIONS
E0.1	LEGEND & SPECIFICATIONS
E1.1	POWER & SIGNAL PLAN
E1.2	GROUNDING PLAN
E2.1	ONE-LINE DIAGRAMS, DETAILS, & SCHEDULES
E2.2	GROUNDING DETAILS
E2.3	LABELING

APPROVALS LIST

APPROVAL	DATE	SIGNATURE
MNS ENGINEERING – SSA		
MNS SCOPING		
MNS SAQ PROJECT MANAGER		
MNS CX PROJECT MANAGER		
AT&T SAQ PROJECT MANAGER		
AT&T CX PROJECT MANAGER		

CONSTRUCTION DOCUMENTS REVIEW ROUTING ORDER. REVIEWERS MUST SIGN THEIR NAME ON THE APPROPRIATE SIGNATURE BLOCK ABOVE.

LEGAL DESCRIPTION

LOT 4, BLOCK 1, ANCIENT TREE ESTATES, ACCORDING TO PLAT NO. 82-89, LOCATED IN THE PALMER RECORDING DISTRICT, THIRD JUDICIAL DISTRICT, STATE OF ALASKA

SITE ACCESS REQUIREMENTS

POINT OF CONTACT FOR FACILITIES:	HANS HANSON CRYSTAL INVESTMENTS, LLC 3600 E. BOGARD RD. WASILLA, AK 99654
SITE TECH CONTACT – NUMBER:	TBD
SITE ACCESS TIME FRAME:	TBD

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING
811
OR
(800) 478-3121 (ALASKA)
EMERGENCY:
CALL 911

811 Know what's below. Call before you dig.

at&t
Your world. Delivered.

MasTec
Network Solutions

Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019

DHD
ARCHITECTURE PLLC
13424 246TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2043
COTTONWOOD LAKE NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

ISSUED DATE:
08-19-2025

NO.	DATE	ISSUE BLOCK
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

GENERAL NOTES:

1. DRAWINGS ARE NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE, THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE PROJECT AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.

2. PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION/CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.

3. THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.

4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

6. ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.

7. GENERAL CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED "FOR CONSTRUCTION" AND EACH SUCCESSIVE SHEET BEARS THE ARCHITECT'S SIGNED WET STAMP.

8. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.

9. SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.

10. CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.

11. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

12. CONTRACTOR SHALL KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. CONTRACTOR SHALL REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

13. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

14. THE CONTRACTOR SHALL PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.

15. THE CONTRACTOR SHALL PROVIDE AT&T WIRELESS, LLC. PROPER INSURANCE CERTIFICATES NAMING AT&T WIRELESS, LLC. AS ADDITIONAL INSURED, AND AT&T WIRELESS, LLC. PROOF OF LICENSE(S) AND PE & PD INSURANCE.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL INSPECTIONS.

17. CAUTION! CALL BEFORE YOU DIG! BURIED UTILITIES EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE ONE-CALL UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. DIAL 811

18. CONTRACTOR TO DOCUMENT ALL WORK PERFORMED WITH PHOTOGRAPHS AND SUBMIT TO AT&T WIRELESS, LLC. ALONG WITH REDLINED CONSTRUCTION SET.

19. CONTRACTOR TO DOCUMENT ALL CHANGES MADE IN THE FIELD BY MARKING UP (REDLINING) THE APPROVED CONSTRUCTION SET AND SUBMITTING THE REDLINED SET TO AT&T WIRELESS, LLC. UPON COMPLETION.

20. FOR COLLOCATION SITES: CONTACT TOWER OWNER REPRESENTATIVE FOR PARTICIPATION IN BID WALK.

21. GENERAL CONTRACTOR IS TO COORDINATE ALL POWER INSTALLATION WITH POWER COMPANY AS REQUIRED. CONTRACTOR TO REPORT POWER INSTALLATION COORDINATION SOLUTION(S) TO NETWORK CARRIER REPRESENTATIVE, PROJECT CONSTRUCTION MANAGER AND ARCHITECT.

22. ANY SUBSTITUTIONS OF MATERIALS AND/OR EQUIPMENT, MUST BE APPROVED BY AT&T CONSTRUCTION MANAGER.

23. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE PENETRATION OF EXISTING ROOFING MATERIALS OCCUR, THE GENERAL CONTRACTOR SHALL COORDINATE WITH BUILDING OWNER AND BUILDING ROOFING CONTRACTOR OF RECORD FOR INSTALLATION, PATCH, REPAIR OR ANY AUGMENTATION TO THE ROOF, AND HAVE THE WORK GUARANTEED UNDER THE ROOFING CONTRACTOR'S WARRANTY FOR MOISTURE PENETRATION OR AND OTHER FUTURE BREACH OF ROOFING INTEGRITY.

24. IN THE CASE OF ROOFTOP SOLUTIONS WITH THE INSTALLATION OF ANTENNAS WITHIN CONCEALED (SHROUDED) SUPPORT FRAMES OR TRIPODS, THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE FRP DESIGNER/FABRICATOR TO ENSURE THAT THE FINAL FRP SHROUD IS SIMULATING (IN APPEARANCE) DESIGNATED EXISTING EXTERIOR BUILDING FACADE MATERIALS, TEXTURES, AND COLORS. THE CONTRACTOR SHALL FURTHERMORE ENSURE THE USE OF COUNTERSUNK FASTENERS IN ALL FRP CONSTRUCTION. WHEN PHOTO SIMULATIONS ARE PROVIDED, THE CONTRACTOR SHALL ENSURE THAT FINAL CONSTRUCTION REPRESENTS WHAT IS INDICATED IN PHOTO SIMULATIONS. SHOP DRAWINGS SHALL BE PROVIDED TO THE GENERAL CONTRACTOR, CONSTRUCTION COORDINATOR, AND ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION.

GENERAL NOTES (CONT'D):

25. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE ANCHORING TO A CONCRETE ROOF SLAB IS REQUIRED, CONTRACTORS SHALL CONFIRM (PRIOR TO SUBMITTING BID) WITH CONSULTING CONSTRUCTION COORDINATOR AND ARCHITECT THE PRESENCE OF POST TENSION TENDONS WITHIN THE ROOF SLAB - RESULTING FROM AN UNDOCUMENTED DESIGN CHANGE IN THE EXISTING BUILDING "AS-BUILT DRAWING SET" - HAVING INDICATED AN ORIGINAL DESIGN SOLUTION OF REINFORCED CONCRETE W/ EMBEDDED STEEL REBAR. IN THE EVENT POST TENSION SLAB SOLUTION IS PRESENT, CONTRACTOR SHALL INCLUDE PROVISIONS FOR X-RAY PROCEDURES (INCLUDED IN BID) FOR ALL PENETRATION AREAS WHERE ANCHORING OCCURS.

26. GENERAL & SUB CONTRACTORS SHALL USE STAINLESS STEEL METAL LOCKING TIES FOR ALL CABLE TRAY TIE DOWNS AND ALL OTHER GENERAL TIE DOWNS (WHERE APPLICABLE). PLASTIC ZIP TIES SHALL NOT BE PERMITTED FOR USE ON AT&T PROJECTS. RECOMMENDED MANUFACTURE SHALL BE: PANDUIT CORP. METAL LOCKING TIES MODEL NO. MLT4S-CP UNDER SERIES-304 (OR EQUAL). PANDUIT PRODUCT DISTRIBUTED BY TRIARC OF TACOMA, WA.

DESIGN CRITERIA:

1. THE STRUCTURAL DESIGN OF THIS PROJECT IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2021 1608.1 GENERAL & CHAPTER 7 OF ACSE 7.

2. **DESIGN LOADS:**

-ROOF SNOW LOAD	_____	PER STRUCTURAL
-BASIC WIND SPEED	_____	PER STRUCTURAL
-WIND EXPOSURE	_____	PER STRUCTURAL

CONCRETE NOTES:

1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI-318.

2. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH CHAPTER 19 OF THE IBC 2021. STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS.

TYPE OF CONSTRUCTION	28 DAY STRENGTHS (f'c)	W/C RATIO	MINIMUM CEMENT CONTENT PER CUBIC YARD
A. SLABS ON GRADE TOPPING SLABS CONCRETE PIERS	3,000 PSI	≤ .45	5 1/2 SACKS
B. ALL STRUCTURAL CONCRETE EXCEPT WALLS	4,000 PSI	≤ .45	6 1/2 SACKS
C. CONCRETE WALLS	4,000 PSI	≤ .45	6 1/2 SACKS

CEMENT SHALL BE ASTM C150, PORTLAND CEMENT TYPE II U.N.O.

3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND BE RESPONSIBLE FOR THE METHODS AND PROCEDURES OF CONCRETE PLACEMENT.

4. ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, C618, C989 AND C1017. TOTAL AIR CONTENT SHALL BE IN ACCORDANCE WITH TABLE 1904.2.1 OF THE IBC 2021.

5. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, fy=60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, fy=40,000 PSI. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCING COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN A.W.S. D14 ARE SUBMITTED.

6. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH AC1 315 AND 318. LAP ALL CONTINUOUS REINFORCEMENT AT LEAST 30 BAR DIAMETERS OR A MINIMUM OF 2'-0". PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS AT LEAST 30 BAR DIAMETERS OR A MINIMUM OF 2'-0". LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.

8. SPIRAL REINFORCEMENT SHALL BE PLAIN WIRE CONFORMING TO ASTM A615, GRADE 60, fy=60,000 PSI.

9. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE CONSULTANT.

10. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

- FOOTINGS AND OTHER UNFORMED SURFACES, EARTH FACE		3"
- FORMED SURFACES EXPOSED TO EARTH OR WEATHER	(#6 BARS OR LARGER)	2"
	(#5 BARS OR SMALLER)	1 1/2"
- SLABS AND WALLS (INTERIOR FACE)		3/4"

11. BARS SHALL BE SUPPORTED ON CHAIRS OR DOBIE BRICKS.

12. ANCHOR BOLTS TO CONFORM TO ASTM A307.

13. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3,000 PSI MINIMUM).

14. ALL EXPANSION ANCHORS TO BE HILTI BRAND. ADHESIVE ANCHORS REQUIRE TESTING TO CONFIRM CAPACITY UNLESS WAIVED BY ENGINEER.

STRUCTURAL STEEL NOTES:

1. SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW PRIOR TO FABRICATION.

2. STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION (INCLUDING FIELD WELDING, HIGH STRENGTH FIELD BOLTING, EXPANSION BOLTS, AND THREADED EXPANSION ANCHORS) SHALL BE BASED ON THE A.I.S.I. "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" LATEST EDITION. SUPERVISION SHALL BE IN ACCORDANCE WITH IBC 2021 CHAPTER 22, BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE CONSULTANT. THE CONSULTANT SHALL BE FURNISHED WITH A COPY OF ALL INSPECTION REPORTS AND TEST RESULTS.

3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	
A. WIDE FLANGE SHAPE	ASTM A992, Fy 50 KSI
B. OTHER SHAPE, PLATES AND ROD	ASTM A36, Fy 36 KSI
C. PIPE COLUMNS	ASTM A53, Fy 35 KSI
D. STRUCTURAL TUBING	ASTM A500, Fy 46 KSI
E. ANCHOR BOLTS	ASTM A307
F. CONNECTION BOLTS	ASTM A325

4. ALL MATERIAL TO BE HOT DIPPED GALVANIZED AFTER FABRICATION PER A123/A123M-00.

5. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.I. AND AWS STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70 XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. WELDING OF GRADE 60 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING E70 XX ELECTRODES. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING STEEL IS NOT PERMITTED. SEE REINFORCING NOTE FOR MATERIAL REQUIREMENTS OF WELDED BARS.

6. COLD-FORMED STEEL FRAMING MEMBERS SHALL BE OF THE SHAPE, SIZE, AND GAGE SHOWN ON THE PLANS. PROVIDE MINIMUM SECTION PROPERTIES INDICATED. ALL COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE A.I.S.I. "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."

7. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (3/4" DIA.) AND SHALL HAVE A MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

8. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A307 BOLTS UNLESS NOTED OTHERWISE.

9. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE DESIGN & CONSTRUCTION SPECIFICATION AND IN ACCORDANCE WITH ASTM A36 UNLESS NOTED OTHERWISE.

10. ALL WELDS TO BE 1/4" FILLET UNLESS NOTED OTHERWISE.

11. TOUCH UP ALL FIELD DRILLING AND WELDING WITH 2 COATS OF GALVACON (ZINC RICH PAINT) OR APPROVED EQUAL.

TOWER/POLE NOTES:

1. VERIFICATION THAT THE PROPOSED TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY OTHERS.

2. PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

ABBREVIATED ROOF TOP SAFETY PROCEDURES (WHEN APPLICABLE):

(AS PER "ACCIDENT PREVENTION PROGRAM" - BY PERMISSION OF WREN CONSTRUCTION, INC. - 03/01/99)

FALL PROTECTION METHODS AND EQUIPMENT
ROOF TOP INSTALLATIONS

1. FOR WORK IS BEING PERFORMED WITHIN 25' OF AN UNPROTECTED ROOF EDGE, THE CONSTRUCTION SUPERVISOR SHALL DESIGNATE A TRAINED SAFETY MONITOR TO OBSERVE THE MOVEMENTS AND ACTIVITIES OF THE CONSTRUCTION WORKERS.

2. SAFETY MONITOR SHALL WARN CONSTRUCTION WORKERS OF HAZARDS (I.E., BACKING UP TOWARD A ROOF EDGE, ETC.) OR UNSAFE ACTIVITIES. THE SAFETY MONITOR MUST BE ON THE SAME ROOF AND WITHIN VISUAL AND VERBAL DISTANCE OF THE CONSTRUCTION WORKERS.

3. CONSTRUCTION INVOLVING WORKERS TO APPROACH WITHIN 6' OR LESS OF AN UNPROTECTED ROOF EDGE, REQUIRES WORKERS TO USE SAFETY LINE.

4. SAFETY LINE SHALL BE MINIMUM ½" DIAMETER NYLON, WITH A NOMINAL TENSILE STRENGTH OF 5400 LBS.

5. SAFETY LINE SHALL BE ATTACHED TO A SUBSTANTIAL MEMBER OF THE STRUCTURE.

6. SAFETY LINE LENGTH SHALL BE SET ALLOWING CONSTRUCTION WORKER TO REACH EDGE OF ROOF, BUT NOT BEYOND.

7. SAFETY BELTS SHALL BE WORN BY ALL CONSTRUCTION WORKERS.

8. MONTHLY SAFETY INSPECTION AND MAINTENANCE OF THE FALL PROTECTION EQUIPMENT SHALL OCCUR BY THE SAFETY COMMITTEE REPRESENTATIVES, INCLUDING:

   INSPECTION OF CONSTRUCTION AREA FOR HAZARDS
   USE OF AN INSPECTION CHECKLIST
   INTERVIEWING COWORKERS REGARDING SAFETY CONCERNS
   REPORTING AND DOCUMENTING ANY HAZARDS
   REPORTING HAZARDS TO THE SAFETY COMMITTEE FOR CONSIDERATION
   POSTING RESULTS OF INSPECTION AND ANY ACTION TAKEN
   RECEIVING AN UNBIASED REVIEW OF ONE'S OWN WORK AREA BY ANOTHER COWORKER SAFETY REPRESENTATIVE

REFER TO ROOFTOP WORK AREA SAFETY PROTOCOL
NATIONAL ASSOCIATION OF TOWER ERECTORS 2000 PUBLICATION

REFERENCED OSHA REGULATION/STANDARDS SHALL BE REVIEWED BY TOWER ERECTORS,
EQUIPMENT INSTALLERS, AND TOWER/ROOF TOP CONTRACTORS/SUBCONTRACTORS
29 CFR 1926.500 - SCOPE, APPLICATION, AND DEFINITIONS
29 CFR 1926.501 - DUTY TO HAVE FALL PROTECTION
19 CFR 1926.502 - FALL PROTECTION SYSTEMS CRITERIA AND PRACTICES

SYMBOLS AND ABBREVIATIONS

A/C	AIR CONDITIONING	LBS	POUNDS
AGL	ABOVE GRADE LEVEL	MAX	MAXIMUM
APPROX	APPROXIMATELY	MECH	MECHANICAL
		MTL	METAL
BLDG	BUILDING	MFR	MANUFACTURE
BLK	BLOCKING	MGR	MANAGER
		MIN	MINIMUM
CLG	CEILING	MISC	MISCELLANEOUS
CLR	CLEAR		
CONC	CONCRETE	NA	NOT APPLICABLE
CONST	CONSTRUCTION	NIC	NOT IN CONTRACT
CONT	CONTINUOUS	NS	NEAR SIDE
		NTS	NOT TO SCALE
DBL	DOUBLE		
DIA	DIAMETER	OC	ON CENTER
DIAG	DIAGONAL	OD	OUTSIDE DIAMETER
DN	DOWN		
DET	DETAIL	PLYWD	PLYWOOD
DWG	DRAWING	PROJ	PROJECT
		PROP	PROPERTY
EA	EACH	PT	PRESSURE TREATED
EL	ELEVATION	REQ	REQUIRED
ELEC	ELECTRICAL	RM	ROOM
EQ	EQUAL	RO	ROUGH OPENING
EQUIP	EQUIPMENT		
EXT	EXTERIOR	SHT	SHEET
		SIM	SIMILAR
FIN	FINISH	SPEC	SPECIFICATION
FLUOR	FLUORESCENT	SF	SQUARE FOOT
FLR	FLOOR	SS	STAINLESS STEEL
FS	FAR SIDE	STL	STEEL
FT	FOOT	STRUCT	STRUCTURAL
		STD	STUD
GA	GAUGE	SUSP	SUSPENDED
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR	THRU	THROUGH
GRND	GROUND	TNNG	TINNED
GYP BD	GYPSUM WALL BOARD	TYP	TYPICAL
HORZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
HR	HOUR		
HT	HEIGHT	VERT	VERTICAL
HVAC	HEATING VENTILATION AIR CONDITIONING	VIF	VERIFY IN FIELD
		W/	WITH
ID	INSIDE DIAMETER	W/O	WITHOUT
IN	INCH	WP	WATER PROOF
INFO	INFORMATION		
INSUL	INSULATION		
INT	INTERIOR		
IBC	INTERNATIONAL BUILDING CODE		

T T	TELEPHONE
P P	POWER
- - - - - - - -	GROUND WIRE
COAX COAX	COAXIAL CABLE
	ANTENNA
℄	CENTERLINE
(E)	EXISTING
X (X-X)	DETAIL NUMBER SHEET NUMBER

TRANSMITTING NOTES:

APPLICABLE BUILDING CODES AND STANDARDS:

- ALL TRANSMITTING ANTENNAS WILL BE INSTALLED IN A MANNER AS SET FORTH BY THE MANUFACTURER AND BY THE FEDERAL COMMUNICATIONS COMMISSION AS MEETING THE CURRENT AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD FOR NONIONIZING ELECTROMAGNETIC RADIATION (NIER).

- TELECOMMUNICATIONS INDUSTRY ASSOCIATION, (TIA) 222-G, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES.

- INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1000 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT.

- IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE").

- TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

GENERATOR NOTES:

APPLICABLE BUILDING CODES AND STANDARDS:

VERIFY GENERATOR COMPLIES WITH THE FOLLOWING. UL 2200 LISTING AS SHOWN ON PRODUCT SPECIFICAITON SHEET. 2021 IMC SECTION 915.1 GENERAL - THE INSTALLATION OF LIQUID-FUELED STATIONARY INTERNAL COMBUSTION ENGINES AND GAS TURBINES, INCLUDING EXHAUST, FUEL STORAGE AND PIPING, SHALL MEET THE REQUIREMENTS OF HFPA 37. STATIONARY ENGINE GENERATOR ASSEMBLES SHALL MEET THE REQUIREMENTS OF UL 2200.

VERIFY SEISMIC RESTRAINT PER 2021 IBC AND/OR MANUFACTURER'S INSTALLATION INSTRUCTIONS . NFPA 37-2018 EDITION.

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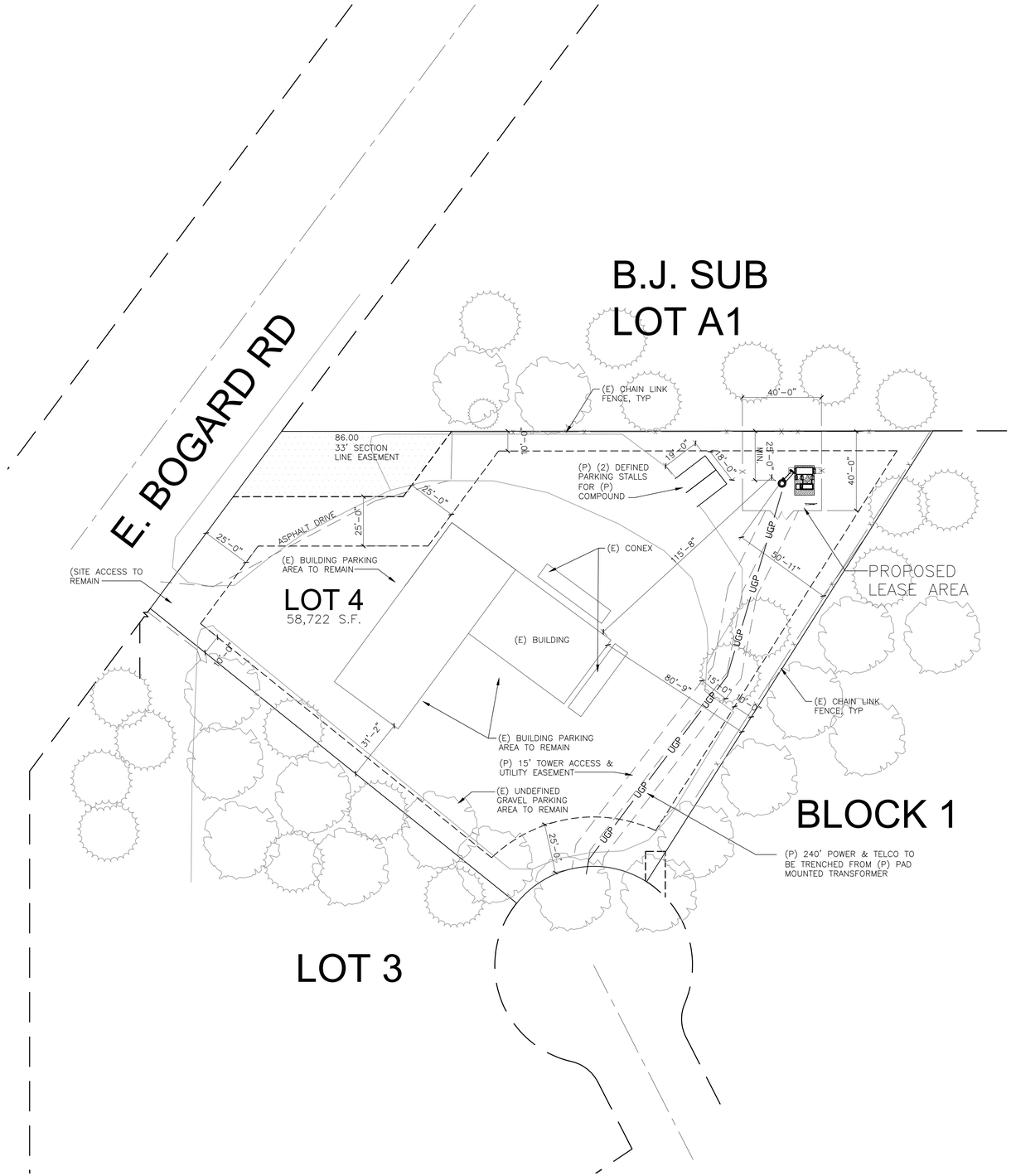
ISSUED DATE:
08-19-2025

NO.	DATE	ISSUE BLOCK
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
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REGISTERED PROFESSIONAL ARCHITECT

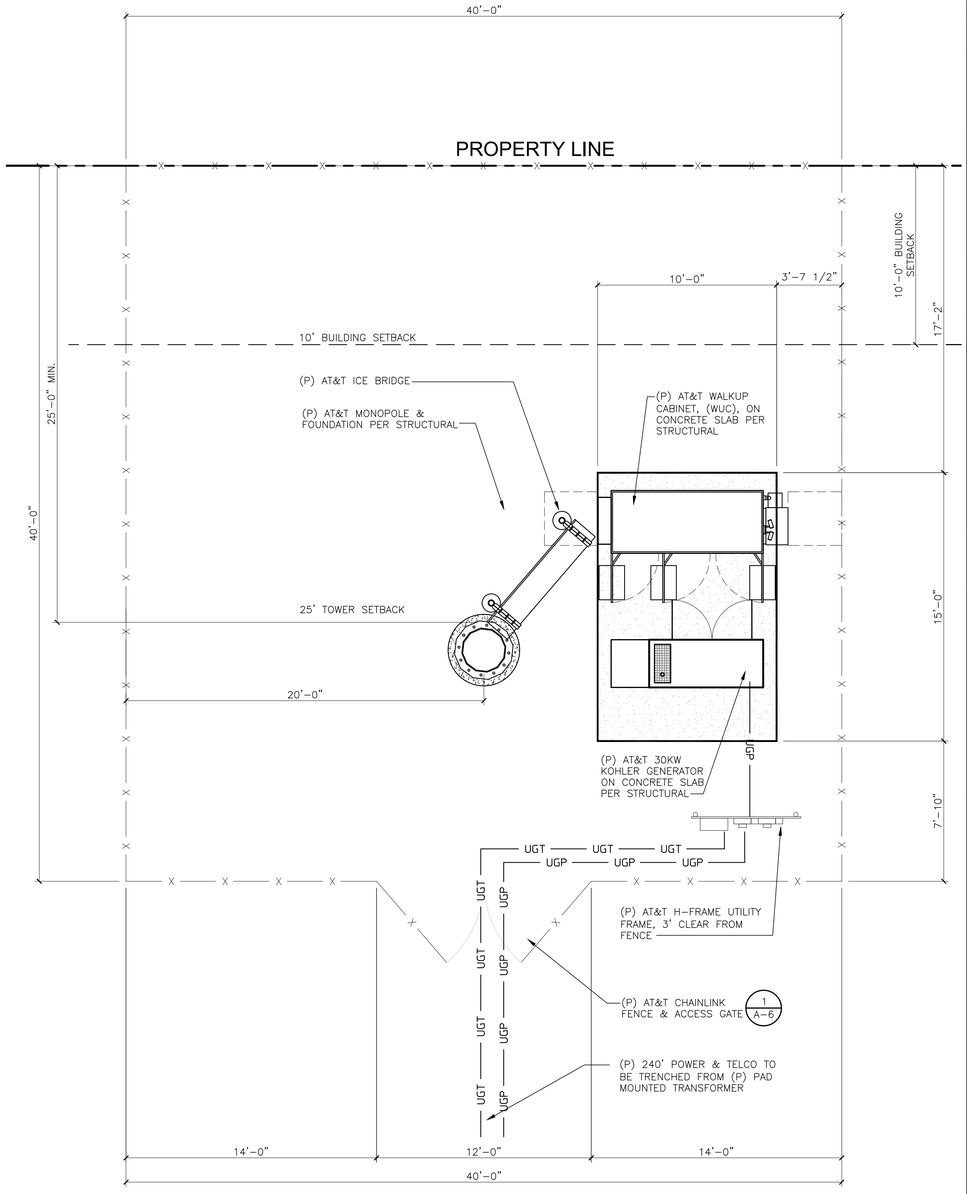
SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
N-1



SITE PLAN

SCALE: 1" = 30'-0"



ENLARGED SITE PLAN

SCALE: 1/8" = 1'-0"

NORTH

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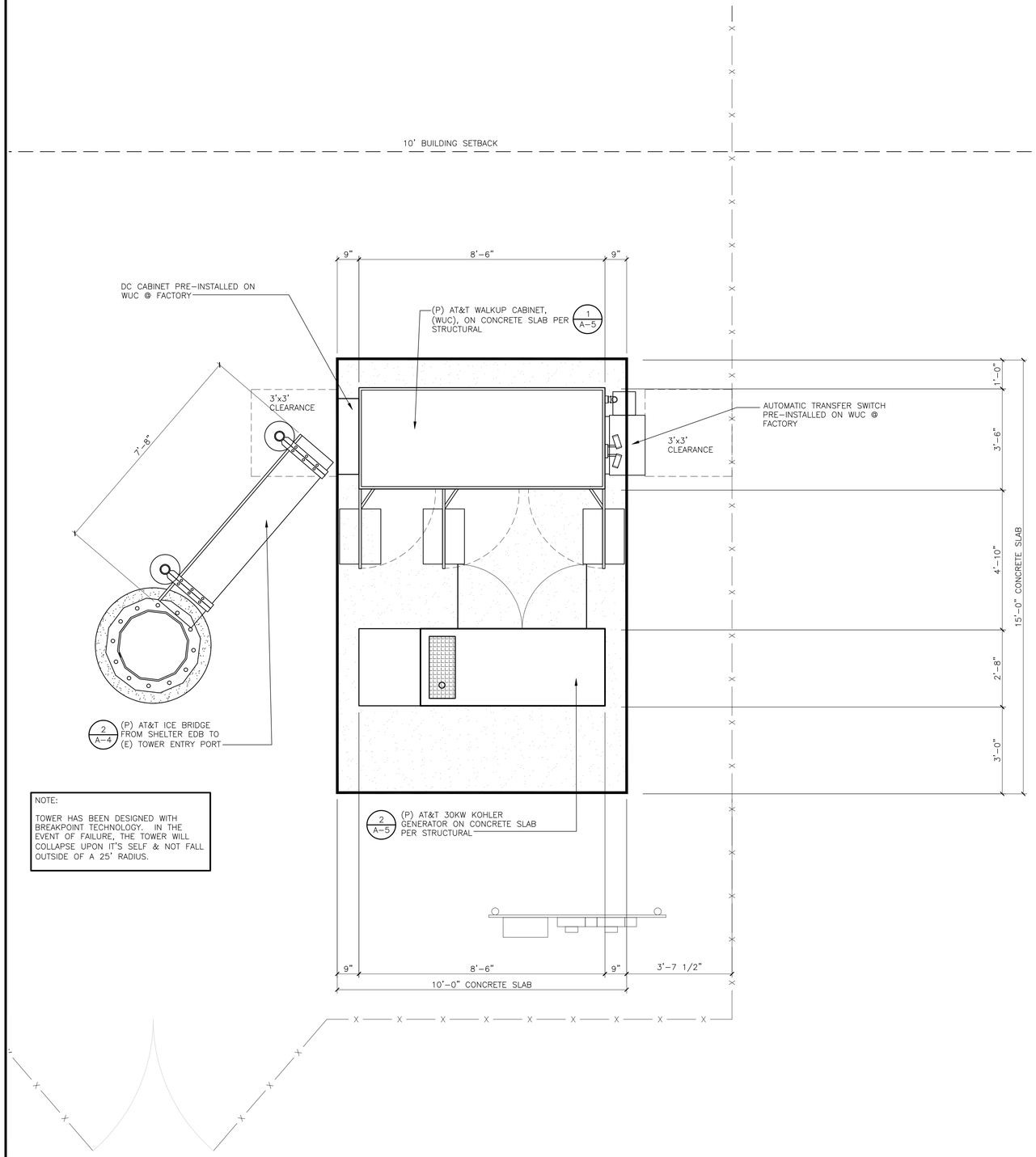
ISSUED DATE:
08-19-2025

NO.	DATE	ISSUE BLOCK
A	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22

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SITE PLAN

SHEET NUMBER:
A-1



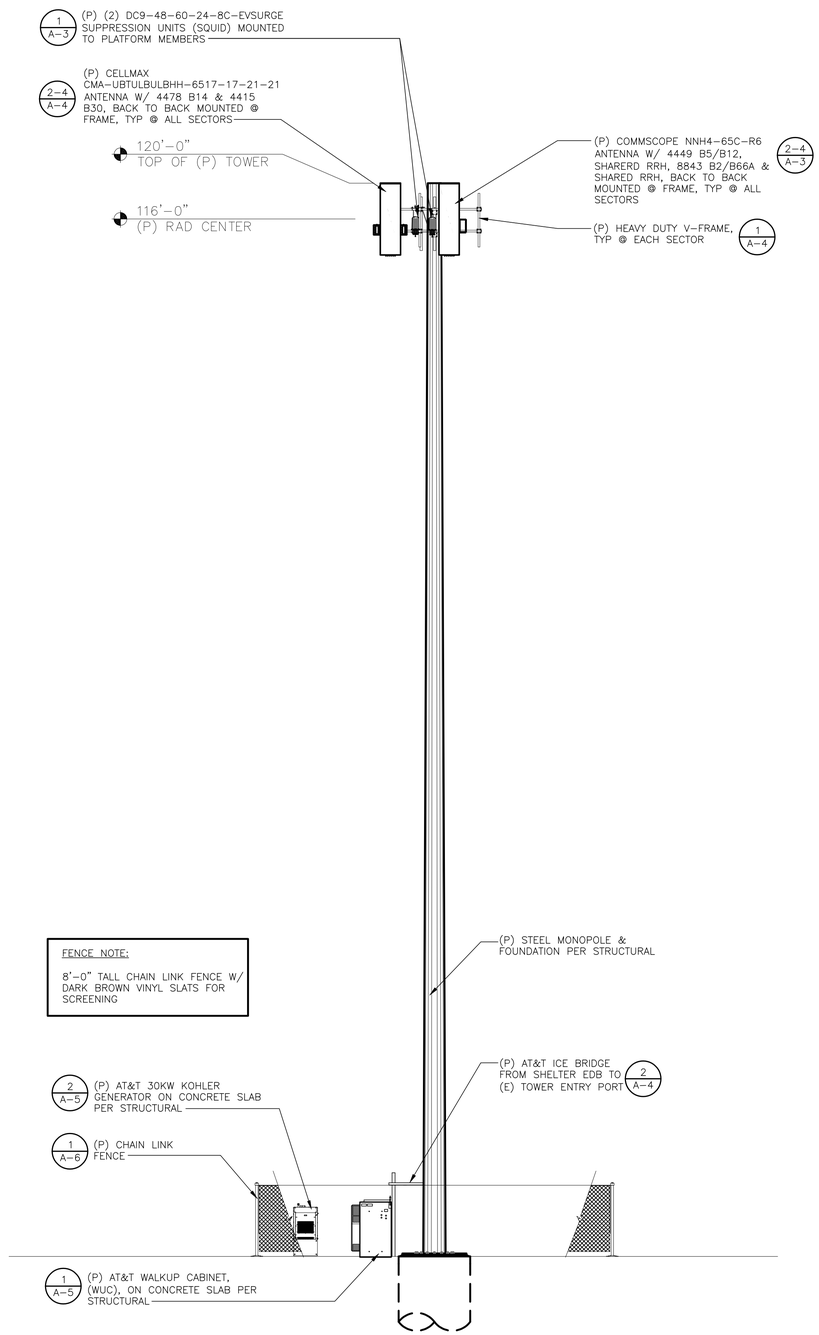
ENLARGED SLAB PLAN

SCALE: 1/2" = 1'-0"

NORTH

NOTE:

TOWER HAS BEEN DESIGNED WITH BREAKPOINT TECHNOLOGY. IN THE EVENT OF FAILURE, THE TOWER WILL COLLAPSE UPON IT'S SELF & NOT FALL OUTSIDE OF A 25' RADIUS.



EXTERIOR ELEVATION

SCALE: 1/8" = 1'-0"

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08-19-2025

ISSUE BLOCK

NO.	DATE	
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

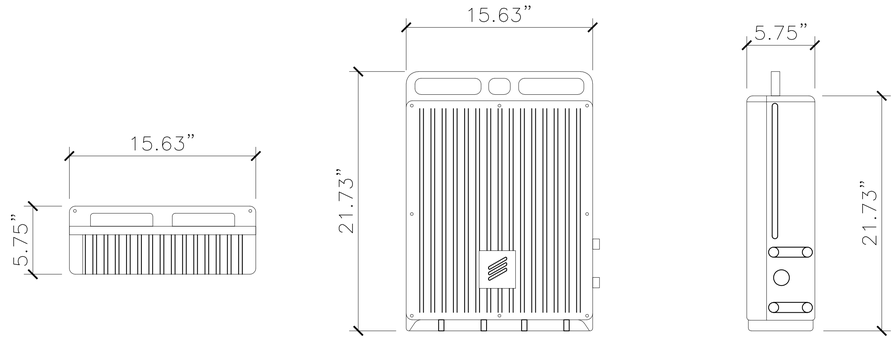
STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ENGINEER

SHEET TITLE:
EXTERIOR ELEVATIONS

SHEET NUMBER:
A-2

ERICSSON 4490 B5/B12

COLOR:	GRAY
DIMENSIONS, HxWxD:	21.73"x15.63"x5.75"
WEIGHT:	65.0 LBS.



PLAN VIEW FRONT ELEVATION SIDE ELEVATION

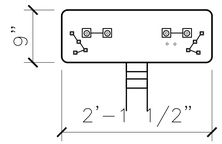
RRUS 4490 B5/B12

4 / A-3

1/2" = 1'-0"

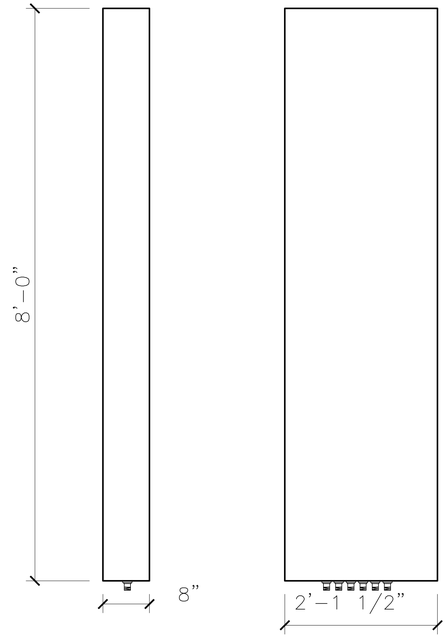
COMMSCOPE COMM-NNH4-65C-R6
12 PORT SECTOR ANTENNA

WIDTH:	25.197"
DEPTH:	9.252"
LENGTH:	95.984"
WEIGHT;	99.2 lbs (45.0 kg)
WIND LOAD;	954 N @ 150 km/h
	214.5 lbf @ 150 km/h



INCLUDED PRODUCTS

BSAMNT-1 WIDE PROFILE ANTENNA DOWNTILT MOUNTING KIT FOR 2.5-4.5" OD ROUND MEMBERS



ANTENNA SPEC

3 / A-3

NTS

RRUS 8843 B2, B66A

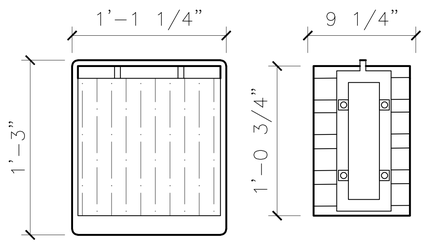
DIMENSIONS (WITH SUNSHIELD)

WIDTH:	14.96 in
HEIGHT:	13.19 in
DEPTH:	9.25 in
WEIGHT:	70 lbs

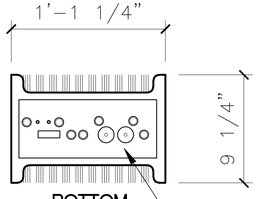
4TX/4RX PER BAND
320W OF TOTAL POWER
4x40 W PER BAND OR 2x60 W & 2x80 W FOR B66A
LTE: MAX OF 3 CARRIERS PER PORT (DL), MAX 3 CARRIERS PER PORT (UL)

-48 VDC 3-WIRE (2-WIRE W/ ADAPTER)

- ADAPTER IS REQUIRED FOR 2-WIRE CONNECTION
- SHIELDED DC CABLE IS REQUIRED
- GROUND CABLE SIZE = 2AWG



FRONT SIDE



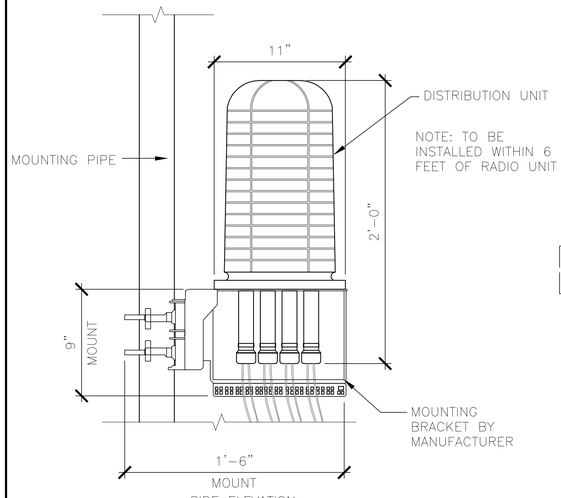
BOTTOM

SEE PRODUCT BROCHURE FOR CONNECTION INTERFACES

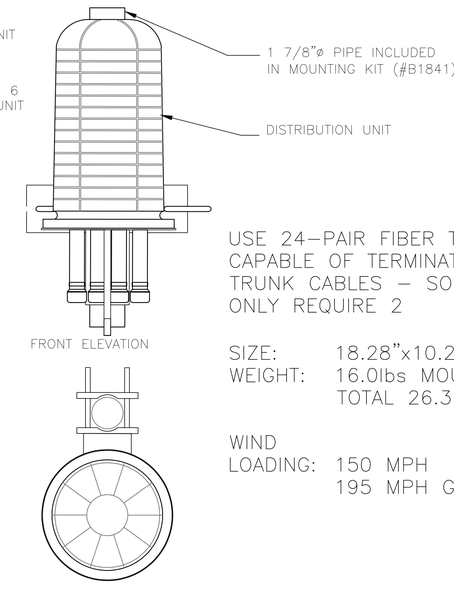
RRUS 8843 B2/B66A

2 / A-3

NOT TO SCALE



MANUFACTURER: RAYCAP
MODEL: DC9-48-60-24-8C-EV "SQUID"



USE 24-PAIR FIBER TRUNK CAPABLE OF TERMINATING 3 DC TRUNK CABLES - SOME PROJECTS ONLY REQUIRE 2

SIZE:	18.28"x10.24"x31.4"
WEIGHT:	16.0lbs MOUNT 10.2lbs TOTAL 26.3 lbs

WIND LOADING: 150 MPH 195 MPH GUST

SURGE SUPPRESSION UNIT

1 / A-3

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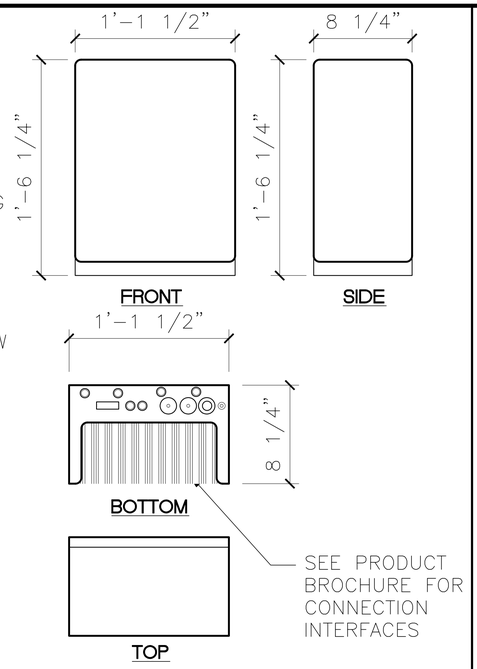
SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A-3

RRUS 4478 B14

DIMENSIONS (WITH HANDLES & FAN UNIT)
WIDTH: 13.40 in
HEIGHT: 18.1 in
DEPTH: 8.26 in
WEIGHT: 59.4 lbs

CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS. INSTALL 1 SFP AND CONNECT 1 FIBER PAIR TO THE RRUSS 4415 DURING INITIAL INSTALL.
ONLY USE ERICSSON SUPPLIED AND APPROVED SFPS RDH10265/25
2 EXTERNAL ALARM INPUTS
MAX WIND LOAD @ 50M/SEC = 260N
BREAKER SIZE = 25A, DC POWER CONSUMPTION = 650 W (FOR DIMENSIONING)
200MM HORIZONTAL SEPARATION REQUIRED FOR SIDE BY SIDE MOUNTING
200MM SEPARATION REQUIRED FROM ANTENNA BACKPLANE TO RADIO
400MM VERTICAL OUTDOOR/INDOOR SEPARATION REQUIRED BETWEEN 2 RADIOS
500MM VERTICAL SEPARATION BELOW ANTENNA
MIN, MAX DC CABLE SIZE FROM SQUID TO RADIO = 10,8 AWG

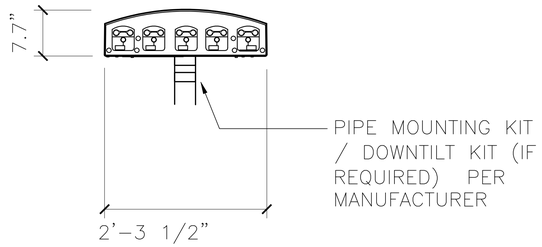


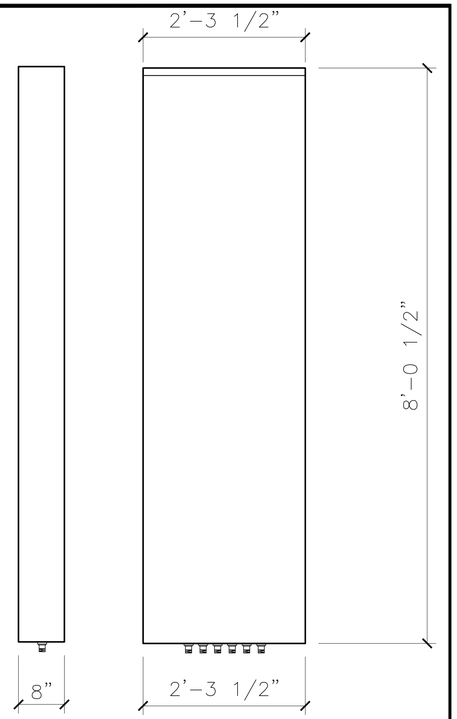
4 A-4 RRUS 4478 B14

1 1/2" = 1'-0"

CELLMAX CMA-UBTULBULBHH-6517-17-21

WEIGHT; 112 lbs
WIND LOAD @ 94 MPH
FRONTAL: 928 N (224.1 LBF
LATERAL: 322 N (72.4 LBF)
REAR: 67 m/s (150 MPH)





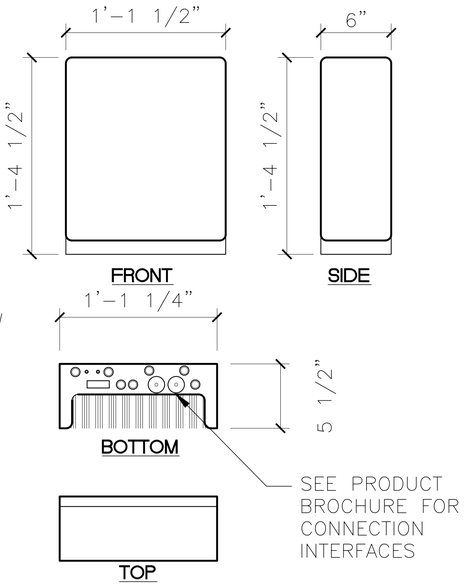
3 A-4 CELLMAX ANTENNA SPEC

NOT TO SCALE

RRUS 4415 B30

DIMENSIONS (WITH SUNSHIELD)
WIDTH: 13.4 in
HEIGHT: 16.5 in
DEPTH: 5.9 in
WEIGHT: 46 lbs

CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS. INSTALL 2 SFP AND CONNECT 2 FIBER PAIR TO THE RRUSS 4415 DURING INITIAL INSTALL.
ONLY USE ERICSSON SUPPLIED AND APPROVED SFPS RDH10265/25
2 EXTERNAL ALARM INPUTS
MAX WIND LOAD @ 50M/SEC = 260N
BREAKER SIZE = 25A, DC POWER CONSUMPTION = 670 W (FOR DIMENSIONING)
200MM HORIZONTAL SEPARATION REQUIRED FOR SIDE BY SIDE MOUNTING
200MM SEPARATION REQUIRED FROM ANTENNA BACKPLANE TO RADIO
400MM VERTICAL OUTDOOR/INDOOR SEPARATION REQUIRED BETWEEN 2 RADIOS
500MM VERTICAL SEPARATION BELOW ANTENNA
MIN, MAX DC CABLE SIZE FROM SQUID TO RADIO = 10,8 AWG



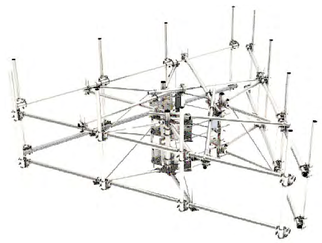
2 A-4 RRUS 44415 B30

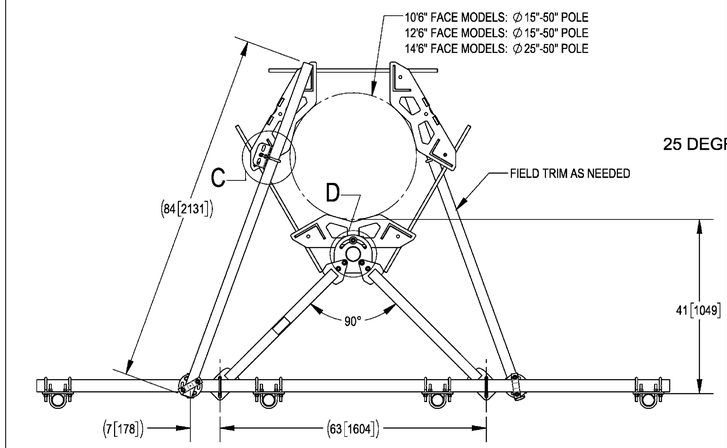
1 1/2" = 1'-0"

MCG22HDX15-12-H10

COMMSCOPE SEE PLANS OR STRUCTURAL FOR SITE SPECIFIC INFORMATION

SEE COMMSCOPE ASSEMBLY DRAWINGS FOR MOST UP TO DATE INFORMATION ON MOUNT AND COLLAR ATTACHMENT TO POLE





1 A-4 ANTENNA SECTOR FRAME

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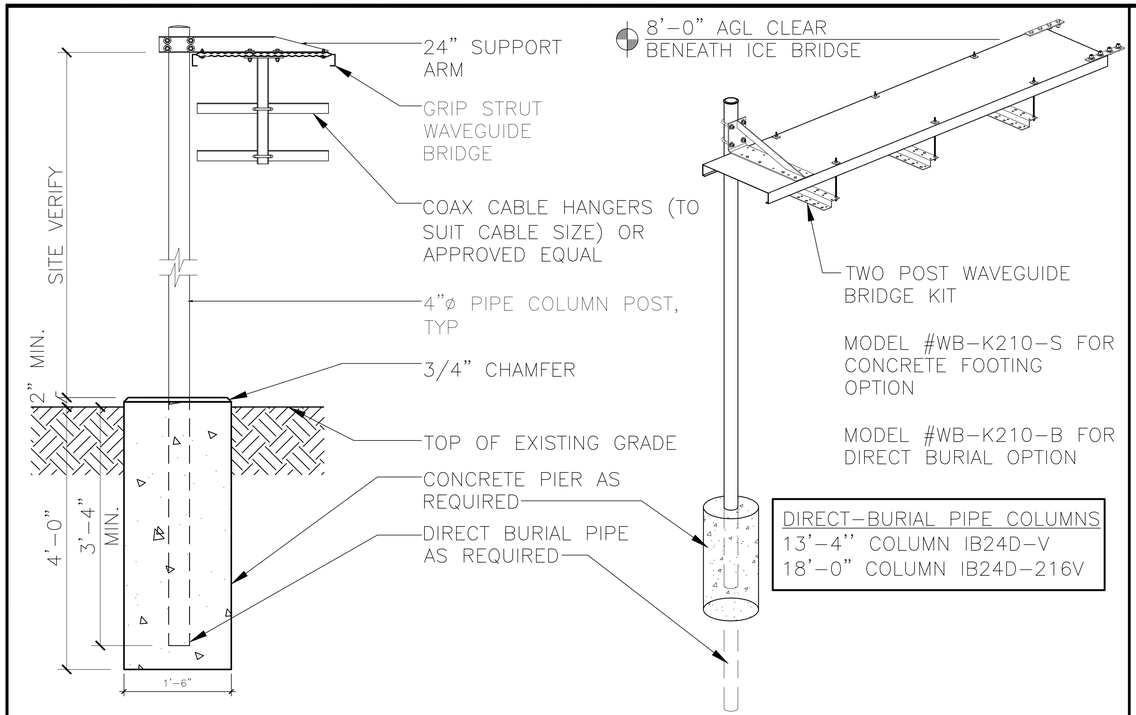
ISSUED DATE: 08-19-2025

NO.	DATE	ISSUE BLOCK
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1		
2		

STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2025
No. 11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A-4



4 / A-5 **ICE BRIDGE**

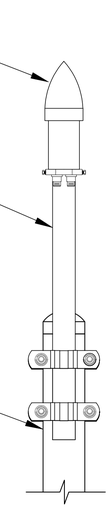
NTS

HIGH REJECTION 40 dB GPS
GPS-TMG-HR-40N

WEIGHT; 0.6 lbs
DIMENSIONS: 5.0" x 3.2"ø

FREQUENCY RANGE: 1575.42+/-10 MHz
ANTENNA GAIN: 3.5 dBic
AMPLIFIER GAIN: 40 dB+/-4 dB

DC VOLTAGE: 3.0-12.0 V (OPERATING)
28 V (SURVIVABILITY)



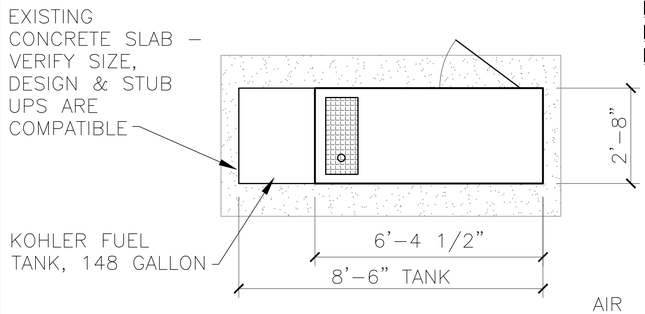
NOTES:

1. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.

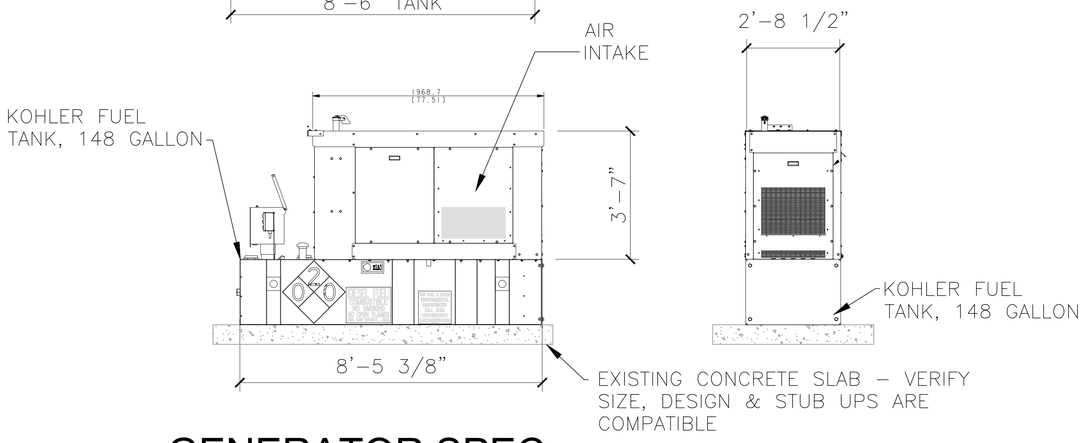
2. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.

3 / A-5 **GPS ANTENNA**

NOT TO SCALE



KOHLER GENERATOR STEEL ENCLOSURE FOR KOHLER 30REOZK GENERATOR W/ 148 GALLON DIESEL FUEL TANK



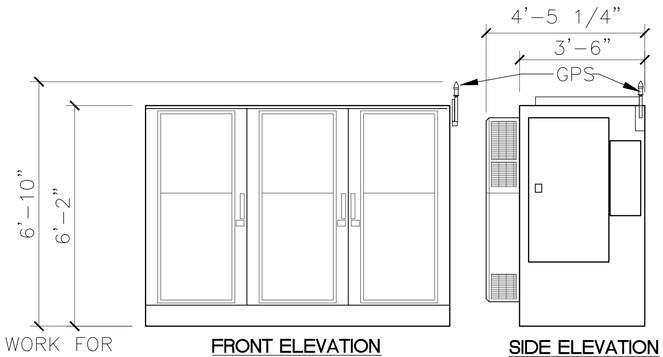
2 / A-5 **GENERATOR SPEC**

1 1/2" = 1'-0"

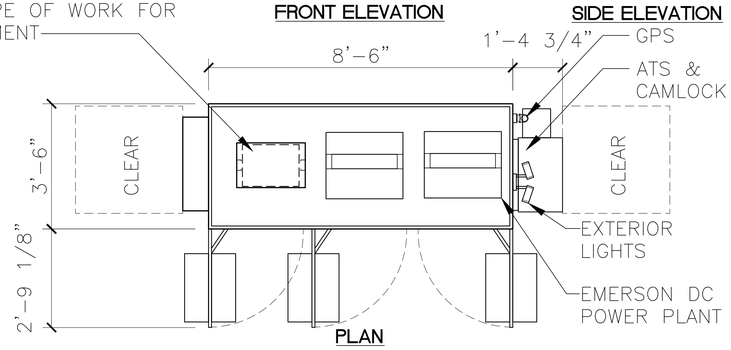
VERTIV NETSURE X701 WALK UP CABINET (WUC)
THREE-BAY

WEIGHT	1,650 lbs
DIMENSION	(HxWxD)
INCHES	74" X 102.31" X 42"

MOUNTING PAD OR PLATFORM RACKS ADJUSTABLE



AT&T DATA RACK - SEE SCOPE OF WORK FOR EXISTING & PROPOSED EQUIPMENT



1 / A-5 **WALK UP CABINET**

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EMAIL: davidhdean@outlook.com
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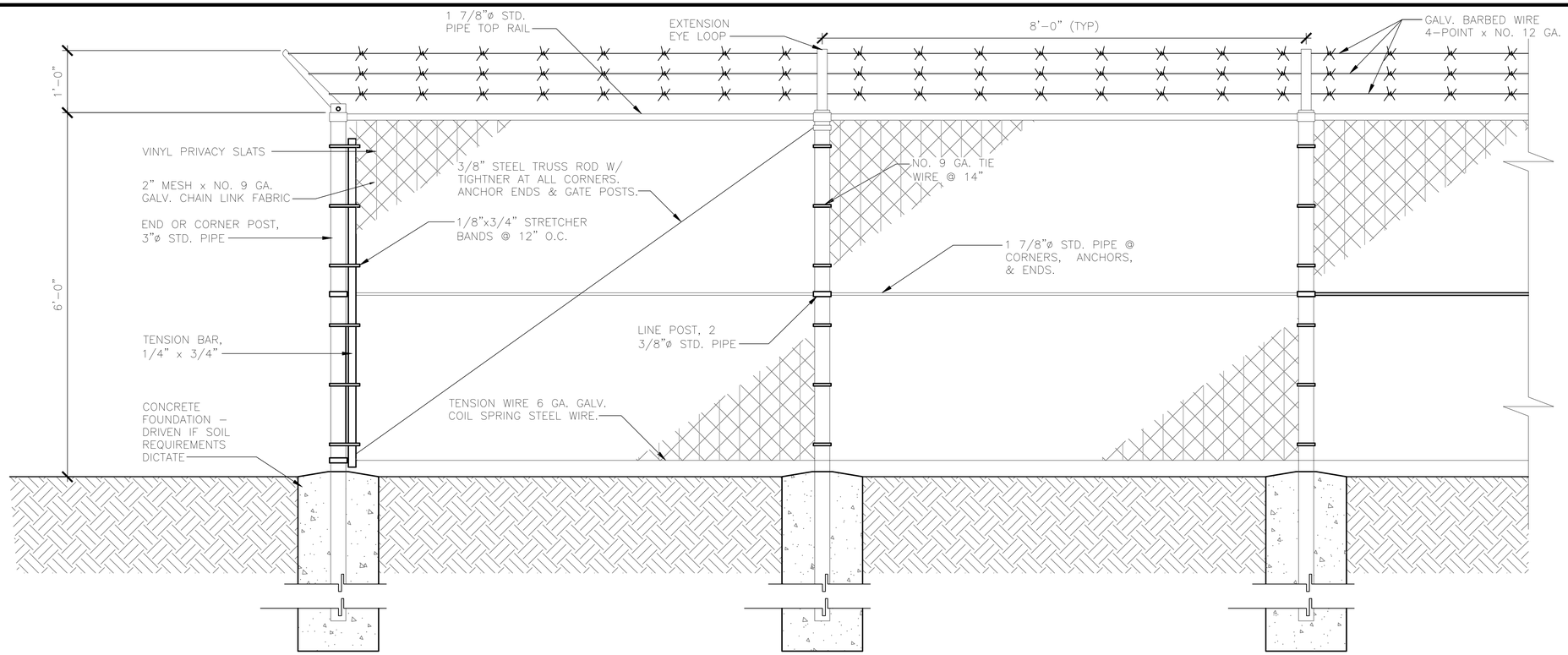
ISSUE BLOCK

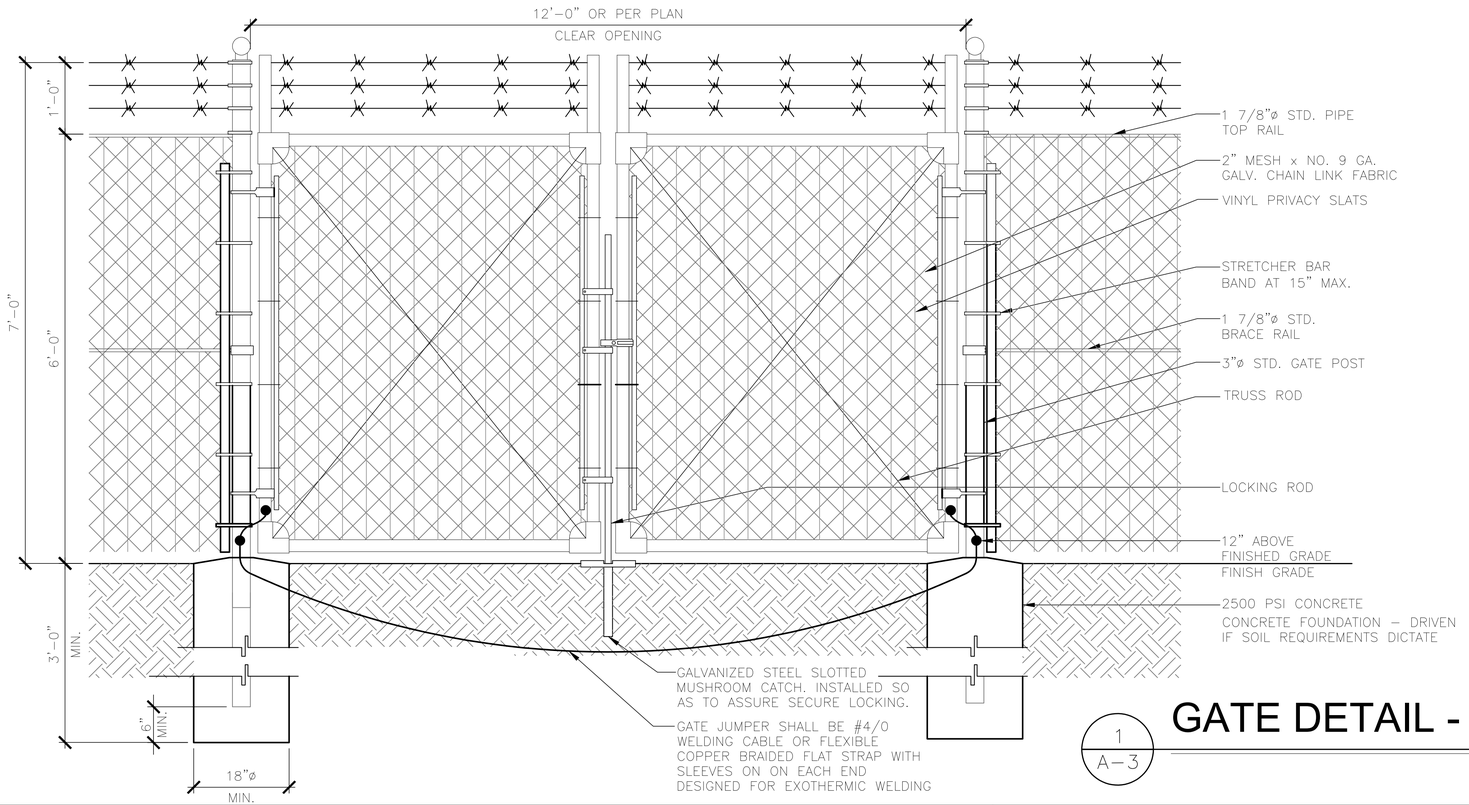
NO.	DATE	
0	07-31-24	TURF4:NSB
1		1C-5C RFDS DATED 07-11-22
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STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2025
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SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A-5





1 / A-3

GATE DETAIL - ELEVATION

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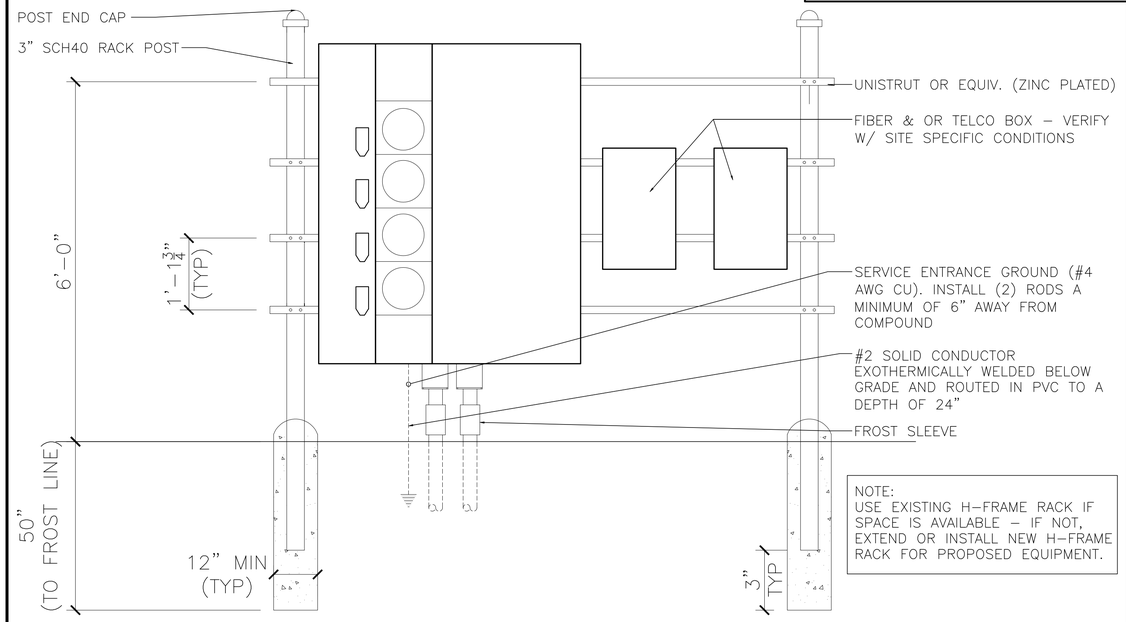
STATE OF ALASKA 49TH
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December 31, 2025
No.11332
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SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A-6

PROPOSED H–FRAME W/ 4–GANG METER BASE, TELCO BOX, FIBER BOX, DMARC ETC. – VERIFY W/ SITE SPECIFIC CONDITIONS

NOTE:
SEE SITE PLANS, SCOPE OF WORK TEXT & E SHEETS FOR PROJECT SPECIFIC SERVICE REQUIREMENTS



NOTE:
USE EXISTING H–FRAME RACK IF SPACE IS AVAILABLE – IF NOT, EXTEND OR INSTALL NEW H–FRAME RACK FOR PROPOSED EQUIPMENT.

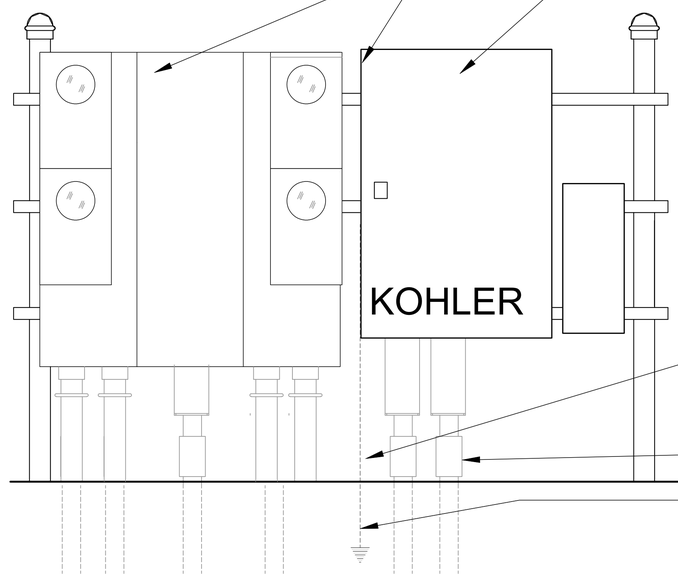
4 / A–7 UTILITY H-FRAME

NOT TO SCALE

PROPOSED 4 GANG, 200 AMP SERVICE W/ METER BASE, TELCO BOX, FIBER BOX, DMARC ETC. – VERIFY W/ SITE SPECIFIC CONDITIONS

AUTOMATIC TRANSFER SWITCH, ATS W/ CAM LOCK IF REQUIRED

NOTE:
USE EXISTING H–FRAME RACK IF SPACE IS AVAILABLE – IF NOT, EXTEND OR INSTALL NEW H–FRAME RACK FOR PROPOSED EQUIPMENT.



3 / A–7 UTILITY H-FRAME

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SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A–7

If required, RRU placement should maximize the distance from PIM susceptible sources, including those from adjacent sectors. The scoping team will determine the best method of attaching RRUs, being mindful to avoid known causes of PIM – e.g. lose connections, dissimilar metal contact, etc.

To illustrate this concept, Figure 1 provides an example where sector frames with four V-shaped standoff arms may allow mast pipes to be mounted to the upper and lower standoff arms on each side by means of a pair of crossover plates (See Figure 1), providing a low-cost attachment point. The location of this connection will be as close as possible to the mount-to-tower connection bracket as possible to maximize distance from PIM susceptible antennas. Generally, this means making the RRU attachment distance no larger than approximately 12 inches from the mount-to-tower connection (see Figure 1).

An imaginary plane parallel to the mount face and separating RRUs from antennas is shown below as a dashed line. RRUs meeting this policy may be connected anywhere behind this plane, which is defined by a 12-inch distance from the mount-to-tower connection measured along the standoff arm.

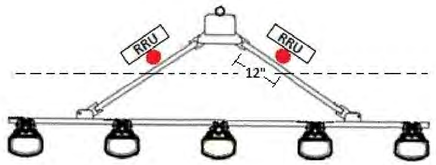


Figure 1: A sector frame is shown with a mast pipe (red) attached to the upper and lower standoff arms, using crossover plates.

The mast pipe, used as an RRU mounting pipe, is within 12 inches of the connection point to the leg (not to scale). For measurement purposes, the connection point is considered to begin where the standoff arm meets the connection assembly.

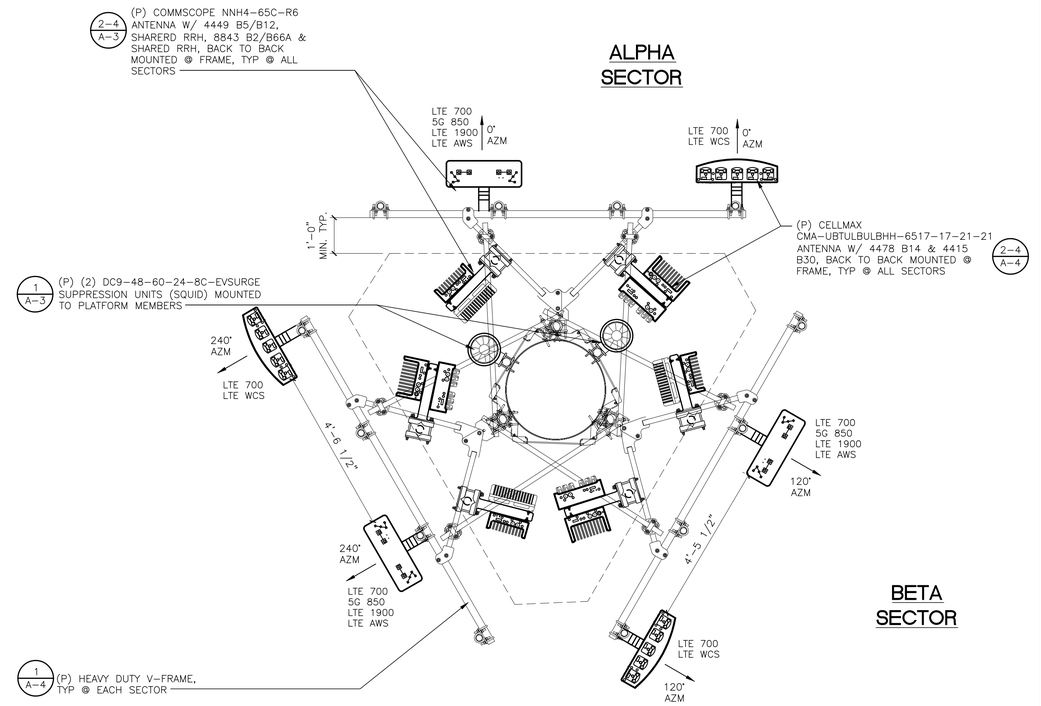
A second alternative exists. Figure 2 provides an example for locating RRUs on a monopole mount (e.g. on T-arm mounts). AT&T has made available in CONMAT RRU ring mounts from **Valmont SitePro1 (UGLM-DCP** and **6CHMT)** and **Kenwood Telecom (T1500KT60A**). This second category of OEM provided solutions is distinct from the first category in that the RRU mounts are an appurtenance to the tower rather than the antenna mount. Care should be taken in its placement not to obstruct the climb path or damage the safe climb facility. Care should also be taken to remain within AT&T's lease space.

PROPOSED ANTENNA PLAN & SCHEDULE

SECTOR	POSITION NUMBER	BAND TECH.	ANTENNA MODEL	RAD	ANT. SIZE	AZIMUTH	RRH QUANTITY & MODEL #	LINES TO EQUIPMENT	TRUNK LENGTH	ELEC. TILT
ALPHA	1	---	----	--	--	--	--	--	--	--
	2	LTE 700, 5G 850 LTE 1900, LTE AWS	COMMSCOPE NNH4-65C-R6	116'	95.5"	0°	4449 B5/B12, (2)SHARED RRH, 8843 B2/B66A	FIBER	120'-0"±	2°
	3	---	----	--	--	--	--	--	--	--
	4	LTE 700, LTE 1900, LTE AWS	CELLMAX CMA-UBTULBULBHH-6517-17-21-21	116'	96"	0°	4478 B14, 4415 B30	FIBER	120'-0"±	2°
BETA	1	---	----	--	--	--	--	--	--	--
	2	LTE 700, 5G 850 LTE 1900, LTE AWS	COMMSCOPE NNH4-65C-R6	116'	95.5"	120°	4449 B5/B12, (2)SHARED RRH, 8843 B2/B66A	FIBER	120'-0"±	2°
	3	---	----	--	--	--	--	--	--	--
	4	LTE 700, LTE 1900, LTE AWS	CELLMAX CMA-UBTULBULBHH-6517-17-21-21	116'	96"	120°	4478 B14, 4415 B30	FIBER	120'-0"±	2°
GAMMA	1	---	----	--	--	--	--	--	--	--
	2	LTE 700, 5G 850 LTE 1900, LTE AWS	COMMSCOPE NNH4-65C-R6	116'	95.5"	240°	4449 B5/B12, (2)SHARED RRH, 8843 B2/B66A	FIBER	120'-0"±	2°
	3	---	----	--	--	--	--	--	--	--
	4	LTE 700, LTE 1900, LTE AWS	CELLMAX CMA-UBTULBULBHH-6517-17-21-21	116'	96"	240°	4478 B14, 4415 B30	FIBER	120'-0"±	2°

SURGE SUPPRESSION QUANTITY & MODEL #			
2	DC9-48-60-24-8C-EV	(2) 24 PAIR FIBER TRUNKS & (6) DC TRUNKS	PWRT-606-S

ANTENNA NOTE:
1. DO NOT USE COAX – TRUNK LENGTHS FOR CUT LENGTHS – ESTIMATES ONLY – VERIFY IN FIELD PRIOR TO ORDERING
2. CONFIRM THE LATEST VERSION OF THE RFDS IS BEING USED BY ALL PARTIES.



ANTENNA PLAN

1/2" = 1'-0"

at&t Your world. Delivered.

MasTec Network Solutions

Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019

DHD ARCHITECTURE PLLC
13424 246TH AVE SE
ISSAQUAH, WA 98027
PHONE 425.657.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2043
COTTONWOOD NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

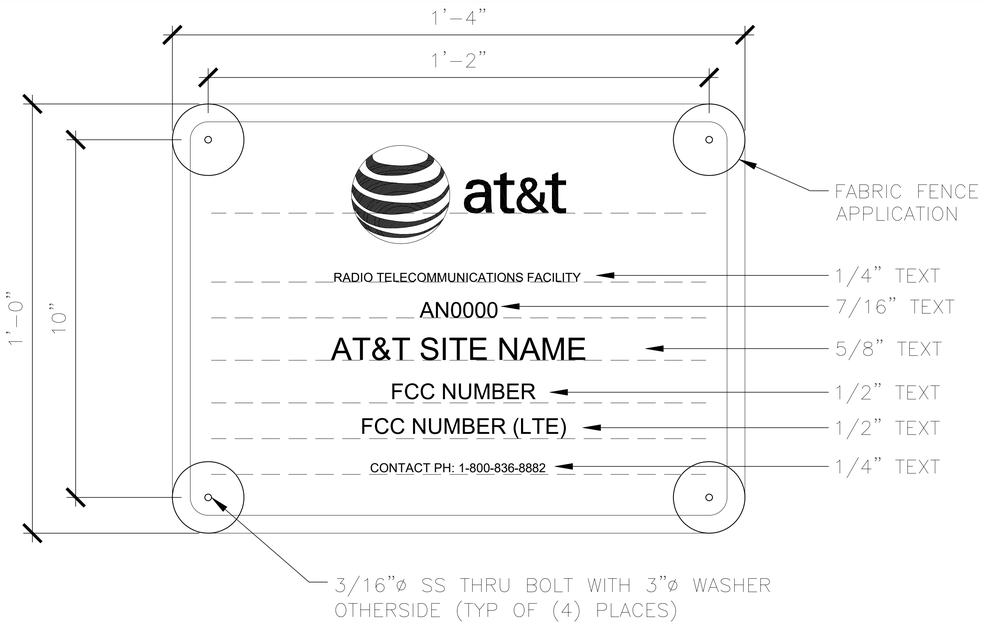
ISSUED DATE:
08-19-2025

NO.	DATE	ISSUE BLOCK
0	07-31-24	TURF4:NSB 1C-5C RFDS DATED 07-11-22
1		
2		

STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

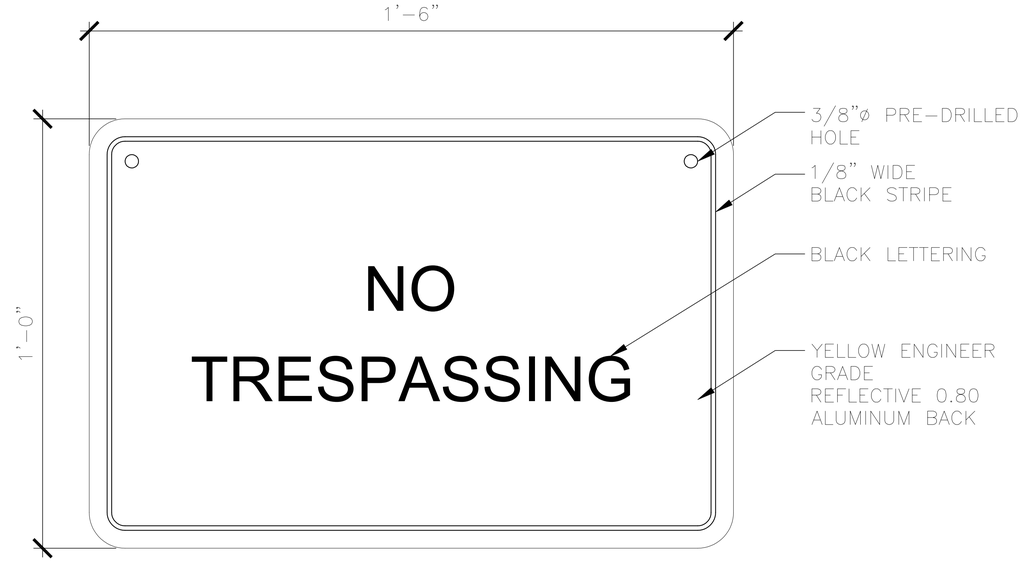
SHEET TITLE:
ANTENNA CONFIGURATION

SHEET NUMBER:
RF-1



4 RF–2 **SIGNAGE**

NO SCALE



3 RF–2 **SIGNAGE**

NO SCALE

SIGNS AND PLACEMENT:

1. LOW LEVEL BLUE NOTICE SIGNS – PLACE AT SITE ENTRY / ACCESS POINTS ONLY.
   – ROOFTOPS: PLACE SIGNS ON THE INSIDE OF ROOF HATCH; PLACE ON ACCESS DOOR UNLESS DOOR IS USED BY GENERAL PUBLIC OR BUILDING TENANTS ON A REGULAR BASIS FOR ACCESS – IN THESE CASES CONSULT CONSTRUCTION MANAGER.
   – WATER TANKS: PLACE SIGNS ON COMPOUND GATE.
   – NETWORK CARRIER OWNED SITES: PLACE ONE SIGN ON COMPOUND GATE; ALL SIGNS SHALL BE SECURED WITH EITHER STAINLESS STEEL ZIP TIES OR STAINLESS TECH SCREWS.

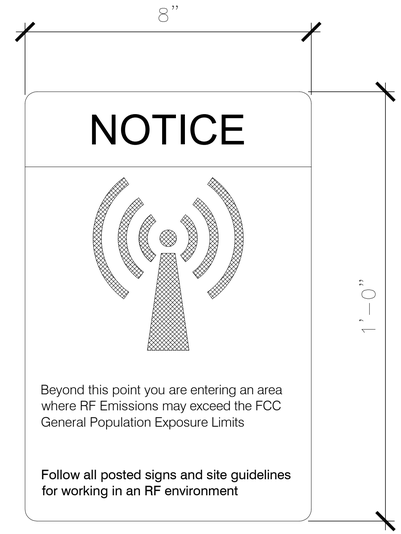
2. CONSTRUCTION COORDINATOR PARTICIPATION IN SIGN LOCATION: NETWORK CARRIER CONSTRUCTION MANAGER SHALL MEET WITH ALL CONSTRUCTION COORDINATOR'S TO OUTLINE CRITERIA FOR SIGN PLACEMENT. EMPHASIS SHALL BE PLACED ON "CHALLENGING" SITES, WHERE THE NETWORK CARRIER CONSTRUCTION MANAGERS SHALL GIVE CONSTRUCTION COORDINATOR'S AS MUCH GUIDANCE ON EACH SPECIFIC SITUATION AS POSSIBLE, HOWEVER, CONSTRUCTION COORDINATOR'S SHALL BE ENCOURAGED TO PARTNER WITH NETWORK CARRIER CONSTRUCTION MANAGER IN DECIDING PLACEMENT PERTAINING TO CHALLENGING SITES. A SITE VISIT MAY BE REQUIRED TO FULFILL REQUIREMENTS. CONSTRUCTION COORDINATOR SHALL IDENTIFY ALL SIGN LOCATIONS AT THE A&E WALK. PLEASE SEE SIGN DETAIL AND SIZE.

3. SIGN DISBURSEMENT FROM WAREHOUSE: SIGN INVENTORY SHALL BE ACCESSIBLE AT NETWORK CARRIER WAREHOUSE TO BE DISBURSED AS PART OF THE GENERAL CONTRACTOR BOM AS CALLED OUT IN A&E DRAWINGS FOR EACH SITE.

2 RF–2 **GENERAL SIGNAGE NOTES**

NO SCALE

NOTES:
1. FOR AT&T LOGO SEE AT&T LOGO DESIGN SPECIFICATIONS
2. ALL TEXT FONT IS ARIAL U.N.O.
3. CONTRACTOR TO PROCURE FCC NO. FROM AT&T COMPLIANCE MANAGER
PH: 425–580–8860
4. TEXT FOR SIGNAGE SHALL INDICATE CORRECT SITE NAME AND NUMBER AS PER AT&T CONSTRUCTION MANAGER RECOMMENDATIONS
5. CABINET MOUNTING APPLICATION REQUIRES ADHERING PLATE TO FACE OF CABINET WITH WATERPROOFING POLYURETHANE ADHESIVE
6. AT&T MOBILITY COMPLIANCE STATEMENT: BASED ON THE INFORMATION COLLECTED, AT&T MOBILITY WILL BE COMPLIANT WITH FCC RULES AND REGULATIONS AT THE NEAREST WALKING SURFACE IF RECOMMENDATIONS IN THE COMPLIANCE SUMMARY ARE IMPLEMENTED. REFER TO RFSSRP REPORT AND TO REFERENCE IT FOR SPECIFIC SIGNAGE REQUIREMENTS.



1 RF–1 **SIGNAGE**

NO SCALE

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MasTec Network Solutions
Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019
DHD ARCHITECTURE PLLC
13424 246TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2043
COTTONWOOD NSB
3600 E BOGARD ROAD
WASILLA, AK 99654

ISSUED DATE: 08–19–2025

NO.	DATE	ISSUE BLOCK
0	07–31–24	TURF4:NSB 1C–SC RFDS DATED 07–11–22
1		
2		

STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2025
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: RF–2

Setback Justification

AN2357 KNIK RIVER NSB

FA LOCATION CODE: 14641430

5945 SOUTH DERBY DRIVE, PALMER, AK 99645

PROJECT INFORMATION

PROJECT DESCRIPTION:

SCOPE OF WORK FOR NEW SITE BUILD (NSB):

INSTALL (6) PANEL ANTENNAS & (9) RRUS ON A PROPOSED SELF SUPPORTED LATTICE TOWER.
INSTALL A PRE FABRICATED EQUIPMENT SHELTER & GENERATOR

APPLICANT:

MASTEC NETWORK SOLUTIONS – ALASKA
2240 E. DOWLING ROAD
ANCHORAGE, AK 99507
253-709-0317

PROPERTY OWNER:

TOM & LAURIE CHIPMAN
5945 S. DERBY DR
PALMER, AK 99645
907-746-3932

CODE INFORMATION:

ZONING CLASSIFICATION:	BLANKET ZONING
BUILDING CODE:	INTERNATIONAL BUILDING CODE CURRENT CODE 2018
PARCEL NUMBER:	2482B02L003
CONSTRUCTION TYPE:	II–B
JURISDICTION:	MATANUSKA SUSITNA BOROUGH
LOT SIZE:	TBD
CURRENT USE:	CONSTRUCTION & EXCAVATION STORAGE & SHOP & PRIVATE RESIDENCE
PROPOSED USE:	TELECOM FACILITY
POWER SERVICE:	MEA
TELCO SERVICE:	MTA

TOWER OWNER:

TOM & LAURIE CHIPMAN
5945 S. DERBY DR
PALMER, AK 99645
907-746-3932

PERMITTING:

CONTACT: JUSTIN ABBOTT
SELECT SITE ACQUISITION LLC
206-790-4655

SITE ACQUISITION:

CONTACT: JUSTIN ABBOTT
SELECT SITE ACQUISITION LLC
206-790-4655

SITE LOCATION:

LATITUDE:	61° 30' 50.616" N 61.5140600
LONGITUDE:	149° 4' 10.092" W –149.0694700
STRUCTURE HEIGHT:	125'
OVERALL HEIGHT AGL:	129'
BASE OF STRUCTURE AMSL:	42'

CONSTRUCTION:

CONTACT: TODD RICHARDSON
MASTEC NETWORK SOLUTIONS – ALASKA
2240 E. DOWLING ROAD
ANCHORAGE, AK 99507
OFFICE: 907-336-1300
MOBILE: 907-351-3886

PROJECT TEAM

PROJECT ARCHITECT:

DHD ARCHITECTURE PLLC:
DAVID H. DEAN, ARCHITECT
13424 246TH AVE SE
ISSAQUAH, WA 98027
425.503.0637 P
DAVIDHDEAN@MSN.COM

PROJECT CONSULTANT:

MASTEC NETWORK SOLUTIONS – ALASKA
2240 E. DOWLING ROAD
ANCHORAGE, AK 99507
253-709-0317

VICINITY MAP



DRIVING DIRECTIONS

TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT
5000 W INTERNATIONAL AIRPORT RD, ANCHORAGE, AK 99502

TAKE W INTERNATIONAL AIRPORT RD AND A ST TO AK–1 N/E 5TH AVE
16 MIN (6.8 MI)

FOLLOW AK–1 N TO S OLD GLENN HWY. TAKE THE OLD GLENN HWY EXIT FROM AK–1 N
29 MIN (29.3 MI)

CONTINUE ON S OLD GLENN HWY. DRIVE TO DERBY DR IN BUTTE
15 MIN (10.1 MI)
5945 DERBY DR
PALMER, AK 99645

APPROVAL	DATE	SIGNATURE
AT&T:		
LANDLORD:		
CONSTRUCTION:		
S/A:		
R.F.:		
ZONNING:		
A&E:		
R.F.:		

REVIEWER SHALL PLACE INITIALS ADJACENT TO EACH REDLINE NOTE AS DRAWINGS ARE REVIEWED

DRAWING INDEX

SHEET	DESCRIPTION
T–1	TITLE SHEET
G–1	GENERAL NOTES
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A–1.1	ENLARGED COMPOUND PLAN – SITE IMAGE
A–2	ENLARGED PLANS & EXTERIOR ELEVATIONS
A–2.1	SHELTER EXTERIOR ELEVATIONS
A–3	DETAILS
A–4	DETAILS
A–5	DETAILS
A–6	DETAILS
RF–1	ANTENNA CONFIGURATION & SCHEDULE
RF–2	SIGNAGE – RADIO FREQUENCY INFORMATION
S–1	STRUCTURAL
N–2	MODIFICATION INSPECTION CHECKLIST
E1.0	GENERAL SPECIFICATIONS
E3.0	ONE–LINE FEEDER SCHEDULE, ELEVATIONS & DETAILS
G–1	SCHEMATIC GROUNDING PLAN
G–2	SCHEMATIC GROUNDING DETAILS
G–3	SCHEMATIC GROUNDING DETAILS

ABBREVIATIONS

A/C	AIR CONDITIONING
AGL	ABOVE FINISH GRADE
APPROX	APPROXIMATELY
BLDG	BUILDING
BLK	BLOCKING
CLG	CEILING
CLR	CLEAR
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBL	DOUBLE
DIA	DIAMETER
DIAG	DIAGONAL
DN	DOWN
DET	DETAIL
DWG	DRAWING
EA	EACH
ELEV	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EXT	EXTERIOR
FIN	FINISH
FLOUR	FLUORESCENT
FLR	FLOOR
FT	FOOT
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRND	GROUND
GYP BD	GYPSUM WALL BOARD
HORZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING VENTILATION AIR CONDITIONING
ID	INSIDE DIAMETER
IN	INCH
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
IBC	INTERNATIONAL BUILDING CODE
LBS	POUNDS
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MFR	MANUFACTURE
MIN	MANAGER
MISC	MISCELLANEOUS
RO	ROUGH OPENING
NA	NOT APPLICABLE
NIC	NIT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PLYWD	PLYWOOD
PROJ	PROJECT
PROP	PROPERTY
PT	PRESSURE TREATED
REQ	REQUIRED
RM	ROOM
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SF	SQUARE FOOT
SS	STAINLESS STEEL
STL	STL
STRUCT	STRUCTURAL
STD	STUD
SUSP	SUSPENDED
THRU	THROUGH
TNNG	TINNED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WP	WATER PROOF

LEGAL DESCRIPTION

LOT B–1–A OF THE "REPLAT" OF TRACT A, TRACT B–1 OF BLOCK 1, RENO SUBDIVISION, PLAT NO. 78–91 AND A PORTION OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 AND A PUBLIC UTILITY EASEMENT VACATION, ACCORDING TO THE PLAT FILED DECEMBER 23, 1994 AS PLAT NO. 94–139; FAIRBANKS RECORDING DISTRICT.

SITE ACCESS REQUIREMENETS

GATE CODES:	TBD
DOOR CODES:	TBD
POINT OF CONTACT FOR FACILITIES:	TOM & LAURIE CHIPMAN 5945 S. DERBY DR PALMER, AK 99645 907-746-3932
SITE TECH CONTACT – NUMBER:	TBD
SITE ACCESS TIME FRAME:	TBD

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING
811
OR
(800) 478–3121 (ALASKA)
EMERGENCY:
CALL 911

811 Know what's below. Call before you dig.

at&t Your world. Delivered.

MasTec Network Solutions

Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019

DHD ARCHITECTURE PLLC
13424 246TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.557.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2357
KNIK RIVER NSB
5945 SOUTH DERBY DRIVE
PALMER, AK 99645

ISSUED DATE:
07–15–2021

ISSUE BLOCK

NO.	DATE
A	03–17–21 TURF4: 1C–5C PER RFDS DATED 2–10–21
A	06–15–21 ISSUE FOR FCD
A	06–30–21 UPDATED GENERATOR

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2021
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T–1

GENERAL NOTES:

1. DRAWINGS ARE NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE, THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANY REQUIREMENTS DEEMED NECESSARY TO COMPLETE PROJECT AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.

2. PRIOR TO THE SUBMISSION OF BIDS, CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE TO FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION/CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND CONFIRM THAT THE PROJECT WILL BE ACCOMPLISHED AS SHOWN. PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY ERRORS, OMISSIONS, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.

3. THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.

4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

6. ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.

7. GENERAL CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED "FOR CONSTRUCTION" AND EACH SUCCESSIVE SHEET BEARS THE ARCHITECT'S SIGNED WET STAMP.

8. THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.

9. SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.

10. CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF PROJECT AREA DURING CONSTRUCTION.

11. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

12. CONTRACTOR SHALL KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. CONTRACTOR SHALL REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

13. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

14. THE CONTRACTOR SHALL PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.

15. THE CONTRACTOR SHALL PROVIDE AT&T WIRELESS, LLC. PROPER INSURANCE CERTIFICATES NAMING AT&T WIRELESS, LLC. AS ADDITIONAL INSURED, AND AT&T WIRELESS, LLC. PROOF OF LICENSE(S) AND PE & PD INSURANCE.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL INSPECTIONS.

17. CAUTION! CALL BEFORE YOU DIG! BURIED UTILITIES EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE ONE-CALL UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. DIAL 811

18. CONTRACTOR TO DOCUMENT ALL WORK PERFORMED WITH PHOTOGRAPHS AND SUBMIT TO AT&T WIRELESS, LLC. ALONG WITH REDLINED CONSTRUCTION SET.

19. CONTRACTOR TO DOCUMENT ALL CHANGES MADE IN THE FIELD BY MARKING UP (REDLINING) THE APPROVED CONSTRUCTION SET AND SUBMITTING THE REDLINED SET TO AT&T WIRELESS, LLC. UPON COMPLETION.

20. FOR COLLOCATION SITES: CONTACT TOWER OWNER REPRESENTATIVE FOR PARTICIPATION IN BID WALK.

21. GENERAL CONTRACTOR IS TO COORDINATE ALL POWER INSTALLATION WITH POWER COMPANY AS REQUIRED. CONTRACTOR TO REPORT POWER INSTALLATION COORDINATION SOLUTION(S) TO NETWORK CARRIER REPRESENTATIVE, PROJECT CONSTRUCTION MANAGER AND ARCHITECT.

22. ANY SUBSTITUTIONS OF MATERIALS AND/OR EQUIPMENT, MUST BE APPROVED BY AT&T CONSTRUCTION MANAGER.

23. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE PENETRATION OF EXISTING ROOFING MATERIALS OCCUR, THE GENERAL CONTRACTOR SHALL COORDINATE WITH BUILDING OWNER AND BUILDING ROOFING CONTRACTOR OF RECORD FOR INSTALLATION, PATCH, REPAIR OR ANY AUGMENTATION TO THE ROOF, AND HAVE THE WORK GUARANTEED UNDER THE ROOFING CONTRACTOR'S WARRANTY FOR MOISTURE PENETRATION OR AND OTHER FUTURE BREACH OF ROOFING INTEGRITY.

24. IN THE CASE OF ROOFTOP SOLUTIONS WITH THE INSTALLATION OF ANTENNAS WITHIN CONCEALED (SHROUDED) SUPPORT FRAMES OR TRIPODS, THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE FRP DESIGNER/FABRICATOR TO ENSURE THAT THE FINAL FRP SHROUD IS SIMULATING (IN APPEARANCE) DESIGNATED EXISTING EXTERIOR BUILDING FACADE MATERIALS, TEXTURES, AND COLORS. THE CONTRACTOR SHALL FURTHERMORE ENSURE THE USE OF COUNTERSUNK FASTENERS IN ALL FRP CONSTRUCTION. WHEN PHOTO SIMULATIONS ARE PROVIDED, THE CONTRACTOR SHALL ENSURE THAT FINAL CONSTRUCTION REPRESENTS WHAT IS INDICATED IN PHOTO SIMULATIONS. SHOP DRAWINGS SHALL BE PROVIDED TO THE GENERAL CONTRACTOR, CONSTRUCTION COORDINATOR, AND ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION.

GENERAL NOTES (CONT'D):

25. IN THE CASE OF ROOFTOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE ANCHORING TO A CONCRETE ROOF SLAB IS REQUIRED, CONTRACTORS SHALL CONFIRM (PRIOR TO SUBMITTING BID) WITH CONSULTING CONSTRUCTION COORDINATOR AND ARCHITECT THE PRESENCE OF POST TENSION TENDONS WITHIN THE ROOF SLAB - RESULTING FROM AN UNDOCUMENTED DESIGN CHANGE IN THE EXISTING BUILDING "AS-BUILT DRAWING SET" - HAVING INDICATED AN ORIGINAL DESIGN SOLUTION OF REINFORCED CONCRETE W/ EMBEDDED STEEL REBAR. IN THE EVENT POST TENSION SLAB SOLUTION IS PRESENT, CONTRACTOR SHALL INCLUDE PROVISIONS FOR X-RAY PROCEDURES (INCLUDED IN BID) FOR ALL PENETRATION AREAS WHERE ANCHORING OCCURS.

26. GENERAL & SUB CONTRACTORS SHALL USE STAINLESS STEEL METAL LOCKING TIES FOR ALL CABLE TRAY TIE DOWNS AND ALL OTHER GENERAL TIE DOWNS (WHERE APPLICABLE). PLASTIC ZIP TIES SHALL NOT BE PERMITTED FOR USE ON AT&T PROJECTS. RECOMMENDED MANUFACTURE SHALL BE: PANDUIT CORP. METAL LOCKING TIES MODEL NO. MLT4S-CP UNDER SERIES-304 (OR EQUAL). PANDUIT PRODUCT DISTRIBUTED BY TRIARC OF TACOMA, WA.

DESIGN CRITERIA:

1. THE STRUCTURAL DESIGN OF THIS PROJECT IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2018

2. **DESIGN LOADS:**

-ROOF SNOW LOAD	_____	PER STRUCTURAL
-BASIC WIND SPEED	_____	PER STRUCTURAL
-WIND EXPOSURE	_____	PER STRUCTURAL

CONCRETE NOTES:

1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI-318.

2. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH CHAPTER 19 OF THE IBC 2018. STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS.

TYPE OF CONSTRUCTION	28 DAY STRENGTHS (f'c)	W/C RATIO	MINIMUM CEMENT CONTENT PER CUBIC YARD
A. SLABS ON GRADE TOPPING SLABS CONCRETE PIERS	3,000 PSI	≤ .45	5 1/2 SACKS
B. ALL STRUCTURAL CONCRETE EXCEPT WALLS	4,000 PSI	≤ .45	6 1/2 SACKS
C. CONCRETE WALLS	4,000 PSI	≤ .45	6 1/2 SACKS

CEMENT SHALL BE ASTM C150, PORTLAND CEMENT TYPE II U.N.O.

3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND BE RESPONSIBLE FOR THE METHODS AND PROCEDURES OF CONCRETE PLACEMENT.

4. ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINING AGENT CONFORMING TO ASTM C260, C494, C618, C989 AND C1017. TOTAL AIR CONTENT SHALL BE IN ACCORDANCE WITH TABLE 1904.2.1 OF THE IBC 2018.

5. REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60, fy=60,000 PSI. EXCEPTIONS: ANY BARS SPECIFICALLY SO NOTED ON THE DRAWINGS SHALL BE GRADE 40, fy=40,000 PSI. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO BE WELDED SHALL CONFORM TO ASTM A706. REINFORCING COMPLYING WITH ASTM A615(S1) MAY BE WELDED ONLY IF MATERIAL PROPERTY REPORTS INDICATING CONFORMANCE WITH WELDING PROCEDURES SPECIFIED IN A.W.S. D14 ARE SUBMITTED.

6. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH AC1 315 AND 318. LAP ALL CONTINUOUS REINFORCEMENT AT LEAST 30 BAR DIAMETERS OR A MINIMUM OF 2'-0". PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS AT LEAST 30 BAR DIAMETERS OR A MINIMUM OF 2'-0". LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

7. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.

8. SPIRAL REINFORCEMENT SHALL BE PLAIN WIRE CONFORMING TO ASTM A615, GRADE 60, fy=60,000 PSI.

9. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED OR APPROVED BY THE CONSULTANT.

10. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS:

- FOOTINGS AND OTHER UNFORMED SURFACES, EARTH FACE		3"
- FORMED SURFACES EXPOSED TO EARTH OR WEATHER	(#6 BARS OR LARGER)	2"
	(#5 BARS OR SMALLER)	1 1/2"
- SLABS AND WALLS (INTERIOR FACE)		3/4"

11. BARS SHALL BE SUPPORTED ON CHAIRS OR DOBIE BRICKS.

12. ANCHOR BOLTS TO CONFORM TO ASTM A307.

13. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (3,000 PSI MINIMUM).

14. ALL EXPANSION ANCHORS TO BE HILTI BRAND. ADHESIVE ANCHORS REQUIRE TESTING TO CONFIRM CAPACITY UNLESS WAIVED BY ENGINEER.

STRUCTURAL STEEL NOTES:

1. SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW PRIOR TO FABRICATION.

2. STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION (INCLUDING FIELD WELDING, HIGH STRENGTH FIELD BOLTING, EXPANSION BOLTS, AND THREADED EXPANSION ANCHORS) SHALL BE BASED ON THE A.I.S.I. "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" LATEST EDITION. SUPERVISION SHALL BE IN ACCORDANCE WITH IBC 2018 CHAPTER 22, BY A QUALIFIED TESTING AGENCY DESIGNATED BY THE CONSULTANT. THE CONSULTANT SHALL BE FURNISHED WITH A COPY OF ALL INSPECTION REPORTS AND TEST RESULTS.

3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	
A. WIDE FLANGE SHAPE	ASTM A992, Fy 50 KSI
B. OTHER SHAPE, PLATES AND ROD	ASTM A36, Fy 36 KSI
C. PIPE COLUMNS	ASTM A53, Fy 35 KSI
D. STRUCTURAL TUBING	ASTM A500, Fy 46 KSI
E. ANCHOR BOLTS	ASTM A307
F. CONNECTION BOLTS	ASTM A325

4. ALL MATERIAL TO BE HOT DIPPED GALVANIZED AFTER FABRICATION PER A123/A123M-00.

5. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.I. AND AWS STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70 XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY AWS) SHALL BE USED. WELDING OF GRADE 60 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING E70 XX ELECTRODES. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING STEEL IS NOT PERMITTED. SEE REINFORCING NOTE FOR MATERIAL REQUIREMENTS OF WELDED BARS.

6. COLD-FORMED STEEL FRAMING MEMBERS SHALL BE OF THE SHAPE, SIZE, AND GAGE SHOWN ON THE PLANS. PROVIDE MINIMUM SECTION PROPERTIES INDICATED. ALL COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE A.I.S.I. "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."

7. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (3/4" DIA.) AND SHALL HAVE A MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

8. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A307 BOLTS UNLESS NOTED OTHERWISE.

9. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE DESIGN & CONSTRUCTION SPECIFICATION AND IN ACCORDANCE WITH ASTM A36 UNLESS NOTED OTHERWISE.

10. ALL WELDS TO BE 1/4" FILLET UNLESS NOTED OTHERWISE.

11. TOUCH UP ALL FIELD DRILLING AND WELDING WITH 2 COATS OF GALVACON (ZINC RICH PAINT) OR APPROVED EQUAL.

TOWER/POLE NOTES:

1. VERIFICATION THAT THE PROPOSED TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY OTHERS.

2. PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

ABBREVIATED ROOF TOP SAFETY PROCEDURES (WHEN APPLICABLE):

FALL PROTECTION METHODS AND EQUIPMENT
ROOF TOP INSTALLATIONS

1. FOR WORK IS BEING PERFORMED WITHIN 25' OF AN UNPROTECTED ROOF EDGE, THE CONSTRUCTION SUPERVISOR SHALL DESIGNATE A TRAINED SAFETY MONITOR TO OBSERVE THE MOVEMENTS AND ACTIVITIES OF THE CONSTRUCTION WORKERS.

2. SAFETY MONITOR SHALL WARN CONSTRUCTION WORKERS OF HAZARDS (I.E., BACKING UP TOWARD A ROOF EDGE, ETC.) OR UNSAFE ACTIVITIES. THE SAFETY MONITOR MUST BE ON THE SAME ROOF AND WITHIN VISUAL AND VERBAL DISTANCE OF THE CONSTRUCTION WORKERS.

3. CONSTRUCTION INVOLVING WORKERS TO APPROACH WITHIN 6' OR LESS OF AN UNPROTECTED ROOF EDGE, REQUIRES WORKERS TO USE SAFETY LINE.

4. SAFETY LINE SHALL BE MINIMUM ½" DIAMETER NYLON, WITH A NOMINAL TENSILE STRENGTH OF 5400 LBS.

5. SAFETY LINE SHALL BE ATTACHED TO A SUBSTANTIAL MEMBER OF THE STRUCTURE.

6. SAFETY LINE LENGTH SHALL BE SET ALLOWING CONSTRUCTION WORKER TO REACH EDGE OF ROOF, BUT NOT BEYOND.

7. SAFETY BELTS SHALL BE WORN BY ALL CONSTRUCTION WORKERS.

8. MONTHLY SAFETY INSPECTION AND MAINTENANCE OF THE FALL PROTECTION EQUIPMENT SHALL OCCUR BY THE SAFETY COMMITTEE REPRESENTATIVES, INCLUDING:

   INSPECTION OF CONSTRUCTION AREA FOR HAZARDS
   USE OF AN INSPECTION CHECKLIST
   INTERVIEWING COWORKERS REGARDING SAFETY CONCERNS
   REPORTING AND DOCUMENTING ANY HAZARDS
   REPORTING HAZARDS TO THE SAFETY COMMITTEE FOR CONSIDERATION
   POSTING RESULTS OF INSPECTION AND ANY ACTION TAKEN
   RECEIVING AN UNBIASED REVIEW OF ONE'S OWN WORK AREA BY ANOTHER COWORKER SAFETY REPRESENTATIVE

REFER TO ROOFTOP WORK AREA SAFETY PROTOCOL
NATIONAL ASSOCIATION OF TOWER ERECTORS 2000 PUBLICATION

REFERENCED OSHA REGULATION/STANDARDS SHALL BE REVIEWED BY TOWER ERECTORS,
EQUIPMENT INSTALLERS, AND TOWER/ROOF TOP CONTRACTORS/SUBCONTRACTORS
29 CFR 1926.500 - SCOPE, APPLICATION, AND DEFINITIONS
29 CFR 1926.501 - DUTY TO HAVE FALL PROTECTION
19 CFR 1926.502 - FALL PROTECTION SYSTEMS CRITERIA AND PRACTICES

SYMBOLS AND ABBREVIATIONS

A/C	AIR CONDITIONING	LBS	POUNDS
AGL	ABOVE GRADE LEVEL	MAX	MAXIMUM
APPROX	APPROXIMATELY	MECH	MECHANICAL
		MTL	METAL
BLDG	BUILDING	MFR	MANUFACTURE
BLK	BLOCKING	MGR	MANAGER
		MIN	MINIMUM
CLG	CEILING	MISC	MISCELLANEOUS
CLR	CLEAR		
CONC	CONCRETE	NA	NOT APPLICABLE
CONST	CONSTRUCTION	NIC	NOT IN CONTRACT
CONT	CONTINUOUS	NS	NEAR SIDE
		NTS	NOT TO SCALE
DBL	DOUBLE		
DIA	DIAMETER	OC	ON CENTER
DIAG	DIAGONAL	OD	OUTSIDE DIAMETER
DN	DOWN		
DET	DETAIL	PLYWD	PLYWOOD
DWG	DRAWING	PROJ	PROJECT
		PROP	PROPERTY
EA	EACH	PT	PRESSURE TREATED
EL	ELEVATION	REQ	REQUIRED
ELEC	ELECTRICAL	RM	ROOM
EQ	EQUAL	RO	ROUGH OPENING
EQUIP	EQUIPMENT		
EXT	EXTERIOR	SHT	SHEET
		SIM	SIMILAR
FIN	FINISH	SPEC	SPECIFICATION
FLUOR	FLUORESCENT	SF	SQUARE FOOT
FLR	FLOOR	SS	STAINLESS STEEL
FS	FAR SIDE	STL	STEEL
FT	FOOT	STRUCT	STRUCTURAL
		STD	STUD
GA	GAUGE	SUSP	SUSPENDED
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR	THRU	THROUGH
GRND	GROUND	TNNG	TINNED
GYP BD	GYPSUM WALL BOARD	TYP	TYPICAL
HORZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
HR	HOUR		
HT	HEIGHT	VERT	VERTICAL
HVAC	HEATING VENTILATION AIR CONDITIONING	VIF	VERIFY IN FIELD
		W/	WITH
ID	INSIDE DIAMETER	W/O	WITHOUT
IN	INCH	WP	WATER PROOF
INFO	INFORMATION		
INSUL	INSULATION		
INT	INTERIOR		
IBC	INTERNATIONAL BUILDING CODE		

T T	TELEPHONE
P P	POWER
	GROUND WIRE
COAX COAX	COAXIAL CABLE
	ANTENNA
℄	CENTERLINE
(E)	EXISTING
X X-X	DETAIL NUMBER / SHEET NUMBER

TRANSMITTING NOTES:

APPLICABLE BUILDING CODES AND STANDARDS:

- ALL TRANSMITTING ANTENNAS WILL BE INSTALLED IN A MANNER AS SET FORTH BY THE MANUFACTURER AND BY THE FEDERAL COMMUNICATIONS COMMISSION AS MEETING THE CURRENT AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD FOR NONIONIZING ELECTROMAGNETIC RADIATION (NIER).

- TELECOMMUNICATIONS INDUSTRY ASSOCIATION, (TIA) 222-G, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES.

- INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1000 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT.

- IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE").

- TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

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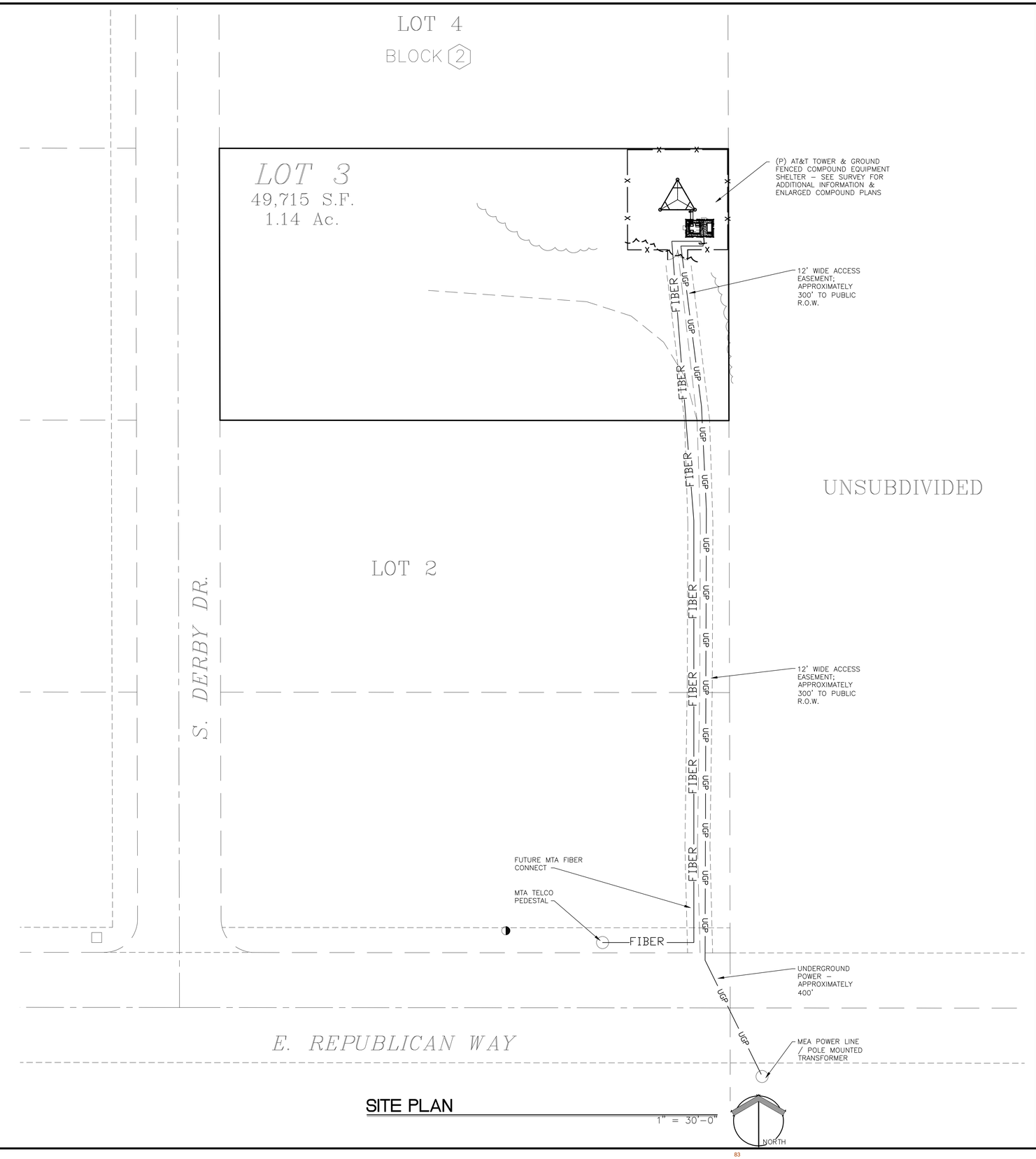
ISSUED DATE:
07-15-2021

NO.	DATE	ISSUE BLOCK
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1	06-15-21	ISSUE FOR FCD
2	06-30-21	UPDATED GENERATOR

STATE OF ALASKA
49 TH
DAVID H DEAN
December 31, 2021
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
N-1



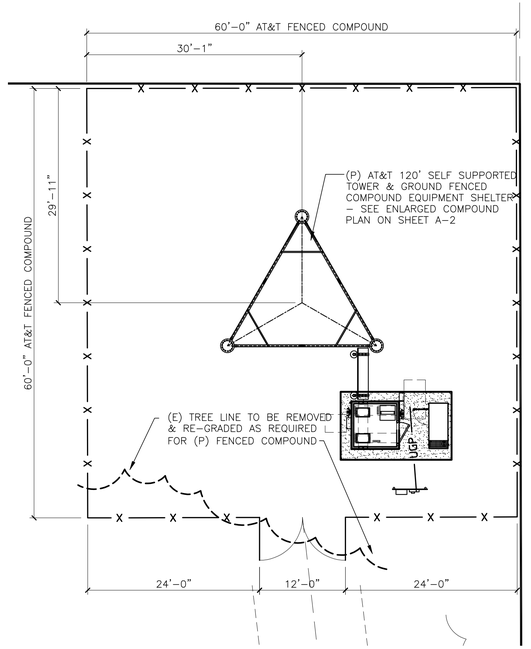
SITE PLAN

1" = 30'-0"

LEGEND

	SUBJECT BOUNDARY LINE
	RIGHT–OF–WAY CENTERLINE
	RIGHT–OF–WAY LINE
	ADJACENT BOUNDARY LINE
	SECTIONAL BREAKDOWN LINE
COAX COAX COAX	COAX CABLE LINE
FIBER FIBER	FIBER OPTIC CABLE LINE
OHP OHP	OVERHEAD POWER LINE
UGP UGP UGP	BURIED POWER LINE
GAS GAS GAS	BURIED GAS LINE
OHT OHT	OVERHEAD TELEPHONE LINE
UGT UGT UGT	BURIED TELEPHONE LINE
W W W W	BURIED WATER LINE
SS SS SS	BURIED SANITARY SEWER
SD SD SD	BURIED STORM DRAIN
	DITCH LINE/FLOW LINE
	ROCK RETAINING WALL
	VEGETATION LINE
	CHAIN LINK FENCE
	WOOD FENCE
	BARBED WIRE/WIRE FENCE

TRANSFORMER	FIRE HYDRANT
LIGHT STANDARD	GATE VALVE
POWER VAULT	WATER METER
UTILITY BOX	FIRE STAND PIPE
UTILITY POLE	CATCH BASIN, TYPE I
POLE GUY WIRE	CATCH BASIN, TYPE II
GAS VALVE	SIGN
GAS METER	BOLLARD
TELEPHONE VAULT	MAIL BOX
TELEPHONE RISER	234.21 SPOT ELEVATION



ANTENNA COMPOUND PLAN

SCALE: 1" = 10'-0"

NORTH

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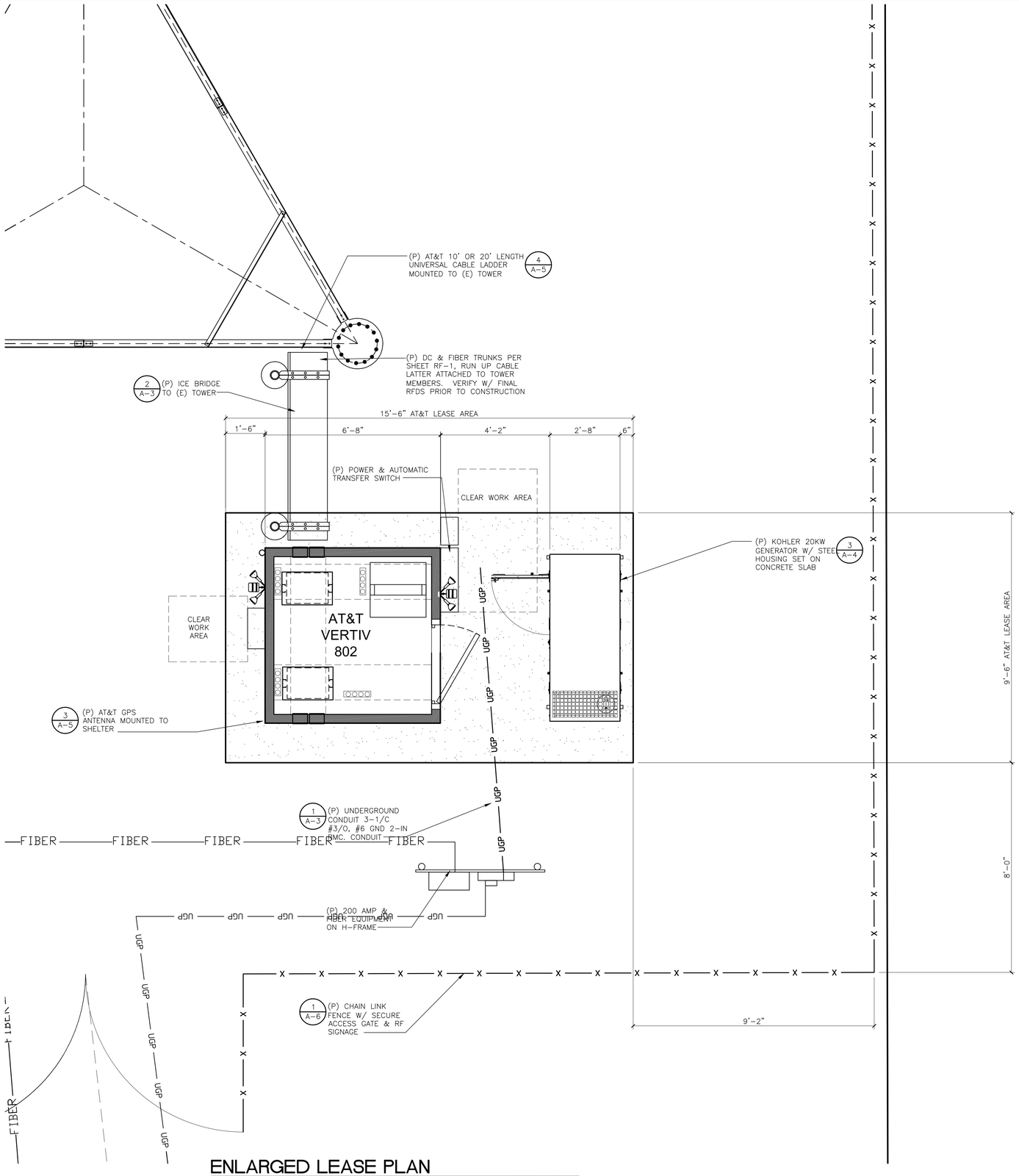
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1	06-15-21	ISSUE FOR FCD
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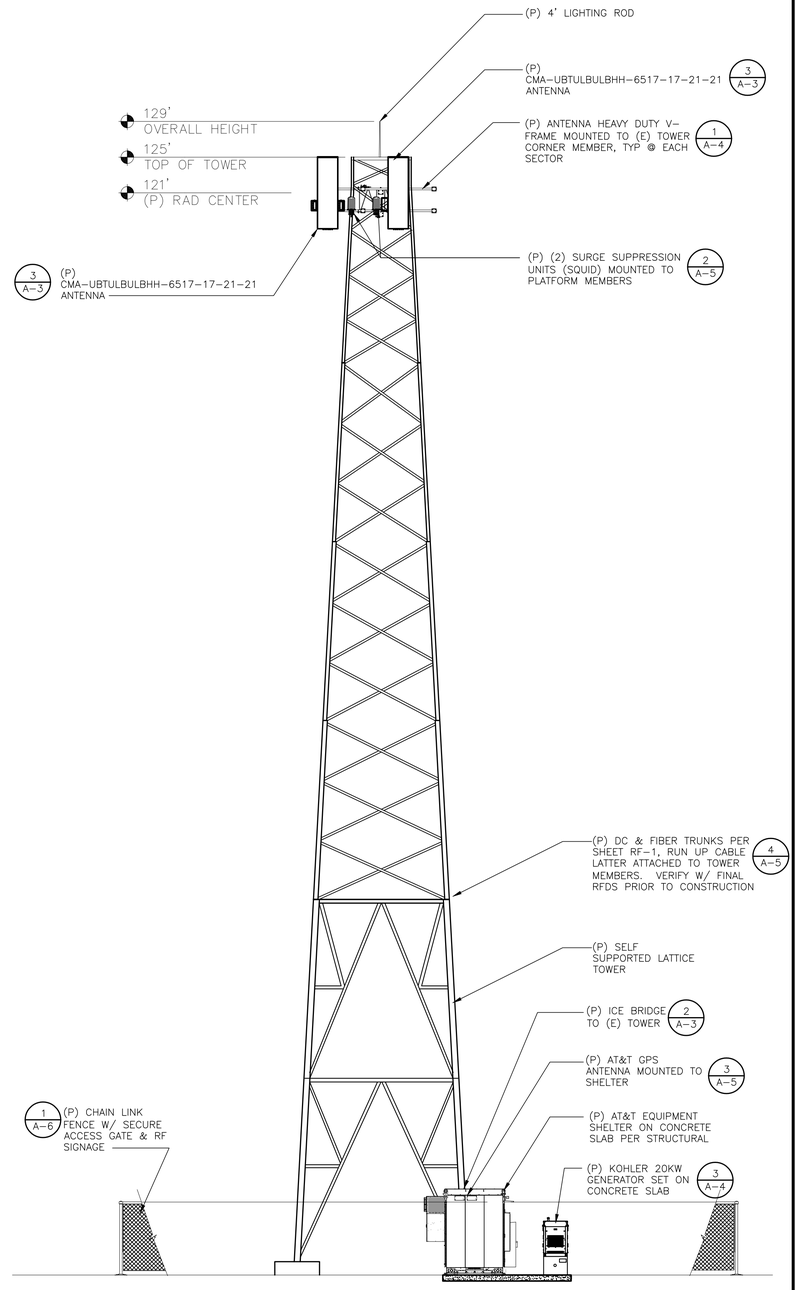
SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1



ENLARGED LEASE PLAN

1/4" = 1'-0"



EXTERIOR ELEVATION

3/16" = 1'-0"

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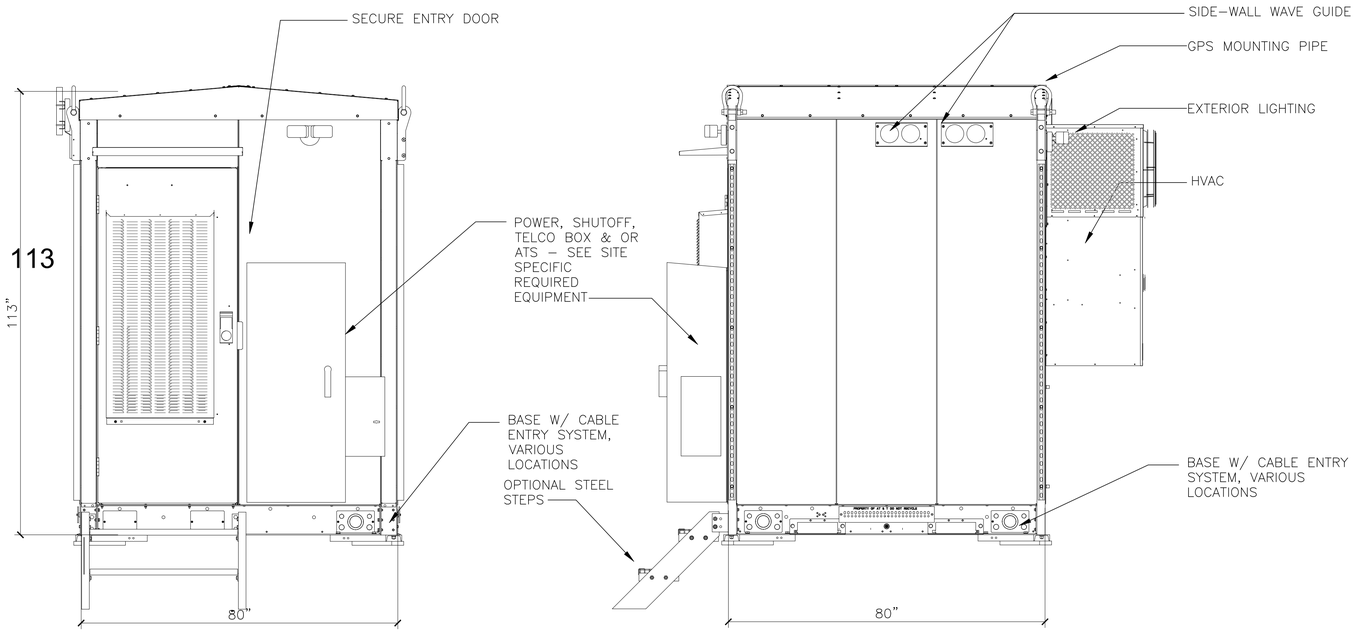
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EXTERIOR ELEVATIONS

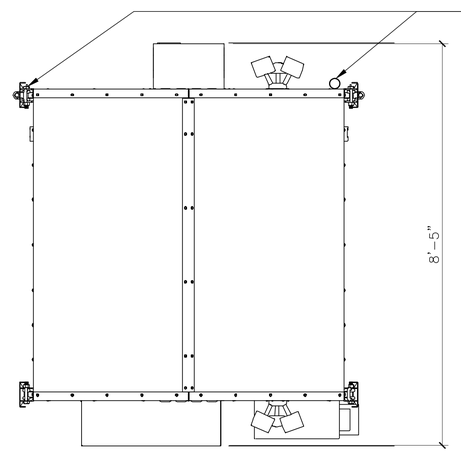
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1 A–2.1

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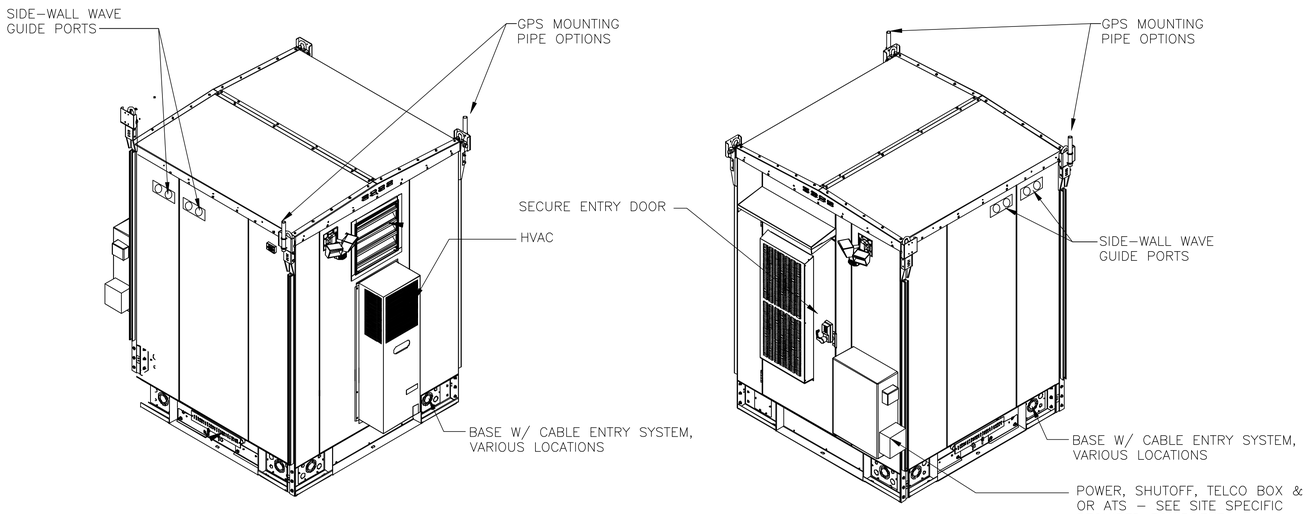
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2 A–2.1

VERTIV 802 TOP

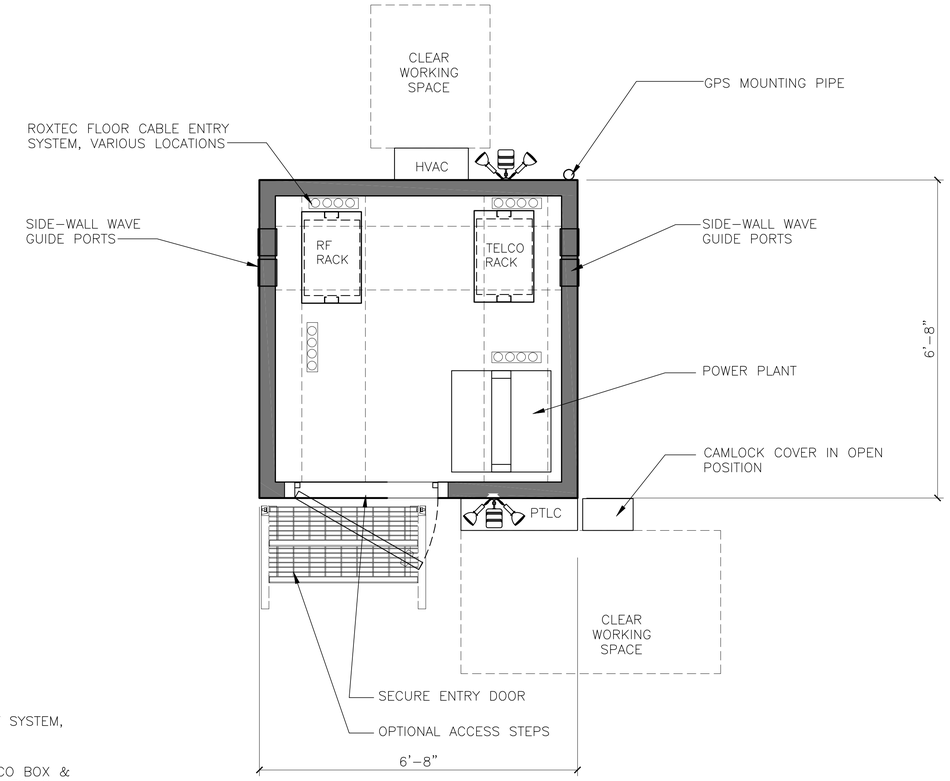
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3 A–2.1

VERTIV 802 ISO VIEWS

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4 A–2.1

VERTIV 802 PLAN

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RRUS 4449 B5, B12

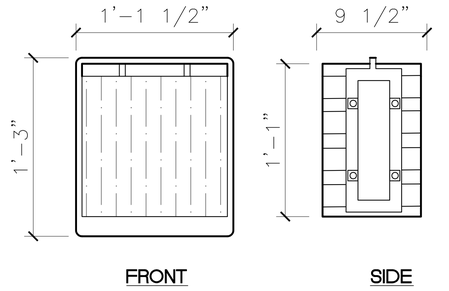
DIMENSIONS (WITH SUNSHIELD)
WIDTH: 14.96 in
HEIGHT: 13.19 in
DEPTH: 9.25 in
WEIGHT: 70 lbs

4TX/4RX PER BAND
320W OF TOTAL POWER
4x40 W PER BAND OR 2x60 W & 2x80 W FOR B66A
LTE: MAX OF 3 CARRIERS PER PORT (DL), MAX 3 CARRIERS PER PORT (UL)

–48 VDC 3–WIRE (2–WIRE W/ ADAPTER)

– ADAPTER IS REQUIRED FOR 2–WIRE CONNECTION
– SHIELDED DC CABLE IS REQUIRED
› GROUND CABLE SIZE = 2AWG

RRH NOTE:
ALL RRH TO BE MOUNTED A MINIMUM OF 12" FROM ANTENNA, PROVIDE MORE IF POSSIBLE

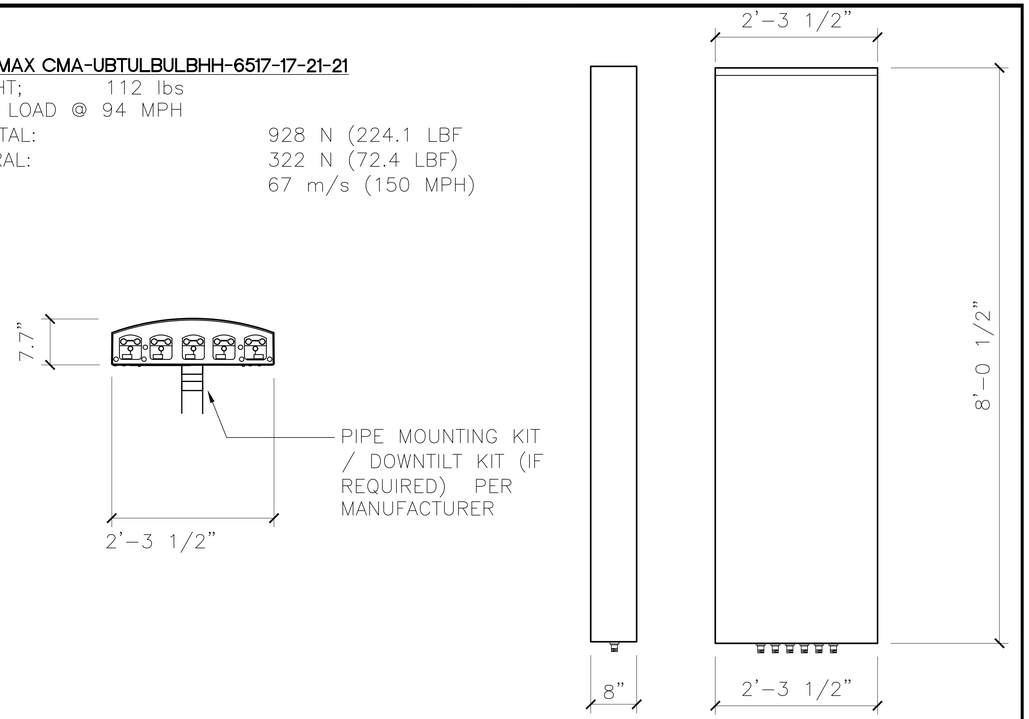


4 / A–3 RRUS B5/B12 4449

1/2" = 1'–0"

CELLMAX CMA-UBTULBULBHH-6517-17-21-21

WEIGHT; 112 lbs
WIND LOAD @ 94 MPH
FRONTAL: 928 N (224.1 LBF
LATERAL: 322 N (72.4 LBF)
REAR: 67 m/s (150 MPH)



3 / A–3 CCI ANTENNA SPEC

NTS

RRUS 8843 B2, B66A

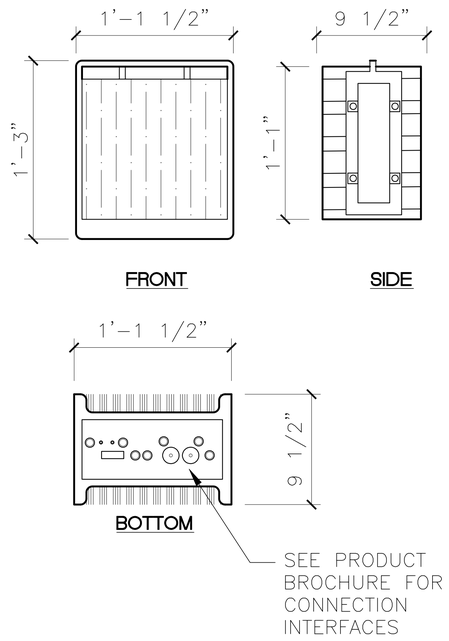
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RRH NOTE:
ALL RRH TO BE MOUNTED A MINIMUM OF 12" FROM ANTENNA, PROVIDE MORE IF POSSIBLE



2 / A–3 RRUS 8843 B2/B66A

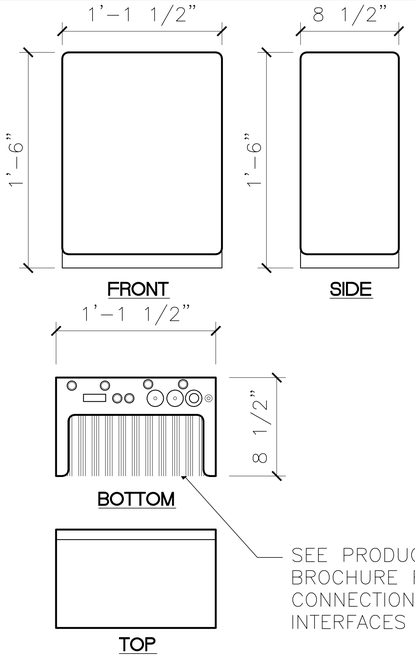
NOT TO SCALE

RRUS 4478 B14

DIMENSIONS (WITH HANDLES & FAN UNIT)
WIDTH: 13.40 in
HEIGHT: 18.1 in
DEPTH: 8.26 in
WEIGHT: 59.4 lbs

CPRI 2 PORTS X 2.5/4.9/9.8/10.1 GBPS. INSTALL 1 SFP AND CONNECT 1 FIBER PAIR TO THE RRUSS 4415 DURING INITIAL INSTALL.
ONLY USE ERICSSON SUPPLIED AND APPROVED SFPS RDH10265/25
2 EXTERNAL ALARM INPUTS
MAX WIND LOAD @ 50M/SEC = 260N
BREAKER SIZE = 25A, DC POWER CONSUMPTION = 650 W (FOR DIMENSIONING)
200MM HORIZONTAL SEPARATION REQUIRED FOR SIDE BY SIDE MOUNTING
200MM SEPARATION REQUIRED FROM ANTENNA BACKPLANE TO RADIO
400MM VERTICAL OUTDOOR/INDOOR SEPARATION REQUIRED BETWEEN 2 RADIOS
500MM VERTICAL SEPARATION BELOW ANTENNA
MIN, MAX DC CABLE SIZE FROM SQUID TO RADIO = 10,8 AWG

RRH NOTE:
ALL RRH TO BE MOUNTED A MINIMUM OF 12" FROM ANTENNA, PROVIDE MORE IF POSSIBLE



1 / A–3 RRUS 4478 B14

NTS

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PHONE: 425 657 0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2357
KNIK RIVER NSB
5945 SOUTH DERBY DRIVE
PALMER, AK 99645

ISSUED DATE: 07–15–2021

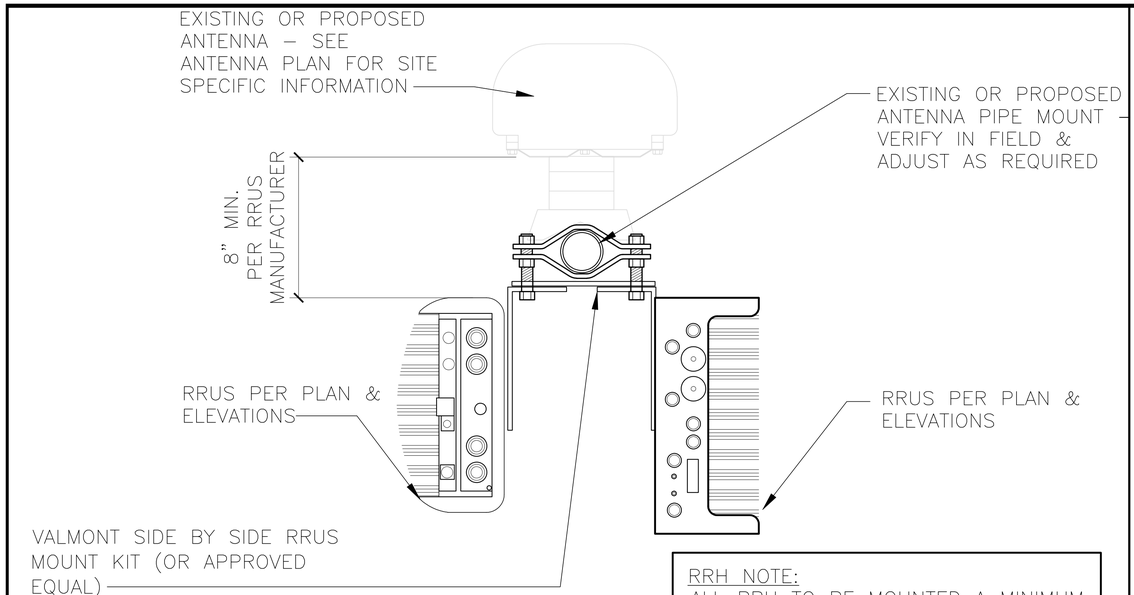
ISSUE BLOCK

NO.	DATE	
4	03–17–21	TURF4: 1C–5C PER RFDS DATED 2–10–21
3	06–15–21	ISSUE FOR FCD
2	06–30–21	UPDATED GENERATOR

STATE OF ALASKA 49 TH
DAVID H DEAN
December 31, 2021
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A–3



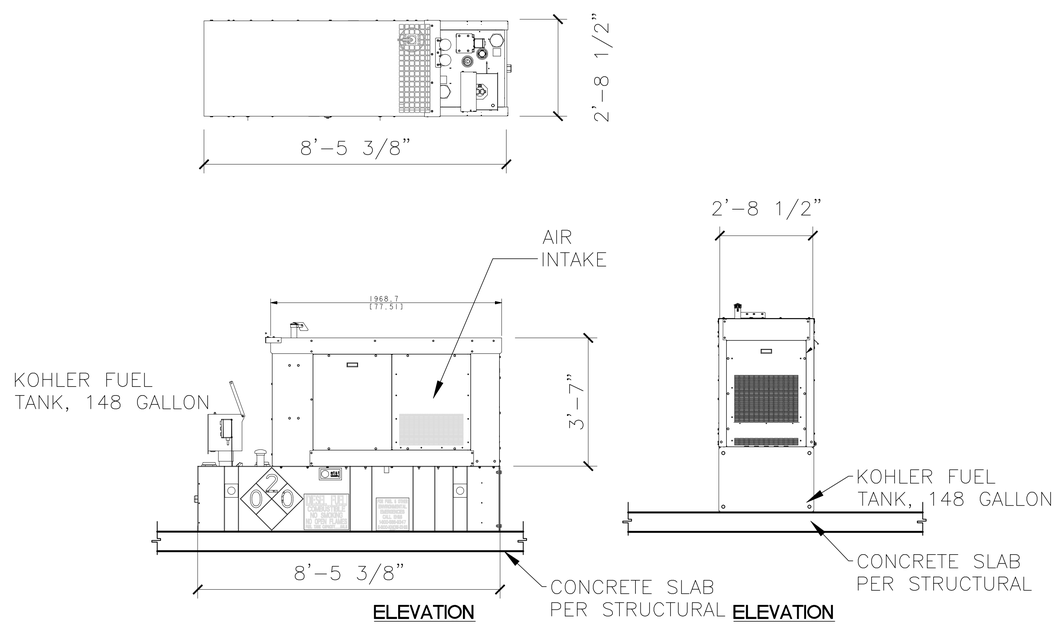
RRH NOTE:
ALL RRH TO BE MOUNTED A MINIMUM OF 8" FROM ANTENNA, PROVIDE MORE IF POSSIBLE

DUAL RRU PIVOTING TOWER MOUNT
RRUDPMX

4 / A–4 **RRU TOWER MOUNT**

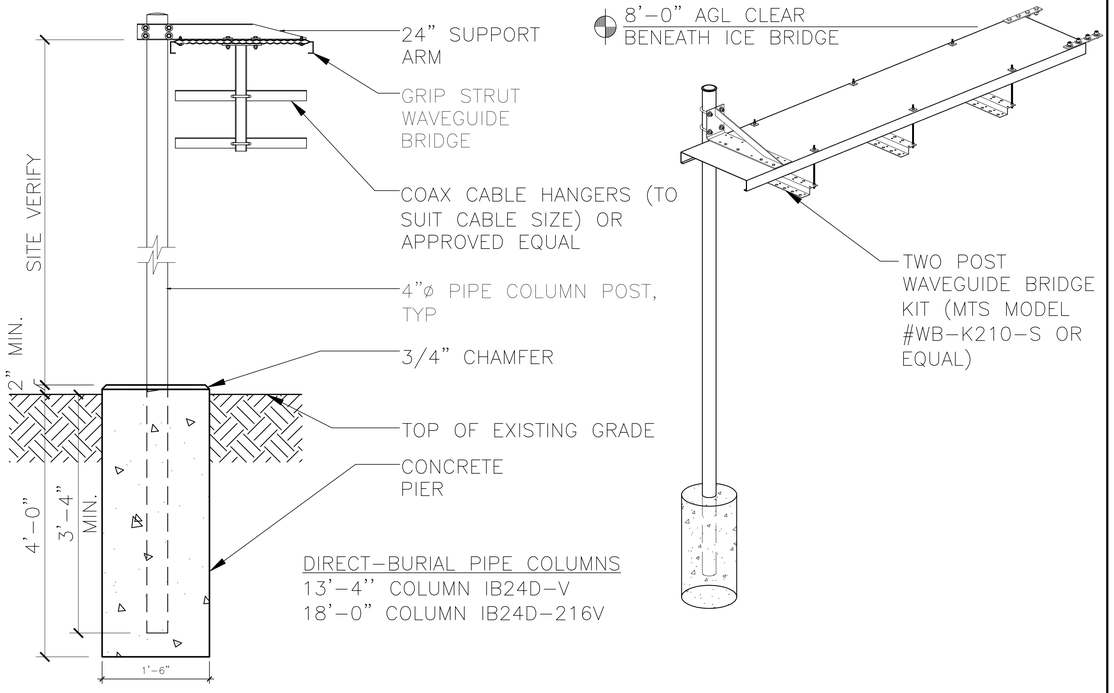
1 1/2" = 1'–0"

KOHLER GENERATOR STEEL ENCLOSURE FOR KOHLER 20REOZK (NEQ.19668) GENERATOR W/ 148 GALLON FUEL TANK



3 / A–4 **GENERATOR SPEC**

NOT TO SCALE



DIRECT–BURIAL PIPE COLUMNS
13'–4" COLUMN IB24D–V
18'–0" COLUMN IB24D–216V

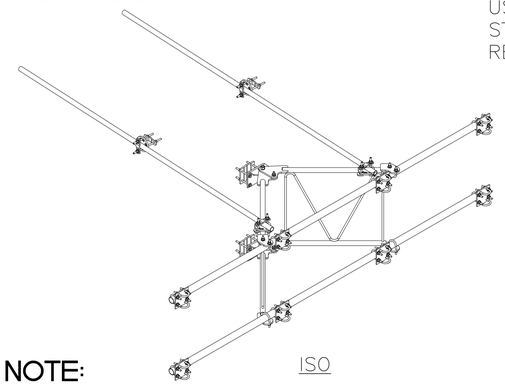
4 / A–4 **ICE BRIDGE**

1 1/2" = 1'–0"

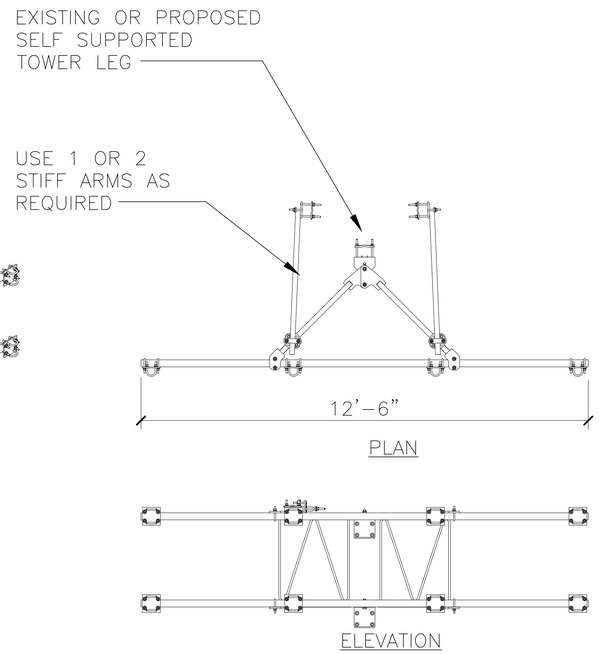
VALMONT HEAVY DUTY
V-FRAME VFA12-HD

CURRENT STANDARDS ALLOW OPTIONS :

1 TIEBACK PER FRAME
VFA12–M3–H10
2 TIEBACKS PER FRAME
VFA12–M3–2LL



NOTE:
(OR APPROVED EQUAL)
SEE FINAL STRUCTURAL PLANS & CALCS FOR MOST CURRENT INFORMATION



1 / A–4 **ANTENNA SECTOR FRAME**

NOT TO SCALE

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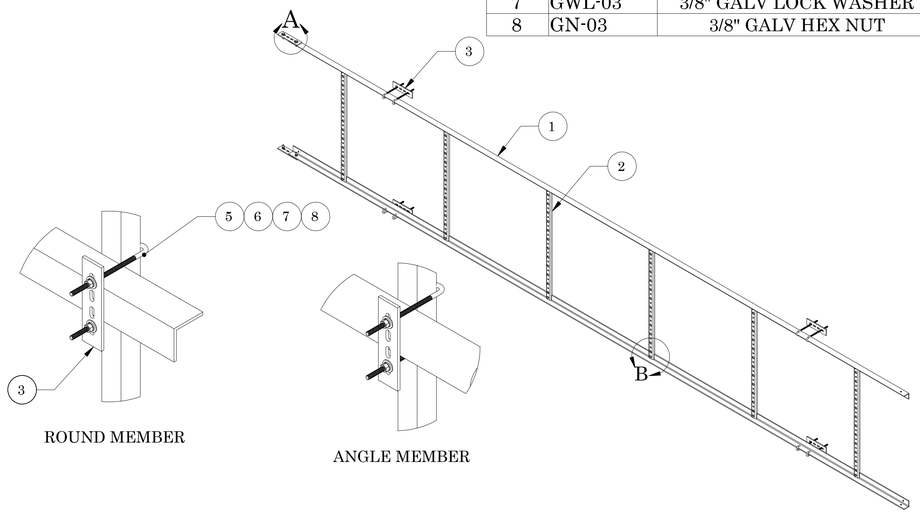
SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A–4

COMMSCOPE CL1220-U
COMMSCOPE CL1210-U

UNIVERSAL CABLE LADDER KIT
38" X 10' OR
38" X 20', 12 HOLE RUNG

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	CL20.01	20' ANGLE SIDE RAIL	2	32.76 LBS
2	CL12R.01	38" LADDER RUNG	6	3.28 LBS
3	HKCLU.02	BACKING PLATE	6	0.95 LBS
4	GB-03145	3/8" X 1-1/2" GALV BOLT KIT	16	0.07 LBS
5	GJB0380	8" GALV J-BOLT KIT	8	0.23 LBS
6	GWF-03	3/8" GALV FLAT WASHER	12	0.01 LBS
7	GWL-03	3/8" GALV LOCK WASHER	8	0.00 LBS
8	GN-03	3/8" GALV HEX NUT	8	0.01 LBS



4 / A-4 **TOWER LADDER DETAIL**

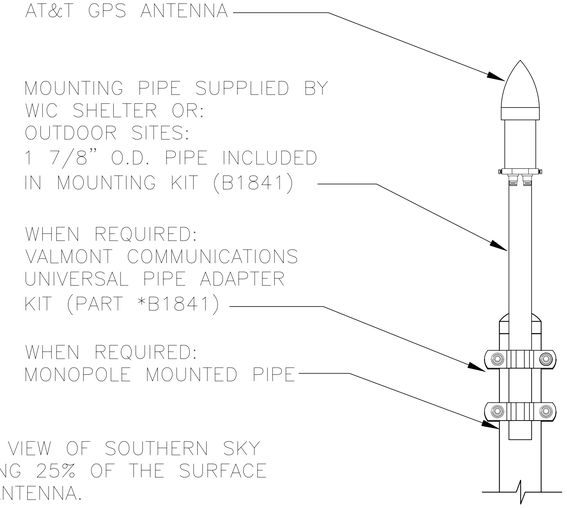
SCALE: N.T.S.

HIGH REJECTION 40 dB GPS
GPS-TMG-HR-40N

WEIGHT; 0.6 lbs
DIMENSIONS: 5.0" x 3.2"ø

FREQUENCY RANGE: 1575.42+/-10 MHz
ANTENNA GAIN: 3.5 dBic
AMPLIFIER GAIN: 40 dB+/-4 dB

DC VOLTAGE: 3.0-12.0 V (OPERATING)
28 V (SURVIVABILITY)



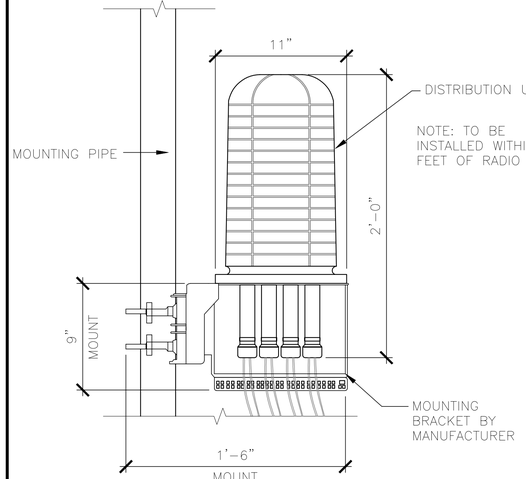
NOTES:

1. LOCATION OF ANTENNA MUST HAVE CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.

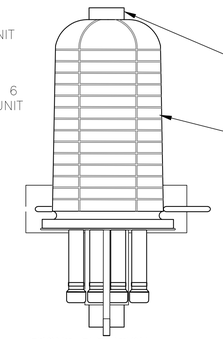
2. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF FOUR (4) SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.

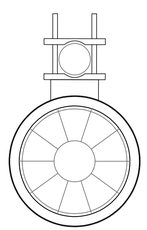
3 / A-5 **GPS ANTENNA**

NOT TO SCALE



MANUFACTURER: RAYCAP
MODEL: DC9-48-60-24-8C-EV "SQUID"





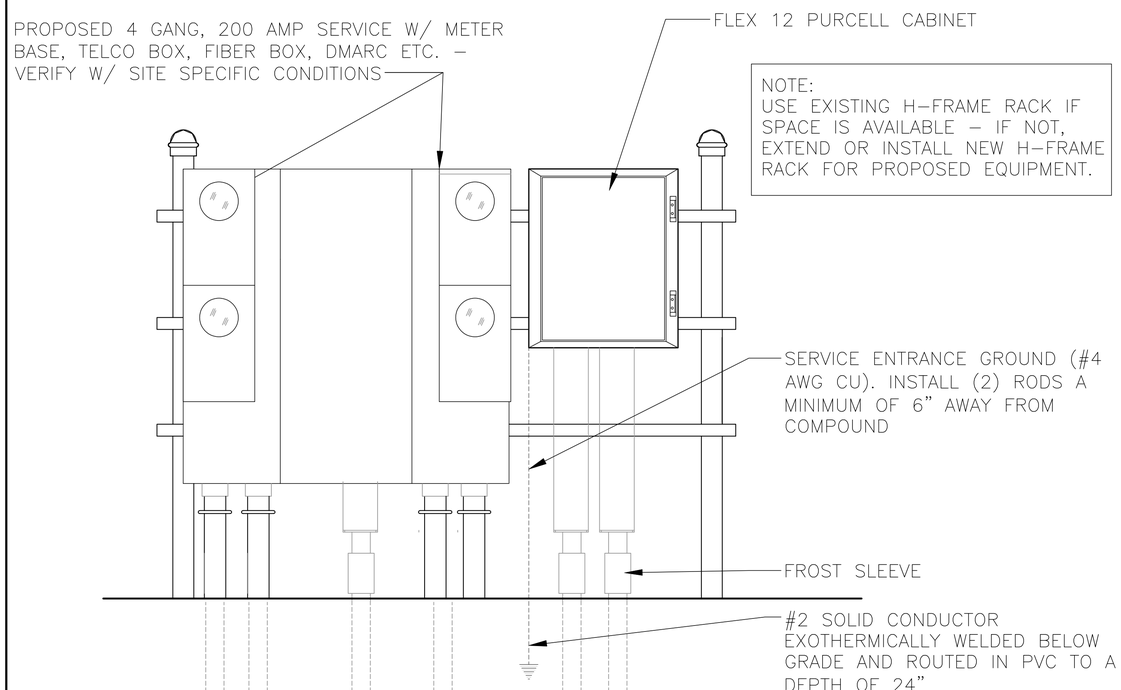
USE 24-PAIR FIBER TRUNK & 3 DC TRUNK CABLES

SIZE: 18.28"x10.24"x31.4"
WEIGHT: 16.0lbs MOUNT 10.2lbs TOTAL 26.3 lbs

WIND LOADING: 150 MPH
195 MPH GUST

2 / A-5 **SURGE SUPPRESSION UNIT**

NOT TO SCALE



1 / A-5 **POWER & EQUIPMENT H-FRAME**

NOT TO SCALE

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ISSUED DATE: 07-15-2021

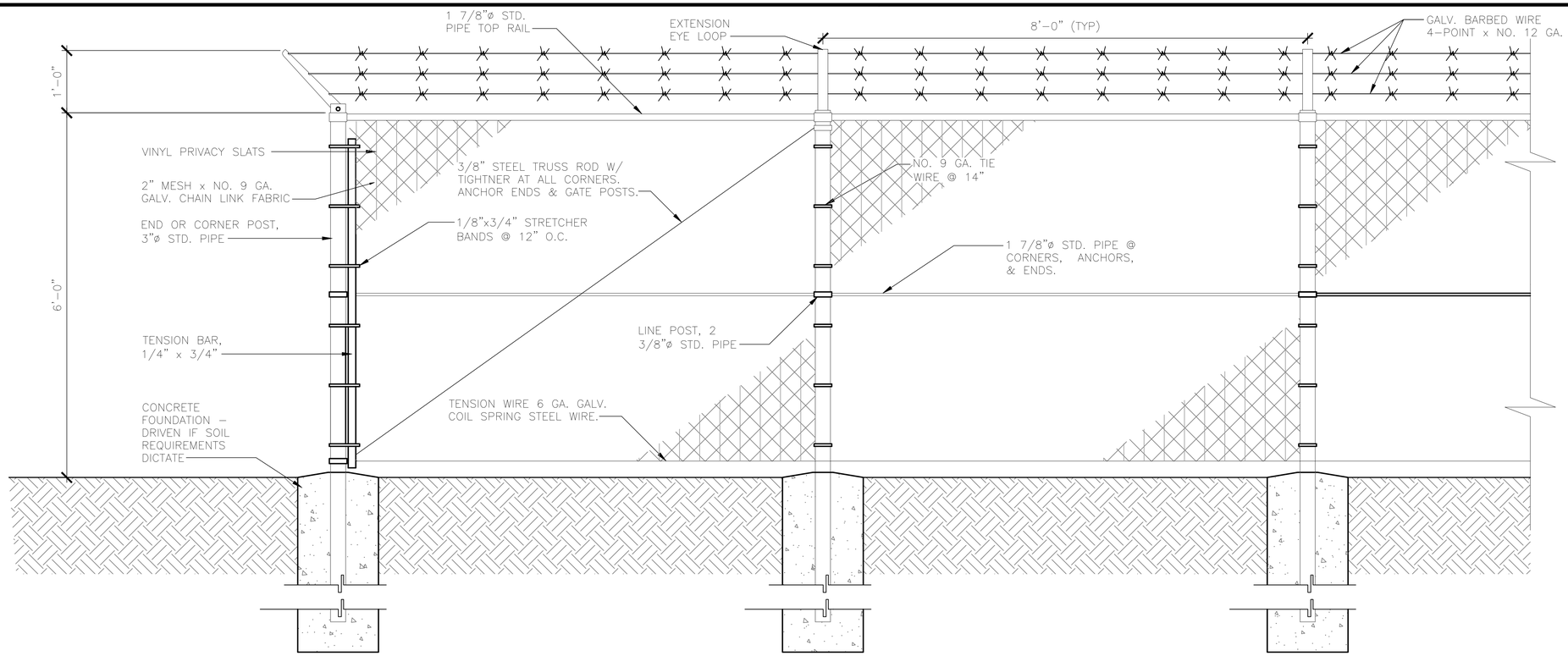
ISSUE BLOCK

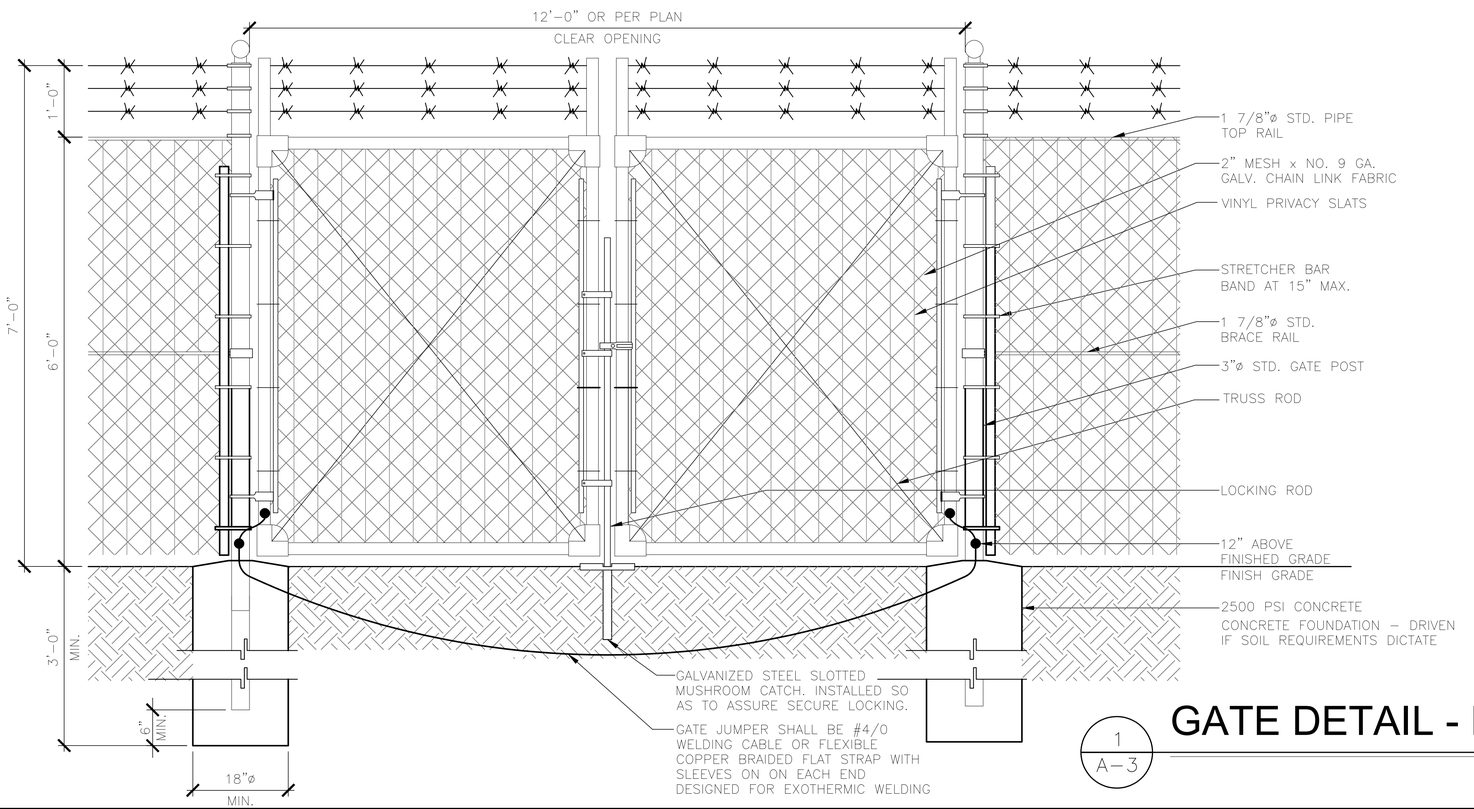
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No.11332
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SHEET TITLE: EQUIPMENT DETAILS

SHEET NUMBER: A-5





1 / A-3

GATE DETAIL - ELEVATION

NOT TO SCALE

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SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
A-6

If required, RRU placement should maximize the distance from PIM susceptible sources, including those from adjacent sectors. The scoping team will determine the best method of attaching RRUs, being mindful to avoid known causes of PIM – e.g. lose connections, dissimilar metal contact, etc.

To illustrate this concept, Figure 1 provides an example where sector frames with four V-shaped standoff arms may allow mast pipes to be mounted to the upper and lower standoff arms on each side by means of a pair of crossover plates (See Figure 1), providing a low-cost attachment point. The location of this connection will be as close as possible to the mount-to-tower connection bracket as possible to maximize distance from PIM susceptible antennas. Generally, this means making the RRU attachment distance no larger than approximately 12 inches from the mount-to-tower connection (see Figure 1).

An imaginary plane parallel to the mount face and separating RRUs from antennas is shown below as a dashed line. RRUs meeting this policy may be connected anywhere behind this plane, which is defined by a 12-inch distance from the mount-to-tower connection measured along the standoff arm.

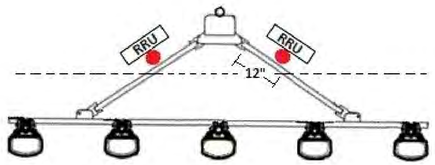


Figure 1: A sector frame is shown with a mast pipe (red) attached to the upper and lower standoff arms, using crossover plates.

The mast pipe, used as an RRU mounting pipe, is within 12 inches of the connection point to the leg (not to scale). For measurement purposes, the connection point is considered to begin where the standoff arm meets the connection assembly.

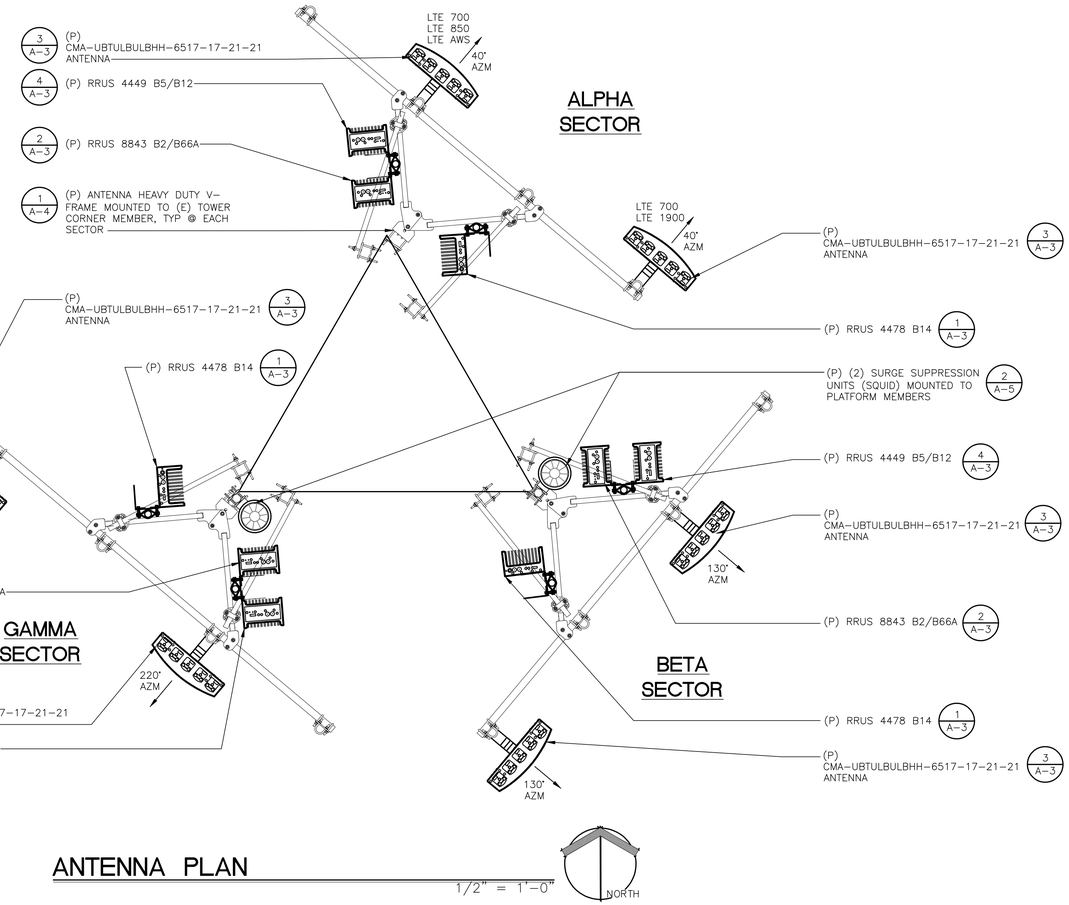
A second alternative exists. Figure 2 provides an example for locating RRUs on a monopole mount (e.g. on T-arm mounts). AT&T has made available in CONMAT RRU ring mounts from **Valmont SitePro1 (UGLM-DCP** and **6CHMT)** and **Kenwood Telecom (T1500KT60A**). This second category of OEM provided solutions is distinct from the first category in that the RRU mounts are an appurtenance to the tower rather than the antenna mount. Care should be taken in its placement not to obstruct the climb path or damage the safe climb facility. Care should also be taken to remain within AT&T's lease space.

PROPOSED ANTENNA PLAN & SCHEDULE

SECTOR	POSITION NUMBER	BAND TECH.	ANTENNA MODEL	RAD	ANT. SIZE	AZIMUTH	RRH QUANTITY & MODEL NUMBER	LINES TO EQUIPMENT	TRUNK LENGTH	ELEC. TILT	MECH. TILT
ALPHA	1	---	----	--	--	--	--			--	--
	2	LTE 700 LTE 850 LTE AWS	CMA-UBTULBULBHH-6517-17-21-21	121'	96.5"	40°	4449 B5/B12, SHARED, 8843 B2/B66A	FIBER	113'-0"±	2°	0°
	3	---	----	--	--	--	--	--	--	--	--
	4	LTE 700 LTE 1900	CMA-UBTULBULBHH-6517-17-21-21	121'	96.5"	40°	4478 B14, SHARED	FIBER	113'-0"±	2°	0°
BETA	1	---	----	--	--	--	--			--	--
	2	LTE 700 LTE 850 LTE AWS	CMA-UBTULBULBHH-6517-17-21-21	121'	96.5"	130°	4449 B5/B12, SHARED, 8843 B2/B66A	FIBER	113'-0"±	2°	0°
	3	---	----	--	--	--	--	--	--	--	--
	4	LTE 700 LTE 1900	CMA-UBTULBULBHH-6517-17-21-21	121'	96.5"	130°	4478 B14, SHARED	FIBER	113'-0"±	2°	0°
GAMMA	1	---	----	--	--	--	--			--	--
	2	LTE 700 LTE 850 LTE AWS	CMA-UBTULBULBHH-6517-17-21-21	121'	96.5"	220°	4449 B5/B12, SHARED, 8843 B2/B66A	FIBER	113'-0"±	2°	0°
	3	---	----	--	--	--	--	--	--	--	--
	4	LTE 700 LTE 1900	CMA-UBTULBULBHH-6517-17-21-21	121'	96.5"	220°	4478 B14, SHARED	FIBER	113'-0"±	2°	0°
MW DISH	---										

SURGE SUPPRESSION QUANTITY & MODEL #		FIBER & DC TRUNK #		
2	DC9-48-60-24-8C-EV	2 FIBER 6 DC		

ANTENNA NOTE:
1. DO NOT USE COAX – TRUNK LENGTHS FOR CUT LENGTHS – ESTIMATES ONLY – VERIFY IN FIELD PRIOR TO ORDERING
2. CONFIRM THE LATEST VERSION OF THE RFDS IS BEING USED BY ALL PARTIES.



ANTENNA PLAN

1/2" = 1'-0"

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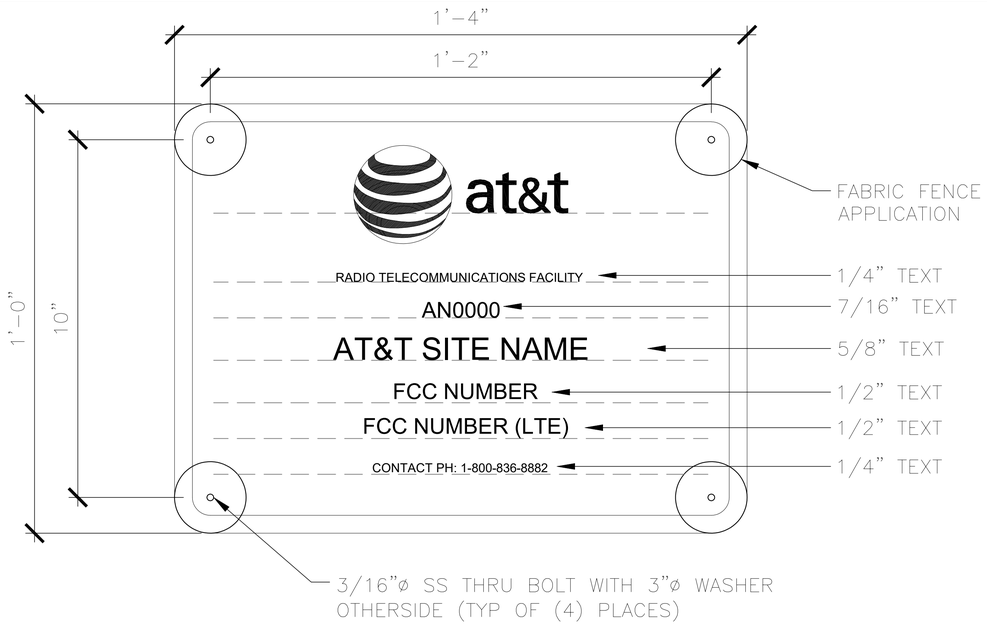
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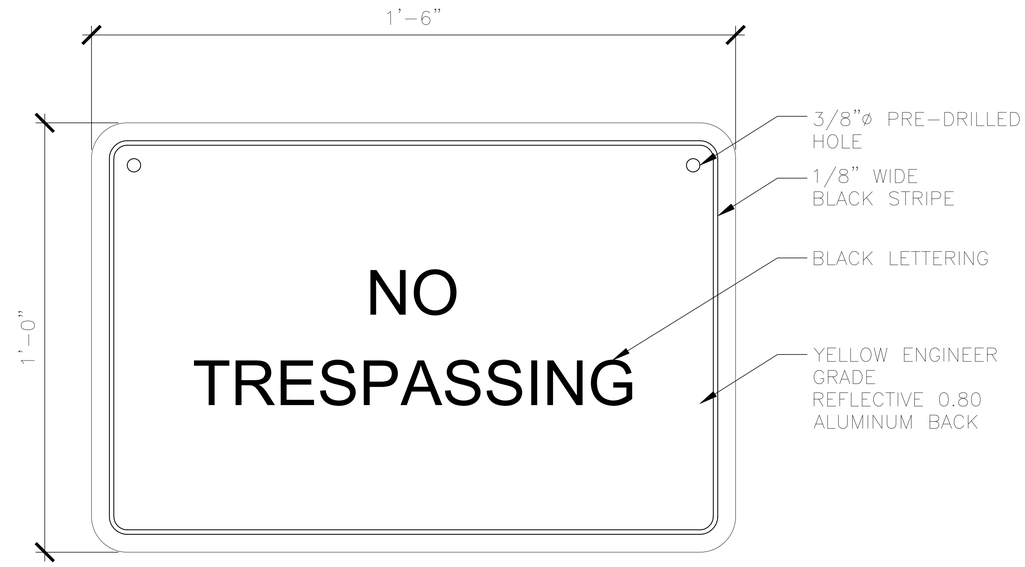
SHEET TITLE:
ANTENNA CONFIGURATION

SHEET NUMBER:
RF-1



4 RF–2 **SIGNAGE**

NO SCALE



3 RF–2 **SIGNAGE**

NO SCALE

SIGNS AND PLACEMENT:

1. LOW LEVEL BLUE NOTICE SIGNS – PLACE AT SITE ENTRY / ACCESS POINTS ONLY.
   – ROOFTOPS: PLACE SIGNS ON THE INSIDE OF ROOF HATCH; PLACE ON ACCESS DOOR UNLESS DOOR IS USED BY GENERAL PUBLIC OR BUILDING TENANTS ON A REGULAR BASIS FOR ACCESS – IN THESE CASES CONSULT CONSTRUCTION MANAGER.
   – WATER TANKS: PLACE SIGNS ON COMPOUND GATE.
   – NETWORK CARRIER OWNED SITES: PLACE ONE SIGN ON COMPOUND GATE; ALL SIGNS SHALL BE SECURED WITH EITHER STAINLESS STEEL ZIP TIES OR STAINLESS TECH SCREWS.

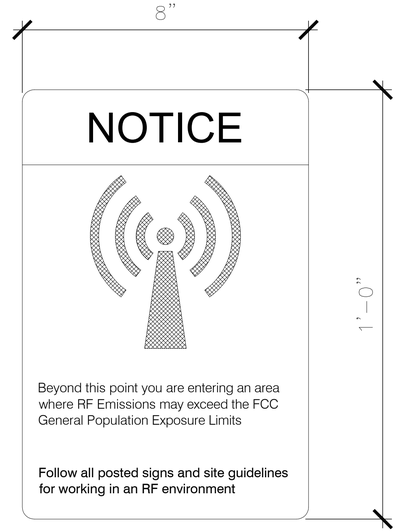
2. CONSTRUCTION COORDINATOR PARTICIPATION IN SIGN LOCATION:
NETWORK CARRIER CONSTRUCTION MANAGER SHALL MEET WITH ALL CONSTRUCTION COORDINATOR'S TO OUTLINE CRITERIA FOR SIGN PLACEMENT. EMPHASIS SHALL BE PLACED ON "CHALLENGING" SITES, WHERE THE NETWORK CARRIER CONSTRUCTION MANAGERS SHALL GIVE CONSTRUCTION COORDINATOR'S AS MUCH GUIDANCE ON EACH SPECIFIC SITUATION AS POSSIBLE, HOWEVER, CONSTRUCTION COORDINATOR'S SHALL BE ENCOURAGED TO PARTNER WITH NETWORK CARRIER CONSTRUCTION MANAGER IN DECIDING PLACEMENT PERTAINING TO CHALLENGING SITES. A SITE VISIT MAY BE REQUIRED TO FULFILL REQUIREMENTS. CONSTRUCTION COORDINATOR SHALL IDENTIFY ALL SIGN LOCATIONS AT THE A&E WALK. PLEASE SEE SIGN DETAIL AND SIZE.

3. SIGN DISBURSEMENT FROM WAREHOUSE:
SIGN INVENTORY SHALL BE ACCESSIBLE AT NETWORK CARRIER WAREHOUSE TO BE DISBURSED AS PART OF THE GENERAL CONTRACTOR BOM AS CALLED OUT IN A&E DRAWINGS FOR EACH SITE.

2 RF–2 **GENERAL SIGNAGE NOTES**

NO SCALE

NOTES:
1. FOR AT&T LOGO SEE AT&T LOGO DESIGN SPECIFICATIONS
2. ALL TEXT FONT IS ARIAL U.N.O.
3. CONTRACTOR TO PROCURE FCC NO. FROM AT&T COMPLIANCE MANAGER
PH: 425–580–8860
4. TEXT FOR SIGNAGE SHALL INDICATE CORRECT SITE NAME AND NUMBER AS PER AT&T CONSTRUCTION MANAGER RECOMMENDATIONS
5. CABINET MOUNTING APPLICATION REQUIRES ADHERING PLATE TO FACE OF CABINET WITH WATERPROOFING POLYURETHANE ADHESIVE



1 RF–1 **SIGNAGE**

NO SCALE

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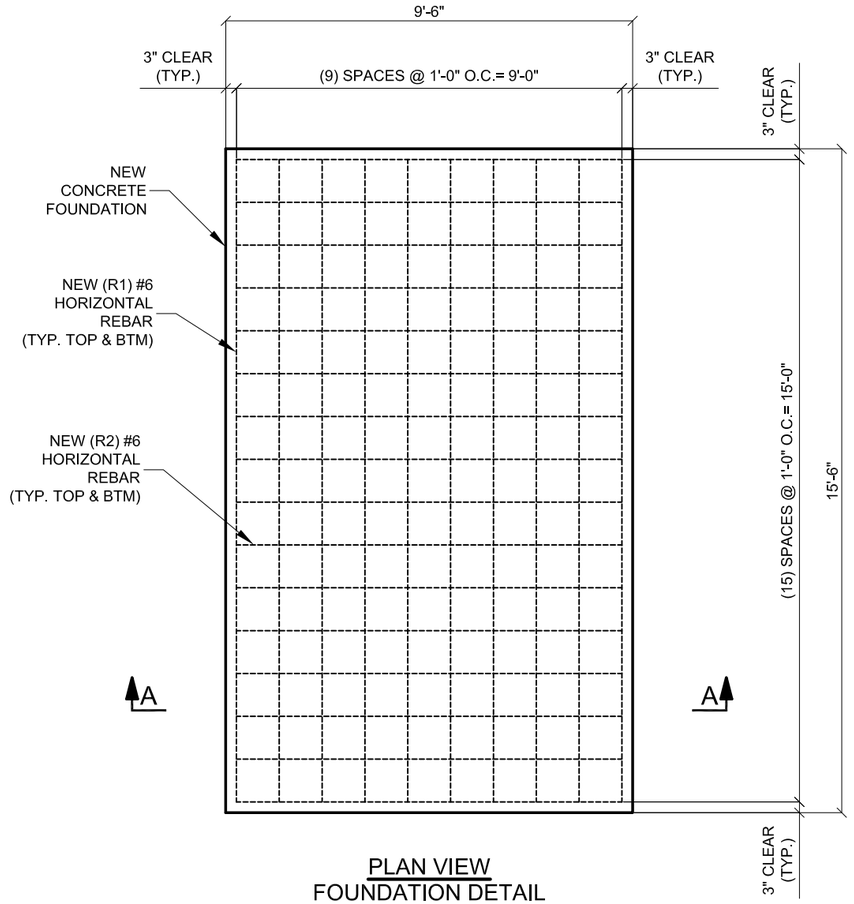
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2	06–15–21	ISSUE FOR FCD
3	06–30–21	UPDATED GENERATOR

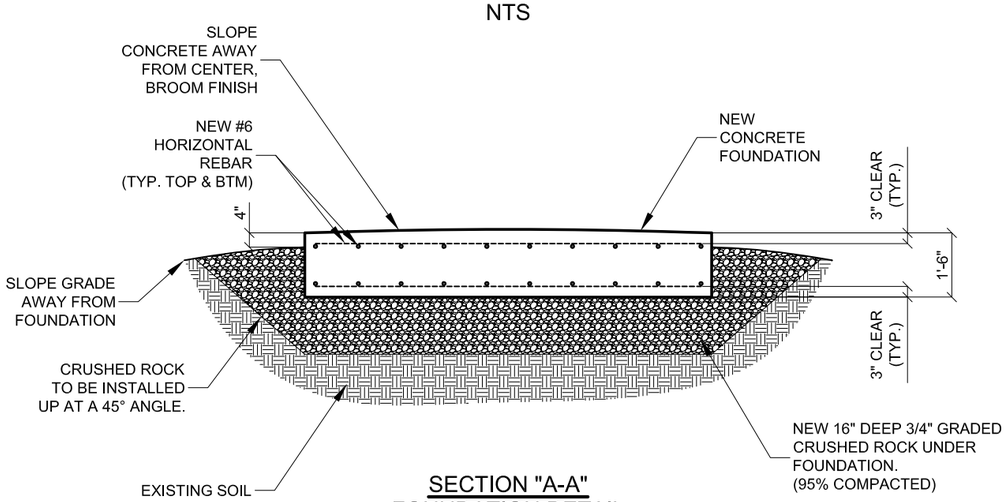
STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2021
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
EQUIPMENT DETAILS

SHEET NUMBER:
RF–2

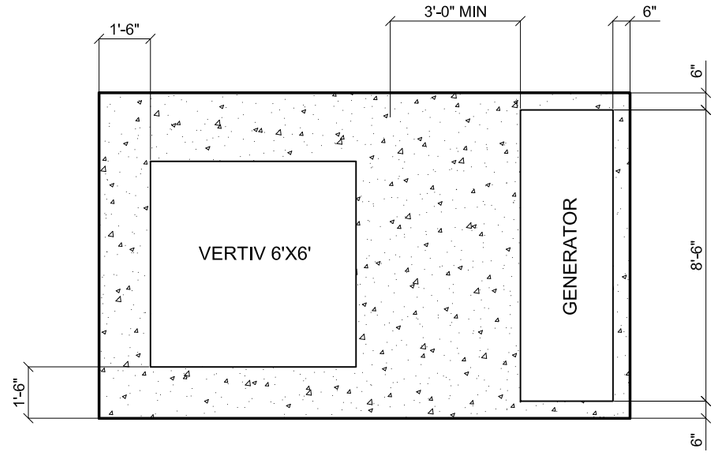


PLAN VIEW
FOUNDATION DETAIL
NTS



SECTION "A-A"
FOUNDATION DETAIL
NTS

FOUNDATION MODIFICATION MATERIAL LIST				
SHAPE	P/N	QTY.	TOTAL LENGTH	DESCRIPTION
═══	R1	20	15'-0"	#6 HORIZONTAL REBAR
═══	R2	32	9'-0"	#6 HORIZONTAL REBAR



PLAN VIEW
EQUIPMENT LAYOUT
NTS

1.0 GENERAL LOADING:

BUILDING CODES:

2018 INTERNATIONAL BUILDING CODE

MAXIMUM ALLOWABLE DESIGN LOADING CONDITIONS

WIND LOAD: 160 MPH, EXPOSURE C

SEISMIC LOAD: Ss = 2.0, S1 = 1.1, Sds = 1.3, SITE CLASS D

BASE SHEAR: 2.5 KP

NO SOIL REPORT AVAILABLE, CONTRACTOR TO VERIFY

1500 PSF MINIMUM ULTIMATE BEARING.

IF SITE CONDITIONS DO NOT MEET ABOVE CRITERIA, CONTACT EOR FOR REVIEW.

2.0 GENERAL CONDITIONS & SITE PREPARATIONS:

1. TOTAL CONCRETE REQUIRED: 8.18± CUBIC YARDS.
2. CONCRETE COVER OVER REBAR 3" MIN. (TYP.)
3. CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS = 4000 PSI.
4. DRILLED HOLES SHALL BE FREE OF MOISTURE, DEBRIS AND LAITANCE.
5. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES PRIOR TO EXCAVATION. IF NECESSARY UTILITIES SHALL BE RELOCATED PRIOR TO FOUNDATION MODIFICATION. UTILITIES NOT TO BE ENCASED IN CONCRETE.
6. WHEN NECESSARY, ICE BRIDGE POSTS TO BE TEMPORARILY RELOCATED.
7. ALL ORGANIC MATERIAL SHOULD BE REMOVED.
8. SITE GRADING SHALL BE DESIGNED TO ROUTE SURFACE WATER AROUND AND AWAY FROM THE FOUNDATION BASE.

