



Board of Adjustment Staff Report

Meeting Date: June 6, 2019

Agenda Item: 8G

SPECIAL USE PERMIT CASE NUMBER: WSUP19-0004 (Fox Mountain Monopole)

BRIEF SUMMARY OF REQUEST: Construction and operation of a new 150-foot high monopole for wireless communication.

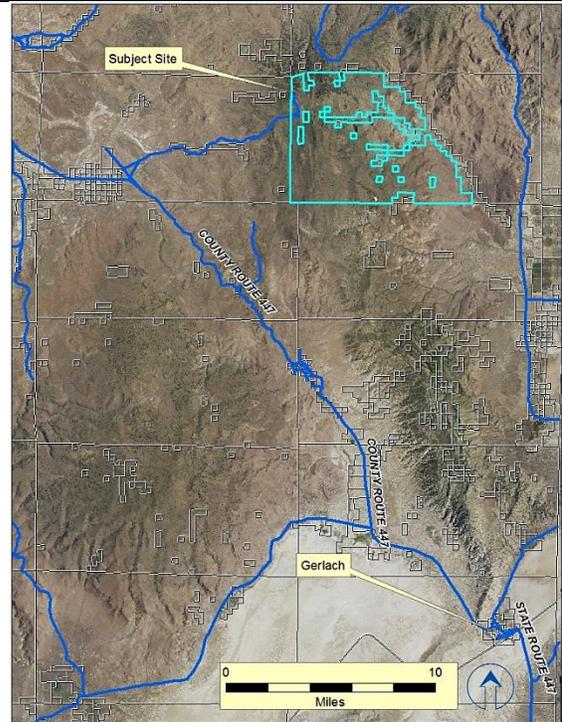
STAFF PLANNER: Roger Pelham, Senior Planner
775.328.3622
rpelham@washoecounty.us

CASE DESCRIPTION

For possible action, hearing, and discussion to approve the construction and operation of a new wireless cellular facility consisting of a 150-foot high monopole structure, solar arrays, outdoor shelter with an interior generator room, and three (3) propane tanks within an irregular lease area situated at Fox Mountain, Nevada.

Applicant: Commnet of Nevada
 Property Owner: United States of America – Bureau of Land Management
 Location: At the terminus of Old Camp Canyon Road/Fox Mountain Road, approximately 7 miles northwest of its intersection with County Road 447 and approximately 30 miles northwest of the town of Gerlach in Northern Washoe County

APN: 066-080-33
 Parcel Size: ± 23,299 acres
 Master Plan: Rural
 Regulatory Zone: General Rural
 Area Plan: High Desert
 Citizen Advisory Board: Gerlach / Empire
 Development Code: Authorized in Article 324, Communication Facilities and Article 810 Special Use Permits
 Commission District: 5 – Commissioner Herman



Vicinity Map

STAFF RECOMMENDATION

APPROVE

APPROVE WITH CONDITIONS

DENY

POSSIBLE MOTION

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP19-0004 for Commnet Nevada, having made all five findings in accordance with Washoe County Code Section 110.810.30.

(Motion with Findings on Page 11)

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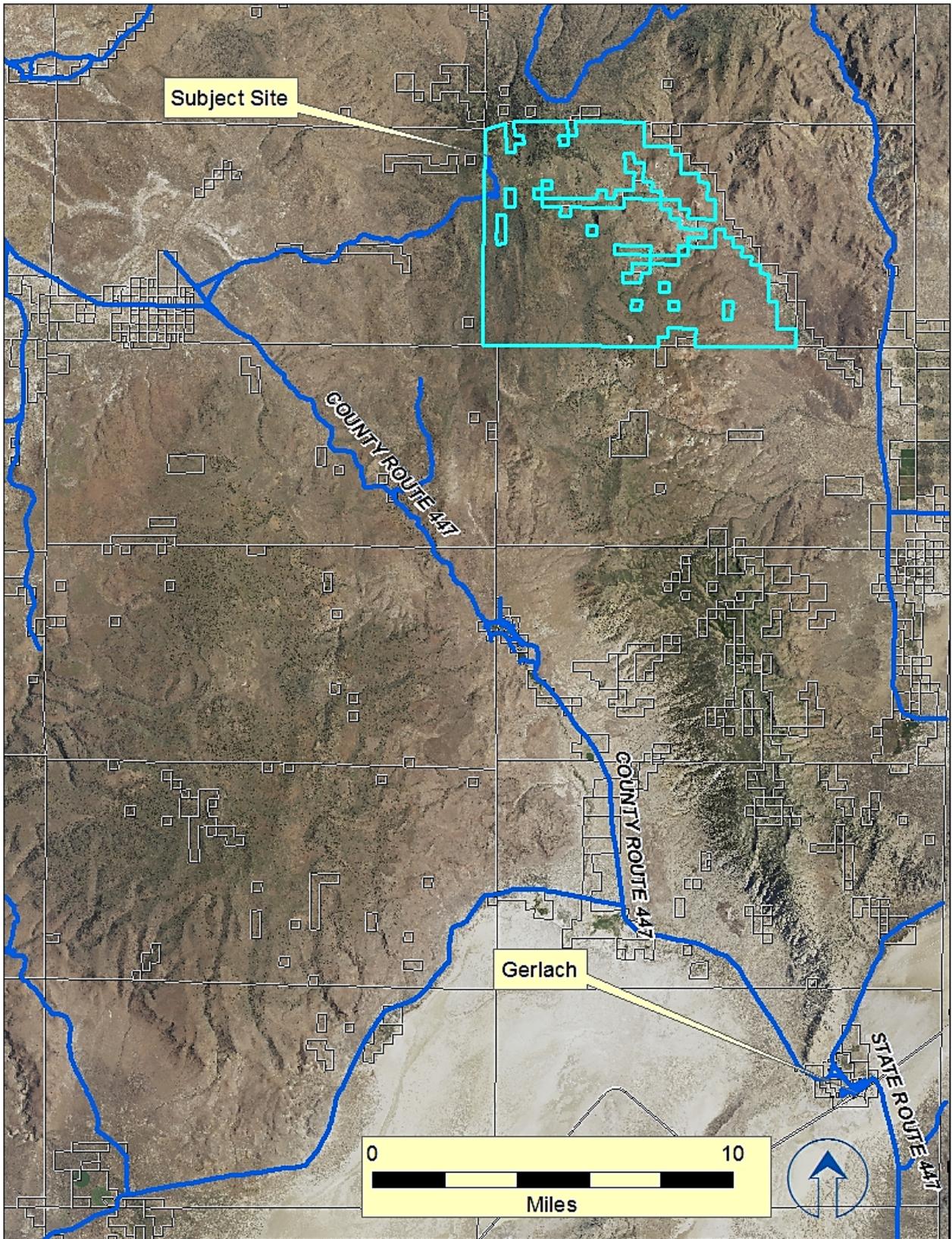
Special Use Permit

The purpose of a Special Use Permit is to allow a method of review to identify any potential harmful impacts on adjacent properties or surrounding areas for uses that may be appropriate within a regulatory zone; and to provide for a procedure whereby such uses might be permitted by further restricting or conditioning them so as to mitigate or eliminate possible adverse impacts. If the Board of Adjustment grants an approval of the Special Use Permit, that approval is subject to Conditions of Approval. Conditions of Approval are requirements that need to be completed during different stages of the proposed project. Those stages are typically:

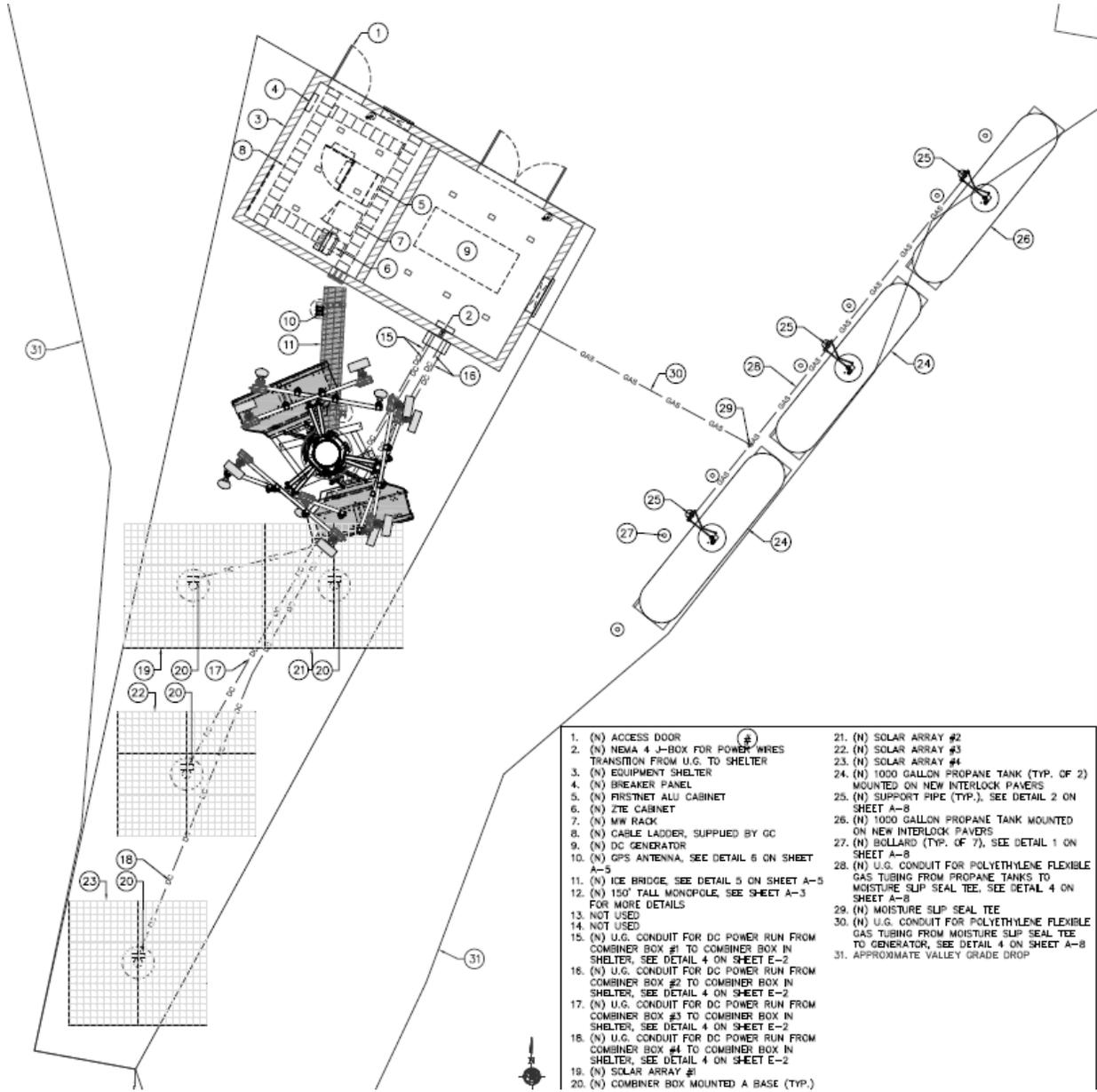
- Prior to permit issuance (i.e. a grading permit, a building permit, etc.)
- Prior to obtaining a final inspection and/or a certificate of occupancy on a structure
- Prior to the issuance of a business license or other permits/licenses
- Some Conditions of Approval are referred to as “Operational Conditions.” These conditions must be continually complied with for the life of the business or project.

The Conditions of Approval for Special Use Permit Case Number WSUP19-0004 are attached to this staff report and will be included with the Action Order, if approval is granted by Washoe County.

The subject property is designated General Rural (GR). The proposed use of a wireless communication facility is permitted in the GR regulatory zone subject to the approval of a special use permit per WCC 110.328. Therefore, the applicant is seeking approval of this SUP from the Board of Adjustment.

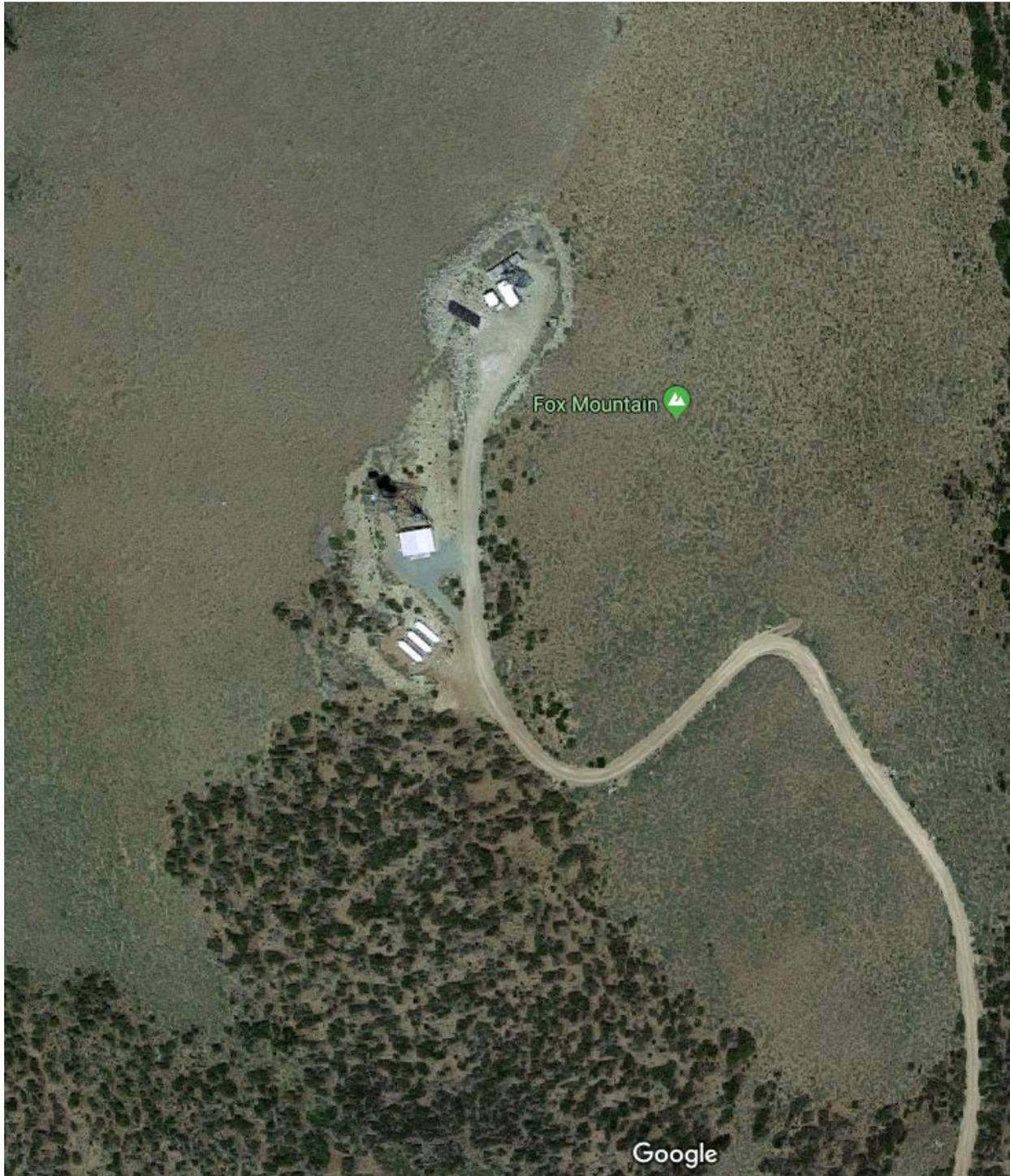


Vicinity Map



Proposed Site Plan

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. (N) ACCESS DOOR 2. (N) NEMA 4 J-BOX FOR POWER WIRES TRANSITION FROM U.G. TO SHELTER 3. (N) EQUIPMENT SHELTER 4. (N) BREAKER PANEL 5. (N) FIRSTNET ALU CABINET 6. (N) ZTE CABINET 7. (N) MW RACK 8. (N) CABLE LADDER, SUPPLIED BY GC 9. (N) DC GENERATOR 10. (N) GPS ANTENNA, SEE DETAIL 5 ON SHEET A-5 11. (N) ICE BRIDGE, SEE DETAIL 5 ON SHEET A-5 12. (N) 150' TALL MONOPOLE, SEE SHEET A-3 FOR MORE DETAILS 13. NOT USED 14. NOT USED 15. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #1 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 16. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #2 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 17. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #3 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 18. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #4 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 19. (N) SOLAR ARRAY #1 20. (N) COMBINER BOX MOUNTED A BASE (TYP.) | <ol style="list-style-type: none"> 21. (N) SOLAR ARRAY #2 22. (N) SOLAR ARRAY #3 23. (N) SOLAR ARRAY #4 24. (N) 1000 GALLON PROPANE TANK (TYP. OF 2) MOUNTED ON NEW INTERLOCK PAVERS 25. (N) SUPPORT PIPE (TYP.), SEE DETAIL 2 ON SHEET A-8 26. (N) 1000 GALLON PROPANE TANK MOUNTED ON NEW INTERLOCK PAVERS 27. (N) BOLLARD (TYP. OF 7), SEE DETAIL 1 ON SHEET A-8 28. (N) U.G. CONDUIT FOR POLYETHYLENE FLEXIBLE GAS TUBING FROM PROPANE TANKS TO MOISTURE SLIP SEAL TEE, SEE DETAIL 4 ON SHEET A-8 29. (N) MOISTURE SLIP SEAL TEE 30. (N) U.G. CONDUIT FOR POLYETHYLENE FLEXIBLE GAS TUBING FROM MOISTURE SLIP SEAL TEE TO GENERATOR, SEE DETAIL 4 ON SHEET A-8 31. APPROXIMATE VALLEY GRADE DROP |
|---|---|

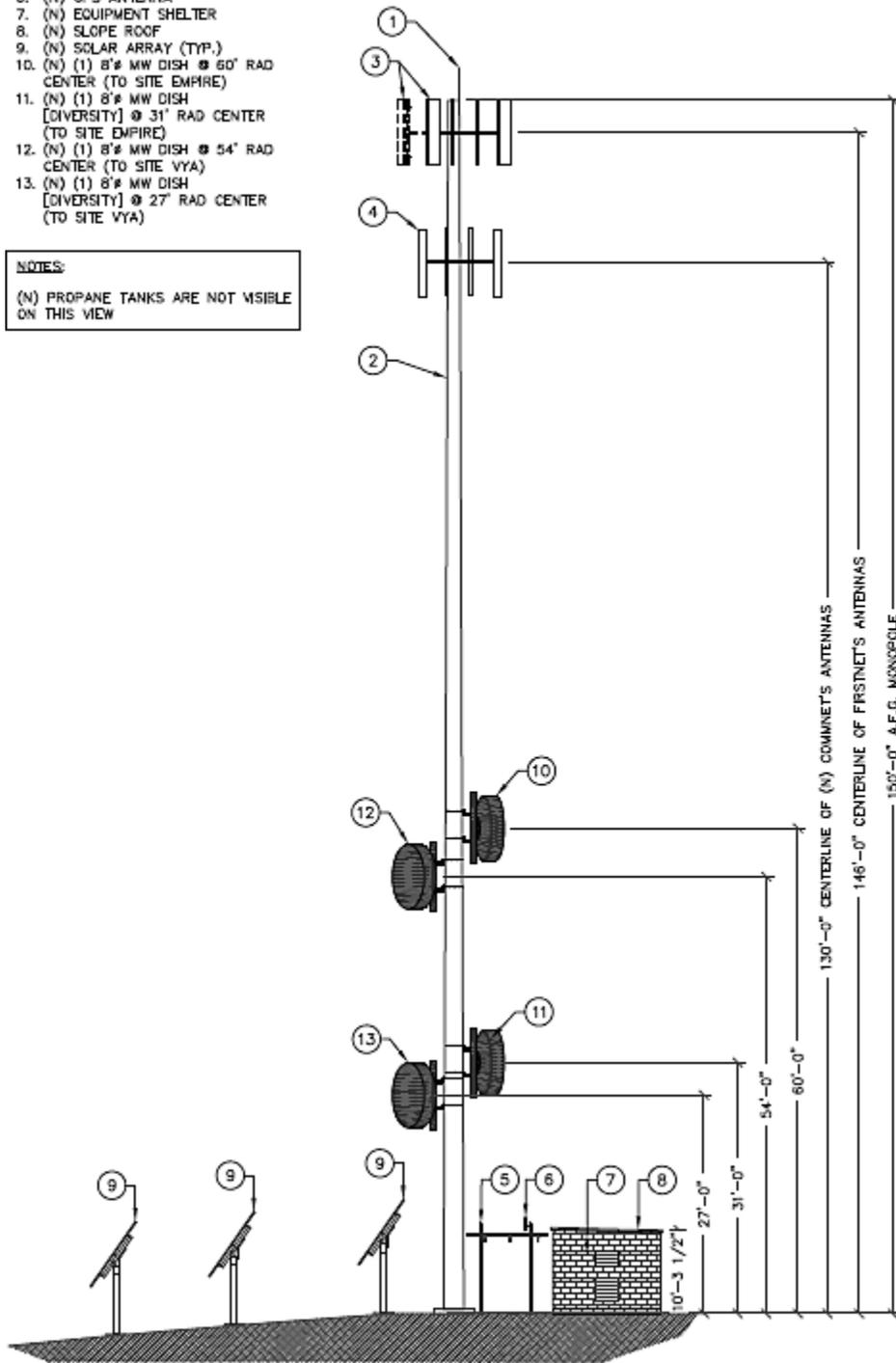


Overhead Photo of Subject Site (Google Earth)

ELEVATION KEYED NOTES: (#)

1. (N) 4' LIGHTING ROD
2. (N) 150' TALL MONOPOLE
3. (N) FIRSTNET'S ANTENNAS
4. (N) COMNET'S ANTENNAS
5. (N) ICE BRIDGE
6. (N) GPS ANTENNA
7. (N) EQUIPMENT SHELTER
8. (N) SLOPE ROOF
9. (N) SOLAR ARRAY (TYP.)
10. (N) (1) 8' MW DISH @ 60' RAD CENTER (TO SITE EMPHRE)
11. (N) (1) 8' MW DISH [DIVERSITY] @ 31' RAD CENTER (TO SITE EMPHRE)
12. (N) (1) 8' MW DISH @ 54' RAD CENTER (TO SITE VYA)
13. (N) (1) 8' MW DISH [DIVERSITY] @ 27' RAD CENTER (TO SITE VYA)

NOTES:
(N) PROPANE TANKS ARE NOT MSIBLE ON THIS VIEW



Elevation of Proposed Facility



Subject site, looking south



Project Evaluation

The applicant, Commnet of Nevada, is requesting approval of a Special Use Permit to allow the construction of a monopole antenna to facilitate wireless communication. The pole is proposed to be constructed of galvanized steel that will dull to a non-reflective, non-corroding grey color. The 150-foot tall monopole will be equipped with 6 panel antennas and will be able to accommodate future collocations. The project is located at the terminus of Old Camp Canyon Road/Fox Mountain Road, approximately 7 miles northwest of its intersection with County Road 447 and approximately 30 miles northwest of the town of Gerlach in Northern Washoe County. This location was previously developed with two other wireless communication facilities.

There are few impacts anticipated in association with the construction of this monopole antenna. Visual impact is of limited concern, as there are no dwellings in the vicinity of the project site.

The applicant has also applied for a director's modification of standards to eliminate the ornamental landscaping that is typically required of commercial developments. Given the remote location, staff is inclined toward approval of that request, but would appreciate any guidance that the Board of Adjustment would care to provide on the topic. Dry-land revegetation of all disturbed areas with native seed mixes will be required if the requirement for ornamental landscaping is waived.

The monopole overall height is proposed to be ± 150.0 feet tall to the top of pole. Sections 110.324.40 through 110.324.75 of the Washoe County Code (Table 110.324.50.1) allows heights of "+100'" when the pole is located more than 2000 feet from a residentially zoned property or public paved right of way. By straight-line distance the subject site is approximately 7 miles from a paved public road. By dirt road, the subject site is approximately 10 miles from a public paved road. The proposed project is consistent with the applicable standards of the Development Code.

Gerlach/Empire Citizen Advisory Board (GECAB)

The proposed project was presented by the applicant's representative at the regularly scheduled Citizen Advisory Board meeting on May 9, 2019. The CAB did not express opposition to the project and encouraged Washoe County to facilitate further enhancement of the cellular coverage in the High Desert Planning Area. The draft minutes from that meeting will be provided to the BOA at the public hearing.

Reviewing Agencies

The following agencies received a copy of the project application for review and evaluation.

- Washoe County Community Services Department
 - Planning and Building Division
 - Engineering and Capital Projects Division
 - Utilities/Water Rights
 - Parks and Open Spaces
- Washoe County Health District
 - Air Quality Management Division
 - Vector-Borne Diseases Program
 - Environmental Health Services Division
- US Bureau of Land Management
- US Fish and Wildlife
- Nevada Department of Environmental Protection
- Nevada Department of Wildlife
- Nevada Historic Preservation
- Washoe County Animal Services
- Washoe County Sheriff
- Truckee Meadows Fire Protection District
- Regional Transportation Commission
- Washoe-Storey Conservation District

Three of the seventeen above-listed agencies/departments provided comments and/or recommended conditions of approval in response to their evaluation of the project application. A

summary of each agency's comments and/or recommended conditions of approval and their contact information is provided. The Conditions of Approval document is attached to this staff report and will be included with the Action Order.

- Washoe County Planning and Building Division addressed revegetation and compliance with the plans submitted as part of the Special use Permit application.
Contact: Roger Pelham, 775.328.3622, rpelham@washoecounty.us
- Washoe County Engineering and Capital Projects addressed technical considerations for the construction drawings and easements on the project site.
Contact: Leo Vesely, 775.328.2041, lvesely@washoecounty.us
- Truckee Meadows Fire Protection District addressed compliance with the International Wildland Urban Interface Code (IWUIC), wildland fire risk and defensible space requirements.
Contact: Don Coon, 775.326.6077, Dcoon@tmfpd.us
- U.S. Fish and Wildlife Service addressed raven nests, sage grouse and noxious weeds on the project site.
Contact: Tara L. Vogel, 775.861.6301, tara_vogel@fws.gov

Staff Comment on Required Findings

WCC Section 110.810.30, Article 810, *Special Use Permits*, requires that all of the following findings be made to the satisfaction of the Washoe County Board of Adjustment before granting approval of the request. Staff has completed an analysis of the special use permit application and has determined that the proposal is in compliance with the required findings as follows.

1. Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the High Desert Area Plan.
Staff Comment: There are no policies or action programs within the High Desert Area Plan that conflict with the approval of a Special Use Permit to allow a new wireless cellular facility consisting of a 150-foot high monopole structure, solar arrays, outdoor shelter with an interior generator room, and three (3) propane tanks.
2. Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven.
Staff Comment: The project site is very remote, and currently developed with two other wireless communication facilities, therefore adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination can be made in accordance with Division Seven.
3. Site Suitability. That the site is physically suitable for a cellular communication facility, and for the intensity of such a development.
Staff Comment: The project site is very remote, and currently developed with two other wireless communication facilities, therefore the site is physically suitable for a cellular communication facility, and for the intensity of such a development.
4. Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.
Staff Comment: The project site is very remote, and there are no residences in the vicinity of the project. The project, if approved, will result in greater access to communication in a

remote area and may be seen to enhance public safety in that area. Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.

5. Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Staff Comment: There is no military installation within the area required to be noticed for this permit, therefore, the issuance of the permit cannot not have a detrimental effect on the location, purpose or mission of a military installation.

Recommendation

Those agencies which reviewed the application recommended conditions in support of approval of the project. Therefore, after a thorough analysis and review, Special Use Permit Case Number WSUP19-0004 is being recommended for approval with conditions. Staff offers the following motion for the Board's consideration.

Motion

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP19-0004 for Commnet Nevada, having made all five findings in accordance with Washoe County Code Section 110.810.30:

1. Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the High Desert Area Plan;
2. Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;
3. Site Suitability. That the site is physically suitable for a cellular communication facility, and for the intensity of such a development;
4. Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area; and
5. Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Appeal Process

Board of Adjustment action will be effective 10 calendar days after the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant, unless the action is appealed to the Washoe County Board of County Commissioners, in which case the outcome of the appeal shall be determined by the Washoe County Board of County Commissioners. Any appeal must be filed in writing with the Planning and Building Division within 10 calendar days from the date the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant.

Applicant: Commnet of Nevada
Attn: Cindy Phillips
1562 North Park Street
Castle Rock, CO 80109

Owner: US BLM
Attn: Daniel Ryan
2550 Riverside Drive
Susanville, CA 96130

Representatives: CIS Communications
Attn: Julie Krekler
749 Old Ballas Road
Creve Coeur, MO 63141



Conditions of Approval

Special Use Permit Case Number WSUP19-0004

The project approved under Special Use Permit Case Number WSUP19-0004 shall be carried out in accordance with the Conditions of Approval granted by the Board of Adjustment on June 6, 2019. Conditions of Approval are requirements placed on a permit or development by each reviewing agency. These Conditions of Approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act.

Unless otherwise specified, all conditions related to the approval of this Special Use Permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Building Division.

Compliance with the conditions of approval related to this Special Use Permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the Special Use Permit may result in the institution of revocation procedures.

Washoe County reserves the right to review and revise the conditions of approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, “may” is permissive and “shall” or “must” is mandatory.

Conditions of Approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some “Conditions of Approval” are referred to as “Operational Conditions.” These conditions must be continually complied with for the life of the project or business.

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

Washoe County Planning and Building Division

1. The following conditions are requirements of Planning and Building, which shall be responsible for determining compliance with these conditions.

Contact Name – Roger Pelham, (775) 328-3622, rpelham@washoecounty.us

- a. The applicant shall attach a copy of the Action Order approving this project to all administrative permit applications (including building permits) applied for as part of this special use permit.
- b. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit. The Planning and Building Division shall determine compliance with this condition.
- c. The applicant shall submit complete construction plans for the project, to Washoe County, on or before June 6, 2021. The applicant shall submit all required corrections to those plans and building permits must be issued by Washoe County on or before June 6, 2022. Failure to submit appropriate plans, and to have complete construction plans issued by Washoe County, within the times listed in this condition shall render this approval null and void. Compliance with this condition shall be determined by the Director of Planning and Building.
- d. Construction drawings and grading plans shall include revegetation plans for all disturbed areas. Revegetation plans and specifications shall be prepared by a landscape architect, registered in the State of Nevada. Revegetation efforts shall be repeated each year, until all disturbed areas are consistent with adjacent, undisturbed, areas.
- e. A note shall be placed on all construction drawings and grading plans stating:

NOTE

Should any cairn or grave of a Native American be discovered during site development, work shall temporarily be halted at the specific site and the Sheriff's Office as well as the State Historic Preservation Office of the Department of Conservation and Natural Resources shall be immediately notified per NRS 383.170.

- f. The following **Operational Conditions** shall be required for the life of the project:
 - i. Failure to comply with all conditions of approval shall render this approval null and void. Compliance with this condition shall be determined by Planning and Building.

Washoe County Engineering and Capital Projects

2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Leo Vesely, (775) 328-2041, lvesely@washoecounty.us

- a. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.
- b. The applicant shall provide documentation of easements for the lease area, access and utilities. A copy of the easements shall be submitted to the Engineering Division prior to the approval of a building permit.
- c. All existing and proposed easements shall be shown on the site and/or grading plan. The County Engineer shall determine compliance with this condition.

Truckee Meadows Fire Protection District

3. The following conditions are requirements of the Truckee Meadows Fire Protection District, which shall be responsible for determining compliance with these conditions. Unless otherwise stated, these conditions shall be met prior to the issuance of any building or grading permit or on an ongoing basis as determined by TMFPD.

Contact Name – Don Coon, 775.326.6077, Dcoon@tmfpd.us

- a. Fire protection of the new structures shall be as required by the current adopted International Fire Code, (*IFC*) International Wildland Urban Interface Code (*IWUIC*) 2012 *Ed*, with amendments and the requirements of the NFPA standard(s). (<https://codes.iccsafe.org/content/IWUIC2012>
<https://codes.iccsafe.org/content/IFC2012>)

The following conditions are notes provided to the applicant by the Truckee Meadows Fire Protection District:

The Fire Hazard designation for your project is available on the provided Washoe Regional Mapping System link. (<https://gis.washoecounty.us/wrms/firehazard>) After you have found your property using the address search feature, the color of the background area will indicate your wildland fire risk.

When you have determined your Fire Risk Rating use the link provided, to determine the *IWUIC* construction and defensible space requirements. (https://www.washoecounty.us/building/Files/Files/2012%20WUI%20CODE%20GUIDE_rev%2011-25-13.pdf)

U.S. Fish and Wildlife Service | Reno Fish & Wildlife Office

4. The following conditions are requirements of the U.S. Fish and Wildlife Service, Reno Fish & Wildlife Office, which shall be responsible for determining compliance with these conditions.

Contact Name – Tara L. Vogel, 775.861.6301, tara_vogel@fws.gov

- a. Periodically inspect the install and facility for any raven nests since it is within sage-grouse habitat. If Raven nest(s) identified, please contact the Nevada Department of Wildlife to discuss management options;
- b. When accessing the facility, if there is road kill, please discard appropriately to detour raven attractants;
- c. Conduct weed abatement measures such as noxious and invasive weeds removal as a result of the project such as the along the access road and facility location.

*** End of Conditions ***

From: [Wines-Jennings, Tammy L](#)
To: [Pelham, Roger](#); [Parker, Jacob](#)
Cc: [Emerson, Kathy](#); [Stark, Katherine](#); [Emerson, Kathy](#); [Schull, Shyanne](#)
Subject: RE: April Agency Review Memo II
Date: Monday, April 22, 2019 11:30:41 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

From the WCRAS perspective, we do not see any concerns for either of these.

Thanks,
Tammy Jennings

From: Stark, Katherine
Sent: Thursday, April 18, 2019 3:41 PM
To: Schull, Shyanne <SSchull@washoecounty.us>
Cc: Wines-Jennings, Tammy L <TWines-Jennings@washoecounty.us>; Stark, Katherine <KRStark@washoecounty.us>; Emerson, Kathy <KEmerson@washoecounty.us>
Subject: April Agency Review Memo II

Good afternoon,

Please find the attached Agency Review Memo with cases received in April by Washoe County Community Services Department, Planning and Building.

You've been asked to review the applications for **Items 1 & 2**. The item descriptions and links to the applications are provided in the memo.

Please remember to send any agency review responses/comments directly to the Planner for the case, rather than replying to me.

Thank you!



Katy Stark
Office Support Specialist, Planning and Building Division | Community Services
Department
krstark@washoecounty.us | Office: 775.328.3618 | Fax: 775.328.6133
1001 East Ninth Street, Bldg. A, Reno, NV 89512



From: [Lawson, Jacqueline](#)
To: [Pelham, Roger](#)
Subject: April Agency Review Memo II
Date: Friday, April 19, 2019 9:13:52 AM
Attachments: [April Agency Review Memo II.pdf](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Good morning Roger,

The EMS Program does not currently have any comments regarding the Special Use Permit Case Number WSUP19-0004 (Fox Mountain Monopole) included in April Application Review Memo II. Please contact me if you have any questions.

Thank you

Jackie



WASHOE COUNTY
COMMUNITY SERVICES DEPARTMENT
Engineering and Capital Projects

1001 EAST 9TH STREET
RENO, NEVADA 89512
PHONE (775) 328-3600
FAX (775) 328.3699

Date: May 3, 2019

To: Roger Pelham, Senior Planner

From: Leo Vesely, P.E., Licensed Engineer

Re: Special Use Permit Case *WSUP19-0004 – Fox Mountain Monopole*
APN 066-080-33

GENERAL PROJECT DISCUSSION

Washoe County Engineering staff has reviewed the above referenced application. The Special Use Permit is for the construction of a 150 foot high monopole on the site. The Engineering and Capital Projects Division recommends approval with the following comments and conditions of approval which supplement applicable County Code and are based upon our review of the site and the application prepared by the Rubicon Design Group. The County Engineer shall determine compliance with the following conditions of approval.

For questions related to sections below, please see the contact name provided.

GENERAL CONDITIONS

Contact Information: Leo Vesely, P.E. (775) 328-2041

1. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed onto adjacent property.
2. The applicant shall provide documentation of easements for the lease area, access and utilities. A copy of the easements shall be submitted to the Engineering Division prior to the approval of a building permit.
3. All existing and proposed easements shall be shown on the site and/or grading plan. The County Engineer shall determine compliance with this condition.



INTEGRITY



EFFECTIVE
COMMUNICATION



QUALITY
PUBLIC SERVICE

WWW.WASHOECOUNTY.US

Subject: **WSUP19-0004 – Fox Mountain Monopole**
Date: May 3, 2019
Page: 2

DRAINAGE (COUNTY CODE 110.416, 110.420, and 110.421)

Contact Information: Walt West, P.E. (775) 328-2310

1. No comments.

TRAFFIC AND ROADWAY (COUNTY CODE 110.436)

Contact Information: Mitch Fink, (775) 328-2050

1. No comments.

UTILITIES (County Code 422 & Sewer Ordinance)

Contact Information: Tim Simpson, P.E. (775) 954-4648

1. No comments

From: [Gil, Donald](#)
To: [Pelham, Roger](#)
Subject: FW: April Agency Review Memo II
Date: Wednesday, April 24, 2019 12:53:40 PM
Attachments: [April Agency Review Memo II.pdf](#)
[image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

Roger,

The Washoe County Sheriff's Office Patrol Division has no issues or concerns with this project (Item #2).

Thank you,

Don



WASHOE COUNTY
COMMUNITY SERVICES
INTEGRITY COMMUNICATION SERVICE

P.O. Box 11130
Reno, Nevada 89520-0027
Phone: (775) 328-3600
Fax: (775) 328-3699

April 26, 2019

TO: Roger Pelham, Senior Planner, CSD, Planning & Development Division
FROM: Vahid Behmaram, Water Management Planner Coordinator, CSD
SUBJECT: Special Use Permit Case Number WSUP19-0004 (Fox Mountain Monopole)

Project description:

The applicant is proposing to approve the construction and operation of a new wireless cellular facility consisting of a 150-foot-high monopole structure, solar arrays, outdoor shelter with an interior generator room, and three (3) propane tanks within an irregular lease area situated at Fox Mountain, Nevada.

The Community Services Department (CSD) recommends approval of this project with the following Water Rights conditions:

There are no conditions of approval.

From: Coon, Don
To: Pelham, Roger
Cc: Coon, Don
Subject: WSUP19-0004

Message  WSUP19-0004 RP.DOCX (19 KB)

Thanks

Don Coon, MCP
Fire Prevention Specialist II
Truckee Meadows Fire Protection District
1001 E. 9th St. Bldg. D
Reno, NV. 89512
775-326-6077 off.
775-360-8397 cell
dcoon@tmfpd.us



WSUP19-0004

Truckee Meadows Fire Protection District (TMFPD)

1. The following conditions are requirements of the Truckee Meadows Fire Protection District, which shall be responsible for determining compliance with these conditions. Unless otherwise stated, these conditions shall be met prior to the issuance of any building or grading permit or on an ongoing basis as determined by TMFPD.

Contact Name – Don Coon, 775.326.6077, Dcoon@tmfpd.us

- a. Fire protection of the new structures shall be as required by the current adopted International Fire Code, (*IFC*) International Wildland Urban Interface Code (*IWUIC*) 2012 *Ed*, with amendments and the requirements of the NFPA standard(s). (<https://codes.iccsafe.org/content/IWUIC2012> <https://codes.iccsafe.org/content/IFC2012>)
- b. The Fire Hazard designation for your project is available on the provided Washoe Regional Mapping System link. (<https://gis.washoecounty.us/wrms/firehazard>) After you have found your property using the address search feature, the color of the background area will indicate your wildland fire risk.
- c. When you have determined your Fire Risk Rating use the link provided, to determine the *IWUIC* construction and defensible space requirements. (https://www.washoecounty.us/building/Files/Files/2012%20WUI%20CODE%20GUIDE_rev%2011-25-13.pdf)
- d. Provide a Vegetation selection, installation, management and Defensible Space Plan as required for the project in accordance with the requirements of the *IWUIC*.