02

NO.	DATE	DESCRIPTION	BY
1	05/03/21	REVISED DRAWINGS	JMB
0	04/20/21	FIRST ISSUE	JMB

REVISIONS

STATE OF ALASKA
49TH
RAPHAEL MOHAMED
No. CE168162
REGISTERED PROFESSIONAL ENGINEER

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ALASKA.

MasTec Network Solutions
507 AIRPORT BLVD., SUITE 111
MORRISVILLE, NC 27560

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PROJECT: STEEL WIC WITH GENERATOR PAD

MARKET: ALASKA

SITE ADDRESS:
VARIOUS

DRAWN BY: JMB

CHECKED BY: BDM

APPROVED BY: RIM

SCALE: N.T.S

SHELTER
FOUNDATION DETAILS

S-1

REV 1

MI CHECKLIST

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
N/A	EOR APPROVAL
N/A	FABRICATION INSPECTION
N/A	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF BASE PLATE
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
X	CONTINUOUS FOUNDATION INSPECTIONS
X	CONCRETE COMP. STRENGTH AND SLUMP TESTS
N/A	GROUT COMP. STRENGTH (ASTM C109)
N/A	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
N/A	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS
X	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

MODIFICATION INSPECTION NOTES:

GENERAL

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

ALL MI'S SHALL BE CONDUCTED BY A MASTEC ENGINEERING VENDOR (AEV) OR ENGINEERING SERVICE VENDOR (AESV) THAT IS APPROVED TO PERFORM ELEVATED WORK.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR MASTEC POINT OF CONTACT (POC).

MI INSPECTOR

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO MASTEC.

GENERAL CONTRACTOR

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI

IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, MASTEC SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF DEPOSITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). IF MASTEC CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING MI'S

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH MASTEC TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
- OR, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION

MI VERIFICATION INSPECTIONS

MASTEC RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTION(S) ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT AEV/AESV FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN "PASS AS NOTED MI" ACCEPTED REPORT FOR THE ORIGINAL OR PASSING MI" PROJECT.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
  - RAW MATERIALS
  - PHOTOS OF ALL CRITICAL DETAILS
  - FOUNDATION MODIFICATIONS (IF APPLICABLE)
  - WELD PREPARATION
  - BOLT INSTALLATION AND TORQUE
  - FINAL INSTALLED CONDITION
  - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
  - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

NO.	DATE	DESCRIPTION	BY
1	05/03/21	REVISED DRAWINGS	JMB
0	04/20/21	FIRST ISSUE	JMB

REVISIONS

STATE OF ALASKA 49TH
RAPHAEL MOHAMED
No. CE168162
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PROJECT: STEEL WIC WITH GENERATOR PAD

MARKET: ALASKA

SITE ADDRESS:
VARIOUS

DRAWN BY: JMB

CHECKED BY: BDM

APPROVED BY: RIM

SCALE: N.T.S

MODIFICATION INSPECTION CHECKLIST

N-2 | REV 1

1. GENERAL

1.1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL AND STATE BUILDING CODES AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION AND CONFORM TO NFPA NO. 70, NATIONAL ELECTRICAL CODE, 2020 EDITION.

1.2. CONTRACTOR SHALL OBTAIN AND PAY FOR APPLICABLE PERMITS.

1.3. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. NOTIFY ENGINEER IMMEDIATELY WHERE THERE ARE CONFLICTS WITH THE DRAWINGS.

1.4. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND FEATURE SALIENT POINTS FOR PROJECT CONSTRUCTION. NOT ALL CONNECTIONS ARE SHOWN.

1.5. EQUIPMENT LOCATIONS SHOWN ARE GENERAL IN NATURE UNLESS SPECIFICALLY DIMENSIONED. SCALE THE PLACEMENT OF EQUIPMENT FROM THE DRAWINGS. MAKE MINOR RELOCATIONS AS NECESSARY FOR FITTING WITH BUILDING LINES AND COORDINATION WITH OTHER TRADES. DEVICES, RACEWAYS AND OTHER COMPONENTS SHALL BE MOUNTED PLUMB AND SQUARE, EXHIBITING GOOD WORKMANSHIP.

1.6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND VERIFYING DIMENSIONS AND EXISTING CONDITIONS. REPORT DISCREPANCIES TO THE OWNER BEFORE PROCEEDING WITH WORK. WORK AT AN AREA OF DISCREPANCY MADE BEFORE APPROVAL BY THE OWNER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CORRECTIONS BY THE CONTRACTOR WITHOUT ADDITIONAL COMPENSATION.

2. CONDUCTORS AND CABLES

2.1. CONDUCTORS SHALL BE STRANDED COPPER ONLY.

2.1.1. MINIMUM SIZE, POWER CIRCUITS: NO. 12 AWG.

2.1.2. MINIMUM SIZE, CONTROL CIRCUITS: NO. 16 AWG.

2.1.3. MINIMUM SIZE, COMMUNICATION AND SIGNALLING CIRCUITS: NO. 24 AWG.

2.2. INSULATION, BRANCH CIRCUITS:

2.2.1. INDIVIDUAL CONDUCTORS, TYPE XHHW.

2.3. INSULATION, FEEDERS:

2.3.1. INDIVIDUAL CONDUCTORS, TYPE XHHW.

3. CONDUIT

3.1. SIZE AS REQUIRED TO MEET NEC CONDUCTOR FILL, 1/2-INCH DIAMETER MINIMUM SIZE.

3.2. ABOVE GRADE:

3.2.1. BRANCH CIRCUIT: EMT.

3.2.2. SERVICE ENTRANCE: RMC

3.3. BELOW GRADE:

3.3.1. SWEEPS AND RISERS TO ABOVE GRADE: IMT OR RMC.

3.4. USE DUCT SEAL AROUND CONDUCTORS WHERE CONDUITS ENTER AND LEAVE THE BUILDING.

3.5. PENETRATIONS OF CONDUITS THROUGH FIRE-RATED WALLS OR CEILINGS MUST BE SEALED AROUND CONDUIT SO AS TO RESTORE ORIGINAL FIRE-RATING OF WALLS OR CEILINGS. APPROVED FIRE-RATED FITTINGS SHALL BE USED. SEE ARCH DWG FOR EXACT LOCATIONS AND RATINGS OF FIRE-RATED WALLS AND CEILINGS.

3.6. TO MAINTAIN ENVIRONMENTAL RATING OF EQUIPMENT, USE HUBS OR FITTINGS WITH THE SAME ENVIRONMENTAL RATING AS THE ENCLOSURE.

4. BOXES

4.1. BOXES SHALL BE PROVIDED IN THE WIRING OR RACEWAYS SYSTEMS WHEREVER REQUIRED FOR PULLING OF WIRES, MAKING CONNECTIONS, AND MOUNTING OF DEVICES OR FIXTURES.

4.2. BOXES FOR METALLIC RACEWAYS SHALL BE 4-INCH SQUARE NOMINAL SIZE U.O.N., MINIMUM 1-1/2 INCHES DEEP FOR SURFACE, 2-1/8 INCHES DEEP FOR CONCEALED.

4.3. BOXES FOR FIXTURE SUPPORT SHALL BE AS RECOMMENDED BY THE FIXTURE MANUFACTURER.

5. GROUNDING

5.1. GROUND RODS SHALL BE COPPER OR COPPER-CLAD STEEL, 10 FEET LONG, 3/4" DIAMETER MINIMUM, WITH 10 FOOT SPACING MINIMUM.

5.2. BURIED CONNECTIONS SHALL BE EXOTHERMICALLY WELDED OR IRREVERSIBLY CRIMPED.

5.3. PROVIDE A GREEN INSULATED GROUNDING CONDUCTOR IN EACH ELECTRICAL CABLE AND CONDUIT, SIZE AS NOTED.

5.4. BOND ELECTRICAL EQUIPMENT PER NEC.

6. PANELS

6.1. PANELS SHALL BE FLUSH OR SURFACE MOUNTED, SINGLE OR THREE PHASE, AS INDICATED IN THE SCHEDULES.

6.2. PANELS SHALL HAVE MAIN TYPE (MAIN BREAKER OR MAIN LUGS), BUS SIZE, VOLTAGE, A.I.C. RATING, CIRCUIT CAPACITY INCLUDING NUMBER OF BREAKERS AND SPACES, AS SCHEDULED.

6.3.PANEL ENCLOSURES SHALL BE NEMA 1 UNLESS INDICATED OTHERWISE.

7. IDENTIFICATION

7.1. LABELS SHALL BE BLACK PHENOLIC PLASTIC WITH WHITE ENGRAVED LETTERING, MINIMUM LETTER HEIGHT 3/16" HIGH.

7.1.1. LABEL PANELBOARDS.

7.1.2. LABEL THE FUNCTION OF MOTOR CONTROLLER AND OUTDOOR LIGHTING SWITCHES.

7.2.PROVIDE CLEAR PRINTED PLASTIC ADHESIVE TAPE WITH 1/8" HIGH BLACK LETTERS AT THE BASE OF OUTLET FACEPLATES TO IDENTIFY THE SERVING BRANCH CIRCUIT.

7.3. LABEL WITH PRINTED PLASTIC ADHESIVE TAPE THE PANEL AND CIRCUIT NUMBERS OF CONDUCTORS INSIDE JUNCTION BOXES.

8. PROJECT CLOSEOUT

8.1. DEMONSTRATE OPERATION OF ELECTRICAL SYSTEMS TO THE SATISFACTION OF THE OWNER.

AN2357 KINK RIVER NSB
LOCATION: 5945 SOUTH DERBY DRIVE PALMER, AK 99645
LAT: 61.514353 LON: -149.070606

at&t mobility corp.

MasTec Network Solutions

CAPITAL DESIGN SERVICES
2101 4TH AVE E, SUITE 202
OLYMPIA, WA 98506
360.915.6750
WWW.CAPITALDESIGNSERVICES.COM

DRAWN BY:	JG
CHECKED BY:	BU

DRAWING VERSION

VER.	DATE	DESCRIPTION
1	06/02/21	FINAL CX DRAWINGS

LICENSER

STATE OF ALASKA 49 TH Victor M. Melendez No. EE14687 REGISTERED PROFESSIONAL ENGINEER

EXPIRATION DATE: 12/31/2021

PROJECT INFORMATION

AN2357
KINK RIVER NSB

5945 SOUTH DERBY DRIVE
PALMER, AK 99645

SHEET TITLE

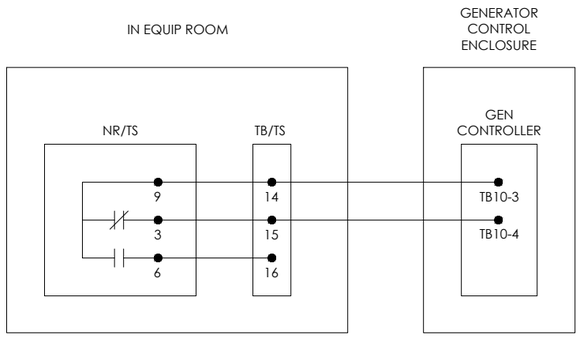
GENERAL SPECIFICATIONS

SHEET NO.

E1.0

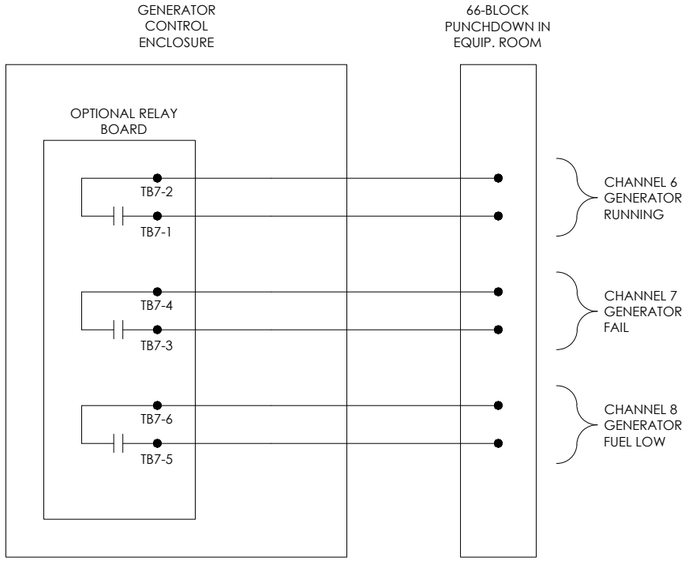
1 GENERAL SPECIFICATIONS

11X17 SCALE: NTS
22 X 34 SCALE: NTS



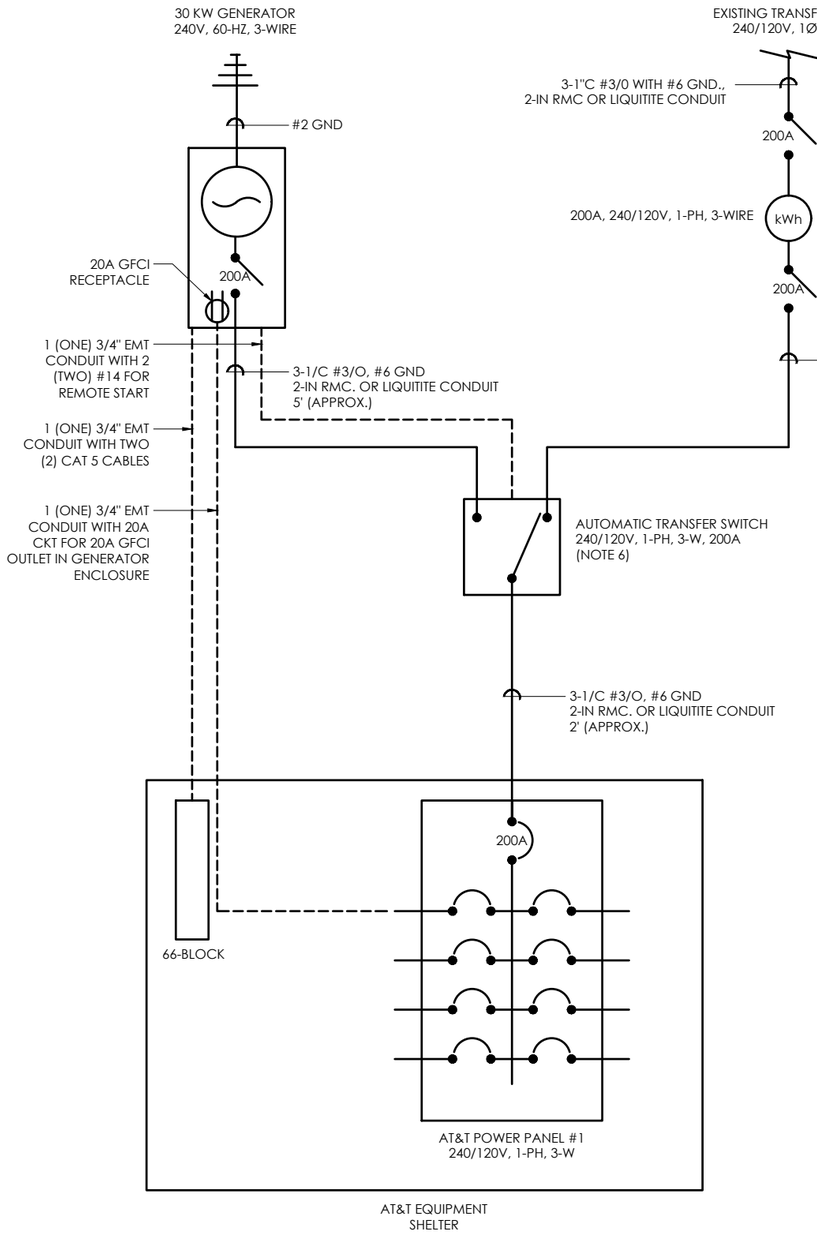
1 GENERATOR START CONTROLS

11X17 SCALE: NTS
22 X 34 SCALE: NTS



2 GENERATOR ALARM CONTACTS

11X17 SCALE: NTS
22 X 34 SCALE: NTS



NOTES:

1. ONE-LINE FOR NEW 30KW, 200A, 1Ø, 120/240V GENERATOR TO BE LOCATED AT 5945 SOUTH DERBY DRIVE, PALMER, AK 99645 AT THE AT&T COMMUNICATIONS SITE AND GRAVELED COMPOUND.

2. THIS ONE-LINE DEPICTS THE FEEDER BETWEEN THE SERVICE ENTRANCE AND THE MAIN POWER DISTRIBUTION PANEL, INCLUDING THE IN LINE AUTOMATIC TRANSFER SWITCH AND GENERATOR FOR AUXILIARY POWER.

3. NEUTRAL MUST BE PART OF THE TRANSFER.

4. ATS DETAILS NOT SHOWN: INTERNAL 200A SOURCE AND ALTERNATE 200A CIRCUIT BREAKERS, GROUND, AND CONTROL CABLE.

5. GENERATOR DETAILS NOT SHOWN: ONBOARD CONTROLS, AUTOMATIC SHUT DOWN SYSTEMS, CONTROL INTERLOCKS WITH ATS.

6. THIS IS A "BREAK-BEFORE-MAKE" TRANSFER OF CURRENT CARRYING CONDUCTORS. CONTRACTOR SHALL INSTALL GENERATOR AND ATS CONTROL CIRCUITS WITH SUPPLIED MECHANICAL INTERLOCKS PER FACTORY INSTRUCTIONS SO THAT AT NO TIME CAN THE GENERATOR BE CONNECTED IN PARALLEL WITH A LIVE BUS.

7. ALL NEW EQUIPMENT SHOWN TO BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND LABELED (IE: UL LISTED AND LABELED) FOR ITS SERVICE.

8. RMC TO BE UTILIZED AND PROVISIONS FOR DIFFERENTIAL SETTLEMENT AND DIFFERENTIAL THERMAL EXPANSION TO BE PROVIDED.

9. THWN OR XHHW STRANDED COPPER CONDUCTORS WITH BARE GROUND

10. MINIMUM 10kAIC

11. A SIGN SHALL BE AFFIXED AT THE SERVICE DISCONNECT STATING: "20kW GENERATOR LOCATED EAST OF THE AT&T EQUIPMENT SHELTER SOUTH OF THE TOWER" PER NEC 702.7(A).

12. A SECOND SIGN SHALL ALSO BE AFFIXED AT THE SERVICE DISCONNECT STATING: "WARNING SHOCK HAZARD EXISTS IF GROUNDING ELECTRODE CONDUCTOR OR BONDING JUMPER CONNECTION IN THIS EQUIPMENT IS REMOVED WHILE ALTERNATE SOURCE(S) IS ENERGIZED" PER NEC 702.7(B).

3 ONE-LINE DIAGRAM AND NOTES

11X17 SCALE: NTS
22 X 34 SCALE: NTS

at&t mobility corp.

MasTec Network Solutions

CAPITAL DESIGN SERVICES
2101 4TH AVE E, SUITE 202
OLYMPIA, WA 98506
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DRAWN BY:	JG
CHECKED BY:	BU

DRAWING VERSION

VER.	DATE	DESCRIPTION
1	06/02/21	FINAL CX DRAWINGS

LICENSER

STATE OF ALASKA 49 TH
Victor M. Melendez
No. EE14887
REGISTERED PROFESSIONAL ENGINEER

EXPIRATION DATE: 12/31/2021

PROJECT INFORMATION

AN2357
KINK RIVER NSB

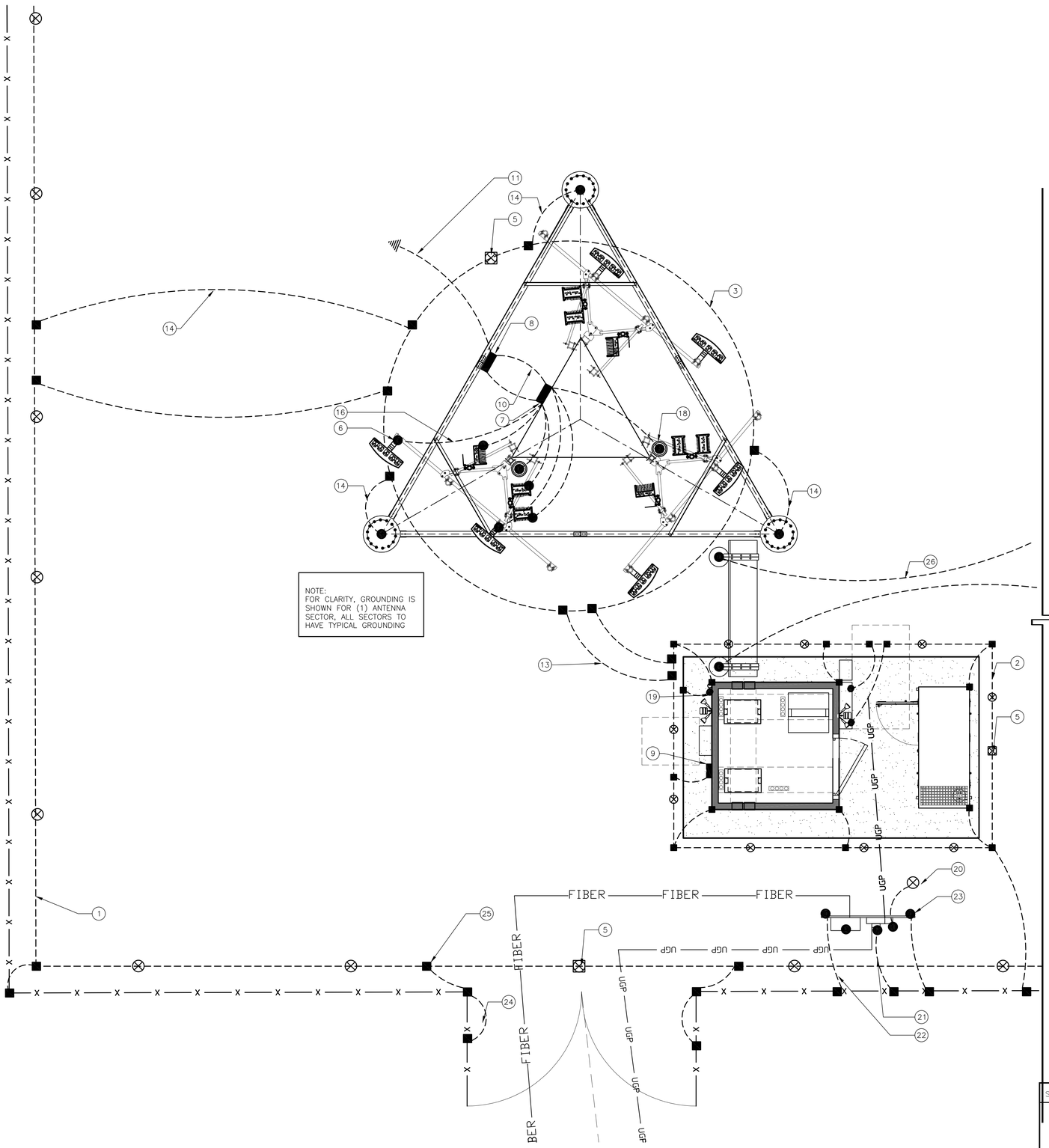
5945 SOUTH DERBY DRIVE
PALMER, AK 99645

SHEET TITLE

ONE-LINE FEEDER SCHEDULE ELEVATIONS & DETAILS

SHEET NO.

E3.0



SCHEMATIC GROUNDING PLAN

N.T.S.

GROUNDING KEYED NOTES:

1. #2 AWG EXTERNAL GROUND RING.
2. #2 AWG SHELTER GROUND RING.
3. #2 AWG TOWER GROUND RING.
4. GROUND ROD @ 10'-0" O.C. MIN. (TYP)
5. TEST WELL. SEE DETAIL
6. CAD WELD (TYP). SEE DETAIL
7. ANTENNA GROUND BUS BAR AT ANTENNA LEVEL OF TOWER WITH COAX GROUND KIT. SEE DETAIL
8. TOWER GROUND BUS BAR AT BASE OF TOWER WITH COAX GROUND KIT. SEE DETAILS AND MANUFACTURER FOR COAX GROUNDING.
9. SHELTER GROUND BUS BAR AT SHELTER COAX ENTRY PORT WITH COAX GROUND KIT. SEE DETAIL AND MANUFACTURER FOR COAX GROUNDING.
10. #2 AWG GROUND FROM ANTENNA GROUND BUS BAR TO TOWER GROUND BUS BAR (TYP OF (2) PLACES). SEE DETAILS
11. #2 AWG GROUND FROM TOWER GROUND BUS BAR TO TOWER GROUND RING (TYP OF (2) PLACES). SEE DETAILS
12. #2 AWG GROUND FROM SHELTER GROUND BUS BAR TO TOWER GROUND BUS BAR
13. #6 AWG GROUND FROM SHELTER GROUND RING TO TOWER GROUND RING (TYP OF 2 PLACES). SEE DETAIL
14. #2 AWG GROUND FROM SHELTER/TOWER GROUND RING TO COMPOUND GROUND RING. (TYP OF 2 PLACES EACH RING). SEE DETAIL
15. #2 AWG GROUND FROM TOWER GROUND RING TO TOWER BASE (TYP OF 3 PLACES). SEE DETAILS
16. #6 AWG ANTENNA MOUNT GROUND TO ANTENNA GROUND BUS BAR (TYP OF 12) SEE DETAIL
17. #6 AWG SURGE SUPPRESSION UNIT GROUND TO ANTENNA GROUND BUS BAR (TYP OF 2)
18. #2 AWG GROUND FROM RRU/RRH'S TO PLATFORM OR SHELTER GROUND BAR (TYP) SEE DETAIL
19. #2 AWG FROM GPS ANTENNA TO SHELTER GROUND RING. SEE DETAIL
20. #2 AWG GROUND FROM POWER METER TO ISOLATED GROUND ROD SEE DETAIL
21. #6 AWG GROUND FROM TELCO BOX TO EXTERNAL GROUND RING. SEE DETAIL
22. #6 AWG GROUND FROM ELECTRICAL DISCONNECT TO EXTERNAL GROUND RING.
23. #2 AWG FROM SUPPORT RACK TO EXTERNAL GROUND RING (TYP OF (2) PLACES). SEE DETAIL
24. #6 AWG GROUND FROM VERTICAL FENCE POST TO EXTERNAL GROUND RING (TYP).
25. #4 AWG WELDING CABLE OR FLEXIBLE CABLE, GATE JUMPER.
26. #2 AWG FROM EACH ICE BRIDGE POST TO EXTERNAL GROUND RING

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
⊗	COPPER GROUND ROD	⊠	TEST WELL
●	CADWELD CONNECTION	▬	GROUND BAR
■	SIDE SPLICE CADWELD		
	FIELD VERIFY & TIE INTO EXISTING GROUNDING SYSTEM		

GROUNDING NOTES & LEGEND

GENERAL GROUNDING NOTES

1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
2. GROUND ALL ANTENNA BASES, FRAMES, CABLE RUNS, AND OTHER METALLIC COMPONENTS USING GROUND WIRES AND CONNECT TO SURFACE MOUNTED BUS BARS. FOLLOW ANTENNA AND BTS MANUFACTURERS PRACTICES FOR GROUNDING REQUIREMENTS. GROUND COAX SHIELD AT BOTH ENDS AND EXIT FROM TOWER OR POLE USING MFR'S PRACTICES.
3. ALL GROUND CONNECTIONS SHALL BE CADWELD. ALL WIRES SHALL BE COPPER THHN/THWN. ALL GROUND WIRE SHALL BE GREEN INSULATED WIRE ABOVE GROUND.
4. CONTRACTOR TO VERIFY AND TEST GROUND TO SOURCE. GROUNDING AND OTHER OPERATIONAL TESTING WILL BE WITNESSED BY AT&T WIRELESS, LLC. REPRESENTATIVE.
5. REFER TO DIVISION 16 GENERAL ELECTRIC; GENERAL ELECTRICAL PROVISION AND COMPLY WITH ALL REQUIREMENTS OF GROUNDING STANDARDS.
6. ELECTRICAL CONTRACTOR TO PROVIDE DETAILED DESIGN OF GROUNDING SYSTEM, AND RECEIVE APPROVAL OF DESIGN BY AUTHORIZED AT&T MOBILITY REPRESENTATIVE, PRIOR TO INSTALLATION OF GROUNDING SYSTEM. PHOTO DOCUMENT ALL CADWELDS AND GROUND RING
7. NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.

GROUNDING ROD NOTES

(WHERE APPLICABLE)
ELECTRICAL CONTRACTOR SHALL ORDER GROUND RESISTANCE TESTING ONCE THE GROUND SYSTEM HAS BEEN INSTALLED; A QUALIFIED INDIVIDUAL, UTILIZING THE FALL OF POTENTIAL METHOD, SHOULD PERFORM THE TEST. THE REPORT WILL SHOW THE LOCATION OF THE TEST AND CONTAIN NO LESS THAN 9 TEST POINTS ALONG THE TESTING LINE, GRAPHED OUT TO SHOW THE PLATEAU.

2 POINT GROUND TEST OR 3 POINT 62% TESTS WILL NOT BE ACCEPTED AS ALTERNATIVES TO THE AFORE MENTIONED GROUND TESTS. TEST SHALL BE PERFORMED WHILE THE COUNTERPOISE IS ISOLATED FROM THE A/C SYSTEM GRIDS AND EXISTING COMMUNICATIONS FACILITY.

at&t Your world. Delivered.

MasTec Network Solutions

Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019

DHD ARCHITECTURE PLLC
13424 240TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
HTTP://WWW.DHDARCHITECTURE.BIZ

AN2357
KNIK RIVER NSB
5945 SOUTH DERBY DRIVE
PALMER, AK 99645

ISSUED DATE:
07-15-2021

ISSUE BLOCK

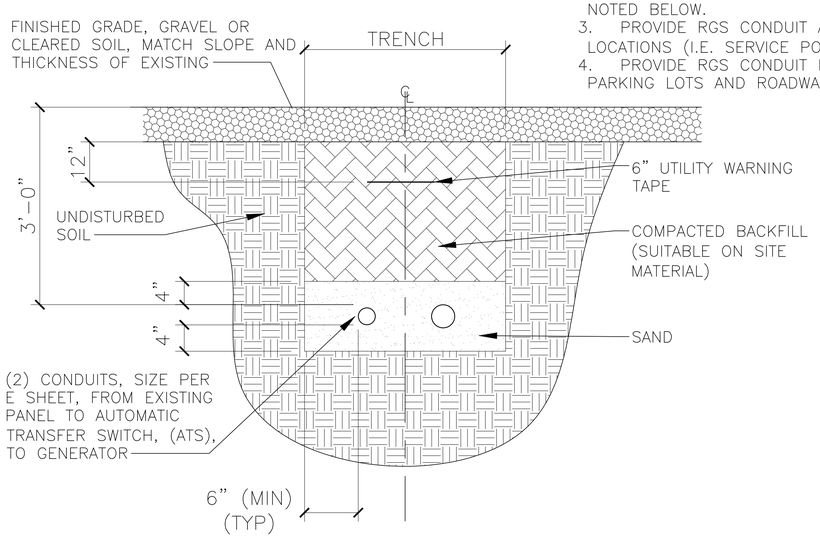
NO.	DATE	
6	03-17-21	TURF4: 1C-5C PER RFDS DATED 2-10-21
5	06-15-21	ISSUE FOR FCD
4	06-30-21	UPDATED GENERATOR

STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2021
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
SCHEMATIC GROUNDING

SHEET NUMBER:
G-1

NOTE:
1. ACTUAL SEPERATION OF CONDUITS TO BE DETERMINED BY SITE SPECIFIC REQUIREMENTS.
2. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
3. PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLES, EQUIPMENT, ETC.)
4. PROVIDE RGS CONDUIT FOR INSTALLATIONS BELOW PARKING LOTS AND ROADWAYS.

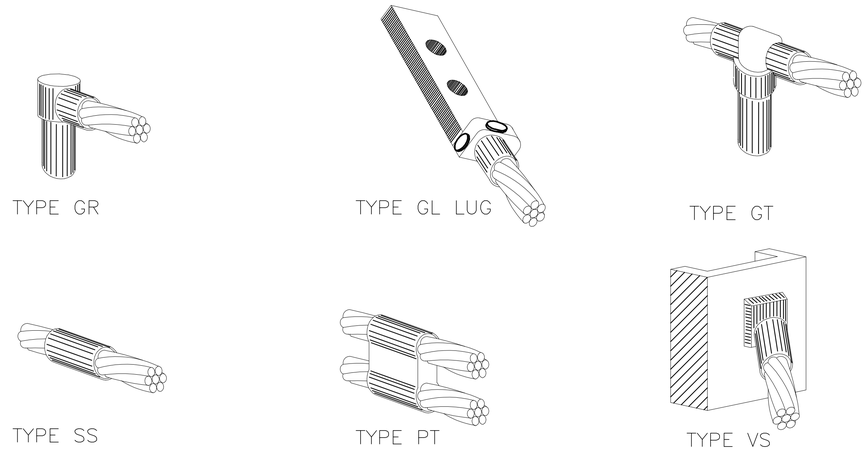


* SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

4 / G-2

TRENCH SECTION

NOT TO SCALE

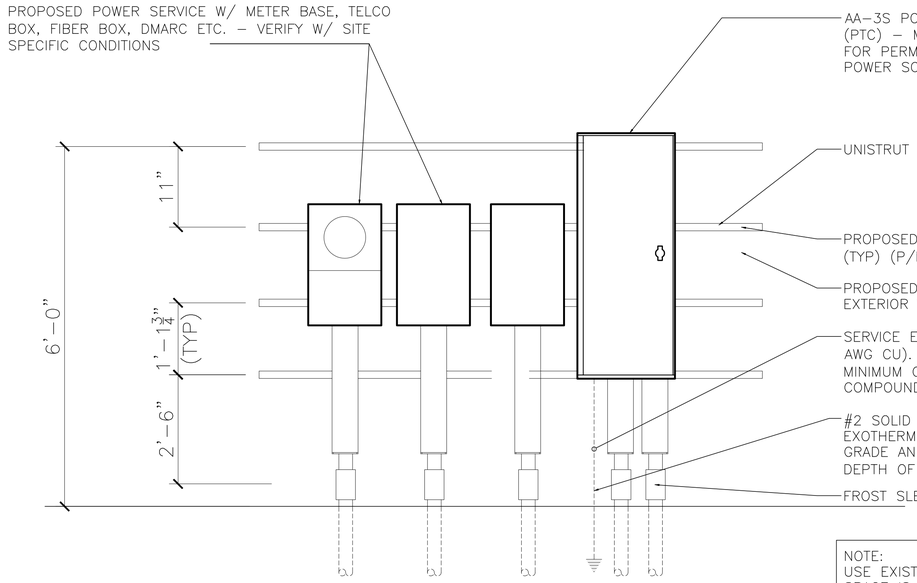


NOTE:
CADWELD "TYPES" SHOWN ABOVE ARE EXAMPLES – CONSULT WITH PROJECT MANAGER FOR SPECIFIC TYPES OF CADWELDS TO BE USED FOR THIS PROJECT.

3 / G-2

CADWELD GROUND TYPES

NOT TO SCALE

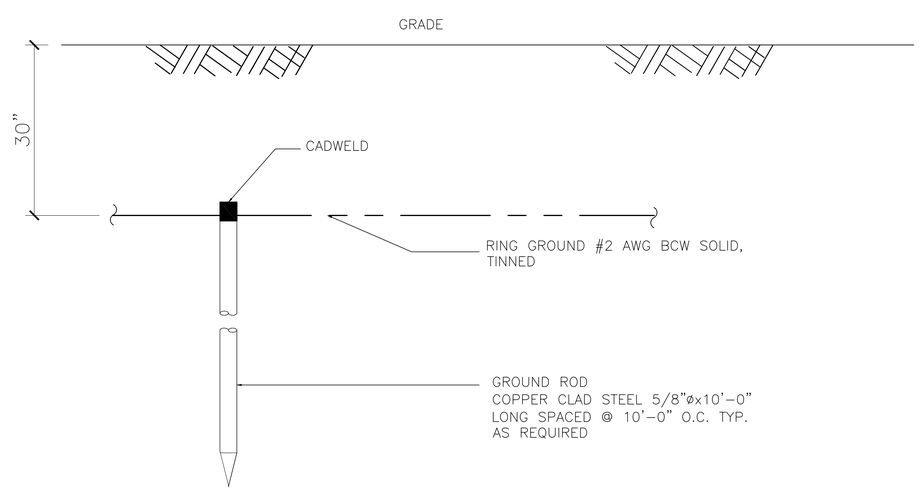


NOTE:
USE EXISTING H-FRAME RACK IF SPACE IS AVAILABLE – IF NOT, EXTEND OR INSTALL NEW H-FRAME RACK FOR PROPOSED EQUIPMENT.

2 / G-2

H-FRAME @ SHELTER WALL

NOT TO SCALE



1 / G-2

GROUNDING ROD (TYP)

NOT TO SCALE

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Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019
DHD ARCHITECTURE PLLC
13424 240TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
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AN2357
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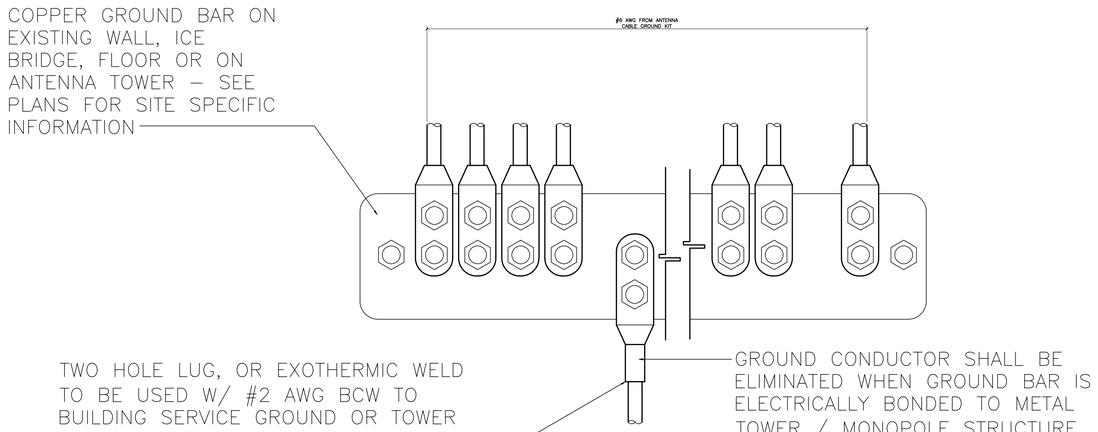
ISSUE BLOCK

NO.	DATE	
1	03-17-21	TURF4: 1C-5C PER RFDS DATED 2-10-21
2	06-15-21	ISSUE FOR FCD
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STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2021
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE:
SCHEMATIC GROUNDING

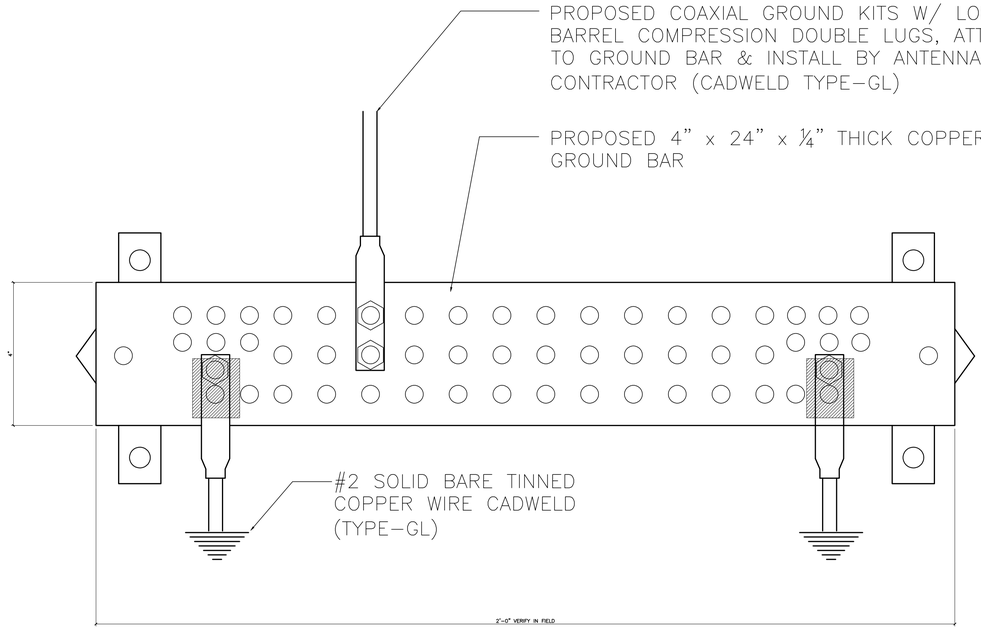
SHEET NUMBER:
G-2



NOTE:
GROUND BARS @ BOTTOM OF EXISTING TOWERS / MONOPOLES SHALL ONLY USE EXOTHERMIC WELDS

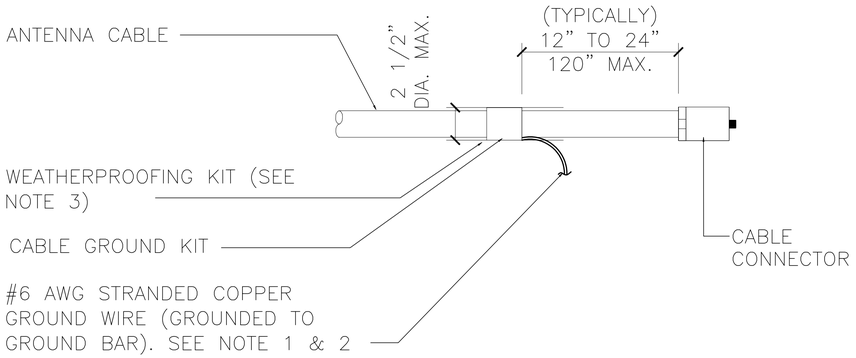
4 G-3 **GROUND WIRE INSTALL**

NOT TO SCALE



3 G-3 **GROUND BAR**

NOT TO SCALE



NOTES:

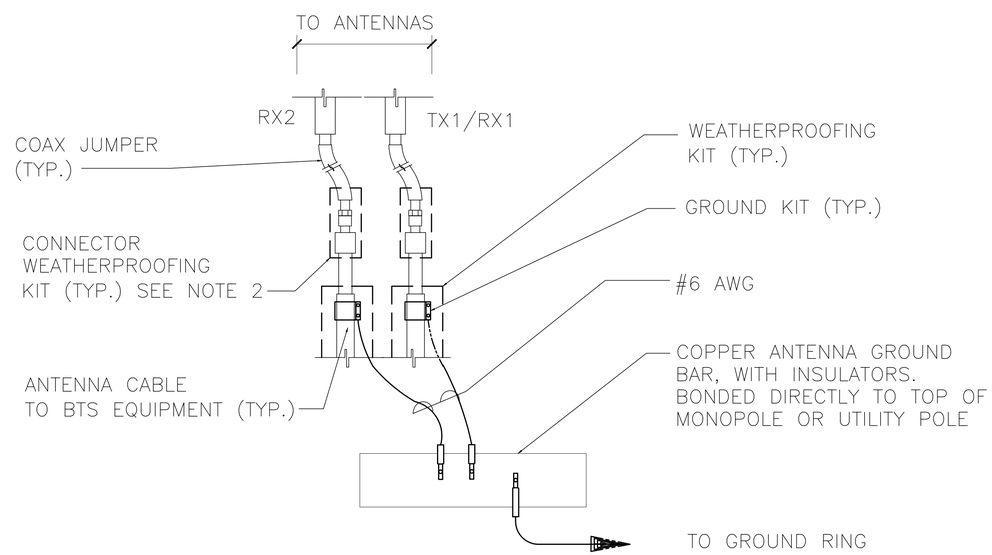
DO NOT INSTALL CABLE GROUND KIT @ BEND & ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

2 G-3 **CABLE GROUNDING KIT**

NOT TO SCALE



1 G-3 **GROUND CONNECTIONS**

NOT TO SCALE

at&t Your world. Delivered.

MasTec Network Solutions

Select Site Acquisition, LLC
24009 E ALKI LANE
LIBERTY LAKE, WA 99019

DHD ARCHITECTURE PLLC
13424 240TH AVE SE
ISSAQUAH, WA 98027
PHONE: 425.657.0552
EMAIL: davidhdean@outlook.com
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AN2357
KNIK RIVER NSB
5945 SOUTH DERBY DRIVE
PALMER, AK 99645

ISSUED DATE: 07-15-2021

ISSUE BLOCK

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STATE OF ALASKA 49TH
DAVID H DEAN
December 31, 2021
No.11332
REGISTERED PROFESSIONAL ARCHITECT

SHEET TITLE: SCHEMATIC GROUNDING

SHEET NUMBER: G-3

Blank

Site Visit



N

Front of Commercial building



Facing E Bogard Rd & N. Seward Meridian Pky



E

Facing North Creekview dr.

Photo taken from N. creekview towards Bogard.



W



N


proposed tower location
SW


W

Proposed tower location. Facing North East



Proposed tower location. Facing North




Proposed tower
Fencing
NE



Front of commercial building.

Public Notice

UNITED STATES POSTAL SERVICE®

Certificate of Bulk Mailing — Domestic

Fee for Certificate

Up to 1,000 pieces (1 certificate for total number)	Use Current Price List (Notice 123)
For each additional 1,000 pieces, or fraction thereof	
Duplicate Copy ☐	

Number of Identical Weight Pieces	Class of Mail	Postage for Each Mailpiece Paid	Number of Pieces to the Pound
24	1ST	☐ Verified	45.

Total Number of Pounds	Total Postage Paid for Mailpieces	Fee Paid
8.0oz	$17.76	$13.50

Mailed For	Mailed By
Permit Center	Betty Jean Black

Postmaster's Certification

It is hereby certified that the number of mailpieces presented and the associated postage and fee were verified. This certificate does not provide evidence that a piece was mailed to a particular address.

Esther Lyon
(Postmaster or Designee)

Postag
or (unca
of total f

US POSTAGE PITNEY BOWES
ZIP 99645 $ 013.50⁰
02 7W
0008035337 OCT 30 2025

Acceptance employee must cancel postage affixed (by round-date) at the time of mailing.

If payment of total fee due is being paid by Permit Imprint, include the *PostalOne!*® Transaction Number here: _____

OCT 31 2025

PS Form **3606-D**, January 2016 PSN 7530-17-000-5548

See Reverse for Instructions

Number	Owner 1	Owner 2	Mailing Address Line 2	Mailing Address Line 1	Mailing Address City	Mailing Address State	Mailing Address Zipcode	
1	ALASKA STATE OF	DEPT OF TRANS & PUB FAC		PO BOX 196900	ANCHORAGE	AK	99519-6900	
2	ALASKA STATE OF DIV OF LANDS	DEPT OF NATURAL RESOURCES ALCANTRA NAT'L		550 W 7TH AVE STE 1050A	ANCHORAGE	AK		99501
3	BLACKTAIL BOBS BASE CAMPS LLC	% ROBERT AMEEN		3433 E WHISPERING WOODS D	WASILLA	AK	99654-7471	
4	BROWDER CHRISTOPHER M	BROWDER STACEY M		1701 N CREEKVIEW DR	WASILLA	AK		99654
5	CARLTON BRIAN & KAREN			3801 E PALMDALE DR	WASILLA	AK		99654
6	CHRISTMAN JOYCE L TRUST			3800 E PALMDALE DR	WASILLA	AK		99654
7	CILK HARRY K & LEAH M			1651 N CREEKVIEW DR	WASILLA	AK		99654
8	CRYSTAL INVESTMENTS LLC			PO BOX 190801	ANCHORAGE	AK		99519
9	CST PROPERTIES LLC			PO BOX 2954	PALMER	AK	99645-2954	
10	DUNN COREY & ALEXANDRA			3825 E PALMDALE DR	WASILLA	AK		99654
11	DUNN KENNETH M JR & HEATHER E			3760 E PALMDALE DR	WASILLA	AK		99654
12	GRASSER GEORGE A & CYNTHIA L			3875 E PALMDALE DR	WASILLA	AK	99654-6612	
13	HACKER JERAD			935 N NORTH SHORE DR	WASILLA	AK		99654
14	HOLINGER ALICE J			3761 E PALMDALE DR	WASILLA	AK	99654-6611	
15	LYTHGOE CHRISTOPHER E			1650 N CREEKVIEW DR	WASILLA	AK	99654-6600	
16	MARTIN CHRISTIAN L & NATALIE			3901 E PALMDALE DR	WASILLA	AK	99654-6613	
17	MATLOCK TYLER S			243 E 5TH AVE, #1002	ANCHORAGE	AK		99501
18	MAT-SU EDUCATION ASSOCIATION			6177 E MOUNTAIN HEATHER W	PALMER	AK		99645
19	MILLS DONALD D & KIM D			3441 E ANAHEIM DR	WASILLA	AK		99654
20	PARRIS ANDREW D & RACHAEL L			3730 E PALMDALE DR	WASILLA	AK		99654
21	PULA PENI JR			3461 E ANAHEIM DR	WASILLA	AK		99654
22	TADESA LLC	% ANN DESALVO		PO BOX 874086	WASILLA	AK	99687-4086	
23	TOMAZEVIC KRISTOPHER T			3605 E PALMDALE DR	WASILLA	AK	99654-6610	
24	WORD OF FAITH ASSEMBLY			PO BOX 875147	WASILLA	AK	99687-5147	

UNITED STATES POSTAL SERVICE®

Certificate of Bulk Mailing – Domestic

Fee for Certificate

Up to 1,000 pieces (1 certificate for total number)

For each additional 1,000 pieces, or fraction thereof

Duplicate Copy ☐

Use Current Price List (Notice 123)

Postage: Mailers must affix meter, PC Pc or (uncanceled) postage stamps here in p of total fee due.

US POSTAGE PITNEY BOWES
ZIP 99645 $ 013.50⁰
02 7W
0008035337 NOV 25 2025

Acceptance employee must cancel postage affixed (by round-date) at the time of mailing.

If payment of total fee due is being paid by Permit Imprint, include the *PostalOne!*® Transaction Number here: _____

Number of Identical Weight Pieces	Class of Mail	Postage for Each Mailpiece Paid	Number of Pieces to the Pound
188	1st	☐ Verified	45

Total Number of Pounds	Total Postage Paid for Mailpieces	Fee Paid
31lb 14.7oz	$139.12	$13.50

Mailed For	Mailed By
Permit Center	Betty Jean Black

PALMER AK 99645
NOV 25 2025
USPS

Postmaster's Certification

It is hereby certified that the number of mailpieces presented and the associated postage and fee were verified. This certificate does not provide evidence that a piece was mailed to a particular address.

Lucy Martinez
(Postmaster or Designee)

PS Form **3606-D,** January 2016 PSN 7530-17-000-5548

See Reverse for Instructions

Instructions for Certificate of Bulk Mailing — Domestic Service

This service is available only at the time of mailing and is used to specify only the number of identical-weight pieces mailed; it does *not* provide evidence that a piece was mailed to a particular address. This certificate is available for domestic mailings of First-Class Mail®, First-Class Package Service®, Priority Mail®, USPS Retail Ground™, Media Mail®, Library Mail, Bound Printed Matter, Standard Mail® (excluding Customized MarketMail® and Marketing Parcels), and Parcel Select® (including Parcel Select Lightweight®) items.

1. Pay postage as appropriate — affix meter, PC Postage, or (uncanceled) postage stamps in payment of total fee due in the postage area, or if paying fee by permit imprint, enter information in the postage area at the top right of the form.

2. Present PS Form 3606-D and the mailing as follows:

   - When the mailing has fewer than 50 mailpieces *and* less than 50 pounds, present the form and mailing at a retail Post Office™ location.
   - When the mailing has at least 50 mailpieces *or* at least 50 pounds, present the form and mailing at a business mail entry unit (BMEU) or USPS-authorized detached mail unit (DMU).

3. The Postal Service™ certifies and postmarks (round-dates) the PS Form 3606-D at the time of mailing and then returns it to the mailer as the mailer's receipt.

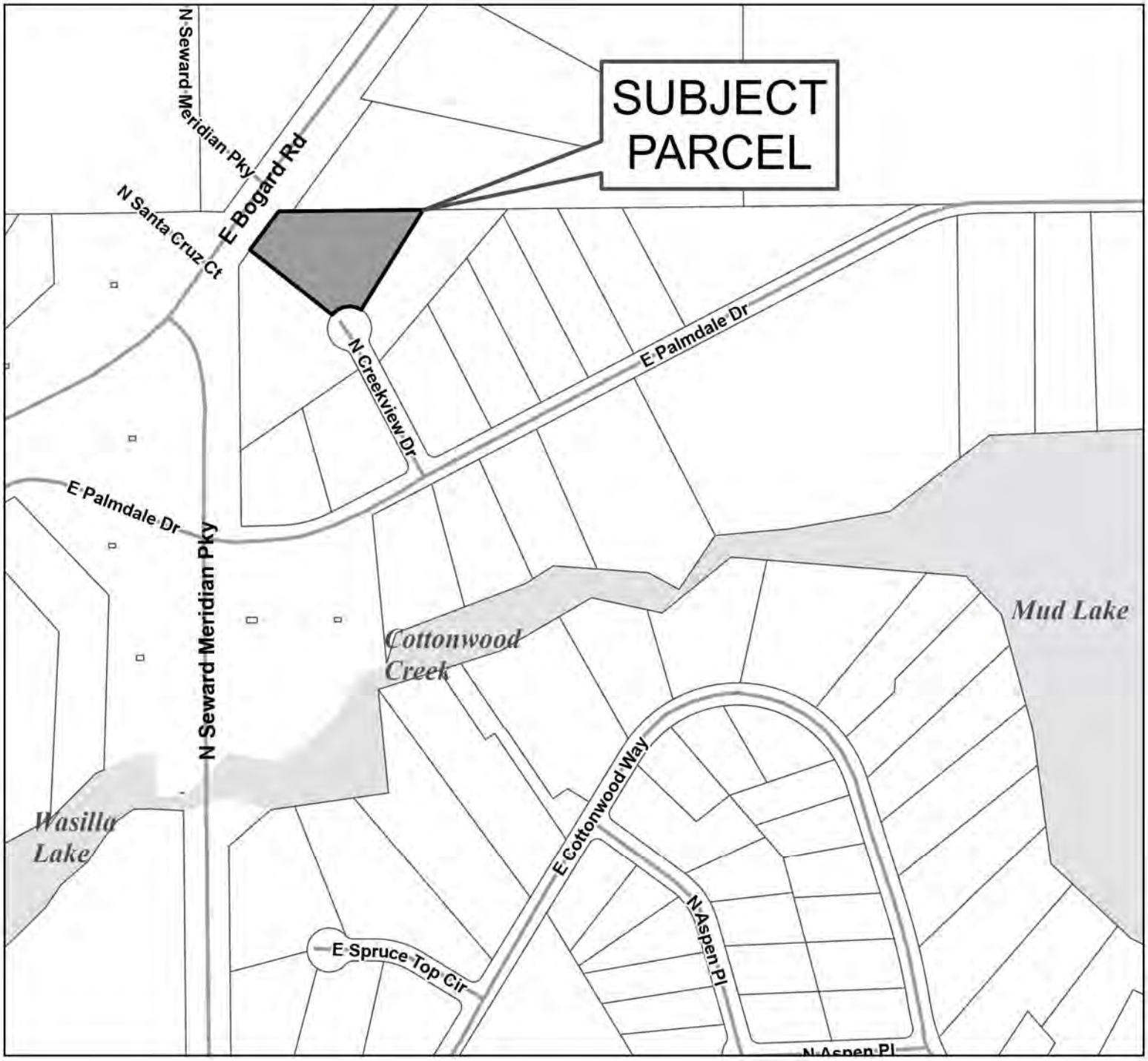
Certificate of Bulk Mailing — Domestic service does not provide a record of delivery, and the Postal Service does not retain any copies of PS Form 3606-D. The mailer cannot use PS Form 3606-D as a certificate of mailing for individual mailpieces or itemized lists.

#	Owner 1	Owner 2	Mailing Address Line 2	Mailing Address Line 1	Mailing Address City	Mailing Address State	Mailing Address Zipcode
1	3331 E MERIDIAN PARK LOOP LLC		% APEX PROPERTY MNGMNT LL	PO BOX 879158	WASILLA	AK	99687
2	A6KB LLC	ALASKA LLC		1700 N LUCILLE ST	WASILLA	AK	99654
3	AHI MATSU INVESTMENT LLC		SUITE T-100	3841 PIPPER ST	ANCHORAGE	AK	99508
4	ALASKA SELECT INN MOTEL			881 N NORTHSHORE DR	WASILLA	AK	99654
5	ALASKA STATE OF	DEPT OF TRANS & PUB FAC		PO BOX 196900	ANCHORAGE	AK	99519-6900
6	ALASKA STATE OF	DEPT OF NATURAL RESOURCES ALCANTRA NAT'L	DIV OF LANDS	550 W 7TH AVE STE 1050A	ANCHORAGE	AK	99501
7	ALBERT ZACHARY & KATHRYN			3971 E COTTONWOOD WAY	WASILLA	AK	99654
8	ALEXANDER GREGG	ALEXANDER GREGG & CHRISTINA F		PO BOX 875681	WASILLA	AK	99687-5681
9	ALTENBERGER JAMES R & VIRGINIA J			3230 E ESCONDIDO AVE	WASILLA	AK	99654-6056
10	APLING TODD L			3090 E LONG BEACH CIR	WASILLA	AK	99654-6060
11	BAHR BRIAN R & SUSAN I FAM TR			826 W BARTLETT DR	BUDA	TX	78610
12	BAILES ROBIN A& CHRISTINE			PO BOX 875567	WASILLA	AK	99687-5567
13	BAKER CARL J			3860 E BIRCH VIEW DR	WASILLA	AK	99654
14	BARKSDALE KEVIN J			PO BOX 244894	ANCHORAGE	AK	99524-4894
15	BELANGER RAY & CAROL FAM TR TRES			3296 E PALMDALE DR	WASILLA	AK	99654
16	BENA CHRISTOPHER & AMBER REV LVG TR			3910 E COTTONWOOD WAY	WASILLA	AK	99654
17	BILLMAN JENNIFER LEE	IDE CHRISTOPHER D		3945 E BIRCH VIEW DR	WASILLA	AK	99654-6641
18	BLACKTAIL BOBS BASE CAMPS LLC		% ROBERT AMEEN	3433 E WHISPERING WOODS D	WASILLA	AK	99654-7471
19	BOENSCH RONALD REV TR	BOENSCH KATHY A REV TR BOENSCH RONALD&KA		3800 E COTTONWOOD WAY	WASILLA	AK	99654
20	BRESHEARS LOREN			3600 E SPRUCE TOP CIR	WASILLA	AK	99654-6630
21	BROOKS JONATHAN P & JENNIFER N			4000 E PALMDALE DR	WASILLA	AK	99654
22	BROWDER CHRISTOPHER M	BROWDER STACEY M		1701 N CREEKVIEW DR	WASILLA	AK	99654
23	BUTCHART JOHN M			3260 E ESCONDIDO AVE	WASILLA	AK	99654
24	CAMPBELL NATHANIEL R & ROBYN E			3830 E BIRCH VIEW DR	WASILLA	AK	99654
25	CARLTON BRIAN & KAREN			3801 E PALMDALE DR	WASILLA	AK	99654
26	CARROLL HAYDN			19125 NUNIVAK CIR	EAGLE RIVER	AK	99577-8660
27	CASEY VICTOR C			3960 E BIRCH VIEW DR	WASILLA	AK	99654-6635
28	CAVERLY GWEN F			1520 N ASPEN PL	WASILLA	AK	99654
29	CHILDERS RYAN M & AMY L			1501 N ASPEN PL	WASILLA	AK	99654
30	CHRISTMAN JOYCE L TRUST			3800 E PALMDALE DR	WASILLA	AK	99654
31	CHURCH OF CHRIST AT WASILLA			2061 N MERCIFUL CIR	WASILLA	AK	99654-6073
32	CHURCH ON THE ROCK			PO BOX 874693	WASILLA	AK	99687-4693
33	CILK HARRY K & LEAH M			1651 N CREEKVIEW DR	WASILLA	AK	99654
34	COMPTON JUSTIN & SHAWNNA LLC		% TYLER BOBO	PO BOX 871813	WASILLA	AK	99687
35	COTTLE DEREK & RACHAEL			3750 E BIRCH VIEW DR	WASILLA	AK	99654
36	CRABTREE CHRISTOPHER C & TAMMY D			1725 N WESTMORLAND DR	WASILLA	AK	99654
37	CRATTY TERRY R	HELMS TAMMY L		3805 COTTONWOOD WAY	WASILLA	AK	99654-6622
38	CROWDER RYAN B & CAROLYN J			3911 E COTTONWOOD WAY	WASILLA	AK	99654
39	CRYSTAL INVESTMENTS LLC			PO BOX 190801	ANCHORAGE	AK	99519
40	CST PROPERTIES LLC			PO BOX 2954	PALMER	AK	99645-2954
41	CUNNINGHAM NICHOLAS D & AMANDA	CUNNINGHAM DEAN M & JACQUELINE C		4233 E PALMDALE DR	WASILLA	AK	99654
42	DEAN INVESTMENTS LLC			1025 N SEWARD MERIDIAN PK	WASILLA	AK	99654
43	DEMMING GREGORY		BOX 7	3817 E BOGARD RD	WASILLA	AK	99654
44	DEREWENKO ROY & LINDA			1491 CATALINA DR	WASILLA	AK	99654
45	DESGRANGES RONALD D			3240 E PALMDALE DR	WASILLA	AK	99654-6037
46	DESJARDIN RONALD M			67-128 KIAPOKO	WAIALUA	HI	96791
47	DOERNER JEFFREY A & JACQUELYN E			3755 E BIRCH VIEW DR	WASILLA	AK	99654
48	DONN JOSHUA JACOB & MISTY			1451 N ASPEN PL	WASILLA	AK	99654
49	DOWLING LINDSEY			1850 N LAUREL DR	PALMER	AK	99645-8807
50	DUNN COREY & ALEXANDRA			3825 E PALMDALE DR	WASILLA	AK	99654
51	DUNN KENNETH M JR & HEATHER E			3760 E PALMDALE DR	WASILLA	AK	99654
52	EASTER MARK A & DAYSHA L			3245 E ANAHEIM DR	WASILLA	AK	99654-6032
53	EBY BENJAMIN & SARAH			3280 E PALMDALE DR	WASILLA	AK	99654
54	EDMONDSON RYAN & AMANDA			1440 N ASPEN PL	WASILLA	AK	99654-6625
55	EICHELBERGER DON L			3915 E BIRCH VIEW DR	WASILLA	AK	99654-6641

56	ERICKSON INVESTMENTS LLC		% APEX PROPERTY MNGMNT LL	PO BOX 879158	WASILLA	AK		99687
57	ERICKSON INVESTMENTS LLC			8535 E STORMY HILL CIR	WASILLA	AK		99654
58	ESTELLE RICHARD N TR			3175 E ANAHEIM DR	WASILLA	AK		99654
59	FERINGA HERMAN H H	IDARRAGA CAMILO S		13902 E RIVER VISTA CIR	PALMER	AK		99645
60	FRALICK TRISTIN G & SHAYDIE B			2313 N TAIT DR	WASILLA	AK		99654
61	FRATI STEPHEN F & VERONICA M			3945 E COUNTRY FIELD CIR	WASILLA	AK	99654-6688	
62	GARBETT BENJAMIN & AMANDA			15250 N 52ND DR	GLENDALE	AZ		85306
63	GILLIGAN TYLER			4279 E LARCH DR	WASILLA	AK		99654
64	GOLDEN SWAN INV REV LVG TR	LUNDY MARY L TRE		2202 ROOSEVELT DR	ANCHORAGE	AK		99517
65	GRASSER GEORGE A & CYNTHIA L			3875 E PALMDALE DR	WASILLA	AK	99654-6612	
66	GREATHOUSE KATHLEEN D			3424 E PALMDALE DR	WASILLA	AK		99654
67	GREGG BRIAN	CRAWFORD ERIN		1400 N ASPEN PL	WASILLA	AK		99654
68	GURR INVESTMENTS LLC			4213 E SERENDIPITY LOOP	WASILLA	AK		99654
69	HACKER JERAD			935 N NORTH SHORE DR	WASILLA	AK		99654
70	HAMILTON JASON E & ESCORITA L			3275 E ANAHEIM DR	WASILLA	AK		99654
71	HANSBRAUGH MARVEL			3160 E ANAHEIM DR	WASILLA	AK		99654
72	HANSON THOMAS E	HEINRICHS VALERIE M		PO BOX 872213	WASILLA	AK		99687
73	HARRISON JACK B & PATSY L			3450 E PALMDALE DR	WASILLA	AK		99654
74	HECK ESTHER C LVG TR/TRE			4131 E BIRCH VIEW DR	WASILLA	AK		99654
75	HOLINGER ALICE J			3761 E PALMDALE DR	WASILLA	AK	99654-6611	
76	HOLLAND JOSHUA D & MICHELLE M			8716 ABBOTT LOOP RD	ANCHORAGE	AK		99507
77	HURST JOHN MITCHELL JR			2475 S SWEETIE PIE ST	WASILLA	AK		99654
78	HUTCHISON RICHARD & RUTH TR			3421 E ANAHEIM DR	WASILLA	AK		99654
79	IDLE THU T			3474 E PALMDALE DR	WASILLA	AK		99654
80	INGLE ROGER L			2247 N FILLY CIR	WASILLA	AK		99654
81	INHOFER JOSEPH & KATHERINE			3220 E PALMDALE DR	WASILLA	AK		99654
82	JONES CHRISTOPHER R		UNIT 206	2500 SENTRY DR	ANCHORAGE	AK		99507
83	JONES ROLAND A EST		% KIRSTAN JONES	51 SADDLERS RUN	ORMOND BEACH	FL		32174
84	JONES THEO M & LESLIE KAY			3500 E PALMDALE DR	WASILLA	AK		99654
85	KELLEY RAY D	JACHIMIEC JESSICA J		4300 E BIRCH DR	WASILLA	AK		99654
86	KELLY THOMAS FRANCIS			3345 E ANAHEIM DR	WASILLA	AK		99654
87	KENNEDY KATHLEEN			1460 N ASPEN PL	WASILLA	AK	99654-6625	
88	KING ROGER D & TERRI L T	ROGERS TIANA C		1750 N WESTMORLAND DR	WASILLA	AK		99654
89	KINNEEN GAVIN			3940 E COTTONWOOD WAY	WASILLA	AK		99654
90	KINSMAN PROJECT LLC			PO BOX 876045	WASILLA	AK		99687
91	KNIK TRIBE			PO BOX 871565	WASILLA	AK	99687-1565	
92	KOSTER DAVID S & STACY A			PO BOX 872347	WASILLA	AK	99687-2347	
93	KOVICH EDWARD F DECLARATION OF TR	KOVICH EDWARD F TRE		2150 N CLARIDGE CT	WASILLA	AK		99654
94	KOYITLOTSINA LIMITED			881 N MERIDIAN PL	WASILLA	AK		99654
95	KOZAKIEWICZ ROBERT			3845 E BIRCH VIEW DR	WASILLA	AK	99654-6640	
96	KURIATNYK KYLE			3755 E COTTONWOOD WAY	WASILLA	AK		99654
97	LACHELT MICHAEL & VIRGINIA FAM TR			3300 E ESCONDIDO AVE	WASILLA	AK		99654
98	LARSON JAMES M & ANGELIA J			3881 E COTTONWOOD WAY	WASILLA	AK		99654
99	LEADERS RYAN G & ERIN M			1360 N ASPEN PL	WASILLA	AK		99654
100	LILLAND PHILLIP J	LILLAND MACKENZIE R		PO BOX 871488	WASILLA	AK	99687-1488	
101	LITTLECHIEF FRANCIS WILLIAM	LITTLECHIEF STEPHANIE RENEE		3815 E BIRCH VIEW DR	WASILLA	AK		99654
102	LONG NEIL C & ELLEN R			4205 E BIRCH DR	WASILLA	AK	99654-4500	
103	LUPINE PROPERTIES LLC		STE A	3465 E MERIDIAN PARK LOOP	WASILLA	AK		99654
104	LYTHGOE CHRISTOPHER E			1650 N CREEKVIEW DR	WASILLA	AK	99654-6600	
105	MARQUIS RICHARD M & ANNA M			1491 N ASPEN PL	WASILLA	AK	99654-6628	
106	MARTIN CHRISTIAN L & NATALIE			3901 E PALMDALE DR	WASILLA	AK	99654-6613	
107	MARTIN LINDSEY M			3200 E ANAHEIM DR	WASILLA	AK		99654
108	MASON AARON I & ERIKA M			3301 E PALMDALE DR	WASILLA	AK	99654-6044	
109	MATANUSKA-SUSITNA BOROUGH	PUBLIC USE		350 E DAHLIA AVE	PALMER	AK	99645-6488	
110	MATANUSKA-SUSITNA BOROUGH	SCHOOL/FRONTERAS CHARTER SCHOOL		350 E DAHLIA AVE	PALMER	AK		99645
111	MATANUSKA-SUSITNA BOROUGH	WASILLA MAINT SHOP BOGARD RD		350 E DAHLIA AVE	PALMER	AK	99645-6488	

112	MATLOCK TYLER S		# 1002	243 E 5TH AVE	ANCHORAGE	AK		99501
113	MAT-SU EDUCATION ASSOCIATION			6177 E MOUNTAIN HEATHER W	PALMER	AK		99645
114	MATTISON SEAN MICHAEL			3450 E ANAHEIM DR	WASILLA	AK	99654-6030	
115	MAYER BRIAN L & ALICIA D			3931 E COTTONWOOD WAY	WASILLA	AK		99654
116	MCCUE RYAN & LOREN		#437	3705 ARCTIC BLVD	ANCHORAGE	AK		99503
117	MCCURDY NEIL			3100 E ANAHEIM DR	WASILLA	AK		99654
118	MCKAY BRENDON S & CLAIRE J			3930 E BIRCH VIEW DR	WASILLA	AK		99654
119	MCKILLIPS ERIC A & AUTUMN			3725 E SPRUCE TOP CIR	WASILLA	AK		99654
120	MERIDIAN PARK LOOP INV LLC		% APEX PROPERTY MNGMNT LL	PO BOX 879158	WASILLA	AK		99687
121	MERIDIAN PARK MEDICAL HOLDING LLC			4237 E MERIDIAN LOOP	WASILLA	AK	99654-7650	
122	MERRILL JOSEPH CHARLES			PO BOX 876897	WASILLA	AK	99687-6897	
123	MILLS DONALD D & KIM D			3441 E ANAHEIM DR	WASILLA	AK		99654
124	MITCHELL KARL			1471 N ASPEN PL	WASILLA	AK		99654
125	MMAC PIX WASILLA AK SPE LLC		% ALTUS GROUP	PO BOX 92129	SOUTHLAKE	TX		76092
126	MOFFATT QUINTON & JANET			8334 KENDALL VLY	SAN ANTONIO	TX	78244-4524	
127	MOORE BRIAN D			1650 N WESTMORLAND DR	WASILLA	AK	99654-6047	
128	MORGAN JOHN & COLLEEN			18513 NE 139TH ST	BRUSH PRAIRIE	WA		98606
129	MOSES GERALD F & MARY E REV TR			4300 E PALMDALE DR	WASILLA	AK		99654
130	MOSS CHARLENE D	OWEN KURT D		3930 E COTTONWOOD WAY	WASILLA	AK		99654
131	NAVIA ANDREW & JESSIE			4051 E BIRCH VIEW DR	WASILLA	AK		99654
132	NEES MATTHEW & CYNTHIA			1420 N ASPEN PL	WASILLA	AK		99654
133	NORTHERN FUTURES TR	HEWITT JEFFREY M & VICKI R TRES		4250 E PALMDALE DR	WASILLA	AK	99654-6608	
134	NOVAK STEVEN G & SARAH P			3811 E COTTONWOOD WAY	WASILLA	AK	99654-6622	
135	OHNSTAD JOSHUA WILLIAM			3751 E COTTONWOOD WAY	WASILLA	AK		99654
136	O'MALLEY RACHAEL S	CONLEY KEENAN A		1625 N WESTMORLAND DR	WASILLA	AK	99654-6049	
137	ONOCHLE ASHLEY			4727 N BARON ST	WASILLA	AK		99654
138	OWEN KURT	GALLAGHER JOHN & LEANNA		3930 E COTTONWOOD WAY	WASILLA	AK	99654-6618	
139	PARRIS ANDREW D & RACHAEL L			3730 E PALMDALE DR	WASILLA	AK		99654
140	PIATT MATTHEW D & LINDSEY K			4150 E PALMDALE DR	WASILLA	AK	99654-6607	
141	PIATT ROBT M JR & P L			4100 PALMDALE DR	WASILLA	AK		99654
142	PIROG THOS J			PO BOX 872670	WASILLA	AK	99687-2670	
143	POVELITE DAVID OWEN			3330 E ANAHEIM DR	WASILLA	AK	99654-6029	
144	PRECISION HOMES LLC			PO BOX 875322	WASILLA	AK	99687-5322	
145	PULA PENI JR			3461 E ANAHEIM DR	WASILLA	AK		99654
146	REIMER ANDREW A& SONDRA J			3891 E COTTONWOOD WAY	WASILLA	AK		99654
147	RENDULIC ROBERT & TARA			3605 E SPRUCE TOP CIR	WASILLA	AK		99654
148	RIOPELLE MARTIN A			GENERAL DELIVERY	WASILLA	AK	99687-9999	
149	ROCK SOLID PLUMBING & HEATING LLC		# 2	3341 E PALMDALE DR	WASILLA	AK		99654
150	SAGEBRUSH PROPERTIES LLC		SUITE B	3465 E MERIDIAN PARK LOOP	WASILLA	AK		99654
151	SCOTT DEAN E & DORIS A			3890 E COTTONWOOD WAY	WASILLA	AK		99654
152	SHEA MICHAEL J & LINDA M			4000 BIRCH VIEW DR	WASILLA	AK		99654
153	SHILOH MISSIONARY BAPT CH			855 E 20TH AVE	ANCHORAGE	AK		99501
154	SHORES OF ANCIENT TREE	HOMEOWNERS ASSN INC		PO BOX 876894	WASILLA	AK	99687-6894	
155	SHPORTUN ARTEM & CHYENNE			3360 E ANAHEIM DR	WASILLA	AK		99654
156	SILVER VICTOR			1600 N WESTMORLAND DR	WASILLA	AK		99654
157	SMITH GARY O & SHARON C			3350 E PALMDALE DR	WASILLA	AK	99654-6038	
158	SPIVEY MICHAEL L JR			PO BOX 875494	WASILLA	AK		99687
159	STROUD FRED A & JETTA R			3400 E PALMDALE DR	WASILLA	AK		99654
160	SUN SPLASH PROPERTIES LLC			650 E BLUFF VISTA CIR	WASILLA	AK		99654
161	TADESA LLC		% ANN DESALVO	PO BOX 874086	WASILLA	AK	99687-4086	
162	TEEPLE DEAN & COURTNEY			3375 E ANAHEIM DR	WASILLA	AK		99654
163	TIEDJE CHEYENNE			3260 E PALMDALE DR	WASILLA	AK		99654
164	TOMAZEVIC KRISTOPHER T			3605 E PALMDALE DR	WASILLA	AK	99654-6610	
165	TOWER SEAN P & ROSEMARY L			4011 E COTTONWOOD WAY	WASILLA	AK	99654-6662	
166	TRACT C-2 LLC			3122 E MERIDIAN PARK LOOP	WASILLA	AK		99654
167	TUBBS RICHARD G LVG TR		%LENETTE MAXWELL	PO BOX 2277	HAMILTON	MT	59840-4277	

168	TUCKER BRANDON S & S M			3000 E ESCONDIDO AVE	WASILLA	AK		99654
169	TYREE JAMES C JR	CLEVELAND TERESA E		3130 E ANAHEIM DR	WASILLA	AK		99654
170	URSA MAJOR INVESTMENTS LLC		% APEX PROPERTY MGMT LLC	PO BOX 879158	WASILLA	AK		99687
171	UTOPIA INVESTMENTS LLC			3275 E TAMARAK AVE	WASILLA	AK		99654
172	VALDEZ RODELMIRO			3230 E ANAHEIM DR	WASILLA	AK		99654
173	VANDENBERG JASON A			3401 E ANAHEIM DR	WASILLA	AK	99654-6034	
174	VIRGIN STACEY & KATRINA			PO BOX 3738	PALMER	AK		99645
175	WALLACE TYLER & CAILEY			3750 E COTTONWOOD WAY	WASILLA	AK		99654
176	WAMSLEY JERRY W & P A			3700 SPRUCE TOP CIR	WASILLA	AK		99654
177	WASILLA LAND TR NO 2 LLC		STE 300	9757 JUANITA DR NE	KIRKLAND	WA		98034
178	WEST TYLER	BROWN PAIGE		2200 N CLARIDGE CT	WASILLA	AK		99654
179	WILEY ERIC & SUSAN			3301 E ANAHEIM DR	WASILLA	AK		99654
180	WISDOM GABRIEL L			3150 E ESCONDIDO AVE	WASILLA	AK		99654
181	WITT JEREMIAH			3200 E ESCONDIDO AVE	WASILLA	AK	99654-6056	
182	WOLFE JOHN H JR & MARY J			3400 ANAHEIM DR	WASILLA	AK		99654
183	WORD OF FAITH ASSEMBLY			PO BOX 875147	WASILLA	AK	99687-5147	
184	WRIGHT BRANDON & MELANIE			1500 N ASPEN PL	WASILLA	AK	99654-6626	
185	WRIGHT KRISTINA L	SIMPSON ROBERT J		3871 E COTTONWOOD WAY	WASILLA	AK		99654
186	FSA NO. 130			6497 S HAYFIELD RD	WASILLA	AK		99654
187	RSA NO. 25			1861 N KODIAK DR	WASILLA	AK		99654
188	NORTH LAKES COMMUNITY COUNCIL		#2 PMB 449	3060 N LAZY EIGHT CT	WASILLA	AK		99654



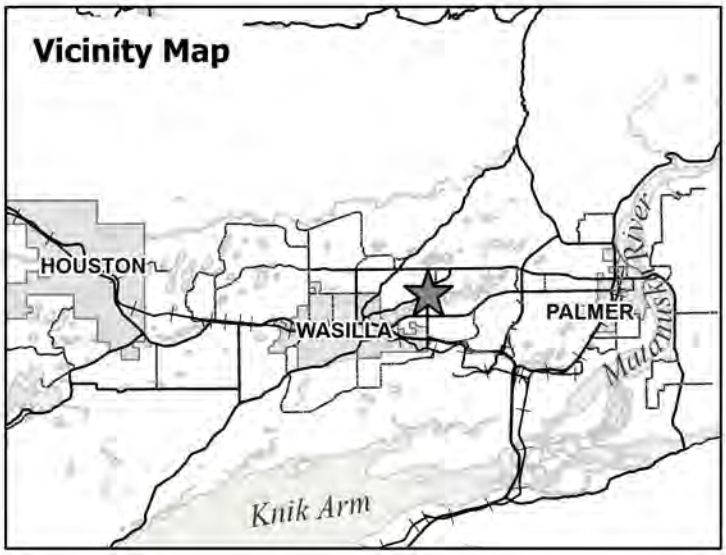
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This map is solely for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.

MSB Information Technology/GIS
October 17, 2025



Matanuska-Susitna Borough
Development Services Division
350 E. Dahlia Avenue
Palmer, Alaska 99645

«NAME»
«ADDRESS_1»
«ADDRESS_2»
«ADDRESS_3»

PUBLIC HEARING

Justin Abbott, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 120-foot telecommunications tower located at 3600 E. Bogard Road, Tax ID# 2327B01L004.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Wednesday, November 19, 2025,*** at 2:30 p.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***November 14, 2025,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Name: _____ ***Mailing Address:*** _____

Location/Legal Description of your property: _____

Comments: _____

_____

_____

_____

_____

_____

_____

Note: Vicinity Map Located on Reverse Side



Matanuska-Susitna Borough

www.matsu.gov

MATANUSKA-SUSITNA BOROUGH
NOTICE OF PUBLIC MEETINGS

All meetings of recognized boards, committees, and commissions of the Borough are open to the public and are held at Borough offices, 350 E. Dahlia Ave., Palmer, AK, unless specified otherwise. PSB stands for Public Safety Building (Fire/EMS). Three or more Assembly Members may be present at advertised public meetings of federal, state, and local governments or other entities. Meetings are scheduled as follows:

BOARD	DATE	TIME	LOCATION
Joint Assembly/School Board Committee On School District Funding Issues	11/03/25	2:00 pm	MSBSD Central Office
Planning Commission (To Participate Telephonically Call 855-290-3803)	11/03/25	6:00 pm	Mat-Su Animal Shelter Conference Room
Knik RSA No. 17 Board Of Supervisors	11/04/25	7:00 pm	Point MacKenzie Community Council Building & Teams ID: 272 369 070 627 8 Passcode: c95Pf3vT
Abbreviated Plat	11/05/25	8:30 am	Conference Room 110
Talkeetna Sewer & Water SSA No. 36 Board Of Supervisors	11/05/25	1:00 pm	Talkeetna Public Library & Teams ID: 219 084 064 569 Passcode: Rwkjk6
Platting Board (To Participate Telephonically Call 855-290-3803)	11/06/25	1:00 pm	Assembly Chambers
Library Citizens' Advisory Committee	11/10/25	5:00 pm	Big Lake Lions Recreation Center Conference Room
West Lakes FSA No. 136 Board Of Supervisors	11/10/25	6:00 pm	West Lakes PSB, Station 7-3
Abbreviated Plat	11/12/25	8:30 am	Assembly Chambers
Bogard RSA No. 25 Board Of Supervisors	11/12/25	5:00 pm	Teams ID: 268 346 780 636 Passcode: hs7XK9ki
MSB Fish & Wildlife Commission	11/13/25	4:00 pm	Assembly Chambers & Teams ID: 213 715 044 561 Passcode: mJ26N5BL
Alpine RSA No. 31 Board Of Supervisors	11/13/25	6:00 pm	Sutton Public Library & Teams ID: 236 611 844 742 9 Passcode: NA7R76CA
Willow-Caswell FSA No. 140 Board Of Supervisors	11/13/25	6:30 pm	Caswell PSB, Station 13-1
Lazy Mountain RSA No. 19 Board Of Supervisors	11/14/25	7:00 pm	Lazy Mountain Bible Church, Building #2

If you would like further information on any of these meetings or are interested in serving on any of the advisory boards, please call the Borough Clerk's Office at 907-861-8683, Monday through Friday, 8 a.m. to 5 p.m. The Borough's website address is:
https://www.matsu.gov/boards/public-meetings-calendar
Disabled persons needing reasonable accommodation in order to participate at a Borough Board/Commission meeting should contact the Borough ADA Coordinator at 907-861-8432 at least one week in advance of the meeting.

The Community Council meetings scheduled are: (Community Councils are not agencies or subgroups of the Borough. There may be a quorum of Mat-Su Borough advisory boards in attendance at community council meetings.)

Fishhook Community Council Board Meeting	11/03/25	6:00 pm	St Herman Church & Zoom ID: 856 0430 5998 Passcode: 338952
South Lakes Community Council	11/03/25	7:00 pm	Mat-Su Midwifery and Family Health
Talkeetna Community Council (talkeetnacouncil.org For Zoom Link)	11/03/25	7:00 pm	Talkeetna Public Library
Knik-Fairview Community Council	11/05/25	7:00 pm	Settlers Bay Lodge
Willow Area Community Organization	11/05/25	7:00 pm	Willow Community Center
Susitna Community Council	11/06/25	7:00 pm	Upper Susitna Community & Senior Center & Zoom ID: 289 753 3519 Passcode: 594227
Butte Community Council Annual Election	11/08/25	7:00 pm	Butte Community Center
Big Lake Community Council	11/11/25	7:00 pm	Big Lake Lions Recreation Center
Gateway Community Council	11/12/25	6:00 pm	Extreme Fun Center & Zoom ID: 891 2154 8496 Passcode: 046319
Chickaloon Community Council (chickalooncc.com For Zoom Link)	11/12/25	7:00 pm	Chickaloon Community Center
Meadow Lakes Community Council (mlccak.org For Zoom Link)	11/12/25	7:00 pm	Meadow Lakes Senior Housing
Point MacKenzie Community Council Board Meeting	11/13/25	7:00 pm	Point MacKenzie Community Center

Publish Date: October 31, 2025 1025-34

MATANUSKA-SUSITNA BOROUGH
PUBLIC NOTICE

Type: Classification (MSB008238) **Tax ID: 18N03W09A001**

In response to Assembly direction, the Matanuska-Susitna Borough (Borough) Land & Resource Management Division has identified a Borough-owned parcel suitable for future development as a shooting range. Land Management proposes to classify the land as Reserved Use (Shooting Range). The Parcel Tax ID is 18N03W09A001, located in Township 18 North, Range 3 West, Section 9.

Supporting material is available for public inspection by appointment only during normal business hours on the 2nd floor of the Borough Building in the Land & Resource Management office or visit the Public Notice Section on the Borough's web page, www.matsugov.us. Public comment is invited on this request. If you have any comments please mail or deliver them to the Borough offices at the address indicated above, no later than November 10, 2025. If you have questions about this request, call Peter Burton at 907-861-7847 between 8 am – 5 pm or you can send an e-mail to: LMB@matsugov.us (please refer to MSB008238 Zero Lake when submitting comments).

Publish Date: October 31, 2025 1025-17

MATANUSKA-SUSITNA BOROUGH
There may be a quorum of the Assembly at a public meeting regarding the development plan for the Jonesville Shooting Range and Park on Thursday, November 6, starting at 5 pm., at Sutton Elementary School – 11672 Wright Way.

Publish Date: October 31, 2025 1025-35

PUBLIC HEARING



Justin Abbott, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 120-foot telecommunications tower located at 3600 E. Bogard Road, Tax ID# 2327B01L004.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Wednesday, November 19, 2025,*** at 2:30 p.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before November 14, 2025, and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: October 31, 2025 1025-36

PRIOR TO BUYING OR BUILDING IN THE MAT-SU BOROUGH CONTACT DEVELOPMENT SERVICES PERMIT CENTER

Different rules apply in different parts of the borough. Important information: maps, codes, forms and applications are available on the Borough website www.matsugov.us
Phone 907-861-7822 or email permitcenter@matsugov.us

DID YOU KNOW?

There are required SETBACKS in the borough.

Setbacks for structures are:
10 feet from a property line, 25 feet from a Right-Of-Way or Public Use Easement, and 75 feet from any water body.

Docks, piers, marinas, aircraft hangars and boathouses may be located closer than 75 feet and over the water, provided they are not used for habitation and do not contain sanitary or petroleum fuel storage facilities. Structures permitted over water under this subsection shall conform to all applicable state and federal statutes and regulations.

Violating these setbacks may make financing your property (buying or selling) difficult, and could be expensive to correct after you build.

Edna DeVries, Mayor
(907) 861-8682 - Work
(907) 795-8133 - Cell
Edna.DeVries@matsu.gov

Tim Hale, #1
(907) 590-8243
TimHaleDistrict1@gmail.com

Stephanie Nowers, #2
(907) 831-6299
StephanieNowersDistrict2@gmail.com

Dee McKee, #3
(907) 315-2802
Dee.McKee@matsu.gov

Maxwell Sumner, #4
(907) 232-6797
Maxwell.Sumner@matsu.gov

Bill Gamble, #5
(907) 232-0103
Bill.Gamble@matsu.gov

Dmitri Fonov, #6
(907) 861-8546
fonov@matsu.gov

Ron Bernier, #7
(907) 354-7877
Ron.Bernier@matsu.gov

To see a complete listing of all boards and commissions, please go to **http://www.matsu.gov/boards** and select the type of board you are wanting to view.

LK-AT251028_143911



Matanuska-Susitna Borough

www.matsu.gov

MATANUSKA-SUSITNA BOROUGH
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BOARD	DATE	TIME	LOCATION
Joint Borough Assembly/School Board Committee On School District Funding Issues	12/01/25	3:00 pm	MSBSD Central Office
Planning Commission (To Participate Telephonically Call 855-290-3803)	12/01/25	6:00 pm	Assembly Chambers
Assembly Regular Meeting (To Provide Public Comment Telephonically Call 855-225-2326)	12/02/25	6:00 pm	Assembly Chambers
Knik RSA No. 17 Board Of Supervisors	12/02/25	7:00 pm	Point MacKenzie Community Council Building & Teams ID: 272 369 070 627 8 Passcode: c95Pf3vT
Abbreviated Plat	12/03/25	8:30 am	Assembly Chambers
Talkeetna Sewer & Water SSA No. 36 Board Of Supervisors	12/03/25	1:00 pm	Talkeetna Public Library & Teams ID: 219 084 064 569 Passcode: Rwkjk6
Meadow Lakes RSA No. 27 Board Of Supervisors	12/04/25	1:00 pm	West Lakes PSB, Station 7-3
Platting Board (To Participate Telephonically Call 855-290-3803)	12/04/25	1:00 pm	Assembly Chambers
Library Citizens' Advisory Committee	12/08/25	5:00 pm	Lower Level Conference Room & Teams ID: 247 413 238 696 53 Passcode: Mt38w6VL
Central Mat-Su FSA No. 130 Board Of Supervisors	12/08/25	6:00 pm	Central Mat-Su PSB, Station 6-1
West Lakes FSA No. 136 Board Of Supervisors	12/08/25	6:00 pm	West Lakes PSB, Station 7-3
Big Lake RSA No. 21 Board Of Supervisors	12/08/25	6:30 pm	Big Lake Lions Recreation Center & Teams ID: 265 089 220 463 8 Passcode: pH7Tu9Wq
Caswell Lakes RSA No. 15 Board Of Supervisors	12/08/25	6:30 pm	Sheep Creek Lodge
Enhanced 911 Advisory Board (To Participate Telephonically Call 907-290-7880 Meeting ID: 439 105 588#)	12/09/25	9:00 am	Central Mat-Su PSB, Station 6-5
Library Board	12/09/25	1:00 pm	Big Lake Lions Recreation Center & Teams ID: 289 421 144 590 Passcode: Zw9Cj63Y
Port Commission Special Meeting Re: Tariff & Code Changes, Master Plan Update, & Resolutions	12/09/25	2:00 pm	Lower Level Conference Room & Teams ID: 239 694 063 313 34 Passcode: Wr7n7e52
Joint Assembly/School Board Meeting (To Provide Public Comment Telephonically Call 855-225-2326)	12/09/25	6:00 pm	Assembly Chambers
Abbreviated Plat	12/10/25	8:30 am	Assembly Chambers
Greater Willow RSA No. 20 Board Of Supervisors	12/10/25	7:00 pm	Willow Public Library Conference Room & Teams ID: 256 773 397 546 Passcode: JQ9rT3w3
Butte FSA No. 2 Board Of Supervisors	12/11/25	10:00 am	Butte PSB, Station 2-1
MSB Fish & Wildlife Commission	12/11/25	4:00 pm	Assembly Chambers & Teams ID: 213 715 044 561 Passcode: mJ26N5BL
Greater Talkeetna RSA No. 29 Board Of Supervisors	12/11/25	6:30 pm	Zoom ID: 867 7896 5588 Passcode: 3SMCEt
Greater Butte RSA No. 26 Board Of Supervisors	12/11/25	7:00 pm	Butte Community Building

If you would like further information on any of these meetings or are interested in serving on any of the advisory boards, please call the Borough Clerk's Office at 907-861-8683, Monday through Friday, 8 a.m. to 5 p.m. The Borough's website address is: https://www.matsu.gov/boards/public-meetings-calendar **Disabled persons needing reasonable accommodation in order to participate at a Borough Board/ Commission meeting should contact the Borough ADA Coordinator at 907-861-8432 at least one week in advance of the meeting.**

The Community Council meetings scheduled are: (Community Councils are not agencies or subgroups of the Borough. There may be a quorum of Mat-Su Borough advisory boards in attendance at community council meetings.)

South Lakes Community Council	12/01/25	7:00 pm	Mat-Su Midwifery & Family Health
Talkeetna Community Council (talkeetnacouncil.org For Zoom Link)	12/01/25	7:00 pm	Talkeetna Public Library
Willow Area Community Organization	12/03/25	7:00 pm	Willow Community Center
Susitna Community Council	12/04/25	7:00 pm	Upper Susitna Community & Senior Center
Fishhook Community Council Board Meeting	12/08/25	6:00 pm	St Herman Church & Zoom ID: 856 0430 5998 Passcode: 338952
Gateway Community Council	12/10/25	6:00 pm	Extreme Fun Center & Zoom ID: 891 2154 8486 Passcode: 046319
Chickaloon Community Council (chickalooncc.com For Zoom Link)	12/10/25	7:00 pm	Chickaloon Community Center
Meadow Lakes Community Council Holiday Potluck & Auction (mlccak.org For Meeting Details)	12/10/25	7:00 pm	Meadow Lakes Elementary School

Publish Date: November 28, 2025 1125-30

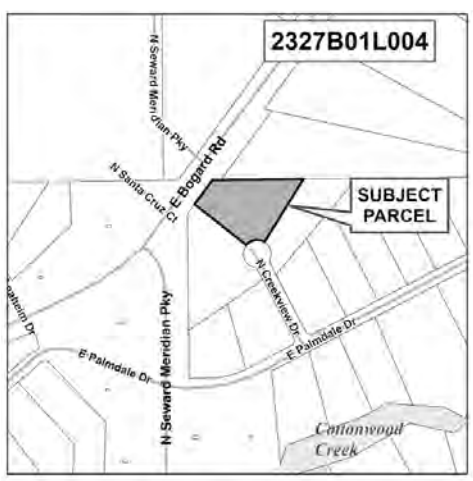
MATANUSKA-SUSITNA BOROUGH
PUBLIC NOTICE

Type: Classification (MSB007983) **Tax ID: 5256000T00A**

Land & Resource Management Division received an application from Cellco Partnership, dba Verizon Wireless to lease a 900 sq. ft. portion of Borough-owned property to install a commercial telecommunications tower. Land Management proposes to classify the land as Reserve Use/General Purpose Lands and lease the property to Verizon through the application process. The proposed lease area is located on land utilized by West Lakes Fire Department Station 7-2. Emergency Services is aware of the request and is supportive of the wireless telecommunication facility.

Supporting material is available for public inspection by appointment only during normal business hours on the 2nd floor of the Borough Building in the Land & Resource Management office or visit the Public Notice Section on the Borough's web page, www.matsugov.us. Public comment is invited on this request. If you have any comments please mail or deliver them to the Borough offices at the address indicated above, no later than December 20, 2025. If you have questions about this request or would like to schedule an appointment to view supporting materials, call Suzanne Reilly at 907-861-8492 between 8 am - 5 pm or you can send an e-mail to: **LMB@matsugov.us (please refer to MSB007983 Verizon Wireless Lease when submitting comments).**

Publish Date: November 28, 2025 1125-28



PUBLIC HEARING

Justin Abbott, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 120-foot telecommunications tower located at 3600 E. Bogard Road, Tax ID# 2327B01L004.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, December 18, 2025***, at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***December 12, 2025***, and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: November 28, 2025 1125-28

ASSEMBLY AGENDA
ASSEMBLY CHAMBERS
350 EAST DAHLIA AVENUE, PALMER

ASSEMBLY REGULAR MEETING 6:00 P.M. TUESDAY, DECEMBER 2, 2025

WAYS TO PARTICIPATE IN THE ASSEMBLY MEETING IF YOU CANNOT ATTEND IN PERSON:
IN WRITING:
- You can submit written comments to leg.com@matsugov.us

TELEPHONIC TESTIMONY:
- Dial 1-855-225-2326
- You will hear "Joining conference" when you are admitted to the meeting.
- You will be automatically muted and able to listen to the meeting.
- When the Mayor announces audience participation or a public hearing you would like to speak to, press *3; you will hear "Your hand has been raised."
- When it is your turn to testify you will hear "Your line has been unmuted."
- State your name for the record, spell your last name, and provide your testimony.

OBSERVE: observe the meeting via the live stream video at:
- https://matanuska.legistar.com/Calendar.aspx
- https://www.facebook.com/MatSuBorough
- Matanuska-Susitna Borough - YouTube

I. CALL TO ORDER
II. ROLL CALL
III. APPROVAL OF AGENDA
IV. PLEDGE OF ALLEGIANCE
V. SPECIAL ORDERS OF THE DAY
A. Appointment of Deputy Mayor Ron Bernier
VI. MINUTES OF PRECEDING MEETINGS
25-181 A. Assembly Regular Meeting Minutes: 08/19/25
B. Assembly Regular Meeting Minutes: 10/21/25
C. Assembly Election Certification Meeting Minutes: 11/18/25
D. Assembly Regular Meeting Minutes: 11/18/25
Attachments: 12/02/25 - Minutes for Packet

Edna DeVries, Mayor (907) 861-8682 - Work (907) 795-8133 - Cell Edna.DeVries@matsugov.us
Michael Bowles, #1 (907) 355-1355 Michael.Bowles@matsugov.us
Stephanie Nowers, #2 (907) 831-6299 StephanieNowersDistrict2@gmail.com
Dee McKee, #3 (907) 315-2802 Dee.McKee@matsugov.us
Maxwell Sumner, #4 (907) 232-6797 Maxwell.Sumner@matsugov.us
Bill Gamble, #5 (907) 232-0103 Bill.Gamble@matsugov.us
Dmitri Fonov, #6 (907) 861-8546 fonov@matsugov.us
Ron Bernier, #7 (907) 354-7877 Ron.Bernier@matsugov.us
To see a complete listing of all boards and commissions, please go to **http://www.matsu.gov/boards** and select the type of board you are wanting to view.

UNITED STATES POSTAL SERVICE®

Certificate of Bulk Mailing – Domestic

Fee for Certificate

Up to 1,000 pieces (1 certificate for total number)

For each additional 1,000 pieces, or fraction thereof

Duplicate Copy ☐

Use Current Price List (Notice 123)

Postage: Mailers must affix meter, PC Pos or (uncanceled) postage stamps here in pa of total fee due.

US POSTAGE™ PITNEY BOWES
ZIP 99645 $ 013.50⁰
02 7W
0008035337 FEB 06 2026

Acceptance employee must cancel postage affixed (by round-date) at the time of mailing.

If payment of total fee due is being paid by Permit Imprint, include the *PostalOne!*® Transaction Number here: _____

Number of Identical Weight Pieces	Class of Mail	Postage for Each Mailpiece Paid	Number of Pieces to the Pound
185	1st	☐ Verified	45

Total Number of Pounds	Total Postage Paid for Mailpieces	Fee Paid
~~3lb~~ 13.7oz	136.90	$13.50

Mailed For	Mailed By
Permit Center	Betty Jean Black

Postmaster's Certification

It is hereby certified that the number of mailpieces presented and the associated postage and fee were verified. This certificate does not provide evidence that a piece was mailed to a particular address.

(Postmaster or Designee)

USPS FEB 6 2026 PALMER, AK 99645

PS Form **3606-D**, January 2016 PSN 7530-17-000-5548

See Reverse for Instructions

Instructions for Certificate of Bulk Mailing — Domestic Service

This service is available only at the time of mailing and is used to specify only the number of identical-weight pieces mailed; it does *not* provide evidence that a piece was mailed to a particular address. This certificate is available for domestic mailings of First-Class Mail®, First-Class Package Service®, Priority Mail®, USPS Retail Ground™, Media Mail®, Library Mail, Bound Printed Matter, Standard Mail® (excluding Customized MarketMail® and Marketing Parcels), and Parcel Select® (including Parcel Select Lightweight®) items.

1. Pay postage as appropriate — affix meter, PC Postage, or (uncanceled) postage stamps in payment of total fee due in the postage area, or if paying fee by permit imprint, enter information in the postage area at the top right of the form.

2. Present PS Form 3606-D and the mailing as follows:

   - When the mailing has fewer than 50 mailpieces *and* less than 50 pounds, present the form and mailing at a retail Post Office™ location.
   - When the mailing has at least 50 mailpieces *or* at least 50 pounds, present the form and mailing at a business mail entry unit (BMEU) or USPS-authorized detached mail unit (DMU).

3. The Postal Service™ certifies and postmarks (round-dates) the PS Form 3606-D at the time of mailing and then returns it to the mailer as the mailer's receipt.

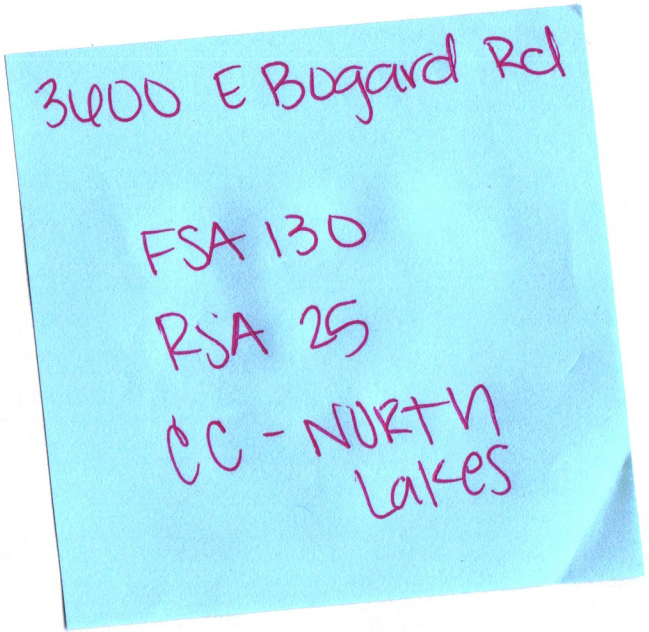
Certificate of Bulk Mailing — Domestic service does not provide a record of delivery, and the Postal Service does not retain any copies of PS Form 3606-D. The mailer cannot use PS Form 3606-D as a certificate of mailing for individual mailpieces or itemized lists.

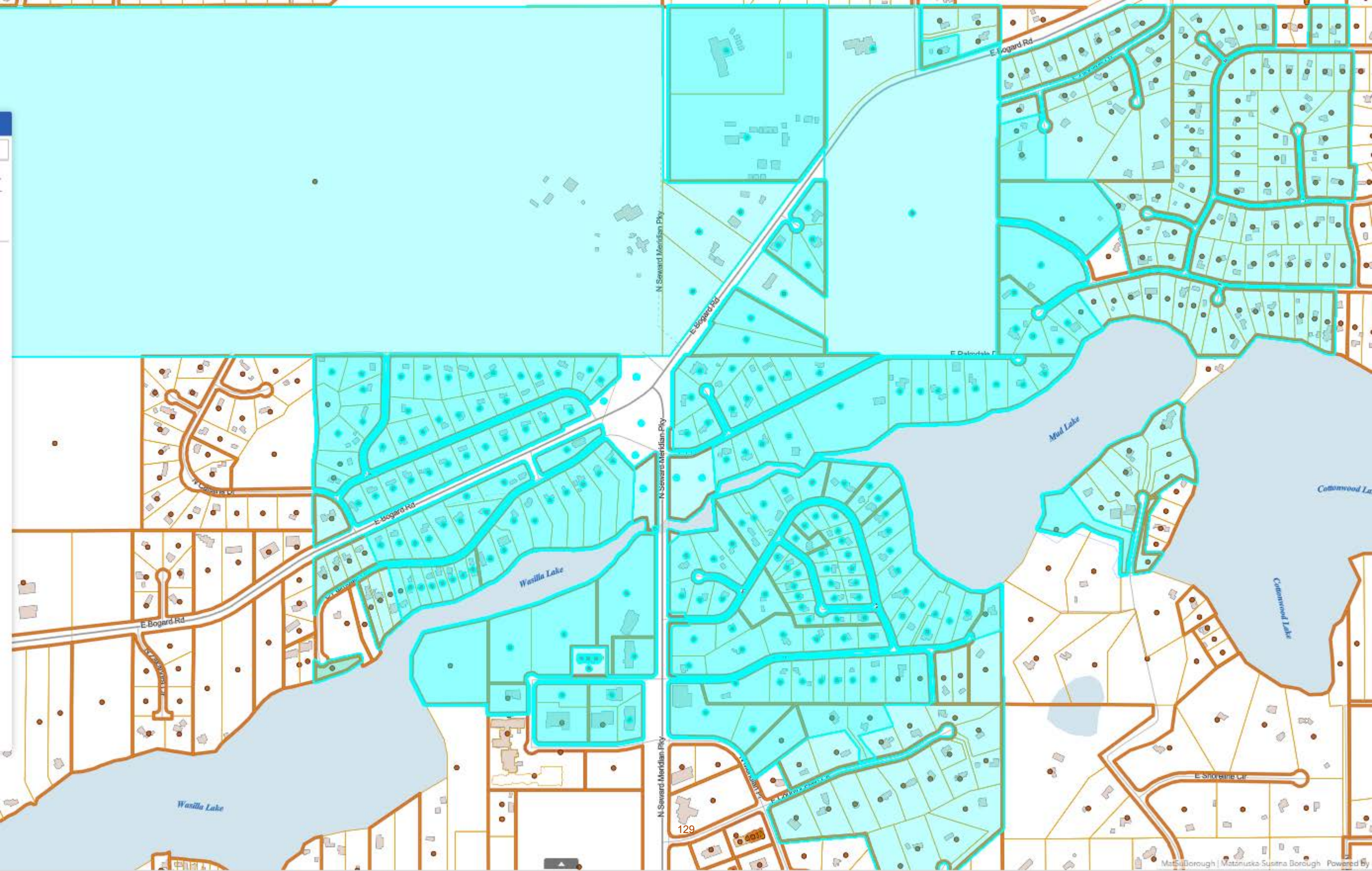
#	Owner 1	Owner 2	Mailing Address Line 2	Mailing Address Line 1	Mailing Address City	Mailing Address State	Mailing Address Zipcode
1	3331 E MERIDIAN PARK LOOP LLC		% APEX PROPERTY MNGMNT LL	PO BOX 879158	WASILLA	AK	99687
2	A6KB LLC	ALASKA LLC		1700 N LUCILLE ST	WASILLA	AK	99654
3	AHI MATSU INVESTMENT LLC		SUITE T-100	3841 PIPPER ST	ANCHORAGE	AK	99508
4	ALASKA SELECT INN MOTEL			881 N NORTHSHORE DR	WASILLA	AK	99654
5	ALASKA STATE OF	DEPT OF TRANS & PUB FAC		PO BOX 196900	ANCHORAGE	AK	99519-6900
6	ALASKA STATE OF	DEPT OF NATURAL RESOURCES ALCANTRA NAT'L	DIV OF LANDS	550 W 7TH AVE STE 1050A	ANCHORAGE	AK	99501
7	ALBERT ZACHARY & KATHRYN			3971 E COTTONWOOD WAY	WASILLA	AK	99654
8	ALEXANDER GREGG	ALEXANDER GREGG & CHRISTINA F		PO BOX 875681	WASILLA	AK	99687-5681
9	ALTENBERGER JAMES R & VIRGINIA J			3230 E ESCONDIDO AVE	WASILLA	AK	99654-6056
10	APLING TODD L			3090 E LONG BEACH CIR	WASILLA	AK	99654-6060
11	BAHR BRIAN R & SUSAN I FAM TR			826 W BARTLETT DR	BUDA	TX	78610
12	BAILES ROBIN A& CHRISTINE			PO BOX 875567	WASILLA	AK	99687-5567
13	BAKER CARL J			3860 E BIRCH VIEW DR	WASILLA	AK	99654
14	BARKSDALE KEVIN J			PO BOX 244894	ANCHORAGE	AK	99524-4894
15	BELANGER RAY & CAROL FAM TR TRES			3296 E PALMDALE DR	WASILLA	AK	99654
16	BENA CHRISTOPHER & AMBER REV LVG TR			3910 E COTTONWOOD WAY	WASILLA	AK	99654
17	BILLMAN JENNIFER LEE	IDE CHRISTOPHER D		3945 E BIRCH VIEW DR	WASILLA	AK	99654-6641
18	BLACKTAIL BOBS BASE CAMPS LLC		% ROBERT AMEEN	3433 E WHISPERING WOODS D	WASILLA	AK	99654-7471
19	BOENSCH RONALD REV TR	BOENSCH KATHY A REV TR BOENSCH RONALD&KA		3800 E COTTONWOOD WAY	WASILLA	AK	99654
20	BRESHEARS LOREN			3600 E SPRUCE TOP CIR	WASILLA	AK	99654-6630
21	BROOKS JONATHAN P & JENNIFER N			4000 E PALMDALE DR	WASILLA	AK	99654
22	BROWDER CHRISTOPHER M	BROWDER STACEY M		1701 N CREEKVIEW DR	WASILLA	AK	99654
23	BUTCHART JOHN M			3260 E ESCONDIDO AVE	WASILLA	AK	99654
24	CALDWELL TYLER EDWARD			1420 N ASPEN PL	WASILLA	AK	99654
25	CAMPBELL NATHANIEL R & ROBYN E			3830 E BIRCH VIEW DR	WASILLA	AK	99654
26	CARLTON BRIAN & KAREN			3801 E PALMDALE DR	WASILLA	AK	99654
27	CARROLL HAYDN			19125 NUNIVAK CIR	EAGLE RIVER	AK	99577-8660
28	CASEY VICTOR C			3960 E BIRCH VIEW DR	WASILLA	AK	99654-6635
29	CAVERLY GWEN F			1520 N ASPEN PL	WASILLA	AK	99654
30	CHRISTMAN JOYCE L TRUST			3800 E PALMDALE DR	WASILLA	AK	99654
31	CHURCH OF CHRIST AT WASILLA			2061 N MERCIFUL CIR	WASILLA	AK	99654-6073
32	CHURCH ON THE ROCK			PO BOX 874693	WASILLA	AK	99687-4693
33	CILK HARRY K & LEAH M			1651 N CREEKVIEW DR	WASILLA	AK	99654
34	COMPTON JUSTIN & SHAWNNA LLC		% TYLER BOBO	PO BOX 871813	WASILLA	AK	99687
35	COTTLE DEREK & RACHAEL			3750 E BIRCH VIEW DR	WASILLA	AK	99654
36	CRABTREE CHRISTOPHER C & TAMMY D			1725 N WESTMORLAND DR	WASILLA	AK	99654
37	CRATTY TERRY R	HELMS TAMMY L		3805 COTTONWOOD WAY	WASILLA	AK	99654-6622
38	CROWDER RYAN B & CAROLYN J			3911 E COTTONWOOD WAY	WASILLA	AK	99654
39	CRYSTAL INVESTMENTS LLC			PO BOX 190801	ANCHORAGE	AK	99519
40	CST PROPERTIES LLC			PO BOX 2954	PALMER	AK	99645-2954
41	CUNNINGHAM NICHOLAS D & AMANDA	CUNNINGHAM DEAN M & JACQUELINE C		4233 E PALMDALE DR	WASILLA	AK	99654
42	DEAN INVESTMENTS LLC			1025 N SEWARD MERIDIAN PK	WASILLA	AK	99654
43	DEMMING GREGORY		BOX 7	3817 E BOGARD RD	WASILLA	AK	99654
44	DEREWENKO ROY & LINDA			1491 CATALINA DR	WASILLA	AK	99654
45	DESGRANGES RONALD D			3240 E PALMDALE DR	WASILLA	AK	99654-6037
46	DESJARDIN RONALD M			67-128 KIAPOKO	WAIALUA	HI	96791
47	DOERNER JEFFREY A & JACQUELYN E			3755 E BIRCH VIEW DR	WASILLA	AK	99654
48	DONN JOSHUA JACOB & MISTY			1451 N ASPEN PL	WASILLA	AK	99654
49	DOWLING LINDSEY			1850 N LAUREL DR	PALMER	AK	99645-8807
50	DUNN COREY & ALEXANDRA			3825 E PALMDALE DR	WASILLA	AK	99654
51	DUNN KENNETH M JR & HEATHER E			3760 E PALMDALE DR	WASILLA	AK	99654
52	EASTER MARK A & DAYSHA L			3245 E ANAHEIM DR	WASILLA	AK	99654-6032
53	EBY BENJAMIN & SARAH			3280 E PALMDALE DR	WASILLA	AK	99654
54	EDMONDSON RYAN & AMANDA			1440 N ASPEN PL	WASILLA	AK	99654-6625
55	EICHELBERGER DON L			3915 E BIRCH VIEW DR	WASILLA	AK	99654-6641

56	ERICKSON INVESTMENTS LLC		% APEX PROPERTY MNGMNT LL	PO BOX 879158	WASILLA	AK		99687
57	ERICKSON INVESTMENTS LLC			8535 E STORMY HILL CIR	WASILLA	AK		99654
58	ESTELLE RICHARD N TR			3175 E ANAHEIM DR	WASILLA	AK		99654
59	FERINGA HERMAN H H	IDARRAGA CAMILO S		13902 E RIVER VISTA CIR	PALMER	AK		99645
60	FRALICK TRISTIN G & SHAYDIE B			2313 N TAIT DR	WASILLA	AK		99654
61	FRATI STEPHEN F & VERONICA M			3945 E COUNTRY FIELD CIR	WASILLA	AK	99654-6688	
62	GARBETT BENJAMIN & AMANDA			15250 N 52ND DR	GLENDALE	AZ		85306
63	GILLIGAN TYLER			4279 E LARCH DR	WASILLA	AK		99654
64	GOLDEN SWAN INV REV LVG TR	LUNDY MARY L TRE		2202 ROOSEVELT DR	ANCHORAGE	AK		99517
65	GRASSER GEORGE A & CYNTHIA L			3875 E PALMDALE DR	WASILLA	AK	99654-6612	
66	GRAY DAVID & ALEXANDRA			2469 S PADDOCK DR	WASILLA	AK		99654
67	GREATHOUSE KATHLEEN D			3424 E PALMDALE DR	WASILLA	AK		99654
68	GREGG BRIAN	CRAWFORD ERIN		1400 N ASPEN PL	WASILLA	AK		99654
69	GURR INVESTMENTS LLC			4213 E SERENDIPITY LOOP	WASILLA	AK		99654
70	HACKER JERAD			935 N NORTH SHORE DR	WASILLA	AK		99654
71	HAMILTON JASON E & ESCORITA L			3275 E ANAHEIM DR	WASILLA	AK		99654
72	HANSBRAUGH MARVEL			3160 E ANAHEIM DR	WASILLA	AK		99654
73	HANSON THOMAS E	HEINRICHS VALERIE M		PO BOX 872213	WASILLA	AK		99687
74	HARRISON JACK B & PATSY L			3450 E PALMDALE DR	WASILLA	AK		99654
75	HECK ESTHER C LVG TR/TRE			4131 E BIRCH VIEW DR	WASILLA	AK		99654
76	HOLINGER ALICE J			3761 E PALMDALE DR	WASILLA	AK	99654-6611	
77	HOLLAND JOSHUA D & MICHELLE M			8716 ABBOTT LOOP RD	ANCHORAGE	AK		99507
78	HURST JOHN MITCHELL JR			2475 S SWEETIE PIE ST	WASILLA	AK		99654
79	HUTCHISON RICHARD & RUTH TR			3421 E ANAHEIM DR	WASILLA	AK		99654
80	IDLE THU T			3474 E PALMDALE DR	WASILLA	AK		99654
81	INGLE ROGER L			2247 N FILLY CIR	WASILLA	AK		99654
82	INHOFER JOSEPH & KATHERINE			3220 E PALMDALE DR	WASILLA	AK		99654
83	JONES CHRISTOPHER R		UNIT 206	2500 SENTRY DR	ANCHORAGE	AK		99507
84	JONES ROLAND A EST		% KIRSTAN JONES	51 SADDLERS RUN	ORMOND BEACH	FL		32174
85	JONES THEO M & LESLIE KAY			3500 E PALMDALE DR	WASILLA	AK		99654
86	KELLEY RAY D	JACHIMIEC JESSICA J		4300 E BIRCH DR	WASILLA	AK		99654
87	KELLY THOMAS FRANCIS			3345 E ANAHEIM DR	WASILLA	AK		99654
88	KENNEDY KATHLEEN			1460 N ASPEN PL	WASILLA	AK	99654-6625	
89	KING ROGER D & TERRI L T	ROGERS TIANA C		1750 N WESTMORLAND DR	WASILLA	AK		99654
90	KINNEEN GAVIN			3940 E COTTONWOOD WAY	WASILLA	AK		99654
91	KINSMAN PROJECT LLC			PO BOX 876045	WASILLA	AK		99687
92	KNIK TRIBE			PO BOX 871565	WASILLA	AK	99687-1565	
93	KOSTER DAVID S & STACY A			PO BOX 872347	WASILLA	AK	99687-2347	
94	KOVICH EDWARD F DECLARATION OF TR	KOVICH EDWARD F TRE		2150 N CLARIDGE CT	WASILLA	AK		99654
95	KOYITLOTSINA LIMITED			881 N MERIDIAN PL	WASILLA	AK		99654
96	KOZAKIEWICZ ROBERT			3845 E BIRCH VIEW DR	WASILLA	AK	99654-6640	
97	KURIATNYK KYLE			3755 E COTTONWOOD WAY	WASILLA	AK		99654
98	LACHELT MICHAEL & VIRGINIA FAM TR			3300 E ESCONDIDO AVE	WASILLA	AK		99654
99	LARSON JAMES M & ANGELIA J			3881 E COTTONWOOD WAY	WASILLA	AK		99654
100	LEADERS RYAN G & ERIN M			1360 N ASPEN PL	WASILLA	AK		99654
101	LILLAND PHILLIP J	LILLAND MACKENZIE R		PO BOX 871488	WASILLA	AK	99687-1488	
102	LITTLECHIEF FRANCIS WILLIAM	LITTLECHIEF STEPHANIE RENEE		3815 E BIRCH VIEW DR	WASILLA	AK		99654
103	LONG NEIL C & ELLEN R			4205 E BIRCH DR	WASILLA	AK	99654-4500	
104	LUPINE PROPERTIES LLC		STE A	3465 E MERIDIAN PARK LOOP	WASILLA	AK		99654
105	LYTHGOE CHRISTOPHER E			1650 N CREEKVIEW DR	WASILLA	AK	99654-6600	
106	MARQUIS RICHARD M & ANNA M			1491 N ASPEN PL	WASILLA	AK	99654-6628	
107	MARTIN CHRISTIAN L & NATALIE			3901 E PALMDALE DR	WASILLA	AK	99654-6613	
108	MARTIN LINDSEY M			3200 E ANAHEIM DR	WASILLA	AK		99654
109	MASON AARON I & ERIKA M			3301 E PALMDALE DR	WASILLA	AK	99654-6044	
110	MATANUSKA-SUSITNA BOROUGH	SCHOOL/FRONTERAS CHARTER SCHOOL		350 E DAHLIA AVE	PALMER	AK		99645
111	MATANUSKA-SUSITNA BOROUGH	WASILLA MAINT SHOP BOGARD RD		350 E DAHLIA AVE	PALMER	AK	99645-6488	

112	MATLOCK TYLER S		# 1002	243 E 5TH AVE	ANCHORAGE	AK		99501
113	MAT-SU EDUCATION ASSOCIATION			6177 E MOUNTAIN HEATHER W	PALMER	AK		99645
114	MATTISON SEAN MICHAEL			3450 E ANAHEIM DR	WASILLA	AK	99654-6030	
115	MAYER BRIAN L & ALICIA D			3931 E COTTONWOOD WAY	WASILLA	AK		99654
116	MCCUE RYAN & LOREN		#437	3705 ARCTIC BLVD	ANCHORAGE	AK		99503
117	MCCURDY NEIL			3100 E ANAHEIM DR	WASILLA	AK		99654
118	MCKAY BRENDON S & CLAIRE J			3930 E BIRCH VIEW DR	WASILLA	AK		99654
119	MCKILLIPS ERIC A & AUTUMN			3725 E SPRUCE TOP CIR	WASILLA	AK		99654
120	MERIDIAN PARK LOOP INV LLC		% APEX PROPERTY MNGMNT LL	PO BOX 879158	WASILLA	AK		99687
121	MERIDIAN PARK MEDICAL HOLDING LLC			4237 E MERIDIAN LOOP	WASILLA	AK	99654-7650	
122	MERRILL JOSEPH CHARLES			PO BOX 876897	WASILLA	AK	99687-6897	
123	MILLS DONALD D & KIM D			3441 E ANAHEIM DR	WASILLA	AK		99654
124	MITCHELL KARL			1471 N ASPEN PL	WASILLA	AK		99654
125	MMAC PIX WASILLA AK SPE LLC		% ALTUS GROUP	PO BOX 92129	SOUTHLAKE	TX		76092
126	MOFFATT QUINTON & JANET			8334 KENDALL VLY	SAN ANTONIO	TX	78244-4524	
127	MOORE BRIAN D			1650 N WESTMORLAND DR	WASILLA	AK	99654-6047	
128	MORGAN JOHN & COLLEEN			18513 NE 139TH ST	BRUSH PRAIRIE	WA		98606
129	MOSES GERALD F & MARY E REV TR			4300 E PALMDALE DR	WASILLA	AK		99654
130	MOSS CHARLENE D	OWEN KURT D		3930 E COTTONWOOD WAY	WASILLA	AK		99654
131	NAVIA ANDREW & JESSIE			4051 E BIRCH VIEW DR	WASILLA	AK		99654
132	NORTHERN FUTURES TR	HEWITT JEFFREY M & VICKI R TRES		4250 E PALMDALE DR	WASILLA	AK	99654-6608	
133	NOVAK STEVEN G & SARAH P			3811 E COTTONWOOD WAY	WASILLA	AK	99654-6622	
134	OHNSTAD JOSHUA WILLIAM			3751 E COTTONWOOD WAY	WASILLA	AK		99654
135	O'MALLEY RACHAEL S	CONLEY KEENAN A		1625 N WESTMORLAND DR	WASILLA	AK	99654-6049	
136	ONOCHLE ASHLEY			4727 N BARON ST	WASILLA	AK		99654
137	OWEN KURT	GALLAGHER JOHN & LEANNA		3930 E COTTONWOOD WAY	WASILLA	AK	99654-6618	
138	PARRIS ANDREW D & RACHAEL L			3730 E PALMDALE DR	WASILLA	AK		99654
139	PIATT MATTHEW D & LINDSEY K			4150 E PALMDALE DR	WASILLA	AK	99654-6607	
140	PIATT ROBT M JR & P L			4100 PALMDALE DR	WASILLA	AK		99654
141	PIROG THOS J			PO BOX 872670	WASILLA	AK	99687-2670	
142	POVELITE DAVID OWEN			3330 E ANAHEIM DR	WASILLA	AK	99654-6029	
143	PRECISION HOMES LLC			PO BOX 875322	WASILLA	AK	99687-5322	
144	PULA PENI JR			3461 E ANAHEIM DR	WASILLA	AK		99654
145	REIMER ANDREW A& SONDRA J			3891 E COTTONWOOD WAY	WASILLA	AK		99654
146	RENDULIC ROBERT & TARA			3605 E SPRUCE TOP CIR	WASILLA	AK		99654
147	RIOPELLE MARTIN A			GENERAL DELIVERY	WASILLA	AK	99687-9999	
148	ROCK SOLID PLUMBING & HEATING LLC		# 2	3341 E PALMDALE DR	WASILLA	AK		99654
149	SAGEBRUSH PROPERTIES LLC		SUITE B	3465 E MERIDIAN PARK LOOP	WASILLA	AK		99654
150	SCOTT DEAN E & DORIS A			3890 E COTTONWOOD WAY	WASILLA	AK		99654
151	SHEA MICHAEL J & LINDA M			4000 BIRCH VIEW DR	WASILLA	AK		99654
152	SHILOH MISSIONARY BAPT CH			855 E 20TH AVE	ANCHORAGE	AK		99501
153	SHORES OF ANCIENT TREE	HOMEOWNERS ASSN INC		PO BOX 876894	WASILLA	AK	99687-6894	
154	SHPORTUN ARTEM & CHYENNE			3360 E ANAHEIM DR	WASILLA	AK		99654
155	SILVER VICTOR			1600 N WESTMORLAND DR	WASILLA	AK		99654
156	SMITH GARY O & SHARON C			3350 E PALMDALE DR	WASILLA	AK	99654-6038	
157	SPIVEY MICHAEL L JR			PO BOX 875494	WASILLA	AK		99687
158	STROUD FRED A & JETTA R			3400 E PALMDALE DR	WASILLA	AK		99654
159	SUN SPLASH PROPERTIES LLC			650 E BLUFF VISTA CIR	WASILLA	AK		99654
160	TADESA LLC		% ANN DESALVO	PO BOX 874086	WASILLA	AK	99687-4086	
161	TEEPLE DEAN & COURTNEY			3375 E ANAHEIM DR	WASILLA	AK		99654
162	TIEDJE CHEYENNE			3260 E PALMDALE DR	WASILLA	AK		99654
163	TOMAZEVIC KRISTOPHER T			3605 E PALMDALE DR	WASILLA	AK	99654-6610	
164	TOWER SEAN P & ROSEMARY L			4011 E COTTONWOOD WAY	WASILLA	AK	99654-6662	
165	TRACT C-2 LLC			3122 E MERIDIAN PARK LOOP	WASILLA	AK		99654
166	TUBBS RICHARD G LVG TR		%LENETTE MAXWELL	PO BOX 2277	HAMILTON	MT	59840-4277	
167	TUCKER BRANDON S & S M			3000 E ESCONDIDO AVE	WASILLA	AK		99654

168	TYREE JAMES C JR	CLEVELAND TERESA E		3130 E ANAHEIM DR	WASILLA	AK		99654
169	URSA MAJOR INVESTMENTS LLC		% APEX PROPERTY MGMT LLC	PO BOX 879158	WASILLA	AK		99687
170	UTOPIA INVESTMENTS LLC			3275 E TAMARAK AVE	WASILLA	AK		99654
171	VALDEZ RODELMIRO			3230 E ANAHEIM DR	WASILLA	AK		99654
172	VANDENBERG JASON A			3401 E ANAHEIM DR	WASILLA	AK	99654-6034	
173	VIRGIN STACEY & KATRINA			PO BOX 3738	PALMER	AK		99645
174	WALLACE TYLER & CAILEY			3750 E COTTONWOOD WAY	WASILLA	AK		99654
175	WAMSLEY JERRY W & P A			3700 SPRUCE TOP CIR	WASILLA	AK		99654
176	WASILLA LAND TR NO 2 LLC		STE 300	9757 JUANITA DR NE	KIRKLAND	WA		98034
177	WEST TYLER	BROWN PAIGE		2200 N CLARIDGE CT	WASILLA	AK		99654
178	WILEY ERIC & SUSAN			3301 E ANAHEIM DR	WASILLA	AK		99654
179	WISDOM GABRIEL L			3150 E ESCONDIDO AVE	WASILLA	AK		99654
180	WITT JEREMIAH			3200 E ESCONDIDO AVE	WASILLA	AK	99654-6056	
181	WOLFE JOHN H JR & MARY J			3400 ANAHEIM DR	WASILLA	AK		99654
182	WORD OF FAITH ASSEMBLY			PO BOX 875147	WASILLA	AK	99687-5147	
183	WRIGHT BRANDON & MELANIE			1500 N ASPEN PL	WASILLA	AK	99654-6626	
184	WRIGHT KRISTINA L	SIMPSON ROBERT J		3871 E COTTONWOOD WAY	WASILLA	AK		99654
185	NORTH LAKES COMMUNITY COUNCIL		#2 PMB 449	3060 N LAZY EIGHT CT	WASILLA	AK		99654




E Bogard Rd
N Seward Meridian Pky
Wasilla Lake
Mud Lake
Cottonwood Lake
E Snowline Cir
MatSuBorough | Matanuska-Susitna Borough Powered By



Matanuska-Susitna Borough

www.matsu.gov

MATANUSKA-SUSITNA BOROUGH
PLANNING COMMISSION
Regular Meeting Schedule for 2026

Planning Commission Regular Meetings

Planning Commission Meeting Date	Agenda Items Due Cut-Off Date 5 P.M.	Packet Items Due Cut-Off Date 5 P.M.
Monday, January 5, 2026	Friday, December 19, 2025	**Tuesday, December 23, 2025**
Monday, January 19, 2026	Friday, January 2, 2026	Wednesday, January 7, 2026
Monday, February 2, 2026	Friday, January 16, 2026	Wednesday, January 21, 2026
Monday, March 2, 2026	Friday, February 13, 2026	Wednesday, February 18, 2026
Monday, March 16, 2026	Friday, February 27, 2026	Wednesday, March 4, 2026
Monday, April 6, 2026	Friday, March 20, 2026	Wednesday, March 25, 2026
Monday, April 20, 2026	Friday, April 3, 2026	Wednesday, April 8, 2026
Monday, May 4, 2026	Friday, April 17, 2026	Wednesday, April 22, 2026
Monday, May 18, 2026	Friday, May 1, 2026	Wednesday, May 6, 2026
Monday, June 1, 2026	Friday, May 15, 2026	Wednesday, May 20, 2026
Monday, June 15, 2026	Friday, May 29, 2026	Wednesday, June 3, 2026
Monday, July 20, 2026	**Thursday, July 2, 2026**	Wednesday, July 8, 2026
Monday, August 3, 2026	Friday, July 17, 2026	Wednesday, July 22, 2026
Monday, August 17, 2026	Friday, July 31, 2026	Wednesday, August 5, 2026
Monday, September 14, 2026	Friday, August 28, 2026	Wednesday, September 2, 2026
Monday, October 5, 2026	Friday, September 18, 2026	Wednesday, September 23, 2026
Monday, October 19, 2026	Friday, October 2, 2026	Wednesday, October 7, 2026
Monday, November 16, 2026	Friday, October 30, 2026	Wednesday, November 4, 2026
Monday, December 7, 2026	Friday, November 13, 2026	Wednesday, November 18, 2026
Monday, December 21, 2026	Friday, November 27, 2026	Wednesday, December 2, 2026
Monday, January 4, 2027	Friday, December 18, 2026	Wednesday, December 23, 2026
Monday, January 18, 2027	Friday, January 1, 2027	Wednesday, January 6, 2027

Publish Date: February 6, 2026 0226-07

-ABANDONED VEHICLES SUBJECT TO DISPOSAL-

The following abandoned vehicles are subject to disposal by the Matanuska-Susitna Borough's Solid Waste Division. The vehicles were tagged as abandoned in the Matanuska-Susitna Borough right-of-way at the listed locations. You have the right to appeal pursuant to MSB 10.12.090.

Impound: 3264
Vehicle Description: 2001 Tan Nissan Altima **LIC:** LPG826
VIN: 1N4DL01D91C144002
MSB ROW Location: E Riverwood Circle, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

Impound: 3265
Vehicle Description: 1993 Gray Ford Probe **LIC:** CRL759
VIN: 1ZVCT20A6P5223405
MSB ROW Location: E Kilkenny Dr, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

Impound: 3268
Vehicle Description: 2011 White GMC Sierra **LIC:** MCA294
VIN: 1GT12ZC86BF243140
MSB ROW Location: Finger Cove Dr, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

The vehicles will be disposed of by auction or auto wrecker on or after March 1, 2026.

FOR MORE INFORMATION, call the MSB Solid Waste Division at (907) 861-7600.

Publish Date: February 6, 2026 0226-08

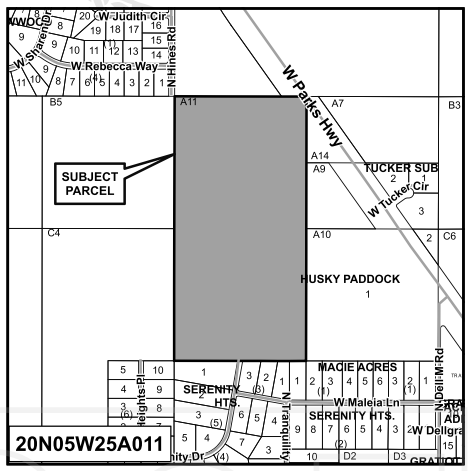
ASSEMBLY AGENDA
COTTONWOOD PUBLIC SAFETY BUILDING
STATION 6-5
680 NORTH SEWARD MERIDIAN PARKWAY, WASILLA

ASSEMBLY SPECIAL MEETING 10:00 AM SATURDAY, FEBRUARY 14, 2026

I. CALL TO ORDER
II. ROLL CALL
III. APPROVAL OF AGENDA
IV. PLEDGE OF ALLEGIANCE
V. ITEMS OF BUSINESS
A. Strategic Planning Session
VI. AUDIENCE PARTICIPATION (Three Minutes Per Person.)
VII. MAYOR, ASSEMBLY, AND STAFF COMMENT
VIII. ADJOURNMENT

Disabled Persons Needing Reasonable Accommodation In Order To Participate At An Assembly Meeting Should Contact The Borough ADA Coordinator At 861-8432 At Least One Week In Advance Of The Meeting.

Publish Date: February 6, 2026 0226-13



PUBLIC HEARING

Strumpher, Helmundt, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 125-foot telecommunications tower located at 36596 W Parks Hwy, Tax ID# 20N05W25A011.

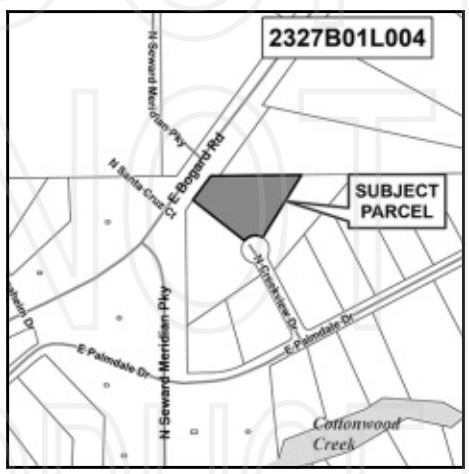
The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2026,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-09



PUBLIC HEARING

Justin Abbott, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 120-foot telecommunications tower located at 3600 E. Bogard Road, Tax ID# 2327B01L004.

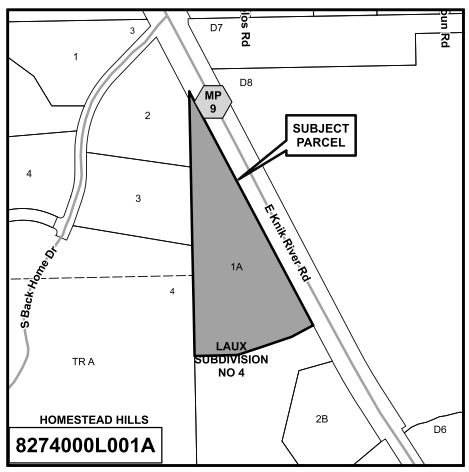
The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2025,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-10



PUBLIC HEARING

Strumpher, Helmundt, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 125-foot telecommunications tower located at 27950 E Knik River Rd, Tax ID# 8274000L001A.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2026,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-11

DO NOT REPRODUCE

Edna DeVries, Mayor (907) 861-8682 - Work (907) 795-8133 - Cell Edna.DeVries@matsugov.us
Michael Bowles, #1 (907) 355-1355 Michael.Bowles@matsugov.us
Stephanie Nowers, #2 (907) 831-6299 StephanieNowersDistrict2@gmail.com
Dee McKee, #3 (907) 315-2802 Dee.McKee@matsugov.us
Maxwell Sumner, #4 (907) 232-6797 Maxwell.Sumner@matsugov.us
Bill Gamble, #5 (907) 232-0103 Bill.Gamble@matsugov.us
Dmitri Fonov, #6 (907) 861-8546 fonov@matsugov.us
Ron Bernier, #7 (907) 354-7877 Ron.Bernier@matsugov.us
To see a complete listing of all boards and commissions, please go to **http://www.matsu.gov/boards** and select the type of board you are wanting to view.

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Public Comment

Matanuska-Susitna Borough
Development Services Division
350 E. Dahlia Avenue
Palmer, Alaska 99645

EMF - health
harder to sell
Alaska Glass + Door
Nesco " "
Lynek Construction
Lynek Nature
Crystal Invest.
Hans E Hanson Irrevocable Exempt Trust
Crystal Investments LLC
Ancient Tree Est Block 1 Lot 4
25' setback ROW 10' side
Note 7 lots 3+4
no off Bogard
Plat 82-89
covenants
8.6.1982
B 270 P 261

9
CST PROPERTIES LLC
PO BOX 2954
PALMER AK 99645-2954

PUBLIC HEARING

Justin Abbott, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structure The Permit is for a 120-foot telecommunications tower located at 3600 E. Bogard Road, Tax ID# 2327B01L004.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application c ***Wednesday, November 19, 2025***, at 2:30 p.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 90 861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Developme Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible t file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MS 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment ar Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in th Borough Clerk's office, and at various libraries within the borough.

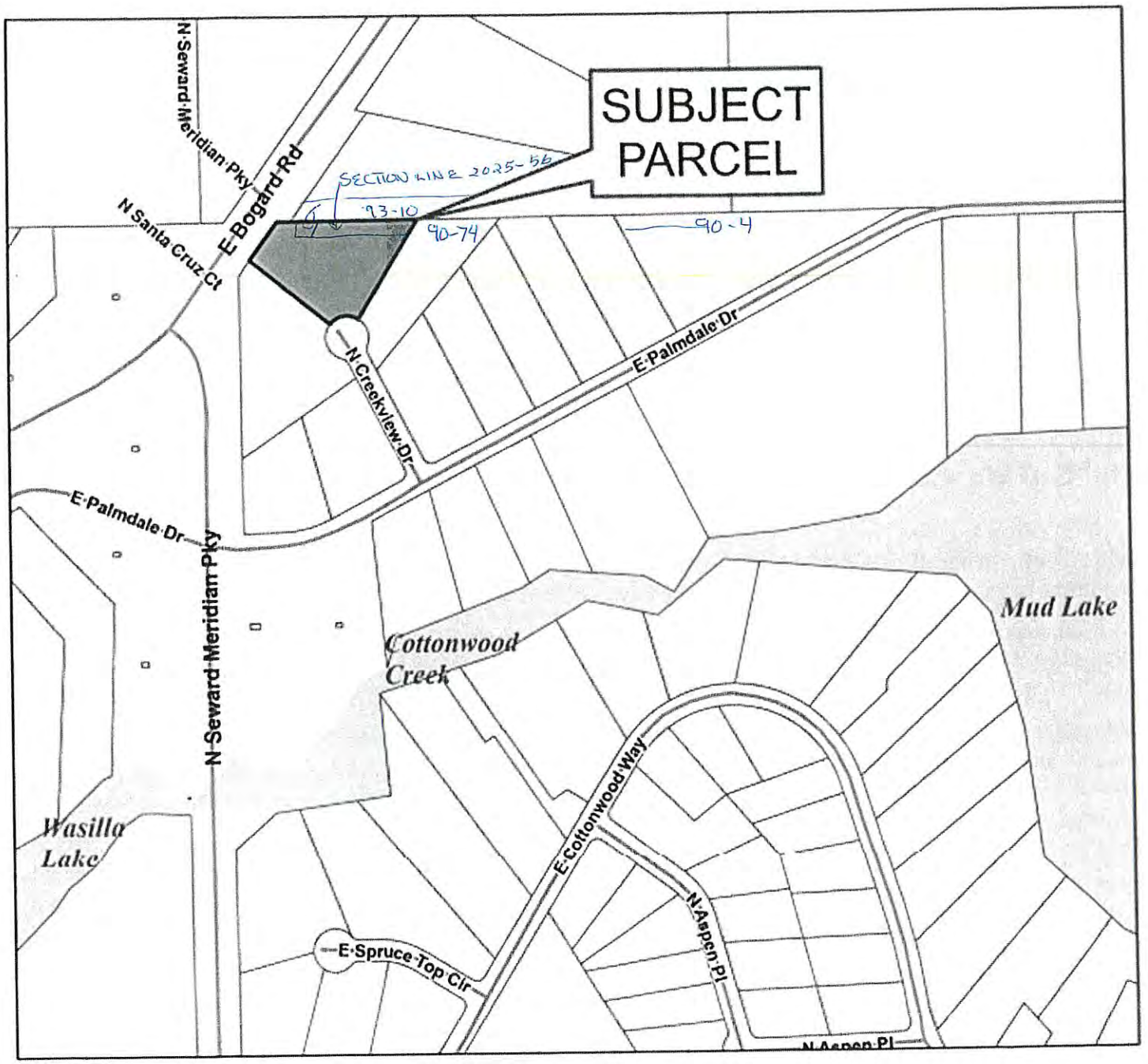
Comments are due on or before ***November 14, 2025***, and will be included in the Planning Director packet. Please b advised that comments received from the public after that date will not be included in the staff report but will be provide to the Director at the meeting.

Name: Marty Kincaid - CST Properties ***Mailing Address:*** PO Box 2954 PALMER, AK 9964

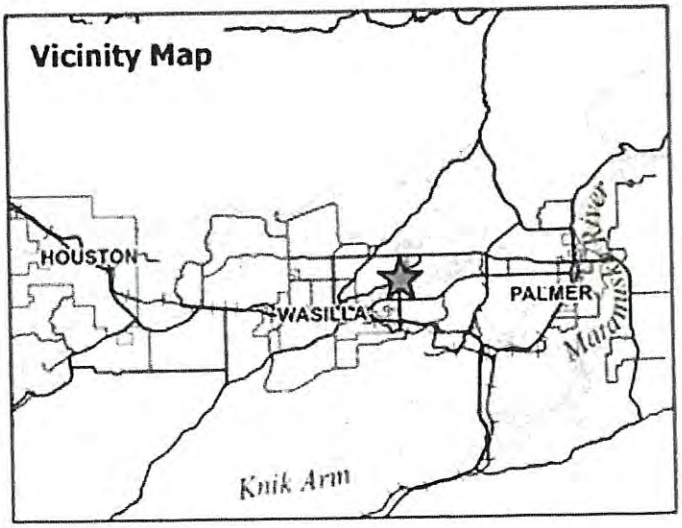
Location/Legal Description of your property: 3700 E. BOGARD ROAD, WASILLA, AK 99654

Comments: SEE ATTACHED

Note: Vicinity Map Located on Reverse Side



2327B01L004



0 1,000 Feet

N

This map is solely for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.

MSB Information Technology\GIS
October 17, 2025

A strong no!
Ancient Tree Covenants (Book 270 Page 266) does not address 120 foot cell towers specifically but does make statements against anything like it by restricting heights of buildings, signs and quality of exterior finishes. Has Ancient Tree Homeowner's Association or the North Lakes Community Council been notified?
In researching having a cell tower in my neighborhood, there were negative implications that need to be addressed. Health concerns from EMF. There are a plethora of articles regarding the yeas and nays of health issues from EMF, but it still needs to be examined.
Property values diminish with having a cell tower next door. It also makes it more difficult to sell one's property.
Alaska has a no billboard policy for a reason. Why would we want our beautiful skyline be marred by cell towers everywhere? There are several towers in close proximity to this requested site, has renting space there been explored?

INDENTURE OF PROTECTIVE COVENANTS
FOR
ANCIENT TREE SUBDIVISION

THIS INDENTURE made this 21st day of July, 1982, by ANCIENT TREE, INC., an Alaska corporation, hereinafter "Ancient Tree", which is the owner of the following-described real property, for the purpose of submitting such real property to the following restrictive covenants which shall run with the land in accordance with the terms of this Indenture:

> Lots One (1) through Eleven (11), Block One (1), Lots One (1) through Fourteen (14), Block Two (2) and Tract A, ANCIENT TREE ESTATES, according to Plat No. 82-89, Records of the Palmer Recording District, Third Judicial District, State of Alaska.

This Indenture and the covenants established hereunder may be extended by Ancient Tree to encompass additions to Ancient Tree Subdivision by the simple recording of a notice to that effect when such additions are platted.

ARTICLE I
BUILDING AND USE RESTRICTIONS

1. Land Use and Building Type. With the exception of Lots 3, 4 and 5 of Block 1, Ancient Tree Estates, which lots may be used for commerical purposes, no lot shall be used except for residential purposes. No building shall be erected, altered, placed or permitted to remain on any lot other than one (1) detached single family dwelling not to exceed two and one-half stories in height and a private garage for not more than three cars; however, one (1) auxiliary structure, the exterior of which must be finished and in harmony with the residence, will be allowed as a horse stable or storage structure.

2. Architectural Control. No building shall be erected, placed or altered on any lot until the construction plans and specifications and a site plan showing location of the building has been approved by the Architectural Control Committee as to quality of construction detail, materials, harmony of exterior design with existing structures and location with respect to topography and finished grade elevations. No fence or wall shall be erected, placed or altered on any lot between a building and any street unless similarly approved. Approval shall be granted by the Committee by majority vote.

3. Dwelling Value, Quality and Size. No dwelling shall be permitted on any lot unless the fair market value of the land and improvements, when completed, equals or exceeds $85,000.00. The ground floor area of the main building, exclusive of one story open porches, carports and garages, shall not be less than 950 square feet for a dwelling of less than two full stories, nor less than 700 square feet for a dwelling of two full stories or more.

HUGHES THORSNESS GANTZ POWELL & BRUNDIN
ATTORNEYS AT LAW
509 WEST THIRD AVENUE
ANCHORAGE, AK 99501
(907) 274-7522

4. Building Locations. All buildings shall be located in conformity with the following:

(a) No building shall be located on any lot nearer than thirty (30) feet from the front lot line; fifteen (15) feet from any side lot line; and twenty-five (25) feet from the rear lot line, and

(b) With written approval of the Architectural Control Committee, a building or part thereof may be located nearer to a lot line than the distances provided in subparagraph (a) above where the natural elevation of the lot along the established minimum building setback line is more than either eight (8) feet above or four (4) feet below the established roadway level along the abutting street and where, in the opinion of the Committee, the location and architectural design of the proposed building will not detract materially from the appearance or value of the adjoining lots.

5. Easements. Easements for installation and maintenance of utilities and drainage facilities are reserved as shown on the recorded plat. Within these easements, no buildings, plantings, or other materials shall be placed or permitted to remain which may damage or interfere with the installation and maintenance of utilities or which may change the direction of flow of drainage channels in the easements. The easement areas within a lot and any improvements in it, except for those improvements which a public authority or utility company is responsible, are to be continuously maintained by the owner of such lot unless otherwise provided for by the Homeowner's Association.

6. Trees. No owner or builder shall be permitted to completely clear a lot on which standing trees of significant size exist. Space may be cleared to provide for construction and trees may be thinned so long as the natural beauty and aesthetic value of the trees and lot is retained.

7. Nuisances. No noxious or offensive activity shall be carried on upon any lot, nor shall anything be done thereon which may be or may become an annoyance or nuisance to the adjoining lot owners or the neighborhood generally. No firearms shall be discharged within the subdivision except in lawful defense of life, limb or property. Paddock and stable areas shall at all times be kept clean and free from offensive odors. No trash cans, garbage cans, trash barrels, boxes or other refuse containers shall be placed or maintained on or along either side or front of any lot, with the exception of that waiting refuse pickup, which shall be accomplished on the same day that refuse is so placed. No burning of trash, garbage, refuse or any other waste shall be permitted upon the front or sides of any lot at any time, and such burning on the rear of any such lot shall be permitted only in accordance with the appropriate health and safety laws of the State of Alaska, Municipality of Anchorage, or other governmental entity empowered to control such activity.

8. Temporary Structures. No structure of a temporary nature, trailer, tent, shack, quonset hut, or similar structure shall be used on any lot at any time as a residence either temporarily or permanently.

9. Signs. No sign of any kind shall be displayed to the public view on any lot except one professional sign of not more than one square foot in area, one sign of not more than five square feet in area advertising the property for sale or rent, or signs used by a builder or agent to advertise the lot during the construction and original sales period. Additionally, one sign may be maintained by the Homeowner's Association near the road entrance to the subdivision prominently and tastefully identifying the subdivision.

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509 WEST THIRD AVENUE
ANCHORAGE, AK 99501
(907) 274-7522

10. Livestock and Pets. Horses shall be permitted within the subdivision; however, extreme care shall be exercised by the individual owner to assure that no nuisance is allowed to exist. Not more than one (1) horse shall be permitted to be stabled on any lot. An attractive stable and paddock shall be provided in conformity with the provisions of paragraph 1 above. No animals that are normally wild in their natural state shall be kept as pets. No other animals, sled dogs, other livestock or poultry of any kind whatsoever shall be raised, bred or kept on any lot, except that domestic dogs and cats or other normal household pets may be kept provided that they are not kept, bred or maintained for any commercial purpose. No vicious dogs, as defined in the ordinances of the Municipality of Anchorage, shall be kept on any lot.

11. Utilities. All on-site water and septic systems shall be approved by the Municipality of Anchorage.

12. Completion of Exteriors. All houses must be enclosed and exteriors finished within eighteen (18) months from the date of the start of construction, except that this time may be extended in the sole discretion of the Architectural Control Committee to avoid hardship to an individual lot owner.

13. Resubdivision. No original lot shall be subdivided into smaller lots or parcels.

14. Outside Storage. No outside storage of inoperable vehicles, construction equipment, machinery or other large objects deemed unsightly by the Architectural Control Committee shall be permitted on any lot or on the streets in the subdivision at any time, except that construction equipment may be temporarily left on a lot during the course of construction of a single family residence on that lot.

15. Parking. Adequate off-street parking for at least two (2) cars shall be provided on each lot not later than upon completion of a single family residence on the lot.

16. Term. This Indenture and the covenants established hereunder are to run with the land and shall be binding upon, and inure to the benefit of, all parties hereto, and all persons claiming under them for a period of twenty (20) years from the date this Indenture is recorded, after which time this Indenture and such covenants shall be automatically extended for successive periods of ten (10) years, unless an instrument signed by a majority of the then owners of the lots in the subdivision is recorded agreeing to terminate this Indenture or amend the covenants in whole or in part.

17. Enforcement. Enforcement of this Indenture and the covenants established hereunder shall be by proceedings at law or in equity against any person or persons violating or attempting to violate such covenants either to restrain them from doing so or to recover damages for any such violation.

18. Relationship to Zoning and Other Governmental Land Use Controls; Standing. This Indenture and the covenants established hereunder shall be concurrent with municipal, state and federal land use controls, whether in the form of zoning, health regulations, nuisance regulations or other form. The Municipality of Anchorage, its successors, Ancient Tree, the Homeowner's

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ATTORNEYS AT LAW
509 WEST THIRD AVENUE
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(907) 274-7522

Association, and any owner of any lot in the subdivision, shall have standing to enforce this Indenture and the covenants established hereunder. Likewise, such parties shall have standing to enforce any such governmental land use controls as if they were fully set out in this Indenture.

ARTICLE II
HOMEOWNER'S ASSOCIATION

1. Membership. All owners of lots in Ancient Tree Subdivision, shall be members of the Ancient Tree Estates Homeowner' Association, hereinafter referred to as the "Homeowner's Association". The membership of each lot owner shall terminate when he or she ceases to be a lot owner and upon the sale, transfer or other disposition of such lot, his or her membership in the Homeowner's Association shall automatically be transferred to the new lot owner. The Homeowner's Association may issue certificates evidencing membership therein.

2. Powers. The Homeowner's Association shall be the governing body for all of the lot owners for the maintenance, repair, replacement, administration and operation of the streets and other easements and utilities in the subdivision. The Homeowner's Association shall provide for street maintenance, snow removal and such other services as may be mutually beneficial to the owners of lots in the subdivision. The Homeowner's Association shall maintain any streets, landscaping in rights-of-way, street lighting and the like from and after such time as Ancient Tree has sold fifty-one percent (51%) of the lots in the subdivision.

3. Board of Directors. The Board of Directors shall consist of three (3) members. The initial Board of Directors shall be designated by Ancient Tree, which Board shall continue in office until Ancient Tree has sold ninety percent (90%) of the lots in the subdivision. The Directors elected to replace the initial Board shall be elected in the manner provided in Bylaws adopted by the Homeowner's Association.

4. Bylaws. The initial Board of Directors shall adopt Bylaws to govern the affairs of the Homeowner's Association, and its meetings and procedures.

5. Voting. Each lot owner shall be entitled to one vote for each lot owned by him or her. Each lot owner may attend and vote at any meeting of lot owners in person or by proxy. Proxy shall be in writing, signed by the lot owner, and filed with the Board of Directors prior to the meeting. Proxies may be revoked at any time by written notice to the Board of Directors. The last lot owner of record shall be entitled to vote until the Board of Directors shall have received actual notice of the conveyance by the lot owner of his or her lot. Where there is more than one owner of any lot, any or all of such persons may attend any meeting of the Homeowner's Association, but it shall be necessary for all of such owners to act unanimously in order to cast the vote to which they are entitled. Any designation by proxy to act for such persons must be signed by all such persons.

6. Board of Directors to Constitute Architectural Control Committee. The Board of Directors shall constitute the Architectural Control Committee which shall have the powers mentioned and described in paragraph 2 of Article I. The Committee

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ATTORNEYS AT LAW
343 WEST 10TH AVENUE
ANCHORAGE, AK 99501
(907) 274-7522

shall meet from time to time as necessary to perform its duties under said paragraph. If the Committee fails to approve or reject any plans submitted to it within a period of thirty (30) days from the date of such submission, such plans shall be deemed automatically approved.

7. Amendment. The provisions of this Indenture may be amended by a two-thirds (2/3) vote of the lot owners at a special meeting called for such purpose at any time and from time to time.

ARTICLE III
GENERAL PROVISIONS

1. Severability. This Indenture and the several provisions hereunder shall be severable and invalidation of any one of such provisions by Judgment or court order shall in no way affect any of the other provisions which shall remain in full force and effect.

2. Rights and Obligations. Each grantee of Ancient Tree by the acceptance of a deed to a lot and each purchaser under any contract for such deed of conveyance accepts the same subject to this Indenture and the covenants established hereunder and the jurisdiction, rights and powers created or reserved by this Indenture as though the provisions of this Indenture were recited and stipulated at length in each and every such deed of conveyance or contract.

3. Captions. The captions herein are inserted only for convenience and for reference, and in no way modify, limit or describe the meaning or scope of this Indenture.

4. Waiver. No covenant, restriction or provision contained in this Indenture shall be deemed to have been abrogated or waived by reason of any failure to enforce the same, irrespective of the number or duration of violations or breaches thereof which may have occurred.

5. Conflict. If any provision of this Indenture shall conflict with the provisions of Alaska Statutes, the provisions of such statutes shall control.

6. Effective Date. This declaration shall take effect upon recording.

ANCIENT TREE, INC.

By Avron Gensburg
AVRON S. GENSBURG - President

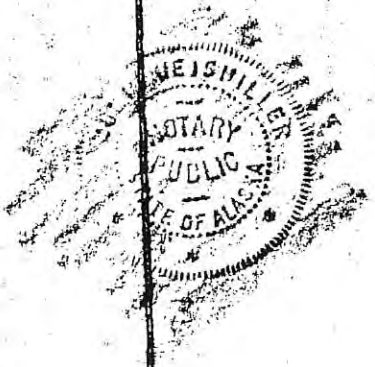
STATE OF ~~ILLINOIS~~ ALASKA)
) ss.
COUNTY OF N/A)

THIS IS TO CERTIFY that on this 21 day of July, 1982, before me, the undersigned, a Notary Public in and for the State of Illinois, duly commissioned and sworn as such, personally appeared AVRON S. GENSBURG, known to me and to me known to be the President of ANCIENT TREE, INC., an Alaska corporation,

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ATTORNEYS AT LAW
509 WEST THIRD AVENUE
ANCHORAGE, AK 99501
(907) 274-7522

and he acknowledged to me that he executed the above and foregoing document for and on behalf of said corporation and he further acknowledged to me that he had the power and authority so to do as granted to him by said corporation in its Bylaws or by resolution of its Board of Directors.

IN WHITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first hereinabove set forth.



Julie Weismiller
Notary Public in and for ~~Illinois~~ Alaska
My Commission Expires: 10/27/85

82- 011123
23

RECORDED-~~FILED~~
PALMER REC.
DISTRICT

AUG 6 9 48 AM '82

REQUESTED BY MATANUSKA-SUSITNA BOROUGH
ADDRESS BOX B
PALMER, ALASKA 99645

171112

HUGHES THORSNESS
GANTZ POWELL & BRUNDIN
ATTORNEYS AT LAW
ANCHORAGE, AK 99501
(907) 274-7525

Handout

Public Comment –

Staff received a secondary public comment regarding the proximity to Mud Lake and the potential for aircraft interference due to the height of the tower and suggested that the tower install voluntary lighting on the tower. The public comment also addressed the concern that not all properties within one half mile of the tower were notified adequately.

The applicant provided FAA documentation from July 30, 2025, stating that there is no hazard to air navigation. Public notification information can be obtained under “Public Notice” in the packet.

From: Rod Hanson
To: Rebecca Skjothaug
Subject: Re: ATT Tall Structures Tower at 3600 Bogard Road
Date: Wednesday, November 19, 2025 1:12:30 PM
Attachments: image001.png

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Rebecca,

I just looked through the packet you sent me and have the following comments:

1. Contrary to what is stated on page 2 of the Staff Report, the NLCC was not mailed a copy of the public notice. Our address is: North Lakes Community Council, 3060 N. Lazy Eight Ct, #2, PMB 449 Wasilla, AK 99654.

2, On Friday 11/14 we became aware of the public notice and I provided comments (see email below) and requested the email chain be included in the public comments. In the comments I provided I expressed personal concern about impacts to the property owners on the little airstrip on the northern edge of Mud Lake. My comments were not included in the meeting packet you just sent me.

3. Based on the list of mail-outs provided on page 104 of the meeting packet, there does not appear to have been any notification to the Brooks or Piatt property owners upon whose property the airstrip is located. There are seven separate properties. Three belong to Brooks and 4 belong to Piatt. All are within 1/2 mile of the proposed tower site.

This permit should not be issued until those property owners have been notified and given the opportunity to respond.

Please include this email in the packet also.

Thank you,

Rod Hanson
North Lakes Community Council
907-841-8735

On Wed, Nov 19, 2025 at 12:14 PM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Yes, I have included the comments from the owner of the Boys and Girls Club location. I have also attached the final packet along with the comments for your review.
>
> *Rebecca Skjothaug*
>
> *Current Planner*

Desk Phone (907)861-7862



From: Rod Hanson <rod@nlakes.cc>
Sent: Wednesday, November 19, 2025 11:55 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: ATT Tall Structures Tower at 3600 Bogard Road

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

No, I don't. Our membership meeting isn't until tomorrow evening, after the fact. Hopefully any area residents interested in commenting have done so directly with the Borough.

Thanks,

Rod

On Wed, Nov 19, 2025 at 11:29 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Rod,
>
> Just wanted to reach out and ask if you have any public comments that you would like me to add to the packet for the tower hearing today?
>
> *Rebecca Skjothaug*
>
> *Current Planner*
>
> Desk Phone (907)861-7862

From: Rod Hanson <rod@nlakes.cc>
Sent: Friday, November 14, 2025 12:55 PM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: ATT Tall Structures Tower at 3600 Bogard Road

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Download Attachment

Available until Dec 14, 2025

On Nov 14, 2025, at 12:36 PM, Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

I am happy to be more efficient in my communication with the council. It is my objective to have the community participate and have a voice in what happens in their neighborhood.

I will include any comments within the packet presented to the director. I have included the draft packet to this email for your review. I stand by my word if there is any more comments, including those after today, I am more than happy to present that information to the director.

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

-----Original Message-----
From: Rod Hanson <rod@nlakes.cc>
Sent: Friday, November 14, 2025 12:31 PM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: ATT Tall Structures Tower at 3600 Bogard Road

[EXTERNAL EMAIL - CAUTION: Do not open unexpected attachments or

links.]

Thanks for the explanation Rebecca,

It would be good practice going forward for the respective Community Councils to get included in all public notices, like we currently do for non-administrative actions … even if current code does not “require” such notification.

Although we partner with the Boys & Girls club, we have different mailing addresses.

I believe the relationships and communications between the MSB and the Councils has definitely been improving … in the spirit of why the Councils exist.

I’m assuming there will likely be some individual feedback from those who live below the proposed tower site and operate aircraft off the small airstrip along the shoreline of Mud Lake. I suspect they will (or should) request tower hazard lighting. Although not required for towers of this height above the ground, the fact that the airstrip lots are at a much lower elevation probably mean the tower is above the FAA minimum when compared to the runway surface. Lighting should be provided to assure safety.

Please pass along this email string as part of the Planning Director packet.

Thanks.

Rod

> On Nov 14, 2025, at 12:10 PM, Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:
>
> Hi Rod,
>
> I just wanted to provide you with another follow up. There was a mailing sent to CST Properties on October 31, 2025. CST is the listed owner for the Boys and Girls Club at 3700 E Bogard. The mailing address for this property is PO Box 2954, which is where I suspect your public notice went. It is good practice for the current planner to notify the Community Council about a proposed administrative application, but it is not required for an administrative permit. I have been the one processing this permit and it was bad practice of myself not to send you an email

directly, and for that I apologize. We have had a great working relationship, and it is my fault for overlooking that step.

I am happy to accept public comments from the council as individuals until the public hearing on the 19th.

Rebecca Skjothaug

Current Planner

Desk Phone (907)861-7862

-----Original Message-----

From: Rod Hanson <rod@nlakes.cc>

Sent: Friday, November 14, 2025 11:31 AM

To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>

Subject: ATT Tall Structures Tower at 3600 Bogard Road

[EXTERNAL EMAIL - CAUTION: Do not open unexpected attachments or links.]

Rebecca,

The Public Hearing Notice for the proposed ATT communications tower at 3600 E Bogard was brought to our attention about an hour ago. The notice indicates that comments are due today if they are to be included in the Planning Director packet for the November 19 public hearing.

This location falls within the boundary of the North Lakes Community Council. As such, we should have been notified directly as part of the public mail-out process.

Since we were not notified, we request the public hearing be postponed to give our Community Council time to review the materials and gather feedback from our Membership. Our next NLCC monthly meeting is Thursday, November 20th. We will include this topic on our final agenda. The earliest we could provide written comments would be on Monday, November 24th.

Please postpone the public hearing until sometime after November 24th.

Please also assure that the NLCC is properly included in future public hearing notices for platting actions within our Council boundaries.

Sincerely,

Rod Hanson

President, NLCC

907-841-8735

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Draft Packet.pdf

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From: Kris Gurr
To: Becca Skjothaug
Subject: Justin Abbott AT&T permit for tall structure
Date: Sunday, December 7, 2025 4:28:41 PM

[EXTERNAL EMAIL - CAUTION: Do not open unexpected attachments or links.]

Gurr Investments strongly opposes this structure. It would be an eye sore. There should be other options or places for the tower.
Sent from my iPhone

Becca Skjothaug

From: Rod Hanson <rod.d.hanson@gmail.com>
Sent: Tuesday, December 9, 2025 1:03 PM
To: Becca Skjothaug
Subject: ATT Tall Tower Administrative Permit - 3600 Bogard Road
Attachments: AT&T Mobility - Public Notice Mailing.docx

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Rebecca,

Thank you for the opportunity to respond to the attached request for comments. Also, thank you for correcting the public notification process and including property owners within 1/2 mile of the proposed tower location. As I previously stated, the public notice schedule did not allow for a meeting and discussion with the North Lakes Community Council area residents and members prior to the due date for public comments. As such, I am offering these comments as an individual, and not a representative of the Community Council.

1. I am a private pilot and an acquaintance of property owners along the small airstrip located along the North shore of Mud Lake (between Wasilla Lake and Cottonwood Lake). Although the proposed tower is only 120-feet above the surface of the ground at the actual tower location, it is much higher above the elevation of the surface of that airstrip. The tower could easily be a hazard to aircraft taking off or arriving in the traffic pattern of the airstrip. Although the FAA may not technically require a light for this installation, I highly recommend that ATT provide FAA style lighting on the tower as a safety risk mitigation.

2. At the initial public hearing on November 19, 2025 the ATT representative indicated that they have, in the past, provided lighting on towers even though there may not be a technical requirement from the FAA. The Borough should require this lighting to be installed as a condition of approval for the proposed tower administrative permit.

3. I have spoken to one of the property owners and pilots that live on the airstrip. He confirmed that he received the request for comments as part of the second public outreach effort. He is aware of the deadline for submitting comments and aware of the date and time of the Public Hearing. He agreed with the need for lighting as a safety risk mitigation and believed that all of the pilots living and operating off of that airstrip would see it the same way. He indicated he was going to meet with his neighbors and encourage them to submit comments and attend the public hearing.

Bottom line, I support the approval of the administrative permit, but only if tower lighting is included as a condition of approval.

Sincerely,

Rod D. Hanson
907-841-8735
rod.d.hanson@gmail.com

Rebecca Skjothaug

From: Justin Abbott <justin.abbott@selectsiteacq.com>
Sent: Monday, October 27, 2025 12:37 PM
To: Rebecca Skjothaug
Subject: Re: Request For Additional Information TOWER-2025-010040

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Hi Rebecca,

That time works great! I may be attending the hearing in person.

Please email me the staff report once it is available.

Thank you,
Justin Abbott

From: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Monday, October 27, 2025 11:11 AM
To: Justin Abbott <justin.abbott@selectsiteacq.com>
Cc: Jay Rodriguez <jacinto.rodriguez@mastec.com>; Fernanda Meza <Fernanda.Meza@mastec.com> Meza <Fernanda.Meza@mastec.com>; Patrick Hinman <patrick.hinman@selectsiteacq.com>
Subject: RE: Request For Additional Information TOWER-2025-010040

Happy Monday,

I just sent a Teams invite for Wednesday November 19, at 2:30 Alaska time for the hearing regarding the Tower on 3600 E. Bogard. Does this timeframe work for you?

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

From: Justin Abbott <justin.abbott@selectsiteacq.com>
Sent: Thursday, October 23, 2025 1:54 PM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Jay Rodriguez <jacinto.rodriguez@mastec.com>; Fernanda Meza <Fernanda.Meza@mastec.com> Meza <Fernanda.Meza@mastec.com>; Patrick Hinman <patrick.hinman@selectsiteacq.com>
Subject: Re: Request For Additional Information TOWER-2025-010040

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Hi Rebecca,

Please see the attached AT&T site that we did in 2021, to use for your justification.

This compound is within the setbacks, on 2 sides.

Thank you,

Justin Abbott
(206) 790-4655
Justin.Abbott@SelectSiteAcq.com

From: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Thursday, October 23, 2025 2:41 PM
To: Justin Abbott <justin.abbott@selectsiteacq.com>
Cc: Jay Rodriguez <jacinto.rodriguez@mastec.com>; Fernanda Meza <Fernanda.Meza@mastec.com> Meza <Fernanda.Meza@mastec.com>; Patrick Hinman <patrick.hinman@selectsiteacq.com>
Subject: RE: Request For Additional Information TOWER-2025-010040

Hi Justin,

That is my interpretation on the code as well. That is why it was not a concern to me prior to my meeting earlier today. Do you know of the other facilities that you have worked with that have this similar site plan? I am happy to bring those applications/examples to the public hearing with me. If you know the address, or Tax ID# I can look up the applications in our system very quickly.

With that being said, I will continue moving this application forward.

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

From: Justin Abbott <justin.abbott@selectsiteacq.com>
Sent: Thursday, October 23, 2025 1:28 PM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Jay Rodriguez <jacinto.rodriguez@mastec.com>; Fernanda Meza <Fernanda.Meza@mastec.com> Meza <Fernanda.Meza@mastec.com>; Patrick Hinman <patrick.hinman@selectsiteacq.com>
Subject: Re: Request For Additional Information TOWER-2025-010040

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Hi Rebecca,

I have worked on other communications facilities in the Matsu Borough, which were adjacent to the property lines and don't remember this code interpretation.

Below in red is my interpretation of this code language.

MSB 17.67.060 (A)(1) states: The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55.
Code 17.55.004 Definitions: Fences are not considered a "structure" nor a "Building".

MSB 17.125 states: “Equipment compound” means the area occupied by a tower including areas inside or under the following: an antenna-support structure’s framework, equipment cabinets, and ancillary structures.
Code 17.125: Strict construction of the code language: The area occupied by the tower is the physical tower foundation, tower, mount and antennas (airspace above). Including area occupied by….any framework (meant for lattice type towers)(Tower is setback 25-feet from the property line), equipment cabinets (Equipment enclosure is over 17-feet from the property line), and ancillary structures (generators, etc.).

Code Interpretation Summary: The fence is not a structure/building and it therefore not required to meet the setback requirements. There is an existing perimeter fence adjacent to the compound. The tower, foundation, antennas, & equipment all are outside of the minimum 10-foot setback, which meets the code requirements. The fenced in area 10-feet across the top of the compound, will not permit any future structure/building/tower/antenna/cabinet/shelter/
generator/etc.; to be placed in the future. The Site Plan indicates that this area is subject to the setback requirements. (*A Condition of Approval can be written to keep any future development within the setback*) Fencing is allowed in setback areas.

Please review this rebuttal with the Planning Manager, as I will be required to notify AT&T management.

Thank you,

Justin Abbott representing AT&T Mobility in Alaska
(206) 790-4655
Justin.Abbott@SelectSiteAcq.com

From: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Thursday, October 23, 2025 1:57 PM
To: Justin Abbott <justin.abbott@selectsiteacq.com>
Subject: RE: Request For Additional Information TOWER-2025-010040

Hi Justin,

I just had a preliminary meeting with a colleague of mine in regard to the tower at 3600 Bogard. He mentioned a detail of the application that I overlooked. The “compound” of the tower, including the fencing is required to be 10 feet back from the property line.

MSB 17.67.060 (A)(1) states: The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55.
MSB 17.125 states: “Equipment compound” means the area occupied by a tower including areas inside or under the following: an antenna-support structure’s framework, equipment cabinets, and ancillary structures.

The current site plan has the compound fencing attached to the property line. A setback of 10 feet will be required for the fencing. My sincere apologies on this overlook. This will not delay the public notice. If you can make the site plan changes we can maintain our current timeline of a public meeting before Thanksgiving. Thank you for your attention.

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

From: Justin Abbott <justin.abbott@selectsiteacq.com>
Sent: Monday, October 13, 2025 8:31 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Request For Additional Information TOWER-2025-010040

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Sounds good! Thanks for the update!

From: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Monday, October 13, 2025 9:29 AM
To: Justin Abbott <justin.abbott@selectsiteacq.com>
Subject: RE: Request For Additional Information TOWER-2025-010040

Good morning,

The public notice will be out this Friday. It will be around 4-5 weeks out before the hearing is scheduled. I am required to gather all the information from the public notice before I begin my staff report.

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

From: Justin Abbott <justin.abbott@selectsiteacq.com>
Sent: Monday, October 13, 2025 8:27 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Request For Additional Information TOWER-2025-010040

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good Morning Rebecca,

I am just checking back with you on the date for the hearing for this project.

I have other travel plans to Alaska, in the next 2-3 weeks, and want to make sure that I am able to schedule this appropriately.

Thank you,
Justin Abbott
206-790-4655

From: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Monday, September 29, 2025 10:35 AM
To: Justin Abbott <justin.abbott@selectsiteacq.com>
Subject: RE: Request For Additional Information TOWER-2025-010040

Good morning,

Just wanted to reach out and let you know that the paperwork looks good on our end. The next step in the process is public notification, staff report, and presentation to our director. This process is a little slower but usually takes around 8-10 weeks. It is the responsibility of the applicant to pay the public notification which will include a mailing and a publication in our local newspaper. The total for this process is approximately $100-$200. Once the notification is complete, I will attach all receipts and an invoice. Any invoice from me will be payable online, but I will ensure to reach out to you prior to sending an invoice to ensure transparency. Please reach out if you have any questions.

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

From: Justin Abbott <justin.abbott@selectsiteacq.com>
Sent: Wednesday, September 10, 2025 9:02 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Request For Additional Information TOWER-2025-010040

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Thanks Rebecca!

From: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Wednesday, September 10, 2025 9:57 AM
To: Justin Abbott <justin.abbott@selectsiteacq.com>
Subject: RE: Request For Additional Information TOWER-2025-010040

Thank you, Justin. I will be reviewing the attached documents this week and will reach out if further clarification is needed.

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

From: Justin Abbott <justin.abbott@selectsiteacq.com>
Sent: Monday, September 8, 2025 11:44 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Request For Additional Information TOWER-2025-010040

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Hi Rebecca,

Please see the attached response letter to your request for additional information and the supporting documentation described in the letter.

Please let me know if you have any questions on the provided information.

Thank you,

Justin Abbott representing AT&T Mobility in AK
(206) 790-4655
Justin.Abbott@SelectSiteAcq.com

From: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Friday, July 11, 2025 10:44 AM
To: Justin Abbott <justin.abbott@selectsiteacq.com>
Cc: hans@workzonesafetysupply.com <hans@workzonesafetysupply.com>
Subject: Request For Additional Information TOWER-2025-010040

Good morning,

Attached is a request for additional information regarding your Tower Application submitted on June 27, 2025, on 3600 E Borgard Rd. Wasilla AK. Please review the attached document and provide the requested information at your earliest convenience.

Have a great day.

Rebecca Skjothaug
Current Planner
Desk Phone (907)861-7862

Blank

Communications

From: Planning
To: Rick Benedict
Subject: Fw: Section 106 Notification of SHPO/THPO Concurrence- Email ID #11327032
Date: Tuesday, July 1, 2025 4:26:48 PM
Attachments: Outlook-ki3yzpdk.png

Lacie Olivieri

Planning Department Administrative Specialist
Matanuska-Susitna Borough
350 East Dahlia Avenue
Palmer, AK 99645
907.861.7851
https://www.matsugov.us/

From: towernotifyinfo@fcc.gov <towernotifyinfo@fcc.gov>
Sent: Tuesday, July 1, 2025 3:46 PM
To: Planning <planning@matsugov.us>
Subject: Section 106 Notification of SHPO/THPO Concurrence- Email ID #11327032

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
This is to notify you that the Lead SHPO/THPO has concurred with the following filing:
Date of Action: 07/01/2025
Direct Effect: No Historic Properties in Area of Potential Effects (APE)
Visual Effect: No Effect on Historic Properties in APE
Comment Text: None

File Number: 0011605425
TCNS Number: 295264
Purpose: New Tower Submission Packet

Notification Date: 7AM EST 06/12/2025

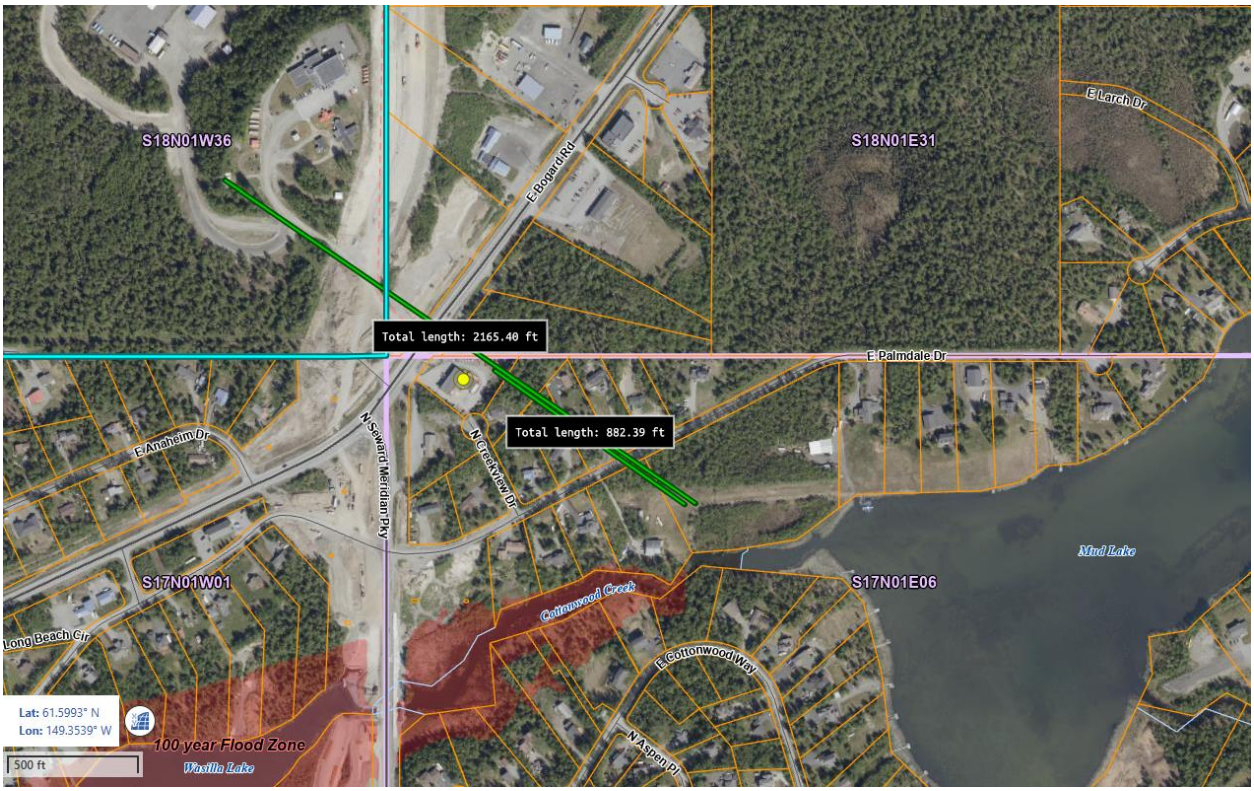
Applicant: AT&T Mobility Pacific Northwest
Consultant: EnviroBusiness Inc. d/b/a EBI Consulting (EBI 051140-PR)
Positive Train Control Filing Subject to Expedited Treatment Under Program Comment: No
Site Name: AKL02043
Site Address: 3600 E Bogard Road
Detailed Description of Project: Proposed construction of a new telecommunications

monopole tower and compound resulting in ground disturbance. Please see Attachment 4 of this filing for project design details. (051140-PR)
Site Coordinates: 61-35-57.9 N, 149-21-26.6 W
City: Wasilla
County: MATANUSKA-SUSITNA
State:AK
Lead SHPO/THPO: Alaska DNR, Ofc History & Archeology

NOTICE OF FRAUDULENT USE OF SYSTEM, ABUSE OF PASSWORD AND RELATED MISUSE
Use of the Section 106 system is intended to facilitate consultation under Section 106 of the National Historic Preservation Act and may contain information that is confidential, privileged or otherwise protected from disclosure under applicable laws. Any person having access to Section 106 information shall use it only for its intended purpose. Appropriate action will be taken with respect to any misuse of the system.

Blank

Safety Investigation


S18N01W36
S18N01E31
E Larch Dr
E Bogard Rd
Total length: 2165.40 ft
E Palmdale Dr
Total length: 882.39 ft
E Anahelm Dr
N Seward Meridian Pky
N Creekview Dr
Mud Lake
S17N01W01
S17N01E06
Cottonwood Creek
Long Beach Cir
E Cottonwood Way
N Aspen Pl
Lat: 61.5993° N
Lon: 149.3539° W
500 ft
100 year Flood Zone
Wasilla Lake

§ 91.119 Minimum safe altitudes: General.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

(a) ***Anywhere.*** An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.

(b) ***Over congested areas.*** Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

(c) ***Over other than congested areas.*** An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

(d) ***Helicopters, powered parachutes, and weight-shift-control aircraft.*** If the operation is conducted without hazard to persons or property on the surface—

(1) A helicopter may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section, provided each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA; and

(2) A powered parachute or weight-shift-control aircraft may be operated at less than the minimums prescribed in paragraph (c) of this section.

[Docket 18334, 54 FR 34294, Aug. 18, 1989, as amended by Amdt. 91-311, 75 FR 5223, Feb. 1, 2010]

§ 77.17 Obstruction standards.

Title 14 (Aeronautics and Space) — Part 77 — Section 77.17

(a) An existing object, including a mobile object, is, and a future object would be an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:

(1) A height of 499 feet AGL at the site of the object.

(2) A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

(4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

(5) The surface of a takeoff and landing area of an airport or any imaginary surface established under § 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

(b) Except for traverse ways on or near an airport with an operative ground traffic control service furnished by an airport traffic control tower or by the airport management and coordinated with the air traffic control service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of these traverse ways are increased by:

(1) 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance.

(2) 15 feet for any other public roadway.

(3) 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.

(4) 23 feet for a railroad.

(5) For a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Non-Towered Airport Flight Operations

Date: 6/6/23 **AC No:** 90-66C
Initiated by: AFS-800 **Change:**

1 **PURPOSE OF THIS ADVISORY CIRCULAR (AC).** This AC calls attention to regulatory requirements, recommended operations, and communications procedures for operating at an airport without a control tower or an airport with a control tower that operates only part time. It recommends traffic patterns, communications phraseology, and operational procedures for use by aircraft, lighter-than-air aircraft, gliders, parachutes, rotorcraft, and ultralight vehicles. This AC stresses safety as the primary objective in these operations. This AC is related to Title 14 of the Code of Federal Regulations (14 CFR) part 1, § 1.1 (traffic pattern), and part 91, § 91.13 (Careless or Reckless Operation), § 91.113 (Right-of-Way Rules: Except Water Operations), and § 91.126 (Operating On or In the Vicinity of an Airport in Class G Airspace). The contents of this document do not have the force and effect of law and are not meant to bind the public in any way, and the document is intended only to provide information to the public regarding existing requirements under the law or agency policies.

2 **AUDIENCE.** This AC applies to aircraft operators operating at or in the vicinity of an airport without a control tower or an airport with a control tower that operates only part time.

3 **WHERE YOU CAN FIND THIS AC.** You can find this AC on the Federal Aviation Administration's (FAA) website at https://www.faa.gov/regulations_policies/advisory_circulars and the Dynamic Regulatory System (DRS) at https://drs.faa.gov.

4 **WHAT THIS AC CANCELS.** AC 90-66B CHG 1, Non-Towered Airport Flight Operations, dated February 25, 2019, is canceled.

5 **PRINCIPAL CHANGES.** This AC has been updated to reflect current procedures and best practices at airports without an operating control tower or an airport with a control tower that operates only part time.

6 **DEFINITIONS.**

6.1 **Back-Taxi.** A term used by air traffic controllers to taxi an aircraft on the runway opposite to the traffic flow. The aircraft may be instructed to back-taxi to the beginning of the runway or at some point before reaching the runway end for the purpose of departure or to exit the runway.

6.2 **Chart Supplements/Terminal Procedures.** A Chart Supplement is a publication designed primarily as a pilot's operational manual containing all airports, seaplane bases,

and heliports open to the public, including communications data, navigational facilities, and certain special notices and procedures. This publication is issued in seven volumes according to geographical area and the airports' information. See Airport Chart Supplements in paragraph 7 below. Terminal procedures address available instrument approaches at an airport.

6.3 Common Traffic Advisory Frequency (CTAF). A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a Universal Communications (UNICOM), MULTICOM, Flight Service Station (FSS), or tower frequency, and is identified in appropriate aeronautical publications.

6.3.1 Universal Communications (UNICOM) Frequency. These systems offer a variety of features, typically selectable by microphone clicks, on the UNICOM frequency. Availability will be published in the Chart Supplement U.S. and approach charts.

6.3.2 MULTICOM. A mobile service, not open to public correspondence use, used for essential communications in the conduct of activities performed by or directed from private aircraft.

6.4 Hotline Complaint. If the pilot experiences a threat to their safety during any flight operation, they have the right to file an FAA Hotline compliant. The FAA Hotline accepts reports related to the safety of the National Airspace System (NAS), violation of 14 CFR, aviation safety issues, and reports related to FAA employees or FAA facilities. The FAA Hotline provides a single venue for FAA employees, the aviation community, and the public to file their reports.

6.5 Movement Area. The runways, taxiways, and other areas of an airport/heliport that are used for taxiing/hover taxiing, air taxiing, takeoff and landing of aircraft, exclusive of loading ramps, and parking areas.

6.6 Non-Towered Airports. Airports without control towers or airports with control towers that are not operating. These airports are commonly referred to as non-towered or part-time-towered airports. Another term commonly used is "uncontrolled airport."

6.7 Traffic Pattern. The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport.

7 RELATED READING MATERIAL.

1. Aeronautical Information Manual (AIM).
2. Airplane Flying Handbook.
3. Airport Chart Supplements.
4. Aircraft Owners and Pilots Association (AOPA) at https://www.aopa.org/.
5. FAA Aeronautical Chart Users' Guide.

6. FAA Hotline at https://www.faa.gov/about/office_org/headquarters_offices/aae/programs_services/faa_hotlines.
7. Fly Neighborly Guide, Helicopter Association International.
8. Notices to Air Missions (NOTAM) at https://www.faa.gov/air_traffic/publications/notices/.
9. Operations at Non-Towered Airports, AOPA, Air Safety Institute pamphlet.
10. Pilot/Controller Glossary.
11. Pilot's Handbook of Aeronautical Knowledge (PHAK) (FAA-H-8083-25B).
12. State Aviation Publications.
13. Terminal Procedures at https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/.
14. United States Parachute Association at https://uspa.org/.
15. United States Ultralight Association at https://www.usua.org.
16. Various Pilot Guides.

7.1 ACs. The current editions of the following ACs also contain information applicable to operations at airports without operating control towers.

1. AC 90-23, Aircraft Wake Turbulence.
2. AC 90-48, Pilots' Role in Collision Avoidance.
3. AC 91-32, Safety In and Around Helicopters.
4. AC 103-6, Ultralight Vehicle Operations—Airports, Air Traffic Control, and Weather.
5. AC 105-2, Sport Parachuting.
6. AC 107-2, Small Unmanned Aircraft Systems (Small UAS).

8 BACKGROUND AND SCOPE.

8.1 In the interest of promoting safety, the FAA, through its AIM, Chart Supplements, ACs, and other publications, provides radio frequency information, good operating practices, and procedures for pilots to use when operating at an airport without an operating control tower. The FAA believes that observance of a standard traffic pattern and the use of CTAF procedures, as detailed in this AC, will improve the safety and efficiency of aeronautical operations at airports without operating control towers.

8.2 Regulatory provisions relating to traffic patterns are found in 14 CFR parts 91, 93, and 97. The airport traffic patterns described in part 93 relate primarily to those airports where there is a need for unique traffic pattern procedures not provided for in part 91. Part 97 addresses instrument approach procedures (IAP). At airports without operating control towers, part 91 requires only that pilots of airplanes approaching to land make all turns to the left, unless the airport's Chart Supplement or the airport's segmented circle

indicates a different traffic pattern flow. Refer to the PHAK, Chapter 14, Airport Operations, and the AIM, Chapter 4, Section 3, Airport Operations).

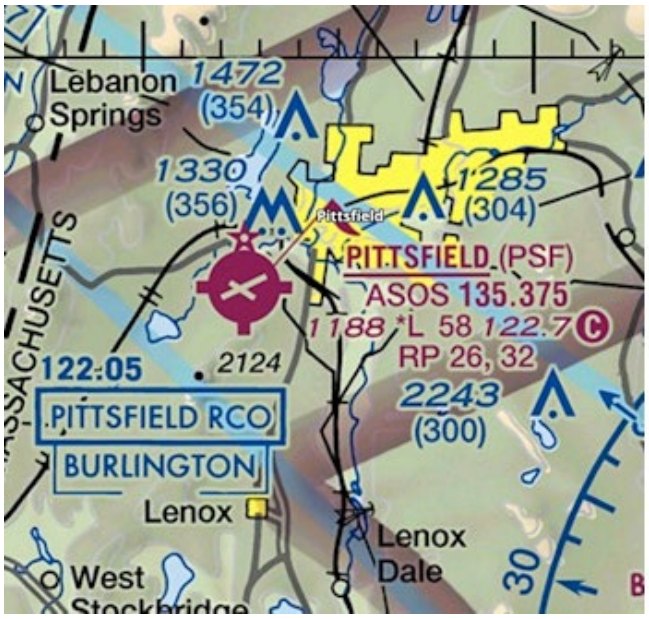
8.2.1 The FAA does not regulate traffic pattern entry, only traffic pattern flow. This means that when entering the traffic pattern at an airport without an operating control tower, inbound pilots are expected to observe other aircraft already in the pattern and to conform to the traffic pattern in use. If there are no other aircraft present, the pilot should check traffic indicators on the ground and wind indicators to determine which runway and traffic pattern direction to use. For example, an aircraft on an instrument approach flying on the final approach course to land would follow the requirements dictated by the approach procedure. Further, to mitigate the risk of a midair collision at a non-towered airport in other than instrument conditions, the FAA does not recommend that the pilot execute a straight-in approach for landing, when there are other aircraft in the traffic pattern. The straight-in approach may cause a conflict with aircraft in the traffic pattern and on base to final and increase the risk of a midair collision.

8.2.1.1 Traffic pattern entry and turn direction information is provided by using the airport remarks or Chart Supplement, or by referring to the AIM and the PHAK or this AC. An aircraft in the traffic pattern of an airport is considered an aircraft approaching to land at the airport. At an airport without a control tower, the pilot must fly the traffic pattern with left turns, unless otherwise stated in the Airport Chart Supplement, or as stated on the visual flight rules (VFR) Chart symbol for the respective airport. (Refer to § 91.126(b), the note below, and example.) That is, unless otherwise stated, all traffic pattern turns are to the left unless the airport designates that traffic pattern turns be made to the right.

Note: An aircraft outside the traffic pattern would not be bound by § 91.126(b) (see paragraph 11.3 and Appendix A, Traffic Patterns, for aircraft crossing over midfield above pattern altitude to enter the pattern). Unless otherwise required by part 93, or authorized or required by ATC, the requirements for traffic pattern flow under § 91.126 continue to apply to other airspace classification types under § 91.127 (Class E airspace), § 91.129 (Class D airspace), and § 91.130 (Class C airspace). This is particularly likely when a towered airport is operating as a non-towered airport.

Note: From the VFR Sectional Chart, a non-towered airport will indicate a right-traffic pattern with "RP" in the airport information on the sectional, which indicates that a right-traffic pattern is used at this airport. Runways requiring the use of the right pattern are listed after the RP. An example would be RP 32, meaning that a right pattern is in use on Runway 32 (see Figure 1, Sample VFR Sectional Chart With RP 32, below). If an RP is not noted, it is assumed that the traffic pattern is a left pattern.

Figure 1. Sample VFR Sectional Chart With RP 32



9 GENERAL OPERATING PRACTICES.

9.1 Preflight Actions. As part of the § 91.103 preflight requirements that a pilot become familiar with all available information concerning a flight, each pilot should review all appropriate publications (e.g., Chart Supplements, the AIM, and NOTAMs) for pertinent information on current traffic patterns at the departure and arrival airports. The Chart Supplement U.S. contains information such as special notices, FAA and National Weather Service (NWS) telephone numbers, preferred instrument flight rules (IFR) routing, VFR waypoints, a listing omni-directional range receiver checkpoints, aeronautical chart bulletins, land-and-hold-short operations (LAHSO), airport diagrams, en route flight advisory service (EFAS) outlets, parachute jumping areas, the airport's facility telephone numbers, and at non-towered airports, how to operate the pilot-controlled runway lights. It is beneficial to review a Chart Supplement U.S. to become familiar with this information.