MEMORANDUM

WASHOE COUNTY REGIONAL PARKS AND OPEN SPACE

PLANNING DIVISION



TO: Roger Pelham, Senior Planner

FROM: Sophia Kirschenman, Park Planner

DATE: May 8, 2019

SUBJECT: Special Use Permit Case Number WSUP19-0004 (Fox Mountain Monopole)

Washoe County Regional Parks and Open Space has reviewed and prepared the following comments related to Special Use Permit Case Number WSUP19-0004:

The proposed monopole would be located in the area of Fox Mountain, Nevada and new development must conform to the policies included in the High Desert Area Plan. Due to the rural location of the proposed development, no parks or recreational amenities are proposed nearby. Staff notes that the applicant is requesting a variance to waive the traditional landscaping requirement due to the remote location of the subject parcel and lack of visibility to the general public. While those are important considerations, Washoe County Parks and Open Space would like to reiterate that landscaping requirements also serve to reduce heat, erosion, dust, and pollutants by increasing vegetation and to ensure that disturbed areas do not become populated with noxious weeds and invasive species. While irrigated landscaping may not be feasible in this location, **Washoe County Parks and Open Space recommends that the applicant still be required to revegetate at least 20% of the total developed land area, utilizing hydroseeding or another strategy that does not require temporary irrigation.** Hydroseed applications should occur in November or December and if the appropriate vegetative coverage requirements are not realized, further hydroseeding should be required.

From: Vogel, Tara <tara_vogel@fws.gov>
To: Pelham, Roger
Cc: Justin Barrett
Subject: Commnet Wireless application review recommendations

[NOTICE: This message originated outside of Washoe County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

Hi Roger,

The Reno Fish and Wildlife Office reviewed the Commnet Wireless application and supplemental documents for the installation of the 150 ft. monopole on Fox Mt. in Washoe Co. We have the following recommendations:

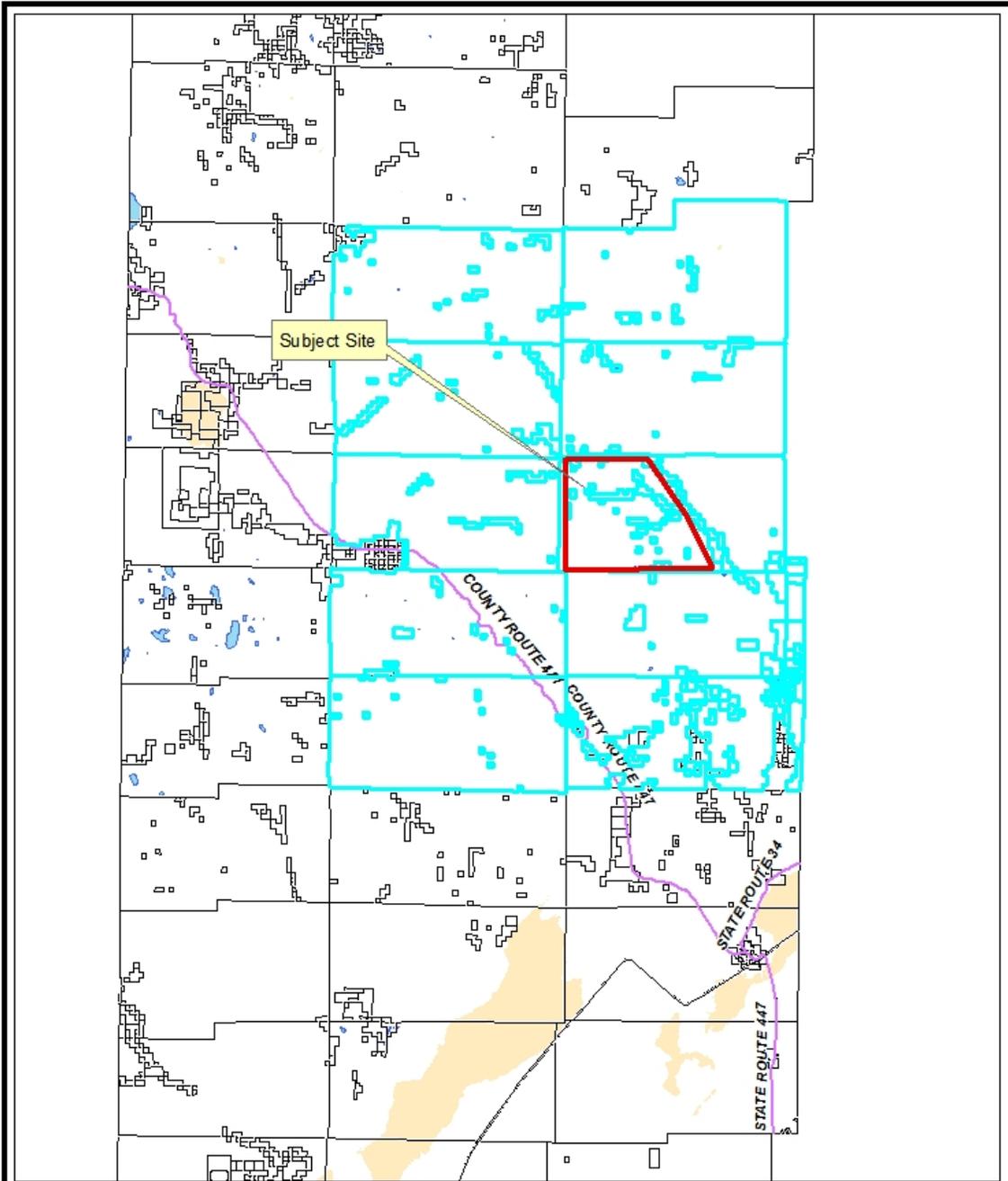
1. Periodically inspect the install and facility for any raven nests since it is within sage-grouse habitat. If Raven nest(s) identified, please contact the Nevada Department of Wildlife to discuss management options;
2. When accessing the facility, if there is road kill, please discard appropriately to detour raven attractants;
3. Conduct weed abatement measures such as noxious and invasive weeds removal as a result of the project such as the along the access road and facility location.

Thank you for the opportunity to provide feedback. Please let us know if you have any questions, or need anything further.

Sincerely,
Tara

Tara L. Vogel
Fish and Wildlife Biologist

U.S. Fish and Wildlife Service | Reno Fish & Wildlife Office
1340 Financial Blvd., Suite 234 | Reno, Nevada 89502
Office: 775.861.6394
Fax: 775.861.6301
Email: tara_vogel@fws.gov



WSUP19-0004 Fox Mountain Monopole
 Noticing Map
 232 Parcels Selected at 43000 feet



 Miles

Community Services
Department

WA SHOE COUNTY
NEVADA
1001 EN 9th St.
 Reno, Nevada 89512 (775) 323-3600

Source: Planning and Building Division Date: 04/16/2019



Original
WSUP 19-0004

April 10, 2019

Washoe County
Planning and Development Division
1001 E. Ninth Street
Reno, NV 89512
Attn: Jacob Parker

RE: Application for Special Use Permit and Director's Modification – Fox Mountain, NV 10140A Fox Mountain Road, Gerlach, NV 89412

Please find attached a Special Use Permit and Director's Modification submittal applications for a new Commnet Wireless telecommunications facility located at the above referenced location. The submittal contains the following documents.

This application is for the April 15, 2109 submittal.

1. Filing Fee Check
2. Development Application
3. Owner's Affidavit
4. Project Support Statement
5. Director's Modification Application and Memorandum
5. Site Plans (Note pages A-4.0 through A-4.3 were removed from the site plans as they are not relevant to zoning and they contain proprietary information).
6. Photosimulations
7. Coverage Maps
8. Radio Frequency Statement
9. Treasurer Statement
10. Site Photos
11. Recorded Easement Agreement with private land owners for site access
12. Flash Drive containing Application materials

If you have any questions or need additional materials, I can be reached at (314) 640-5182.

Sincerely,

A handwritten signature in blue ink that reads 'Julie Krekeler'. The signature is fluid and cursive, with the first name 'Julie' being the most prominent part.

Julie Krekeler
General Manager

Attachments



April 10, 2019

Washoe County
Planning and Development Division
1001 E. Ninth Street
Reno, NV 89512
Attn: Jacob Parker

RE: Application for Special Use Permit and Director's Modification – Fox Mountain, NV 10140A Fox Mountain Road, Gerlach, NV 89412

On behalf of Commnet of Nevada, LLC (dba Commnet Wireless), I am submitting a Special Use Permit and Director's Modification submittal application for a new telecommunications facility located at the above referenced location on April 10, 2109 prior to the April 15 submittal date. Please accept this waiver for the submittal time frames and the 3 day completeness check.

If you have any questions or need additional materials, I can be reached at (314) 640-5182.

Sincerely,

A handwritten signature in blue ink that reads "Julie Krekeler". The signature is fluid and cursive, with the first name "Julie" being more prominent than the last name "Krekeler".

Julie Krekeler
General Manager

Attachments

Memorandum

To: Washoe County, NV
CC: Commnet of Nevada, LLC
From: Julie M. Hall, Senior RF Engineer, Centerline Solutions
Date: 03/27/19
Re: RF Emissions Analysis of Proposed Facility-Fox Mountain, NV

Commnet of Nevada is proposing to install a wireless telecommunications facility at Fox Mountain, NV, in Washoe County, at the following coordinates: 41° 1' 31.25" N, 119° 33' 30.09" W. The proposed installation was evaluated for RF Emissions compliance. The computations, analysis, and conclusions were based on applicable FCC guidelines and regulations for maximum permissible exposure to humans consistent with FCC OET Bulletin 65. At the time of installation, this facility will be transmitting at less than 2% of the applicable RF Emissions limits, thus the facility will be in compliance with applicable FCC regulations for RF Emissions. In addition, the analysis was completed with both existing capacity and future capacity, to insure compliance as the site grows in capacity.

Re-evaluation of the site for compliance would happen if other carriers locate at the facility, if the site grows beyond the capacity that the initial evaluation was completed for, or antennas at the site are changed or added to.

I certify that the analysis is correct to the best of my knowledge, and all calculations, assumptions and conclusions are based on generally acceptable engineering practices.



[Julie M. Hall](#)
[Senior RF Engineer](#)
[Centerline Solutions](#)

Property Owner Affidavit

Applicant Name: Commnet of Nevada, LLC

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, CRAIG R. DRAKE
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 066-080-33

Printed Name CRAIG R. DRAKE

Signed Craig R. Drake

Address 708 W. 12th St.

Alturas, CA 96101

Subscribed and sworn to before me this _____ day of _____, _____.

(Notary Stamp)

See att. Jurat
Notary Public in and for said county and state

My commission expires: _____

*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

CALIFORNIA JURAT WITH AFFIANT STATEMENT

GOVERNMENT CODE § 8202

- See Attached Document (Notary to cross out lines 1-6 below)
- See Statement Below (Lines 1-6 to be completed only by document signer[s], *not* Notary)

~~_____

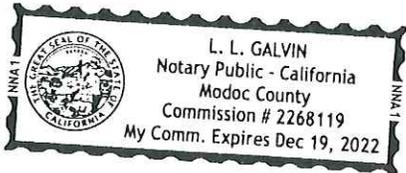
_____~~

Signature of Document Signer No. 1 Signature of Document Signer No. 2 (if any)

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and *not* the truthfulness, accuracy, or validity of that document.

State of California
County of Modoc

Subscribed and sworn to (or affirmed) before me
on this 4th day of April, 2019,
by Date Month Year



(1) Craig R. Drake
(and (2) _____),
Name(s) of Signer(s)

proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Signature L. L. Galvin
Signature of Notary Public

Seal
Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____ Document Date: _____
Number of Pages: _____ Signer(s) Other Than Named Above: _____

Community Services Department
Planning and Building
DIRECTOR'S MODIFICATION OF
PARKING/LANDSCAPING
MINOR DEVIATION
STANDARDS APPLICATION



Community Services Department
Planning and Building
1001 E. Ninth St., Bldg. A
Reno, NV 89512-2845

Telephone: 775.328.6100

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: Commnet Wireless, Fox Mountain, NV			
Project Description: Commnet Wireless proposed the construction of a new unmanned wireless communication facility serving Fox Mountain			
Project Address: Washoe County 911 Assigned address: 10140 A Fox Mountain Road, Gerlach, NV 89412			
Project Area (acres or square feet): 1,459 sf for tower and ground space and approx 500 sf for propane tanks			
Project Location (with point of reference to major cross streets AND area locator): From intersection of County Road 447, turn right onto Old Camp Road, then turn left to stay on Old Camp Road/Rox Mountain Road			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
066-080-33	23,299.211 acres		
Indicate any previous Washoe County approvals associated with this application: Case No.(s). NA			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: United States of America - BLM		Name: CIS Communications, LLC	
Address: 2550 Riverside Drive		Address: 749 Old Ballas Road	
Susanville, CA	Zip: 96130	Creve Coeur, MO	Zip: 63141
Phone: (530) 252-5321	Fax:	Phone: (314) 569-2275	Fax:
Email: dryan@blm.gov		Email: julie@ciscomm.com	
Cell: (530) 252-5321	Other:	Cell: (314) 640-5182	Other:
Contact Person: Daniel Ryan - Realty Specialist		Contact Person: Julie Krekeler - General Manager	
Applicant/Developer:		Other Persons to be Contacted:	
Name: Commnet of Nevada, LLC (dba Commnet Wireless)		Name:	
Address: 1562 North Park Street		Address:	
Castle Rock, CO	Zip: 80109		Zip:
Phone: (720) 733-7854	Fax:	Phone:	Fax:
Email: cphillips@atni.com		Email:	
Cell: (720) 733-7854	Other:	Cell:	Other:
Contact Person: Cindy Phillips - Director of Real Estate/Regulatory		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Director's Modification of Standards Supplemental Information

(All required information may be separately attached)

1. What modification or deviation are you requesting? **Be specific.**

Parking Standards - Article 110.410.00
Landscaping Standards - Article 110.412.00
Noise and Lighting Standards - Section 110.414.00 Noise and Lighting
Minor Deviation Standards - Section 110.804.35

2. Why is the modification or deviation necessary to the success of the project/development? **Be specific.** Are there any extenuating circumstances or physical conditions on the proposed project/development site?