9.2 Fly the Standard Traffic Pattern. Arriving aircraft should enter the airport's traffic pattern at traffic pattern altitude and avoid straight-in approaches for landing to mitigate the risk of a midair collision. See the paragraphs below and paragraph 11 for additional information.

9.3 Information Provided by UNICOM. UNICOM stations may, upon request, provide pilots with weather information, wind direction, the recommended runway, or other necessary information. If the UNICOM frequency is designated as the CTAF, it will be identified in appropriate aeronautical publications. If wind and weather information is not available, it may be obtainable from nearby airports via the Automatic Terminal Information Service (ATIS) or Automated Weather Observing System (AWOS). UNICOM operators are not required to communicate with pilots, and if they do, there are no standards for the information conveyed.

9.4 Airport Runway Lighting. Refer to the airport's Chart Supplement to determine whether the runway lighting is controlled by the airport's CTAF frequency. This can be a significant aid to identify your destination airport, as well as the runway in use.

9.5 Prior to Takeoff, VFR or IFR, Traffic Verification, and Communications. Communication at non-towered airports or at airports where the control tower is closed is critical. Pilots are reminded that in these cases surveillance of other traffic by the air traffic controller is removed from the safety picture; hence, you are assuming this role. All traffic, whether IFR or VFR, should, at a minimum, monitor the CTAF. For departures a minimum of 10 minutes prior to taxi and arrivals a minimum of 10 miles out from the airport, you should broadcast your intentions. The importance of air-to-air communications cannot be overemphasized. Failure to follow this communication protocol has contributed to near midair collisions (NMAC), and as such could be considered careless and reckless operation of an aircraft.

Note: If ATC issues a "departure release," this is not an authorization to takeoff. The pilot should communicate over the airport's CTAF their call sign, the runway they will use to takeoff, their departure direction, and initial climb altitude; coordinate their takeoff with other aircraft inbound and with aircraft in the traffic pattern before taking off to mitigate the risk of a surface or a midair collision. If the departing aircraft has a clearance void time, and cannot safely takeoff, then they should contact ATC and advise that they need to obtain another clearance void time.

9.5.1 VFR. The pilot should not enter the runway in use for takeoff unless they verify that there is no landing traffic either opposite to their runway for takeoff or aligned with their runway for takeoff. The pilot should also ensure that, by entering the runway, they do not cause a traffic conflict with operations on any other runway.

9.5.2 IFR. The pilot should consider the same factors as when flying VFR described in paragraph 9.5.1. However, remember that the air traffic control (ATC) IFR release is not authorization for takeoff.

Note: Crews/pilot should monitor the CTAF for any inbound traffic and coordinate their departure.

9.5.3 Pre-Takeoff Communications. On the airport's CTAF, you should communicate and coordinate your takeoff intention with aircraft inbound and in the traffic pattern and announce the runway to be used, the direction of flight on departure, or whether you intend to remain in the traffic pattern. This action will reduce the risk of a surface or midair collision during takeoff. Also, coordinate the takeoff with other traffic in the traffic pattern, traffic inbound for landing, or traffic on a straight-in approach to any of the airport's runways.

9.6 MULTICOM Frequencies. Where there is no tower, CTAF, or UNICOM station depicted for an airport on an aeronautical chart, use MULTICOM frequency 122.9 for

self-announce procedures. Such airports should be identified in appropriate aeronautical information publications.

9.7 Be Alert for Other Than a Left-Hand Traffic Pattern. If the Chart Supplement lists a right-hand traffic pattern at a non-towered airport, pilots conducting practice instrument approaches in visual meteorological conditions (VMC) should circle to the right to enter the traffic pattern.

9.8 Self-Announce Position and/or Intentions. "Self-announce" is a procedure whereby pilots broadcast their aircraft call sign, position, altitude, and intended flight activity or ground operation on the designated CTAF. This procedure is used almost exclusively at airports that do not have an operative control tower or an FSS on the airport. If an airport has a control tower that is either temporarily closed or operated on a part-time basis, and there is no operating FSS on the airport, pilots should use the published CTAF to self-announce position and/or intentions when entering within 10 miles of the airport.

9.8.1 Self-Announcing. Self-announcing should include aircraft type to aid in identification and detection, but should not use paint schemes or color descriptions to replace the use of the aircraft call sign. For example, "MIDWEST TRAFFIC, TWIN COMMANDER FIVE ONE ROMEO FOXTROT TEN MILES NORTHEAST" or "MIDWEST TRAFFIC, FIVE ONE ROMEO FOXTROT TWIN COMMANDER TEN MILES NORTHEAST." When referring to a specific runway, pilots should use the runway number and not use the phrase "Active Runway." To help identify one airport from another when sharing the same frequency, the airport name should be spoken at the beginning and end of each self-announce transmission.

Note: Refer to AIM, Chapter 4, Section 1. Pilots are reminded that the use of the phrase "ANY TRAFFIC IN THE AREA, PLEASE ADVISE" is not a recognized self-announce position and/or intention phrase and should not be used under any condition. Any traffic that is present at the time of your self-announcement that is capable of radio communications should reply without being prompted to do so.

9.9 Left Traffic. Use of standard traffic patterns (left turns) for all aircraft and CTAF procedures by radio-equipped aircraft are required at all airports without operating control towers unless indicated otherwise by visual markings, light gun signals, airport publications, or published approach procedure. A pilot should understand that other traffic patterns (right turns) may already be in common use at some airports or that special circumstances or conditions exist that may prevent use of the standard traffic pattern. Right-hand patterns are noted at airports on an aeronautical chart with an "RP" designator and the applicable runway next to the airport symbol. See paragraph 11 for detailed information.

9.10 Collision Avoidance. The pilot in command's (PIC) primary responsibility is to see and avoid other aircraft and to help other aircraft see and avoid his or her aircraft. You should keep lights and strobes on. The use of any traffic pattern procedure does not alter the responsibility of each pilot to see and avoid other aircraft. Pilots are encouraged to participate in "Operation Lights On," a voluntary pilot safety program described in the

AIM (paragraph 4-3-23) that is designed to improve the "see-and-avoid" capabilities. Refer to AC 90-48 for additional information.

9.10.1 Unmanned Aircraft (UA). UA, commonly known as drones, and their associated operating systems can operate as recreational, commercial, or public aircraft. Recreational, commercial, and public drones generally do not require authorization to operate in Class G airspace, nor are UA required to maintain radio communications with other aircraft. The remote PIC must always yield right-of-way to a manned aircraft and not interfere with manned aircraft operations. The FAA encourages remote PICs to use caution when operating in and around the vicinity of airports because their aircraft may be difficult to see or be recognized by pilots of manned aircraft. Additional information regarding unmanned aircraft operations may be found in AC 107-2 and 14 CFR part 107.

Note: According to part 107, § 107.41, operators of small UA are required to obtain ATC authorization prior to operating in Class B, C, D, and surface Class E airspaces.

9.11 Traffic Flow. The FAA recommends that pilots use visual indicators, such as the segmented circle, wind direction indicator, landing direction indicator, and traffic pattern indicators that provide traffic pattern information. If other traffic is present in the pattern, arriving or departing aircraft should use the same runway as these aircraft. Transient aircraft may not know local ground references, so pilots should use standard pattern phraseology, including distances from the airport.

9.11.1 Straight-In Landings. The FAA discourages VFR straight-in approaches to landings due to increased risk of a midair collision. However, if a pilot chooses to execute a straight-in approach for landing without entering the airport traffic pattern, the pilot should self-announce their position on the designated CTAF between 8 and approximately 10 miles from the airport, and coordinate their straight-in approach and landing with other airport traffic. Pilots choosing to execute a straight-in approach do not have a particular priority over other aircraft in the traffic pattern and must comply with the provisions of § 91.113(g).

Note: Section 91.113(b) requires all pilots to see and avoid. Refer to AC 90-48 for further guidance on reducing the risk of a midair collision.

9.11.2 Aircraft Operating in the Traffic Pattern at a Non-Towered Airport. All traffic within a 10-mile radius of a non-towered airport, or a part-time-towered airport when the control tower is not operating, should monitor and communicate on the designated CTAF when entering the traffic pattern. Pilots must remain vigilant to comply with the requirement to see and avoid other aircraft (refer to § 91.113), which could include aircraft conducting straight-in approaches to land, and should communicate their position in the pattern with other aircraft in the traffic pattern to avoid a possible traffic conflict. In the airport traffic pattern, good communication and a pilot's responsibility to see and avoid are essential mitigations to avoid a possible midair collision. In addition, following established traffic pattern procedures eliminates excessive maneuvering at low altitudes, reducing the risk of loss of aircraft control. The following is an example of traffic pattern position reporting:

state, “Entering left/right downwind for runway [XX];” when on the downwind, state, “On the left/right downwind for runway [XX];” when on base leg, state, “On left/right base for runway [XX];” finally, when turning, state, “On final for runway [XX].”

Note: Most importantly, all pilots operating at a non-towered airport have the responsibility to see and avoid under § 91.113(b). Refer to AC 90-48 for further guidance on reducing the risk of a midair collision.

9.11.3 IFR Traffic. Pilots conducting instrument approaches in VMC should be particularly alert for other aircraft in the pattern so as to avoid interrupting the flow of traffic and should bear in mind they do not have priority over other VFR traffic. Pilots are reminded that circling approaches must comply with § 91.126(b) unless the approach procedure explicitly states otherwise. Remember, if the Chart Supplement lists right-hand traffic at a non-towered airport, pilots conducting practice instrument approaches in VMC should circle to the right to enter the traffic pattern.

9.11.4 Practice Instrument Approaches at Non-Towered Airports versus VFR Aircraft in the Traffic Pattern. Pilots conducting instrument approaches at non-towered airports should be alert for other aircraft in the pattern, and should follow these best practices:

9.11.4.1 **Announce and Coordinate for Safety.** Announce their distance from the runway aligned with the instrument approach being flown, and their intention to land, conduct a touch-and-go, fly the published missed approach, or at the missed approach point break off the instrument approach.

9.11.4.2 **Communicate to Avoid the Risk of a Midair Collision.** To avoid the risk of a midair collision, communicate with the pilots already in the traffic pattern and advise them of your intentions, and determine the safety of flying the published missed approach, or conducting a touch and go or a full stop landing. Per coordination with the other aircraft already in the traffic pattern, safety may be best served by breaking off the approach and entering the airport’s downwind leg to not disturb the current flow of landing and departing aircraft.

9.11.4.3 **If Not Planning to Fly the Published Missed Approach, Communicate.** If not planning to fly the published missed approach, communicate your over CTAF your intentions to aircraft on the airport’s CTAF. For example, “Cessna N1234 on VOR 6 not flying the published missed approach, turning [state direction] for another approach [state, leaving the area].” This will reduce the risk of a midair collision with aircraft in the traffic pattern and inbound to the airport for landing.

9.11.5 Consider That Non-Instrument-Rated Pilots May Not Understand.
A non-instrument-rated pilot might not understand radio calls referring to approach waypoints, depicted headings, or missed approach procedures. IFR pilots often indicate that they are on a particular approach, but that may not be enough information for a non-IFR-rated pilot to know your location. It is better to provide specific direction and

distance from the airport, as well as the pilot's intentions upon completion of the approach. For example, instead of saying, "PROCEDURE TURN INBOUND V-O-R APPROACH 36," state, "6 MILES SOUTH INBOUND V-O-R APPROACH RUNWAY 36, PLANNING TURNING (right or left) TO AVOID FLYING OVER THE AIRPORT, or state, "6 MILES SOUTH INBOUND V-O-R APPROACH RUNWAY 36, LANDING FULL STOP." You should be clear and concise. The other traffic needs to know what to expect in order to take appropriate actions that avoid a midair collision.

9.12 Other Considerations at Non-Towered Airports.

9.12.1 Flight Inspection Aircraft. Pilots should be aware that flight inspection aircraft may be operating near the airport, in a nonstandard traffic pattern or opposite direction to conduct inspection of navigational aids. In addition, flight inspection aircraft frequently conduct low approaches over the runway. Flight inspection aircraft use the call sign "flight check" and will self-announce their position and intentions on the designated frequency. Pilots should be vigilant when they hear "flight check" on the frequency.

9.12.2 No-Radio Aircraft. Pilots should be aware that procedures at airports without operating control towers generally do not require the use of two-way radios; therefore, pilots should be especially vigilant for other aircraft while operating in the traffic pattern. Pilots of inbound aircraft that are not capable of radio communications should determine the runway in use prior to entering the traffic pattern by observing the landing direction indicator, the wind indicator, landing and departing traffic, previously referring to relevant airport publications, or by other means.

9.12.3 Turbulence Generated by Aircraft.

9.12.3.1 Wake Turbulence. A phenomenon that occurs when an aircraft develops lift and forms a pair of counter-rotating vortices. All aircraft generate wake turbulence. Therefore, pilots should be prepared to encounter turbulence while operating in a traffic pattern and especially when in the trail of other aircraft. Wake turbulence can damage aircraft components and equipment. In flight, and especially when in a traffic pattern, avoid the area below and behind the aircraft generating turbulence, especially at a low altitude where even a momentary wake encounter could be hazardous.

Note: All operators should be aware of the potential of wake turbulence when operating at any airport. Since the turbulence from a "dirty," flaps and landing gear extended, aircraft configuration hastens wake decay, the greatest vortex strength occurs when the generating aircraft is "HEAVY," "CLEAN," and "SLOW." Be alert to the wake turbulence you could be generating to smaller aircraft.

9.12.3.2 Rotor Wash. A phenomenon resulting from the vertical down wash of air generated by the main rotor(s) of a helicopter.

9.12.3.3 Propeller (Prop) Wash (Prop Blast). A disturbed mass of air generated by the motion of a propeller.

9.12.3.4 **Jet Blast.** Force of the "air" from the rear section of the jet engine. Almost half of the jet blast incidents reported to the Aviation Safety Reporting System (ASRS) occurred on taxiways, in run-up areas, and adjacent to or on runways, all relatively uncongested airport areas. The other half occurred on ramps, where many more such incidents might be expected because of close aircraft parking and tight maneuvering conditions. You should give yourself ample distance behind a jet. For example, in one case, a small aircraft performing a run-up 150 feet behind and to the side of an airliner holding short of the runway experienced a wing and prop strike when the larger aircraft powered up. Refer to the FAA ASRS Ground Jet Blast Hazard.

9.12.4 Right-of-Way. Throughout the traffic pattern, right-of-way rules apply as stated in § 91.113: "When weather conditions permit, regardless of whether an operation is conducted under instrument flight rules or visual flight rules, vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft. When a rule of this section gives another aircraft the right-of-way, the pilot shall give way to that aircraft and may not pass over, under, or ahead of it unless well clear."

9.12.5 Other Approaches to Land and Airports with Multiple Runways. Pilots should be aware of the other types of approaches to land that may be used at an airport when a pilot indicates they are doing so, which may or may not be initiated from the traffic pattern. The more common types of these include a short approach, low approach, or an overhead approach. Also, at airports with multiple runways, to reduce the risk of a collision on takeoff or arrival, you should be vigilant and scan for operations on other runways that may conflict with your operation. Some airports do not provide a clear line of sight to other runways, diminishing a pilot's situational awareness during departures. You should be alert and aware of tower/aircraft communications, and identify what runway or runways are being used for takeoff and landing. If operating at a towered airport with crossing runways, and you are in doubt if the other aircraft's takeoff runway will conflict with your takeoff, you should contact the tower to confirm if your takeoff runway will not conflict with another aircraft taking off. If at a non-towered airport, you should use the CTAF and ask the other departing aircraft which runway they are departing from or landing on to avoid the risk of a takeoff or landing collision with another aircraft.

9.12.5.1 **A Short Approach.** A short approach is executed when the pilot makes an abbreviated downwind, base, and final legs turning inside of the standard 90-degree base turn. This can be requested at a towered airport for aircraft spacing, but is more commonly used at a non-towered airport or a part-time-towered airport when the control tower is not operating, when landing with a simulated engine out or completing a power-off 180-degree accuracy approach commercial-rating maneuver.

9.12.5.2 **A Low Approach.** A low approach is executed when an aircraft intends to overfly the runway, maintaining runway heading but not landing. Aircraft flying practice instrument approaches commonly use this.

9.12.5.3 An Overhead Approach. An overhead approach is normally performed by aerobatic or high-performance aircraft and involves a quick 180-degree turn and descent at the approach end of the runway before turning to land (described in the AIM, Paragraph 5-4-27, Overhead Approach Maneuver).

9.13 Pilot Responsibility to See and Avoid and Pilot Avoiding Careless and Reckless Operations (§ 91.13). In the airport traffic pattern, effective communication and a pilot's responsibility to see and avoid are essential mitigations to avoid a possible midair collision. In addition, following established traffic pattern procedures eliminates excessive maneuvering at low altitudes which mitigate the risk of a loss-of-aircraft control. All aircraft in the pattern or those flying a straight-in approach for landing in order to mitigate the risk of a conflict should effectively communicate their type of aircraft, distance from the runway in use, and state that they will or will not land on the runway in use. It is important to remember that non-adherence to established procedures and operations in the airport traffic pattern or on the surface of the airport that could endanger the life or property of another and could expose the pilot to an investigation based upon their careless or reckless operation.

10 COMMUNICATIONS PROCEDURES. The following information is intended to supplement the AIM, Paragraph 4-1-9, Traffic Advisory Practices at Airports Without Operating Control Towers.

10.1 Recommended Communication Practices. To achieve the greatest degree of safety, it is essential that all radio-equipped aircraft transmit/receive on a common frequency identified for the purpose of airport advisories, as identified in appropriate aeronautical publications.

1. Pilots should only use the correct airport name, as identified in appropriate aeronautical publications, when self-announcing or exchanging traffic information to reduce the risk of confusion. For example, when landing at Midwest National Airport (KGPH), state, "Midwest National Traffic" as stated on the VFR aeronautical chart and as found in the Airport's Supplemental Chart information. Do not use the town's name "Mosby Traffic" or "Clay County Traffic."
2. To help identify one airport from another, the correct airport name should be spoken at the beginning and end of each self-announce transmission.
3. Pilots should clarify the intentions of another pilot if they do not fully understand the other pilot's intentions.
4. Pilots should limit communications on CTAFs to safety-essential information regarding arrivals, departures, traffic flow, takeoffs, and landings. The CTAF should not be used for personal conversations.
5. Pilots operating in the traffic pattern or on a straight-in approach must be alert at all times to other aircraft in the pattern, or conducting straight-in approaches, and should communicate their position to avoid a possible traffic conflict. In the airport traffic pattern and while on straight-in approaches to a runway, good communication and a pilot's responsibility to see-and-avoid are essential mitigations to avoid a possible

midair collision. In addition, following established traffic pattern procedures eliminates excessive maneuvering at low altitudes, reducing the risk of loss of aircraft control.

Note: Pilots should not broadcast their assumed sequence for landing when transmitting their position in the pattern. For example, "N1234 downwind, number 3 for landing." This is the responsibility of ATC at towered airports.

10.2 Unnecessary Communications. Avoid unnecessary CTAF communications. Keep in mind that while you are communicating, you may block transmissions from other aircraft that may be departing or landing in the opposite direction to your aircraft due to IFR operations, noise abatement, obstacle avoidance, or runway length requirements. An aircraft might be using a runway different from the runway in use.

10.3 Avoid Confusing Language. Avoid confusing language that could attribute to the risk of a midair collision. To avoid misunderstandings, pilots should avoid using the words "to" and "for" whenever possible. These words might be confused with runway numbers or altitudes. Be specific and clear so that other pilots in the pattern are not confused as to the runway or procedure you intend to use to ensure you and the other pilots are clear as to each other's positions within the traffic pattern to mitigate the possibility of a midair collision.

10.4 Recommended Traffic Advisory Practices.

10.4.1 Arriving Aircraft. Approximately 10 miles from the destination airport, monitor the CTAF for other traffic and self-announce your position, altitude, and intention. Also, all traffic within a 10-mile radius of a non-towered airport or a part-time-towered airport when the control tower is not operating should monitor and communicate their intentions on the designated CTAF as they approach to enter the traffic pattern to avoid a traffic conflict. For IFR-arriving aircraft, in addition to communicating with ATC, the pilot/crew is advised to monitor the airport's CTAF to obtain traffic volume.

10.4.2 Departing Aircraft. Unless otherwise stated in the Airport Chart Supplement for the airport reference to departure procedures, departing aircraft should monitor/communicate on the appropriate CTAF from startup, during taxi, and after departure, so to be aware of any inbound aircraft that could present a traffic conflict.

Note: At non-towered airports, the FAA discourages back-taxi operations because they increase the risk of a surface collision with landing aircraft. Remember, at towered airports, ATC authorizes a back-taxi and provides collision avoidance for this operation.

10.4.3 IFR Departure. Unless otherwise stated in the Airport Chart Supplement for the airport reference to IFR departure procedures, departing aircraft should monitor/communicate on the appropriate CTAF from startup and during taxi so that they are aware of arrival aircraft landing at the airport. To mitigate a surface or midair collision, departing aircraft should communicate on the CTAF prior to entering the runway environment so not to create a collision hazard. This requires the departing aircraft to "see-and-avoid" any

aircraft that may be on short final prior to entering the runway for takeoff and communicate their intentions, their departure runway, initial departure altitude, and direction of flight, and monitor CTAF until they are in contact with ATC.

Note 1: When receiving an IFR clearance release to enter airspace from ATC, with or without a clearance void time, you should not takeoff at a non-towered airport until you are positive that there is no inbound aircraft/traffic pattern conflicts. If your takeoff is going to be delayed, contact and advise ATC.

Note 2: Caution should be taken when receiving IFR clearances on the ground from a Remote Transmitter Receiver (RTR) or a Remote Communications Outlet (RCO), as these can limit your situational awareness of other aircraft that may be entering the traffic area for landing while you are not monitoring the CTAF/UNICOM.

10.4.4 Immediate IFR Departure. Pilots departing IFR are encouraged not to accept immediate IFR departures just to meet clearance void times as this increases the risk of a collision hazard on the runway when they conduct an immediate departure and another aircraft could be on short final, entering the runway from another location, or may be crossing the runway in use. As stated above, an ATC IFR clearance and ATC stating released are not authorizations to takeoff. Per paragraph 10.4.3, communicate on CTAF, announce your intention to takeoff; state the runway in use, initial departure altitude, and direction of flight; and call for any aircraft in the pattern or inbound to the airport for landing to obtain a complete understanding of all air traffic to be avoided.

11 RECOMMENDED STANDARD TRAFFIC PATTERN. The following information is intended to supplement the AIM, Paragraph 4-3-3, Traffic Patterns, and the PHAK, Chapter 14. Further, during preflight planning, you should check the Chart Supplement information for the airport of destination and in addition to obtaining airport information, check for any airport remarks and/or special procedures. This information can alert you to takeoff, landing, or other procedures, and ensure you are familiar with all available information regarding that airport.

11.1 Traffic Pattern Design. Airport owners and operators, in coordination with the FAA, are responsible for establishing traffic patterns. The FAA encourages airport owners and operators to establish traffic patterns as recommended in this AC. Further, left traffic patterns should be established, except where obstacles, terrain, and noise-sensitive areas dictate otherwise (see Appendix A).

11.2 Determination of Traffic Pattern. Prior to entering the traffic pattern at an airport without an operating control tower, aircraft should avoid the flow of traffic until established on the entry leg. For example, the pilot can check wind and landing direction indicators while at an altitude above the traffic pattern, or by monitoring the communications of other traffic that communicate the runway in use, especially at airports with more than one runway. When the runway in use and proper traffic pattern direction have been determined, the pilot should then proceed to a point well clear of the pattern before descending to and entering at pattern altitude.

11.3 Traffic Pattern Entry. Arriving aircraft should be at traffic pattern altitude and allow for sufficient time to view the entire traffic pattern before entering. Entries into traffic patterns while descending may create collision hazards and should be avoided. Entry to the downwind leg should be at a 45-degree angle abeam the midpoint of the runway to be used for landing. Aircraft should always enter the pattern at pattern altitude, especially when flying over midfield and entering the downwind directly. See Appendices A, B, Glider Operations, and C, Parachute Operations, for additional traffic pattern entry details.

11.4 Descent and Base Turn. The traffic pattern altitude should be maintained until the aircraft is at least abeam the approach end of the landing runway on the downwind leg. The base leg turn should commence when the aircraft is at a point approximately 45 degrees relative bearing from the approach end of the runway.

11.5 Runway Preference. Landing and takeoff should be accomplished on the operating runway most nearly aligned into the wind. However, if a secondary runway is used (e.g., for length limitations), pilots using the secondary runway should avoid the flow of traffic to the runway most nearly aligned into the wind.

11.6 Takeoff and Go-Around. Airplanes on takeoff, or executing a go-around, should continue straight ahead until beyond the departure end of the runway, and the pilot maintaining awareness of other traffic so as not to conflict with those established in the pattern.

11.7 Turning Crosswind. Airplanes remaining in the traffic pattern should not commence a turn to the crosswind leg until beyond the departure end of the runway and within 300 feet below traffic pattern altitude. Pilots should make the turn to downwind leg at the traffic pattern altitude.

Note: Pilots should be aware that the crosswind leg may be longer or shorter due to weather conditions that are unusually hot or cold.

11.8 Takeoff and Departing the Airport Pattern (the Departure Leg). When departing the traffic pattern, airplanes should continue straight out or exit with a 45-degree left turn (right turn for right traffic pattern) beyond the departure end of the runway after reaching pattern altitude. Pilots need to be aware of any traffic entering the traffic pattern prior to commencing a turn.

11.9 Airspeed Limitations. Airplanes should be operated in accordance with their pilot's operating handbook (POH)/Aircraft Flight Manual (AFM) landing procedures.

11.10 Landing Right-of-Way. Section 91.113 provides the right-of-way when landing. The section states in relevant part, "Vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft…When two or more aircraft are approaching an airport for the purpose of landing, the aircraft at the lower altitude has the right-of-way, but it shall not take advantage of this rule to cut in front of another which is on final approach to land or to overtake that aircraft."

12 OTHER NON-TOWERED AIRPORT AIRCRAFT TRAFFIC PATTERNS.

Non-towered airport operators routinely establish local procedures for the operation of rotorcraft, gliders, ultralight vehicles, lighter-than-air aircraft, and parachute operations. See Appendices A for traffic patterns; B for glider operations, rotorcraft, ultralight vehicles, and lighter-than-air aircraft; and C for parachute operations, which provides details and recommended standard traffic patterns for these operations.

12.1 Rotorcraft.

12.1.1 In the case of a helicopter approaching to land other than on the runway in use, the pilot should avoid the flow of fixed-wing aircraft and land on a marked helipad or suitable clear area. Pilots should be aware that at some airports, the only suitable landing area is the runway, and a standard traffic pattern can be utilized if it does not conflict with any other fixed-wing traffic present at the time of landing.

12.1.2 All pilots should be aware that rotorcraft may fly slower and approach at steeper angles than airplanes. Air taxi is the preferred method for helicopter ground movements, which enables the pilot to proceed at an optimum airspeed, minimize downwash effect, and conserve fuel. Flight over aircraft, vehicles, and personnel should be avoided.

12.1.3 In the case of a gyroplane approaching to land, the gyroplane pilot operating in the traffic pattern when landing on the runway may fly a pattern similar to the fixed-wing aircraft traffic pattern but at a lower altitude (500 feet above ground level (AGL)) and closer to the runway. This runway pattern may be on the opposite side of the runway from fixed-wing traffic only when airspeed requires it or for practice power-off landings and if local policy permits. Landings not on the runway should avoid the flow of fixed-wing traffic.

12.1.4 Helicopters operating in the traffic pattern when landing on the runway may fly a pattern similar to the fixed-wing aircraft traffic pattern but at a lower altitude (500 feet AGL) and closer to the runway. This runway pattern may be on the opposite side of the runway from fixed-wing traffic only when airspeed requires it or for practice power-off landings (autorotation) and if local policy permits. Landings not on the runway should avoid the flow of fixed-wing traffic.

12.1.5 Both classes of rotorcraft can be expected to practice power-off landings (autorotation), which will involve a very steep angle of approach and high rate of descent (1,500 to 2,000 feet/minute).

12.2 Gliders.

12.2.1 A glider, including the tow aircraft during towing operations, has the right-of-way over powered aircraft.

12.2.2 If both airplanes and gliders use the same runway, the glider traffic pattern will be inside the pattern of engine-driven aircraft. If a glider operating area is established to one side of a powered-aircraft runway, the glider pattern will normally be on the side of the airport closest to the glider operating area. This will allow gliders to fly the same direction

traffic pattern as powered aircraft in certain wind conditions and necessitate a separate, opposing direction traffic pattern in other wind conditions. (See examples in Appendix B.)

12.2.3 Typically, glider traffic patterns have entry points (initial points) from 600 to 1,000 feet AGL.

12.3 Ultralight Vehicles.

12.3.1 In accordance with 14 CFR part 103, ultralight vehicles are required to yield the right-of-way to all aircraft.

12.3.2 Ultralight vehicles should fly the rectangular pattern as described in Appendix B. Pattern altitude should be 500 feet below and inside the standard pattern established for the airport. An ultralight pattern with its own dedicated landing area will typically have a lower traffic pattern parallel to the standard pattern, with turns in the opposite direction.

12.3.3 All pilots should be aware that ultralights will fly significantly slower than airplanes. Ultralights may also exhibit very steep takeoff and approach angles. Turns may be executed near the end of the runway in order to clear the area expediently.

12.4 Lighter-Than-Air Aircraft.

12.4.1 A balloon has the right-of-way over any other category of aircraft and does not follow a standard traffic pattern.

12.4.2 Due to limited maneuverability, airships do not normally fly a standard traffic pattern. However, if a standard traffic pattern is flown, it will be at an airspeed below most other aircraft.

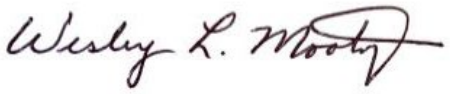
12.5 Parachute Operations.

12.5.1 All activities are normally conducted under a NOTAM noting the location, altitudes, and time or duration of jump operations. The Chart Supplement lists airports where permanent Drop Zones (DZ) are located.

12.5.2 Jumpers normally exit the aircraft either above, or well upwind of, the airport and at altitudes well above traffic pattern altitude. Parachutes are normally deployed between 2,000 feet and 5,000 feet AGL and can be expected to be below 3,000 feet AGL within 1 mile of the airport within the probable chute operating zone, or within 2 miles in extreme zone (see Appendix C). Pilots of jump aircraft are required by 14 CFR part 105 to establish two-way radio communications with the ATC facility that has jurisdiction over the affected airspace prior to jump operations for the purpose of receiving information in the aircraft about known air traffic in the vicinity. In addition, when jump aircraft are operating at or in the vicinity of an airport, pilots are also encouraged to provide advisory information on the CTAF. For example, “Chambersburg traffic, jumpers away over Chambersburg.”

12.5.3 When a DZ has been established at an airport, parachutists are expected to land within the DZ. At airports that have not established DZs, parachutists should avoid landing on runways, taxiways, aprons, and their associated safety areas. Pilots and parachutists should both be aware of the limited flight performance of parachutes and take steps to avoid any potential conflicts between aircraft and parachute operations. Appendix C provides dimensions of a parachute operation's DZ, and an example of an airport's Chart Supplement information for parachute operations.

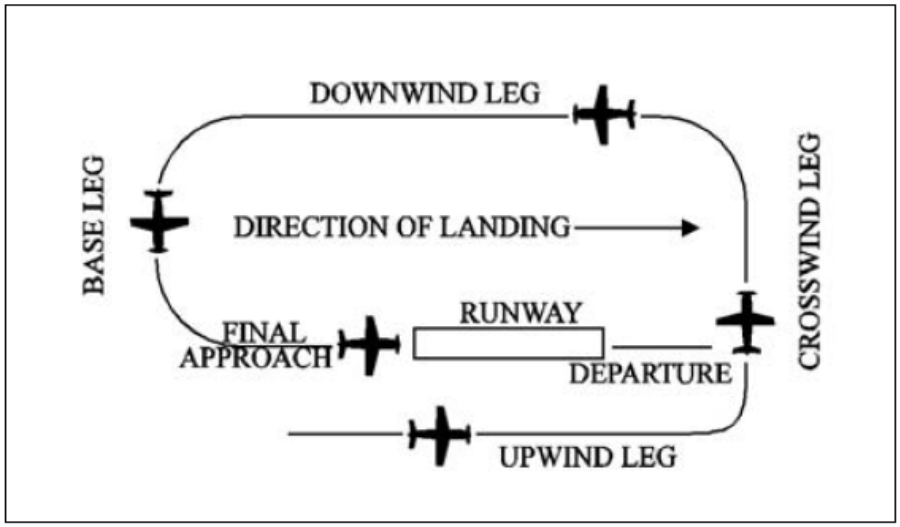
13 AC FEEDBACK FORM. For your convenience, the AC Feedback Form is the last page of this AC. Note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this AC on the Feedback Form.



Wesley L. Mooty
Acting Deputy Executive Director, Flight Standards Service

APPENDIX A. TRAFFIC PATTERNS

Components of a Traffic Pattern (Refer to AIM Chapter 4)



Note: This diagram is intended only to illustrate terminology used in identifying various components of a traffic pattern. It should not be used as a reference or guide on how to enter a traffic pattern.

1. Upwind leg. A flight path parallel to the landing runway in the direction of landing. ***Note: The upwind leg is separate and distinct from the departure leg and often used to reference the flight path flown after takeoff (or a touch and go).***

2. Crosswind leg. A flight path at right angles to the landing runway off its end.

3. Downwind leg. A flight path parallel to the landing runway in the opposite direction of landing.

4. Base leg. A flight path at right angles to the landing runway off its approach end. The base leg extends from the downwind leg to the intersection of the extended runway centerline.

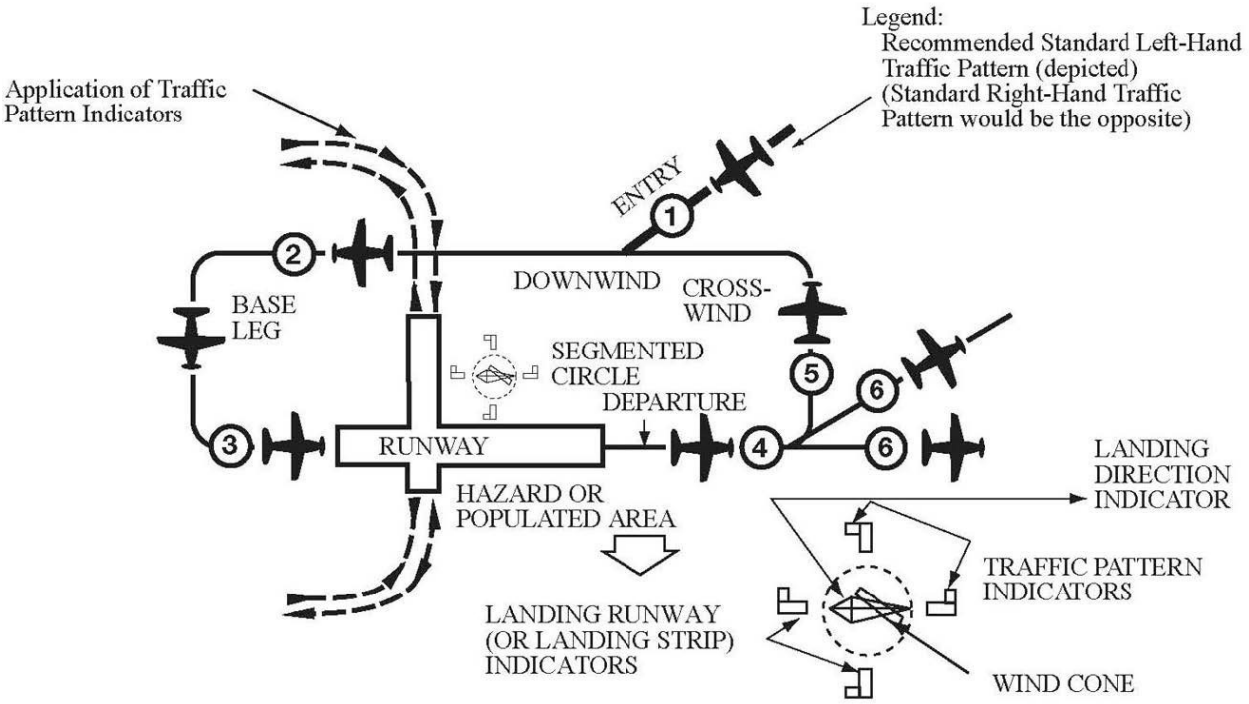
5. Final approach. A flight path in the direction of landing along the extended runway centerline from the base leg to the runway.

6. Departure—Departing the airport's traffic area. The flight path which begins after takeoff and continues straight ahead along the extended runway centerline. ***Note: The departure climb continues until reaching a point at least 1/2 mile beyond the departure end of the runway and within 300 feet of the traffic pattern altitude, and the aircraft continues on its direction of flight away from the airport.***

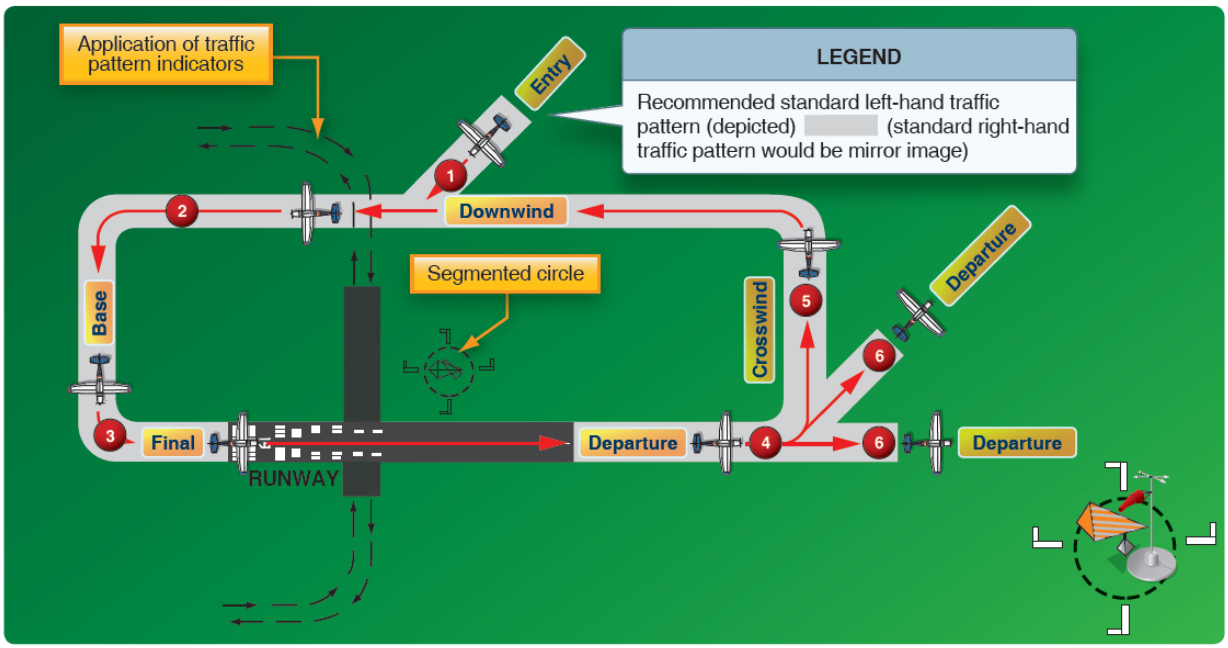
Note: Aircraft should always enter the pattern at pattern altitude published for the respective airport. A midfield crossing alternate pattern entry should not be used when the pattern is congested.

Note: Descending into the traffic pattern can be dangerous, as one aircraft could descend on top of another aircraft that is already in the pattern. All similar types of aircraft, including those entering on the 45-degree angle to downwind, should be at the same pattern altitude so that it is easier to visually acquire any traffic in the pattern.

Single Runway (Diagram from the AIM, Paragraph 4-3-3)



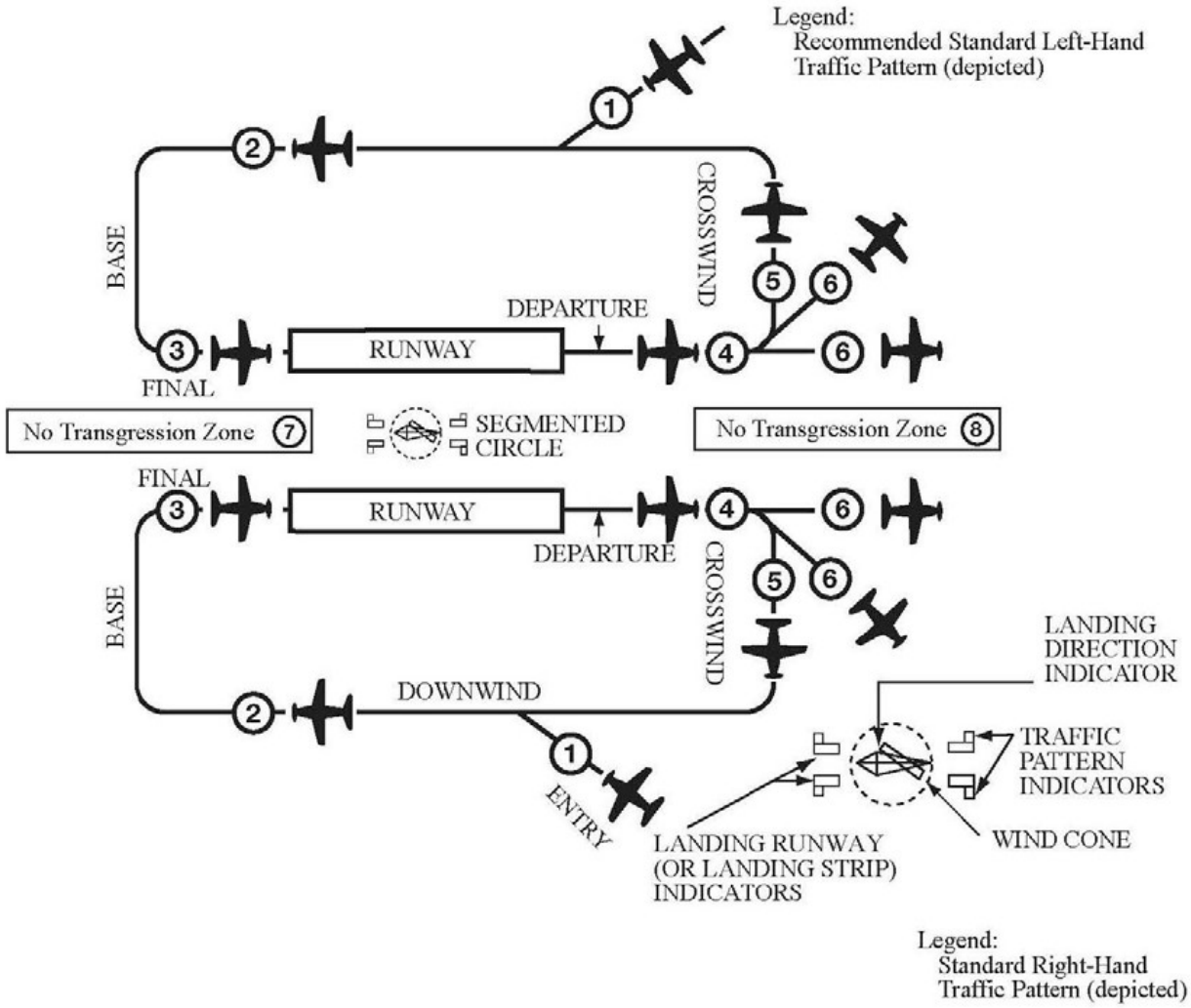
Traffic pattern operations—single runway (PHAK)



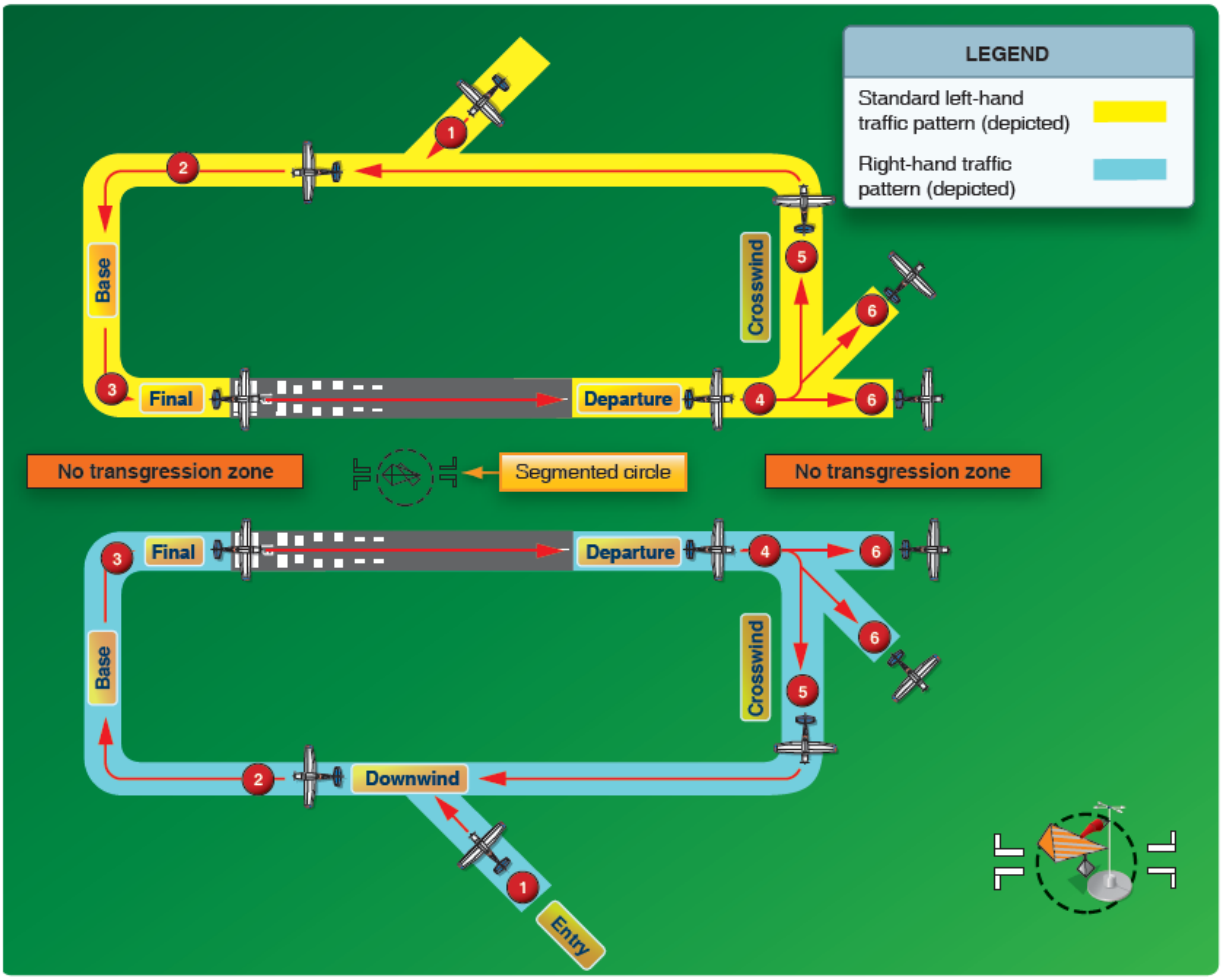
EXAMPLE−
Key to traffic pattern operations:

1. Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude.
2. Maintain pattern altitude until abeam approach end of the landing runway on downwind leg, begin descent and turn base at approximately 45 degrees from the intended landing point.
3. Complete turn to final at least ¼ mile from the runway.
4. Continue straight ahead until beyond departure end of runway.
5. If remaining in the traffic pattern, commence turn to crosswind leg beyond the departure end of the runway within 300 feet of pattern altitude.
6. If departing the traffic pattern, continue straight out, or exit with a 45-degree turn (to the left when in a left-hand traffic pattern; to the right when in a right-hand traffic pattern) beyond the departure end of the runway, after reaching pattern altitude.

Parallel Runways (Diagram from the AIM, Paragraph 4-3-3)



Traffic Pattern Operation—Parallel Runways (PHAK)

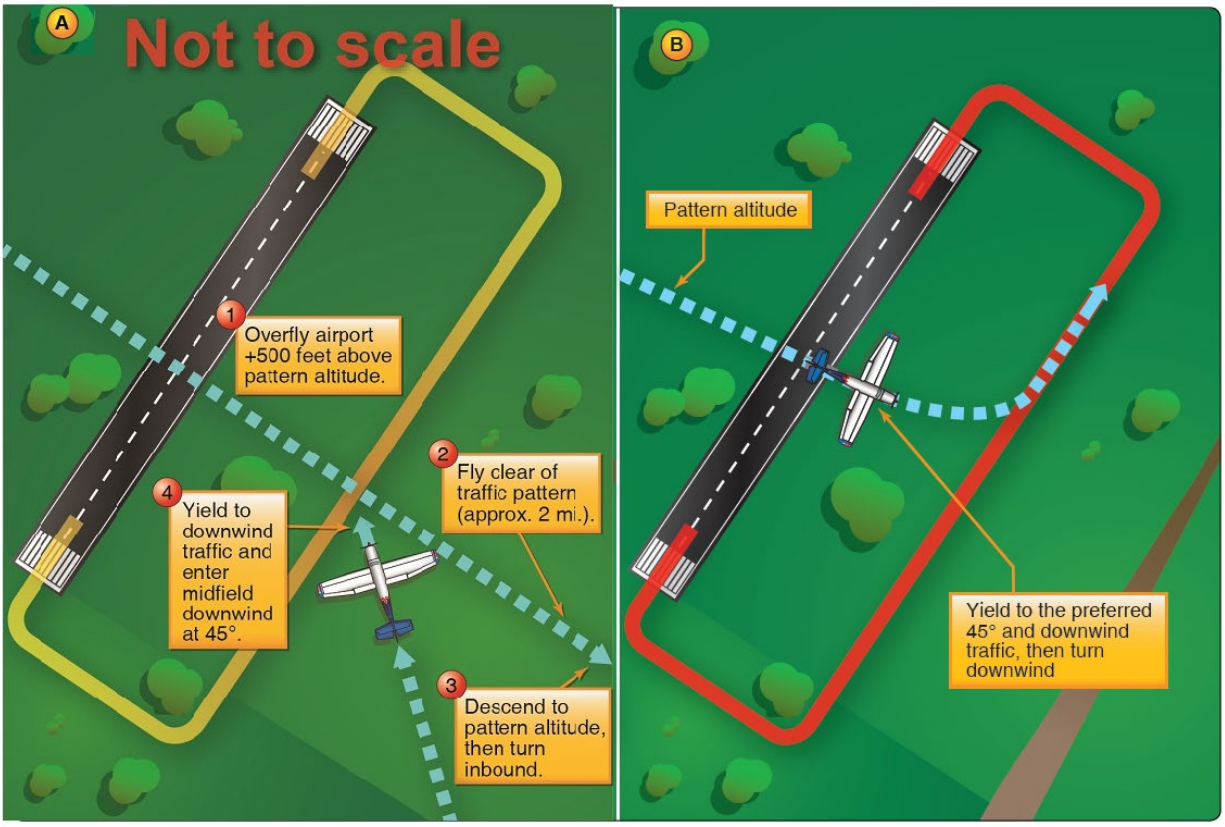


EXAMPLE−
Key to traffic pattern operations:

1. Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude.
2. Maintain pattern altitude until abeam approach end of the landing runway on downwind leg, begin descent and turn base at approximately 45 degrees from the intended landing point.
3. Complete turn to final at least ¼ mile from the runway.
4. Continue straight ahead until beyond departure end of runway.
5. If remaining in the traffic pattern, commence turn to crosswind leg beyond the departure end of the runway within 300 feet of pattern altitude.
6. If departing the traffic pattern, continue straight out, or exit with a 45-degree turn (to the left when in a left-hand traffic pattern; to the right when in a right-hand traffic pattern) beyond the departure end of the runway, after reaching pattern altitude.
7. Do not overshoot final or continue on a track which will penetrate the final approach of the parallel runway.
8. Do not continue on a track which will penetrate the departure path of the parallel runway.

Alternate method to the 45 degree to the downwind leg. Preferred entry from upwind leg side of airport (A). Alternate midfield entry from upwind leg side of airport (B). Refer to the Airplane Flying Handbook, Chapter 7.

> **Note:** Aircraft should always enter the pattern at pattern altitude, especially when flying over midfield and entering the downwind directly.



Traffic Pattern Altitudes. Refer to the Airplane Flying Handbook, Chapter 7, and the AIM, paragraph 4-3-3. Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude. The traffic pattern altitude is usually, unless otherwise established for a respective airport, 1,000 feet above the elevation of the airport surface. The use of a common altitude at a given airport is the key factor in minimizing the risk of collisions at airports without operating control towers. A pilot may vary the size of the traffic pattern depending on the aircraft's performance characteristics.

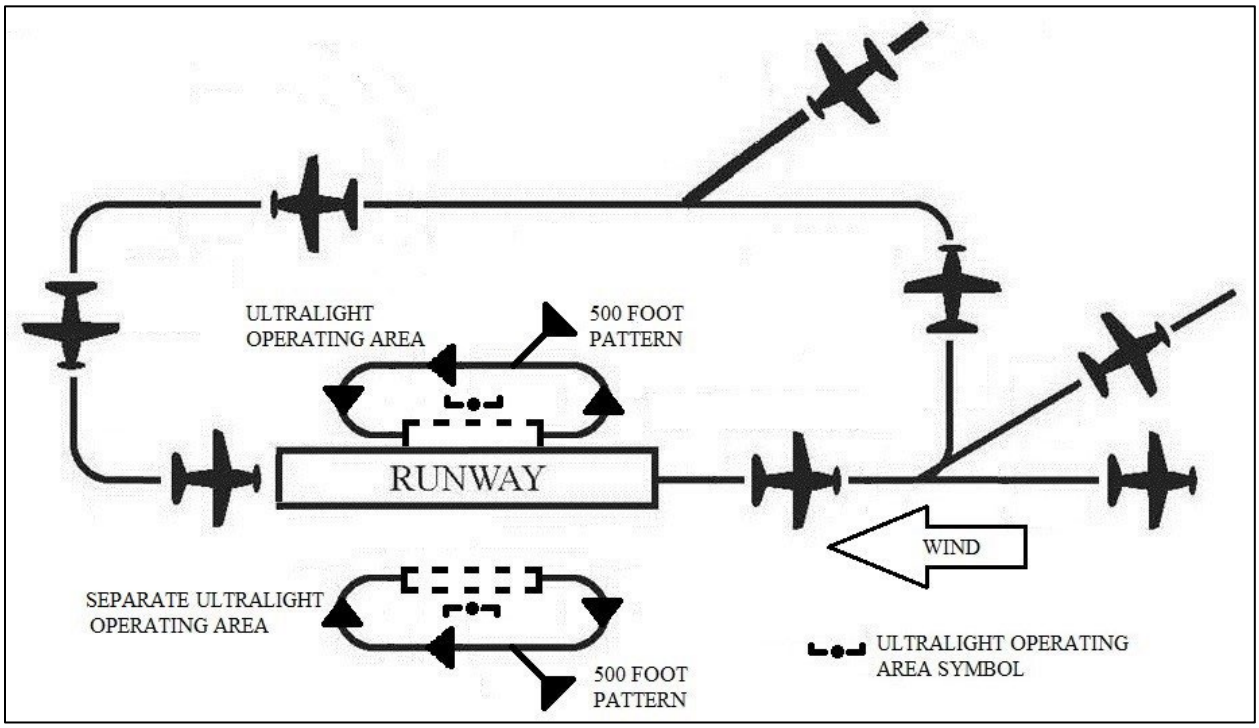
Unless a specific traffic pattern altitude is published in the Chart Supplement entry for the airport, it is recommended that:

1. Propeller-Driven Aircraft. Propeller-driven aircraft enter the traffic pattern at 1,000 feet above the airport surface (above ground level (AGL)).
2. Turbine-Powered Airplanes. Large and turbine-powered airplanes enter the traffic pattern at an altitude of not less than 1,500 feet above the airport elevation, or 500 feet above the established pattern altitude.

3. Ultralight Aircraft. An ultralight aircraft should operate no higher than 500 feet below the powered aircraft pattern altitude. A pilot may vary the size of the traffic pattern depending on the aircraft's performance characteristics.
4. Helicopter Operations. The AIM, Chapter 4, Section 3, Airport Operations, states in part, "Pilots approaching to land in a helicopter must avoid the flow of fixed-wing traffic." Though neither the AIM nor 14 CFR do provide traffic pattern operations for helicopters, the FAA highly recommends that helicopter pilots operating in the traffic pattern may fly a pattern similar to the airplane pattern at a lower altitude (500 AGL) and closer to the airport. This pattern may be on the opposite side of the runway with turns in the opposite direction if local policy permits.

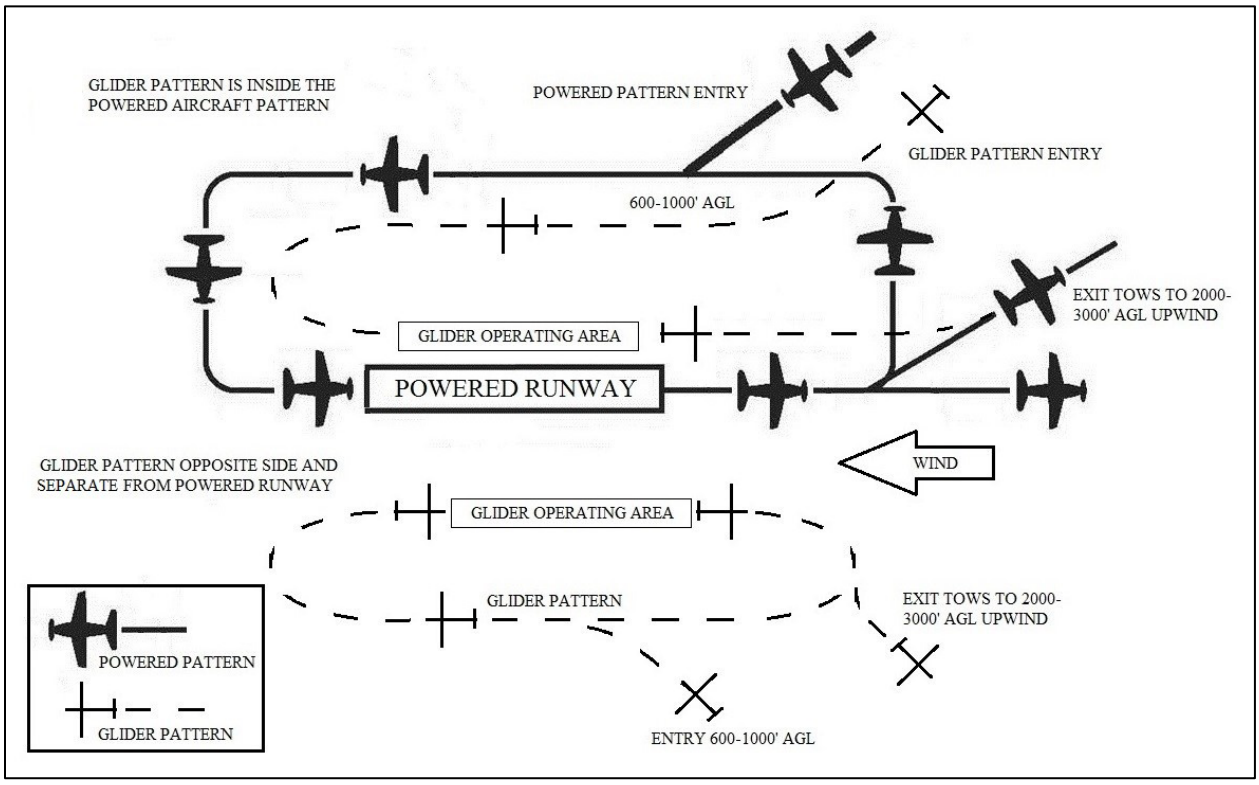
APPENDIX B. GLIDER OPERATIONS

Sample Glider Operations and Ultralight Aircraft Pattern



Per AC 103-6, Ultralight Vehicle Operations—Airports, Air Traffic Control, and Weather, in all radio communications, ultralight operators should state the word "ultralight" followed by the call letters. Finally, once you have completed your landing or have exited the area, it is good practice to let other aviators know that you are no longer airborne in the vicinity of the airport. For example, state, "Leesburg, Ultralight 12593U is clear of the Runway" or "Leesburg, Ultralight 12593U is 2 Miles South, Leaving the Area."

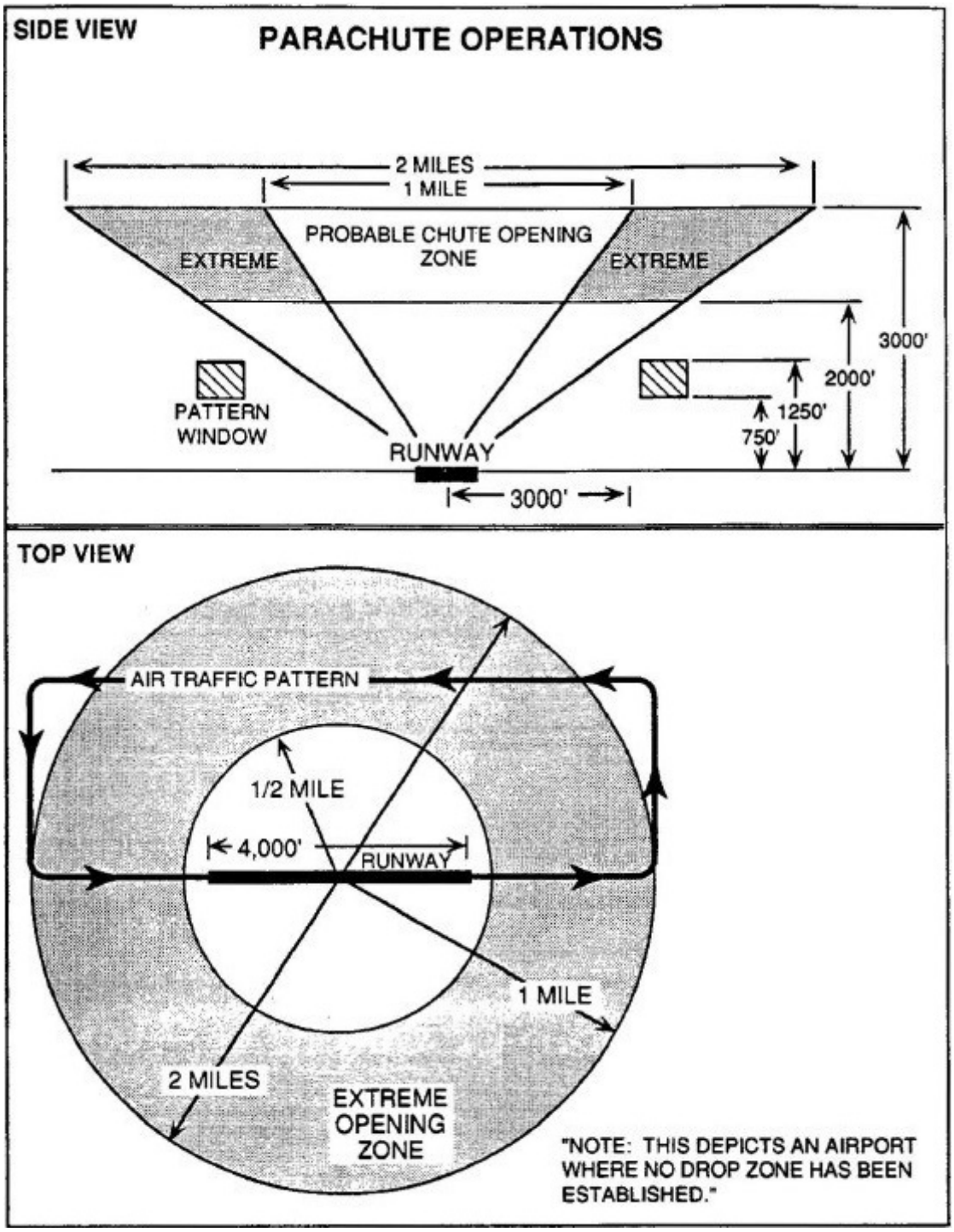
Sample Glider Aircraft Pattern



Check the respective airport's Chart Supplement for specific information regarding glider operations. The example above is from Shirley, New York's Brookhaven Airport (KHWV). **Glider ops dalgt (daylight) hrs.** Pilots be aware when conducting practice ILS apchs (approaches), extensive lgt acft (light aircraft) training on and invof arpt (in the vicinity airports) all hrs. **Gliders use rgt tfc pat (right traffic pattern) for Rwy 24 and Rwy 33, gliders use left tfc pat (left traffic pattern) for Rwy 06 and Rwy 15**. No TGL wkend, hol (weekend, holiday,) and non dalgt (daylight) hrs.

APPENDIX C. PARACHUTE OPERATIONS

Per United States Parachute Association Drop Zone (DZ) dimensions



Example of non-towered airport Chart Supplement information: Parachute Jumping. Extensive parachute jumping activity invof arpt. (Per Chart Supplement legend, “invof” means “in the vicinity of”, and “arpt” means “airport.”)

Advisory Circular Feedback Form

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by contacting the General Aviation and Commercial Division at 9-AFS-800-Correspondence@faa.gov or the Flight Standards Directives Management Officer at 9-AWA-AFB-120-Directives@faa.gov.

Subject: AC 90-66C, Non-Towered Airport Flight Operations

Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

_____

_____

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

_____

_____

☐ Other comments:

_____

_____

☐ I would like to discuss the above. Please contact me.

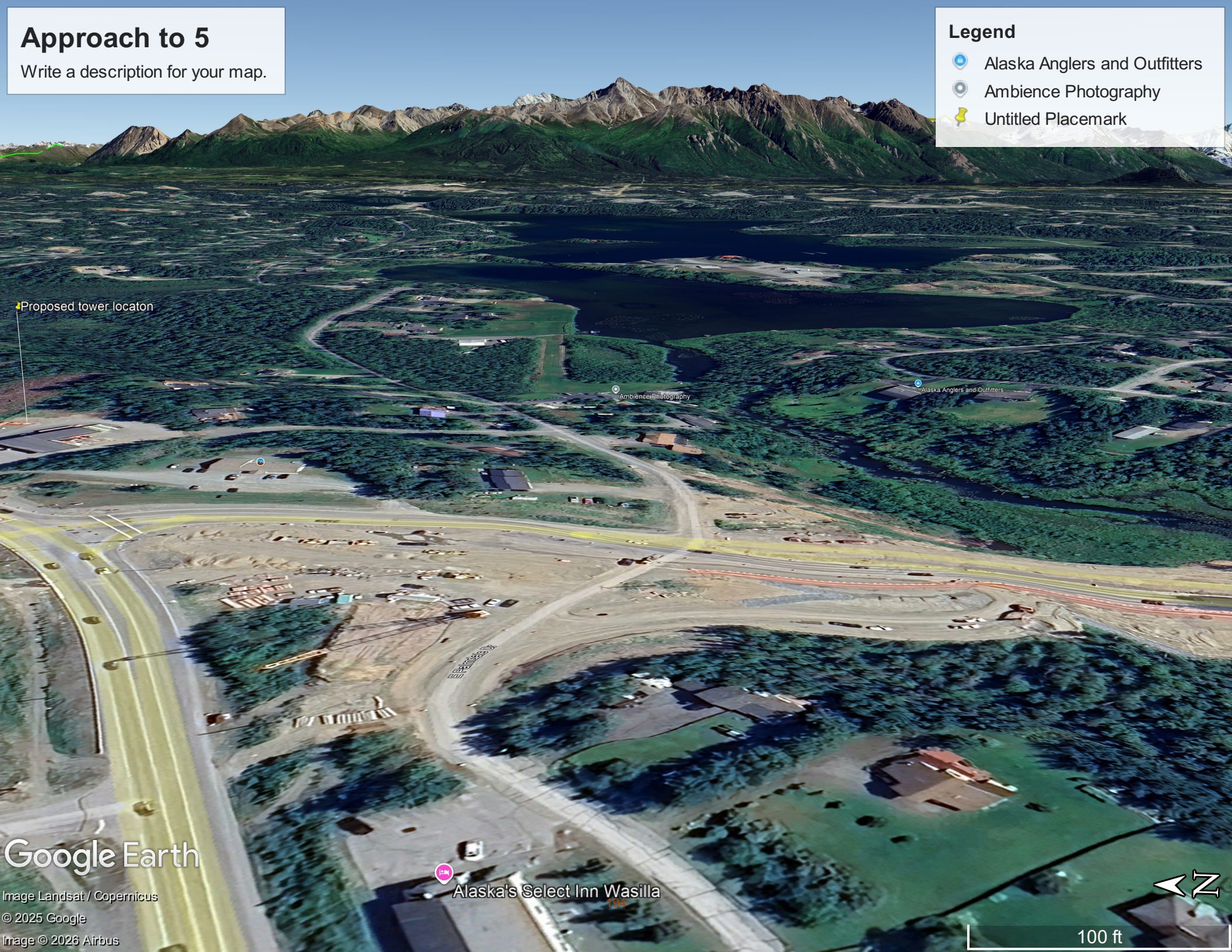
Submitted by: _____ Date: _____

Approach to 5

Write a description for your map.

Legend

- Alaska Anglers and Outfitters
- Ambience Photography
- Untitled Placemark



ASR Registration Search

Registration 1003112

Map Registration

Registration Detail

Reg Number	1003112	Status	Constructed
File Number	A0979002	Constructed	08/15/2003
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	61-36-06.0 N 149-21-49.0 W	Address	ALCANTRA NATL GUARD FACILITY MILE 3.6 BOGART RD 3 MI NE
City, State	WASILLA , AK		
Zip	99654	County	MATANUSKA-SUSITNA
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
136.9	66.8
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
203.7	66.8

Painting and Lighting Specifications

FAA Chapters 4, 8, 12
Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2003-AAL-16-OE	FAA Issue Date	01/22/2003

Owner & Contact Information

FRN	0001567247	Owner Entity Type	Government Entity

Owner

State of Alaska
Attention To: FCC License Manager
5900 East Tudor Road
Anchorage , AK 99507

P: (907)269-5744
F: (907)269-5562
E: FccLicenseManager@alaska.gov

Contact

Manager , FCC License
Attention To: FCC Lincense Manager
5900 East Tudor Road
Anchorage , AK 99507

P: (907)269-5744
F: (907)269-5562
E: FccLicenseManager@alaska.gov

Last Action Status

Status	Constructed	Received	09/10/2015
Purpose	Admin Update	Entered	09/10/2015
Mode	Interactive		

Related Applications

09/10/2015 A0979002 - Admin Update (AU)

08/15/2003 A0338177 - Notification (NT)

08/14/2003 A0338101 - Modification (MD)

Related applications (4)

Comments

Comments

10/21/1996 CORRECTED OVERALL STRUCTURE HEIGHT, SUBMITTED WITH AMSL. CORRECTED GROUND ELEVATION AND SUPPORT STRUCTURE HEIGHT, SUBMITTED ROUNDED TO THE NEAREST WHOLE NUMBER, TO INCLUDE THE TENTHS.

History

Date	Event
09/11/2015	Registration Printed
09/10/2015	ASR Application receipt email sent: Tower email
09/10/2015	Administrative Update Received

All History (6)

Pleadings

Pleading Type	Filer Name	Description	Date Entered

None

Automated Letters

08/15/2003 Authorization, Reference 297438

CLOSE WINDOW

From: Randy Durham
To: Becca Skjothaug
Subject: Re: Inquiry about potential tower and safety concerns
Date: Monday, January 19, 2026 2:45:42 PM
Attachments: image001.png
image004.png
image005.png
image006.png
Outlook-2ca3ubam.png

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Becca,

I drove past the site today. If the applicant is willing to add the beacon to the tower, I think that it makes it a much smaller risk. I also know that we need more infrastructure for the valley and a new cell tower most people are not going to complain that they have better call reception, and as it is overall a small tower and not a huge building or some other large structure.

In my opinion it is a small risk to a very few aircraft, and mitigating the risk with beacon or beacons would decrease the risk to a very small percentage.

On the turning turning after takeoff question, the issue is dependent on the direction of the wind , as well as there is a much larger runway across the lake that has a lot more traffic. So, this limits their options; they won't be looking to do a takeoff to the West with a Left-hand pattern that has them intersect the potential flight path of other aircraft. And for reference, they won't do a takeoff to the East with a right-hand pattern for the same reason. Now I don't know that for sure, but that is the general rule, and there might be some scheduled time and or flight pattern agreements between the two runways and their users I don't know.

Randy Durham
Alaska Branch Manager
Aircraft Spruce & Specialty Co.
1692 N Aircraft Spruce Cir
Palmer AK, 99645
Office: 907-373-5300
www.aircraftspruce.com

From: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Monday, January 19, 2026 7:51 AM
To: Randy Durham <randydurham@aircraftspruce.com>
Subject: RE: Inquiry about potential tower and safety concerns

Good morning,

I really appreciate your reply. As far as I know, this airstrip is a left turn.... But the relevance for that to me means nothing. This monopole is not required to have a light, but the applicant it happy to add the additional navigation light for safety. Regarding your response to struggling to gain altitude when departing, would it not be reasonable to assume that the pilot would utilize the area over the lake to gain altitude instead of turning towards the hill and the development over Bogard? Much more space to fly over the open lake, but again I am very naïve about flying. If we were talking about sailing, I would be much more beneficial.

This application is for a AT&T tower. They have proposed to lease the commercial space at 3600 E Bogard. Across the street from that location is owned by DNR.

Thank you so much for your assistance. This will be very useful for my future with the Borough and processing these applications.

Becca Skjothaug
Current Planner
Desk Phone (907)861-7862

From: Randy Durham <randydurham@aircraftspruce.com>
Sent: Friday, January 16, 2026 4:58 PM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Inquiry about potential tower and safety concerns

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Becca,

I have reviewed the proposed location, and I have also consulted with a pilot friend who was on the Mat-Su Borough Aviation board back when that was still around. Is it a threat? Yes, there is a small threat to the flight path. For example, if an airplane was departing to the west and needed to make a hard right turn, the proposed pole could be a danger. Now I know that you stated the pole is 120ft and the total height is about 200ft from the height of the airfield if I understand what you were saying correctly, so that puts it just about where a an aircraft would be if they were having a hard time making altitude and had to make a right hand turn.

Now with all that being said, I do have a few additional questions before I say that I would call it a definitive hazard and a safety concern. What is the purpose of the tower?
What safety features is it going to have? Is it going to be lit with a beacon?
Could it be moved even to the other side of Bogard Rd? Even that little bit of a change would reduce the hazard significantly as it gives a pilot more time to gain altitude before it intersects with their path.

Randy Durham
Alaska Branch Manager
Aircraft Spruce & Specialty Co.
1692 N Aircraft Spruce Cir
Palmer AK, 99645
Office: 907-373-5300
www.aircraftspruce.com

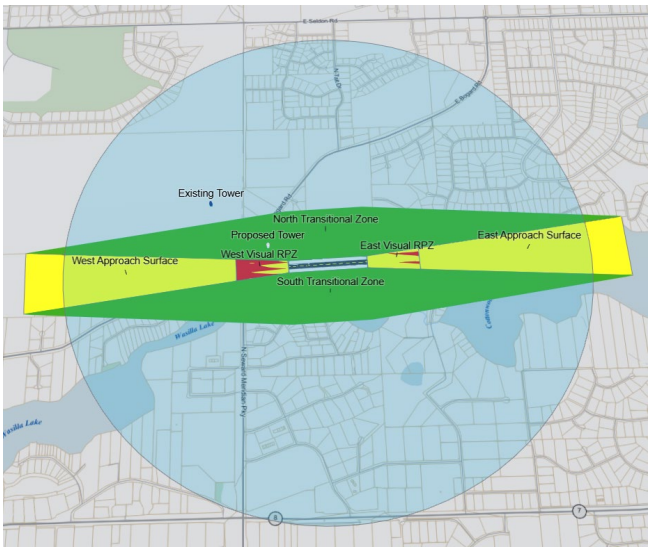
From: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Sent: Thursday, January 15, 2026 12:30 PM
To: Randy Durham <randydurham@aircraftspruce.com>
Subject: Inquiry about potential tower and safety concerns

Hi Randy,

I am Becca with the Mat-Su Borough, and I am currently processing an application for a potential tower located at 3600 E Bogard. I received a public comment from the owner of the Green Strip located on the north shore of Mud Lake that there is a potential threat of safety from the installation of the 120-foot monopole tower. I am not a subject matter expert on flight navigation, but I was hoping that you could provide me with a little more information. I have attached some pictures that include GIS information, but if you need more details, I am happy to send over the application. The airstrip is located SE of the tower at approximately 800 feet away from runway 5. In total the elevation from the top of the 120' tower and the elevation of the landing zone is 200 feet. GIS was able to apply the FAA regulations for the airstrip and calculate the approach zones and the transitional zones. The tower is located within a transitional zone, but I am uncertain if this

would be a safety issue or not. Any feedback is appreciated.





I appreciate any spare time that you have available to assist with this. Have a wonderful day.

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

EXECUTIVE SUMMARY

Regional Aviation System Plan (RASP) and 14 CFR Part 77 Compatibility Analysis
Proposed Communications Tower – AK65 (Wasilla, Alaska)

Purpose

This executive summary evaluates whether the proposed communications tower located north of the runway at AK65 is consistent with the adopted Mat-Su Regional Aviation System Plan (RASP, adopted 2008) and the 14 CFR Part 77 (Part 77) imaginary airspace surfaces that the RASP relies upon for land-use compatibility determinations near airports.

Airport and Proposal Overview

AK65 is an FAA licensed private airfield with an established runway that generates protected navigable airspace. The RASP applies to identified public and private airports in the Matanuska-Susitna Borough and is intended to prevent incompatible land uses within runway approach and transitional zones.

The proposed communications tower is located approximately 760 feet northwest of runway 5 and has a height of 120 feet above ground level. The ground elevation at the tower site is 404 feet above mean sea level, resulting in a total tower top elevation of 524 feet above mean sea level.

Applicable RASP and FAA Airspace Concepts

The RASP expressly relies on Part 77 imaginary surfaces as the technical basis for identifying protected airspace and evaluating land-use compatibility. Relevant surfaces include the horizontal surface and the transitional surface.

The horizontal surface is a flat plane located 150 feet above the established airfield elevation. For AK65, it has a published airfield elevation of 300 feet with an actual elevation of 330 feet above mean sea level, the horizontal surface is located at 480 feet above mean sea level.

The transitional surface extends outward and upward from the sides of the primary and approach surfaces at a slope of 7 horizontal to 1 vertical, runs parallel to the runway centerline, and terminates at the horizontal surface.

Conflict Analysis

Applying Part 77 surface geometry as incorporated by the adopted RASP, the proposed communications tower penetrates protected navigable airspace associated with AK65.

The proposed tower penetrates the horizontal surface by exactly 44 feet, based on a horizontal surface elevation of 480 feet above mean sea level and a tower top elevation of 524 feet above mean sea level. The proposed tower also penetrates the transitional surface by exactly 110 feet.

The RASP identifies the transitional zone as protected airspace that should remain free of tall structures because obstructions in this zone can interfere with aircraft flight paths and compromise aviation safety. Penetration of Part 77 surfaces is therefore evidence of incompatibility under the RASP, regardless of airport ownership or the outcome of any federal hazard or no-hazard determination. It's important to note that the FAA Determination of No Hazard to Air Navigation, 2025-AAL-390-OE, the applicant provided was based on the proposed tower's location relative to Wasilla Airport, FAA identifier: IYS. That determination stated the towers distance of 33,288 feet from IYS posed no threat.

Conclusion

Because the proposed communications tower penetrates the Part 77 horizontal surface by 44 feet and the Part 77 transitional surface by 110 feet, it intrudes into protected navigable airspace associated with AK65. The Mat-Su RASP expressly relies on Part 77 airspace protection concepts and applies those concepts to both public and private airports. Accordingly, the proposed tower is inconsistent with the intent and application of the adopted RASP and represents an incompatible land use absent substantial reduction in height or relocation outside protected airspace. The applicant has been advised to seek out a zero fee FAA aeronautical study specifically for AK65 incorporating an FAA approved light atop the monopole.

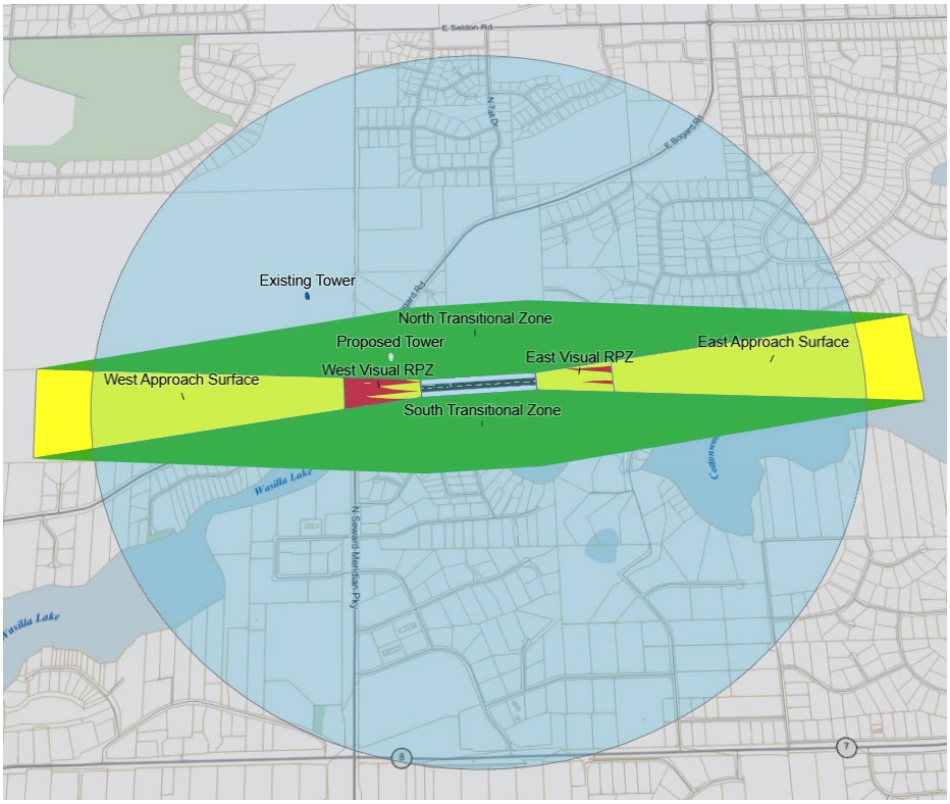
References

Mat-Su Regional Aviation System Plan – RASP 2008 and Land Use Guide, April 2017, Matanuska-Susitna Borough
14 CFR Part 77, Objects Affecting Navigable Airspace, Federal Aviation Administration
AK65 Airport Data, FAA / AirNav.com

From: Wade Long
To: Becca Skjothaug; Rick Benedict; Natasha Heindel
Cc: Alex Strawn
Subject: Fw: Clarification on Determination Applicability to AK65
Date: Tuesday, January 13, 2026 8:33:33 AM
Attachments: image.png

FYI: The email below confirms that the FAA does not provide land-use protection for private airports, consistent with Alex's earlier statements. In the example depicted below, the FAA issued a "No Hazard" determination based on the proposed tower being approximately 33,000 feet from Wasilla Airport, as reflected in the data underlying the determination and available through the FAA's OE/AAA online portal. Planners should continue to apply 14 CFR Part 77 obstruction-evaluation surfaces, as reflected in the Regional Aviation System Plan (RASP), for both private and public airports.

GIS is now familiar with creating overlays for the applicable Part 77 surfaces (horizontal surface, transitional surfaces, runway protection zones, and approach surfaces), as shown here:



The primary responsibility for mitigating encroachment into these areas rests with airport owners through measures such as land acquisition, avigation easements, or other controls. These surfaces should nonetheless be considered in land-use review for aviation safety purposes and weighed alongside public comments and concerns when it

comes to towers. Please let me know if you would like to discuss this further.

Respectfully,

Wade Long
Development Services Manager
Matanuska-Susitna Borough
350 E. Dahlia Ave
Palmer, AK 99645
office: 907-861-7865
cell: 907-707-4741

From: Wierman, Marla (FAA) <marla.wierman@faa.gov>
Sent: Friday, January 2, 2026 9:02 AM
To: Wade Long <Wade.Long@matsugov.us>; Sanders, Nicholas (FAA) <nicholas.sanders@faa.gov>; Schmalbeck, Natalie (FAA) <natalie.schmalbeck@faa.gov>
Cc: Farrell, Lynnette (FAA) <lynnette.farrell@faa.gov>; Sanders, Nicholas (FAA) <nicholas.sanders@faa.gov>; Schmalbeck, Natalie (FAA) <natalie.schmalbeck@faa.gov>
Subject: RE: Clarification on Determination Applicability to AK65

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
Good morning,

The FAA does not protect for Private Airports, that is why the determination indicates IYS and not AK65. Local and state governments can always be more restrictive than the FAA when it comes to permitting structures that affect airports (including private-use airports).

Hope this helps.

Sincerely,

Marla Wierman
Airspace Evaluation Program Technician / Quality Management Lead, AJV-A5
Mission Support Services | Air Traffic Organization (ATO)
Federal Aviation Administration

Office: 816-329-2527
Email: marla.wierman@faa.gov
Web: https://oeaaa.faa.gov

From: Wade Long <Wade.Long@matsugov.us>
Sent: Tuesday, December 30, 2025 3:49 PM
To: Sanders, Nicholas (FAA) <nicholas.sanders@faa.gov>; Schmalbeck, Natalie (FAA) <natalie.schmalbeck@faa.gov>; Wierman, Marla (FAA) <marla.wierman@faa.gov>
Cc: Farrell, Lynnette (FAA) <lynnette.farrell@faa.gov>
Subject: Fw: Clarification on Determination Applicability to AK65

Some people who received this message don't often get email from wade.long@matsugov.us. Learn why this is important
CAUTION: This email originated from outside of the Federal Aviation Administration (FAA). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi FAA Team,

Since my email is more of a general information request, would any of you be able to assist me? Thank you.

Wade Long
Development Services Manager
Matanuska-Susitna Borough
350 E. Dahlia Ave
Palmer, AK 99645
office: 907-861-7865
cell: 907-707-4741

From: Wade Long <Wade.Long@matsugov.us>
Sent: Tuesday, December 30, 2025 11:46 AM
To: lynnette.farrell@faa.gov <lynnette.farrell@faa.gov>
Cc: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Clarification on Determination Applicability to AK65

Hello Ms. Farrell,

I am the Development Services Manager of the Permit Center at the MatSu Borough. The applicant for the attached determination letter must apply for a permit from our Borough to begin constructing the tower. It seems like the determination letter (Aeronautical Study No. 2025-AAL-390-OE) is relative to IYS, Wasilla airport, so I am following up regarding clarification on its applicability to AK65.

- Can this determination be applied to AK65, or would the applicant need to submit a separate request for that airfield?
- Does FAA conduct aeronautical studies for private-use airfields like AK65, or are these limited to public-use facilities?

For context, the tower in question is located approximately 760 feet northwest off the

approach end of Runway 5 at AK65, and appears to fall within the FAA Part 77 transitional surface for that airfield.

We are looking for direction on next steps to ensure aviation safety and compliance. Please advise whether a new aeronautical study is required or if the existing determination can be re-evaluated to cover this location.

Thank you for your guidance and support.

Respectfully,

Wade Long
Development Services Manager
Matanuska-Susitna Borough
350 E. Dahlia Ave
Palmer, AK 99645
office: 907-861-7865
cell: 907-707-4741

MATANUSKA-SUSITNA BOROUGH
REGIONAL AVIATION SYSTEM PLAN

Prepared for:

Matanuska-Susitna Borough
350 East Dahlia Avenue
Palmer, Alaska 99645

Prepared by:

DOWL HKM
4041 B Street
Anchorage, Alaska 99503

W.O. D59162

August 2008

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LIST OF ACRONYMS

AAB ..... Aviation Advisory Board
AAC ..... Alaska Administrative Code
AFD ..... Airport Facility Directory
AGL ..... above ground level
AOPA ..... Aircraft Owners and Pilots Association
ARTCC ..... Air Route Traffic Control Center
ASOS ..... Automated Surface Observing System
ATC ..... Air Traffic Control
ATCT ..... Air Traffic Control Tower
AWOS ..... Automated Weather Observing System
CFR ..... Code of Federal Regulations
CIP ..... Capital Improvement Program
CTAF ..... common traffic advisory frequency
CUP ..... Conditional Use Permit
DME ..... distance measuring equipment
DNR ..... State of Alaska Department of Natural Resources
DOT&PF ..... State of Alaska Department of Transportation and Public Facilities
EA ..... Environmental Assessment
FAA ..... Federal Aviation Administration
FSS ..... Flight Service Station
GA ..... general aviation
GBT/ADS-B ..... Ground Based Transmitters/Automatic Dependent Surveillance-Broadcast
GIS ..... Geographic Information System
GPS ..... Global Positioning System
IFR ..... Instrument Flight Rules
ILS ..... Instrument Landing System
LPV ..... localizer performance with vertical guidance
LRTP ..... Long-Range Transportation Plan
MIRL ..... medium intensity runway lights
MOA ..... Military Operations Area
MSB ..... Matanuska-Susitna Borough
NAVAIDS ..... navigational aids
NDB ..... non-directional beacon
NPIAS ..... National Plan of Integrated Airport Systems
NWS ..... National Weather Service
PAPI ..... precision approach path indicator
RASP ..... Regional Aviation System Plan
RCOs ..... Remote Communication Outlets
REIL ..... runway end identifier light
RNAV ..... Area Navigation
RSA ..... runway safety area
RW ..... runway
SPUD ..... Special Land Use District
SR ..... slow route
SRE ..... snow removal equipment
TAB ..... Transportation Advisory Board
TAC ..... Technical Advisory Committee
TRACON ..... Terminal Radar Approach Control
VASI ..... visual approach slope indicator
VFR ..... Visual Flight Rules
VOR ..... Very High Frequency Omni-directional Radio-range
WAAS ..... Wide Area Augmentation System

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EXECUTIVE SUMMARY

The Matanuska-Susitna Borough has the highest concentration of public and private airports in the nation. With 10 public airports and over 200 private airports, over 1,000 aircraft, more pilots per capita than most of the rest of Alaska and the nation and millions of dollars of economic impacts to the region's economy, aviation is vitally important to the economy of the region and lifestyle of its residents.

The Matanuska-Susitna Borough is also the fastest growing region of Alaska, having more than doubled in population over the last 20 years and with predictions of more than doubling again in the next 20 years. With this rapid population growth has come the growth of aviation infrastructure and services as well as some conflicts within aviation and between aviation and other uses.

The Matanuska-Susitna Borough has undertaken the Matanuska-Susitna Borough Regional Aviation System Plan to identify the current state of aviation in the Matanuska-Susitna Borough, how that might change over the next 20 years, and any actions that should be taken to ensure aviation can grow in a positive way for Matanuska-Susitna Borough citizens. While the Matanuska-Susitna Borough is not currently an airport owner and operator, it does have responsibility for land use planning and promoting economic development, and is interested in working with aviation interests and the public to promote/preserve aviation and encourage compatibility with other activities in the region. A corollary Airport Location Study also examines the need for new public airport(s) to meet the future needs of the Matanuska-Susitna Borough. This Regional Aviation System Plan implements a recommendation of the MSB Long-Range Transportation Plan.

While the Regional Aviation System Plan does discuss aviation in the entire Matanuska-Susitna Borough, the geographic focus of the plan is on airports on the road system. This is because aviation needs, issues, and aviation and non-aviation growth is the greatest in areas served by roads. The study area is shown in Figure 1.

A wide range of issues and alternatives were evaluated in the Regional Aviation System Plan and discussed with a Technical Advisory Committee and the public. The recommendations of the

plan are summarized below. More detailed recommendations can be found in Chapter 5.0 of this report.

Involvement of the Aviation Community

Aviation Advisory Board - An Aviation Advisory Board shall be established to assist with implementation of Regional Aviation System Plan recommendations, address ongoing aviation issues in the Matanuska-Susitna Borough, and advise the Matanuska-Susitna Borough during detailed planning and construction of new airports recommended in the Location Study. The composition of the Aviation Advisory Board would include a diverse mix of aviation and non-aviation interests, including representatives from airport businesses, private pilots, public and private airport owners, community leaders, business leaders, airport neighbors, and others.

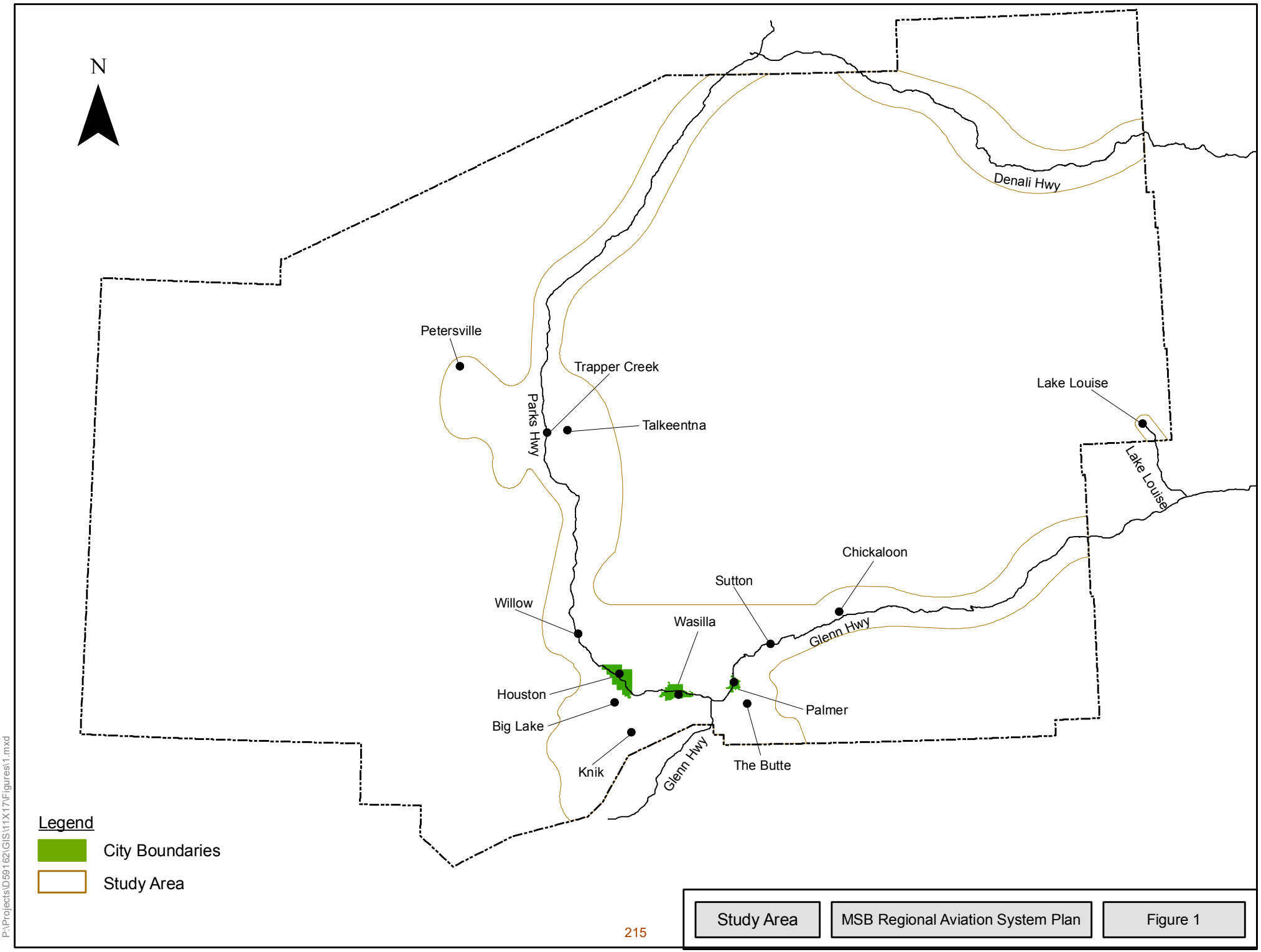
Airspace

Airport Registration - All existing and new airports, commercial floatplane bases, helipads and heliports should be required by the Matanuska-Susitna Borough to obtain a Federal Aviation Administration airspace determination and registration. Airspace determinations would help minimize airspace conflicts between existing airports. Registration would ensure the airport location is properly mapped for use by the Federal Aviation Administration in its evaluation of future airports and by Matanuska-Susitna Borough property owners who may be unaware of airport locations.

Encourage Lights-on Operation - As part of a comprehensive pilot education program in the Matanuska-Susitna Borough, pilots should be encouraged to fly with their landing lights on when possible to increase their visibility to other aircraft.

Review Low-Level Military Operations - The Matanuska-Susitna Borough, Federal Aviation Administration, and Aviation Advisory Board should continue to meet to address military airspace issues and communicate their findings to Matanuska-Susitna Borough pilots.

Support Capstone in the Matanuska-Susitna Borough - The Matanuska-Susitna Borough, Federal Aviation Administration, and State of Alaska Department of Transportation and Public Facilities should encourage the implementation of Capstone-type services in the Matanuska-Susitna Borough.


N
Denali Hwy
Petersville
Trapper Creek
Parks Hwy
Talkeentna
Lake Louise
Lake Louise
Chickaloon
Sutton
Willow
Wasilla
Glenn Hwy
Houston
Palmer
Big Lake
Knik
Glenn Hwy
The Butte
Legend
City Boundaries
Study Area
P:\Projects\D59162\GIS\11X17\Figures\1.mxd
Study Area
MSB Regional Aviation System Plan
Figure 1

Communications

Reassign Radio Frequencies - The Federal Aviation Administration should continue to ensure that radio frequencies assigned to airports in the Matanuska-Susitna Borough follow a logical geographic pattern.

Communicate about Private Airports and their Radio Frequencies - The Matanuska-Susitna Borough or State of Alaska Department of Transportation and Public Facilities should incorporate the inventory mapping from this project into their Geographic Information System and make maps of the airports available on their website for interested pilots.

Reporting Points and Military Routes/Airspace on Sectional and/or Supplement - The Federal Aviation Administration should establish a set of standard Visual Flight Rules reporting points for the Matanuska-Susitna Borough. The Federal Aviation Administration and military should provide information on military routes in the Matanuska-Susitna Borough to local pilots as part of a pilot education program. This information should be published on either the Sectional Map or in the Supplement as appropriate.

Pilot Education - A comprehensive pilot education program should be implemented by the Matanuska-Susitna Borough on topics such as the location of private strips, radio frequencies, reporting points, military airspace, "fly friendly" noise abatement procedures, and safety topics such as use of radios and landing lights in the Matanuska-Susitna Borough. Pilots and airstrip developers should be educated about land use rules to consider when siting new airports.

Expand Radio and Radar Coverage - The addition of remote communication outlets and radar coverage in the Matanuska-Susitna Borough is a lower priority recommendation compared to the other RASP recommendations.

Airport Compatibility

Property Owner Notification - The Matanuska-Susitna Borough should notify property owners of the location of airports through Geographic Information System based mapping on the Matanuska-Susitna Borough or State of Alaska Department of Transportation and Public Facilities website. The availability of the mapping should be widely communicated to real estate groups, builders, and developers with hopes that this information would be considered during

development and sale of property near an airport. Matanuska-Susitna Borough Planning staff should also communicate to property owners about airport locations when they meet with property owners about development requirements during the land use permit process. Property owners near private airparks and public-owned airports should also be formally notified of close proximity to an airport through a note written on the plat.

Comprehensive Plans and Special Land Use Districts - The Matanuska-Susitna Borough should address airport compatibility during comprehensive plans and Special Land Use Districts. Some of the alternatives identified in this plan that have been rejected for borough-wide implementation, may be appropriate in a subarea of the Matanuska-Susitna Borough.

Lake Management Plans - The Matanuska-Susitna Borough should involve the Aviation Advisory Board in Lake Management Plans that address restrictions on aviation activities.

Consolidate Antennas - The Matanuska-Susitna Borough should amend its existing tower ordinance to encourage the consolidation of tall towers and to include the input of a future Aviation Advisory Board when new towers are proposed.

Siting Public Facilities - The Matanuska-Susitna Borough should consider proximity to an airport when siting public facilities. Factors that should be considered include sensitivity of the facility users to airport noise and safety considerations of locating facilities where they would be routinely overflown by aircraft. The type of facility, frequency of aviation activity and distance from the airport should be considered in the siting evaluation.

Conditional Use Permit, Planned Unit Development, or Land Use Permit - The Matanuska-Susitna Borough should require a conditional use permit, planned unit development, or land use permit for new airports, commercial floatplane bases and helipads and heliports on the road system. Prior to applying for a conditional use permit, planned unit development, or land use permit, the applicant would first obtain a favorable airspace determination from the Federal Aviation Administration. The permit would ensure the airport has adequate runway length and meets minimum airport development standards shown on an airport template. Some examples of airport templates are described in the report. The final template to be used for this permit would be defined during the development of the ordinance creating the conditional use permit, planned

unit development, or land use permit process. These processes shall be implemented concurrently with changes to Title 27 to create a coordinated approach to approving airport locations.

Platting - The Matanuska-Susitna Borough should amend Title 27 of the code to define specific platting requirements for airports, which would specify standards to be met for airports to be implemented concurrently with changes to Title 17 creating a coordinated approach to approving airport locations. The Matanuska-Susitna Borough shall require an airport, commercial floatplane base, helipad, and heliport to be shown on a plat if subdivision of land is required. This requirement would help ensure that adequate land is provided for approach and departure clearances and development setbacks from runways, and that the aviation facility's compatibility with surrounding land uses are considered before a plat is approved. The airport template(s) adopted by the Matanuska-Susitna Borough would provide the criteria for clearances and setbacks.

Public Airport Improvements

Capital improvement needs and services for public airports were recommended by the public through the project survey and in public meetings and are reported here. The airport owners shall consider these needs when planning future airport improvements.

Table 1: Summary of Regional Aviation System Plan Recommendations

Issue	Recommendation
Involvement of Aviation Community	Form Aviation Advisory Board
Airspace	Require airport airspace reviews and registration by the Federal Aviation Administration.
	Encourage continuous operation of aircraft with landing lights on.
	Hold ongoing discussions with military on use of Matanuska-Susitna Borough airspace.
	Support implementation of Capstone in Matanuska-Susitna Borough.
Communications	Continue to reassign radio frequencies to follow a logical geographic pattern.
	Communicate frequencies and airport locations to pilots.
	Identify reporting points and military routes/airspace on the Sectional and/or Alaska Supplement.
	Conduct ongoing pilot education about all of the topics addressed in the Regional Aviation System Plan.
	Expand radio and radar coverage in Matanuska-Susitna Borough at a later date, if demand and need grows.
Airport Compatibility	Notify property owners of locations of airports on Matanuska-Susitna Borough or State of Alaska Department of Transportation and Public Facilities maps and on plat notes for properties near busier airports.
	Address airports in comprehensive plans and Special Land Use Districts.
	Involve Aviation Advisory Board in Lake Management Plans that address aviation.
	Encourage consolidation of towers and involve Aviation Advisory Board in tower reviews.
	Consider airport compatibility when siting public facilities near airports.
	Require a conditional use permit, planned unit development, or land use permit for new airports, commercial floatplane bases, helipads, and heliports. Adopt airport template(s) that address minimum airport safety standards.
	Amend Title 27 to define platting requirements specifically for airports. Require airports to be shown on a plat if subdivision of land is required.
Public Airport Improvements	Airport owners should consider RASP public comments about future airport improvement needs.

1.0 PROJECT GOALS AND TASKS

Airport system plan goals and tasks vary depending on the unique aviation needs of the region or state being planned. Since this is the first airport system plan for this rapidly growing region, a major focus of the plan involved documenting existing conditions and issues and examining whether the Matanuska-Susitna Borough (MSB) should take a stronger role in managing and supporting the growth and compatibility of aviation in the region.

Goals for the Regional Aviation System Plan (RASP) were to develop a system of public and private airports that:

- meets the short and long term aviation needs of the MSB,
- enhances aviation safety,
- encourages compatibility between airports and other land uses,
- promotes economic development, tourism, and recreational flying, and
- is consistent with other MSB plans and policies.

To accomplish these goals, the RASP included the following tasks:

- A basic inventory of public and private airports, including Geographic Information System (GIS) mapping
- A forecast of aviation growth, factoring in scenarios with and without the construction of the Knik Arm Crossing
- Consideration of the important economic impacts aviation has on the regional economy
- An examination of options to promote aviation safety and compatibility in the air and on the ground
- Identification of improvements needed at public airports
- A study of the demand for new public airports in the MSB and where they might be located
- Preliminary layouts of the highest priority new public airport sites (Location Study)
- Investigation of potential MSB roles in airport management and development (Location Study)
- Active involvement by pilots, airport owners, airport neighbors, community leaders, government officials, and other members of the public

2.0 INVENTORY OF EXISTING AVIATION SYSTEM

2.1 Description of Region

The MSB contains over 200 airports concentrated primarily along the road system. The largest concentration of airports occurs between Wasilla and Palmer, but the Willow and Talkeetna areas also have a significant number of airports.

Most of the airports in the MSB are privately owned and operated. These private strips usually have small gravel runways and are used for personal travel, sightseeing, and recreation. Most of the small private strips have relatively few operations.

The MSB does contain several large, busy airports. Some of these are public airports, but others are privately owned. Large public airports include Palmer, Wasilla, and Talkeetna. Large private airports include Shaw's Tri Lakes (Anderson Lake) and Wolf Lake. These large airports feature dozens of based aircraft and services such as fuel and/or maintenance. Each of the large private airports also features residential lots for homes, with airplane access from the lots to the runway.

The MSB also contains many active floatplane lakes. Almost all of the large lakes in the MSB experience frequent floatplane traffic, but only some of these lakes have been registered with the Federal Aviation Administration (FAA). Virtually all lakes large enough are used for floatplane operations at some time during the year.

Aviation activity in the MSB often interacts with the airspace and aviation activity of the Anchorage area to the south. Birchwood Airport is located just across Knik Arm south of Wasilla and Anchorage Approach Control provides traffic advisory services to the western half of the Matanuska-Susitna Valley. Military training activity from the military bases in Anchorage also pass through the MSB to the north.

Weather in the MSB is generally similar to other areas of south-central Alaska. However, winds in the MSB are generally dependent on local geography and can differ significantly from one airport to another. Runway alignment is often influenced by local topographic features.

There is a significant amount of miscellaneous aviation activity in the MSB, including ultralights and sport pilots, gliders, skydiving, and use of roads as runways. Although there are published warnings about the glider and skydiving activity, there are few, if any, warnings about the occasional use of roads as runways. Such use of roads is generally unreported and unregulated.

2.2 Airport Inventory

2.2.1 Overview and Methodology

An inventory of airports in the MSB was conducted based on two FAA databases, satellite photographs, and interviews with key aviation personnel in the area.

The two FAA databases were the FAA Form 5010 database and an FAA Alaskan Region database of Matanuska-Susitna and Anchorage area airports. The FAA Form 5010 Airport Master Record database contains a description of the physical facilities of each airport along with estimates of aviation activity and operating restrictions. The Alaskan Region database was locally compiled and contains more limited data, including the name, location, management, and assigned radio frequency of airports in the MSB and Anchorage. The local database was created several years ago in an attempt to better understand aviation activity in the Matanuska-Susitna Region. It should be noted that the two databases contain slightly different lists of airports and some airports were present in one database, but not the other.

The two databases also contained conflicting coordinates for some airports. Where coordinates differed by a large amount, satellite photography was used to determine which coordinates were correct. Where the coordinates only differed slightly, the FAA Form 5010 coordinates were used. Coordinates for unregistered airports were estimated from satellite photography. However, satellite photography was only available for a portion of the study area and some unregistered airports were likely not identified along the Denali Highway and along the Glenn Highway between Palmer and Chickaloon.

Numerous sites were identified during the review of satellite photography that may be used as airports occasionally or may be runways that are no longer in use. These sites were initially identified as “possible” runways, and an attempt was made to determine the current status and ownership of these sites by interviewing pilots throughout the study area.

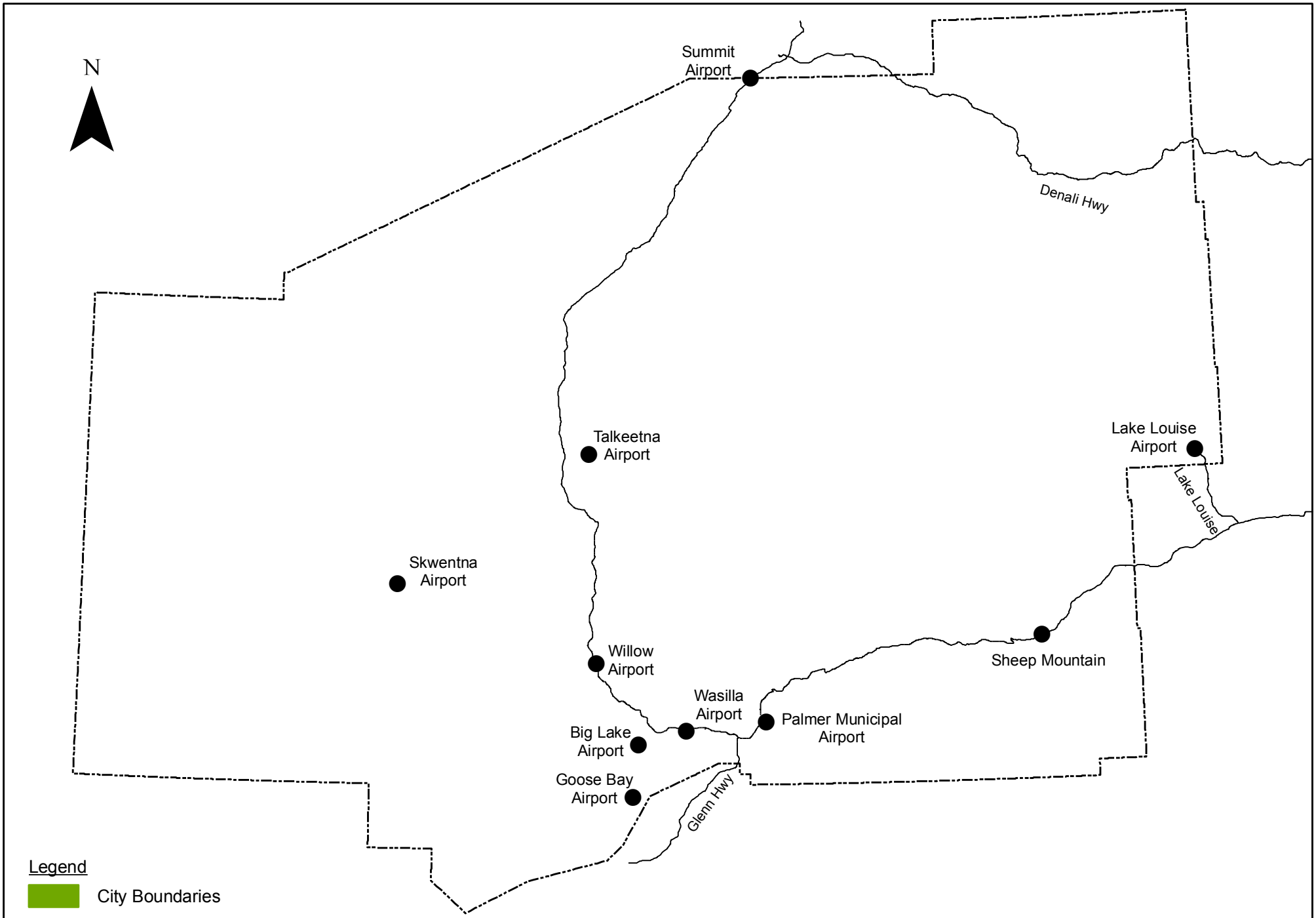
Interviews were also conducted with managers of many of the largest airports in the MSB to obtain information about those airports and nearby airports. Comments from these interviews were incorporated into the various tables and maps in this section.

The combined list of airports and related information was compiled into a GIS database for use by the MSB and FAA. This GIS database was the basis for the various maps used during the public comment portion of this project. It is anticipated that the MSB and FAA will continue to update this database after this project is complete. The database is included in Appendix B, along with GIS maps of potential land-use conflicts and assigned radio frequencies.

2.2.2 Public Airports

For purposes of this report, a publicly-owned airport is an airport owned and operated by any of the governmental bodies within the MSB and open to the public. Ten publicly-owned airports are located in the MSB. Eight of these airports are owned and operated by the State of Alaska Department of Transportation and Public Facilities (DOT&PF). The other two are owned and operated by the cities of Wasilla and Palmer. The Big Lake, Goose Bay, Skwentna, Talkeetna, and Willow Airports have at least a moderate level of activity and are actively maintained by DOT&PF. Lake Louise, Sheep Mountain, and Summit Airports have low levels of activity and are either not maintained by DOT&PF or are a low priority for maintenance. The Wasilla and Palmer Airports are well maintained by the two cities. The following figure shows the location of the various public airports in the MSB. Available airport layout plans for these airports are included in Appendix B.

In addition to the above, the Talkeetna Village Strip (AK 44) is a public-owned but private-use airport. It is owned by the Bureau of Land Management, but its use is restricted to private individuals.



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Public Airports | MSB Regional Aviation System Plan | Figure 2

Big Lake (BGQ) - The Big Lake Airport is owned by DOT&PF and is located at the northeast end of Big Lake. This airport serves primarily general aviation (GA). The gravel runway is maintained by DOT&PF, but many users have commented on the poor condition of the parallel taxiway. The airport is increasingly popular and additional apron space is needed. The airport currently has three instrument approaches.

The MSB owns a floatplane pull-out ramp on the Fish Creek canal adjacent to the Big Lake Airport. Users report that the road/taxiway between the ramp and the airport has become overgrown with trees that are a hazard to aircraft being towed between the airport and lake. The ramp area is also surrounded by a tall, locked fence that must be unlocked by the MSB to enable travel to and from the ramp.

Goose Bay (Z40) - The Goose Bay Airport is owned by DOT&PF and is located in the southwest portion of the MSB near Knik Arm. This airport is often used for pilot training, but no aircraft are based there. The airport has no hangars or utilities and is unattended. A DOT&PF maintenance building is located just north of the airport along Knik-Goose Bay Road. A runway lighting system was installed in the past, but has been removed. Pilots report vandalism and security problems. The apron area is sometimes used as a firing range for local gun owners, and abandoned cars are often found on the airport property. The State of Alaska has recently removed several old prison buildings from the airport property.

Lake Louise (Z55) - The Lake Louise Airport is owned by DOT&PF and is located on the south shore of Lake Louise at the far east side of the MSB. The airport formerly served recreational and lodge traffic, but no aircraft are currently based there. It has a gravel runway that is in poor condition and is unusable. Aircraft sometimes land on the adjacent road if necessary. This airport is currently closed indefinitely and is not maintained by DOT&PF. DOT&PF has designed a project to upgrade the runway and construction funding was recently approved.

Palmer (PAQ) - The Palmer Municipal Airport is owned by the City of Palmer and is located on the east side of the city along the bank of the Matanuska River. The airport hosts a wide range of aviation activity from small GA aircraft to helicopters and large firefighting aircraft operated by the State of Alaska Department of Natural Resources (DNR). The airport also receives occasional business jet traffic. The airport has two paved runways and a grass strip along the

shoulder of the primary runway. The airport also has a large paved apron and multiple aviation-related businesses. There is one non-precision instrument approach available for the airport.

Sheep Mountain (SMU) - The Sheep Mountain Airport is owned by DOT&PF and is located adjacent to the Glenn Highway in the eastern end of the MSB just east of the Matanuska glacier. The airport is intended primarily as an emergency landing strip, and the gravel runway does not receive regular maintenance from DOT&PF.

Skwentna (SKW) - The Skwentna Airport is owned by DOT&PF and is on the bank of the Skwentna River near the confluence with the Yentna River. The airport is located in the western part of the MSB off of the road system. The airport serves mostly small aircraft that deliver people and supplies to the roadhouse and cabins in the area. The airport has a gravel runway and a small gravel apron. There is one small hangar and a terminal building on the apron. The southeast end of the runway safety area (RSA) is being eroded by the Skwentna River.

Summit (UMM) - The Summit Airport is owned by DOT&PF and is located along the Parks Highway approximately six miles southwest of Cantwell. The airport serves primarily as an emergency landing strip. The runway is a basic gravel strip, and users report that there are occasional problems with campers on the runway.

Talkeetna (TKA) - The Talkeetna Airport is owned by DOT&PF and is located on the east side of the city of Talkeetna. The Talkeetna Airport serves as the base for most of the flightseeing and mountaineering activity in nearby Denali National Park. The airport features a 3,500-foot paved runway and a large paved apron. DOT&PF has plans to expand apron space and to add a dedicated helicopter area and lease lots to the airport. There are four non-precision instrument approaches available for the airport.

Wasilla (IYS) - The Wasilla Airport is owned by the City of Wasilla and is located on the south side of the Parks Highway just west of the city of Wasilla. This airport is primarily used by GA aircraft with a small amount of commercial air taxi traffic. The airport includes a 3,700-foot paved runway and large paved apron. The airport is currently undergoing an apron expansion that will make more tiedowns and lease lots available. There is one non-precision instrument approach available for the airport.

Willow (UUO) - The Willow Airport is owned by DOT&PF and is located on the east side of the Parks Highway on the north side of the city of Willow. The airport is used primarily by GA traffic. The airport includes a gravel runway and a large gravel apron with lease lots and several hangars. Self-serve fuel is available 24 hours/day. There are two non-precision instrument approaches available for the airport.

Table 2: Public Airports in the Matanuska-Susitna Borough

Airport	Number of RWs	Primary RW Length	Primary RW Width	Primary RW Surface	Taxiway	RW Lighting	Based Aircraft*	Services Available
Big Lake	1	2435	70	Gravel	None	MIRL	SE - 75 H - 1 UL - 3	Maintenance
Goose Bay	1	3000	75	Gravel	None	None	SE - 2	None
Lake Louise	1	700	18	Gravel	None	None	None	Airport closed
Palmer	3	6009	100	Asphalt	Full parallel	MIRL, VASI, PAPI	SE - 200 ME - 15 H - 7 G - 5	Fuel, maintenance, FSS on field
Sheep Mountain	1	2270	60’ (10’usable)	Gravel	None	None	None	RW not maintained
Skwentna	1	3400	75	Gravel	None	MIRL	SE - 3	None
Summit	1	3840	80	Gravel	None	None	None	None
Talkeetna	1	3500	75	Asphalt	Full parallel	MIRL, VASI	SE - 50	Fuel, maintenance, FSS on field
Wasilla	1	3700	75	Asphalt	Full parallel (under const)	MIRL	SE - 100	Fuel, maintenance
Willow	1	4400	75	Gravel	None	MIRL	SE - 87 ME - 2	Fuel, maintenance

* Source: FAA Form 5010, SE = Single Engine, ME = Multi Engine, J = Jet, H = Helicopters, G = Gliders, UL = Ultralight, RW = runway, FSS - Flight Service Station, MIRL - medium intensity runway lights, PAPI = precision approach path indicator, VASI = visual approach slope indicator

2.2.3 Public Airport Capital Improvements

2.2.3.1 Historic Capital Improvements

The FAA provides most of the funding for capital improvements at public airports in the MSB that are in the National Plan of Integrated Airport Systems (NPIAS). Currently, the Big Lake, Goose Bay, Palmer, Skwentna, Talkeetna, Wasilla, and Willow Airports are included in the NPIAS. To be eligible for FAA funding and be included in the NPIAS, a GA airport must meet FAA criteria as summarized below:

1. Be 20 miles by air (or 30 minutes travel time by road) from nearest existing NPIAS airport and clear evidence that at least 10 aircraft will be based at the airport in the first year of operation…or

2. Meets all of the following criteria:
   - Airport is included in a Statewide Aviation System Plan and/or Metropolitan Airport System Plan, if these plans exist.
   - Airport serves a community more than 20 miles by air (or 30 minutes travel time) from the nearest existing or proposed NPIAS airport.
   - Airport is forecast to have at least ten based aircraft during first five years of operation.
   - There is a sponsor willing to take ownership and development of the airport…or

3. Airport has special justification showing a significant national interest such as:
   - Airport benefits exceed costs - benefits are usually measured in time saved and cost avoided by travelers.
   - Airport serves an isolated community (remote areas or on islands), serves a Native American community, supports recreation areas, or is needed to develop or protect important national resources.

Currently, the FAA pays 95 percent of the costs of an airport project and the airport owner pays 5 percent. The State of Alaska has an informal policy to pay one-half of the airport owner's costs for any locally owned airport, thereby reducing the local airport owner's costs to 2.5 percent of the total project costs. Beginning in Fiscal Year 2008, the FAA will pay only 93.75 percent of the cost of an airport project. The following table shows the FAA funded Capital Improvement Program projects for MSB airports since 1985.

Table 3: Historic Federal Aviation Administration Funded Capital Projects at Matanuska-Susitna Borough Public Airports

Airport	Year*	Project	Cost
Big Lake**			
Goose Bay	1985	Rehabilitate RW 7/25 and construct taxiway	$651,554
	1987	Snow removal equipment (SRE) building and equipment, install runway lighting	$492,418
		Total	$1,143,972
Lake Louise**	--	--	$0

Airport	Year*	Project	Cost
Palmer	1986	Acquire land for development	$746,049
	1990	Acquire SRE	$114,998
	1992	Improve SRE building	$258,750
	1994	Rehabilitate apron and taxiway	$711,419
	1995	Acquire SRE	$244,265
	1996	Conduct airport master plan study	$265,216
	2001	Construct runway and taxiway, extend runway, acquire SRE, improve RSA	$518,964
	2002	Phase II of runway and taxiway construction projects and RSA improvements	$2,033,382
	2003	Acquire SRE	$147,172
	2004	Construct taxiway and access road, install perimeter fencing, and expand apron	$1,939,010
	2004	Acquire land for approaches Phase I	$259,002
	2005	Acquire land for approaches, acquire SRE, rehabilitate RW 09/27 Phase I (design), and rehabilitate lighting on RW 16/34 (design)	$437,990
	2006	Rehabilitate lighting on RW 16/34, install new runway lighting and lighted wind cone, rehabilitate Taxiway B, and install vertical/visual guidance system, PAPIs, and runway end identifier lights for RW 16/34	$1,850,291
		Total	$9,526,508
Skwentna	1987	Improve access road, acquire SRE, acquire land for development, construct apron, construct taxiway, extend RW 9/27, install runway lighting, rehabilitate RW 9/27	$1,477,295
Summit**	--	--	$0
Talkeetna	1986	Rehabilitate taxiway, expand apron/install lighting, extend RW 18/36	$1,138,770
	1995	Conduct airport master plan study	$281,250
	1996	Expand apron, improve SRE building, improve service road, acquire land for development, install apron lighting, and construct taxiway	$3,036,591
	2005	Acquire SRE	$20,321
		Total	$4,476,932
Wasilla	1998	Acquire land for development	$2,056,280
	1990	Improve access road	$466,854
	1990	Construct apron, runway, taxiway, and install runway lighting	$3,334,831
	1991	Noise mitigation measures for public buildings	$925,850
	1992	Acquire SRE, improve SRE building	$499,450
	1998	Construct RW 03/21	$102,772
	1999	Construct RW 3/21 and install perimeter fencing	$1,037,323
	2001	Conduct airport master plan study	$407,072
	2002	Install perimeter fencing	$264,264
	2003	Construct apron (design) Phase I	$199,999
	2004	Expand apron	$1,894,486
	2005	Construct apron (design)	$250,000
	2006	Apron construction Phase I, RW 03/21 construction	$3,672,748
	2007	Taxiway B Extension	$1,052,877
		Total	$16,164,806
Willow	1989	Install runway lighting, improve airport drainage, and acquire land	$242,230
	1999	Improve SRE building	$664,418
	2005	Rehabilitate RW 13/31	$55,000
		Total	$961,648

* Federal fiscal year funds are obligated.

** $0 spent on past improvements.

2.2.3.2 Planned Capital Improvements

Proposed maintenance and expansion projects for each of the public airports are shown in the following table. These projects were identified in an airport master plan or in the spending plans for FAA and/or DOT&PF. Where the scope and timing of projects differed between documents, a general project description is shown. Although the MSB does not own any airports, two projects were identified by the MSB for future funding.

Table 4: Capital Improvement Needs from Published Reports and Documents

Airport	Description	Timeframe	Comments
Big Lake	New lighting system		
	Apron expansion		
	Two-bay equipment building and loader		
Goose Bay	None listed		
Lake Louise	Reconstruct runway	Short	Airport currently closed. Airport reconstruction funding recently approved.
Palmer	Acquire land for RW 9-27	Short	Phase I complete Phase II in progress
	SRE equipment	Short	Complete in 2007
	Rehab airport lighting	Short	In design
	Overlay runways	Short	In design
	Master Plan Update	Short	
	Expand apron	Medium	
	Seal coat	Medium	
	GA terminal	Medium	
	Overlay Taxiway B and upgrade lights	Medium	
	Repaint FSS building	Medium	
	Construct helipad	Medium	
	Construct additional T-hangars	Long	
	Overlay/seal pavements	Long	
	Expand apron	Long	
Sheep Mountain	None listed		Not in NPIAS
Skwentna	Repair runway erosion	Short	River eroding runway
Summit	Grade runway	Medium	Not in NPIAS, but seeking inclusion
Talkeetna	Lease lots, apron expansion, helipad	Short	Draft Environmental Assessment (EA) completed
	Floodplain mitigation	Short	Hydrologic study completed
	Remediate abandoned landfill	Medium	
	Additional apron expansion	Long	
	Additional lease lots	Long	
	Floatplane facility at airport	Long	

Airport	Description	Timeframe	Comments
Wasilla	Apron expansion	Short	Construction 2006
	Gravel/Turf Runway	Short	Construction 2007
	Taxiway B Extension	Short	Construction 2007
	Airport access road	Short	Construction 2009
	Intermodal rail terminal, gravel/ski runway, and transient parking	Short	
	SRE and expand SRE building	Short	
	RW 3-21 NAVAID Improvements	Short	
	Extend RW 3-21 (5,000 feet)	Medium	
	Acquire avigation easements	Medium	
	Fire station	Medium	
	Property acquisition for runway protection zone	Long	
	Apron expansion	Long	
	Terminal building	Long	
	Extend RW 3-21 (6,000 feet)	Long	
Willow	Pave taxiway and apron		
MSB	International airport feasibility and location study		
	Floatplane facility study and construction		Under way

2.2.4 Private Airports

For purposes of this report, private airports are divided into the two categories of private airports and private airparks. A private airport is defined as a landing area for aircraft located on private property and not available for public use. A private airpark is defined as an airport owned by a group of private property owners with homes, hangars, and/or other facilities adjacent to a shared private runway.

There are approximately 106 private airports registered with FAA in the MSB. There are at least 53 additional private airports that are unregistered. Private airports are found throughout the MSB, but are generally concentrated in residential areas with road access. Private airports are generally located near the residence of the owner for the convenience of access to their aircraft. Runway lengths, locations, and alignments are not always optimal, but these factors are outweighed by the convenience of having the plane nearby. Individual private airports in the MSB generally have few based aircraft and little traffic.

There are approximately 14 private airparks in the MSB. Such airparks generally feature individual home lots with taxiway access to the runway, and the airparks are generally run by a homeowners association or other non-profit association. Several of the private airparks, such as Wolf Lake and Anderson Lake (also known as Shaw's Tri Lakes), have more than 100 based

aircraft and are, in fact, some of the largest airports in the MSB. Both of these airports are located between Wasilla and Palmer north of the Palmer-Wasilla Highway.

There are approximately nine other private airports registered with FAA as providing public access. These airports are:

Table 5: Privately-owned Airports with Public Access

Airport Name	FAA Site	FAA Identifier	Heliport or Airport?
Road Commission Nr 1	50147.3*A	0Z2	Airport
Clearwater	50110.*A	Z86	Airport
Rainy Pass Lodge	50642.1*A	6AK	Airport
Jonesville Mine	50730.*A	JVM	Airport
Butte Municipal	50585.14*A	AK1	Airport

Source: FAA form 5010 and FAA Alaska Region Airport Registration Records

The location and registration status of known and possible private airports and airparks in the MSB are shown in the following figures. Note that these figures also show the registration status of lakes and heliports. These two categories of facilities are described in the following sections.

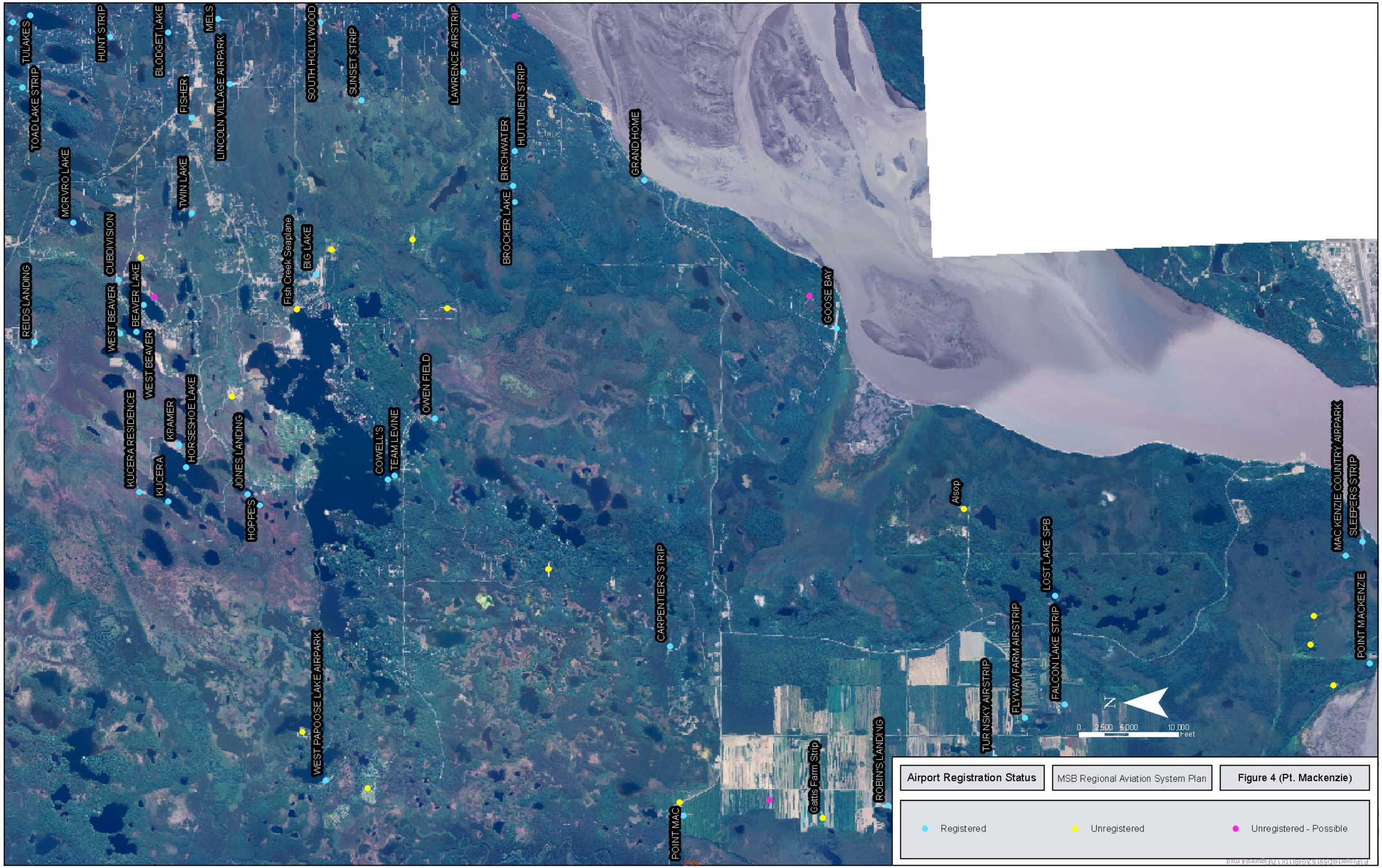
JONESVILLE MINE
WASILLA CREEK AIRPARK
HIGH RIDGE ASSOCIATION
BOISSELLE'S STRIP
TODDS STRIP
GROUSE RIDGE
SOLOY STRIP
VINDUSKA
VALLEY FLYING CROWN
WOLF LAKE
MARTIN
CIZEK NORTH
MEMORY LAKE
MEMORY LAKE
PENDEROSA
NIKLASON LAKE
STORMY HILL
ABI
ISLAND LAKE
JUNE LAKE
CARDWELL STRIP
GOODING LAKE
WOLF TRACK
JUNE LAKE AIRPARK
LITTLE NIKLASON LAKE
HESS
TULAKES
PIPER LANDING
ANDERSON LAKE
JIM'S LANDING
SEYMOUR LAKE SPB
KALMBACH LAKE
CAROL'S
EAGLES NEST
FINGER LAKE
VALLEY HOSPITAL - PALMER
EAGLE NEST
KALMBACH
FOUR CORNERS
GREEN'S STRIP
YUKNIS
PALMER MUNI
B & B BOYS RANCH
HUNT STRIP
GATTIS STRIP
STRO'S
PAT-MAR STRIP
JOLLY FIELD
WASILLA LAKE
GILMORE STRIP
DOWNWIND LANDING
SHAWN FIELD
JACOBSEN LAKE
BLODGET LAKE
BECHTOL FIELD
LAKE LUCILLE
WASILLA
WICKER
WALLIS LAKE SPB
MAT-SU RGNL MEDICAL CENTER
MELS
MCDONALD RIDGE
ST JOHN HOMESTEAD
COLBERG
SKY RANCH AT PIONEER PEAK
FAIRVIEW EAST
GRANDVIEW SUBDIVISION
FAIRVIEW WEST
JACK FISH LANDING
SOUTH HOLLYWOOD
BUTTE MUNI
BLUFF PARK FARM
TIDEWATER BLUFFS
N
0 2,500 5,000 10,000 Feet

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Airport Registration Status | MSB Regional Aviation System Plan | **Figure 3 (Palmer Wasilla)**

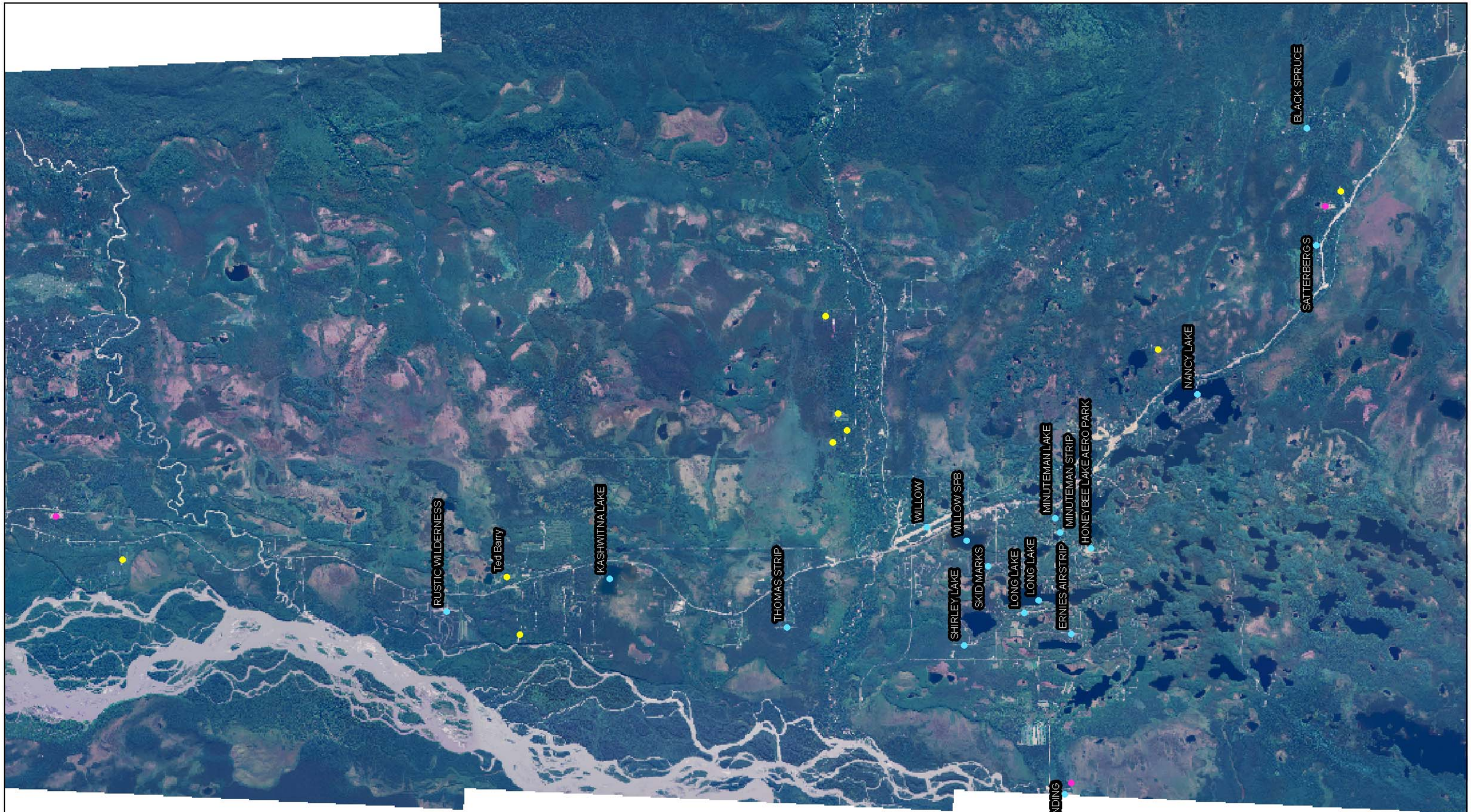
Registered | Unregistered | Unregistered - Possible



Airport Registration Status | MSB Regional Aviation System Plan | **Figure 4 (Pt. Mackenzie)**

Registered | Unregistered | Unregistered - Possible

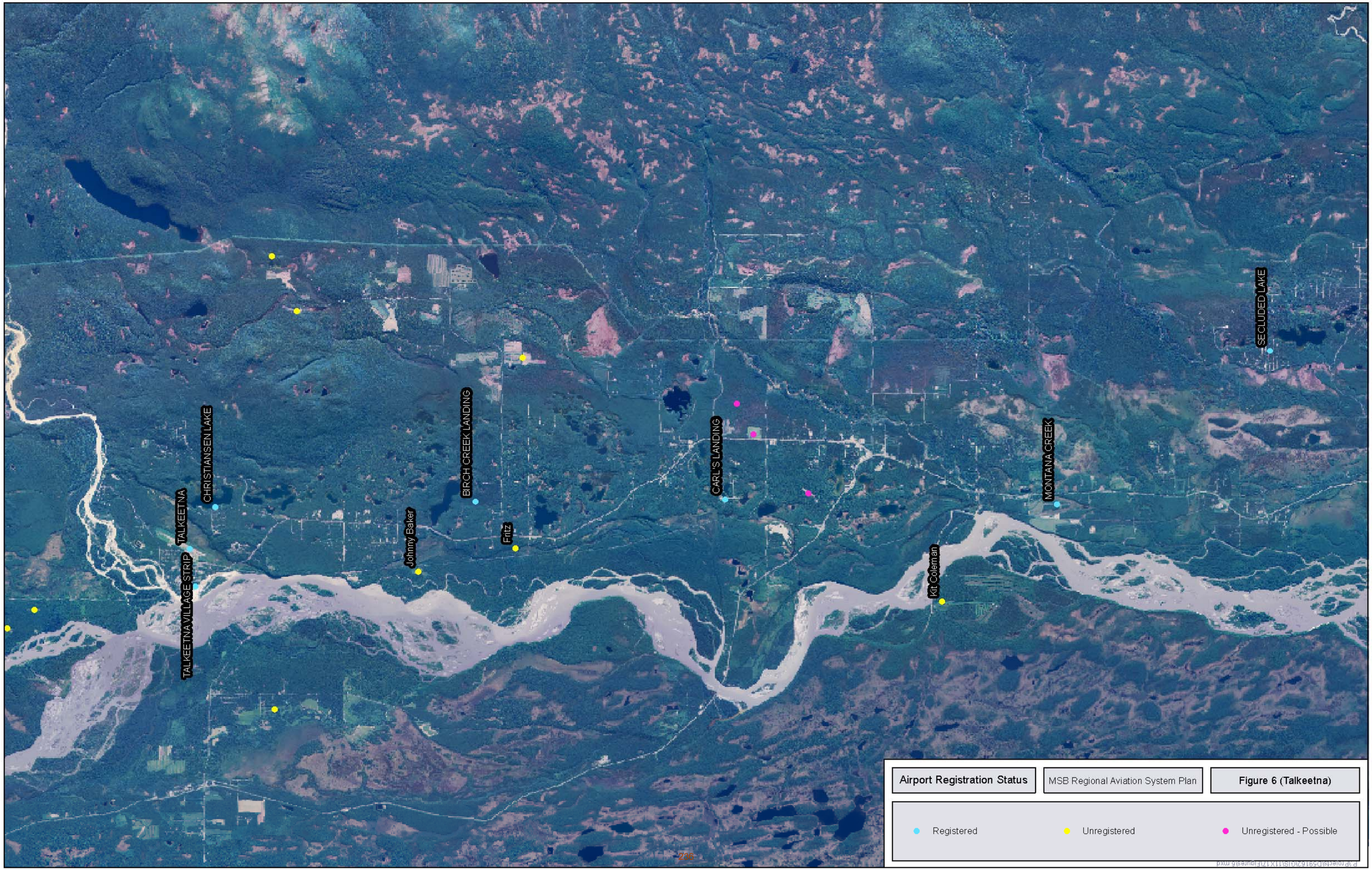
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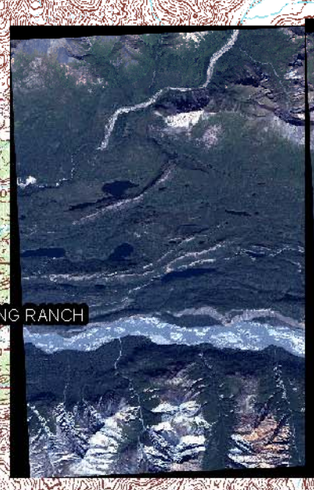
Airport Registration Status | MSB Regional Aviation System Plan | **Figure 5 (Willow)**

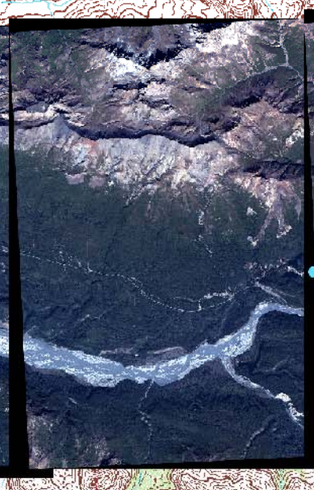
Registered | Unregistered | Unregistered - Possible

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SECLUDED LAKE
CHRISTIANSEN LAKE
BIRCH CREEK LANDING
CARL'S LANDING
MONTANA CREEK
TALKEETNA
TALKEETNA VILLAGE STRIP
Johnny Baker
Fritz
Kit Coleman
Airport Registration Status
MSB Regional Aviation System Plan
Figure 6 (Talkeetna)
Registered
Unregistered
Unregistered - Possible















N

0 5,000 10,000 20,000 Feet

237

Airport Registration Status	MSB Regional Aviation System Plan	Figure 7 (Eastern Borough)

Registered Unregistered Unregistered - Possible

2.2.5 Floatplane Facilities

The MSB contains hundreds of lakes that are suitable for use by small seaplanes. Most of the larger lakes are used by at least a few aircraft at some time during each year. Currently, only 34 seaplane bases are registered with the FAA in the MSB. These lakes represent most of the major lakes near the road system, but a few busy lakes are currently not registered. Only registered seaplane bases are shown on the various figures in this report.

The most significant unregistered lake is Big Lake. This large lake has operations by dozens of floatplanes, but no registration form has ever been filed. Big Lake has not been registered because FAA does not actively request that lakes be registered, and no user of the lake has filed the registration.

In the 2006-2007 Edition of the *Water Landing Directory*, the Seaplane Pilots Association lists 24 floatplane facilities in the MSB. These facilities are shown in the following table.

Table 6: Seaplane Bases from Seaplane Pilots Association

Facility	FAA Site	FAA Identifier	Public or Private Use?
Beaver Lake Seaplane	50068.65*C	D71	Public
Big Lake	(not registered)		Public
Blodget Lake Seaplane	50870.6*C	D75	Public
Cottonwood Lake Seaplane	50870.35*C	3H3	Public
Finger Lake Seaplane	50585.12*C	99Z	Private
Flyway Farm Airstrip	50870.52*A	36AK	Private
Gooding Lake Seaplane	50584.41*C	2D3	Private
Kalmbach Lake Seaplane	50870.5*C	54AK	Private
Lake Louise	50439.1*C	13S	Public
Lake Lucille Seaplane	50870.58*C	4A3	Public
Lost Lake Seaplane	50870.43*C	57AK	Private
Mels Homestead Landing	50870.51*A	38AK	Private
Minuteman Lake Seaplane	50877.32*C	MFN	Public
Morvro Lake Seaplane	50325.01*C	4K2	Public
Nancy Lake Seaplane	50519.5*C	78Z	Public
Niklason Lake Seaplane	50870.64*C	4AK0	Public
Seymour Lake Seaplane	50870.47*C	3A3	Public
Stormy Hill	50584.42*C	9AK1	Private
Upper Wasilla Lake Seaplane	50870.62*C	3K9	Public
Visnaw Lake Seaplane	50870.18*C	T66	Private
Wallis Lake Seaplane	50870.44*C	62AK	Private
Wasilla Lake	50870.2*C	5L6	Public
Willow (instead of Willow Seaplane Base)	50878.*A	UUO	Public
Willow Seaplane	50877.01*C	2X2	Not Listed
Wolf Lake	50584.21*A	4AK6	Private

2.2.6 Heliports

There are nine heliports registered with the FAA in the MSB. Most of these are private heliports that are located adjacent to a business or a home. Four of the heliports are associated with the various hospitals and medical centers in the MSB. One of these, the Valley Hospital in Palmer, is no longer an active medical facility, and the associated heliport is no longer in use for medical flights. The future status of this heliport is uncertain.

2.2.7 Summary of Airport Inventory

In summary, there are between 200 and 250 airports in the MSB. Only about 70 of these are shown on the sectional map of the area, and only about 110 have had an airspace review by the Alaska Region of FAA. Approximately 25 to 30 percent of the airports are unregistered, and all of the unregistered airports are privately owned. There are more than 50 additional sites that appear to be airports on aerial photography, but may or may not be actual airports. Proposed airports includes airports that were proposed by property owners but have not yet been built and/or registered with the FAA. The following table summarizes the numbers and registration status of airports in the MSB.

Table 7: Airport Registration Summary

Facility Type	Registered	Proposed*	Unregistered
Airports	130	7	53
- Public	10	0	0
- Private Airport	106	6	53
- Private Airpark	14	1	0
Heliports	9	0	1
Seaplane	34	3	?
Total	173	10	>53

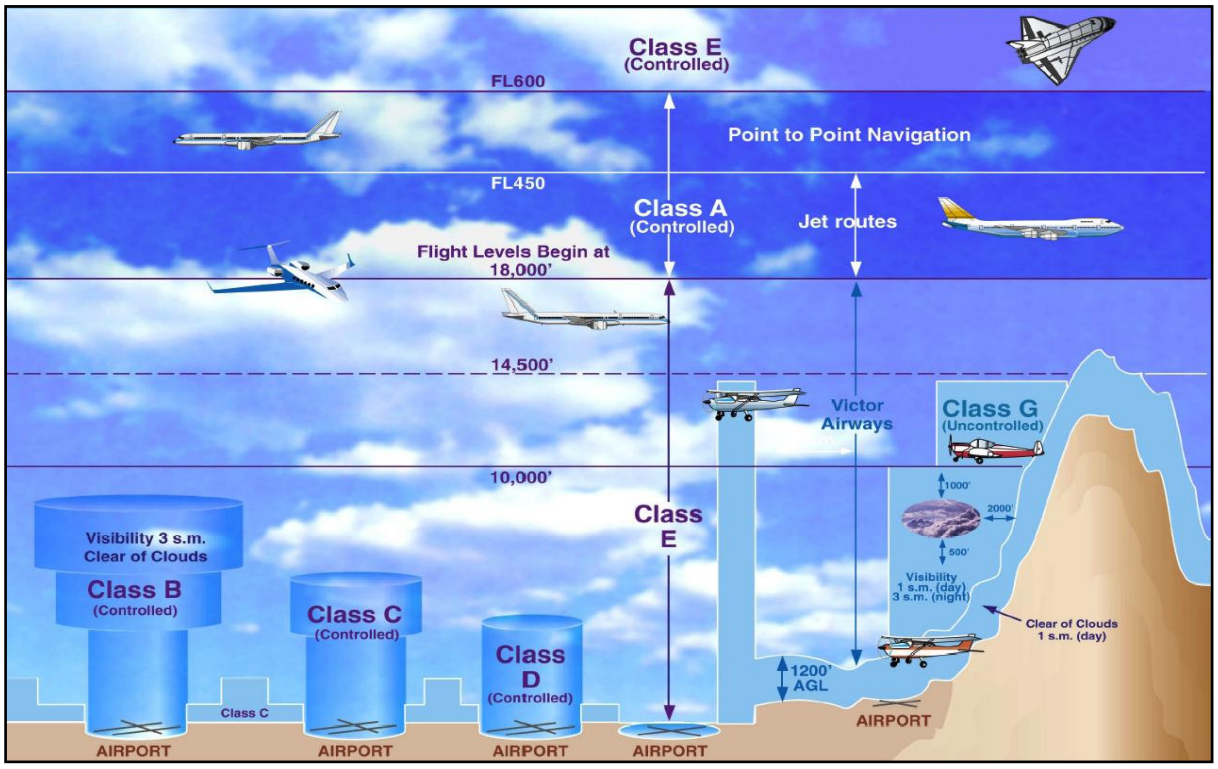
* Proposed since 2006.

2.3 Airspace and Navigational Aids

The airspace over the MSB is defined by FAA classification, air traffic control (ATC) designation, navigational aids (NAVAIDS), and the airports within and in close proximity to the MSB. The Federal Aviation Act of 1958 gave jurisdiction of all United States airspace to the FAA. The National Airspace System was then established to manage this system safely and efficiently among commercial, GA, military, and other competing users. It is a common network of NAVAIDS, airport and landing sites, charting and information, procedures, regulations, technical support, and resources.

2.3.1 Airspace

Airspace is either controlled or uncontrolled. Controlled airspace is managed by ground-to-air communications, NAVAIDS and air traffic services. Figure 8 shows the different classifications of airspace. Most of the MSB is covered by Class E airspace with a floor of 1,200 feet above ground level (AGL). Specified areas around some of the busier airports that have instrument approaches have Class E airspace floors of 700 feet. These airports include Big Lake, Wasilla, Palmer, and Talkeetna. There is a slightly smaller area around the Talkeetna Airport where the Class E airspace extends down to the ground. This is the only area in the MSB where this is the case. The Class E airspace surrounding the Anchorage Airports, with a floor of 700 feet, also extends into a very small part of the MSB.



Source: HNTB

Figure 8: Airspace Classifications

Class E airspace extends up to 18,000 feet AGL. Even though Class E airspace is called controlled, pilots do not need to be under the control of ATC, as long as the weather meets certain criteria. Within Class E airspace, the pilot needs to have three miles of visibility and needs to avoid clouds by staying at least 500 feet below, 2,000 feet laterally, or 1,000 feet above

them. This is called flying under Visual Flight Rules (VFR). If the weather is less than this, a pilot flies under Instrument Flight Rules (IFR) and needs to file an IFR flight plan. They are then under the control of ATC.

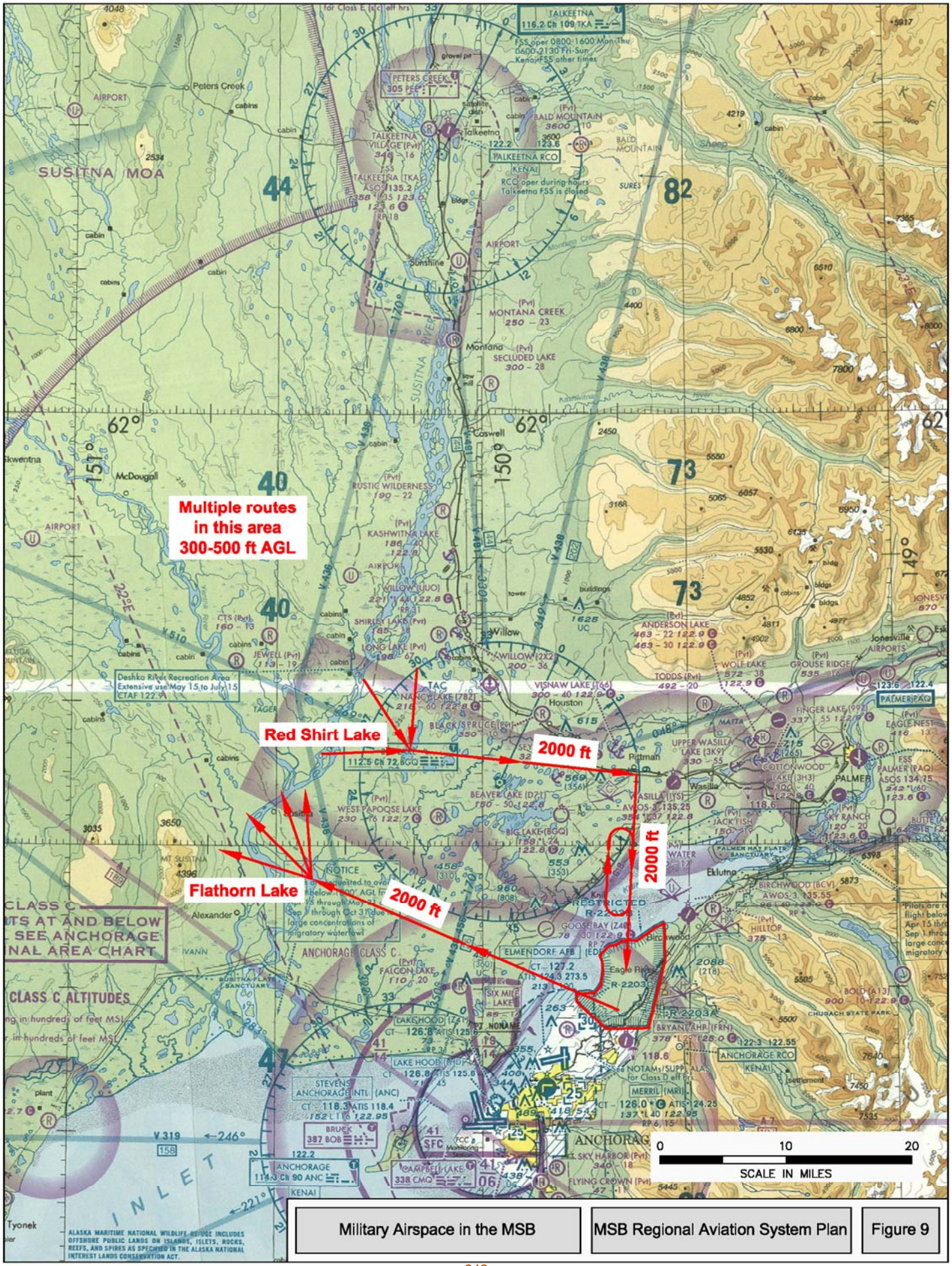
The area underneath the Class E airspace is Class G airspace, which is uncontrolled. In these areas, during daylight hours, an aircraft can fly VFR (not under ATC) as long as there is one-mile visibility and the pilot stays clear of clouds. The practical effect of this is that most of the public and private airports in the MSB are in an area where aircraft can fly during relatively poor weather conditions (visibility greater than or equal to one mile) without being under ATC, as long as they stay less than 700 feet AGL.

There are two areas in the MSB where the airspace is Class G (uncontrolled) all the way up to 18,000 feet AGL. One area is on the eastern side, somewhat centered over Lake Louise and the other is on the west side, centered, for the most part, over the Kahiltna Glacier. There are not any public airports in these areas, and few, if any, private airports.

Class C airspace associated with Anchorage International Airport extends over a small part of the MSB in the area of Point Mackenzie. Aircraft in Class C airspace need to be in contact with ATC regardless of weather conditions.

Some special use airspace also overlies the MSB. In the northeast corner is the Fox 3 Military Operations Area (MOA). The Susitna MOA lies over the northwest corner of the MSB. The floors of these MOAs are fairly high (at least 5,000 feet AGL) and do not have much impact on GA.

There are also numerous military training routes through the area, as depicted in Figure 9. Most of these routes are designated as slow route (SR). An SR is a low-level route at or below 1,500 feet AGL where aircraft fly at 250 knots indicated airspeed or less. These routes are predominantly used by cargo aircraft such as the Lockheed C-130. The floors of these routes are generally kept higher in the high-density areas of public and private airports, but at certain times may be as low as 300 to 500 feet AGL as depicted in Figures 8 and 9. The only high-speed instrument route and visual route military training routes are on the east side of the MSB.



Military Airspace in the MSB | MSB Regional Aviation System Plan | Figure 9

2.3.2 Air Traffic Control

As indicated above, pilots flying during IFR are under the control of ATC. Aircraft have to fly under IFR whenever weather is below certain specified minimums. Some GA, most corporate and military, and virtually all airline aircraft will fly under IFR even when weather conditions are good. Most of the airspace over the MSB is controlled by Anchorage Air Route Traffic Control Center (ARTCC), which is located adjacent to Elmendorf Air Force Base. The rest of the airspace, generally within about 30 nautical miles of Anchorage International Airport, is controlled by the Terminal Radar Approach Control (TRACON) portion of Anchorage Air Traffic Control Tower (ATCT), which is located on Anchorage International Airport. Big Lake and Wasilla Airports are in the area covered by Anchorage TRACON, while Palmer Airport is in the area covered by Anchorage ARTCC.

2.3.3 Navigational Aids and Instrument Approaches

The MSB has relatively few NAVAIDS, given the size of the area. The following are the NAVAIDS by type.

Table 8: Existing Navigational Aids

NAVAIDS Type	Location
VOR	Big Lake
	Talkeetna
NDB	Peters Creek (by Talkeetna)
	Summit

NDB = Non-Directional Beacons

The following are the instrument approaches that are associated with airports in the MSB. All of these approaches are non-precision type approaches.

Table 9: Existing Instrument Approaches

Airport	Available Approaches
Big Lake	RNAV (GPS) RW 7
	RNAV (GPS) RW 25
	VOR RW 7
Palmer	GPS - A
Talkeetna	GPS RW 36
	NDB RW 36
	VOR - A
	VOR/DME RW 36
Wasilla	RNAV (GPS) RW 3
Willow	RNAV (GPS) RW 13
	RNAV (GPS) RW 31

GPS = Global Positioning System
RNAV = Area Navigation
VOR = Very High Frequency Omni-directional Radio-range (radio beacon)
DME = distance measuring equipment

The FAA is in the process of implementing new precision approaches based on the GPS Wide Area Augmentation System (WAAS). These WAAS-enabled approaches are commonly referred to as localizer performance with vertical guidance (LPV) approaches and use satellite signals to provide vertical guidance similar to that provided by a traditional ILS approach. LPV approaches do not require ground-based navigational aids and may therefore enable cost-effective precision approaches at airports that do not already have a precision approach.

However, implementation of an LPV approach will have impacts on local airspace similar to those caused by an ILS approach. Controlled airspace would need to be extended downward to the ground surface within at least five miles of any airport with an LPV approach. Because of the large number of private airports that could be impacted by such a change, careful consideration will be needed prior to implementation of LPV approaches in the MSB.

2.3.4 Weather Reporting

Several of the airports in the MSB have federal weather stations that report aviation weather. Most of these are owned by FAA, but several are owned by the National Weather Service (NWS). It should be noted that one of the weather stations, Chulitna River, is located along the Parks Highway near Chulitna Pass and is not associated with an airport.

According to FAA staff, no additional weather stations are planned for airports in the MSB at this time. However, FAA is currently reviewing their weather station priorities for Alaska and new or upgraded stations might be available in the future.

Although not part of a weather station, weather cameras provide useful information to supplement official weather reports. At this time, only Sheep Mountain and Summit airports have weather cameras in the MSB. The FAA is currently performing a review of weather camera needs in Alaska and will likely recommend additional weather cameras at Chulitna Pass, Palmer, Talkeetna, and Willow Airports. FAA has also expressed a desire to install a weather camera somewhere along the Parks Highway between Trapper Creek and the Chulitna River Bridge to provide a view of weather around Mount McKinley. This camera would not be associated with an airport, but would provide weather information for use by flightseeing aircraft from Talkeetna. The following table summarizes the aviation weather stations and weather cameras in the MSB.

Table 10: Weather Stations and Weather Cameras in the MSB

Name	ID	Freq.	Type	Agency	Phone Number	Weather Camera	Location	Coordinates
Chulitna River	PAEC	---	Apaid	NWS	---	Planned	Beside highway in Chulitna Pass	62-53N 149-50W
Palmer	PAAQ	134.75	ASOS	FAA	746-6675	Planned	Palmer Airport	61-36N 149-05W
Sheep Mountain	PASP	---	Apaid	NWS	---	Yes	Sheep Mountain Airport	61-48-43N 147-30-25W
Skwentna	PASW	---	Apaid	FAA	---	No	Near Skwentna Airport	61-58N 151-11W
Summit (camera only)	---	---	---	FAA	---	Yes	Summit Airport	63-19-41N 149-07-58W
Talkeetna	PATK	135.2	ASOS	FAA	733-1637	Planned	Talkeetna Airport	62-19-14N 150-05-37W
Wasilla	PAWS	135.25	AWOS	FAA	373-3801	No	Wasilla Airport	61-34-19N 149-32-26W
Willow	PAUO	---	Apaid	NWS	---	Planned	Willow Airport	61-45N 150-03W

Apaid = weather reports from a paid observer
Source: http://www.arh.noaa.gov/obs.php and FAA staff

2.4 Accident Summary

The project team researched aviation accidents in the MSB using the National Transportation Safety Board accident database records from 1996 through 2006. Only 15 percent of the accidents took place at the public airports, even though these airports carry over 50 percent of the aircraft operations. About 20 percent of the accidents occurred at private or remote airstrips and 65 percent occurred at remote areas or in-flight.

Contributing factors to MSB accidents include:

- Landing on rough and uneven terrain
- Overrun during landing roll (tailwind and short landing area)
- Undershoot of the landing area, collision with terrain
- Loss of engine power, collision with terrain
- Failure to maintain directional control during landing
- Many accidents resulted from planes taking off and landing at remote sites; a contributing factor in many of these accidents is unsuitable terrain

The following table summarizes the accident data. Please note the accident data collected for Skwentna and Willow Airports is from 2000 (not 1996) through August 2006.

Table 11: Aircraft Accidents at Major Airports in the Matanuska-Susitna Borough, 1996-2006

Airport	Phase of Flight When Accident Occurred					
	Takeoff (at airport)	Landing (at airport)	In-Flight (emergency)	Private/Remote Airstrip	Remote Area	Total Accidents
Big Lake Airport	1	2				3
Chickaloon	0	1				1
Palmer Airport	3	1				4
Skwentna Airport	0	1				1
Talkeetna Airport	8	2				10
Wasilla Airport	4	8				12
Willow Airport	2	1				3
Other MSB			27	45	119	191
Total MSB						225

2.5 Government Involvement

2.5.1 Roles and Jurisdictions

The various levels of government interact with the aviation system in the MSB in a variety of roles with each having jurisdiction over certain issues. The various roles are summarized below with an explanation of the corresponding jurisdiction. Regulatory citations are provided where applicable.

Airport Owner - In most states, the role of airport owner is primarily filled by cities, counties, and private entities. In the MSB, the cities of Wasilla and Palmer operate their municipal airports. However, in Alaska the DOT&PF owns and operates many airports in addition to their role as the State aviation agency. Eight of the ten publicly-owned airports in the MSB (all except Wasilla and Palmer) are owned by DOT&PF and operated according to 17 Alaska Administrative Code (AAC) 45 - *Rural Airports.*

For airports with improvements funded by the FAA Airport Improvement Program, the FAA generally refers to airport owners as "airport sponsors." Airport sponsors agree to abide by certain "grant assurances" intended to keep the airport open and suitable for use by the public. Grant assurances generally include maintenance of the airport, compatible land use, and compliance with federal laws. The standard FAA grant assurances are included as Appendix E.

Owners of private airstrips and airparks also have certain requirements, including registration of the airport and compliance with local land use requirements where they exist. Sponsors of private airports that accept FAA funding are subject to grant assurances similar to those of public airports.

City Government - City governments generally have jurisdiction over land development within their city limits. The Cities of Wasilla, Palmer, Talkeetna, and Houston have exercised this power through the formation of Special Use Districts, and have enacted land use or zoning maps and ordinances. These ordinances guide the land uses on and adjacent to the public airports in the cities. Wasilla and Palmer also have basic ordinances addressing the management of city-owned, public airports.

MSB - The MSB has jurisdiction over all land development in the MSB, but delegates its land use authority to Palmer, Wasilla, and Houston for lands within their boundaries. The MSB retains control over platting for the entire MSB, though it does not regulate airport development through the platting process. There is no requirement to identify an airport on a plat. MSB code does not contain a separate section addressing airports. However, airports, floatplane lakes, and airport related issues (such as tall structures) are mentioned in various parts of the code.

DOT&PF - In its role as the state aviation agency, DOT&PF is granted certain powers and responsibilities for managing statewide aviation issues. These powers, outlined in 2 AS §10-40, include:

- zoning for safety and compatibility of airports
- prevention and removal of obstructions
- providing matching funds for local airport sponsors
- collection of aviation data

DNR - The DNR is responsible for managing land and water owned by the State of Alaska. Restrictions and "generally allowed uses" are outlined in 11 AAC 96. Use of State lands and waters by aircraft (including floatplanes) is a "generally allowed use" and is explicitly allowed unless restricted by State law. The DNR can restrict "generally allowed uses" through a public process, if necessary. According to DNR staff, cities or boroughs with planning and zoning and/or public health and safety authority can restrict "generally allowed uses" through planning

processes such as Lake Management Plans. The outcome of the planning process would need to be formally adopted by the MSB or City. However, no formal Attorney General's opinion has been issued about local government's authority to regulate generally allowed uses, and it has not been tested in court.

Other DNR regulations that may affect floatplane operations on MSB lakes include requiring registration (not a permit) for commercial activities in order to compile statistical summaries of commercial activity. The DNR also issues permits (< five years) and leases (> five years) for development on State lands.

FAA - As the national aviation agency, the FAA has multiple roles related to the airports in the MSB. One of its most fundamental responsibilities is management of airspace, which includes the registration of airports. According to 14 Code of Federal Regulations (CFR) 157, airports must generally register with the FAA if they are in use for more that 30 days or have more that 10 operations per day (an operation is either a takeoff or a landing). The FAA procedure to register an airport is described in Advisory Circular 150/5200-35. Basic information on how to register an airport is included in Appendix D.

Another responsibility of FAA is to conduct aeronautical studies for land development near airports. According to 14 CFR 77, land developers must notify the FAA of proposed development that penetrates certain airspace surfaces that surround any public use airport. The FAA reviews the proposed development then issues a determination. The FAA airspace determinations are advisory only and have no enforcement authority, however, they may have implications regarding the developer's liability and ability to obtain insurance.

A third responsibility of the FAA is to provide funding for public-use airports (including some that are privately owned). The funding requirements for publicly owned airports are outlined in 14 CFR 152 and the requirements for privately owned airports are outlined in 14 CFR 169. The specific FAA procedures for funding airports are described in FAA Order 5100.38C - *Airport Improvement Program Handbook*. To be funded, an airport must be part of the NPIAS and must agree to a long list of conditions known as "grant assurances." These grant assurances are included in Appendix E.

Other responsibilities of the FAA include the installation and maintenance of NAVAIDS and management of the air traffic control system. Although there are currently no air traffic control towers (ATCTs) in the MSB, various types of controlled airspace cover much of the MSB.

3.0 SOCIOECONOMIC INVENTORY AND FORECASTS OF AVIATION DEMAND

3.1 Economic Overview

The MSB is one of the fastest growing areas of the state. Table 12 shows historic population growth in the MSB. While the rate of population growth has slowed compared to the rapid pace in the 1970s and 1980s, the MSB still grew an average of 4.3 percent per year between 2000 and 2005, compared to a 1.1 percent growth rate statewide.

Table 12: Matanuska-Susitna Borough Population Growth - 1960 to 2005

Year	Population	Annual Growth Rate
1960	5,188	
1970	6,509	2.5%
1980	17,816	17.4%
1990	39,683	12.3%
2000	59,322	4.9%
2001	61,737	4.1%
2002	64,329	4.2%
2003	67,841	5.5%
2004	70,482	3.9%
2005	74,041	5.0%
Average 1960 to 2005		6.6%
Average 2000 to 2005		4.5%

Sources: Alaska Department of Labor and Workforce Development, and United States Bureau of Census

Much of the MSB's economy is based on supporting the resident population. Only about 55 percent of the workers residing in the MSB also work in the MSB. About 34 percent of working MSB residents are employed in Anchorage.

The largest economic sectors include local government, construction, retail trade, health care, and leisure and hospitality. Health care and leisure and hospitality are the fastest growing sectors in the MSB economy. Construction is another industry showing strong growth in the MSB and is a testament to continued growth and development there. With continued housing development, public facilities construction, major commercial development, and road work upcoming within the MSB, that sector will remain strong for years to come. Some of the larger upcoming projects include construction of new schools and renovation of existing ones, a new prison, recreation facilities at Hatcher Pass, visitor facilities at South Denali State Park, and a possible Knik Arm Bridge.

3.2 Forecast of Aviation Activity

Following are two forecasts of aviation activity in the MSB. The first is a forecast of activity at public airports only. The second forecast includes all aviation activity in the MSB, regardless of whether it takes place at public or private landing areas, and was developed independently of the public airports forecast.

3.2.1 Public Airports Forecast

The ten public airports within the MSB are located at Palmer, Wasilla, Talkeetna, Willow, Big Lake, Skwentna, Summit, Goose Bay, Sheet Mountain, and Lake Louise. Scheduled air passenger service is not available at any of the airports in the MSB, but charter service is available at most public airports and several private landing areas (wheel, ski, and floatplane charter service), and Skwentna receives scheduled mail service. In addition, aviation activity at public airports includes firefighting, search and rescue, medical evacuations, military, and private recreational activity.

Existing air traffic forecasts for the public airports in the MSB were consolidated, and the information is presented in Table 13. This consolidated public airport forecast shows a more than doubling of operations in 25 years, and a 250 percent increase in based aircraft. Commercial enplanements and operations are expected to more than triple over the same time period. Growth in private GA operations is expected to double, while military operations are expected to increase only slightly. The fastest growing public airports in the MSB are Willow and Talkeetna, followed by Palmer, Wasilla, and Big Lake.

Table 13: Consolidated Public Airport Forecast

Category	2005	2010	2015	2020	2025	2030
Based Aircraft	593	703	837	1,001	1,210	1,458
Commercial Enplanements	32,490	41,215	52,352	68,068	88,660	112,917
Commercial Operations	30,333	38,532	48,388	60,753	76,785	96,489
Military Operations	832	869	898	932	972	1,018
Local GA Operations	44,768	51,416	59,267	68,453	79,538	92,245
Itinerant GA Operations	58,505	67,370	77,809	90,240	105,761	123,797
Total Operations	134,438	158,187	186,362	220,378	263,056	313,549

Sources: Wasilla (2003), Palmer (2001), and Talkeetna (2001) Airport Master Plans; Talkeetna Airport Improvements EA (2006); Alaska Aviation System Plan (1996); Willow Airport Layout Plan (2003); and FAA's Terminal Area Forecasts (2006).

3.2.2 General Air Traffic Forecast

The following forecasts estimate aviation activity occurring on both public and private landing areas in the MSB and were developed independent of the public airports forecast presented in Table 13. The forecasts include number of aircraft and pilots based in the MSB, number of operations by based aircraft, and number of visiting (itinerant) aircraft and their operations for two scenarios; without and with building the Knik Arm Bridge.

Estimates for growth in air traffic from MSB-based aircraft were developed by finding the ratio of based aircraft and pilots to population and applying that ratio to the population growth in the MSB's Long-Range Transportation Plan (LRTP). Estimates for growth in air traffic from itinerant (visiting) aircraft were developed by using estimates of air taxi and GA aircraft in the Anchorage area, estimating the percent of that traffic traveling to the MSB, and applying the resulting traffic estimates to the population growth in the LRTP.

The forecast of resident pilots and aircraft based in the MSB presented in Table 14 was developed using the LRTP population forecasts for two scenarios; without and with building the Knik Arm Bridge. 2005 base year estimates came from FAA pilot certification data and the MSB property tax assessor office.

Table 14: Forecast of Based Aircraft and Pilots - Without and With the Knik Arm Bridge

Category	2005	2010	2015	2020	2025	2030
Population						
Without Bridge	72,700	92,080	118,990	136,860	161,870	187,530
With Bridge	72,700	96,040	125,560	144,438	173,505	203,755
Pilots						
Without Bridge	1,134	1,436	1,856	2,135	2,525	2,925
With Bridge	1,134	1,498	1,959	2,253	2,707	3,179
Based Aircraft						
Without Bridge	973	1,215	1,571	1,807	2,137	2,475
With Bridge	973	1,268	1,657	1,907	2,290	2,690

Source: Southeast Strategies, 2006.

To estimate the itinerant (non-resident) aviation activity in the MSB for 2005, activity of GA aircraft and air taxis in the adjacent Anchorage Bowl was investigated, and estimates of that activity were borrowed from existing studies. Estimates of local Anchorage traffic traveling to the MSB were obtained from Anchorage area airport management and FAA flight service

personnel. In addition, MSB resident pilots and local businesses estimated that about one-third of all aircraft based in the MSB is equipped with floats during the summer season. Operations per plane were developed from the public airport forecast. The following tables present the forecast of aviation activity in the MSB for two scenarios; without and with a Knik Arm Bridge.

Table 15: Forecast of Air Traffic without Knik Arm Bridge

Category	2005	2010	2015	2020	2025	2030
Aircraft	3,369	4,076	4,987	5,886	7,008	8,292
Based	973	1,215	1,571	1,807	2,137	2,475
On Floats	324	405	524	602	712	825
On Wheels	649	810	1,047	1,204	1,424	1,650
Itinerant	2,396	2,861	3,416	4,079	4,871	5,816
On Floats	759	906	1,082	1,292	1,543	1,842
On Wheels	1,637	1,955	2,334	2,787	3,328	3,974
All Aircraft	3,369	4,076	4,987	5,886	7,008	8,292
On Floats	1,083	1,311	1,605	1,894	2,255	2,667
On Wheels	2,286	2,765	3,381	3,992	4,753	5,624
Operations	249,407	301,863	369,460	435,964	519,036	614,042
Based	73,456	91,760	118,576	136,384	161,307	186,878
On Floats	24,485	30,587	39,525	45,461	53,769	62,293
On Wheels	48,971	61,173	79,051	90,923	107,538	124,585
Itinerant	175,951	210,103	250,884	299,580	357,729	427,164
On Floats	55,725	66,541	79,457	94,879	113,295	135,286
On Wheels	120,226	143,562	171,427	204,701	244,434	291,878
All Operations	249,407	301,863	369,460	435,964	519,036	614,042
On Floats	80,210	97,128	118,982	140,340	167,064	197,578
On Wheels	169,197	204,735	250,478	295,624	351,972	416,464

Source: Southeast Strategies, 2006.
Note: Itinerant aircraft are aircraft based outside of the MSB that travel to the MSB.

The no-bridge forecast (Table 15) reveals that by 2030 all air traffic in the MSB will increase about 146 percent to 8,292 planes and 614,042 operations. Local traffic will increase by 154 percent to 2,475 planes and 186,878 operations, and itinerant traffic will increase by about 142 percent to 5,816 planes and 427,164 operations by 2030. Floatplanes are estimated to make up about 32 percent of all aircraft operating in MSB airspace.

Comparison between the public airports forecast in Table 13 and the air traffic forecast for the no-bridge scenario presented in Table 15 reveals that about 50 percent of the aircraft operations in the MSB will occur on existing public airports by 2030. This forecast does not speculate about additional public airports being developed by 2030, but that is a distinct possibility.

Table 16: Forecast of Air Traffic with Knik Arm Bridge

Category	2005	2010	2015	2020	2025	2030
Aircraft	3,369	4,168	5,169	6,159	7,439	8,923
Based	973	1,268	1,657	1,907	2,290	2,690
On Floats	324	423	552	636	763	897
On Wheels	649	845	1,105	1,271	1,527	1,793
Itinerant	2,396	2,901	3,512	4,252	5,148	6,233
On Floats	759	919	1,112	1,347	1,630	1,974
On Wheels	1,637	1,982	2,400	2,905	3,518	4,259
All Aircraft	3,369	4,168	5,169	6,159	7,439	8,923
On Floats	1,083	1,341	1,665	1,982	2,394	2,871
On Wheels	2,286	2,827	3,505	4,176	5,045	6,052
Operations	249,407	308,738	383,052	456,223	551,004	660,834
Based	73,456	95,706	125,123	143,936	172,902	203,046
On Floats	24,485	31,902	41,708	47,979	57,634	67,682
On Wheels	48,971	63,804	83,416	95,957	115,268	135,364
Itinerant	175,951	213,032	257,929	312,288	378,102	457,787
On Floats	55,725	67,469	81,688	98,904	119,747	144,984
On Wheels	120,226	145,564	176,241	213,384	258,355	312,803
All Operations	249,407	308,738	383,052	456,223	551,004	660,834
On Floats	80,210	99,371	123,396	146,882	177,381	212,666
On Wheels	169,197	209,368	259,657	309,341	373,622	448,167

Source: Southeast Strategies, 2006.
Note: Itinerant aircraft are aircraft based outside of the MSB that travel to the MSB.

The forecast with development of a Knik Arm Bridge (Table 16) shows a higher rate of growth in air traffic by 2030. That forecast reveals similar relationships between local and itinerant traffic, and between wheel and float plane traffic, but with larger increases of planes and operations in MSB airspace overall. This forecast estimates that by 2030 there will be an additional 631 planes using MSB airspace, 215 of which will be based in the MSB over the scenario without a Knik Arm Bridge. An additional 46,792 operations are estimated by 2030 under this forecast, with 16,168 operations by local planes and 30,623 operations by itinerant planes.

Comparison of the forecast in Table 16 (scenario with a Knik Arm bridge) with the public airports forecast in Table 13 reveals that about 47 percent of the aircraft operations in the MSB will occur on existing public airports by 2030. This forecast does not speculate about additional public airports being developed by 2030, but that is a distinct possibility.

3.3 Economic Impact of Aviation in the Matanuska-Susitna Borough

Due to the limited economic data and research resources available to estimate the economic impact of aviation activity in the MSB, it is not possible to fully quantify the potential economic impacts generated from aviation activity. As a result, the very narrowly defined Alaska Department of Labor and Workforce Development industry category of Air Transportation was used to estimate indirect impacts, to show how impacts are multiplied in an economy. The following estimates in no way account for all economic impacts to the MSB from aviation activity.

According to the Alaska Department of Labor and Workforce Development, the industry category of Air Transportation employed 46 full-time equivalent workers in the MSB in 2005. This specific industry category includes only companies whose primary business is transporting passengers and cargo by air, such as Talkeetna Air Taxi. It does not include workers on public airports, such as the Cities of Palmer or Wasilla airport personnel, DOT&PF airport maintenance personnel, or FAA personnel, as they are counted in the government sector. It does not count companies that list their primary industry as flight training, aviation repair, providers of aviation fuel, providers of tours, or other aviation-linked categories. In addition, this calculation does not include air transportation industry employees who might work in the MSB, but their main office is in Anchorage and employees are reported as being in Anchorage. Also, since this employment count is by place of employment, air transportation workers living in the MSB but working elsewhere are not included in this count.

Table 17 shows direct, indirect, and induced impacts of reported 2005 employment in the Air Transportation industry in the MSB. This information came from the Impact Analysis for Planning Model, a community and regional level input/output model initially developed by the United States Forest Service to assist in land and resource management planning. The model uses census area level data about employment, income, and other indicators to determine how direct economic impacts will produce multiplier effects (indirect and induced economic impacts) within an area. This analysis uses 1999 MSB specific data, adjusted for inflation to 2005 dollars. While this analysis represents only a small portion of the impact that aviation activity has on the MSB, it can indicate the expansion of the impact beyond direct employment of personnel.

Table 17: Economic Impacts of 2005 Reported Air Transportation Employment

Impact Category	Direct	Indirect	Induced	Total
Business Income	$3,625,427	$369,805	$1,788,386	$5,783,618
Employment	46	5.1	23.6	74.7
Payroll	$1,526,566	$158,366	$810,826	$2,495,757
Rents and Dividends	$635,398	$69,578	$304,659	$1,009,636
Local Fees and Taxes	$273,654	$15,628	$85,494	$374,776

Source: Southeast Strategies, 2006.

Definitions of Table 17 terms:

- **Direct** impacts are primary impacts in the local area that are a direct result of employment in the air transportation industry in the MSB that would not exist without that activity.
- **Indirect** impacts are secondary impacts created by additional spending in the MSB by businesses earning revenue directly from air transportation businesses reporting employment in the MSB.
- **Induced** impacts are secondary impacts created by additional spending in the MSB by households who earn income (usually as wages and salaries) directly from air transportation businesses reporting employment in the MSB.

The Table 17 impact categories are:

- **Business Income** - Total income to local businesses as a result of activity by air transportation businesses reporting employment in the MSB.
- **Employment** - Total number of jobs created as a result of activity by air transportation businesses reporting employment in the MSB. Jobs are counted as the equivalent of full-time year-round jobs.
- **Payroll** - Total wages and salaries paid to employees and payments received by self-employed individuals as a result of activity by air transportation businesses reporting employment in the MSB.
- **Rents and Dividends** - Total lease and rent payments, royalties, and dividends that are paid by impacted businesses as a result of activity by air transportation businesses reporting employment in the MSB.

- **Local Fees and Taxes** - Total sales, property, and other local taxes paid, as well as local fees and commission paid by impacted businesses as a result of activity by air transportation businesses reporting employment in the MSB.

In addition to the above impact on MSB employment in the narrowly defined Air Transportation industry and similar impacts in aviation-linked industries, economic impacts are received in many other economic sectors in the MSB. Visitors using aviation services may also rent hotel rooms and cars, purchase tours, meals, gifts, and other goods and services. Pilots residing in the MSB, but working outside of the MSB, bring home their paychecks and spend it with MSB businesses. Retired aviation industry employees spend retirement and insurance income in the MSB. Construction and maintenance activities related to airports or airstrips bring economic impacts to the MSB, and many other impacts occur which are not easily quantified. Also, for each of those economic activities, indirect and induced impacts multiply the dollars circulating within the MSB. Although a full evaluation of economic impacts to the MSB of aviation activity is not within the scope of this study, the above brief analysis hints at the large size of that economic impact. Future statewide aviation or regional plans should consider developing a more complete evaluation of economic impacts in the region. The need to communicate the economic impacts of aviation was also discussed at several Technical Committee meetings.

The detailed air traffic forecast for the MSB is in Appendix A.

4.0 ISSUES AND CONCERNS

4.1 Identification of Issues

Aviation in the MSB is multi-faceted and complex and there are many issues that could be addressed in a system plan. To better focus the efforts of this plan and to develop meaningful alternatives, the project team relied on input from the general public, a Technical Advisory Committee (TAC), and several governments and government agencies.

RASP issues were identified through a variety of methods. Initially, airport owners, government officials, aviation businesses, and airport neighbors were contacted by telephone and interviewed. Next, a TAC examined and prioritized issues. The Alaska Airmen's Association and the Aircraft Owners and Pilots Association helped create a survey that was widely publicized and placed on the project website. Project staff visited several community councils, airport board meetings and other aviation functions. Public meetings were held in Palmer, Talkeetna, Wasilla, and Willow. Below is a more detailed summary of the issues identification process and public outreach.

4.1.1 Technical Advisory Committee

The TAC met twice to discuss RASP issues and develop an initial list of ideas to address the issues. In general, the issues relate to compatibility of new airports with existing airports and non-aviation development around them, concerns about the use of airspace and pilot radio communications, the need to develop existing and new public airports and protect existing airports, and the need for more public awareness about the benefits of aviation. There were also concerns about not becoming over-regulated while also encouraging more involvement by the aviation community in addressing issues. The TAC identified relevant issues and suggested some initial ideas on how to address those issues. These are summarized in the table below.

Table 18: Summary of Technical Advisory Committee Issues/Preliminary Ideas

Issues	Preliminary Ideas
• Floatplane access to lakes needs to be protected.	• None identified
• Existing and new private airstrips and airparks need to be protected.	• "Grandfather" in existing airports. Consider removing grandfather rights when the property is sold.
• New airports are built without proper consideration of airport layout standards, land uses and potential airspace conflicts with other airports.	• Establish MSB standards for development of new airports on/near the road system. • Require FAA registration of airports on/near the road system. • Establish a notification/coordination process for review of new airport proposals. • Provide airport templates and educate private airstrip owners about FAA airport design standards and setbacks.
• Floatplane noise at busier lakes bothers residents.	• Develop standards and a process to review/approve new commercial floatplane bases on MSB lakes.
• Development around airports occurs without proper consideration of compatibility with surrounding airports.	• Inform the public and real estate and builders groups about the location of airports. • Disclose the proximity to airports and floatplane use of lakes to purchasers of property on plat notes and real estate disclosure statements. • Develop standards for setbacks and land uses around airports.
• Towers are not well-lighted and are scattered around the MSB.	• Require lighting and clustering of towers in centralized locations.
• Public facilities and utilities are sited without proper consideration of the location of airports.	• Develop standards for location of public facilities and utilities near airports.
• Safety concerns of pilot training near population centers and high traffic corridors.	• Designate practice areas away from population centers and high traffic areas.
• Safety concerns of mixing ultralights, sport aircraft, and gliders with faster moving aircraft.	• Designate an airport for these uses. • Chart existing glider and ultralight use areas.
• Inadequate pilot radio communication.	• Encourage use of radios. • Establish reporting points. • Redesignate Common Traffic Advisory Frequencies (CTAFs).
• DNR and DOT&PF do not consistently apply standards throughout the state. DNR does not understand aviation.	• None identified
• Future need to provide new public or private airstrips as the MSB and Anchorage grow and improve existing public airports.	• Consider needs for new airports caused by growth in the MSB and Anchorage and by major new developments such as the Knik Arm Crossing, Denali Park visitor center, and the new prison.
• Future need to provide new public floatplane facility with facilities and services as the MSB grows.	• Look for sites that are less likely to be attractive for residential development and swimming/boating.
• Avoid too much government control of aviation in the MSB.	• More active involvement by the aviation community in self-policing. • Establish an on-going MSB Aviation Advisory Commission.
• The public does not appreciate the positive economic impact of aviation.	• Commission an economic impact study.

4.1.2 Public Survey

A survey was created and made available to all interested parties from September 2006 through April 2007. The survey asked for input on the following areas:

- Safety of flight in the MSB
- Important aviation issues in the MSB and how to address these issues
- Land use compatibility
- Growth of aviation in the MSB over the next 20 years

The survey contained several open-ended questions (asking the respondent to write in answers), as well as questions asking the survey respondent to rank certain issues based on their importance (as shown in the following tables). Project staff received 92 responses to the survey.

4.1.2.1 Survey Demographic Overview

The following is a summary of some demographical and statistical information from the survey. It should be noted this was not a random survey, but consisted of voluntary information from interested individuals. Most of the responses were from individuals involved in and supportive of aviation.

- Survey responses: 92
- Pilot responses: 79 percent
  - Wheel planes conduct an average of 145 landings per year
  - Ski planes conduct an average of 107 landings per year
  - Float planes conduct an average of 85 landings per year
- Primarily fly for recreation: 72 percent

4.1.2.2 Survey Multiple Choice Responses

The following tables show the responses to the survey multiple choice questions that asked about encouraging safety of flight and promoting compatibility of development. The responses are listed with those showing the highest number of agree/strongly agree first. More detailed graphics of the responses can be found in Appendix C.