Please refer to the attached Director's Memorandum for explanation

3. Are you proposing to mitigate the effect of the modification or reduction?

Please refer to the attached Director's Memorandum for explanation

4. What section of code are you requesting to modify or deviate? **Be specific.** List the code section and if there are specific requirements for the modification, provide detailed information. For deviation, provide the percentage of the deviation.

Parking Standards - Whole Section
Landscaping Standards - Whole Section
Noise and Lighting Standards - Whole Section
Minor Deviation Standards - maximum standards allowed as stated by Washoe County Planning Department

5. For Minor Deviation request; list what properties/parcels are affected by the deviation? Explain if there will be any impacts to the affected neighboring properties. (At a minimum, affected property owners are those owners of parcels that immediately abut the location of the proposed minor deviation.)

Please refer to the attached Director's Memorandum for list of adjoining parcels and impact explanation.

MEMORANDUM

To: Washoe County

CC: Commnet of Nevada, LLC (Commnet Wireless)

From: Julie Krekeler, Site Acquisition, CIS Communications, LLC

Date: April 10, 2019

**Re: DIRECTOR'S MODIFICATION REQUEST CLARIFICATION – Special Use Permit - APN: 066-080-33
(Fox Mountain, NV)**

Dear Washoe County,

The subject application is for a Special Use Permit for the construction of a telecommunications facility consisting of a 150' monopole, solar arrays, outdoor shelter with an interior generator room, and three (3) propane tanks within an irregular lease area situated at Fox Mountain, Nevada. The parcel is located on property owned by the United States of America and is managed by the Bureau of Land Management. The parcel consists of 23,299.211 acres.

Upon review of Washoe County's Development Code Section 110, Commnet Wireless is hereby requesting certain specific conditions to be considered for Director's Modification due to the following.

Article 110.410.00 Parking –Commnet Wireless would like to modify Section 110.410.00 to allow for the request to waive the whole section of parking. Due to the unusual nature of the establishment and the remote rural location of this proposed unmanned facility that will be visited by a cell tech once or twice a month, the standards set forth in this section such as parking design and access width would be excessive and unreasonable for Commnet Wireless. Furthermore, the proposed facility is at an established communications site where there is an existing access road. The proposed facility is not for the general public access and there is ample space for the technician to park at the lease area.

Article 110.412.00 Landscaping - Commnet Wireless would like to modify Section 110.412.00 to allow for the request to waive the whole section of landscaping. The subject site is located in a remote area. In addition to being remote, the site is located over nine miles from Highway 447 and the adjoining parcel is also owned by the United States of America, where there will be minimal visibility. Because this remote location is an unmanned facility, Commnet Wireless' policy is to avoid any landscaping to conserve water as well as the need for routine landscape maintenance. Additionally, because of the vast size of the parcel (23,299 acres), it is unreasonable for Commnet Wireless to meet Washoe County's requirement of landscape coverage of a minimum twenty (20) percent of the total developed land area as well as landscaped buffers at least one (1) tree every twenty (20) linear feet of property frontage as outlined in Sections 110.412.40 (a) and (c). This location has a natural barrier of trees surrounding the mountain top.

Section 110.414.00 Noise and Lighting - Commnet Wireless would like to modify the Section 110.414.00 to allow for the request to waive the entire section of Noise and Lighting. The site will be powered by solar arrays/batteries along with a generator. The generator will be situated inside the shelter and any noise would be at a minimum. First Net responder equipment is proposed at this site. Per Section 110.414.20 (b) emergency equipment is exempt from this section.

Unless lighting is required by the FAA, no lighting is proposed at the unmanned facility. Commnet proposes Washoe County’s current best practice of “dark-sky” standards and Commnet will conserve any solar power usage for powering the site. There will be lighting inside the shelter that is turned on only during a technician’s site visit.

Section 110.804.35 Minor Deviations – Commnet Wireless is proposing a 150’ monopole and is seeking approval for the height deviation per table 110.324.55.1 . As stated, this site is located in a remote area where there is currently limited to no cellular service. This site will include First Net responder emergency equipment as well as future users and due to the diverse topography and the remoteness of the area, the height is needed to overcome that terrain to obtain optimal coverage when connecting to their other sites that are part of the network design.

The following is a list of parcels that abut the subject property parcel. The closest parcel to the proposed facility is parcel # 066-060-26, which is at a distance of ~120 feet, and is owned by the United States. Parcels indicated below with an asterisk are private landowners. All other parcel numbers belong to the United States. There does not appear to be a residence within the adjoining parcels. The impact this proposed facility will have is a communication source that is vital to today’s safety and quality of life within rural Nevada.

066	060	26	*	066	030	48
*	066	80	1	066	030	34
066	100	19	*	066	080	21
066	110	15	*	066	080	22
066	080	12	*	066	080	25
066	080	37	*	066	080	24
066	080	39		066	080	46
066	080	38		066	080	42
*	066	080	16	066	080	41
066	080	47		066	080	44
066	080	15	*	066	080	40
066	080	48		066	080	4
*	066	020	17			

Community Services Department

Planning and Building

SPECIAL USE PERMIT

(see page 7)

SPECIAL USE PERMIT FOR GRADING

(see page 9)

SPECIAL USE PERMIT FOR STABLES

(see page 12)

APPLICATION



Community Services Department
Planning and Building
1001 E. Ninth St., Bldg. A
Reno, NV 89512-2845

Telephone: 775.328.6100

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: Commnet Wireless - Fox Mountain, NV			
Project Description: Commnet Wireless proposes the construction of a new unmanned wireless communication facility serving the Fox Mountain			
Project Address: Washoe County E911 Assigned address: 10140 A Fox Mountain Road, Gerlach, NV 89412			
Project Area (acres or square feet): 1,459 sf for tower and ground space and approx 500 sf for propane tanks			
Project Location (with point of reference to major cross streets AND area locator): From intersection of County Road 447, turn right onto Old Camp Canyon Road, then turn left to stay on Old Camp Road/Fox Mountain Road			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
066-080-33	23,299.211 Acre		
Indicate any previous Washoe County approvals associated with this application: Case No.(s). NA			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: United States of America - BLM		Name: CIS Communications, LLC	
Address: 2550 Riverside Drive		Address: 749 Old Ballas Road	
Susanville, CA	Zip: 96130	Creve Coeur, MO	Zip: 63141
Phone: (530) 252-5321	Fax:	Phone: (314) 569-2275	Fax:
Email: dryan@blm.gov		Email: julie@ciscomm.com	
Cell: (530) 252-5321	Other:	Cell: (314) 640-5182	Other:
Contact Person: Daniel Ryan - Realty Specialist		Contact Person: Julie Krekeler - General Manager	
Applicant/Developer:		Other Persons to be Contacted:	
Name: Commnet of Nevada, LLC (dba Commnet Wireless)		Name:	
Address: 1562 North Park Street		Address:	
Castle Rock, CO	Zip: 80109		Zip:
Phone: (720) 733-7854	Fax:	Phone:	Fax:
Email: cphillips@atni.com		Email:	
Cell: (720) 733-7854	Other:	Cell:	Other:
Contact Person: Cindy Phillips - Director of Real Estate/Regulatory		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Special Use Permit Application Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

Commnet Wireless' proposed installation of a new unmanned telecommunications facility consisting of a 150' monopole with antennas/dishes, equipment shelter, solar arrays and LP tanks.

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

Refer to construction drawings attached.

3. What is the intended phasing schedule for the construction and completion of the project?

One phase - Construction would take between one and two months.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

Location is needed from an RF standpoint. Location is ideal from an impact standpoint as there is minimal to no visibility from any existing populated areas.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

Improved wireless coverage as well as wireless broadband coverage for the First Net emergency responders.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

There are no negative impacts on adjacent properties or communities. Project is located in remote rural area.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

No landscaping, parking, or lighting proposed. All required signage to be attached to shelter door. Please refer to Project Support Statement for explanations.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

9. Utilities:

a. Sewer Service	NA
b. Electrical Service	NA
c. Telephone Service	NA
d. LPG or Natural Gas Service	NA
e. Solid Waste Disposal Service	NA
f. Cable Television Service	NA
g. Water Service	NA

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

Not applicable.

10. Community Services (provided and nearest facility):

a. Fire Station	Washoe Rural - Station T40
b. Health Care Facility	Nevada Health Center, Inc., Gerlach NV
c. Elementary School	Gerlach K-12
d. Middle School	Gerlach K-12
e. High School	Gerlach K-12
f. Parks	Gerlach Community Park
g. Library	Gerlach Community Library
h. Citifare Bus Stop	NA

COMMNET WIRELESS PROJECT SUPPORT STATEMENT

Project Name: Fox Mountain

Project Address: 10140 A Fox Mountain Road Gerlach, NV 89412

Project APN: 066-080-33

Introduction

Commnet Wireless (Commnet) focuses on connecting rural America with affordable, carrier grade communications networks to improve safety and quality of life, and to promote economic development. The areas of focus are predominately small communities, state and national parks, seasonal areas, and the roadways that connect these areas to mainstream America. Commnet is seeking to improve cellular coverage within the Fox Mountain range as well as Highway 447 northwest of Gerlach for approximately 35 miles. In addition, this site is needed to cover Hwy 34, north of the site, for approximately 9 miles, as well as small roads reservoirs near the site. Furthermore, this site will be utilized for the FirstNet nationwide emergency broadband network dedicated to first responders.

Location

Commnet proposes the construction of a new wireless communications facility that consists of a 150' monopole located at Fox Mountain, Nevada. The property is zoned General Rural (GR) and is owned by the United States of America and is managed by the Bureau of Land Management. The adjacent parcels are also owned by the United States of America. The nearest residentially zoned property of medium density suburban residential development, is located mainly on the outskirts of the town of Gerlach, Nevada, which is approximately 28 miles away from the proposed facility.

Project Description/Design

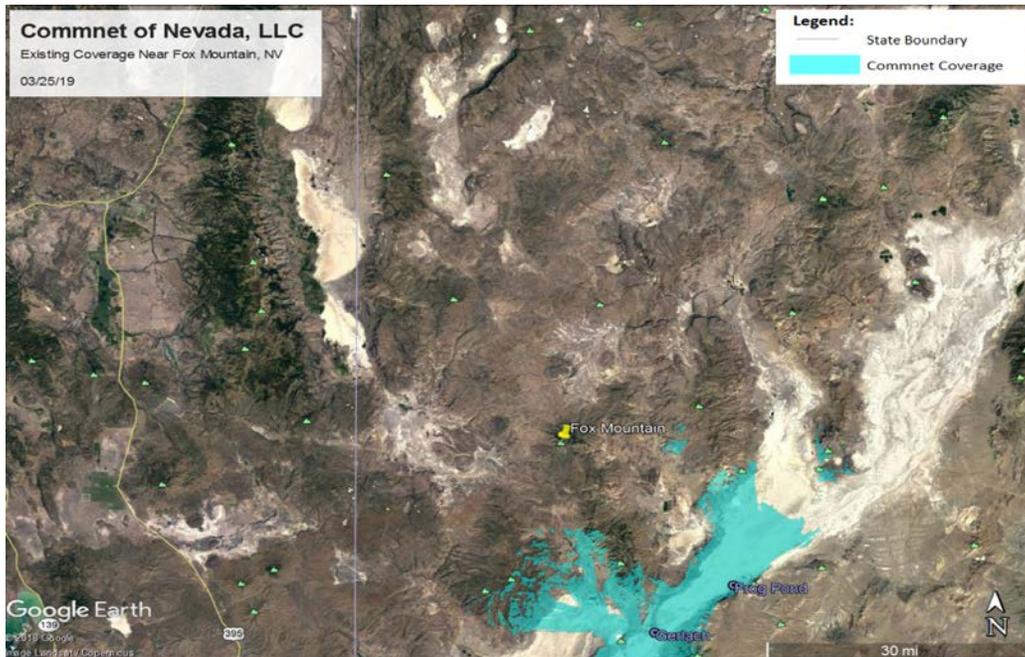
Commnet will be adding (12) antennas, (9) RRU's, (2) surge suppressors, (2) Fiber lines, (3) DC power lines, (4) microwave dishes along with (8) ½" coax lines on the tower. An outdoor shelter with an interior generator room and solar arrays will be situated within an irregular shaped lease area of consisting of 1,459 square feet and ground space for (3) propane tanks consisting of 500 square feet surrounded with protective bollards. The propane tanks will be placed to the east of the facility and will meet all regulatory safety guidelines. Gas lines will be installed underground from the tank(s) point of connection to the point of termination at the shelter. This will be an unmanned facility providing cellular and First Net responders coverage 24 hours a day, 7 days a week.