Table 19: Survey Results - Safety of Flight

Survey Question: How should the FAA and MSB encourage safety of flight in the MSB?			
Response Choices:	**Agree/ Strongly Agree**	**Disagree/ Strongly Disagree**	**Undecided/ No Opinion**
Restrict heights and development around public airports.	88%	6%	6%
Require radio communication in high traffic areas.	70%	21%	15%
Consolidate antenna farms in the MSB.	68%	14%	18%
Reassign radio frequencies in the MSB and publish maps.	68%	16%	16%
Restrict heights and development around private runways/airstrips.	67%	16%	17%
Require FAA airspace reviews of new airports to avoid overlapping airspace.	56%	16%	18%
More instrument approaches.	45%	29%	26%
The current system is safe and no improvements are needed.	39%	49%	12%

Table 20: Survey Results - Thoughts on Issues

Survey Question: What are your thoughts on the following issues?			
Response Choices:	**Agree/ Strongly Agree**	**Disagree/ Strongly Disagree**	**Undecided/ No Opinion**
Protection of PUBLIC airports from encroaching development is a major concern.	87%	8%	5%
Floatplane access to lakes in the MSB is a concern.	70%	14%	6%
Protection of PRIVATE airports from encroaching development is a major concern.	65%	19%	16%
Special facilities should be established for float operations.	47%	30%	23%
Special facilities should be established for ultralight aircraft.	29%	37%	34%
Floatplane operations should be restricted in noise sensitive areas.	29%	59%	12%
Aircraft noise is a problem in residential areas near airports.	26%	61%	13%
Conflicts between floatplanes and non-pilot land owners are a problem.	26%	33%	41%

Table 21: Survey Results - Incompatible Development

Survey Question: How should the MSB and others protect airports from incompatible development?			
Response Choices:	**Agree/ Strongly Agree**	**Disagree/ Strongly Disagree**	**Undecided/ No Opinion**
Notify landowners of the proximity to an airport prior to purchasing property.	90%	4%	6%
Prevent construction of public infrastructure (overhead utilities, school, and roads) that conflict with airport operations.	90%	5%	5%
Identify development setbacks from runways.	82%	11%	7%
Require private airstrips to be identified during the platting process.	81%	16%	3%
Require a conditional use/land use permit for private airstrip construction.	50%	42%	8%
The current system is working well and no changes are needed.	23%	51%	26%

4.1.2.3 Preference for Public or Private Airport

Respondents were almost evenly split over preferences for choosing to locate their aircraft at a public or private airport. Survey respondents provided a variety of reasons for choosing to base their aircraft at either a public or private airport. Their responses are summarized as follows:

Public Airports

- Security
- Maintenance
- Snow removal
- Better facilities
- Services
- Safer because they are built to higher/better standards
- Weather reporting and FSS
- Accessibility for clients of airport businesses
- Space is available
- Makes general aviation accessible to the general public - this is needed if GA is to grow

Private Airports

- Avoid state regulations for leasing land and operating at a state airport
- Difficulty in getting land for a hangar at state airports
- Convenience of living next to plane allows for more frequent flying
- Less traffic
- Security, maintenance, and protect airplane in storms
- Hangars cheaper and easier to build and use at private airport
- Less wind
- Cheaper fuel
- Fewer costs
- No tie-down fees
- Ability to own the land where plane is kept

4.1.3 Public Meetings

The first public meeting was held in fall 2006. The meeting was held twice (in Talkeetna and again in Wasilla) in an effort to reach as many members of the public as possible. The primary purpose of the initial public meeting was to explain the purpose and scope of the RASP and to get feedback on issues and ideas.

The second public meeting was held in spring 2007. The meeting was held twice, once in Willow and again in Palmer. The purpose of the second public meeting was to provide an update on RASP findings to-date, as well as discuss potential alternatives and recommended improvements. All the public meetings were well attended and generated many helpful comments and suggestions. Copies of the public meeting minutes are included in Appendix C.

The third public meeting was held in fall 2007. The meeting was held in Sunshine (near Talkeetna) and Wasilla. The purpose of the third meeting was to present and receive comments on the draft RASP and Location Study reports. Over 100 people attended the meetings. Over 120 written comments were submitted following the meeting. Copies of the public meeting minutes and all written comments on the draft reports are included in Appendix C.

4.1.4 Policy Issues

Based on the issues identified by the public, project staff identified several policy issues that will likely require decisions by MSB staff and elected officials. Some of the policy questions were answered during the latter part of this project; other issues will require decisions in the future. The policy issues are outlined below.

MSB Management of Airports and Adjacent Land Uses. Does the MSB want to take a more active role in managing development of airports and land uses around them? If so, should this MSB role extend to all airports or only those on the road system? Examples of an increased MSB role could include:

- Implementing minimum development standards on and/or around airports - heights, safety zones, buffers etc. (advisory or mandatory).
- Mandatory notification of proximity to an airport on plats or real estate disclosure statements.
- Requiring FAA registration as a precondition to MSB airport approval.
- Consolidating antenna farms.
- Restricting basing of commercial floatplane operations to certain lakes.
- Considering proximity to airports when selecting sites for certain public facilities.
- Providing public transient mooring spaces on selected floatplane lakes on the road system to facilitate seaplane access.

Commercial Service Airport. Does the MSB want to preserve the flexibility for long range development of one or more new commercial service airport (scheduled air service, larger aircraft, longer runways, precision instrument approach), even if:

- The future need is uncertain.
- A large amount of land will need to be reserved/acquired.
- Use of adjacent lands would need to be restricted.
- Airspace around the site would need to be protected from tall structures and private strips.

Precision Instrument Approaches to Support Economic Development. Does the MSB want to encourage the development of a future precision instrument approach to an existing or new airport, as a means of supporting economic development, if it means restricting airspace and land uses around that airport?

MSB Ownership/Management of Airports. Does the MSB want to consider becoming an airport owner/operator for new or existing public airports? Some possible reasons to consider MSB ownership include:

- DOT&PF allocates capital project funding to state operated airports on a statewide basis, giving priority to capital projects for airports without road access. This practice limits the development of airports on the highway system like Talkeetna, Willow, Big Lake, Goose Bay, Sheep Mountain, and Lake Louise. Under MSB ownership, local priorities could be applied to the allocation of capital improvement funding for these airports and the total funding available for capital improvements at these airports may increase. For example, since 1996 the city-operated airports at Palmer and Wasilla each spent over $7 million in federal funds while the state airports at Big Lake, Talkeetna, and Willow each spent $0, $3 million, and $0.7 million, respectively.
- MSB would have the ability to take a direct, more proactive approach to fostering economic development at airports.
- MSB may be better able to manage land use issues on and off airports.

Ongoing Advocacy/Implementation by MSB and Aviation Users. Does the MSB want to provide a forum for continuing aviation user input on implementation of the RASP and other ongoing aviation issues? This could be accomplished through creation of an Aviation Advisory Board (AAB), and/or adding aviation expertise to an existing board/commission (platting or planning commission), and/or defining MSB staff with expertise and responsibility for aviation.

4.2 Prioritization of Issues

The project team tabulated and grouped the various issues into fifteen categories and asked the TAC to prioritize these categories at their second meeting. Each attendee at the meeting was given several votes and asked to vote only for the highest priority issues. Issues with a larger number of votes were classified as “higher priority” and issues with a smaller number of votes

were classified as "lower priority." The categories prioritized at this meeting were as follows (number of TAC votes in parentheses):

4.2.1 Higher Priority Issues

- New private airports are built without proper consideration of airport layout standards, land uses and potential airspace conflicts with other airports. (11)
- Inadequate pilot communication (i.e. radio, radar, and air traffic control). (11)
- Public facilities and utilities are sited without proper consideration of the location of airports. (10)
- Future need to provide new public floatplane facility with facilities and services. (9)
- The non-flying public does not appreciate the positive impact of aviation. (9)
- Existing and new private airstrips and airparks need to be protected (both facility and airspace). (9)
- Future need to improve existing public airports. Also, future need to provide new public airports or private airstrips as the MSB and Anchorage grow. (9)
- Non-aviation development around airports occurs without proper consideration of compatibility with the airports. (8)
- Floatplane access to lakes needs to be protected. (8)

4.2.2 Lower Priority Issues

- Towers are not well-lighted and are scattered around the MSB. (5)
- Floatplane noise at busier lakes bothers residents. (5)
- Avoid too much government control of aviation in the MSB. (3)
- DNR land managers and DOT&PF do not consistently apply standards throughout the state. DNR does not understand aviation. (3)
- Safety concerns of pilot training near population centers and high traffic corridors. (3)
- Safety concerns of mixing ultralights, sport aircraft, and gliders with faster moving aircraft. (2)

4.2.3 Grouping of Issues

After further evaluation of the high-priority issues identified by the TAC, the project team determined that these issues basically fell into several broad categories. These categories are:

- Involvement of the aviation community in government
- Airspace
- Communications
- Airport compatibility
- Public airport improvements
- Need for new public airports

The first five broad categories were carried forward for the remainder of the project with each category having several related sub-issues as described below. The last category was addressed in a separate Location Study Report.

4.3 Description of Priority Issues

4.3.1 Involvement of the Aviation Community

During discussions about aviation with the various stakeholders, a common theme emerged regarding the impact of non-aviation activities on aviation. Many people felt that the aviation community should have a stronger voice in local government actions that affect them. Involvement by the aviation community was ranked as a high priority by the TAC.

The TAC and the aviation public also expressed strong sentiments that MSB involvement in aviation should be limited to only the most essential issues. Not all agreed what level of involvement was "essential." The TAC felt that one way to minimize government intrusion into aviation was to have the aviation community be more proactive in dealing with the various aviation issues in the MSB. Voluntary government programs with low impact were preferred over mandatory programs with a much higher impact. The project team was asked to look for ways that the aviation community could be more proactive and organized in the MSB.

4.3.2 Airspace

In discussions with MSB pilots and in the responses to the public survey, airspace conflicts were one of the most frequently mentioned items. The most common concern was that airports are often too close together and with conflicting runway alignments.

Airport owners are required by 14 CFR Part 157 to obtain an FAA airspace determination prior to constructing an airport. An airspace determination is a brief FAA evaluation of the safety of the airspace around the airport.

The FAA also requires that airports be registered, which means that each airport owner formally notifies the FAA when an airport will be built or has been built. Registration involves providing a limited amount of data about the airport so that the FAA can protect the airport from airspace conflicts.

Although an airspace determination and registration are required by the FAA, many airport developers in the MSB have not requested an airspace determination by FAA prior to construction. Many airport owners indicated that they did not understand that an airspace determination and registration are required. Airport owners also did not understand why these steps are important or how to go about registering an airport. Because of this, the project team prepared a Frequently Asked Questions handout about airspace determinations and airport registration (Appendix D).

Some owners of unregistered airports eventually do request an airspace determination and registration, but the spacing and alignment problems prevent the FAA from assigning standard traffic pattern boxes for each airport. As a result, many traffic pattern boxes overlap, have unusual shapes, or conflict with nearby airports. In some cases, private airports are built too close to public airports, creating possible conflicts and potentially limiting the growth of these busier public facilities.

The continuing construction of new airports in the MSB has the potential to exacerbate these problems. A complicating factor is that many older airports in the MSB are still unregistered and are therefore unknown to FAA. The following figure illustrates this problem. While this figure shows some of the highest concentrations of airports, even airport owners in remote areas off the

road system, such as in popular recreation areas, report airspace conflicts between airports built too close to each other.



Figure 10: Area of Congested Private Airports

Another concern is the busy mix of aircraft taking off and landing in and transiting through the MSB and particularly through popular flightseeing areas. Some pilots asked for more formal or informal ways to segregate aircraft such as by defining flight corridors or providing better information on high traffic areas.

Another airspace issue is the potential conflict between general aviation aircraft and military aircraft that use training routes in the MSB. Several pilots report near misses with military aircraft in recent years. Part of this concern is related to a lack of published data on types and locations of training routes used by the military. Pilots asked for publication of better information and better coordination regarding military training activity in the MSB. Figure 9 in the inventory section of this report shows the various training routes currently being used by the military in the MSB.

4.3.3 Communications

Another leading concern was aviation communication, more specifically aircraft radio communications and air traffic control issues in the MSB. Pilots noted that not all airplanes have radios so some planes have no means of communicating. They also complained about not

knowing what frequencies were assigned to other private airports in the area and about the lack of ATC service in certain portions of the MSB.

In fact, the FAA has been assigning frequencies to private airports based on location for quite some time. This pattern and the associated frequencies were not being widely communicated to pilots. Also, because this pattern was not in place when some of the frequencies were first assigned, there are still a few airports that have an assigned frequency that does not match the pattern. Pilots requested that these frequencies be corrected and that information on assigned frequencies be made more readily available to pilots.

Several comments were received about the lack of air traffic control services in the eastern portion of the MSB near Palmer. Pilots in the western portion of the MSB can access Anchorage Approach Control for traffic advisories, but this service is generally terminated as pilots fly east and approach Palmer. FAA staff speculate that this is because of a lack of radar coverage in the Palmer area due to a line-of-sight problem between this area and the Anchorage radar. There are also areas in the north/central part of the MSB where radio service is spotty. This is due to a lack of Remote Communications Outlets (RCOs) in the area that would allow pilots to reach ATC on the radio. Pilots requested that FAA consider expanding both the RCO and radar coverage of the MSB to alleviate both of these problems.

4.3.4 Airport Compatibility

While airports are often recognized as important for regional transportation and for their benefits to the local economy, airport neighbors often consider them a "Not in My Back Yard" type of land use. Citizens who do not own an aircraft may desire the convenience of a public airport within close driving distance, but often do not want it next door, in their "backyard." Citizens that do own an aircraft may desire that the airport be as close as possible to their home. The desires of the aviation community can often be in sharp contrast to the non-aviation community. Reasons for this conflict can include aircraft accidents, noise, light pollution, aviation related development, vehicle traffic, and sometimes air quality. While airport noise is usually the primary concern, other concerns may also be significant at busier airports.

4.3.4.1 Accident Locations

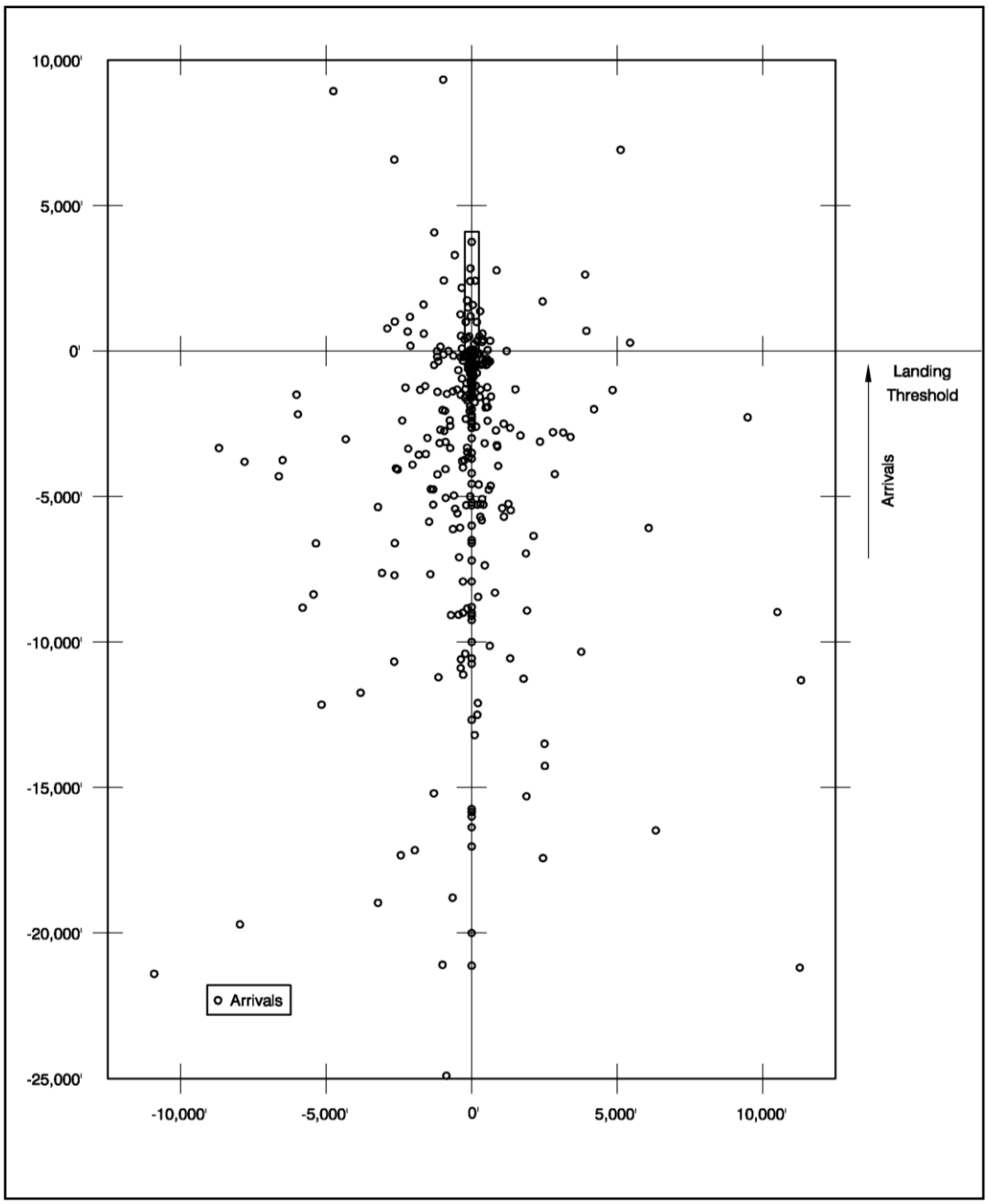
One of the most important issues is to avoid incompatible land use in the areas near an airport that are most likely to experience an aircraft accident. Although there is very little data available on the exact location of aircraft accidents near airports, a few studies do exist. One of the best was conducted as part of the 2002 edition of the *California Airport Land Use Planning Handbook.* This study includes a National Transportation Safety Board database of general aviation accidents at general aviation airports. The database used for the *Handbook*:

- Encompasses all 50 states (although several have no accidents represented);
- Covers a time period from 1983 into 1992;
- Contains data only on accidents, not incidents;
- Contains a total of 873 aircraft accident records (445 arrivals and 428 departures); and
- Includes all types of general aviation airplanes, but not airline aircraft, helicopters, or other aircraft types (ultralights, blimps, etc.), or military aircraft.

Based on this database, arrival and departure accidents were plotted relative to the end of a standard runway. The resulting accident location figures are shown below.

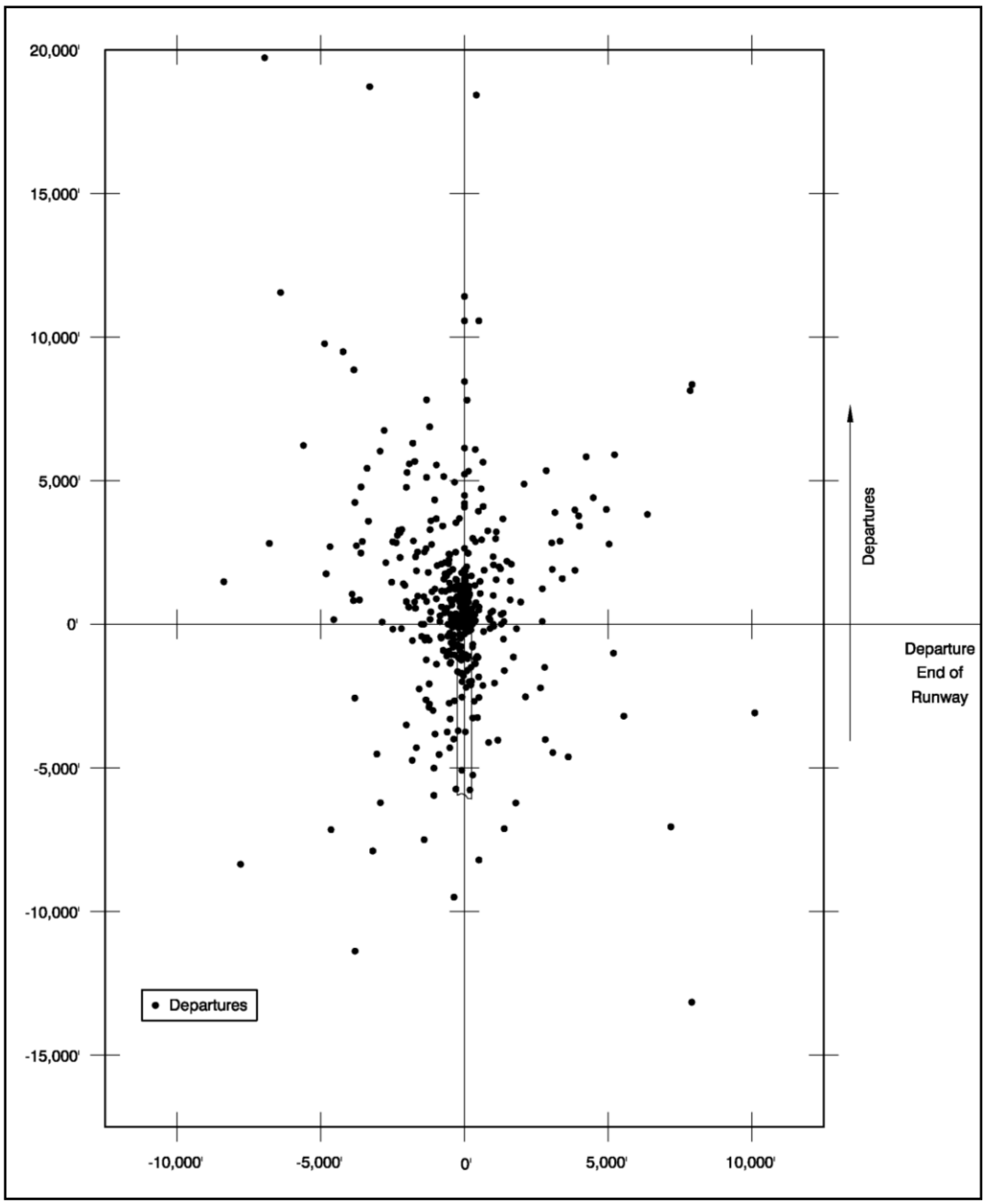
As shown in these figures, the most likely location for an accident is near the ends of a runway. These areas are typically protected by clear zones (called Runway Protection Zones by the FAA) and compatible land use is normally enforced by the local land use authority for these area at the ends of a publicly-owned runway. FAA also requires that these areas be protected as a condition of receiving FAA grant money for airport improvements.

The need for protection of these areas is a long-standing item that dates back to the 1952 report of the President's Airport Commission chaired by retired General James Doolittle. This report, titled *The Airport and Its Neighbors*, suggested the creation of clear zones at the ends of the runway to promote compatible land use between airports and the surrounding communities.



Source: California Land Use Planning Handbook, January 2002, Figure 8-E

Figure 11: Arrival Accidents



Source: California Land Use Planning Handbook, January 2002, Figure 8G

Figure 12: Departure Accidents

Much of the following discussion focuses on publicly-owned airports that accept FAA funding. Several of the publicly-owned airports in the MSB have accepted FAA funding and must follow FAA policy. Although no similar policy exists in the MSB for private airports, many of the same issues apply on a smaller scale.

4.3.4.2 Federal Aviation Administration Requirements for Public Airports

Upon acceptance of an FAA grant, an airport owner accepts the obligation to operate and maintain the airport to certain standards defined in airport grant assurances. Grant assurance number 21 (Appendix E), which addresses compatible land use, requires the airport owner to take appropriate action, including the adoption of zoning laws to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including the landing and take-off of aircraft.

The first step in determining land use compatibility measures for a typical publicly-owned airport involves development of an airport master plan and/or airport layout plan. These plans typically identify how the airport will be developed, safety zones and noise zones around the airport, airspace protection requirements, and land uses and land use controls (such as zoning) that exist around the airport. From this information an assessment can be made whether the existing and planned development of the airport is and will continue to be compatible with surrounding land uses.

Incompatible land uses around an airport can affect the safety of airport operations. Examples include wetlands and landfills that may attract wildlife and waterfowl, towers, antennas or other structures that may be hazards to flying aircraft or interfere with radio communications and/or navigational aids, and lights which may affect a pilot's ability to navigate the aircraft.

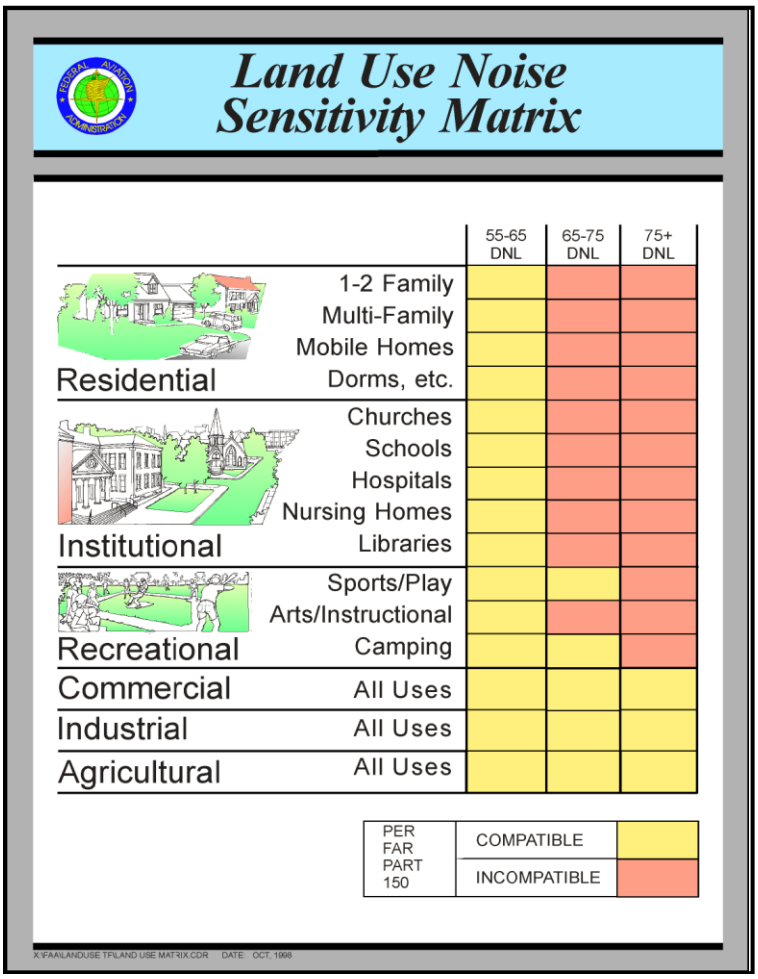
The airport master plan and airport layout plans for public airports should identify any existing or future land use compatibility issues. Airport master plans and airport layout plans should be considered in the development of a comprehensive plan for the surrounding community or region. The comprehensive planning process should consider airport land use compatibility issues and other master plan recommendations.

4.3.4.3 Noise-Sensitive Land Uses

Areas immediately adjacent to an airport or off the approach and departure ends of a runway have the highest noise levels. The FAA has developed measurement tools used to determine if noise levels are significant enough to warrant land use compatibility actions or other measures. Using these tools, noise contours are developed on and around busier public airports to show where the highest noise levels are found and what properties are affected. In some cases, noise

mitigation is required. These contours are generally expressed in terms of DNL which is a weighted average noise level.

Some land uses are less sensitive and more suitable for high noise levels than others. These uses, which include agricultural, industrial, and commercial uses should generally be encouraged near airports as long as they generally do not create safety hazards or conflict in other ways with airport operations and development plans. Certain kinds of recreation and open space uses can also be compatible with an airport. Uses such as residential and institutional are more noise sensitive and should be discouraged near an airport. The figure below summarizes FAA's findings about noise sensitive land uses.



Source: Land Use Compatibility and Airports; FAA Southeast Region

Figure 13: Land Use Noise Sensitivity Matrix

4.3.4.4 Public Airport Compatibility in the Matanuska-Susitna Borough

Although public airports that receive FAA funding are required to pursue compatible land use for the property surrounding the airport, this is sometimes not done. Reasons that compatible land use may not be implemented include multiple government entities with overlapping authority for the airport and surrounding areas, inadequate funding, lack of land use rules that adequately address the issues, public opposition, and preexisting conditions that may be difficult to change.

The two municipally owned airports in the MSB, Palmer and Wasilla, are both subject to municipal zoning within their respective city limits. Both cities are working to ensure compatible land use where possible, but achieving an optimum land use situation may be difficult because, in some cases, incompatible land uses predated the current zoning.

Several of the publicly-owned airports in the MSB have never received FAA funding and are therefore not subject to the FAA grant assurances. These airports have been funded solely by the DOT&PF which has not made land use compatibility around airports a priority in the past.

For all of these reasons, most of the larger publicly-owned airports in the MSB have some incompatible land uses nearby. The following table briefly summarizes these issues.

Table 22: Compatibility Issues at Publicly-owned Airports

Airport	Airport Compatibility Issues
Big Lake	- Recreational and residential development north and west of the airport - Aircraft occasionally towed across road
Goose Bay	None known
Palmer	- Residential and commercial development on three sides of the airport - Some noise complaints
Lake Louise	None known
Sheep Mountain	None known
Skwentna	None known
Summit	None known
Talkeetna	- Residential and commercial development around airport. - Frequent noise complaints - Inadequate space for growth of city and airport
Wasilla	- Existing and planned residential development north and west of airport
Willow	- Frequent noise complaints (mostly from lake operations) - Aircraft occasionally taxied or towed across Parks Highway

Source: DOWL Engineers

4.3.4.5 Private Airport Compatibility in the Matanuska-Susitna Borough

The policies and accident data discussed above were derived from publicly-owned airports which are somewhat different from the private strips in the MSB. The main difference between publicly-owned airports and the private strips in the MSB is that many, but not all, of the private airports have comparatively few aircraft operations. Also, the most likely types of aircraft operating from the private airports are small general aviation aircraft.

The most challenging aspect of the private airports is that many are located in developed areas and are surrounded by residential or commercial areas. Many runways were constructed to provide convenient access to their owners with little consideration given to surrounding land uses. The main factor in their dimensions and location is the land available to the airport owner for development. Because of this, other factors such as prevailing winds, airspace, obstacles and setbacks, and compatible land use are often neglected.

As development in the MSB has increased, conflict has slowly arisen between certain airports and the surrounding community. Owners of private airports almost never acquire airspace rights over surrounding property (avigation easements) and lack any means to control the height of structures on surrounding land. Other airports have faced frequent noise complaints from adjacent neighbors. Some private airports have closed and others have had to restrict their activities because of incompatible off-airport development.

The following aerial photographs illustrate several examples of incompatible development at the ends of private airports in the MSB. There are dozens more airports with similar conflicts, but this small sample is included here to illustrate the problem.

The first photograph shows commercial development at both ends of the east-west runway (this runway has been closed due to the incompatible commercial development) and residential and commercial development at the south end of the north-south runway. The next photograph shows residential development at the end of a very busy private runway. The homes across the road from the end of the runway are not associated with the runway or its residential airpark.

The third photograph shows residential development at the end of a private airstrip. These homes are not associated with the airstrip. The fourth photograph shows a busy public road and

commercial development at the south end of a private runway. This roadway and the commercial development present the risk of tall objects being present in the approach to the runway.

The fifth photograph shows an industrial gravel pit at the end of a private runway. The industrial area currently presents a potential hazard for dust and tall objects, but there is the potential for development of a residential subdivision with a runway on the industrial land. Depending on the layout, the subdivision and runway could be incompatible with the existing runway; the owners of the existing runway do not control development of the adjacent industrial property.

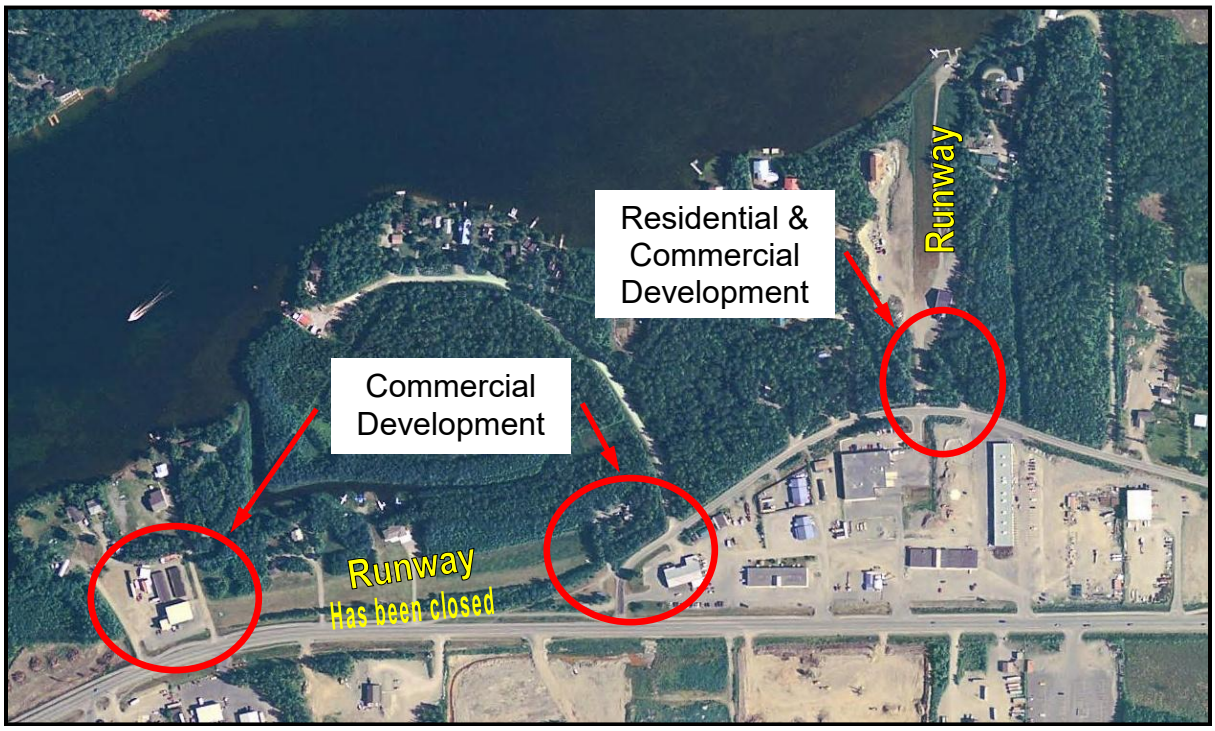


Figure 14: Private Airport Conflicts - Example No. 1



Figure 15: Private Airport Conflict - Example No. 2

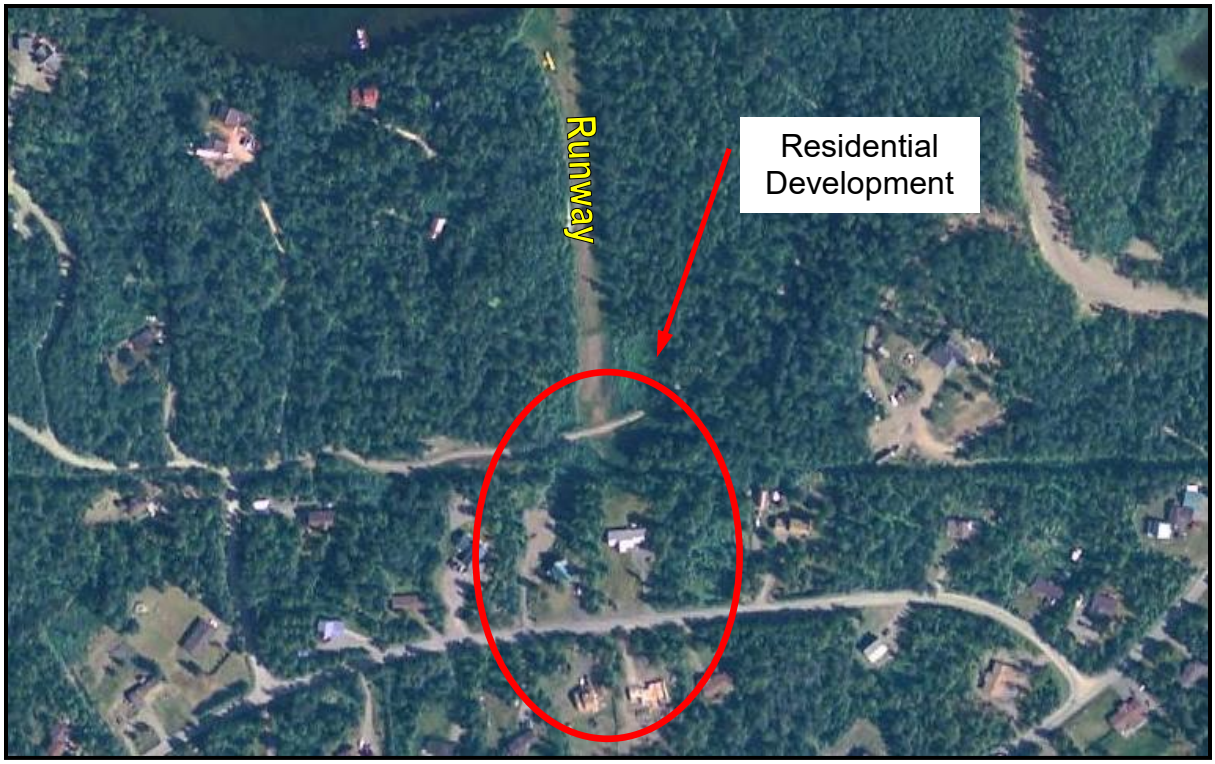


Figure 16: Private Airport Conflict - Example No. 3



Figure 17: Private Airport Conflict - Example No. 4

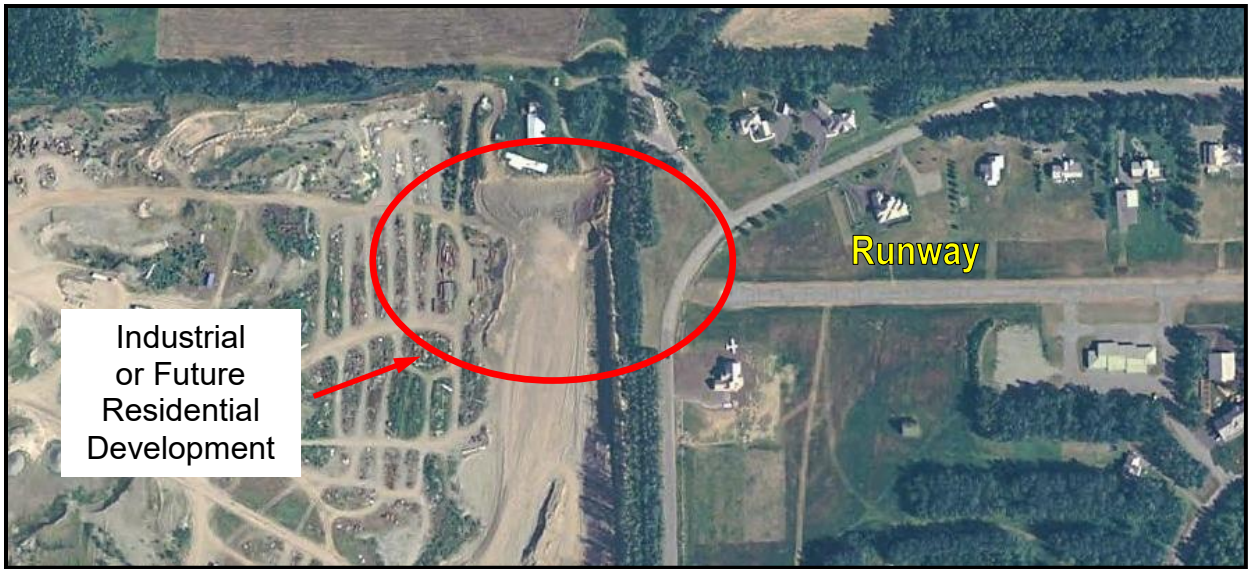


Figure 18: Private Airport Conflict - Example No. 5

There is some agreement within the aviation community in the MSB that these sorts of conflicts should somehow be addressed. However, there are a wide variety of ideas of how this should be done and which airports should be included.

4.3.5 Public Airport Improvements

The TAC and public expressed the need for ongoing upgrades and development of public airports. While some expressed a preference for basing their aircraft at private strips, most supported a strong system of public airports with a wider range of services and facilities than can be found at most private airports. Specific improvements were recommended in the project survey and at public meetings. A related issue is that DOT&PF does not give high priority to improvements to airports on the road system. Consequently needed projects at Big Lake, Goose Bay, Lake Louise, Sheep Mountain, Summit, Talkeetna and Willow airports may be deferred until higher priority projects are completed at other DOT&PF airports off the road system.

5.0 ALTERNATIVES, RECOMMENDATIONS AND IMPLEMENTATION

Using the ideas generated by the survey, public meetings, and TAC meetings, the project team created a list of alternatives. The initial list was far-reaching and contained a wide variety of ideas. Following discussions with the MSB, DOT&PF, and the FAA, this list was narrowed slightly to only include alternatives that were generally feasible to implement.

At the third and fourth TAC meetings, the committee was asked to prioritize and modify the various alternatives. The committee generally reached consensus on the priorities of the airspace and communications issues, but had a more difficult time achieving consensus on the airport compatibility issues. The TAC suggested that some alternatives might prove useful in the long term, but would not be needed in the immediate future.

At the second set of public meetings (Willow and Palmer), the refined and prioritized alternatives were presented to the public as a series of preliminary recommendations, but with requests for additional feedback and comments. At the third set of public meetings in Sunshine and Wasilla, the project recommendations were presented and subsequently over 120 written comments were received. The outcome of these meetings can be found in Appendix C.

5.1 Involvement of the Aviation Community

5.1.1 Involvement of the Aviation Community - Alternatives

There are a variety of ways that aviation user involvement in aviation issues in the MSB could be improved. These range from private organizations to official government committees. The following ideas have all been mentioned at some point in this project.

Table 23: Aviation Community Involvement Alternatives

Alternative	Description
Involve Aviation Community	- Encourage more pilot involvement in aviation issues in the MSB. - Encourage more aviation organization involvement in aviation issues in the MSB. - Restructure existing MSB Transportation Advisory Board (TAB) and Planning Commission to include aviation interests. - Continue the RASP TAC while the RASP and Location Study are being implemented. - Form a MSB Aviation Advisory Board.

Individual Pilots - As part of the education and awareness portion of this project, individual pilots could be encouraged to promote aviation issues within various local governments. This effort would likely be somewhat scattered and unorganized, but could help advance aviation issues somewhat.

Private Aviation Organizations - Private aviation organizations such as the Aircraft Owners and Pilots Association (AOPA) and the Alaska Airmen's Association could take the lead for monitoring local government issues and organizing individuals to respond to key governmental actions. These organizations already do this to some degree, but it may be possible to increase their presence in the MSB. They also may encourage formation of local airport support groups to be proactive in dealing with airport issues at the individual airport level.

Emphasize Aviation within TAB and Planning Commission - The MSB already has a TAB and Planning Commission, but these groups have not traditionally emphasized aviation and have not had many pilots as members. It may be possible to modify the structure and responsibilities of the TAB and the Planning Commission to better represent aviation within the MSB. One example would be to create an aviation subcommittee of the TAB.

Continue RASP TAC - The existing RASP TAC could be continued for an indefinite time until the primary recommendations of the RASP and Location Study have been implemented.

Create an Aviation Advisory Board - This would be a new advisory committee to the MSB similar to the TAB. The AAB would focus exclusively on aviation issues within the MSB. This group would also meet with the management of publicly owned airports within the MSB on a regular basis. The composition of the AAB would likely be similar to the TAC that was created for this project. The members would represent a range of aviation and non-aviation interests and geographic locations within the MSB. While the intent originally was to form an ongoing AAB, some have also suggested the AAB could be disbanded after it has helped implement the primary recommendations of the RASP.

5.1.2 Involvement of the Aviation Community - Recommendations/Implementation

AAB - An AAB should be established to assist with implementation of RASP recommendations and address ongoing aviation issues in the MSB. If the Location Study results in the

development of new airports, the AAB would also advise on the detailed planning and construction of the new airports. The AAB would be created by the MSB, but would advise all public airport owners, the FAA, the military, other entities such as the MSB Planning Commission, Platting Board, planning groups involved with Lake Management Plans or Special Land Use District's (SPUDs) and other groups that address aviation issues.

The composition of the AAB would include a good mix of aviation and non-aviation interests, including representatives from airport businesses, private pilots, public and private airport owners, community leaders, business leaders, airport neighbors, and others. Government representatives such as public airport owners, the military, and FAA could be regular members or could participate on an ad-hoc basis as issues arise that affect them.

Table 24: Aviation Community Involvement Recommendations/Implementation

Aviation Community Involvement Recommendations	Implementation Actions	Responsibility	Implementation Issues
Establish MSB AAB to assist with implementation of the RASP and Location Study and ongoing input on aviation issues in the MSB.	Amend MSB Title 15	MSB	Sunset clause effective in 5 years.

The AAB would be created through an ordinance of the MSB. The AAB should continue for at least five years, until the primary recommendations of the RASP and Location Study are implemented. After five years the MSB and aviation community could determine if the AAB is still needed or if other options can better address how to continue to involve the aviation community.

5.2 Airspace

5.2.1 Airspace - Alternatives

Each of the airspace alternatives is shown in the following table. The priority for each alternative was based on comments from the TAC.

Table 25: Airspace Alternatives

Alternative	Description
Higher Priority	
Airport Registration	- Require airspace determination and registration with FAA for existing and new airports, commercial floatplane bases, helipads and heliports*
Encourage Lights-on Operation	- Encourage lights-on aircraft operations though an education program for pilots and instructors
Review Low-Level Military Operations	- Meet with military liaison to FAA to seek ways to minimize conflicts - Education program for pilots and instructors
Support Capstone in MSB	- Advocate implementation with FAA and elected representatives
Lower Priority	
Advisory Routes/ Corridors	- Publish in official publication such as sectional/ supplement when traffic warrants
Alternatives Dismissed	
Airport Registration	- Separate MSB registration.

* Already required by 14 CFR 157, but not aggressively enforced by FAA

Airport Registration - This alternative requires an FAA airspace determination and registration for all existing and new airports, commercial floatplane bases, helipads and heliports in the MSB. Airspace determinations will help minimize airspace conflicts between existing airports and registration will ensure the airport is in properly located and mapped. While this is already required by the FAA, MSB support for airspace determinations and registration will help ensure airport owners are aware of the requirement and comply with it. A separate MSB registration of airports was not recommended because it would be redundant, add an unnecessary level of government review, and because the MSB does not have airspace expertise on staff.

Encourage Lights-on Operation - This alternative is intended to increase safety in congested areas by making aircraft more visible to other aircraft through continuous use of landing lights. This is already recognized by many pilots as a good idea, but is not widely implemented. Increased use of landing lights would undoubtedly increase the visibility of aircraft, but would cause aircraft landing lights to burn out faster. Aircraft operation in the air is an area of Federal jurisdiction and any MSB effort to increase the use of landing lights would need to be advisory in nature. This kind of information could easily be added to a pilot education program.

Review Low-Level Military Operations - This alternative would seek to increase pilot awareness of existing training routes in the MSB and to decrease potential conflicts. This effort would likely include ongoing coordination between local military bases, DOT&PF, FAA, and local

pilots groups. Depending on the outcomes of these meetings, additional pilot education may be necessary and military procedures may need to be modified.

Support Capstone in the MSB - This alternative would seek to promote ATC services in the MSB that are similar to those provided by the FAA's Capstone office to western and southeast Alaska. Although the functions of the Capstone Program office are being dispersed throughout the FAA and will be implemented nationwide under Ground Based Transmitters/Automatic Dependent Surveillance-Broadcast (GBT/ADS-B), the MSB would appear to be a high priority area for these services. The MSB and local pilots groups should continue to work with FAA to ensure that the MSB receives Capstone-like services as soon as possible.

Advisory Routes/Corridors - This alternative would establish preferred routes into and out of certain high-traffic areas within the core area of the MSB. Such corridors are commonly used in large urban areas for VFR traffic and over National Parks for all traffic. The Anchorage Part 93 airspace even includes designated routes for small aircraft.

Areas in the MSB that might require corridors include the Knik Glacier, the Matanuska River valley, and the core area between Willow and Palmer. Most members of the TAC and public felt that these sorts of corridors are not yet required, but should be kept as long-term ideas to be implemented when necessary.

5.2.2 Airspace - Recommendations/Implementation

Each of the airspace recommendations is shown in the following table. Each recommendation and any implementation issues are also discussed in the following paragraphs.

Table 26: Airspace Recommendations/Implementation

Airspace Recommendations	Implementation Actions	Responsibility	Implementation Issues
Require airspace determination and registration with FAA for existing and new airports, commercial floatplane bases, helipads and heliports - would apply to aviation facilities on and off the road system.	Amend MSB Title 17.	MSB	Compliance deadlines for existing airports? Incentives/penalties? Consequences of not obtaining favorable airspace determination?
Encourage lights-on aircraft operations.	Pilot education program.	MSB AAB FAA AOPA Airmen's Association	None
Review low-level military operations for compatibility with general aviation.	Meet with military liaison to FAA to seek ways to reduce conflicts and maintain ongoing communications. Pilot education program.	Military MSB AAB FAA AOPA Airmen's Association	None
Encourage implementation of Capstone (GBT/ADSB) in MSB.	Support ongoing implementation efforts.	MSB AAB FAA AOPA Airmen's Association	None
Advisory only arrival/departure routes/corridors to direct aircraft away from the highest concentration of airports and minimize conflicts in high traffic areas.	Reconsider later. Publish on Sectional or in Alaska Supplement when traffic warrants. Monitoring by AAB.	MSB AAB FAA	Implement later when traffic warrants.

Airport Registration - All existing and new airports, commercial floatplane bases, helipads and heliports should be required by the MSB to obtain an FAA airspace determination and registration. This requirement would apply to aviation facilities on and off the road system.

Airspace determinations would help minimize airspace conflicts between existing airports and registration would ensure the airport is properly located and mapped.

Registration would ensure the airport will be considered by the FAA when completing airspace determinations for other proposed or expanded airports. It would also enable the MSB to map the airport and notify property owners in the MSB of its location prior to their purchasing a home (see section on Airport Compatibility).

This requirement would be implemented through an amendment to MSB code. When the code is amended the MSB will need to determine whether it will establish a deadline for compliance for existing airports. Consequences for not complying will need to be determined as well as how to address any airport that is unable to receive a favorable airspace determination from the FAA because of unsafe airspace conditions. A related issue is whether the MSB should establish any incentives or penalties for complying or not complying with the airspace determination and registration requirement.

Encourage Lights-on Operation - As part of a comprehensive pilot education program in the MSB, pilots should be encouraged to use their landing lights when possible to increase their visibility to other aircraft. Other methods of increasing visibility should also be encouraged as appropriate.

Review Low-Level Military Operations - The MSB and FAA should convene a series of meetings between local pilots and military representatives to discuss military activity in the MSB and identify potential safety issues. These meetings may be conducted through the MSB AAB or other similar forum. Topics for discussion could include types of routes and aircraft used by the military, improved communication with local pilots, and potential changes to routes or airspace to improve safety. This topic should also be included in the pilot education program.

Support Capstone in the MSB - The MSB, FAA, and DOT&PF should emphasize the implementation of Capstone-type services in the MSB. Although this system will eventually be implemented nationwide, the MSB, FAA, and DOT&PF should seek to make the MSB a high-priority area for implementation due to the high number of airports in the area.

Advisory Routes/Corridors - Advisory routes are not recommended at this time, but should be retained as a potential future tool for managing future air traffic in the MSB. The MSB AAB should periodically reexamine the concept of routes or corridors to determine the evolving level of need.

5.3 Communications

5.3.1 Communications - Alternatives

Each of the communication alternatives is shown in the following table. The priority for each alternative was based on comments from the TAC.

Table 27: Communications Alternatives

Alternative	Description
Higher Priority	
Radio Frequencies	- Reassign radio frequencies to match established pattern
Mapping of Airports and Airspace	- Private airports/CTAFs in supplement and on Borough website - Reporting points on sectional/supplement - Military routes/airspace on sectional/supplement - Education program for pilots and instructors
Lower Priority	
Radio Coverage	- Expand RCO coverage in MSB
Radar Coverage	- Expand radar coverage in eastern MSB
Alternatives Dismissed	
Radio Use	- Mandate radio use
Sectional Mapping	- All private strips on sectionals

Radio Frequencies - This alternative would continue to assign radio frequencies to airports in the MSB based on a geographic pattern. Airports that do not meet this pattern and do not have a specific reason for deviating from the established pattern would be assigned a new frequency that is consistent with the pattern. This alternative also includes a pilot education component to ensure that pilots are aware of the frequency pattern and know how to find frequency information for the private airports in the area.

Mapping of Airports and Airspace - This alternative would provide mapping of all private airports in the MSB to pilots. This could be accomplished through a web site (MSB, FAA, etc), on the sectional map, in the Alaska Airport Facility Directory (AFD) Supplement, and/or through one of the pilot organizations. The purpose would be to increase pilot situational awareness regarding the many unmapped, private airports. Such mapping might also include the various training routes used by the military in the MSB.

A related item is the establishment of standard reporting points for pilots in the southern part of the MSB. Pilots currently use a variety of non-standard landmarks for location reports. A series of standard reporting points on either the sectional map or in the AFD Alaska Supplement would lessen pilot confusion and assist transient pilots who are unfamiliar with the area.

Radio Coverage - This alternative would increase the remote radio coverage available to ATC in the MSB. Currently, there are portions of the MSB where low-level pilots cannot reach ATC for traffic advisories. Expanding radio coverage involves the installation of additional RCOs and will be somewhat expensive and time-consuming.

Radar Coverage - This alternative would increase the radar coverage available to ATC in the MSB. Currently, there are areas of the eastern MSB that do not have radar coverage. The only radar coverage in the MSB is provided by the Anchorage approach control radar, which cannot see areas from Palmer eastward. An upgrade to the Anchorage radar is already in progress, but still will not cover all of the areas mentioned by local pilots. The mountainous terrain east of Palmer would still require additional radars to fully cover the area. The installation of additional radars is a very expensive and time-consuming issue.

Radio Use - This alternative would mandate the use of two-way radios for all aircraft flying in or through the southern part of the MSB. The intent of this alternative is to improve pilot situational awareness and decrease conflicts between aircraft. Difficulties with this alternative include the fact that some aircraft are not equipped with radios or even electrical systems. Although pilots of these aircraft could use a hand-held radio, hand-helds are not required under existing FAA regulations. Any MSB rule regarding aircraft radio use would conflict with these existing Federal regulations.

Sectional Mapping - This alternative would place all private airports in the MSB on the Anchorage Sectional map. Due to the scale of a sectional map and the hundreds of airports in the south MSB area, it would be necessary to show these airports on an inset or other special map. Another difficultly would be the frequent number of changes related to private airports in the area. These private airports are often sold, closed, or modified and this fact would require frequent changes to the sectional map.

5.3.2 Communications - Recommendations/Implementation

Each of the communications recommendations is shown in the following table. Each recommendation and any implementation issues are also discussed in the following paragraphs.

Table 28: Communications Recommendations/Implementation

Communications Recommendations	Implementation Actions	Responsibility	Implementation Issues
Reassign radio frequencies (CTAFs) to match established pattern.	Continue process already under way.	FAA	None
Identify and communicate about private airports and their CTAFs.	Publish in Supplement. Maps on MSB or DOT&PF web site. Posted at public airports, airport businesses, and with AOPA and Airmen's Association.	FAA MSB or DOT&PF MSB Public airports AOPA Airmen's Association	MSB or DOT&PF revise maps as new airports are registered or closed.
Identify reporting points on Sectional and/or the Alaska Supplement.	Amend Sectional and/or Supplement.	FAA	Reporting points are normally only for use by ATC
Identify military routes/airspace on Sectional and the Alaska Supplement.	Amend Sectional and Supplement.	FAA Military	None
Pilot education about airspace use, private strips, CTAFs, reporting points, military airspace, and to encourage radio use in the MSB.	Pilot education program.	MSB AAB FAA AOPA Airmen's Association	None
Expand RCO coverage in MSB.	Reconsider at a later time - lower priority.	FAA	Funding
Expand radar coverage east of Palmer.	Reconsider at a later time - lower priority.	FAA	Funding

Reassign radio frequencies - The FAA should continue to ensure that radio frequencies assigned to airports in the MSB follow a logical geographic pattern. Radio frequencies should be changed for airports that do not follow this pattern unless a specific reason is established. Pilots should be made aware of this frequency pattern. As of this writing, FAA has recently published an advisory regarding this issue and will add this advisory to the Alaska Supplement in the near future.

Identify and communicate about private airports and their radio frequencies - The FAA and MSB or DOT&PF should incorporate the inventory mapping from this project into their GIS systems and make maps of the data available on their web sites for interested pilots. The GIS data and the associated maps should be updated according to an established schedule and the availability of these maps should be made known to the local community. Although these maps will not be included in the Alaska AFD Supplement, their availability from the MSB should be identified in

the Supplement and through educational posters posted at local airports and aviation businesses. Aviation organizations such as AOPA and the Alaska Airmen's Association should also be notified of the location of these maps and any updates to them.

Identify reporting points on Sectional and/or the Alaska Supplement - The FAA should establish a set of standard VFR reporting points for the southern part of the MSB. These points should be published on either the Sectional map or in the AFD Supplement as appropriate. A potential issue with implementation is that ATC normally only establishes reporting points for their own use and some of the areas in question do not have ATC service. At a minimum, some informal reporting points could be identified and communicated to pilots as part of the pilot education program.

Identify military routes/airspace on Sectional and the Alaska Supplement - The FAA and military should provide information on military routes in the MSB to local pilots as part of a pilot education program. This would preferably include some sort of mapping either on the Sectional or in the Alaska AFD Supplement.

Pilot education - A comprehensive pilot education program should be implemented by the MSB. The AAB should recommend the types of information to be distributed and which agencies should participate. Based on concerns expressed during this project, topics for the education program might include, location of private strips, radio frequencies, reporting points, military airspace, "fly friendly" noise abatement procedures, and safety topics such as use of radios and landing lights in the MSB. Pilots and airstrip developers should be educated about land use rules to consider when siting new airports.

Expand radio coverage in MSB - The addition of RCOs in the MSB is a lower priority recommendation compared to the other RASP recommendations. However, this alternative should be reconsidered as aviation activity in the MSB increases.

Expand radar coverage east of Palmer - Additional radars in the east MSB are a lower priority recommendation compared to the other RASP recommendations. The existing situation should improve slightly when the new Anchorage radar is installed. Additional radars should be reconsidered as aviation activity increases in the MSB.

5.4 Airport Compatibility

5.4.1 Airport Compatibility Measures Used Elsewhere

In order to provide a wide range of alternatives for land use compatibility, the project team compiled a list of land use measures used by airports in other parts of the United States. Many of these items are more suitable for public airports and would not be applicable or practical for private airports in the MSB, but might still provide ideas for similar measures that would work. Examples of airport compatibility measures used across the nation, mostly at public airports, include:

- Compatible Use Zoning - Commercial, industrial or agricultural zoning near the airport
- Zoning Density - Control lot sizes and density of residential development around airports
- Noise Overlay Zoning - Special regulations within high-noise areas covering a variety of land use measures
- Transfer of Development Rights - Authorizes sale of development rights to encourage sparse development in high-noise areas
- Land Banking - Acquisition of vacant land in noise sensitive areas
- Subdivision Regulation Changes - Dedication of noise/avigation easements and plat notes identifying the property is within a high noise level area
- Building Code Changes - Requires sound insulation in new construction
- Fair Disclosure Regulations - Requires seller to notify buyer of aircraft noise
- Comprehensive Planning - Policies supporting land use compatibility to guide rezoning, conditional uses, variances, and construction of public facilities
- Capital Improvement Programming - Discourage expenditures for construction of non-compatible public facilities
- Guaranteed Purchase - Purchase of property with the intent of removing the incompatible use
- Development Rights Purchase - Purchase of rights to develop property
- Redevelopment - Acquisition and redevelopment of property

- Purchase assurance - Airport buys property, sound-insulates house, and resells with a noise/avigation easement
- Sound Attenuation - Sound insulation of homes, noise sensitive institutions and obtain a noise/avigation easement
- Noise/Aviation Easement - Purchase of easement

5.4.2 Airport Compatibility Measures Currently Available in the Matanuska-Susitna Borough

Of the measures listed above, several are currently in use in the MSB. Zoning is in effect within the city limits of Palmer, Wasilla, and Houston. For portions of the MSB outside of these cities, the MSB has an existing Conditional Use Permit (CUP) process. This process does not currently apply to airports. The MSB has also recently passed a Land Use Permit process. This permit will be used to determine if construction within the MSB complies with other existing MSB land use requirements.

The following table summarizes the existing MSB and local government land use regulations that directly or indirectly relate to airports, including floatplane facilities.

Table 29: Existing Land Use Management Tools

Entity/Document	Citation	Land Use Management Conditions
MSB		
Planning	15.04.015.A.2	Gives Planning Commission authority to investigate and report on location and design of public facilities (does not specifically mention public airports, but may be implied).
Nancy Lake State Recreation Area, Palmer Hay Flats, Denali State Park, SPUDs	17.04.120 17.08.130 17.17.050	Limits uses primarily to recreation and residential uses. Airports are not identified as a permitted use.
Residential Land Use Districts, Single-Family Residential Land Use Districts	17.52 17.75 17.76	Restricts to only residential land uses in residential land use districts.
Motorized Uses on Lakes and Waterways	17.58.100	Limits aircraft to central portions of Cottonwood, Finger and Wasilla Lakes, limits speeds within 100 feet of shore, and restricts 11 PM to 8 AM operations to operations "transiting en route to their destinations" to minimize noise.
Lake Management Plan Implementation	17.59.060	Restricts touch and goes and engine testing during nighttime hours at: Big Lake, West Papoose Lake, Whiskey Lake, Crystal Lake, John Lake, Lake Five, Little Question Lake, Memory Lake, Question Lake, Rainbow Lake, Unnamed Lake, Walby Lake, Diamond Lake, Christiansen Lake, Neklasen and Lower Neklasen Lakes, Marion Lake, Long Lake (Houston), Three Mile Lake, Wolverine Lake, Little Lonely Lake, Honeybee Lake, Blodgett Lake, Knik Lake, and Twin Island Lake. Establishes no-wake zones near shore on various lakes.
Conditional Uses	17.60	Requires CUPs for tall structures throughout most of the MSB.
Land Use Permit	17.01	Requires a land use permit for certain types of development in the MSB.
Houston		
Houston Land Use Ordinance	Various 17.41.550	Prohibits uses which cause excessive noise, vibration, odor, smoke, dust ….beyond the lot lines of the lot on which it is located…". Does not specifically address airports. Adopts FAA Part 77 and 157 by reference. Requires filing notice with FAA before constructing, activating, or deactivating of an airport and notification to FAA for construction that will affect navigable airspace.
Palmer		
Zoning Code	Title 17	Identifies zoning on and around the Palmer Airport.
Wasilla		
Land Development Code	16.20.020	Excludes heliports and helipads from residential districts and provides for conditional use, use permits, or administrative approvals in other districts.
	16.24.040	Defines vehicle parking standards for aircraft hangars.
	16.16.060	Restricts location of helipads to airports or heliports or in other locations where it is for "incidental emergency use as an accessory to a permitted principle use such as a hospital or public facility."

5.4.3 Airport Compatibility - Alternatives

Each of the airport compatibility alternatives is shown in the following table. The priority for each alternative and the decision to retain or dismiss each alternative was based on comments from the TAC and MSB staff.

Table 30: Airport Compatibility Alternatives

Alternative	Description
Retained	
Property Owner Notification	- Mapping on MSB web site - Communication about MSB mapping to real estate groups, builders and developers - Informal MSB staff communication about airport locations during land use permit processing - MSB plat notes for properties near airparks or public-owned airports
Comprehensive Plans and SPUDs	- Airports and land uses around them addressed in comprehensive plans and SPUDs
Lake Management Plans	- Involve an MSB AAB when considering floatplane operations in Lake Management Plans
Consolidate Antenna Farms	- Amend tall tower ordinance to encourage tower consolidation and involve AAB when considering new towers
Siting Public Facilities	- Consider airport proximity when developing public facilities and other noise sensitive or potentially unsafe land uses (schools, roads, overhead utilities, hospitals, landfills.)
CUP or Land Use Permit	- Require a CUP or land use permit for new airports, commercial floatplane bases, helipads and heliports - Identify minimum airport development parameters on an airport template
Platting	- Show airports, commercial floatplane bases, helipads and heliports on a plat if subdivision of land is required
Dismissed	
Property Owner Notification	- Plat notes to property owners around ALL airports - MSB ordinance to require real estate sales disclosure of proximity to an airport
Height Restrictions Around Airports	- Mandate height restrictions (without compensation) for properties around airports
Noise regulations	- Mandate soundproofing building standards for properties around airports - Restrict airport operating hours - Restrict low flying aircraft
CUP or Land Use Permit	- Require a CUP or land use permit for existing airports, commercial floatplane bases, helipads and heliports
Platting	- Platting of all airports
Zoning	- Zoning of properties around all airports

5.4.3.1 Property Owner Notification

One of the most widely supported alternatives identified during the project was to notify property owners, in particular those considering purchasing or renting a home, of the location of nearby

airports. The notion is that an informed property owner can then choose whether to purchase a home near an airport and/or will have a less valid complaint about the airport after purchasing/renting the home. The notification would be through mapping on the MSB or DOT&PF website that is communicated to the general public as well as those involved with selling and developing residences. MSB staff would also communicate this information to the public during the land use permitting process. Property owners near busier airports such as private airparks and public-owned airports would also be formally notified of close proximity to an airport through a note on the plat for their property.

5.4.3.2 Comprehensive Plans and Special Land Use Districts

The primary way the MSB is currently regulating land use and development is through comprehensive plans and SPUDs. Currently development of airports and land uses around them are not always considered in these planning documents or are considered in a very limited way.

This alternative would have the MSB take a more proactive approach toward addressing airports and land uses around them during these planning processes. Aviation compatibility might be improved through these plans by designating certain areas for airport development, by establishing airport minimum development standards or regulating the density and type of development or buffers around airports. In particular, these plans could give greater attention to land uses around public-use airports or airparks since they are busier airports and are more likely to be permanent uses.

The advantage of this alternative is that it uses existing planning processes initiated by local residents to address airports and land uses for specific geographic areas of the MSB. A possible disadvantage is that it may lead to widely different approaches to addressing airports and land uses around them for various areas of the MSB.

5.4.3.3 Lake Management Plans

Some of the Lake Management Plans in the MSB address aviation activity on some MSB lakes. Usually this involves restricting touch and go operations and engine testing during nighttime hours and limiting operations and speeds near shore areas. This alternative would have the MSB AAB participate in these discussions and provide an aviation perspective to the planning process,

in situations where restrictions on floatplane operations are being considered. AAB involvement would help provide a more consistent level of aviation expertise to the planning process.

5.4.3.4 Consolidate Antennas

Tall towers can be a hazard to flying aircraft, particularly in the MSB with its large number of airports and aircraft in the region and transiting the MSB from other regions. As the MSB grows, so will the demand for additional antennas to serve the growing population. One way to minimize conflicts between towers and aircraft is to consolidate towers, where possible. The MSB has an existing tower ordinance that seeks to encourage co-location of towers. This ordinance could be amended to more strongly encourage consolidation of towers and to include the input of a future MSB AAB.

5.4.3.5 Siting Public Facilities

Some public facilities such as schools, community centers, health care facilities, and public housing are considered noise sensitive and should also avoid being sited near the ends or sides of runways. Others can create hazards for aircraft operations, such as roads or utility lines at the end of a runway or a landfill that attracts birds into the runway approach. This alternative would require the MSB to consider the safety and noise implications of airports when siting these and other public facilities.

5.4.3.6 Conditional Use Permit or Land Use Permit

The RASP TAC and some members of the public expressed strong support for MSB oversight of development of new airports, commercial floatplane bases, and helipads and heliports. While there was little interest in trying to fix existing airport development problems, there was strong support for making future airport development safer and more compatible with surrounding uses. This alternative requires a CUP or land use permit for new airports, commercial floatplane bases, and helipads and heliports. An airspace determination from the FAA would be required prior to submittal of the CUP application and airport registration would be a condition of the permit. The permit would ensure the airport meets minimum airport development standards shown on an airport template as well as other relevant land use criteria. Some examples of airport templates are described in a later section of the report.

5.4.3.7 Platting

Currently airports are not identified on MSB plats. This alternative would require airports, commercial floatplane bases, helipads, and heliports to be shown on a plat if subdivision of land is required. This requirement would help ensure that issues of approach and departure clearances, development setbacks from runways, and airport compatibility with surrounding land uses are considered before the plat is approved. MSB's Title 27 Subdivision Code does not specifically address platting requirements for airports. In a recent platting case where an applicant was platting an airpark (an airstrip and the adjacent lots that could access the airstrip with an airplane), the MSB determined that a variance was required by Title 27 because the block length would exceed 1,400 feet (MSB 27.20.065 [A]) and the airstrip tract would exceed a 3:1 length to width ratio (MSB 27.20.065 [B]). While these requirements were not specifically included in the code to address airports, their effect will be to trigger a variance for all future airport developments where land is to be subdivided.

A variance process in the code requires that the development can only exceed 1,400-foot block length and 3:1 length requirements if the platting board finds that:

> *(1) the granting of the variance shall not be detrimental to the public health, safety or welfare, or to adjacent property; and*
>
> *(2) the conditions upon which the variance application is based are unique to the property; and*
>
> *(3) the strict application of MSB 27.20 shall result in undue substantial hardship to the owner of the property due to unusual physical surroundings, shape, or topographical conditions of the property for which the variance is sought, the taking of a part of the property through condemnation, or surrounding development or conditions.*

These variance requirements are difficult, at best, for a developer to meet when proposing a subdivision with public road access to a private airstrip. Airstrip safety considerations are not addressed within the current code.

Requiring a variance for all airports was not necessarily the intent of Title 27. Singling out airports for variances and not providing more precise guidance to determine under what conditions a variance should be granted is also not prudent. Therefore, this alternative proposes that Titles 27 and 17 be concurrently amended to specifically address the platting requirements for airports where subdivision of land is required.

5.4.3.8 Alternatives Considered but Dismissed

Several other alternatives were considered but dismissed during the discussions with the TAC, public and MSB staff. They include:

- Requiring plats to note proximity to all airports in the MSB. This was dismissed because plats are infrequently updated and not always carefully reviewed by homeowners, the need to notify homeowners on a permanent record like a plat would be less effective for private airstrips that may be temporary uses and which would have low levels of aviation activity, and it would create extra administrative burden if applied to all airports in the borough.
- Amending the real estate disclose form to disclose proximity to an airport. This was dismissed because the current form already provides an opportunity to disclose if the owner is annoyed by an airport; the form is used statewide and an amendment specifically for MSB needs would not likely receive approval of the Real Estate Commission. The option of the MSB creating its own disclosure form exclusively for airports was viewed as creating additional unnecessary administrative paperwork during a property sale.
- Creating height zones around airports. This was dismissed because of concerns that it would overly restrict development by airport neighbors without compensating them for those restrictions. It was thought that the airport owner should be responsible for purchasing easements to restrict heights of development and protect the airspace around his airport.
- Noise regulations. Mandating soundproofing of noise sensitive development around airports was dismissed because of the costs and generally low levels of noise around low activity airports. Restricting airport operating hours at private airports was viewed as

overly burdensome to aviation operations and safety and probably in violation of Alaska Statute 34.75.030. Since regulation of low flying aircraft is an FAA responsibility this was dismissed as an alternative for MSB involvement. Alternatively the aviation community and AAB could undertake a "fly friendly" program as part of the pilot education program.

- Platting of all airports. Platting of all airports was dismissed because such a requirement would generate substantial administrative burdens for the MSB and significant costs for airport owners with comparatively small benefit. In many cases, it would also run contrary to the essential purpose of platting laws, which is to facilitate and record the subdivision of land. Most existing private airports are located on larger tracts of unsubdivided land.

- Borough-wide zoning. Zoning of properties around all airports was dismissed because it was inconsistent with the borough-wide land use controls currently being implemented in the MSB. Zoning may be considered on a more limited basis for SPUDs created for subareas of the MSB.

5.4.4 Airport Compatibility - Recommendations/Implementation

The following table shows the recommendations and implementation measures and responsibilities for the airport compatibility issue. While the TAC and public initially expressed the most uncertainty and diverging opinions on how to address this issue, the recommendations appeared to be accepted by most participants as a reasonable, balanced, and implementable approach to addressing airport compatibility. More stringent measures, such as borough-wide zoning could be reconsidered at a future date if there is more community acceptance.

Table 31: Airport Compatibility Recommendations/Implementation

Airport Compatibility Recommendations	Implementation Actions	Responsibility	Implementation Issues
Notify landowners of proximity to an airport:			
Airport mapping on MSB web site.	Make RASP mapping a permanent part of MSB or DOT&PF web site, with regular updates.	MSB or DOT&PF	Regular updates by MSB or DOT&PF as FAA registers new airports.
Communication about airport mapping to real estate groups, builders and developers.	Send notification of availability of airport maps on MSB or DOT&PF web site.	MSB	None
MSB staff communications about airport locations during land use permit processing.	Have latest MSB or DOT&PF airport maps on-hand in planning office to show public. Add to staff checklist.	MSB	None
MSB plat notes for properties near airparks or public-owned airports.	Amend MSB Title 27.	MSB	Plat notes would extend to properties how far away from the airport/airpark?
Address airports and land uses around them in comprehensive plans and SPUDs. Involve AAB in reviewing these documents.	Amend MSB 15.24 Form AAB.	MSB AAB	None
Involve AAB when addressing floatplane operations in Lake Management Plans.	Form AAB.	MSB	None
Consolidate antennas into antenna farms.	Amend MSB 17.60.140 to encourage tower consolidation.	MSB	See MOA ordinance example. MSB ordinance update under way.
Notify AAB when reviewing new proposed tall structures under MSB 17.60.140.	Form AAB	MSB	None
Consider airport proximity when developing public facilities and other noise sensitive or potentially dangerous land uses (schools, roads, overhead utilities, hospitals, landfills).	Public Facilities Plan Update under way.	MSB	None
Require a CUP or land use permit for new airports, commercial floatplane bases, helipads, and heliports, based on compliance with minimum airport development standards in airport templates. CUP or land use permit would be obtained after favorable FAA airspace determination.	Amend MSB Title 17 and develop associated final templates with involvement of MSB AAB.	MSB AAB	When to require CUP vs. land use permit? Should a major change in use at an existing airport trigger a CUP or land use permit?
Amend code to define platting requirements for airports and show airports, commercial floatplane bases, helipads, and heliports on a plat if land subdivision is required.	Amend MSB Title 27	MSB	None

Property Owner Notification - The MSB should notify existing and potential property owners of the location of airports, particularly those who are considering purchasing a home near an

airport. The notification would be through GIS-based mapping on the MSB or DOT&PF website. GIS information about the airports that was compiled during this project could be included with the mapping. The availability of the mapping should be widely communicated to real estate groups, builders, and developers with hopes that this information would be considered during development and sale of property near an airport and would be shared with prospective home buyers. The MSB or DOT&PF would need to work with the FAA to ensure that as new airports are registered with the FAA, they are added to the MSB or DOT&PF mapping.

Airport mapping should also be communicated to property owners by the planning staff when they inquire about development requirements during the land use permit process. Property owners inquiring about developing airports would also be notified of existing and proposed development near a proposed airport. Airports should be added to the checklist of items the staff routinely discusses with the public.

Property owners near private airparks and public-owned airports should also be formally notified of close proximity to an airport through a note written on the plat. The plat note should apply to any property within 2,000 feet of a runway. The note should be a simple statement that the property is within 2,000 feet of an airport and could be subject to airport noise and overflights. This notification would be limited to properties close to busier airports, including airparks and public-use airports. The MSB would amend borough subdivision code to implement this plat note recommendation.

Comprehensive Plans and SPUDs - The MSB should address airport compatibility during comprehensive plans and SPUDs. Some of the alternatives identified in this plan that have been rejected for borough-wide implementation, may be appropriate in a subarea of the MSB. Some may at least be implemented near busier public-use airports and airparks. Some examples could include regulating the type, intensity, proximity, and heights of development near airports or developing different airport templates than are implemented by this borough-wide plan. The AAB should be invited to review and provide comment on these plans. Implementation of this recommendation would require an amendment to MSB code.

Lake Management Plans - The MSB should involve the AAB in Lake Management Plans that are addressing restrictions to aviation activities. This would help provide a broader aviation

perspective and expertise in the planning process and may help achieve a more consistent approach to addressing aviation in Lake Management Plans in the MSB.

Consolidate Antennas - The MSB should amend its existing tower ordinance to encourage the consolidation of tall towers and to include the input of a future MSB AAB when new towers are proposed. This recommendation is timely since the ordinance is currently being updated.

Some difficulties with implementing tower consolidation are that tower consolidation is not always practical or is resisted by tower owners. Some reasons include:

- Close proximity of towers may affect communication signals
- A specific location that reaches the desired audience for one user may not reach the targeted audience of another user
- Government tower owners sometimes are reluctant to co-locate with other users.

Methods to overcome these concerns might be borrowed from the Municipality of Anchorage tower ordinance. The MOA ordinance tries to encourage concentration of towers by providing incentives for consolidation such as allowing higher towers at consolidated sites.

Siting Public Facilities - The MSB should consider proximity to an airport when siting public facilities. Factors that should be considered include sensitivity to airport noise and safety considerations of locating facilities where they would be routinely overflown by aircraft. The type of facility, frequency of aviation activity and distance from the airport should be considered in the siting evaluation. An animal control shelter located near the side of a seldom used private strip would be less of a concern than a school located at the end of a runway at a busy public airport. Examples of facilities that would be more sensitive to noise and safety considerations include schools, community centers, health care facilities, and public housing.

The MSB should also consider proximity to an airport when siting facilities that may create airport hazards. Examples include siting roads or utility lines at the end of a runway or a landfill that attracts birds into the runway approach.

This alternative will require amendment to MSB code and should be considered in the Public Facilities Plan update currently under way.

CUP, PUD (Planned Unit Development), or Land Use Permit - The MSB shall require a CUP, PUD, or land use permit for new airports, commercial floatplane bases and helipads and heliports on the road system. Prior to applying for a CUP, PUD, or land use permit, the applicant would first obtain a favorable airspace determination from the FAA. The permit would ensure the airport has adequate runway length and meets minimum airport development standards shown on an airport template. Registration of the airport with the FAA would be a condition of approval for the permit.

Some examples of airport templates are described in the next section of this report. The final template to be used for this permit would be defined during the development of the ordinance creating the CUP, PUD, and land use permit process. The permit should also consider whether the airport would be located too close to existing or planned public facilities. The AAB should participate in the development of the final template and ordinance.

When the ordinance is drafted, consideration should be given to handling the simplest private airstrips through an administrative review under the land use permit process. For example, helicopter facilities, commercial floatplane bases, airparks, and other private strips with commercial activity should be permitted under a CUP or PUD. These would normally have more aircraft operations, handle larger aircraft, have commercial operations, and create more noise and other potential impacts on adjacent parcels. The ordinance should also consider whether a new permit is required for airports that have a significant change in use, such as an increase in based aircraft or operations, frequent use by larger aircraft, or shift to use by commercial operations or helicopters.

Conditional Uses Permit, Planned Unit Development, Platting - The MSB should amend Titles 27 and 17 (CUP and PUD) of code to define specific land use and platting requirements for airports, which would specify standards to be met for airports.

Considerations for this amendment to Titles 27 and 17 include:

- FAA airspace determination prior to plat submittal.

- Opportunity for public comment (public hearing at the Platting Board with newspaper ads and notices of hearing mailed to nearby property owners are already required for platting actions).
- Meeting minimum standards defined in MSB airport templates.
- Measures to prevent vehicle traffic across the airport by the general public, particularly if the parcel is adjacent to a public easement.
- Initiate airport registration with the FAA after the airport is constructed (registration by FAA sometimes takes up to 2 years, so only a record that the applicant has applied to register with the FAA should be required).
- Providing a variance process if there are extenuating circumstances such as unique land features like undevelopable public lands, waters or other features that would mitigate the need for meeting all of the template standards.
- Requiring warning signs appropriately placed at all public or private road crossings. Proof of signage could be verified via photograph, and/or inspection by MSB personnel prior to recordation of subdivision.
- Plat notes regarding airstrip issues – possibly to include location, road crossings, noise and ownership of strip.
- Neighborhood acceptance.
- Compatibility with surrounding land use.
- Will not be detrimental to the public health, safety, welfare, or to adjacent property.

The MSB should require an airport, commercial floatplane base, helipad, and heliport to be shown on a plat if subdivision of land is required. This requirement would help ensure that adequate land is provided for approach and departure clearances and development setbacks from runways, and that the aviation facility's compatibility with surrounding land uses are considered before a plat is approved. The airport template(s) adopted by the MSB would provide the criteria for clearances and setbacks.

5.4.5 Airport Compatibility Template Examples

The airport compatibility recommendations in the section above include establishment of airport development standards on templates that show setbacks, height restrictions, clear zones, and other applicable areas relative to the airport runway. Although no specific template is recommended by this report, the following section provides some template examples and summarizes the discussions of these examples that occurred between the MSB, the TAC and the general public. This information is intended to assist with the selection of a future compatibility template when the RASP is implemented, as discussed in the previous sections.

It must be noted that most existing airport templates are generally applied to public airports and are based on FAA standards. Airports that receive FAA funding agree to meet all FAA standards and to attempt to ensure compatible development around the airport. As a result, most existing examples of templates are intended for airports that are larger than the private strips found in the MSB.

5.4.5.1 Template Examples from Oregon and California

Generic land use templates have been developed by several states for use by small general aviation airports. Examples of templates from the states of Oregon and California were both identified during this project. These templates are discussed below.

The Oregon template was originally developed as part of the 1994 *Oregon Airport Land Use Compatibility Guidelines*. The Oregon document included templates for three different types of airports:

- Small general aviation airport with visual approaches
- Medium-sized general aviation airport with at least one non-precision approach
- Small commuter service or business class airport with one precision approach

Of these three, the first category seems the closest in size and function to the many private airports in the MSB. The template for small, general aviation airports is intended to identify potential areas of incompatible land use and to suggest areas of undeveloped land that should be reserved for compatible land uses.

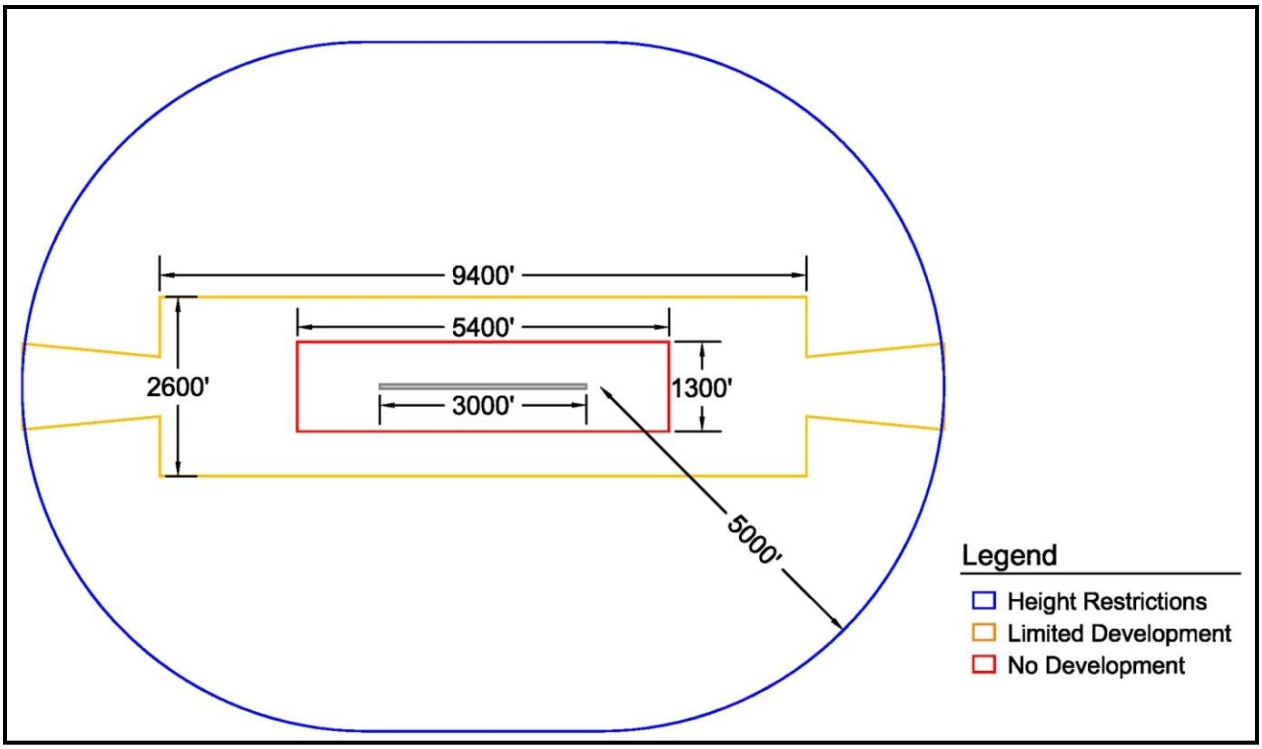


Figure 19: Oregon Template for Small General Aviation Airports

Based on the accident location data discussed in Section 4.3.4.1, the 2002 edition of the *California Airport Land Use Planning Handbook* recommended several types of templates that might be appropriate for reducing conflicting land uses near an airport. Templates were provided for several different sizes and types of airports, but the small, general aviation template is probably most appropriate for the private airports found throughout the MSB. This template is shown in Figure 20.

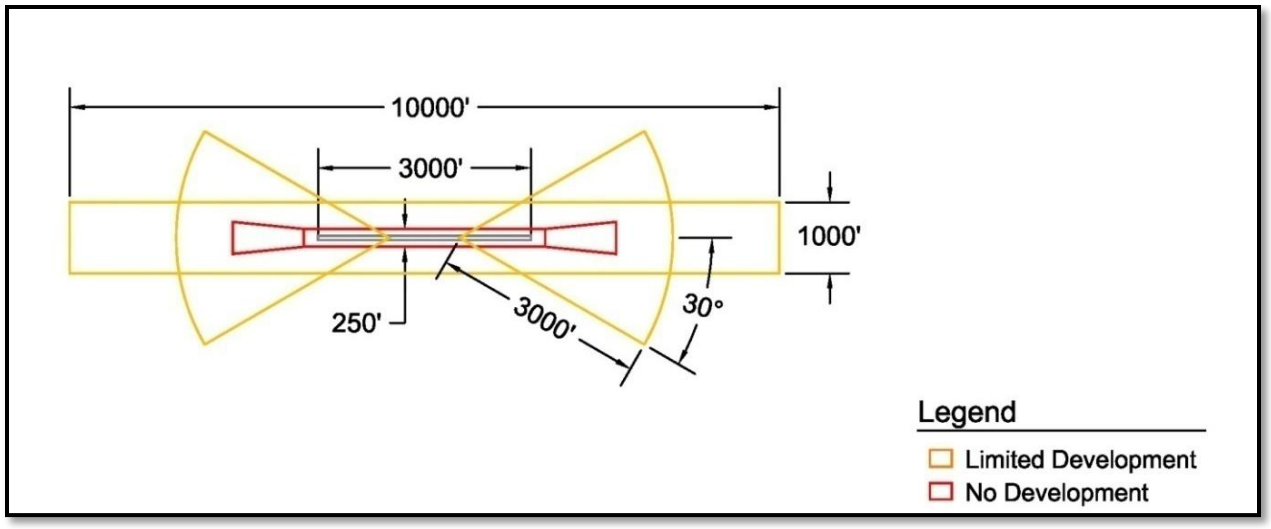


Figure 20: California Template for Small General Aviation Airports

5.4.5.2 Template Examples Developed for This Project

As an alternative to the complex FAA-style templates developed for Oregon and California, it may be appropriate to develop smaller, simpler templates for private runways in the MSB. Although the FAA has many different types of clear zones and setbacks, the most important principles are to establish a runway long enough for the aircraft intended to use it, a clear zone around the runway to increase safety, and an area free of incompatible development at the ends of the runway to reduce conflicts with incompatible land use. It is also appropriate that small low activity airports not be subjected to the same level of regulation as larger airports with many more aircraft and operations.

With this principle in mind, the project team developed three template examples based on simplified FAA standards. These template examples are similar to FAA standards but have fewer components and simpler dimensions.

The first template example is the most complex and most similar to FAA standards used at smaller public owned general aviation airports. It includes the following features:

- Runway length appropriate for the aircraft intended to use the runway
- Mandatory limited development areas at the ends of the runway where congregations of people (inhabited buildings) and airport hazards (garbage dumps) are restricted.

- Mandatory clear areas (setbacks) along the sides and ends of the runway where development is not allowed except if it is lower than the runway elevation.
- Mandatory overrun areas along the sides and ends of the runway where aircraft that overshoot or undershoot the runway or veer off to the side can safely land without hurting the passengers or seriously damaging the aircraft. The overrun area in this example is 120 feet wide.
- Mandatory height limits for the approach slopes at the ends of the runway. No object may penetrate an imaginary surface that extends out and up from the runway at a slope of 20:1. In other words, for every twenty feet of distance from the runway, the elevation of the height limit increases in height by one foot.
- Advisory height limits for the side slopes and areas within 5,000 feet of the runway. Side slopes extend out and up from the edges of the clear area at a slope of 7:1. The height limit is relative to the runway, so objects that extend more than 150 feet above the runway elevation would be discouraged.

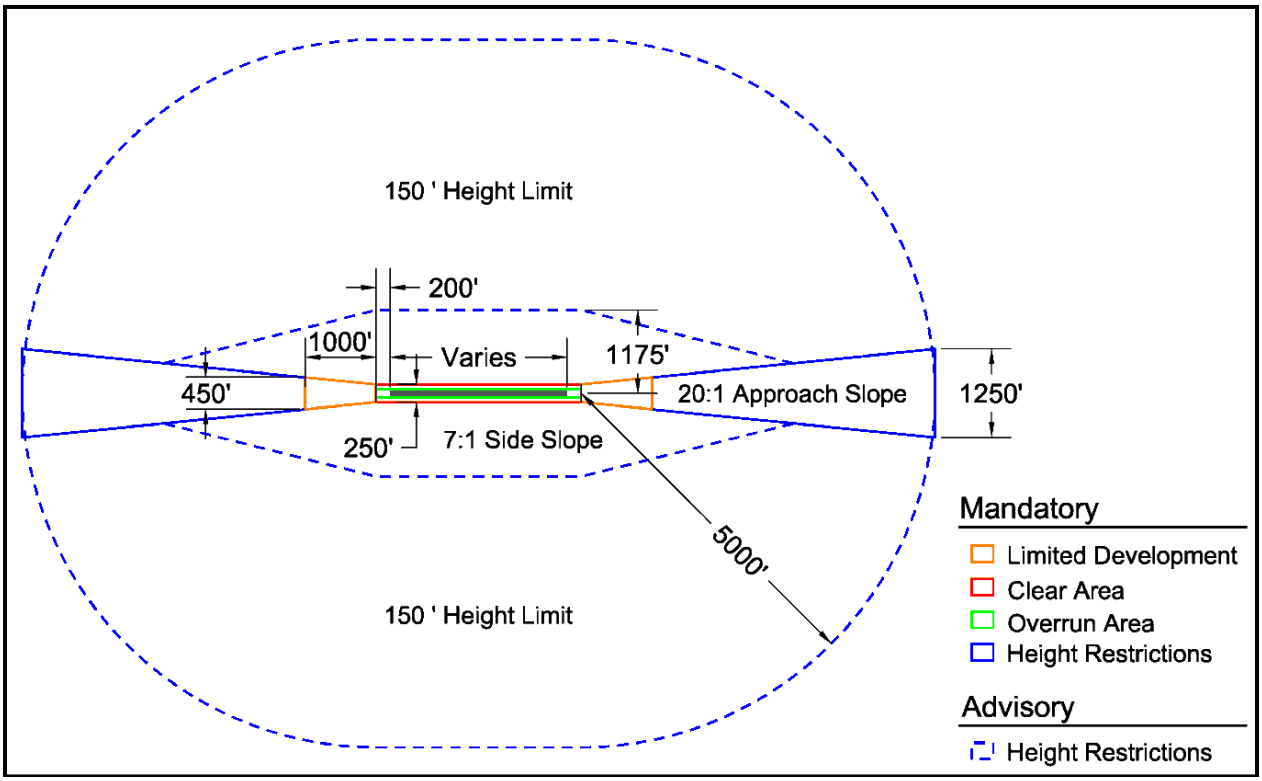


Figure 21: Large Airport Template Example

The second template example is smaller and simpler than the first. The only mandatory items are the clear area around the runway and limited development areas at the ends of the runway. The only height limits are for the approach slopes and these are not mandatory. The template example consists of the following components:

- Runway length appropriate for the aircraft intended to use the runway
- Mandatory 1,000-foot limited development areas at the ends of the runway
- Mandatory clear area along the sides and ends of the runway
- Advisory height limits for the 20:1 approach slopes at the ends of the runway

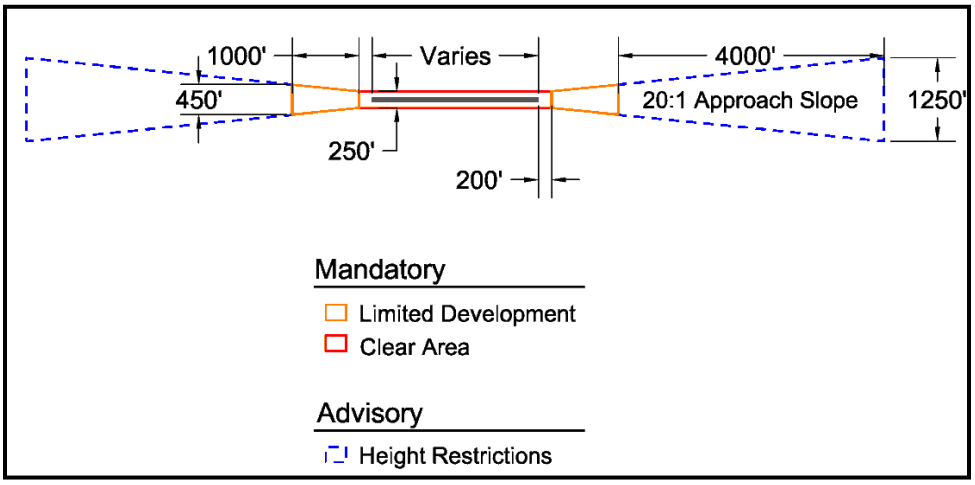


Figure 22: Medium Airport Template Example

The third template example is the smallest and simplest of the three. This example is similar to the previous example, but much smaller. It consists of the following items:

- Runway length appropriate for the aircraft intended to use the runway
- Mandatory 500-foot limited development areas at the ends of the runway
- Mandatory clear area along the sides of the runway
- Advisory height limits for the 15:1 approach slopes at the ends of the runway

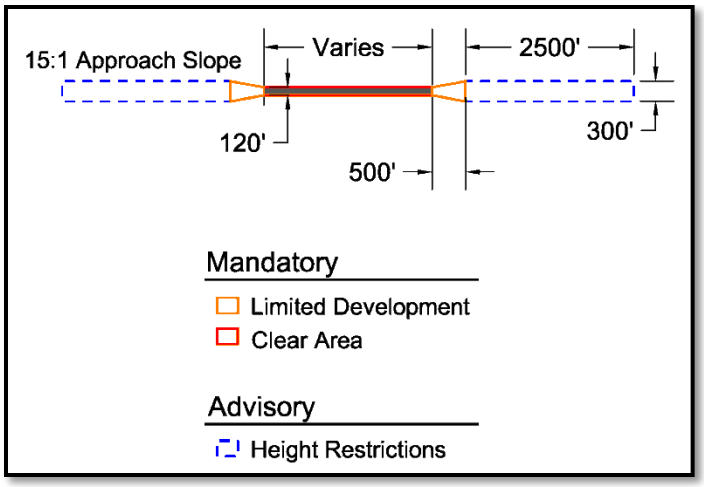


Figure 23: Small Airport Template Example

Note that none of the template examples specifies a dimension for runway length. This is because runway length requirements vary and depend on many factors. These factors include temperature, wind, elevation, runway surface, aircraft performance, payload, and pilot skill. Because runway length requirements vary so much, the project team recommends that the airport owner specify what runway length is appropriate for his airport based on the types of aircraft and operations that are anticipated. This assumption would be documented with the MSB and the remainder of the template would be based on this runway length.

A fourth template example was developed for private helipads. This template is based on FAA standards for small helicopters. The main feature of this template is an area of limited development beneath the approach and departure areas of the helipad. The clear area around the helipad is a square, 50 by 50 feet.

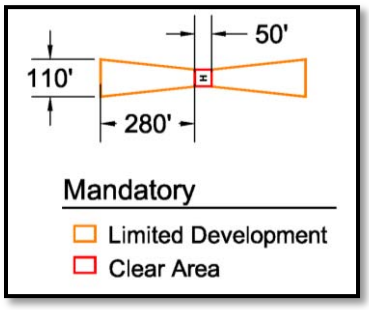


Figure 24: Helipad Template Example

5.4.5.3 Comments of the Technical Advisory Committee and Public

Initially, only the first two template examples developed by the project team were presented to the TAC. The intent was that the more complex template would be applicable to only the largest private airports and airparks and the smaller template would be applicable to small private strips.

The TAC felt that both of the first two templates might be too complex and/or too large for the average private airport. They liked the general idea of some sort of template, but felt that a smaller example might be more appropriate. The TAC also requested an example of a helipad template.

Subsequently, the project team developed the third template which is the smallest template possible using FAA standards as a basis. This template is based on FAA threshold siting criteria for small airports. These criteria are what FAA uses to site the runway thresholds at public airports. If the threshold siting criteria cannot be met at an FAA-funded airport, then the runway threshold must be displaced or relocated in order to achieve a minimum acceptable level of safety. These are the smallest, least restrictive standards in use by FAA at small general aviation airports.

The team also developed the helipad template example from some of the FAA helipad standards found in FAA Advisory Circular 150/5390-2B *Heliport Design.*

All four template examples were presented to the public at the second public meeting. Public comments appeared to be generally supportive of some sort of template for new airports, but were strongly against applying a template to existing private airports. Comments from the public also were to apply realistic templates for the limited use airports serving small slow aircraft.

Some were not supportive of any template or any MSB regulation of aviation. Some questioned what would happen if the aircraft size or type changed after the airport was permitted by the MSB. The public also expressed concern about the impacts of airport noise on surrounding property and wondered if there was a way to incorporate noise impacts into these template examples.

5.5 Public Airport Improvements

Capital improvement needs and services for public airports were recommended by the public through the project survey and in public meetings. The following table summarizes the improvements suggested by the public.

This study was not originally intended to evaluate Capital Improvement Program (CIP) needs of public airports in the MSB. However, since improvements to public airports was identified as an issue by project participants, CIP ideas were collected during the project and are reported here. This study does not evaluate the validity of these needs. The airport owners should consider these needs when planning future airport improvements.

Table 32: Proposed Improvements to Publicly-owned Airports

Airport	Proposed Improvements Suggested By The Public
Big Lake	Weather station
	Repair taxiway surface
	Cut down trees in runway approach
	Pave and extend runway; pave run-up areas
	Fencing and limited access
	Fuel, bathroom, telephone
	Improve gravel floatplane ramp; clear trees along road connecting the ramp to the airport
	Provide fueling facilities at or near the floatplane ramp area
	Provide floatplane tie downs for transient aircraft
Goose Bay	Security - Fencing, perimeter road, enforcement, restrict firearms use, prevent cars from being pushed over bluff, airport tenants or manager living on site
	Instrument Landing System (ILS) for training purposes
	Pave runway
	Encourage development on lease lots and hangars. Consider a plan to allow homes on private property adjacent to hangars owned by the homeowner.
	Encourage flight schools, fueling facilities and charter services
Lake Louise	Reconstruct airport. One of few public airports in East Mat-Su/Copper River Basin with adequate runway length. Important for recreation use and emergencies.
	More sources of aviation fuel
	Reconstruct airport (funding has recently been approved)
Palmer	Apron expansion
	Instrument approach
	RW 9-27 rehabilitation
	Floatplane facility
	Crack sealing
	Campground
	Fencing
	Electrification of tie downs
	Golf course tie downs

Airport	Proposed Improvements Suggested By The Public
SheepMountain	Trim trees near runway
Skwentna	None mentioned
Summit	Shack with telephone for those who are weathered in
	Signs to keep campers away from the runway/taxiway
Talkeetna	Seasonal air traffic control tower
	More hangar space
	Need another vendor for av-gas
	Improve existing gravel area. Construct grass strip/ski strip next to runway.
	City strip encroachment
	Fencing and signage to keep people and vehicles off the taxiway and ramp
	Establish floatpond on airport
Wasilla	Extend utilities to lease lots
	Gravel or grass strip and ski strip (recently completed)
	Extend runway and establish an ILS approach
	Establish floatplane facility at Jacobsen Lake
Willow	IFR approach
	Keep trees to reduce wind problems during crosswinds
	Paved runway
	Lease area needs apron space, hangars and vehicle parking
	Install automated weather station
	Transient floatplane parking at Willow Lake
Other	Provide gravel runway option at every public airport
	Provide paved lighted runways at every public airport
	Provide more aircraft parking at public airports in MSB
	More services; transient facilities: telephone, fuel, basic shelter, outhouse, access to weather and FSS
	Airports like Willow and Big Lake need FAA funding like that used at Wasilla
	Better maintenance of runway lighting/more timely snow removal
	Fewer regulations would make public airports more attractive than to private strips
	Safe fuel storage and dispensing facilities
	Affordable hangar space with better land lease terms
	Weather webcams and AWOS facilities
	Instrument approaches
MSB	Provide floatplane tie downs on MSB land on certain lakes with road access
	Fueling facility on a floatplane lake

The airport improvement ideas proposed by the public can be grouped into five main categories. The first is basic airport maintenance such as tree removal, maintaining airport paved and gravel surfaces and fencing. Fencing and security concerns were most notably mentioned at the Big Lake, Goose Bay, Palmer, and Talkeetna Airports.

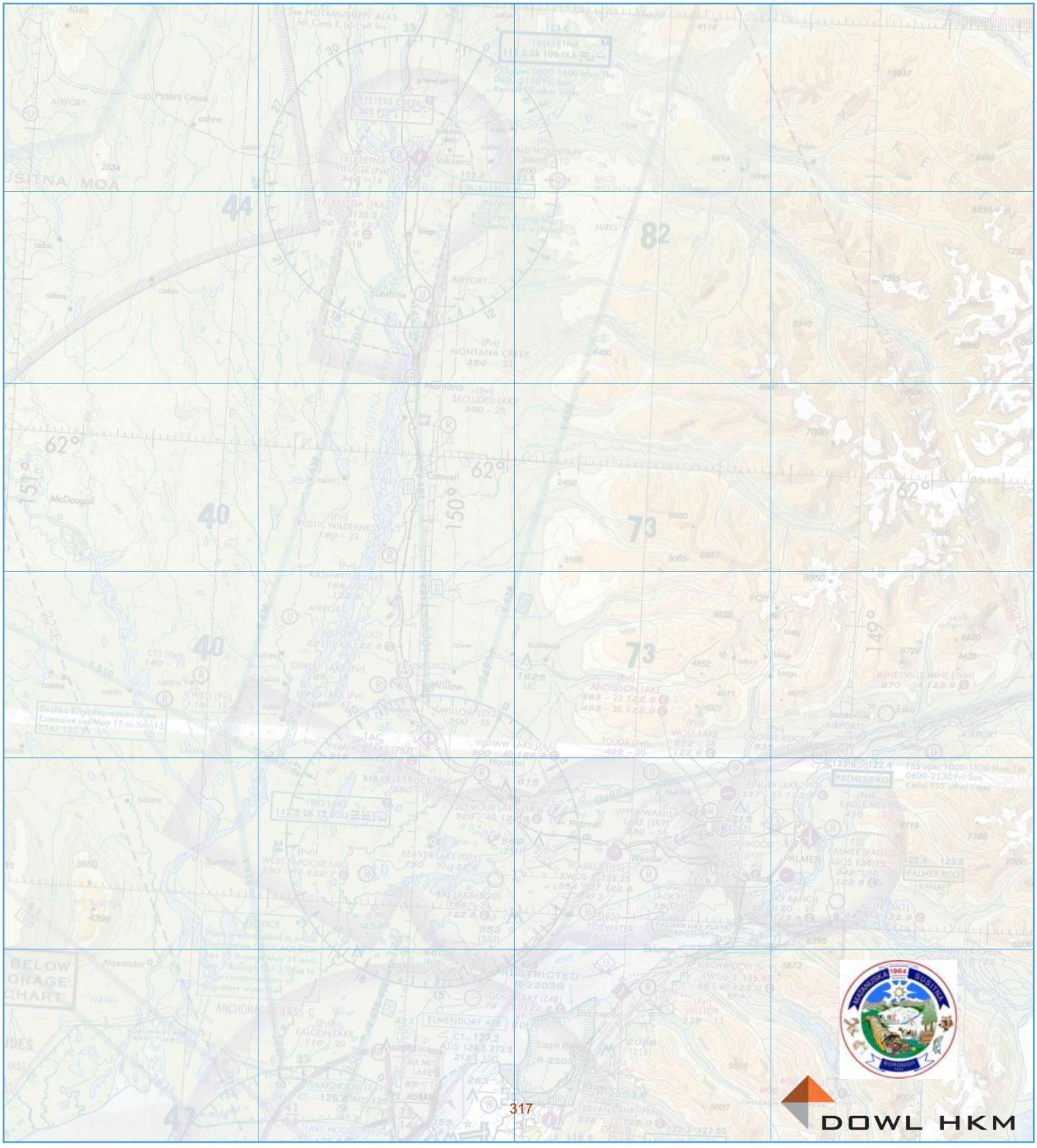
The second category included more significant capital improvements such as airport reconstruction at the Lake Louise Airport, a runway extension at the Big Lake Airport, electric plug-ins at tie down areas at Palmer, and apron expansion at the Willow Airport. There were

several comments relating to the need to provide more types of operating surfaces on the busier airports, such as grass/gravel runways, ski strips, paved runways, and floatplane bases. As noted earlier in this report, capital improvement needs at the state-owned airports is partially hampered by the DOT&PF funding priorities, which favor improvements to airports serving communities without road access.

A third category involved the desire for more instrument approaches at various MSB airports. An instrument approach was mentioned to provide for operations in poor weather conditions, provide for IFR training facilities in the MSB (currently pilots fly to Kenai or Anchorage for training), and in the longer term as an incentive for attracting economic development to the more populated areas of the MSB. A complicating factor has been that installation of a precision instrument approach typically means restrictions on airspace use by other airports within five miles of the runway. The potential for a precision approach at possible new airport sites will be evaluated in the Location Study.

A fourth category involved a desire for more lease space at airports. Some also reported frustration with the complexity, difficulty, and cost of leasing space at public airports.

A fifth category, perhaps somewhat related to lease lots, is the desire for more services at MSB airports. Examples include fueling, phone, toilets, basic shelter, weather stations/webcams, and flight schools.


Peters Creek
Talkeetna
Sunshine
Montana
Caswell
McDougall
Willow
Susitna
Houston
Pittman
Wasilla
Palmer
Alexander
Eklutna
Jonesville
Esko
Sutton
ANCHORAGE CLASS C
ELMENDORF AFB
PALMER RCO
KENAI

DOWL HKM

PUBLIC HEARING

An Administrative Permit In Accordance With MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, For A Cell Tower Located at 27950 E Knik River, Tax ID# 8274000L001A. (Strumpher, Helmundt, on behalf of ATLAS; Staff: Rebecca Skjothaug, Current Planner)

Staff Report

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822
www.matsu.gov

DEVELOPMENT SERVICES DIVISION STAFF REPORT

Date:	February 26, 2026
File Number:	TOWER-2025-010038
Applicant:	Strumpher, Helmundt, on behalf of ATLAS
Property Owner:	ATLAS
Request:	Administrative Permit in accordance with MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures
Location:	27950 E Knik River Rd, Tax ID# 8274000L001A
Size of Property:	Approximately 10.03 acres
Proposed Lease Area:	Approximately 50’ x 50’ within Tax ID# 8274000L001A
Reviewed By:	Wade Long, Development Services Manager
Staff:	Rebecca Skjothaug, Current Planner
Staff Recommendation:	Approval – With Conditions

EXECUTIVE SUMMARY

An Administrative Permit application under MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, has been submitted to construct a 125-foot-tall, lattice tower on the above-referenced property within a 50’ x 50’ leased area.

A tall structure exceeding 85 feet in height is only permitted upon the issuance of an Administrative or Conditional Use Permit. Unless this type of use is maintained under and in accordance with a lawfully issued permit, a tall structure is declared to be a public nuisance. The operation of such a land use without a permit is prohibited.

LAND USE

Existing Land Use:
The subject property, located at 27950 E. Knik River Road (Tax ID #8274000L001A), is situated in an unincorporated area of the Matanuska-Susitna Borough within the LAUX 4 subdivision. The parcel is approximately 10 acres in size and is developed with residential uses, including a primary dwelling and a cabin.

Surrounding Land Use:
The surrounding area along this segment of E. Knik River Road is characterized by large lot, rural residential development, consisting primarily of single-family homes, cabins, and accessory structures. Adjacent and nearby parcels are similarly developed for residential use and typically rely on on-site wells and septic systems. No commercial or industrial land uses were identified in the immediate vicinity, and the overall land use pattern reflects a low-density, rural residential character consistent with existing development in the area.

REVIEW OF APPLICABLE CRITERIA AND FINDINGS

MSB 17.03 – Public Notification
The public notice mailed 51 notices to all property owners within approximately ½ mile radius of the subject property and to the South Knik River Community Council on February 6, 2026. The Frontiersman published the public hearing announcement in the February 6, 2026, edition. Staff posted the application material on the Borough website for public review on February 26, 2026. Staff received three responses from the public approving the tower due to lack of cell coverage in the area. Staff received a response from the public opposing the proposed tower.

Section 17.67.040 Types of Permits Available

(A) There are three types of permits available for tall structures:

(1) Administrative permit: new tall structures that are greater than 85 feet but less than or equal to 125 feet. The applicant may request that the decision on an administrative permit be made by the planning commission. The request shall be in writing at the time of application and all requirements for a conditional use permit shall be followed.

(2) Conditional use permit: new tall structures greater than 125 feet; or tall structures that exceed the height threshold at which a conditional use permit within a special land use district is required.

(3) Network improvement permit: allows legally constructed telecommunication towers to be increased in height in accordance with MSB 17.67.110.

Findings of Fact:

1. According to the application material, the proposed tall structure will be a 125-foot-tall, lattice tower telecommunications tower.
2. The applicant has not requested that the Planning Commission decide on this Administrative Permit application.

Conclusion of Law: Based on the above findings, the proposed use meets the criteria to qualify for an Administrative Permit for the construction of a 125-foot-tall structure (MSB 17.67.040(A)(1)).

Section 17.60.080 Standards for Approval of New Tall Structures

(A) A permit for a new tall structure may only be approved if it meets the requirements of this section in addition to any other applicable standards required by this chapter.

(B) In granting or denying a permit, the commission or director shall make findings on whether the applicant has demonstrated that:

(1) To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized;

Findings of Fact:

1. According to the application material, the proposed tall structure equipment compound will be located approximately 1,221 feet from the northern property line, 217 feet from the eastern property line, 140 feet from the southern property line, and 348 feet from the western property line.
2. According to the application materials the base of the equipment compound will be approximately 474 feet from the residential structure on the property
3. The closest residential structure to beyond the property is approximately 580 feet from the proposed tower.
4. All other structures are greater than 600 feet from the proposed tower.
5. Adjacent parcels to the north, east, south, and west range in size from approximately 4 to 78 acres and are single family residential or undeveloped.
6. Private residential Nystrom, John W and Julie L own the adjacent parcel to the west.
7. Private residential Arvidson, Kevin owns the adjacent parcels to the northwest.
8. Private residential Sprehe, Brian and Melanie own the adjacent parcels to the north.
9. Private residential Weslow, Brian J owns the adjacent parcel to the east.
10. Private residential Cichossz, Jeffrey A and Winnie S own the adjacent parcel to the south.
11. East Kink River Road abuts the subject property to the east, approximately 414 feet from the base of the proposed location.
12. The subject parcel is near the mile marker 9 on E Knik River Rd.
13. The tower location would be on the southern part of the parcel within the existing tree lines, minimizing the visual impacts on the surrounding parcels.

Conclusion of Law: Based on the above findings, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized (MSB 17.67.080(B)(1)).

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(2) Visibility of the tall structure from public parks, trails recognized within adopted borough plans, and water bodies has been minimized to the extent that is technically feasible and potentially available;

Findings of Fact:

1. According to the application there are two small landing strips/airports near the site. Hunter Creek's airstrip, 1.14 miles away, is not directly in-line with our tower site and will not cause approach issues. The Alaska Glacier Lodge's airstrip, 1.7 miles away, is also not in-line with the proposed location and will not cause approach issues.
2. According to the application the nearest trailhead, noted as 166 - Hunter Creek on MSB trail plans, is approx. 1.75 miles to the South.
3. According to the application the nearest water body, Knik River, is approx. 1.5 miles to the north. It is possible the very tip of the tower would be visible, however from this distance it would likely be difficult to spot.
4. The proposed tower location is at an elevation of 300 feet above sea level, E Knik River Rd is approximately 226 feet above sea level. This indicates that the tower will be visible from the road, but visibility will be minimized due to the existing vegetation on the subject parcel.
5. Site visit photos indicate that a few surrounding parcel owners may have limited visibility to the proposed tower depending on the time of year and foliage coverage from the existing tree line.
6. The tower location would be on the southern part of the parcel within the existing tree lines, minimizing the visual impacts on the surrounding parcels.

Conclusion of Law: Based on the above findings, the proposed tall structures' visibility from public parks and trails has been minimized (MSB 17.67.080(B)(2)).

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(3) The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the borough's regional aviation system plan or by the Alaska State Aviation System Plan; and

Findings of Fact:

1. According to the application there are two small landing strips/airports near the site. Hunter Creek's airstrip, 1.14 miles away, is not directly in-line with our tower site and will not cause approach issues. The Alaska Glacier Lodge's airstrip, 1.7 miles away, is also not in-line with the proposed location and will not cause approach issues.
2. According to the application the nearest trailhead, noted as 166 - Hunter Creek on MSB trail plans, is approx. 1.75 miles to the South.
3. According to the Regional Aviation System Plan there are over 200 private airstrips in the Matanuska-Susitna Borough (RASP 2017).

Conclusion of Law: Based on the above findings, the proposed tall structure will not interfere with the approaches to any existing airport or airfield (MSB 17.67.080(B)(3)).

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(4) Granting the permit will not be harmful to the public health, safety, convenience, and welfare.

Findings of Fact:

1. The subject parcel is privately-owned, approximately 10.03 acres in size, and is situated in an unincorporated area of the Matanuska-Susitna Borough within the LAUX 4 subdivision
2. On February 12, 2026, one comment opposing the proposed tower was received from the public.
3. According to the application material, the proposed tall structure equipment compound will be located approximately 1,221 feet from the northern property line, 217 feet from the eastern property line, 140 feet from the southern property line, and 348 feet from the western property line.
4. According to the application materials the base of the equipment compound will be approximately 474 feet from the residential structure on the property.
5. According to the application materials the eastern side of the property is fenced and does not allow the public to enter the area of the proposed tower location.
6. Access to the tower equipment compound is made via existing state-permitted driveways on 27964 E Kink River Road, Tax ID#8274000L002C via an access easement agreement.
7. Access to the equipment compound is secured by an eight-foot external fence.
8. According to the application material, the proposed tower is located within an eight-foot-tall chain link fence.
9. According to the application material, the gate providing access to the equipment compound will be secured by chain link fence.
10. The applicant submitted site plans for the proposed tower and compound, which contains certified drawings from Adam M. Amortnont, an Alaska Registered Structural Engineer.
11. The applicant submitted structural design criteria for the proposed tower by Adam M. Amortnont, an Alaska Registered Structural Engineer with NELLO, indicating the tower can sustain basic wind speeds of 120 mph or 60 mph with a ½ inch radial ice build-up.
12. The closest residential structure to beyond the property is approximately 580 feet from the proposed tower.
13. All other structures are greater than 600 feet from the proposed tower.
14. Adjacent parcels to the north, east, south, and west range in size from 4 to 78 acres and are single family residential or undeveloped.
15. Private residential Nystrom, John W and Julie L own the adjacent parcel to the west.
16. Private residential Arvidson, Kevin owns the adjacent parcels to the northwest.
17. Private residential Sprehe, Brian and Melanie own the adjacent parcels to the north.
18. Private residential Weslow, Brian J owns the adjacent parcel to the east.
19. Private residential Cichossz, Jeffrey A and Winnie S own the adjacent parcel to the south.
20. East Kink River Road abuts the subject property to the east, approximately 414 feet from the base of the proposed location.
21. The subject parcel is near the mile marker 9 on E Knik River Rd.

22. According. to the application material, the proposed tower will expand coverage and improve cellular and data performance in the area.
23. The applicant provided information obtained from the Federal Aviation Administration's (FAA) online Notice Criteria Tool indicating that the proposed tower does not require a determination of no hazard to air navigation because it does not exceed thresholds requiring notice to the FAA.
24. According to the application material, the FAA does not require lighting on the proposed tower.
25. The applicant submitted documentation demonstrating that the Federal Communications Commission (FCC) has approved the proposed telecommunications tower at the location identified in the application material.

Discussion: Staff received one comment opposing the proposed tower from a residential property approximately .5 miles away. The residents noted their objection to the proposed tower due to its potential to negatively affect property values and expose the public to Radiofrequency (RF) Electromagnetic Radiation (EMR). This public comment also highlighted the Ancient Tree Subdivision Covenants.

The United States Congress adopted the Telecommunications Act of 1996 (TA96), which requires cellular towers to comply with the Federal Communication Commission (FCC) health and safety standards for RF-EMR emissions. TA96 also preempts local governments from making zoning and land use decisions based on the environmental effects of RF-EMF emissions. As such, this review does not contemplate the potential environmental effects of electromagnetic radiation. In addition, there is no evidence to support that the proposed tower will negatively affect surrounding property values.

Conclusion of Law: Based on the above findings, and with conditions, the proposed tower will not be harmful to public health, safety, convenience, and welfare (MSB 17.60.080(B)(4)).

Section 17.67.090 Operation Standards for New Tall Structures

(A) The following setback requirements shall apply to all new telecommunications towers regulated under this chapter:

(1) The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55.

Findings of Fact:

1. The subject parcel is privately-owned, approximately 10.03 acres in size, and is situated in an unincorporated area of the Matanuska-Susitna Borough within the LAUX 4 subdivision
2. According to the application material, the proposed tall structure equipment compound will be located approximately 1,221 feet from the northern property line, 217 feet from the eastern property line, 140 feet from the southern property line, and 348 feet from the western property line.
3. According to the application materials the base of the equipment compound will be approximately 474 feet from the residential structure on the property.

4. According to the application material, the proposed tower and compound will be within a 50’ x 50’ leased area on the subject property.

Conclusion of Law: Based on the above findings, and with conditions, the proposed equipment compound meets the minimum setback distances from all property lines in accordance with MSB 17.55 (MSB 17.67.090(A)(1)).

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(2) Minimum setback for the tower base shall be a distance equal to the height of the tower.

(a) The commission, or director if it is an administrative permit, may reduce the setback to a distance less than the height of the tower, if the applicant demonstrates there is no risk to public health, safety, or welfare of adjacent property owners.

Findings of Fact:

1. The subject parcel is privately-owned, approximately 10.03 acres in size, and is situated in an unincorporated area of the Matanuska-Susitna Borough within the LAUX 4 subdivision
2. On February 12, 2026, one comment opposing the proposed tower was received from the public.
3. According to the application material, the proposed tall structure equipment compound will be located approximately 1,221 feet from the northern property line, 217 feet from the eastern property line, 140 feet from the southern property line, and 348 feet from the western property line.
4. According to the application materials the base of the equipment compound will be approximately 474 feet from the residential structure on the property.
5. According to the application materials the eastern side of the property is fenced and does not allow the public to enter the area of the proposed tower location.
6. Access to the tower equipment compound is made via existing state-permitted driveways on 27964 E Kink River Road, Tax ID#8274000L002C via an access easement agreement.
7. Access to the equipment compound is secured by an eight-foot external fence.
8. According to the application material, the proposed tower is located within an eight-foot-tall secure and fenced area with slats for screening.
9. According to the application material, the gate providing access to the equipment compound will be secured by chain link fence.
10. The applicant submitted site plans for the proposed tower and compound, which contains certified drawings from Adam M. Amortnont, an Alaska Registered Structural Engineer.
11. The applicant submitted structural design criteria for the proposed tower by Adam M. Amortnont, an Alaska Registered Structural Engineer with NELLO, indicating the tower can sustain basic wind speeds of 120 mph or 60 mph with a ½ inch radial ice build-up.
12. The closest residential structure to beyond the property is approximately 580 feet from the proposed tower.
13. All other structures are greater than 600 feet from the proposed tower.

14. Adjacent parcels to the north, east, south, and west range in size from 4 to 78 acres and are single family residential or undeveloped.

Conclusion of Law: Based on the above findings, the applicant has demonstrated there is no risk to the public health, safety, or welfare of adjacent property owners (MSB 17.67.090(A)(2)(a)).

(B) For all tall structures regulated under this chapter, adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way, to enable emergency vehicle access.

(1) No more than two spaces per provider shall be required.

Findings of Fact:

1. According to the application material, two parking spaces are provided at the proposed tower location.

Conclusion of Law: Based on the above finding, adequate vehicle parking has been provided (MSB 17.67.090(B)(1)).

(C) The following requirements apply to all new and existing telecommunication towers and wind energy conversion systems regulated under this chapter:

(1) The following signage shall be visibly posted at the equipment compound:

(a) informational signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission (FCC), as well as the party responsible for the operation and maintenance of the facility;

Findings of Fact:

1. According to the application material, signage will be posted identifying the tower's FCC registration number and the party responsible for the operation and maintenance.

Conclusion of Law: Based on the above finding, adequate signage has been provided (MSB 17.67.090(C)(1)(a)).

(b) if more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER"; and

Findings of Fact:

The proposed tower shall be secured with a locked 8' chain fencing with an additional 1' of barbed wire on top to prevent unauthorized visitors. The proposed facility will operate at 220 Volts and will not require a sign.

Conclusion of Law: Based on the above findings, a "*HIGH VOLTAGE - DANGER*" sign is not required to be displayed on the equipment compound (MSB 17.67.090(C)(1)(b)).

(c) a 24-hour emergency contact number.

Findings of Fact:

1. According to the application material, signage identifying the tower and the party responsible for the operation and maintenance will be posted.
2. According to the application material, a 24-hour contact number will be posted at the proposed tower location.
3. The ATLAS Phone # is (303) 448-8896. This is the 24/7 phone contact phone number and will be displayed on the fence surrounding the equipment compound.

Conclusion of Law: Based on the above findings, a 24-hour emergency contact number has been provided (MSB 17.67.090(C)(1)(c))

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(2) A fence or wall not less than six feet in height with a secured gate shall be maintained around the base of the tower.

Findings of Fact:

1. According to the application material, the proposed tower is located within an eight-foot-tall secured and fenced area.
2. According to the application material, the gate providing access to the equipment compound will be secured by a chain link fence.

Conclusion of Law: Based on the findings above, a fence not less than six feet in height with a secured gate, is being provided (MSB 17.67.090(C)(2)).

STAFF RECOMMENDATIONS

Staff recommends approval of the Administrative Permit to construct a 125-foot-tall, a 125-foot-tall, lattice tower on the above-referenced property within a 50' x 50' leased area. The application meets all the applicable standards of MSB 17.67, and staff recommends approval of this request with the following conditions:

1. All aspects of the operation shall comply with the description detailed in the application material and with the conditions of this permit. Before any change of the conditional use, an amendment to the Administrative Permit shall be required.
2. The operation shall comply with all federal, state, and local regulations.
3. Borough-authorized representatives shall be allowed to inspect the site and related records at reasonable times to monitor compliance with all permit conditions. Upon reasonable notice from the Borough, the permittee shall provide necessary assistance to facilitate authorized inspections (MSB 17.67.300(D)).
4. The operation shall obtain a Network Improvement Permit from the Borough to increase the overall height or location of the telecommunications tower on the site in accordance with MSB 17.67.110.
5. The equipment compound and telecommunications tower shall be removed, at the owner's expense within 90 days after abandonment or termination of the permit in accordance with MSB 17.67.130(A)(1).

6. The permittee shall record the access easement presented with the application at the Alaska Department of Natural Resources, prior to construction.

Application

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822 • Fax (907) 861-8158
Email: permitcenter@matsugov.us

APPLICATION FOR A TALL STRUCTURE – MSB 17.67

Carefully read instructions and applicable borough code. Fill out forms completely. Attach information as needed. Incomplete applications will not be processed.

Application fee must be attached:
_____ **$1,500** for **Conditional Use Permit** - > 125 feet in height
__X__ **$ 500** for **Administrative Permit** – 85' to 125' in height
_____ **$ 100** for **Network Improvement Permit** – In accordance with MSB 17.67.110.

*Prior to the public hearing, the applicant must also pay the mailing and advertising fees associated with the application. Applicants will be provided with a statement of advertising and mailing charges. Payment must be made **prior** to the application presentation before the Borough Planning Commission or Planning Director decision.*

Subject Property Township: _____, Range: _____, Section: _____, Meridian____
MSB Tax Account # 5827400OL001A
SUBDIVISION: LAVX 4 BLOCK(S): _____, LOT(S): 1A
STREET ADDRESS: 27950 E Knik River Rd, Palmer, AK 99645
(US Survey, Aliquot Part, Lat. /Long. etc) _____

Ownership A *written authorization by the owner must be attached for an agent or contact person, if the owner is using one for the application.* Is authorization attached? **o Yes o No o N/A**

Name of Property Owner
PAUL LAVX
Address: 27950 E Knik River Rd
Palmer, AK 99645
Phne: Hm _____ Fax _____
Wk _____ Cell 907 982 6595
E-mail _____

Name of Agent/ Contact for application
Helmundt Strumpher Atlas Towers 1, LLC
Address: 2500 30th Street, Suite 304,
Boulder, CO, 80301
Phne: Hm _____ Fax _____
Wk 303 448 8896 Cell 720-667-6652
E-mail hstrumpher@atlastowers.com

Special Land Use District *(if applicable)*: _____

Pre-Application Requirements for New Tall Structures that Require a Conditional Use Permit	
Prior to applying for a conditional use permit for a new tall structure, the applicant shall hold at least one community meeting.	
1. The meeting shall be held at the nearest facility where community council meetings are regularly scheduled. If the facility is not available, the nearest available public facility that is capable of seating a minimum of 20 people shall be utilized.	
2. The meeting shall be held at least 15 calendar days after mailing of the notification.	
3. The meeting shall not start prior to 5:00 p.m. and no later than 7:00 p.m.	
4. Notification of the meeting shall, at a minimum, include the following: • Legal description and map of the general parcel, or parcels, within the coverage area under consideration for the telecommunication facility. • Description of the proposed development including height, design, lighting, potential access to the site and proposed service. • Date, time, and location of the informational meeting. • Contact name, telephone number, and address of applicant. • Comment form created by the borough that has a comment submittal deadline and provides options for submitting comments.	
5. At a minimum, the notification area for the meeting shall include the following: • Property owners within one-half mile of the parcels under consideration for the proposed tall structure. • The nearest community council and any community council whose boundary is within 1200 feet of the parcels under consideration for the tall structure.	
A written report summarizing the results of the community meeting shall be prepared that includes the following information:	**Attached**
1. Dates and locations of all meetings where citizens were invited to discuss the potential applicant's proposal.	
2. Content, dates mailed, and numbers of mailings, including letters, meeting notices, newsletters and other publications.	
3. Sign-in sheet(s) used at the meeting, that includes places for names, address, phone numbers and other contact information such as e-mail addresses.	
4. A list of residents, property owners, and interested parties who have requested in writing that they keep informed of the proposed development through notices, newsletters, or other written materials.	
5. The number of people who attended meetings.	
6. Copies of written comments received at the meeting.	
7. A certificate of mailing identifying all who were notified of the meeting.	
8. A written summary that addresses the following: • The substance of the public's written concerns, issues, and problems. • How the applicant has addressed, or intends to address, concerns, issues and problems expressed during the process. • Concerns issues, and problems the applicant has not addressed or does not intend to address and why.	

General application requirements for Administrative and Conditional Use Permits	Attached
1. Design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect.	✓
2. Citizen participation report *(if applying for a Conditional Use Permit)*	N/A
3. Certified site plan *(As defined in MSB 17.125.010)*	✓
4. Copy of a determination of no hazard to air navigation from the Federal Aviation Administration.	
5. If breakpoint technology is intended to be utilized, a written statement specifying the height at which the engineered structural weakness will be located.	N/A

In order to grant a Conditional Use Permit or Administrative Permit the Planning Commission or Planning Director must find that each of the following criteria has been met. Explain the following in detail:	Attached
1. To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized.	
2. Visibility of the tall structure from public parks, trails recognized within adopted MSB plans, and waterbodies has been minimized to the extent that is technically feasible and potentially available.	
3. The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the MSB Regional Aviation System Plan or by the Alaska State Aviation System Plan.	
4. That granting the permit will not be harmful to the public health, safety, convenience, and welfare.	

Application requirements for a Network Improvement Permit	Attached
1. A description of the proposed modifications to the telecommunication tower, including a description of the height, type, and lighting of the new or modified structure and the existing structure.	
2. A certified site *(as defined in MSB 17.125.010)* for purposes of setback verification.	
3. Design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect.	

In order to grant a Network Improvement Permit the Planning Director must find that each of the following criteria has been met. Explain the following in detail.	Attached
1. The proposed development conforms to setback requirements of MSB 17.55.	
2. The telecommunication tower being extended was lawfully constructed at the time of application for a Network Improvement Permit.	
3. The proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided that the condition being violated does not limit height of the structure.	

Operation Standards for New Tall Structures – Conditional Use Permit, Administrative Permit, and Network Improvement Permit	**Attached**
1. The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55	
2. Setbacks shall be determined from the dimensions of the entire lot, even though the tower may be located on lease areas within the lot.	
3. Adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way to enable emergency vehicle access. No more than two spaces per provider shall be required.	
4. Information signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission, as well as the party responsible for the operation and maintenance of the facility shall be visibly posted at the equipment compound.	
5. If more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER".	
6. A 24-hour emergency contact number shall be visibly posted at the equipment compound.	
7. A fence or wall not less than six (6) feet in height with a secured gate shall be maintained around the base of the tower.	

Additional Standards for Wind Energy Conversion Systems (WECS) – In addition to the operations standards for new tall structures, the following standards shall apply to WECS	**Attached**
1. WECS shall be equipped with an automatic overspeed control device designed to protect the system form sustaining structural failure such as splintered or thrown blades and the overturning or breaking of towers due to an uncontrolled condition brought on by high winds.	
2. WECS shall have a manually operable method that assures the WECS can be brought to a safe condition in high winds. Acceptable methods include mechanical or hydraulic brakes or tailvane deflection systems which turn the rotor out of the wind.	

OWNER'S STATEMENT: I am owner of the following property:

MSB Tax parcel ID #(s) 542093 and,
I hereby apply for approval conditional use permit on that property as described in this application.

I understand all activity must be conducted in compliance with all applicable standards of MSB 17.67 and with all other applicable borough, state or federal laws.

I understand that other rules such as local, state and federal regulations, covenants, plat notes, and deed restrictions may be applicable and other permits or authorization may be required. I understand that the borough may also impose conditions and safeguards designed to protect the public's health, safety and welfare and ensure the compatibility of the use with other adjacent uses.

I understand that it is my responsibility to identify and comply with all applicable rules and conditions, covenants, plat notes, and deed restrictions, including changes that may occur in such requirements.

I understand that this permit and zoning status may transfer to subsequent owners of this land and that it is my responsibility to disclose the requirements of this status to the buyer when I sell the land.

I understand that changes from the approved conditional use permit may require further authorization by the Borough Planning Commission. I understand that failure to provide applicable documentation of compliance with approved requirements, or violation of such requirements will nullify legal status, and may result in penalties.

I grant permission for borough staff members to enter onto the property as needed to process this application and monitor compliance. Such access will at a minimum, be allowed when the activity is occurring and, with prior notice, at other times necessary to monitor compliance.

The information submitted in this application is accurate and complete to the best of my knowledge.

Signature: Property Owner	Printed Name	Date
Signature: Agent	Helmundt Strumpher Printed Name	6/6/2025 Date

MSB USE ONLY

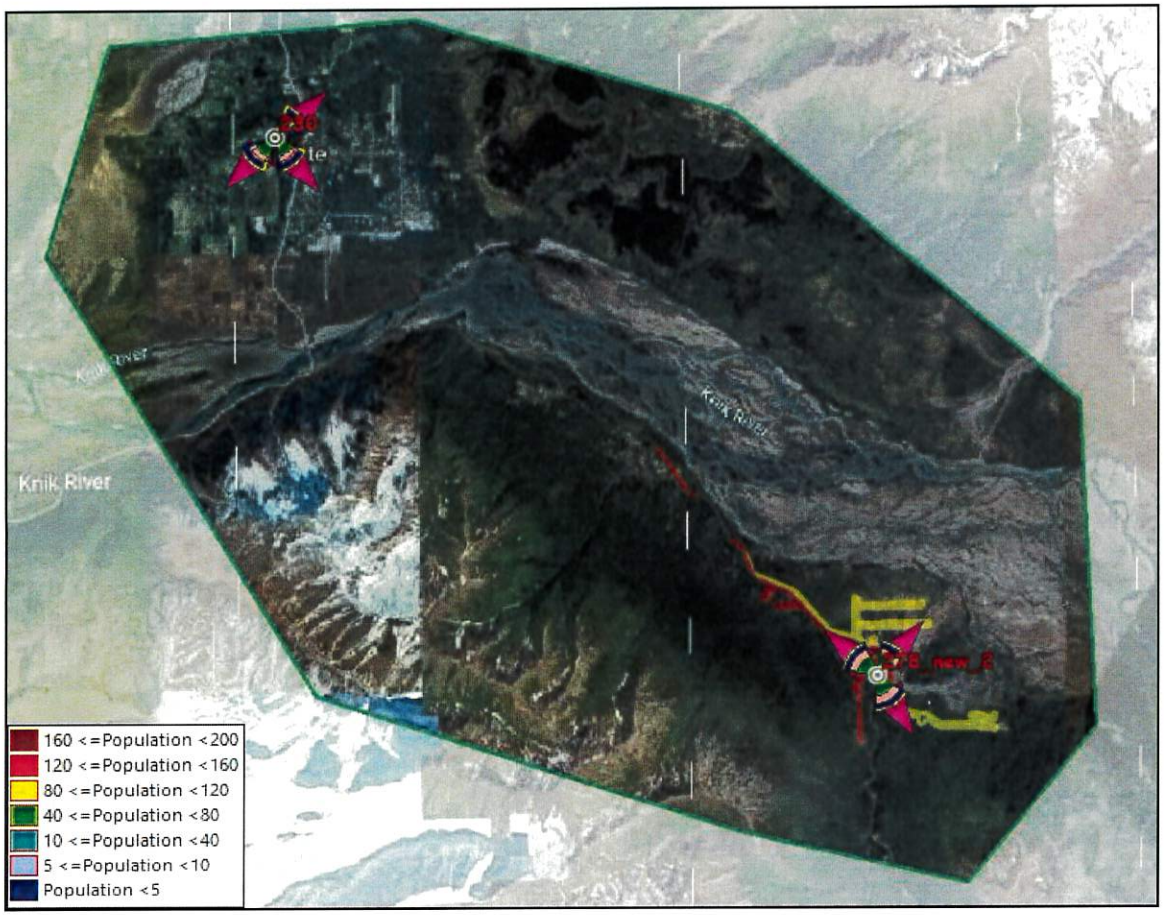
Date application submitted:

Date application determined complete: _____

Wireless Site ID = 278

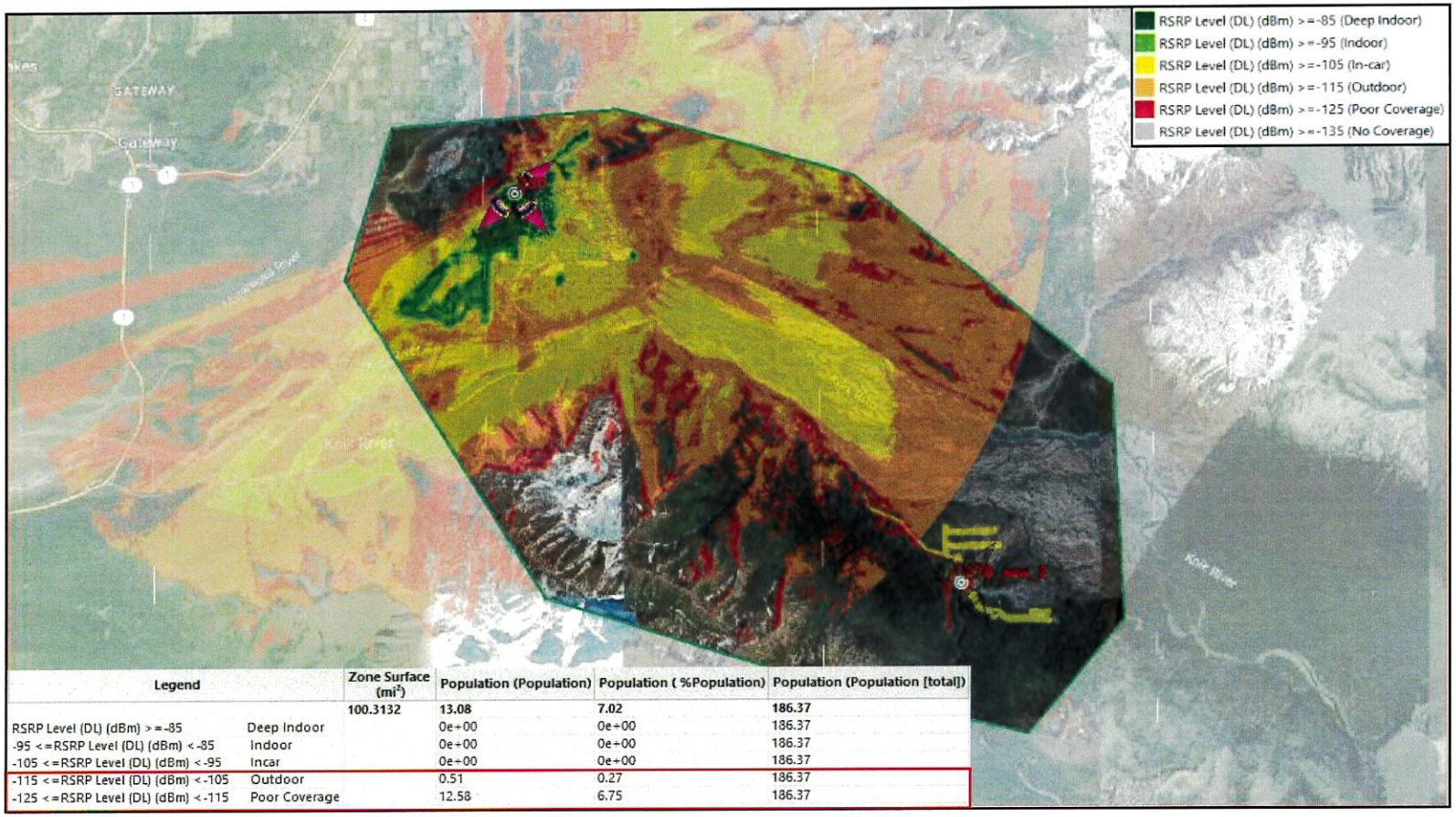
Knik Glacier

Coverage Analysis for Zoning



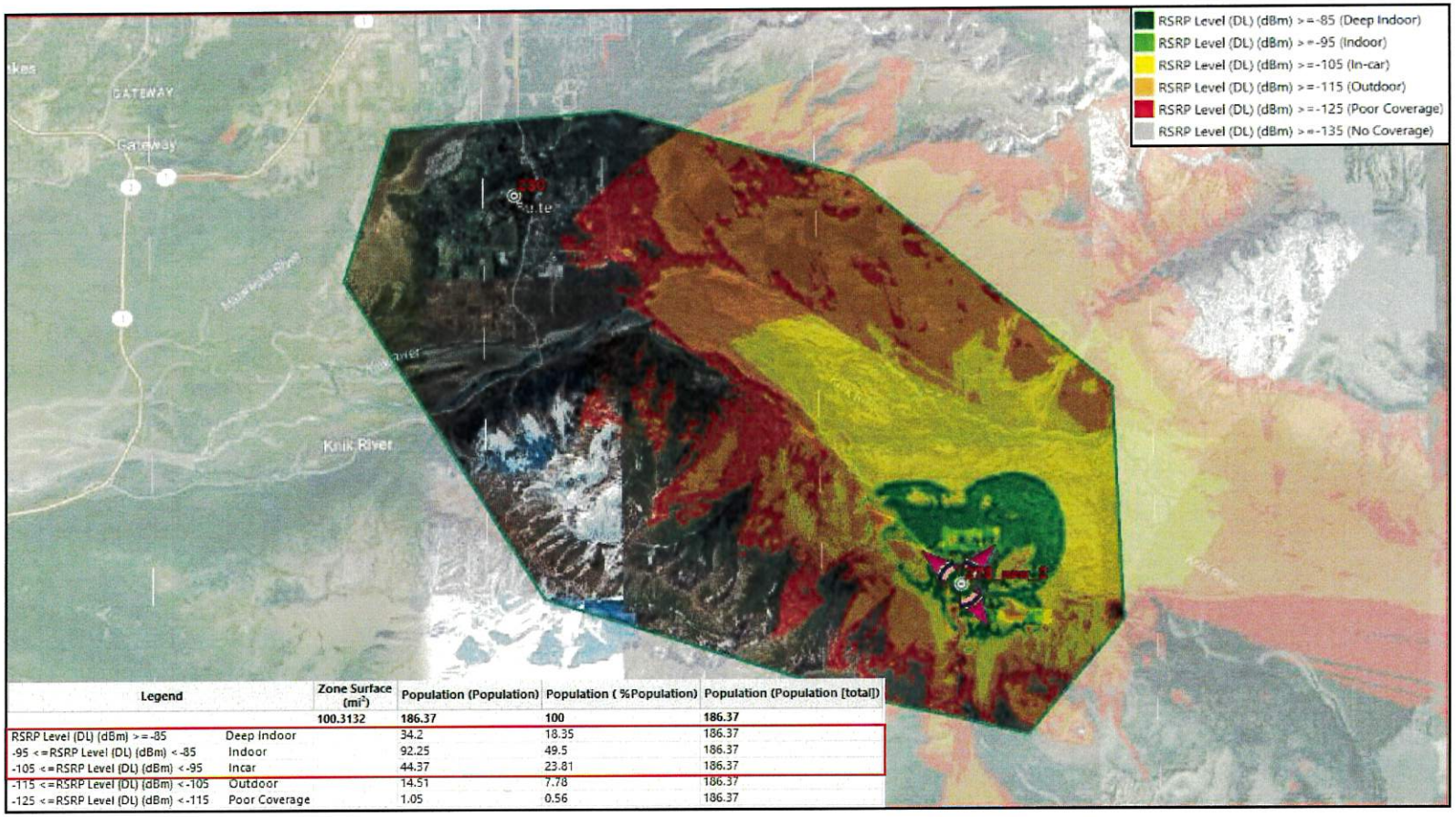
Polygon for coverage and population analysis

- Site 230 is an exiting site
- Site 278 is the propose new site to increase or coverage footprint to meet FCC requirements (new location).
  - Name Site Name Longitude Latitude
  - 278 Knik Glacier -148.813561 61.444219
  - RAD Center = 120 ft



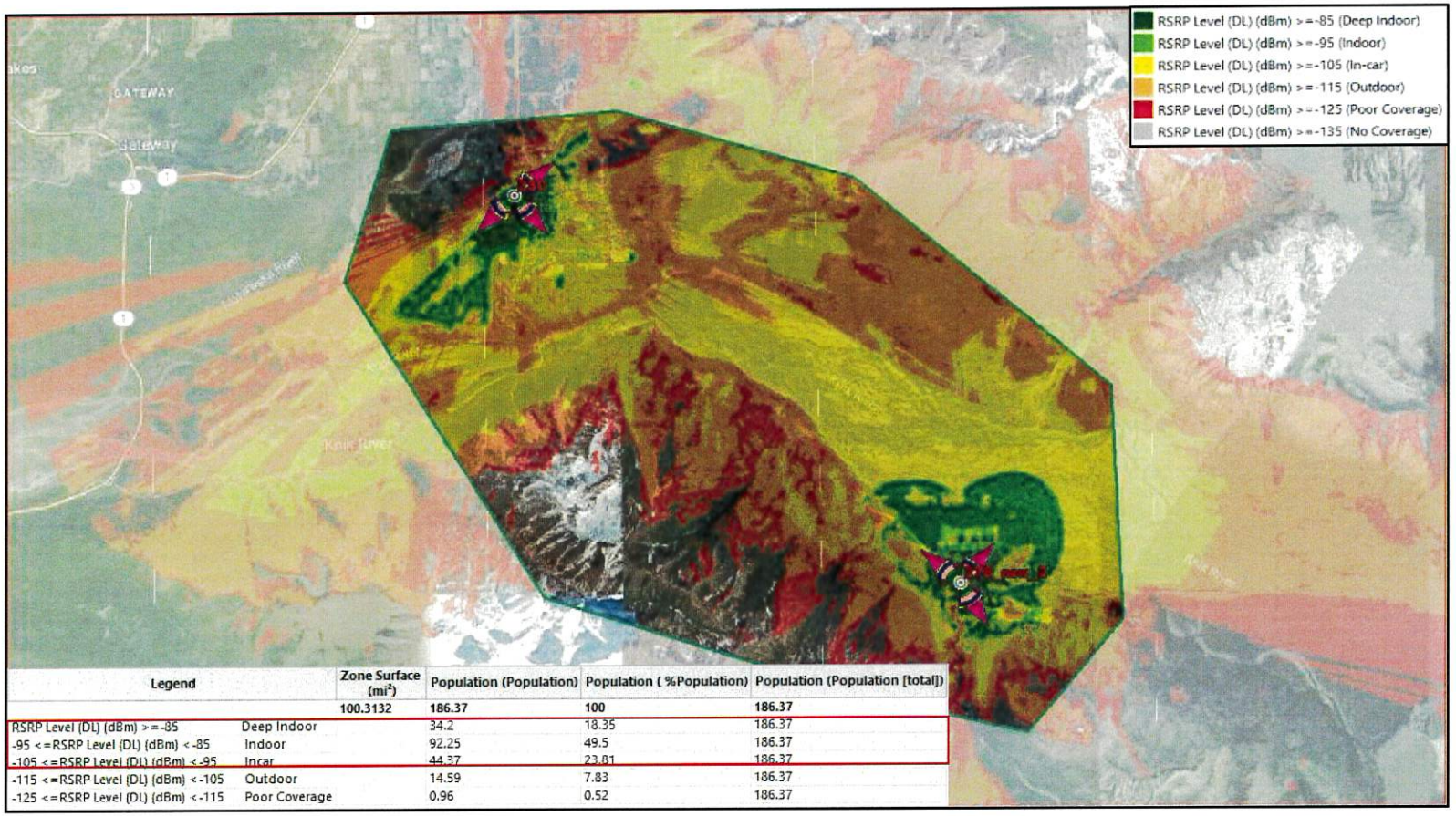
Legend		Zone Surface (mi^2)	Population (Population)	Population (%Population)	Population (Population [total])
		100.3132	13.08	7.02	186.37
RSRP Level (DL) (dBm) >=-85	Deep Indoor		0e+00	0e+00	186.37
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		0e+00	0e+00	186.37
-105 <=RSRP Level (DL) (dBm) <-95	Incar		0e+00	0e+00	186.37
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		0.51	0.27	186.37
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		12.58	6.75	186.37

Without the new site we are not providing In-car coverage, we provide on Outdoor and Poor coverage to 6.75% of population(12.58 POPs)



Legend		Zone Surface (mi^2)	Population (Population)	Population (%Population)	Population (Population [total])
		100.3132	186.37	100	186.37
RSRP Level (DL) (dBm) >=-85	Deep Indoor		34.2	18.35	186.37
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		92.25	49.5	186.37
-105 <=RSRP Level (DL) (dBm) <-95	Incar		44.37	23.81	186.37
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		14.51	7.78	186.37
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		1.05	0.56	186.37

With the new location of the site 278 only, we are providing In-car coverage to 92% of population(170.82 POPs)



Legend		Zone Surface (mi^2)	Population (Population)	Population (%Population)	Population (Population [total])
		100.3132	186.37	100	186.37
RSRP Level (DL) (dBm) >=-85	Deep Indoor		34.2	18.35	186.37
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		92.25	49.5	186.37
-105 <=RSRP Level (DL) (dBm) <-95	Incar		44.37	23.81	186.37
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		14.59	7.83	186.37
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		0.96	0.52	186.37

With the new and existing site, we are providing In-car coverage to 92% of population(170.82 POPs), the existing site 230 is adding Outdoor and Poor coverage for a total of 100% (186.37 POPs).

Conclusion

Greenfield candidate in the new proposed location shared by Atlas will provide significant better coverage and meet our requirements, even comparing with the two other previous locations analyzed.

New Tower Location: .

- GPS Coordinates: -148.813561, 61.444219
- RAD Center: 120'
- Azimuths of 40, 150 and 310 Degrees are suggested based on Initial Design.

Atlas Tower 1, LLC
2500 30th Street, Suite 304
Boulder, CO 80301
(303) 448-8896

ATLAS TOWER

June 5, 2025

Matanuska-Susitna Borough Development Services Division
350 E. Dahlia Ave
Palmer, AK 99645

RE: Administrative Permit Narrative for Telecommunications Facility
Site Name: Palmer

To Whom It May Concern:

Atlas Tower 1, LLC is submitting an Administrative Permit Application to the Matanuska-Susitna Borough Development Services Division for review of a new proposed wireless telecommunications facility build on the property of 27950 E KNIK RIVER RD, Palmer, AK, 99645, Parcel #: **542093**. This letter shall serve as a narrative for the proposed **125' Lattice** telecommunications facility and how this project will provide the needed mobile network coverage while reducing the need for additional cellular facilities in the future. This project is being proposed and this justification is being provided in an effort to alleviate current mobile network voice, data, and first responder issues in an area that is severely lacking reliable network coverage and capacity.

SITE DETAILS

Land Owner: Paul Laux 27950 E Knik River Rd Palmer, AK, 99645	**Site Address:** 27950 E Knik River Rd Palmer, AK, 99645 Parcel #: **542093**
Applicant: Atlas Tower 1, LLC 2500 30th St., Suite 304 Boulder, CO 80301	**Coordinates:** Latitude: 61.44422 Longitude: -148.81356 Ground Elevation: 141'
Zoning: General-Use	**Lease Area:** 50 x 50

PROPOSAL SUMMARY

The purpose of this request is to build a 125' self support telecommunications tower within a 50 x 50 wireless facility. This facility will provide critical wireless coverage to the surrounding area. The proposed site is zoned as General-Use where coverage is lacking, and the capacity of the existing infrastructure is reaching its limit. As the area develops further, and the existing users demand more data for their existing devices, existing infrastructure will reach capacity limits and be unable to meet coverage needs. This tower and facility will be used for structural support of up to four wireless providers. Each provider will install antennas and on-the-ground base-station equipment.

WIRELESS TELECOMMUNICATION FACILITY CHARACTERISTICS

Visual Effect

We strive to design our facilities and locate parcels that create the least amount of community disturbance. The surrounding area is a largely wooded rural area with low density residential zones nearby. The proposed site is chosen to maximize visual aesthetic and distance from residential homes. Photo sims have been included with views from the adjacent highway.

Proximity to Airports, Trails and Waterbodies

The closest airport, AK1 - Butte Municipal Airport, is roughly 9 miles to the NW. The site is not in line with any of the runways and does not pose a hazard to air navigation. The nearest trailhead, noted as 166 - Hunter Creek on MSB trail plans, is approx. 1.75 miles to the South. Due to the topography and trees, the tower is not expected to be visible from the trail. The next nearest trails are 061 - Knik Glacier (aka Jim Creek) and 083 - Pioneer Ridge/Austin Helmers; they are about 3 and 4 miles to the NE and NW, respectively, and should not have visibility of the tower. The nearest water body, Knik River, is approx. 1.5 miles to the north. It is possible the very tip of the tower would be visible, however from this distance it would likely be difficult to spot.

Frequency Of Maintenance Work On The Proposed Facility

On average, after initial installation, a carrier or its contactors would likely visit the facility about one to four times a year for maintenance, though this number could vary depending on the specific circumstances of the facility.

The Average Number Of Vehicles Visiting The Facility and Average Duration of Facility Work

The average maintenance visit by a carrier or its contractors would likely involve one pickup truck. On average, one to two visits a year are made for each carrier. For typical maintenance visits, a carrier or its contactors would only be at the site a few hours, but this number could increase depending on the work that needed to be completed at the site.

Expected Noise Levels

Telecommunications facilities are essentially silent. This would be true whether there were one or four carriers. A generator could be operated on site in the rare instance that power went out. The generator would create noise, but it would not be noticeable or audible in the location the telecommunications facility is proposed to be.

Setback Compliance

The proposed tower has been setback 160' from any property lines in order to maintain compliance with the Matanuska Susitna Borough Code requirements.

Site Security

The proposed tower shall be secured with a locked 8' chain link fencing with an additional 1' of barbed wire on top to prevent unauthorized visitors.

Building Codes; Safety Standards

Atlas Tower will ensure the structural integrity of towers, ensure that it is maintained in compliance with standards contained in applicable state or local building codes and the applicable standards for towers that are published by the Electronic Industries Association, as amended from time to time. Granting of this permit will not be harmful to the public health, safety, convenience, or welfare. If, upon inspection,

Matanuska-Susitna Borough concludes that a tower fails to comply with such codes and standards and constitutes a danger to persons or property, then upon notice being provided to the owner of the tower, the owner shall have thirty (30) days to bring such tower into compliance with such standards, unless a longer time is reasonably necessary. Failure to bring such tower into compliance within said thirty (30) days shall constitute grounds for the removal of the tower or antenna at the owner's expense.

FAA/FCC Compliance

Applicant has submitted the appropriate applications with the FAA & FCC but has yet to receive a determination. The proposed facility shall conform to the requirements of this title, this code, and other laws, including pertinent federal regulations of the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA) when determined.

This narrative represents required and supplementary information to document the technological, economic, and social necessity and benefits of a new 125' self support telecommunications tower in Palmer. The information provided highlights the advantages associated with a telecommunications facility at our proposed site. See attached documents including our survey and tower drawings.

Atlas Tower 1, LLC respectfully requests the acceptance of our application for a Zoning for the proposed communications tower facility.

Best Regards,

Helmundt Strumpher
720-667-6652
www.atlastowers.com
2500 30th St. Suite 304
Boulder, CO 80301

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Form Approved OMB No.2120-0001
Expiration Date: 05/31/2026

Privacy Act Statement (5 U.S.C. § 552a(e)(3)): Authority: Information solicited by the Federal Aviation Administration (FAA) Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) is authorized by 49 U.S.C. § 44718 and 47101 Purpose: The FAA OE/AAA is an application used to evaluate all structures that may affect the national airspace system and defend against potential hazards to the safety and efficient use of the navigable airspace. The information collected is used to allow a user access to the OE/AAA and to administer the Aeronautical Study Process. Routine Uses: In accordance with the Privacy Act system of records notice, DOT/ALL 16 Mailing Management System and DOT/FAA 826 Petitions for Exemptions, Other than Medical Exemptions this information may be disclosed to officials within the federal government and the public in general. DOT/ALL 13 - Internet/Intranet Activity and Access Records, this information is routinely used; • To provide information to any person(s) authorized to assist in an approved investigation of improper access or usage of DOT computer systems; • To an actual or potential party or his or her authorized representative for the purpose of negotiation or discussion of such matters as settlement of the case or matter, or informal discovery proceedings; • To contractors, grantees, experts, consultants, detailees, and other non-DOT employees performing or working on a contract, service, grant cooperative agreement, or other assignment from the Federal government, when necessary to accomplish an agency function related to this system of records; and • To other government agencies where required by law.

Disclosure: Submission of the information is voluntary, however, failure to submit requested information will result in FAA's inability to grant you access to the system and may result in an inability of the FAA to process the notice or administer the aeronautical study process for the construction, alteration, activation, or deactivation proposed.

Failure to Provide All Requested Information May Delay Processing of your Notice

U.S. Department of Transportation
Federal Aviation Administration

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY

Aeronautical Study Number
2025-AAL-342-OE

Status: Reviewing

1. Sponsor

Name: ATLAS TOWER 1, LLC
Attn of: MIKE POWERS
Address: 2500 30th St
Suite 304
City: Boulder State: CO Zip: 80301
Country: US
Phone: tel:+1-1-303-448-8896 Fax:

2. Sponsor's Representative

Name: CORNELIUS WHITEHEAD
Attn of: JOCELYN GIFFORD
Address: 2500 30th St
Ste 304
City: Boulder State: CO Zip: 80301
Country: US
Phone: tel:+1-1-303-887-0752 Fax:

9. Latitude: See Collected Point(s)
10. Longitude: See Collected Point(s)
11. Datum: See Collected Point(s)
12. Nearest: City: Palmer State: Alaska
13. Nearest *Public-use* or Military Airport or Heliport: BUTTE MUNI(AK1)
14. Distance from #13. *to Structure*: 47549 ft.
15. Direction from #13. *to Structure*: 131 deg
16. Site Elevation *(SE)*: See Collected Point(s)
17. Structure Height *(AGL)*: See Collected Point(s)
18. Overall Height (#16 + #17) *(AMSL)*: See Collected Point(s)
Current Overall Height (#16 + #17) *(AMSL)*: See Collected Point(s)
19. Previous FAA Aeronautical Study Number *(if applicable)*:
20. Description of Location:

3. Notice of: Construction

4. Duration: Permanent (Months: Days:)

5. Work Schedule: N/A

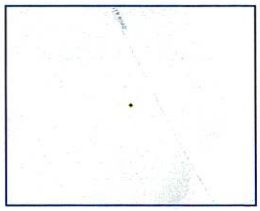
6a. Type: Antenna Tower 6b. Name: Palmer - Laux

7. Preferred Marking/Lighting: Not Marked/No Lighting

Current Marking/Lighting:

8. FCC Antenna Registration Number *(if applicable)*:

27950 E Knik River Rd, Palmer, AK 99645



Processed 7460-2 Forms :

Supplemental Form 7460-2 : Add 7460-2

21. Description of Proposal:
125' wireless communications facility (lattice) contained within a 50' x 50' fenced compound

Frequencies:

LOW	HIGH	ERP
6	7 GHz	42 dBW
6	7 GHz	55 dBW
10	11.7 GHz	42 dBW
10	11.7 GHz	55 dBW
17.7	19.7 GHz	42 dBW
17.7	19.7 GHz	55 dBW
21.2	23.6 GHz	42 dBW
21.2	23.6 GHz	55 dBW
614	698 MHz	1000 W
614	698 MHz	2000 W
698	806 MHz	1000 W
806	824 MHz	500 W
806	901 MHz	500 W
824	849 MHz	500 W
851	866 MHz	500 W
869	894 MHz	500 W
896	901 MHz	500 W
901	902 MHz	7 W
929	932 MHz	3500 W
930	931 MHz	3500 W
931	932 MHz	3500 W
932	932.5 MHz	17 dBW
935	940 MHz	1000 W

Specific Frequencies:

LOW	HIGH	ERP

LOW	HIGH	ERP
940	941 MHz	3500 W
1670	1675 MHz	500 W
1710	1755 MHz	500 W
1850	1910 MHz	1640 W
1850	1990 MHz	1640 W
1930	1990 MHz	1640 W
1990	2025 MHz	500 W
2110	2200 MHz	500 W
2305	2360 MHz	2000 W
2305	2310 MHz	2000 W
2345	2360 MHz	2000 W
2496	2690 MHz	500 W

Collected Point(s):

Label	Latitude	Longitude	Datum	AGL	SE	SE Validation	SE Comments
pt-1	61 26 39.19N	148 48 48.82W	WGS 84	125 ft	230 ft	PASSED	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

This FAA Form 7460-1 was submitted electronically on 06/05/2025 at 16:06 PM EDT.

Title	Type	File
Letter	Date	

Previous

ATLAS TOWER

USA • INTERNATIONAL

SITE NAME: PALMER

PROPOSED 125' LATTICE TOWER

11245 S NYSTROM WAY
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

TEP

PHOTO RENDERED BY TEP OPCO, LCC

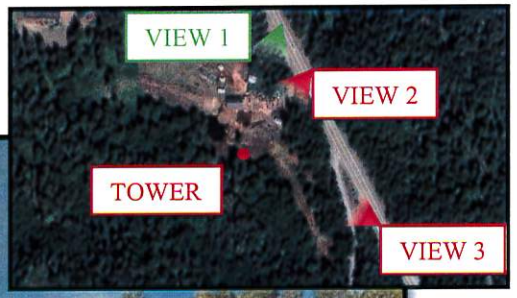
TEP


Legend
Palmer Tower
Photo Location (PL)
E Knik River Rd
PL 1
PL 2
Tower
PL 3
Hunter Creek
N
700 ft
Google Earth
Image © 2025 Airbus

EXISTING VIEW: LOCATION 1

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: PALMER
ADDRESS: 11245 S NYSTROM WAY
PALMER, AK 99645
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

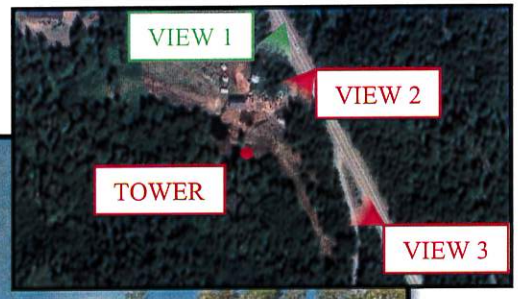
PHOTO RENDERED BY TEP OPCO, LCC

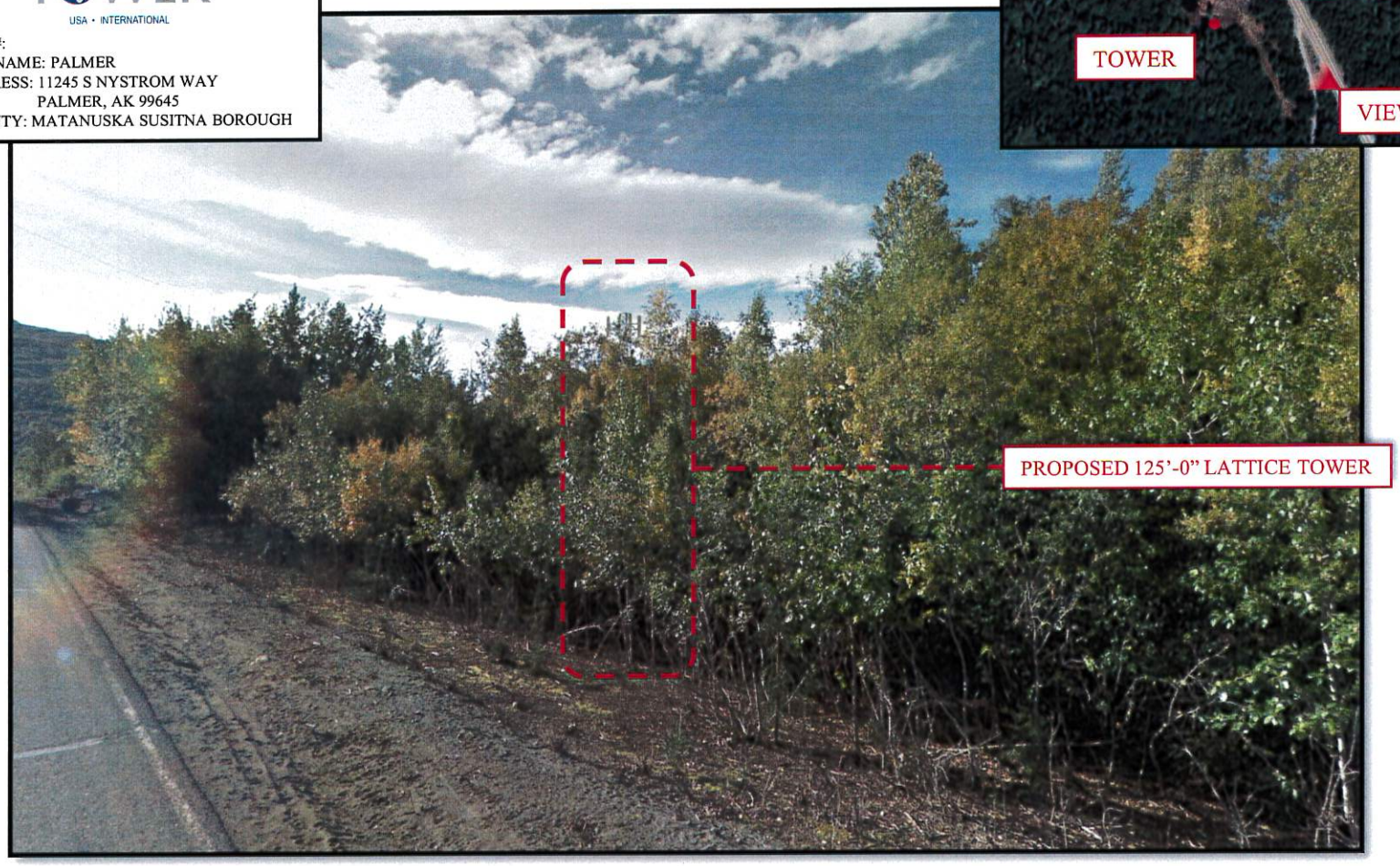
TEP

PROPOSED VIEW: LOCATION 1

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: PALMER
ADDRESS: 11245 S NYSTROM WAY
PALMER, AK 99645
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

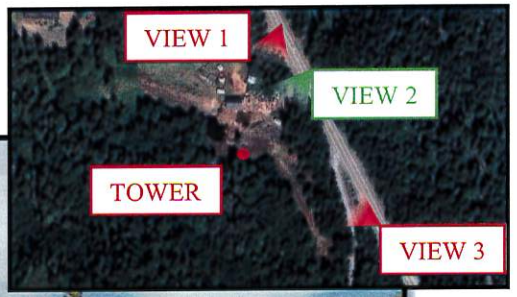
PHOTO RENDERED BY TEP OPCO, LCC

TEP

EXISTING VIEW: LOCATION 2

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: PALMER
ADDRESS: 11245 S NYSTROM WAY
PALMER, AK 99645
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

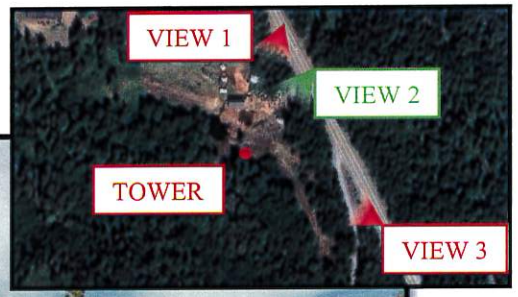
PHOTO RENDERED BY TEP OPCO, LCC

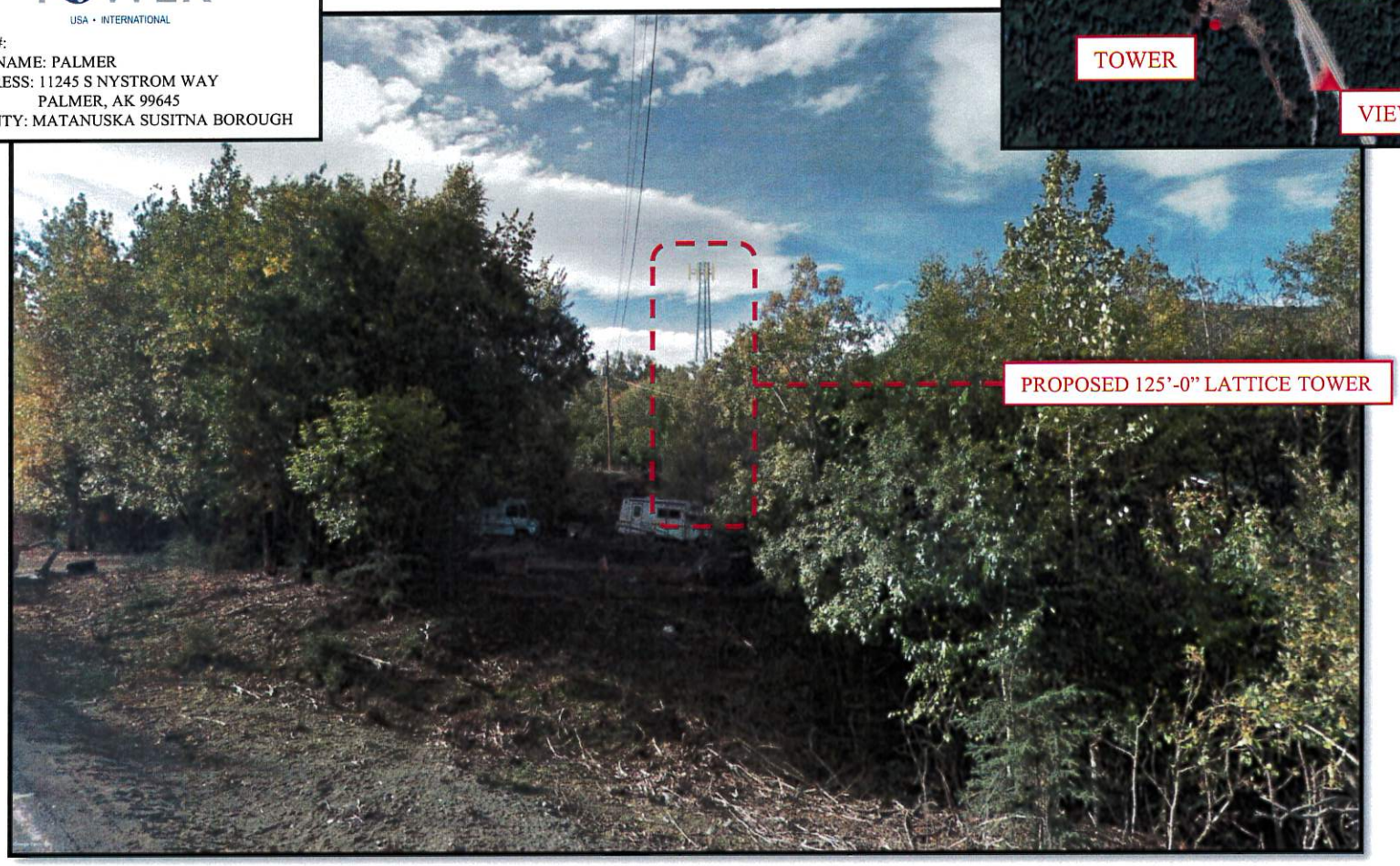
TEP

PROPOSED VIEW: LOCATION 2

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: PALMER
ADDRESS: 11245 S NYSTROM WAY
PALMER, AK 99645
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

PHOTO RENDERED BY TEP OPCO, LCC

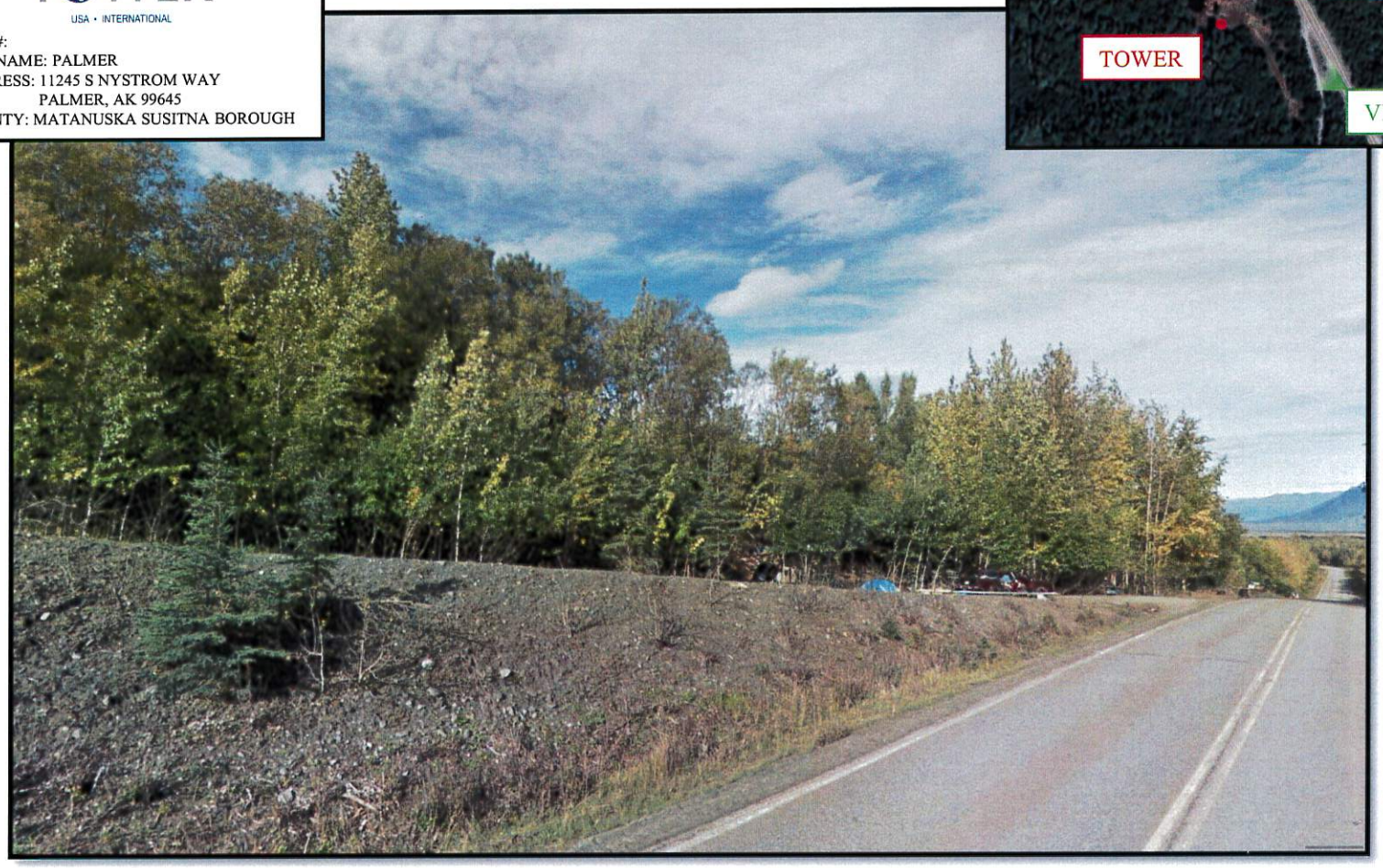
TEP

EXISTING VIEW: LOCATION 3

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: PALMER
ADDRESS: 11245 S NYSTROM WAY
PALMER, AK 99645
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

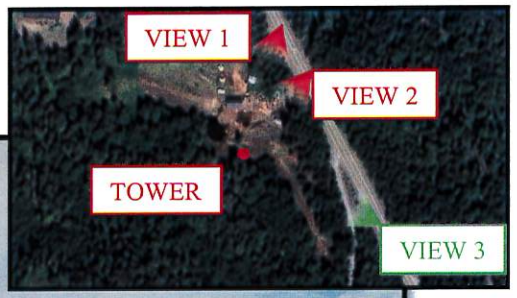
PHOTO RENDERED BY TEP OPCO, LCC

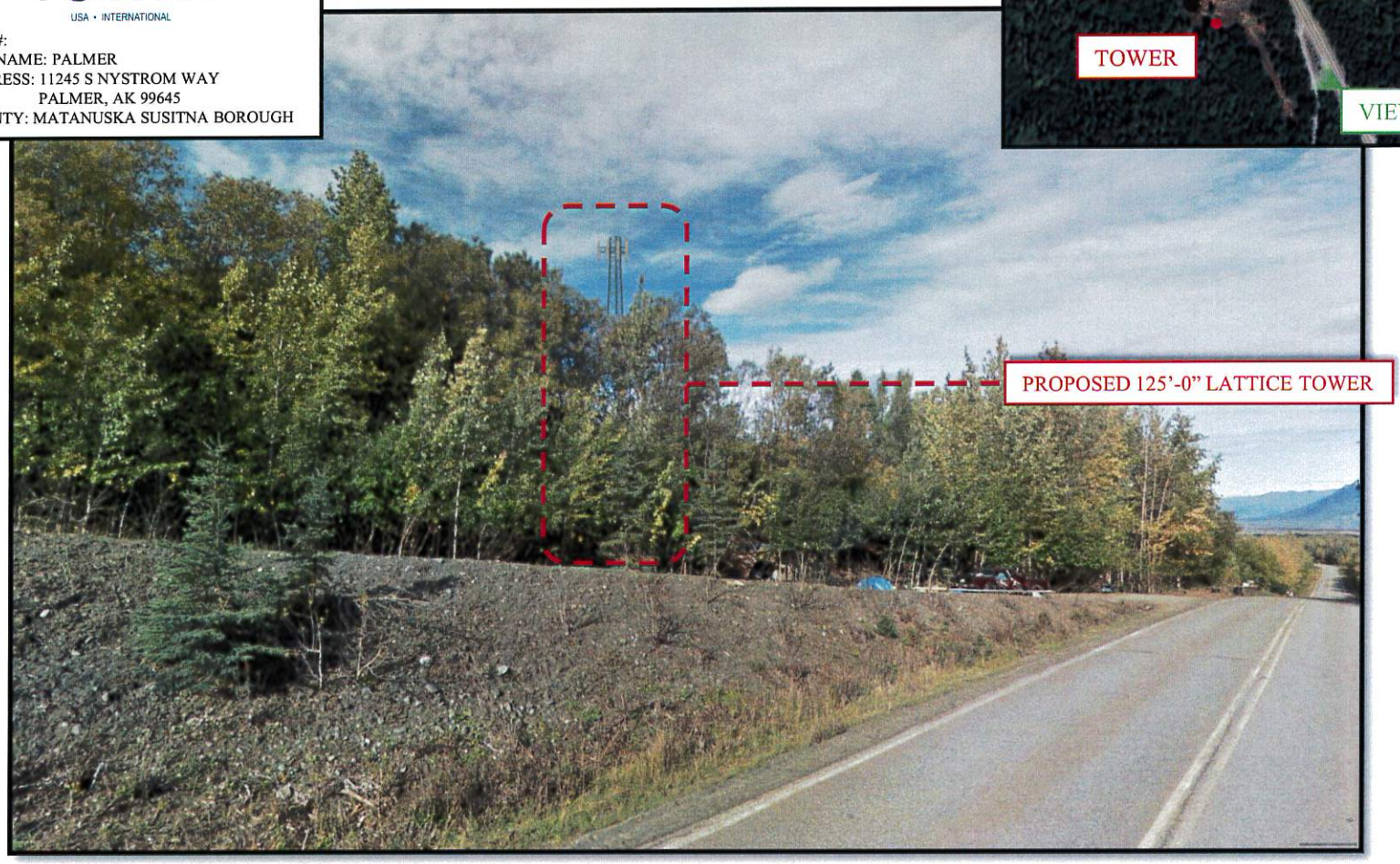
TEP

PROPOSED VIEW: LOCATION 3

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: PALMER
ADDRESS: 11245 S NYSTROM WAY
PALMER, AK 99645
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

PHOTO RENDERED BY TEP OPCO, LCC

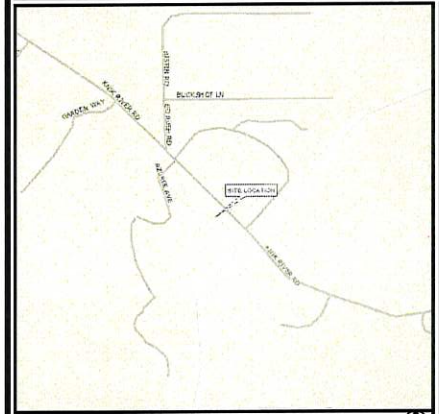
TEP

SITE NAME:	PALMER - ALT 2
PROJECT DESCRIPTION:	PROPOSED TELECOMMUNICATIONS FACILITY
TOWER TYPE:	125' LATTICE TOWER
SITE ADDRESS:	27950 E KNIK RIVER RD PALMER, AK 99645 (MATANUSKA SUSITNA BOROUGH)
AREA OF CONSTRUCTION:	2500 ± SQ. FT. (LEASE AREA)
PRESENT OCCUPANCY TYPE:	RESIDENTIAL
JURISDICTION	MATANUSKA SUSITNA BOROUGH
ZONING:	General Use
PROPERTY ACCOUNT:	8274000L001A
PARCEL#:	542093

PROJECT INFORMATION

LATITUDE	N 61° 26' 39.1878"	(NAD '83) *
LONGITUDE	W 148° 48' 48.8154"	(NAD '83) *

SITE COORDINATES



LOCATION MAP

FROM TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT, TAKE W NORTHERN LIGHTS BLVD AND W BENSON BLVD TO AK-1 N/E 5TH AVE, HEAD NORTHWEST ON POSTMARK DR/SATELLITE DR TOWARD TOM WARDLEIGH DR, TURN RIGHT ONTO LAKE HOOD DR, TURN RIGHT ONTO W NORTHERN LIGHTS BLVD, CONTINUE ONTO W BENSON BLVD, TURN LEFT ONTO AK-1 N, USE THE RIGHT 2 LANES TO TURN RIGHT ONTO E 6TH AVE, FOLLOW AK-1 N TO S OLD GLENN HWY. TAKE THE OLD GLENN HWY EXIT FROM AK-1 N, CONTINUE ONTO AK-1 N/E 5TH AVE, TAKE THE OLD GLENN HWY EXIT, SLIGHT RIGHT ONTO THE RAMP TO PALMER, DRIVE TO E KNIK RIVER RD IN KNIK RIVER, MERGE WITH S OLD GLENN HWY, SLIGHT RIGHT ONTO E KNIK RIVER RD.

DRIVING DIRECTIONS

ATLAS TOWER



SITE NAME: PALMER - ALT 2
27950 E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

(800) 478-3121

EMERGENCY:

CALL 911

811 Know what's below. Call before you dig.

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:

1. INTERNATIONAL BUILDING CODE (2021 EDITION)
2. INTERNATIONAL CODE COUNCIL
3. ANSI/TIA/EIA-222-H
4. NATIONAL ELECTRIC CODE (2020 EDITION)
5. LOCAL BUILDING CODE
6. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

CONSTRUCTION OF A TELECOMMUNICATION FACILITY, CONSISTING OF ANTENNAS & ASSOCIATED APPURTENANCES ON A PROPOSED LATTICE TOWER, FENCED COMPOUND & SERVICE EQUIPMENT FOR FUTURE CARRIERS. NO WATER OR SEWER IS REQUIRED.

1. FACILITY DESIGNED IN ACCORDANCE WITH THE MATANUSKA-SUSITNA BOROUGH REGULATIONS.
2. THIS IS AN UNMANNED FACILITY WHICH WILL NOT REQUIRE ANY WATER OR SEWER FACILITIES.
3. TRAFFIC WILL CONSIST ONLY OF MAINTENANCE PERSONNEL, VISITING THE SITE APPROXIMATELY TWICE A MONTH.

PROJECT DESCRIPTION & NOTES

SITE CONSTRUCTION MANAGER:
NAME: WiBLUE, INC.
CONTACT: COREY BONNER
PHONE: (986) 206-7071

SITE APPLICANT:
NAME: WiBLUE, INC.
ADDRESS: 2500 30TH ST, SUITE 304
CITY, STATE, ZIP: BOULDER, CO 80302
CONTACT: SANDRA LAYTON
PHONE: (801) 732-0624

ORIGINAL SURVEYOR:
NAME: T.B.D.
ADDRESS: T.B.D.
CITY, STATE, ZIP: T.B.D.
CONTACT: T.B.D.
PHONE: T.B.D.

CIVIL ENGINEER:
NAME: TEP OPCO, LLC
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALIEGH, NC 27603
CONTACT: ANDREW T. HALDANE, P.E.
PHONE: (919) 661-6351

ELECTRICAL ENGINEER:
NAME: TEP OPCO, LLC
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: ANDREW T. HALDANE, P.E.
PHONE: (919) 661-6351

PROPERTY OWNER:
NAME: LAUX PAUL J
ADDRESS: 27950 E KNIK RIVER RD,
CITY, STATE, ZIP: PALMER, AK 99645

UTILITIES:
POWER COMPANY: T.B.D.
ADDRESS: UNKNOWN
PHONE: UNKNOWN
WO#: T.B.D.

FACILITY OWNER:
NAME: ATLAS TOWER 1, LLC
ADDRESS: 2500 30TH ST, SUITE 304
CITY, STATE, ZIP: BOULDER, CO 80302

CONTACT INFORMATION

SHEET	DESCRIPTION	REV
T1	TITLE SHEET	0
N1	GENERAL NOTES	0
C1	AREA PLAN	0
C2	SITE PLAN	0
C3	COMPOUND DETAIL	0
C4	TOWER ELEVATON	0
C5	FENCE DETAILS	0
C6	DRIVEWAY DETAILS	0
C7	SIGNAGE DETAILS	0
E1	ELECTRICAL NOTES	0
E2	POWER PLAN & ONE-LINE DIAGRAM	0
E3	SERVICE RACK DETAILS	0
E4	GROUNDING PLAN & DETAILS	0
E5	GROUNDING DETAILS	0
E6	TOWER FOUNDATION GROUNDING DETAILS	0

INDEX OF SHEETS

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

REV	DATE	ISSUED FOR:
0	06-17-25	PRELIMINARY

DRAWN BY: RBK | CHECKED BY: KES

SEAL:

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

SEAL:

SHEET NUMBER: T-1

REVISION: 0

TEP#:349563.111711

TEP is a family of companies licensed to provide different services in different jurisdictions. Depending on the jurisdiction, professional engineering and land surveying services are provided by TEP OpCo LLC, a Delaware limited liability company, TEP Engineering, PLLC, a North Carolina professional limited liability company, or M&H Engineering, PLLC, a New York professional limited liability company. Contract construction services are provided by TEP MS OpCo LLC, a Delaware limited liability company. We respect the intellectual property of others. To request the required access to work issues, additional information can be obtained from the company.

GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED ATLAS TOWER 1, LLC, OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-H. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
   B. ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
   C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
   D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PROJECT INFORMATION:

PALMER - ALT 2

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

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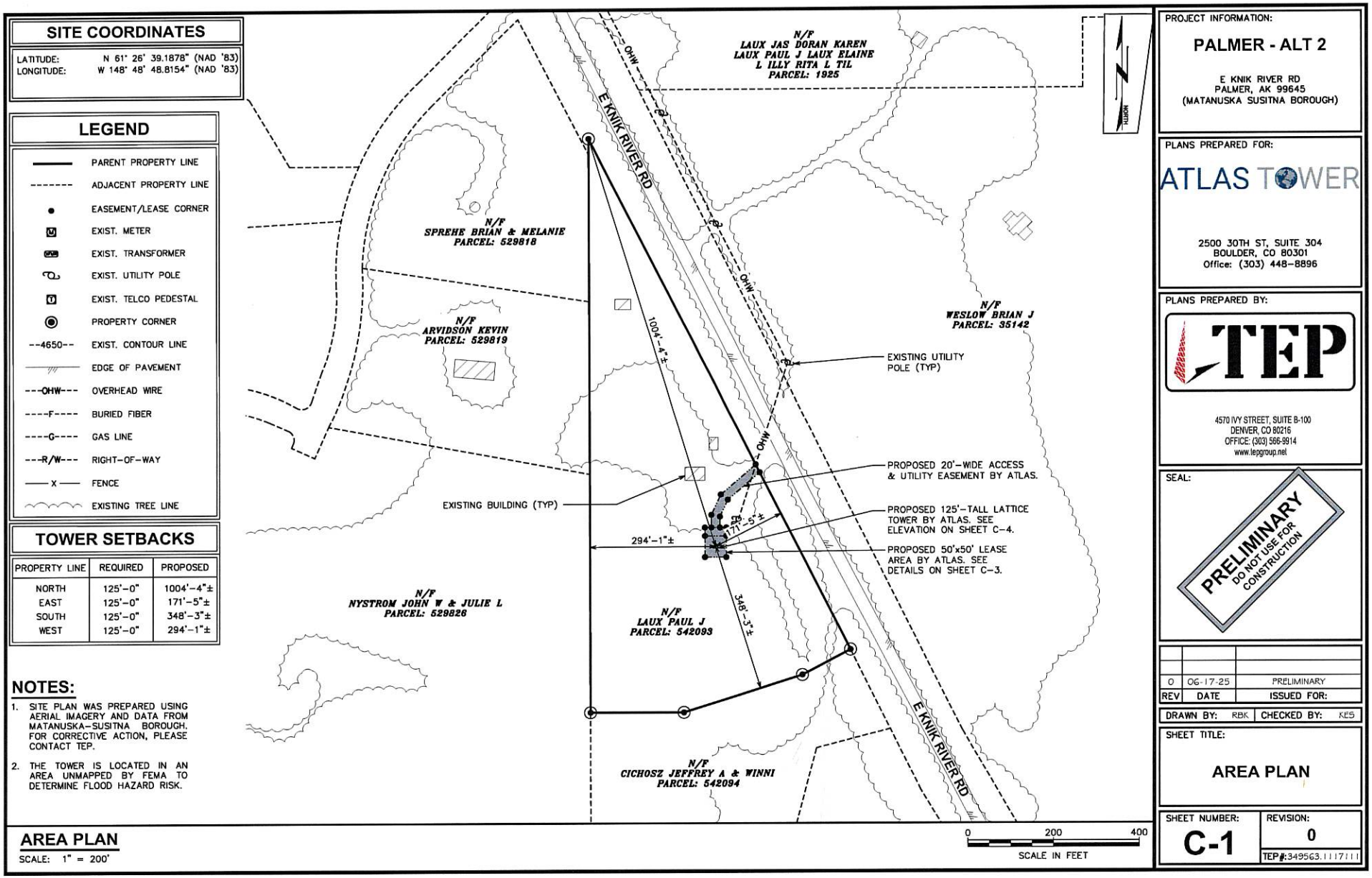
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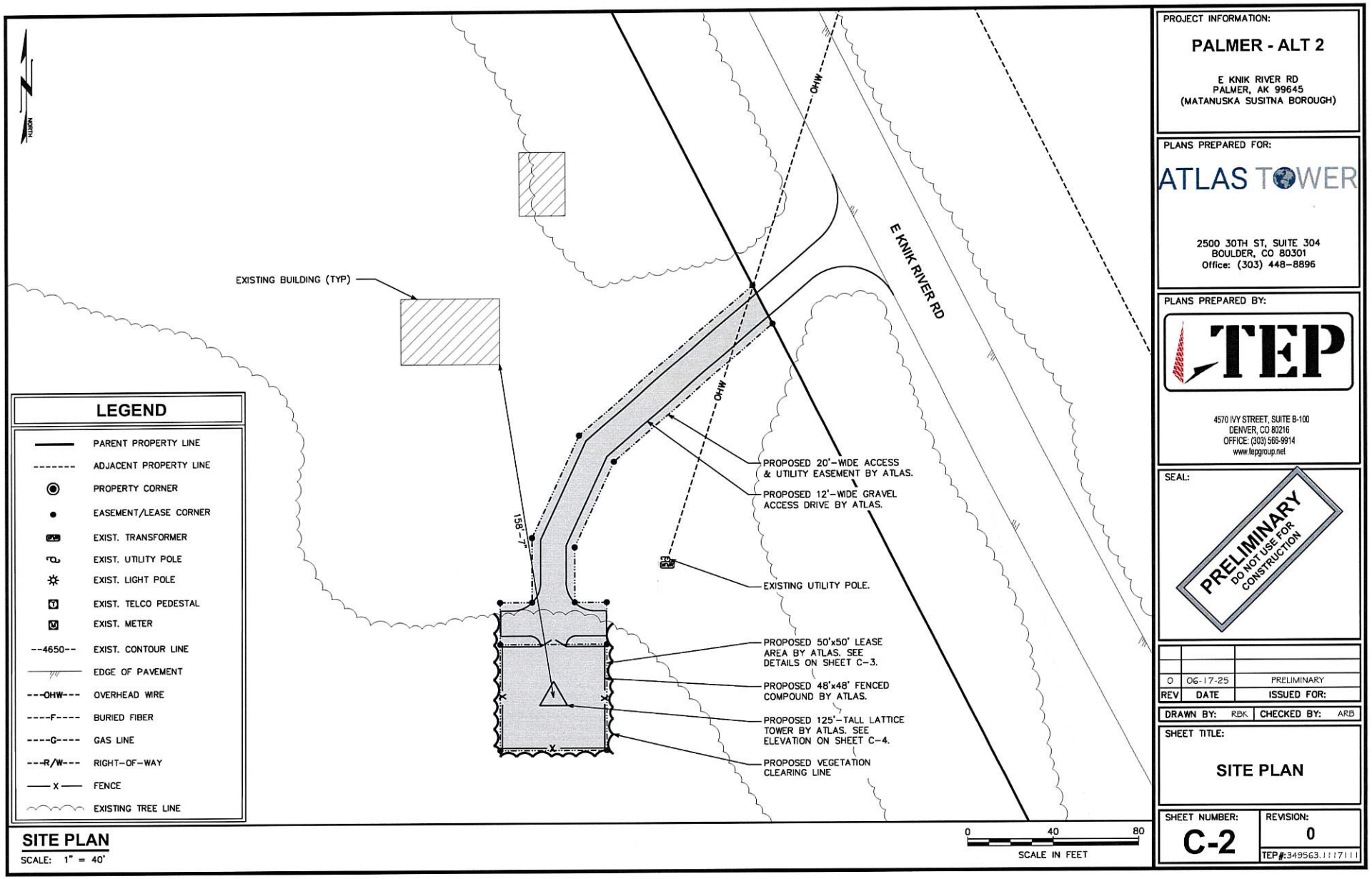
GENERAL NOTES

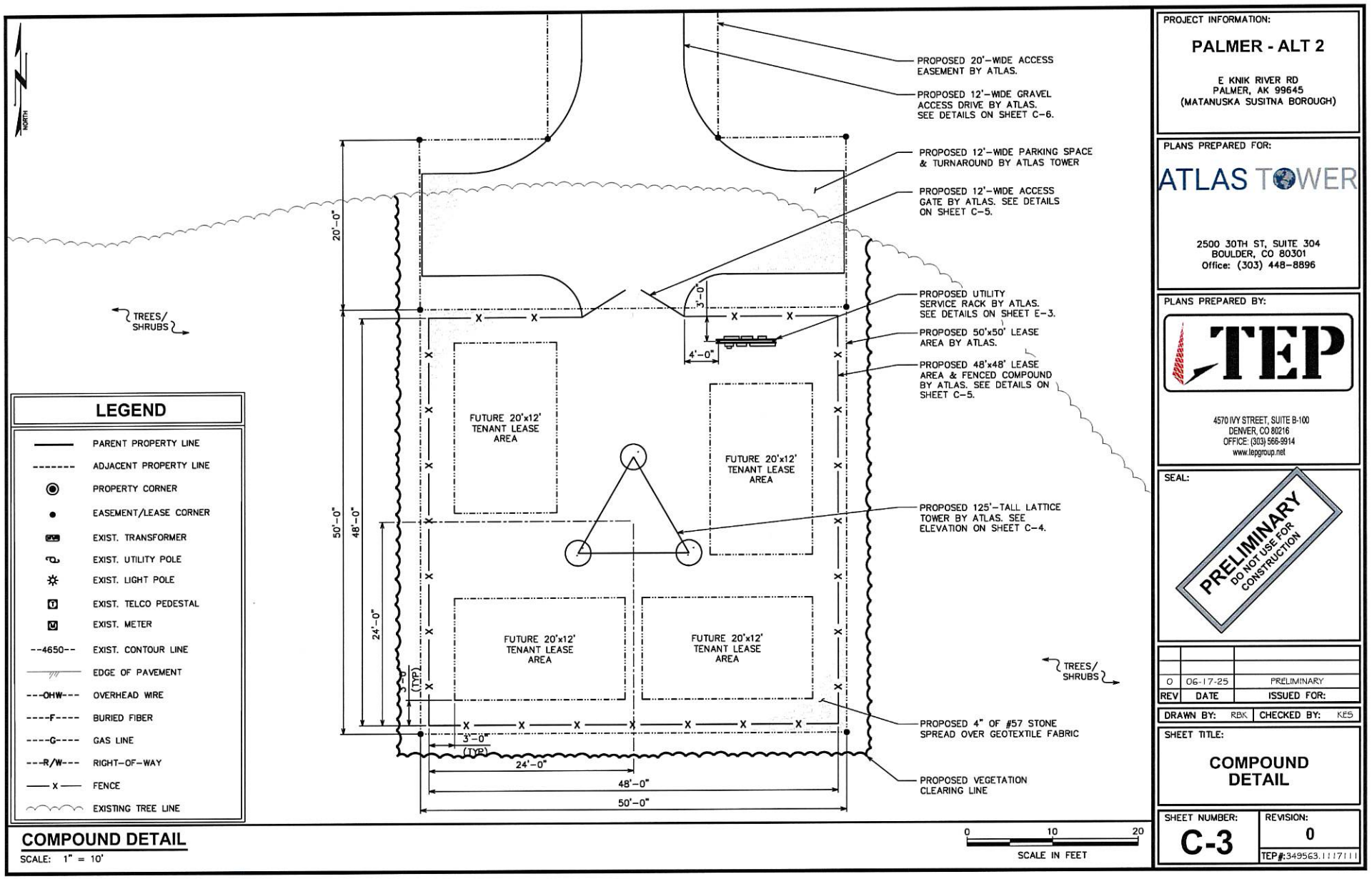
SHEET NUMBER: **N-1**

REVISION: **0**

TEP #: 349563.111711


SITE COORDINATES
LATITUDE: N 61° 26' 39.1878" (NAD '83)
LONGITUDE: W 148° 48' 48.8154" (NAD '83)
LEGEND
PARENT PROPERTY LINE
ADJACENT PROPERTY LINE
EASEMENT/LEASE CORNER
EXIST. METER
EXIST. TRANSFORMER
EXIST. UTILITY POLE
EXIST. TELCO PEDESTAL
PROPERTY CORNER
--4650-- EXIST. CONTOUR LINE
EDGE OF PAVEMENT
---OHW--- OVERHEAD WIRE
----F---- BURIED FIBER
----G---- GAS LINE
---R/W--- RIGHT-OF-WAY
—— X —— FENCE
EXISTING TREE LINE
TOWER SETBACKS
PROPERTY LINE | REQUIRED | PROPOSED
NORTH | 125'-0" | 1004'-4"±
EAST | 125'-0" | 171'-5"±
SOUTH | 125'-0" | 348'-3"±
WEST | 125'-0" | 294'-1"±
NOTES:
1. SITE PLAN WAS PREPARED USING AERIAL IMAGERY AND DATA FROM MATANUSKA-SUSITNA BOROUGH. FOR CORRECTIVE ACTION, PLEASE CONTACT TEP.
2. THE TOWER IS LOCATED IN AN AREA UNMAPPED BY FEMA TO DETERMINE FLOOD HAZARD RISK.
N/F
LAUX JAS DORAN KAREN
LAUX PAUL J LAUX ELAINE
L ILLY RITA L TIL
PARCEL: 1925
N/F
SPREHE BRIAN & MELANIE
PARCEL: 529818
N/F
ARVIDSON KEVIN
PARCEL: 529819
N/F
WESLOW BRIAN J
PARCEL: 35142
N/F
NYSTROM JOHN W & JULIE L
PARCEL: 529826
N/F
LAUX PAUL J
PARCEL: 542093
N/F
CICHOSZ JEFFREY A & WINNI
PARCEL: 542094
E KNIK RIVER RD
OHW
1004'-4"±
171'-5"±
294'-1"±
348'-3"±
EXISTING UTILITY POLE (TYP)
EXISTING BUILDING (TYP)
PROPOSED 20'-WIDE ACCESS & UTILITY EASEMENT BY ATLAS.
PROPOSED 125'-TALL LATTICE TOWER BY ATLAS. SEE ELEVATION ON SHEET C-4.
PROPOSED 50'x50' LEASE AREA BY ATLAS. SEE DETAILS ON SHEET C-3.
NORTH
0 200 400
SCALE IN FEET
AREA PLAN
SCALE: 1" = 200'
PROJECT INFORMATION:
PALMER - ALT 2
E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)
PLANS PREPARED FOR:
ATLAS TOWER
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896
PLANS PREPARED BY:
TEP
4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net
SEAL:
PRELIMINARY
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DRAWN BY: RBK | CHECKED BY: KES
SHEET TITLE:
AREA PLAN
SHEET NUMBER: C-1
REVISION: 0
TEP#:349563.1117111


NORTH
EXISTING BUILDING (TYP)
OHW
E KNIK RIVER RD
OHW
158'-7"
PROPOSED 20'-WIDE ACCESS & UTILITY EASEMENT BY ATLAS.
PROPOSED 12'-WIDE GRAVEL ACCESS DRIVE BY ATLAS.
EXISTING UTILITY POLE.
PROPOSED 50'x50' LEASE AREA BY ATLAS. SEE DETAILS ON SHEET C-3.
PROPOSED 48'x48' FENCED COMPOUND BY ATLAS.
PROPOSED 125'-TALL LATTICE TOWER BY ATLAS. SEE ELEVATION ON SHEET C-4.
PROPOSED VEGETATION CLEARING LINE
LEGEND
PARENT PROPERTY LINE
ADJACENT PROPERTY LINE
PROPERTY CORNER
EASEMENT/LEASE CORNER
EXIST. TRANSFORMER
EXIST. UTILITY POLE
EXIST. LIGHT POLE
EXIST. TELCO PEDESTAL
EXIST. METER
--4650-- EXIST. CONTOUR LINE
EDGE OF PAVEMENT
---OHW--- OVERHEAD WIRE
----F---- BURIED FIBER
----G---- GAS LINE
---R/W--- RIGHT-OF-WAY
FENCE
EXISTING TREE LINE
SITE PLAN
SCALE: 1" = 40'
0 40 80
SCALE IN FEET
PROJECT INFORMATION:
PALMER - ALT 2
E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)
PLANS PREPARED FOR:
ATLAS TOWER
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896
PLANS PREPARED BY:
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DRAWN BY: RBK CHECKED BY: ARB
SHEET TITLE:
SITE PLAN
SHEET NUMBER: C-2
REVISION: 0
TEP#:349563.111711



COMPOUND DETAIL
SCALE: 1" = 10'

PROJECT INFORMATION:

PALMER - ALT 2

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

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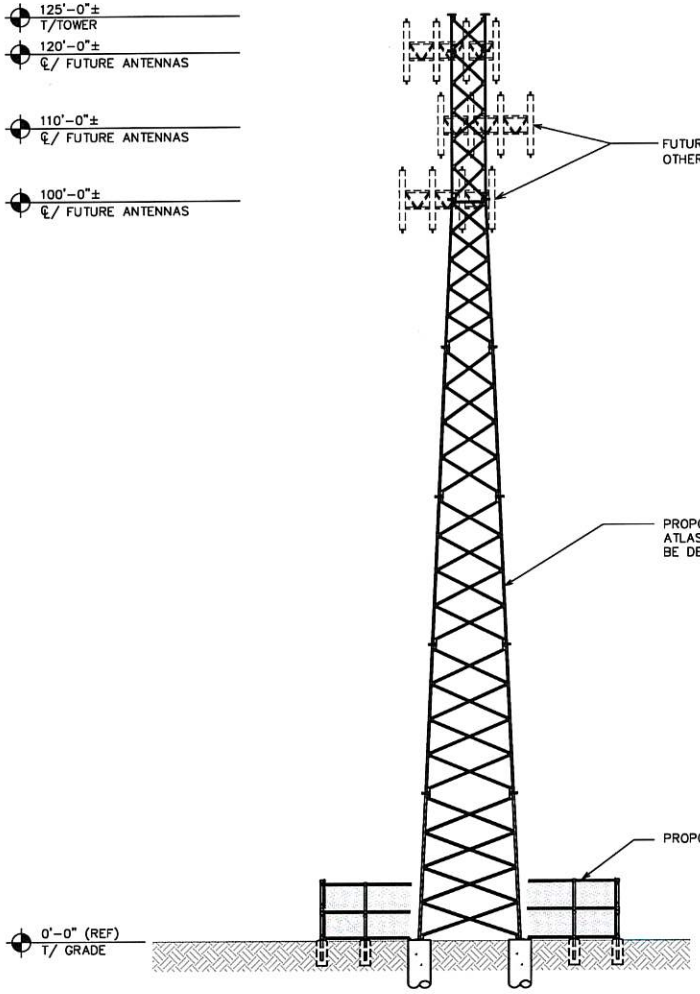
SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER: **C-3**

REVISION: **0**

TEP#: 349563.111711



NOTES:

1. TOWER TO REMAIN A GALVANIZED COLOR.
2. TOWER SHALL BE LIT ONLY IF REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION.
3. PROPOSED COAX TO BE ROUTED UP WAVEGUIDE LADDER. (PROVIDED BY TOWER MANUFACTURER)
4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.
5. TOWER EQUIPMENT LOADING AND CENTERLINES ARE SHOWN FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.

TOWER ELEVATION

SCALE: 1/16" = 1'-0"

0 16 32

SCALE IN FEET

PROJECT INFORMATION:

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PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

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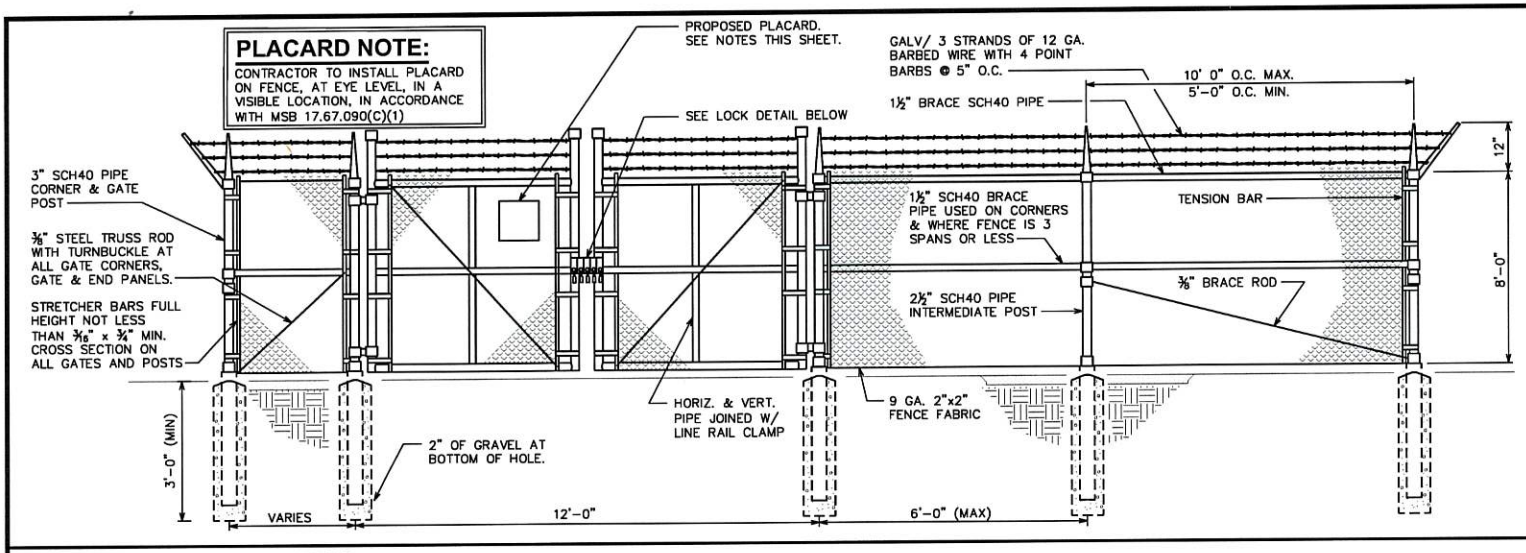
SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER: **C-4**

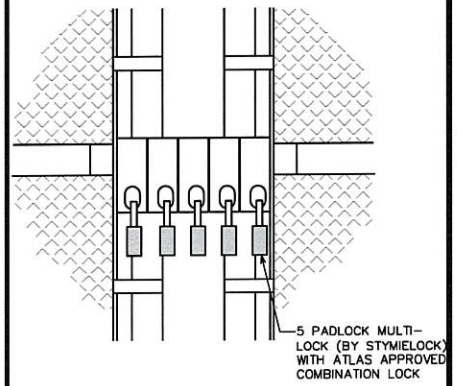
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TEP#:349563.111711



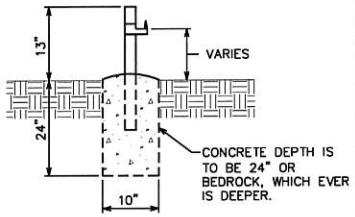
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



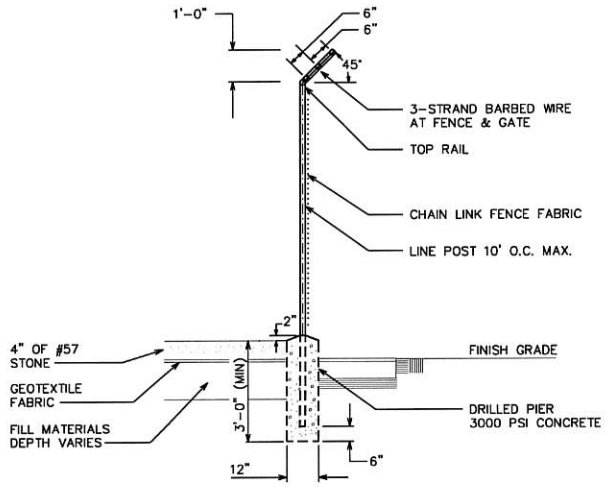
GATE LOCK DETAIL

SCALE: N.T.S.



GATE STOP/KEEPER DETAIL

SCALE: N.T.S.



FENCE / BARBED WIRE ARM DETAIL

SCALE: N.T.S.

PROJECT INFORMATION:

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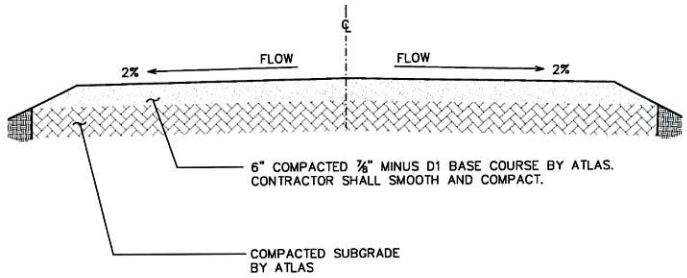
FENCE DETAILS

SHEET NUMBER: **Z-5**

REVISION: **0**

TEP#:349563.111711

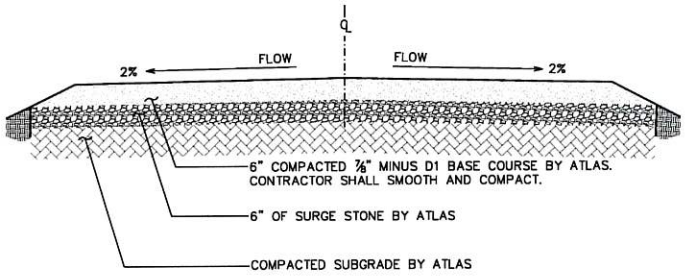
NOTE:
ROAD TO BE DESIGNED IN ACCORDANCE WITH M.S.B. 11.12.060 LOW VOLUME DRIVEWAY STANDARDS



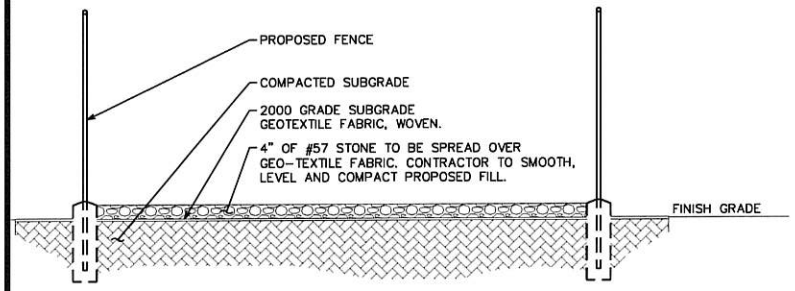
STANDARD ROAD SECTION (GOOD SUBGRADE)
SCALE: ⅜" = 1'-0"

NOT USED
SCALE: N.T.S.

NOTE:
ROAD TO BE DESIGNED IN ACCORDANCE WITH M.O.A. 11.12.060 LOW VOLUME DRIVEWAY STANDARDS



STANDARD ROAD SECTION (POOR SUBGRADE)
SCALE: ⅜" = 1'-0"



COMPOUND SECTION VIEW
SCALE: N.T.S.

PROJECT INFORMATION:

PALMER - ALT 2

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

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BOULDER, CO 80301
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SHEET TITLE:

DRIVEWAY DETAILS

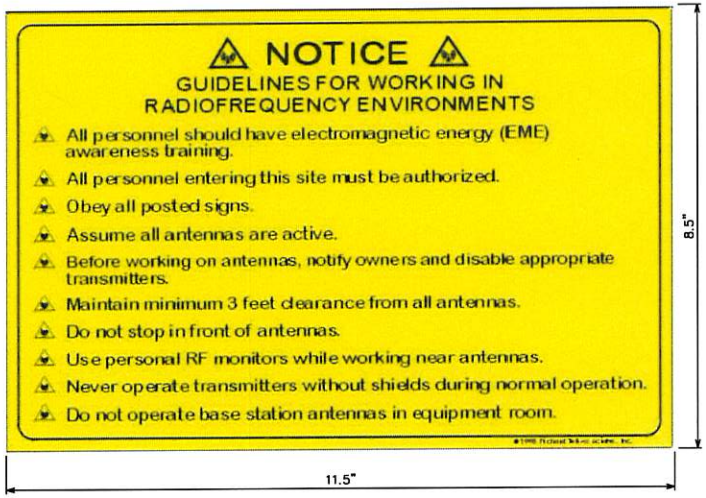
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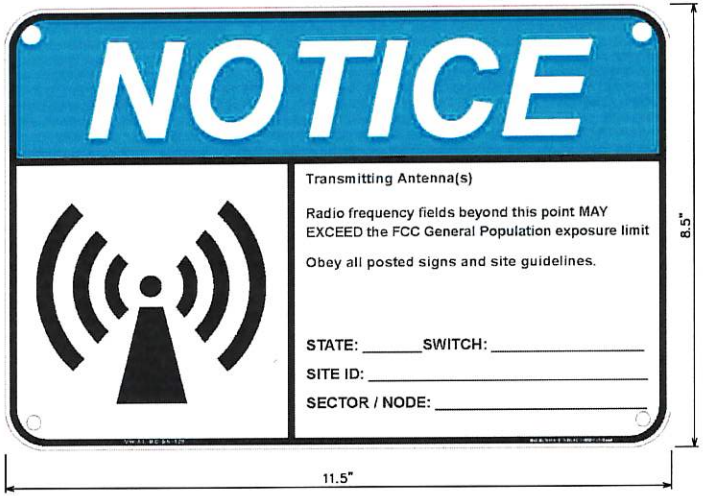
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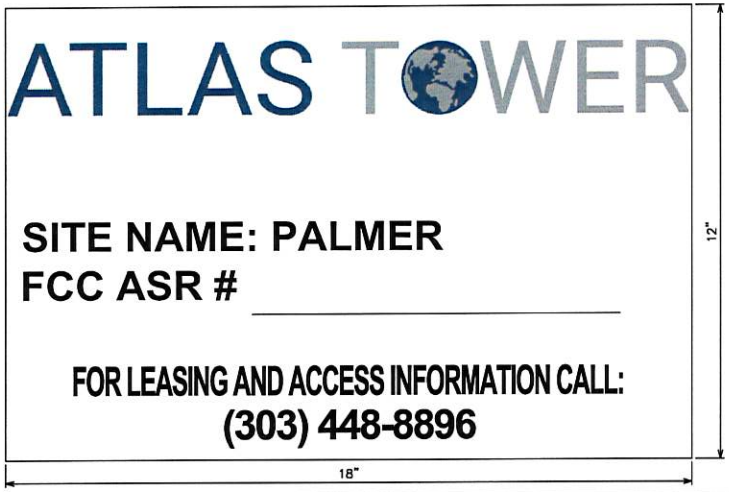
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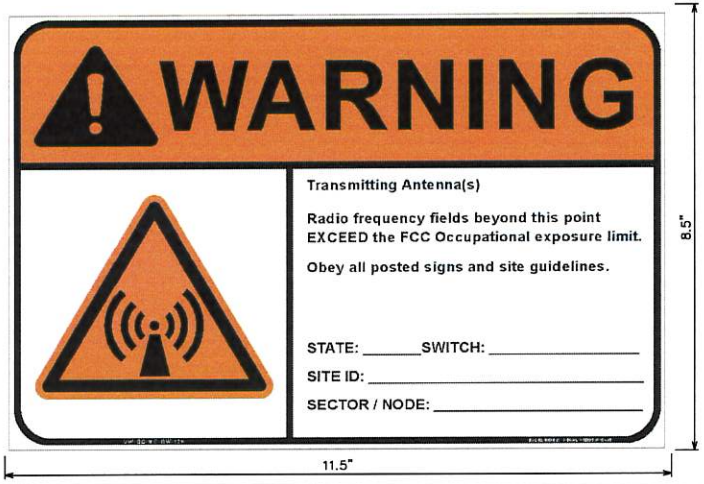
NOTES:

- ALL SIGNS TO BE HUNG ON FENCE USING HOG RINGS OR ALUMINUM FENCE TIES. ZIP TIES OR REBAR WIRE WILL NOT BE ACCEPTABLE
- THE RED WARNING SIGN SHALL BE PLACED ON THE TOWER, IDEALLY AT THE BASE OF THE SAFETY CLIMB.









SIGNAGE DETAILS

PROJECT INFORMATION:

PALMER - ALT 2

E KNIK RIVER RD
PALMER, AK 99645
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SHEET TITLE:

SIGNAGE DETAILS

SHEET NUMBER: **C-7**

REVISION: **0**

TEP#:349563.111711

ELECTRICAL NOTES:

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
   A. THE NATIONAL ELECTRICAL SAFETY CODE
   B. THE NATIONAL ELECTRIC CODE – NFPA–70
   C. REGULATIONS OF THE SERVING UTILITY COMPANY
   D. LOCAL AND STATE AMENDMENTS
   E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING:

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE:

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. WHERE INSTALLED ON EXTERIOR STRUCTURES OR EXPOSED TO DAMAGE, THE CONDUIT SHALL BE RIGID STEEL.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
   D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
3. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
NEC	–	NATIONAL ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL
PNLBD	–	PANELBOARD
PVC	–	RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

-----E-----	UNDERGROUND ELECTRICAL CONDUIT
-----T-----	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT–HOUR METER
----------	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
Ø	GROUND ROD
●	CADWELD
⊠	GROUND ROD WITH INSPECTION WELL

PROJECT INFORMATION:

PALMER - ALT 2

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448–8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-17-25	PRELIMINARY

DRAWN BY: RBK | CHECKED BY: NMC

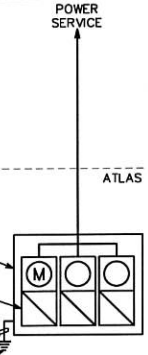
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ELECTRICAL NOTES

SHEET NUMBER: **E-1**

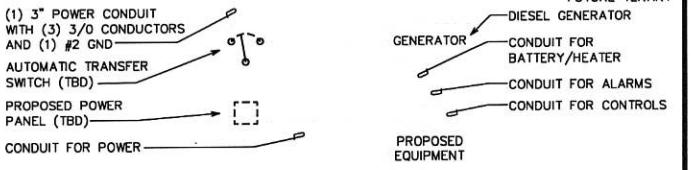
REVISION: 0

TEP#: 349563.1117.1.1



ONE LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 600A, 120/240V, 1ϕ, 3W.
2. (3)-200A, 120/240V, 1ϕ, 3-GANG METER BANK INSTALLED ON UTILITY SERVICE RACK WITH SERVICE ENTRANCE RATED, CIRCUIT BREAKER TYPE DISCONNECT SWITCH. UTILITY COMPANY TO PROVIDE METER.
3. FUTURE EQUIPMENT SHOWN FOR REFERENCE ONLY.
4. GEC IS SIZED FOR A SINGLE SERVICE ONLY AND IF MULTIPLE SERVICES SHARE A COMMON N-G BOND, THE CONTRACTOR WILL INSTALL ONE 3/0 CU MBJ AND GEC INSTEAD.



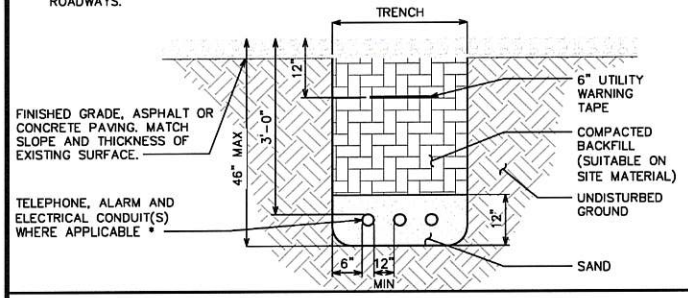
ONE-LINE DETAIL

SCALE: N.T.S.

NOTES:

1. ACTUAL SEPARATION OF CONDUITS TO BE DETERMINED BY SITE SPECIFIC REQUIREMENTS.
2. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
3. PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLES, EQUIPMENT, ETC.)
4. PROVIDE RGS CONDUIT FOR INSTALLATIONS BELOW PARKING LOTS AND ROADWAYS.

* SEPARATION DIMENSIONS TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.

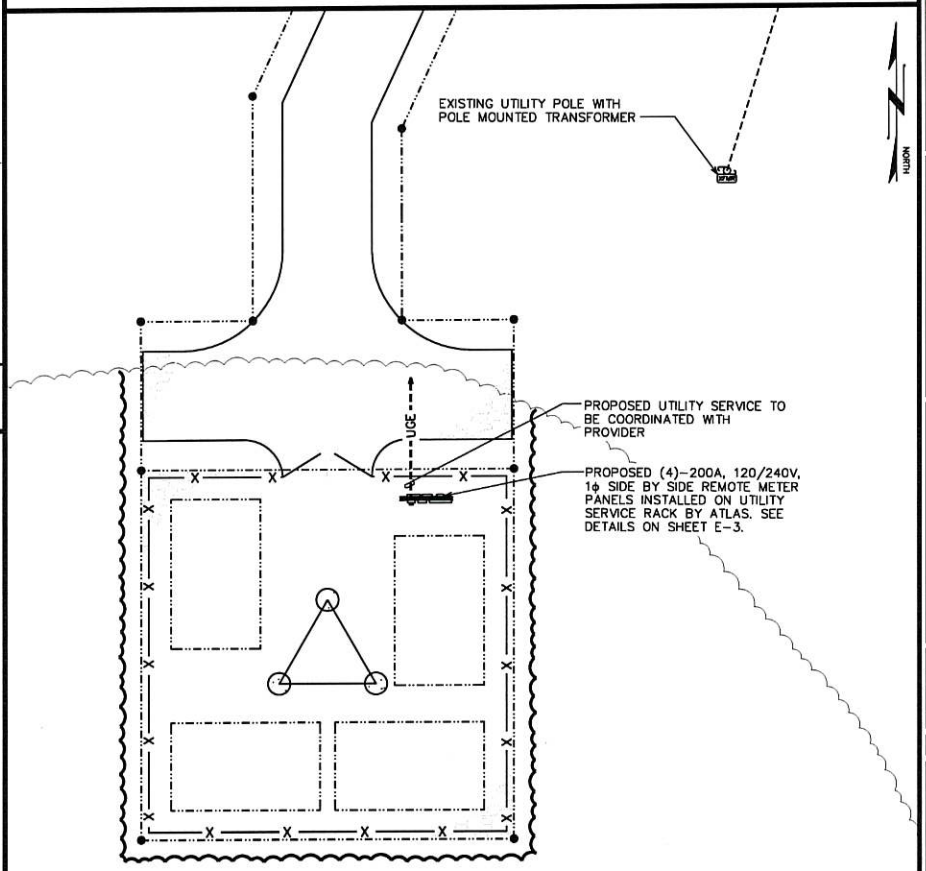


UNDERGROUND CONDUIT(S) TRENCH DETAIL

SCALE: N.T.S.

NOTES:

1. ALL TELCO CONDUITS ARE TO BE STUBBED IN D-MARC LOCATION.
2. ALL POWER CONDUITS ARE TO BE TERMINATED AT THE METER CENTER.
3. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
4. ALL CONDUITS SHALL BE INSTALLED PRIOR TO FINISH GRADING, GEOFABRIC, AND STONE INSTALLATION.
5. CONTRACTOR SHALL INSTALL SWEEPS AT ALL CONDUIT DIRECTION CHANGES.



POWER PLAN

SCALE: 1/16" = 1'-0"

0 16 32

SCALE IN FEET

PROJECT INFORMATION:

PALMER - ALT 2

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

PRELIMINARY DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-17-25	PRELIMINARY

DRAWN BY: KES | CHECKED BY: KES

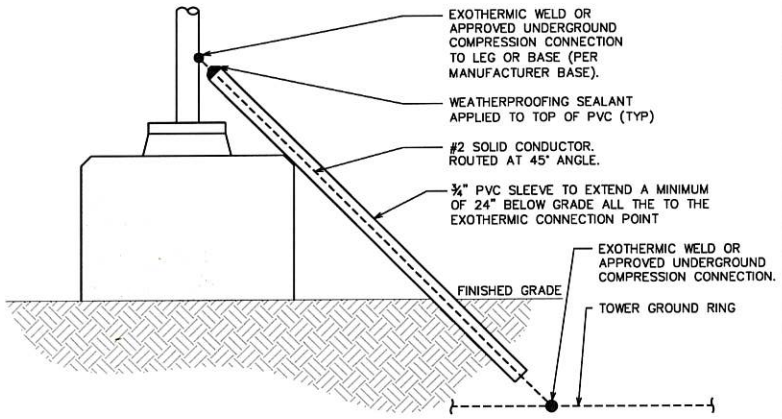
SHEET TITLE:

POWER PLAN AND ONE-LINE DIAGRAM

SHEET NUMBER: **E-2**

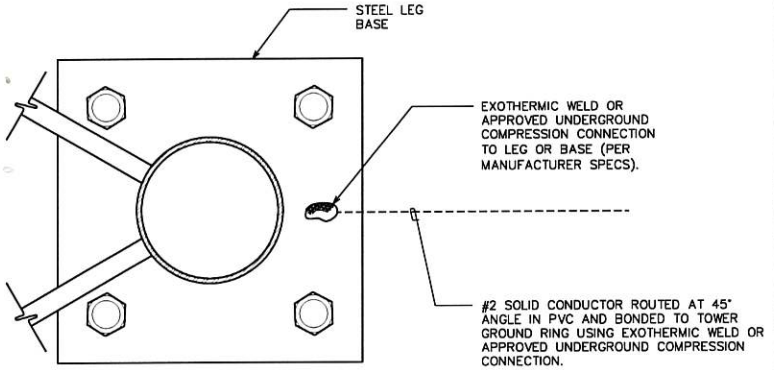
REVISION: 0

TEP#:349563.111711



TYPICAL TOWER BASE GROUNDING DETAIL

SCALE: N.T.S.



TYPICAL TOWER GROUNDING

SCALE: N.T.S.

PROJECT INFORMATION:

PALMER - ALT 2

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
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SEAL:

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-17-25	PRELIMINARY

DRAWN BY: RBK | CHECKED BY: NMC

SHEET TITLE:

TOWER FOUNDATION GROUNDING DETAILS

SHEET NUMBER: **E-6**

REVISION: 0

TEP#:349563.111111

Updated Information

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822
www.matsugov.us

July 9, 2025

Atlas Towers 1, LLC
Attn: Helmundt Strumpher
2500 30th Street, Suite 304,
Bouder, CO, 80301

SUBJECT: Administrative Permit Application – Request for Required Information
LOCATION: 29750 E. Knik River Road, Tax ID #8274000L001A

Dear Mr. Strumpher,

Borough staff have reviewed the application material and site plan(s) submitted via mail on June 25, 2025, requesting an Administrative Permit for a Tall Structure on the above-referenced property. It has been determined that the following information needs to be provided and/or clarified to process this request:

1. MSB 17.67.070(A)(6) requires a determination of no hazard to air navigation from the Federal Aviation Administration (FAA).
    a. Please provide the FAA documentation upon receival. It is indicated within the application that the determination is applied for.

2. MSB 17.67.070(A)(2) Provide design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect.
    a. Indicate engineers report on structural integrity (wind speed, ice accumulation).
    b. Provide certified engineering plans for the built-in structural weaknesses if breakpoint technology will be utilized in the proposed tower. MSB 17.67.070(A)(7)
3. MSB 17.67.080(A)(3) The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the borough's regional aviation system plan or by the Alaska State Aviation System Plan;
    a. The proposed location is within 2.4 miles of the Hunter Creek Airport and 3.7 miles of the Alaska Glacier Lodge Airport, indicate within the narrative that the proposed tower will not interfere with the approaches.

4. As per MSB 17.125.010 a *"certified site plan": means a site plan that is prepared and sealed by an architect, professional engineer, or land surveyor, authorized to engage in that profession by the state of Alaska. The certified site plan shall be at a scale of one-inch equals 50 feet (or less) showing dimensions and locations of all existing and proposed development*

on the site in relationship to all property lines." Note, the plan provided is almost sufficient but it will need to be certified to meet all application requirements. See additional information requested below.

   a. Within the certified site plan please identify distances from the base of the tall structure to the nearest utility pole.

5. A driveway is proposed from E Knik River Road. Alaska Department of Transportation (ADOT) driveway permit is required for access on the E Knik River Road. Provide a copy of the applicable driveway permit.

6. Provide lease details for the site area authorizing Atlas Tower 1, LLC to construct a tall structure and associated development on the subject property.

Once an application has been determined complete, staff will begin the public notice process. Should you have any questions or require additional information, please contact me by phone or email. Thank you for your time and consideration on this matter.

Respectfully,

Rebecca Skjothaug

Rebecca Skjothaug
Current Planner
Matanuska-Susitna Borough

Atlas Tower 1, LLC
2500 30th Street, Suite 304
Boulder, CO 80301
(303) 448-8896

June 5, 2025

Matanuska-Susitna Borough Development Services Division
350 E. Dahlia Ave
Palmer, AK 99645

RE: Administrative Permit Narrative for Telecommunications Facility
Site Name: Palmer

To Whom It May Concern:

Atlas Tower 1, LLC is submitting an Administrative Permit Application to the Matanuska-Susitna Borough Development Services Division for review of a new proposed wireless telecommunications facility build on the property of 27950 E KNIK RIVER RD, Palmer, AK, 99645, Parcel #: **542093**. This letter shall serve as a narrative for the proposed **125' Lattice** telecommunications facility and how this project will provide the needed mobile network coverage while reducing the need for additional cellular facilities in the future. This project is being proposed and this justification is being provided in an effort to alleviate current mobile network voice, data, and first responder issues in an area that is severely lacking reliable network coverage and capacity.

SITE DETAILS

Land Owner: Paul Laux 27950 E Knik River Rd Palmer, AK, 99645	**Site Address:** 27950 E Knik River Rd Palmer, AK, 99645 Parcel #: **542093**
Applicant: Atlas Tower 1, LLC 2500 30th St., Suite 304 Boulder, CO 80301	**Coordinates:** Latitude: 61.44422 Longitude: -148.81356 Ground Elevation: 141'
Zoning: General-Use	**Lease Area:** 50 x 50

PROPOSAL SUMMARY

The purpose of this request is to build a 125' self support telecommunications tower within a 50 x 50 wireless facility. This facility will provide critical wireless coverage to the surrounding area. The proposed site is zoned as General-Use where coverage is lacking, and the capacity of the existing infrastructure is reaching its limit. As the area develops further, and the existing users demand more data for their existing devices, existing infrastructure will reach capacity limits and be unable to meet coverage needs. This tower and facility will be used for structural support of up to four wireless providers. Each provider will install antennas and on-the-ground base-station equipment.

WIRELESS TELECOMMUNICATION FACILITY CHARACTERISTICS

Visual Effect
We strive to design our facilities and locate parcels that create the least amount of community disturbance. The surrounding area is a largely wooded rural area with low density residential zones nearby. The proposed site is chosen to maximize visual aesthetic and distance from residential homes. Photo sims have been included with views from the adjacent highway.

Proximity to Airports, Trails and Waterbodies
There are two small landing strips/airports near the site. Hunter Creek's airstrip, 2.4 miles away, is not directly in-line with our tower site and will not cause approach issues. The Alaska Glacier Lodge's airstrip, 3.7 miles away, is also not in-line with the proposed location and will not cause approach issues. The closest large airport, AK1 - Butte Municipal Airport, is roughly 9 miles to the NW. The site is not in line with any of the runways and does not pose a hazard to air navigation. The nearest trailhead, noted as 166 - Hunter Creek on MSB trail plans, is approx. 1.75 miles to the South. Due to the topography and trees, the tower is not expected to be visible from the trail. The next nearest trails are 061 - Knik Glacier (aka Jim Creek) and 083 - Pioneer Ridge/Austin Helmers; they are about 3 and 4 miles to the NE and NW, respectively, and should not have visibility of the tower. The nearest water body, Knik River, is approx. 1.5 miles to the north. It is possible the very tip of the tower would be visible, however from this distance it would likely be difficult to spot.

Frequency Of Maintenance Work On The Proposed Facility
On average, after initial installation, a carrier or its contactors would likely visit the facility about one to four times a year for maintenance, though this number could vary depending on the specific circumstances of the facility.

The Average Number Of Vehicles Visiting The Facility and Average Duration of Facility Work
The average maintenance visit by a carrier or its contractors would likely involve one pickup truck. On average, one to two visits a year are made for each carrier. For typical maintenance visits, a carrier or its contactors would only be at the site a few hours, but this number could increase depending on the work that needed to be completed at the site.

Expected Noise Levels
Telecommunications facilities are essentially silent. This would be true whether there were one or four carriers. A generator could be operated on site in the rare instance that power went out. The generator would create noise, but it would not be noticeable or audible in the location the telecommunications facility is proposed to be.

Site Security and Warnings
The proposed tower shall be secured with a locked 8' chain link fencing with an additional 1' of barbed wire on top to prevent unauthorized visitors. The proposed facility will operate at 220 Volts and will not require a sign.

Building Codes; Safety Standards
Atlas Tower will ensure the structural integrity of towers, ensure that it is maintained in compliance with standards contained in applicable state or local building codes and the applicable standards for towers that are published by the Electronic Industries Association, as amended from time to time. Granting of this permit will not be harmful to the public health, safety, convenience, or welfare. If, upon inspection,

Matanuska-Susitna Borough concludes that a tower fails to comply with such codes and standards and constitutes a danger to persons or property, then upon notice being provided to the owner of the tower, the owner shall have thirty (30) days to bring such tower into compliance with such standards, unless a longer time is reasonably necessary. Failure to bring such tower into compliance within said thirty (30) days shall constitute grounds for the removal of the tower or antenna at the owner's expense.

FAA/FCC Compliance

The proposed facility shall conform to the requirements of this title, this code, and other laws, including pertinent federal regulations of the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA) when determined.

This narrative represents required and supplementary information to document the technological, economic, and social necessity and benefits of a new 125' self support telecommunications tower in Palmer. The information provided highlights the advantages associated with a telecommunications facility at our proposed site. See attached documents including our survey and tower drawings.

Atlas Tower 1, LLC respectfully requests the acceptance of our application for a Zoning for the proposed communications tower facility.

Best Regards,

Helmundt Strumpher
720-667-6652
www.atlastowers.com
2500 30th St. Suite 304
Boulder, CO 80301

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2025-AAL-342-OE

Issued Date: 07/02/2025

ATLAS TOWER 1, LLC
MIKE POWERS
2500 30th St
Suite 304
Boulder, CO 80301

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower Palmer - Laux
County, State: Matanuska-Susitna, Alaska

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
pt-1	61-26-39.19N	148-48-48.82W	230 Ft	125 Ft	355 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 01/02/2027 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at 1-206-231-2993, or lynnette.farrell@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-AAL-342-OE.

Signature Control No: 662162325-668340433 (DNE)
lynnette.farrell@faa.gov
Technician

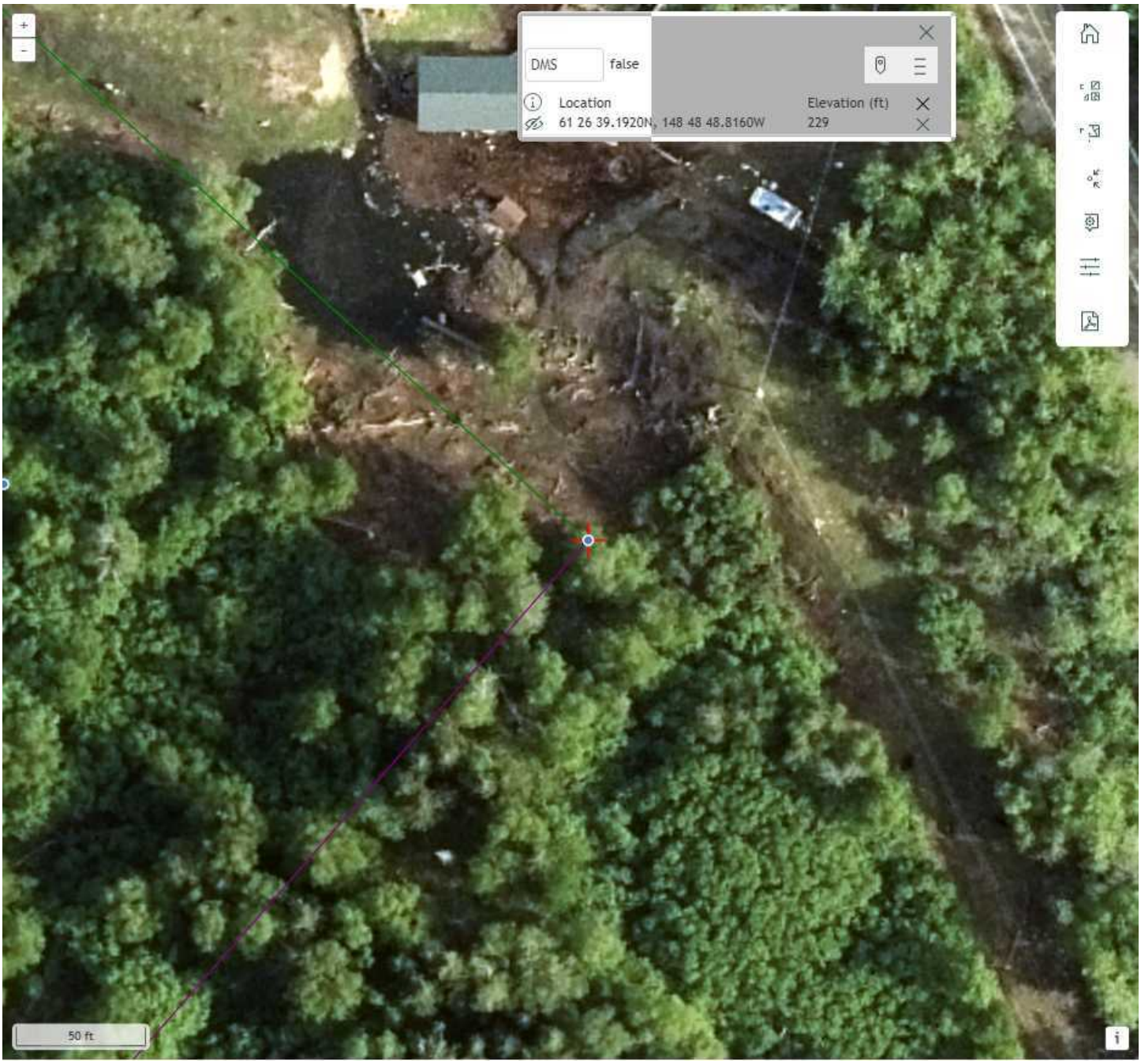
Attachment(s)
Frequency Data
Map(s)

cc: FCC

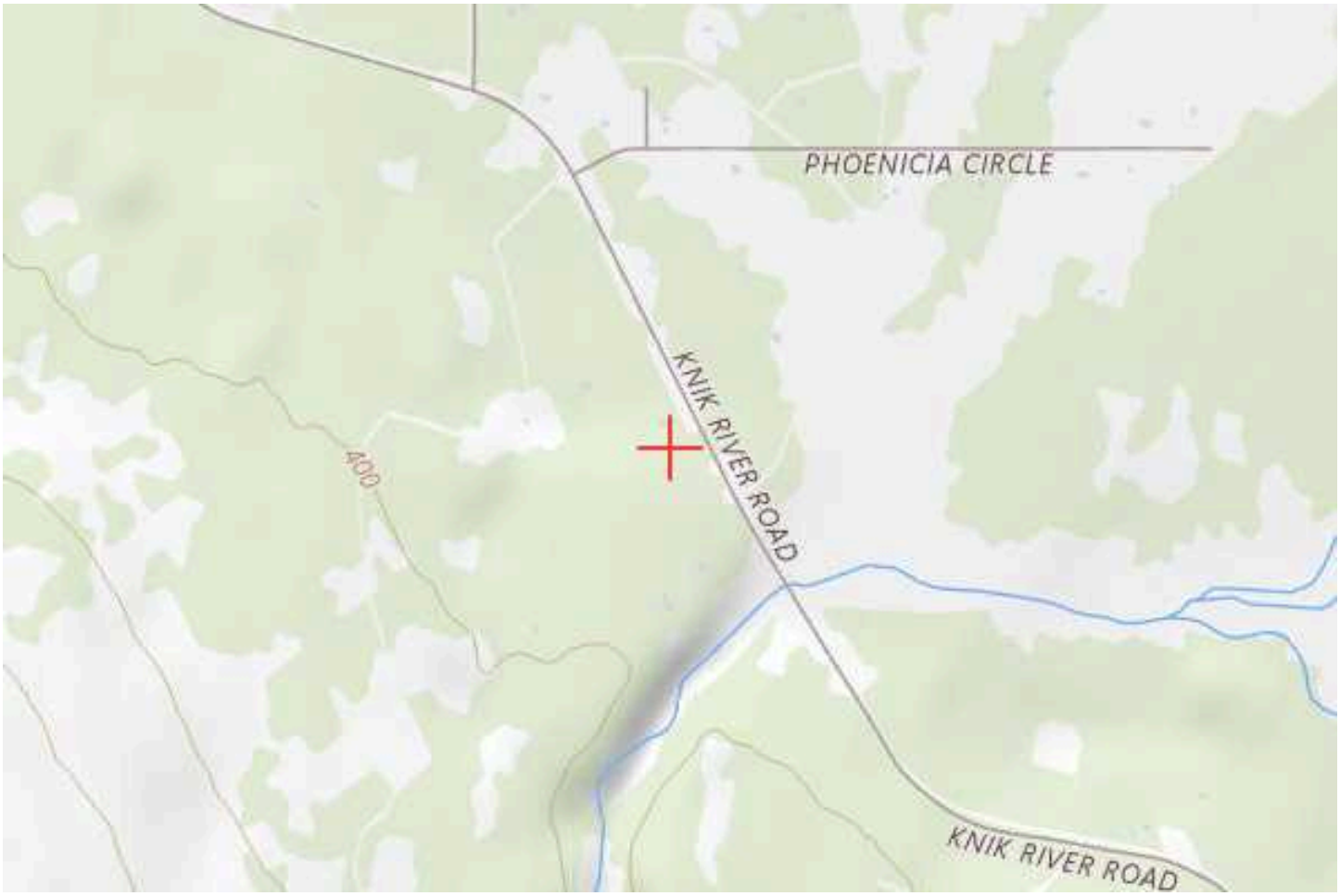
Frequency Data for ASN 2025-AAL-342-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	42	dBW
6	7	GHz	55	dBW
10	11.7	GHz	42	dBW
10	11.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
21.2	23.6	GHz	42	dBW
21.2	23.6	GHz	55	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	824	MHz	500	W
806	901	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Verified Map for ASN 2025-AAL-342-OE



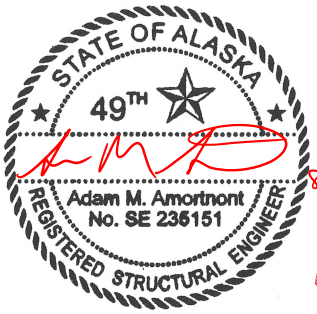
TOPO Map for ASN 2025-AAL-342-OE



NELLO

Design Supporting Calculations

Sales Order:	SO33695
Drawing Number(s)	
Tower:	803223
Order Description:	NSX 12.5' x 125.9'
Site Name:	Palmer - Laux / ATAK0034
Location:	Matanuska-Susitna Borough, AK
	Prepared For:
Customer:	Atlas Tower
Contact:	Parker Bingham
Date:	8/22/2025



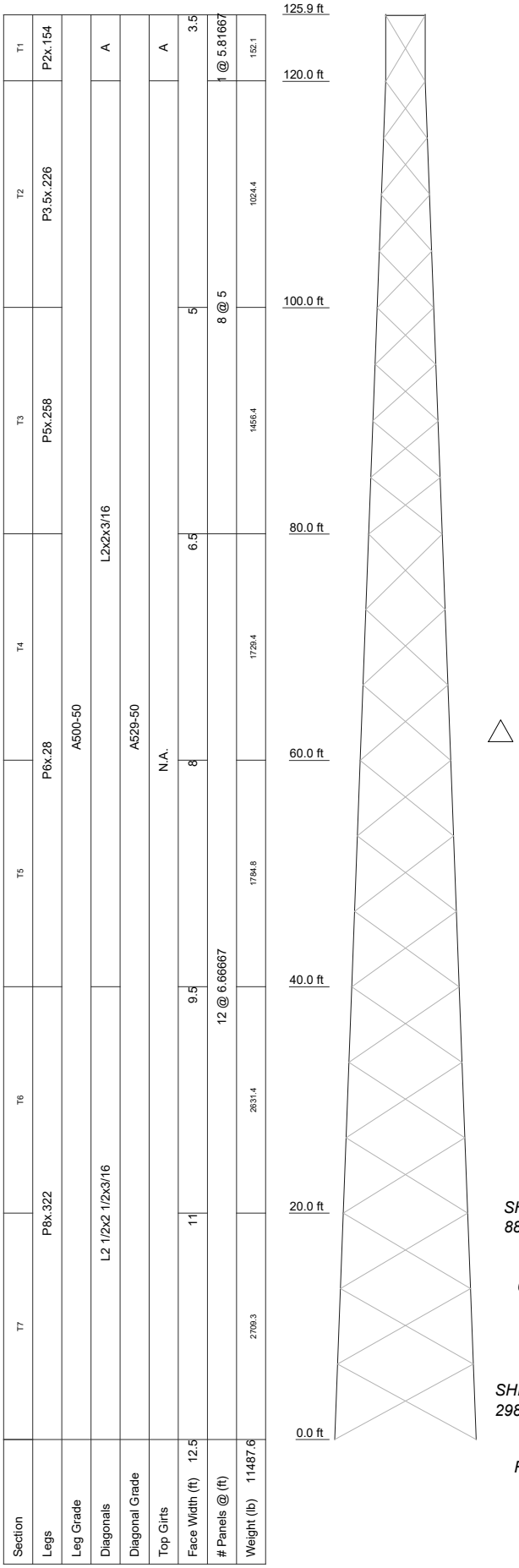
LTEP

Table of Contents

Tower Analysis - Short form

Tower Analysis - Long form

Seismic Analysis



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
30,000 sq in CaAa	120	6' Solid w/Radome	100
30,000 sq in CaAa	110	Dish Pipe Mount	90
Dish Pipe Mount	100	6' Solid w/Radome	90

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 3/4x1 3/4x1/8		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A529-50	50 ksi	65 ksi

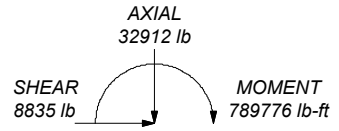
TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 123 mph ultimate wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 60 mph basic wind with 0.50 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 83.4%

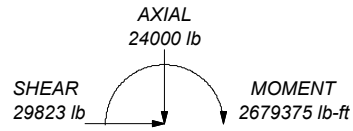
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 255509 lb
SHEAR: 19052 lb

UPLIFT: -234692 lb
SHEAR: 17802 lb



TORQUE 562 lb-ft
60 mph WIND - 0.5000 in ICE



TORQUE 2251 lb-ft
REACTIONS - 123 mph WIND

Nello Corporation
1201 S. Sheridan Street
South Bend, IN 46619
Phone: 800-806-4556
FAX:

Job: ***SO33695; Tower 803223; Foundation 803224***
Project: ***NS 125.9' - Palmer - Laux / ATAK0034 - Matanuska-Susitna Borough, AK***
Client: Atlas Tower | Drawn by: AJK | App'd:
Code: TIA-222-H | Date: 08/13/25 | Scale: NTS
Path: N:\eri\8032\803223.eri | Dwg No. E-1

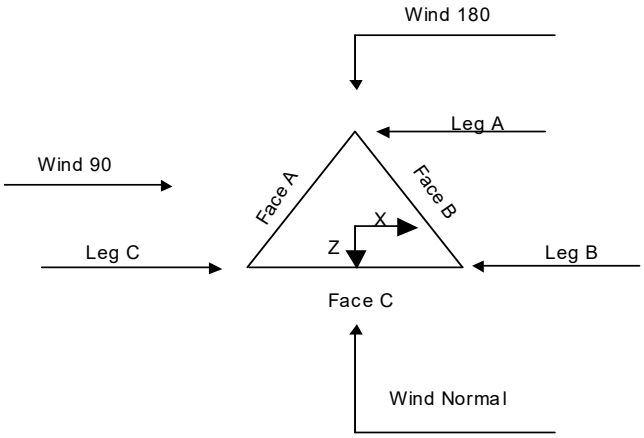
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 125.90 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 3.50 ft at the top and 12.50 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower base elevation above sea level: 0.00 ft.
Ultimate wind speed of 123 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 0.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 60 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate	√	Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area	√	SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys	√	Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice		Bypass Mast Stability Checks		Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
√	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)	√	Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
√	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	125.90-120.00			3.50	1	5.90
T2	120.00-100.00			3.50	1	20.00
T3	100.00-80.00			5.00	1	20.00
T4	80.00-60.00			6.50	1	20.00
T5	60.00-40.00			8.00	1	20.00
T6	40.00-20.00			9.50	1	20.00
T7	20.00-0.00			11.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	125.90-120.00	5.82	X Brace	No	No	1.0000	0.0000
T2	120.00-100.00	5.00	X Brace	No	No	0.0000	0.0000
T3	100.00-80.00	5.00	X Brace	No	No	0.0000	0.0000
T4	80.00-60.00	6.67	X Brace	No	No	0.0000	0.0000
T5	60.00-40.00	6.67	X Brace	No	No	0.0000	0.0000
T6	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T7	20.00-0.00	6.67	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 125.90-120.00	Pipe	P2x.154	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)
T2 120.00-100.00	Pipe	P3.5x.226	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T3 100.00-80.00	Pipe	P5x.258	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T4 80.00-60.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T5 60.00-40.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T6 40.00-20.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)
T7 20.00-0.00	Pipe	P8x.322	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 125.90-120.00	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 125.90-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T2 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T3 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T4 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T5 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T6 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T7 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	No	Yes	1	1	1	1	1	1	1	1
125.90-120.00				1	1	1	1	1	1	1
T2	No	Yes	1	1	1	1	1	1	1	1
120.00-100.00				1	1	1	1	1	1	1
T3	No	Yes	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T4	No	Yes	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T5	No	Yes	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T6	No	Yes	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T7 20.00-0.00	No	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
125.90-120.00														
T2	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
120.00-100.00														
T3	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
100.00-80.00														
T4 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
125.90-120.00														
T2	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
120.00-100.00														

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T3 100.00-80.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 80.00-60.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 60.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	C	No	Yes	Ar (CaAa)	120.00 - 0.00	4	2	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	No	Yes	Ar (CaAa)	110.00 - 0.00	4	2	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Yes	Ar (CaAa)	100.00 - 0.00	1	1	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	C	No	Yes	Ar (CaAa)	90.00 - 0.00	1	1	0.2700 0.0000	1.9800		0.82

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	125.90-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.920	0.000	32.80
		C	0.000	0.000	15.840	0.000	65.60
T3	100.00-80.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	17.820	0.000	73.80
T4	80.00-60.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00
T5	60.00-40.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00
T6	40.00-20.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00
T7	20.00-0.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	19.800	0.000	82.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	125.90-120.00	A	0.570	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	0.564	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.236	0.000	82.86
		C		0.000	0.000	18.472	0.000	165.71
T3	100.00-80.00	A	0.553	0.000	0.000	6.171	0.000	50.61
		B		0.000	0.000	18.393	0.000	164.13
		C		0.000	0.000	21.478	0.000	189.43
T4	80.00-60.00	A	0.539	0.000	0.000	6.116	0.000	49.58
		B		0.000	0.000	18.296	0.000	162.20
		C		0.000	0.000	24.412	0.000	211.78
T5	60.00-40.00	A	0.521	0.000	0.000	6.045	0.000	48.25
		B		0.000	0.000	18.170	0.000	159.70
		C		0.000	0.000	24.215	0.000	207.95
T6	40.00-20.00	A	0.495	0.000	0.000	5.941	0.000	46.35
		B		0.000	0.000	17.986	0.000	156.09
		C		0.000	0.000	23.927	0.000	202.44
T7	20.00-0.00	A	0.444	0.000	0.000	5.735	0.000	42.68
		B		0.000	0.000	17.622	0.000	149.02
		C		0.000	0.000	23.357	0.000	191.70

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T2	1	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T2	2	LDF7-50A (1-5/8 FOAM)	100.00 - 110.00	0.6000	0.6000
T3	1	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	2	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	3	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	4	LDF7-50A (1-5/8 FOAM)	80.00 - 90.00	0.6000	0.6000
T4	1	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T4	2	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T4	3	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T4	4	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T5	1	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	2	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	3	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	4	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T6	1	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	2	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	3	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	4	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T7	1	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	2	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	3	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	4	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
30,000 sq in CaAa	C	None		0.0000	120.00	No Ice	208.00	208.00	3536.00
						1/2" Ice	250.00	250.00	4738.00
30,000 sq in CaAa	B	None		0.0000	110.00	No Ice	208.00	208.00	3536.00
						1/2" Ice	250.00	250.00	4738.00
Dish Pipe Mount	A	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	1.80 2.10	103.00 119.00
Dish Pipe Mount	C	From Leg	0.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice	0.00 0.00	1.80 2.10	103.00 119.00

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
6' Solid w/Radome	A	Paraboloid w/Radome	From Leg	0.00 0.00 0.00	0.0000		100.00	6.00	No Ice 1/2" Ice	28.27 29.07	162.00 321.00
6' Solid w/Radome	C	Paraboloid w/Radome	From Leg	0.00 0.00 0.00	0.0000		90.00	6.00	No Ice 1/2" Ice	28.27 29.07	162.00 321.00

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg % %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
T1	122.95	1.322	44	21.818	A	2.350	2.335	2.335	49.85	0.000	0.000
125.90-120.00					B	2.350	2.335		49.85	0.000	0.000
					C	2.350	2.335		49.85	0.000	0.000
T2	110.00	1.291	43	91.671	A	8.070	13.346	13.346	62.32	0.000	0.000
120.00-100.00					B	8.070	13.346		62.32	7.920	0.000
					C	8.070	13.346		62.32	15.840	0.000

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T3	90.00	1.238	41	124.278	A	9.346	18.561	18.561	66.51	3.960	0.000
100.00-80.00					B	9.346	18.561		66.51	15.840	0.000
					C	9.346	18.561		66.51	17.820	0.000
T4 80.00-60.00	70.00	1.174	39	156.049	A	9.103	22.104	22.104	70.83	3.960	0.000
					B	9.103	22.104		70.83	15.840	0.000
					C	9.103	22.104		70.83	19.800	0.000
T5 60.00-40.00	50.00	1.094	36	186.049	A	10.309	22.104	22.104	68.19	3.960	0.000
					B	10.309	22.104		68.19	15.840	0.000
					C	10.309	22.104		68.19	19.800	0.000
T6 40.00-20.00	30.00	0.982	32	219.385	A	14.215	28.777	28.777	66.94	3.960	0.000
					B	14.215	28.777		66.94	15.840	0.000
					C	14.215	28.777		66.94	19.800	0.000
T7 20.00-0.00	10.00	0.85	28	249.385	A	15.856	28.777	28.777	64.47	3.960	0.000
					B	15.856	28.777		64.47	15.840	0.000
					C	15.856	28.777		64.47	19.800	0.000

Tower Pressure - With Ice

G_H = 0.850

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	122.95	1.322	10	0.5703	22.378	A	2.350	4.988	3.457	47.11	0.000	0.000
125.90-120.00						B	2.350	4.988		47.11	0.000	0.000
						C	2.350	4.988		47.11	0.000	0.000
T2	110.00	1.291	10	0.5640	93.553	A	8.070	21.661	17.109	57.55	0.000	0.000
120.00-100.00						B	8.070	21.661		57.55	9.236	0.000
						C	8.070	21.661		57.55	18.472	0.000
T3 100.00-80.00	90.00	1.238	10	0.5528	126.122	A	9.346	27.415	22.249	60.52	6.171	0.000
						B	9.346	27.415		60.52	18.393	0.000
						C	9.346	27.415		60.52	21.478	0.000
T4 80.00-60.00	70.00	1.174	9	0.5390	157.848	A	9.103	30.608	25.701	64.72	6.116	0.000
						B	9.103	30.608		64.72	18.296	0.000
						C	9.103	30.608		64.72	24.412	0.000
T5 60.00-40.00	50.00	1.094	9	0.5212	187.788	A	10.309	30.955	25.582	62.00	6.045	0.000
						B	10.309	30.955		62.00	18.170	0.000
						C	10.309	30.955		62.00	24.215	0.000
T6 40.00-20.00	30.00	0.982	8	0.4953	221.037	A	14.215	37.714	32.082	61.78	5.941	0.000
						B	14.215	37.714		61.78	17.986	0.000
						C	14.215	37.714		61.78	23.927	0.000
T7 20.00-0.00	10.00	0.85	7	0.4437	250.865	A	15.856	37.367	31.738	59.63	5.735	0.000
						B	15.856	37.367		59.63	17.622	0.000
						C	15.856	37.367		59.63	23.357	0.000

Tower Pressure - Service

G_H = 0.850

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	122.95	1.322	10	21.818	A	2.350	2.335	2.335	49.85	0.000	0.000
125.90-120.00					B	2.350	2.335		49.85	0.000	0.000
					C	2.350	2.335		49.85	0.000	0.000
T2	110.00	1.291	10	91.671	A	8.070	13.346	13.346	62.32	0.000	0.000
120.00-100.00					B	8.070	13.346		62.32	7.920	0.000
					C	8.070	13.346		62.32	15.840	0.000
T3	90.00	1.238	10	124.278	A	9.346	18.561	18.561	66.51	3.960	0.000
100.00-80.00					B	9.346	18.561		66.51	15.840	0.000
					C	9.346	18.561		66.51	17.820	0.000
T4 80.00-60.00	70.00	1.174	9	156.049	A	9.103	22.104	22.104	70.83	3.960	0.000
					B	9.103	22.104		70.83	15.840	0.000
					C	9.103	22.104		70.83	19.800	0.000
T5 60.00-40.00	50.00	1.094	9	186.049	A	10.309	22.104	22.104	68.19	3.960	0.000
					B	10.309	22.104		68.19	15.840	0.000
					C	10.309	22.104		68.19	19.800	0.000
T6 40.00-20.00	30.00	0.982	8	219.385	A	14.215	28.777	28.777	66.94	3.960	0.000
					B	14.215	28.777		66.94	15.840	0.000
					C	14.215	28.777		66.94	19.800	0.000
T7 20.00-0.00	10.00	0.85	7	249.385	A	15.856	28.777	28.777	64.47	3.960	0.000
					B	15.856	28.777		64.47	15.840	0.000
					C	15.856	28.777		64.47	19.800	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	152.09	A	0.215	2.548	44	1	1	3.698	348.43	59.06	C
125.90-120.00			B	0.215	2.548		1	1	3.698			
			C	0.215	2.548		1	1	3.698			
T2	98.40	1024.40	A	0.234	2.488	43	1	1	15.526	1733.98	86.70	C
120.00-100.00			B	0.234	2.488		1	1	15.526			
			C	0.234	2.488		1	1	15.526			
T3	155.80	1456.39	A	0.225	2.516	41	1	1	18.712	2183.26	109.16	C
100.00-80.00			B	0.225	2.516		1	1	18.712			
			C	0.225	2.516		1	1	18.712			
T4	164.00	1729.37	A	0.2	2.596	39	1	1	19.278	2207.28	110.36	C
80.00-60.00			B	0.2	2.596		1	1	19.278			
			C	0.2	2.596		1	1	19.278			
T5	164.00	1784.76	A	0.174	2.684	36	1	1	20.395	2200.21	110.01	C
60.00-40.00			B	0.174	2.684		1	1	20.395			
			C	0.174	2.684		1	1	20.395			
T6	164.00	2631.37	A	0.196	2.61	32	1	1	26.977	2405.98	120.30	C
40.00-20.00			B	0.196	2.61		1	1	26.977			
			C	0.196	2.61		1	1	26.977			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	28	1	1	28.345	2206.22	110.31	C
			B	0.179	2.668		1	1	28.345			
			C	0.179	2.668		1	1	28.345			
Sum Weight:	910.20	11487.63						OTM	788832.30 lb-ft	13285.36		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	0.00	152.09	A	0.215	2.548	44	0.8	1	3.228	304.15	51.55	C
125.90-120.00			B	0.215	2.548		0.8	1	3.228			
			C	0.215	2.548		0.8	1	3.228			
T2	98.40	1024.40	A	0.234	2.488	43	0.8	1	13.912	1588.90	79.44	A
120.00-100.00			B	0.234	2.488		0.8	1	13.912			
			C	0.234	2.488		0.8	1	13.912			
T3	155.80	1456.39	A	0.225	2.516	41	0.8	1	16.843	2020.36	101.02	C
100.00-80.00			B	0.225	2.516		0.8	1	16.843			
			C	0.225	2.516		0.8	1	16.843			
T4	164.00	1729.37	A	0.2	2.596	39	0.8	1	17.458	2052.00	102.60	C
80.00-60.00			B	0.2	2.596		0.8	1	17.458			
			C	0.2	2.596		0.8	1	17.458			
T5	164.00	1784.76	A	0.174	2.684	36	0.8	1	18.333	2030.81	101.54	C
60.00-40.00			B	0.174	2.684		0.8	1	18.333			
			C	0.174	2.684		0.8	1	18.333			
T6	164.00	2631.37	A	0.196	2.61	32	0.8	1	24.134	2202.06	110.10	C
40.00-20.00			B	0.196	2.61		0.8	1	24.134			
			C	0.196	2.61		0.8	1	24.134			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	28	0.8	1	25.174	2004.99	100.25	C
			B	0.179	2.668		0.8	1	25.174			
			C	0.179	2.668		0.8	1	25.174			
Sum Weight:	910.20	11487.63						OTM	725298.92 lb-ft	12203.27		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	0.00	152.09	A	0.215	2.548	44	0.85	1	3.345	315.22	53.43	C
125.90-120.00			B	0.215	2.548		0.85	1	3.345			
			C	0.215	2.548		0.85	1	3.345			
T2	98.40	1024.40	A	0.234	2.488	43	0.85	1	14.316	1625.17	81.26	A
120.00-100.00			B	0.234	2.488		0.85	1	14.316			
			C	0.234	2.488		0.85	1	14.316			
T3	155.80	1456.39	A	0.225	2.516	41	0.85	1	17.310	2064.59	103.23	A
100.00-80.00			B	0.225	2.516		0.85	1	17.310			
			C	0.225	2.516		0.85	1	17.310			
T4	164.00	1729.37	A	0.2	2.596	39	0.85	1	17.913	2094.15	104.71	A
80.00-60.00			B	0.2	2.596		0.85	1	17.913			
			C	0.2	2.596		0.85	1	17.913			
T5	164.00	1784.76	A	0.174	2.684	36	0.85	1	18.849	2076.26	103.81	A
60.00-40.00			B	0.174	2.684		0.85	1	18.849			
			C	0.174	2.684		0.85	1	18.849			
T6	164.00	2631.37	A	0.196	2.61	32	0.85	1	24.844	2255.82	112.79	A
40.00-20.00			B	0.196	2.61		0.85	1	24.844			
			C	0.196	2.61		0.85	1	24.844			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	28	0.85	1	25.967	2057.71	102.89	A
			B	0.179	2.668		0.85	1	25.967			
			C	0.179	2.668		0.85	1	25.967			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
Sum Weight:	910.20	11487.63						OTM	741993.27 lb-ft	12488.92		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	0.00	297.11	A	0.328	2.224	10	1	1	5.383	105.39	17.86	C
125.90-120.00			B	0.328	2.224		1	1	5.383			
			C	0.328	2.224		1	1	5.383			
T2	248.57	1581.88	A	0.318	2.25	10	1	1	21.168	511.80	25.59	C
120.00-100.00			B	0.318	2.25		1	1	21.168			
			C	0.318	2.25		1	1	21.168			
T3	404.17	2122.34	A	0.291	2.319	10	1	1	25.694	666.31	33.32	C
100.00-80.00			B	0.291	2.319		1	1	25.694			
			C	0.291	2.319		1	1	25.694			
T4	423.55	2406.08	A	0.252	2.433	9	1	1	27.020	693.38	34.67	C
80.00-60.00			B	0.252	2.433		1	1	27.020			
			C	0.252	2.433		1	1	27.020			
T5	415.90	2480.54	A	0.22	2.531	9	1	1	28.208	685.86	34.29	C
60.00-40.00			B	0.22	2.531		1	1	28.208			
			C	0.22	2.531		1	1	28.208			
T6	404.89	3499.69	A	0.235	2.483	8	1	1	36.145	734.17	36.71	C
40.00-20.00			B	0.235	2.483		1	1	36.145			
			C	0.235	2.483		1	1	36.145			
T7 20.00-0.00	383.40	3529.17	A	0.212	2.556	7	1	1	37.406	665.23	33.26	C
			B	0.212	2.556		1	1	37.406			
			C	0.212	2.556		1	1	37.406			
Sum Weight:	2280.49	15916.81						OTM	240730.08 lb-ft	4062.13		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	0.00	297.11	A	0.328	2.224	10	0.8	1	4.913	96.19	16.30	C
125.90-120.00			B	0.328	2.224		0.8	1	4.913			
			C	0.328	2.224		0.8	1	4.913			
T2	248.57	1581.88	A	0.318	2.25	10	0.8	1	19.554	480.57	24.03	A
120.00-100.00			B	0.318	2.25		0.8	1	19.554			
			C	0.318	2.25		0.8	1	19.554			
T3	404.17	2122.34	A	0.291	2.319	10	0.8	1	23.825	630.58	31.53	C
100.00-80.00			B	0.291	2.319		0.8	1	23.825			
			C	0.291	2.319		0.8	1	23.825			
T4	423.55	2406.08	A	0.252	2.433	9	0.8	1	25.200	658.75	32.94	C

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
80.00-60.00			B	0.252	2.433		0.8	1	25.200			
			C	0.252	2.433		0.8	1	25.200			
T5	415.90	2480.54	A	0.22	2.531	9	0.8	1	26.146	647.85	32.39	C
60.00-40.00			B	0.22	2.531		0.8	1	26.146			
			C	0.22	2.531		0.8	1	26.146			
T6	404.89	3499.69	A	0.235	2.483	8	0.8	1	33.302	687.99	34.40	C
40.00-20.00			B	0.235	2.483		0.8	1	33.302			
			C	0.235	2.483		0.8	1	33.302			
T7 20.00-0.00	383.40	3529.17	A	0.212	2.556	7	0.8	1	34.235	619.36	30.97	C
			B	0.212	2.556		0.8	1	34.235			
			C	0.212	2.556		0.8	1	34.235			
Sum Weight:	2280.49	15916.81						OTM	226780.70 lb-ft	3821.29		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	297.11	A	0.328	2.224	10	0.85	1	5.031	98.49	16.69	C
125.90-120.00			B	0.328	2.224		0.85	1	5.031			
			C	0.328	2.224		0.85	1	5.031			
T2	248.57	1581.88	A	0.318	2.25	10	0.85	1	19.957	488.38	24.42	A
120.00-100.00			B	0.318	2.25		0.85	1	19.957			
			C	0.318	2.25		0.85	1	19.957			
T3	404.17	2122.34	A	0.291	2.319	10	0.85	1	24.292	640.35	32.02	A
100.00-80.00			B	0.291	2.319		0.85	1	24.292			
			C	0.291	2.319		0.85	1	24.292			
T4	423.55	2406.08	A	0.252	2.433	9	0.85	1	25.655	668.20	33.41	A
80.00-60.00			B	0.252	2.433		0.85	1	25.655			
			C	0.252	2.433		0.85	1	25.655			
T5	415.90	2480.54	A	0.22	2.531	9	0.85	1	26.662	658.09	32.90	A
60.00-40.00			B	0.22	2.531		0.85	1	26.662			
			C	0.22	2.531		0.85	1	26.662			
T6	404.89	3499.69	A	0.235	2.483	8	0.85	1	34.012	700.19	35.01	A
40.00-20.00			B	0.235	2.483		0.85	1	34.012			
			C	0.235	2.483		0.85	1	34.012			
T7 20.00-0.00	383.40	3529.17	A	0.212	2.556	7	0.85	1	35.028	631.40	31.57	A
			B	0.212	2.556		0.85	1	35.028			
			C	0.212	2.556		0.85	1	35.028			
Sum Weight:	2280.49	15916.81						OTM	230461.03 lb-ft	3885.10		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	152.09	A	0.215	2.548	10	1	1	3.698	82.91	14.05	C
125.90-120.00			B	0.215	2.548		1	1	3.698			
			C	0.215	2.548		1	1	3.698			
T2	98.40	1024.40	A	0.234	2.488	10	1	1	15.826	419.02	20.95	C
120.00-100.00			B	0.234	2.488		1	1	15.826			
			C	0.234	2.488		1	1	15.826			
T3	155.80	1456.39	A	0.225	2.516	10	1	1	20.097	548.23	27.41	C
100.00-80.00			B	0.225	2.516		1	1	20.097			
			C	0.225	2.516		1	1	20.097			
T4	164.00	1729.37	A	0.2	2.596	9	1	1	21.801	576.43	28.82	C
80.00-60.00			B	0.2	2.596		1	1	21.801			
			C	0.2	2.596		1	1	21.801			
T5	164.00	1784.76	A	0.174	2.684	9	1	1	22.918	572.88	28.64	C
60.00-40.00			B	0.174	2.684		1	1	22.918			
			C	0.174	2.684		1	1	22.918			
T6	164.00	2631.37	A	0.196	2.61	8	1	1	30.367	630.38	31.52	C
40.00-20.00			B	0.196	2.61		1	1	30.367			
			C	0.196	2.61		1	1	30.367			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	7	1	1	32.214	583.40	29.17	C
			B	0.179	2.668		1	1	32.214			
			C	0.179	2.668		1	1	32.214			
Sum Weight:	910.20	11487.63						OTM	199366.67 lb-ft	3413.25		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	152.09	A	0.215	2.548	10	0.8	1	3.228	72.37	12.27	C
125.90-120.00			B	0.215	2.548		0.8	1	3.228			
			C	0.215	2.548		0.8	1	3.228			
T2	98.40	1024.40	A	0.234	2.488	10	0.8	1	14.212	384.50	19.23	A
120.00-100.00			B	0.234	2.488		0.8	1	14.212			
			C	0.234	2.488		0.8	1	14.212			
T3	155.80	1456.39	A	0.225	2.516	10	0.8	1	18.227	509.47	25.47	C
100.00-80.00			B	0.225	2.516		0.8	1	18.227			
			C	0.225	2.516		0.8	1	18.227			
T4	164.00	1729.37	A	0.2	2.596	9	0.8	1	19.980	539.48	26.97	C
80.00-60.00			B	0.2	2.596		0.8	1	19.980			
			C	0.2	2.596		0.8	1	19.980			
T5	164.00	1784.76	A	0.174	2.684	9	0.8	1	20.857	532.57	26.63	C
60.00-40.00			B	0.174	2.684		0.8	1	20.857			
			C	0.174	2.684		0.8	1	20.857			
T6	164.00	2631.37	A	0.196	2.61	8	0.8	1	27.524	581.86	29.09	C
40.00-20.00			B	0.196	2.61		0.8	1	27.524			
			C	0.196	2.61		0.8	1	27.524			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	7	0.8	1	29.043	535.52	26.78	C
			B	0.179	2.668		0.8	1	29.043			
			C	0.179	2.668		0.8	1	29.043			
Sum Weight:	910.20	11487.63						OTM	184248.67 lb-ft	3155.76		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	152.09	A	0.215	2.548	10	0.85	1	3.345	75.01	12.71	C
125.90-120.00			B	0.215	2.548		0.85	1	3.345			
			C	0.215	2.548		0.85	1	3.345			
T2	98.40	1024.40	A	0.234	2.488	10	0.85	1	14.616	393.13	19.66	A
120.00-100.00			B	0.234	2.488		0.85	1	14.616			
			C	0.234	2.488		0.85	1	14.616			
T3	155.80	1456.39	A	0.225	2.516	10	0.85	1	18.695	519.99	26.00	A
100.00-80.00			B	0.225	2.516		0.85	1	18.695			
			C	0.225	2.516		0.85	1	18.695			
T4	164.00	1729.37	A	0.2	2.596	9	0.85	1	20.436	549.51	27.48	A
80.00-60.00			B	0.2	2.596		0.85	1	20.436			
			C	0.2	2.596		0.85	1	20.436			
T5	164.00	1784.76	A	0.174	2.684	9	0.85	1	21.372	543.38	27.17	A
60.00-40.00			B	0.174	2.684		0.85	1	21.372			
			C	0.174	2.684		0.85	1	21.372			
T6	164.00	2631.37	A	0.196	2.61	8	0.85	1	28.235	594.65	29.73	A
40.00-20.00			B	0.196	2.61		0.85	1	28.235			
			C	0.196	2.61		0.85	1	28.235			
T7 20.00-0.00	164.00	2709.25	A	0.179	2.668	7	0.85	1	29.836	548.06	27.40	A
			B	0.179	2.668		0.85	1	29.836			
			C	0.179	2.668		0.85	1	29.836			
Sum Weight:	910.20	11487.63						OTM	188221.15 lb-ft	3223.74		

Mast Vectors - No Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	348.43	0.00	-348.43	-42840.02	0.00	0.00
		30	Wind 90	315.22	157.61	-272.99	-33564.33	-19378.37	0.00
		60	Wind 60	304.15	263.40	-152.08	-18697.83	-32385.59	0.00
		90	Wind 90	315.22	315.22	0.00	0.00	-38756.75	0.00
		120	Wind Normal	348.43	301.75	174.22	21420.01	-37100.55	0.00
		150	Wind 90	315.22	157.61	272.99	33564.33	-19378.37	0.00
		180	Wind 60	304.15	0.00	304.15	37395.66	0.00	0.00
		210	Wind 90	315.22	-157.61	272.99	33564.33	19378.37	0.00
		240	Wind Normal	348.43	-301.75	174.22	21420.01	37100.55	0.00
		270	Wind 90	315.22	-315.22	0.00	0.00	38756.75	0.00
		300	Wind 60	304.15	-263.40	-152.08	-18697.83	32385.59	0.00
		330	Wind 90	315.22	-157.61	-272.99	-33564.33	19378.37	0.00
T2	120.00-100.00	0	Wind Normal	1733.98	0.00	-1733.98	-190737.28	0.00	0.00
		30	Wind 90	1625.17	812.58	-1407.44	-154818.02	-89384.22	0.00
		60	Wind 60	1583.41	1371.27	-791.71	-87087.59	-150840.14	0.00
		90	Wind 90	1614.19	1614.19	0.00	0.00	-177561.15	0.00
		120	Wind Normal	1723.00	1492.16	861.50	94764.99	-164137.78	0.00
		150	Wind 90	1619.68	809.84	1402.68	154295.24	-89082.40	0.00
		180	Wind 60	1588.90	0.00	1588.90	174778.84	0.00	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		210	Wind 90	1625.17	-812.58	1407.44	154818.02	89384.22	0.00
		240	Wind Normal	1728.49	-1496.91	864.24	95066.82	164660.56	0.00
		270	Wind 90	1614.19	-1614.19	0.00	0.00	177561.15	0.00
		300	Wind 60	1577.92	-1366.52	-788.96	-86785.77	150317.36	0.00
		330	Wind 90	1619.68	-809.84	-1402.68	-154295.24	89082.40	0.00
T3	100.00-80.00	0	Wind Normal	2183.26	0.00	-2183.26	-196493.52	0.00	0.00
		30	Wind 90	2064.59	1032.30	-1787.99	-160918.87	-92906.55	0.00
		60	Wind 60	2020.36	1749.68	-1010.18	-90916.05	-157471.22	0.00
		90	Wind 90	2054.07	2054.07	0.00	0.00	-184866.17	0.00
		120	Wind Normal	2172.74	1881.65	1086.37	97773.30	-169348.32	0.00
		150	Wind 90	2054.07	1027.03	1778.88	160098.80	-92433.09	0.00
		180	Wind 60	2020.36	0.00	2020.36	181832.11	0.00	0.00
		210	Wind 90	2064.59	-1032.30	1787.99	160918.87	92906.55	0.00
		240	Wind Normal	2183.26	-1890.76	1091.63	98246.76	170168.38	0.00
		270	Wind 90	2054.07	-2054.07	0.00	0.00	184866.17	0.00
		300	Wind 60	2009.84	-1740.57	-1004.92	-90442.59	156651.16	0.00
		330	Wind 90	2054.07	-1027.03	-1778.88	-160098.80	92433.09	0.00
T4	80.00-60.00	0	Wind Normal	2207.28	0.00	-2207.28	-154509.35	0.00	0.00
		30	Wind 90	2094.15	1047.07	-1813.58	-126950.89	-73295.13	0.00
		60	Wind 60	2052.00	1777.09	-1026.00	-71820.05	-124395.98	0.00
		90	Wind 90	2084.17	2084.17	0.00	0.00	-145891.72	0.00
		120	Wind Normal	2197.30	1902.92	1098.65	76905.40	-133204.06	0.00
		150	Wind 90	2084.17	1042.08	1804.94	126345.94	-72945.86	0.00
		180	Wind 60	2052.00	0.00	2052.00	143640.11	0.00	0.00
		210	Wind 90	2094.15	-1047.07	1813.58	126950.89	73295.13	0.00
		240	Wind Normal	2207.28	-1911.56	1103.64	77254.68	133809.02	0.00
		270	Wind 90	2084.17	-2084.17	0.00	0.00	145891.72	0.00
		300	Wind 60	2042.02	-1768.44	-1021.01	-71470.78	123791.02	0.00
		330	Wind 90	2084.17	-1042.08	-1804.94	-126345.94	72945.86	0.00
T5	60.00-40.00	0	Wind Normal	2200.21	0.00	-2200.21	-110010.50	0.00	0.00
		30	Wind 90	2076.26	1038.13	-1798.09	-89904.61	-51906.45	0.00
		60	Wind 60	2030.81	1758.73	-1015.40	-50770.22	-87936.60	0.00
		90	Wind 90	2066.96	2066.96	0.00	0.00	-103348.06	0.00
		120	Wind Normal	2190.91	1897.39	1095.46	54772.83	-94869.33	0.00
		150	Wind 90	2066.96	1033.48	1790.04	89502.05	-51674.03	0.00
		180	Wind 60	2030.81	0.00	2030.81	101540.44	0.00	0.00
		210	Wind 90	2076.26	-1038.13	1798.09	89904.61	51906.45	0.00
		240	Wind Normal	2200.21	-1905.44	1100.11	55005.25	95271.89	0.00
		270	Wind 90	2066.96	-2066.96	0.00	0.00	103348.06	0.00
		300	Wind 60	2021.51	-1750.68	-1010.76	-50537.80	87534.03	0.00
		330	Wind 90	2066.96	-1033.48	-1790.04	-89502.05	51674.03	0.00
T6	40.00-20.00	0	Wind Normal	2405.98	0.00	-2405.98	-72179.42	0.00	0.00
		30	Wind 90	2255.82	1127.91	-1953.60	-58608.02	-33837.36	0.00
		60	Wind 60	2202.06	1907.04	-1101.03	-33030.91	-57211.22	0.00
		90	Wind 90	2247.47	2247.47	0.00	0.00	-67424.25	0.00
		120	Wind Normal	2397.63	2076.41	1198.82	35964.48	-62292.30	0.00
		150	Wind 90	2247.47	1123.74	1946.37	58391.11	-33712.12	0.00
		180	Wind 60	2202.06	0.00	2202.06	66061.83	0.00	0.00
		210	Wind 90	2255.82	-1127.91	1953.60	58608.02	33837.36	0.00
		240	Wind Normal	2405.98	-2083.64	1202.99	36089.71	62509.21	0.00
		270	Wind 90	2247.47	-2247.47	0.00	0.00	67424.25	0.00
		300	Wind 60	2193.71	-1899.81	-1096.86	-32905.68	56994.31	0.00
		330	Wind 90	2247.47	-1123.74	-1946.37	-58391.11	33712.12	0.00
T7	20.00-0.00	0	Wind Normal	2206.22	0.00	-2206.22	-22062.20	0.00	0.00
		30	Wind 90	2057.71	1028.85	-1782.03	-17820.29	-10288.55	0.00
		60	Wind 60	2004.99	1736.38	-1002.50	-10024.97	-17363.76	0.00
		90	Wind 90	2050.48	2050.48	0.00	0.00	-20504.85	0.00
		120	Wind Normal	2199.00	1904.39	1099.50	10994.98	-19043.86	0.00
		150	Wind 90	2050.48	1025.24	1775.77	17757.72	-10252.42	0.00
		180	Wind 60	2004.99	0.00	2004.99	20049.95	0.00	0.00
		210	Wind 90	2057.71	-1028.85	1782.03	17820.29	10288.55	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		240	Wind Normal	2206.22	-1910.64	1103.11	11031.10	19106.43	0.00
		270	Wind 90	2050.48	-2050.48	0.00	0.00	20504.85	0.00
		300	Wind 60	1997.77	-1730.12	-998.89	-9988.85	17301.20	0.00
		330	Wind 90	2050.48	-1025.24	-1775.77	-17757.72	10252.42	0.00

Mast Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-13285.36	-788832.30	0.00	0.00
30	6244.46	-10815.72	-642585.02	-370996.64	0.00
60	10563.59	-6098.89	-362347.63	-627604.51	0.00
90	12432.57	0.00	0.00	-738352.95	0.00
120	11456.66	6614.51	392595.99	-679996.20	0.00
150	6219.03	10771.68	639955.19	-369478.30	0.00
180	0.00	12203.27	725298.92	0.00	0.00
210	-6244.46	10815.72	642585.02	370996.64	0.00
240	-11500.71	6639.94	394114.33	682626.04	0.00
270	-12432.57	0.00	0.00	738352.95	0.00
300	-10519.55	-6073.46	-360829.30	624974.68	0.00
330	-6219.03	-10771.68	-639955.19	369478.30	0.00

Mast Vectors - With Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	105.39	0.00	-105.39	-12958.13	0.00	0.00
		30	Wind 90	98.49	49.25	-85.30	-10487.33	-6054.86	0.00
		60	Wind 60	96.19	83.31	-48.10	-5913.46	-10242.42	0.00
		90	Wind 90	98.49	98.49	0.00	0.00	-12109.73	0.00
		120	Wind Normal	105.39	91.27	52.70	6479.06	-11222.07	0.00
		150	Wind 90	98.49	49.25	85.30	10487.33	-6054.86	0.00
		180	Wind 60	96.19	0.00	96.19	11826.93	0.00	0.00
		210	Wind 90	98.49	-49.25	85.30	10487.33	6054.86	0.00
		240	Wind Normal	105.39	-91.27	52.70	6479.06	11222.07	0.00
		270	Wind 90	98.49	-98.49	0.00	0.00	12109.73	0.00
		300	Wind 60	96.19	-83.31	-48.10	-5913.46	10242.42	0.00
		330	Wind 90	98.49	-49.25	-85.30	-10487.33	6054.86	0.00
T2	120.00-100.00	0	Wind Normal	511.80	0.00	-511.80	-56297.57	0.00	0.00
		30	Wind 90	488.38	244.19	-422.95	-46524.47	-26860.91	0.00
		60	Wind 60	479.27	415.06	-239.63	-26359.80	-45656.52	0.00
		90	Wind 90	485.77	485.77	0.00	0.00	-53434.55	0.00
		120	Wind Normal	509.18	440.97	254.59	28005.14	-48506.33	0.00
		150	Wind 90	487.07	243.54	421.82	46400.07	-26789.09	0.00
		180	Wind 60	480.57	0.00	480.57	52863.25	0.00	0.00
		210	Wind 90	488.38	-244.19	422.95	46524.47	26860.91	0.00
		240	Wind Normal	510.49	-442.10	255.25	28076.96	48630.73	0.00
		270	Wind 90	485.77	-485.77	0.00	0.00	53434.55	0.00
		300	Wind 60	477.96	-413.93	-238.98	-26287.98	45532.12	0.00
		330	Wind 90	487.07	-243.54	-421.82	-46400.07	26789.09	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T3	100.00-80.00	0	Wind Normal	666.31	0.00	-666.31	-59967.73	0.00	0.00
		30	Wind 90	640.35	320.17	-554.56	-49910.16	-28815.64	0.00
		60	Wind 60	630.58	546.10	-315.29	-28376.16	-49148.96	0.00
		90	Wind 90	637.84	637.84	0.00	0.00	-57405.96	0.00
		120	Wind Normal	663.80	574.87	331.90	29871.20	-51738.44	0.00
		150	Wind 90	637.84	318.92	552.39	49715.02	-28702.98	0.00
		180	Wind 60	630.58	0.00	630.58	56752.33	0.00	0.00
		210	Wind 90	640.35	-320.17	554.56	49910.16	28815.64	0.00
		240	Wind Normal	666.31	-577.04	333.15	29983.86	51933.57	0.00
		270	Wind 90	637.84	-637.84	0.00	0.00	57405.96	0.00
		300	Wind 60	628.08	-543.93	-314.04	-28263.50	48953.82	0.00
		330	Wind 90	637.84	-318.92	-552.39	-49715.02	28702.98	0.00
T4	80.00-60.00	0	Wind Normal	693.38	0.00	-693.38	-48536.31	0.00	0.00
		30	Wind 90	668.20	334.10	-578.68	-40507.42	-23386.97	0.00
		60	Wind 60	658.75	570.50	-329.38	-23056.31	-39934.69	0.00
		90	Wind 90	665.82	665.82	0.00	0.00	-46607.72	0.00
		120	Wind Normal	691.00	598.42	345.50	24185.04	-41889.73	0.00
		150	Wind 90	665.82	332.91	576.62	40363.47	-23303.86	0.00
		180	Wind 60	658.75	0.00	658.75	46112.61	0.00	0.00
		210	Wind 90	668.20	-334.10	578.68	40507.42	23386.97	0.00
		240	Wind Normal	693.38	-600.48	346.69	24268.15	42033.68	0.00
		270	Wind 90	665.82	-665.82	0.00	0.00	46607.72	0.00
		300	Wind 60	656.38	-568.44	-328.19	-22973.19	39790.74	0.00
		330	Wind 90	665.82	-332.91	-576.62	-40363.47	23303.86	0.00
T5	60.00-40.00	0	Wind Normal	685.86	0.00	-685.86	-34293.05	0.00	0.00
		30	Wind 90	658.09	329.04	-569.92	-28496.09	-16452.23	0.00
		60	Wind 60	647.85	561.05	-323.92	-16196.21	-28052.66	0.00
		90	Wind 90	655.88	655.88	0.00	0.00	-32793.84	0.00
		120	Wind Normal	683.65	592.06	341.82	17091.22	-29602.86	0.00
		150	Wind 90	655.88	327.94	568.01	28400.30	-16396.92	0.00
		180	Wind 60	647.85	0.00	647.85	32392.43	0.00	0.00
		210	Wind 90	658.09	-329.04	569.92	28496.09	16452.23	0.00
		240	Wind Normal	685.86	-593.97	342.93	17146.53	29698.65	0.00
		270	Wind 90	655.88	-655.88	0.00	0.00	32793.84	0.00
		300	Wind 60	645.64	-559.14	-322.82	-16140.91	27956.87	0.00
		330	Wind 90	655.88	-327.94	-568.01	-28400.30	16396.92	0.00
T6	40.00-20.00	0	Wind Normal	734.17	0.00	-734.17	-22024.96	0.00	0.00
		30	Wind 90	700.19	350.10	-606.38	-18191.55	-10502.89	0.00
		60	Wind 60	687.99	595.81	-343.99	-10319.79	-17874.40	0.00
		90	Wind 90	698.21	698.21	0.00	0.00	-20946.19	0.00
		120	Wind Normal	732.18	634.09	366.09	10982.68	-19022.56	0.00
		150	Wind 90	698.21	349.10	604.66	18139.93	-10473.10	0.00
		180	Wind 60	687.99	0.00	687.99	20639.58	0.00	0.00
		210	Wind 90	700.19	-350.10	606.38	18191.55	10502.89	0.00
		240	Wind Normal	734.17	-635.81	367.08	11012.48	19074.18	0.00
		270	Wind 90	698.21	-698.21	0.00	0.00	20946.19	0.00
		300	Wind 60	686.00	-594.09	-343.00	-10289.99	17822.78	0.00
		330	Wind 90	698.21	-349.10	-604.66	-18139.93	10473.10	0.00
T7	20.00-0.00	0	Wind Normal	665.23	0.00	-665.23	-6652.34	0.00	0.00
		30	Wind 90	631.40	315.70	-546.81	-5468.09	-3157.00	0.00
		60	Wind 60	619.36	536.38	-309.68	-3096.79	-5363.80	0.00
		90	Wind 90	629.68	629.68	0.00	0.00	-6296.81	0.00
		120	Wind Normal	663.51	574.62	331.76	3317.57	-5746.20	0.00
		150	Wind 90	629.68	314.84	545.32	5453.20	-3148.41	0.00
		180	Wind 60	619.36	0.00	619.36	6193.59	0.00	0.00
		210	Wind 90	631.40	-315.70	546.81	5468.09	3157.00	0.00
		240	Wind Normal	665.23	-576.11	332.62	3326.17	5761.09	0.00
		270	Wind 90	629.68	-629.68	0.00	0.00	6296.81	0.00
		300	Wind 60	617.64	-534.89	-308.82	-3088.20	5348.92	0.00
		330	Wind 90	629.68	-314.84	-545.32	-5453.20	3148.41	0.00

Mast Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-4062.13	-240730.08	0.00	0.00
30	1942.55	-3364.60	-199585.11	-115230.51	0.00
60	3308.21	-1909.99	-113318.53	-196273.45	0.00
90	3871.69	0.00	0.00	-229594.80	0.00
120	3506.30	2024.36	119931.93	-207728.19	0.00
150	1936.50	3354.12	198959.33	-114869.22	0.00
180	0.00	3821.29	226780.70	0.00	0.00
210	-1942.55	3364.60	199585.11	115230.51	0.00
240	-3516.78	2030.41	120293.22	208353.97	0.00
270	-3871.69	0.00	0.00	229594.80	0.00
300	-3297.73	-1903.94	-112957.24	195647.67	0.00
330	-1936.50	-3354.12	-198959.33	114869.22	0.00

Mast Vectors - Service

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	82.91	0.00	-82.91	-10193.94	0.00	0.00
		30	Wind 90	75.01	37.50	-64.96	-7986.75	-4611.15	0.00
		60	Wind 60	72.37	62.68	-36.19	-4449.22	-7706.27	0.00
		90	Wind 90	75.01	75.01	0.00	0.00	-9222.31	0.00
		120	Wind Normal	82.91	71.80	41.46	5096.97	-8828.21	0.00
		150	Wind 90	75.01	37.50	64.96	7986.75	-4611.15	0.00
		180	Wind 60	72.37	0.00	72.37	8898.43	0.00	0.00
		210	Wind 90	75.01	-37.50	64.96	7986.75	4611.15	0.00
		240	Wind Normal	82.91	-71.80	41.46	5096.97	8828.21	0.00
		270	Wind 90	75.01	-75.01	0.00	0.00	9222.31	0.00
		300	Wind 60	72.37	-62.68	-36.19	-4449.22	7706.27	0.00
		330	Wind 90	75.01	-37.50	-64.96	-7986.75	4611.15	0.00
T2	120.00-100.00	0	Wind Normal	419.02	0.00	-419.02	-46092.53	0.00	0.00
		30	Wind 90	393.13	196.57	-340.46	-37450.84	-21622.25	0.00
		60	Wind 60	383.20	331.86	-191.60	-21075.76	-36504.29	0.00
		90	Wind 90	390.52	390.52	0.00	0.00	-42957.22	0.00
		120	Wind Normal	416.41	360.62	208.21	22902.62	-39668.51	0.00
		150	Wind 90	391.83	195.91	339.33	37326.44	-21550.43	0.00
		180	Wind 60	384.50	0.00	384.50	42295.16	0.00	0.00
		210	Wind 90	393.13	-196.57	340.46	37450.84	21622.25	0.00
		240	Wind Normal	417.72	-361.75	208.86	22974.45	39792.91	0.00
		270	Wind 90	390.52	-390.52	0.00	0.00	42957.22	0.00
		300	Wind 60	381.89	-330.73	-190.94	-21003.94	36379.89	0.00
		330	Wind 90	391.83	-195.91	-339.33	-37326.44	21550.43	0.00
T3	100.00-80.00	0	Wind Normal	548.23	0.00	-548.23	-49340.87	0.00	0.00
		30	Wind 90	519.99	260.00	-450.33	-40529.49	-23399.71	0.00
		60	Wind 60	509.47	441.21	-254.73	-22926.07	-39709.11	0.00
		90	Wind 90	517.49	517.49	0.00	0.00	-46574.10	0.00
		120	Wind Normal	545.73	472.61	272.86	24557.77	-42535.31	0.00
		150	Wind 90	517.49	258.74	448.16	40334.35	-23287.05	0.00
		180	Wind 60	509.47	0.00	509.47	45852.13	0.00	0.00
		210	Wind 90	519.99	-260.00	450.33	40529.49	23399.71	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		240	Wind Normal	548.23	-474.78	274.12	24670.43	42730.45	0.00
		270	Wind 90	517.49	-517.49	0.00	0.00	46574.10	0.00
		300	Wind 60	506.96	-439.04	-253.48	-22813.40	39513.97	0.00
		330	Wind 90	517.49	-258.74	-448.16	-40334.35	23287.05	0.00
T4	80.00-60.00	0	Wind Normal	576.43	0.00	-576.43	-40350.17	0.00	0.00
		30	Wind 90	549.51	274.76	-475.89	-33312.35	-19232.90	0.00
		60	Wind 60	539.48	467.21	-269.74	-18881.89	-32704.40	0.00
		90	Wind 90	547.14	547.14	0.00	0.00	-38299.57	0.00
		120	Wind Normal	574.06	497.15	287.03	20091.97	-34800.32	0.00
		150	Wind 90	547.14	273.57	473.83	33168.40	-19149.78	0.00
		180	Wind 60	539.48	0.00	539.48	37763.79	0.00	0.00
		210	Wind 90	549.51	-274.76	475.89	33312.35	19232.90	0.00
		240	Wind Normal	576.43	-499.20	288.22	20175.08	34944.27	0.00
		270	Wind 90	547.14	-547.14	0.00	0.00	38299.57	0.00
		300	Wind 60	537.11	-465.15	-268.55	-18798.78	32560.45	0.00
		330	Wind 90	547.14	-273.57	-473.83	-33168.40	19149.78	0.00
T5	60.00-40.00	0	Wind Normal	572.88	0.00	-572.88	-28643.78	0.00	0.00
		30	Wind 90	543.38	271.69	-470.58	-23529.08	-13584.52	0.00
		60	Wind 60	532.57	461.22	-266.28	-13314.15	-23060.78	0.00
		90	Wind 90	541.17	541.17	0.00	0.00	-27058.43	0.00
		120	Wind Normal	570.66	494.21	285.33	14266.59	-24710.45	0.00
		150	Wind 90	541.17	270.58	468.67	23433.29	-13529.21	0.00
		180	Wind 60	532.57	0.00	532.57	26628.30	0.00	0.00
		210	Wind 90	543.38	-271.69	470.58	23529.08	13584.52	0.00
		240	Wind Normal	572.88	-496.12	286.44	14321.89	24806.24	0.00
		270	Wind 90	541.17	-541.17	0.00	0.00	27058.43	0.00
		300	Wind 60	530.35	-459.30	-265.18	-13258.84	22964.99	0.00
		330	Wind 90	541.17	-270.58	-468.67	-23433.29	13529.21	0.00
T6	40.00-20.00	0	Wind Normal	630.38	0.00	-630.38	-18911.41	0.00	0.00
		30	Wind 90	594.65	297.33	-514.98	-15449.46	-8919.75	0.00
		60	Wind 60	581.86	503.90	-290.93	-8727.86	-15117.09	0.00
		90	Wind 90	592.66	592.66	0.00	0.00	-17779.90	0.00
		120	Wind Normal	628.39	544.21	314.20	9425.91	-16326.15	0.00
		150	Wind 90	592.66	296.33	513.26	15397.85	-8889.95	0.00
		180	Wind 60	581.86	0.00	581.86	17455.71	0.00	0.00
		210	Wind 90	594.65	-297.33	514.98	15449.46	8919.75	0.00
		240	Wind Normal	630.38	-545.93	315.19	9455.71	16377.77	0.00
		270	Wind 90	592.66	-592.66	0.00	0.00	17779.90	0.00
		300	Wind 60	579.87	-502.18	-289.94	-8698.06	15065.47	0.00
		330	Wind 90	592.66	-296.33	-513.26	-15397.85	8889.95	0.00
T7	20.00-0.00	0	Wind Normal	583.40	0.00	-583.40	-5833.97	0.00	0.00
		30	Wind 90	548.06	274.03	-474.63	-4746.33	-2740.29	0.00
		60	Wind 60	535.52	463.77	-267.76	-2677.58	-4637.70	0.00
		90	Wind 90	546.34	546.34	0.00	0.00	-5463.40	0.00
		120	Wind Normal	581.68	503.75	290.84	2908.39	-5037.48	0.00
		150	Wind 90	546.34	273.17	473.14	4731.44	-2731.70	0.00
		180	Wind 60	535.52	0.00	535.52	5355.15	0.00	0.00
		210	Wind 90	548.06	-274.03	474.63	4746.33	2740.29	0.00
		240	Wind Normal	583.40	-505.24	291.70	2916.99	5052.37	0.00
		270	Wind 90	546.34	-546.34	0.00	0.00	5463.40	0.00
		300	Wind 60	533.80	-462.28	-266.90	-2668.98	4622.81	0.00
		330	Wind 90	546.34	-273.17	-473.14	-4731.44	2731.70	0.00

Mast Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-3413.25	-199366.67	0.00	0.00
30	1611.87	-2791.84	-163004.30	-94110.58	0.00
60	2731.84	-1577.23	-92052.52	-159439.64	0.00
90	3210.33	0.00	0.00	-187354.93	0.00
120	2944.35	1699.92	99250.22	-171906.43	0.00
150	1605.82	2781.36	162378.52	-93749.28	0.00
180	0.00	3155.76	184248.67	0.00	0.00
210	-1611.87	2791.84	163004.30	94110.58	0.00
240	-2954.83	1705.97	99611.52	172532.21	0.00
270	-3210.33	0.00	0.00	187354.93	0.00
300	-2721.36	-1571.18	-91691.22	158813.86	0.00
330	-1605.82	-2781.36	-162378.52	93749.28	0.00

Discrete Appurtenance Pressures - No Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	120.00	1.315	43	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	110.00	1.291	43	208.00	208.00
Dish Pipe Mount	0.0000	103.00	0.00	-2.89	100.00	1.266	42	0.00	1.80
Dish Pipe Mount	240.0000	103.00	-2.87	1.66	90.00	1.238	41	0.00	1.80
	Sum Weight:	7278.00							

Discrete Appurtenance Vectors - No Ice

30,000 sq in CaAa - Elevation 120 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	7654.63	0.00	0.00	-7654.63	-918555.19	0.00	0.00
30	7654.63	0.00	3827.31	-6629.10	-795492.13	-459277.59	0.00
60	7654.63	0.00	6629.10	-3827.31	-459277.59	-795492.13	0.00
90	7654.63	0.00	7654.63	0.00	0.00	-918555.19	0.00
120	7654.63	0.00	6629.10	3827.31	459277.59	-795492.13	0.00
150	7654.63	0.00	3827.31	6629.10	795492.13	-459277.59	0.00
180	7654.63	0.00	0.00	7654.63	918555.19	0.00	0.00
210	7654.63	0.00	-3827.31	6629.10	795492.13	459277.59	0.00
240	7654.63	0.00	-6629.10	3827.31	459277.59	795492.13	0.00
270	7654.63	0.00	-7654.63	0.00	0.00	918555.19	0.00
300	7654.63	0.00	-6629.10	-3827.31	-459277.59	795492.13	0.00
330	7654.63	0.00	-3827.31	-6629.10	-795492.13	459277.59	0.00

30,000 sq in CaAa - Elevation 110 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	7515.68	0.00	0.00	-7515.68	-826725.26	0.00	0.00
30	7515.68	0.00	3757.84	-6508.77	-715965.08	-413362.63	0.00
60	7515.68	0.00	6508.77	-3757.84	-413362.63	-715965.08	0.00
90	7515.68	0.00	7515.68	0.00	0.00	-826725.26	0.00

30,000 sq in CaAa - Elevation 110 - None B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
120	7515.68	0.00	6508.77	3757.84	413362.63	-715965.08	0.00
150	7515.68	0.00	3757.84	6508.77	715965.08	-413362.63	0.00
180	7515.68	0.00	0.00	7515.68	826725.26	0.00	0.00
210	7515.68	0.00	-3757.84	6508.77	715965.08	413362.63	0.00
240	7515.68	0.00	-6508.77	3757.84	413362.63	715965.08	0.00
270	7515.68	0.00	-7515.68	0.00	0.00	826725.26	0.00
300	7515.68	0.00	-6508.77	-3757.84	-413362.63	715965.08	0.00
330	7515.68	0.00	-3757.84	-6508.77	-715965.08	413362.63	0.00

Dish Pipe Mount - Elevation 100 - From Leg A							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
30	0.00	31.87	31.87	0.00	-297.34	-3187.38	-92.01
60	0.00	55.21	55.21	0.00	-297.34	-5520.70	-159.37
90	0.00	63.75	63.75	0.00	-297.34	-6374.75	-184.02
120	0.00	55.21	55.21	0.00	-297.34	-5520.70	-159.37
150	0.00	31.87	31.87	0.00	-297.34	-3187.38	-92.01
180	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
210	0.00	31.87	-31.87	0.00	-297.34	3187.38	92.01
240	0.00	55.21	-55.21	0.00	-297.34	5520.70	159.37
270	0.00	63.75	-63.75	0.00	-297.34	6374.75	184.02
300	0.00	55.21	-55.21	0.00	-297.34	5520.70	159.37
330	0.00	31.87	-31.87	0.00	-297.34	3187.38	92.01

Dish Pipe Mount - Elevation 90 - From Leg C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	54.00	-27.00	-46.76	-4037.60	2725.94	-179.25
30	0.00	31.17	-15.59	-27.00	-2258.85	1698.98	-103.49
60	0.00	0.00	0.00	0.00	170.97	296.12	0.00
90	0.00	31.17	15.59	27.00	2600.78	-1106.73	103.49
120	0.00	54.00	27.00	46.76	4379.53	-2133.69	179.25
150	0.00	62.35	31.17	54.00	5030.60	-2509.59	206.98
180	0.00	54.00	27.00	46.76	4379.53	-2133.69	179.25
210	0.00	31.17	15.59	27.00	2600.78	-1106.73	103.49
240	0.00	0.00	0.00	0.00	170.97	296.12	0.00
270	0.00	31.17	-15.59	-27.00	-2258.85	1698.98	-103.49
300	0.00	54.00	-27.00	-46.76	-4037.60	2725.94	-179.25
330	0.00	62.35	-31.17	-54.00	-4688.66	3101.84	-206.98

Discrete Appurtenance Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-27.00	-15217.07	-1749615.38	2725.94	-179.25
30	7601.44	-13164.87	-1514013.39	-874128.62	-195.50
60	13193.08	-7585.16	-872766.59	-1516681.78	-159.37
90	15249.65	27.00	2303.45	-1752761.93	-80.53

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
120	13220.08	7631.92	876722.42	-1519111.59	19.88
150	7648.20	13191.87	1516190.47	-878337.19	114.97
180	27.00	15217.07	1749362.64	-2133.69	179.25
210	-7601.44	13164.87	1513760.65	874720.87	195.50
240	-13193.08	7585.16	872513.86	1517274.03	159.37
270	-15249.65	-27.00	-2556.18	1753354.18	80.53
300	-13220.08	-7631.92	-876975.16	1519703.84	-19.88
330	-7648.20	-13191.87	-1516443.20	878929.44	-114.97

Discrete Appurtenance Pressures - With Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
30,000 sq in CaAa	0.0000	4903.64	0.00	0.00	120.00	1.315	10	255.79	255.79	0.5689
30,000 sq in CaAa	0.0000	4891.79	0.00	0.00	110.00	1.291	10	255.37	255.37	0.5640
Dish Pipe Mount	0.0000	120.88	0.00	-2.89	100.00	1.266	10	0.00	2.14	0.5586
Dish Pipe Mount	240.0000	120.69	-2.87	1.66	90.00	1.238	10	0.00	2.13	0.5528
	Sum Weight:	10036.99								

Discrete Appurtenance Vectors - With Ice

30,000 sq in CaAa - Elevation 120 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	2239.92	0.00	0.00	-2239.92	-268790.45	0.00	0.00
30	2239.92	0.00	1119.96	-1939.83	-232779.36	-134395.22	0.00
60	2239.92	0.00	1939.83	-1119.96	-134395.22	-232779.36	0.00
90	2239.92	0.00	2239.92	0.00	0.00	-268790.45	0.00
120	2239.92	0.00	1939.83	1119.96	134395.22	-232779.36	0.00
150	2239.92	0.00	1119.96	1939.83	232779.36	-134395.22	0.00
180	2239.92	0.00	0.00	2239.92	268790.45	0.00	0.00
210	2239.92	0.00	-1119.96	1939.83	232779.36	134395.22	0.00
240	2239.92	0.00	-1939.83	1119.96	134395.22	232779.36	0.00
270	2239.92	0.00	-2239.92	0.00	0.00	268790.45	0.00
300	2239.92	0.00	-1939.83	-1119.96	-134395.22	232779.36	0.00
330	2239.92	0.00	-1119.96	-1939.83	-232779.36	134395.22	0.00

30,000 sq in CaAa - Elevation 110 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	2195.70	0.00	0.00	-2195.70	-241527.34	0.00	0.00
30	2195.70	0.00	1097.85	-1901.53	-209168.81	-120763.67	0.00
60	2195.70	0.00	1901.53	-1097.85	-120763.67	-209168.81	0.00
90	2195.70	0.00	2195.70	0.00	0.00	-241527.34	0.00
120	2195.70	0.00	1901.53	1097.85	120763.67	-209168.81	0.00
150	2195.70	0.00	1097.85	1901.53	209168.81	-120763.67	0.00
180	2195.70	0.00	0.00	2195.70	241527.34	0.00	0.00
210	2195.70	0.00	-1097.85	1901.53	209168.81	120763.67	0.00

30,000 sq in CaAa - Elevation 110 - None B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
240	2195.70	0.00	-1901.53	1097.85	120763.67	209168.81	0.00
270	2195.70	0.00	-2195.70	0.00	0.00	241527.34	0.00
300	2195.70	0.00	-1901.53	-1097.85	-120763.67	209168.81	0.00
330	2195.70	0.00	-1097.85	-1901.53	-209168.81	120763.67	0.00

Dish Pipe Mount - Elevation 100 - From Leg A							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	0.00	0.00	0.00	-348.94	0.00	0.00
30	0.00	9.00	9.00	0.00	-348.94	-899.68	-25.97
60	0.00	15.58	15.58	0.00	-348.94	-1558.29	-44.98
90	0.00	17.99	17.99	0.00	-348.94	-1799.35	-51.94
120	0.00	15.58	15.58	0.00	-348.94	-1558.29	-44.98
150	0.00	9.00	9.00	0.00	-348.94	-899.68	-25.97
180	0.00	0.00	0.00	0.00	-348.94	0.00	0.00
210	0.00	9.00	-9.00	0.00	-348.94	899.68	25.97
240	0.00	15.58	-15.58	0.00	-348.94	1558.29	44.98
270	0.00	17.99	-17.99	0.00	-348.94	1799.35	51.94
300	0.00	15.58	-15.58	0.00	-348.94	1558.29	44.98
330	0.00	9.00	-9.00	0.00	-348.94	899.68	25.97

Dish Pipe Mount - Elevation 90 - From Leg C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	15.22	-7.61	-13.18	-985.64	1031.70	-50.51
30	0.00	8.78	-4.39	-7.61	-484.39	742.30	-29.16
60	0.00	0.00	0.00	0.00	200.33	346.98	0.00
90	0.00	8.78	4.39	7.61	885.05	-48.34	29.16
120	0.00	15.22	7.61	13.18	1386.29	-337.74	50.51
150	0.00	17.57	8.78	15.22	1569.76	-443.66	58.33
180	0.00	15.22	7.61	13.18	1386.29	-337.74	50.51
210	0.00	8.78	4.39	7.61	885.05	-48.34	29.16
240	0.00	0.00	0.00	0.00	200.33	346.98	0.00
270	0.00	8.78	-4.39	-7.61	-484.39	742.30	-29.16
300	0.00	15.22	-7.61	-13.18	-985.64	1031.70	-50.51
330	0.00	17.57	-8.78	-15.22	-1169.11	1137.62	-58.33

Discrete Appurtenance Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-7.61	-4448.80	-511652.36	1031.70	-50.51
30	2222.42	-3848.97	-442781.49	-255316.27	-55.14
60	3856.95	-2217.81	-255307.50	-443159.47	-44.98
90	4458.01	7.61	536.11	-512165.48	-22.78
120	3864.55	2230.99	256196.25	-443844.19	5.53
150	2235.59	3856.58	443168.99	-256502.23	32.36
180	7.61	4448.80	511355.14	-337.74	50.51
210	-2222.42	3848.97	442484.27	256010.23	55.14

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
240	-3856.95	2217.81	255010.28	443853.43	44.98
270	-4458.01	-7.61	-833.33	512859.44	22.78
300	-3864.55	-2230.99	-256493.47	444538.15	-5.53
330	-2235.59	-3856.58	-443466.21	257196.19	-32.36

Discrete Appurtenance Pressures - Service $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	120.00	1.315	10	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	110.00	1.291	10	208.00	208.00
Dish Pipe Mount	0.0000	103.00	0.00	-2.89	100.00	1.266	10	0.00	1.80
Dish Pipe Mount	240.0000	103.00	-2.87	1.66	90.00	1.238	10	0.00	1.80
	Sum Weight:	7278.00							

Discrete Appurtenance Vectors - Service

30,000 sq in CaAa - Elevation 120 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1821.45	0.00	0.00	-1821.45	-218573.51	0.00	0.00
30	1821.45	0.00	910.72	-1577.42	-189290.21	-109286.76	0.00
60	1821.45	0.00	1577.42	-910.72	-109286.76	-189290.21	0.00
90	1821.45	0.00	1821.45	0.00	0.00	-218573.51	0.00
120	1821.45	0.00	1577.42	910.72	109286.76	-189290.21	0.00
150	1821.45	0.00	910.72	1577.42	189290.21	-109286.76	0.00
180	1821.45	0.00	0.00	1821.45	218573.51	0.00	0.00
210	1821.45	0.00	-910.72	1577.42	189290.21	109286.76	0.00
240	1821.45	0.00	-1577.42	910.72	109286.76	189290.21	0.00
270	1821.45	0.00	-1821.45	0.00	0.00	218573.51	0.00
300	1821.45	0.00	-1577.42	-910.72	-109286.76	189290.21	0.00
330	1821.45	0.00	-910.72	-1577.42	-189290.21	109286.76	0.00

30,000 sq in CaAa - Elevation 110 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1788.38	0.00	0.00	-1788.38	-196722.25	0.00	0.00
30	1788.38	0.00	894.19	-1548.79	-170366.47	-98361.13	0.00
60	1788.38	0.00	1548.79	-894.19	-98361.13	-170366.47	0.00
90	1788.38	0.00	1788.38	0.00	0.00	-196722.25	0.00
120	1788.38	0.00	1548.79	894.19	98361.13	-170366.47	0.00
150	1788.38	0.00	894.19	1548.79	170366.47	-98361.13	0.00
180	1788.38	0.00	0.00	1788.38	196722.25	0.00	0.00
210	1788.38	0.00	-894.19	1548.79	170366.47	98361.13	0.00
240	1788.38	0.00	-1548.79	894.19	98361.13	170366.47	0.00
270	1788.38	0.00	-1788.38	0.00	0.00	196722.25	0.00
300	1788.38	0.00	-1548.79	-894.19	-98361.13	170366.47	0.00
330	1788.38	0.00	-894.19	-1548.79	-170366.47	98361.13	0.00

Dish Pipe Mount - Elevation 100 - From Leg A

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
30	0.00	7.58	7.58	0.00	-297.34	-758.45	-21.89
60	0.00	13.14	13.14	0.00	-297.34	-1313.67	-37.92
90	0.00	15.17	15.17	0.00	-297.34	-1516.90	-43.79
120	0.00	13.14	13.14	0.00	-297.34	-1313.67	-37.92
150	0.00	7.58	7.58	0.00	-297.34	-758.45	-21.89
180	0.00	0.00	0.00	0.00	-297.34	0.00	0.00
210	0.00	7.58	-7.58	0.00	-297.34	758.45	21.89
240	0.00	13.14	-13.14	0.00	-297.34	1313.67	37.92
270	0.00	15.17	-15.17	0.00	-297.34	1516.90	43.79
300	0.00	13.14	-13.14	0.00	-297.34	1313.67	37.92
330	0.00	7.58	-7.58	0.00	-297.34	758.45	21.89

Dish Pipe Mount - Elevation 90 - From Leg C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	12.85	-6.42	-11.13	-830.48	874.31	-42.65
30	0.00	7.42	-3.71	-6.42	-407.22	629.94	-24.63
60	0.00	0.00	0.00	0.00	170.97	296.12	0.00
90	0.00	7.42	3.71	6.42	749.15	-37.69	24.63
120	0.00	12.85	6.42	11.13	1172.41	-282.06	42.65
150	0.00	14.84	7.42	12.85	1327.33	-371.50	49.25
180	0.00	12.85	6.42	11.13	1172.41	-282.06	42.65
210	0.00	7.42	3.71	6.42	749.15	-37.69	24.63
240	0.00	0.00	0.00	0.00	170.97	296.12	0.00
270	0.00	7.42	-3.71	-6.42	-407.22	629.94	-24.63
300	0.00	12.85	-6.42	-11.13	-830.48	874.31	-42.65
330	0.00	14.84	-7.42	-12.85	-985.40	963.75	-49.25

Discrete Appurtenance Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-6.42	-3620.96	-416423.57	874.31	-42.65
30	1808.79	-3132.63	-360361.23	-207776.39	-46.52
60	3139.34	-1804.92	-207774.25	-360674.23	-37.92
90	3628.71	6.42	451.82	-416850.35	-19.16
120	3145.77	1816.04	208522.96	-361252.41	4.73
150	1819.92	3139.05	360686.68	-208777.83	27.36
180	6.42	3620.96	416170.84	-282.06	42.65
210	-1808.79	3132.63	360108.50	208368.64	46.52
240	-3139.34	1804.92	207521.51	361266.48	37.92
270	-3628.71	-6.42	-704.55	417442.60	19.16
300	-3145.77	-1816.04	-208775.69	361844.66	-4.73
330	-1819.92	-3139.05	-360939.42	209370.08	-27.36

Dish Pressures - No Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
100.00	6' Solid w/Radome	0.0000	162.00	0.00	-2.89	1.266	28.27	42
90.00	6' Solid w/Radome	240.0000	162.00	-2.87	1.66	1.238	28.27	41
		Sum Weight:	324.00					

Dish Vectors - No Ice

6' Solid w/Radome - Elevation 100 - From Leg A

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-0.001770	0.000000	0.000000	-692.23	0.00	0.00	0.00	-692.23	-69690.59	0.00	0.00
30	-0.001330	-0.000700	-0.000132	-520.15	-273.76	-309.74	273.76	-520.15	-52482.63	-27376.30	-1100.03
60	-0.000420	-0.000890	-0.000404	-164.26	-348.07	-948.00	348.07	-164.26	-16893.44	-34807.02	-1952.79
90	0.000340	-0.001040	-0.000390	132.97	-406.73	-915.15	406.73	132.97	12829.41	-40673.37	-2089.29
120	0.001070	-0.001280	0.000002	418.47	-500.60	4.69	500.60	418.47	41378.98	-50059.53	-1440.40
150	0.001950	-0.001050	0.000277	762.63	-410.64	649.99	410.64	762.63	75794.91	-41064.46	-535.44
180	0.002210	0.000000	0.000000	864.31	0.00	0.00	0.00	864.31	85963.25	0.00	0.00
210	0.001950	0.001050	-0.000277	762.63	410.64	-649.99	-410.64	762.63	75794.91	41064.46	535.44
240	0.001070	0.001280	-0.000002	418.47	500.60	-4.69	-500.60	418.47	41378.98	50059.53	1440.40
270	0.000340	0.001040	0.000390	132.97	406.73	915.15	-406.73	132.97	12829.41	40673.37	2089.29
300	-0.000420	0.000890	0.000404	-164.26	348.07	948.00	-348.07	-164.26	-16893.44	34807.02	1952.79
330	-0.001330	0.000700	0.000132	-520.15	273.76	309.74	-273.76	-520.15	-52482.63	27376.30	1100.03

6' Solid w/Radome - Elevation 90 - From Leg C

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.001070	-0.001280	0.000002	409.29	-489.61	4.59	109.65	-628.66	-56310.60	-9402.36	-1620.81
30	0.001950	-0.001050	0.000277	745.90	-401.64	635.73	445.15	-720.78	-64600.86	-39597.45	-697.60
60	0.002210	0.000000	0.000000	845.35	0.00	0.00	732.09	-422.67	-37771.79	-65422.66	0.00
90	0.001950	0.001050	-0.000277	745.90	401.64	-635.73	846.78	-25.12	-1991.97	-75744.72	697.60
120	0.001070	0.001280	-0.000002	409.29	489.61	-4.59	599.26	219.37	20012.62	-53467.59	1620.81
150	0.000340	0.001040	0.000390	130.05	397.81	895.08	311.54	279.49	25422.80	-27572.43	2215.71
180	-0.000420	0.000890	0.000404	-160.65	340.43	927.21	31.09	375.15	34032.60	-2332.03	2057.37
210	-0.001330	0.000700	0.000132	-508.74	267.76	302.95	-306.70	486.25	44031.80	28068.96	1191.84
240	-0.001770	0.000000	0.000000	-677.04	0.00	0.00	-586.34	338.52	30735.88	53236.11	0.00
270	-0.001330	-0.000700	-0.000132	-508.74	-267.76	-302.95	-574.46	22.48	2292.54	52167.14	-1191.84
300	-0.000420	-0.000890	-0.000404	-160.65	-340.43	-927.21	-309.35	-214.50	-19035.89	28307.08	-2057.37
330	0.000340	-0.001040	-0.000390	130.05	-397.81	-895.08	-86.28	-409.54	-36589.82	8230.57	-2215.71

Dish Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	109.65	-1320.89	-126001.20	-9402.36	-1620.81
30	718.91	-1240.92	-117083.50	-66973.76	-1797.63
60	1080.16	-586.93	-54665.23	-100229.68	-1952.79
90	1253.52	107.85	10837.44	-116418.08	-1391.68
120	1099.85	637.84	61391.61	-103527.12	180.41
150	722.18	1042.11	101217.71	-68636.89	1680.28
180	31.09	1239.46	119995.85	-2332.03	2057.37

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
210	-717.35	1248.88	119826.71	69133.42	1727.28
240	-1086.93	756.99	72114.86	103295.63	1440.40
270	-981.19	155.46	15121.94	92840.51	897.45
300	-657.42	-378.76	-35929.33	63114.10	-104.57
330	-360.04	-929.69	-89072.46	35606.88	-1115.69

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf	t_z in
100.00	6' Solid w/Radome	0.0000	339.64	0.00	-2.89	1.266	29.16	10	0.5586
90.00	6' Solid w/Radome	240.0000	337.78	-2.87	1.66	1.238	29.15	10	0.5528
		Sum Weight:	677.42						

Dish Vectors - With Ice

6' Solid w/Radome - Elevation 100 - From Leg A

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-0.001770	0.000000	0.000000	-169.92	0.00	0.00	0.00	-169.92	-17972.41	0.00	0.00
30	-0.001330	-0.000700	-0.000132	-127.68	-67.20	-76.03	67.20	-127.68	-13748.42	-6719.98	-270.02
60	-0.000420	-0.000890	-0.000404	-40.32	-85.44	-232.70	85.44	-40.32	-5012.45	-8543.97	-479.35
90	0.000340	-0.001040	-0.000390	32.64	-99.84	-224.64	99.84	32.64	2283.53	-9983.97	-512.85
120	0.001070	-0.001280	0.000002	102.72	-122.88	1.15	122.88	102.72	9291.51	-12287.96	-353.57
150	0.001950	-0.001050	0.000277	187.20	-100.80	159.55	100.80	187.20	17739.48	-10079.97	-131.43
180	0.002210	0.000000	0.000000	212.16	0.00	0.00	0.00	212.16	20235.47	0.00	0.00
210	0.001950	0.001050	-0.000277	187.20	100.80	-159.55	-100.80	187.20	17739.48	10079.97	131.43
240	0.001070	0.001280	-0.000002	102.72	122.88	-1.15	-122.88	102.72	9291.51	12287.96	353.57
270	0.000340	0.001040	0.000390	32.64	99.84	224.64	-99.84	32.64	2283.53	9983.97	512.85
300	-0.000420	0.000890	0.000404	-40.32	85.44	232.70	-85.44	-40.32	-5012.45	8543.97	479.35
330	-0.001330	0.000700	0.000132	-127.68	67.20	76.03	-67.20	-127.68	-13748.42	6719.98	270.02

6' Solid w/Radome - Elevation 90 - From Leg C

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.001070	-0.001280	0.000002	100.43	-120.15	1.13	26.91	-154.27	-13323.32	-1450.41	-397.73
30	0.001950	-0.001050	0.000277	183.03	-98.56	156.00	109.23	-176.87	-15357.66	-8859.96	-171.18
60	0.002210	0.000000	0.000000	207.44	0.00	0.00	179.65	-103.72	-8774.10	-15197.18	0.00
90	0.001950	0.001050	-0.000277	183.03	98.56	-156.00	207.79	-6.16	5.88	-17730.10	171.18
120	0.001070	0.001280	-0.000002	100.43	120.15	-1.13	147.05	53.83	5405.57	-12263.54	397.73
150	0.000340	0.001040	0.000390	31.91	97.62	219.64	76.45	68.58	6733.17	-5909.15	543.71
180	-0.000420	0.000890	0.000404	-39.42	83.54	227.53	7.63	92.06	8845.92	284.57	504.86
210	-0.001330	0.000700	0.000132	-124.84	65.70	74.34	-75.26	119.32	11299.61	7744.65	292.46
240	-0.001770	0.000000	0.000000	-166.14	0.00	0.00	-143.88	83.07	8036.94	13920.39	0.00
270	-0.001330	-0.000700	-0.000132	-124.84	-65.70	-74.34	-140.97	5.52	1057.25	13658.08	-292.46
300	-0.000420	-0.000890	-0.000404	-39.42	-83.54	-227.53	-75.91	-52.64	-4176.51	7803.08	-504.86
330	0.000340	-0.001040	-0.000390	31.91	-97.62	-219.64	-21.17	-100.50	-8484.05	2876.52	-543.71

Dish Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	26.91	-324.19	-31295.73	-1450.41	-397.73
30	176.43	-304.55	-29106.08	-15579.93	-441.21
60	265.09	-144.04	-13786.55	-23741.15	-479.35
90	307.63	26.48	2289.41	-27714.07	-341.67
120	269.93	156.55	14697.07	-24551.50	44.16
150	177.25	255.78	24472.65	-15989.11	412.28
180	7.63	304.22	29081.39	284.57	504.86
210	-176.06	306.52	29039.09	17824.61	423.90
240	-266.76	185.79	17328.45	26208.35	353.57
270	-240.81	38.16	3340.78	23642.04	220.39
300	-161.35	-92.96	-9188.96	16347.05	-25.51
330	-88.37	-228.18	-22232.48	9596.50	-273.69

Dish Pressures - Service

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
100.00	6' Solid w/Radome	0.0000	162.00	0.00	-2.89	1.266	28.27	10
90.00	6' Solid w/Radome	240.0000	162.00	-2.87	1.66	1.238	28.27	10
		Sum Weight:	324.00					

Dish Vectors - Service

6' Solid w/Radome - Elevation 100 - From Leg A

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	-0.001770	0.000000	0.000000	-164.72	0.00	0.00	0.00	-164.72	-16939.50	0.00	0.00
30	-0.001330	-0.000700	-0.000132	-123.77	-65.14	-73.70	65.14	-123.77	-12844.80	-6514.29	-261.76
60	-0.000420	-0.000890	-0.000404	-39.09	-82.82	-225.58	82.82	-39.09	-4376.23	-8282.45	-464.67
90	0.000340	-0.001040	-0.000390	31.64	-96.78	-217.76	96.78	31.64	2696.43	-9678.37	-497.15
120	0.001070	-0.001280	0.000002	99.58	-119.12	1.12	119.12	99.58	9489.90	-11911.84	-342.75
150	0.001950	-0.001050	0.000277	181.47	-97.71	154.67	97.71	181.47	17679.30	-9771.44	-127.41
180	0.002210	0.000000	0.000000	205.67	0.00	0.00	0.00	205.67	20098.89	0.00	0.00
210	0.001950	0.001050	-0.000277	181.47	97.71	-154.67	-97.71	181.47	17679.30	9771.44	127.41
240	0.001070	0.001280	-0.000002	99.58	119.12	-1.12	-119.12	99.58	9489.90	11911.84	342.75
270	0.000340	0.001040	0.000390	31.64	96.78	217.76	-96.78	31.64	2696.43	9678.37	497.15
300	-0.000420	0.000890	0.000404	-39.09	82.82	225.58	-82.82	-39.09	-4376.23	8282.45	464.67
330	-0.001330	0.000700	0.000132	-123.77	65.14	73.70	-65.14	-123.77	-12844.80	6514.29	261.76

6' Solid w/Radome - Elevation 90 - From Leg C

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.001070	-0.001280	0.000002	97.39	-116.51	1.09	26.09	-149.59	-13194.40	-1882.40	-385.68
30	0.001950	-0.001050	0.000277	177.49	-95.57	151.27	105.92	-171.51	-15167.09	-9067.43	-166.00
60	0.002210	0.000000	0.000000	201.15	0.00	0.00	174.20	-100.58	-8783.02	-15212.63	0.00
90	0.001950	0.001050	-0.000277	177.49	95.57	-151.27	201.50	-5.98	-269.08	-17668.80	166.00
120	0.001070	0.001280	-0.000002	97.39	116.51	-1.09	142.60	52.20	4966.99	-12367.88	385.68
150	0.000340	0.001040	0.000390	30.95	94.66	212.99	74.13	66.51	6254.36	-6206.04	527.24
180	-0.000420	0.000890	0.000404	-38.23	81.01	220.63	7.40	89.27	8303.09	-199.99	489.56
210	-0.001330	0.000700	0.000132	-121.06	63.71	72.09	-72.98	115.71	10682.44	7034.03	283.60
240	-0.001770	0.000000	0.000000	-161.11	0.00	0.00	-139.52	80.55	7518.63	13022.65	0.00

6' Solid w/Radome - Elevation 90 - From Leg C											
Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
270	-0.001330	-0.000700	-0.000132	-121.06	-63.71	-72.09	-136.69	5.35	750.43	12768.28	-283.60
300	-0.000420	-0.000890	-0.000404	-38.23	-81.01	-220.63	-73.61	-51.04	-4324.74	7090.70	-489.56
330	0.000340	-0.001040	-0.000390	30.95	-94.66	-212.99	-20.53	-97.45	-8501.77	2313.42	-527.24

Dish Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	26.09	-314.31	-30133.90	-1882.40	-385.68
30	171.07	-295.28	-28011.90	-15581.72	-427.75
60	257.03	-139.66	-13159.25	-23495.09	-464.67
90	298.28	25.66	2427.35	-27347.18	-331.16
120	261.71	151.78	14456.89	-24279.73	42.93
150	171.85	247.97	23933.66	-15977.47	399.83
180	7.40	294.93	28401.99	-199.99	489.56
210	-170.70	297.18	28361.74	16805.47	411.01
240	-258.64	180.13	17008.53	24934.49	342.75
270	-233.48	36.99	3446.86	22446.66	213.55
300	-156.44	-90.13	-8700.97	15373.15	-24.88
330	-85.67	-221.22	-21346.57	8827.71	-265.48

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	7925.66					
Bracing Weight	3561.97					
Total Member Self-Weight	11487.63			-325.12	761.87	
Total Weight	19999.83			-325.12	761.87	
Wind 0 deg - No Ice		82.65	-29823.32	-2664448.88	-6676.41	-1800.07
Wind 30 deg - No Ice		14564.81	-25221.52	-2273681.91	-1312099.01	-1993.14
Wind 60 deg - No Ice		24836.84	-14270.98	-1289779.45	-2244515.97	-2112.16
Wind 90 deg - No Ice		28935.73	134.85	13140.89	-2607532.96	-1472.22
Wind 120 deg - No Ice		25776.59	14884.26	1330710.02	-2302634.92	200.30
Wind 150 deg - No Ice		14589.41	25005.66	2257363.36	-1316452.37	1795.25
Wind 180 deg - No Ice		58.08	28659.81	2594657.41	-4465.72	2236.62
Wind 210 deg - No Ice		-14563.25	25229.47	2276172.38	1314850.93	1922.78
Wind 240 deg - No Ice		-25780.72	14982.08	1338743.05	2303195.70	1599.77
Wind 270 deg - No Ice		-28663.41	128.46	12565.76	2584547.64	977.98
Wind 300 deg - No Ice		-24397.05	-14084.14	-1273733.78	2207792.62	-124.46
Wind 330 deg - No Ice		-14227.27	-24893.24	-2245470.85	1284014.61	-1230.66
Member Ice	4429.18					
Total Weight Ice	28911.71			-568.40	1318.10	
Wind 0 deg - Ice		19.30	-8835.12	-783678.17	-418.71	-448.24
Wind 30 deg - Ice		4341.40	-7518.12	-671472.68	-386126.72	-496.34
Wind 60 deg - Ice		7430.24	-4271.85	-382412.58	-663174.08	-524.33
Wind 90 deg - Ice		8637.34	34.08	2825.52	-769474.35	-364.45
Wind 120 deg - Ice		7640.78	4411.90	390825.25	-676123.88	49.69
Wind 150 deg - Ice		4349.34	7466.48	666600.97	-387360.57	444.64
Wind 180 deg - Ice		15.24	8574.31	767217.23	-53.16	555.37

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Wind 210 deg - Ice		-4341.03	7520.09	671108.47	389065.36	479.03
Wind 240 deg - Ice		-7640.49	4434.01	392631.95	678415.75	398.55
Wind 270 deg - Ice		-8570.51	30.55	2507.45	766096.29	243.17
Wind 300 deg - Ice		-7323.63	-4227.89	-378639.67	656532.88	-31.04
Wind 330 deg - Ice		-4260.46	-7438.87	-664658.01	381661.91	-306.05
Total Weight	19999.83			-325.12	761.87	
Wind 0 deg - Service		19.67	-7348.52	-645924.14	-1008.09	-428.33
Wind 30 deg - Service		3591.73	-6219.75	-551377.43	-317468.69	-474.27
Wind 60 deg - Service		6128.21	-3521.81	-312986.01	-543608.95	-502.60
Wind 90 deg - Service		7137.31	32.09	2879.17	-631552.45	-350.32
Wind 120 deg - Service		6351.83	3667.74	322230.07	-557438.56	47.66
Wind 150 deg - Service		3597.58	6168.38	546998.86	-318504.59	427.19
Wind 180 deg - Service		13.82	7071.66	628821.50	-482.05	532.21
Wind 210 deg - Service		-3591.35	6221.64	551474.54	319284.69	457.53
Wind 240 deg - Service		-6352.81	3691.02	324141.56	558733.17	380.67
Wind 270 deg - Service		-7072.51	30.57	2742.31	627244.18	232.71
Wind 300 deg - Service		-6023.56	-3477.35	-309167.89	536031.67	-29.62
Wind 330 deg - Service		-3511.41	-6141.63	-544664.51	311947.08	-292.84

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	125.9 - 120	Leg	Max Tension	18	891.70	0.03	-0.02
			Max. Compression	14	-946.93	1.69	-50.11
			Max. Mx	20	-21.03	-123.22	3.12
			Max. My	4	-21.75	59.94	-110.65
			Max. Vy	20	47.02	0.03	-0.00
			Max. Vx	2	42.10	0.00	0.03
		Diagonal	Max Tension	18	1254.35	0.00	0.00
			Max. Compression	14	-1289.25	0.00	0.00
			Max. Mx	14	-1283.74	14.21	-0.43
			Max. My	16	-119.84	2.32	5.60
			Max. Vy	14	5.84	14.21	-0.43
			Max. Vx	16	1.65	0.00	0.00
		Top Girt	Max Tension	14	604.37	0.00	0.00
			Max. Compression	2	-588.41	0.00	0.00
			Max. Mx	26	2.13	-6.15	0.00
			Max. My	6	-297.36	0.00	0.00
			Max. Vy	26	-7.03	0.00	0.00
			Max. Vx	6	-0.00	0.00	0.00
T2	120 - 100	Leg	Max Tension	7	48032.32	-60.02	4.64
			Max. Compression	2	-54156.13	478.24	-1.53
			Max. Mx	2	-54156.13	478.24	-1.53
			Max. My	16	-1582.34	-26.50	871.51
			Max. Vy	14	-2701.91	-50.11	-1.69
			Max. Vx	8	2417.38	3.14	-121.23
		Diagonal	Max Tension	8	7070.94	0.00	0.00
			Max. Compression	4	-7208.32	0.00	0.00
			Max. Mx	10	6061.69	42.10	3.08
			Max. My	16	-4330.79	-0.97	-32.64
			Max. Vy	10	-16.40	42.10	3.08
			Max. Vx	16	11.17	0.00	0.00
T3	100 - 80	Leg	Max Tension	15	104216.75	-748.67	-8.12
			Max. Compression	18	-112580.49	848.92	2.26
			Max. Mx	18	-112580.49	848.92	2.26
			Max. My	16	-3875.05	-5.16	895.40
			Max. Vy	6	-320.99	-629.00	1.18
			Max. Vx	24	445.14	2.22	629.61

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
		Diagonal	Max Tension	12	6465.02	0.00	0.00
			Max. Compression	16	-6562.86	0.00	0.00
			Max. Mx	14	4524.48	32.93	-0.78
			Max. My	14	-5235.09	-7.80	-4.52
			Max. Vy	2	-13.21	32.20	0.16
			Max. Vx	6	-1.36	0.00	0.00
T4	80 - 60	Leg	Max Tension	15	144232.57	-1208.01	0.48
			Max. Compression	2	-154969.84	1202.66	2.14
			Max. Mx	2	-141267.35	1233.39	1.92
			Max. My	16	-4258.16	-12.60	1327.39
			Max. Vy	14	116.56	-1201.87	-2.69
			Max. Vx	8	-127.88	-16.31	1318.90
		Diagonal	Max Tension	4	6307.72	0.00	0.00
			Max. Compression	4	-6515.25	0.00	0.00
			Max. Mx	2	4634.30	33.39	0.75
			Max. My	14	-5432.06	-5.58	-4.54
			Max. Vy	33	14.74	20.40	-1.78
			Max. Vx	14	1.16	0.00	0.00
T5	60 - 40	Leg	Max Tension	15	177529.88	-1060.74	3.67
			Max. Compression	2	-190904.77	1733.01	14.23
			Max. Mx	2	-190904.77	1733.01	14.23
			Max. My	12	-5002.86	-0.52	-1578.26
			Max. Vy	2	-161.78	1733.01	14.23
			Max. Vx	16	-101.28	-20.81	1400.85
		Diagonal	Max Tension	4	5550.14	0.00	0.00
			Max. Compression	4	-5809.54	0.00	0.00
			Max. Mx	2	4150.38	35.19	1.07
			Max. My	14	-4826.36	-1.93	-3.51
			Max. Vy	33	16.85	24.26	-2.23
			Max. Vx	14	0.85	0.00	0.00
T6	40 - 20	Leg	Max Tension	15	205559.58	-1951.64	3.55
			Max. Compression	2	-222247.01	2095.55	4.34
			Max. Mx	2	-201898.88	2306.90	2.11
			Max. My	16	-6440.84	-11.08	2260.30
			Max. Vy	14	159.99	-2275.80	4.10
			Max. Vx	12	129.34	-18.23	-2247.18
		Diagonal	Max Tension	4	5158.71	0.00	0.00
			Max. Compression	4	-5361.36	0.00	0.00
			Max. Mx	2	4329.53	46.43	2.05
			Max. My	14	-4458.05	1.71	-3.75
			Max. Vy	33	23.38	35.75	-3.03
			Max. Vx	27	0.94	0.00	0.00
T7	20 - 0	Leg	Max Tension	15	230235.49	-2001.26	6.41
			Max. Compression	2	-250279.60	-0.00	-0.00
			Max. Mx	35	-78393.56	3276.10	-0.71
			Max. My	16	-7583.69	-85.78	3540.50
			Max. Vy	33	-673.45	-2264.31	-0.13
			Max. Vx	16	589.64	-85.78	3540.50
		Diagonal	Max Tension	5	5532.68	0.00	0.00
			Max. Compression	4	-5787.26	0.00	0.00
			Max. Mx	2	4181.84	50.63	3.04
			Max. My	13	-5460.84	-5.19	-4.97
			Max. Vy	33	25.56	47.86	-3.67
			Max. Vx	33	1.07	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	255470.47	16459.54	-9588.95
	Max. H_x	18	255470.47	16459.54	-9588.95
	Max. H_z	7	-234139.50	-15352.87	8978.29
	Min. Vert	7	-234139.50	-15352.87	8978.29
	Min. H_x	7	-234139.50	-15352.87	8978.29
	Min. H_z	18	255470.47	16459.54	-9588.95
Leg B	Max. Vert	10	255027.57	-16473.83	-9499.31
	Max. H_x	23	-230435.81	15146.18	8738.82
	Max. H_z	23	-230435.81	15146.18	8738.82
	Min. Vert	23	-230435.81	15146.18	8738.82
	Min. H_x	10	255027.57	-16473.83	-9499.31
	Min. H_z	10	255027.57	-16473.83	-9499.31
Leg A	Max. Vert	2	255509.24	-84.76	19052.16
	Max. H_x	21	4833.33	1140.35	246.37
	Max. H_z	2	255509.24	-84.76	19052.16
	Min. Vert	15	-234692.02	104.06	-17801.40
	Min. H_x	9	4780.47	-1175.49	240.87
	Min. H_z	15	-234692.02	104.06	-17801.40

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	19999.83	0.00	0.00	-324.96	761.78	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	23999.79	82.65	-29823.32	-2679366.83	-6537.27	-1814.22
0.9 Dead+1.0 Wind 0 deg - No Ice	17999.84	82.65	-29823.32	-2675492.50	-6760.54	-1810.54
1.2 Dead+1.0 Wind 30 deg - No Ice	23999.79	14564.81	-25221.52	-2286477.79	-1319282.30	-1992.61
0.9 Dead+1.0 Wind 30 deg - No Ice	17999.84	14564.81	-25221.52	-2283146.00	-1317645.11	-1988.59
1.2 Dead+1.0 Wind 60 deg - No Ice	23999.79	24836.84	-14270.98	-1297104.44	-2256947.82	-2125.29
0.9 Dead+1.0 Wind 60 deg - No Ice	17999.84	24836.84	-14270.98	-1295165.72	-2253978.83	-2121.81
1.2 Dead+1.0 Wind 90 deg - No Ice	23999.79	28935.74	134.84	13117.30	-2621979.32	-1495.31
0.9 Dead+1.0 Wind 90 deg - No Ice	17999.84	28935.74	134.85	13201.29	-2618500.00	-1493.26
1.2 Dead+1.0 Wind 120 deg - No Ice	23999.79	25776.59	14884.26	1338064.62	-2315313.52	201.21
0.9 Dead+1.0 Wind 120 deg - No Ice	17999.84	25776.59	14884.26	1336276.86	-2312281.88	201.10
1.2 Dead+1.0 Wind 150 deg - No Ice	23999.79	14589.41	25005.66	2269971.24	-1323646.47	1819.80
0.9 Dead+1.0 Wind 150 deg - No Ice	17999.84	14589.41	25005.66	2266851.14	-1322006.41	1817.55
1.2 Dead+1.0 Wind 180 deg - No Ice	23999.79	58.08	28659.81	2609173.00	-4311.76	2250.57
0.9 Dead+1.0 Wind 180 deg - No Ice	17999.84	58.08	28659.81	2605567.03	-4537.97	2246.97
1.2 Dead+1.0 Wind 210 deg - No Ice	23999.79	-14563.25	25229.48	2288853.29	1322376.46	1922.28
0.9 Dead+1.0 Wind 210 deg - No Ice	17999.84	-14563.25	25229.48	2285710.73	1320275.42	1918.25

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
1.2 Dead+1.0 Wind 240 deg - No Ice	23999.79	-25780.72	14982.08	1346123.35	2316197.02	1613.21
0.9 Dead+1.0 Wind 240 deg - No Ice	17999.84	-25780.72	14982.08	1344325.95	2312702.15	1609.64
1.2 Dead+1.0 Wind 270 deg - No Ice	23999.79	-28663.41	128.46	12544.50	2599196.06	1001.10
0.9 Dead+1.0 Wind 270 deg - No Ice	17999.84	-28663.41	128.46	12629.01	2595285.80	998.85
1.2 Dead+1.0 Wind 300 deg - No Ice	23999.79	-24397.05	-14084.14	-1280968.04	2220375.20	-125.18
0.9 Dead+1.0 Wind 300 deg - No Ice	17999.84	-24397.05	-14084.14	-1279048.93	2216987.73	-125.08
1.2 Dead+1.0 Wind 330 deg - No Ice	23999.79	-14227.27	-24893.24	-2258119.32	1291399.36	-1255.14
0.9 Dead+1.0 Wind 330 deg - No Ice	17999.84	-14227.28	-24893.24	-2254825.03	1289335.18	-1252.69
1.2 Dead+1.0 Ice+1.0 Temp	32911.67	0.00	0.00	-633.00	1470.02	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	32911.67	19.30	-8835.11	-789577.21	-257.52	-455.05
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	32911.67	4341.40	-7518.11	-676550.18	-388844.39	-503.73
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	32911.67	7430.24	-4271.84	-385342.05	-667965.73	-530.60
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	32911.67	8637.33	34.08	2772.08	-775052.21	-368.14
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	32911.67	7640.78	4411.90	393662.50	-680990.75	49.95
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	32911.67	4349.34	7466.48	671510.73	-390086.64	448.77
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	32911.67	15.24	8574.31	772884.77	111.07	561.91
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	32911.67	-4341.02	7520.09	676045.50	392130.24	486.46
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	32911.67	-7640.48	4434.01	395479.88	683623.48	405.13
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	32911.67	-8570.51	30.55	2452.75	771978.66	246.92
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	32911.67	-7323.63	-4227.89	-381543.88	661609.30	-31.25
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	32911.67	-4260.47	-7438.87	-669691.51	384678.74	-310.22
Dead+Wind 0 deg - Service	19999.83	19.67	-7348.52	-648932.76	-1008.45	-431.22
Dead+Wind 30 deg - Service	19999.83	3591.73	-6219.75	-553954.28	-318948.55	-478.16
Dead+Wind 60 deg - Service	19999.83	6128.21	-3521.81	-314453.10	-546149.00	-505.27
Dead+Wind 90 deg - Service	19999.83	7137.31	32.09	2888.96	-634500.73	-351.08
Dead+Wind 120 deg - Service	19999.83	6351.83	3667.74	323729.59	-560031.32	47.82
Dead+Wind 150 deg - Service	19999.83	3597.58	6168.38	549558.01	-319989.34	428.22
Dead+Wind 180 deg - Service	19999.83	13.82	7071.66	631765.90	-479.90	535.06
Dead+Wind 210 deg - Service	19999.83	-3591.35	6221.64	554050.55	320779.97	461.45
Dead+Wind 240 deg - Service	19999.83	-6352.81	3691.02	325648.04	561337.27	383.42
Dead+Wind 270 deg - Service	19999.83	-7072.51	30.57	2752.01	630181.08	233.51
Dead+Wind 300 deg - Service	19999.83	-6023.56	-3477.35	-310618.76	538547.95	-29.76
Dead+Wind 330 deg - Service	19999.83	-3511.41	-6141.63	-547213.90	313412.00	-293.91

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
1	0.00	-19999.83	0.00	0.00	19999.83	-0.00	0.000%
2	82.65	-23999.79	-29823.32	-82.65	23999.79	29823.32	0.000%
3	82.65	-17999.84	-29823.32	-82.65	17999.84	29823.32	0.000%
4	14564.81	-23999.79	-25221.52	-14564.81	23999.79	25221.52	0.000%
5	14564.81	-17999.84	-25221.52	-14564.81	17999.84	25221.52	0.000%
6	24836.84	-23999.79	-14270.98	-24836.84	23999.79	14270.98	0.000%
7	24836.84	-17999.84	-14270.98	-24836.84	17999.84	14270.98	0.000%
8	28935.73	-23999.79	134.85	-28935.74	23999.79	-134.84	0.000%
9	28935.73	-17999.84	134.85	-28935.74	17999.84	-134.85	0.000%
10	25776.59	-23999.79	14884.26	-25776.59	23999.79	-14884.26	0.000%
11	25776.59	-17999.84	14884.26	-25776.59	17999.84	-14884.26	0.000%
12	14589.41	-23999.79	25005.66	-14589.41	23999.79	-25005.66	0.000%
13	14589.41	-17999.84	25005.66	-14589.41	17999.84	-25005.66	0.000%
14	58.08	-23999.79	28659.81	-58.08	23999.79	-28659.81	0.000%
15	58.08	-17999.84	28659.81	-58.08	17999.84	-28659.81	0.000%
16	-14563.25	-23999.79	25229.47	14563.25	23999.79	-25229.48	0.000%
17	-14563.25	-17999.84	25229.47	14563.25	17999.84	-25229.48	0.000%
18	-25780.72	-23999.79	14982.08	25780.72	23999.79	-14982.08	0.000%
19	-25780.72	-17999.84	14982.08	25780.72	17999.84	-14982.08	0.000%
20	-28663.41	-23999.79	128.46	28663.41	23999.79	-128.46	0.000%
21	-28663.41	-17999.84	128.46	28663.41	17999.84	-128.46	0.000%
22	-24397.05	-23999.79	-14084.14	24397.05	23999.79	14084.14	0.000%
23	-24397.05	-17999.84	-14084.14	24397.05	17999.84	14084.14	0.000%
24	-14227.27	-23999.79	-24893.24	14227.27	23999.79	24893.24	0.000%
25	-14227.27	-17999.84	-24893.24	14227.28	17999.84	24893.24	0.000%
26	0.00	-32911.67	0.00	-0.00	32911.67	-0.00	0.000%
27	19.30	-32911.67	-8835.12	-19.30	32911.67	8835.11	0.000%
28	4341.40	-32911.67	-7518.12	-4341.40	32911.67	7518.11	0.000%
29	7430.24	-32911.67	-4271.85	-7430.24	32911.67	4271.84	0.000%
30	8637.34	-32911.67	34.08	-8637.33	32911.67	-34.08	0.000%
31	7640.78	-32911.67	4411.90	-7640.78	32911.67	-4411.90	0.000%
32	4349.34	-32911.67	7466.48	-4349.34	32911.67	-7466.48	0.000%
33	15.24	-32911.67	8574.31	-15.24	32911.67	-8574.31	0.000%
34	-4341.03	-32911.67	7520.09	4341.02	32911.67	-7520.09	0.000%
35	-7640.49	-32911.67	4434.01	7640.48	32911.67	-4434.01	0.000%
36	-8570.51	-32911.67	30.55	8570.51	32911.67	-30.55	0.000%
37	-7323.63	-32911.67	-4227.89	7323.63	32911.67	4227.89	0.000%
38	-4260.46	-32911.67	-7438.87	4260.47	32911.67	7438.87	0.000%
39	19.67	-19999.83	-7348.52	-19.67	19999.83	7348.52	0.000%
40	3591.73	-19999.83	-6219.75	-3591.73	19999.83	6219.75	0.000%
41	6128.21	-19999.83	-3521.81	-6128.21	19999.83	3521.81	0.000%
42	7137.31	-19999.83	32.09	-7137.31	19999.83	-32.09	0.000%
43	6351.83	-19999.83	3667.74	-6351.83	19999.83	-3667.74	0.000%
44	3597.58	-19999.83	6168.38	-3597.58	19999.83	-6168.38	0.000%
45	13.82	-19999.83	7071.66	-13.82	19999.83	-7071.66	0.000%
46	-3591.35	-19999.83	6221.64	3591.35	19999.83	-6221.64	0.000%
47	-6352.81	-19999.83	3691.02	6352.81	19999.83	-3691.02	0.000%
48	-7072.51	-19999.83	30.57	7072.51	19999.83	-30.57	0.000%
49	-6023.56	-19999.83	-3477.35	6023.56	19999.83	3477.35	0.000%
50	-3511.41	-19999.83	-6141.63	3511.41	19999.83	6141.63	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001

2	Yes	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000165
5	Yes	4	0.00000001	0.00000164
6	Yes	4	0.00000001	0.00000001
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000190
9	Yes	4	0.00000001	0.00000186
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000195
13	Yes	4	0.00000001	0.00000192
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00000168
17	Yes	4	0.00000001	0.00000168
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000184
21	Yes	4	0.00000001	0.00000180
22	Yes	4	0.00000001	0.00000001
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000186
25	Yes	4	0.00000001	0.00000181
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	125.9 - 120	3.991	39	0.2765	0.0115
T2	120 - 100	3.652	39	0.2776	0.0115
T3	100 - 80	2.503	47	0.2438	0.0114
T4	80 - 60	1.557	47	0.1879	0.0072
T5	60 - 40	0.847	47	0.1344	0.0041

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T6	40 - 20	0.373	47	0.0770	0.0021
T7	20 - 0	0.107	39	0.0384	0.0009

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.00	30,000 sq in CaAa	39	3.652	0.2776	0.0115	67437
110.00	30,000 sq in CaAa	39	3.066	0.2667	0.0118	55059
100.00	6' Solid w/Radome	47	2.503	0.2438	0.0114	18659
90.00	6' Solid w/Radome	47	1.999	0.2161	0.0094	19292

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	125.9 - 120	16.606	2	1.1532	0.0483
T2	120 - 100	15.189	2	1.1579	0.0483
T3	100 - 80	10.396	2	1.0159	0.0481
T4	80 - 60	6.456	2	0.7822	0.0305
T5	60 - 40	3.504	2	0.5582	0.0174
T6	40 - 20	1.540	2	0.3191	0.0088
T7	20 - 0	0.438	2	0.1589	0.0038

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.00	30,000 sq in CaAa	2	15.189	1.1579	0.0483	16061
110.00	30,000 sq in CaAa	2	12.747	1.1123	0.0497	13152
100.00	6' Solid w/Radome	2	10.396	1.0159	0.0481	4456
90.00	6' Solid w/Radome	2	8.296	0.9000	0.0396	4605

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	P2x.154	5.90	5.82	88.7 K=1.00	1.0745	-946.93	27210.00	0.035 [1] ✔
T2	120 - 100	P3.5x.226	20.02	5.00	44.9 K=1.00	2.6795	-54156.10	104034.00	0.521 [1] ✔
T3	100 - 80	P5x.258	20.02	5.00	32.0 K=1.00	4.2999	-112580.00	179551.00	0.627 [1] ✔
T4	80 - 60	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-154970.00	228860.00	0.677 [1] ✔
T5	60 - 40	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-190905.00	228860.00	0.834 [1] ✔
T6	40 - 20	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-222247.00	357982.00	0.621 [1] ✔
T7	20 - 0	P8x.322	20.02	6.67	27.3 K=1.00	8.3993	-250280.00	357982.00	0.699 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	6.79	3.20	110.8 K=1.00	0.4219	-1289.25	9835.20	0.131 [1] ✔
T2	120 - 100	L2x2x3/16	6.69	3.24	98.8 K=1.00	0.7150	-7208.32	20509.10	0.351 [1] ✔
T3	100 - 80	L2x2x3/16	8.05	3.85	117.3 K=1.00	0.7150	-6057.58	14878.40	0.407 [1] ✔
T4	80 - 60	L2x2x3/16	10.22	4.91	149.6 K=1.00	0.7150	-5995.73	9140.81	0.656 [1] ✔
T5	60 - 40	L2x2x3/16	11.40	5.52	168.0 K=1.00	0.7150	-5461.43	7252.55	0.753 [1] ✔
T6	40 - 20	L2 1/2x2 1/2x3/16	12.65	6.05	146.7 K=1.00	0.9020	-5356.45	12004.30	0.446 [1] ✔
T7	20 - 0	L2 1/2x2 1/2x3/16	13.95	6.71	162.6 K=1.00	0.9020	-5787.26	9765.99	0.593 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	3.50	3.30	114.3 K=1.00	0.4219	-588.41	9249.83	0.064 [1] ✔

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	125.9 - 120	P2x.154	5.90	5.82	88.7	1.0745	891.70	48353.90	0.018 [1] ✔
T2	120 - 100	P3.5x.226	20.02	5.00	44.9	2.6795	48032.30	120579.00	0.398 [1] ✔
T3	100 - 80	P5x.258	20.02	5.00	32.0	4.2999	104217.00	193494.00	0.539 [1] ✔
T4	80 - 60	P6x.28	20.02	6.67	35.7	5.5813	144233.00	251161.00	0.574 [1] ✔
T5	60 - 40	P6x.28	20.02	6.67	35.7	5.5813	177530.00	251161.00	0.707 [1] ✔
T6	40 - 20	P8x.322	20.02	6.67	27.3	8.3993	205560.00	377967.00	0.544 [1] ✔
T7	20 - 0	P8x.322	20.02	6.67	27.3	8.3993	230235.00	377967.00	0.609 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	125.9 - 120	L1 3/4x1 3/4x1/8	6.79	3.20	70.4	0.3164	1254.35	15424.80	0.081 [1] ✔
T2	120 - 100	L2x2x3/16	6.69	3.24	63.1	0.5363	7070.94	26142.20	0.270 [1] ✔
T3	100 - 80	L2x2x3/16	7.21	3.44	66.9	0.5363	6465.02	26142.20	0.247 [1] ✔
T4	80 - 60	L2x2x3/16	9.49	4.56	88.6	0.5363	6307.72	26142.20	0.241 [1] ✔
T5	60 - 40	L2x2x3/16	10.61	5.12	99.7	0.5363	5550.14	26142.20	0.212 [1] ✔
T6	40 - 20	L2 1/2x2 1/2x3/16	12.23	5.84	90.1	0.6765	5158.71	32979.40	0.156 [1] ✔
T7	20 - 0	L2 1/2x2 1/2x3/16	13.95	6.71	103.4	0.6765	5532.68	32979.40	0.168 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
									✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	3.50	3.30	72.6	0.3164	604.37	15424.80	0.039 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

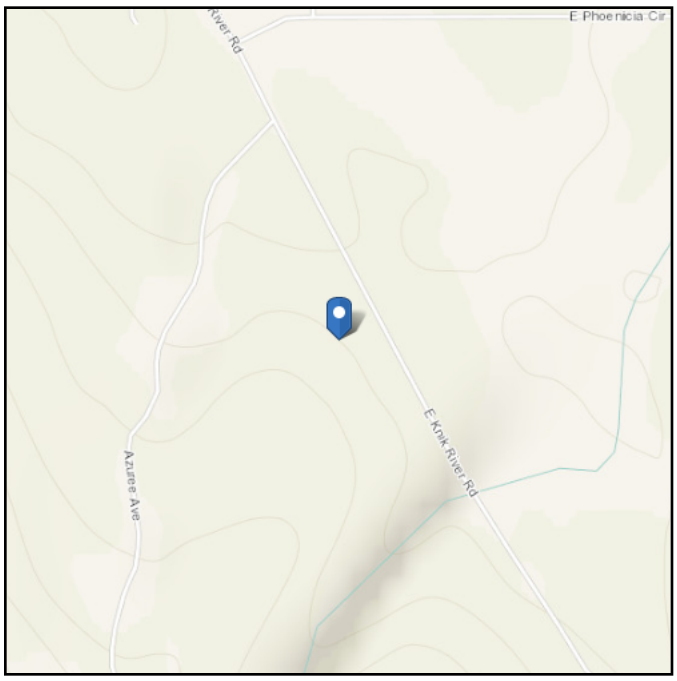
Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	125.9 - 120	Leg	P2x.154	3	-946.93	27210.00	3.5	Pass
		Diagonal	L1 3/4x1 3/4x1/8	7	-1289.25	9835.20	13.1	Pass
		Top Girt	L1 3/4x1 3/4x1/8	4	-588.41	9249.83	6.4	Pass
T2	120 - 100	Leg	P3.5x.226	15	-54156.10	104034.00	52.1	Pass
		Diagonal	L2x2x3/16	26	-7208.32	20509.10	35.1	Pass
T3	100 - 80	Leg	P5x.258	40	-112580.00	179551.00	62.7	Pass
		Diagonal	L2x2x3/16	47	-6057.58	14878.40	40.7	Pass
T4	80 - 60	Leg	P6x.28	69	-154970.00	228860.00	67.7	Pass
		Diagonal	L2x2x3/16	74	-5995.73	9140.81	65.6	Pass
T5	60 - 40	Leg	P6x.28	90	-190905.00	228860.00	83.4	Pass
		Diagonal	L2x2x3/16	95	-5461.43	7252.55	75.3	Pass
T6	40 - 20	Leg	P8x.322	111	-222247.00	357982.00	62.1	Pass
		Diagonal	L2 1/2x2 1/2x3/16	116	-5356.45	12004.30	44.6	Pass
T7	20 - 0	Leg	P8x.322	132	-250280.00	357982.00	69.9	Pass
		Diagonal	L2 1/2x2 1/2x3/16	137	-5787.26	9765.99	59.3	Pass
							Summary	
						Leg (T5)	83.4	Pass
						Diagonal (T5)	75.3	Pass
						Top Girt (T1)	6.4	Pass
						RATING =	**83.4**	**Pass**

Program Version 8.1.1.0 - 6/3/2021 File:N:/eri/8032/803223.eri

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	61.44422
Risk Category:	II	**Longitude:**	-148.81356
Soil Class:	D - Stiff Soil	**Elevation:**	229.65684759508187 ft (NAVD 88)





Seismic

Site Soil Class: D - Stiff Soil

Results:

S_S :	1.5	S_{D1} :	N/A
S_1 :	0.704	T_L :	16
F_a :	1	PGA :	0.5
F_v :	N/A	PGA_M :	0.55
S_{MS} :	1.5	F_{PGA} :	1.1
S_{M1} :	N/A	I_e :	1
S_{DS} :	1	C_v :	1.4

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

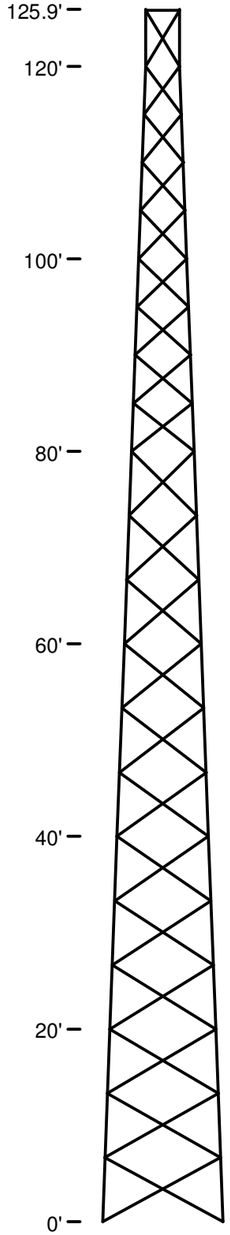
Data Accessed: Thu Aug 21 2025

Date Source: USGS Seismic Design Maps

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE Hazard Tool.



Self-Supporting Tower Section Data

Section Number	Bottom Elevation (ft)	Top Elevation (ft)	Model	Bottom Face Width (ft)	Top Face Width (ft)	Number of Panels	Leg Size (in)	Diagonal Size (in)	Girt Size (in)	Mid-Horizontal Size (in)	Redundant Horizontal Size (in)	Redundant Diagonal Size (in)
7	120	125.9	NSX	3.5	3.5	1	P2x.154	L1 3/4x1 3/4x1/8	L1 3/4x1 3/4x1/8			
6	100	120	NSX	5.0	3.5	4	P3.5x.226	L2x2x3/16				
5	80	100	NSX	6.5	5.0	4	P5x.258	L2x2x3/16				
4	60	80	NSX	8.0	6.5	3	P6x.28	L2x2x3/16				
3	40	60	NSX	9.5	8.0	3	P6x.28	L2x2x3/16				
2	20	40	NSX	11.0	9.5	3	P8x.322	L2 1/2x2 1/2x3/16				
1	0	20	NSX	12.5	11.0	3	P8x.322	L2 1/2x2 1/2x3/16				

Tower Reactions

No Ice
Shear: 29.8 kips
Moment: 2679.37 ft-kips
Weight: 24.0 kips

With Ice
Shear: 8.8 kips
Moment: 789.78 ft-kips
Weight: 32.9 kips

Leg Reactions
Compression: 255.5 kips
Uplift: -234.7 kips
Shear: 19.1 kips

STATE OF ALASKA
49TH
Adam M. Amortnont
No. SE 236151
REGISTERED STRUCTURAL ENGINEER
8-26-25

LTEP

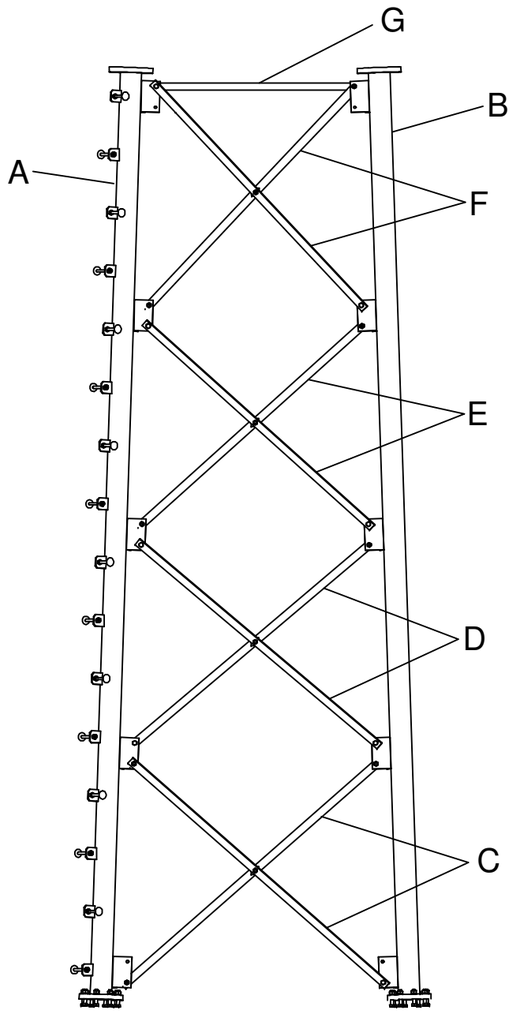
REV	BY	DATE	DESCRIPTION

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ORIG. DATE: 8/13/2025
DWG NO: 803223
DWG. PROG: v2.05
SHEET: 1 OF 6

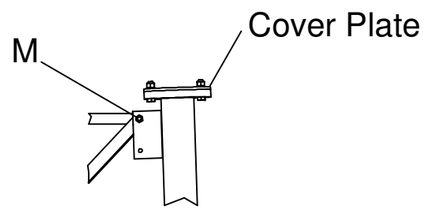
TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Palmer - Laux / ATAK0034
Matanuska-Susitna Borough, AK

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



NSX Section Detail

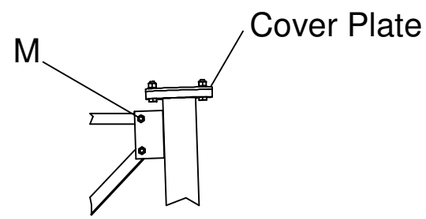
1. A part number is stamped on the bottom footpad of each leg.
2. A part number is stamped and /or labeled on the bottom end of each angle.
3. Be sure to place diagonal bracing angles in correct positions, angles in the top panel may be longer than they are in the middle panel.
4. The bolt head must bear against the angle bracing.



One plain nut and one lockwasher per bolt.

Detail A: NSX Top Connection

*Applicable to all 20 ft Sections.
*Applicable to all Sections Shorter than 20 ft and are Straight.

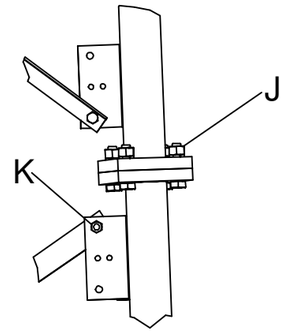


One plain nut and one lockwasher per bolt.

Detail B: NSX Top Connection

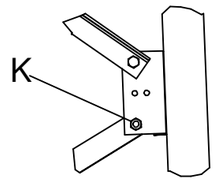
*Applicable to all Sections Shorter than 20 ft that are Tapered Sections.

NSX Section Legend:
A. Climbing Leg
B. Non-Climbing Leg
C. Diag., Panel 1
D. Diag., Panel 2
E. Diag., Panel 3
F. Diag., Panel 4
G. Top Girt
H. Spacer
J. Leg Bolts
K. Diagonal Bolts
L. Stitch Bolts
M. Top Girt Bolts



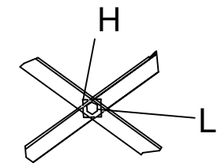
One plain nut and one lockwasher per bolt.

NSX Leg Connection



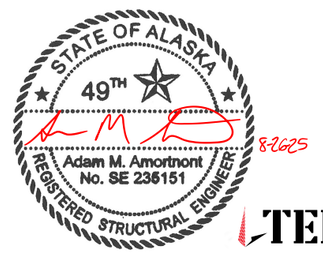
One plain nut and one lockwasher per bolt.

NSX Bracing Detail



One plain nut and one lockwasher per bolt.

NSX Spacer Detail



TEP

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ORIG. DATE: 8/13/2025
DWG NO: 803223
DWG. PROG: v2.05
SHEET: 2 OF 6

TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Palmer - Laux / ATAK0034
Matanuska-Susitna Borough, AK

N E L L O
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

NSX Section Part Numbers

Item	Elevation	Climbing Leg (A)	Non-Climbing Leg (B)	Diagonal - Panel 1 (C)	Diagonal - Panel 2 (D)	Diagonal - Panel 3 (E)	Diagonal - Panel 4 (F)	Top Girt (G)	Spacer (H)
7	120' - 125.9'	189718	189717	167310				167379	132233
6	100' - 120'	141436	141435	167333	167334	167335	167336		132233
5	80' - 100'	141422	141421	167008	167009	167010	167011		132233
4	60' - 80'	141267		167216	167217	167218			132233
3	40' - 60'	129729		166855	166856	166857			132233
2	20' - 40'	129695		167170	167171	167172			132233
1	0' - 20'	129701		168102	168103	168104			132233

NSX Section Hardware

Item	Elevation	Leg Bolts (J)	Diagonal Bolts (K)	Stitch Bolts (L)	Top Girt Bolts (M)	Section Weight (Lbs.)
7	120' - 125.9'	(24) 3/4" x 3-1/2"	(12) 1/2" x 1-1/2"	(3) 1/2" x 1-1/2"	(6) 1/2" x 1-1/2"	330
6	100' - 120'	(24) 3/4" x 3-1/2"	(48) 5/8" x 2-1/2"	(12) 5/8" x 2-1/2"		1300
5	80' - 100'	(24) 3/4" x 3-1/2"	(48) 5/8" x 2-1/2"	(12) 5/8" x 2-1/2"		1700
4	60' - 80'	(24) 3/4" x 3-1/2"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		1970
3	40' - 60'	(24) 1" x 3-3/4"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		2080
2	20' - 40'	(24) 1" x 3-3/4"	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		2950
1	0' - 20'	0	(36) 3/4" x 2-1/4"	(9) 3/4" x 2-1/4"		3020

STATE OF ALASKA
49TH
Adam M. Amortnont
No. SE 236151
REGISTERED STRUCTURAL ENGINEER
8/13/25

TEP

REV	BY	DATE	DESCRIPTION

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ORIG. DATE: 8/13/2025
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Atlas Tower
NSX 12.5' X 125.9'
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Matanuska-Susitna Borough, AK

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED ATLAS TOWER 1, LLC, OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-H. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2021 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
   B. ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
   C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
   D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

STATE OF ALASKA
49TH
Andrew T. Haldane
No. AEL CE 11742
12/1/2025
REGISTERED PROFESSIONAL ENGINEER

December 1, 2025

REV	DATE	ISSUED FOR:
5	12-01-25	ISSUED FOR PERMITTING
4	11-03-25	PRELIMINARY
3	08-25-25	CONSTRUCTION

DRAWN BY: RBK | CHECKED BY: KES

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER: **N-1**

REVISION: **5**

TEP #: 349563.481070

SITE COORDINATES

LATITUDE:	N 61° 26' 36.9204" (NAD '83)
LONGITUDE:	W 148° 48' 49.5894" (NAD '83)

LEGEND

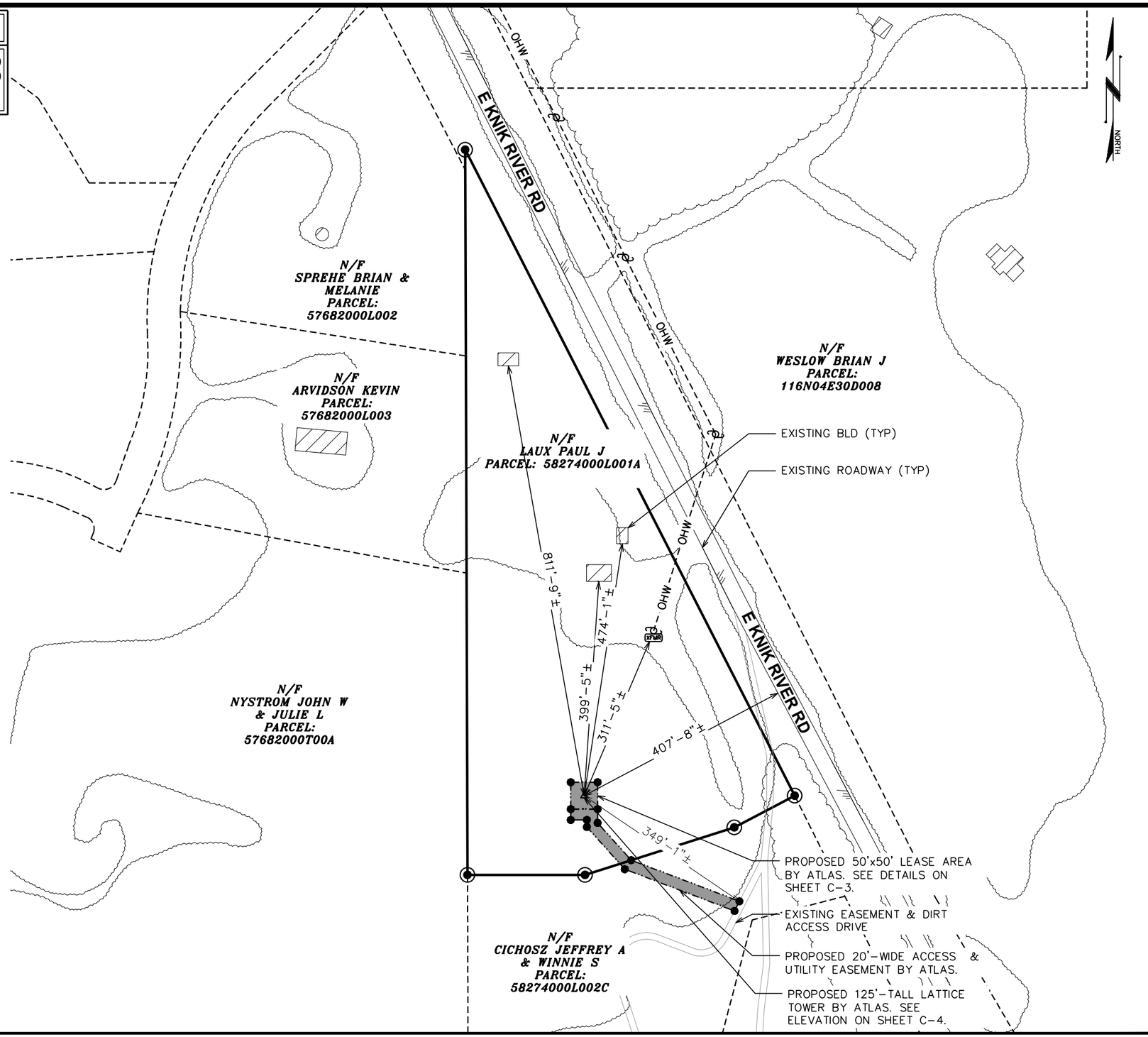
- PARENT PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT/LEASE CORNER
- EXIST. METER
- EXIST. TRANSFORMER
- EXIST. UTILITY POLE
- EXIST. TELCO PEDESTAL
- PROPERTY CORNER
- --4650-- EXIST. CONTOUR LINE
- EDGE OF PAVEMENT
- ---OHW--- OVERHEAD WIRE
- ----F---- BURIED FIBER
- ----G---- GAS LINE
- ---R/W--- RIGHT-OF-WAY
- —— X —— FENCE
- EXISTING TREE LINE

TOWER SETBACKS

PROPERTY LINE	REQUIRED	PROPOSED
NORTH	125'-0"	1221'-6"±
EAST	125'-0"	348'-10"±
SOUTH	125'-0"	147'-0"±
WEST	125'-0"	217'-7±

NOTES:

1. SITE PLAN WAS PREPARED USING AERIAL IMAGERY AND DATA FROM MATANUSKA-SUSITNA BOROUGH. FOR CORRECTIVE ACTION, PLEASE CONTACT TEP.



OVERALL SITE PLAN

SCALE: 1" = 200'

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

STATE OF ALASKA
49TH
Andrew T. Haldane
No. AEL CE 11742
12/29/2025
REGISTERED PROFESSIONAL ENGINEER
December 29, 2025

REV	DATE	ISSUED FOR:
6	12-29-25	ISSUED FOR PERMITTING
5	12-01-25	ISSUED FOR PERMITTING
4	11-03-25	PRELIMINARY

DRAWN BY: TRV | CHECKED BY: KES

SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER: **M-1**

REVISION: **6**

TEP #: 349563.481070

SITE COORDINATES

LATITUDE:	N 61° 26' 36.9204" (NAD '83)
LONGITUDE:	W 148° 48' 49.5894" (NAD '83)

LEGEND

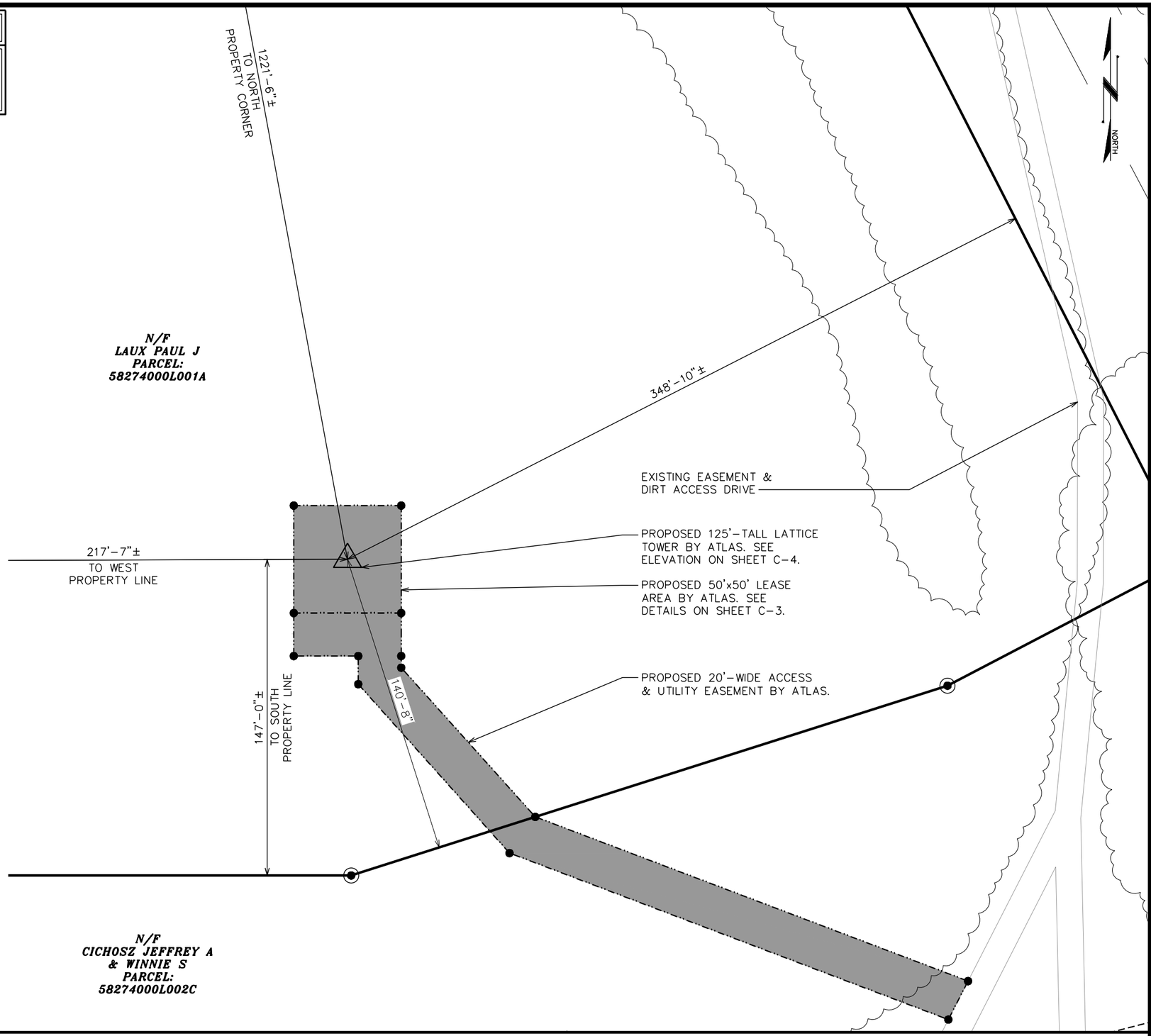
- PARENT PROPERTY LINE
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TOWER SETBACKS

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NORTH	125'-0"	1221'-6"±
EAST	125'-0"	348'-10"±
SOUTH	125'-0"	147'-0"±
WEST	125'-0"	217'-7±"

NOTES:

1. SITE PLAN WAS PREPARED USING AERIAL IMAGERY AND DATA FROM MATANUSKA-SUSITNA BOROUGH. FOR CORRECTIVE ACTION, PLEASE CONTACT TEP.
2. THE TOWER IS LOCATED IN AN AREA UNMAPPED BY FEMA TO DETERMINE FLOOD HAZARD RISK.



AREA PLAN
SCALE: 1" = 50'

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

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www.tepgroup.net

SEAL:

STATE OF ALASKA 49TH Andrew T. Haldane No. ASL CE 11742 12/1/2025 REGISTERED PROFESSIONAL ENGINEER

December 1, 2025

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DRAWN BY: KES CHECKED BY: KES

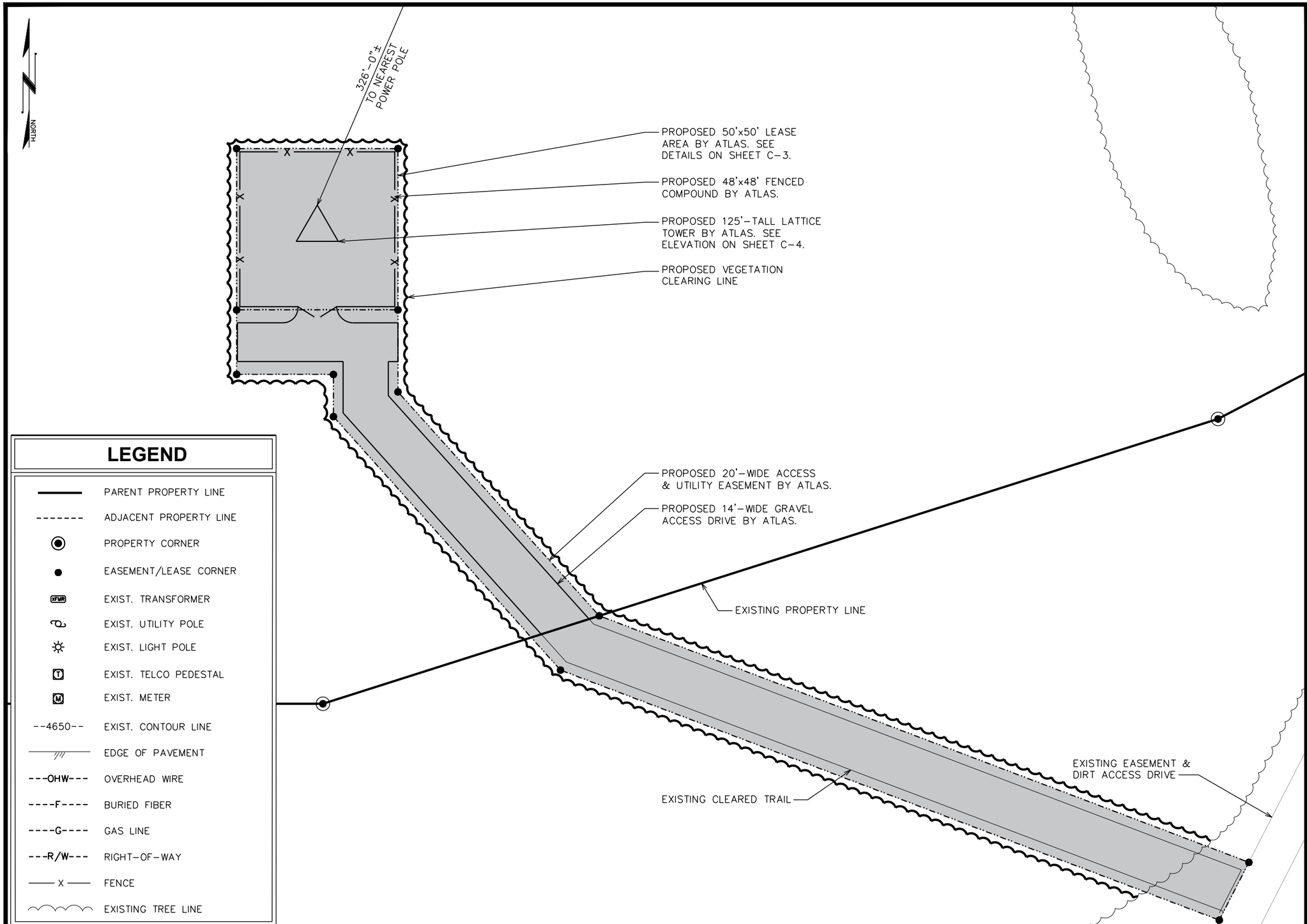
SHEET TITLE:

AREA PLAN

SHEET NUMBER: **C-1**

REVISION: 5

TEP#: 349563.481070



SITE PLAN

SCALE: 1" = 30'

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

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SEAL:

STATE OF ALASKA
49TH
Andrew T. Haldane
No. AEL CE 11742
12/1/2025
REGISTERED PROFESSIONAL ENGINEER

December 1, 2025

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DRAWN BY: KES | CHECKED BY: ARB

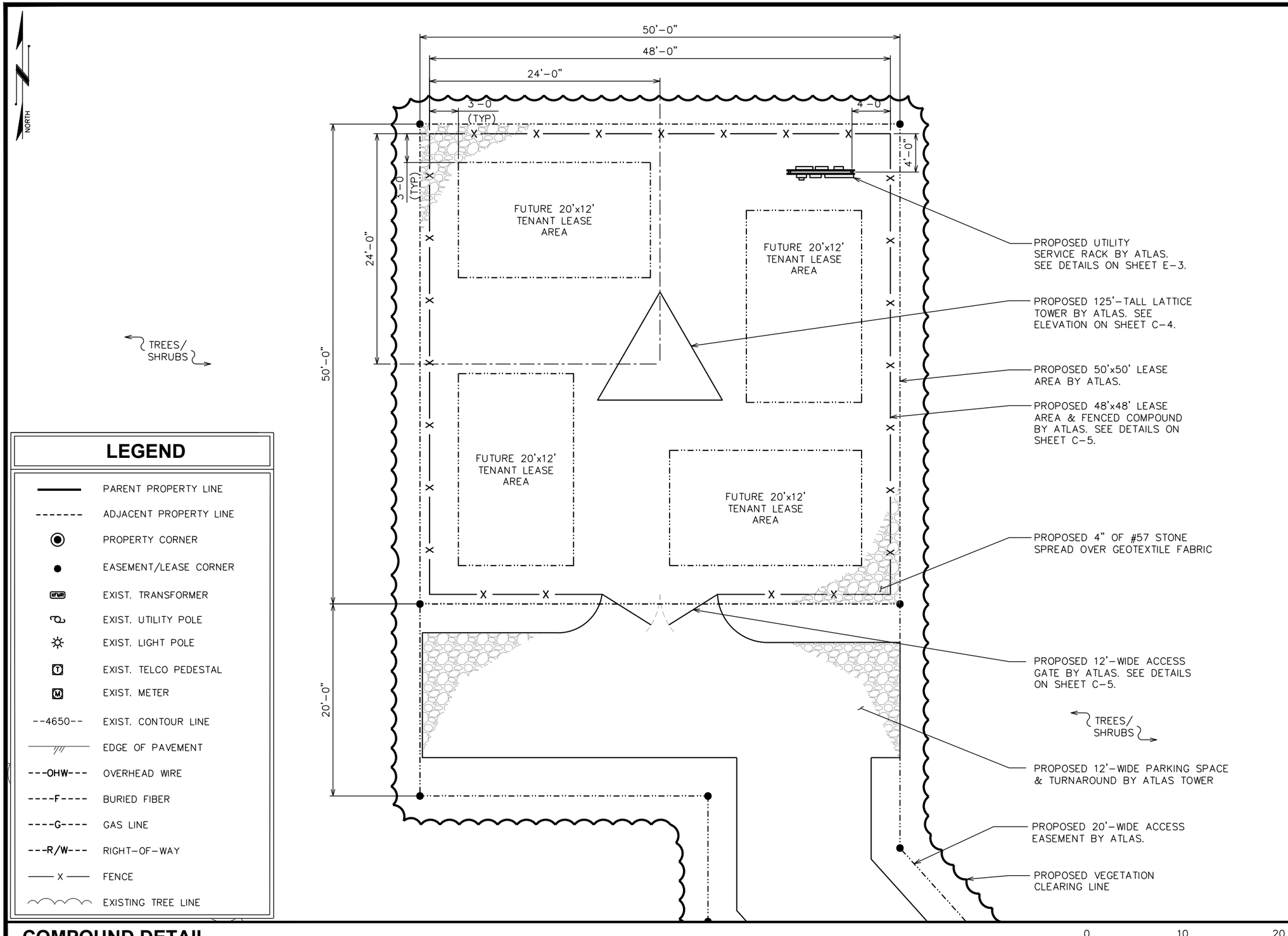
SHEET TITLE:

SITE PLAN

SHEET NUMBER: **C-2**

REVISION: **5**

TEP#: 349563.481070



LEGEND

- PARENT PROPERTY LINE
- ADJACENT PROPERTY LINE
- PROPERTY CORNER
- EASEMENT/LEASE CORNER
- EXIST. TRANSFORMER
- EXIST. UTILITY POLE
- EXIST. LIGHT POLE
- EXIST. TELCO PEDESTAL
- EXIST. METER
- --4650-- EXIST. CONTOUR LINE
- EDGE OF PAVEMENT
- ---OHW--- OVERHEAD WIRE
- ----F---- BURIED FIBER
- ----G---- GAS LINE
- ---R/W--- RIGHT-OF-WAY
- —— X —— FENCE
- EXISTING TREE LINE

COMPOUND DETAIL

SCALE: 1" = 10'

0 10 20

SCALE IN FEET

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

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DRAWN BY: KES CHECKED BY: KES

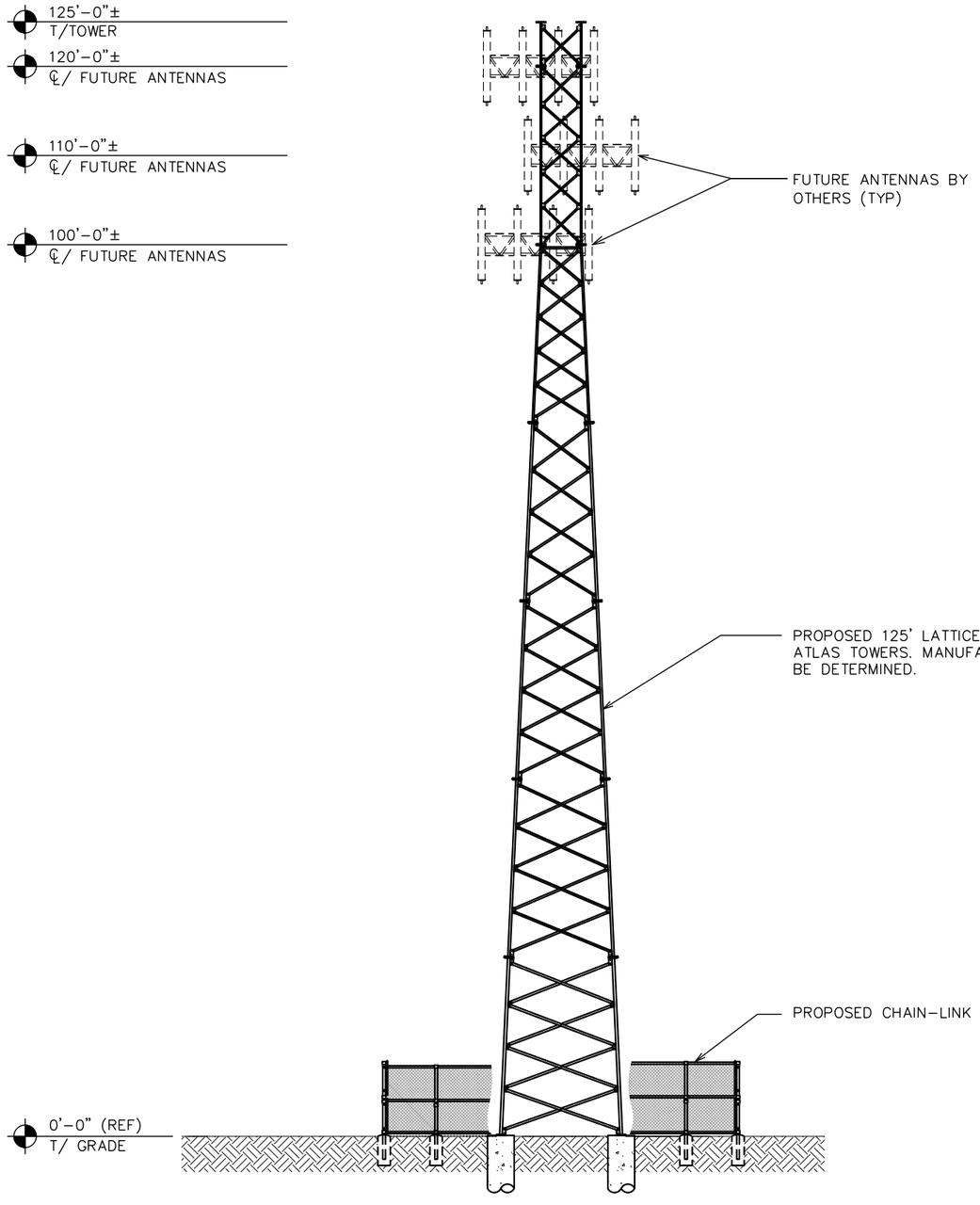
SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER: **C-3**

REVISION: **5**

TEP#: 349563.481070



NOTES:

1. TOWER TO REMAIN A GALVANIZED COLOR.
2. TOWER SHALL BE LIT ONLY IF REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION.
3. PROPOSED COAX TO BE ROUTED UP WAVEGUIDE LADDER. (PROVIDED BY TOWER MANUFACTURER)
4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.
5. TOWER EQUIPMENT LOADING AND CENTERLINES ARE SHOWN FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.

TOWER ELEVATION

SCALE: 1/16" = 1'-0"

0 16 32

SCALE IN FEET

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

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STATE OF ALASKA
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Andrew T. Haldane
No. AELCE 11742
12/1/2025
REGISTERED PROFESSIONAL ENGINEER
December 1, 2025

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DRAWN BY: RBK | CHECKED BY: KES

SHEET TITLE:

TOWER ELEVATION

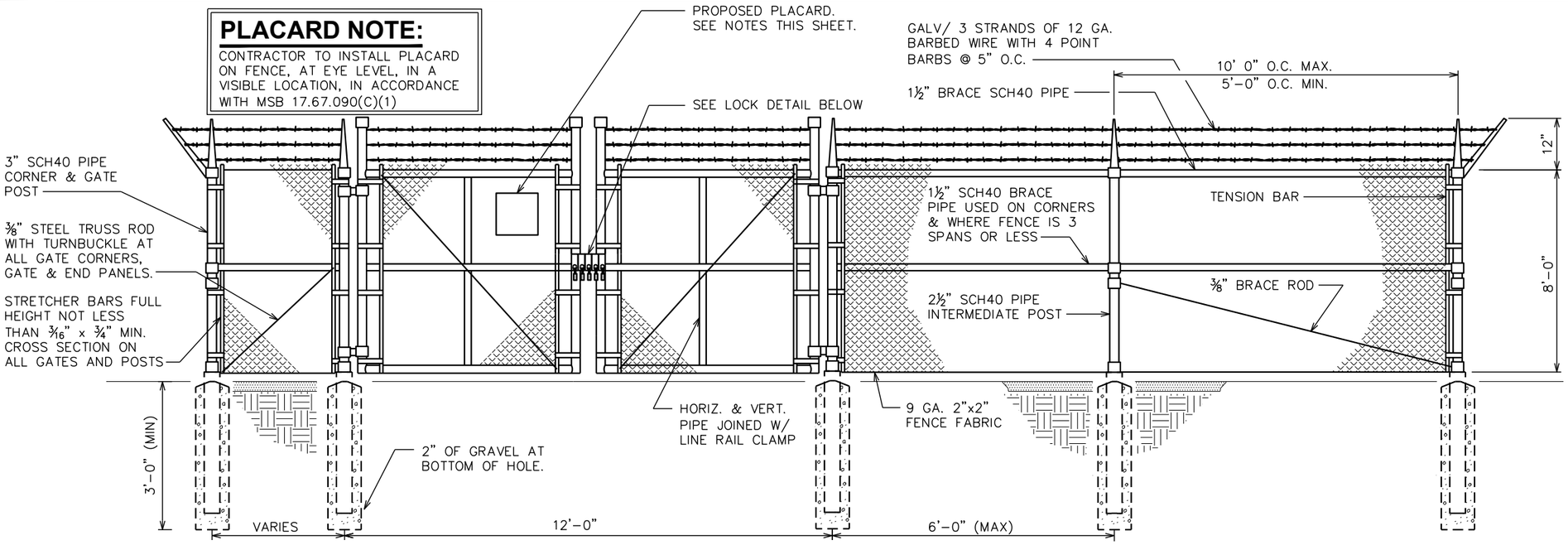
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REVISION: **5**

TEP #: 349563.481070

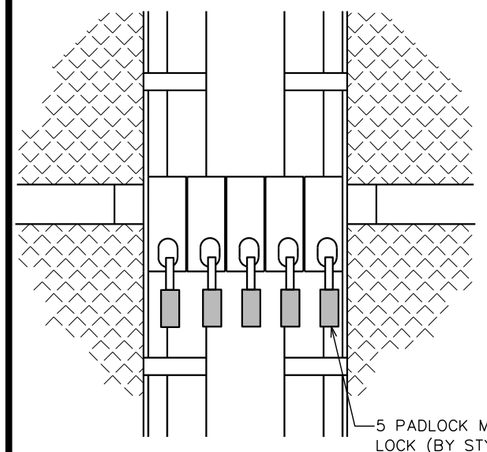
PLACARD NOTE:

CONTRACTOR TO INSTALL PLACARD ON FENCE, AT EYE LEVEL, IN A VISIBLE LOCATION, IN ACCORDANCE WITH MSB 17.67.090(C)(1)



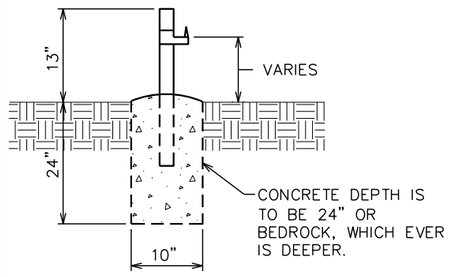
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



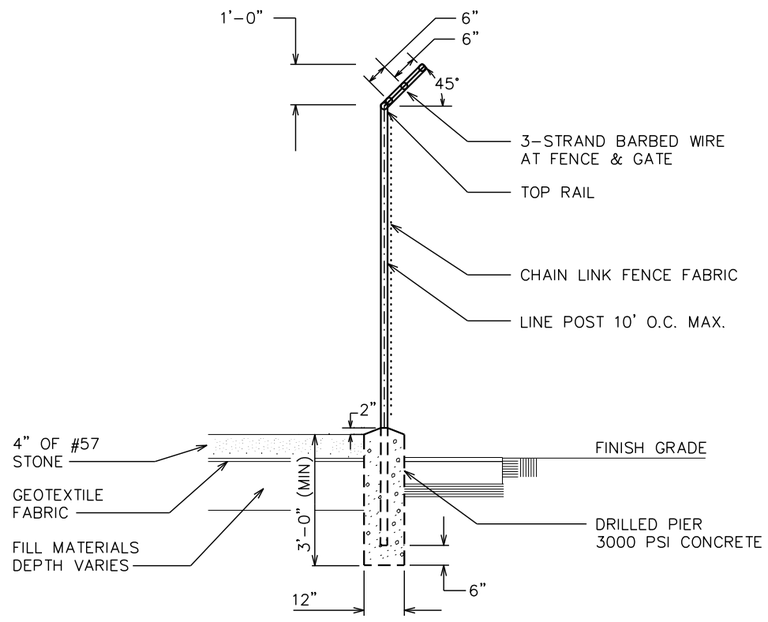
GATE LOCK DETAIL

SCALE: N.T.S.



GATE STOP/KEEPER DETAIL

SCALE: N.T.S.



FENCE / BARBED WIRE ARM DETAIL

SCALE: N.T.S.

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

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BOULDER, CO 80301
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SEAL:

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Andrew T. Haldane
No. AEL CE 11742
December 1, 2025

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DRAWN BY: RBK | CHECKED BY: KES

SHEET TITLE:

FENCE DETAILS

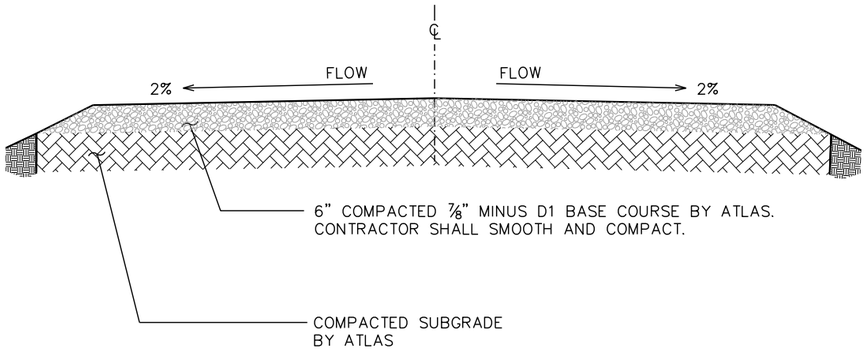
SHEET NUMBER: **Z-5**

REVISION: 5

TEP #: 349563.481070

NOTE:

ROAD TO BE DESIGNED IN ACCORDANCE
WITH M.S.B. 11.12.060 LOW VOLUME
DRIVEWAY STANDARDS



STANDARD ROAD SECTION (GOOD SUBGRADE)

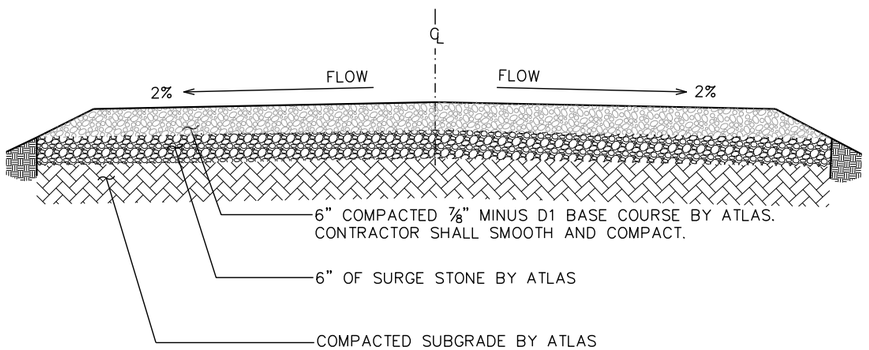
SCALE: 3/8" = 1'-0"

NOT USED

SCALE: N.T.S.

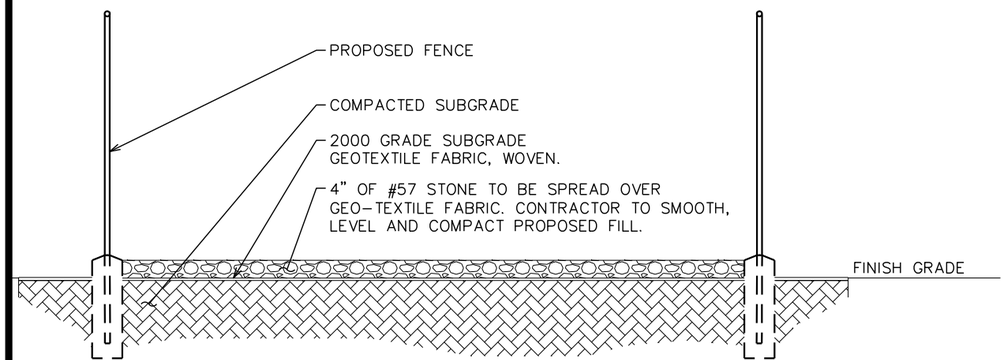
NOTE:

ROAD TO BE DESIGNED IN ACCORDANCE
WITH M.O.A. 11.12.060 LOW VOLUME
DRIVEWAY STANDARDS



STANDARD ROAD SECTION (POOR SUBGRADE)

SCALE: 3/8" = 1'-0"



COMPOUND SECTION VIEW

SCALE: N.T.S.

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

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SEAL:

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49TH
Andrew T. Haldane
No. AELI CE 11742
12/1/2025
REGISTERED PROFESSIONAL ENGINEER
December 1, 2025

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DRAWN BY: RBK | CHECKED BY:

SHEET TITLE:

DRIVEWAY DETAILS

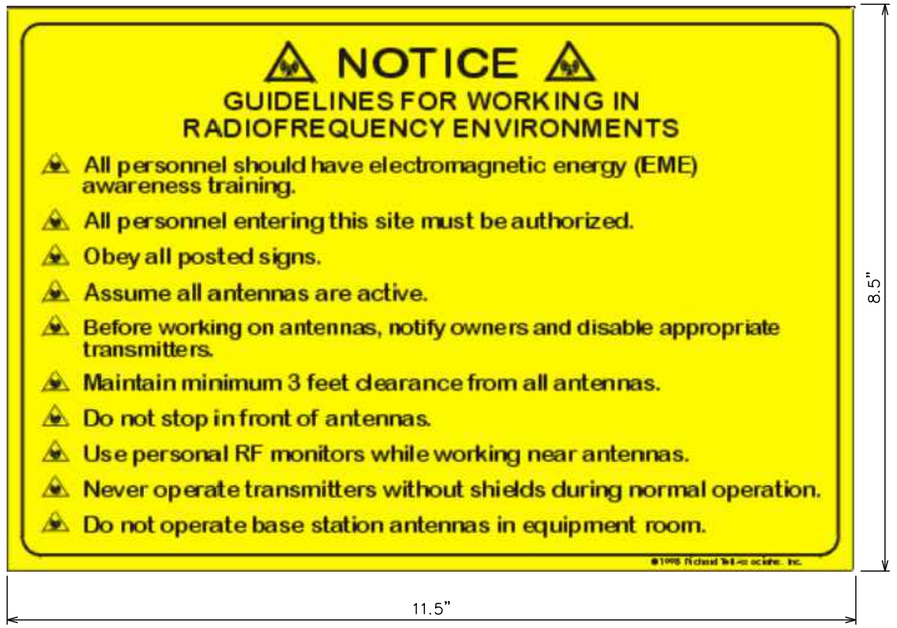
SHEET NUMBER: **C-6**

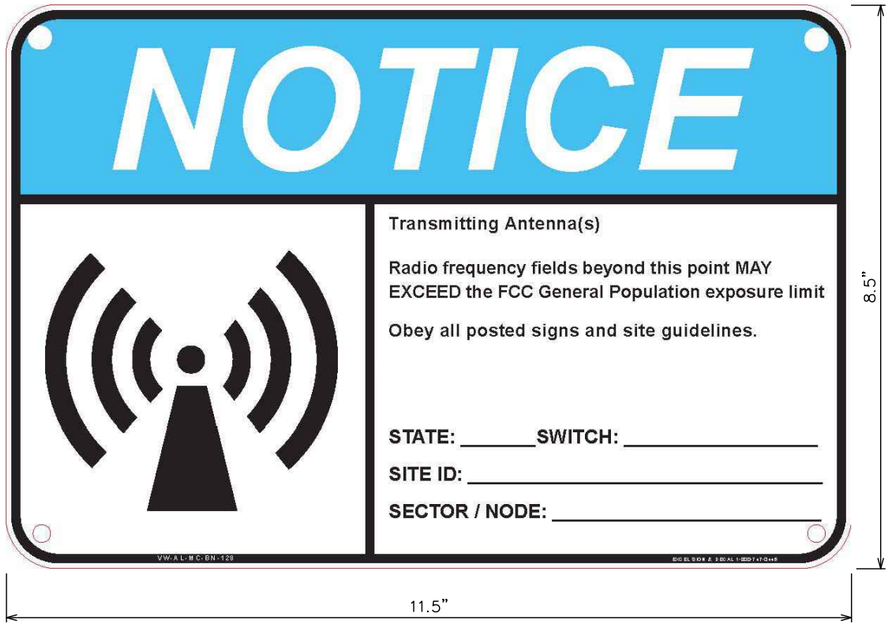
REVISION: **5**

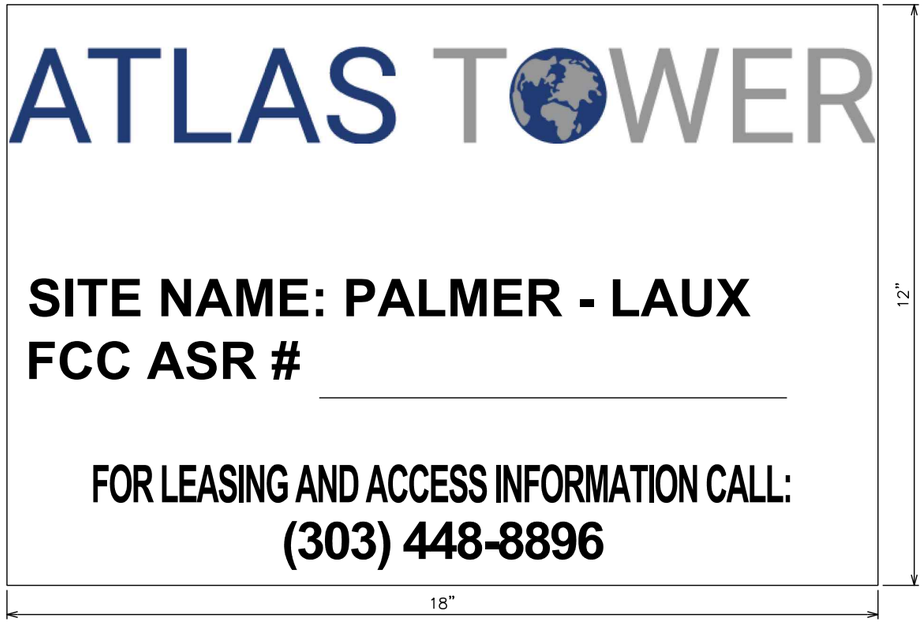
TEP #: 349563.481070

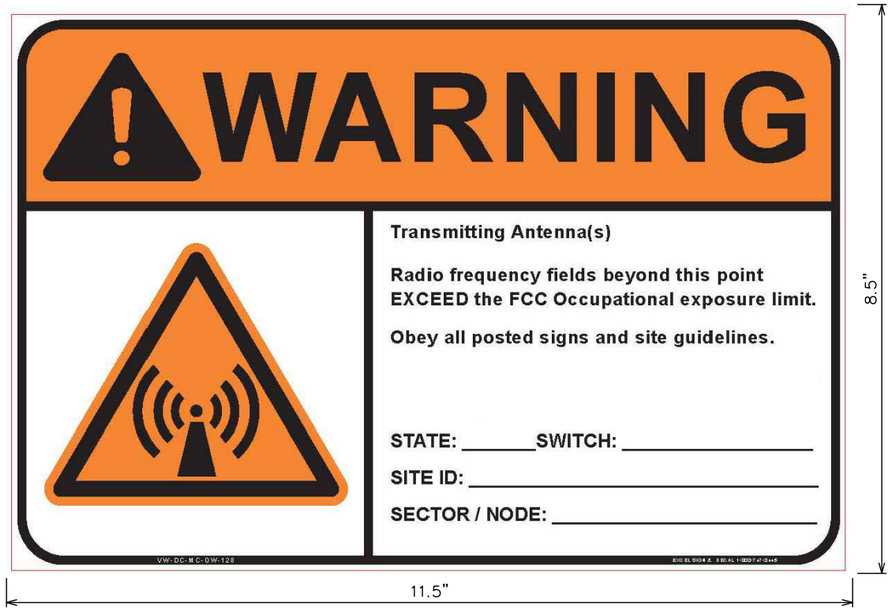
NOTES:

- ALL SIGNS TO BE HUNG ON FENCE USING HOG RINGS OR ALUMINUM FENCE TIES. ZIP TIES OR REBAR WIRE WILL NOT BE ACCEPTABLE
- THE RED WARNING SIGN SHALL BE PLACED ON THE TOWER, IDEALLY AT THE BASE OF THE SAFETY CLIMB.









SIGNAGE DETAILS

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

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Office: (303) 448-8896

PLANS PREPARED BY:

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SEAL:

STATE OF ALASKA 49TH Andrew T. Haldane No. AELCE 11742 REGISTERED PROFESSIONAL ENGINEER
December 1, 2025

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DRAWN BY: RBK | CHECKED BY: KES

SHEET TITLE:

SIGNAGE DETAILS

SHEET NUMBER: **C-7**

REVISION: **5**

TEP#: 349563.481070

ELECTRICAL NOTES:

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
   A. THE NATIONAL ELECTRICAL SAFETY CODE
   B. THE NATIONAL ELECTRIC CODE – NFPA–70
   C. REGULATIONS OF THE SERVING UTILITY COMPANY
   D. LOCAL AND STATE AMENDMENTS
   E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING:

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE:

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. WHERE INSTALLED ON EXTERIOR STRUCTURES OR EXPOSED TO DAMAGE, THE CONDUIT SHALL BE RIGID STEEL.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
   D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
4. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
NEC	–	NATIONAL ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL
PNLBD	–	PANELBOARD
PVC	–	RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

----E----	UNDERGROUND ELECTRICAL CONDUIT
----T----	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT–HOUR METER
---------	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
⌀	GROUND ROD
●	EXOTHERMIC WELD
⊠	GROUND ROD WITH INSPECTION WELL

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448–8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

STATE OF ALASKA
49TH
Andrew T. Haldane
No. AELCE 11742
12/1/2025
REGISTERED PROFESSIONAL ENGINEER

December 1, 2025

REV	DATE	ISSUED FOR:
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DRAWN BY: RBK | CHECKED BY: NMC

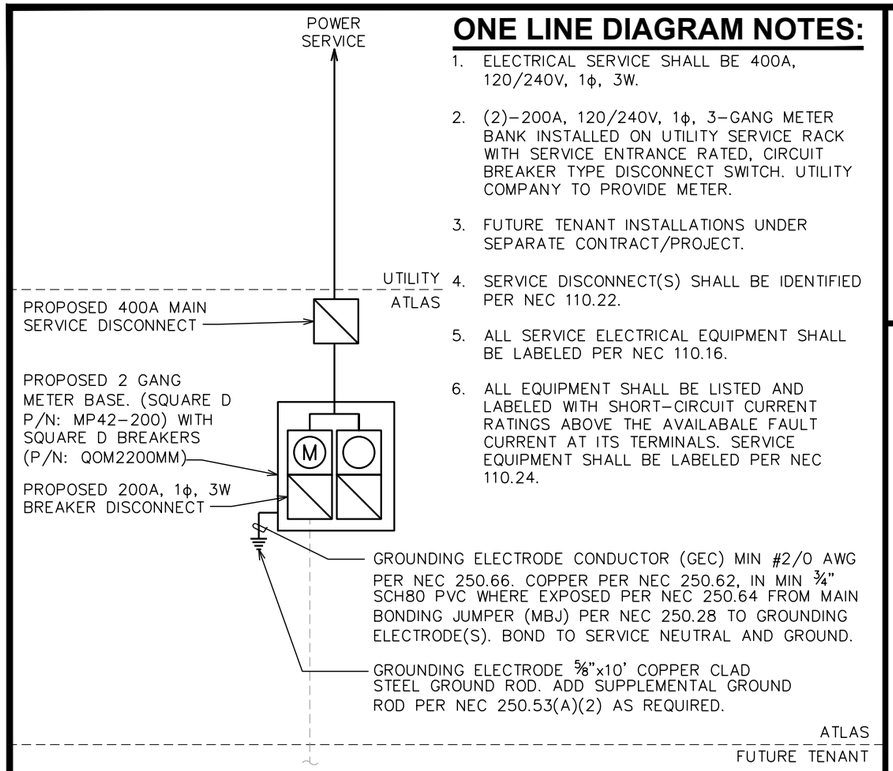
SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER: **E-1**

REVISION: **5**

TEP#: 349563.481070



ONE LINE DIAGRAM NOTES:

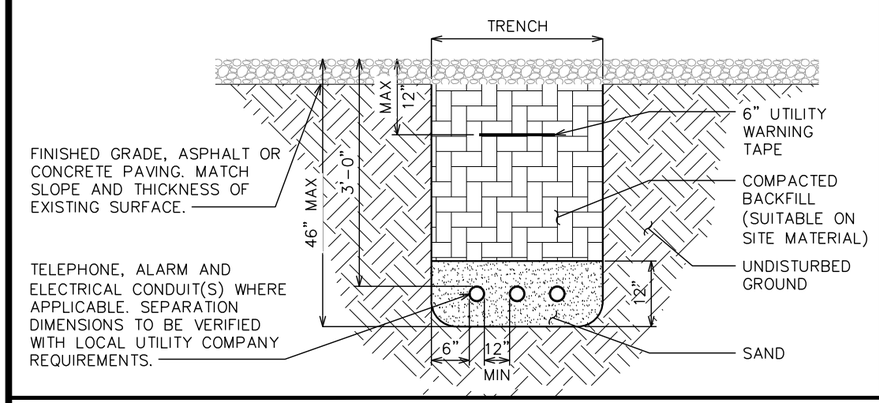
1. ELECTRICAL SERVICE SHALL BE 400A, 120/240V, 1ϕ, 3W.
2. (2)-200A, 120/240V, 1ϕ, 3-GANG METER BANK INSTALLED ON UTILITY SERVICE RACK WITH SERVICE ENTRANCE RATED, CIRCUIT BREAKER TYPE DISCONNECT SWITCH. UTILITY COMPANY TO PROVIDE METER.
3. FUTURE TENANT INSTALLATIONS UNDER SEPARATE CONTRACT/PROJECT.
4. SERVICE DISCONNECT(S) SHALL BE IDENTIFIED PER NEC 110.22.
5. ALL SERVICE ELECTRICAL EQUIPMENT SHALL BE LABELED PER NEC 110.16.
6. ALL EQUIPMENT SHALL BE LISTED AND LABELED WITH SHORT-CIRCUIT CURRENT RATINGS ABOVE THE AVAILABALE FAULT CURRENT AT ITS TERMINALS. SERVICE EQUIPMENT SHALL BE LABELED PER NEC 110.24.

ONE-LINE DETAIL

SCALE: N.T.S.

NOTES:

1. ACTUAL SEPARATION OF CONDUITS TO BE DETERMINED BY SITE SPECIFIC REQUIREMENTS.
2. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
3. PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLES, EQUIPMENT, ETC.)
4. PROVIDE RGS CONDUIT FOR INSTALLATIONS BELOW PARKING LOTS AND ROADWAYS.

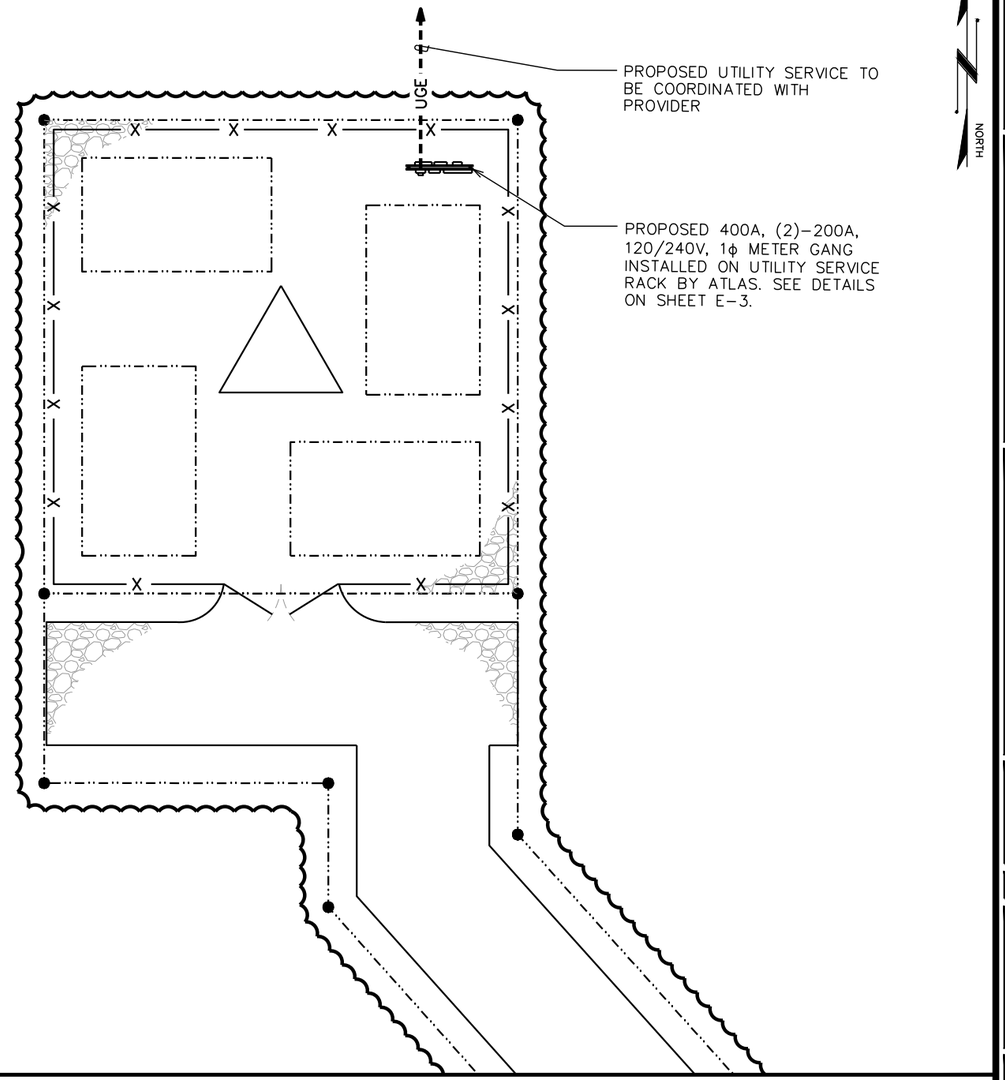


UNDERGROUND CONDUIT(S) TRENCH DETAIL

SCALE: N.T.S.

NOTES:

1. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. ALL CONDUITS SHALL BE INSTALLED PRIOR TO FINISH GRADING, GEOFABRIC, AND STONE INSTALLATION.
3. CONTRACTOR SHALL INSTALL SWEEPS AT ALL CONDUIT DIRECTION CHANGES.



POWER PLAN

SCALE: 1/16" = 1'-0"

0 16 32
SCALE IN FEET

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

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DRAWN BY: KES | CHECKED BY: KES

SHEET TITLE:

POWER PLAN AND ONE-LINE DIAGRAM

SHEET NUMBER: **E-2**

REVISION: 5

TEP#: 349563.481070

NORTH

EXISTING UTILITY POLE WITH
POLE MOUNTED TRANSFORMER

326'-0"
TO NEAREST
POWER POLE

UGE

PROPOSED UTILITY SERVICE TO
BE COORDINATED WITH
PROVIDER

PROPOSED 400A, (2)-200A,
120/240V, 1ϕ METER GANG
INSTALLED ON UTILITY SERVICE
RACK BY ATLAS. SEE DETAILS
ON SHEET E-3.

ENLARGED POWER PLAN

SCALE: 1" = 40'

0 40 80

SCALE IN FEET

PROJECT INFORMATION:

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PALMER, AK 99645
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DRAWN BY: KES CHECKED BY: KES

SHEET TITLE:

EXTENDED POWER PLAN

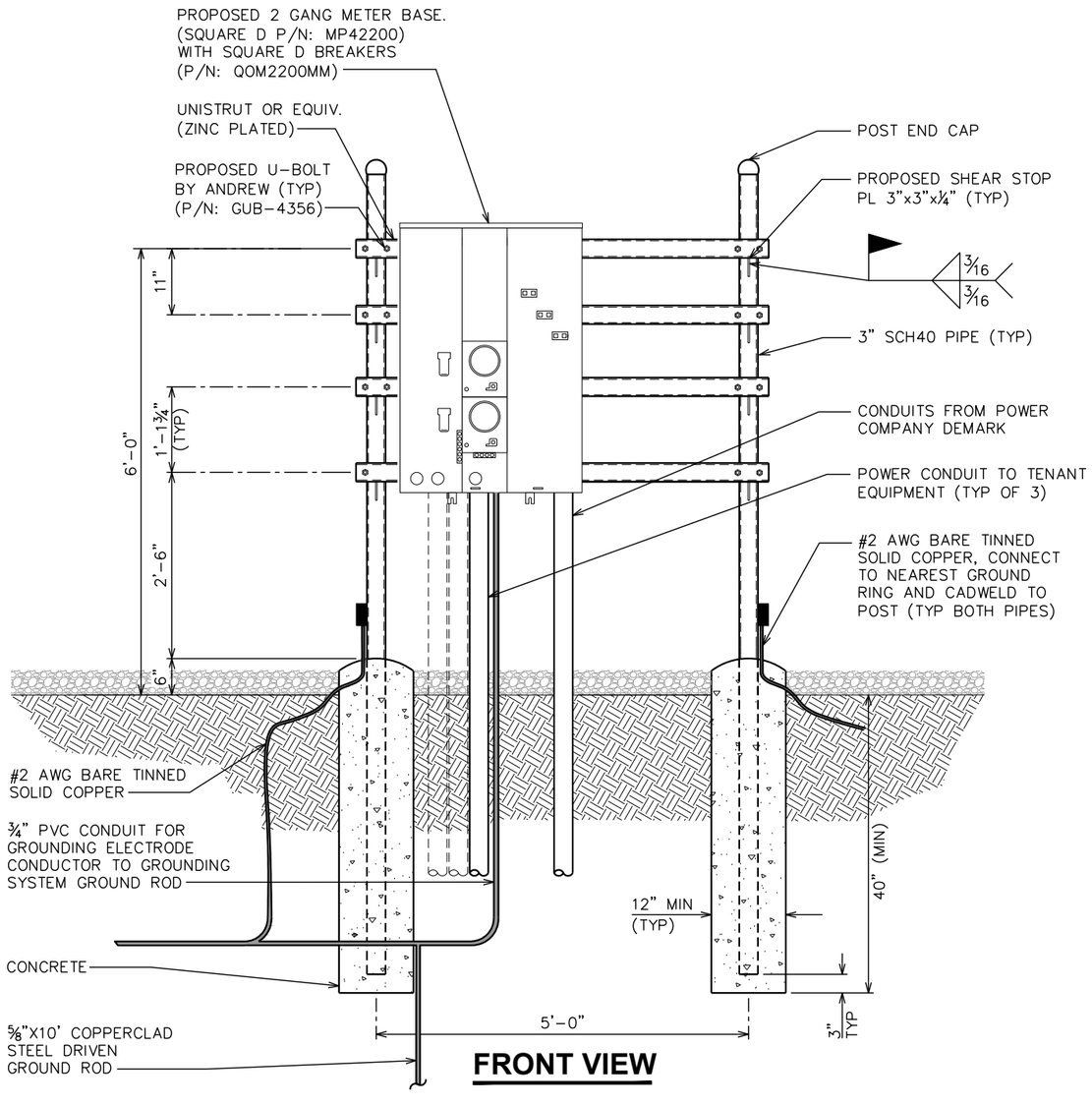
SHEET NUMBER: **E-2A**

REVISION: 5

TEP#: 349563.481070

NOTES:

1. REFER TO THE SITE LAYOUT PLAN FOR THE EXACT LOCATION OF THE H-FRAME.
2. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR METER.
3. UTILITY COMPANY TO PROVIDE AND INSTALL METER SOCKET.
4. CONTRACTOR TO ENSURE METER RACK WORKING SPACES REQUIRED BY THE NEC (ART. 110.26), STATE, OR LOCAL CODES ARE MAINTAINED BOTH ON THE FRONT SIDE AND THE BACK SIDE OF THE H-FRAME PRIOR TO INSTALLATION.
5. SHOW LOCATION (INCLUDING DIMENSIONS) OF ALL CAPPED UNDERGROUND CONDUIT ON FINAL AS-BUILT DRAWINGS SUBMITTED TO OWNER.
6. COORDINATE EXACT LOCATION OF UNDERGROUND FEEDERS AND CIRCUITRY WITH THE OWNER.
7. CONTRACTOR SHALL COORDINATE EFFORTS WITH (LOCAL, ELECTRICAL) AUTHORITY HAVING JURISDICTION (AHJ) AND OTHER TRADES TO DETERMINE "FROST" LINE, AND TYPE(S) OF RACEWAYS REQUIRED FOR INSTALLATION.
8. BOND ALL ELECTRICAL EQUIPMENT TO RACK.
9. DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED IN THE FIELD AS APPROVED BY OWNER TO BETTER SUIT ACTUAL CONDITIONS OR EQUIPMENT RECEIVED.



FRONT VIEW

SERVICE RACK DETAILS

SCALE: ½" = 1'-0"

0 2 4

SCALE IN FEET

PROJECT INFORMATION:

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PALMER, AK 99645
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DRAWN BY: KES | CHECKED BY: ARB

SHEET TITLE:

SERVICE RACK DETAILS

SHEET NUMBER: **E-3**

REVISION: 5

TEP#: 349563.481070

DRAWING NOTES:

1. 5/8"x10' COPPER GROUND ROD (TYP).
2. GATE POST BONDING. SEE DETAIL ON THIS SHEET.
3. FENCE GATE BONDING. SEE DETAIL ON THIS SHEET.
4. PROPOSED INSPECTION WELL. SEE DETAIL ON SHEET E-5.
5. PROPOSED TOWER GROUND RING. #2 COPPER CONDUCTOR-BARE TINNED BURIED 30" BFG BY ATLAS TOWER.
6. FENCE POST BOND
7. EXOTHERMIC WELD GROUND CONNECTION. SEE DETAIL ON SHEET E-5.
8. PROPOSED COMPOUND GROUND RING, #2 SOLID BARE TINNED COPPER, 30" BFG BY ATLAS TOWER.

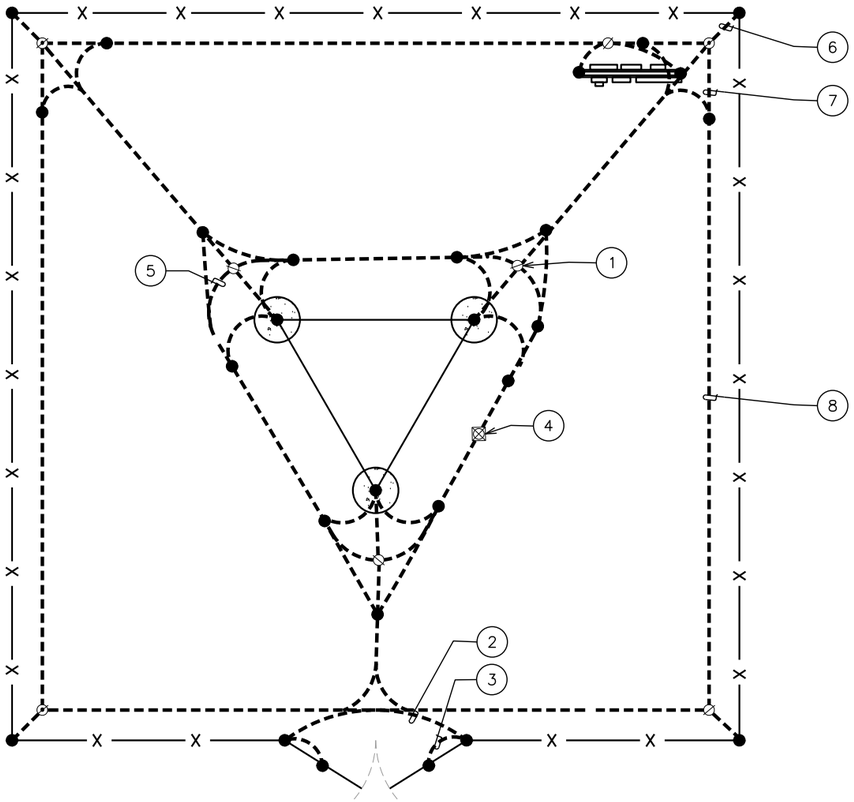
LEGEND

⌀	GROUND ROD
●	EXOTHERMIC WELD
⊠	GROUND ROD WITH INSPECTION WELL

NORTH

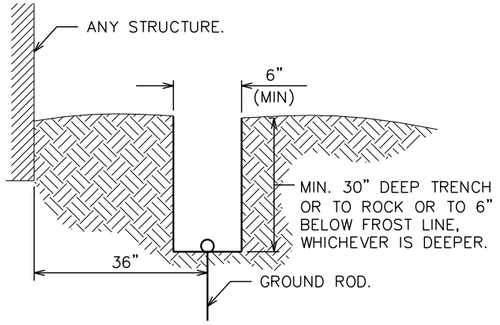
GROUNDING NOTES

1. GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 SOLID CONDUCTOR. THE TOP OF THE GROUND RODS AND THE CONDUCTOR SHALL BE 30" (MIN) BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS. (6'-0" MINIMUM; 16'-0" MAXIMUM)
2. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
3. ROUND SHELTER TO GROUND RING PER NSTD46 CELL SITE GROUNDING AND LIGHTING PROTECTION, ISSUED 2/1/11.



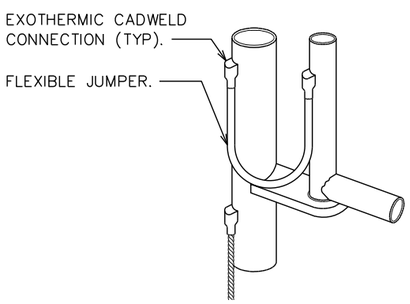
TYPICAL GROUNDING PLAN

SCALE: N.T.S.



TRENCH DETAIL

SCALE: N.T.S.



GROUNDING AT GATE POST

SCALE: N.T.S.

PROJECT INFORMATION:

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SHEET TITLE:

GROUNDING PLAN AND DETAILS

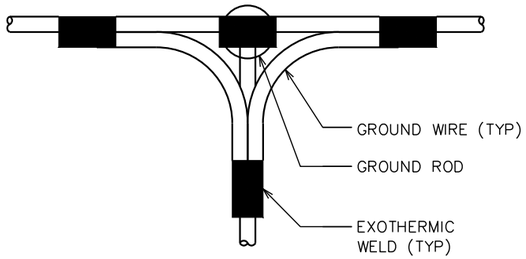
SHEET NUMBER: **E-4**

REVISION: 5

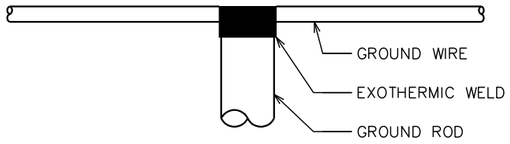
TEP #: 349563.481070

NOTE:

MINIMUM SPACING OF 12" BETWEEN ALL EXOTHERMIC WELDS



TOP VIEW

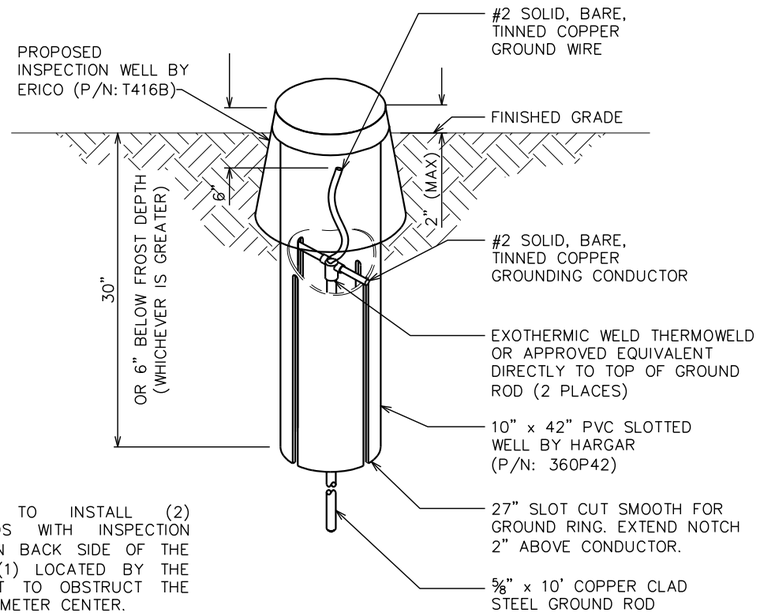


SIDE VIEW

EXOTHERMIC WELD GROUNDING DETAIL

SCALE: N.T.S.

NOT USED

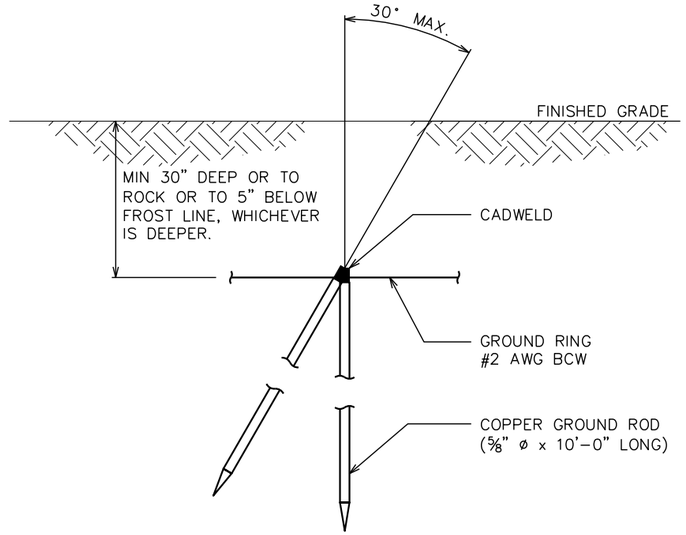


NOTE:

CONTRACTOR TO INSTALL (2) GROUND RODS WITH INSPECTION WELLS. (1) ON BACK SIDE OF THE TOWER AND (1) LOCATED BY THE H-FRAME NOT TO OBSTRUCT THE PATH TO THE METER CENTER.

INSPECTION WELL DETAIL

SCALE: N.T.S.



COPPER-CLAD STEEL GROUND ROD

SCALE: N.T.S.

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

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SEAL:

STATE OF ALASKA 49TH Andrew T. Haldane No. AELCE 11742 12/1/2025 REGISTERED PROFESSIONAL ENGINEER

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DRAWN BY: AKP CHECKED BY: NMC

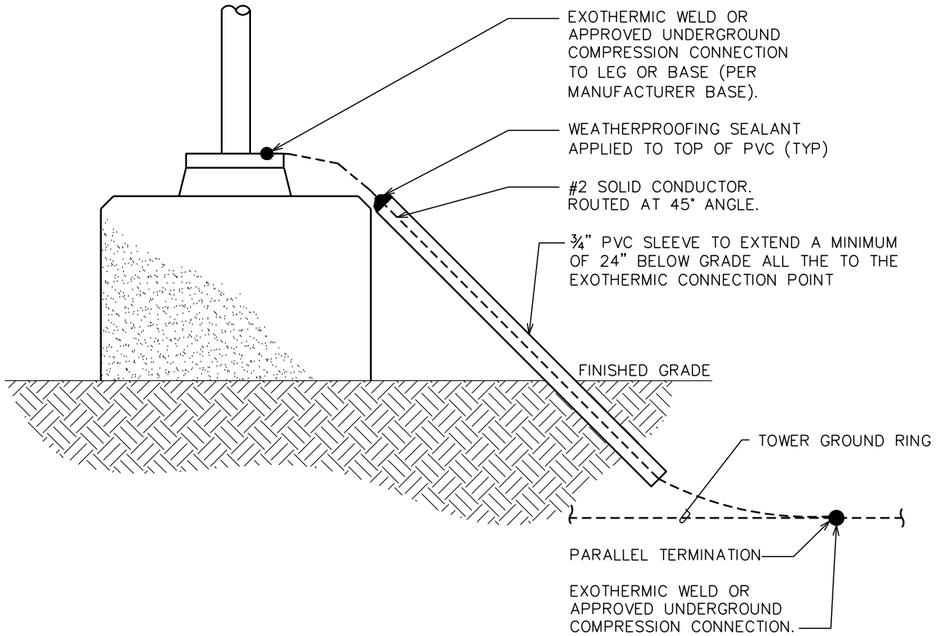
SHEET TITLE:

GROUNDING DETAILS

SHEET NUMBER: **E-5**

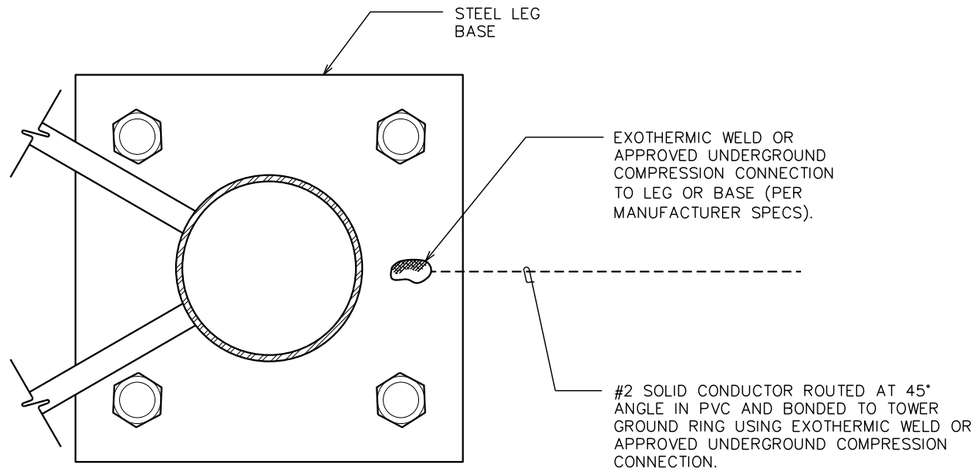
REVISION: **5**

TEP #: 349563.481070



TYPICAL TOWER BASE GROUNDING DETAIL

SCALE: N.T.S.



TYPICAL TOWER GROUNDING

SCALE: N.T.S.

PROJECT INFORMATION:

PALMER - LAUX

E KNIK RIVER RD
PALMER, AK 99645
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

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BOULDER, CO 80301
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DRAWN BY: KES | CHECKED BY: NMC

SHEET TITLE:

TOWER FOUNDATION GROUNDING DETAILS

SHEET NUMBER: **E-6**

REVISION: **5**

TEP #: 349563.481070

3. Grantor reserves the right to use the surface of the Easement area for any purpose which does not unreasonably interfere with the easement hereby granted, including but not limited to, the right to grant other easements on, under, over and across the Easement herein granted.

4. The Easement is granted for the express purpose of providing access to the Neighboring Property and accordingly, this Easement shall be perpetual and run with the land and be binding upon and inure to the benefit of the Grantor, its heirs, successors and assigns.

5. ***Notices:*** Wherever in this Agreement it shall be required or permitted that notice or demand be given or served by either party, such notice or demand shall be given or served, and shall not be deemed to have been duly given or served, unless in writing and sent by certified mail, postage prepaid, return receipt requested, addressed as follows:

If to Grantor:

Jeffrey and Winnie Cichosz
P.O. BOX 242554
ANCHORAGE, ALASKA
99524

If to Grantee:

Atlas Tower 1, LLC
2500 30th St, Suite 304
Boulder, CO 80301

All official notice shall be sent via registered mail with delivery confirmation. Such addresses may be changed from time to time by any party serving written notice to the others as above provided.

6. **Compensation for Easement Access**

Payment Structure. In consideration for the Easement granted herein, Grantee shall pay to Grantor the total sum of Twenty-Five Thousand Dollars ($25,000), payable in five (5) equal annual installments of Five Thousand Dollars ($5,000) each ("Annual Payment"). Each Annual Payment shall be due on or before the anniversary of the Effective Date for a period of five (5) consecutive years.

Easement Effective Upon Initial Payment. The Easement rights granted under this Agreement shall not become effective unless and until Grantor has received the first Annual Payment. Upon receipt of the first Annual Payment, the Easement shall be deemed fully effective as of that date.

Failure to Pay; Cure Period. If Grantee fails to timely make any Annual Payment, Grantor shall provide written notice of such non-payment to Grantee. Grantee shall have ninety (90) days from receipt of such notice to cure the non-payment ("Cure Period"). If Grantee fails to cure within the Cure Period, the overdue amount shall accrue interest from the original payment due date at the lesser of (a) ten percent (10%) per annum, or (b) the maximum rate permitted by applicable law, until paid in full.

7. ***Entire Agreement and Modification:*** This Agreement represents the full and complete agreement between the parties regarding the subject matter hereof and the possible sale of the Premises. The terms and conditions of this Agreement merge with and supersede any prior or contemporaneous, oral or written, statements or agreements. This Agreement may only be modified or amended by a written instrument signed by both parties hereto.

8. ***Further Assurances:*** Grantee, at the request of Grantor, shall execute and deliver to Grantor any necessary instruments, agreements, and documents reasonably required by Grantor, and Grantee shall do such other acts as may be reasonably requested by Grantor, all to effect the purposes of this Agreement. Conversely, Grantor, at the request of Grantee, shall execute and deliver to Grantee any necessary instruments, agreements, and documents reasonably required by Grantee, and Grantor shall do such other acts as may be reasonably requested by Grantee, all to effect the purposes of this Agreement.

9. ***Counterpart Agreements:*** This Agreement may be executed in any number of counterparts and shall be binding upon all owners of an interest in the Property who execute the same or a counterpart hereof, whether or not named herein as one of the parties, and whether or not the owners of the aforesaid interest have executed other counterparts or have not entered into this Agreement.

10. ***Construction:*** Paragraph headings in this Agreement are inserted for convenience only, and shall not be considered a part of this Agreement, or used in its interpretation. Unless otherwise provided, or unless the context shall otherwise require, words importing the singular number shall include the plural number, words importing the masculine gender shall include the feminine gender, and vice versa. This Agreement shall not be construed against either party merely or solely because of the draftsmanship hereof.

11. ***Governing Law:*** This Agreement shall be governed by and construed in accordance with the laws of the State of Alaska, without regard to its conflicts of law principles.

12. ***Severance:*** Should any portion of this Agreement be declared invalid and unenforceable, then such portion shall be deemed to be severed from this Agreement and shall not affect the remainder thereof.

13. ***Binding Affect:*** All the terms, conditions, reservations, covenants and restrictions of this Agreement shall survive closing and shall be binding upon and shall inure to the benefit of any previously approved successors and assigns, respectively, of each of the parties hereto.

14. ***Brokers/Agents:*** Grantee and Grantor represent that neither has engaged the services of a broker or agent, and any fees incurred by Grantee and Grantor are to be paid by the respective party.

(signature pages follow)

IN WITNESS WHEREOF, Grantor and Grantee have executed this Agreement in counterparts effective as the date first above written.

GRANTOR:

By: _____
Name: ~~JEFFREY~~ CICHOSZ
Title: OWNER

By: _____
WINNIE CICHOSZ
OWNER

STATE OF ALASKA)
) ss.
CITY AND COUNTY OF Anchorage)

The foregoing instrument was acknowledged before me this 13th **day of** December**, 2025, by** Jeffrey Cichosz**, the** Winnie Cichosz **of Jeffrey and Winnie Cichosz**

_____
Notary Public

State of Alaska
NOTARY PUBLIC
Fua Ueselani
My Commission Expires 02/02/28

Address 115 N. Bragaw St Anchorage, AK 99508

My Commission expires: 02/02/28

GRANTEE:

Atlas Tower 1, LLC

By: _____
Name: Helmundt Strumpher
Title: COO

STATE OF COLORADO)
) ss.
CITY AND COUNTY OF Boulder)

The foregoing instrument was acknowledged before me this 22 **day of** Dec, 2025 **by** Helmundt Strumpher **the** COO **of Atlas Tower 1, LLC, a Colorado limited liability company.**

Jocelyn Gifford
Notary Public

JOCELYN GIFFORD
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID 20154037235
MY COMMISSION EXPIRES NOVEMBER 19, 2029

Address 2500 30th St, Ste 304
Boulder CO 80301
My Commission expires: Nov. 19, 2029

Return to:
Atlas Tower 2, LLC
2500 30th Street, Suite 304
Boulder, CO 80301

MEMORANDUM OF LEASE AGREEMENT

This Memorandum of Lease evidences a Lease ("Lease") is made upon the date of the last signee, in the recording district of Matanuska-Susitna County, AK, by and between, LAUX PAUL J (the "Landlord"), whose address is 27950 E KNIK RIVER RD PALMER, AK 99645, and Atlas Tower 2, LLC (the "Tenant"), whose address is 2500 30th Street, Suite 304, Boulder, CO 80301, commencing upon the earlier of (1) the election of Tenant by sending Notice of Commencement to Landlord or (2) on the first day of the month following site construction completion (the "Commencement Date"), which shall be confirmed in writing from Tenant to Landlord, for certain real property (the "Premises"), as described in Exhibit 1 attached hereto.

Landlord ratifies, restates and confirms the Lease and hereby grants to Tenant the option to lease the Premises, subject to the terms and conditions of the Lease. The Lease provides for the Lease by the Landlord to Tenant of the Premises for [a/an initial] term of 360 Months with Four 5-year Extensions each, and further provides:

1. Landlord will attorn to any mortgagee of Tenant and will subordinate any Landlord's lien to the liens of Tenant's mortgagees;

2. The Lease restricts Landlord's ability to utilize, or allow the utilization of its adjacent property for the construction, operation and/or maintenance of communications towers and related facilities;

3. The Premises may be used exclusively by Tenant for all legal purposes, including without limitation, erecting, installing, operating and maintaining radio and communications towers, buildings, and equipment;

4. Tenant is entitled to sublease and/or sublicense the Premises, including any communications tower located thereon; and,

5. Under certain circumstances, Tenant has a right of first refusal to acquire the Premises from Landlord.

6. Landlord authorizes Tenant, and any of Tenants agents or representatives, to seek, applies for, and secure any and all permits related to the installation of a wireless communications tower and facility.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK, SIGNATURES BEGIN ON NEXT TWO PAGES]

IN WITNESS WHEREOF, the parties hereto have executed this MEMORANDUM OF LEASE as of the date last signed by a party hereto.

LANDLORD:

LAUX PAUL J

Signature: Paul J Laux

Printed Name: Paul J Laux

Title: Landlord

Date: 5/13/25

State of Alaska
County of Matanuska-Susitna

On this 13th day of May, 2025, before me personally appeared Paul Joshua Laux, to me known (or proved to me on the basis of satisfactory evidence) to be the persons described in and who executed the foregoing instrument and acknowledged that they executed the same as their free act and deed.

WITNESS my hand and Official Seal at office this 13th day of May, 2025.

Notary Public

My Commission Expires: 04/26/26

OFFICIAL SEAL
Jeremiah Mengel
Notary Public-State of Alaska
My Comm. Expires: 04/26/2026

TENANT:

Atlas Tower 2, LLC

Signature: _____

Printed Name: HELMUNDT STRUMPHER

Title: COO

Date: 5/23/2025

State of Colorado
County of Boulder

On this 23rd day of May, 2025, before me personally appeared Helmundt Strumpher, the COO of Atlas Tower 2, LLC, to me known (or proved to me on the basis of satisfactory evidence) to be the persons described in and who executed the foregoing instrument and acknowledged that he executed the same as his free act and deed.

WITNESS my hand and Official Seal at office this 23rd day of May, 2025.

_____
Notary Public

My Commission Expires:
9/9/29

AARON BUHLE SITHOLE
NOTARY PUBLIC - STATE OF COLORADO
NOTARY ID 20214035824
MY COMMISSION EXPIRES SEP 9, 2025

Exhibit 1

Description of Parent Tract

Real property with parcel number 8274000L001A and an assessor legal description of LAUX 4 LOT 1A.

EXHIBIT 2

The Premises is depicted/described as follows: (50 feet x 50 feet, measuring 2500 sq. feet.) and will be replaced by a surveyed legal description when available. The Premises may be located anywhere on the Property so long as it is contained within the shaded space depicted below:

TO BE DETERMINED

Exhibit A ("Tower Site – Access Agreement")



Photos and Maps













































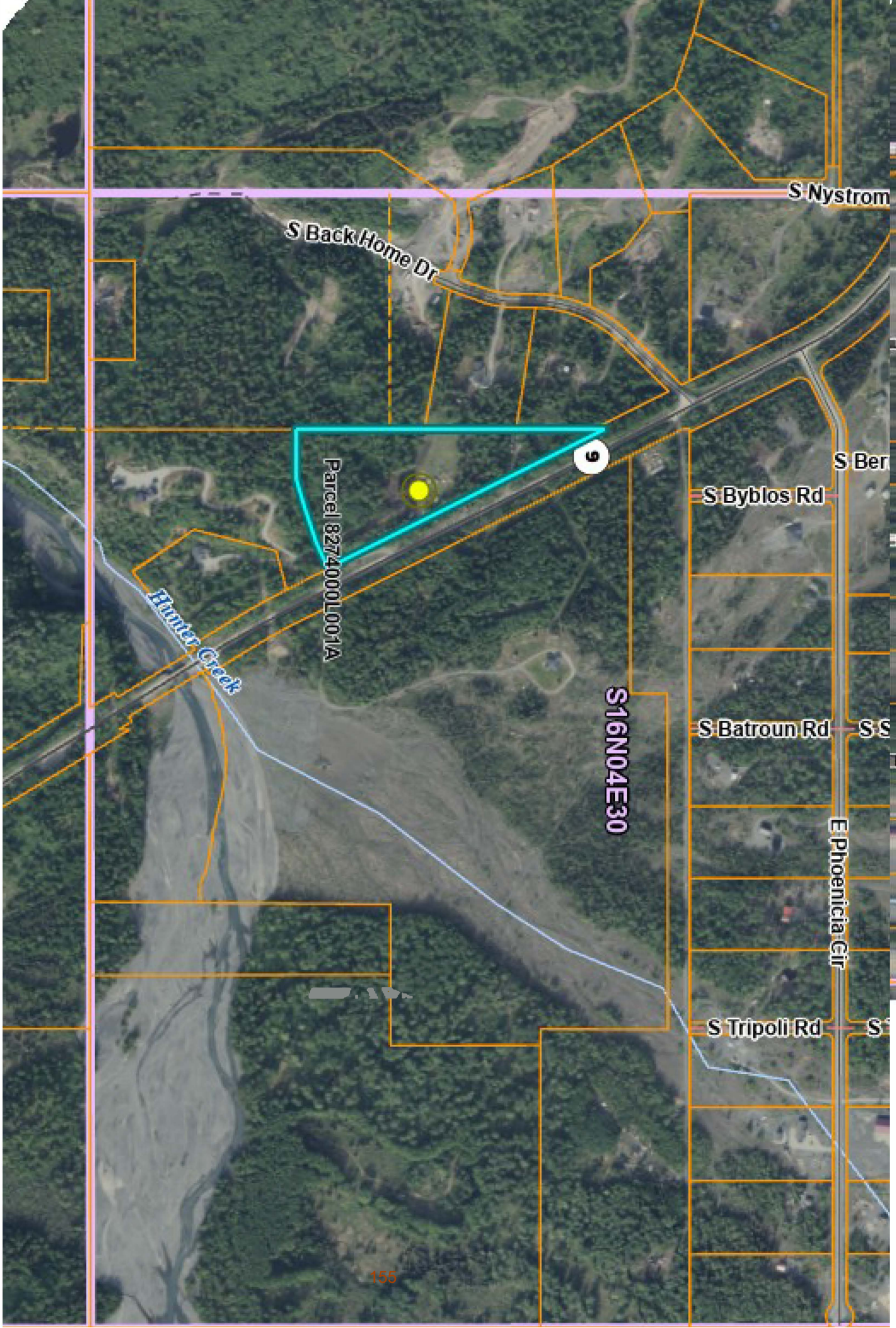

E Knik River Rd
27050

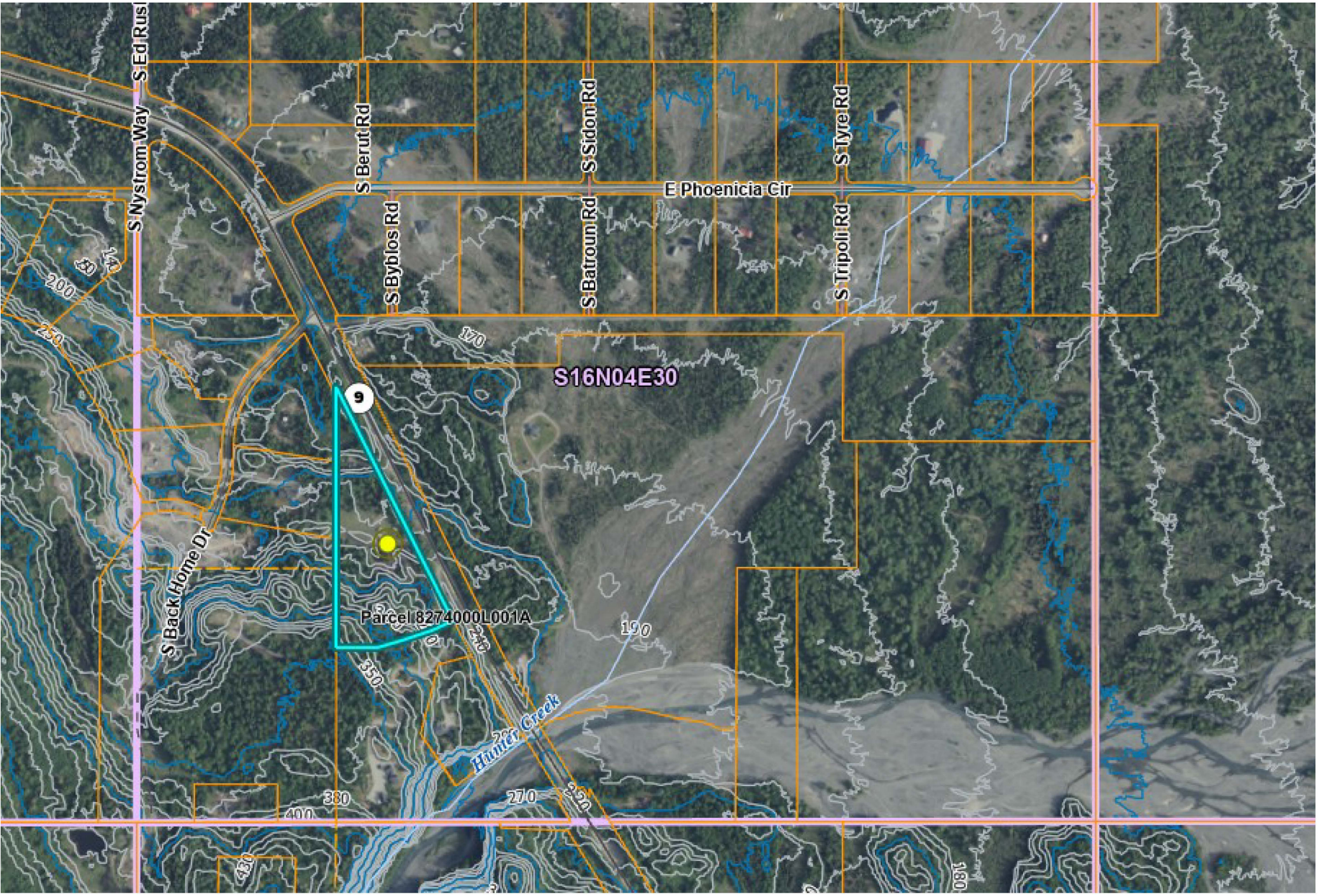








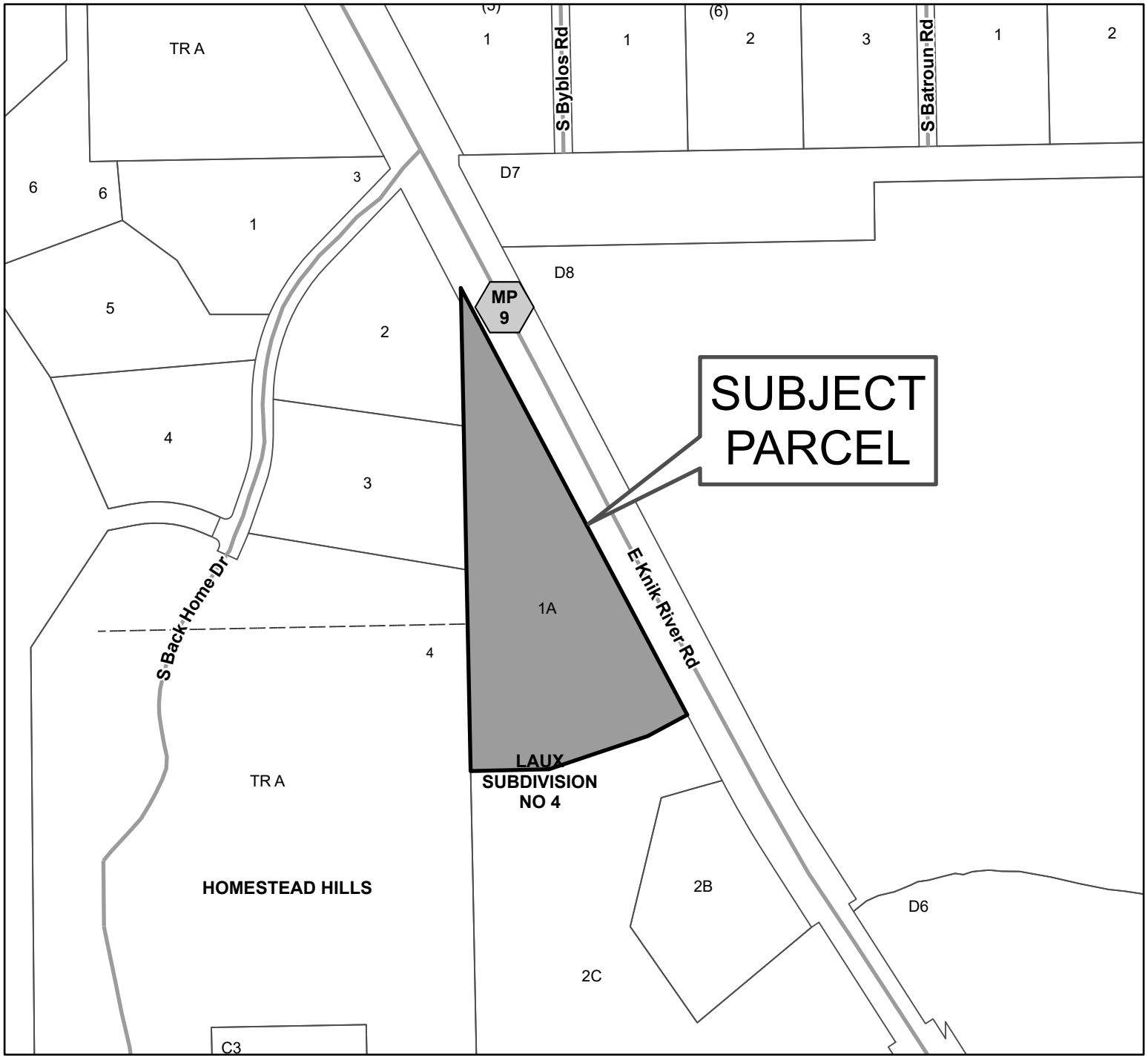

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Hunter Creek
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S Batroun Rd
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S Tripoli Rd


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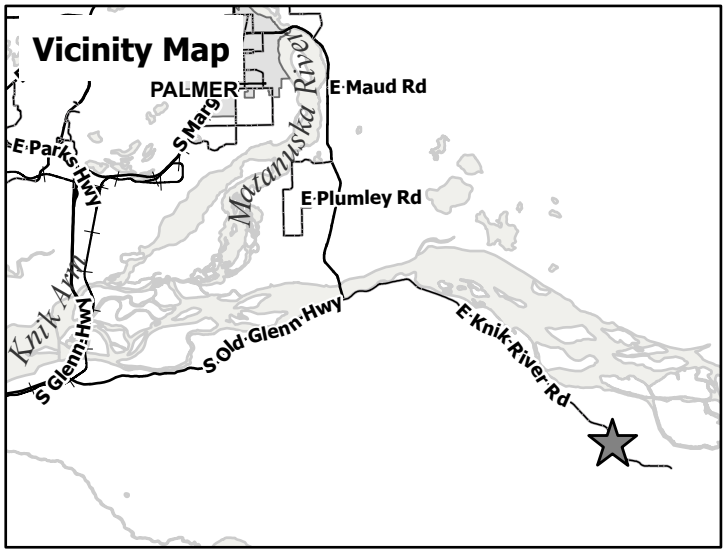

S Back Home
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28011
E Knik River Rd
30' UTILITY ESMT
Parcel 8274000L001A
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Public Notice



8274000L001A

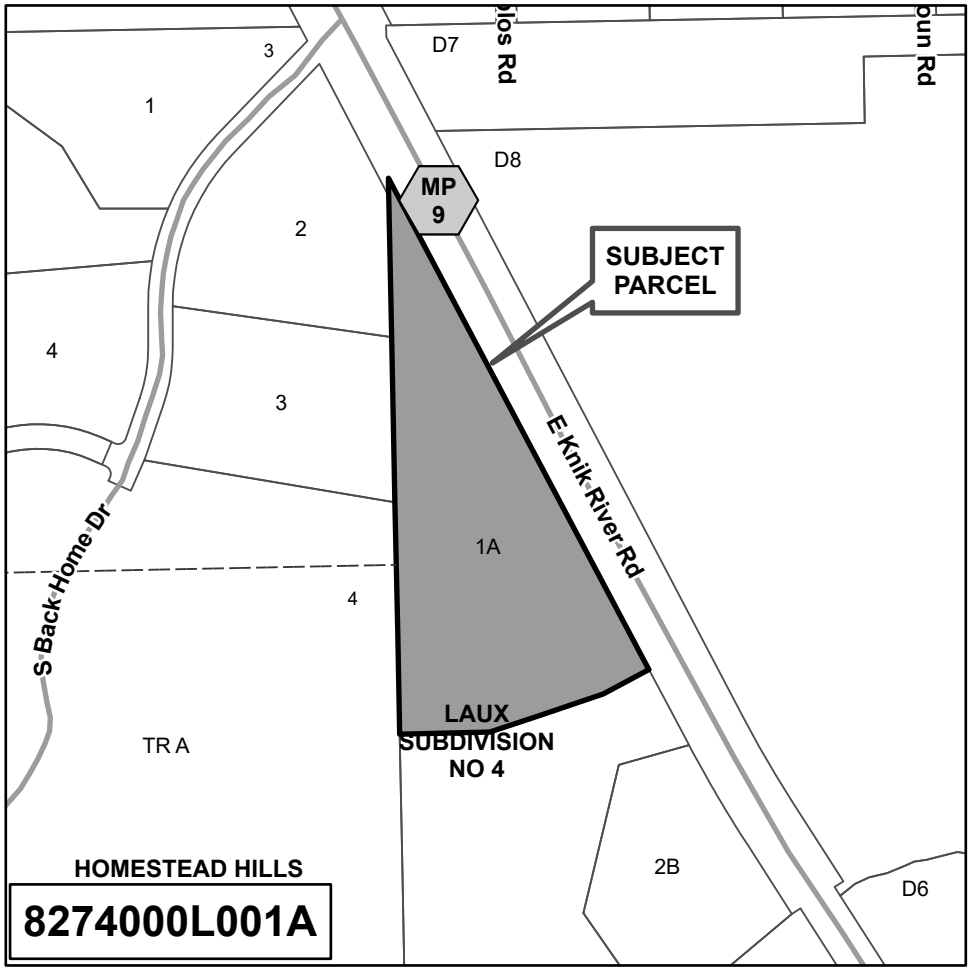


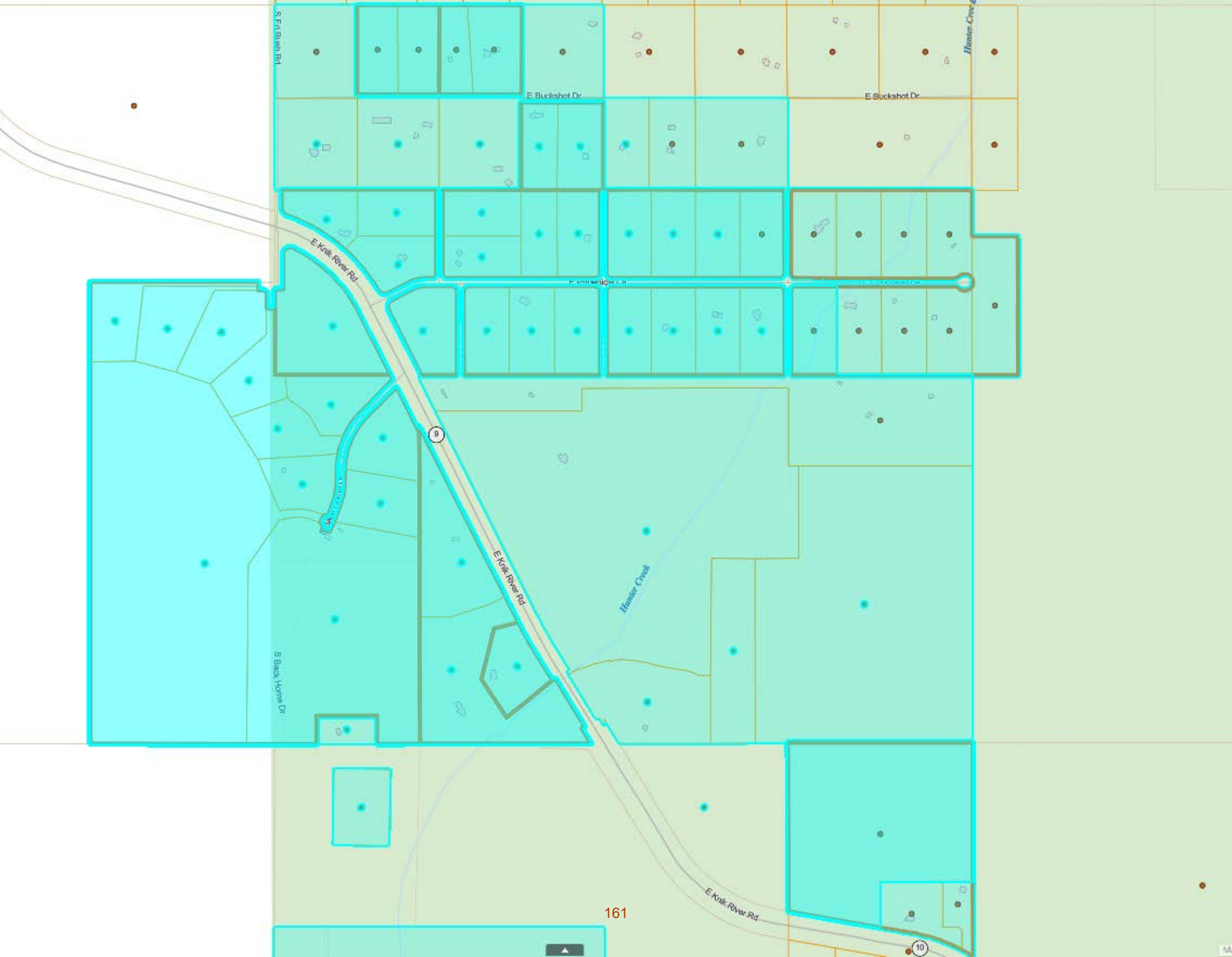
This map is for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.

N

MSB Information Technology/GIS
January 26, 2026

0 1,000 Feet


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E Knik River Rd
S Back Home Dr
HOMESTEAD HILLS
8274000L001A


S Fred Rieth Rd
E Buckshot Dr
E Buckshot Dr
E Knik River Rd
E Knik River Rd
Hunter Creek
S Back Home Dr
E Knik River Rd
9
10

UNITED STATES POSTAL SERVICE®

Certificate of Bulk Mailing – Domestic

Fee for Certificate

Up to 1,000 pieces (1 certificate for total number)

For each additional 1,000 pieces, or fraction thereof

Duplicate Copy ☐

Use Current Price List (Notice 123)

Postage: Mailers must affix meter, PC Postag or (uncanceled) postage stamps here in paym of total fee due.

US POSTAGE™ PITNEY BOWES
ZIP 99645 $ 013.50⁰
02 7W
0008035337 FEB 06 2026

Acceptance employee must cancel postage affixed (by round-date) at the time of mailing.

If payment of total fee due is being paid by Permit Imprint, include the *PostalOne!*® Transaction Number here: _____

Number of Identical Weight Pieces	Class of Mail	Postage for Each Mailpiece Paid	Number of Pieces to the Pound
51	1st	☐ Verified	45

Total Number of Pounds	Total Postage Paid for Mailpieces	Fee Paid
11b 1.1oz	37.74	$13.50

Mailed For	Mailed By
Permit Center	Betty Jean Black

USPS PALMER, AK 99645 FEB 6 2026

Postmaster's Certification

It is hereby certified that the number of mailpieces presented and the associated postage and fee were verified. This certificate does not provide evidence that a piece was mailed to a particular address.

(Postmaster or Designee)

PS Form **3606-D,** January 2016 PSN 7530-17-000-5548

See Reverse for Instructions

Instructions for Certificate of Bulk Mailing — Domestic Service

This service is available only at the time of mailing and is used to specify only the number of identical-weight pieces mailed; it does *not* provide evidence that a piece was mailed to a particular address. This certificate is available for domestic mailings of First-Class Mail®, First-Class Package Service®, Priority Mail®, USPS Retail Ground™, Media Mail®, Library Mail, Bound Printed Matter, Standard Mail® (excluding Customized MarketMail® and Marketing Parcels), and Parcel Select® (including Parcel Select Lightweight®) items.

1. Pay postage as appropriate — affix meter, PC Postage, or (uncanceled) postage stamps in payment of total fee due in the postage area, or if paying fee by permit imprint, enter information in the postage area at the top right of the form.

2. Present PS Form 3606-D and the mailing as follows:

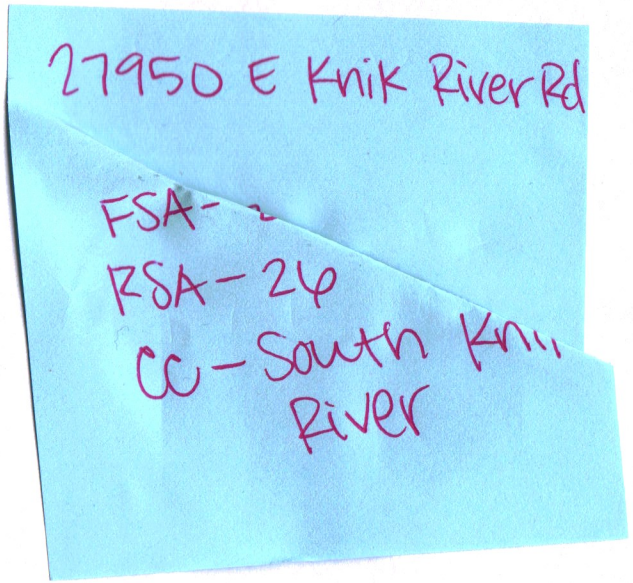
   - When the mailing has fewer than 50 mailpieces *and* less than 50 pounds, present the form and mailing at a retail Post Office™ location.
   - When the mailing has at least 50 mailpieces *or* at least 50 pounds, present the form and mailing at a business mail entry unit (BMEU) or USPS-authorized detached mail unit (DMU).

3. The Postal Service™ certifies and postmarks (round-dates) the PS Form 3606-D at the time of mailing and then returns it to the mailer as the mailer's receipt.

Certificate of Bulk Mailing — Domestic service does not provide a record of delivery, and the Postal Service does not retain any copies of PS Form 3606-D. The mailer cannot use PS Form 3606-D as a certificate of mailing for individual mailpieces or itemized lists.

#	Owner 1	Owner 2	Mailing Address Line 2	Mailing Address Line 1	Mailing Address City	Mailing Address State	Mailing Address Zipcode
1	APPLEBEE ROBERT E & ANN L			25311 E BUCKSHOT DR	PALMER	AK	99645-8206
2	ARVIDSON KEVIN			11561 S BACK HOME DR	PALMER	AK	99645-9578
3	BAKER ISAAC & ANGELA			28169 E KNIK RIVER RD	PALMER	AK	99645
4	BELLRINGER MARJORIE D	FREITAG JIM L		25655 E BUCKSHOT DR	PALMER	AK	99645
5	BLOOM JONAH & AMY			PO BOX 2046	PALMER	AK	99645
6	BOUSLAUGH RICKY A			PO BOX 203	PALMER	AK	99645
7	BOWERS JOSEPH B & MARGUERITE A			PO BOX 4146	PALMER	AK	99645-4146
8	BRATCHER ELISSA	MCALPINE TRAVIS	%AKA LISA R SOLARI	8753 E ADOBE CIR UNIT 12	PALMER	AK	99645-8355
9	BUNESS DALTON	HUTCHINGS MACKINZIE A	STE 3 PMB 413	1150 S COLONY WAY	PALMER	AK	99645-6972
10	CHIAVETTA CHRISTIAN J			11245 S NYSTROM WAY	PALMER	AK	99645
11	CICHOSZ JEFFREY A & WINNIE S			PO BOX 242554	ANCHORAGE	AK	99524-2554
12	COCKLE MARY ANN			25224 E BUCKSHOT DR	PALMER	AK	99645
13	DADOUN GABRIEL			25487 E BUCKSHOT DR	PALMER	AK	99645-8206
14	DOOLEY IAN S	MEYER ELVINA		11290 S NYSTROM WAY	PALMER	AK	99645-9266
15	EBERHARDT BERNARD J			PO BOX 682	PALMER	AK	99645-0682
16	ELKINS COLTON			27301 E KNIK RIVER RD	PALMER	AK	99645
17	FETTERMAN JAMES C II			25559 E BUCKSHOT DR	PALMER	AK	99645
18	FLOWERS JOHNATHAN W & AMY E			25980 E PHOENICIA CIR	PALMER	AK	99645
19	GAMRADT RAYMOND & KIRSTEN			761 S GULKANA ST	PALMER	AK	99645-6679
20	GEARY DOUG & NANCY			21846 WOOD PL	LEAD	SD	57754
21	GILPIN TYLER W			25920 E PHOENICIA CIR	PALMER	AK	99645
22	GRUBB RYAN & KRISTIN			PO BOX 2697	PALMER	AK	99645
23	HALPIN ROBERT R & KARIN			25530 E PHOENICIA CIR	PALMER	AK	99645
24	HANKINS JOSEPH			26086 E PHOENICIA CIR	PALMER	AK	99645
25	HENRY DONALD J JR& CAROLE			PO BOX 4400	PALMER	AK	99645-4400
26	JOHNSEN KEVIN D			25695 E PHOENICIA CIR	PALMER	AK	99645
27	KADUCE DANIEL B			7711 STEESE HWY	FAIRBANKS	AK	99712-1744
28	KILHEFFER JAMES F & KELLY V			11235 S BERUT RD	PALMER	AK	99645
29	LAUX JAS DORAN KAREN	LAUX PAUL J LAUX ELAINE LILLY RITA L TIL		4469 WILLIAMS VALLEY RD	CLAYTON	WA	99110-9745
30	LAUX PAUL J			27950 E KNIK RIVER RD	PALMER	AK	99645
31	LENA AMIR			9921 CHELATNA CIR	ANCHORAGE	AK	99515
32	LEONARD JOHN			25349 E BUCKSHOT DR	PALMER	AK	96645-8206
33	MOBLEY CHRISTOPHER ROBERT	MOBLEY KAREN LAWSON		11230 S BERUT RD	PALMER	AK	99645-8366
34	NORD AVRAM & JANNICKA			11157 S BERUT RD	PALMER	AK	99645
35	NYSTROM JOHN W & JULIE L			27638 E KNIK RIVER RD	PALMER	AK	99645
36	OSENTOSKI DAN		SPC 416	1200 W DIMOND BLVD	ANCHORAGE	AK	99515
37	PAHNKE LAURIE		PO BOX 117	58 ARMSTRONG CT	UNALASKA	AK	99685-0117
38	PHILLIPS FAMILY TR			PO BOX 2457	PALMER	AK	99645
39	PILGREEN JAMES J & ERIN C		STE 3 PMB 348	1150 S COLONY WAY	PALMER	AK	99645-6972
40	POWELL PAUL TRAVIS			109 W MERCER ST	SEATTLE	WA	98119
41	POWELL PAUL TRAVIS			4585 PRINCETON RD	HAMILTON	OH	45011
42	READ AMY E & READ JANET G	READ JOEL LYNN JR MULLINS LALLIE JILL		28883 E KNIK RIVER RD	PALMER	AK	99645
43	SAYER DENNIS J & KATHLEEN			25690 E BUCKSHOT DR	PALMER	AK	99645
44	SCHENKER ROBERT A	FILE MARCY L		PO BOX 520	PALMER	AK	99645-0520
45	SCHILLINGER MAX A & KRISTINE M			PO BOX 4207	PALMER	AK	99645
46	SIGSWORTH ANNE			25628 E BUCKSHOT DR	PALMER	AK	99645-8207
47	SPREHE BRIAN & MELANIE			11495 S BACK HOME DR	PALMER	AK	99645
48	STARK ROBERT G III & NICOLE A			25480 E BUCKSHOT DR	PALMER	AK	99645
49	WESLOW BRIAN J			PO BOX 4630	PALMER	AK	99645-4630

50	ZIEMKE IRREVOCABLE TR	PO BOX 1411	PALMER	AK	99645
51	SOUTH KNIK RIVER COMMUNITY COUNCIL	17958 E KNIK RIVER RD	PALMER	AK	99645



Becca Skjothaug

From: Jannicka Nord <jannickanord@gmail.com>
Sent: Thursday, February 12, 2026 12:58 PM
To: Becca Skjothaug
Subject: Telecommunications Tower at 27950 E Knik River Rd Tax ID#8274000L001A

[EXTERNAL EMAIL - CAUTION: Do not open unexpected attachments or links.]

Avram & Jannicka Nord
11157 S Berut Rd
Palmer, AK 99645
Cedars Block 2 Lot 2

To Whom It May Concern:

We are writing to formally protest the proposed building of a telecommunications tower in our area—27950 E Knik River Road, Tax ID# 8274000L001A. We do not want nor need a telecommunications tower out here. We moved to this area to get away from that. We are deeply concerned about the negative health impacts that these towers inflict upon the surrounding homes, people, and animals. We protest the building of these towers out in nature and request this permit to be denied.

Thank you for your time.

Respectfully,

Avram and Jannicka Nord



Matanuska-Susitna Borough

www.matsu.gov

MATANUSKA-SUSITNA BOROUGH
PLANNING COMMISSION
Regular Meeting Schedule for 2026

Planning Commission Regular Meetings

Planning Commission Meeting Date	Agenda Items Due Cut-Off Date 5 P.M.	Packet Items Due Cut-Off Date 5 P.M.
Monday, January 5, 2026	Friday, December 19, 2025	**Tuesday, December 23, 2025**
Monday, January 19, 2026	Friday, January 2, 2026	Wednesday, January 7, 2026
Monday, February 2, 2026	Friday, January 16, 2026	Wednesday, January 21, 2026
Monday, March 2, 2026	Friday, February 13, 2026	Wednesday, February 18, 2026
Monday, March 16, 2026	Friday, February 27, 2026	Wednesday, March 4, 2026
Monday, April 6, 2026	Friday, March 20, 2026	Wednesday, March 25, 2026
Monday, April 20, 2026	Friday, April 3, 2026	Wednesday, April 8, 2026
Monday, May 4, 2026	Friday, April 17, 2026	Wednesday, April 22, 2026
Monday, May 18, 2026	Friday, May 1, 2026	Wednesday, May 6, 2026
Monday, June 1, 2026	Friday, May 15, 2026	Wednesday, May 20, 2026
Monday, June 15, 2026	Friday, May 29, 2026	Wednesday, June 3, 2026
Monday, July 20, 2026	**Thursday, July 2, 2026**	Wednesday, July 8, 2026
Monday, August 3, 2026	Friday, July 17, 2026	Wednesday, July 22, 2026
Monday, August 17, 2026	Friday, July 31, 2026	Wednesday, August 5, 2026
Monday, September 14, 2026	Friday, August 28, 2026	Wednesday, September 2, 2026
Monday, October 5, 2026	Friday, September 18, 2026	Wednesday, September 23, 2026
Monday, October 19, 2026	Friday, October 2, 2026	Wednesday, October 7, 2026
Monday, November 16, 2026	Friday, October 30, 2026	Wednesday, November 4, 2026
Monday, December 7, 2026	Friday, November 13, 2026	Wednesday, November 18, 2026
Monday, December 21, 2026	Friday, November 27, 2026	Wednesday, December 2, 2026
Monday, January 4, 2027	Friday, December 18, 2026	Wednesday, December 23, 2026
Monday, January 18, 2027	Friday, January 1, 2027	Wednesday, January 6, 2027

Publish Date: February 6, 2026 0226-07

-ABANDONED VEHICLES SUBJECT TO DISPOSAL-

The following abandoned vehicles are subject to disposal by the Matanuska-Susitna Borough's Solid Waste Division. The vehicles were tagged as abandoned in the Matanuska-Susitna Borough right-of-way at the listed locations. You have the right to appeal pursuant to MSB 10.12.090.

Impound: 3264
Vehicle Description: 2001 Tan Nissan Altima **LIC:** LPG826
VIN: 1N4DL01D91C144002
MSB ROW Location: E Riverwood Circle, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

Impound: 3265
Vehicle Description: 1993 Gray Ford Probe **LIC:** CRL759
VIN: 1ZVCT20A6P5223405
MSB ROW Location: E Kilkenny Dr, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

Impound: 3268
Vehicle Description: 2011 White GMC Sierra **LIC:** MCA294
VIN: 1GT12ZC86BF243140
MSB ROW Location: Finger Cove Dr, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

The vehicles will be disposed of by auction or auto wrecker on or after March 1, 2026.

FOR MORE INFORMATION, call the MSB Solid Waste Division at (907) 861-7600.

Publish Date: February 6, 2026 0226-08

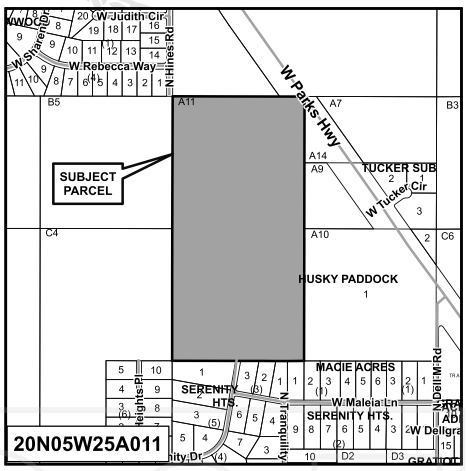
ASSEMBLY AGENDA
COTTONWOOD PUBLIC SAFETY BUILDING
STATION 6-5
680 NORTH SEWARD MERIDIAN PARKWAY, WASILLA

ASSEMBLY SPECIAL MEETING 10:00 AM SATURDAY, FEBRUARY 14, 2026

I. CALL TO ORDER
II. ROLL CALL
III. APPROVAL OF AGENDA
IV. PLEDGE OF ALLEGIANCE
V. ITEMS OF BUSINESS
A. Strategic Planning Session
VI. AUDIENCE PARTICIPATION (Three Minutes Per Person.)
VII. MAYOR, ASSEMBLY, AND STAFF COMMENT
VIII. ADJOURNMENT

Disabled Persons Needing Reasonable Accommodation In Order To Participate At An Assembly Meeting Should Contact The Borough ADA Coordinator At 861-8432 At Least One Week In Advance Of The Meeting.

Publish Date: February 6, 2026 0226-13



PUBLIC HEARING

Strumpher, Helmundt, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 125-foot telecommunications tower located at 36596 W Parks Hwy, Tax ID# 20N05W25A011.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2026,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-09



PUBLIC HEARING

Justin Abbott, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 120-foot telecommunications tower located at 3600 E. Bogard Road, Tax ID# 2327B01L004.

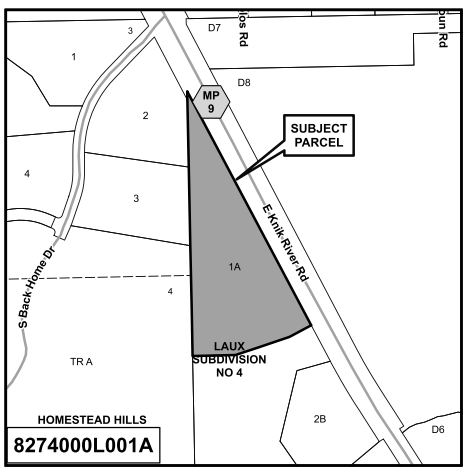
The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2025,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-10



PUBLIC HEARING

Strumpher, Helmundt, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 125-foot telecommunications tower located at 27950 E Knik River Rd, Tax ID# 8274000L001A.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2026,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-11

Edna DeVries, Mayor (907) 861-8682 - Work (907) 795-8133 - Cell Edna.DeVries@matsugov.us
Michael Bowles, #1 (907) 355-1355 Michael.Bowles@matsugov.us
Stephanie Nowers, #2 (907) 831-6299 StephanieNowersDistrict2@gmail.com
Dee McKee, #3 (907) 315-2802 Dee.McKee@matsugov.us
Maxwell Sumner, #4 (907) 232-6797 Maxwell.Sumner@matsugov.us
Bill Gamble, #5 (907) 232-0103 Bill.Gamble@matsugov.us
Dmitri Fonov, #6 (907) 861-8546 fonov@matsugov.us
Ron Bernier, #7 (907) 354-7877 Ron.Bernier@matsugov.us

To see a complete listing of all boards and commissions, please go to **http://www.matsu.gov/boards** and select the type of board you are wanting to view.

Communications

Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Perfect, thank you for the update!

I also wanted to check on the Talkeetna project and see if there was any feedback on that review? Also I understand if the timing does not allow for it but would that also be able to grouped into the Feb 26th meeting?

Please let me know, thanks!

Best,

Parker

On Mon, Feb 2, 2026 at 10:37 AM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker,
>
> I was able to schedule a hearing on February 26, at 9:00 am Alaska time. I will be working through the public notice documents today and will send you the details of the meeting tomorrow.
>
> Happy Monday!
>
> ***Becca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Monday, February 2, 2026 6:16 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Becca,

Just wanted to check in this week and see if you had any updates regarding the public hearing dates? Thanks!

Best,

Parker

On Tue, Jan 27, 2026 at 12:25 PM Parker Bingham <pbingham@atlastowers.com> wrote:

> Thank you Becca for the update!
>
> On Tue, Jan 27, 2026 at 12:11 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:
>
> > Hi Parker,
> >
> > Just wanted to chime in really quick and give you an update on our end. Public notice documents are ready to be submitted to our local newspaper for Palmer and Willow, I am just waiting on a confirmation from the Planning Director for the public hearing date. Natasha and I planned on doing site visits to all three locations this week, unfortunately we have received about a foot of snow over

the last day, and it continues. Once the roads are safe, we will be doing our site visits. I will keep you posted about the public hearing date for Palmer and Willow.

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, January 27, 2026 10:05 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>
Cc: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Natasha,

I have uploaded the sealed site drawings to the folder link. Please let me know if that is sufficient to deem the application complete. I have also sent in our driveway permit as requested.

Can you please also provide an update on the Talkeetna application? Thanks!

Best,

Parker

On Tue, Jan 20, 2026 at 1:52 PM Parker Bingham <pbingham@atlastowers.com> wrote:

Thank you very much for the update!

On Tue, Jan 20, 2026 at 1:51 PM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

Hi Parker,

Yes the application for the tower on University of Alaska land was received and is being reviewed.

We will have an update to you this week on the status.

Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, January 20, 2026 11:21 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Thank you for the update!

We can get the plans certified and I will apply for the driveway permit promptly. I also wanted to check on the status of an additional permit application that was sent 12/12/25 and see if it was received? It is for another communications tower on land owned by the University of Alaska. Please let me know if that is received and in review or if I need to apply online. Thanks!

Best,

Parker

On Tue, Jan 20, 2026 at 10:49 AM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> Just wanted to reach back out about the Willow tower application. The site plan will need to be certified before the application is considered complete. Also, you will need to apply for a driveway permit through the Borough for access to the parcel from Serenity Drive. The driveway permit can just be applied for and does not have to be issued for the tower application to move to the next phase. Just the site plan certification is holding it up.
>
> Let me know if you have any question.
>
> ***Becca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862
>
> 
>

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, January 13, 2026 10:27 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>

Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Becca,

This is great, thanks for letting me know! As a side note regarding the access easement, we are getting that recorded with the state. It has been sent out so should just be a few weeks on that.

Also, I just want to confirm that this is just for the Palmer project on Mr. Laux's property that is moving into public notice. Is the Willow project on Mr. Jonrowe's property also complete and able to move forward or did you still need additional information? Please let me know, and if possible to schedule Palmer and Willow together for one meeting that would be fantastic. Let me know what you think.

Otherwise, I'm more than happy to attend virtually. Would this meeting take place before or after the public notice? Let me know and based on that I can provide you with preferred dates. Thanks!

Best,

Parker

On Tue, Jan 13, 2026 at 12:21 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> I have reviewed all the information provided, and it looks good. I am going to begin the public notice process. This process usually takes around 8-10 weeks to receive a complete permit. Our public administrative meetings are scheduled with the director who is the governing official over this matter. He has a little bit of flexibility when it comes to scheduling a meeting. It is requested that you call into the meeting to represent Atlas, you do not have to be available in person. Is there a date and time that is preferred?

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, December 30, 2025 5:45 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Becca,

I hope you had a nice holiday break. Please find the updated Palmer drawings that include the requested measurements. I have also added them to the google drive folder.

Please let me know if you have any questions or need anything else to continue this review. Thank you!

https://drive.google.com/drive/folders/1vdhnEyHKejUvis7qyspORDjnc98T1gLv?usp=sharing

Best,

Parker

On Mon, Dec 22, 2025 at 9:24 AM Parker Bingham <pbingham@atlastowers.com> wrote:

Hi Becca,

Please find the access easement attached below that we have with the neighboring parcel. As shown, we will be utilizing their driveway to access the southern portion of Mr. Laux's parcel. Additionally I have included documentation from the neighbor for the approved access via E Knik river rd. If you need anything else to show this, please let me know. The neighbor is also searching for the actual AK DOT permit but as shown below the plat was approved with the notion that this driveway access was included.

The drawings are still being updated to show the entire parcel and the requested measurements. If you'll be needing anything else for this, please let me know!

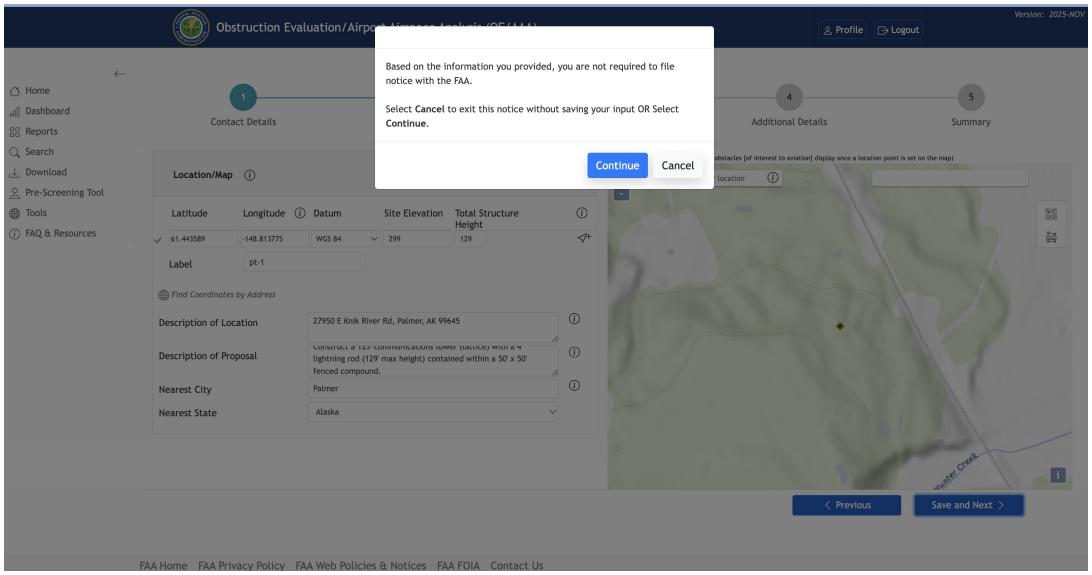
Thank you!

Best,

Parker

On Fri, Dec 12, 2025 at 8:16 AM Parker Bingham <pbingham@atlastowers.com> wrote:

> Hi Becca,
>
> I'll work on getting these updates incorporated, thank you for pointing those out.
>
> In regards to the driveway access, we are obtaining the recorded copy of the private easement we have with the neighboring land owner. We'll also supply the AK DOT permit once I've received that as well.
>
> Regarding the FAA, I have attached below the filing for the new location and it is in review. Additionally, if it helps, I have included a screenshot from the FAA system noting that this location (based on the lat/longs provided) does not require FAA study. But regardless we have filed notice with them and can supply a determination when we receive one.



Ill get everything else prepared for you and sent over when I can. Thank you!

Best,

Parker

On Tue, Dec 9, 2025 at 2:15 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> After reviewing the stamped documents, I have some concerns regarding the materials submitted. Since the initial application, the site plan has changed significantly. While revisions are acceptable, the updated plan no longer meets the application requirements. The revised site plan must address the entire parcel and clearly show distances to all existing structures, utility easements, and the adjacent roadway.
>
> I am also concerned about the proposed access route to the tower location. The access shown appears to cross private property and a private driveway that is not owned by the subject parcel's owner. This is not permissible without a recorded private access easement agreement. In addition, driveway access from Alaska DOT requires proper permitting. I will need documentation confirming that Alaska DOT has approved access from E. Knik River Drive.

Another preliminary concern is the FFA document longitude and latitude do not match the site plan. Please make sure all of the documents have corroborating information for review.

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Monday, December 8, 2025 6:33 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Becca and Natasha,

I wanted to follow up and see if it was possible to get a review date set this month? Please let me know what options we have or the soonest we could do this if you have the required documents. Thank you!

Best,

Parker

On Tue, Dec 2, 2025 at 12:35 PM Parker Bingham <pbingham@atlastowers.com> wrote:

Thank you Becca!

I just recieved Palmer's stamped drawings which I have uploaded to the google folder. Please let me know if it meets your requirements.

Zoning Packets - Atlas Tower

As for Willow, I do also now have the tower drawings and calculations, uploaded to the google folder.

Please let me know if there is anything else you need from me in order to start looking into final reviews and hearing dates.

I know its a tight timeline, but at the request of GCI we would like to get a hearing date set in 2025 so we can be ready to go in 2026. If this is at all possible, potentially with a conditional approval, please let me know as I would be available to make the visit for a hearing this month. Thank you for your understanding on this and hopefully we can get something in, or at the very least in early Jan. Thank you!

Best,

Parker

On Wed, Nov 26, 2025 at 1:15 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> Happy Thanksgiving. I was reviewing the file for the proposed tower in Palmer. The documents look good so far, except the site plan needs to be certified.

As per MSB 17.125.010 a *"certified site plan": means a site plan that is prepared and sealed by an architect, professional engineer, or land surveyor, authorized to engage in that profession by the state of Alaska.*

The site plan submitted is indicated as only preliminary and from a company in Colorado. This will not meet MSB standards.

Please let me know how I can help assist you further.

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, November 18, 2025 11:38 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Rebecca and Natasha,

I wanted to check in on these sites, especially Palmer, and see if there was any feedback? If possible we would like to get a zoning hearing date set this year. Can you please advise on this, what you would need, and how that may look? Thank you!

Best,

Parker

On Tue, Nov 4, 2025 at 2:40 PM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Thank you, Parker. I will look into that tomorrow! Have a great day.
>
> *Rebecca Skjothaug*
>
> *Current Planner*
>
> Desk Phone (907)861-7862
>
> **From:** Parker Bingham <pbingham@atlastowers.com>
> **Sent:** Tuesday, November 4, 2025 11:51 AM
> **To:** Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
> **Cc:** Natasha Heindel <Natasha.Heindel@matsugov.us>
> **Subject:** Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039
>
> [**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
>
> Hello Rebecca,
>
> Just wanted to let you know that I have uploaded the latest site plans for Palmer on that link I had shared. I'll let you know once we receive more on these, thanks!
>
> Best,

Parker

On Fri, Oct 24, 2025 at 9:44 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker,
>
> I apologize for my delay in responding, I was in training this week. As far as the property in Palmer is concerned this will not require any resubmittal of the entire plan. Most of the information would remain the same outside of the specified area that the tower will be located. If the site plans are updated to reflect the approved placement of the tower that would be sufficient.
>
> I will be happy to get with finance today and provide an update regarding the checks. If it is easier, we can invoice you through our EPL website and the application can be paid online. Please let us know if that would be of interest for you.
>
> Happy Friday!
>
> ***Rebecca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Friday, October 24, 2025 6:54 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>
Cc: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Natasha,

I wanted to further update you on our site developments. We had some conversations with our construction team regarding the viability of the tower placement for the Palmer - Paul Laux site. As of now, we are looking into shifting the placement on Pauls property. We're being cognizant of setbacks in this regard but we are still finalizing that shift and updating our site plans.

At this point we will need to resubmit a bulk of the documents for this site so I wanted to let you know so you don't spend more time on it.

Would you please advise if this would require a resubmittal entirely, or how we should proceed? I was also informed by our finance team that both of the checks for review you received were not cashed yet, so they expired. We will need to resend so please advise if you'd like those now or later. Thanks!

Best,

Parker

On Thu, Oct 16, 2025 at 7:07 PM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

> Hi Parker,
>
> Thank you for the updated documents.
>
> We will be in touch as we review the updated materials.
>
> Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Wednesday, October 15, 2025 7:35 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>
Cc: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Natasha,

Please use this link to access the files. Also I had thought we had our Willow tower drawings finished but those will still take another week or two.

Zoning Packets - Atlas Tower

I'll let you know once I have added those and any driveway permits. Thanks!

Best,

Parker

On Fri, Oct 10, 2025 at 3:36 PM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

> Hello Parker,
>
> Good to hear from you. Thank you for the update, and yes please!
>
> Please send any updated information you have for the proposed towers. If it is indeed just the driveway permit that is outstanding, it's possible that it can be a condition of approval prior to operating.
>
> Once we receive and review the updated materials we can confirm if it is appropriate to move forward with scheduling hearing dates and get something on the books.
>
> Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Friday, October 10, 2025 8:18 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>; Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Natasha and Rebecca,

I hope you have been well since we last spoke. I wanted to provide you with some updates on these sites and let you know that we are still pursuing these two permits for the Palmer and Willow towers. I apologize for the long time to get these materials aligned for these, but we are 99% there. We have received our tower drawings and updated plans, as well as addressed the concerns brought up in the RFAI.

At this point, the only item we are lacking are applicable driveway permits. This has been a struggle, as AK DOT is rolling out a new system and the current one has some issues. This has delayed these permits being processed and issued. We are working on getting these, but I wanted to see if it was possible to send along everything else we have on these projects and request that the driveway permits are listed as a conditional requirement before any permit issuance.

Ideally we would like to get these reviewed, pending the driveway permits, and get a date set for the Hearings. In the meantime we will continue to push AK DOT for what we need. I just wanted to see if this was a possibility to keep these moving along. Thanks!

Please let me know if there are any questions!

Best,

Parker

On Tue, Aug 19, 2025 at 11:58 AM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

> Hello Parker & Helmundt,
>
> Please see the attached request for outstanding items needed to progress with the tower permit.
>
> The application only indicated Helmundt's email as a contact. In the future, you are welcome to include as many contacts as needed.

Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Natasha Heindel
Sent: Wednesday, July 9, 2025 4:40 PM
To: hstrumpher@atlastowers.com
Subject: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

Hello Helmundt,

Thank you for submitting your recent application for an administrative Tall Structure permit.

Upon initial review, there are some items needing correction prior to application acceptance; please see the attached “Request for Additional Information”.

Please let us know if there are any items we can clarify together.

Talk to you soon,

Natasha Heindel

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Friday, July 25, 2025 9:06 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Rebecca,

Could you please confirm that this was what you found for **29750 E. Knik River Road**, Tax ID #8274000L001A? The Bogard road and creekview drive locations you reference appear as 20 miles away from our site.

Please advise, thank you!

Best,

Parker

On Fri, Jul 25, 2025 at 10:49 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker.
>
> Thank you for your patience, I wanted to ensure that I was able to obtain the correct information for you. Alaska DOT does require a driveway permit. It is possible that the owner was not provided one when acquiring the property, but it is possible to gather that information by calling 907-269-0700.
>
> After doing some research, there is some extensive upgrades to the Bogard Road and Seward Meridian at the intersection of 3600 E Bogard. From information that I have gathered around our office that driveway could potentially be closed because the intersection will be moved over. It would be worth while to confirming that with ADOT. Here is a link to a brief project description https://dot.alaska.gov/creg/seward-meridian/.

Good news, the property does have a driveway permit that is in process off Creekview Drive. I would suggest indicating in your narrative that the driveway from Creekview will be used instead of Bogard.

Rebecca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Thursday, July 24, 2025 7:35 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Rebecca,

Were you able to track down any more information on this? Thanks!

Best,

Parker

On Wed, Jul 23, 2025 at 10:10 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning Parker,

I will follow up on this question with someone who has a little more experience in driveway permitting. I can provide an answer by the end of the day!

Rebecca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, July 22, 2025 6:24 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Rebecca,

I am finalizing on getting you the requested items for the application and had a quick question regarding the driveway permit.

The land owner says that when he bought the property, AK state was the one responsible for installing the existing driveway/approach. They never provided him with a permit, nor told him it would be required. I wanted to check and see if this parcel was perhaps grandfathered in before permitting, or something similar?

Of course, we are happy to get that driveway permit, I just wanted to see if there was any knowledge of exceptions due to state installations. Thank you!

Best,

Parker

On Wed, Jul 9, 2025 at 6:21 PM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> My sincere apologies, please refer to the attached document dated 7-9-25. I attached the wrong file before.
>
> Thank you for understanding.
>
> *Rebecca Skjothaug*
>
> *Current Planner*
>
> Desk Phone (907)861-7862
>
> 
>
>
> ---
>
> **From:** Parker Bingham <pbingham@atlastowers.com>
> **Sent:** Wednesday, July 9, 2025 12:26 PM
> **To:** Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
> **Subject:** Re: Tall Tower Applications - Atlas Tower
>
> [**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
>
> Sounds good, thanks for the clarification and confirmation!
>
> Best,
>
> Parker

On Wed, Jul 9, 2025 at 9:58 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker,
>
> Thank you for the information regarding the application and not being able to view progress in Civic Access. It is a new system, and we are working through all the IT glitches still. This is very important feedback. To my dislike, the new system will not allow for direct communications to the applicants. At this point we will be communicating directly with you through email. I will be processing **TOWER-2025-010038**, and my colleague Natasha Heindel will be processing the other.
>
> I do have and RFAI for you regarding 27950 E. Knik River Rd; I am going to proofread it one last time and will send the information by lunch today. 😊 Happy to help move process forward.
>
> Thank you,
>
> ***Rebecca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Wednesday, July 9, 2025 5:47 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Rebecca,

My name is Parker with Atlas Tower and I am helping Helmundt out with getting our project through zoning. About two weeks ago, he forwarded me a message from you saying that you had received our application for **27950 E. Knik River Road**. Our permit number is **TOWER-2025-010038.**

I attempted to access our application through the portal, inputting the permit number, but it did not show up. Do we have to wait for the first round of comments before we can view?

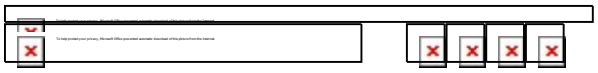
I wanted to also check and see if your office received a second application for a tall structure, for **36596 W Parks Hwy**? They were both mailed out at the same time.

Thanks for checking on this for me, let me know if you have any questions!

Best,

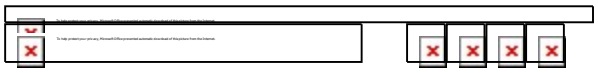
--

Parker Bingham
Project Manager
(916) 505-1017
pbingham@atlastowers.com
www.atlastowers.com
2500 30th St. Ste 304, Boulder, CO 80301



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Project Manager
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PUBLIC HEARING

An Administrative Permit In Accordance With MSB 17.67 – Tall Structures Including Telecommunication Facilities, Wind Energy Conversion Systems, and Other Tall Structures, For A Cell Tower Located at 36956 W Parks Hwy, Tax ID# 20N05W25A011. (Strumpher, Helmundt, on behalf of ATLAS; Staff: Rebecca Skjothaug, Current Planner)

Staff Report

LAND USE

Existing Land Use:
The subject parcel at 36956 W Parks Hwy, Tax ID# 20N05W25A011 is a large tract of 80 acres. The parcel is primarily used for owner outdoor recreation and contains no structures within 80 acres. The subject parcel is completely covered with natural tree vegetation and existing foliage. The subject parcel has a driveway permit application (DRIVE-2026-033051) for access to the parcel off Serenity Dr.

Surrounding Land Use:
The surrounding pattern along this stretch of Parks Highway is primarily rural, low-density residential with scattered commercial/utility uses and large acreage tracts. Nearby parcels include private residential, outdoor recreation, and rural tracts on/near Parks Hwy, plus at least one nearby commercial use. This combination is typical of a highway frontage rural area where homes on large lots, minimal commercial uses, and utility infrastructure along the primary northern transportation route.

REVIEW OF APPLICABLE CRITERIA AND FINDINGS

MSB 17.03 – Public Notification
The public notice mailed 121 notices to all property owners within approximately ½ mile radius of the subject property and to RSA (20), FSA (40) and North Lakes Community Council on February 6, 2026. The Frontiersman published the public hearing announcement in the February 6, 2026, edition. Staff posted the application material on the Borough website for public review on February 26, 2026. Staff received four responses from the public opposing the proposed tower.

Section 17.67.040 Types of Permits Available

(A) There are three types of permits available for tall structures:

(1) Administrative permit: new tall structures that are greater than 85 feet but less than or equal to 125 feet. The applicant may request that the decision on an administrative permit be made by the planning commission. The request shall be in writing at the time of application and all requirements for a conditional use permit shall be followed.

(2) Conditional use permit: new tall structures greater than 125 feet; or tall structures that exceed the height threshold at which a conditional use permit within a special land use district is required.

(3) Network improvement permit: allows legally constructed telecommunication towers to be increased in height in accordance with MSB 17.67.110.

Findings of Fact:

1. According to the application material, the proposed tall structure will be a 125-foot-tall, lattice tower telecommunications tower.
2. The applicant has not requested that the Planning Commission decide on this Administrative Permit application.

Conclusion of Law: Based on the above findings, the proposed use meets the criteria to qualify for an Administrative Permit for the construction of a 125-foot-tall structure (MSB 17.67.040(A)(1)).

Section 17.60.080 Standards for Approval of New Tall Structures

(A) A permit for a new tall structure may only be approved if it meets the requirements of this section in addition to any other applicable standards required by this chapter.

(B) In granting or denying a permit, the commission or director shall make findings on whether the applicant has demonstrated that:

(1) To the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized;

Findings of Fact:

1. According to the application material, the proposed tall structure equipment compound will be located approximately 150 feet from the eastern property line, 1,200 feet from the southern property line, 1,400 feet from the northern property line, and 1,180 feet from the western property line.
2. The subject parcel is privately-owned, undeveloped and approximately 80 acres in size, and is situated in an unincorporated area of the Matanuska-Susitna Borough.
3. According to the application materials the base of the equipment compound will not be located near any structures due to the property being undeveloped.
4. The closest residential structure to beyond the property is approximately 1,300 feet from the proposed tower.
5. All other residential structures are greater than 1,300 feet from the proposed tower.
6. Adjacent parcels to the north, east, south, and west range in size from approximately .92 to 60 acres and are single family residential, commercial or undeveloped.
7. Private residential Duncan, Peter W & Joyce own the adjacent parcel to the northwest.
8. Private residential Thomas, Dan'l & Laura J W own the adjacent parcel to the west.
9. Private residential subdivision abuts the property to the south; parcels range in size from approximately 1 to 2 acres.
10. Private residential Owen Dawna Leigh Family Rev. Trust owns the adjacent parcel to the southeast.
11. Willow Creek Self Storage LLC, commercial business, owns the property to the east.
12. Willow Creek Self Storage LLC, storage structures are an estimated 170 feet from the proposed base of the tower.
13. Nightingale Goods LLC owns the property to the northeast.
14. West Parks Highway is approximately 910 feet from the proposed tower location.
15. The subject parcel is between mile marker 73 and 74 on the West Parks Highway.
16. The tower location is proposed to be located towards the center of the 80-acre parcel 150 feet from the eastern side lot line.

Conclusion of Law: Based on the above findings, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized (MSB 17.67.080(B)(1)).

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(2) Visibility of the tall structure from public parks, trails recognized within adopted borough plans, and water bodies has been minimized to the extent that is technically feasible and potentially available;

Findings of Fact:

1. According to the application the proposed tower location is approximately .5 miles from AK08 – Thomas Airstrip.
2. According to the application materials, Willow Trail Committee maintains a vast network of Dog Mushing trails located to the east and southeast of the subject parcel with its closest trail approximately .77 miles from the base of the tower.
3. According to the application Lucky Shot Trail head is approximately 2 miles southwest from the proposed tower location. Luck Shot Trail connects to a larger network of Willow Creek Recreation Area.
4. According to the application materials the closest waterbody, Little Willow Creek, to the proposed tower location is approximately 1 mile.
5. According to the application materials, all other waterbodies exceed 1.5 miles from the proposed tower location.
6. West Parks Highway is approximately 910 feet from the proposed tower location.
7. The subject parcel is between mile marker 73 and 74 on the West Parks Highway.
8. Site visit photos indicate that a few surrounding parcel owners may have limited visibility to the proposed tower depending on the time of year and foliage coverage from the existing tree line.
9. The tower location would be on the eastern part of the parcel within the existing tree lines, minimizing the visual impacts on the surrounding parcels.

Conclusion of Law: Based on the above findings, the proposed tall structures' visibility from public parks and trails has been minimized (MSB 17.67.080(B)(2)).

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(3) The tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the borough's regional aviation system plan or by the Alaska State Aviation System Plan; and

Findings of Fact:

1. According to the application the proposed tower location is approximately .5 miles from AK08 – Thomas Airstrip.
2. According to the Regional Aviation System Plan there are over 200 private airstrips in the Matanuska-Susitna Borough (RASP 2017).

Conclusion of Law: Based on the above findings, the proposed tall structure will not interfere with the approaches to any existing airport or airfield (MSB 17.67.080(B)(3)).

(4) Granting the permit will not be harmful to the public health, safety, convenience, and welfare.

Findings of Fact:

1. The subject parcel is privately-owned, undeveloped and approximately 80 acres in size, and is situated in an unincorporated area of the Matanuska-Susitna Borough.
2. During public comment period staff received concern from the public about potential health implications from radio frequency.
3. According to the application material, the proposed tall structure equipment compound will be located approximately 150 feet from the eastern property line, 1,200 feet from the southern property line, 1,400 feet from the northern property line, and 1,180 feet from the western property line.
4. According to the application materials the base of the equipment compound will not be located near any structures due to the property being undeveloped.
5. The closest residential structure to beyond the property is approximately 1,300 feet from the proposed tower.
6. All other residential structures are greater than 1,300 feet from the proposed tower.
7. Adjacent parcels to the north, east, south, and west range in size from approximately .92 to 60 acres and are single family residential, commercial or undeveloped.
8. Access to the equipment compound is secured by an eight-foot external fence.
9. According to the application material, the proposed tower is located within an eight-foot-tall chain link fence.
10. According to the application material, the gate providing access to the equipment compound will be secured by chain link fence.
11. The applicant submitted site plans for the proposed tower and compound, which contains certified drawings from Adam M. Amortnont, an Alaska Registered Structural Engineer.
12. The applicant submitted structural design criteria for the proposed tower by Adam M. Amortnont, an Alaska Registered Structural Engineer with NELLO, indicating the tower can sustain basic wind speeds of 120 mph or 60 mph with a ½ inch radial ice build-up.
13. Private residential Duncan, Peter W & Joyce own the adjacent parcel to the northwest.
14. Private residential Thomas, Dan'l & Laura J W own the adjacent parcel to the west.
15. Private residential subdivision abuts the property to the south; parcels range in size from approximately 1 to 2 acres.
16. Private residential Owen Dawna Leigh Family Rev. Trust owns the adjacent parcel to the southeast.
17. Willow Creek Self Storage LLC, commercial business, owns the property to the east.
18. Willow Creek Self Storage LLC, storage structures are an estimated 170 feet from the proposed base of the tower.

19. Nightingale Goods LLC owns the property to the northeast.
20. The subject parcel is between mile marker 73 and 74 on the West Parks Highway.
21. According. to the application material, the proposed tower will expand coverage and improve cellular and data performance in the area.
22. The applicant provided information obtained from the Federal Aviation Administration's (FAA) online Notice Criteria Tool indicating that the proposed tower does not require a determination of no hazard to air navigation because it does not exceed thresholds requiring notice to the FAA.
23. According to the application material, the FAA does not require lighting on the proposed tower.
24. The applicant submitted documentation demonstrating that the Federal Communications Commission (FCC) has approved the proposed telecommunications tower at the location identified in the application material.

Discussion: Staff received one comment opposing the proposed tower from a residential property approximately .5 miles away. The residents noted their objection to the proposed tower due to its potential to negatively affect property values and expose the public to Radiofrequency (RF) Electromagnetic Radiation (EMR). This public comment also highlighted the Ancient Tree Subdivision Covenants.

The United States Congress adopted the Telecommunications Act of 1996 (TA96), which requires cellular towers to comply with the Federal Communication Commission (FCC) health and safety standards for RF-EMR emissions. TA96 also preempts local governments from making zoning and land use decisions based on the environmental effects of RF-EMF emissions. As such, this review does not contemplate the potential environmental effects of electromagnetic radiation. In addition, there is no evidence to support that the proposed tower will negatively affect surrounding property values.

Conclusion of Law: Based on the above findings, and with conditions, the proposed tower will not be harmful to public health, safety, convenience, and welfare (MSB 17.60.080(B)(4)).

Section 17.67.090 Operation Standards for New Tall Structures

(A) The following setback requirements shall apply to all new telecommunications towers regulated under this chapter:

(1) The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55.

Findings of Fact:

1. The subject parcel is privately-owned, undeveloped and approximately 80.00 acres in size, and is situated in an unincorporated area of the Matanuska-Susitna Borough.
2. According to the application material, the proposed tall structure equipment compound will be located approximately 150 feet from the eastern property line, 1,200 feet from the southern property line, 1,400 feet from the northern property line, and 1,180 feet from the western property line.

3. Willow Creek Self Storage LLC, storage structures are an estimated 170 feet from the proposed base of the tower.
4. According to the application material, the proposed tower and compound will be within a 50’ x 50’ leased area on the subject property.

Conclusion of Law: Based on the above findings, and with conditions, the proposed equipment compound meets the minimum setback distances from all property lines in accordance with MSB 17.55 (MSB 17.67.090(A)(1)).

---

(2) Minimum setback for the tower base shall be a distance equal to the height of the tower.

(a) The commission, or director if it is an administrative permit, may reduce the setback to a distance less than the height of the tower, if the applicant demonstrates there is no risk to public health, safety, or welfare of adjacent property owners.

Findings of Fact:

1. The subject parcel is privately-owned, undeveloped and approximately 80 acres in size, and is situated in an unincorporated area of the Matanuska-Susitna Borough.
2. During public comment period staff received concern from the public about potential health implications from radio frequency.
3. According to the application material, the proposed tall structure equipment compound will be located approximately 150 feet from the eastern property line, 1,200 feet from the southern property line, 1,400 feet from the northern property line, and 1,180 feet from the western property line.
4. According to the application materials the base of the equipment compound will not be located near any structures due to the property being undeveloped.
5. The closest residential structure to beyond the property is approximately 1,300 feet from the proposed tower.
6. All other residential structures are greater than 1,300 feet from the proposed tower.
7. Willow Creek Self Storage LLC, storage structures are an estimated 170 feet from the proposed base of the tower.
8. The subject parcel has a driveway permit application (DRIVE-2026-033051) for access to the parcel off Serenity Dr.
9. Access to the equipment compound is secured by an eight-foot external fence.
10. According to the application material, the proposed tower is located within an eight-foot-tall secure and fenced area.
11. According to the application material, the gate providing access to the equipment compound will be secured by chain link fence.
12. The applicant submitted site plans for the proposed tower and compound, which contains certified drawings from Adam M. Amortnont, an Alaska Registered Structural Engineer.

13. The applicant submitted structural design criteria for the proposed tower by Adam M. Amortnont, an Alaska Registered Structural Engineer with NELLO, indicating the tower can sustain basic wind speeds of 120 mph or 60 mph with a ½ inch radial ice build-up.
14. Adjacent parcels to the north, east, south, and west range in size from approximately .92 to 60 acres and are single family residential, commercial or undeveloped.

Conclusion of Law: Based on the above findings, the applicant has demonstrated there is no risk to the public health, safety, or welfare of adjacent property owners (MSB 17.67.090(A)(2)(a)).

(B) For all tall structures regulated under this chapter, adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way, to enable emergency vehicle access.

(1) No more than two spaces per provider shall be required.

Findings of Fact:

1. According to the application material, two parking spaces are provided at the proposed tower location.

Conclusion of Law: Based on the above finding, adequate vehicle parking has been provided (MSB 17.67.090(B)(1)).

(C) The following requirements apply to all new and existing telecommunication towers and wind energy conversion systems regulated under this chapter:

(1) The following signage shall be visibly posted at the equipment compound:

(a) informational signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission (FCC), as well as the party responsible for the operation and maintenance of the facility;

Findings of Fact:

1. According to the application material, signage will be posted identifying the tower's FCC registration number and the party responsible for the operation and maintenance.

Conclusion of Law: Based on the above finding, adequate signage has been provided (MSB 17.67.090(C)(1)(a)).

(b) if more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE – DANGER"; and

Findings of Fact:

The proposed tower shall be secured with a locked 8' chain fencing with an additional 1' of barbed wire on top to prevent unauthorized visitors. The proposed facility will operate at 220 Volts and will not require a sign.

Conclusion of Law: Based on the above findings, a "*HIGH VOLTAGE - DANGER*" sign is not required to be displayed on the equipment compound (MSB 17.67.090(C)(1)(b)).

(c) a 24-hour emergency contact number.

Findings of Fact:

1. According to the application material, signage identifying the tower and the party responsible for the operation and maintenance will be posted.
2. According to the application material, a 24-hour contact number will be posted at the proposed tower location.
3. The ATLAS Phone # is (303) 448-8896. This is the 24/7 phone contact phone number and will be displayed on the fence surrounding the equipment compound.

Conclusion of Law: Based on the above findings, a 24-hour emergency contact number has been provided (MSB 17.67.090(C)(1)(c))

(2) A fence or wall not less than six feet in height with a secured gate shall be maintained around the base of the tower.

Findings of Fact:

1. According to the application material, the proposed tower is located within an eight-foot-tall secured and fenced area.
2. According to the application material, the gate providing access to the equipment compound will be secured by a chain link fence.

Conclusion of Law: Based on the findings above, a fence not less than six feet in height with a secured gate, is being provided (MSB 17.67.090(C)(2)).

STAFF RECOMMENDATIONS

Staff recommends approval of the Administrative Permit to construct a 125-foot-tall, a 125-foot-tall, lattice tower on the above-referenced property within a 50' x 50' leased area. The application meets all the applicable standards of MSB 17.67, and staff recommends approval of this request with the following conditions:

1. All aspects of the operation shall comply with the description detailed in the application material and with the conditions of this permit. Before any change of the conditional use, an amendment to the Administrative Permit shall be required.
2. The operation shall comply with all federal, state, and local regulations.
3. Borough-authorized representatives shall be allowed to inspect the site and related records at reasonable times to monitor compliance with all permit conditions. Upon reasonable notice from the Borough, the permittee shall provide necessary assistance to facilitate authorized inspections (MSB 17.67.300(D)).

4. The operation shall obtain a Network Improvement Permit from the Borough to increase the overall height or location of the telecommunications tower on the site in accordance with MSB 17.67.110.
5. The equipment compound and telecommunications tower shall be removed, at the owner's expense within 90 days after abandonment or termination of the permit in accordance with MSB 17.67.130(A)(1).
6. The permittee shall record the access easement presented with the application at the Alaska Department of Natural Resources, prior to construction.

Blank

Application

Atlas Tower 1, LLC
2500 30th St, Suite 304
Boulder, CO 80301
(303) 448-8896

June 6, 2025

Matanuska-Susitna Borough Development Services Division
350 E. Dahlia Ave
Palmer, AK 99645

RE: Administrative Permit Narrative for Telecommunications Facility
Site Name: Willow

To Whom It May Concern:

Atlas Tower 1, LLC is submitting an Administrative Permit Application to the Mat-Su Borough Development Services Division for review of a new proposed wireless telecommunications facility build on the property of 36596 W Parks Hwy, Willow, AK, 99688, **Parcel ID: 19871**. This letter shall serve as a narrative for the proposed **125' Lattice** telecommunications facility and how this project will provide the needed mobile network coverage while reducing the need for additional cellular facilities in the future. This project is being proposed and this justification is being provided in an effort to alleviate current mobile network voice, data, and first responder issues in an area that is severely lacking reliable network coverage and capacity.

SITE DETAILS

Land Owner: Jonrowe Michael D & Dee D PO BOX 272 Willow, AK, 99688	**Site Address:** 36596 W Parks Hwy Willow, AK, 99688 Parcel #: **19871**
Applicant: Atlas Tower 1, LLC 2500 30th St., Suite 304 Boulder, CO 80301	**Coordinates:** Latitude: 61.797610° Longitude: -150.095070° Ground Elevation: 179'
Zoning: TOWNSHIP 20N RANGE 5W SECTION 25 LOT A11	**Lease Area:** 50 x 50

PROPOSAL SUMMARY

The purpose of this request is to build a 125' self support telecommunications tower within a 50 x 50 wireless facility. This facility will provide critical wireless coverage to the surrounding area. The proposed site is zoned as General-Use where coverage is lacking, and the capacity of the existing infrastructure is reaching its limit. As the area develops further, and the existing users demand more data for their existing devices, existing infrastructure will reach capacity limits and be unable to meet coverage needs. This tower and facility will be used for structural support of up to four wireless providers. Each provider will install antennas and on-the-ground base-station equipment.

WIRELESS TELECOMMUNICATION FACILITY CHARACTERISTICS

Visual Effect

We strive to design our facilities and locate parcels that create the least amount of community disturbance. The surrounding area is a largely wooded rural area with low density residential zones nearby. The proposed site is chosen to maximize visual aesthetic and distance from residential homes. Photo sims have been included with views from the adjacent highway.

Proximity to Airports, Trails and Waterbodies

There is one airport near the facility. The selected site is approx. 0.8 miles from AK08 - Thomas Strip airport. The site is not in line with any of the runways and does not pose a hazard to air navigation. The nearest trailhead, noted as 164 - Lucky Shot on MSB trail plans, is approx. 2 miles to the SW. Due to the topography and trees, the tower is not expected to be visible from the trail. The next nearest trails are about 5 miles to the NE and should not have visibility of the tower. The nearest waterbody, Kashwitna Lake, is approx. 2.5 miles to the north. We do not expect visibility of the tower from this location.

Frequency Of Maintenance Work On The Proposed Facility

On average, after initial installation, a carrier or its contactors would likely visit the facility about one to four times a year for maintenance, though this number could vary depending on the specific circumstances of the facility.

The Average Number Of Vehicles Visiting The Facility and Average Duration of Facility Work

The average maintenance visit by a carrier or its contractors would likely involve one pickup truck. On average, one to two visits a year are made for each carrier. For typical maintenance visits, a carrier or its contactors would only be at the site a few hours, but this number could increase depending on the work that needed to be completed at the site.

Expected Noise Levels

Telecommunications facilities are essentially silent. This would be true whether there were one or four carriers. A generator could be operated on site in the rare instance that power went out. The generator would create noise, but it would not be noticeable or audible in the location the telecommunications facility is proposed to be.

Setback Compliance

The proposed tower has been setback 150' from any property line in order to maintain compliance with the Matanuska Susitna Borough Code requirements.

Site Security

The proposed tower shall be secured with a locked 8' chain link fencing with an additional 1' of barbed wire on top to prevent unauthorized visitors.

Building Codes; Safety Standards

Atlas Tower will ensure the structural integrity of towers, ensure that it is maintained in compliance with standards contained in applicable state or local building codes and the applicable standards for towers that are published by the Electronic Industries Association, as amended from time to time. Granting of this permit will not be harmful to the public health, safety, convenience, or welfare. If, upon inspection, Matanuska-Susitna Borough concludes that a tower fails to comply with such codes and standards and

constitutes a danger to persons or property, then upon notice being provided to the owner of the tower, the owner shall have thirty (30) days to bring such tower into compliance with such standards, unless a longer time is reasonably necessary. Failure to bring such a tower into compliance within said thirty (30) days shall constitute grounds for the removal of the tower or antenna at the owner's expense.

FAA/FCC Compliance

Applicant has submitted the appropriate applications with the FAA & FCC but has yet to receive a determination. A previous determination approx. 900 ft away was approved, and is attached. The new location is under study. The proposed facility shall conform to the requirements of this title, this code, and other laws, including pertinent federal regulations of the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA) when determined.

This narrative represents required and supplementary information to document the technological, economic, and social necessity and benefits of a new 125' self support telecommunications tower in Willow. The information provided highlights the advantages associated with a telecommunications facility at our proposed site. Please see attached documents with site plans, RF propagation maps, and Tall Structure Application

Atlas Tower 1, LLC respectfully requests the acceptance and approval of our application for the proposed communications tower facility. Please reach out if there are any questions or additional documents needed.

Best Regards,

Helmundt Strumpher
720-667-6652
www.atlastowers.com
2500 30th St. Suite 304
Boulder, CO 80301

Wireless Site ID = 276
Willow 2

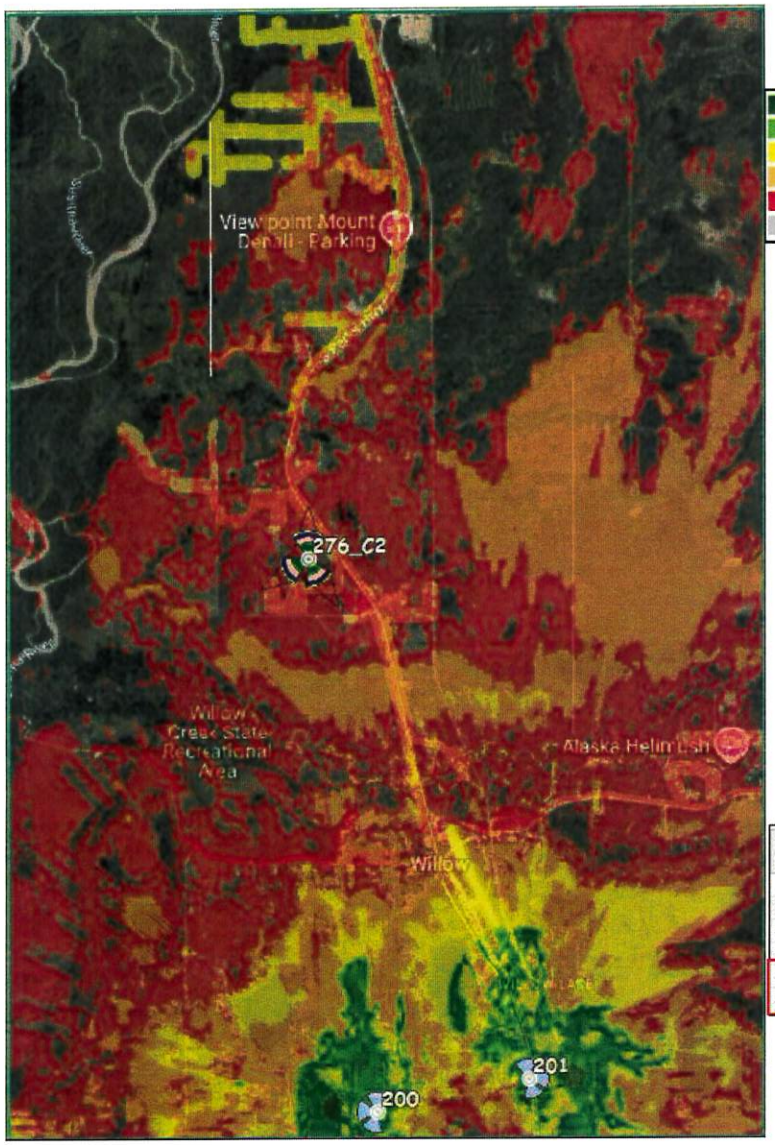
Coverage Analysis for Zoning



Population
- Population >=1,400
- 500 <=Population <1,400
- 250 <=Population <500
- 100 <=Population <250
- 30 <=Population <100
- 0 <=Population <30

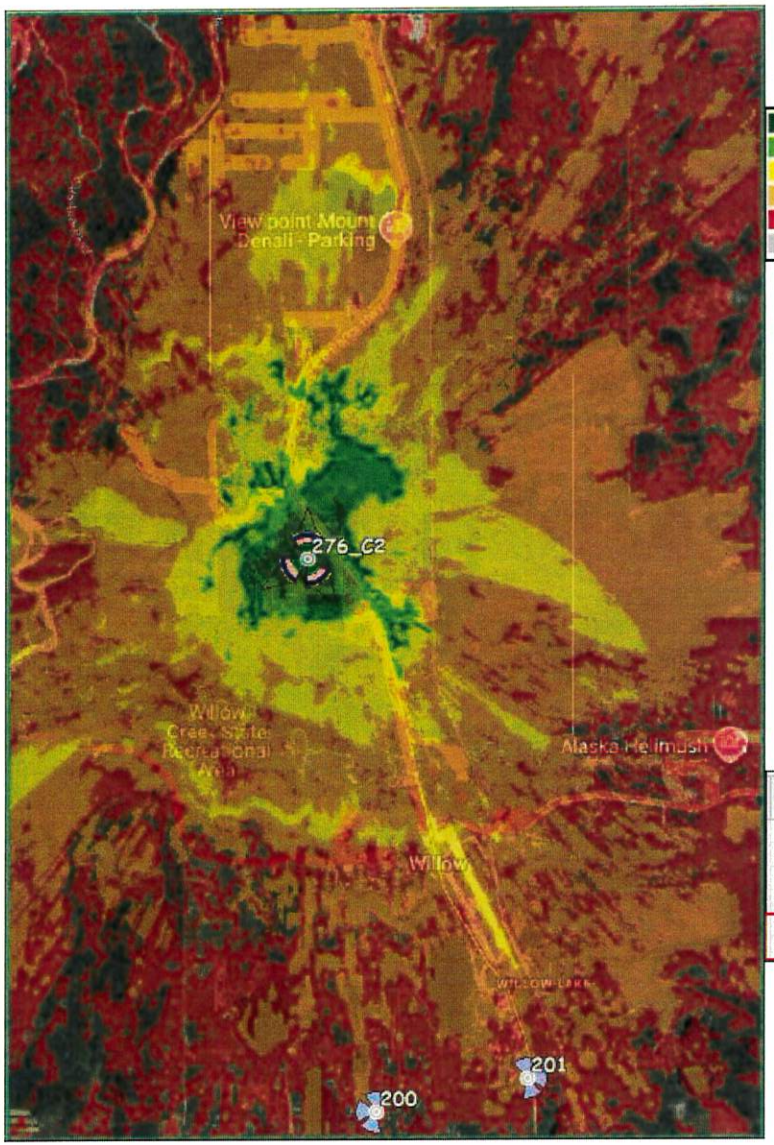
Polygon for coverage and population analysis

- Sites 200 and 201 are exiting sites.
- Site 276 is the propose new site to increase or coverage footprint to meet FCC requirements (new location).
  - Name Site Name Longitude Latitude
  - 276 Willow2 -150.09349 61.79356
  - RAD Center = 120 ft



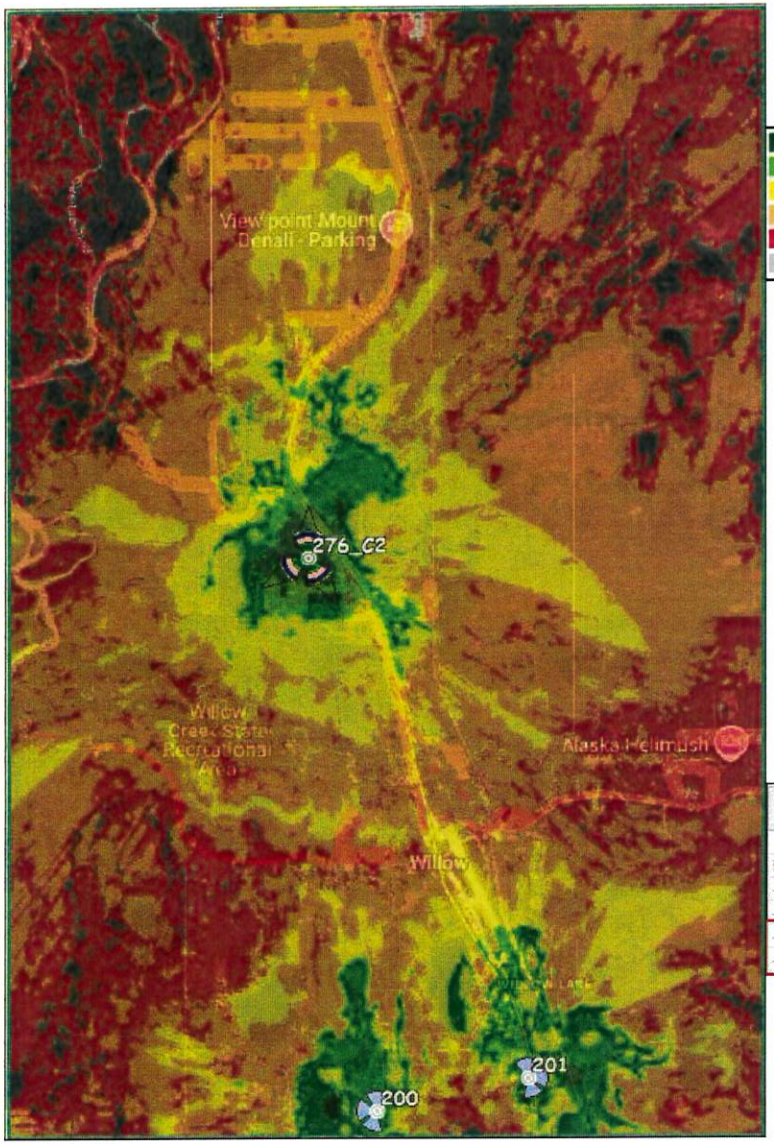
Legend		Zone Surface (km^2)	Population (Population [total])	Population (Population)	Population (%Population)
		139.8309	**287.81**	**197.71**	**68.7**
RSRP Level (DL) (dBm) >=-85	Deep Indoor		287.81	0e+00	0e+00
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		287.81	0e+00	0e+00
-105 <=RSRP Level (DL) (dBm) <-95	Incar		287.81	1.63	0.57
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		287.81	31.16	10.83
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		287.81	164.93	57.3

Without the new site we are providing In-car coverage to 0.57% of population only, we provide Outdoor and Poor coverage to 68% of population(196 POPs)



Legend		Zone Surface (km^2)	Population (Population [total])	Population (Population)	Population (%Population)
		139.8309	287.81	282.14	98.03
RSRP Level (DL) (dBm) >=-85	Deep Indoor		287.81	26.46	9.2
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		287.81	38.78	13.47
-105 <=RSRP Level (DL) (dBm) <-95	Incar		287.81	43.17	15
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		287.81	139.36	48.42
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		287.81	34.37	11.94

With the new location of the site 276 only, we are providing In-car coverage to 37.64% of population(109 POPs).



Legend		Zone Surface (km²)	Population (Population [total])	Population (Population)	Population (%Population)
		139.8309	287.81	286.88	99.68
RSRP Level (DL) (dBm) >=-85	Deep Indoor		287.81	26.46	9.2
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		287.81	38.78	13.47
-105 <=RSRP Level (DL) (dBm) <-95	Incar		287.81	44.49	15.46
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		287.81	142.5	49.51
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		287.81	34.64	12.04

With the new and existing site, we are providing In-car coverage to 38.13% of population(110 POPs).

Conclusion

The Greenfield candidate, supported by Atlas, will significantly enhance GCI's coverage, an essential step in meeting the FCC's expanding coverage requirements.

Tower Location: .

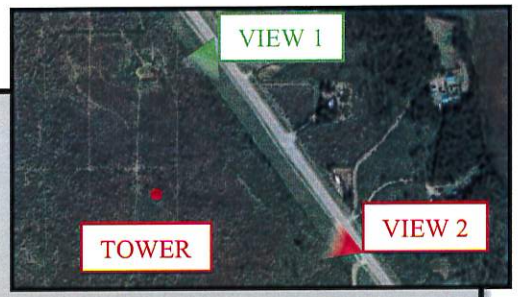
- GPS Coordinates: -150.09349, 61.79356
- RAD Center: 120'
- Azimuths of 0, 150 and 240 Degrees are suggested based on Initial Design.

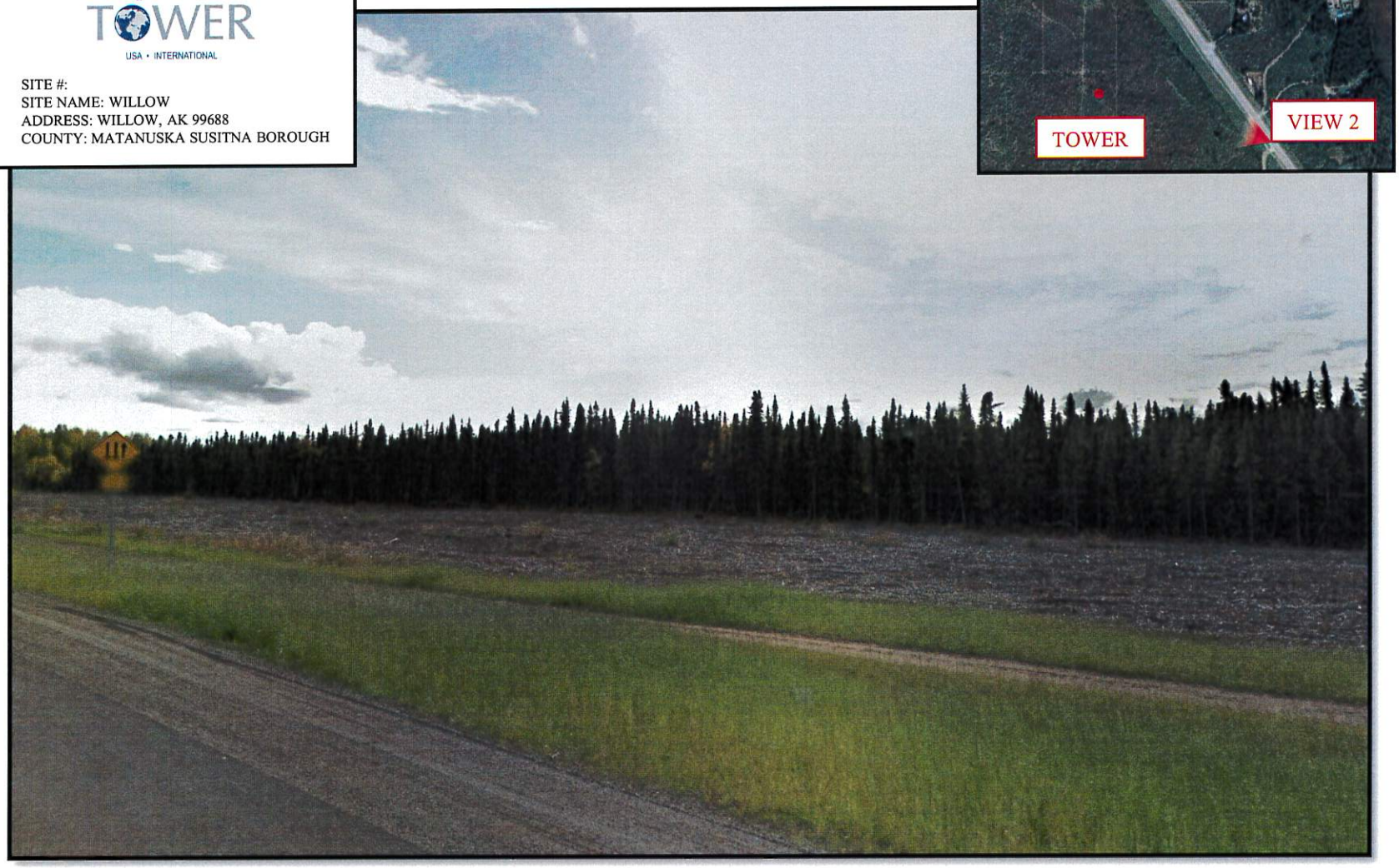

Legend
Photo Location (PL)
Willow Tower
PL 1
PL 2
Tower
Parks Hwy
Dell M Rd
Maleia Ln
3
22
N
2000 ft
Google Earth
Image © 2025 Airbus

EXISTING VIEW: LOCATION 1

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

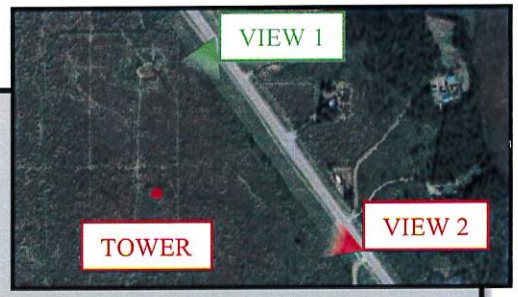
PHOTO RENDERED BY TEP OPCO, LCC

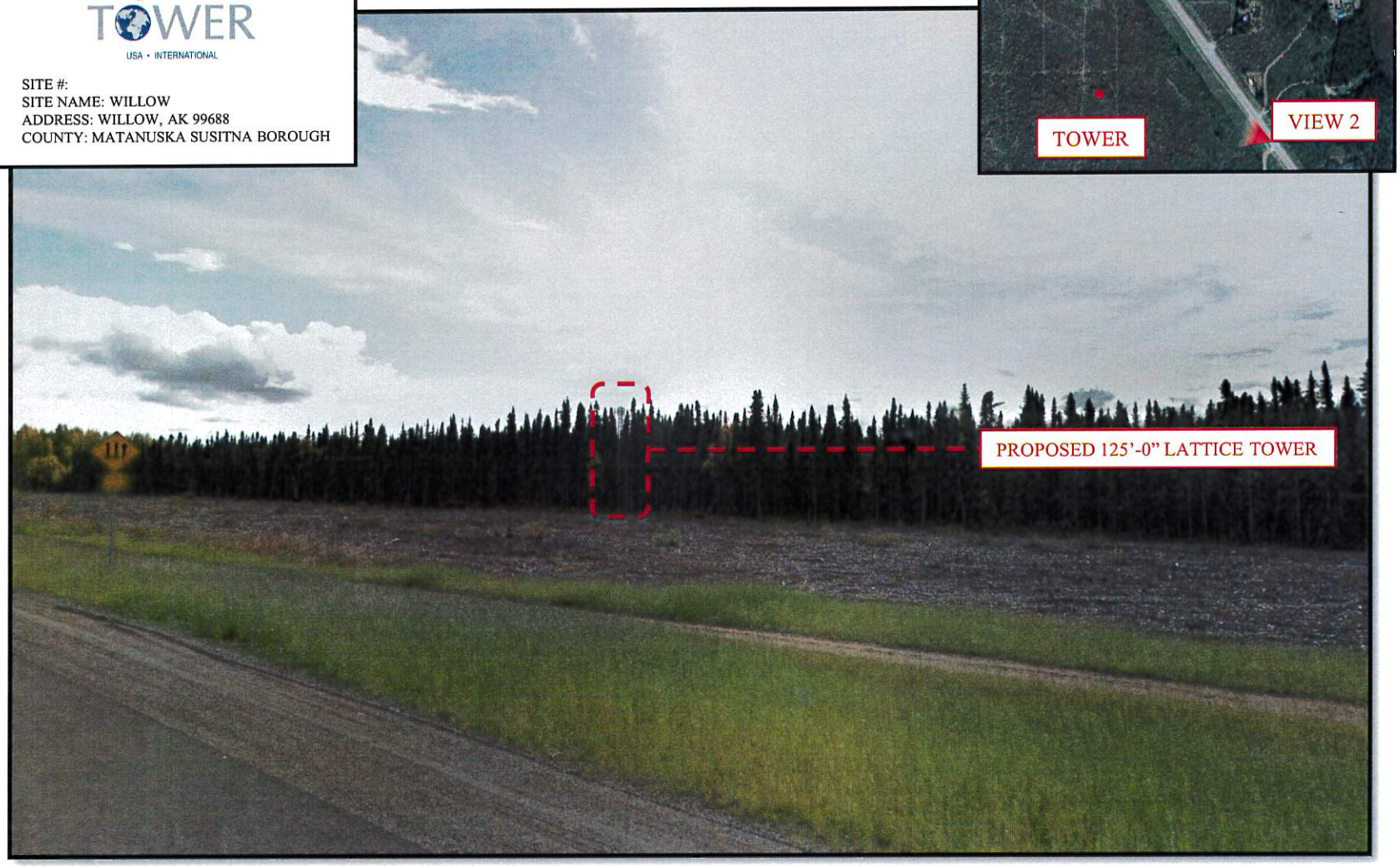
TEP

PROPOSED VIEW: LOCATION 1

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

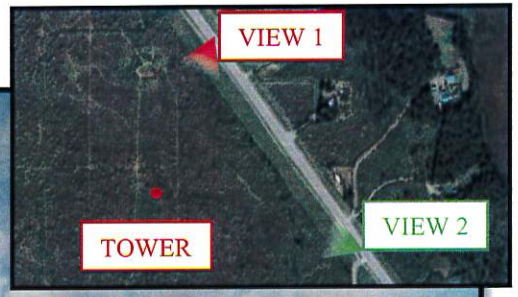
PHOTO RENDERED BY TEP OPCO, LCC

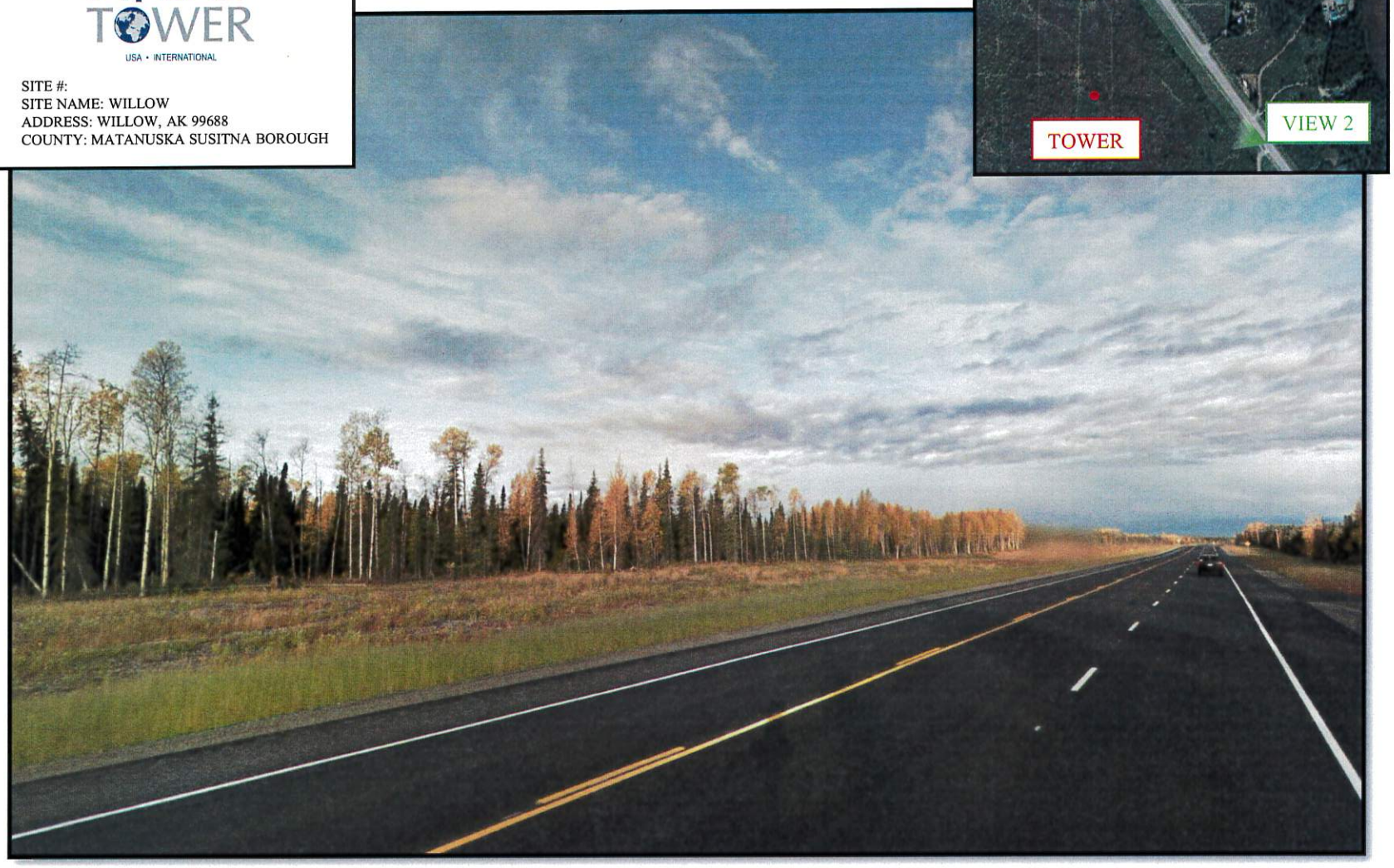
TEP

EXISTING VIEW: LOCATION 2

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

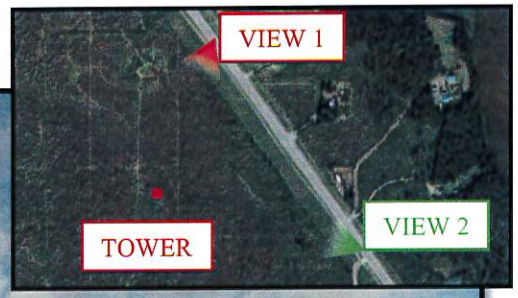
PHOTO RENDERED BY TEP OPCO, LCC

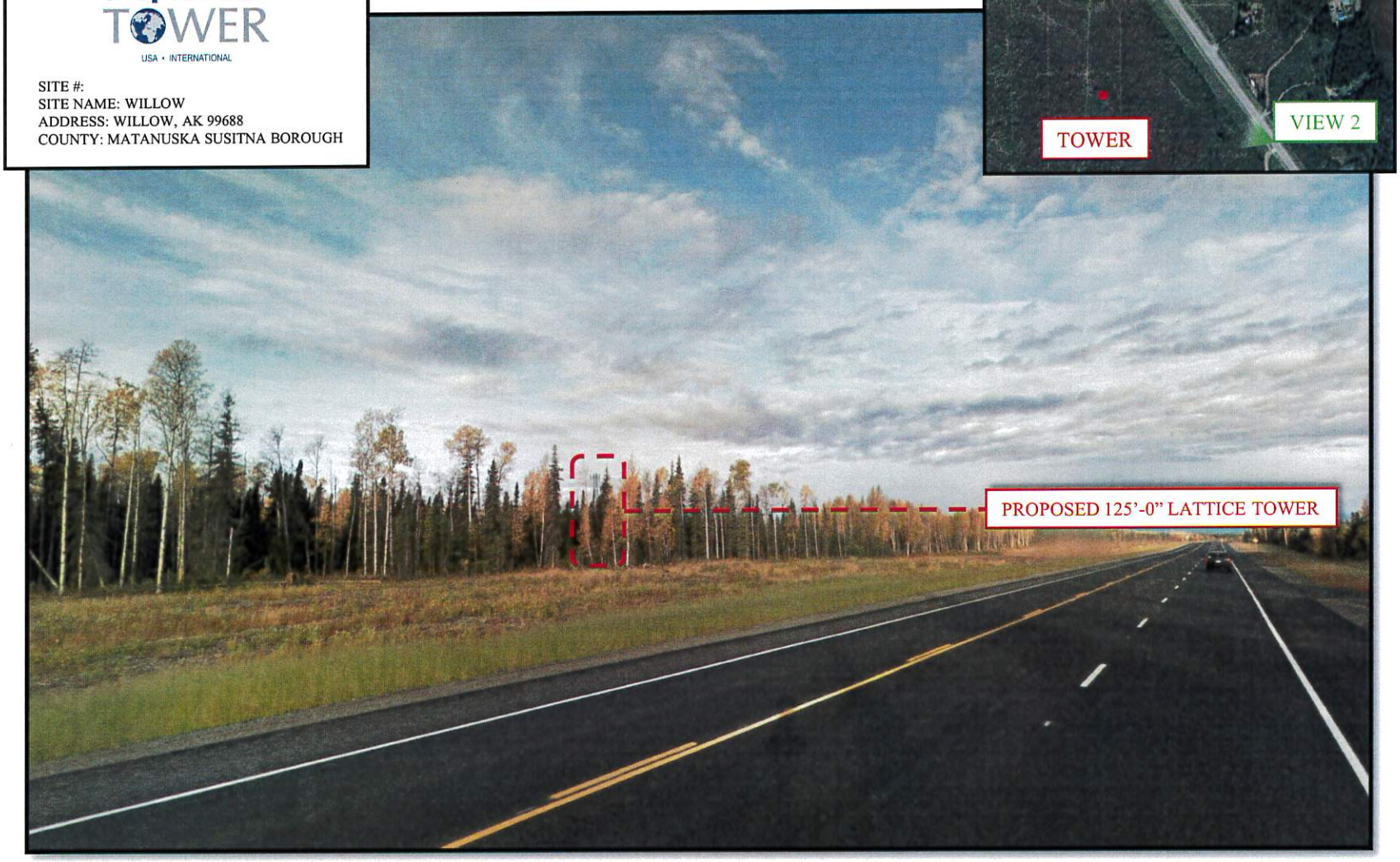
TEP

PROPOSED VIEW: LOCATION 2

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

PHOTO RENDERED BY TEP OPCO, LCC

TEP

GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED ATLAS TOWER 1, LLC, OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-H. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
   B. ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
   C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
   D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

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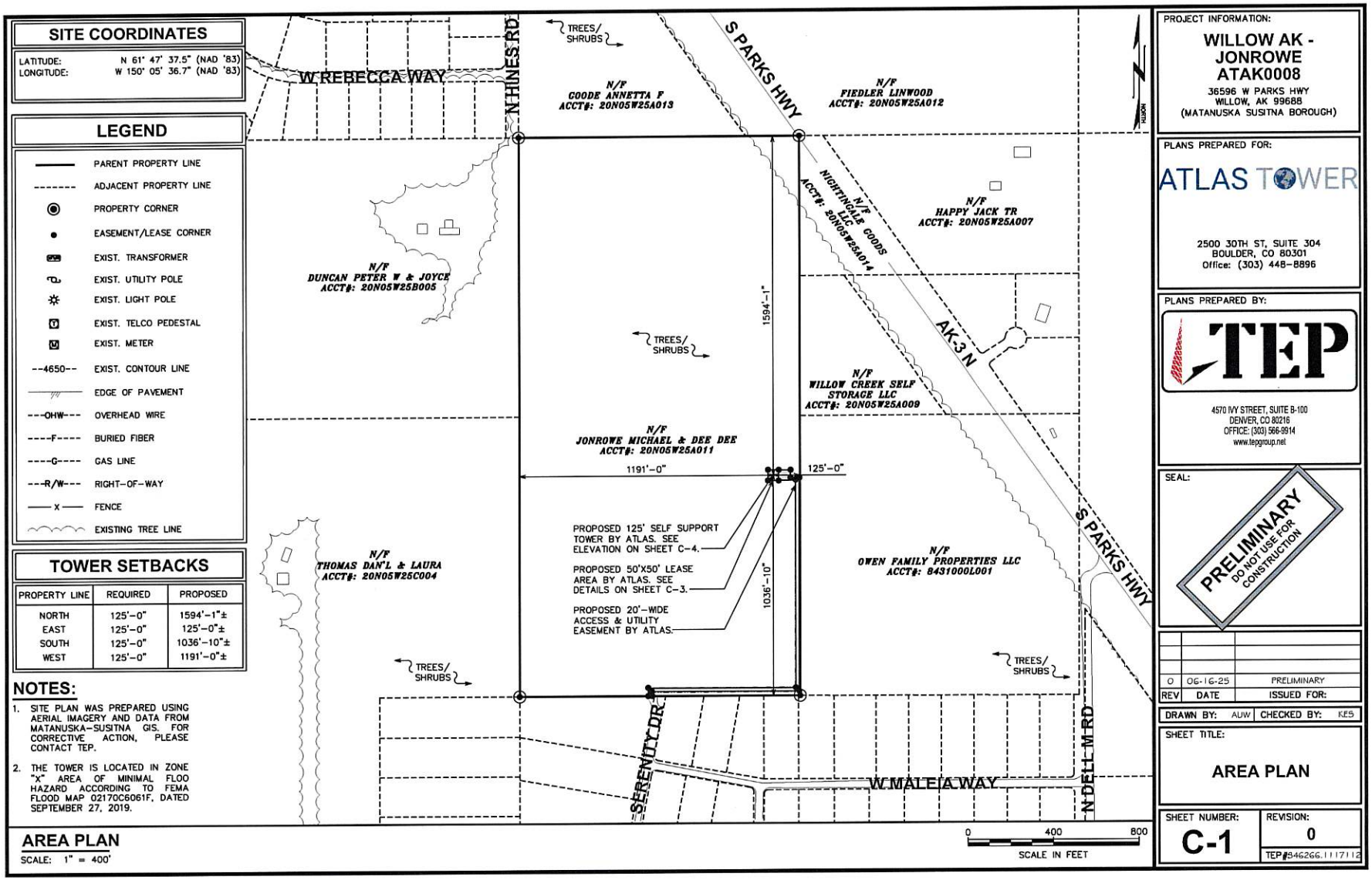
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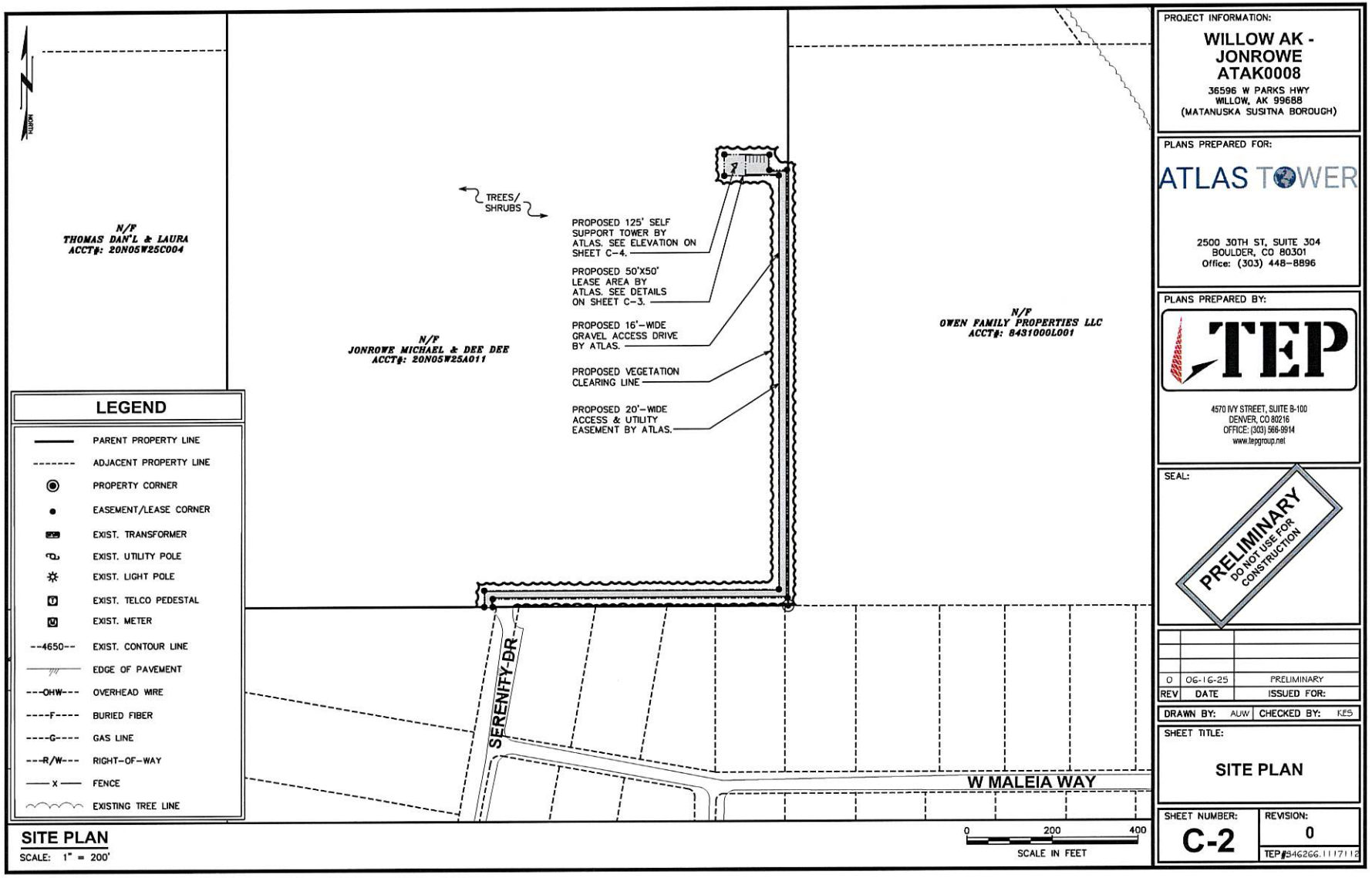
GENERAL NOTES

SHEET NUMBER: **N-1**

REVISION: 0

TEP #346266.1117112


SITE COORDINATES
LATITUDE: N 61° 47' 37.5" (NAD '83)
LONGITUDE: W 150° 05' 36.7" (NAD '83)
LEGEND
PARENT PROPERTY LINE
ADJACENT PROPERTY LINE
PROPERTY CORNER
EASEMENT/LEASE CORNER
EXIST. TRANSFORMER
EXIST. UTILITY POLE
EXIST. LIGHT POLE
EXIST. TELCO PEDESTAL
EXIST. METER
--4650-- EXIST. CONTOUR LINE
EDGE OF PAVEMENT
---OHW--- OVERHEAD WIRE
----F---- BURIED FIBER
----G---- GAS LINE
---R/W--- RIGHT-OF-WAY
—— x —— FENCE
EXISTING TREE LINE
TOWER SETBACKS
PROPERTY LINE | REQUIRED | PROPOSED
NORTH | 125'-0" | 1594'-1"±
EAST | 125'-0" | 125'-0"±
SOUTH | 125'-0" | 1036'-10"±
WEST | 125'-0" | 1191'-0"±
NOTES:
1. SITE PLAN WAS PREPARED USING AERIAL IMAGERY AND DATA FROM MATANUSKA-SUSITNA GIS. FOR CORRECTIVE ACTION, PLEASE CONTACT TEP.
2. THE TOWER IS LOCATED IN ZONE "X" AREA OF MINIMAL FLOO HAZARD ACCORDING TO FEMA FLOOD MAP 02170C6061F, DATED SEPTEMBER 27, 2019.
W REBECCA WAY
N HINES RD
S PARKS HWY
TREES/ SHRUBS
N/F COODE ANNETTA F ACCT#: 20N05W25A013
N/F FIEDLER LINWOOD ACCT#: 20N05W25A012
N/F HAPPY JACK TR ACCT#: 20N05W25A007
N/F NIGHTINGALE GOODS LLC ACCT#: 20N05W25A014
N/F DUNCAN PETER W & JOYCE ACCT#: 20N05W25B005
N/F WILLOW CREEK SELF STORAGE LLC ACCT#: 20N05W25A009
N/F JONROWE MICHAEL & DEE DEE ACCT#: 20N05W25A011
N/F THOMAS DAN'L & LAURA ACCT#: 20N05W25C004
N/F OWEN FAMILY PROPERTIES LLC ACCT#: 8431000L001
1594'-1"
1191'-0"
125'-0"
1036'-10"
PROPOSED 125' SELF SUPPORT TOWER BY ATLAS. SEE ELEVATION ON SHEET C-4.
PROPOSED 50'X50' LEASE AREA BY ATLAS. SEE DETAILS ON SHEET C-3.
PROPOSED 20'-WIDE ACCESS & UTILITY EASEMENT BY ATLAS.
AK-3 N
SERENITY DR
W MALEIA WAY
N DELL M RD
NORTH
AREA PLAN
SCALE: 1" = 400'
0 400 800
SCALE IN FEET
PROJECT INFORMATION:
WILLOW AK - JONROWE ATAK0008
36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)
PLANS PREPARED FOR:
ATLAS TOWER
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896
PLANS PREPARED BY:
TEP
4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net
SEAL:
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0 | 06-16-25 | PRELIMINARY
DRAWN BY: AUW | CHECKED BY: KES
SHEET TITLE:
AREA PLAN
SHEET NUMBER: C-1
REVISION: 0
TEP# 546266.111712



SITE PLAN
SCALE: 1" = 200'

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

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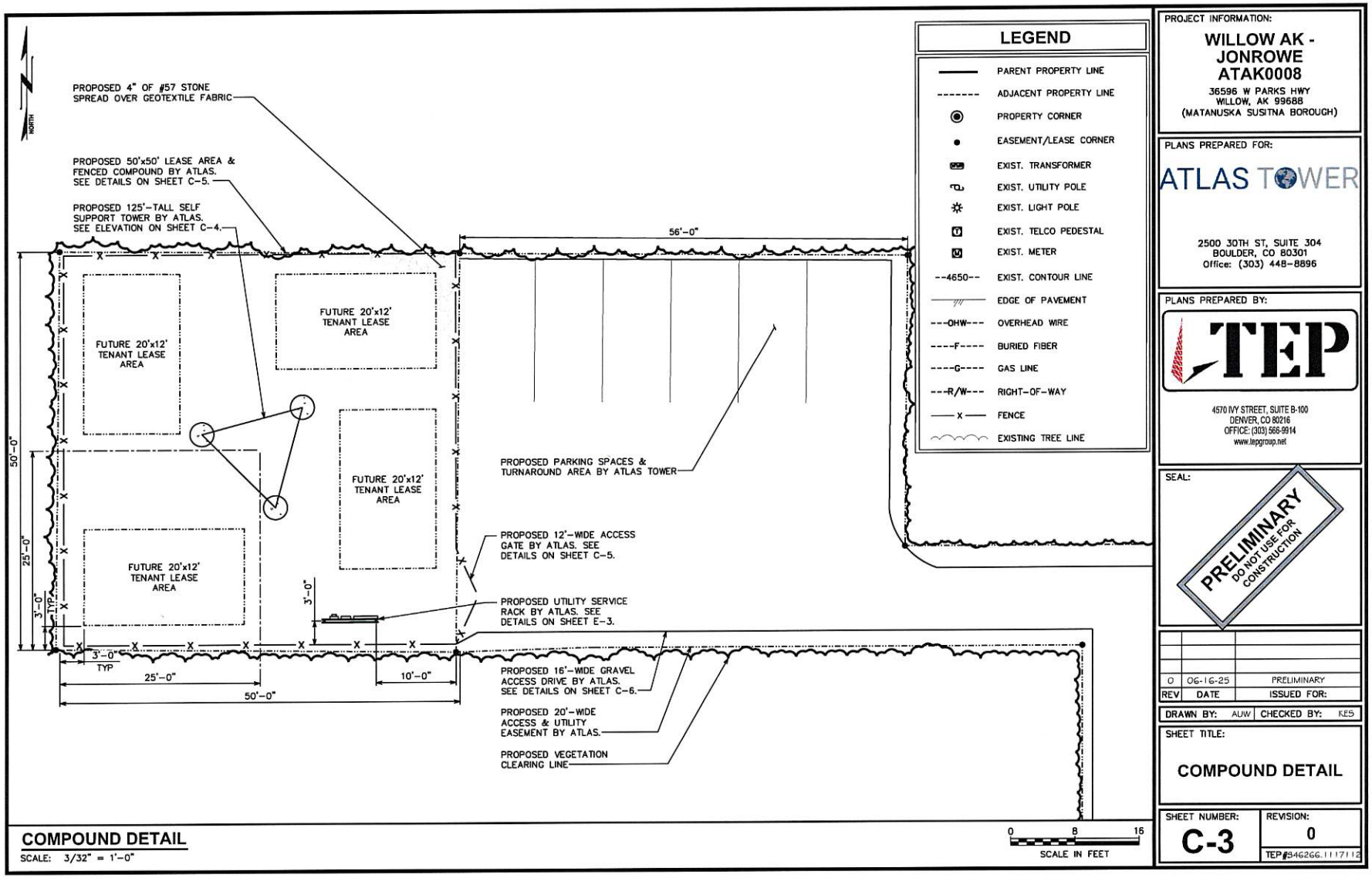
SHEET TITLE:

SITE PLAN

SHEET NUMBER: **C-2**

REVISION: **0**

TEP#3462G.111712



PROJECT INFORMATION:

WILLOW AK - JONROWE
ATAK0008
36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

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SEAL:

PRELIMINARY DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-16-25	PRELIMINARY

DRAWN BY: AUW CHECKED BY: KES

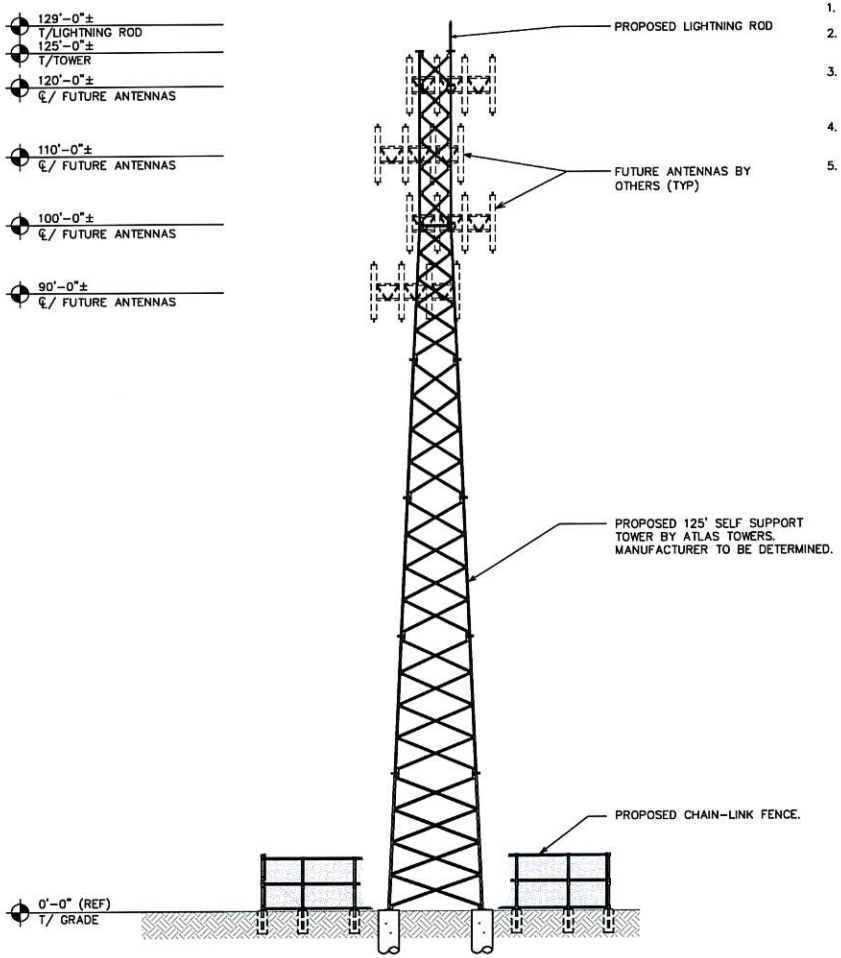
SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER: **C-3**

REVISION: **0**

TEP# 346266.111712



NOTES:

1. TOWER TO REMAIN A GALVANIZED COLOR.
2. TOWER SHALL BE LIT ONLY IF REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION.
3. PROPOSED COAX TO BE ROUTED UP WAVEGUIDE LADDER. (PROVIDED BY TOWER MANUFACTURER)
4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.
5. TOWER EQUIPMENT LOADING AND CENTERLINES ARE SHOWN FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.