Public and Safety Benefits of Improved Wireless Service

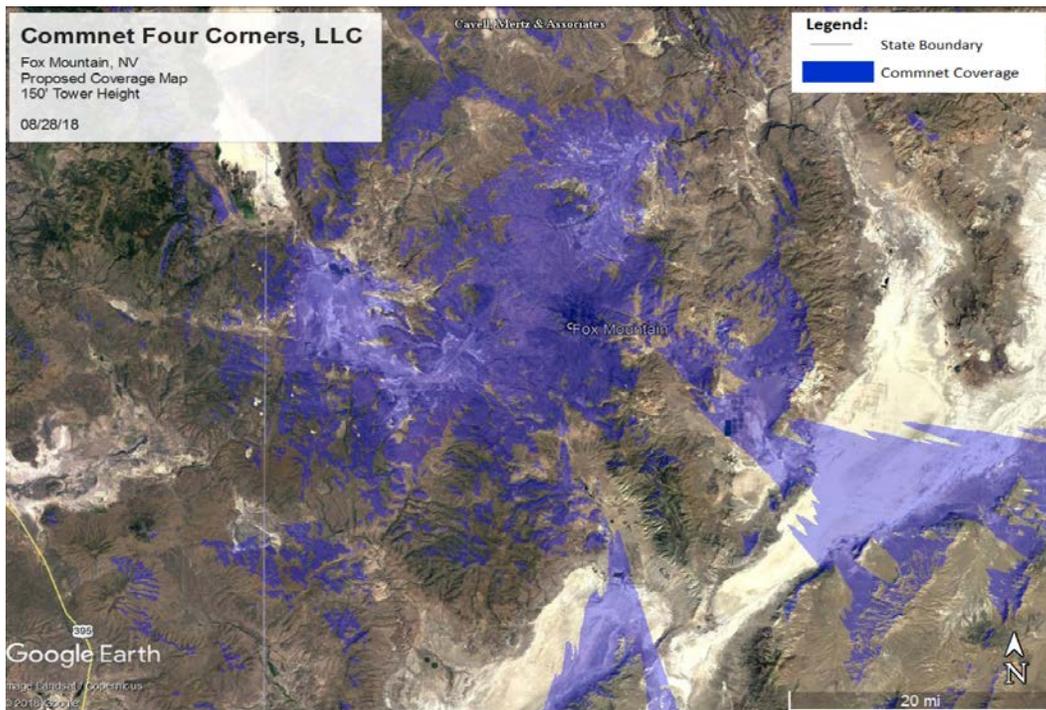
Today, more people are relying on wireless phones as their main form of communication; whether it be in their homes, businesses, and/or vehicles. This site will allow Commnet's customers to maintain cellular coverage as shown in the coverage map referenced below.

Additionally, this site is also being utilized for the FirstNet nationwide emergency broadband network dedicated to first responders (ie Fire, Police, EMT) for the ability to communicate on a single network for any public safety needs in this area.

Existing Coverage



Coverage with Proposed Tower



Aesthetic Impacts

Commnet proposes to install a 150' monopole which is similar to the existing structures at Fox Mountain. The proposed height was required due to the surrounding topography and meets the County's requirements for facilities in this zoning code. The facility will not have any negative impacts on this project or adjacent properties in the community as there is currently minimal visibility of the existing facilities from public roadways. The facility will be placed between two existing structures, and will be in line with the layout of the other structures.

Alternative Site Analysis

When searching for any new communication site location, Commnet's first goal is to try and secure space on an existing tower or tall structure at the height required. With this philosophy in mind, Commnet first evaluated the collocation opportunities in the search area that offered the height, ground space, access and utilities and other needs required for their system. It was determined there were three (3) individual tower sites at Fox Mountain. The possibility of using any of the existing towers was ruled out due to insufficient height, insufficient structural capacity, and an unresponsive/unwilling tower owner.



In order to meet the required coverage objective, Commnet concluded that the construction of a new facility would be required. Commnet and the BLM worked together to layout an approved location for the proposed facility.

Below is a detailed explanation of why each existing facility at Fox Mountain would not be a viable collocation candidate.

1. Washoe County Tower at Fox Mountain (Option #1) – Washoe County has a tower located on the north side of the proposed site that Commnet Wireless pursued as a potential collocation candidate; however, Washoe County was not allowing collocation for reasons of their land lease with BLM does not allow a non-governmental entity in their facility, lack of enough power to support a collocator as well as Washoe County had only enough tower structural capacity to accommodate their current equipment as well as their projected future equipment.
2. Los Angeles Department of Water and Power at Fox Mountain (Option #2) – Commnet pursued this tower as a potential collocation candidate. Commnet Wireless left multiple detailed messages with the LADWP’s realty department without receiving any responses.
3. Bureau of Land Management at Fox Mountain (Option #3) – The BLM has a small repeater tower on the north side of site that was neither tall enough nor structurally viable for collocation.

Statement of Commitment to Allow Collocation

In addition to Commnet’s antenna loadings as proposed, this tower is also structurally designed to accommodate additional communication collocators.

Lighting and Signage

Unless required by the Federal Aviation Administration (FAA), no lighting is proposed at this facility. All required FCC and other regulatory notification signage will be attached to the shelter door.

Access/Utilities/Parking

Access to the facility is by way of Old Camp Canyon Road /Fox Mountain Road which is located off of County Road 447, approximately 31 miles northwest of Gerlach. No road improvements are planned as Commnet will utilize the existing gravel road. The facility will be powered by solar arrays/batteries along with a generator and propane tanks as back-up power supply. Parking is not proposed as this is an unmanned facility that will be visited by a cell tech once or twice a month. There is sufficient parking at the facility location.

Maintenance and equipment back-up power

The proposed wireless communications facility is located in a remote rural location. Because First Net responder emergency equipment will be located at this facility, it is imperative that the facility is operable in the event of a power outage or a natural disaster. In the event of an outage, the battery power will operate the system. If the power outage is for an extended period, and the batteries are no longer effective, the generator will automatically power the site. This multi-layer back-up system is important for communications sites to ensure continued operation. A cell technician will visit the site approximately once or twice a month to perform regular equipment maintenance.

Fencing

Commnet is not proposing fencing at this facility as currently, all other existing facilities do not have fencing. In lieu of fencing, Commnet’s tower will be designed in accordance to OSHA safety regulations, which incorporate anti-climbing security measures.

Landscaping Variance

Commnet is not proposing landscaping at this facility and is seeking a variance to obtain relief from the landscaping requirements. The subject property is located in a remote rural location, has restricted access to water resources, and will have limited monthly technician visits. The site is located approximately 9 miles from the nearest public roadway and landscaping would not be visible to the general public. There is a natural landscape of trees at the mountain top that surrounds the existing facilities that acts as a buffer to public visibility. Commnet is requesting the Board of Adjustments to specifically waive landscaping requirements for the above stated reasons.

Grading

Not applicable. Grading is not anticipated for this project.

Significant Hydrological Resources

The subject site is located in the High Desert planning area. Per section Section 110.418.05 (e), the provisions of this article do not apply for development in the High Desert planning area.

Washoe County Treasurer
 Tammi Davis

Account Detail

[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

CollectionCart

Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

Pay Online

No payment due for this account.

Washoe County Parcel Information

Parcel ID	Status	Last Update
06608033	Active	3/20/2019 2:06:50 AM

Current Owner:
 UNITED STATES OF AMERICA

 NONE
 RENO, NV 00000

SITUS:
 10130 OLD CAMP RD
 WASHOE COUNTY NV

Taxing District
 9000

Geo CD:

Legal Description

Township 36 Section Lot Block Range 22 SubdivisionName _UNSPECIFIED

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2018	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2017	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2016	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2015	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
2014	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

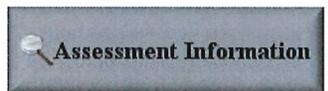
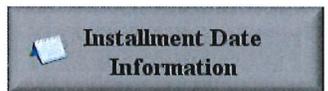
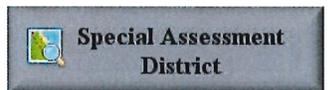
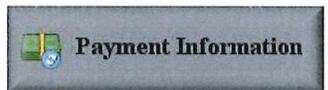
- ALERTS:** If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See Payment Information for details.

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
 P.O. Box 30039
 Reno, NV 89520-3039

Overnight Address:
 1001 E. Ninth St., Ste D140
 Reno, NV 89512-2845





This instrument was prepared by
and after recording return to:
Commnet of Nevada, LLC
1562 Park Street
Castle Rock, CO 80109
Attn: Cindy Phillips
Ref: Fox Mountain, NV

MEMORANDUM OF EASEMENT AGREEMENT

THIS MEMORANDUM OF EASEMENT AGREEMENT ("Memorandum") is made this 29
day of August, 2018 ("Effective Date"), by and between Estill Ranches, LLC, with
an address of 1875 Plumas Street, Suite 3, Reno, NV 89509 ("Grantor") and Commnet of Nevada, LLC,
with an address of 1562 Park St., Castle Rock, CO 80109 ("Grantee").

Grantor and Grantee have entered into an Easement Agreement (the "Easement Agreement") which sets
forth, among other things, the terms of an easement granted by Grantor to Grantee on, over, to, through,
and across an existing road which is located on property owned and controlled by Grantor (the
"Property") which Property is described on Exhibit A attached hereto and incorporated herein by this
reference.

The term of the Easement, unless sooner terminated under provisions of the Easement Agreement, shall
be perpetual, with the provisions regarding the Easement set forth in detail in the Easement Agreement.

This Memorandum of Easement is not intended to amend, modify, supplement, or supersede any of the
provisions of the Easement Agreement and, to the extent there may be any conflict or inconsistency
between the Easement Agreement. The provisions of and covenants contained in this Memorandum
shall run with the land and shall bind and inure to the benefit of the Grantor and Grantee and their
respective successors and assigns.

IN WITNESS WHEREOF, the parties have duly executed this Memorandum.

GRANTOR:
Estill Ranches, LLC,
a Nevada limited liability company

GRANTEE:
Commnet of Nevada, LLC,
a Delaware limited liability company

By: [Signature]

By: [Signature]

Print Name: John Estill

Print Name: Mark Hansen

Title: Estill Ranches LLC
manager

Title: V. P. Network Support

[ACKNOWLEDGEMENTS ARE ON THE FOLLOWING PAGE]

GRANTOR ACKNOWLEDGMENT

STATE OF Nevada

COUNTY OF Washoe

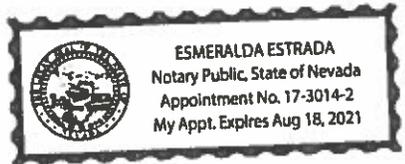
The foregoing instrument was acknowledged before me this 29th day of August, 20 18,

by John Sstill as the Manager
of Estill Ranches, LLC.

WITNESS my hand and official seal.

ES
Notary Public

My Commission Expires: Aug 18, 2021



GRANTEE ACKNOWLEDGMENT

STATE OF Colorado

COUNTY OF Douglas

The foregoing instrument was acknowledged before me this 16th day of October, 20 18,

by [Signature] as the V.P. NSS
of Commnet of Nevada, LLC.

WITNESS my hand and official seal.

[Signature]
Notary Public

My Commission Expires: 3/20/2022

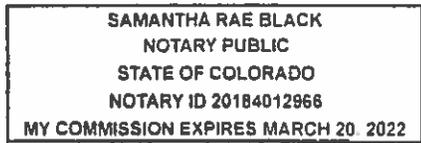


EXHIBIT A

Property Description

LEGAL DESCRIPTION

The land referred to herein is situated in the State of Nevada, County of Washoe, described as follows:

TOWNSHIP 36 NORTH, RANGE 21 EAST, M.D.B.M.

Section 19: South Half of the Northeast Quarter; Southeast Quarter of the Northwest Quarter