TOWER ELEVATION

SCALE: 1/16" = 1'-0"

0 16 32

SCALE IN FEET

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
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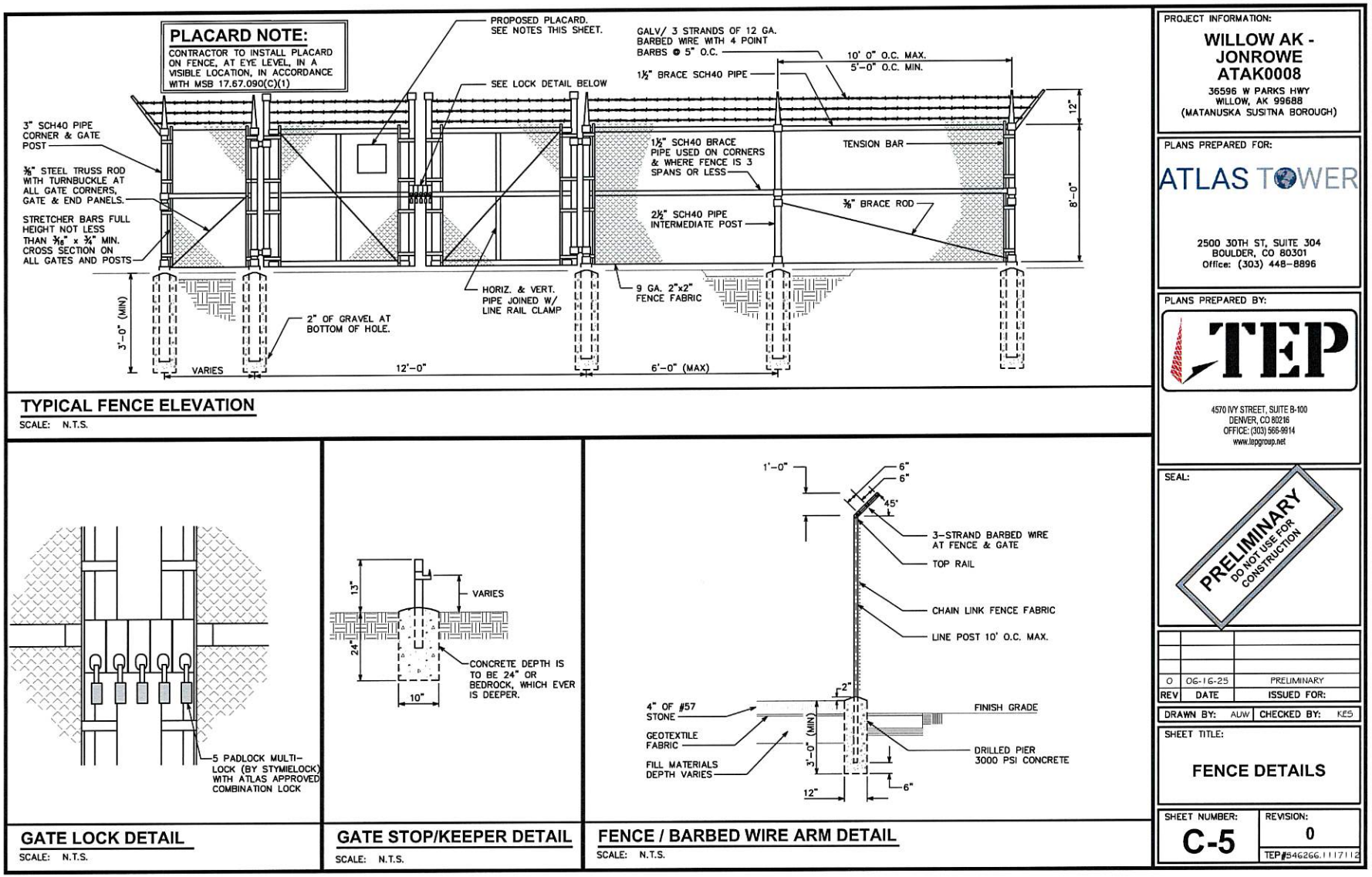
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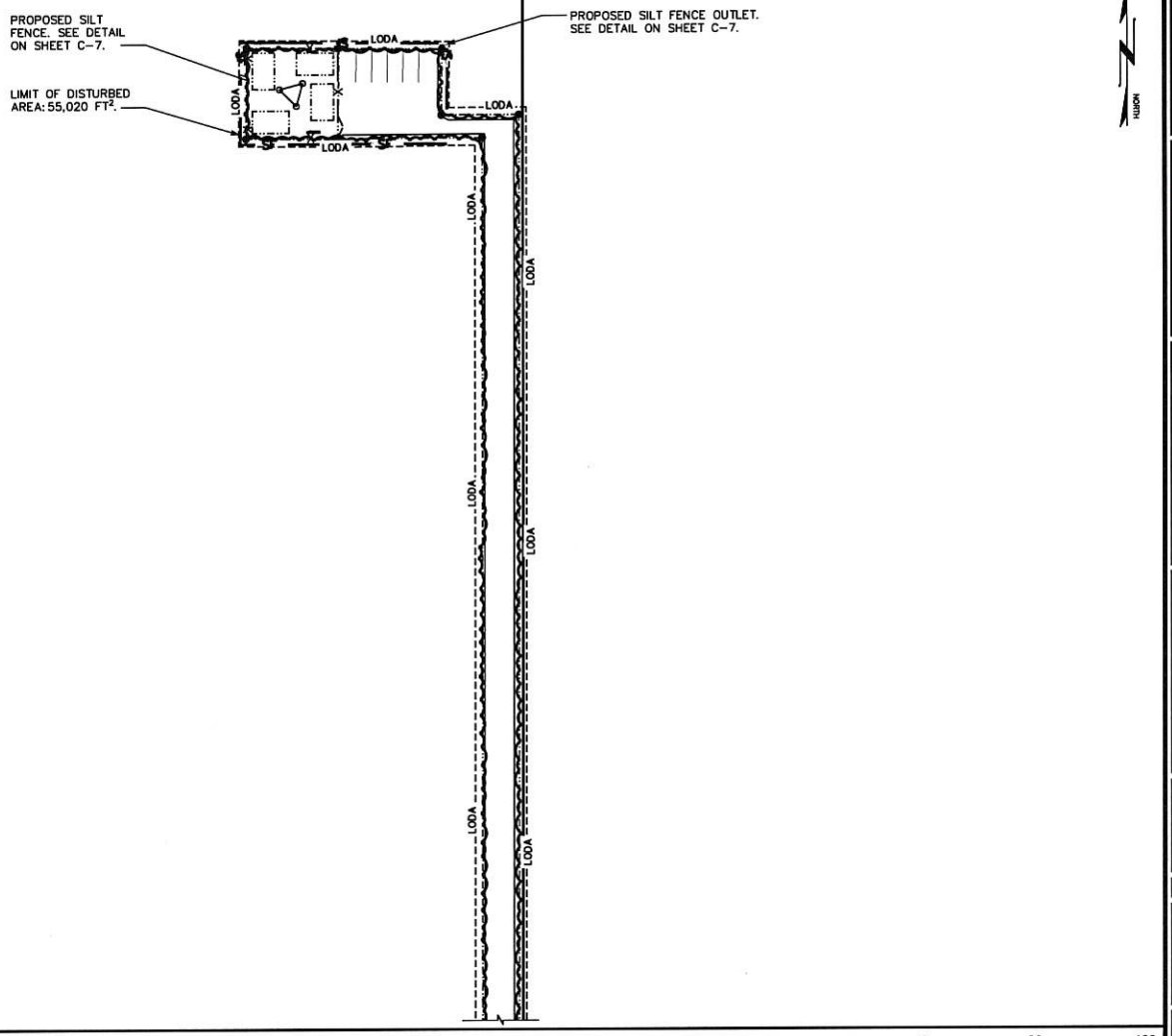
TOWER ELEVATION

SHEET NUMBER: **C-4**

REVISION: 0

TEP #346266.111112


PLACARD NOTE:
CONTRACTOR TO INSTALL PLACARD ON FENCE, AT EYE LEVEL, IN A VISIBLE LOCATION, IN ACCORDANCE WITH MSB 17.67.090(C)(1)
PROPOSED PLACARD. SEE NOTES THIS SHEET.
SEE LOCK DETAIL BELOW
GALV/ 3 STRANDS OF 12 GA. BARBED WIRE WITH 4 POINT BARBS @ 5" O.C.
1½" BRACE SCH40 PIPE
10' 0" O.C. MAX.
5'-0" O.C. MIN.
3" SCH40 PIPE CORNER & GATE POST
⅜" STEEL TRUSS ROD WITH TURNBUCKLE AT ALL GATE CORNERS, GATE & END PANELS.
STRETCHER BARS FULL HEIGHT NOT LESS THAN ⅜" x ¾" MIN. CROSS SECTION ON ALL GATES AND POSTS
1½" SCH40 BRACE PIPE USED ON CORNERS & WHERE FENCE IS 3 SPANS OR LESS
2½" SCH40 PIPE INTERMEDIATE POST
TENSION BAR
⅜" BRACE ROD
12"
8'-0"
3'-0" (MIN)
2" OF GRAVEL AT BOTTOM OF HOLE.
HORIZ. & VERT. PIPE JOINED W/ LINE RAIL CLAMP
9 GA. 2"x2" FENCE FABRIC
VARIES
12'-0"
6'-0" (MAX)
TYPICAL FENCE ELEVATION
SCALE: N.T.S.
5 PADLOCK MULTI-LOCK (BY STYMIELOCK) WITH ATLAS APPROVED COMBINATION LOCK
GATE LOCK DETAIL
SCALE: N.T.S.
13"
VARIES
24"
CONCRETE DEPTH IS TO BE 24" OR BEDROCK, WHICH EVER IS DEEPER.
10"
GATE STOP/KEEPER DETAIL
SCALE: N.T.S.
1'-0"
6"
6"
45°
3-STRAND BARBED WIRE AT FENCE & GATE
TOP RAIL
CHAIN LINK FENCE FABRIC
LINE POST 10' O.C. MAX.
2"
4" OF #57 STONE
GEOTEXTILE FABRIC
FILL MATERIALS DEPTH VARIES
3'-0" (MIN)
FINISH GRADE
DRILLED PIER 3000 PSI CONCRETE
12"
6"
FENCE / BARBED WIRE ARM DETAIL
SCALE: N.T.S.
PROJECT INFORMATION:
WILLOW AK - JONROWE ATAK0008
36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)
PLANS PREPARED FOR:
ATLAS TOWER
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896
PLANS PREPARED BY:
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DRAWN BY: AUW | CHECKED BY: KES
SHEET TITLE:
FENCE DETAILS
SHEET NUMBER: C-5
REVISION: 0
TEP#546266.111712



LEGEND	
SILT FENCE	—SF—
LODA	-LODA-

GRADING & SOIL EROSION CONTROL PLAN

SCALE: 1" = 60'

0 60 120

SCALE IN FEET

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
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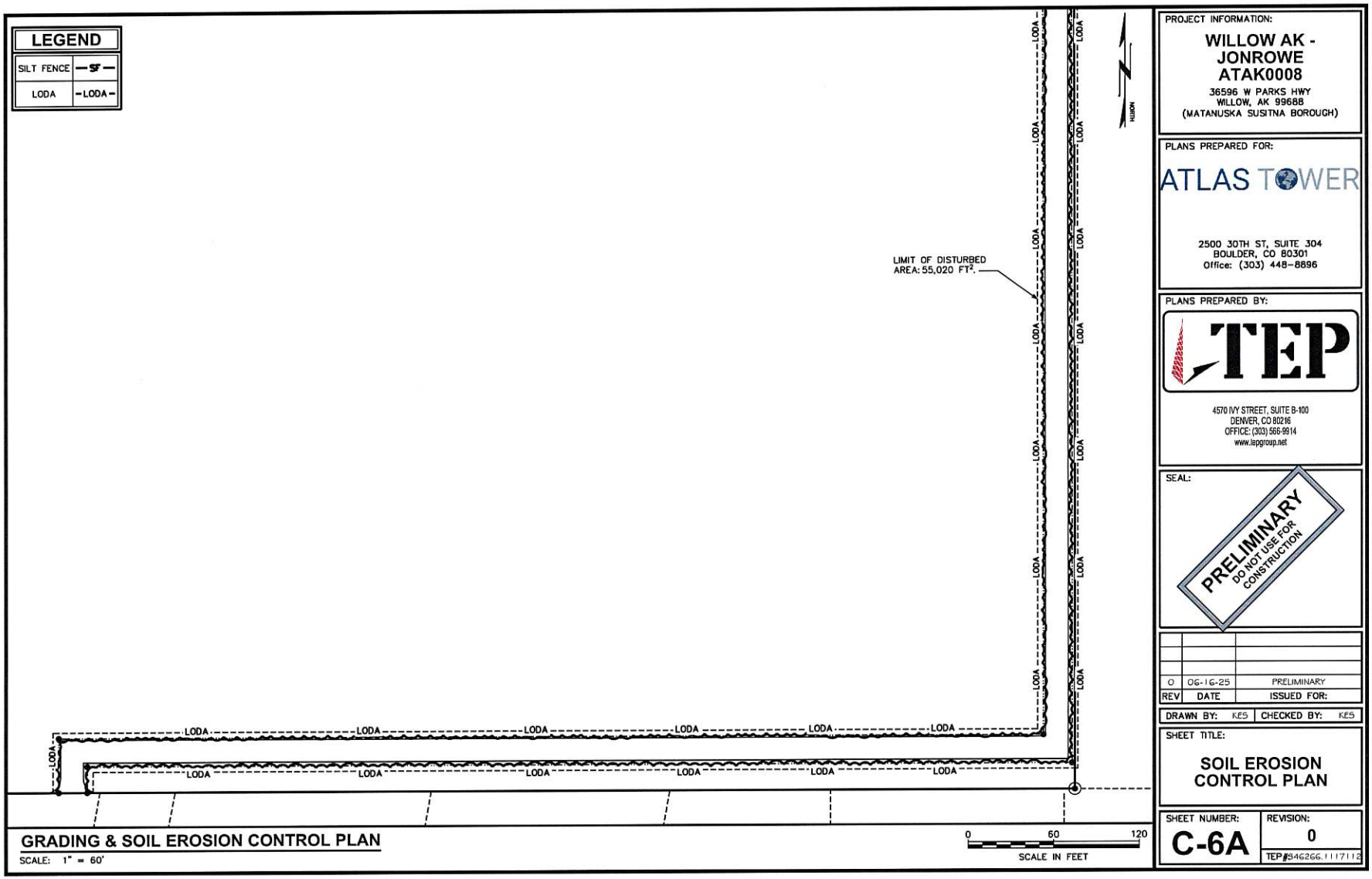
SHEET TITLE:

SOIL & EROSION CONTROL PLAN

SHEET NUMBER: **C-6**

REVISION: 0

TEP #346266.111712



GRADING & SOIL EROSION CONTROL PLAN

SCALE: 1" = 60'

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SHEET TITLE:

SOIL EROSION CONTROL PLAN

SHEET NUMBER: **C-6A**

REVISION: **0**

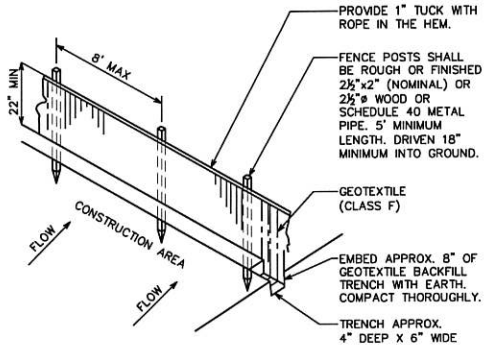
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SITE GRADING NOTES:

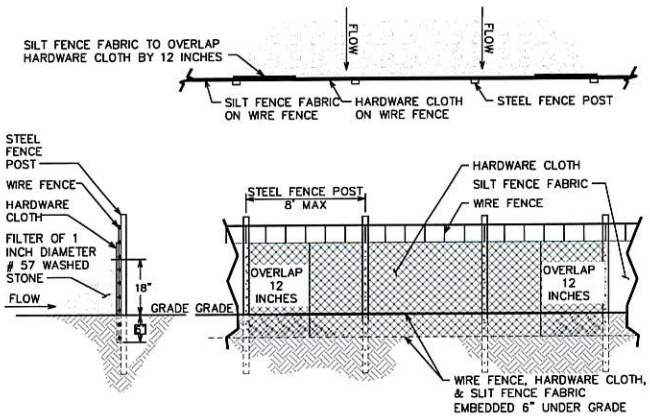
1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. TEMPORARY SEEDING OR OTHER STABILIZATION, INCLUDING GRAVEL COVER ON ANY NEW ACCESS ROAD, WILL FOLLOW IMMEDIATELY AFTER GRADING.
3. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
4. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.

GEOTEXTILE FABRIC NOTES:

1. GEOTEXTILE FABRIC TO BE FASTENED SECURELY TO FENCE POST BY USE OF WIRE TIES OR HOG RINGS. 3 FASTENERS PER POST.
2. ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE SHALL BE SECURELY FASTENED TO A COMMON POST OR OVERLAPPED 3' (MINIMUM).
3. THIS DEVICE IS INTENDED TO CONTROL SHEET FLOW ONLY. IT WILL NOT BE USED IN AREAS OF CONCENTRATED FLOW WITH A DRAINAGE AREA OF ½ ACRE OR MORE.



SILT FENCE



SILT FENCE OUTLET

SILT FENCE DETAIL
N.T.S.

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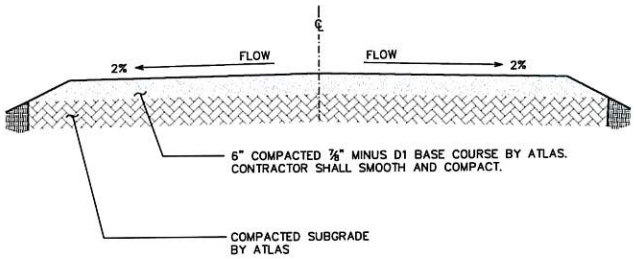
SILT FENCE DETAIL

SHEET NUMBER: **C-7**

REVISION: 0

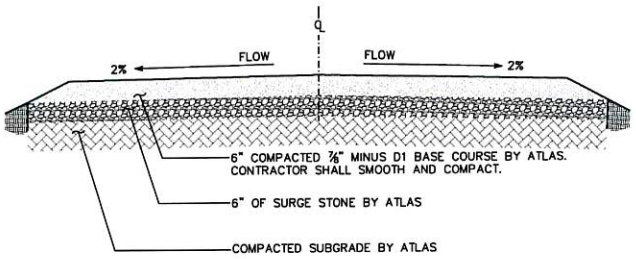
TEP# 346266.111712

NOTE:
ROAD TO BE DESIGNED IN ACCORDANCE WITH M.S.B. 11.12.060 LOW VOLUME DRIVEWAY STANDARDS

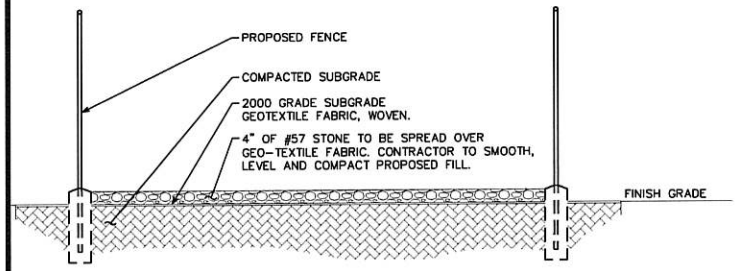


STANDARD ROAD SECTION (GOOD SUBGRADE)
SCALE: ⅜" = 1'-0"

NOTE:
ROAD TO BE DESIGNED IN ACCORDANCE WITH M.O.A. 11.12.060 LOW VOLUME DRIVEWAY STANDARDS



STANDARD ROAD SECTION (POOR SUBGRADE)
SCALE: ⅜" = 1'-0"



COMPOUND SECTION VIEW
SCALE: N.T.S.

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DRIVEWAY DETAILS

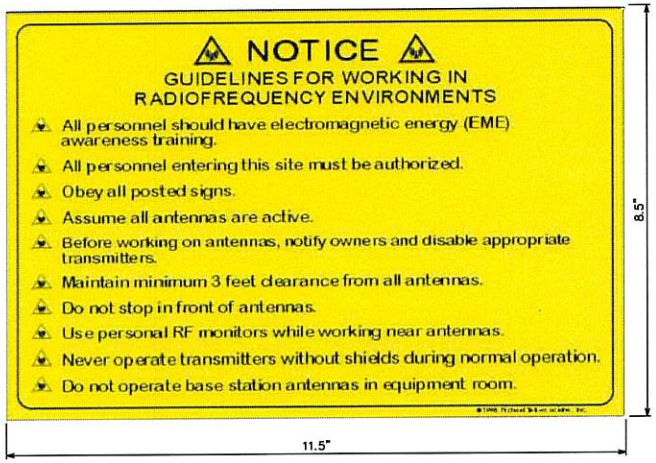
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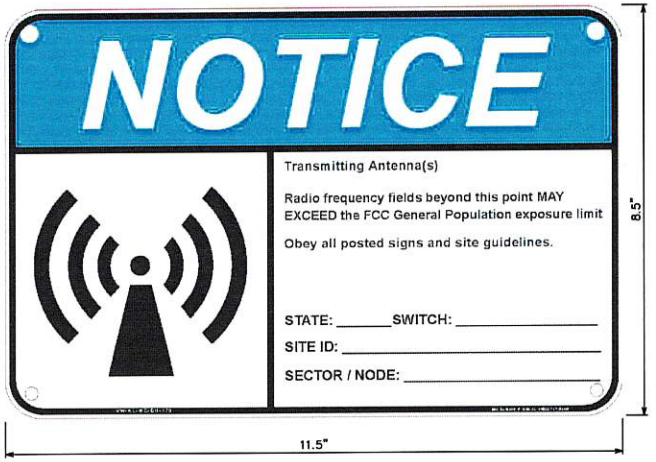
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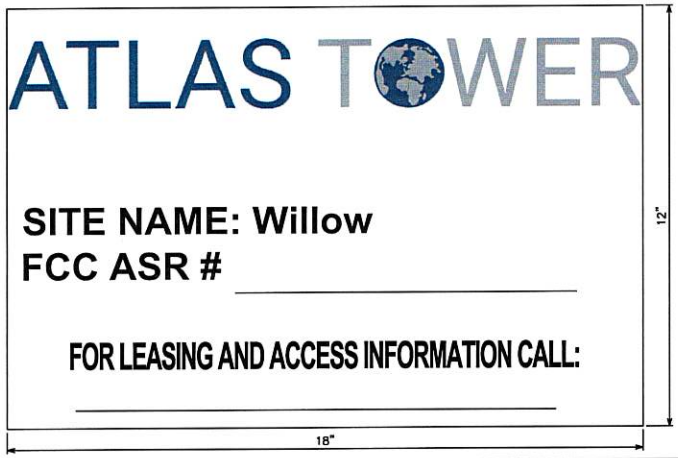
TEP# 346266.111711

NOTES:

- ALL SIGNS TO BE HUNG ON FENCE USING HOG RINGS OR ALUMINUM FENCE TIES. ZIP TIES OR REBAR WIRE WILL NOT BE ACCEPTABLE
- THE RED WARNING SIGN SHALL BE PLACED ON THE TOWER, IDEALLY AT THE BASE OF THE SAFETY CLIMB.









SIGNAGE DETAILS

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SHEET TITLE:

SIGNAGE DETAILS

SHEET NUMBER: **C-9**

REVISION: **0**

TEP# 346266.111712

ELECTRICAL NOTES:

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
   A. THE NATIONAL ELECTRICAL SAFETY CODE
   B. THE NATIONAL ELECTRIC CODE – NFPA–70
   C. REGULATIONS OF THE SERVING UTILITY COMPANY
   D. LOCAL AND STATE AMENDMENTS
   E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING:

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE:

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. WHERE INSTALLED ON EXTERIOR STRUCTURES OR EXPOSED TO DAMAGE, THE CONDUIT SHALL BE RIGID STEEL.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
   D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
3. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
NEC	–	NATIONAL ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL
PNLBD	–	PANELBOARD
PVC	–	RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

----E----	UNDERGROUND ELECTRICAL CONDUIT
----T----	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT–HOUR METER
---------	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
⌀	GROUND ROD
●	CADWELD
⊠	GROUND ROD WITH INSPECTION WELL

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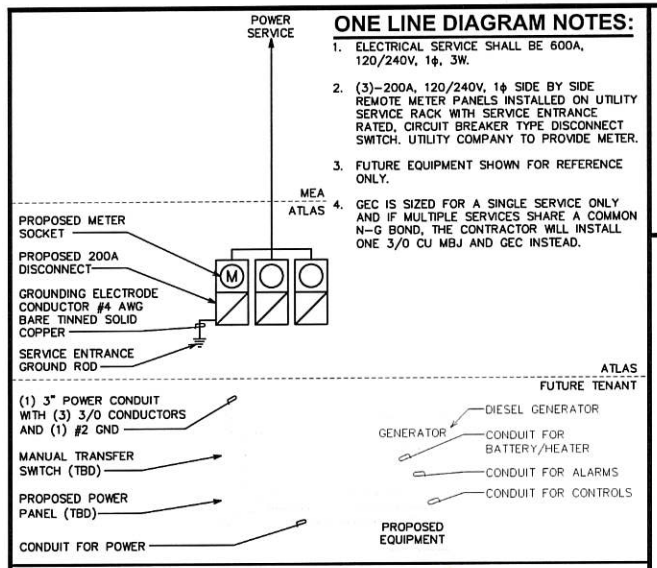
SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER: **E-1**

REVISION: 0

TEP#346266.111712



ONE LINE DIAGRAM NOTES:

1. ELECTRICAL SERVICE SHALL BE 600A, 120/240V, 1ϕ, 3W.
2. (3)–200A, 120/240V, 1ϕ SIDE BY SIDE REMOTE METER PANELS INSTALLED ON UTILITY SERVICE RACK WITH SERVICE ENTRANCE RATED, CIRCUIT BREAKER TYPE DISCONNECT SWITCH. UTILITY COMPANY TO PROVIDE METER.
3. FUTURE EQUIPMENT SHOWN FOR REFERENCE ONLY.
4. GEC IS SIZED FOR A SINGLE SERVICE ONLY AND IF MULTIPLE SERVICES SHARE A COMMON N–G BOND, THE CONTRACTOR WILL INSTALL ONE 3/0 CU MBJ AND GEC INSTEAD.

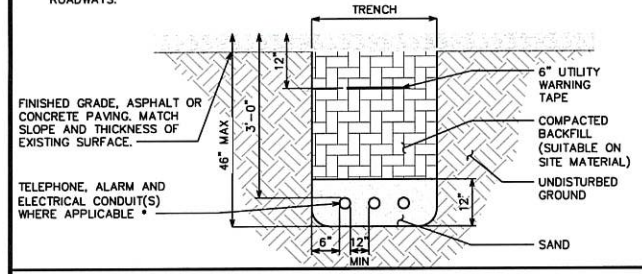
ONE-LINE DETAIL

SCALE: N.T.S.

NOTES:

1. ACTUAL SEPARATION OF CONDUITS TO BE DETERMINED BY SITE SPECIFIC REQUIREMENTS.
2. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
3. PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLES, EQUIPMENT, ETC.)
4. PROVIDE RGS CONDUIT FOR INSTALLATIONS BELOW PARKING LOTS AND ROADWAYS.

* SEPARATION DIMENSIONS TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.

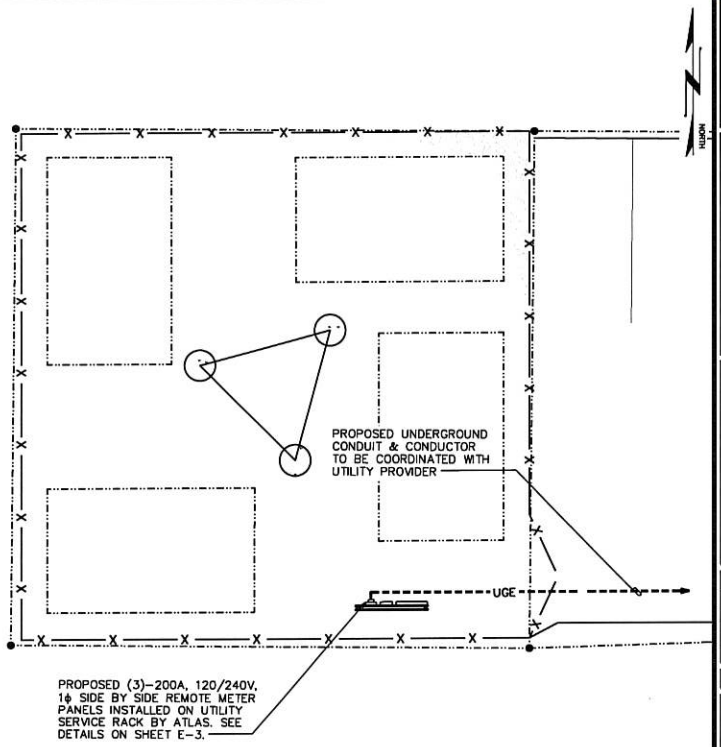


UNDERGROUND CONDUIT(S) TRENCH DETAIL

SCALE: N.T.S.

NOTES:

1. ALL TELCO CONDUITS ARE TO BE STUBBED IN D–MARC LOCATION.
2. ALL POWER CONDUITS ARE TO BE TERMINATED AT THE METER CENTER.
3. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
4. ALL CONDUITS SHALL BE INSTALLED PRIOR TO FINISH GRADING, GEOFABRIC, AND STONE INSTALLATION.
5. CONTRACTOR SHALL INSTALL SWEEPS AT ALL CONDUIT DIRECTION CHANGES.



POWER PLAN

SCALE: 1/16" = 1'–0"

0 8 16
SCALE IN FEET

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448–8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-16-25	PRELIMINARY

DRAWN BY: KES | CHECKED BY: NMC

SHEET TITLE:

POWER PLAN AND ONE-LINE DIAGRAM

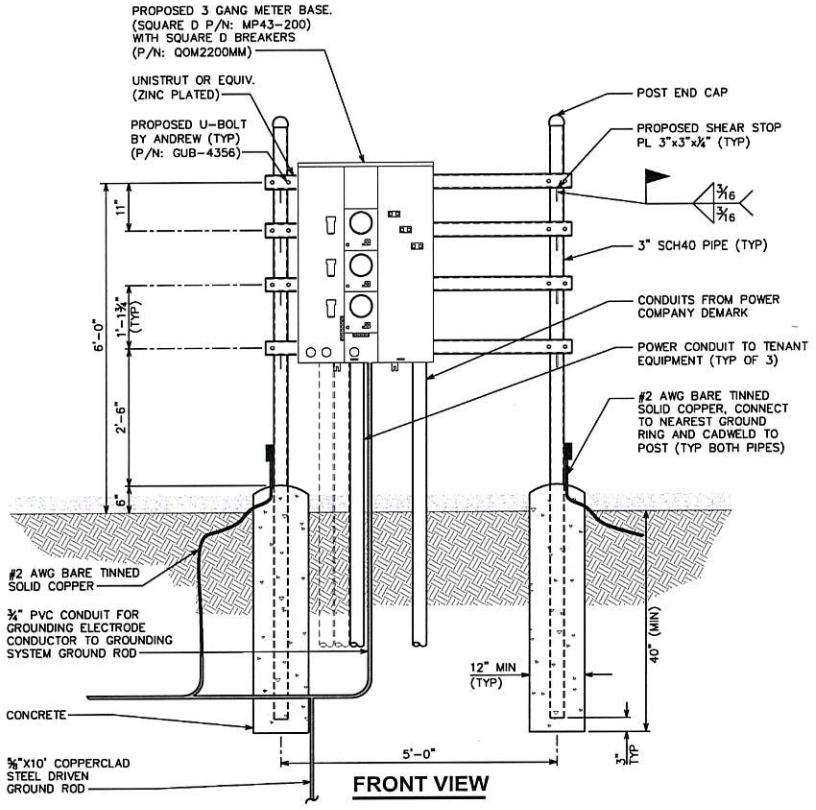
SHEET NUMBER: **E-2**

REVISION: **0**

TEP#34626.111712

NOTES:

1. REFER TO THE SITE LAYOUT PLAN FOR THE EXACT LOCATION OF THE H-FRAME.
2. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR METER.
3. UTILITY COMPANY TO PROVIDE AND INSTALL METER SOCKET.
4. CONTRACTOR TO ENSURE METER RACK WORKING SPACES REQUIRED BY THE NEC (ART. 110.26), STATE, OR LOCAL CODES ARE MAINTAINED BOTH ON THE FRONT SIDE AND THE BACK SIDE OF THE H-FRAME PRIOR TO INSTALLATION.
5. SHOW LOCATION (INCLUDING DIMENSIONS) OF ALL CAPPED UNDERGROUND CONDUIT ON FINAL AS-BUILT DRAWINGS SUBMITTED TO OWNER.
6. COORDINATE EXACT LOCATION OF UNDERGROUND FEEDERS AND CIRCUITRY WITH THE OWNER.
7. CONTRACTOR SHALL COORDINATE EFFORTS WITH (LOCAL, ELECTRICAL) AUTHORITY HAVING JURISDICTION (AHJ) AND OTHER TRADES TO DETERMINE "FROST" LINE, AND TYPE(S) OF RACEWAYS REQUIRED FOR INSTALLATION.
8. BOND ALL ELECTRICAL EQUIPMENT TO RACK.
9. DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED IN THE FIELD AS APPROVED BY OWNER TO BETTER SUIT ACTUAL CONDITIONS OR EQUIPMENT RECEIVED.



FRONT VIEW

SERVICE RACK DETAILS

SCALE: ½" = 1'-0"

0 2 4

SCALE IN FEET

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

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SEAL:

PRELIMINARY DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-16-25	PRELIMINARY

DRAWN BY: KES | CHECKED BY: ARB

SHEET TITLE:

SERVICE RACK DETAILS

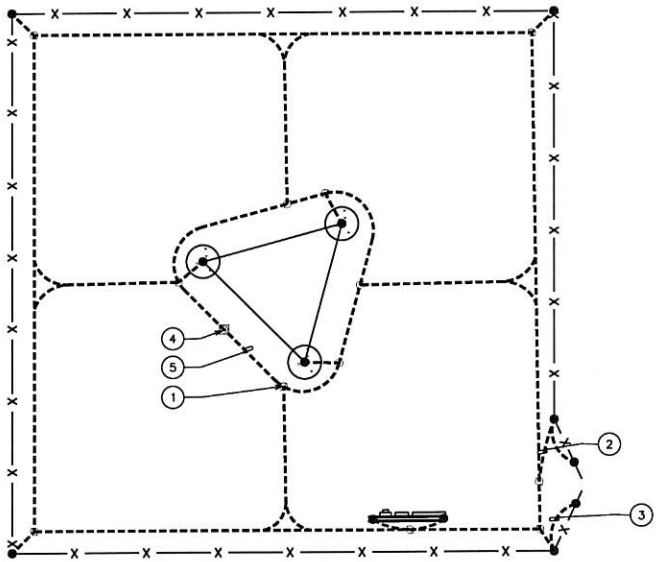
SHEET NUMBER: **E-3**

REVISION: 0

TEP#346266.111712

DRAWING NOTES:

1. ⅝"x10' COPPER GROUND ROD (TYP).
2. GATE POST BONDING. SEE DETAIL ON THIS SHEET.
3. FENCE GATE GROUNDING. SEE DETAIL ON THIS SHEET.
4. PROPOSED INSPECTION WELL. SEE DETAIL ON SHEET E-5.
5. PROPOSED TOWER GROUND RING. #2 COPPER CONDUCTOR-BARE TINNED BURIED 50" BFG BY ATLAS TOWER.

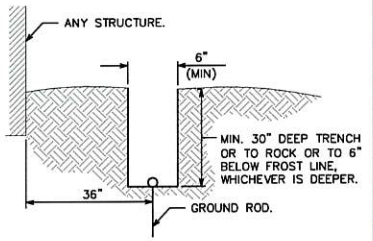


TYPICAL GROUNDING PLAN

SCALE: N.T.S.

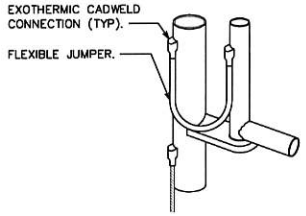
GROUNDING NOTES

1. GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 SOLID CONDUCTOR. THE TOP OF THE GROUND RODS AND THE CONDUCTOR SHALL BE 30" (MIN) BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS. (6'-0" MINIMUM; 16'-0" MAXIMUM)
2. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
3. ROUND SHELTER TO GROUND RING PER NSTD46 CELL SITE GROUNDING AND LIGHTING PROTECTION, ISSUED 2/1/11.



TRENCH DETAIL

SCALE: N.T.S.



GROUNDING AT GATE POST

SCALE: N.T.S.

PROJECT INFORMATION:

WILLOW AK - JONROWE
ATAK0008
36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-16-25	PRELIMINARY

DRAWN BY: AUW | CHECKED BY: ARB

SHEET TITLE:

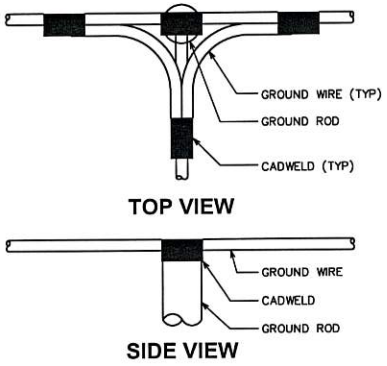
GROUNDING PLAN AND DETAILS

SHEET NUMBER: **E-4**

REVISION: 0

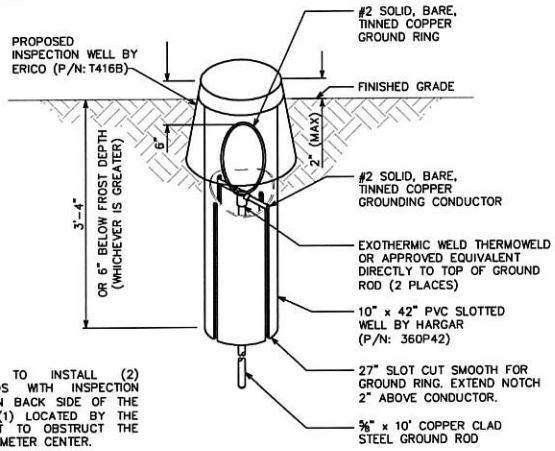
TEP# 346266.111713

NOTE:
MINIMUM SPACING OF 12" BETWEEN ALL CADWELDS



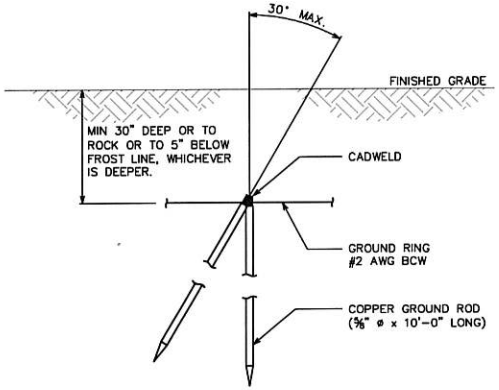
CADWELD GROUNDING DETAIL
SCALE: N.T.S.

NOT USED



NOTE:
CONTRACTOR TO INSTALL (2) GROUND RODS WITH INSPECTION WELLS. (1) ON BACK SIDE OF THE TOWER AND (1) LOCATED BY THE H-FRAME NOT TO OBSTRUCT THE PATH TO THE METER CENTER.

INSPECTION WELL DETAIL
SCALE: N.T.S.



COPPER-CLAD STEEL GROUND ROD
SCALE: N.T.S.

PROJECT INFORMATION:
WILLOW AK - JONROWE ATAK0008
36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:
ATLAS TOWER
2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:
TEP
4570 IVY STREET, SUITE B-100
DENVER, CO 80216
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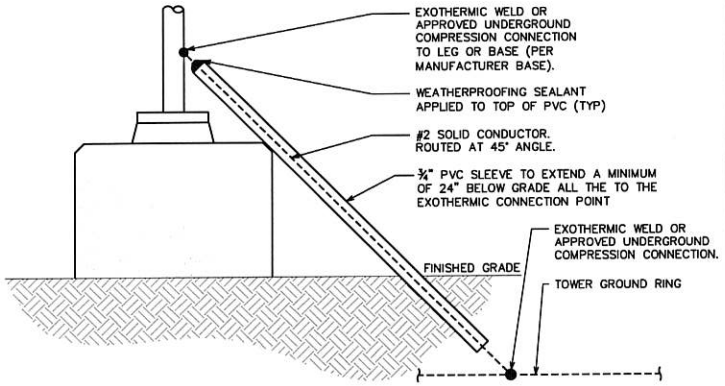
SEAL:
PRELIMINARY DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-16-25	PRELIMINARY

DRAWN BY: AKP | CHECKED BY: NMC

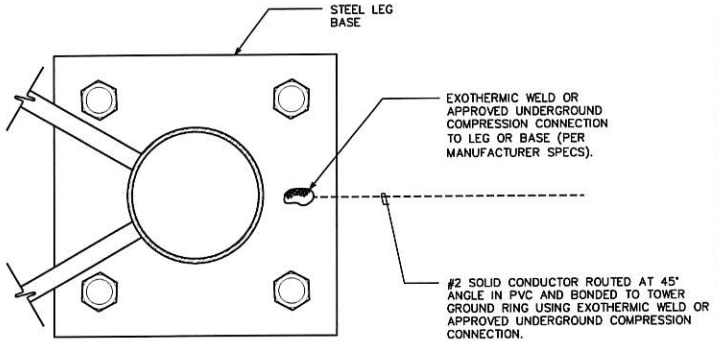
SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER: **E-5**
REVISION: 0
TEP#346266.111712



TYPICAL TOWER BASE GROUNDING DETAIL

SCALE: N.T.S.



TYPICAL TOWER GROUNDING

SCALE: N.T.S.

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

PRELIMINARY
DO NOT USE FOR CONSTRUCTION

REV	DATE	ISSUED FOR:
0	06-16-25	PRELIMINARY

DRAWN BY: AKP | CHECKED BY: NMC

SHEET TITLE:

TOWER FOUNDATION GROUNDING DETAILS

SHEET NUMBER: **E-6**

REVISION: 0

TEP#346266.111712

6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-AAL-34-OE.

Signature Control No: 644730003-646983088 (DNE)
Paul Holmquist
Specialist

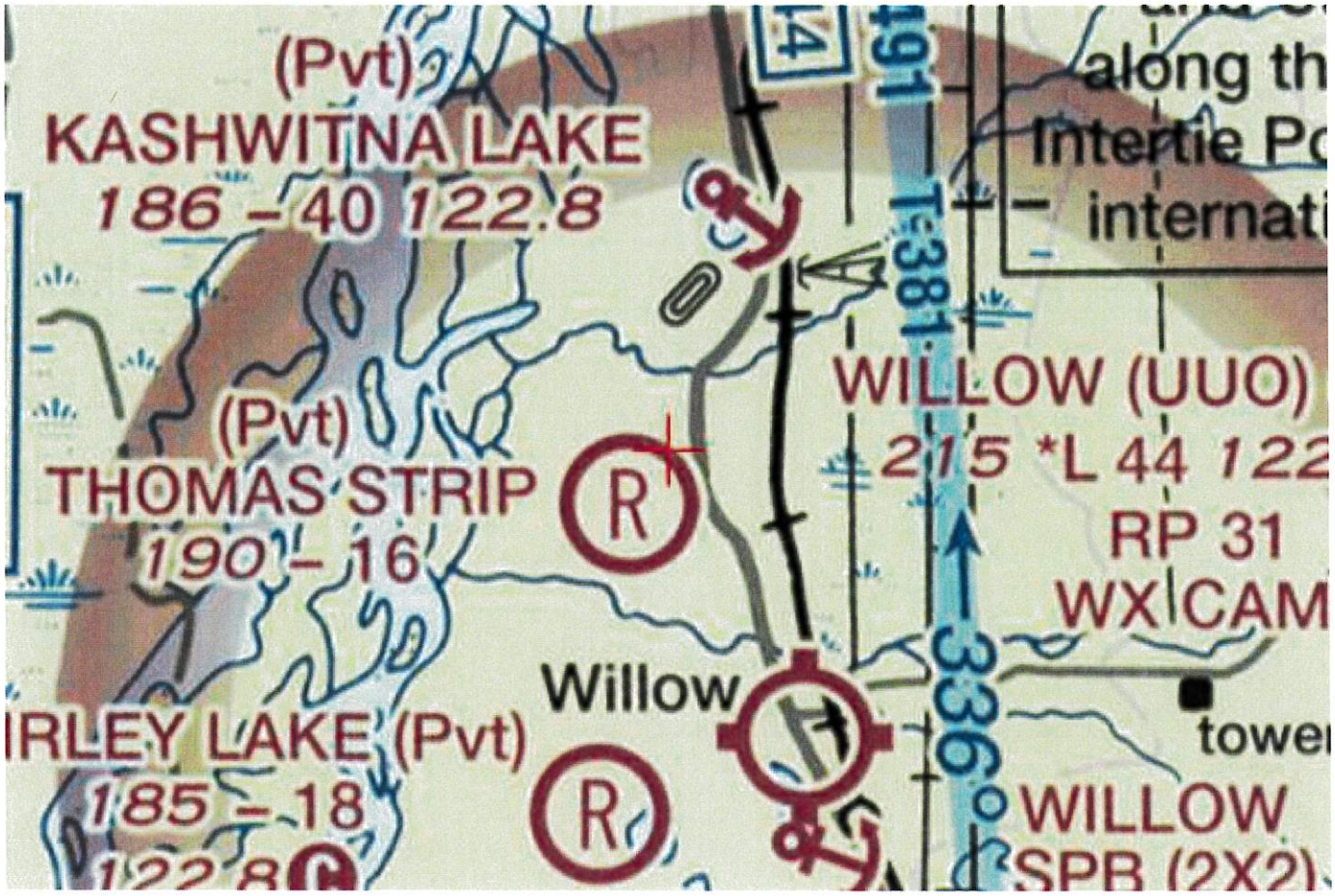
Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2025-AAL-34-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Sectional Map for ASN 2025-AAL-34-OE



File Notice

My Recent Activity

Form Approved OMB No.2120-0001
Expiration Date: 05/31/2026

Privacy Act Statement (5 U.S.C. § 552a(e)(3)): Authority: Information solicited by the Federal Aviation Administration (FAA) Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) is authorized by 49 U.S.C. § 44718 and 47101 Purpose: The FAA OE/AAA is an application used to evaluate all structures that may affect the national airspace system and defend against potential hazards to the safety and efficient use of the navigable airspace. The information collected is used to allow a user access to the OE/AAA and to administer the Aeronautical Study Process. Routine Uses: In accordance with the Privacy Act system of records notice, DOT/ALL 16 Mailing Management System and DOT/FAA 826 Petitions for Exemptions, Other than Medical Exemptions this information may be disclosed to officials within the federal government and the public in general. DOT/ALL 13 - Internet/Intranet Activity and Access Records, this information is routinely used; • To provide information to any person(s) authorized to assist in an approved investigation of improper access or usage of DOT computer systems; • To an actual or potential party or his or her authorized representative for the purpose of negotiation or discussion of such matters as settlement of the case or matter, or informal discovery proceedings; • To contractors, grantees, experts, consultants, detailees, and other non-DOT employees performing or working on a contract, service, grant cooperative agreement, or other assignment from the Federal government, when necessary to accomplish an agency function related to this system of records; and • To other government agencies where required by law.

Disclosure: Submission of the information is voluntary, however, failure to submit requested information will result in FAA's inability to grant you access to the system and may result in an inability of the FAA to process the notice or administer the aeronautical study process for the construction, alteration, activation, or deactivation proposed.

Failure to Provide All Requested Information May Delay Processing of your Notice

U.S. Department of Transportation
Federal Aviation Administration

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY

Aeronautical Study Number
2025-AAL-341-OE

Status: Reviewing

1. Sponsor

Name:	ATLAS TOWER 1, LLC				
Attn of:	MIKE POWERS				
Address:	2500 30th St				
	Suite 304				
City:	Boulder	State:	CO	Zip:	80301
Country:	US				
Phone:	tel:+1-1-303-448-8896		Fax:		

2. Sponsor's Representative

Name:	CORNELIUS WHITEHEAD				
Attn of:	JOCELYN GIFFORD				
Address:	2500 30th St				
	Ste 304				
City:	Boulder	State:	CO	Zip:	80301
Country:	US				
Phone:	tel:+1-1-303-887-0752		Fax:		

9. Latitude: See Collected Point(s)

10. Longitude: See Collected Point(s)

11. Datum: See Collected Point(s)

12. Nearest: City: Willow State: Alaska

13. Nearest *Public-use* or Military Airport or Heliport: WILLOW(UUO)

14. Distance from #13. *to Structure*: 16024 ft.

15. Direction from #13. *to Structure*: 333 deg

16. Site Elevation *(SE)*: See Collected Point(s)

17. Structure Height *(AGL)*: See Collected Point(s)

18. Overall Height (#16 + #17) *(AMSL)*: See Collected Point(s)

Current Overall Height (#16 + #17) *(AMSL)*: See Collected Point(s)

19. Previous FAA Aeronautical Study Number *(if applicable)*:

20. Description of Location:

3. Notice of: Construction

4. Duration: Permanent (Months: Days:)

5. Work Schedule: N/A

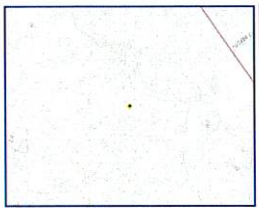
6a. Type: Antenna Tower **6b. Name:** Willow - Jonrowe

7. Preferred Marking/Lighting: Not Marked/No Lighting

Current Marking/Lighting:

8. FCC Antenna Registration Number *(if applicable)*:

36596 W Parks Hwy, Willow, AK 99688



Processed 7460-2 Forms :

Supplemental Form 7460-2 : Add 7460-2

21. Description of Proposal:
125' wireless telecommunications facility (lattice) contained within a 50' x 50' fenced compound

Frequencies:			Specific Frequencies:		
LOW	HIGH	ERP	LOW	HIGH	ERP

Collected Point(s):

Label	Latitude	Longitude	Datum	AGL	SE	SE Validation	SE Comments
pt-1	61 47 36.82N	150 05 36.56W	WGS 84	125 ft	186 ft	FAILED	google earth ele...

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

This FAA Form 7460-1 was submitted electronically on 06/05/2025 at 15:50 PM EDT.

Title	Type	File
Letter	Date	

Previous

Blank

Updated Information

Atlas Tower 1, LLC
2500 30th St, Suite 304
Boulder, CO 80301
(303) 448-8896

June 6, 2025

Matanuska-Susitna Borough Development Services Division
350 E. Dahlia Ave
Palmer, AK 99645

RE: Administrative Permit Narrative for Telecommunications Facility
Site Name: Willow

To Whom It May Concern:

Atlas Tower 1, LLC is submitting an Administrative Permit Application to the Mat-Su Borough Development Services Division for review of a new proposed wireless telecommunications facility build on the property of 36596 W Parks Hwy, Willow, AK, 99688, **Parcel ID: 19871**. This letter shall serve as a narrative for the proposed **125' Lattice** telecommunications facility and how this project will provide the needed mobile network coverage while reducing the need for additional cellular facilities in the future. This project is being proposed and this justification is being provided in an effort to alleviate current mobile network voice, data, and first responder issues in an area that is severely lacking reliable network coverage and capacity.

SITE DETAILS

Land Owner: Jonrowe Michael D & Dee D PO BOX 272 Willow, AK, 99688	**Site Address:** 36596 W Parks Hwy Willow, AK, 99688 Parcel #: **19871**
Applicant: Atlas Tower 1, LLC 2500 30th St., Suite 304 Boulder, CO 80301	**Coordinates:** Latitude: 61.793560 Longitude: -150.093490 Ground Elevation: 186'
Zoning: TOWNSHIP 20N RANGE 5W SECTION 25 LOT A11	**Lease Area:** 50' x 50'

PROPOSAL SUMMARY

The purpose of this request is to build a 125' self support telecommunications tower within a 50' x 50' wireless facility. This facility will provide critical wireless coverage to the surrounding area. The proposed site is zoned as General-Use where coverage is lacking, and the capacity of the existing infrastructure is reaching its limit. As the area develops further, and the existing users demand more data for their existing devices, existing infrastructure will reach capacity limits and be unable to meet coverage needs. This tower and facility will be used for structural support of up to four wireless providers. Each provider will install antennas and on-the-ground base-station equipment.

WIRELESS TELECOMMUNICATION FACILITY CHARACTERISTICS

Visual Effect

We strive to design our facilities and locate parcels that create the least amount of community disturbance. The surrounding area is a largely wooded rural area with low density residential zones nearby. The proposed site is chosen to maximize visual aesthetic and distance from residential homes. Photo sims have been included with views from the adjacent highway.

Proximity to Airports, Trails and Waterbodies

There is one airport near the facility. The selected site is approx. 0.8 miles from AK08 - Thomas Strip airport. The site is not in line with any of the runways and does not pose a hazard to air navigation. The nearest trailhead, noted as 164 - Lucky Shot on MSB trail plans, is approx. 2 miles to the SW. Due to the topography and trees, the tower is not expected to be visible from the trail. The next nearest trails are about 5 miles to the NE and should not have visibility of the tower. Emil Stancec Sled Dog Trail 183 is located approx. 6.75 miles to the north east and will not have visibility of the tower due to distance and tree coverage. The nearest waterbody, Little Willow Creek is approx. 1 mile north and we do not expect visibility of the tower from this location due to the trees and topography. Kashwitna Lake, is approx. 2.5 miles to the north. We do not expect visibility of the tower from this location. Willow Creek is approx. 1.5 miles south and for the same reasons above, we do not expect visibility. Susitna River 1.5 miles to the west will not have visibility of the tower on account of the elevation difference and dense tree coverage.

Frequency Of Maintenance Work On The Proposed Facility

On average, after initial installation, a carrier or its contactors would likely visit the facility about one to four times a year for maintenance, though this number could vary depending on the specific circumstances of the facility.

The Average Number Of Vehicles Visiting The Facility and Average Duration of Facility Work

The average maintenance visit by a carrier or its contractors would likely involve one pickup truck. On average, one to two visits a year are made for each carrier. For typical maintenance visits, a carrier or its contactors would only be at the site a few hours, but this number could increase depending on the work that needed to be completed at the site.

Access and Utility Timeline for Construction

Our expected timeline is to acquire and install our access and utility easements around the time of construction for the tower. The access and the utility easement is detailed in the signed lease agreement with the landowner and Atlas Tower. Any additional power easements will be worked out with MEA.

Expected Noise Levels

Telecommunications facilities are essentially silent. This would be true whether there were one or four carriers. A generator could be operated on site in the rare instance that power went out. The generator would create noise, but it would not be noticeable or audible in the location the telecommunications facility is proposed to be.

Setback Compliance

The proposed tower has been setback 150’ from any property line in order to maintain compliance with the Matanuska Susitna Borough Code requirements.

Site Security and Warnings
The proposed tower shall be secured with a locked 8’ chain link fencing with an additional 1’ of barbed wire on top to prevent unauthorized visitors. The proposed facility will operate at 220 Volts and will not require a sign.

Building Codes; Safety Standards
Atlas Tower will ensure the structural integrity of towers, ensure that it is maintained in compliance with standards contained in applicable state or local building codes and the applicable standards for towers that are published by the Electronic Industries Association, as amended from time to time. Granting of this permit will not be harmful to the public health, safety, convenience, or welfare. If, upon inspection, Matanuska-Susitna Borough concludes that a tower fails to comply with such codes and standards and constitutes a danger to persons or property, then upon notice being provided to the owner of the tower, the owner shall have thirty (30) days to bring such tower into compliance with such standards, unless a longer time is reasonably necessary. Failure to bring such a tower into compliance within said thirty (30) days shall constitute grounds for the removal of the tower or antenna at the owner's expense.

FAA/FCC Compliance
The proposed facility shall conform to the requirements of this title, this code, and other laws, including pertinent federal regulations of the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA) when determined.

This narrative represents required and supplementary information to document the technological, economic, and social necessity and benefits of a new 125’ self support telecommunications tower in Willow. The information provided highlights the advantages associated with a telecommunications facility at our proposed site. Please see attached documents with site plans, RF propagation maps, and Tall Structure Application

Atlas Tower 1, LLC respectfully requests the acceptance and approval of our application for the proposed communications tower facility. Please reach out if there are any questions or additional documents needed.

Best Regards,

Parker Bingham
(916) 505-1017
pbingham@atlastowers.com
2500 30th St. Suite 304
Boulder, CO 80301

Return to:
Atlas Tower 1, LLC
3002 Bluff Street, Suite 300
Boulder, CO 80301

MEMORANDUM OF LEASE AGREEMENT

This Memorandum of Lease evidences a Lease ("Lease") is made upon the date of the last signee, in the recording district of Mat-Su Borough County, AK, by and between, JONROWE MICHAEL D & DEE D (the "Landlord"), whose address is PO BOX 272 WILLOW, AK 99688, and Atlas Tower 1, LLC (the "Tenant"), whose address is 3002 Bluff Street, Suite 300, Boulder, CO 80301, commencing upon the earlier of (1) the election of Tenant by sending Notice of Commencement to Landlord or (2) on the first day of the month following site construction completion (the "Commencement Date"), which shall be confirmed in writing from Tenant to Landlord, for certain real property (the "Premises"), as described in Exhibit 1 attached hereto.

Landlord ratifies, restates and confirms the Lease and hereby grants to Tenant the option to lease the Premises, subject to the terms and conditions of the Lease. The Lease provides for the Lease by the Landlord to Tenant of the Premises for [a/an initial] term of 360 Months with Four 5-year Extensions each, and further provides:

1. Landlord will attorn to any mortgagee of Tenant and will subordinate any Landlord's lien to the liens of Tenant's mortgagees;

2. The Lease restricts Landlord's ability to utilize, or allow the utilization of its adjacent property for the construction, operation and/or maintenance of communications towers and related facilities;

3. The Premises may be used exclusively by Tenant for all legal purposes, including without limitation, erecting, installing, operating and maintaining radio and communications towers, buildings, and equipment;

4. Tenant is entitled to sublease and/or sublicense the Premises, including any communications tower located thereon; and,

5. Under certain circumstances, Tenant has a right of first refusal to acquire the Premises from Landlord.

6. Landlord authorizes Tenant, and any of Tenants agents or representatives, to seek, applies for, and secure any and all permits related to the installation of a wireless communications tower and facility.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK, SIGNATURES BEGIN ON NEXT TWO PAGES]

IN WITNESS WHEREOF, the parties hereto have executed this MEMORANDUM OF LEASE as of the date last signed by a party hereto.

LANDLORD:

JONROWE MICHAEL D & DEE D

Signature: Michael Jonrowe Dee Dee Jonrowe

Printed Name: MICHAEL JONROWE DEE DEE JONROWE

Title: OWNER

Date: 11-15-2023

State of Alaska
County of 3rd Judicial District

OFFICIAL SEAL
Crystal E. Riley
-Notary Public-State of Alaska
My Comm. Expires: 09/16/2026

On this 15 day of November, 2023 before me personally appeared Michael D & Dee Dee Jonrowe to me known (or proved to me on the basis of satisfactory evidence) to be the persons described in and who executed the foregoing instrument and acknowledged that they executed the same as their free act and deed.

WITNESS my hand and Official Seal at office this 15 day of November, 2023

Notary Public

My Commission Expires:
September 16 2026

TENANT:

Atlas Tower 1, LLC

Signature: _____

Printed Name: Helmundt Strumpher

Title: COO

Date: 11-28-23

State of Colorado _____
County of Boulder _____

On this 28th day of November, 2023 before me personally appeared Helmundt Strumpher, the Chief Operations Officer of Atlas Tower 1, LLC, to me known (or proved to me on the basis of satisfactory evidence) to be the persons described in and who executed the foregoing instrument and acknowledged that he executed the same as his free act and deed.

WITNESS my hand and Official Seal at office this 28th day of November, 2023

Lyudmyla Christenson
Notary Public

My Commission Expires:
March 31st, 2026

Lyudmyla Christenson
Notary Public, State of Colorado
Notary ID 20224012777
My Commission Expires 03/31/2026

Exhibit 1

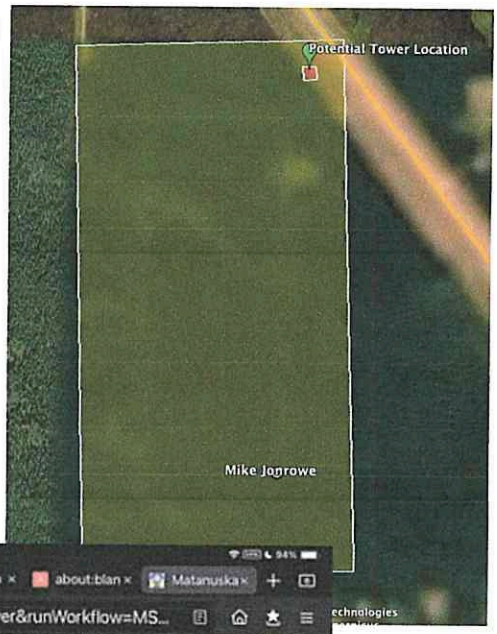
Description of Parent Tract

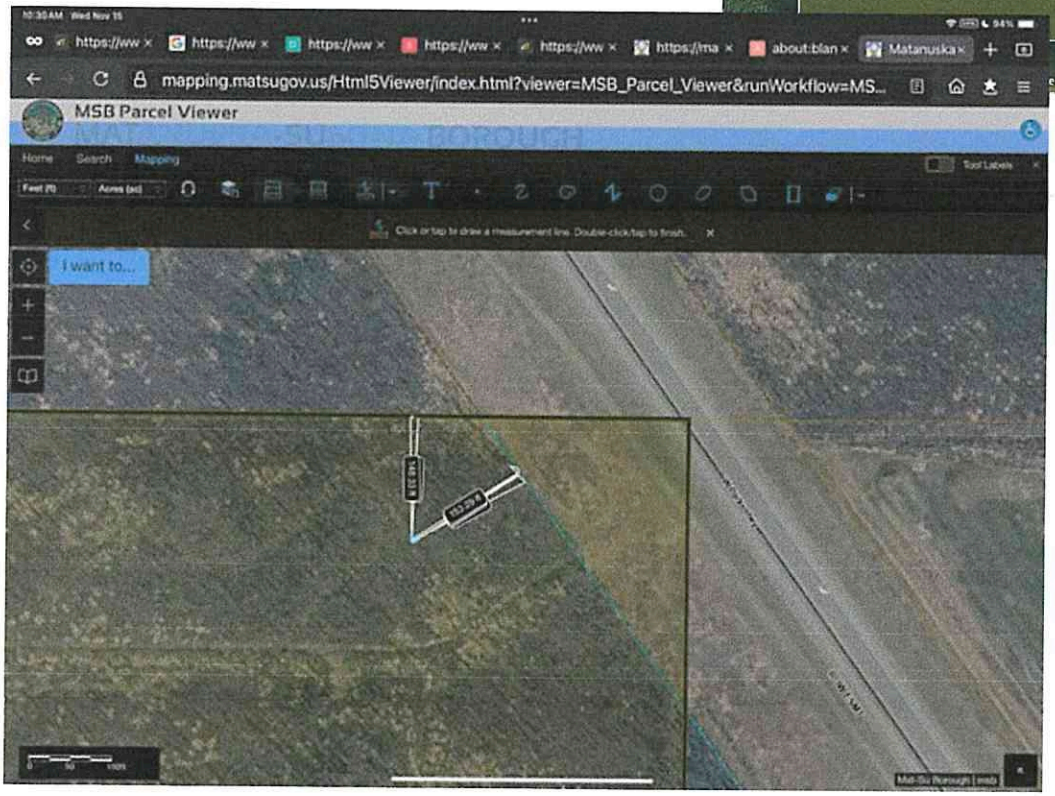
Real property with parcel number 19871 and an assessor legal description of TOWNSHIP 20N RANGE 5W SECTION 25 LOT A11.

EXHIBIT 2

The Premises is depicted/described as follows (50 feet x 50 feet, measuring 2500 sq. feet.) and will be replaced by a surveyed legal description when available. The Tower Location will potentially be in the location indicated by the red area on the image below, and will be a maximum of 150 feet from the north east corner of the property:







Tower Name: Willow_JONROWE MICHAEL D & DEE D

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2025-AAL-341-OE

Issued Date: 06/20/2025

ATLAS TOWER 1, LLC
MIKE POWERS
2500 30th St
Suite 304
Boulder, CO 80301

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower Willow - Jonrowe
County, State: Matanuska-Susitna, Alaska

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
pt-1	61-47-36.82N	150-5-36.56W	186 Ft	125 Ft	311 Ft

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

_____ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This determination expires on 12/20/2026 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at 1-206-231-2993, or lynnette.farrell@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-AAL-341-OE.

Signature Control No: 662160810-664337823 (DNE)
lynnette.farrell@faa.gov
Technician

Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2025-AAL-341-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	42	dBW
6	7	GHz	55	dBW
10	11.7	GHz	42	dBW
10	11.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
21.2	23.6	GHz	42	dBW
21.2	23.6	GHz	55	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	824	MHz	500	W
806	901	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Verified Map for ASN 2025-AAL-341-OE



TOPO Map for ASN 2025-AAL-341-OE



SITE NAME:	WILLOW AK - JONROWE ATAK0008
PROJECT DESCRIPTION:	PROPOSED TELECOMMUNICATIONS FACILITY
TOWER TYPE:	125' SELF SUPPORT TOWER
SITE ADDRESS:	36596 W PARKS HWY WILLOW, AK 99688 (MATANUSKA SUSITNA BOROUGH)
AREA OF CONSTRUCTION:	2,500± SQ. FT. (LEASE AREA)
JURISDICTION:	MATANUSKA SUSITNA BOROUGH
ZONING:	GENERAL USE
PARCEL #:	19871
ACCOUNT #:	220N05W25A011

PROJECT INFORMATION

LATITUDE	N 61° 47' 36.8154"	(NAD '83) *
LONGITUDE	W 150° 05' 36.564"	(NAD '83) *

SITE COORDINATES



LOCATION MAP

FROM TED STEVENS ANCHORAGE INTERNATIONAL AIRPORT: HEAD NORTHWEST ON POSTMARK DR/ SATELLITE DR TOWARD TOM WARDLEIGH DR. TURN RIGHT ONTO LAKE HOOD DR. TURN RIGHT ONOT W NORTHERN LIGHTS BLVD. CONTINUE ONTO BENSON BLVD. TURN LEFT ONTO AK-1 N. TURN RIGHT ONTO E 6TH AVE. CONTINTUE ONTO AK-1 N/ E 5TH AVE. IN APPROXIMATELY 34 MILES CONTINUE ONTO AK-3 N FOR 39 MILES. TURN LEFT ONTO W GRATIOT DR. TURN RIGHT ONTO TRANQUILITY PL. TURN LEFT ONOT MALEIA LN. TURN RIGHT ONTO SERENITY DR. SITE WILL BE IN THE FIELD.

DRIVING DIRECTIONS

ATLAS TOWER



SITE NAME:
WILLOW AK - JONROWE
ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

(800) 662-4111

EMERGENCY:

CALL 911

811 Know what's below. Call before you dig.

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING:

1. INTERNATIONAL BUILDING CODE (2015 EDITION)
2. INTERNATIONAL CODE COUNCIL
3. CBC/TIA-222-G
4. NATIONAL ELECTRIC CODE (2014 EDITION)
5. LOCAL BUILDING CODE
6. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

CONSTRUCTION OF A TELECOMMUNICATION FACILITY, CONSISTING OF ANTENNAS & ASSOCIATED APPURTENANCES ON A PROPOSED SELF SUPPORT TOWER, FENCED COMPOUND & SERVICE EQUIPMENT FOR FUTURE CARRIERS. NO WATER OR SEWER IS REQUIRED.

1. FACILITY DESIGNED IN ACCORDANCE WITH MATANUSKA-SUSITNA BOROUGH REGULATIONS.
2. THIS IS AN UNMANNED FACILITY WHICH WILL NOT REQUIRE ANY WATER OR SEWER FACILITIES.
3. TRAFFIC WILL CONSIST ONLY OF MAINTENANCE PERSONNEL, VISITING THE SITE APPROXIMATELY TWICE A MONTH.

PROJECT DESCRIPTION & NOTES

SITE CONSTRUCTION MANAGER:

NAME: WiBLUE, INC.
CONTACT: COREY BONNER
PHONE: (986) 206-7071

SITE APPLICANT:

NAME: WiBLUE, INC
ADDRESS: 2500 30TH STREET, SUITE 304
CITY, STATE, ZIP: BOULDER, CO 80301
CONTACT: CORNELIUS WHITEHEAD
PHONE: (720) 466-1508

ORIGINAL SURVEYOR:

NAME: TBD
ADDRESS:
CITY, STATE, ZIP:
PHONE:

CIVIL ENGINEER:

NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: ANDREW HALDANE, P.E.
PHONE: (919) 661-6351

ELECTRICAL ENGINEER:

NAME: TOWER ENGINEERING PROFESSIONALS
ADDRESS: 326 TRYON ROAD
CITY, STATE, ZIP: RALEIGH, NC 27603
CONTACT: ANDREW HALDANE, P.E.
PHONE: (919) 661-6351

PROPERTY OWNER:

NAME: JONROWE MICHAEL D & DEE DEE A S
ADDRESS: PO BOX 272
CITY, STATE, ZIP: WILLOW, AK 99688

UTILITIES:

POWER COMPANY: MATANUSKA ELECTRIC ASSOCIATION
PHONE: (907) 761-9300
METER # NEAR SITE:

FACILITY OWNER:

NAME: ATLAS TOWER 1, LLC
ADDRESS: 2500 30TH STREET, SUITE 304
CITY, STATE, ZIP: BOULDER, CO 80301

CONTACT INFORMATION

SHEET	DESCRIPTION	REV
T1	TITLE SHEET	2
N1	GENERAL NOTES	2
C1	SITE PLAN	2
C2	COMPOUND DETAIL	2
C3	TOWER ELEVATON	2
C4	FENCE DETAILS	2
C5	SOIL & EROSION CONTROL PLAN	2
C5A	SOIL & EROSION CONTROL PLAN	2
C6	SILT FENCE DETAILS	2
C7	DRIVEWAY DETAILS	2
C8	SIGNAGE DETAILS	2
E1	ELECTRICAL NOTES	2
E2	POWER PLAN & ONE-LINE DIAGRAM	2
E2A	EXTENDED SERVICE POWER PLAN	2
E3	SERVICE RACK DETAILS	2
E4	GROUNDING PLAN & DETAILS	2
E5	GROUNDING DETAILS	2
E6	TOWER FOUNDATION GROUNDING DETAILS	2

INDEX OF SHEETS

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

REV	DATE	ISSUED FOR:
2	10-21-25	ISSUED FOR PERMITTING
1	08-25-25	PRELIMINARY
0	06-16-25	PRELIMINARY

DRAWN BY: KES | CHECKED BY: KES

SEAL:

TEP OPCO, LLC AECL1616

STATE OF ALASKA 49TH
Andrew T. Haldane
No. AELCE 11742
REGISTERED PROFESSIONAL ENGINEER

SEAL:

SHEET NUMBER: T-1

REVISION: 2

TEP#: 346266.1117112

TEP is a family of companies licensed to provide different services in different jurisdictions. Depending on the jurisdiction, professional engineering and land surveying services are provided by TEP OpCo LLC, a Delaware limited liability company, TEP Engineering, PLLC, a North Carolina professional limited liability company, or M&H Engineering, PLLC, a New York professional limited liability company. General contractor services are provided by TEPDB OpCo LLC, a Delaware limited liability company. We acquire the requisite licenses in each state. Additional information can be obtained from the company.

GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED ATLAS TOWER 1, LLC, OR ITS DESIGNATED REPRESENTATIVE.

2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.

3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-H. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION.

4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2015 EDITION.

5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.

6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.

7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.

8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.

9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.

11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.

12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.

13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.

14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.

15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.

16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.

17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.

18. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.

2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
   A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
   B. ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
   C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
   D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.

3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION FOR MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.

4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.

5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.

6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.

7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.

8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.

9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.

10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.

11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.

12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.

13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.

14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.

15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE – STEEL.

PROJECT INFORMATION:

WILLOW AK - JONROWE ATAK0008

36596 W PARKS HWY
WILLOW, AK 99688
(MATANUSKA SUSITNA BOROUGH)

PLANS PREPARED FOR:

ATLAS TOWER

2500 30TH ST, SUITE 304
BOULDER, CO 80301
Office: (303) 448-8896

PLANS PREPARED BY:

TEP

4570 IVY STREET, SUITE B-100
DENVER, CO 80216
OFFICE: (303) 566-9914
www.tepgroup.net

SEAL:

TEP OPCO, LLC AECL1616

STATE OF ALASKA 49TH
Andrew T. Haldane
No. AELCE 11742
10/21/2025
REGISTERED PROFESSIONAL ENGINEER

October 21, 2025

REV	DATE	ISSUED FOR:
2	10-21-25	ISSUED FOR PERMITTING
1	08-25-25	PRELIMINARY

DRAWN BY: KES | CHECKED BY: KES

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER: **N-1**

REVISION: 2

TEP# 346266.1117112

LEGEND

———	PARENT PROPERTY LINE
-------	ADJACENT PROPERTY LINE
◉	PROPERTY CORNER
●	EASEMENT/LEASE CORNER
XFMR	EXIST. TRANSFORMER
	EXIST. UTILITY POLE
	EXIST. LIGHT POLE
T	EXIST. TELCO PEDESTAL
M	EXIST. METER
--4650--	EXIST. CONTOUR LINE
	EDGE OF PAVEMENT
---OHW---	OVERHEAD WIRE
----F----	BURIED FIBER
----G----	GAS LINE
---R/W---	RIGHT-OF-WAY
—— X ——	FENCE
	EXISTING TREE LINE

SITE COORDINATES

LATITUDE:	N 61° 47' 36.8154" (NAD '83)
LONGITUDE:	W 150° 05' 36.564" (NAD '83)

TOWER SETBACKS

PROPERTY LINE	REQUIRED	PROPOSED
NORTH	125'-0"	1594'-1"±
EAST	125'-0"	125'-0"±
SOUTH	125'-0"	1036'-10"±
WEST	125'-0"	1191'-0"±

NOTES:

1. SITE PLAN WAS PREPARED USING AERIAL IMAGERY AND DATA FROM MATANUSKA-SUSITNA GIS. FOR CORRECTIVE ACTION, PLEASE CONTACT TEP.
2. THE TOWER IS LOCATED IN ZONE "X" AREA OF MINIMAL FLOO HAZARD ACCORDING TO FEMA FLOOD MAP 02170C6061F, DATED SEPTEMBER 27, 2019.

NORTH

TREES/ SHRUBS

PROPOSED 125' SELF SUPPORT TOWER BY ATLAS. SEE ELEVATION ON SHEET C-3.

PROPOSED 50'X50' LEASE AREA BY ATLAS. SEE DETAILS ON SHEET C-2.

PROPOSED 16'-WIDE GRAVEL ACCESS DRIVE BY ATLAS.

PROPOSED VEGETATION CLEARING LINE

PROPOSED 20'-WIDE ACCESS & UTILITY EASEMENT BY ATLAS.

N/F
JONROWE MICHAEL & DEE DEE
ACCT#: 20N05W25A011

N/F
OWEN FAMILY PROPERTIES LLC
ACCT#: 84310001001

0 50 100
SCALE IN FEET

SITE PLAN
SCALE: 1" = 50'

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WILLOW, AK 99688
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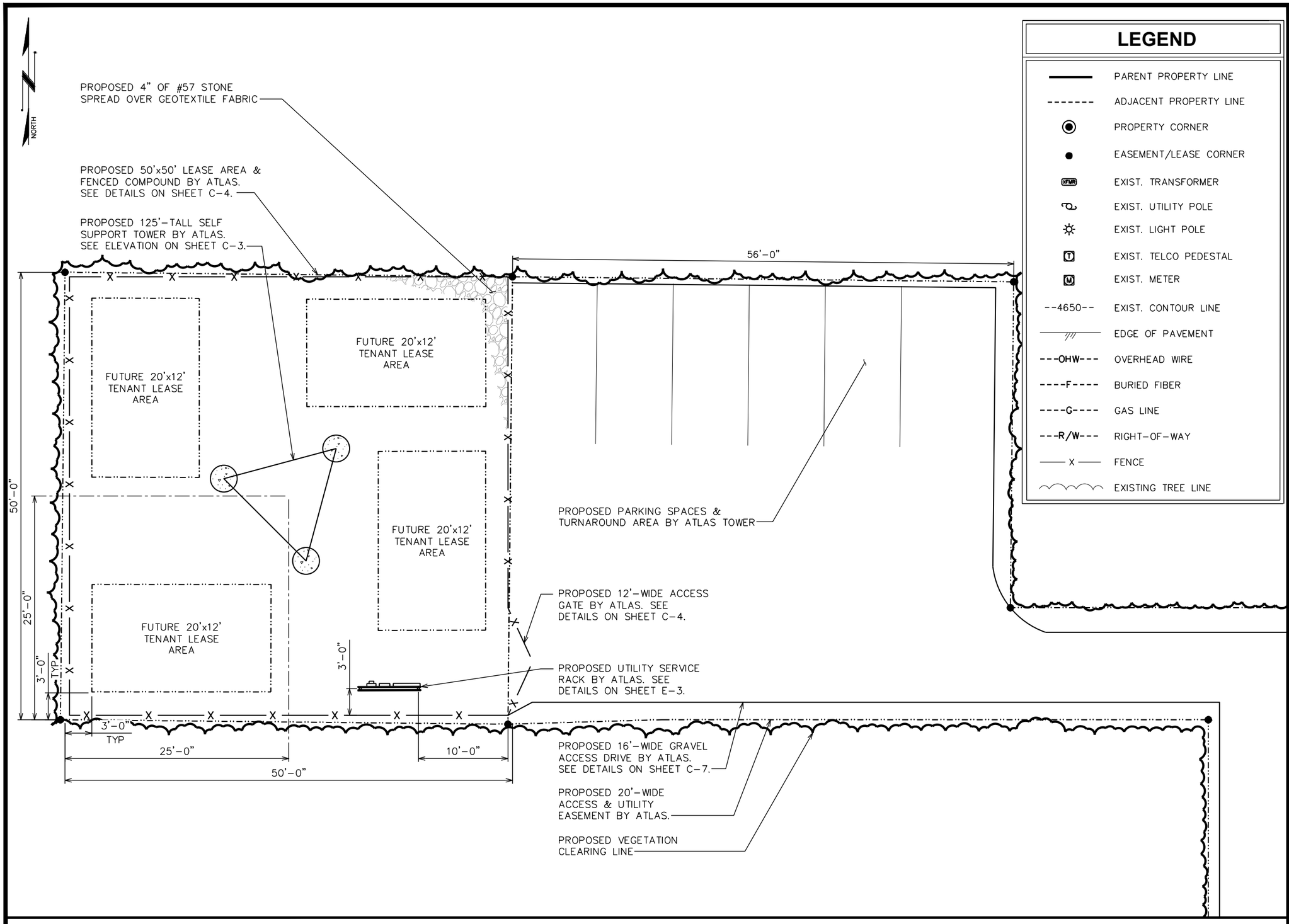
SHEET TITLE:

SITE PLAN

SHEET NUMBER: **C-1**

REVISION: **2**

TEP#346266.1117112



LEGEND

- PARENT PROPERTY LINE
- ADJACENT PROPERTY LINE
- PROPERTY CORNER
- EASEMENT/LEASE CORNER
- EXIST. TRANSFORMER
- EXIST. UTILITY POLE
- EXIST. LIGHT POLE
- EXIST. TELCO PEDESTAL
- EXIST. METER
- --4650-- EXIST. CONTOUR LINE
- EDGE OF PAVEMENT
- ---OHW--- OVERHEAD WIRE
- ----F----- BURIED FIBER
- ----G---- GAS LINE
- ---R/W--- RIGHT-OF-WAY
- —— X —— FENCE
- EXISTING TREE LINE

COMPOUND DETAIL

SCALE: 3/32" = 1'-0"

0 8 16

SCALE IN FEET

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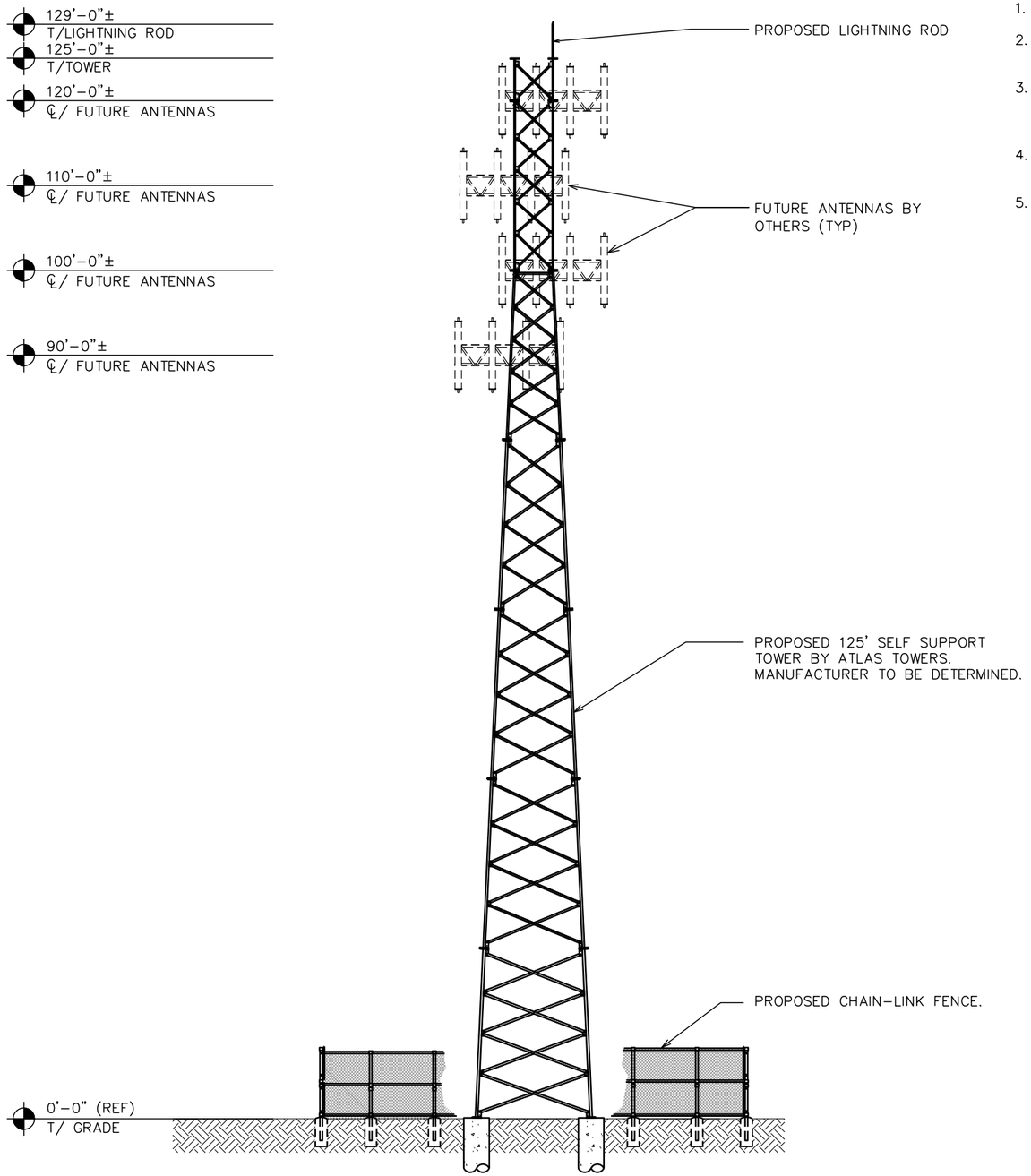
SHEET TITLE:

COMPOUND DETAIL

SHEET NUMBER: **C-2**

REVISION: 2

TEP# 346266.111712



NOTES:

1. TOWER TO REMAIN A GALVANIZED COLOR.
2. TOWER SHALL BE LIT ONLY IF REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION.
3. PROPOSED COAX TO BE ROUTED UP WAVEGUIDE LADDER. (PROVIDED BY TOWER MANUFACTURER)
4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.
5. TOWER EQUIPMENT LOADING AND CENTERLINES ARE SHOWN FOR REFERENCE ONLY AND ARE SUBJECT TO CHANGE.

TOWER ELEVATION

SCALE: 1/16" = 1'-0"

0 16 32

SCALE IN FEET

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SHEET TITLE:

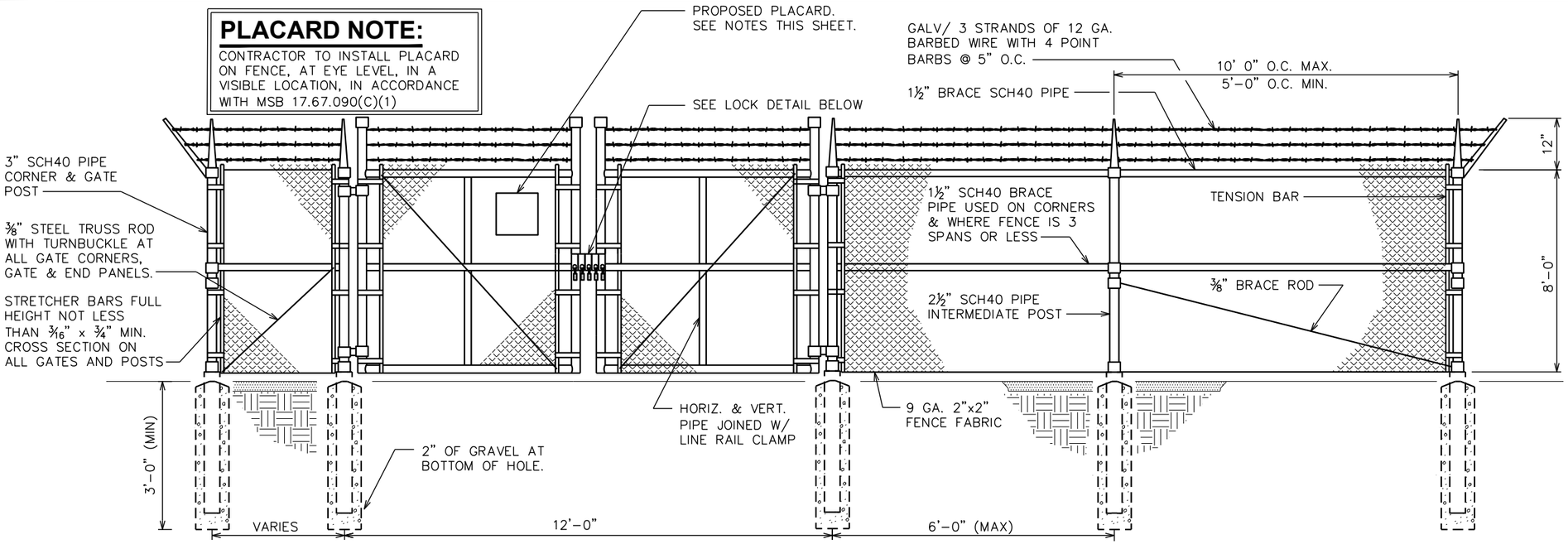
TOWER ELEVATION

SHEET NUMBER: **C-3**

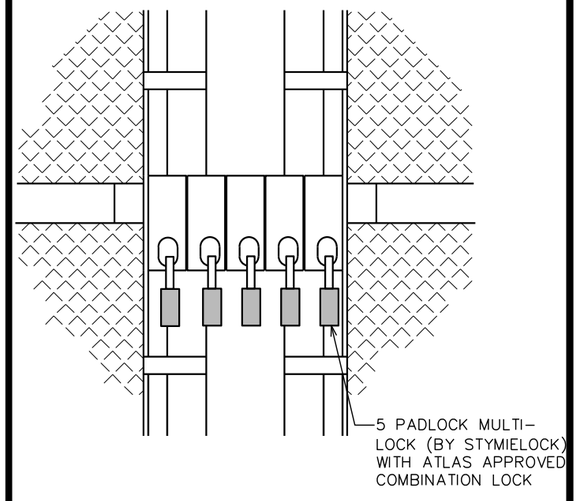
REVISION: **2**

TEP #546266.111112

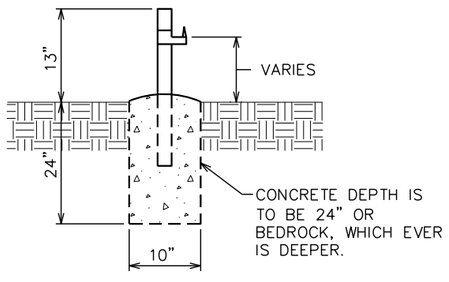
PLACARD NOTE:
CONTRACTOR TO INSTALL PLACARD ON FENCE, AT EYE LEVEL, IN A VISIBLE LOCATION, IN ACCORDANCE WITH MSB 17.67.090(C)(1)



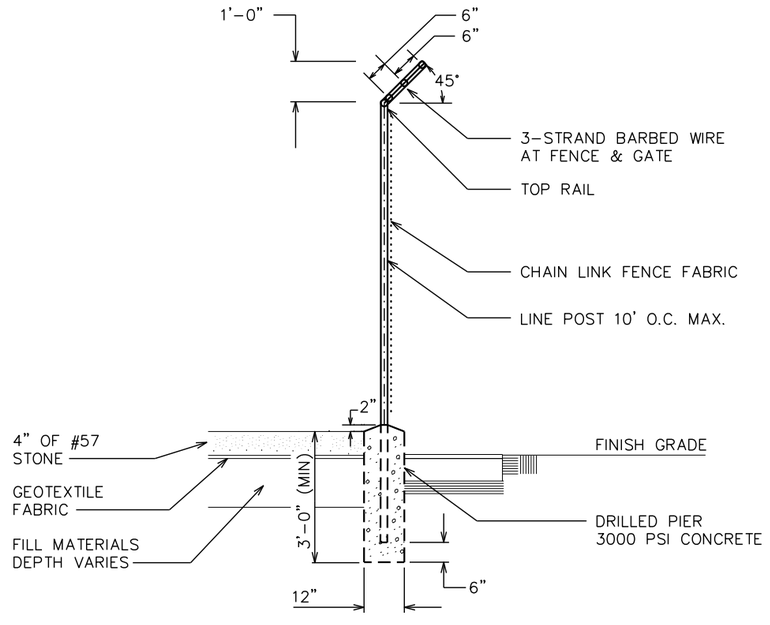
TYPICAL FENCE ELEVATION
SCALE: N.T.S.



GATE LOCK DETAIL
SCALE: N.T.S.



GATE STOP/KEEPER DETAIL
SCALE: N.T.S.



FENCE / BARBED WIRE ARM DETAIL
SCALE: N.T.S.

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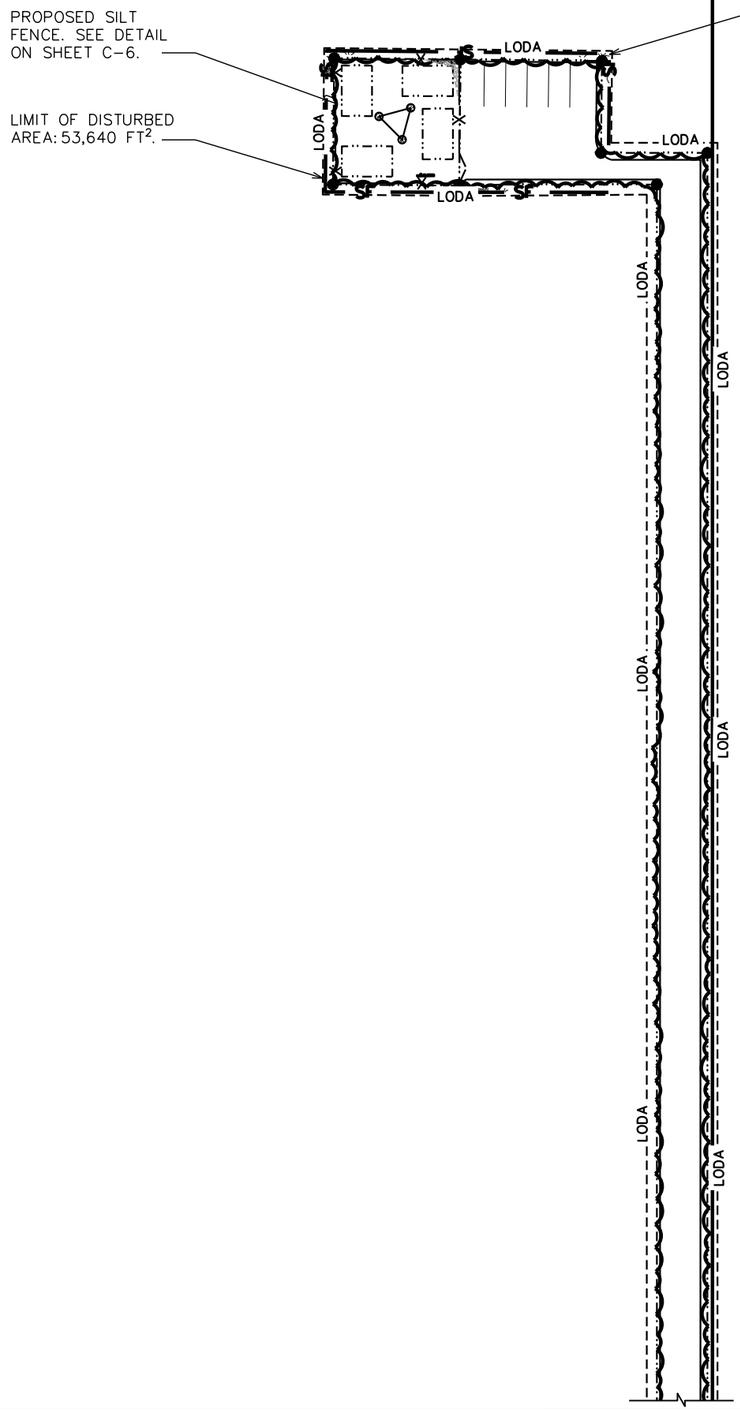
SHEET TITLE:

FENCE DETAILS

SHEET NUMBER: **C-4**

REVISION: 2

TEP# 346266.1117112





LEGEND	
SILT FENCE	— SF —
LODA	– LODA –

GRADING & SOIL EROSION CONTROL PLAN

SCALE: 1" = 60'

0 60 120

SCALE IN FEET

PROJECT INFORMATION:

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DRAWN BY: KES CHECKED BY: KES

SHEET TITLE:

SOIL & EROSION CONTROL PLAN

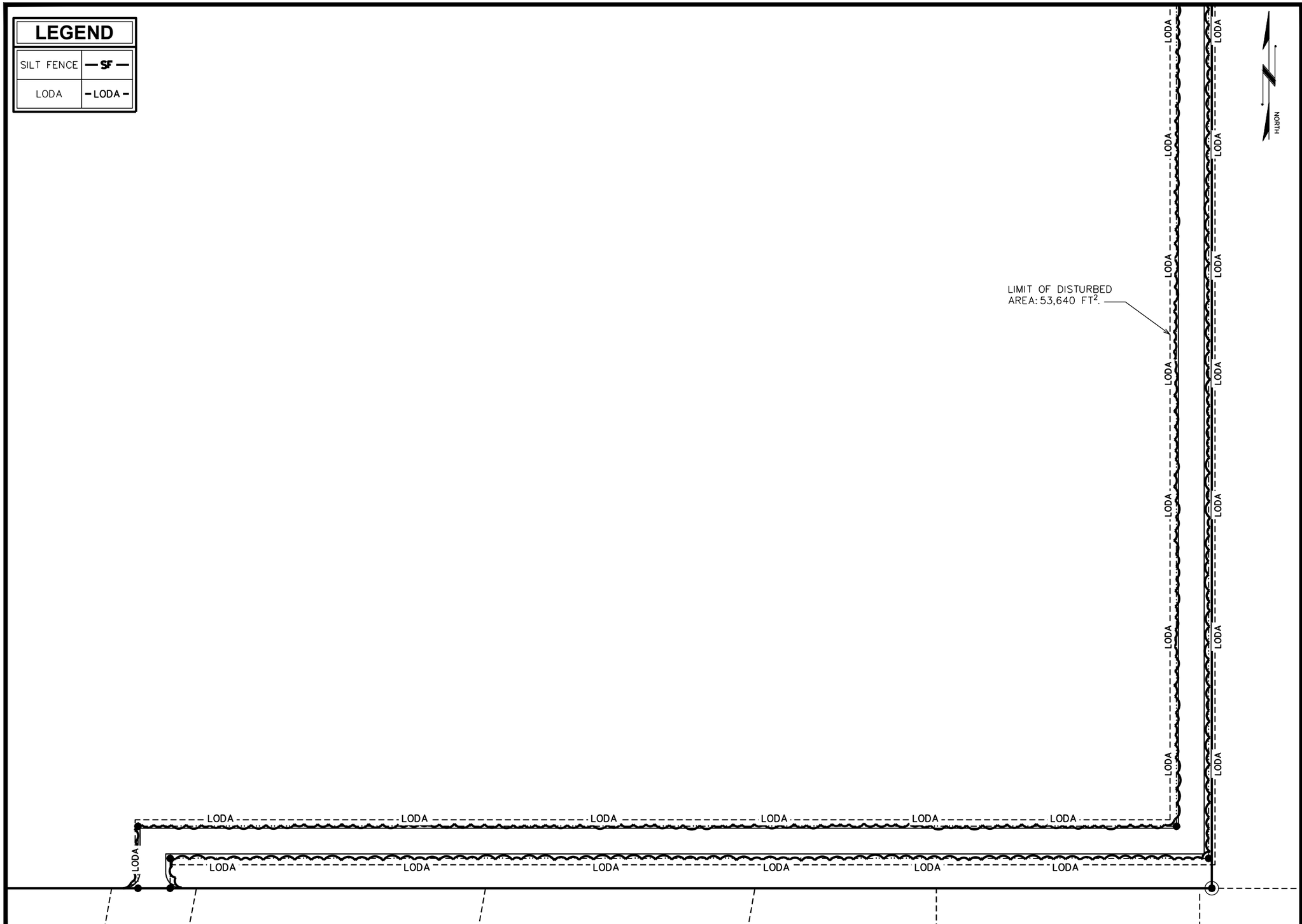
SHEET NUMBER: **C-5**

REVISION: 2

TEP #346266.111112

LEGEND

SILT FENCE	— SF —
LODA	– LODA –



GRADING & SOIL EROSION CONTROL PLAN

SCALE: 1" = 60'

0 60 120

SCALE IN FEET

PROJECT INFORMATION:

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WILLOW, AK 99688
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DRAWN BY: KES CHECKED BY: KES

SHEET TITLE:

SOIL EROSION CONTROL PLAN

SHEET NUMBER: **C-5A**

REVISION: **2**

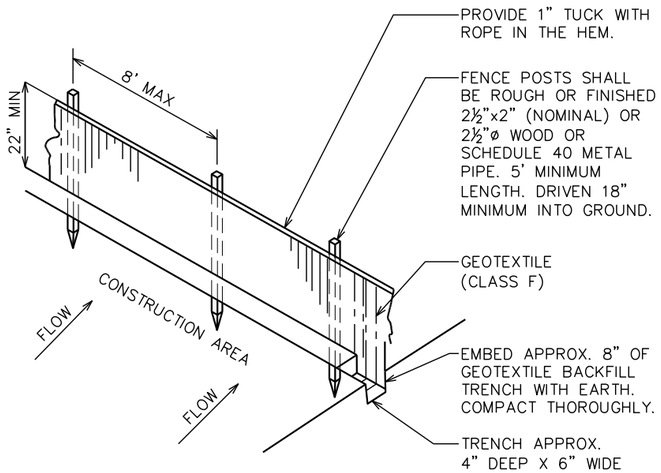
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SITE GRADING NOTES:

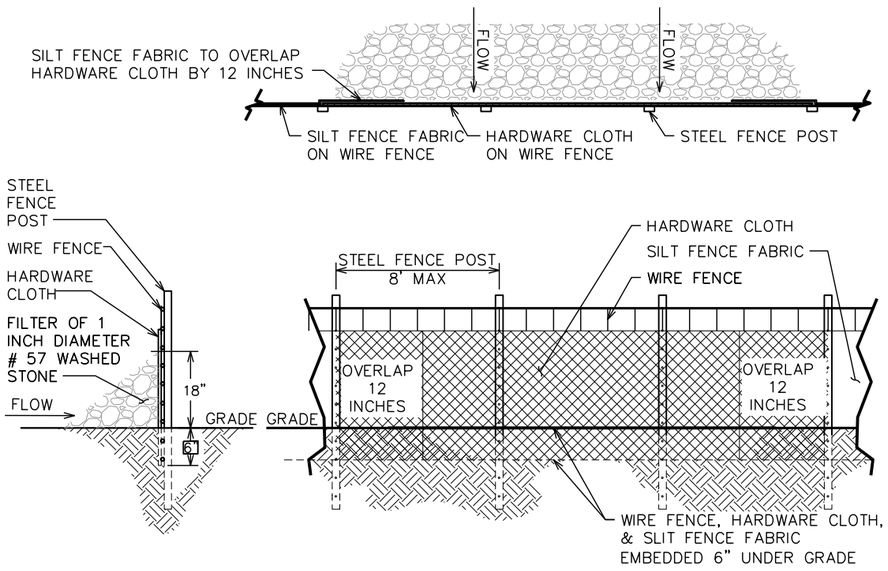
1. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
2. TEMPORARY SEEDING OR OTHER STABILIZATION, INCLUDING GRAVEL COVER ON ANY NEW ACCESS ROAD, WILL FOLLOW IMMEDIATELY AFTER GRADING.
3. THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
4. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&S CONTROLS WILL BE CLEANED UP AND REMOVED.

GEOTEXTILE FABRIC NOTES:

1. GEOTEXTILE FABRIC TO BE FASTENED SECURELY TO FENCE POST BY USE OF WIRE TIES OR HOG RINGS. 3 FASTENERS PER POST.
2. ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE SHALL BE SECURELY FASTENED TO A COMMON POST OR OVERLAPPED 3' (MINIMUM).
3. THIS DEVICE IS INTENDED TO CONTROL SHEET FLOW ONLY. IT WILL NOT BE USED IN AREAS OF CONCENTRATED FLOW WITH A DRAINAGE AREA OF ½ ACRE OR MORE.



SILT FENCE



SILT FENCE OUTLET

SILT FENCE DETAIL

N.T.S.

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SHEET TITLE:

SILT FENCE DETAIL

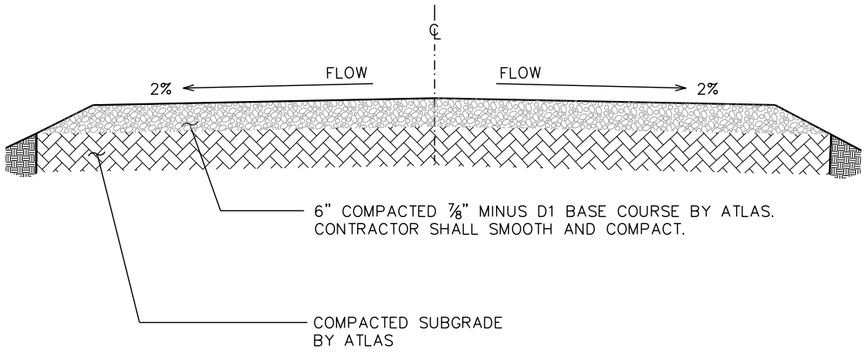
SHEET NUMBER: **C-6**

REVISION: 2

TEP# 346266.111712

NOTE:

ROAD TO BE DESIGNED IN ACCORDANCE
WITH M.S.B. 11.12.060 LOW VOLUME
DRIVEWAY STANDARDS

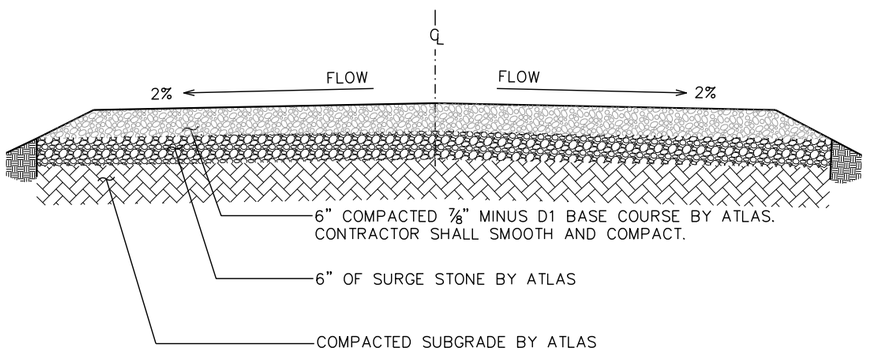


STANDARD ROAD SECTION (GOOD SUBGRADE)

SCALE: 3/8" = 1'-0"

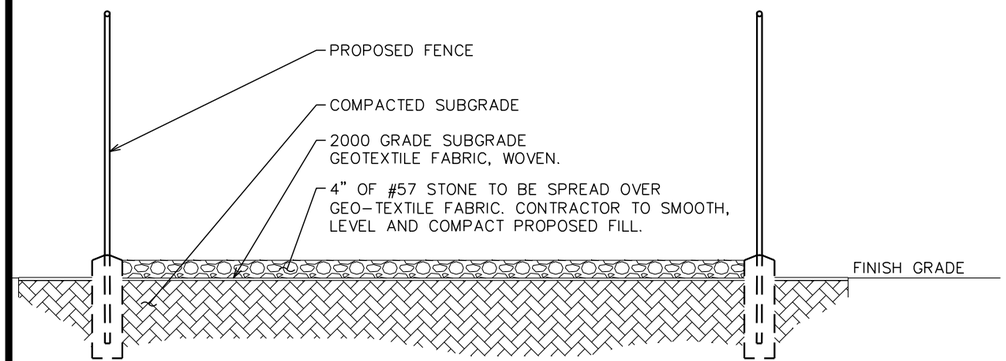
NOTE:

ROAD TO BE DESIGNED IN ACCORDANCE
WITH M.O.A. 11.12.060 LOW VOLUME
DRIVEWAY STANDARDS



STANDARD ROAD SECTION (POOR SUBGRADE)

SCALE: 3/8" = 1'-0"



COMPOUND SECTION VIEW

SCALE: N.T.S.

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SHEET TITLE:

DRIVEWAY DETAILS

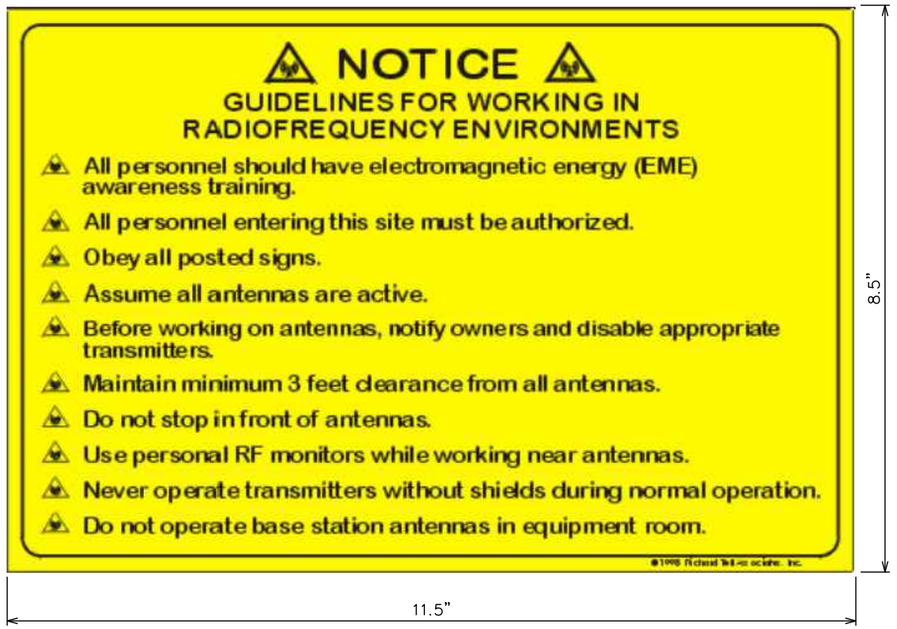
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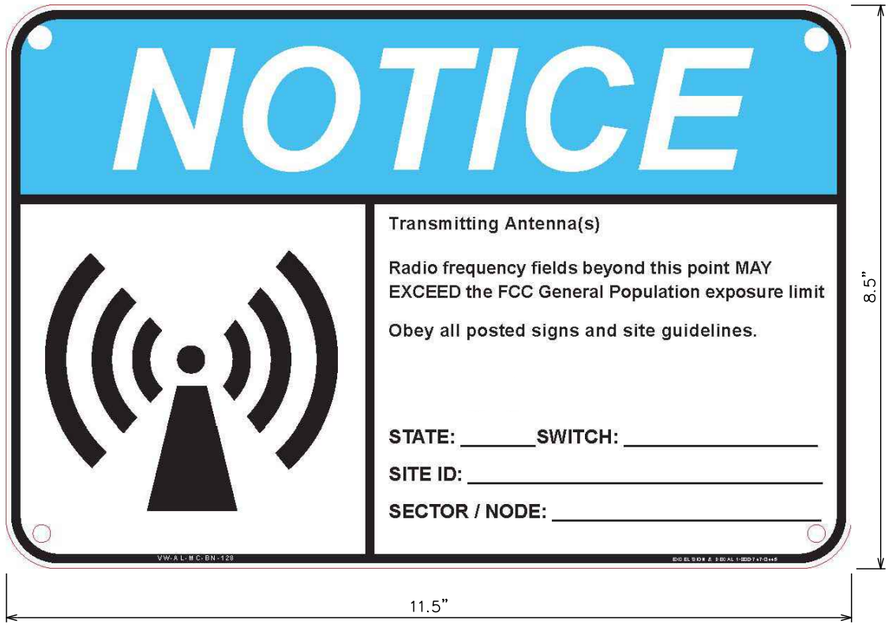
REVISION: 2

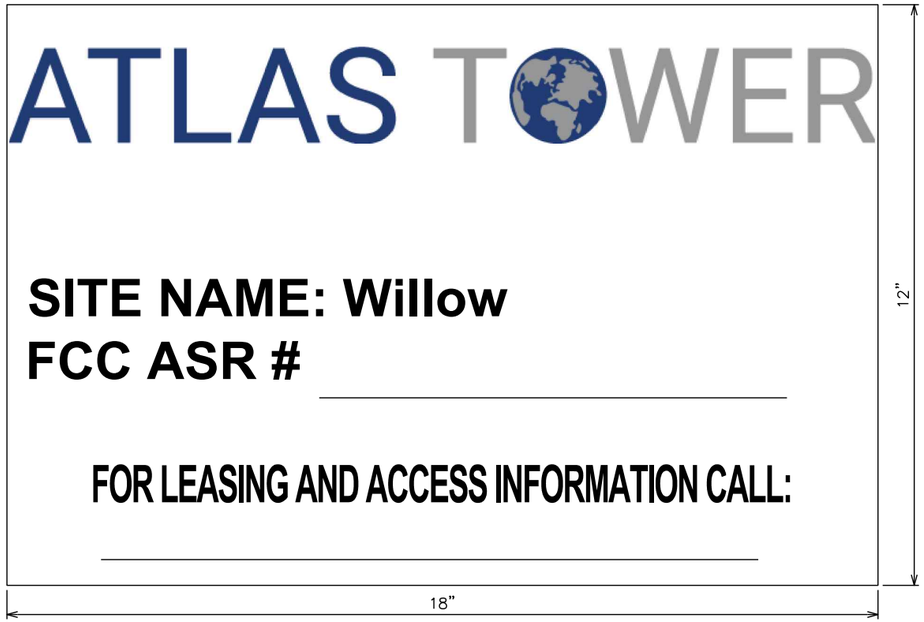
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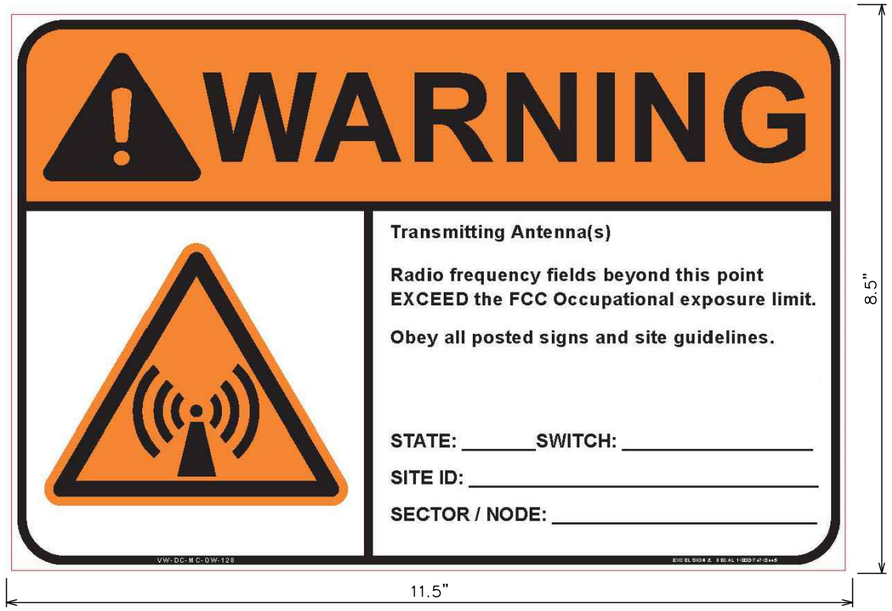
NOTES:

- ALL SIGNS TO BE HUNG ON FENCE USING HOG RINGS OR ALUMINUM FENCE TIES. ZIP TIES OR REBAR WIRE WILL NOT BE ACCEPTABLE
- THE RED WARNING SIGN SHALL BE PLACED ON THE TOWER, IDEALLY AT THE BASE OF THE SAFETY CLIMB.









SIGNAGE DETAILS

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SHEET TITLE:

SIGNAGE DETAILS

SHEET NUMBER: **C-8**

REVISION: **2**

TEP# 346266.1117112

ELECTRICAL NOTES:

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
   A. THE NATIONAL ELECTRICAL SAFETY CODE
   B. THE NATIONAL ELECTRIC CODE – NFPA–70
   C. REGULATIONS OF THE SERVING UTILITY COMPANY
   D. LOCAL AND STATE AMENDMENTS
   E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING:

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE:

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. WHERE INSTALLED ON EXTERIOR STRUCTURES OR EXPOSED TO DAMAGE, THE CONDUIT SHALL BE RIGID STEEL.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABLE FAULT CURRENT AND REPLACE AS NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY.

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
   D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
4. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
NEC	–	NATIONAL ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL
PNLBD	–	PANELBOARD
PVC	–	RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

----E----	UNDERGROUND ELECTRICAL CONDUIT
----T----	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT–HOUR METER
---------	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
⌀	GROUND ROD
●	EXOTHERMIC WELD
⊠	GROUND ROD WITH INSPECTION WELL

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STATE OF ALASKA 49TH
Andrew T. Haldane
No. AECL CE 11742
REGISTERED PROFESSIONAL ENGINEER
October 21, 2025

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DRAWN BY: KES CHECKED BY: NMC

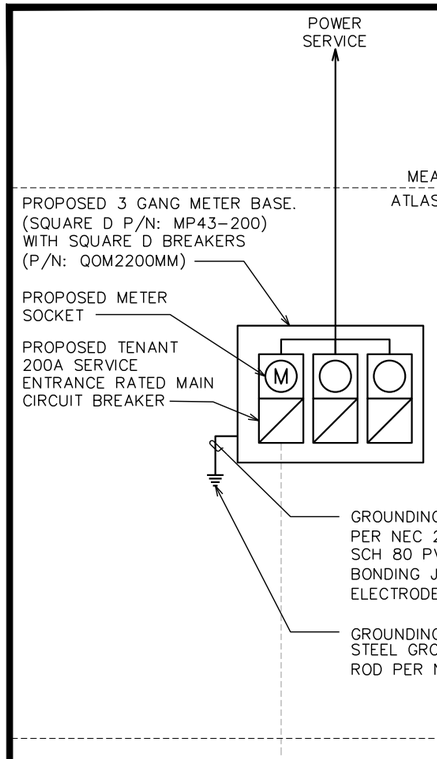
SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER: **E-1**

REVISION: **2**

TEP #346266.111712



ONE LINE DIAGRAM NOTES:

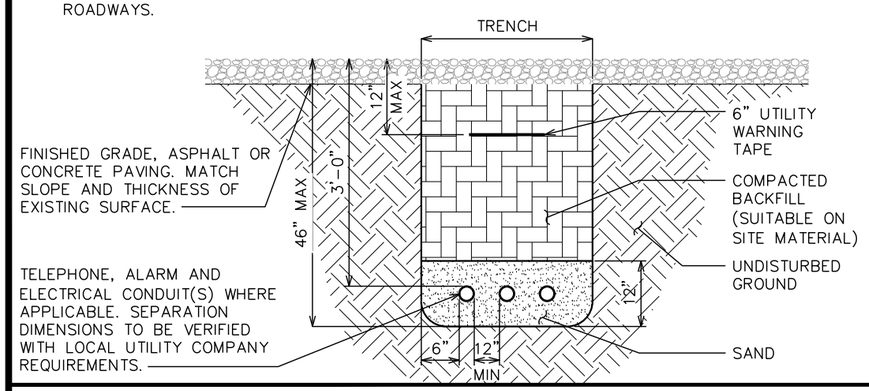
1. ELECTRICAL SERVICE SHALL BE 600A, 120/240V, 1ϕ, 3W.
2. (3)–200A, 120/240V, 1ϕ METER SOCKETS INSTALLED ON UTILITY SERVICE RACK WITH SERVICE ENTRANCE RATED, CIRCUIT BREAKER TYPE DISCONNECT SWITCH. UTILITY COMPANY TO PROVIDE METER.
3. FUTURE TENANT INSTALLATIONS UNDER SEPARATE CONTRACT/PROJECT.
4. SERVICE DISCONNECT(S) SHALL BE IDENTIFIED PER NEC 110.22.
5. ALL SERVICE ELECTRICAL EQUIPMENT SHALL BE LABELED PER NEC 110.16
6. ALL EQUIPMENT SHALL BE BE LISTED AND LABELED WITH SHORT–CIRCUIT CURRENT RATINGS ABOVE THE AVAILABLE FAULT CURRENT AT ITS TERMINALS. SERVICE EQUIPMENT SHALL BE LABELED PER NEC 110.24.

ONE-LINE DETAIL

SCALE: N.T.S.

NOTES:

1. ACTUAL SEPARATION OF CONDUITS TO BE DETERMINED BY SITE SPECIFIC REQUIREMENTS.
2. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
3. PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLES, EQUIPMENT, ETC.)
4. PROVIDE RGS CONDUIT FOR INSTALLATIONS BELOW PARKING LOTS AND ROADWAYS.

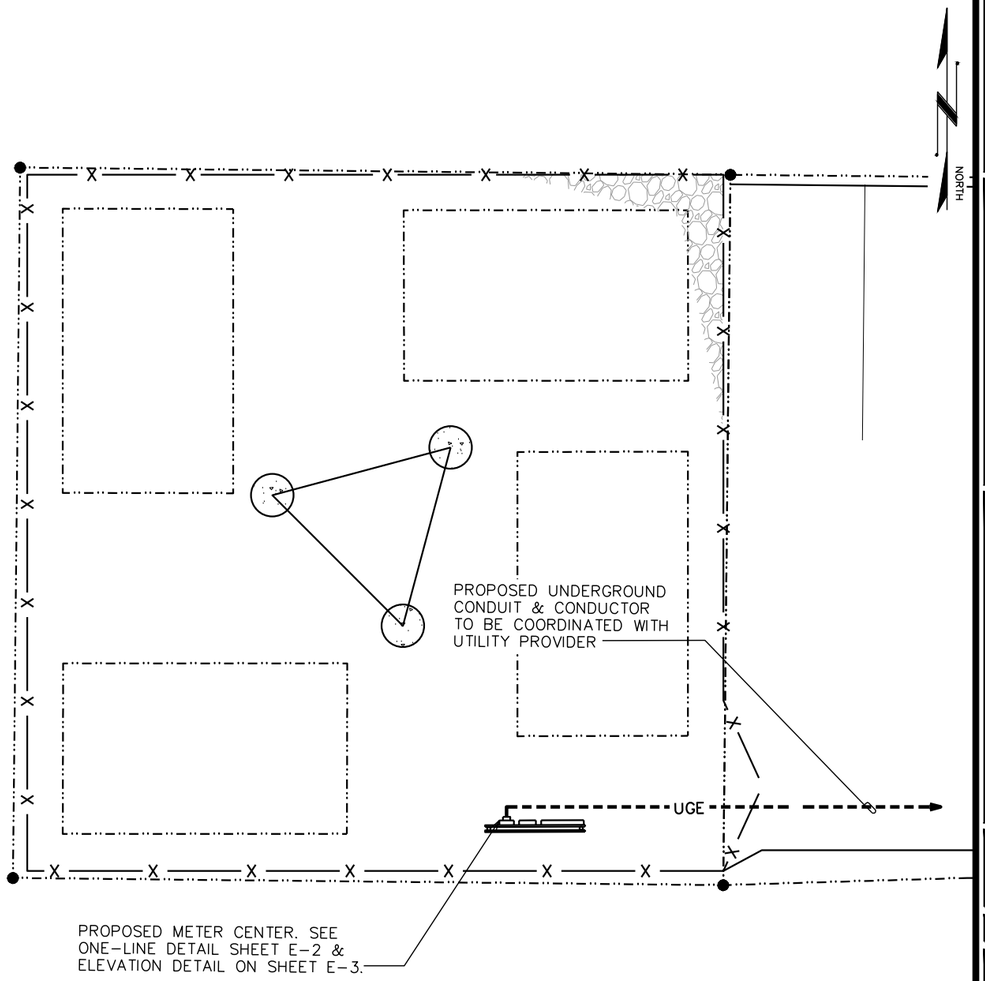


UNDERGROUND CONDUIT(S) TRENCH DETAIL

SCALE: N.T.S.

NOTES:

1. THE CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
2. ALL CONDUITS SHALL BE INSTALLED PRIOR TO FINISH GRADING, GEOFABRIC, AND STONE INSTALLATION.
3. CONTRACTOR SHALL INSTALL SWEEPS AT ALL CONDUIT DIRECTION CHANGES.



SERVICE POWER PLAN

SCALE: 1/16" = 1'–0"

0 8 16
SCALE IN FEET

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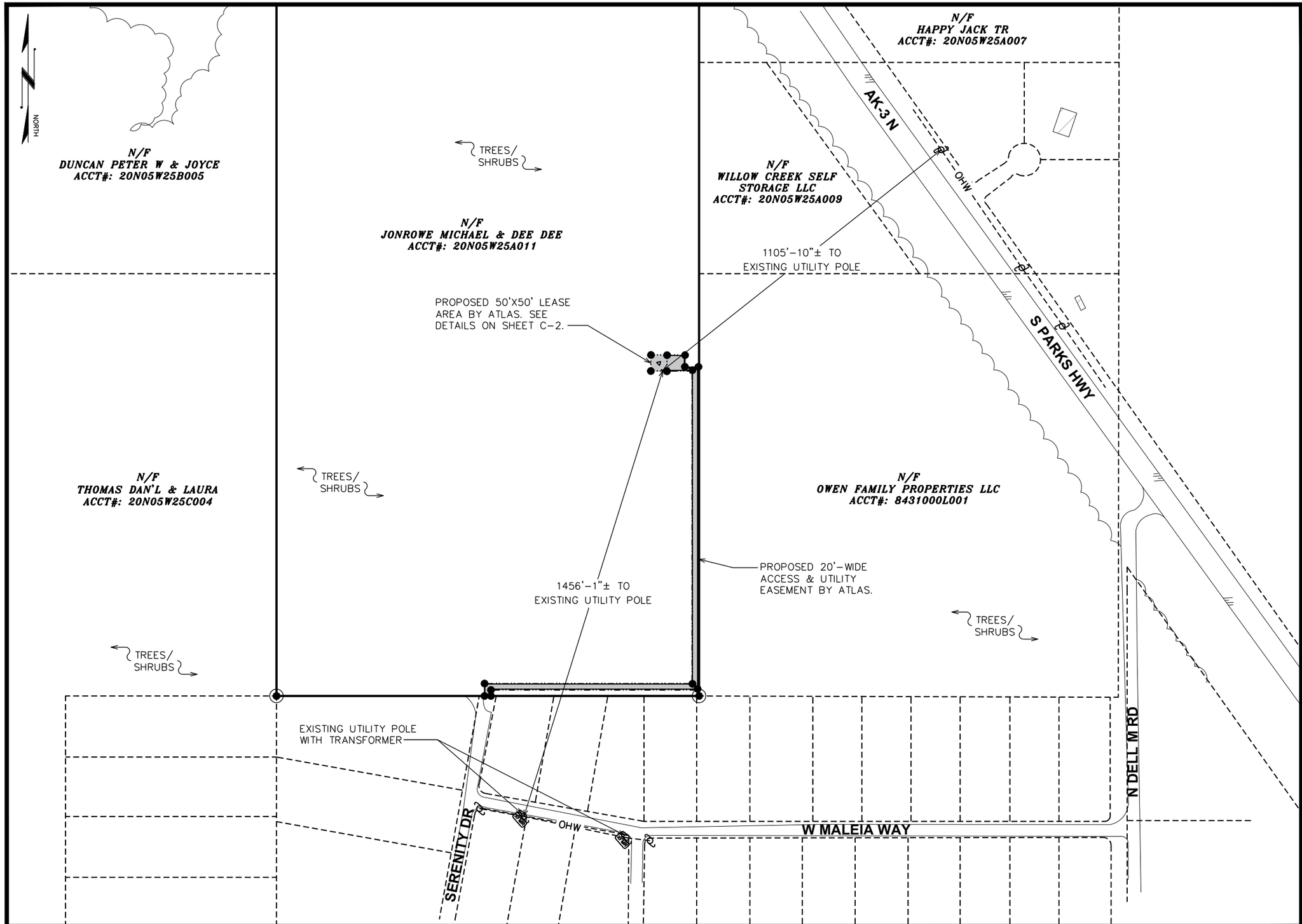
SHEET TITLE:

POWER PLAN AND ONE-LINE DIAGRAM

SHEET NUMBER: **E-2**

REVISION: 2

TEP #3462661117112



EXTENDED SERCVICE POWER PLAN

SCALE: 1" = 300'

0 300 600

SCALE IN FEET

PROJECT INFORMATION:

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SHEET TITLE:

EXTENDED SERVICE POWER PLAN

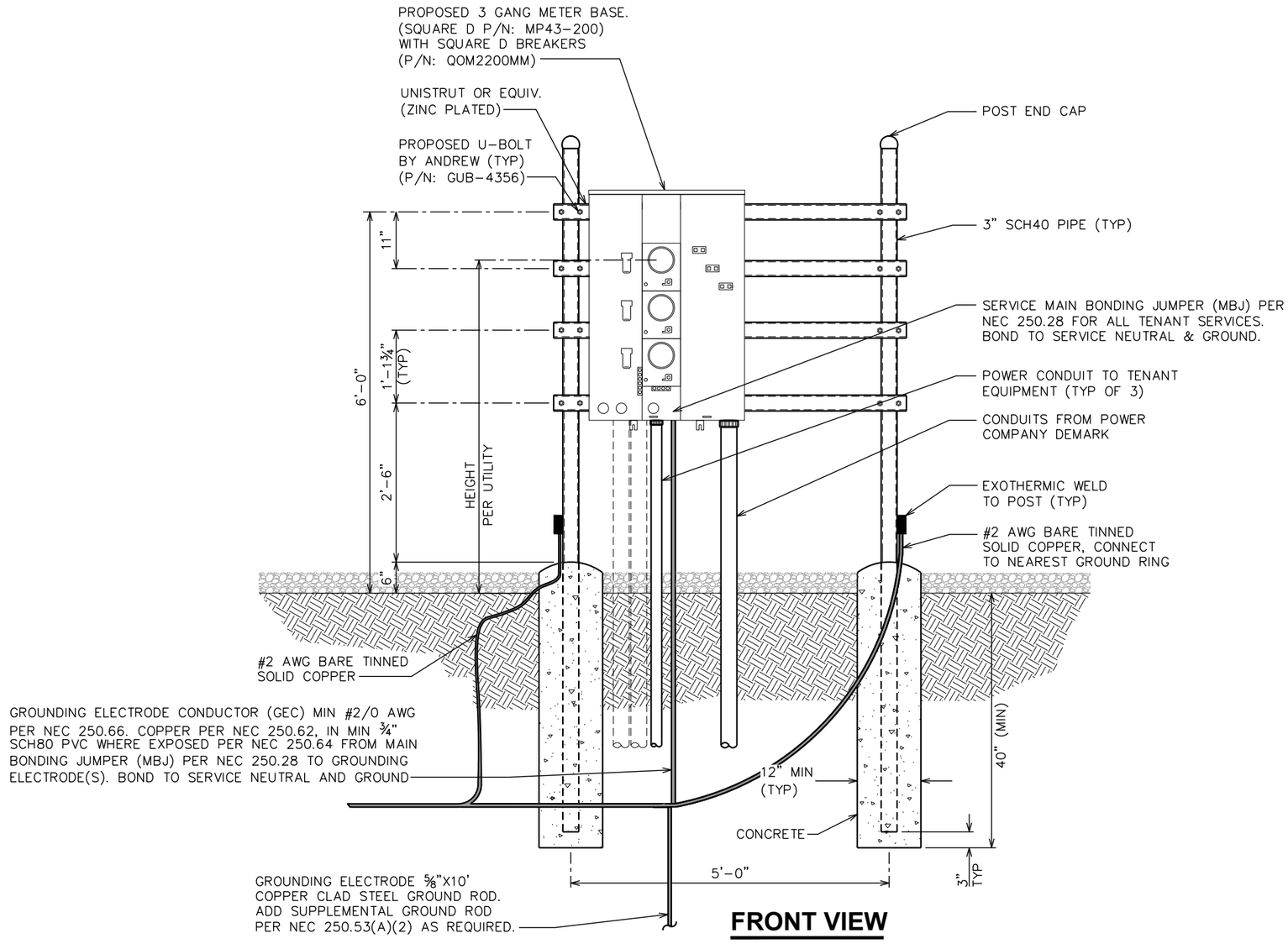
SHEET NUMBER: **E-2A**

REVISION: 2

TEP #346266.1117112

NOTES:

1. REFER TO THE SITE LAYOUT PLAN FOR THE EXACT LOCATION OF THE H–FRAME.
2. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR METER.
3. UTILITY COMPANY TO PROVIDE AND INSTALL METER SOCKET.
4. CONTRACTOR TO ENSURE METER RACK WORKING SPACES REQUIRED BY THE NEC (ART. 110.26), STATE, OR LOCAL CODES ARE MAINTAINED BOTH ON THE FRONT SIDE AND THE BACK SIDE OF THE H–FRAME PRIOR TO INSTALLATION.
5. SHOW LOCATION (INCLUDING DIMENSIONS) OF ALL CAPPED UNDERGROUND CONDUIT ON FINAL AS–BUILT DRAWINGS SUBMITTED TO OWNER.
6. COORDINATE EXACT LOCATION OF UNDERGROUND FEEDERS AND CIRCUITRY WITH THE OWNER.
7. CONTRACTOR SHALL COORDINATE EFFORTS WITH (LOCAL, ELECTRICAL) AUTHORITY HAVING JURISDICTION (AHJ) AND OTHER TRADES TO DETERMINE "FROST" LINE, AND TYPE(S) OF RACEWAYS REQUIRED FOR INSTALLATION.
8. BOND ALL ELECTRICAL EQUIPMENT TO RACK.
9. DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE ALTERED IN THE FIELD AS APPROVED BY OWNER TO BETTER SUIT ACTUAL CONDITIONS OR EQUIPMENT RECEIVED.



FRONT VIEW

SERVICE RACK DETAILS

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DRAWN BY: KES CHECKED BY: ARB

SHEET TITLE:

SERVICE RACK DETAILS

SHEET NUMBER: **E-3**

REVISION: 2

TEP#346266.111712

DRAWING NOTES:

1. 5/8"x10' COPPER GROUND ROD (TYP).
2. GATE POST BONDING. SEE DETAIL ON THIS SHEET.
3. FENCE GATE BONDING. SEE DETAIL ON THIS SHEET.
4. PROPOSED INSPECTION WELL. SEE DETAIL ON SHEET E-5.
5. PROPOSED TOWER GROUND RING. #2 COPPER CONDUCTOR-BARE TINNED BURIED 30" BFG BY ATLAS TOWER.
6. FENCE POST BOND
7. EXOTHERMIC WELD GROUND CONNECTION. SEE DETAIL ON SHEET E-5.
8. PROPOSED COMPOUND GROUND RING, #2 SOLID BARE TINNED COPPER, 30" BFG BY ATLAS TOWER.

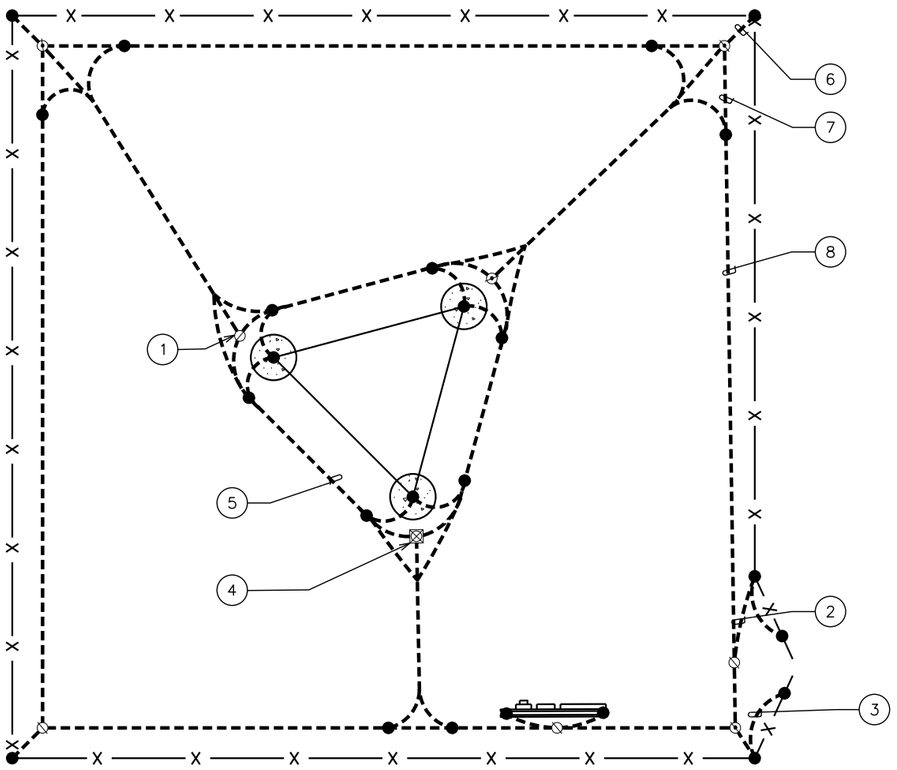
LEGEND

⌀	GROUND ROD
●	EXOTHERMIC WELD
⊠	GROUND ROD WITH INSPECTION WELL

NORTH

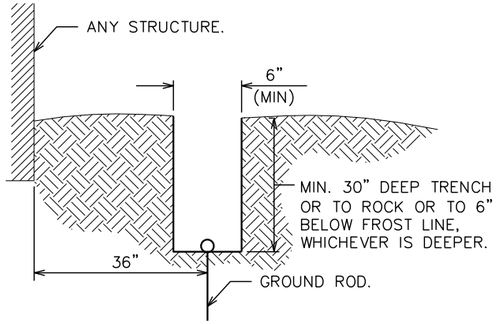
GROUNDING NOTES

1. GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 SOLID CONDUCTOR. THE TOP OF THE GROUND RODS AND THE CONDUCTOR SHALL BE 30" (MIN) BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS. (6'-0" MINIMUM; 16'-0" MAXIMUM)
2. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
3. ROUND SHELTER TO GROUND RING PER NSTD46 CELL SITE GROUNDING AND LIGHTING PROTECTION, ISSUED 2/1/11.



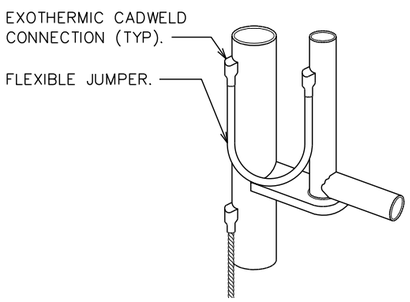
TYPICAL GROUNDING PLAN

SCALE: N.T.S.



TRENCH DETAIL

SCALE: N.T.S.



GROUNDING AT GATE POST

SCALE: N.T.S.

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SHEET TITLE:

GROUNDING PLAN AND DETAILS

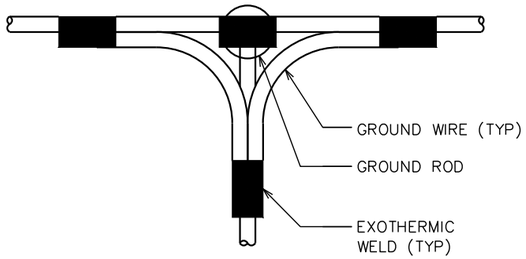
SHEET NUMBER: **E-4**

REVISION: 2

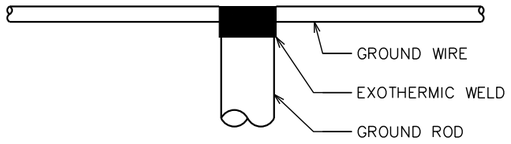
TEP #346266.1117112

NOTE:

MINIMUM SPACING OF 12" BETWEEN ALL EXOTHERMIC WELDS



TOP VIEW

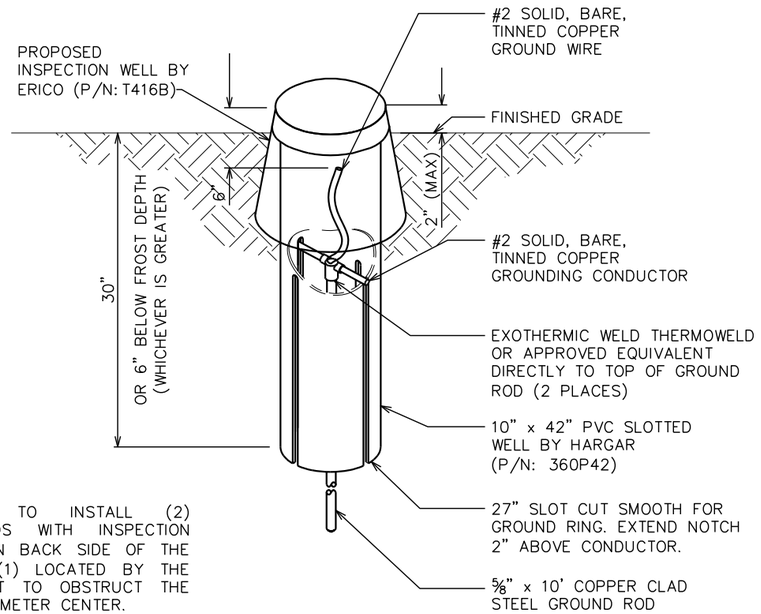


SIDE VIEW

EXOTHERMIC WELD GROUNDING DETAIL

SCALE: N.T.S.

NOT USED

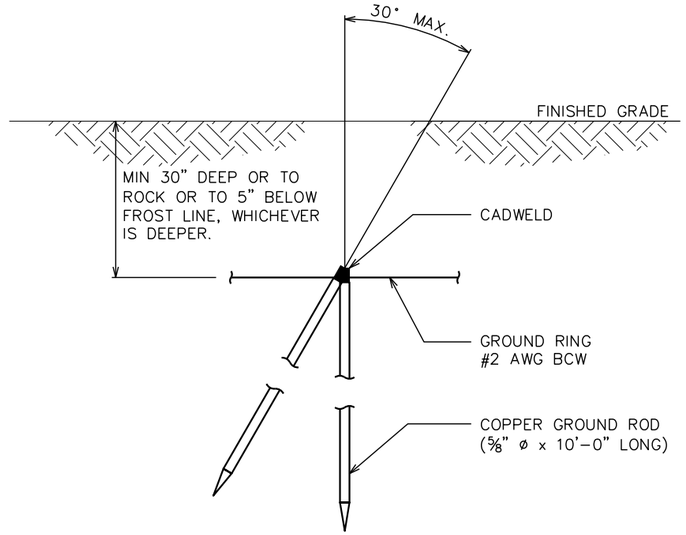


NOTE:

CONTRACTOR TO INSTALL (2) GROUND RODS WITH INSPECTION WELLS. (1) ON BACK SIDE OF THE TOWER AND (1) LOCATED BY THE H-FRAME NOT TO OBSTRUCT THE PATH TO THE METER CENTER.

INSPECTION WELL DETAIL

SCALE: N.T.S.



COPPER-CLAD STEEL GROUND ROD

SCALE: N.T.S.

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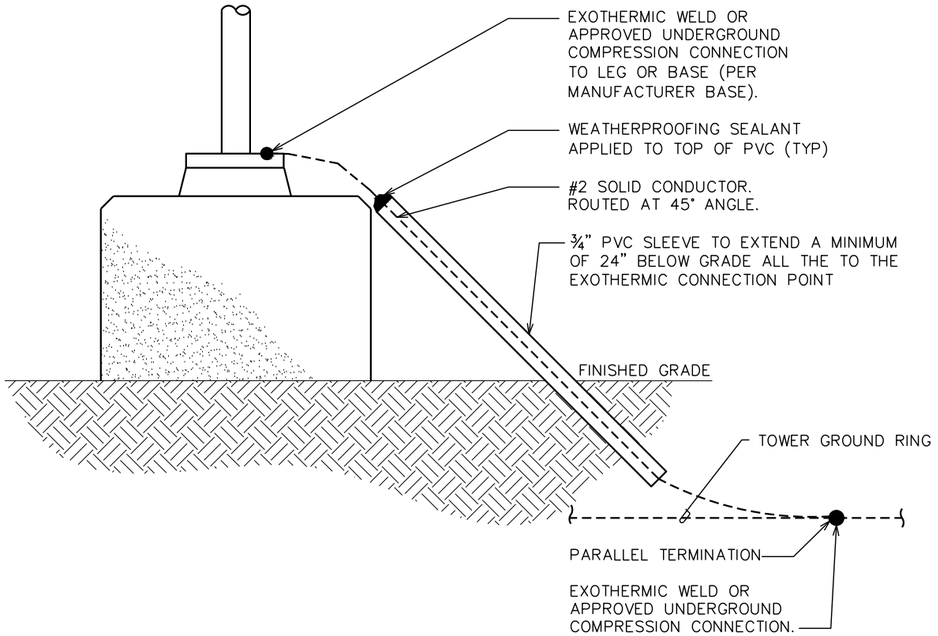
SHEET TITLE:

GROUNDING DETAILS

SHEET NUMBER: **E-5**

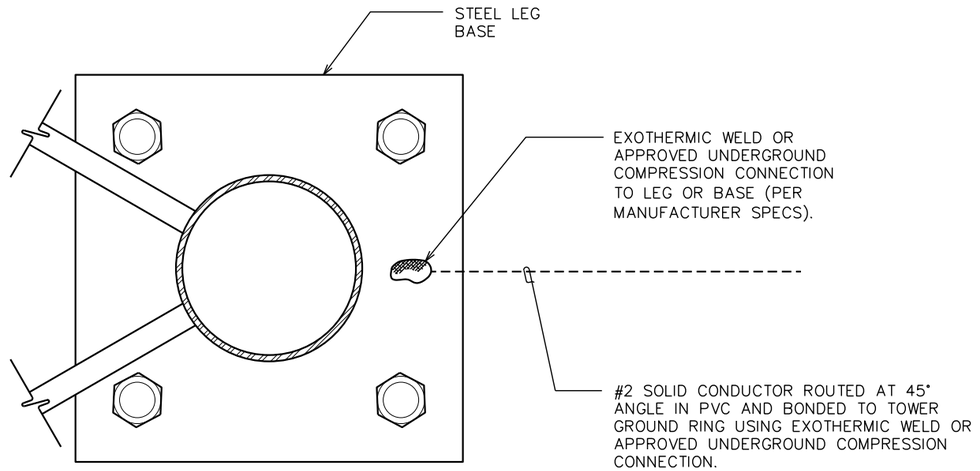
REVISION: 2

TEP #346266.1117112



TYPICAL TOWER BASE GROUNDING DETAIL

SCALE: N.T.S.



TYPICAL TOWER GROUNDING

SCALE: N.T.S.

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TEP OPCO, LLC AECL1616

STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER
Andrew T. Haldane
No. AEL CE 11742
October 21, 2025

REV	DATE	ISSUED FOR:
2	10-21-25	ISSUED FOR PERMITTING
1	08-25-25	PRELIMINARY

DRAWN BY: KES CHECKED BY: NMC

SHEET TITLE:

TOWER FOUNDATION GROUNDING DETAILS

SHEET NUMBER: **E-6**

REVISION: 2

TEP# 346266.111712

NELLO

Design Supporting Calculations

Sales Order:	SO34073
Drawing Number(s)	
Tower:	816462
Order Description:	NSX 12.5' X 125.9'
Site Name:	Willow
Location:	Matanuska-Susitna Borough, AK
	Prepared For:
Customer:	Atlas Tower
Contact:	Parker Bingham
Date:	11/19/2025

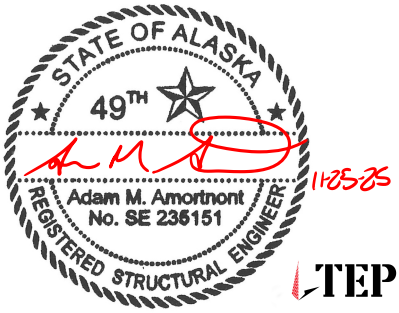
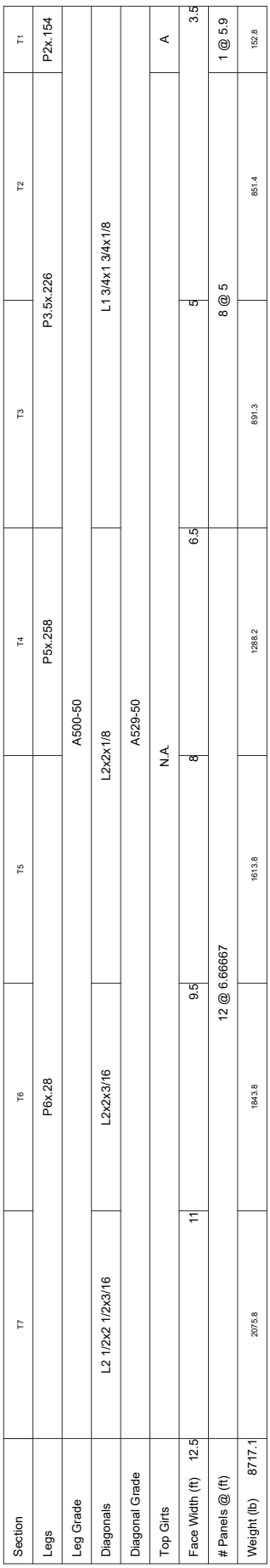


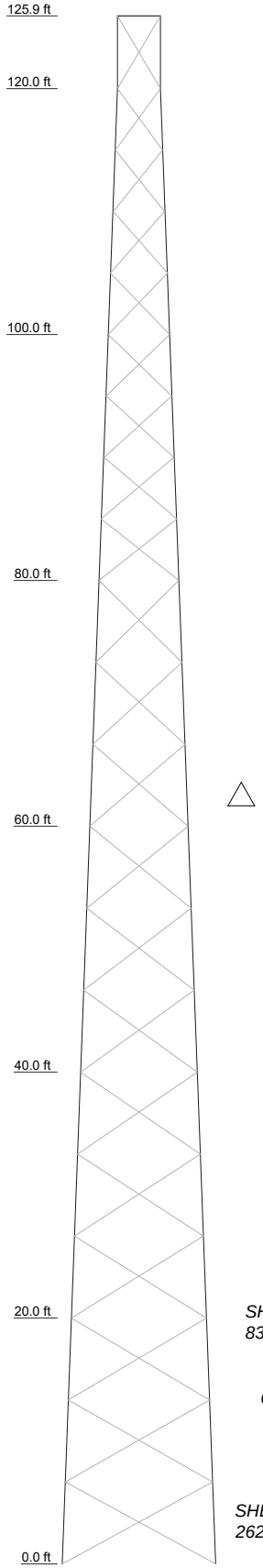
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Tower Analysis - Short form

Tower Analysis - Long form

Seismic Analysis





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
30,000 sq in CaAa	120	Dish Pipe Mount	100
30,000 sq in CaAa	110	6' Solid w/Radome	100

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 3/4x1 3/4x1/8		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A529-50	50 ksi	65 ksi

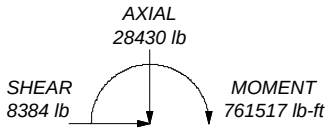
TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 118 mph ultimate wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 60 mph basic wind with 0.50 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 98.9%

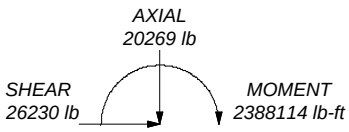
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 227360 lb
SHEAR: 16855 lb

UPLIFT: -208650 lb
SHEAR: 15632 lb



TORQUE 1031 lb-ft
60 mph WIND - 0.5000 in ICE



TORQUE 3702 lb-ft
REACTIONS - 118 mph WIND

Nello Corporation
1201 S. Sheridan Sreet
South Bend, IN. 46619
Phone: 800-806-3556
FAX:

Job:	***SO34073; Tower 816462; Foundation By Others***
Project:	***NS 125.9' - Willow - Matanuska-Susitna Borough, AK***
Client: Atlas Tower	Drawn by: KYN / App'd:
Code: TIA-222-H	Date: 11/19/25 / Scale: NTS
Path: \\hulk\n-drive\eri\8164\816462.eri	Dwg No. E-1

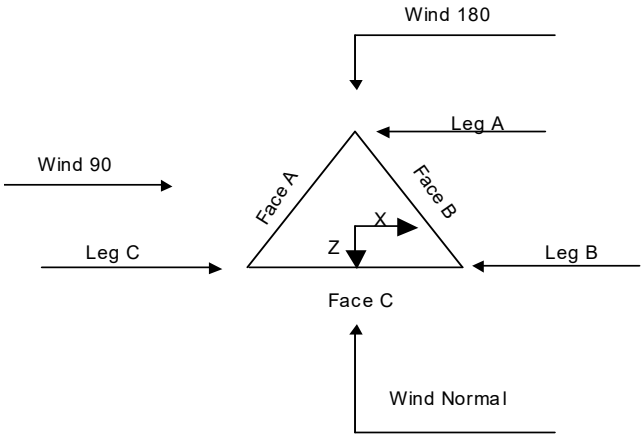
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 125.90 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 3.50 ft at the top and 12.50 ft at the base.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower base elevation above sea level: 0.00 ft.
Ultimate wind speed of 118 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 0.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 60 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned	√	Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate	√	Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area	√	SR Leg Bolts Resist Compression
	Use Code Stress Ratios	√	Use Clear Spans For KL/r	√	All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys	√	Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice		Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
√	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
√	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)	√	Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
√	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	125.90-120.00			3.50	1	5.90
T2	120.00-100.00			3.50	1	20.00
T3	100.00-80.00			5.00	1	20.00
T4	80.00-60.00			6.50	1	20.00
T5	60.00-40.00			8.00	1	20.00
T6	40.00-20.00			9.50	1	20.00
T7	20.00-0.00			11.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	125.90-120.00	5.90	X Brace	No	No	0.0000	0.0000
T2	120.00-100.00	5.00	X Brace	No	No	0.0000	0.0000
T3	100.00-80.00	5.00	X Brace	No	No	0.0000	0.0000
T4	80.00-60.00	6.67	X Brace	No	No	0.0000	0.0000
T5	60.00-40.00	6.67	X Brace	No	No	0.0000	0.0000
T6	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T7	20.00-0.00	6.67	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 125.90-120.00	Pipe	P2x.154	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)
T2 120.00-100.00	Pipe	P3.5x.226	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)
T3 100.00-80.00	Pipe	P3.5x.226	A500-50 (50 ksi)	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)
T4 80.00-60.00	Pipe	P5x.258	A500-50 (50 ksi)	Equal Angle	L2x2x1/8	A529-50 (50 ksi)
T5 60.00-40.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x1/8	A529-50 (50 ksi)
T6 40.00-20.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2x2x3/16	A529-50 (50 ksi)
T7 20.00-0.00	Pipe	P6x.28	A500-50 (50 ksi)	Equal Angle	L2 1/2x2 1/2x3/16	A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 125.90-120.00	Equal Angle	L1 3/4x1 3/4x1/8	A529-50 (50 ksi)	Solid Round		A529-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 125.90-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T2 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T3 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T4 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T5 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T6 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000
T7 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1.1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1	No	Yes	1	1	1	1	1	1	1	1
125.90-120.00				1	1	1	1	1	1	1
T2	No	Yes	1	1	1	1	1	1	1	1
120.00-100.00				1	1	1	1	1	1	1
T3	No	Yes	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T4	No	Yes	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T5	No	Yes	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T6	No	Yes	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T7 20.00-0.00	No	Yes	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	U	Diagonal Net Width Deduct in	U	Top Girt Net Width Deduct in	U	Bottom Girt Net Width Deduct in	U	Mid Girt Net Width Deduct in	U	Long Horizontal Net Width Deduct in	U	Short Horizontal Net Width Deduct in	U
T1 125.90-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal Net Width Deduct in	U	Redundant Diagonal Net Width Deduct in	U	Redundant Sub-Diagonal Net Width Deduct in	U	Redundant Sub-Horizontal Net Width Deduct in	U	Redundant Vertical Net Width Deduct in	U	Redundant Hip Net Width Deduct in	U	Redundant Hip Diagonal Net Width Deduct in	U
T1 125.90-120.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 120.00-100.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T3 100.00-80.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 80.00-60.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 60.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	C	No	No	Ar (CaAa)	120.00 - 0.00	4	2	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	No	No	Ar (CaAa)	110.00 - 0.00	4	2	0.2700 0.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	No	Ar (CaAa)	100.00 - 0.00	1	1	0.2700 0.0000	1.9800		0.82

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	125.90-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	7.920	0.000	32.80
		C	0.000	0.000	15.840	0.000	65.60
T3	100.00-80.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	15.840	0.000	65.60
T4	80.00-60.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	15.840	0.000	65.60
T5	60.00-40.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	15.840	0.000	65.60
T6	40.00-20.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	15.840	0.000	65.60
T7	20.00-0.00	A	0.000	0.000	3.960	0.000	16.40
		B	0.000	0.000	15.840	0.000	65.60
		C	0.000	0.000	15.840	0.000	65.60

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
T1	125.90-120.00	A	0.570	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	0.564	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	9.236	0.000	82.86
		C		0.000	0.000	18.472	0.000	165.71
T3	100.00-80.00	A	0.553	0.000	0.000	6.171	0.000	50.61
		B		0.000	0.000	18.393	0.000	164.13
		C		0.000	0.000	18.393	0.000	164.13
T4	80.00-60.00	A	0.539	0.000	0.000	6.116	0.000	49.58
		B		0.000	0.000	18.296	0.000	162.20
		C		0.000	0.000	18.296	0.000	162.20
T5	60.00-40.00	A	0.521	0.000	0.000	6.045	0.000	48.25
		B		0.000	0.000	18.170	0.000	159.70
		C		0.000	0.000	18.170	0.000	159.70
T6	40.00-20.00	A	0.495	0.000	0.000	5.941	0.000	46.35
		B		0.000	0.000	17.986	0.000	156.09
		C		0.000	0.000	17.986	0.000	156.09
T7	20.00-0.00	A	0.444	0.000	0.000	5.735	0.000	42.68
		B		0.000	0.000	17.622	0.000	149.02
		C		0.000	0.000	17.622	0.000	149.02

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	125.90-120.00	0.0000	0.0000	0.0000	0.0000
T2	120.00-100.00	1.0221	1.6502	1.0458	1.6706
T3	100.00-80.00	1.2580	0.6916	1.1008	0.6012
T4	80.00-60.00	1.3743	0.7535	1.1870	0.6469
T5	60.00-40.00	1.4908	0.8182	1.2629	0.6882
T6	40.00-20.00	1.6076	0.8859	1.3758	0.7522
T7	20.00-0.00	1.5486	0.8633	1.3826	0.7644

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T2	1	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T2	2	LDF7-50A (1-5/8 FOAM)	100.00 - 110.00	0.6000	0.6000
T3	1	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	2	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T3	3	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T4	1	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T4	2	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T4	3	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T5	1	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	2	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T5	3	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T6	1	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	2	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T6	3	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T7	1	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	2	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000
T7	3	LDF7-50A (1-5/8 FOAM)	0.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
30,000 sq in CaAa	C	None		0.0000	120.00	No Ice 1/2" Ice	208.00 250.00	208.00 250.00	3536.00 4738.00
30,000 sq in CaAa	B	None		0.0000	110.00	No Ice 1/2" Ice	208.00 250.00	208.00 250.00	3536.00 4738.00
Dish Pipe Mount	B	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 1/2" Ice	0.00 0.00	1.80 2.10	103.00 119.00

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
6' Solid w/Radome	B	Paraboloid w/Radome	From Leg	0.00 0.00 0.00	60.0000		100.00	6.00	No Ice 1/2" Ice	28.27 29.07	162.00 321.00

Tower Pressures - No Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	122.95	1.322	40	21.818	A	2.369	2.335	2.335	49.64	0.000	0.000
125.90-120.00					B	2.369	2.335		49.64	0.000	0.000
					C	2.369	2.335		49.64	0.000	0.000
T2	110.00	1.291	39	91.671	A	7.062	13.346	13.346	65.40	0.000	0.000
120.00-100.00					B	7.062	13.346		65.40	7.920	0.000
					C	7.062	13.346		65.40	15.840	0.000
T3	90.00	1.238	38	121.671	A	8.380	13.346	13.346	61.43	3.960	0.000
100.00-80.00					B	8.380	13.346		61.43	15.840	0.000
					C	8.380	13.346		61.43	15.840	0.000
T4 80.00-60.00	70.00	1.174	36	154.278	A	9.223	18.561	18.561	66.80	3.960	0.000
					B	9.223	18.561		66.80	15.840	0.000
					C	9.223	18.561		66.80	15.840	0.000
T5 60.00-40.00	50.00	1.094	33	186.049	A	10.309	22.104	22.104	68.19	3.960	0.000
					B	10.309	22.104		68.19	15.840	0.000
					C	10.309	22.104		68.19	15.840	0.000
T6 40.00-20.00	30.00	0.982	30	216.049	A	11.571	22.104	22.104	65.64	3.960	0.000
					B	11.571	22.104		65.64	15.840	0.000
					C	11.571	22.104		65.64	15.840	0.000
T7 20.00-0.00	10.00	0.85	26	246.049	A	16.096	22.104	22.104	57.86	3.960	0.000
					B	16.096	22.104		57.86	15.840	0.000
					C	16.096	22.104		57.86	15.840	0.000

Tower Pressure - With Ice

$G_H = 0.850$

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	122.95	1.322	10	0.5703	22.378	A	2.369	5.001	3.457	46.90	0.000	0.000
125.90-120.00						B	2.369	5.001		46.90	0.000	0.000
						C	2.369	5.001		46.90	0.000	0.000
T2	110.00	1.291	10	0.5640	93.553	A	7.062	21.661	17.109	59.57	0.000	0.000
120.00-100.00						B	7.062	21.661		59.57	9.236	0.000
						C	7.062	21.661		59.57	18.472	0.000
T3 100.00-80.00	90.00	1.238	10	0.5528	123.515	A	8.380	22.328	17.034	55.47	6.171	0.000
						B	8.380	22.328		55.47	18.393	0.000
						C	8.380	22.328		55.47	18.393	0.000
T4 80.00-60.00	70.00	1.174	9	0.5390	156.076	A	9.223	27.130	22.158	60.95	6.116	0.000
						B	9.223	27.130		60.95	18.296	0.000
						C	9.223	27.130		60.95	18.296	0.000
T5 60.00-40.00	50.00	1.094	9	0.5212	187.788	A	10.309	30.955	25.582	62.00	6.045	0.000
						B	10.309	30.955		62.00	18.170	0.000
						C	10.309	30.955		62.00	18.170	0.000
T6 40.00-20.00	30.00	0.982	8	0.4953	217.701	A	11.571	31.140	25.409	59.49	5.941	0.000
						B	11.571	31.140		59.49	17.986	0.000
						C	11.571	31.140		59.49	17.986	0.000
T7 20.00-0.00	10.00	0.85	7	0.4437	247.530	A	16.096	30.779	25.065	53.47	5.735	0.000
						B	16.096	30.779		53.47	17.622	0.000
						C	16.096	30.779		53.47	17.622	0.000

Tower Pressure - Service

G_H = 0.850

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
T1	122.95	1.322	10	21.818	A	2.369	2.335	2.335	49.64	0.000	0.000
125.90-120.00					B	2.369	2.335		49.64	0.000	0.000
					C	2.369	2.335		49.64	0.000	0.000
T2	110.00	1.291	10	91.671	A	7.062	13.346	13.346	65.40	0.000	0.000
120.00-100.00					B	7.062	13.346		65.40	7.920	0.000
					C	7.062	13.346		65.40	15.840	0.000
T3	90.00	1.238	10	121.671	A	8.380	13.346	13.346	61.43	3.960	0.000
100.00-80.00					B	8.380	13.346		61.43	15.840	0.000
					C	8.380	13.346		61.43	15.840	0.000
T4 80.00-60.00	70.00	1.174	9	154.278	A	9.223	18.561	18.561	66.80	3.960	0.000
					B	9.223	18.561		66.80	15.840	0.000
					C	9.223	18.561		66.80	15.840	0.000
T5 60.00-40.00	50.00	1.094	9	186.049	A	10.309	22.104	22.104	68.19	3.960	0.000
					B	10.309	22.104		68.19	15.840	0.000
					C	10.309	22.104		68.19	15.840	0.000
T6 40.00-20.00	30.00	0.982	8	216.049	A	11.571	22.104	22.104	65.64	3.960	0.000
					B	11.571	22.104		65.64	15.840	0.000
					C	11.571	22.104		65.64	15.840	0.000
T7 20.00-0.00	10.00	0.85	7	246.049	A	16.096	22.104	22.104	57.86	3.960	0.000
					B	16.096	22.104		57.86	15.840	0.000
					C	16.096	22.104		57.86	15.840	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	152.77	A	0.216	2.545	40	1	1	3.718	322.06	54.59	C
125.90-120.00			B	0.216	2.545		1	1	3.718			
			C	0.216	2.545		1	1	3.718			
T2	98.40	851.37	A	0.223	2.522	39	1	1	14.553	1532.08	76.60	C
120.00-100.00			B	0.223	2.522		1	1	14.553			
			C	0.223	2.522		1	1	14.553			
T3	147.60	891.35	A	0.179	2.669	38	1	1	15.777	1813.13	90.66	C
100.00-80.00			B	0.179	2.669		1	1	15.777			
			C	0.179	2.669		1	1	15.777			
T4	147.60	1288.18	A	0.18	2.664	36	1	1	18.508	1937.10	96.85	C
80.00-60.00			B	0.18	2.664		1	1	18.508			
			C	0.18	2.664		1	1	18.508			
T5	147.60	1613.77	A	0.174	2.684	33	1	1	20.623	1975.24	98.76	C
60.00-40.00			B	0.174	2.684		1	1	20.623			
			C	0.174	2.684		1	1	20.623			
T6	147.60	1843.83	A	0.156	2.75	30	1	1	22.008	1904.45	95.22	C
40.00-20.00			B	0.156	2.75		1	1	22.008			
			C	0.156	2.75		1	1	22.008			
T7 20.00-0.00	147.60	2075.80	A	0.155	2.752	26	1	1	26.902	1943.97	97.20	C
			B	0.155	2.752		1	1	26.902			
			C	0.155	2.752		1	1	26.902			
Sum Weight:	836.40	8717.07						OTM	682238.54 lb-ft	11428.02		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	152.77	A	0.216	2.545	40	0.8	1	3.244	281.01	47.63	C
125.90-120.00			B	0.216	2.545		0.8	1	3.244			
			C	0.216	2.545		0.8	1	3.244			
T2	98.40	851.37	A	0.223	2.522	39	0.8	1	13.140	1413.62	70.68	A
120.00-100.00			B	0.223	2.522		0.8	1	13.140			
			C	0.223	2.522		0.8	1	13.140			
T3	147.60	891.35	A	0.179	2.669	38	0.8	1	14.101	1670.52	83.53	C
100.00-80.00			B	0.179	2.669		0.8	1	14.101			
			C	0.179	2.669		0.8	1	14.101			
T4	147.60	1288.18	A	0.18	2.664	36	0.8	1	16.663	1788.52	89.43	C
80.00-60.00			B	0.18	2.664		0.8	1	16.663			
			C	0.18	2.664		0.8	1	16.663			
T5	147.60	1613.77	A	0.174	2.684	33	0.8	1	18.561	1819.33	90.97	C
60.00-40.00			B	0.174	2.684		0.8	1	18.561			
			C	0.174	2.684		0.8	1	18.561			
T6	147.60	1843.83	A	0.156	2.75	30	0.8	1	19.694	1743.45	87.17	C
40.00-20.00			B	0.156	2.75		0.8	1	19.694			
			C	0.156	2.75		0.8	1	19.694			
T7 20.00-0.00	147.60	2075.80	A	0.155	2.752	26	0.8	1	23.683	1750.02	87.50	C
			B	0.155	2.752		0.8	1	23.683			
			C	0.155	2.752		0.8	1	23.683			
Sum Weight:	836.40	8717.07						OTM	626360.99 lb-ft	10466.46		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	152.77	A	0.216	2.545	40	0.85	1	3.362	291.27	49.37	C
125.90-120.00			B	0.216	2.545		0.85	1	3.362			
			C	0.216	2.545		0.85	1	3.362			
T2	98.40	851.37	A	0.223	2.522	39	0.85	1	13.493	1443.23	72.16	A
120.00-100.00			B	0.223	2.522		0.85	1	13.493			
			C	0.223	2.522		0.85	1	13.493			
T3	147.60	891.35	A	0.179	2.669	38	0.85	1	14.520	1709.40	85.47	A
100.00-80.00			B	0.179	2.669		0.85	1	14.520			
			C	0.179	2.669		0.85	1	14.520			
T4	147.60	1288.18	A	0.18	2.664	36	0.85	1	17.124	1828.72	91.44	A
80.00-60.00			B	0.18	2.664		0.85	1	17.124			
			C	0.18	2.664		0.85	1	17.124			
T5	147.60	1613.77	A	0.174	2.684	33	0.85	1	19.076	1861.16	93.06	A
60.00-40.00			B	0.174	2.684		0.85	1	19.076			
			C	0.174	2.684		0.85	1	19.076			
T6	147.60	1843.83	A	0.156	2.75	30	0.85	1	20.272	1786.26	89.31	A

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
40.00-20.00			B	0.156	2.75		0.85	1	20.272			
			C	0.156	2.75		0.85	1	20.272			
T7 20.00-0.00	147.60	2075.80	A	0.155	2.752	26	0.85	1	24.488	1800.73	90.04	A
			B	0.155	2.752		0.85	1	24.488			
			C	0.155	2.752		0.85	1	24.488			
Sum Weight:	836.40	8717.07						OTM	641076.79 lb-ft	10720.77		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	298.69	A	0.329	2.221	10	1	1	5.413	105.81	17.93	C
125.90-120.00			B	0.329	2.221		1	1	5.413			
			C	0.329	2.221		1	1	5.413			
T2	248.57	1370.43	A	0.307	2.278	10	1	1	20.082	495.60	24.78	C
120.00-100.00			B	0.307	2.278		1	1	20.082			
			C	0.307	2.278		1	1	20.082			
T3	378.87	1450.20	A	0.249	2.442	10	1	1	21.434	591.31	29.57	C
100.00-80.00			B	0.249	2.442		1	1	21.434			
			C	0.249	2.442		1	1	21.434			
T4	373.97	1922.89	A	0.233	2.49	9	1	1	24.986	637.12	31.86	C
80.00-60.00			B	0.233	2.49		1	1	24.986			
			C	0.233	2.49		1	1	24.986			
T5	367.65	2309.55	A	0.22	2.531	9	1	1	28.208	659.45	32.97	C
60.00-40.00			B	0.22	2.531		1	1	28.208			
			C	0.22	2.531		1	1	28.208			
T6	358.53	2545.29	A	0.196	2.609	8	1	1	29.440	626.07	31.30	C
40.00-20.00			B	0.196	2.609		1	1	29.440			
			C	0.196	2.609		1	1	29.440			
T7 20.00-0.00	340.73	2830.61	A	0.189	2.632	7	1	1	33.723	606.98	30.35	C
			B	0.189	2.632		1	1	33.723			
			C	0.189	2.632		1	1	33.723			
Sum Weight:	2068.31	12727.67						OTM	223166.09 lb-ft	3722.34		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	298.69	A	0.329	2.221	10	0.8	1	4.939	96.55	16.36	C
125.90-120.00			B	0.329	2.221		0.8	1	4.939			
			C	0.329	2.221		0.8	1	4.939			
T2	248.57	1370.43	A	0.307	2.278	10	0.8	1	18.670	467.95	23.40	A
120.00-100.00			B	0.307	2.278		0.8	1	18.670			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
			C	0.307	2.278		0.8	1	18.670			
T3	378.87	1450.20	A	0.249	2.442	10	0.8	1	19.758	557.58	27.88	C
100.00-80.00			B	0.249	2.442		0.8	1	19.758			
			C	0.249	2.442		0.8	1	19.758			
T4	373.97	1922.89	A	0.233	2.49	9	0.8	1	23.141	601.22	30.06	C
80.00-60.00			B	0.233	2.49		0.8	1	23.141			
			C	0.233	2.49		0.8	1	23.141			
T5	367.65	2309.55	A	0.22	2.531	9	0.8	1	26.146	621.43	31.07	C
60.00-40.00			B	0.22	2.531		0.8	1	26.146			
			C	0.22	2.531		0.8	1	26.146			
T6	358.53	2545.29	A	0.196	2.609	8	0.8	1	27.126	586.59	29.33	C
40.00-20.00			B	0.196	2.609		0.8	1	27.126			
			C	0.196	2.609		0.8	1	27.126			
T7 20.00-0.00	340.73	2830.61	A	0.189	2.632	7	0.8	1	30.504	559.03	27.95	C
			B	0.189	2.632		0.8	1	30.504			
			C	0.189	2.632		0.8	1	30.504			
Sum Weight:	2068.31	12727.67						OTM	209871.56 lb-ft	3490.34		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft²	F lb	w plf	Ctrl. Face
T1	0.00	298.69	A	0.329	2.221	10	0.85	1	5.058	98.86	16.76	C
125.90-120.00			B	0.329	2.221		0.85	1	5.058			
			C	0.329	2.221		0.85	1	5.058			
T2	248.57	1370.43	A	0.307	2.278	10	0.85	1	19.023	474.86	23.74	A
120.00-100.00			B	0.307	2.278		0.85	1	19.023			
			C	0.307	2.278		0.85	1	19.023			
T3	378.87	1450.20	A	0.249	2.442	10	0.85	1	20.177	566.85	28.34	A
100.00-80.00			B	0.249	2.442		0.85	1	20.177			
			C	0.249	2.442		0.85	1	20.177			
T4	373.97	1922.89	A	0.233	2.49	9	0.85	1	23.602	610.99	30.55	A
80.00-60.00			B	0.233	2.49		0.85	1	23.602			
			C	0.233	2.49		0.85	1	23.602			
T5	367.65	2309.55	A	0.22	2.531	9	0.85	1	26.662	631.67	31.58	A
60.00-40.00			B	0.22	2.531		0.85	1	26.662			
			C	0.22	2.531		0.85	1	26.662			
T6	358.53	2545.29	A	0.196	2.609	8	0.85	1	27.704	597.12	29.86	A
40.00-20.00			B	0.196	2.609		0.85	1	27.704			
			C	0.196	2.609		0.85	1	27.704			
T7 20.00-0.00	340.73	2830.61	A	0.189	2.632	7	0.85	1	31.309	571.59	28.58	A
			B	0.189	2.632		0.85	1	31.309			
			C	0.189	2.632		0.85	1	31.309			
Sum Weight:	2068.31	12727.67						OTM	213388.17 lb-ft	3551.94		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	0.00	152.77	A	0.216	2.545	10	1	1	3.718	83.27	14.11	C
125.90-120.00			B	0.216	2.545		1	1	3.718			
			C	0.216	2.545		1	1	3.718			
T2	98.40	851.37	A	0.223	2.522	10	1	1	14.786	401.18	20.06	C
120.00-100.00			B	0.223	2.522		1	1	14.786			
			C	0.223	2.522		1	1	14.786			
T3	147.60	891.35	A	0.179	2.669	10	1	1	16.001	473.70	23.68	C
100.00-80.00			B	0.179	2.669		1	1	16.001			
			C	0.179	2.669		1	1	16.001			
T4	147.60	1288.18	A	0.18	2.664	9	1	1	19.827	528.29	26.41	C
80.00-60.00			B	0.18	2.664		1	1	19.827			
			C	0.18	2.664		1	1	19.827			
T5	147.60	1613.77	A	0.174	2.684	9	1	1	22.918	555.57	27.78	C
60.00-40.00			B	0.174	2.684		1	1	22.918			
			C	0.174	2.684		1	1	22.918			
T6	147.60	1843.83	A	0.156	2.75	8	1	1	24.130	530.56	26.53	C
40.00-20.00			B	0.156	2.75		1	1	24.130			
			C	0.156	2.75		1	1	24.130			
T7 20.00-0.00	147.60	2075.80	A	0.155	2.752	7	1	1	28.653	529.89	26.49	C
			B	0.155	2.752		1	1	28.653			
			C	0.155	2.752		1	1	28.653			
Sum Weight:	836.40	8717.07						OTM	182974.45 lb-ft	3102.45		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	0.00	152.77	A	0.216	2.545	10	0.8	1	3.244	72.65	12.31	C
125.90-120.00			B	0.216	2.545		0.8	1	3.244			
			C	0.216	2.545		0.8	1	3.244			
T2	98.40	851.37	A	0.223	2.522	10	0.8	1	13.374	370.55	18.53	A
120.00-100.00			B	0.223	2.522		0.8	1	13.374			
			C	0.223	2.522		0.8	1	13.374			
T3	147.60	891.35	A	0.179	2.669	10	0.8	1	14.325	436.83	21.84	C
100.00-80.00			B	0.179	2.669		0.8	1	14.325			
			C	0.179	2.669		0.8	1	14.325			
T4	147.60	1288.18	A	0.18	2.664	9	0.8	1	17.982	489.88	24.49	C
80.00-60.00			B	0.18	2.664		0.8	1	17.982			
			C	0.18	2.664		0.8	1	17.982			
T5	147.60	1613.77	A	0.174	2.684	9	0.8	1	20.857	515.26	25.76	C
60.00-40.00			B	0.174	2.684		0.8	1	20.857			
			C	0.174	2.684		0.8	1	20.857			
T6	147.60	1843.83	A	0.156	2.75	8	0.8	1	21.816	488.93	24.45	C
40.00-20.00			B	0.156	2.75		0.8	1	21.816			
			C	0.156	2.75		0.8	1	21.816			
T7 20.00-0.00	147.60	2075.80	A	0.155	2.752	7	0.8	1	25.434	479.74	23.99	C
			B	0.155	2.752		0.8	1	25.434			
			C	0.155	2.752		0.8	1	25.434			

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
Sum Weight:	836.40	8717.07						OTM	168527.51 lb-ft	2853.84		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	Face	e	C_F	q_z psf	D_F	D_R	A_E ft^2	F lb	w plf	Ctrl. Face
T1	0.00	152.77	A	0.216	2.545	10	0.85	1	3.362	75.31	12.76	C
125.90-120.00			B	0.216	2.545		0.85	1	3.362			
			C	0.216	2.545		0.85	1	3.362			
T2	98.40	851.37	A	0.223	2.522	10	0.85	1	13.727	378.21	18.91	A
120.00-100.00			B	0.223	2.522		0.85	1	13.727			
			C	0.223	2.522		0.85	1	13.727			
T3	147.60	891.35	A	0.179	2.669	10	0.85	1	14.744	446.88	22.34	A
100.00-80.00			B	0.179	2.669		0.85	1	14.744			
			C	0.179	2.669		0.85	1	14.744			
T4	147.60	1288.18	A	0.18	2.664	9	0.85	1	18.443	500.27	25.01	A
80.00-60.00			B	0.18	2.664		0.85	1	18.443			
			C	0.18	2.664		0.85	1	18.443			
T5	147.60	1613.77	A	0.174	2.684	9	0.85	1	21.372	526.08	26.30	A
60.00-40.00			B	0.174	2.684		0.85	1	21.372			
			C	0.174	2.684		0.85	1	21.372			
T6	147.60	1843.83	A	0.156	2.75	8	0.85	1	22.394	500.00	25.00	A
40.00-20.00			B	0.156	2.75		0.85	1	22.394			
			C	0.156	2.75		0.85	1	22.394			
T7 20.00-0.00	147.60	2075.80	A	0.155	2.752	7	0.85	1	26.239	492.85	24.64	A
			B	0.155	2.752		0.85	1	26.239			
			C	0.155	2.752		0.85	1	26.239			
Sum Weight:	836.40	8717.07						OTM	172332.23 lb-ft	2919.59		

Mast Vectors - No Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	322.06	0.00	-322.06	-39596.77	0.00	0.00
		30	Wind 90	291.27	145.63	-252.25	-31013.74	-17905.79	0.00
		60	Wind 60	281.01	243.36	-140.50	-17274.93	-29921.05	0.00
		90	Wind 90	291.27	291.27	0.00	0.00	-35811.58	0.00
		120	Wind Normal	322.06	278.91	161.03	19798.38	-34291.81	0.00
		150	Wind 90	291.27	145.63	252.25	31013.74	-17905.79	0.00
		180	Wind 60	281.01	0.00	281.01	34549.85	0.00	0.00
		210	Wind 90	291.27	-145.63	252.25	31013.74	17905.79	0.00
		240	Wind Normal	322.06	-278.91	161.03	19798.38	34291.81	0.00
		270	Wind 90	291.27	-291.27	0.00	0.00	35811.58	0.00
		300	Wind 60	281.01	-243.36	-140.50	-17274.93	29921.05	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		330	Wind 90	291.27	-145.63	-252.25	-31013.74	17905.79	0.00
T2	120.00-100.00	0	Wind Normal	1532.08	0.00	-1532.08	-168461.79	-42.61	130.50
		30	Wind 90	1443.23	721.62	-1249.88	-137419.71	-79420.43	222.37
		60	Wind 60	1408.57	1219.86	-704.28	-77404.52	-134226.71	242.17
		90	Wind 90	1433.13	1433.13	0.00	66.70	-157687.11	197.07
		120	Wind Normal	1521.98	1318.07	760.99	83775.38	-145030.30	111.67
		150	Wind 90	1438.18	719.09	1245.50	137071.98	-79142.65	-3.66
		180	Wind 60	1413.62	0.00	1413.62	155564.72	-42.61	-130.50
		210	Wind 90	1443.23	-721.62	1249.88	137553.12	79335.21	-222.37
		240	Wind Normal	1527.03	-1322.44	763.51	84053.17	145426.21	-242.17
		270	Wind 90	1433.13	-1433.13	0.00	66.70	157601.89	-197.07
		300	Wind 60	1403.52	-1215.48	-701.76	-77126.74	133660.35	-111.67
		330	Wind 90	1438.18	-719.09	-1245.50	-136938.57	79057.42	3.66
T3	100.00-80.00	0	Wind Normal	1813.13	0.00	-1813.13	-163135.85	-78.93	190.08
		30	Wind 90	1709.40	854.70	-1480.38	-133188.79	-77001.82	231.26
		60	Wind 60	1670.52	1446.71	-835.26	-75127.72	-130282.88	190.08
		90	Wind 90	1699.71	1699.71	0.00	45.57	-153053.21	97.96
		120	Wind Normal	1803.44	1561.83	901.72	81200.52	-140643.43	0.00
		150	Wind 90	1699.71	849.86	1472.00	132525.18	-76566.07	-97.96
		180	Wind 60	1670.52	0.00	1670.52	150392.14	-78.93	-190.08
		210	Wind 90	1709.40	-854.70	1480.38	133279.93	76843.97	-231.26
		240	Wind Normal	1813.13	-1570.21	906.56	81636.28	141240.32	-190.08
		270	Wind 90	1699.71	-1699.71	0.00	45.57	152895.35	-97.96
		300	Wind 60	1660.83	-1438.32	-830.42	-74691.97	129370.28	0.00
		330	Wind 90	1699.71	-849.86	-1472.00	-132434.05	76408.21	97.96
T4	80.00-60.00	0	Wind Normal	1937.10	0.00	-1937.10	-135540.53	-97.38	221.84
		30	Wind 90	1828.72	914.36	-1583.72	-110804.26	-64102.71	269.98
		60	Wind 60	1788.52	1548.90	-894.26	-62541.89	-108520.49	221.84
		90	Wind 90	1819.54	1819.54	0.00	56.22	-127465.13	114.25
		120	Wind Normal	1927.91	1669.62	963.96	67533.14	-116970.84	0.00
		150	Wind 90	1819.54	909.77	1575.77	110359.93	-63781.25	-114.25
		180	Wind 60	1788.52	0.00	1788.52	125252.45	-97.38	-221.84
		210	Wind 90	1828.72	-914.36	1583.72	110916.70	63907.95	-269.98
		240	Wind Normal	1937.10	-1677.57	968.55	67854.60	117332.86	-221.84
		270	Wind 90	1819.54	-1819.54	0.00	56.22	127270.38	-114.25
		300	Wind 60	1779.33	-1540.95	-889.67	-62220.44	107768.96	0.00
		330	Wind 90	1819.54	-909.77	-1575.77	-110247.49	63586.50	114.25
T5	60.00-40.00	0	Wind Normal	1975.24	0.00	-1975.24	-98695.12	-115.83	245.39
		30	Wind 90	1861.16	930.58	-1611.81	-80523.73	-46644.84	298.70
		60	Wind 60	1819.33	1575.59	-909.67	-45416.40	-78895.17	245.39
		90	Wind 90	1852.60	1852.60	0.00	66.87	-92746.03	126.32
		120	Wind Normal	1966.68	1703.20	983.34	49233.96	-85275.72	0.00
		150	Wind 90	1852.60	926.30	1604.40	80286.98	-46430.93	-126.32
		180	Wind 60	1819.33	0.00	1819.33	91033.43	-115.83	-245.39
		210	Wind 90	1861.16	-930.58	1611.81	80657.48	46413.18	-298.70
		240	Wind Normal	1975.24	-1710.61	987.62	49447.87	85414.57	-245.39
		270	Wind 90	1852.60	-1852.60	0.00	66.87	92514.38	-126.32
		300	Wind 60	1810.77	-1568.18	-905.39	-45202.50	78293.02	0.00
		330	Wind 90	1852.60	-926.30	-1604.40	-80153.24	46199.27	126.32
T6	40.00-20.00	0	Wind Normal	1904.45	0.00	-1904.45	-57055.86	-134.28	255.14
		30	Wind 90	1786.26	893.13	-1546.95	-46330.92	-26928.20	310.61
		60	Wind 60	1743.45	1509.87	-871.73	-26074.26	-45430.49	255.14
		90	Wind 90	1778.58	1778.58	0.00	77.52	-53491.62	131.30
		120	Wind Normal	1896.76	1642.64	948.38	28528.96	-49413.60	0.00
		150	Wind 90	1778.58	889.29	1540.29	46286.34	-26812.95	-131.30
		180	Wind 60	1743.45	0.00	1743.45	52381.09	-134.28	-255.14
		210	Wind 90	1786.26	-893.13	1546.95	46485.97	26659.65	-310.61
		240	Wind Normal	1904.45	-1649.30	952.22	28644.22	49344.68	-255.14
		270	Wind 90	1778.58	-1778.58	0.00	77.52	53223.06	-131.30
		300	Wind 60	1735.77	-1503.22	-867.88	-25959.00	44962.30	0.00
		330	Wind 90	1778.58	-889.29	-1540.29	-46131.29	26544.39	131.30

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T7	20.00-0.00	0	Wind Normal	1943.97	0.00	-1943.97	-19351.56	-152.73	250.87
		30	Wind 90	1800.73	900.36	-1559.47	-15506.56	-9156.35	305.45
		60	Wind 60	1750.02	1515.56	-875.01	-8661.92	-15308.35	250.87
		90	Wind 90	1794.08	1794.08	0.00	88.18	-18093.49	129.07
		120	Wind Normal	1937.32	1677.77	968.66	9774.80	-16930.45	0.00
		150	Wind 90	1794.08	897.04	1553.72	15625.33	-9123.11	-129.07
		180	Wind 60	1750.02	0.00	1750.02	17588.38	-152.73	-250.87
		210	Wind 90	1800.73	-900.36	1559.47	15682.92	8850.90	-305.45
		240	Wind Normal	1943.97	-1683.53	971.99	9808.05	16682.58	-250.87
		270	Wind 90	1794.08	-1794.08	0.00	88.18	17788.03	-129.07
		300	Wind 60	1743.37	-1509.80	-871.69	-8628.68	14945.31	0.00
		330	Wind 90	1794.08	-897.04	-1553.72	-15448.98	8817.65	129.07

Mast Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-11428.02	-681837.48	-621.75	1293.81
30	5360.39	-9284.46	-554787.72	-321160.14	1638.37
60	9059.85	-5230.71	-312501.64	-542585.14	1405.47
90	10668.91	0.00	401.07	-638348.16	795.98
120	9852.04	5688.08	339845.15	-588556.15	111.67
150	5336.98	9243.92	553169.48	-319762.74	-602.57
180	0.00	10466.46	626762.06	-621.75	-1293.81
210	-5360.39	9284.46	555589.86	319916.65	-1638.37
240	-9892.58	5711.48	341242.56	589733.03	-1405.47
270	-10668.91	0.00	401.07	637104.67	-795.98
300	-9019.31	-5207.30	-311104.24	538921.27	-111.67
330	-5336.98	-9243.92	-552367.35	318519.25	602.57

Mast Vectors - With Ice

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	105.81	0.00	-105.81	-13009.39	0.00	0.00
		30	Wind 90	98.86	49.43	-85.62	-10526.77	-6077.63	0.00
		60	Wind 60	96.55	83.61	-48.27	-5935.28	-10280.20	0.00
		90	Wind 90	98.86	98.86	0.00	0.00	-12155.26	0.00
		120	Wind Normal	105.81	91.63	52.91	6504.70	-11266.46	0.00
		150	Wind 90	98.86	49.43	85.62	10526.77	-6077.63	0.00
		180	Wind 60	96.55	0.00	96.55	11870.55	0.00	0.00
		210	Wind 90	98.86	-49.43	85.62	10526.77	6077.63	0.00
		240	Wind Normal	105.81	-91.63	52.91	6504.70	11266.46	0.00
		270	Wind 90	98.86	-98.86	0.00	0.00	12155.26	0.00
		300	Wind 60	96.55	-83.61	-48.27	-5935.28	10280.20	0.00
		330	Wind 90	98.86	-49.43	-85.62	-10526.77	6077.63	0.00
T2	120.00-100.00	0	Wind Normal	495.60	0.00	-495.60	-54347.59	-107.64	43.19
		30	Wind 90	474.86	237.43	-411.24	-45067.89	-26224.89	73.07
		60	Wind 60	466.64	404.12	-233.32	-25496.66	-44561.00	80.15
		90	Wind 90	472.25	472.25	0.00	168.50	-52054.86	65.74

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		120	Wind Normal	492.99	426.94	246.49	27282.91	-47071.17	36.96
		150	Wind 90	473.55	236.78	410.11	45280.51	-26153.07	-1.73
		180	Wind 60	467.95	0.00	467.95	51642.47	-107.64	-43.19
		210	Wind 90	474.86	-237.43	411.24	45404.90	26009.60	-73.07
		240	Wind Normal	494.29	-428.07	247.15	27354.73	46980.28	-80.15
		270	Wind 90	472.25	-472.25	0.00	168.50	51839.57	-65.74
		300	Wind 60	465.33	-402.99	-232.67	-25424.84	44221.32	-36.96
		330	Wind 90	473.55	-236.78	-410.11	-44943.50	25937.78	1.73
T3	100.00-80.00	0	Wind Normal	591.31	0.00	-591.31	-53112.03	-183.02	54.24
		30	Wind 90	566.85	283.42	-490.90	-44075.62	-25691.10	65.68
		60	Wind 60	557.58	482.88	-278.79	-24985.41	-43642.04	54.24
		90	Wind 90	564.34	564.34	0.00	105.67	-50973.85	28.27
		120	Wind Normal	588.80	509.92	294.40	26601.86	-46075.77	0.00
		150	Wind 90	564.34	282.17	488.73	44091.81	-25578.43	-28.27
		180	Wind 60	557.58	0.00	557.58	50287.82	-183.02	-54.24
		210	Wind 90	566.85	-283.42	490.90	44286.95	25325.05	-65.68
		240	Wind Normal	591.31	-512.09	295.65	26714.52	45904.86	-54.24
		270	Wind 90	564.34	-564.34	0.00	105.67	50607.81	-28.27
		300	Wind 60	555.08	-480.71	-277.54	-24872.75	43080.86	0.00
		330	Wind 90	564.34	-282.17	-488.73	-43880.48	25212.39	28.27
T4	80.00-60.00	0	Wind Normal	637.12	0.00	-637.12	-44469.39	-223.75	63.02
		30	Wind 90	610.99	305.49	-529.13	-36909.88	-21608.27	76.35
		60	Wind 60	601.22	520.67	-300.61	-20913.47	-36670.70	63.02
		90	Wind 90	608.61	608.61	0.00	129.18	-42826.56	32.81
		120	Wind Normal	634.75	549.71	317.37	22345.36	-38703.30	0.00
		150	Wind 90	608.61	304.31	527.07	37024.30	-21525.16	-32.81
		180	Wind 60	601.22	0.00	601.22	42214.49	-223.75	-63.02
		210	Wind 90	610.99	-305.49	529.13	37168.25	21160.76	-76.35
		240	Wind Normal	637.12	-551.76	318.56	22428.47	38399.75	-63.02
		270	Wind 90	608.61	-608.61	0.00	129.18	42379.06	-32.81
		300	Wind 60	598.84	-518.61	-299.42	-20830.36	36079.24	0.00
		330	Wind 90	608.61	-304.31	-527.07	-36765.93	21077.65	32.81
T5	60.00-40.00	0	Wind Normal	659.45	0.00	-659.45	-32820.38	-263.15	69.40
		30	Wind 90	631.67	315.84	-547.05	-27200.37	-16055.01	84.11
		60	Wind 60	621.43	538.18	-310.72	-15383.91	-27172.03	69.40
		90	Wind 90	629.46	629.46	0.00	151.93	-31736.26	36.10
		120	Wind Normal	657.23	569.18	328.62	16582.78	-28722.22	0.00
		150	Wind 90	629.46	314.73	545.13	27408.44	-15999.71	-36.10
		180	Wind 60	621.43	0.00	621.43	31223.62	-263.15	-69.40
		210	Wind 90	631.67	-315.84	547.05	27504.23	15528.71	-84.11
		240	Wind Normal	659.45	-571.10	329.72	16638.09	28291.71	-69.40
		270	Wind 90	629.46	-629.46	0.00	151.93	31209.95	-36.10
		300	Wind 60	619.22	-536.26	-309.61	-15328.61	26549.93	0.00
		330	Wind 90	629.46	-314.73	-545.13	-27104.58	15473.40	36.10
T6	40.00-20.00	0	Wind Normal	626.07	0.00	-626.07	-18608.89	-300.19	71.78
		30	Wind 90	597.12	298.56	-517.12	-15340.34	-9257.00	87.02
		60	Wind 60	586.59	508.00	-293.29	-8625.49	-15540.16	71.78
		90	Wind 90	595.13	595.13	0.00	173.31	-18154.21	37.30
		120	Wind Normal	624.09	540.48	312.04	9534.62	-16514.44	0.00
		150	Wind 90	595.13	297.57	515.40	15635.35	-9227.20	-37.30
		180	Wind 60	586.59	0.00	586.59	17770.92	-300.19	-71.78
		210	Wind 90	597.12	-298.56	517.12	15686.97	8656.62	-87.02
		240	Wind Normal	626.07	-542.20	313.04	9564.42	15965.68	-71.78
		270	Wind 90	595.13	-595.13	0.00	173.31	17553.84	-37.30
		300	Wind 60	584.60	-506.28	-292.30	-8595.69	14888.17	0.00
		330	Wind 90	595.13	-297.57	-515.40	-15288.73	8626.82	37.30
T7	20.00-0.00	0	Wind Normal	606.98	0.00	-606.98	-5878.92	-330.63	69.93
		30	Wind 90	571.59	285.79	-495.01	-4759.22	-3188.58	84.83
		60	Wind 60	559.03	484.13	-279.51	-2604.25	-5171.95	69.93
		90	Wind 90	569.87	569.87	0.00	190.89	-6029.33	36.30
		120	Wind Normal	605.26	524.17	302.63	3217.20	-5572.35	0.00

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		150	Wind 90	569.87	284.93	493.52	5126.11	-3179.98	-36.30
		180	Wind 60	559.03	0.00	559.03	5781.17	-330.63	-69.93
		210	Wind 90	571.59	-285.79	495.01	5141.00	2527.31	-84.83
		240	Wind Normal	606.98	-525.66	303.49	3225.79	4925.97	-69.93
		270	Wind 90	569.87	-569.87	0.00	190.89	5368.07	-36.30
		300	Wind 60	557.31	-482.64	-278.65	-2595.65	4495.80	0.00
		330	Wind 90	569.87	-284.93	-493.52	-4744.33	2518.72	36.30

Mast Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-3722.34	-222246.60	-1408.39	371.57
30	1775.97	-3076.07	-183880.09	-108102.47	471.06
60	3021.59	-1744.52	-103944.47	-183038.09	408.53
90	3538.53	0.00	919.49	-213930.33	236.53
120	3212.03	1854.47	112069.42	-193925.71	36.96
150	1769.92	3065.59	185093.29	-107741.18	-172.52
180	0.00	3490.34	210791.05	-1408.39	-371.57
210	-1775.97	3076.07	185719.07	105285.70	-471.06
240	-3222.51	1860.52	112430.71	191734.72	-408.53
270	-3538.53	0.00	919.49	211113.56	-236.53
300	-3011.11	-1738.47	-103583.17	179595.54	-36.96
330	-1769.92	-3065.59	-183254.31	104924.40	172.52

Mast Vectors - Service

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
T1	125.90-120.00	0	Wind Normal	83.27	0.00	-83.27	-10237.60	0.00	0.00
		30	Wind 90	75.31	37.65	-65.22	-8018.49	-4629.48	0.00
		60	Wind 60	72.65	62.92	-36.33	-4466.37	-7735.98	0.00
		90	Wind 90	75.31	75.31	0.00	0.00	-9258.95	0.00
		120	Wind Normal	83.27	72.11	41.63	5118.80	-8866.02	0.00
		150	Wind 90	75.31	37.65	65.22	8018.49	-4629.48	0.00
		180	Wind 60	72.65	0.00	72.65	8932.74	0.00	0.00
		210	Wind 90	75.31	-37.65	65.22	8018.49	4629.48	0.00
		240	Wind Normal	83.27	-72.11	41.63	5118.80	8866.02	0.00
		270	Wind 90	75.31	-75.31	0.00	0.00	9258.95	0.00
		300	Wind 60	72.65	-62.92	-36.33	-4466.37	7735.98	0.00
		330	Wind 90	75.31	-37.65	-65.22	-8018.49	4629.48	0.00
T2	120.00-100.00	0	Wind Normal	401.18	0.00	-401.18	-44062.79	-42.61	33.74
		30	Wind 90	378.21	189.10	-327.54	-35962.34	-20843.99	57.49
		60	Wind 60	369.24	319.77	-184.62	-20241.73	-35217.86	62.61
		90	Wind 90	375.60	375.60	0.00	66.70	-41358.09	50.95
		120	Wind Normal	398.57	345.17	199.28	21987.81	-38011.09	28.87
		150	Wind 90	376.90	188.45	326.41	35971.36	-20772.17	-0.95
		180	Wind 60	370.55	0.00	370.55	40827.22	-42.61	-33.74
		210	Wind 90	378.21	-189.10	327.54	36095.75	20758.77	-57.49
		240	Wind Normal	399.87	-346.30	199.94	22059.63	38050.26	-62.61

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		270	Wind 90	375.60	-375.60	0.00	66.70	41272.87	-50.95
		300	Wind 60	367.94	-318.64	-183.97	-20169.91	35008.24	-28.87
		330	Wind 90	376.90	-188.45	-326.41	-35837.95	20686.95	0.95
T3	100.00-80.00	0	Wind Normal	473.70	0.00	-473.70	-42587.36	-78.93	49.14
		30	Wind 90	446.88	223.44	-387.01	-34785.31	-20188.54	59.79
		60	Wind 60	436.83	378.30	-218.41	-19611.69	-34126.30	49.14
		90	Wind 90	444.38	444.38	0.00	45.57	-40072.83	25.33
		120	Wind Normal	471.20	408.07	235.60	21249.37	-36804.99	0.00
		150	Wind 90	444.38	222.19	384.84	34681.31	-20075.88	-25.33
		180	Wind 60	436.83	0.00	436.83	39360.09	-78.93	-49.14
		210	Wind 90	446.88	-223.44	387.01	34876.45	20030.69	-59.79
		240	Wind Normal	473.70	-410.24	236.85	21362.03	36842.27	-49.14
		270	Wind 90	444.38	-444.38	0.00	45.57	39914.98	-25.33
		300	Wind 60	434.32	-376.14	-217.16	-19499.03	33773.31	0.00
		330	Wind 90	444.38	-222.19	-384.84	-34590.17	19918.03	25.33
T4	80.00-60.00	0	Wind Normal	528.29	0.00	-528.29	-36924.09	-97.38	57.36
		30	Wind 90	500.27	250.14	-433.25	-30271.08	-17606.85	69.80
		60	Wind 60	489.88	424.24	-244.94	-17089.42	-29794.50	57.36
		90	Wind 90	497.90	497.90	0.00	56.22	-34950.11	29.54
		120	Wind Normal	525.92	455.46	262.96	18463.26	-31979.31	0.00
		150	Wind 90	497.90	248.95	431.19	30239.57	-17523.74	-29.54
		180	Wind 60	489.88	0.00	489.88	34347.51	-97.38	-57.36
		210	Wind 90	500.27	-250.14	433.25	30383.52	17412.10	-69.80
		240	Wind Normal	528.29	-457.51	264.15	18546.37	31928.51	-57.36
		270	Wind 90	497.90	-497.90	0.00	56.22	34755.35	-29.54
		300	Wind 60	487.50	-422.19	-243.75	-17006.31	29455.80	0.00
		330	Wind 90	497.90	-248.95	-431.19	-30127.13	17328.99	29.54
T5	60.00-40.00	0	Wind Normal	555.57	0.00	-555.57	-27711.69	-115.83	63.44
		30	Wind 90	526.08	263.04	-455.60	-22712.91	-13267.74	77.23
		60	Wind 60	515.26	446.23	-257.63	-12814.67	-22427.31	63.44
		90	Wind 90	523.86	523.86	0.00	66.87	-26309.04	32.66
		120	Wind Normal	553.36	479.22	276.68	13900.85	-24076.98	0.00
		150	Wind 90	523.86	261.93	453.68	22750.86	-13212.43	-32.66
		180	Wind 60	515.26	0.00	515.26	25829.95	-115.83	-63.44
		210	Wind 90	526.08	-263.04	455.60	22846.65	13036.08	-77.23
		240	Wind Normal	555.57	-481.14	277.79	13956.15	23941.12	-63.44
		270	Wind 90	523.86	-523.86	0.00	66.87	26077.38	-32.66
		300	Wind 60	513.05	-444.31	-256.52	-12759.36	22099.86	0.00
		330	Wind 90	523.86	-261.93	-453.68	-22617.11	12980.78	32.66
T6	40.00-20.00	0	Wind Normal	530.56	0.00	-530.56	-15839.16	-134.28	65.96
		30	Wind 90	500.00	250.00	-433.01	-12912.86	-7634.28	80.31
		60	Wind 60	488.93	423.43	-244.47	-7256.45	-12837.10	65.96
		90	Wind 90	498.01	498.01	0.00	77.52	-15074.68	33.95
		120	Wind Normal	528.57	457.75	264.28	8006.07	-13866.92	0.00
		150	Wind 90	498.01	249.01	431.29	13016.29	-7604.48	-33.95
		180	Wind 60	488.93	0.00	488.93	14745.48	-134.28	-65.96
		210	Wind 90	500.00	-250.00	433.01	13067.91	7365.72	-80.31
		240	Wind Normal	530.56	-459.48	265.28	8035.87	13649.98	-65.96
		270	Wind 90	498.01	-498.01	0.00	77.52	14806.13	-33.95
		300	Wind 60	486.95	-421.71	-243.47	-7226.65	12516.93	0.00
		330	Wind 90	498.01	-249.01	-431.29	-12861.24	7335.92	33.95
T7	20.00-0.00	0	Wind Normal	529.89	0.00	-529.89	-5210.69	-152.73	64.86
		30	Wind 90	492.85	246.43	-426.82	-4180.03	-2616.98	78.97
		60	Wind 60	479.74	415.47	-239.87	-2310.53	-4307.40	64.86
		90	Wind 90	491.13	491.13	0.00	88.18	-5064.04	33.37
		120	Wind Normal	528.17	457.41	264.08	2729.02	-4726.79	0.00
		150	Wind 90	491.13	245.57	425.33	4341.50	-2608.38	-33.37
		180	Wind 60	479.74	0.00	479.74	4885.59	-152.73	-64.86
		210	Wind 90	492.85	-246.43	426.82	4356.39	2311.52	-78.97
		240	Wind Normal	529.89	-458.90	264.94	2737.61	4436.23	-64.86
		270	Wind 90	491.13	-491.13	0.00	88.18	4758.59	-33.37

Section No.	Section Elevation ft	Wind Azimuth °	Directionality	F lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
		300	Wind 60	478.02	-413.98	-239.01	-2301.93	3987.06	0.00
		330	Wind 90	491.13	-245.57	-425.33	-4165.14	2302.93	33.37

Mast Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-3102.45	-182573.38	-621.75	334.51
30	1459.80	-2528.44	-148843.02	-86787.86	423.59
60	2470.37	-1426.27	-83790.87	-146446.46	363.38
90	2906.18	0.00	401.07	-172087.75	205.80
120	2675.19	1544.52	91455.18	-158332.09	28.87
150	1453.74	2517.96	149019.38	-86426.57	-155.79
180	0.00	2853.84	168928.58	-621.75	-334.51
210	-1459.80	2528.44	149645.16	85544.37	-423.59
240	-2685.67	1550.57	91816.47	157714.38	-363.38
270	-2906.18	0.00	401.07	170844.25	-205.80
300	-2459.89	-1420.22	-83429.57	144577.18	-28.87
330	-1453.74	-2517.96	-148217.24	85183.07	155.79

Discrete Appurtenance Pressures - No Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	120.00	1.315	40	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	110.00	1.291	39	208.00	208.00
Dish Pipe Mount	120.0000	103.00	2.50	1.44	100.00	1.266	38	0.00	1.80
	Sum Weight:	7175.00							

Discrete Appurtenance Vectors - No Ice

30,000 sq in CaAa - Elevation 120 - None C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	7044.95	0.00	0.00	-7044.95	-845393.78	0.00	0.00
30	7044.95	0.00	3522.47	-6101.10	-732132.49	-422696.89	0.00
60	7044.95	0.00	6101.10	-3522.47	-422696.89	-732132.49	0.00
90	7044.95	0.00	7044.95	0.00	0.00	-845393.78	0.00
120	7044.95	0.00	6101.10	3522.47	422696.89	-732132.49	0.00
150	7044.95	0.00	3522.47	6101.10	732132.49	-422696.89	0.00
180	7044.95	0.00	0.00	7044.95	845393.78	0.00	0.00
210	7044.95	0.00	-3522.47	6101.10	732132.49	422696.89	0.00
240	7044.95	0.00	-6101.10	3522.47	422696.89	732132.49	0.00
270	7044.95	0.00	-7044.95	0.00	0.00	845393.78	0.00
300	7044.95	0.00	-6101.10	-3522.47	-422696.89	732132.49	0.00

30,000 sq in CaAa - Elevation 120 - None C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
330	7044.95	0.00	-3522.47	-6101.10	-732132.49	422696.89	0.00

30,000 sq in CaAa - Elevation 110 - None B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	6917.07	0.00	0.00	-6917.07	-760877.95	0.00	0.00
30	6917.07	0.00	3458.54	-5990.36	-658939.63	-380438.97	0.00
60	6917.07	0.00	5990.36	-3458.54	-380438.97	-658939.63	0.00
90	6917.07	0.00	6917.07	0.00	0.00	-760877.95	0.00
120	6917.07	0.00	5990.36	3458.54	380438.97	-658939.63	0.00
150	6917.07	0.00	3458.54	5990.36	658939.63	-380438.97	0.00
180	6917.07	0.00	0.00	6917.07	760877.95	0.00	0.00
210	6917.07	0.00	-3458.54	5990.36	658939.63	380438.97	0.00
240	6917.07	0.00	-5990.36	3458.54	380438.97	658939.63	0.00
270	6917.07	0.00	-6917.07	0.00	0.00	760877.95	0.00
300	6917.07	0.00	-5990.36	-3458.54	-380438.97	658939.63	0.00
330	6917.07	0.00	-3458.54	-5990.36	-658939.63	380438.97	0.00

Dish Pipe Mount - Elevation 100 - From Leg B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	50.81	25.40	-44.00	-4251.59	-2797.99	146.68
30	0.00	58.67	29.34	-50.81	-4932.32	-3191.01	169.37
60	0.00	50.81	25.40	-44.00	-4251.59	-2797.99	146.68
90	0.00	29.34	14.67	-25.40	-2391.82	-1724.25	84.68
120	0.00	0.00	0.00	0.00	148.67	-257.50	0.00
150	0.00	29.34	-14.67	25.40	2689.16	1209.25	-84.68
180	0.00	50.81	-25.40	44.00	4548.93	2282.99	-146.68
210	0.00	58.67	-29.34	50.81	5229.65	2676.01	-169.37
240	0.00	50.81	-25.40	44.00	4548.93	2282.99	-146.68
270	0.00	29.34	-14.67	25.40	2689.16	1209.25	-84.68
300	0.00	0.00	0.00	0.00	148.67	-257.50	0.00
330	0.00	29.34	14.67	-25.40	-2391.82	-1724.25	84.68

Discrete Appurtenance Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	25.40	-14006.02	-1610523.32	-2797.99	146.68
30	7010.35	-12142.27	-1396004.44	-806326.87	169.37
60	12116.87	-7025.01	-807387.46	-1393870.11	146.68
90	13976.69	-25.40	-2391.82	-1607995.98	84.68
120	12091.46	6981.01	803284.53	-1391329.62	0.00
150	6966.34	12116.87	1393761.28	-801926.61	-84.68
180	-25.40	14006.02	1610820.65	2282.99	-146.68
210	-7010.35	12142.27	1396301.77	805811.87	-169.37
240	-12116.87	7025.01	807684.79	1393355.11	-146.68
270	-13976.69	25.40	2689.16	1607480.98	-84.68
300	-12091.46	-6981.01	-802987.20	1390814.62	0.00

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
330	-6966.34	-12116.87	-1393463.94	801411.61	84.68

Discrete Appurtenance Pressures - With Ice $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
30,000 sq in CaAa	0.0000	4903.64	0.00	0.00	120.00	1.315	10	255.79	255.79	0.5689
30,000 sq in CaAa	0.0000	4891.79	0.00	0.00	110.00	1.291	10	255.37	255.37	0.5640
Dish Pipe Mount	120.0000	120.88	2.50	1.44	100.00	1.266	10	0.00	2.14	0.5586
	Sum Weight:	9916.30								

Discrete Appurtenance Vectors - With Ice

30,000 sq in CaAa - Elevation 120 - None C

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	2239.92	0.00	0.00	-2239.92	-268790.45	0.00	0.00
30	2239.92	0.00	1119.96	-1939.83	-232779.36	-134395.22	0.00
60	2239.92	0.00	1939.83	-1119.96	-134395.22	-232779.36	0.00
90	2239.92	0.00	2239.92	0.00	0.00	-268790.45	0.00
120	2239.92	0.00	1939.83	1119.96	134395.22	-232779.36	0.00
150	2239.92	0.00	1119.96	1939.83	232779.36	-134395.22	0.00
180	2239.92	0.00	0.00	2239.92	268790.45	0.00	0.00
210	2239.92	0.00	-1119.96	1939.83	232779.36	134395.22	0.00
240	2239.92	0.00	-1939.83	1119.96	134395.22	232779.36	0.00
270	2239.92	0.00	-2239.92	0.00	0.00	268790.45	0.00
300	2239.92	0.00	-1939.83	-1119.96	-134395.22	232779.36	0.00
330	2239.92	0.00	-1119.96	-1939.83	-232779.36	134395.22	0.00

30,000 sq in CaAa - Elevation 110 - None B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	2195.70	0.00	0.00	-2195.70	-241527.34	0.00	0.00
30	2195.70	0.00	1097.85	-1901.53	-209168.81	-120763.67	0.00
60	2195.70	0.00	1901.53	-1097.85	-120763.67	-209168.81	0.00
90	2195.70	0.00	2195.70	0.00	0.00	-241527.34	0.00
120	2195.70	0.00	1901.53	1097.85	120763.67	-209168.81	0.00
150	2195.70	0.00	1097.85	1901.53	209168.81	-120763.67	0.00
180	2195.70	0.00	0.00	2195.70	241527.34	0.00	0.00
210	2195.70	0.00	-1097.85	1901.53	209168.81	120763.67	0.00
240	2195.70	0.00	-1901.53	1097.85	120763.67	209168.81	0.00
270	2195.70	0.00	-2195.70	0.00	0.00	241527.34	0.00
300	2195.70	0.00	-1901.53	-1097.85	-120763.67	209168.81	0.00
330	2195.70	0.00	-1097.85	-1901.53	-209168.81	120763.67	0.00

Dish Pipe Mount - Elevation 100 - From Leg B

Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	15.58	7.79	-13.50	-1175.05	-1081.33	44.98
30	0.00	17.99	9.00	-15.58	-1383.82	-1201.87	51.94
60	0.00	15.58	7.79	-13.50	-1175.05	-1081.33	44.98
90	0.00	9.00	4.50	-7.79	-604.67	-752.03	25.97
120	0.00	0.00	0.00	0.00	174.47	-302.19	0.00
150	0.00	9.00	-4.50	7.79	953.61	147.65	-25.97
180	0.00	15.58	-7.79	13.50	1523.98	476.95	-44.98
210	0.00	17.99	-9.00	15.58	1732.75	597.49	-51.94
240	0.00	15.58	-7.79	13.50	1523.98	476.95	-44.98
270	0.00	9.00	-4.50	7.79	953.61	147.65	-25.97
300	0.00	0.00	0.00	0.00	174.47	-302.19	0.00
330	0.00	9.00	4.50	-7.79	-604.67	-752.03	25.97

Discrete Appurtenance Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	7.79	-4449.12	-511492.83	-1081.33	44.98
30	2226.81	-3856.95	-443331.98	-256360.76	51.94
60	3849.15	-2231.31	-256333.94	-443029.50	44.98
90	4440.12	-7.79	-604.67	-511069.81	25.97
120	3841.36	2217.81	255333.36	-442250.36	0.00
150	2213.31	3849.15	442901.78	-255011.24	-25.97
180	-7.79	4449.12	511841.77	476.95	-44.98
210	-2226.81	3856.95	443680.92	255756.38	-51.94
240	-3849.15	2231.31	256682.88	442425.12	-44.98
270	-4440.12	7.79	953.61	510465.43	-25.97
300	-3841.36	-2217.81	-254984.42	441645.98	0.00
330	-2213.31	-3849.15	-442552.84	254406.87	25.97

Discrete Appurtenance Pressures - Service $G_H = 0.850$

Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z psf	C_AA_C Front ft^2	C_AA_C Side ft^2
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	120.00	1.315	10	208.00	208.00
30,000 sq in CaAa	0.0000	3536.00	0.00	0.00	110.00	1.291	10	208.00	208.00
Dish Pipe Mount	120.0000	103.00	2.50	1.44	100.00	1.266	10	0.00	1.80
	Sum Weight:	7175.00							

Discrete Appurtenance Vectors - Service

30,000 sq in CaAa - Elevation 120 - None C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1821.45	0.00	0.00	-1821.45	-218573.51	0.00	0.00
30	1821.45	0.00	910.72	-1577.42	-189290.21	-109286.76	0.00

30,000 sq in CaAa - Elevation 120 - None C							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
60	1821.45	0.00	1577.42	-910.72	-109286.76	-189290.21	0.00
90	1821.45	0.00	1821.45	0.00	0.00	-218573.51	0.00
120	1821.45	0.00	1577.42	910.72	109286.76	-189290.21	0.00
150	1821.45	0.00	910.72	1577.42	189290.21	-109286.76	0.00
180	1821.45	0.00	0.00	1821.45	218573.51	0.00	0.00
210	1821.45	0.00	-910.72	1577.42	189290.21	109286.76	0.00
240	1821.45	0.00	-1577.42	910.72	109286.76	189290.21	0.00
270	1821.45	0.00	-1821.45	0.00	0.00	218573.51	0.00
300	1821.45	0.00	-1577.42	-910.72	-109286.76	189290.21	0.00
330	1821.45	0.00	-910.72	-1577.42	-189290.21	109286.76	0.00

30,000 sq in CaAa - Elevation 110 - None B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	1788.38	0.00	0.00	-1788.38	-196722.25	0.00	0.00
30	1788.38	0.00	894.19	-1548.79	-170366.47	-98361.13	0.00
60	1788.38	0.00	1548.79	-894.19	-98361.13	-170366.47	0.00
90	1788.38	0.00	1788.38	0.00	0.00	-196722.25	0.00
120	1788.38	0.00	1548.79	894.19	98361.13	-170366.47	0.00
150	1788.38	0.00	894.19	1548.79	170366.47	-98361.13	0.00
180	1788.38	0.00	0.00	1788.38	196722.25	0.00	0.00
210	1788.38	0.00	-894.19	1548.79	170366.47	98361.13	0.00
240	1788.38	0.00	-1548.79	894.19	98361.13	170366.47	0.00
270	1788.38	0.00	-1788.38	0.00	0.00	196722.25	0.00
300	1788.38	0.00	-1548.79	-894.19	-98361.13	170366.47	0.00
330	1788.38	0.00	-894.19	-1548.79	-170366.47	98361.13	0.00

Dish Pipe Mount - Elevation 100 - From Leg B							
Wind Azimuth °	F_a lb	F_s lb	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	13.14	6.57	-11.38	-989.00	-914.34	37.92
30	0.00	15.17	7.58	-13.14	-1165.00	-1015.95	43.79
60	0.00	13.14	6.57	-11.38	-989.00	-914.34	37.92
90	0.00	7.58	3.79	-6.57	-508.17	-636.72	21.89
120	0.00	0.00	0.00	0.00	148.67	-257.50	0.00
150	0.00	7.58	-3.79	6.57	805.50	121.72	-21.89
180	0.00	13.14	-6.57	11.38	1286.34	399.34	-37.92
210	0.00	15.17	-7.58	13.14	1462.34	500.95	-43.79
240	0.00	13.14	-6.57	11.38	1286.34	399.34	-37.92
270	0.00	7.58	-3.79	6.57	805.50	121.72	-21.89
300	0.00	0.00	0.00	0.00	148.67	-257.50	0.00
330	0.00	7.58	3.79	-6.57	-508.17	-636.72	21.89

Discrete Appurtenance Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	6.57	-3621.21	-416284.77	-914.34	37.92
30	1812.50	-3139.34	-360821.68	-208663.83	43.79

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
60	3132.77	-1816.29	-208636.89	-360571.02	37.92
90	3613.62	-6.57	-508.17	-415932.49	21.89
120	3126.20	1804.92	207796.55	-359914.18	0.00
150	1801.12	3132.77	360462.18	-207526.16	-21.89
180	-6.57	3621.21	416582.10	399.34	-37.92
210	-1812.50	3139.34	361119.02	208148.83	-43.79
240	-3132.77	1816.29	208934.22	360056.02	-37.92
270	-3613.62	6.57	805.50	415417.49	-21.89
300	-3126.20	-1804.92	-207499.21	359399.18	0.00
330	-1801.12	-3132.77	-360164.85	207011.16	21.89

Dish Pressures - No Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
100.00	6' Solid w/Radome	180.0000	162.00	2.50	1.44	1.266	28.27	38
		Sum Weight:	162.00					

Dish Vectors - No Ice

6' Solid w/Radome - Elevation 100 - From Leg B											
Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.002210	0.000000	0.000000	795.47	0.00	0.00	0.00	-795.47	-79313.00	-405.00	1988.67
30	0.001950	0.001050	-0.000277	701.88	377.94	-598.22	377.94	-701.88	-69954.55	-38198.74	1701.99
60	0.001070	0.001280	-0.000002	385.14	460.72	-4.32	460.72	-385.14	-38279.79	-46477.37	1623.52
90	0.000340	0.001040	0.000390	122.38	374.34	842.26	374.34	-122.38	-12004.15	-37838.80	1688.52
120	-0.000420	0.000890	0.000404	-151.17	320.35	872.50	320.35	151.17	15351.32	-32439.69	956.94
150	-0.001330	0.000700	0.000132	-478.72	251.96	285.07	251.96	478.72	48105.90	-25600.83	-548.06
180	-0.001770	0.000000	0.000000	-637.09	0.00	0.00	0.00	637.09	63943.27	-405.00	-1592.74
210	-0.001330	-0.000700	-0.000132	-478.72	-251.96	-285.07	-251.96	478.72	48105.90	24790.83	-1845.54
240	-0.000420	-0.000890	-0.000404	-151.17	-320.35	-872.50	-320.35	151.17	15351.32	31629.69	-1712.81
270	0.000340	-0.001040	-0.000390	122.38	-374.34	-842.26	-374.34	-122.38	-12004.15	37028.80	-1076.62
300	0.001070	-0.001280	0.000002	385.14	-460.72	4.32	-460.72	-385.14	-38279.79	45667.37	302.16
330	0.001950	-0.001050	0.000277	701.88	-377.94	598.22	-377.94	-701.88	-69954.55	37388.74	1807.42

Dish Totals - No Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-795.47	-79313.00	-405.00	1988.67
30	377.94	-701.88	-69954.55	-38198.74	1701.99
60	460.72	-385.14	-38279.79	-46477.37	1623.52
90	374.34	-122.38	-12004.15	-37838.80	1688.52
120	320.35	151.17	15351.32	-32439.69	956.94
150	251.96	478.72	48105.90	-25600.83	-548.06
180	0.00	637.09	63943.27	-405.00	-1592.74
210	-251.96	478.72	48105.90	24790.83	-1845.54

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
240	-320.35	151.17	15351.32	31629.69	-1712.81
270	-374.34	-122.38	-12004.15	37028.80	-1076.62
300	-460.72	-385.14	-38279.79	45667.37	302.16
330	-377.94	-701.88	-69954.55	37388.74	1807.42

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf	t_z in
100.00	6' Solid w/Radome	180.0000	339.64	2.50	1.44	1.266	29.16	10	0.5586
		Sum Weight:	339.64						

Dish Vectors - With Ice

6' Solid w/Radome - Elevation 100 - From Leg B

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.002210	0.000000	0.000000	212.16	0.00	0.00	0.00	-212.16	-20725.70	-849.10	530.40
30	0.001950	0.001050	-0.000277	187.20	100.80	-159.55	100.80	-187.20	-18229.71	-10929.07	453.94
60	0.001070	0.001280	-0.000002	102.72	122.88	-1.15	122.88	-102.72	-9781.74	-13137.07	433.01
90	0.000340	0.001040	0.000390	32.64	99.84	224.64	99.84	-32.64	-2773.76	-10833.07	450.35
120	-0.000420	0.000890	0.000404	-40.32	85.44	232.70	85.44	40.32	4522.22	-9393.08	255.23
150	-0.001330	0.000700	0.000132	-127.68	67.20	76.03	67.20	127.68	13258.19	-7569.08	-146.17
180	-0.001770	0.000000	0.000000	-169.92	0.00	0.00	0.00	169.92	17482.18	-849.10	-424.80
210	-0.001330	-0.000700	-0.000132	-127.68	-67.20	-76.03	-67.20	127.68	13258.19	5870.87	-492.23
240	-0.000420	-0.000890	-0.000404	-40.32	-85.44	-232.70	-85.44	40.32	4522.22	7694.87	-456.82
270	0.000340	-0.001040	-0.000390	32.64	-99.84	-224.64	-99.84	-32.64	-2773.76	9134.86	-287.15
300	0.001070	-0.001280	0.000002	102.72	-122.88	1.15	-122.88	-102.72	-9781.74	11438.86	80.59
330	0.001950	-0.001050	0.000277	187.20	-100.80	159.55	-100.80	-187.20	-18229.71	9230.86	482.06

Dish Totals - With Ice

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-212.16	-20725.70	-849.10	530.40
30	100.80	-187.20	-18229.71	-10929.07	453.94
60	122.88	-102.72	-9781.74	-13137.07	433.01
90	99.84	-32.64	-2773.76	-10833.07	450.35
120	85.44	40.32	4522.22	-9393.08	255.23
150	67.20	127.68	13258.19	-7569.08	-146.17
180	0.00	169.92	17482.18	-849.10	-424.80
210	-67.20	127.68	13258.19	5870.87	-492.23
240	-85.44	40.32	4522.22	7694.87	-456.82
270	-99.84	-32.64	-2773.76	9134.86	-287.15
300	-122.88	-102.72	-9781.74	11438.86	80.59
330	-100.80	-187.20	-18229.71	9230.86	482.06

Dish Pressures - Service

Elevation ft	Dish Description	Aiming Azimuth °	Weight lb	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z psf
100.00	6' Solid w/Radome	180.0000	162.00	2.50	1.44	1.266	28.27	10
		Sum Weight:	162.00					

Dish Vectors - Service

6' Solid w/Radome - Elevation 100 - From Leg B

Wind Azimuth °	C_A	C_S	C_M	F_A lb	F_S lb	F_M lb-ft	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.002210	0.000000	0.000000	205.67	0.00	0.00	0.00	-205.67	-20332.72	-405.00	514.16
30	0.001950	0.001050	-0.000277	181.47	97.71	-154.67	97.71	-181.47	-17913.12	-10176.44	440.04
60	0.001070	0.001280	-0.000002	99.58	119.12	-1.12	119.12	-99.58	-9723.73	-12316.84	419.75
90	0.000340	0.001040	0.000390	31.64	96.78	217.76	96.78	-31.64	-2930.26	-10083.37	436.56
120	-0.000420	0.000890	0.000404	-39.09	82.82	225.58	82.82	39.09	4142.40	-8687.45	247.41
150	-0.001330	0.000700	0.000132	-123.77	65.14	73.70	65.14	123.77	12610.98	-6919.29	-141.70
180	-0.001770	0.000000	0.000000	-164.72	0.00	0.00	0.00	164.72	16705.67	-405.00	-411.80
210	-0.001330	-0.000700	-0.000132	-123.77	-65.14	-73.70	-65.14	123.77	12610.98	6109.29	-477.16
240	-0.000420	-0.000890	-0.000404	-39.09	-82.82	-225.58	-82.82	39.09	4142.40	7877.45	-442.84
270	0.000340	-0.001040	-0.000390	31.64	-96.78	-217.76	-96.78	-31.64	-2930.26	9273.37	-278.36
300	0.001070	-0.001280	0.000002	99.58	-119.12	1.12	-119.12	-99.58	-9723.73	11506.84	78.12
330	0.001950	-0.001050	0.000277	181.47	-97.71	154.67	-97.71	-181.47	-17913.12	9366.44	467.30

Dish Totals - Service

Wind Azimuth °	V_x lb	V_z lb	OTM_x lb-ft	OTM_z lb-ft	Torque lb-ft
0	0.00	-205.67	-20332.72	-405.00	514.16
30	97.71	-181.47	-17913.12	-10176.44	440.04
60	119.12	-99.58	-9723.73	-12316.84	419.75
90	96.78	-31.64	-2930.26	-10083.37	436.56
120	82.82	39.09	4142.40	-8687.45	247.41
150	65.14	123.77	12610.98	-6919.29	-141.70
180	0.00	164.72	16705.67	-405.00	-411.80
210	-65.14	123.77	12610.98	6109.29	-477.16
240	-82.82	39.09	4142.40	7877.45	-442.84
270	-96.78	-31.64	-2930.26	9273.37	-278.36
300	-119.12	-99.58	-9723.73	11506.84	78.12
330	-97.71	-181.47	-17913.12	9366.44	467.30

Force Totals

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Leg Weight	6006.45					

Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M_x lb-ft	Sum of Overturning Moments, M_z lb-ft	Sum of Torques lb-ft
Bracing Weight	2710.62					
Total Member Self-Weight	8717.07			783.56	-1284.25	
Total Weight	16890.47			783.56	-1284.25	
Wind 0 deg - No Ice		25.40	-26229.51	-2371673.79	-3824.74	3429.15
Wind 30 deg - No Ice		12748.67	-22128.62	-2020746.70	-1165685.75	3509.73
Wind 60 deg - No Ice		21637.44	-12640.86	-1158168.89	-1982932.62	3175.67
Wind 90 deg - No Ice		25019.94	-147.78	-13994.90	-2284182.94	2569.19
Wind 120 deg - No Ice		22263.85	12820.26	1158481.01	-2012325.46	1068.61
Wind 150 deg - No Ice		12555.28	21839.51	1995036.66	-1147290.18	-1235.31
Wind 180 deg - No Ice		-25.40	25109.58	2301525.99	1256.24	-3033.22
Wind 210 deg - No Ice		-12622.69	21905.46	1999997.53	1150519.35	-3653.28
Wind 240 deg - No Ice		-22329.79	12887.67	1164278.67	2014717.83	-3264.96
Wind 270 deg - No Ice		-25019.94	-96.97	-8913.92	2281614.45	-1957.29
Wind 300 deg - No Ice		-21571.50	-12573.45	-1152371.23	1975403.26	190.50
Wind 330 deg - No Ice		-12681.26	-22062.68	-2015785.84	1157319.59	2494.68
Member Ice	4010.60					
Total Weight Ice	25051.93			1584.19	-2559.68	
Wind 0 deg - Ice		7.79	-8383.62	-754465.13	-3338.83	946.95
Wind 30 deg - Ice		4103.58	-7120.21	-645441.78	-375392.31	976.94
Wind 60 deg - Ice		6993.63	-4078.54	-370060.14	-639204.66	886.52
Wind 90 deg - Ice		8078.49	-40.43	-2458.94	-735833.22	712.85
Wind 120 deg - Ice		7138.83	4112.60	371925.00	-645569.15	292.18
Wind 150 deg - Ice		4050.43	7042.42	641253.26	-370321.51	-344.67
Wind 180 deg - Ice		-7.79	8109.38	740114.99	-1780.54	-841.35
Wind 210 deg - Ice		-4069.98	7060.69	642658.18	366912.95	-1015.23
Wind 240 deg - Ice		-7157.11	4132.14	373635.81	641854.70	-910.34
Wind 270 deg - Ice		-8078.49	-24.85	-900.66	730713.85	-549.65
Wind 300 deg - Ice		-6975.35	-4059.00	-368349.33	632680.37	43.63
Wind 330 deg - Ice		-4084.03	-7101.94	-644036.86	368562.13	680.55
Total Weight	16890.47			783.56	-1284.25	
Wind 0 deg - Service		6.57	-6929.32	-619591.94	-1319.34	886.60
Wind 30 deg - Service		3370.01	-5849.25	-527978.90	-305006.38	907.43
Wind 60 deg - Service		5722.26	-3342.14	-302552.55	-518712.57	821.06
Wind 90 deg - Service		6616.59	-38.21	-3438.42	-597481.86	664.25
Wind 120 deg - Service		5884.22	3388.52	302993.06	-526311.98	276.28
Wind 150 deg - Service		3320.01	5774.50	521691.47	-300250.27	-319.39
Wind 180 deg - Service		-6.57	6639.77	601815.29	-5.66	-784.23
Wind 210 deg - Service		-3337.44	5791.55	522974.08	300424.23	-944.54
Wind 240 deg - Service		-5901.26	3405.95	304492.03	526269.60	-844.14
Wind 270 deg - Service		-6616.59	-25.07	-2124.75	596156.86	-506.05
Wind 300 deg - Service		-5705.21	-3324.71	-301053.59	516104.96	49.25
Wind 330 deg - Service		-3352.58	-5832.20	-526696.28	302182.41	644.99

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice

Comb. No.	Description
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	125.9 - 120	Leg	Max Tension	2	970.85	-0.00	0.00
			Max. Compression	14	-999.45	-3.42	-32.19
			Max. Mx	8	-12.29	144.83	3.16
			Max. My	24	-11.99	-69.47	-126.74
			Max. Vy	8	-48.96	0.00	-0.00
			Max. Vx	2	43.61	-0.00	0.00
		Diagonal	Max Tension	2	1320.11	0.00	0.00
			Max. Compression	6	-1364.48	0.00	0.00
			Max. Mx	14	-1358.80	15.61	0.54
			Max. My	24	-124.86	2.46	5.91
			Max. Vy	14	6.21	15.61	0.54
			Max. Vx	24	1.73	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
		Top Girt	Max Tension	14	636.44	0.00	0.00
			Max. Compression	2	-615.71	0.00	0.00
			Max. Mx	26	6.92	-6.15	0.00
			Max. My	16	1.63	0.00	0.00
			Max. Vy	26	-7.03	0.00	0.00
			Max. Vx	16	-0.00	0.00	0.00
T2	120 - 100	Leg	Max Tension	15	44047.77	-94.61	5.92
			Max. Compression	10	-50028.54	344.04	18.00
			Max. Mx	10	-50028.54	344.04	18.00
			Max. My	4	-1583.46	-30.53	-878.90
			Max. Vy	14	-2446.30	-197.98	0.24
			Max. Vx	16	2071.97	34.09	-766.02
		Diagonal	Max Tension	20	6502.22	0.00	0.00
			Max. Compression	8	-6628.15	0.00	0.00
			Max. Mx	15	-887.48	-20.21	-0.30
			Max. My	8	-3978.45	0.12	-18.47
			Max. Vy	14	8.45	0.00	0.00
			Max. Vx	8	6.32	0.00	0.00
T3	100 - 80	Leg	Max Tension	15	95044.52	-324.87	1.68
			Max. Compression	2	-102925.52	479.78	-3.05
			Max. Mx	2	-102925.52	479.78	-3.05
			Max. My	4	-3938.55	-2.23	-523.87
			Max. Vy	2	330.61	343.23	31.04
			Max. Vx	2	-451.88	-144.25	35.27
		Diagonal	Max Tension	24	6186.85	0.00	0.00
			Max. Compression	24	-6324.44	0.00	0.00
			Max. Mx	2	4034.15	21.83	-0.23
			Max. My	24	-6298.17	-10.31	-5.45
			Max. Vy	31	-9.34	12.83	-0.57
			Max. Vx	24	1.64	0.00	0.00
T4	80 - 60	Leg	Max Tension	15	129946.22	-701.60	2.91
			Max. Compression	2	-139959.33	900.19	-0.53
			Max. Mx	2	-139959.33	900.19	-0.53
			Max. My	4	-4437.21	-2.61	-882.96
			Max. Vy	3	-109.27	847.56	-1.61
			Max. Vx	4	93.12	0.43	-772.66
		Diagonal	Max Tension	24	5490.04	0.00	0.00
			Max. Compression	24	-5708.19	0.00	0.00
			Max. Mx	2	3901.11	26.73	-0.46
			Max. My	6	-4679.24	-5.02	-3.64
			Max. Vy	33	12.04	17.05	1.64
			Max. Vx	6	0.88	0.00	0.00
T5	60 - 40	Leg	Max Tension	15	159057.78	-992.61	-1.70
			Max. Compression	2	-171606.92	1479.08	-27.23
			Max. Mx	2	-171606.92	1479.08	-27.23
			Max. My	4	-5076.70	6.71	-1360.61
			Max. Vy	3	-129.37	1475.31	-27.34
			Max. Vx	4	90.04	6.71	-1360.61
		Diagonal	Max Tension	24	4813.22	0.00	0.00
			Max. Compression	24	-5010.94	0.00	0.00
			Max. Mx	2	3869.05	22.00	-0.48
			Max. My	6	-4160.35	-0.55	-3.03
			Max. Vy	33	13.47	18.86	1.73
			Max. Vx	6	0.70	0.00	0.00
T6	40 - 20	Leg	Max Tension	15	183694.19	-1093.41	0.07
			Max. Compression	2	-198883.37	1185.61	-10.87
			Max. Mx	2	-180871.84	1479.08	-27.23
			Max. My	4	-5835.16	-32.38	-1426.81
			Max. Vy	27	-155.94	1004.75	-1.58
			Max. Vx	4	111.35	-32.38	-1426.81
		Diagonal	Max Tension	24	4567.64	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
			Max. Compression	24	-4853.87	0.00	0.00
			Max. Mx	2	3584.83	32.66	-1.27
			Max. My	6	-4089.74	1.66	-2.91
			Max. Vy	33	19.00	29.96	2.59
			Max. Vx	34	-0.80	0.00	0.00
T7	20 - 0	Leg	Max Tension	15	204855.34	-1052.66	0.68
			Max. Compression	2	-222819.78	-0.00	0.01
			Max. Mx	27	-74914.57	1664.81	2.93
			Max. My	4	-6480.59	-58.73	-2209.83
			Max. Vy	37	-380.24	-1433.00	-0.59
			Max. Vx	4	-381.11	-58.73	-2209.83
		Diagonal	Max Tension	25	4607.74	0.00	0.00
			Max. Compression	2	-5103.22	0.00	0.00
			Max. Mx	2	3680.77	62.08	3.46
			Max. My	5	-4607.10	-12.70	-7.86
			Max. Vy	33	26.68	55.62	3.27
			Max. Vx	4	1.39	-7.22	-7.41

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	223202.10	14423.97	-8155.25
	Max. H_x	18	223202.10	14423.97	-8155.25
	Max. H_z	7	-208170.36	-13581.97	7671.41
	Min. Vert	7	-208170.36	-13581.97	7671.41
	Min. H_x	7	-208170.36	-13581.97	7671.41
	Min. H_z	18	223202.10	14423.97	-8155.25
Leg B	Max. Vert	10	222782.35	-14329.19	-8216.98
	Max. H_x	23	-207316.50	13451.29	7779.36
	Max. H_z	23	-207316.50	13451.29	7779.36
	Min. Vert	23	-207316.50	13451.29	7779.36
	Min. H_x	10	222782.35	-14329.19	-8216.98
	Min. H_z	10	222782.35	-14329.19	-8216.98
Leg A	Max. Vert	2	227360.38	155.85	16854.01
	Max. H_x	21	5901.41	803.12	318.76
	Max. H_z	2	227360.38	155.85	16854.01
	Min. Vert	15	-208649.84	-142.99	-15631.14
	Min. H_x	11	-102501.58	-782.95	-7825.45
	Min. H_z	15	-208649.84	-142.99	-15631.14

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	16890.47	-0.00	-0.00	783.46	-1284.06	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	20268.56	25.41	-26229.51	-2388110.41	-4144.43	3453.00
0.9 Dead+1.0 Wind 0 deg - No Ice	15201.42	25.41	-26229.51	-2384116.18	-3747.91	3446.78
1.2 Dead+1.0 Wind 30 deg - No	20268.56	12748.67	-22128.62	-2034776.36	-1174189.81	3559.47

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
Ice						
0.9 Dead+1.0 Wind 30 deg - No Ice	15201.42	12748.66	-22128.62	-2031392.62	-1171706.70	3552.31
1.2 Dead+1.0 Wind 60 deg - No Ice	20268.56	21637.45	-12640.86	-1166156.23	-1997208.81	3200.16
0.9 Dead+1.0 Wind 60 deg - No Ice	15201.42	21637.45	-12640.86	-1164312.53	-1993252.64	3193.84
1.2 Dead+1.0 Wind 90 deg - No Ice	20268.56	25019.94	-147.79	-13921.20	-2300542.70	2563.10
0.9 Dead+1.0 Wind 90 deg - No Ice	15201.42	25019.94	-147.78	-14131.99	-2296051.40	2559.17
1.2 Dead+1.0 Wind 120 deg - No Ice	20268.56	22263.85	12820.26	1166773.41	-2026690.05	1069.19
0.9 Dead+1.0 Wind 120 deg - No Ice	15201.42	22263.85	12820.26	1164465.54	-2022704.86	1068.93
1.2 Dead+1.0 Wind 150 deg - No Ice	20268.56	12555.28	21839.52	2009251.13	-1155628.17	-1227.44
0.9 Dead+1.0 Wind 150 deg - No Ice	15201.42	12555.29	21839.51	2005431.02	-1153181.72	-1224.01
1.2 Dead+1.0 Wind 180 deg - No Ice	20268.56	-25.40	25109.59	2317930.33	976.32	-3056.49
0.9 Dead+1.0 Wind 180 deg - No Ice	15201.42	-25.40	25109.58	2313554.19	1363.93	-3050.44
1.2 Dead+1.0 Wind 210 deg - No Ice	20268.56	-12622.70	21905.46	2014261.86	1158315.63	-3701.94
0.9 Dead+1.0 Wind 210 deg - No Ice	15201.42	-12622.70	21905.45	2010433.95	1156643.71	-3694.93
1.2 Dead+1.0 Wind 240 deg - No Ice	20268.56	-22329.79	12887.67	1172623.20	2028559.52	-3289.41
0.9 Dead+1.0 Wind 240 deg - No Ice	15201.42	-22329.79	12887.67	1170305.52	2025350.63	-3283.04
1.2 Dead+1.0 Wind 270 deg - No Ice	20268.56	-25019.94	-96.98	-8811.40	2297430.96	-1951.28
0.9 Dead+1.0 Wind 270 deg - No Ice	15201.42	-25019.94	-96.97	-9031.18	2293723.44	-1947.38
1.2 Dead+1.0 Wind 300 deg - No Ice	20268.56	-21571.50	-12573.45	-1160347.24	1989092.60	189.27
0.9 Dead+1.0 Wind 300 deg - No Ice	15201.42	-21571.50	-12573.45	-1158512.83	1985927.85	189.49
1.2 Dead+1.0 Wind 330 deg - No Ice	20268.56	-12681.27	-22062.68	-2029813.49	1165197.16	2485.92
0.9 Dead+1.0 Wind 330 deg - No Ice	15201.42	-12681.26	-22062.68	-2026437.01	1163507.64	2482.36
1.2 Dead+1.0 Ice+1.0 Temp	28430.02	-0.00	-0.00	1740.86	-2816.43	0.01
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	28430.02	7.79	-8383.62	-761508.34	-3642.15	960.45
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	28430.02	4103.58	-7120.21	-651460.31	-379263.67	992.98
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	28430.02	6993.62	-4078.54	-373444.91	-645613.09	900.38
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	28430.02	8078.49	-40.43	-2316.27	-743162.77	721.18
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	28430.02	7138.83	4112.60	375648.03	-652012.06	292.82
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	28430.02	4050.43	7042.42	647569.58	-374141.77	-351.85
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	28430.02	-7.79	8109.38	747385.66	-2068.97	-854.49
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	28430.02	-4069.98	7060.69	648987.93	370158.32	-1031.11
1.2 Dead+1.0 Wind 240	28430.02	-7157.10	4132.14	377375.51	647721.54	-924.39

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 270	28430.02	-8078.49	-24.85	-743.76	737456.51	-557.97
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 300	28430.02	-6975.35	-4059.00	-371721.38	638489.11	42.93
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 330	28430.02	-4084.03	-7101.94	-650046.44	371827.59	687.68
deg+1.0 Ice+1.0 Temp						
Dead+Wind 0 deg - Service	16890.47	6.57	-6929.32	-622822.53	-1957.45	891.76
Dead+Wind 30 deg - Service	16890.47	3370.01	-5849.25	-530683.14	-307434.79	913.06
Dead+Wind 60 deg - Service	16890.47	5722.26	-3342.14	-303931.32	-522405.27	826.42
Dead+Wind 90 deg - Service	16890.47	6616.59	-38.21	-3051.59	-601635.45	668.38
Dead+Wind 120 deg - Service	16890.47	5884.22	3388.52	305179.49	-530032.43	276.44
Dead+Wind 150 deg - Service	16890.47	3320.01	5774.50	525173.60	-302649.54	-323.22
Dead+Wind 180 deg - Service	16890.47	-6.57	6639.77	605773.99	-635.87	-789.37
Dead+Wind 210 deg - Service	16890.47	-3337.44	5791.55	526464.42	301564.74	-950.10
Dead+Wind 240 deg - Service	16890.47	-5901.26	3405.95	306687.66	528731.33	-849.46
Dead+Wind 270 deg - Service	16890.47	-6616.59	-25.07	-1730.69	599045.87	-510.18
Dead+Wind 300 deg - Service	16890.47	-5705.21	-3324.71	-302425.99	518525.66	49.05
Dead+Wind 330 deg - Service	16890.47	-3352.58	-5832.20	-529395.74	303334.82	648.77

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
1	-0.00	-16890.47	-0.00	0.00	16890.47	0.00	0.000%
2	25.40	-20268.56	-26229.51	-25.41	20268.56	26229.51	0.000%
3	25.40	-15201.42	-26229.51	-25.41	15201.42	26229.51	0.000%
4	12748.67	-20268.56	-22128.62	-12748.67	20268.56	22128.62	0.000%
5	12748.67	-15201.42	-22128.62	-12748.66	15201.42	22128.62	0.000%
6	21637.44	-20268.56	-12640.86	-21637.45	20268.56	12640.86	0.000%
7	21637.44	-15201.42	-12640.86	-21637.45	15201.42	12640.86	0.000%
8	25019.94	-20268.56	-147.78	-25019.94	20268.56	147.79	0.000%
9	25019.94	-15201.42	-147.78	-25019.94	15201.42	147.78	0.000%
10	22263.85	-20268.56	12820.26	-22263.85	20268.56	-12820.26	0.000%
11	22263.85	-15201.42	12820.26	-22263.85	15201.42	-12820.26	0.000%
12	12555.28	-20268.56	21839.51	-12555.28	20268.56	-21839.52	0.000%
13	12555.28	-15201.42	21839.51	-12555.29	15201.42	-21839.51	0.000%
14	-25.40	-20268.56	25109.58	25.40	20268.56	-25109.59	0.000%
15	-25.40	-15201.42	25109.58	25.40	15201.42	-25109.58	0.000%
16	-12622.69	-20268.56	21905.46	12622.70	20268.56	-21905.46	0.000%
17	-12622.69	-15201.42	21905.46	12622.70	15201.42	-21905.45	0.000%
18	-22329.79	-20268.56	12887.67	22329.79	20268.56	-12887.67	0.000%
19	-22329.79	-15201.42	12887.67	22329.79	15201.42	-12887.67	0.000%
20	-25019.94	-20268.56	-96.97	25019.94	20268.56	96.98	0.000%
21	-25019.94	-15201.42	-96.97	25019.94	15201.42	96.97	0.000%
22	-21571.50	-20268.56	-12573.45	21571.50	20268.56	12573.45	0.000%
23	-21571.50	-15201.42	-12573.45	21571.50	15201.42	12573.45	0.000%
24	-12681.26	-20268.56	-22062.68	12681.27	20268.56	22062.68	0.000%
25	-12681.26	-15201.42	-22062.68	12681.26	15201.42	22062.68	0.000%
26	-0.00	-28430.02	-0.00	0.00	28430.02	0.00	0.000%
27	7.79	-28430.02	-8383.62	-7.79	28430.02	8383.62	0.000%
28	4103.58	-28430.02	-7120.21	-4103.58	28430.02	7120.21	0.000%
29	6993.63	-28430.02	-4078.54	-6993.62	28430.02	4078.54	0.000%
30	8078.49	-28430.02	-40.43	-8078.49	28430.02	40.43	0.000%
31	7138.83	-28430.02	4112.60	-7138.83	28430.02	-4112.60	0.000%
32	4050.43	-28430.02	7042.42	-4050.43	28430.02	-7042.42	0.000%
33	-7.79	-28430.02	8109.38	7.79	28430.02	-8109.38	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
34	-4069.98	-28430.02	7060.69	4069.98	28430.02	-7060.69	0.000%
35	-7157.11	-28430.02	4132.14	7157.10	28430.02	-4132.14	0.000%
36	-8078.49	-28430.02	-24.85	8078.49	28430.02	24.85	0.000%
37	-6975.35	-28430.02	-4059.00	6975.35	28430.02	4059.00	0.000%
38	-4084.03	-28430.02	-7101.94	4084.03	28430.02	7101.94	0.000%
39	6.57	-16890.47	-6929.32	-6.57	16890.47	6929.32	0.000%
40	3370.01	-16890.47	-5849.25	-3370.01	16890.47	5849.25	0.000%
41	5722.26	-16890.47	-3342.14	-5722.26	16890.47	3342.14	0.000%
42	6616.59	-16890.47	-38.21	-6616.59	16890.47	38.21	0.000%
43	5884.22	-16890.47	3388.52	-5884.22	16890.47	-3388.52	0.000%
44	3320.01	-16890.47	5774.50	-3320.01	16890.47	-5774.50	0.000%
45	-6.57	-16890.47	6639.77	6.57	16890.47	-6639.77	0.000%
46	-3337.44	-16890.47	5791.55	3337.44	16890.47	-5791.55	0.000%
47	-5901.26	-16890.47	3405.95	5901.26	16890.47	-3405.95	0.000%
48	-6616.59	-16890.47	-25.07	6616.59	16890.47	25.07	0.000%
49	-5705.21	-16890.47	-3324.71	5705.21	16890.47	3324.71	0.000%
50	-3352.58	-16890.47	-5832.20	3352.58	16890.47	5832.20	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000097
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000348
5	Yes	4	0.00000001	0.00000330
6	Yes	4	0.00000001	0.00000110
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000250
9	Yes	4	0.00000001	0.00000237
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000272
13	Yes	4	0.00000001	0.00000260
14	Yes	4	0.00000001	0.00000108
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00000342
17	Yes	4	0.00000001	0.00000324
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000256
21	Yes	4	0.00000001	0.00000244
22	Yes	4	0.00000001	0.00000001
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000259
25	Yes	4	0.00000001	0.00000247
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001

35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	125.9 - 120	5.229	39	0.3550	0.0241
T2	120 - 100	4.792	39	0.3563	0.0241
T3	100 - 80	3.287	39	0.3242	0.0233
T4	80 - 60	2.046	39	0.2355	0.0139
T5	60 - 40	1.154	39	0.1677	0.0080
T6	40 - 20	0.524	39	0.1125	0.0039
T7	20 - 0	0.140	39	0.0561	0.0016

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.00	30,000 sq in CaAa	39	4.792	0.3563	0.0241	33282
110.00	30,000 sq in CaAa	39	4.030	0.3488	0.0244	59020
100.00	6' Solid w/Radome	39	3.287	0.3242	0.0233	14330

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	125.9 - 120	20.163	2	1.3719	0.0936
T2	120 - 100	18.475	2	1.3770	0.0937
T3	100 - 80	12.660	2	1.2528	0.0904
T4	80 - 60	7.868	2	0.9087	0.0539
T5	60 - 40	4.430	2	0.6458	0.0313
T6	40 - 20	2.006	2	0.4325	0.0151
T7	20 - 0	0.537	2	0.2153	0.0061

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.00	30,000 sq in CaAa	2	18.475	1.3770	0.0937	8624
110.00	30,000 sq in CaAa	2	15.530	1.3481	0.0950	15390
100.00	6' Solid w/Radome	2	12.660	1.2528	0.0904	3724

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	P2x.154	5.90	5.90	89.9 K=1.00	1.0745	-999.45	26762.20	0.037 [1] ✔
T2	120 - 100	P3.5x.226	20.02	5.00	44.9 K=1.00	2.6795	-50028.50	104034.00	0.481 [1] ✔
T3	100 - 80	P3.5x.226	20.02	5.00	44.9 K=1.00	2.6795	-102926.00	104034.00	0.989 [1] ✔
T4	80 - 60	P5x.258	20.02	6.67	42.6 K=1.00	4.2999	-139959.00	169405.00	0.826 [1] ✔
T5	60 - 40	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-171607.00	228860.00	0.750 [1] ✔
T6	40 - 20	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-198883.00	228860.00	0.869 [1] ✔
T7	20 - 0	P6x.28	20.02	6.67	35.7 K=1.00	5.5813	-222820.00	228860.00	0.974 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	6.86	3.24	112.0 K=1.00	0.4219	-1364.48	9631.15	0.142 [1] ✔
T2	120 - 100	L1 3/4x1 3/4x1/8	6.94	3.37	116.4 K=1.00	0.4219	-6231.22	8906.12	0.700 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T3	100 - 80	L1 3/4x1 3/4x1/8	8.05	3.93	136.1 K=1.00	0.4219	-5312.75	6517.67	0.815 [1] ✔
T4	80 - 60	L2x2x1/8	10.22	4.97	150.1 K=1.00	0.4844	-5242.25	6157.10	0.851 [1] ✔
T5	60 - 40	L2x2x1/8	11.40	5.52	166.5 K=1.00	0.4844	-4785.32	5001.96	0.957 [1] ✔
T6	40 - 20	L2x2x3/16	12.65	6.15	187.2 K=1.00	0.7150	-4632.62	5837.83	0.794 [1] ✔
T7	20 - 0	L2 1/2x2 1/2x3/16	13.95	6.80	164.9 K=1.00	0.9020	-5103.22	9495.45	0.537 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	3.50	3.30	114.3 K=1.00	0.4219	-615.71	9249.83	0.067 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	P2x.154	5.90	5.90	89.9	1.0745	970.85	48353.90	0.020 [1] ✔
T2	120 - 100	P3.5x.226	20.02	5.00	44.9	2.6795	44047.80	120579.00	0.365 [1] ✔
T3	100 - 80	P3.5x.226	20.02	5.00	44.9	2.6795	95044.50	120579.00	0.788 [1] ✔
T4	80 - 60	P5x.258	20.02	6.67	42.6	4.2999	129946.00	193494.00	0.672 [1] ✔
T5	60 - 40	P6x.28	20.02	6.67	35.7	5.5813	159058.00	251161.00	0.633 [1] ✔
T6	40 - 20	P6x.28	20.02	6.67	35.7	5.5813	183694.00	251161.00	0.731 [1] ✔
T7	20 - 0	P6x.28	20.02	6.67	35.7	5.5813	204855.00	251161.00	0.816 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	6.86	3.24	71.2	0.3164	1320.11	15424.80	0.086 [1] ✔
T2	120 - 100	L1 3/4x1 3/4x1/8	6.69	3.24	71.3	0.3164	6502.22	15424.80	0.422 [1] ✔
T3	100 - 80	L1 3/4x1 3/4x1/8	7.21	3.52	77.4	0.3164	6186.85	15424.80	0.401 [1] ✔
T4	80 - 60	L2x2x1/8	9.49	4.61	88.4	0.3633	5490.04	17710.00	0.310 [1] ✔
T5	60 - 40	L2x2x1/8	10.61	5.12	98.2	0.3633	4813.22	17710.00	0.272 [1] ✔
T6	40 - 20	L2x2x3/16	11.81	5.73	111.5	0.5363	4567.64	26142.20	0.175 [1] ✔
T7	20 - 0	L2 1/2x2 1/2x3/16	13.95	6.80	104.9	0.6765	4607.74	32979.40	0.140 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	125.9 - 120	L1 3/4x1 3/4x1/8	3.50	3.30	72.6	0.3164	636.44	15424.80	0.041 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	125.9 - 120	Leg	P2x.154	3	-999.45	26762.20	3.7	Pass
		Diagonal	L1 3/4x1 3/4x1/8	9	-1364.48	9631.15	14.2	Pass
		Top Girt	L1 3/4x1 3/4x1/8	4	-615.71	9249.83	6.7	Pass
T2	120 - 100	Leg	P3.5x.226	14	-50028.50	104034.00	48.1	Pass
		Diagonal	L1 3/4x1 3/4x1/8	16	-6231.22	8906.12	70.0	Pass
T3	100 - 80	Leg	P3.5x.226	42	-102926.00	104034.00	98.9	Pass
		Diagonal	L1 3/4x1 3/4x1/8	46	-5312.75	6517.67	81.5	Pass
T4	80 - 60	Leg	P5x.258	69	-139959.00	169405.00	82.6	Pass
		Diagonal	L2x2x1/8	73	-5242.25	6157.10	85.1	Pass
T5	60 - 40	Leg	P6x.28	90	-171607.00	228860.00	75.0	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Diagonal	L2x2x1/8	94	-4785.32	5001.96	95.7	Pass
T6	40 - 20	Leg	P6x.28	111	-198883.00	228860.00	86.9	Pass
		Diagonal	L2x2x3/16	115	-4632.62	5837.83	79.4	Pass
T7	20 - 0	Leg	P6x.28	132	-222820.00	228860.00	97.4	Pass
		Diagonal	L2 1/2x2 1/2x3/16	136	-5103.22	9495.45	53.7	Pass
							Summary	
						Leg (T3)	98.9	Pass
						Diagonal (T5)	95.7	Pass
						Top Girt (T1)	6.7	Pass
						RATING =	**98.9**	**Pass**

Program Version 8.1.1.0 - 6/3/2021 File://hulk/n-drive/eri/8164/816462.eri

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	61.79356
Risk Category:	II	**Longitude:**	-150.09349
Soil Class:	D - Stiff Soil	**Elevation:**	192.7808512903781 ft (NAVD 88)





Seismic

Site Soil Class: D - Stiff Soil

Results:

S_S :	1.5	S_{D1} :	N/A
S_1 :	0.6	T_L :	16
F_a :	1	PGA :	0.5
F_v :	N/A	PGA_M :	0.55
S_{MS} :	1.5	F_{PGA} :	1.1
S_{M1} :	N/A	I_e :	1
S_{DS} :	1	C_v :	1.4

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

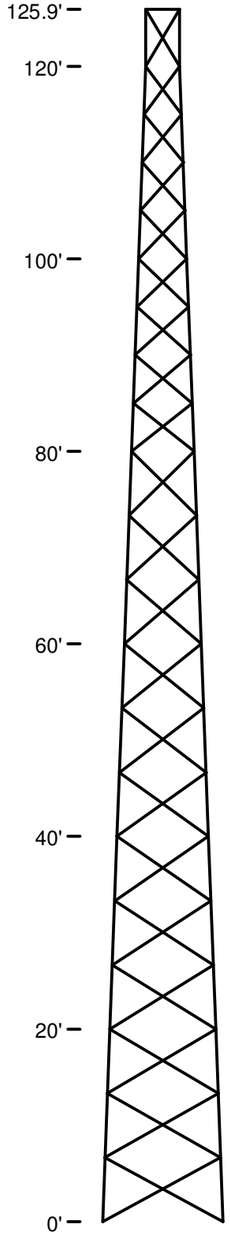
Data Accessed: Wed Nov 19 2025

Date Source: USGS Seismic Design Maps

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Self-Supporting Tower Section Data

Section Number	Bottom Elevation (ft)	Top Elevation (ft)	Model	Bottom Face Width (ft)	Top Face Width (ft)	Number of Panels	Leg Size (in)	Diagonal Size (in)	Girt Size (in)	Mid-Horizontal Size (in)	Redundant Horizontal Size (in)	Redundant Diagonal Size (in)
7	120	125.9	NSX	3.5	3.5	1	P2x.154	L1 3/4x1 3/4x1/8	L1 3/4x1 3/4x1/8			
6	100	120	NSX	5.0	3.5	4	P3.5x.226	L1 3/4x1 3/4x1/8				
5	80	100	NSX	6.5	5.0	4	P3.5x.226	L1 3/4x1 3/4x1/8				
4	60	80	NSX	8.0	6.5	3	P5x.258	L2x2x1/8				
3	40	60	NSX	9.5	8.0	3	P6x.28	L2x2x1/8				
2	20	40	NSX	11.0	9.5	3	P6x.28	L2x2x3/16				
1	0	20	NSX	12.5	11.0	3	P6x.28	L2 1/2x2 1/2x3/16				

Tower Reactions

No Ice
Shear: 26.2 kips
Moment: 2388.11 ft-kips
Weight: 20.3 kips

With Ice
Shear: 8.4 kips
Moment: 761.52 ft-kips
Weight: 28.4 kips

Leg Reactions
Compression: 227.4 kips
Uplift: -208.6 kips
Shear: 16.9 kips

REV	BY	DATE	DESCRIPTION
1	DF	11/20/2025	Revised per ECO 8209

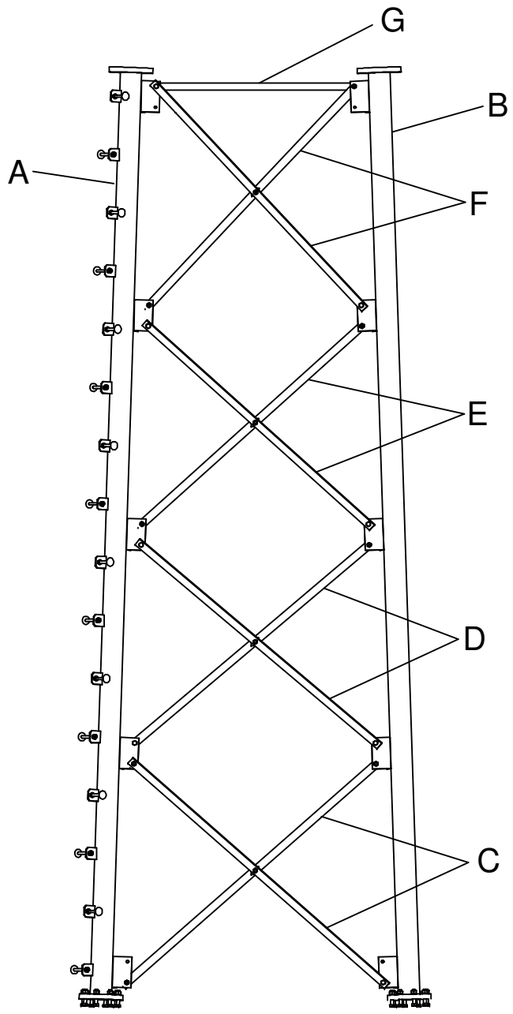
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ORIG. DATE: 11/3/2025
DWG NO: 816462
DWG. PROG: v2.05
SHEET: 1 OF 6

STATE OF ALASKA 49TH
Adam M. Amortnont
No. SE 236151
REGISTERED STRUCTURAL ENGINEER
11-25-25
TEP

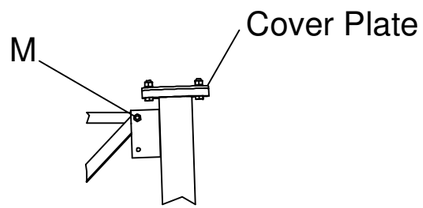
TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Willow
Matanuska-Susitna Borough, AK

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



NSX Section Detail

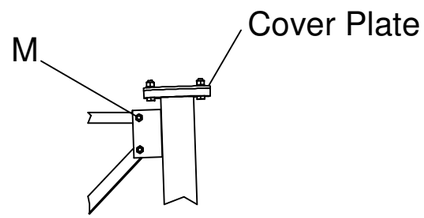
1. A part number is stamped on the bottom footpad of each leg.
2. A part number is stamped and /or labeled on the bottom end of each angle.
3. Be sure to place diagonal bracing angles in correct positions, angles in the top panel may be longer than they are in the middle panel.
4. The bolt head must bear against the angle bracing.



One plain nut and one lockwasher per bolt.

Detail A: NSX Top Connection

*Applicable to all 20 ft Sections.
*Applicable to all Sections Shorter than 20 ft and are Straight with 2 or 3 panels.

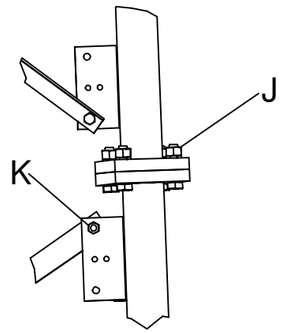


One plain nut and one lockwasher per bolt.

Detail B: NSX Top Connection

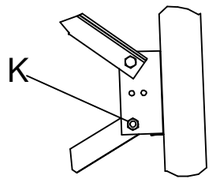
*Applicable to all Sections Shorter than 20 ft that are Tapered Sections with 1 panel

NSX Section Legend:
A. Climbing Leg
B. Non-Climbing Leg
C. Diag., Panel 1
D. Diag., Panel 2
E. Diag., Panel 3
F. Diag., Panel 4
G. Top Girt
H. Spacer
J. Leg Bolts
K. Diagonal Bolts
L. Stitch Bolts
M. Top Girt Bolts



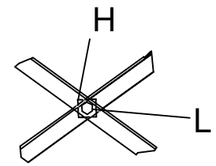
One plain nut and one lockwasher per bolt.

NSX Leg Connection



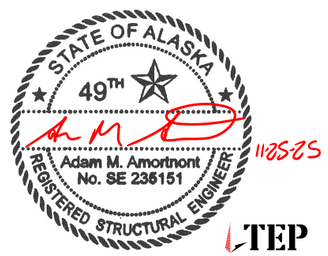
One plain nut and one lockwasher per bolt.

NSX Bracing Detail



One plain nut and one lockwasher per bolt.

NSX Spacer Detail



REV	BY	DATE	DESCRIPTION
1	DF	11/20/2025	Revised per ECO 8209

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ORIG. DATE: 11/3/2025
DWG NO: 816462
DWG. PROG: v2.05
SHEET: 2 OF 6

TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Willow
Matanuska-Susitna Borough, AK

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

NSX Section Part Numbers

Item	Elevation	Climbing Leg (A)	Non-Climbing Leg (B)	Diagonal - Panel 1 (C)	Diagonal - Panel 2 (D)	Diagonal - Panel 3 (E)	Diagonal - Panel 4 (F)	Top Girt (G)	Spacer (H)
7	120' - 125.9'	189718	189717	167310				167379	132233
6	100' - 120'	141436	141435	171019	171018	171017	171016		132233
5	80' - 100'	141436	141435	167055	167056	167057	167058		132233
4	60' - 80'	141264		167047	167048	167049			132233
3	40' - 60'	141267		166903	166904	166905			132233
2	20' - 40'	141267		166858	166859	166860			132233
1	0' - 20'	141268		166861	166862	166863			132233

NSX Section Hardware

Item	Elevation	Leg Bolts (J)	Diagonal Bolts (K)	Stitch Bolts (L)	Top Girt Bolts (M)	Section Weight (Lbs.)
7	120' - 125.9'	(24) 3/4" x 3-1/2"	(12) 1/2" x 1-1/2"	(3) 1/2" x 1-1/2"	(6) 1/2" x 1-1/2"	330
6	100' - 120'	(24) 3/4" x 3-1/2"	(48) 5/8" x 2-1/2"	(12) 5/8" x 2-1/2"		1150
5	80' - 100'	(24) 3/4" x 3-1/2"	(48) 5/8" x 2-1/2"	(12) 5/8" x 2-1/2"		1180
4	60' - 80'	(24) 3/4" x 3-1/2"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		1560
3	40' - 60'	(24) 3/4" x 3-1/2"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		1870
2	20' - 40'	(24) 3/4" x 3-1/2"	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		2080
1	0' - 20'	0	(36) 5/8" x 2-1/2"	(9) 5/8" x 2-1/2"		2300

STATE OF ALASKA 49TH
Adam M. Amortnont
No. SE 236151
REGISTERED STRUCTURAL ENGINEER
11/25/25

TEP

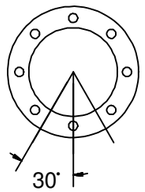
REV	BY	DATE	DESCRIPTION
1	DF	11/20/2025	Revised per ECO 8209

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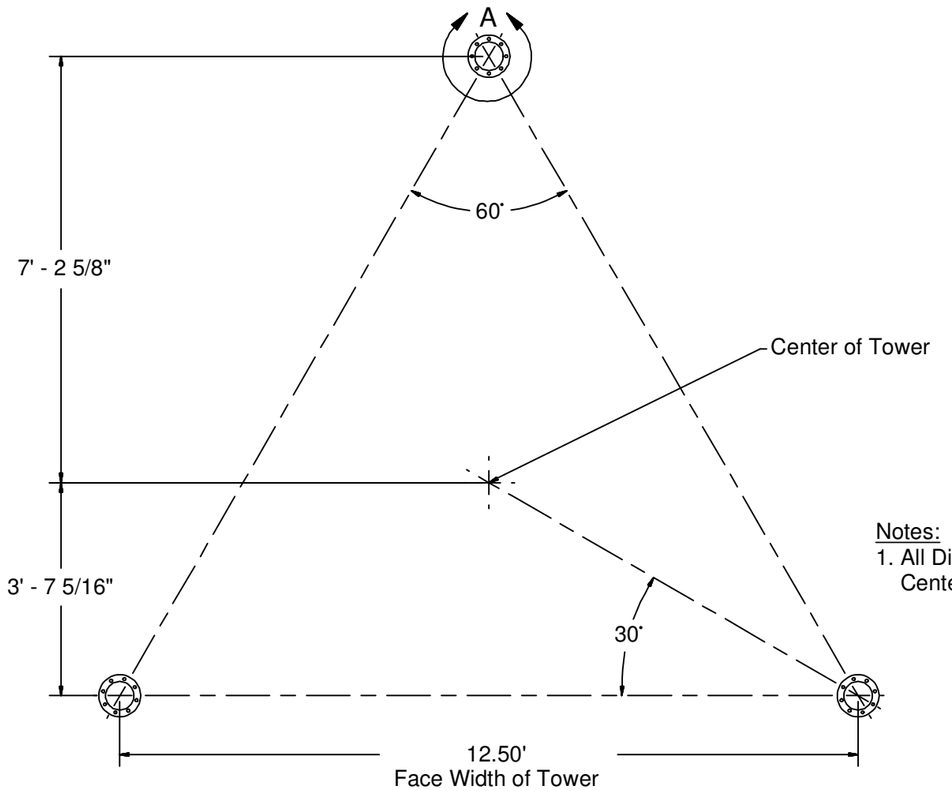
ORIG. DATE: 11/3/2025
DWG NO: 816462
DWG. PROG: v2.05
SHEET: 3 OF 6

TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Willow
Matanuska-Susitna Borough, AK

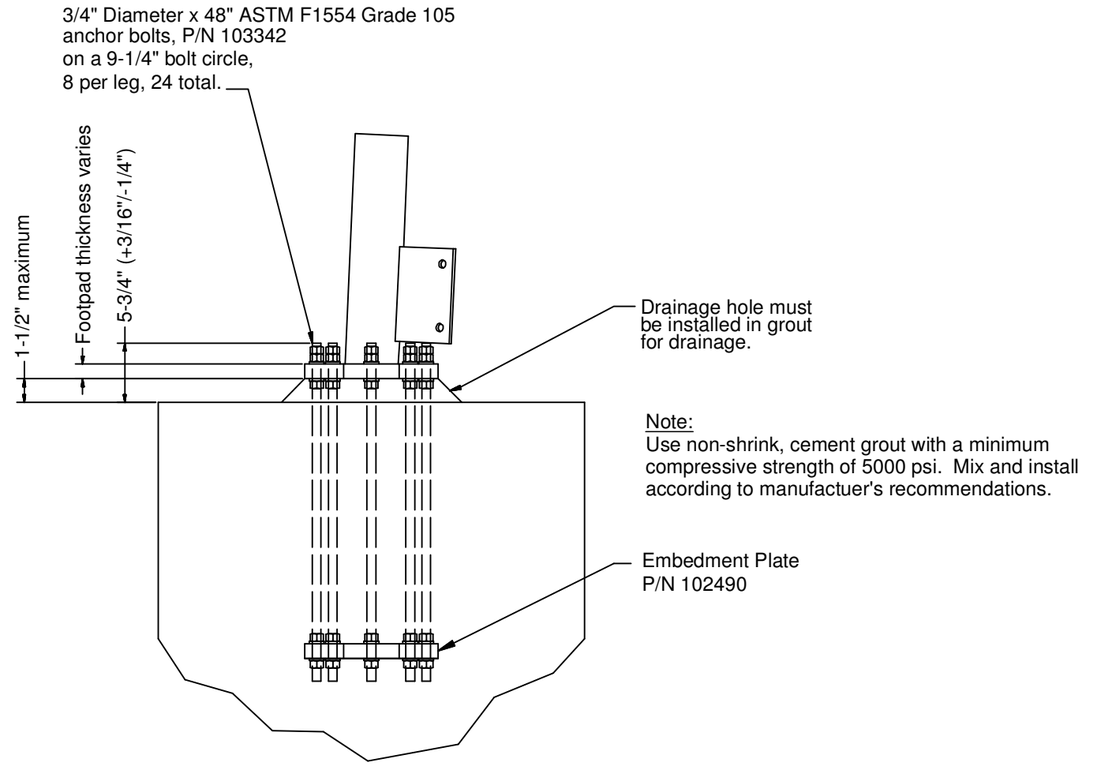
NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860



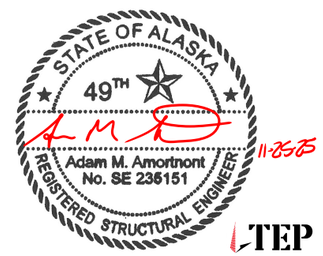
DETAIL A
Bolt hole must be aligned with center of tower.



Notes:
1. All Dimensions are from Center of Bolt Circles.



Note:
Use non-shrink, cement grout with a minimum compressive strength of 5000 psi. Mix and install according to manufactuer's recommendations.



REV	BY	DATE	DESCRIPTION
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ORIG. DATE: 11/3/2025
DWG NO: 816462
DWG. PROG: v2.05
SHEET: 4 OF 6

TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Willow
Matanuska-Susitna Borough, AK

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Antenna Loading

Height	Qty.	Description
120'	1	30,000 sq in CaAa
110'	1	30,000 sq in CaAa
100'	1	Dish Pipe Mount

Feedline Loading

Height	Qty.	Description
0' - 120'	4	LDF7-50A (1-5/8 FOAM)
0' - 110'	4	LDF7-50A (1-5/8 FOAM)
0' - 100'	1	LDF7-50A (1-5/8 FOAM)

Dish Loading

Height	Qty.	Description
100'	1	6' Dish with Radome

STATE OF ALASKA
49TH
Adam M. Amortnont
No. SE 236151
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11-25-25

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ORIG. DATE: 11/3/2025
DWG NO: 816462
DWG. PROG: v2.05
SHEET: 5 OF 6

TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Willow
Matanuska-Susitna Borough, AK

NELLO
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

Tower Notes:

1. Tower is designed per TIA-222-H, “Structural Standard for Antenna Supporting Structures, Anennas and Small Wind Turbine Support Structures,” for the following loading conditions:
   118 mph 3-second gust ultimate wind speed with no ice per ASCE 7-16
   60 mph 3-second gust basic wind speed with 1/2 inch basic ice thickness per ASCE 7-16
   Risk Category: II
   Exposure Category: C
   Topographic Category: 1
   Crest Height: 0 feet
2. A tower field inspection shall be performed in order to verify that design exposure and topographic parameters are consistent with the existing tower site conditions.
3. Tower design includes the antennas, dishes, and/or lines listed in the appurtenance loading tables on sheet 5.
4. Antenna mounting pipes may need to be field cut to match the lengths listed in the appurtenance loading tables on sheet 5.
5. Tower member design does not include stresses due to erection since erection equipment and procedures are unknown. Tower installation shall be performed by competent and qualified erectors in accordance with TIA-222-H and OSHA standards and all applicable building codes.
6. Field connections shall be bolted. No field welds shall be allowed unless otherwise noted.
7. Structural bolts shall conform to ASTM A325, except for 1/2 inch diameter and smaller bolts, which shall conform to ASTM A449 or SAE J429 Grade 5.
8. Structural steel and connection bolts shall be galvanized after fabrication in accordance with TIA-222-H.
9. All high strength bolts shall be tightened to a "snug tight" condition as defined in the RCSC "Specification for Structural Joints Using ASTM A325 or A490 Bolts."
10. Tower shall be marked and lighted in conformance with local building codes, FAA regulations, and TIA-222-H.
11. Tower shall be grounded in conformance with local building codes and TIA-222-H. Evaluation of protective grounding and consideration for special grounding systems shall be performed by others.
12. Allowable tolerance on as-built tower steel height is plus 1% or minus 1/2%.
13. Maintenance and inspection shall be performed over the life of the structure in accordance with TIA-222-H.
14. Material specifications:
    Self Supporting Pipe Legs - ASTM A500 Grade 50
    Angle Bracing - ASTM A529 Grade 50
    Leg Footpads - ASTM A572 Grade 50
    Leg Side Plates - ASTM A36 (Min)
15. Remove anchor bolt template before erecting tower. Place non-shrink grout under base section footpads after leveling tower.
16. Concrete contractor shall be responsible for properly aligning anchor bolts and materials before and after placing concrete, regardless of whether an anchor bolt template is provided.
17. Foundation by others.

STATE OF ALASKA 49TH
Adam M. Amortnont
No. SE 236151
REGISTERED STRUCTURAL ENGINEER
11-25-25

TEP

REV	BY	DATE	DESCRIPTION
1	DF	11/20/2025	Revised per ECO 8209

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ORIG. DATE: 11/3/2025
DWG NO: 816462
DWG. PROG: v2.05
SHEET: 6 OF 6

TITLE:
Atlas Tower
NSX 12.5' X 125.9'
Willow
Matanuska-Susitna Borough, AK

N E L L O
1201 S. Sheridan St.
South Bend, IN 46619
Bus: (574)288-3632
Fax: (574)288-5860

GCI

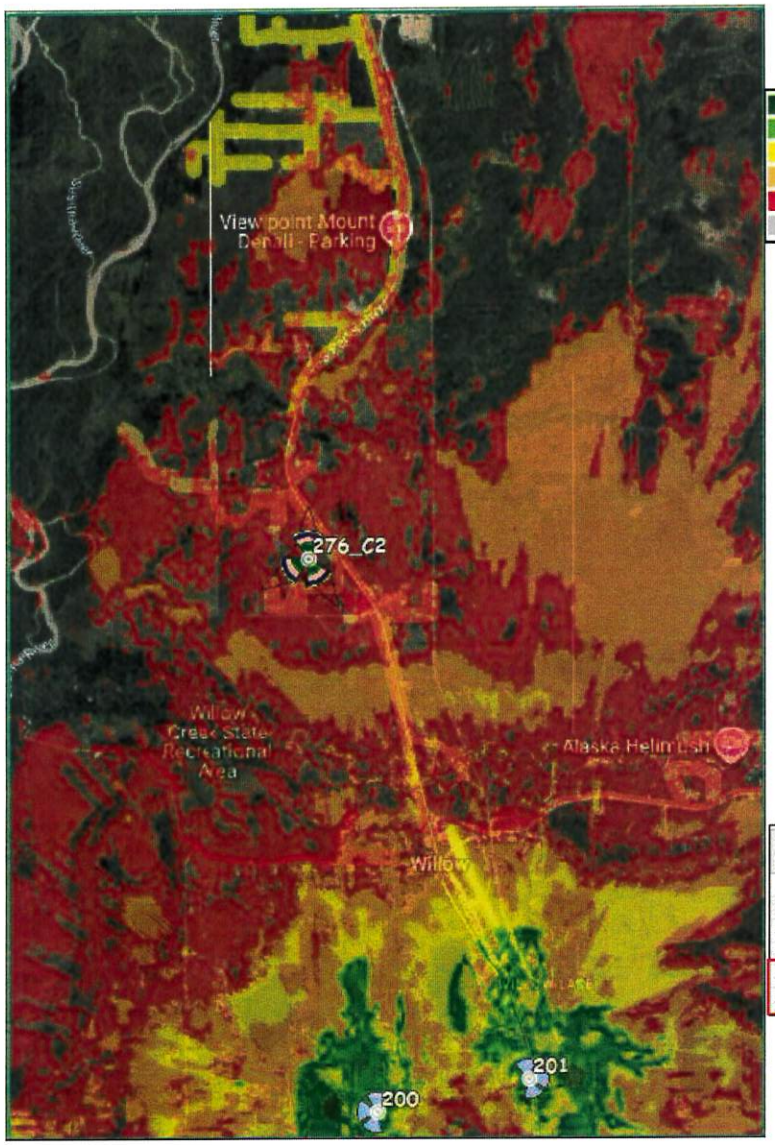
Wireless Site ID = 276
Willow 2

Coverage Analysis for Zoning



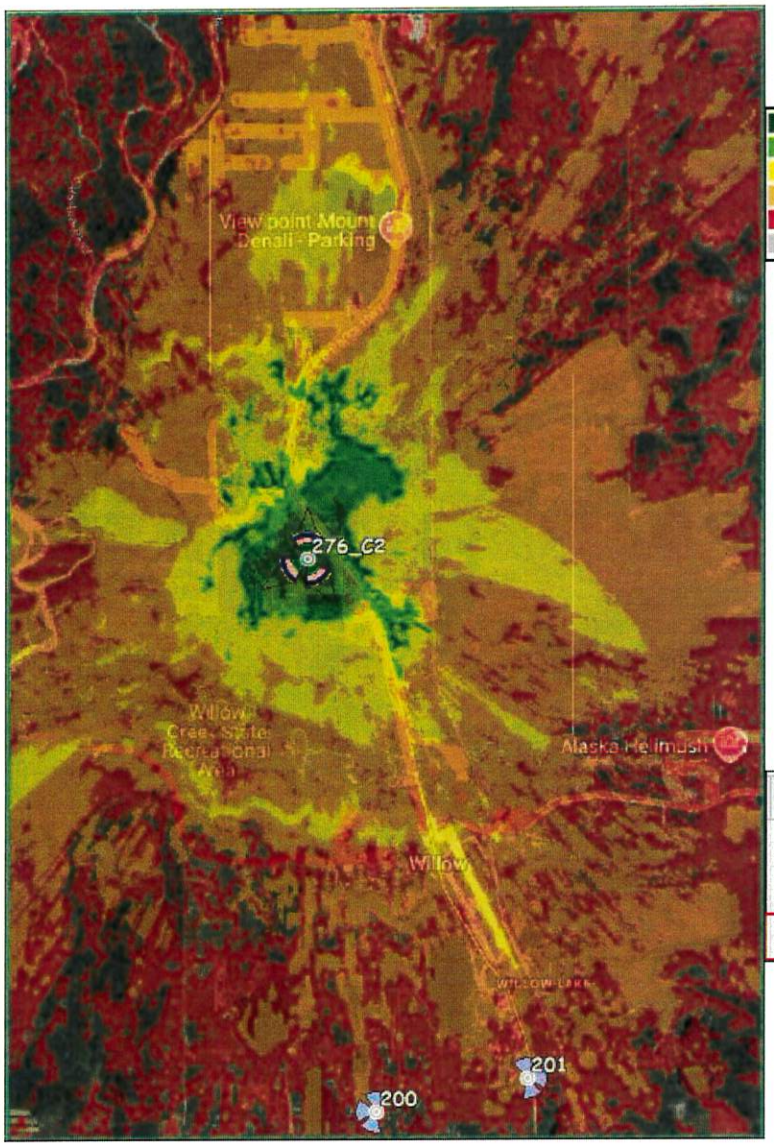
Polygon for coverage and population analysis

- Sites 200 and 201 are exiting sites.
- Site 276 is the propose new site to increase or coverage footprint to meet FCC requirements (new location).
  - Name Site Name Longitude Latitude
  - 276 Willow2 -150.09349 61.79356
  - RAD Center = 120 ft



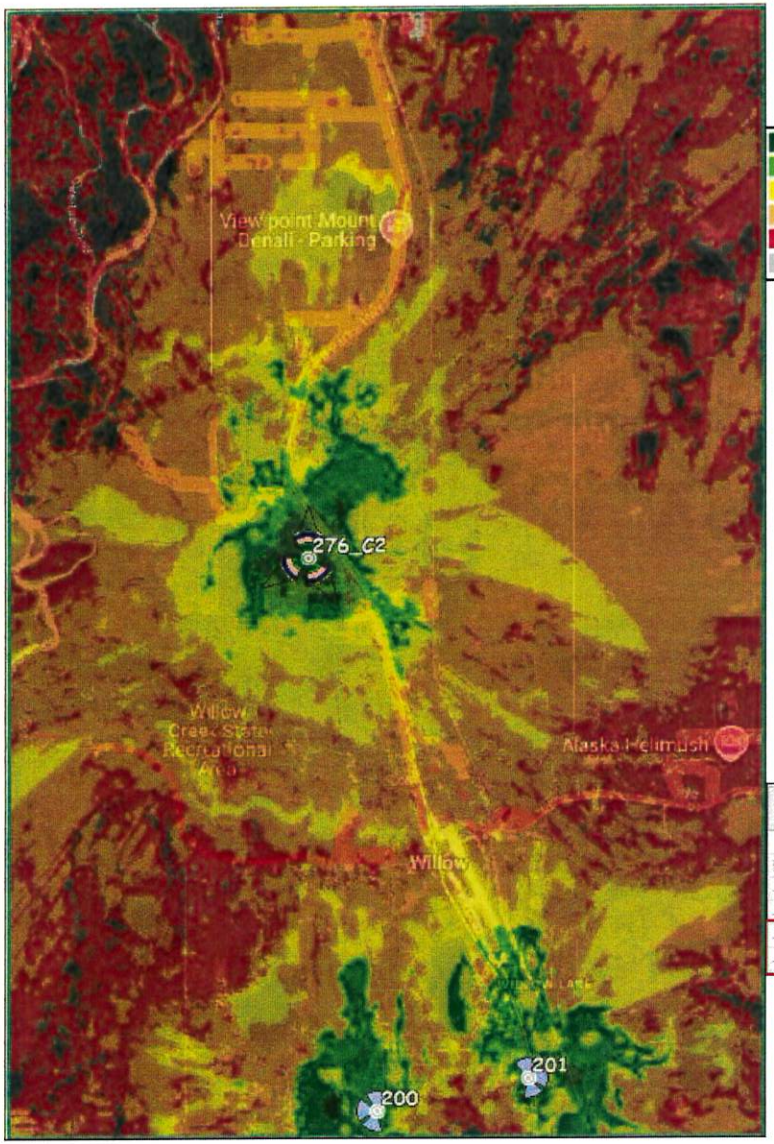
Legend		Zone Surface (km^2)	Population (Population [total])	Population (Population)	Population (%Population)
		139.8309	**287.81**	**197.71**	**68.7**
RSRP Level (DL) (dBm) >=-85	Deep Indoor		287.81	0e+00	0e+00
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		287.81	0e+00	0e+00
-105 <=RSRP Level (DL) (dBm) <-95	Incar		287.81	1.63	0.57
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		287.81	31.16	10.83
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		287.81	164.93	57.3

Without the new site we are providing In-car coverage to 0.57% of population only, we provide Outdoor and Poor coverage to 68% of population(196 POPs)



Legend		Zone Surface (km^2)	Population (Population [total])	Population (Population)	Population (%Population)
		139.8309	287.81	282.14	98.03
RSRP Level (DL) (dBm) >=-85	Deep Indoor		287.81	26.46	9.2
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		287.81	38.78	13.47
-105 <=RSRP Level (DL) (dBm) <-95	Incar		287.81	43.17	15
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		287.81	139.36	48.42
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		287.81	34.37	11.94

With the new location of the site 276 only, we are providing In-car coverage to 37.64% of population(109 POPs).



Legend		Zone Surface (km^2)	Population (Population [total])	Population (Population)	Population (%Population)
		139.8309	**287.81**	**286.88**	**99.68**
RSRP Level (DL) (dBm) >=-85	Deep Indoor		287.81	26.46	9.2
-95 <=RSRP Level (DL) (dBm) <-85	Indoor		287.81	38.78	13.47
-105 <=RSRP Level (DL) (dBm) <-95	Incar		287.81	44.49	15.46
-115 <=RSRP Level (DL) (dBm) <-105	Outdoor		287.81	142.5	49.51
-125 <=RSRP Level (DL) (dBm) <-115	Poor Coverage		287.81	34.64	12.04

With the new and existing site, we are providing In-car coverage to 38.13% of population(110 POPs).

Conclusion

The Greenfield candidate, supported by Atlas, will significantly enhance GCI's coverage, an essential step in meeting the FCC's expanding coverage requirements.

Tower Location: .

- GPS Coordinates: -150.09349, 61.79356
- RAD Center: 120'
- Azimuths of 0, 150 and 240 Degrees are suggested based on Initial Design.

ATLAS TOWER

USA • INTERNATIONAL

SITE NAME: WILLOW

PROPOSED 125' LATTICE TOWER

WILLOW, AK 99688

(MATANUSKA SUSITNA BOROUGH)

TEP

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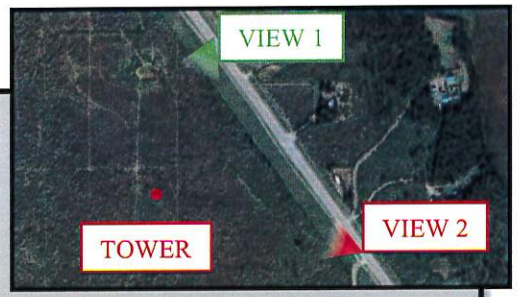
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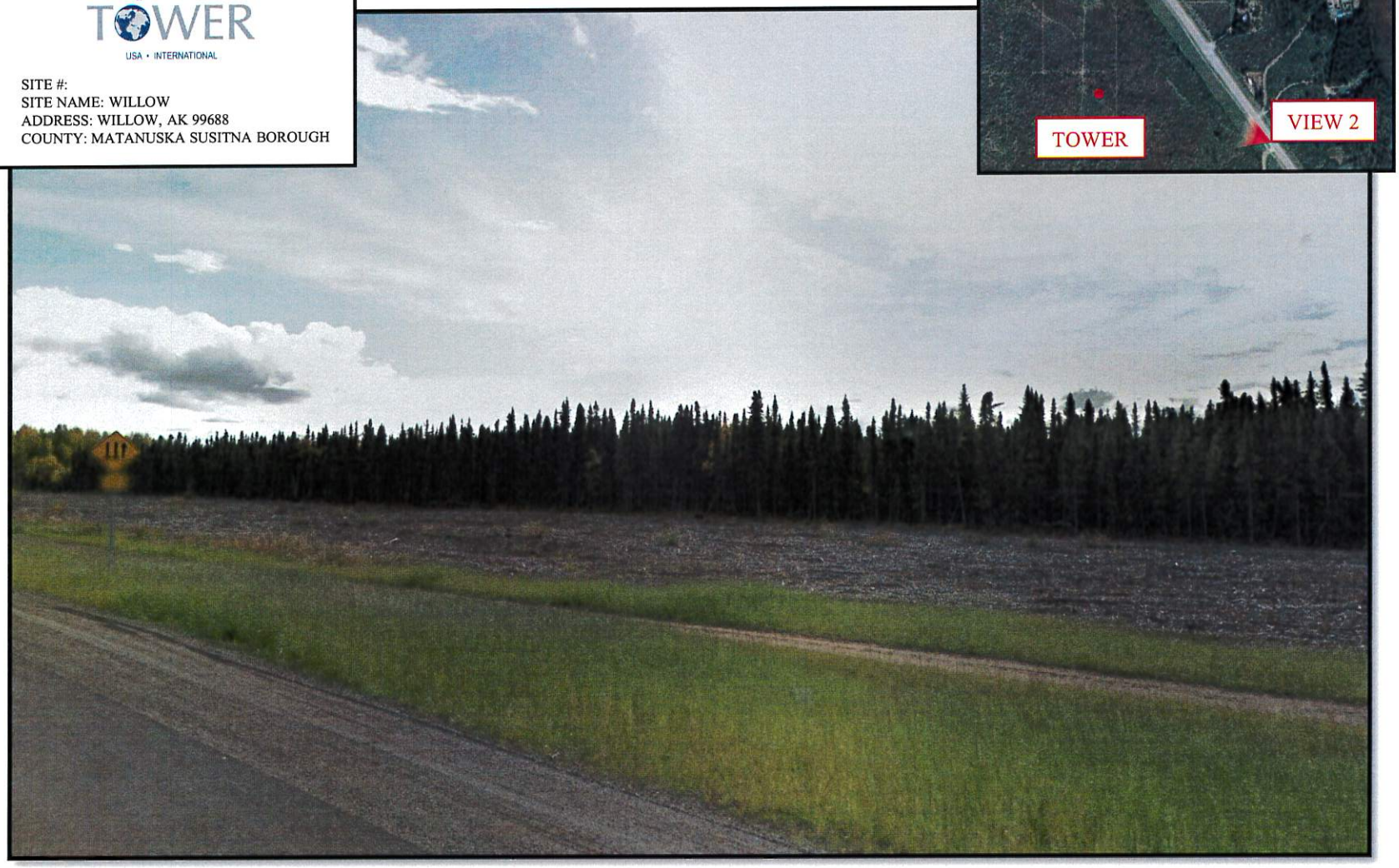

Legend
Photo Location (PL)
Willow Tower
PL 1
PL 2
Tower
Parks Hwy
Dell M Rd
Maleia Ln
3
140
N
2000 ft
Google Earth
Image © 2025 Airbus

EXISTING VIEW: LOCATION 1

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





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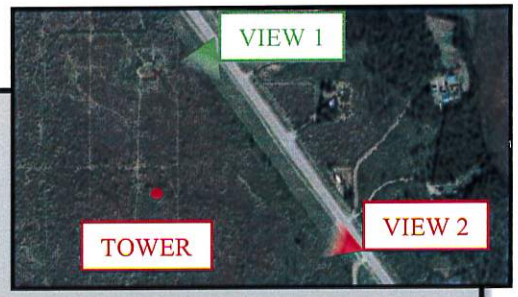
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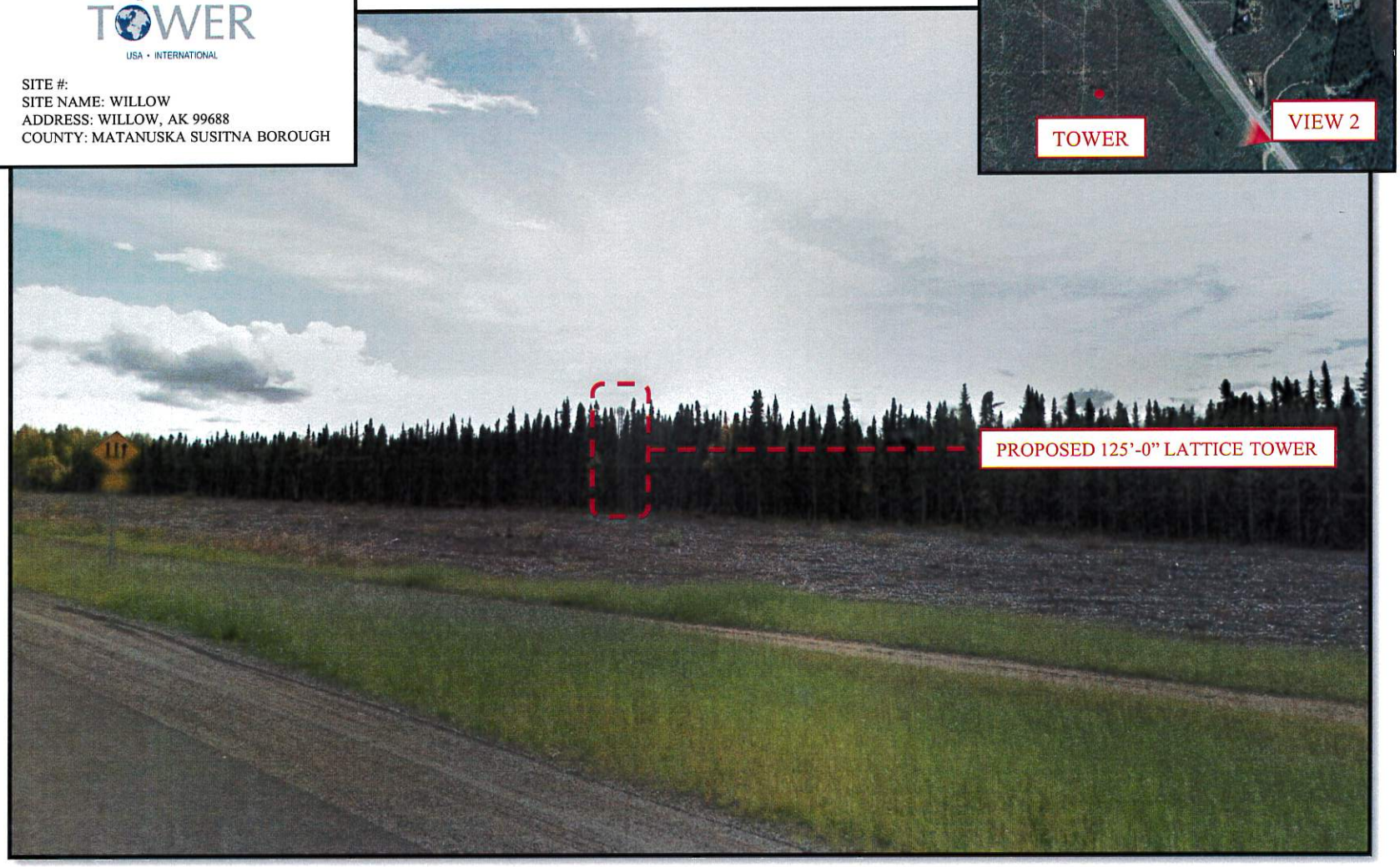
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PROPOSED VIEW: LOCATION 1

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

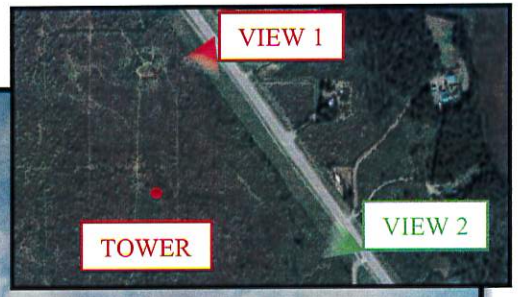
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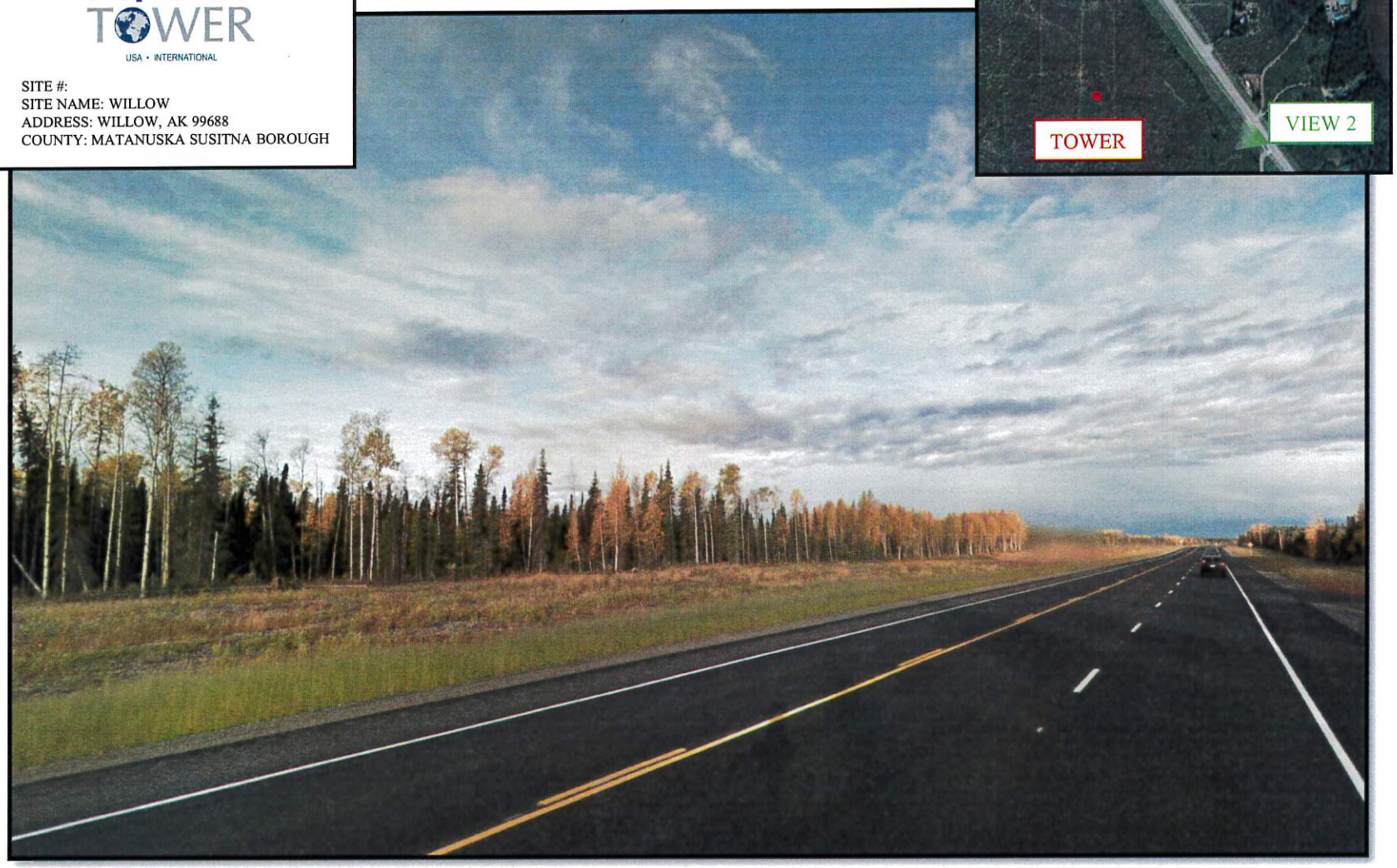
TEP

EXISTING VIEW: LOCATION 2

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

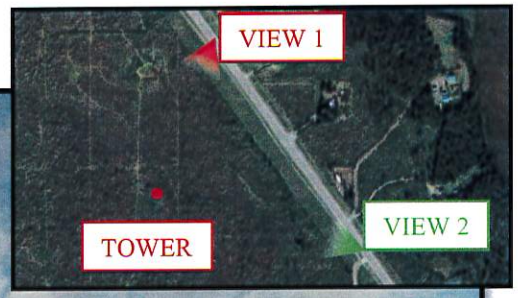
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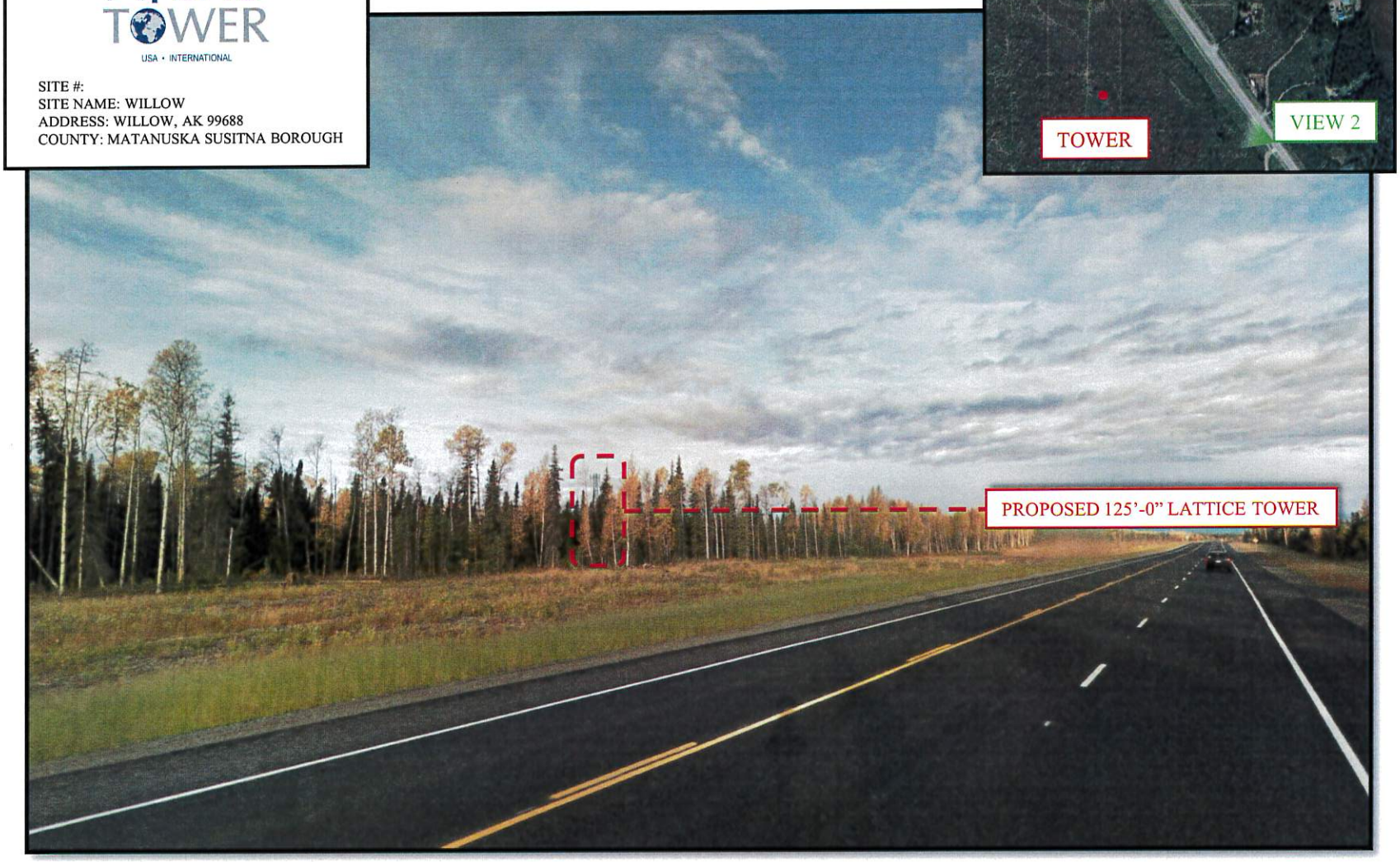
TEP

PROPOSED VIEW: LOCATION 2

ATLAS TOWER
USA • INTERNATIONAL

SITE #:
SITE NAME: WILLOW
ADDRESS: WILLOW, AK 99688
COUNTY: MATANUSKA SUSITNA BOROUGH





TEP

PHOTO RENDERED BY TEP OPCO, LCC

TEP

Blank

Photos and Maps

MATANUSKA-SUSITNA BOROUGH

Real Property Detail for Account: 220N05W25A011

Site Information

Account Number	220N05W25A011	Subdivision	
Parcel ID	19871	City	None
TRS	S20N05W25	Map WI06	Tax Map
Abbreviated Description (Not for Conveyance)	TOWNSHIP 20N RANGE 5W SECTION 25 LOT A11		
Site Address	36596 W Parks Hwy		

Ownership

Owners	JONROWE MICHAEL D & DEE D	Buyers	
Primary Owner's Address	PO BOX 272 WILLOW AK 99688	Primary Buyer's Address	

Appraisal Information

Year	Land Appraised	Bldg. Appraised	Total Appraised
2026	$163,600.00	$0.00	$163,600.00
2025	$142,300.00	$0.00	$142,300.00
2024	$142,300.00	$0.00	$142,300.00

Assessment

Year	Land Assessed	Bldg. Assessed	Total Assessed[1]
2026	$163,600.00	$0.00	$163,600.00
2025	$142,300.00	$0.00	$142,300.00
2024	$142,300.00	$0.00	$142,300.00

Building Information

Building Item Details

Building Number	Description	Area	Percent Complete

Tax/Billing Information

Year	Certified	Zone	Mill	Tax Billed
2026	No	0066	::	::
2025	Yes	0066	15.493	$2204.66
2024	Yes	0048	15.842	$2254.32

Recorded Documents

Date	Type	Recording Info (offsite link to DNR)
7/7/2017	QUITCLAIM DEED (ALL TYPE)	Palmer 2017-012991-0
7/6/2017	WARRANTY DEED (ALL TYPES)	Palmer 2017-012952-0
6/13/2017	PERSONAL REPRESENTATIVE	Palmer 2017-011304-0

Tax Account Status [2]

Status	Tax Balance	Farm	Disabled Veteran	Senior	Total [3]	LID Exists
Current	$0.00	$0.00	$0.00	$0.00	$0.00	No

Land and Miscellaneous

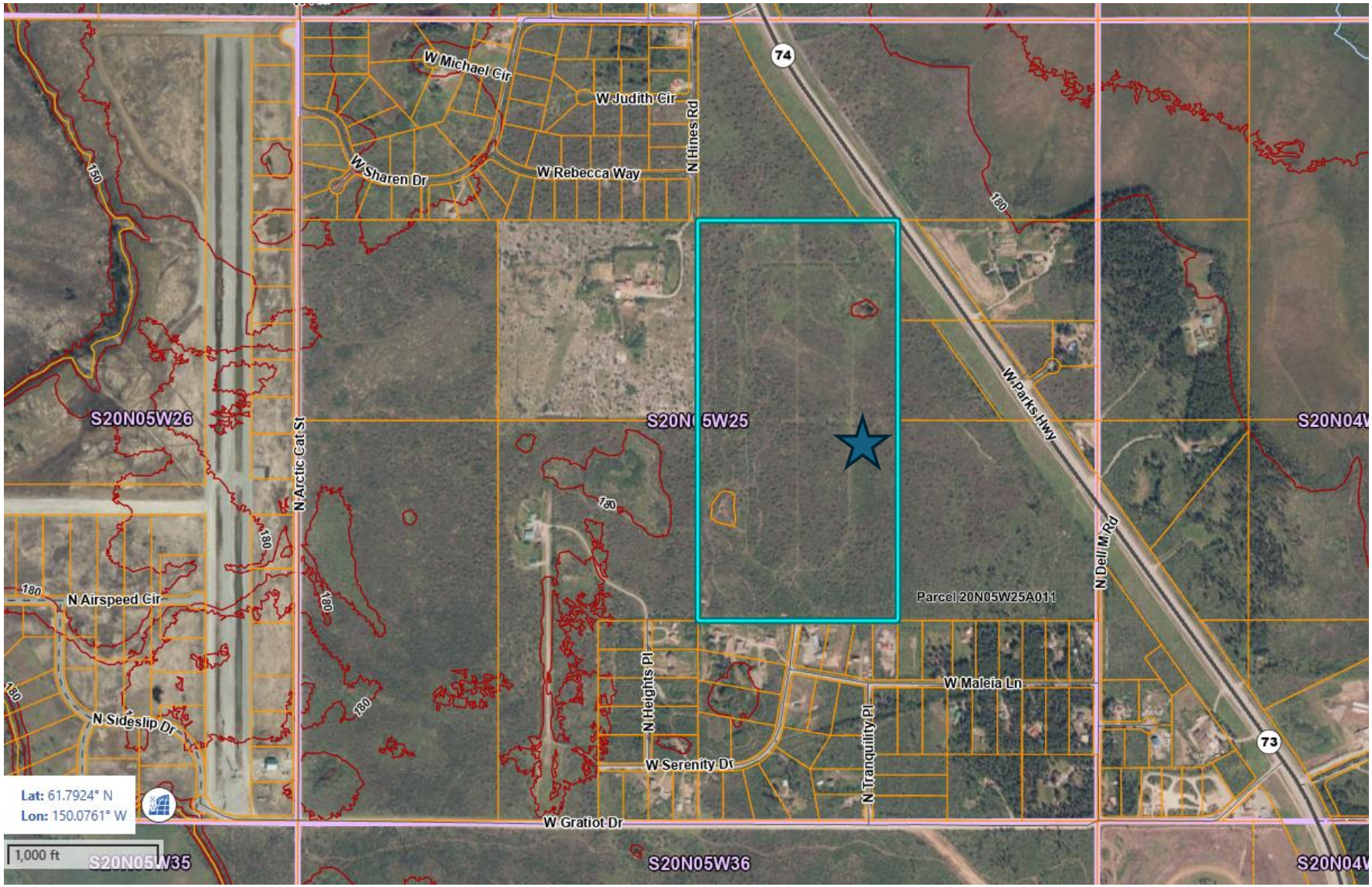
Gross Acreage	Taxable Acreage	Assembly District	Precinct	Fire Service Area	Road Service Area
80.00	79.05	Assembly District 007	30-605	140 Willow-Caswell FSA	015 Caswell Lakes RSA

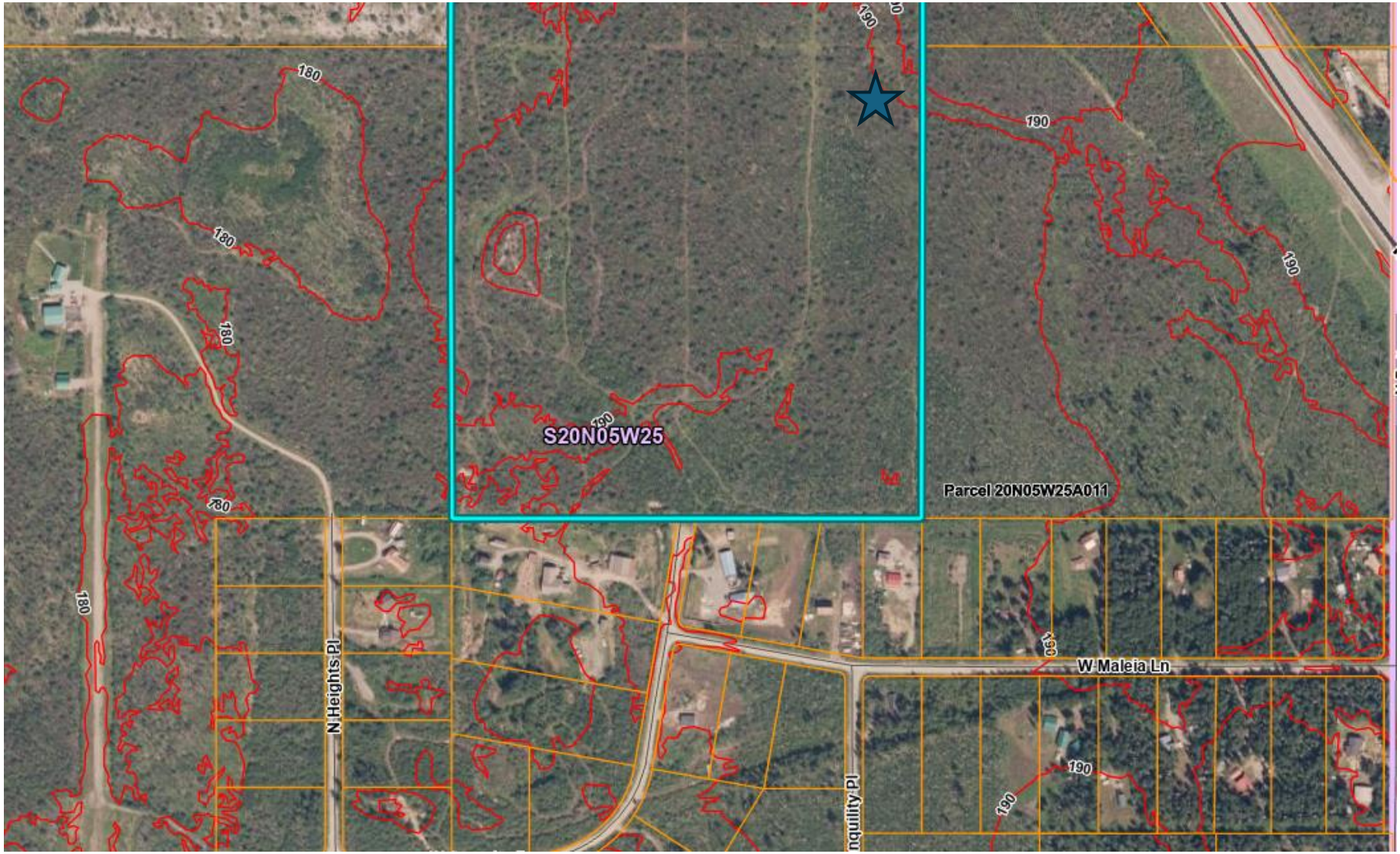
[1] Total Assessed is net of exemptions and deferments.rest, penalties, and other charges posted after Last Update Date are not reflected in balances.

Last Updated: 2/19/2026 9:00:01 AM

[2] If account is in foreclosure, payment must be in certified funds.

[3] If you reside within the city limits of Palmer or Houston, your exemption amount may be different.


W Michael Cir
W Judith Cir
W Sharen Dr
W Rebecca Way
N Hines Rd
74
150
180
S20N05W26
N Arctic Cat St
S20N 5W25
W Parks Hwy
S20N04W
N Dell M Rd
Parcel 20N05W25A011
N Airspeed Cir
N Sideslip Dr
N Heights Pl
W Maleia Ln
N Tranquility Pl
W Serenity Dr
73
W Gratiot Dr
Lat: 61.7924° N
Lon: 150.0761° W
1,000 ft
S20N05W35
S20N05W36
S20N04W


S20N05W25
Parcel 20N05W25A011
W Maleia Ln
N Heights Pl
180
190































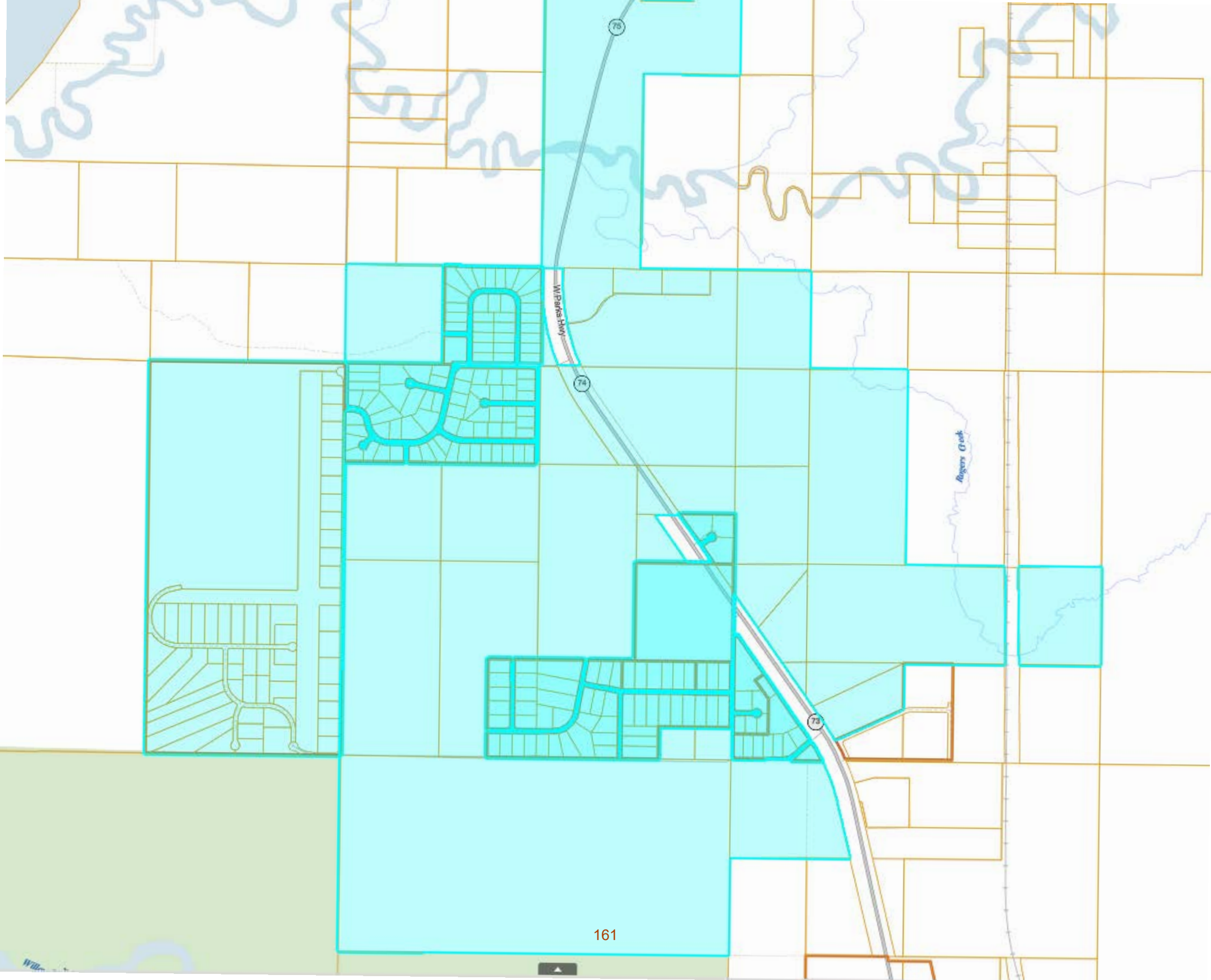


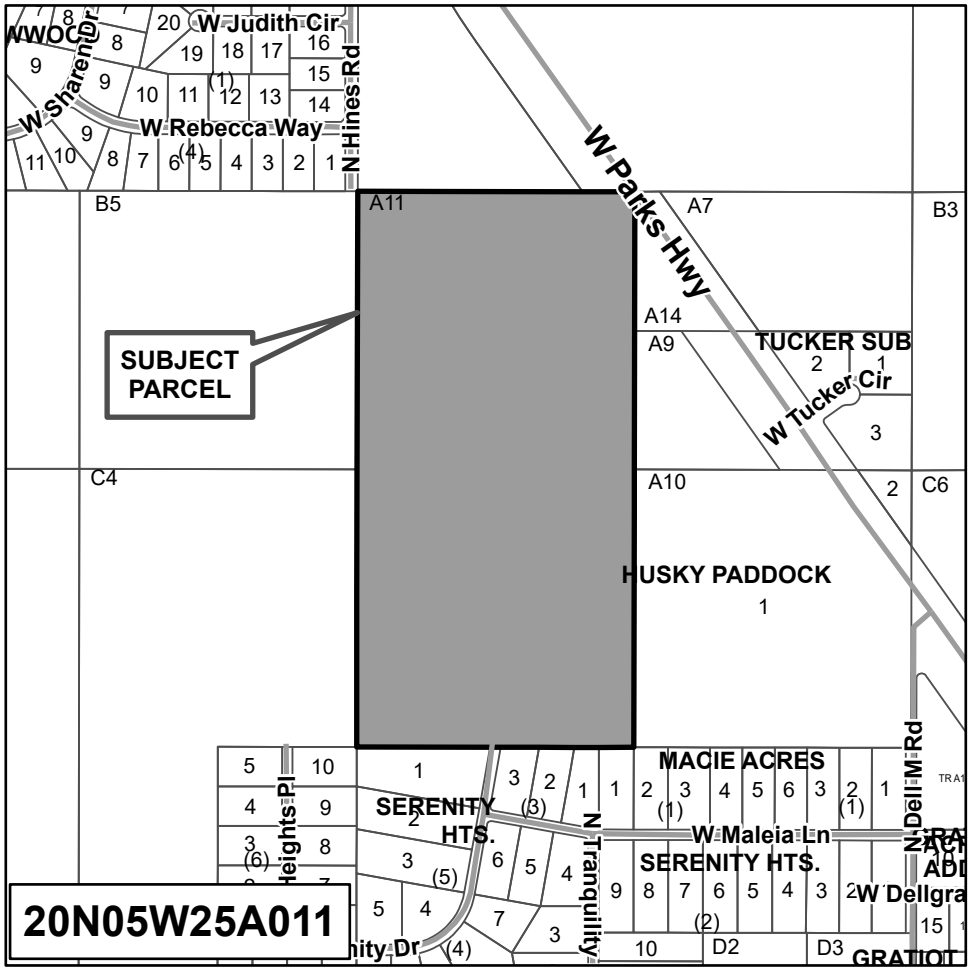


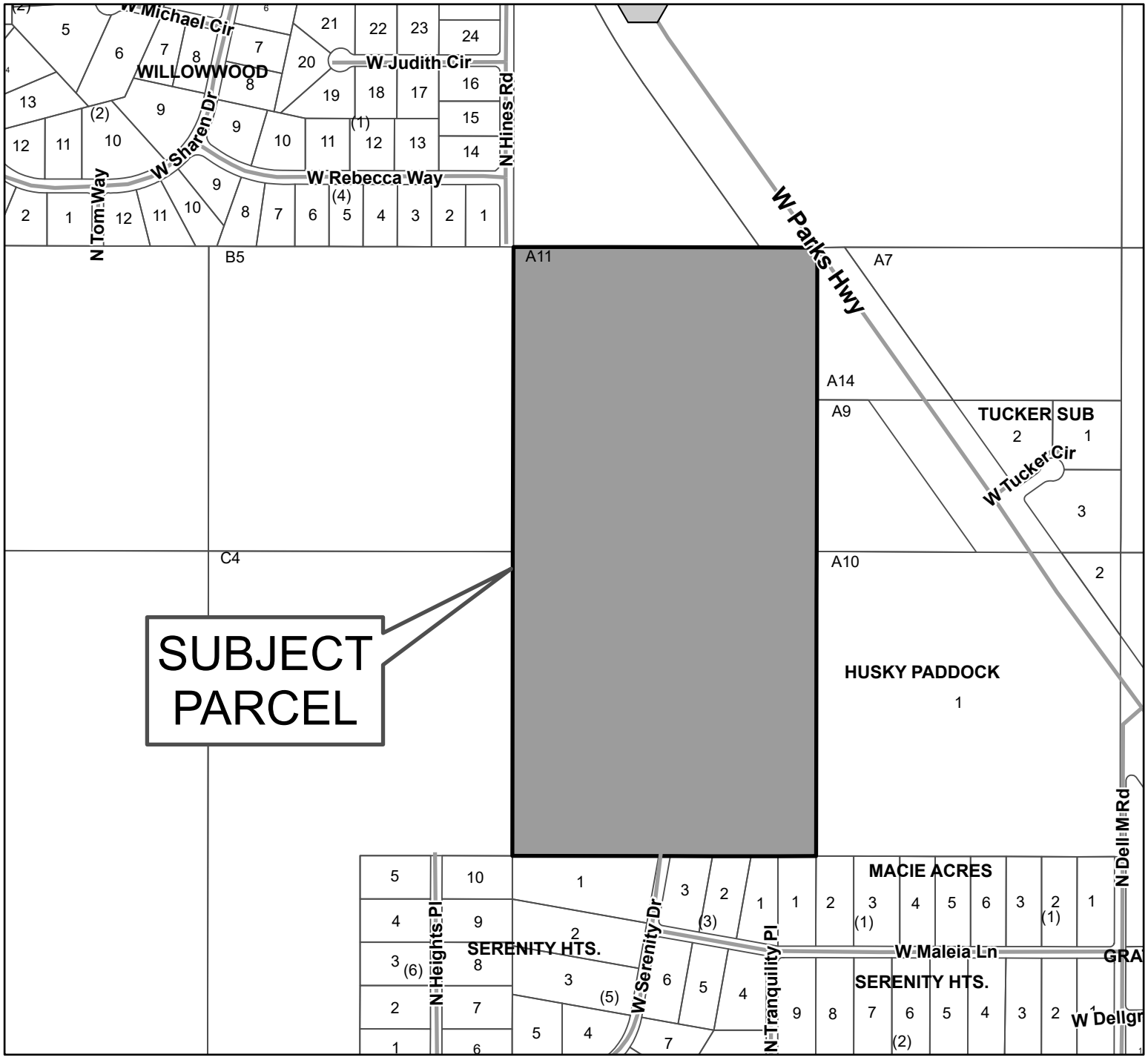




Public Notice

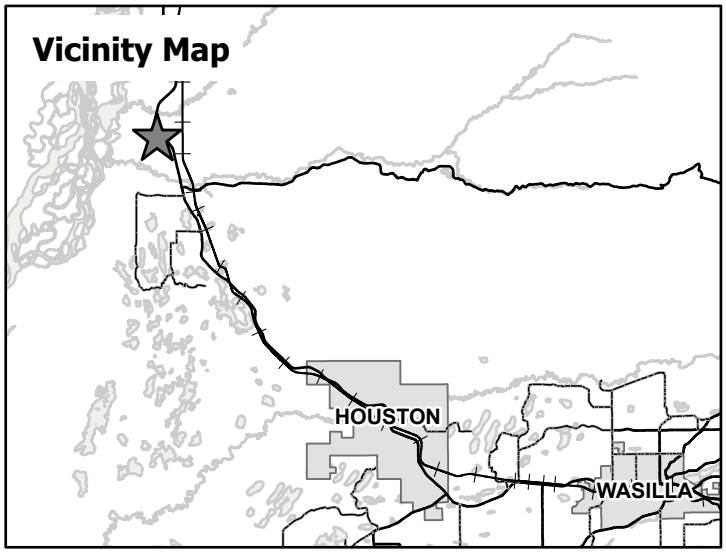

W Parks Hwy
75
74
73
Rogers Creek


W Judith Cir
W Sharen Dr
W Rebecca Way
N Hines Rd
W Parks Hwy
SUBJECT PARCEL
A11
A7
A14
A9
TUCKER SUB
W Tucker Cir
A10
HUSKY PADDOCK
B5
B3
C4
C6
MACIE ACRES
SERENITY HTS.
W Maleia Ln
N Tranquility
N Dell M Rd
W Dellgra
GRATIOT
20N05W25A011



20N05W25A011





N

This map is solely for informational purposes only. The Borough makes no express or implied warranties with respect to the character, function, or capabilities of the map or the suitability of the map for any particular purpose beyond those originally intended by the Borough. For information regarding the full disclaimer and policies related to acceptable uses of this map, please contact the Matanuska-Susitna Borough GIS Division at 907-861-7858.

MSB Information Technology/GIS
January 26, 2026

0 1,000 Feet

UNITED STATES POSTAL SERVICE®

Certificate of Bulk Mailing — Domestic

Fee for Certificate

Up to 1,000 pieces (1 certificate for total number)

For each additional 1,000 pieces, or fraction thereof

Duplicate Copy ☐

Use Current Price List (Notice 123)

Postage: Mailers must affix meter, PC Post or (uncanceled) postage stamps here in pay of total fee due.

US POSTAGE PITNEY BOWES
ZIP 99645 $ 013.50⁰
02 7W
0008035337 FEB 06 2026

Acceptance employee must cancel postage affixed (by round-date) at the time of mailing.

If payment of total fee due is being paid by Permit Imprint, include the *PostalOne!*® Transaction Number here: _____

Number of Identical Weight Pieces	Class of Mail	Postage for Each Mailpiece Paid	Number of Pieces to the Pound
121	1st	☐ Verified	45

Total Number of Pounds	Total Postage Paid for Mailpieces	Fee Paid
216 8.702	89.54	$13.50

Mailed For	Mailed By
Permit Center	Betty Jean Black

USPS FEB 6 2026 PALMER, AK 99645

Postmaster's Certification

It is hereby certified that the number of mailpieces presented and the associated postage and fee were verified. This certificate does not provide evidence that a piece was mailed to a particular address.

_____
(Postmaster or Designee)

PS Form **3606-D,** January 2016 PSN 7530-17-000-5548

See Reverse for Instructions

Instructions for Certificate of Bulk Mailing — Domestic Service

This service is available only at the time of mailing and is used to specify only the number of identical-weight pieces mailed; it does *not* provide evidence that a piece was mailed to a particular address. This certificate is available for domestic mailings of First-Class Mail®, First-Class Package Service®, Priority Mail®, USPS Retail Ground™, Media Mail®, Library Mail, Bound Printed Matter, Standard Mail® (excluding Customized MarketMail® and Marketing Parcels), and Parcel Select® (including Parcel Select Lightweight®) items.

1. Pay postage as appropriate — affix meter, PC Postage, or (uncanceled) postage stamps in payment of total fee due in the postage area, or if paying fee by permit imprint, enter information in the postage area at the top right of the form.

2. Present PS Form 3606-D and the mailing as follows:

   - When the mailing has fewer than 50 mailpieces *and* less than 50 pounds, present the form and mailing at a retail Post Office™ location.
   - When the mailing has at least 50 mailpieces *or* at least 50 pounds, present the form and mailing at a business mail entry unit (BMEU) or USPS-authorized detached mail unit (DMU).

3. The Postal Service™ certifies and postmarks (round-dates) the PS Form 3606-D at the time of mailing and then returns it to the mailer as the mailer's receipt.

Certificate of Bulk Mailing — Domestic service does not provide a record of delivery, and the Postal Service does not retain any copies of PS Form 3606-D. The mailer cannot use PS Form 3606-D as a certificate of mailing for individual mailpieces or itemized lists.

#	Owner 1	Owner 2	Mailing Address Line 2	Mailing Address Line 1	Mailing Address City	Mailing Address State	Mailing Address Zipcode
1	ADAY RICHARD			PO BOX 1746	BETHEL	AK	99559
2	ALASKA STATE OF	DEPT OF NATURAL RESOURCES DIV OF LANDS		550 W 7TH AVE	ANCHORAGE	AK	99501-3579
3	ASHLEY DONAVAN ALEXZANDER			HC 89 BOX 400	WILLOW	AK	99688
4	ASSISTED LISTING LLC			8510 E 10TH AVE	ANCHORAGE	AK	99504
5	AYERS MICHAEL JR			3980 JOANNA LN	CATAWBA	SC	29704
6	BAKER JOSEPH D & RONDA L			2622 PARK ST	LYONS	MI	48851-8621
7	BERTOLINI TAYLOR & NORMA			PO BOX 874211	WASILLA	AK	99687
8	BOAK MICHAEL & COLLEEN			12744 FERN RD	WHITMORE	CA	96096
9	BOEVE GORDON P & TAMARA J			HC 89 BOX 124	WILLOW	AK	99688
10	BOUNDS LARKIN J & SUZANNE			PO BOX 1024	WILLOW	AK	99688-1024
11	BOWMAN LEE & JULIET P			720 W SARAHS WAY	WASILLA	AK	99654-2220
12	BREAULT DANIEL E	BYLO KAREN		1664 W TIGUA WAY	COOLIDGE	AZ	85128-1079
13	BUNN MARIE SUTHERLAND A	FILLION JACK MARX JAMES HENDRY BLAIR PIE		PO BOX 9	HYDER	AK	99923-0009
14	CAFFALL WAYNE	HANSELL FAM TR		PO BOX 925	WILLOW	AK	99688
15	CAMERON PROP GRP LLC			2900 TURNAGAIN BLVD E	ANCHORAGE	AK	99517-1841
16	CARLSON SUSAN M	JACOBS DALE J EST		PO BOX 673	WILLOW	AK	99688-0673
17	CARTE JACOB B & CINDY			9483 FOREST LN	JUNEAU	AK	99801
18	CASEY KALE M			PO BOX 1038	WILLOW	AK	99688-1038
19	CAVITT DAVID W			27639 PARAMOUNT DR	EAGLE RIVER	AK	99577
20	CHLUPACH BOB			PO BOX 931	WILLOW	AK	99688-0931
21	CHRISTIANSON J RANDALL FAM TR	CHRISTIANSON WILLIAM R		1151 W NUGGET AVE	WASILLA	AK	99654
22	COGDILL TIMOTHY M & JENNIFER V			PO BOX 1323	WILLOW	AK	99688
23	CORBIN LAVERTA J			29 PINE ST	RUTH	NV	89319-9102
24	COUSINEAU BRAIN			9833 EAGLE RIVER LN	EAGLE RIVER	AK	99577
25	CROSS ROBERT N			11401 N NO NAME HILL DR	WASILLA	AK	99623-1906
26	CURRIER STEVE HAROLD			PO BOX 1035	WILLOW	AK	99688-1035
27	DARNELL JOSH J	KUZAKIN SAMANTHA J		PO BOX 520414	BIG LAKE	AK	99652-0414
28	DAVENPORT CLYDE L			PO BOX 797	WILLOW	AK	99688-0797
29	DIAMOND KAMILLA D		% AKA KAMILLA D JORGENSEN	PO BOX 327	WILLOW	AK	99688-0327
30	DINNEFORD ELAINE REV TRUST			PO BOX 1122	WILLOW	AK	99688
31	DOBSON STEPHEN & KATIE			PO BOX 204	WILLOW	AK	99688
32	DULINSKI CARA C	MAHER KERRY R		PO BOX 874211	WASILLA	AK	99687
33	DUNCAN PETER W & JOYCE			PO BOX 963	WILLOW	AK	99688-0963
34	DUNHAM GAYBRIELLE MARIE			PO BOX 135	WILLOW	AK	99688
35	EDGELL ROBIN B			PO BOX 707	WILLOW	AK	99688-0707
36	ENGEL SHANE J & NICHOLE K			PO BOX 54	WILLOW	AK	99688
37	FIEDLER LINWOOD& KATHLEEN			PO BOX 135	WILLOW	AK	99688-0135
38	FIREFLY GETAWAYS LLC		% GLEN KROTOCHVIL	7500 BLACKBERRY ST	ANCHORAGE	AK	99502
39	FULLER JEFFREY E	GIFFORD BARBARA L		PO BOX 197	WILLOW	AK	99688-0197
40	FYFE LINDEN KARL	LOGAN HEATHER ANN		PO BOX 1298	WILLOW	AK	99688
41	GARRISON MARION J TRE TR			PO BOX 1726	BEAVERTON	OR	97075-1726
42	GERTH SUSAN STROUHAL RICHARD	SHOEBOTHAM KAREN STROHAL GARY		1325 HONEYSUCKLE	MANSVILLE	TX	76063
43	GOGERTY LIZZETTA L			PO BOX 736	WILLOW	AK	99688-0736
44	GOLDBECK LONN M	LORD EMMA		PO BOX 173	WILLOW	AK	99688-0173
45	GOLDSBURY KENNETH			PO BOX 298053	WASILLA	AK	99629
46	GOODE ANNETTA F		UNIT B	1715 S RAGOSA CIR	PALMER	AK	99645
47	GRAJIOLA JOANNE VANGRASS			4430 WRIGHT ST	ANCHORAGE	AK	99507
48	GUINN ROBERTA A		% ROBERTA PARRISH	6675 E RED BIRD LN	SAN TAN VALLEY	AZ	85140-5856
49	HANLEY JAMES & TRACY			3910 W 37TH CT	ANCHORAGE	AK	99517-2353
50	HAPPY JACK TR	FIEDLER LINWOOD & KATHLEEN TRE		PO BOX 135	WILLOW	AK	99688
51	HARMS DANIEL T			PO BOX 782	DELTA JUNCTION	AK	99737
52	HENDERSON CARL M EST		% SHIRLEY A HENERSON CO-P	7815 PORT ORFORD DR	ANCHORAGE	AK	99507-6021
53	HOFBAUER THOMAS			PO BOX 1309	WILLOW	AK	99688
54	HUNT RYAN T			PO BOX 241592	ANCHORAGE	AK	99524

55	JERUE CARL & CHERIA		STE B PMB 680	2521 E MOUNTAIN VILLAGE D	WASILLA	AK	99654-7336	
56	JEWELL SCOTT M			PO BOX 1021	WILLOW	AK		99688
57	JONES MONTY DALE			7001 HYATT ST	ANCHORAGE	AK	99507-2430	
58	JONROWE MICHAEL D&DEE DEE			PO BOX 272	WILLOW	AK	99688-0272	
59	KIM SUNNY MUI & DUOK NAE	KIM SANG HUI		21 CHARTHOUSE LN	FOSTER CITY	CA		94404
60	KLEVEN JUDITH ANN			PO BOX 671163	CHUGIAK	AK	99567-1163	
61	KNOX WM V & SHARON C			11749 BIRCH KNOLL LOOP	ANCHORAGE	AK		99515
62	KUTCHIN ROBERT	DUMAIS TRE-C		1610 WOLVERINE ST	ANCHORAGE	AK		99504
63	LARSON MYRNA T			PO BOX 982	WILLOW	AK		99688
64	LAWRENCE FAWN L	BOZINOFF EMMA L		11149 W PALMERAS DR	SUN CITY	AZ	85373-1867	
65	LEQUIRE FAMILY TR			8510 E 10TH AVE	ANCHORAGE	AK		99504
66	L'HEUREUX PAUL			PO BOX 1314	WILLOW	AK	99688-1314	
67	LOPEZ KAREN			GENERAL DELIVERY	WILLOW	AK		99683
68	MALLONEE RUDY D	MALLONEE WILLIAM D	# D 314	518 NW 12TH AVE	BATTLEGROUND	WA		98604
69	MANNING GEORGE H	SAWYERS RHONDA		PO BOX 1300	WILLOW	AK	99688-1300	
70	MARRS WADE D & SOPHIA M	DEBRUIN GARY G		37409 W PARKS HWY	WILLOW	AK		99688
71	MATHERNE RAYMOND & LAURIE			PO BOX 879656	WASILLA	AK		99687
72	MCCARTNEY EDW ALLEN			7601 DOVER AVE	ANCHORAGE	AK		99504
73	MERRILL ART & PAT			PO BOX 869	WILLOW	AK	99688-0869	
74	MILLER JOHN M & ALICE R			PO BOX 1074	WILLOW	AK	99688-1074	
75	MILLER SPACE A TRE	MILLER SOLAR A & R L TRES MILLER ROSALYN		PO BOX 537	GOOSE CREEK	SC	29445-0537	
76	MITCHELL MARY			PO BOX 26	WILLOW	AK	99688-0026	
77	MITCHELL THOS P			851 BINGHAM CT	GURNEE	IL	60031-4736	
78	MORGAN ALLEN J & WENDY M			PO BOX 996	WILLOW	AK	99688-0996	
79	NIGHTINGALE GOODS LLC			HC 89 BOX 1573	WILLOW	AK		99688
80	NIKOLAUS EDWARD D		STE 2 PMB 306	3060 N LAZY EIGHT CT	WASILLA	AK		99654
81	NOWLAND DOYLE D			3221 W 80TH AVE	ANCHORAGE	AK		99502
82	O'HARE MICHAEL F			105 INLET CT	HAMPSTEAD	NC		28443
83	OWEN DAWNA LEIGH FAM REV TR			1057 E BRETON WOODS LN	OREM	UT		84097
84	PARRISH CHRISTINE J			HC 89 BOX 128	WILLOW	AK	99688-9702	
85	POWELL HARRIET			800 DOGWOOD ST	ANCHORAGE	AK	99501-1217	
86	POWERS MARK D			362 N 2ND ST	JEFFERSON	OR		97352
87	PURKEY SCOTT L			PO BOX 987	WILLOW	AK	99688-0987	
88	RAMSEY EARL R FAM REV TR	RAMSEY ELLEN M		PO BOX 2335	LAKESIDE	AZ		85929
89	REICHERT JOHN III	COOPER REBECCA		PO BOX 876951	WASILLA	AK		99687
90	RENNIE ROBERT R			3803 ARKANSAS DR	ANCHORAGE	AK		99517
91	REYNOLDS RALPH A & DAWN M			PO BOX 1241	WILLOW	AK		99688
92	ROGERS JONATHAN MICHEAL			12807 219TH AVE E	BONNY LAKE	WA		98391
93	ROMAN JORGE & ROSA M			203 45TH AVE	NORTHLAKE	IL	60164-2641	
94	RONCO BERNARD & LINDA			PO BOX 537	WILLOW	AK	99688-0537	
95	RUCKLE DENNIS D			PO BOX 672	WILLOW	AK	99688-0672	
96	RUSSELL HOLLY A			16244 W IRONWOOD ST	SURPRISE	AZ	85374-5830	
97	SABLAD ELEUTERIO G & A R			1316 DREAM VALLEY ST	HENDERSON	NV		89052
98	SACHETTE GUY L			HC 89 BOX 129	WILLOW	AK		99688
99	SAMPSON LUKE			PO BOX 770	WILLOW	AK		99688
100	SATER RONALD			PO BOX 1234	WILLOW	AK		99688
101	SHRADER LINDSEY		% LINDSEY OWEN	PO BOX 362	WILLOW	AK		99688
102	SHUMAKER ROBERT W & YASINTA M			HC 89 BOX 127	WILLOW	AK	99688-9711	
103	STEINER CHRISTINE		SUITE B-936	2521 E MTN VILLAGE DR	WASILLA	AK		99645
104	SWALLING JOHN HESS ANDREW	STRAUB RICHARD P SWALLING F MICHAEL		2601 MARSTON DR	ANCHORAGE	AK	99517-1215	
105	THOMAS DAN & LAURA			PO BOX 143	WILLOW	AK	99688-0143	
106	THOMPSON FAMILY PRSVTN TR			16225 S KEPLER DR	OREGON CITY	OR		97045
107	THOMPSON LORI L			PO BOX 817	WILLOW	AK	99688-0817	
108	THUEQUAMTRONG PHICHPAIBOON			PO BOX 838	WILLOW	AK	99688-0838	
109	TILTON JOSEPH J	STAFFIERI MARIA L		PO BOX 521	WILLOW	AK	99688-0521	

110	TIPPETT BRUCE & EMILY			PO BOX 774	WILLOW	AK		99688
111	TUCKER JOHN C			17431 N 27TH ST	PHOENIX	AZ		85032
112	VELEZ DIANA	VELEZ ISABE		4840 CANTERBURY WAY	ANCHORAGE	AK		99503
113	VINCENT ZAZHARY G	VINCENT DONNA M		6022 E 21ST AVE	ANCHORAGE	AK		99504
114	WENTWORTH MARCIA L			HC 89 BOX 206	WILLOW	AK	99688-9703	
115	WHEELER CALEB E			25548 W SERENITY DR	WILLOW	AK		99688
116	WILLIAMS MARIA EST		% JAMES WILLIAMS	PO BOX 42	PALMER	AK		99645
117	WILLOW BIBLE MISSIONARY CHURCH INC			PO BOX 749	WILLOW	AK		99688
118	WILLOW CREEK SELF STORAGE LLC			PO BOX 1046	WILLOW	AK		99688
119	WILSON MICHAEL			6701 CHEVIGNY ST	ANCHORAGE	AK	99502-2035	
120	WITTROCK PATRICK W & ROBIN M TR	WITTROCK PATRICK & ROBIN TRES		9701 SIDOROF LN	ANCHORAGE	AK	99507-5954	
121	NORTH LAKES COMMUNITY COUNCIL		#2 PMB 449	3060 N LAZY EIGHT CT	WASILLA	AK		99654

3659 W Parks Hwy

RSA - 20

FSA - 140

CC - North Lake

Matanuska-Susitna Borough
Development Services Division
350 E. Dahlia Avenue
Palmer, Alaska 99645

«NAME»
«ADDRESS_1»
«ADDRESS_2»
«ADDRESS_3»

PUBLIC HEARING

Strumpher, Helmundt, on behalf of ATLAS, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 125-foot telecommunications tower located at 36596 W Parks Hwy, Tax ID# 20N05W25A011.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2026***, at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026***, and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Name: _____ ***Mailing Address:*** _____

Location/Legal Description of your property: _____

Comments: _____

_____

_____

_____

_____

_____

_____

Note: Vicinity Map Located on Reverse Side



Matanuska-Susitna Borough

www.matsu.gov

MATANUSKA-SUSITNA BOROUGH
PLANNING COMMISSION
Regular Meeting Schedule for 2026

Planning Commission Regular Meetings

Planning Commission Meeting Date	Agenda Items Due Cut-Off Date 5 P.M.	Packet Items Due Cut-Off Date 5 P.M.
Monday, January 5, 2026	Friday, December 19, 2025	**Tuesday, December 23, 2025**
Monday, January 19, 2026	Friday, January 2, 2026	Wednesday, January 7, 2026
Monday, February 2, 2026	Friday, January 16, 2026	Wednesday, January 21, 2026
Monday, March 2, 2026	Friday, February 13, 2026	Wednesday, February 18, 2026
Monday, March 16, 2026	Friday, February 27, 2026	Wednesday, March 4, 2026
Monday, April 6, 2026	Friday, March 20, 2026	Wednesday, March 25, 2026
Monday, April 20, 2026	Friday, April 3, 2026	Wednesday, April 8, 2026
Monday, May 4, 2026	Friday, April 17, 2026	Wednesday, April 22, 2026
Monday, May 18, 2026	Friday, May 1, 2026	Wednesday, May 6, 2026
Monday, June 1, 2026	Friday, May 15, 2026	Wednesday, May 20, 2026
Monday, June 15, 2026	Friday, May 29, 2026	Wednesday, June 3, 2026
Monday, July 20, 2026	**Thursday, July 2, 2026**	Wednesday, July 8, 2026
Monday, August 3, 2026	Friday, July 17, 2026	Wednesday, July 22, 2026
Monday, August 17, 2026	Friday, July 31, 2026	Wednesday, August 5, 2026
Monday, September 14, 2026	Friday, August 28, 2026	Wednesday, September 2, 2026
Monday, October 5, 2026	Friday, September 18, 2026	Wednesday, September 23, 2026
Monday, October 19, 2026	Friday, October 2, 2026	Wednesday, October 7, 2026
Monday, November 16, 2026	Friday, October 30, 2026	Wednesday, November 4, 2026
Monday, December 7, 2026	Friday, November 13, 2026	Wednesday, November 18, 2026
Monday, December 21, 2026	Friday, November 27, 2026	Wednesday, December 2, 2026
Monday, January 4, 2027	Friday, December 18, 2026	Wednesday, December 23, 2026
Monday, January 18, 2027	Friday, January 1, 2027	Wednesday, January 6, 2027

Publish Date: February 6, 2026 0226-07

-ABANDONED VEHICLES SUBJECT TO DISPOSAL-

The following abandoned vehicles are subject to disposal by the Matanuska-Susitna Borough's Solid Waste Division. The vehicles were tagged as abandoned in the Matanuska-Susitna Borough right-of-way at the listed locations. You have the right to appeal pursuant to MSB 10.12.090.

Impound: 3264
Vehicle Description: 2001 Tan Nissan Altima **LIC:** LPG826
VIN: 1N4DL01D91C144002
MSB ROW Location: E Riverwood Circle, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

Impound: 3265
Vehicle Description: 1993 Gray Ford Probe **LIC:** CRL759
VIN: 1ZVCT20A6P5223405
MSB ROW Location: E Kilkenny Dr, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

Impound: 3268
Vehicle Description: 2011 White GMC Sierra **LIC:** MCA294
VIN: 1GT12ZC86BF243140
MSB ROW Location: Finger Cove Dr, Palmer, AK 99645
Place of Impoundment: 1201 N 49th State St, Palmer, AK 99645

The vehicles will be disposed of by auction or auto wrecker on or after March 1, 2026.

FOR MORE INFORMATION, call the MSB Solid Waste Division at (907) 861-7600.

Publish Date: February 6, 2026 0226-08

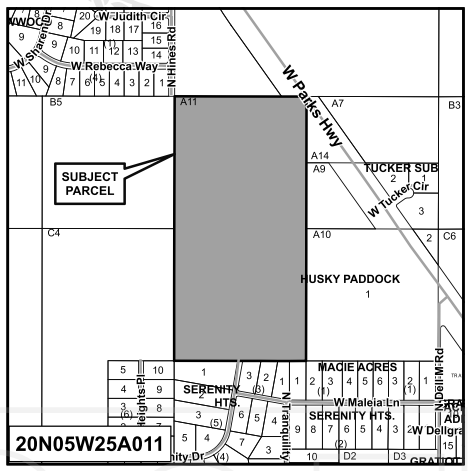
ASSEMBLY AGENDA
COTTONWOOD PUBLIC SAFETY BUILDING
STATION 6-5
680 NORTH SEWARD MERIDIAN PARKWAY, WASILLA

ASSEMBLY SPECIAL MEETING 10:00 AM SATURDAY, FEBRUARY 14, 2026

I. CALL TO ORDER
II. ROLL CALL
III. APPROVAL OF AGENDA
IV. PLEDGE OF ALLEGIANCE
V. ITEMS OF BUSINESS
A. Strategic Planning Session
VI. AUDIENCE PARTICIPATION (Three Minutes Per Person.)
VII. MAYOR, ASSEMBLY, AND STAFF COMMENT
VIII. ADJOURNMENT

Disabled Persons Needing Reasonable Accommodation In Order To Participate At An Assembly Meeting Should Contact The Borough ADA Coordinator At 861-8432 At Least One Week In Advance Of The Meeting.

Publish Date: February 6, 2026 0226-13



PUBLIC HEARING

Strumpher, Helmundt, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 125-foot telecommunications tower located at 36596 W Parks Hwy, Tax ID# 20N05W25A011.

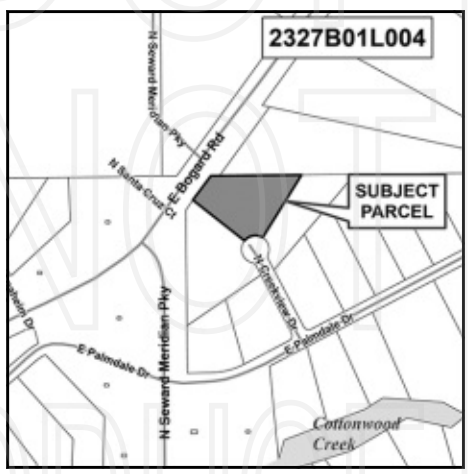
The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2026,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-09



PUBLIC HEARING

Justin Abbott, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 120-foot telecommunications tower located at 3600 E. Bogard Road, Tax ID# 2327B01L004.

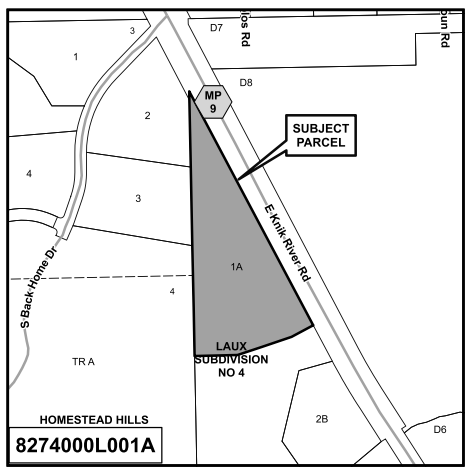
The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2025,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-10



PUBLIC HEARING

Strumpher, Helmundt, on behalf of AT&T Mobility, applied for an Administrative Permit under MSB 17.67—Tall Structures. The Permit is for a 125-foot telecommunications tower located at 27950 E Knik River Rd, Tax ID# 8274000L001A.

The Matanuska-Susitna Borough Planning Director will conduct a public hearing concerning the application on ***Thursday, February 26, 2026,*** at 9:00 a.m. in the Borough Assembly Chambers located at 350 E. Dahlia Avenue in Palmer. This may be the only presentation of this item before the Planning Director, and you are invited to attend.

Application materials may be viewed online at www.matsugov.us by clicking on "All Public Notices & Announcements." For additional information, you may contact Rebecca Skjothaug, Current Planner, by phone: 907-861-7862. Provide written comments by e-mail to Rebecca.Skjothaug@matsugov.us, or by mail to MSB Development Services Division, 350 E. Dahlia Avenue, Palmer, AK 99645.

The public may provide verbal testimony at the meeting or telephonically by calling 1-855-290-3803. To be eligible to file an appeal from a decision of the Planning Director, a person must be designated an interested party. See MSB 15.39.010 for the definition of an interested party. The procedures governing appeals to the Board of Adjustment and Appeals are contained in MSB 15.39.010-250, which is available on the Borough home page: www.matsugov.us, in the Borough Clerk's office, and at various libraries within the borough.

Comments are due on or before ***February 20, 2026,*** and will be included in the Planning Director packet. Please be advised that comments received from the public after that date will not be included in the staff report but will be provided to the Director at the meeting.

Publish Date: February 6, 2026 0226-11

DO NOT REPRODUCE

Communication

MATANUSKA-SUSITNA BOROUGH
Planning and Land Use Department
Development Services Division
350 East Dahlia Avenue • Palmer, AK 99645
Phone (907) 861-7822
www.matsugov.us

July 9, 2025

Atlas Towers 1, LLC
Attn: Helmundt Strumpher
2500 30th Street, Ste. 304
Boulder, CO 80301

SUBJECT: Administrative Permit Application – Request for Required Information
LOCATION: 36596 W. Parks Highway, Tax ID #20N05W25A011

Dear Mr. Strumpher,

Borough staff have reviewed the application material and site plan(s) submitted via mail on June 25, 2025, requesting an Administrative Permit for a Tall Structure on the above-referenced property. It has been determined that the following information needs to be provided and/or clarified to process this request:

1. The narrative and application indicate different latitude/longitude locations; provide a clarification statement confirming the accurate coordinate locaiton for the tower. The location description on T-1 seems to indicate a different tower location; please clarify.

2. Provide a copy of FAA determination of no hazard to air navigation regarding CFR Title 14 Part 77.9, as required per MSB 17.67.070(A)(6).
    a. Provide the updated FAA documentation upon receipt. The application indicates that the determination for the application location has been applied for.

3. Provide design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect, per MSB 17.67.070(A)(2).
    a. Provide structural engineering plans for the tower (i.e. concrete footing, etc.).
    b. Provide engineering report on structural integrity (i.e. wind speed, ice accumulation).

4. Provide updated site plans to comply with requirements. Per MSB 17.125.010, a *"certified site plan" means a site plan that is prepared and sealed by an architect, professional engineer, or land surveyor, authorized to engage in that profession by the state of Alaska. The certified site plan shall be at a scale of one-inch equals 50 feet (or less) showing dimensions and locations of all existing and proposed development on the site in relationship to all property lines."* Note, the plan provided is almost sufficient but it will need to be certified to meet all application requirements. See additional information requested below.

a. The proposed tower, compound site plan, and architectural drawings must be prepared and sealed by an architect, professional engineer, or land surveyor registered in the State of Alaska.
b. Ensure that a site plan is scaled at a maximum of 1"=50'.
c. Ensure all distances are clearly labeled, including relationships from all proposed development to property lines.

5. The subject property currently has direct access to Serenity Drive. Site plans show proposed access through an adjacent property; please clarify the intended access route to the compound. If access through the adjacent property is desired, please update site plans to show the full compound access route. If direct access is desired, a driveway permit will be required. The Permit Center may be reached at (907) 861-7822; Permit.Center@matsugov.us; or in person at 350 E. Dahlia Ave. Palmer, AK 99645.

6. Provide lease details for the site area authorizing Atlas Tower 1, LLC to construct a tall structure and associated development on the subject property.

7. Provide a narrative detailing the timeline for dedicating the access and utility easement identified in the application and on the certified site plan.

8. Provide confirmation of high voltage signs compliant with requirements per MSB 17.67.090(C)(1)(b). Application materials indicate that voltage use will be greater than 220V.

9. Provide update to narrative to confirm impact on visual resources from waterbodies and MSB recognized trails. The application materials reference Lucky Shot (164) trail and Kashwitna Lake. It appears that Emil Stancec Sled Dog (183) trail and other waterbodies (e.g. Susitna River, Willow Creek, Little Willow Creek) are also within the surrounding area of the proposed tower location; provide additional clarification on the anticipated visibility from these locations.

When updated application materials are received we will review them immediately.
If you should have any questions or need additional information, please contact me for assistance.

Respectfully,

Natasha Heindel

Current Planner
Desk: (907) 861-8606
Natasha.Heindel@matsugov.us

Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Perfect, thank you for the update!

I also wanted to check on the Talkeetna project and see if there was any feedback on that review? Also I understand if the timing does not allow for it but would that also be able to grouped into the Feb 26th meeting?

Please let me know, thanks!

Best,

Parker

On Mon, Feb 2, 2026 at 10:37 AM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker,
>
> I was able to schedule a hearing on February 26, at 9:00 am Alaska time. I will be working through the public notice documents today and will send you the details of the meeting tomorrow.
>
> Happy Monday!
>
> ***Becca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Monday, February 2, 2026 6:16 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Becca,

Just wanted to check in this week and see if you had any updates regarding the public hearing dates? Thanks!

Best,

Parker

On Tue, Jan 27, 2026 at 12:25 PM Parker Bingham <pbingham@atlastowers.com> wrote:

> Thank you Becca for the update!
>
> On Tue, Jan 27, 2026 at 12:11 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:
>
> > Hi Parker,
> >
> > Just wanted to chime in really quick and give you an update on our end. Public notice documents are ready to be submitted to our local newspaper for Palmer and Willow, I am just waiting on a confirmation from the Planning Director for the public hearing date. Natasha and I planned on doing site visits to all three locations this week, unfortunately we have received about a foot of snow over

the last day, and it continues. Once the roads are safe, we will be doing our site visits. I will keep you posted about the public hearing date for Palmer and Willow.

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, January 27, 2026 10:05 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>
Cc: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Natasha,

I have uploaded the sealed site drawings to the folder link. Please let me know if that is sufficient to deem the application complete. I have also sent in our driveway permit as requested.

Can you please also provide an update on the Talkeetna application? Thanks!

Best,

Parker

On Tue, Jan 20, 2026 at 1:52 PM Parker Bingham <pbingham@atlastowers.com> wrote:

Thank you very much for the update!

On Tue, Jan 20, 2026 at 1:51 PM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

Hi Parker,

Yes the application for the tower on University of Alaska land was received and is being reviewed.

We will have an update to you this week on the status.

Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, January 20, 2026 11:21 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Thank you for the update!

We can get the plans certified and I will apply for the driveway permit promptly. I also wanted to check on the status of an additional permit application that was sent 12/12/25 and see if it was received? It is for another communications tower on land owned by the University of Alaska. Please let me know if that is received and in review or if I need to apply online. Thanks!

Best,

Parker

On Tue, Jan 20, 2026 at 10:49 AM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> Just wanted to reach back out about the Willow tower application. The site plan will need to be certified before the application is considered complete. Also, you will need to apply for a driveway permit through the Borough for access to the parcel from Serenity Drive. The driveway permit can just be applied for and does not have to be issued for the tower application to move to the next phase. Just the site plan certification is holding it up.
>
> Let me know if you have any question.
>
> ***Becca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862
>
> 
>

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, January 13, 2026 10:27 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>

Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Becca,

This is great, thanks for letting me know! As a side note regarding the access easement, we are getting that recorded with the state. It has been sent out so should just be a few weeks on that.

Also, I just want to confirm that this is just for the Palmer project on Mr. Laux's property that is moving into public notice. Is the Willow project on Mr. Jonrowe's property also complete and able to move forward or did you still need additional information? Please let me know, and if possible to schedule Palmer and Willow together for one meeting that would be fantastic. Let me know what you think.

Otherwise, I'm more than happy to attend virtually. Would this meeting take place before or after the public notice? Let me know and based on that I can provide you with preferred dates. Thanks!

Best,

Parker

On Tue, Jan 13, 2026 at 12:21 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> I have reviewed all the information provided, and it looks good. I am going to begin the public notice process. This process usually takes around 8-10 weeks to receive a complete permit. Our public administrative meetings are scheduled with the director who is the governing official over this matter. He has a little bit of flexibility when it comes to scheduling a meeting. It is requested that you call into the meeting to represent Atlas, you do not have to be available in person. Is there a date and time that is preferred?

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, December 30, 2025 5:45 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Becca,

I hope you had a nice holiday break. Please find the updated Palmer drawings that include the requested measurements. I have also added them to the google drive folder.

Please let me know if you have any questions or need anything else to continue this review. Thank you!

https://drive.google.com/drive/folders/1vdhnEyHKejUvis7qyspORDjnc98T1gLv?usp=sharing

Best,

Parker

On Mon, Dec 22, 2025 at 9:24 AM Parker Bingham <pbingham@atlastowers.com> wrote:

Hi Becca,

Please find the access easement attached below that we have with the neighboring parcel. As shown, we will be utilizing their driveway to access the southern portion of Mr. Laux's parcel. Additionally I have included documentation from the neighbor for the approved access via E Knik river rd. If you need anything else to show this, please let me know. The neighbor is also searching for the actual AK DOT permit but as shown below the plat was approved with the notion that this driveway access was included.

The drawings are still being updated to show the entire parcel and the requested measurements. If you'll be needing anything else for this, please let me know!

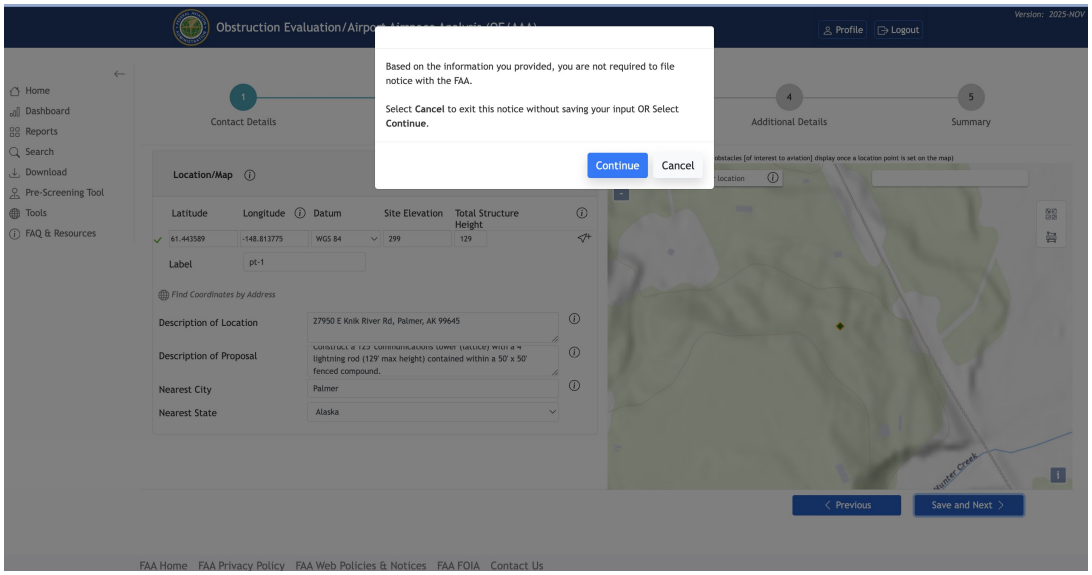
Thank you!

Best,

Parker

On Fri, Dec 12, 2025 at 8:16 AM Parker Bingham <pbingham@atlastowers.com> wrote:

> Hi Becca,
>
> I'll work on getting these updates incorporated, thank you for pointing those out.
>
> In regards to the driveway access, we are obtaining the recorded copy of the private easement we have with the neighboring land owner. We'll also supply the AK DOT permit once I've received that as well.
>
> Regarding the FAA, I have attached below the filing for the new location and it is in review. Additionally, if it helps, I have included a screenshot from the FAA system noting that this location (based on the lat/longs provided) does not require FAA study. But regardless we have filed notice with them and can supply a determination when we receive one.



Ill get everything else prepared for you and sent over when I can. Thank you!

Best,

Parker

On Tue, Dec 9, 2025 at 2:15 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> After reviewing the stamped documents, I have some concerns regarding the materials submitted. Since the initial application, the site plan has changed significantly. While revisions are acceptable, the updated plan no longer meets the application requirements. The revised site plan must address the entire parcel and clearly show distances to all existing structures, utility easements, and the adjacent roadway.
>
> I am also concerned about the proposed access route to the tower location. The access shown appears to cross private property and a private driveway that is not owned by the subject parcel's owner. This is not permissible without a recorded private access easement agreement. In addition, driveway access from Alaska DOT requires proper permitting. I will need documentation confirming that Alaska DOT has approved access from E. Knik River Drive.

Another preliminary concern is the FFA document longitude and latitude do not match the site plan. Please make sure all of the documents have corroborating information for review.

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Monday, December 8, 2025 6:33 AM
To: Becca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Becca and Natasha,

I wanted to follow up and see if it was possible to get a review date set this month? Please let me know what options we have or the soonest we could do this if you have the required documents. Thank you!

Best,

Parker

On Tue, Dec 2, 2025 at 12:35 PM Parker Bingham <pbingham@atlastowers.com> wrote:

Thank you Becca!

I just recieved Palmer's stamped drawings which I have uploaded to the google folder. Please let me know if it meets your requirements.

Zoning Packets - Atlas Tower

As for Willow, I do also now have the tower drawings and calculations, uploaded to the google folder.

Please let me know if there is anything else you need from me in order to start looking into final reviews and hearing dates.

I know its a tight timeline, but at the request of GCI we would like to get a hearing date set in 2025 so we can be ready to go in 2026. If this is at all possible, potentially with a conditional approval, please let me know as I would be available to make the visit for a hearing this month. Thank you for your understanding on this and hopefully we can get something in, or at the very least in early Jan. Thank you!

Best,

Parker

On Wed, Nov 26, 2025 at 1:15 PM Becca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> Happy Thanksgiving. I was reviewing the file for the proposed tower in Palmer. The documents look good so far, except the site plan needs to be certified.

As per MSB 17.125.010 a *"certified site plan": means a site plan that is prepared and sealed by an architect, professional engineer, or land surveyor, authorized to engage in that profession by the state of Alaska.*

The site plan submitted is indicated as only preliminary and from a company in Colorado. This will not meet MSB standards.

Please let me know how I can help assist you further.

Becca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, November 18, 2025 11:38 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Cc: Natasha Heindel <Natasha.Heindel@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Rebecca and Natasha,

I wanted to check in on these sites, especially Palmer, and see if there was any feedback? If possible we would like to get a zoning hearing date set this year. Can you please advise on this, what you would need, and how that may look? Thank you!

Best,

Parker

On Tue, Nov 4, 2025 at 2:40 PM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Thank you, Parker. I will look into that tomorrow! Have a great day.
>
> ***Rebecca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862
>
> 
>
>
> ---
>
> **From:** Parker Bingham <pbingham@atlastowers.com>
> **Sent:** Tuesday, November 4, 2025 11:51 AM
> **To:** Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
> **Cc:** Natasha Heindel <Natasha.Heindel@matsugov.us>
> **Subject:** Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039
>
> [**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
>
> Hello Rebecca,
>
> Just wanted to let you know that I have uploaded the latest site plans for Palmer on that link I had shared. I'll let you know once we receive more on these, thanks!
>
> Best,

Parker

On Fri, Oct 24, 2025 at 9:44 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker,
>
> I apologize for my delay in responding, I was in training this week. As far as the property in Palmer is concerned this will not require any resubmittal of the entire plan. Most of the information would remain the same outside of the specified area that the tower will be located. If the site plans are updated to reflect the approved placement of the tower that would be sufficient.
>
> I will be happy to get with finance today and provide an update regarding the checks. If it is easier, we can invoice you through our EPL website and the application can be paid online. Please let us know if that would be of interest for you.
>
> Happy Friday!
>
> ***Rebecca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Friday, October 24, 2025 6:54 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>
Cc: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Natasha,

I wanted to further update you on our site developments. We had some conversations with our construction team regarding the viability of the tower placement for the Palmer - Paul Laux site. As of now, we are looking into shifting the placement on Pauls property. We're being cognizant of setbacks in this regard but we are still finalizing that shift and updating our site plans.

At this point we will need to resubmit a bulk of the documents for this site so I wanted to let you know so you don't spend more time on it.

Would you please advise if this would require a resubmittal entirely, or how we should proceed? I was also informed by our finance team that both of the checks for review you received were not cashed yet, so they expired. We will need to resend so please advise if you'd like those now or later. Thanks!

Best,

Parker

On Thu, Oct 16, 2025 at 7:07 PM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

> Hi Parker,
>
> Thank you for the updated documents.
>
> We will be in touch as we review the updated materials.
>
> Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Wednesday, October 15, 2025 7:35 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>
Cc: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Natasha,

Please use this link to access the files. Also I had thought we had our Willow tower drawings finished but those will still take another week or two.

Zoning Packets - Atlas Tower

I'll let you know once I have added those and any driveway permits. Thanks!

Best,

Parker

On Fri, Oct 10, 2025 at 3:36 PM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

> Hello Parker,
>
> Good to hear from you. Thank you for the update, and yes please!
>
> Please send any updated information you have for the proposed towers. If it is indeed just the driveway permit that is outstanding, it's possible that it can be a condition of approval prior to operating.
>
> Once we receive and review the updated materials we can confirm if it is appropriate to move forward with scheduling hearing dates and get something on the books.
>
> Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Friday, October 10, 2025 8:18 AM
To: Natasha Heindel <Natasha.Heindel@matsugov.us>; Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: FW: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Natasha and Rebecca,

I hope you have been well since we last spoke. I wanted to provide you with some updates on these sites and let you know that we are still pursuing these two permits for the Palmer and Willow towers. I apologize for the long time to get these materials aligned for these, but we are 99% there. We have received our tower drawings and updated plans, as well as addressed the concerns brought up in the RFAI.

At this point, the only item we are lacking are applicable driveway permits. This has been a struggle, as AK DOT is rolling out a new system and the current one has some issues. This has delayed these permits being processed and issued. We are working on getting these, but I wanted to see if it was possible to send along everything else we have on these projects and request that the driveway permits are listed as a conditional requirement before any permit issuance.

Ideally we would like to get these reviewed, pending the driveway permits, and get a date set for the Hearings. In the meantime we will continue to push AK DOT for what we need. I just wanted to see if this was a possibility to keep these moving along. Thanks!

Please let me know if there are any questions!

Best,

Parker

On Tue, Aug 19, 2025 at 11:58 AM Natasha Heindel <Natasha.Heindel@matsugov.us> wrote:

> Hello Parker & Helmundt,
>
> Please see the attached request for outstanding items needed to progress with the tower permit.
>
> The application only indicated Helmundt's email as a contact. In the future, you are welcome to include as many contacts as needed.

Talk to you soon,

Natasha Heindel

Current Planner

Mat-Su Borough Planning Department

350 E. Dahlia Ave. Palmer, Alaska 99645

Desk: (907) 861-8606

Natasha.Heindel@matsugov.us

From: Natasha Heindel
Sent: Wednesday, July 9, 2025 4:40 PM
To: hstrumpher@atlastowers.com
Subject: Request for Additional Information – Atlas for Jonrowe Admin Tower, #TOWER-2025-10039

Hello Helmundt,

Thank you for submitting your recent application for an administrative Tall Structure permit.

Upon initial review, there are some items needing correction prior to application acceptance; please see the attached “Request for Additional Information”.

Please let us know if there are any items we can clarify together.

Talk to you soon,

Natasha Heindel

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Friday, July 25, 2025 9:06 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Hi Rebecca,

Could you please confirm that this was what you found for **29750 E. Knik River Road**, Tax ID #8274000L001A? The Bogard road and creekview drive locations you reference appear as 20 miles away from our site.

Please advise, thank you!

Best,

Parker

On Fri, Jul 25, 2025 at 10:49 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker.
>
> Thank you for your patience, I wanted to ensure that I was able to obtain the correct information for you. Alaska DOT does require a driveway permit. It is possible that the owner was not provided one when acquiring the property, but it is possible to gather that information by calling 907-269-0700.
>
> After doing some research, there is some extensive upgrades to the Bogard Road and Seward Meridian at the intersection of 3600 E Bogard. From information that I have gathered around our office that driveway could potentially be closed because the intersection will be moved over. It would be worth while to confirming that with ADOT. Here is a link to a brief project description https://dot.alaska.gov/creg/seward-meridian/.

Good news, the property does have a driveway permit that is in process off Creekview Drive. I would suggest indicating in your narrative that the driveway from Creekview will be used instead of Bogard.

Rebecca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Thursday, July 24, 2025 7:35 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Rebecca,

Were you able to track down any more information on this? Thanks!

Best,

Parker

On Wed, Jul 23, 2025 at 10:10 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning Parker,

I will follow up on this question with someone who has a little more experience in driveway permitting. I can provide an answer by the end of the day!

Rebecca Skjothaug

Current Planner

Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Tuesday, July 22, 2025 6:24 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Re: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Rebecca,

I am finalizing on getting you the requested items for the application and had a quick question regarding the driveway permit.

The land owner says that when he bought the property, AK state was the one responsible for installing the existing driveway/approach. They never provided him with a permit, nor told him it would be required. I wanted to check and see if this parcel was perhaps grandfathered in before permitting, or something similar?

Of course, we are happy to get that driveway permit, I just wanted to see if there was any knowledge of exceptions due to state installations. Thank you!

Best,

Parker

On Wed, Jul 9, 2025 at 6:21 PM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Hi Parker,
>
> My sincere apologies, please refer to the attached document dated 7-9-25. I attached the wrong file before.
>
> Thank you for understanding.
>
> *Rebecca Skjothaug*
>
> *Current Planner*
>
> Desk Phone (907)861-7862
>
> 
>
>
> ---
>
> **From:** Parker Bingham <pbingham@atlastowers.com>
> **Sent:** Wednesday, July 9, 2025 12:26 PM
> **To:** Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
> **Subject:** Re: Tall Tower Applications - Atlas Tower
>
> [**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]
>
> Sounds good, thanks for the clarification and confirmation!
>
> Best,
>
> Parker

On Wed, Jul 9, 2025 at 9:58 AM Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us> wrote:

> Good morning, Parker,
>
> Thank you for the information regarding the application and not being able to view progress in Civic Access. It is a new system, and we are working through all the IT glitches still. This is very important feedback. To my dislike, the new system will not allow for direct communications to the applicants. At this point we will be communicating directly with you through email. I will be processing **TOWER-2025-010038**, and my colleague Natasha Heindel will be processing the other.
>
> I do have and RFAI for you regarding 27950 E. Knik River Rd; I am going to proofread it one last time and will send the information by lunch today. 😊 Happy to help move process forward.
>
> Thank you,
>
> ***Rebecca Skjothaug***
>
> *Current Planner*
>
> Desk Phone (907)861-7862

From: Parker Bingham <pbingham@atlastowers.com>
Sent: Wednesday, July 9, 2025 5:47 AM
To: Rebecca Skjothaug <Rebecca.Skjothaug@matsugov.us>
Subject: Tall Tower Applications - Atlas Tower

[**EXTERNAL EMAIL** - CAUTION: Do not open unexpected attachments or links.]

Good morning Rebecca,

My name is Parker with Atlas Tower and I am helping Helmundt out with getting our project through zoning. About two weeks ago, he forwarded me a message from you saying that you had received our application for **27950 E. Knik River Road**. Our permit number is **TOWER-2025-010038.**

I attempted to access our application through the portal, inputting the permit number, but it did not show up. Do we have to wait for the first round of comments before we can view?

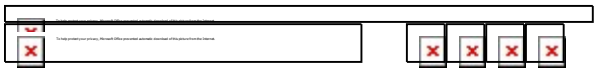
I wanted to also check and see if your office received a second application for a tall structure, for **36596 W Parks Hwy**? They were both mailed out at the same time.

Thanks for checking on this for me, let me know if you have any questions!

Best,

--

Parker Bingham
Project Manager
(916) 505-1017
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2500 30th St. Ste 304, Boulder, CO 80301



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