Section 20: North Half of the South Half

Section 21: Southwest Quarter of the Northwest Quarter

APN: 066-060-16, 17 and 18

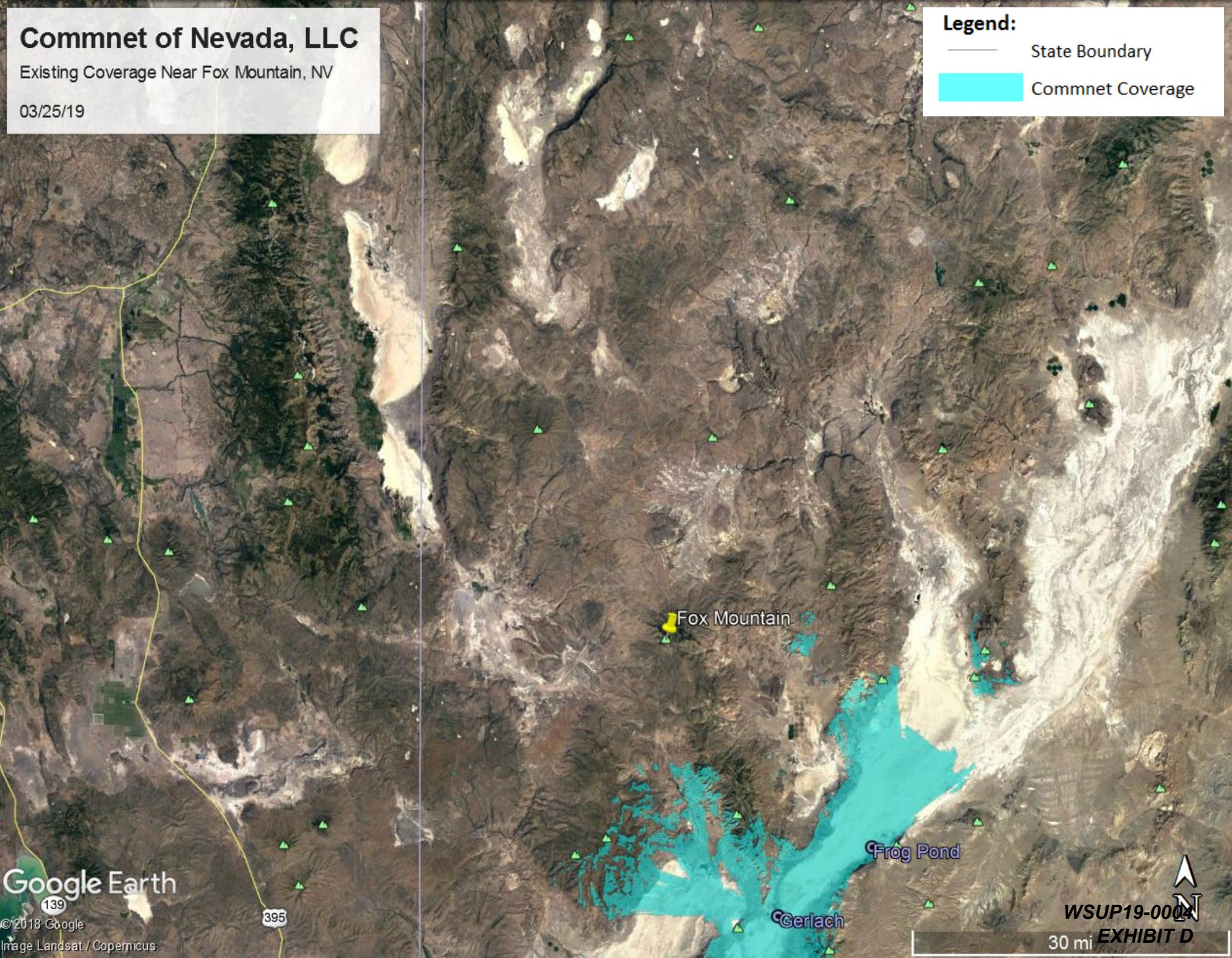
Commnet of Nevada, LLC

Existing Coverage Near Fox Mountain, NV

03/25/19

Legend:

- State Boundary
- Commnet Coverage



Google Earth

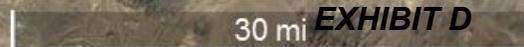
© 2018 Google
Image Landsat / Copernicus

Fox Mountain

Frog Pond

Gerlach

WSUP19-0004
30 mi EXHIBIT D



Commnet Four Corners, LLC

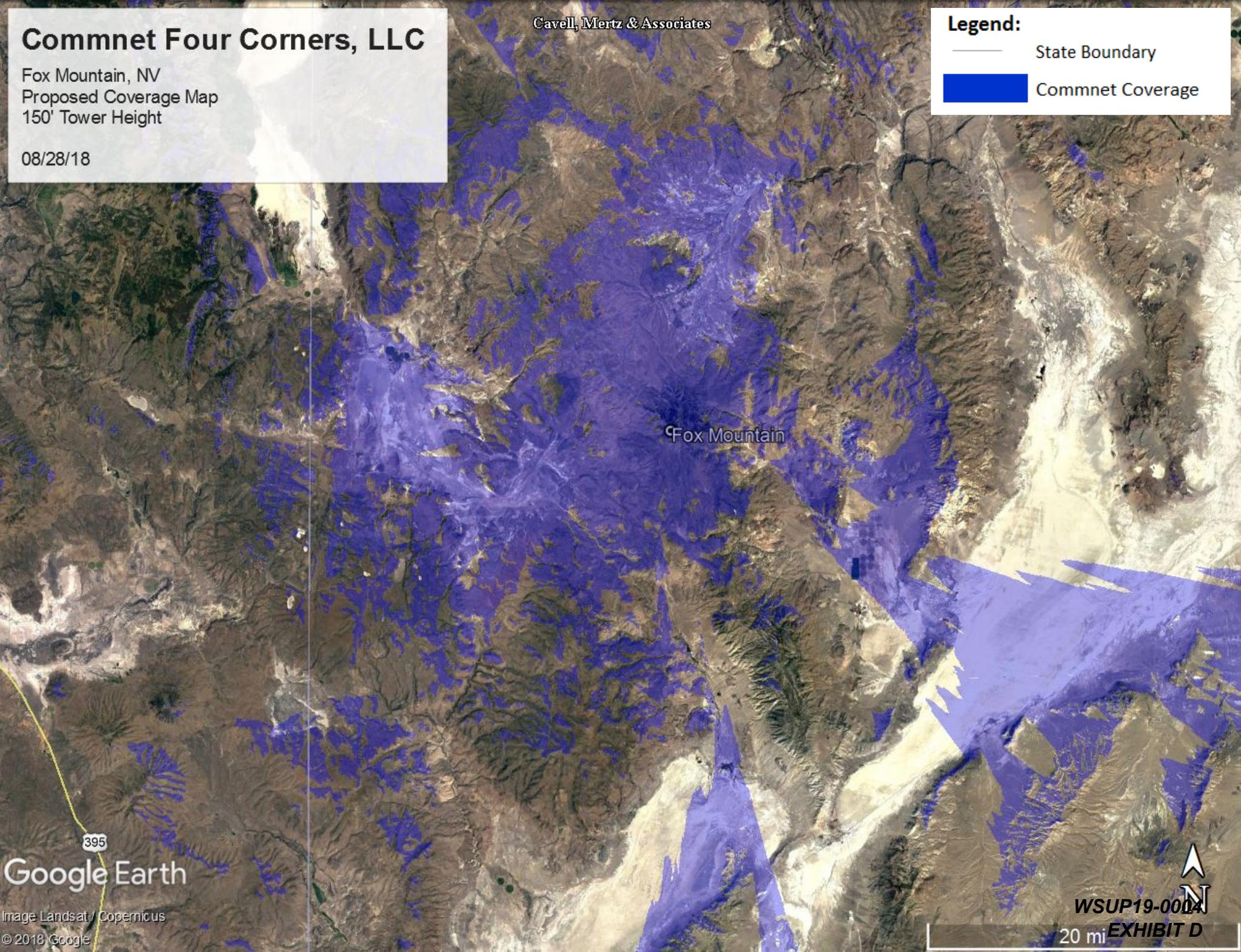
Fox Mountain, NV
Proposed Coverage Map
150' Tower Height

08/28/18

Cavell, Mertz & Associates

Legend:

- State Boundary
- Commnet Coverage



Fox Mountain

395

Google Earth

Image Landsat / Copernicus
© 2018 Google

WSUP19-0004
20 mi EXHIBIT D

PROJECT INFORMATION

RAW LAND BUILD

FOX MOUNTAIN, NV

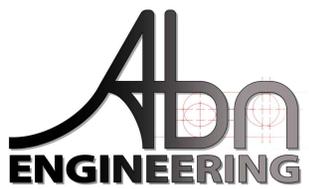
10140 A FOX MOUNTAIN RD
GERLACH, NV 89412

PROJECT OWNER



Commnet
Connecting Rural America

ENGINEER



LOCATION MAP



PROPOSED
MONOPOLE
LOCATION



VIEW FROM
SOUTH WEST

PROJECT INFORMATION

RAW LAND BUILD

FOX MOUNTAIN, NV

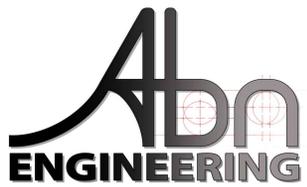
10140 A FOX MOUNTAIN RD
GERLACH, NV 89412

PROJECT OWNER



Commnet
Connecting Rural America

ENGINEER



Looking North East Toward
Proposed Monopole (Before)



PROJECT INFORMATION

RAW LAND BUILD

FOX MOUNTAIN, NV

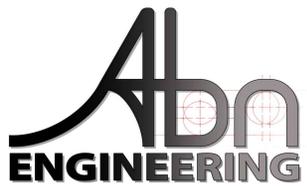
10140 A FOX MOUNTAIN RD
GERLACH, NV 89412

PROJECT OWNER



Commnet
Connecting Rural America

ENGINEER



Looking North East Toward
Proposed Monopole (After)



Fox Mountain, NV Photos

*Note that all photos may have not been attained due to exceptional conditions prohibiting travel to the site

Fox MT Tower Center Looking North



Fox MT South Looking North



Fox Mt East Looking West



Fox MT Tower Center Looking South



LEGAL DESCRIPTIONS

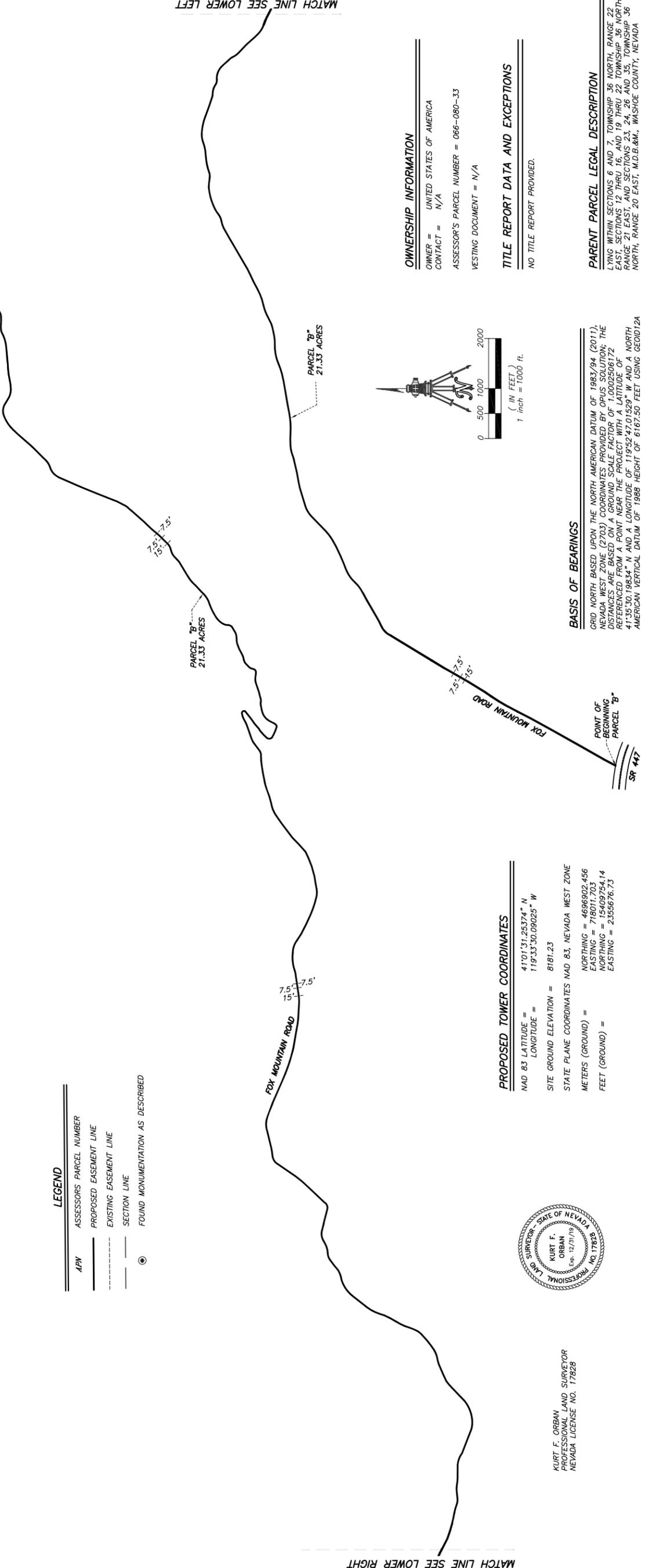
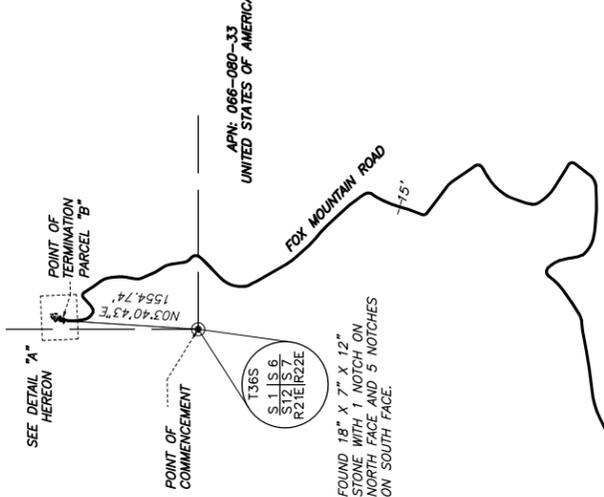
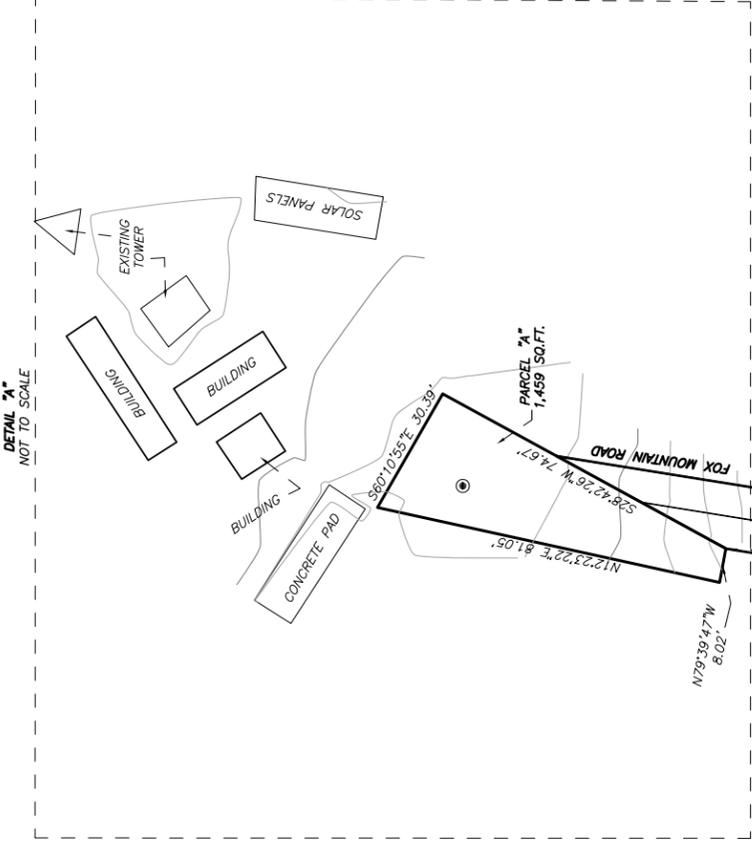
BEING A PORTION OF SECTIONS 6 AND 7, TOWNSHIP 36 NORTH, RANGE 22 EAST, SECTIONS 12 THRU 16, AND 19 THRU 22 TOWNSHIP 36 NORTH, RANGE 21 EAST, AND SECTIONS 23, 24, 26, AND 35, TOWNSHIP 36 NORTH, RANGE 20 EAST, M.D.B.&M., WASHOE COUNTY, NEVADA, DESCRIBED AS FOLLOWS:

- *PARCEL A* (LEASE AREA)
- COMMENCING AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 6, TOWNSHIP 36 NORTH, RANGE 22 EAST, M.D.B.&M.;
- THENCE NORTH 03°40'43" EAST, 1554.74 FEET TO THE POINT OF BEGINNING;
- THENCE NORTH 79°39'47" EAST, 8.02 FEET;
- THENCE NORTH 12°23'22" EAST, 81.05 FEET;
- THENCE SOUTH 60°10'55" EAST, 30.39 FEET;
- THENCE SOUTH 28°42'26" WEST, 74.67 FEET TO THE POINT OF BEGINNING.
- CONTAINING 1,459 SQ.FT. MORE OR LESS.

- *PARCEL B* (ACCESS EASEMENT)
- BEING A STRIP OF LAND 15.00 FEET IN WIDTH, LYING 7.50 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:
- BEGINNING AT THE POINT OF INTERSECTION OF THE CENTERLINE OF FOX MOUNTAIN ROAD AND THE NORTHEASTERLY RIGHT-OF-WAY LINE OF NEVADA STATE ROUTE 447;
- THENCE NORTHEASTERLY ALONG THE CENTERLINE OF SAID FOX MOUNTAIN ROAD FOR APPROXIMATELY 11.73 MILES TO THE EAST LINE OF *PARCEL A* BEING THE POINT OF TERMINATION.
- THE SIDELINES OF THIS STRIP OF LAND ARE TO BE LENGTHENED OR SHORTENED TO INTERSECT AT ALL ANGLE POINTS, AND TO BEGIN ON THE NORTHEASTERLY RIGHT-OF-WAY LINE OF NEVADA STATE ROUTE 447 AND TERMINATE ON THE EAST LINE OF *PARCEL A*.
- CONTAINING 21.33 ACRES MORE OR LESS.
- END OF DESCRIPTION.

LEGEND

- APN ASSESSORS PARCEL NUMBER
- PROPOSED EASEMENT LINE
- EXISTING EASEMENT LINE
- SECTION LINE
- FOUND MONUMENTATION AS DESCRIBED



PROPOSED TOWER COORDINATES

NAD 83 LATITUDE =	41°01'31.25374" N
LONGITUDE =	119°33'30.09025" W
SITE GROUND ELEVATION =	8181.23
STATE PLANE COORDINATES NAD 83, NEVADA WEST ZONE	
METERS (GROUND) =	NORTHING = 4696902.456
FEET (GROUND) =	EASTING = 7160100.751
	NORTHING = 2355876.73
	EASTING = 2355876.73

BASIS OF BEARINGS

GRID NORTH BASED UPON THE NORTH AMERICAN DATUM OF 1983/94 (2011). DISTANCES AND BEARINGS ARE BASED UPON THE NAD 83 DATUM. THE DISTANCES ARE BASED ON A POINT NEAR THE PROJECT WITH A LATITUDE OF 41°51'30.19834" N AND A LONGITUDE OF 119°52'47.01529" W AND A NORTH AMERICAN VERTICAL DATUM OF 1988 HEIGHT OF 6167.50 FEET USING GEOID12A

OWNERSHIP INFORMATION

OWNER = UNITED STATES OF AMERICA
CONTACT = N/A
ASSESSOR'S PARCEL NUMBER = 066-080-33
VESTING DOCUMENT = N/A

TITLE REPORT DATA AND EXCEPTIONS

NO TITLE REPORT PROVIDED.

PARENT PARCEL LEGAL DESCRIPTION

LYING WITHIN SECTIONS 6 AND 7, TOWNSHIP 36 NORTH, RANGE 22 EAST, SECTIONS 12 THRU 16, AND 19 THRU 22 TOWNSHIP 36 NORTH, RANGE 21 EAST, AND SECTIONS 23, 24, 26 AND 35, TOWNSHIP 36 NORTH, RANGE 20 EAST, M.D.B.&M., WASHOE COUNTY, NEVADA



KURT F. URBAN
PROFESSIONAL LAND SURVEYOR
NEVADA LICENSE NO. 17829



DESCRIPTION:	
REV:	
DATE:	

GENERAL NOTES

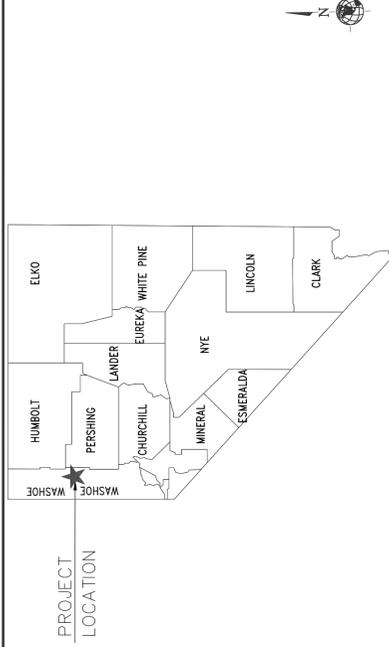
THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT AS SET FORTH IN THE CONSTRUCTION DRAWINGS, CONTRACT DOCUMENTS AND THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM 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 THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK UNLESS OTHERWISE DIRECTED.

CODE COMPLIANCE

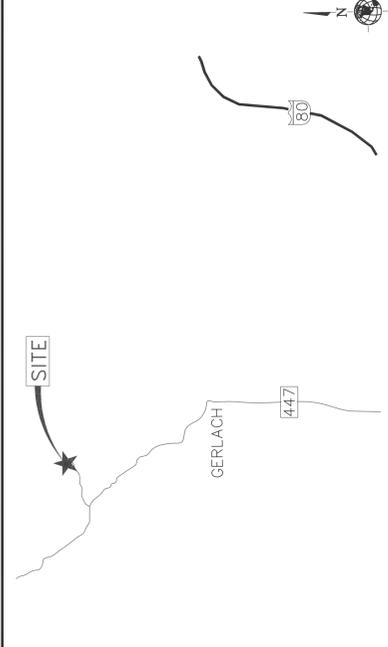
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES, NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
 2012 INTERNATIONAL BUILDING CODE (IBC)
 2012 INTERNATIONAL MECHANICAL CODE (IMC)
 2011 NATIONAL PLUMBING CODE (NPC)
 2011 NATIONAL ELECTRICAL CODE (NEC)
 TIA-222-G STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNA
 LOCAL BUILDING CODE(S)
 CITY AND/OR COUNTY AMENDED

JURISDICTION: WASHOE COUNTY

STATE MAP



VICINITY MAP



DRIVING DIRECTIONS

FROM GERLACH, HEAD NORTHWEST ON COUNTY RD. 447. (31.4 MILES). TURN RIGHT ONTO OLD CAMP CANYON RD. THEN TURN LEFT TO STAY ON OLD CAMP CANYON RD. TO DESTINATION.

SITE NAME:
FOX MOUNTAIN, NV

PROJECT:
RAW LAND BUILD

PROJECT INFORMATION

SITE NAME: FOX MOUNTAIN, NV
SITE ADDRESS: 10140 A FOX MOUNTAIN ROAD GERLACH, NV 89412
SITE COORDINATES: LATITUDE: 41°01'31.25374"N (NAD 83)
 LONGITUDE: 119°33'30.09025"W (NAD 83)
 ELEVATION: ±8,181.23' (AMSL) (NAVD 88)
APPLICANT: COMMNET WIRELESS, LLC
 1562 NORTH PARK STREET
 CASTLE ROCK, COLORADO 80109
CONTACT: DAVE TILLER
 (720) 357-5384
PROPERTY OWNER: BLM
 UNITED STATES OF AMERICA
APN NUMBER: 066-080-33
CURRENT ZONING: TBD
CONSTRUCTION TYPE: VB
NEW USE: U
OCCUPANCY: VACANT LAND
CURRENT USE: UNMANNED TELECOMMUNICATIONS FACILITY
LEASE AREA: 1459 SF

UTILITY TABLE

UTILITY:	PROVIDER:
WATER	N/A
SEWER	N/A
ELECTRICAL	N/A - SOLAR SITE
TELEPHONE/FIBER	TBD
POLICE	WASHOE COUNTY
FIRE	WASHOE COUNTY

SHEET INDEX

TITLE:	DESCRIPTION:
T-1	TITLE SHEET & PROJECT INFORMATION
GN-1	GENERAL NOTES
SN-1	SITE SIGNATE DETAILS
A-1	OVERALL SITE PLAN
A-2.0	ENLARGED SITE PLAN
A-2.1	EQUIPMENT LAYOUT
A-3	SITE ELEVATION & DETAILS
A-4.0	COMMNET'S ENGINEERING DATA SHEET
A-4.1	COMMNET'S PLUMBING DIAGRAM
A-4.2	FIRSTNET'S ENGINEERING DATA SHEET
A-4.3	FIRSTNET'S PLUMBING DIAGRAM
A-5	ZTE CABINET & DETAILS
A-6.0	CONSTRUCTION DETAILS
A-6.1	CONSTRUCTION DETAILS
A-7	CONSTRUCTION DETAILS
A-8	CONSTRUCTION DETAILS
E-1	OVERALL ELECTRICAL PLAN & ELECTRICAL NOTES
E-2	ONE-LINE DIAGRAM & DETAILS
G-1	GROUNDING PLAN
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
S-1	STRUCTURAL NOTES
S-2	MASONRY DETAILS
S-3	BUILDING FOUNDATION & ROOF FRAMING PLAN
S-4	ROOF PLAN, BUILDING ELEVATIONS & SECTION
S-5	CONSTRUCTION DETAILS
S-6	CONSTRUCTION DETAILS

APPROVAL BOX

DEPARTMENT:	SIGNATURE:	DATE:
PROJECT MANAGER		
CONSTRUCTION MANAGER		
RF MANAGER		
PROPERTY OWNER REPRESENTATIVE		



1337 E DESERT FLOWER LANE
 PHOENIX, AZ 85048
 PHONE: (480) 213-8524

PE SEAL



DESIGNER: JASON NGO
 LEAD EE: SB
 LEAD CE/SE: SAM

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
B	7/7/18	REVISED	JN
C	2/19/19	REVISED	JN
D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
F	4/2/19	REVISED CD	JN

THE INFORMATION CONTAINED IN THIS DOCUMENT IS UNLESS OTHERWISE SPECIFIED THE PROPERTY OF COMMNET WIRELESS. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMMNET WIRELESS. STRICTLY PROHIBITED.

SITE NAME

FOX MOUNTAIN, NV

PROJECT

RAW LAND BUILD

SITE ADDRESS

LAT: 41°01'31.25374"N
 LONG: 119°33'30.09025"W
 10140 A FOX MOUNTAIN ROAD
 GERLACH, NV 89412

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES – SCOPE OF WORK REVISION 9-19-16

THE CONTRACTOR SHALL CONDUCT ALL ACTIVITIES WHETHER CONSTRUCTION RELATED OR AFTER-HOURS WITH A HIGH DEGREE OF ETHICS AND APPROPRIATE BEHAVIOR.

THE CONTRACTOR SHALL PROVIDE A COMPLETE INSTALLATION IN ACCORDANCE WITH THE CONSTRUCTION PLANS PROVIDED AND DIRECTION OF THE CONSTRUCTION/PROJECT MANAGERS.

THE GC WILL NOT START CONSTRUCTION UNTIL EACH OF THE FOLLOWING HAS BEEN COMPLETED: PRE-CONSTRUCTION MEETING HAS BEEN HELD; BUILDING PERMIT HAS BEEN SECURED, AND THE PROJECT ENGINEER HAS AUTHORIZED START OF CONSTRUCTION.

THE CONTRACTOR SHALL NOT BE EXPECTED TO POWER-UP, COMMISSION OR BRING ON-LINE ANY EQUIPMENT.

THE CONTRACTOR SHALL ENSURE SITE AREA IS CLEAN AND FREE OF CONSTRUCTION DEBRIS ON A DAILY BASIS.

THE CONTRACTOR MAY BE REQUIRED TO ASSIST WITH PERMIT APPLICATIONS AND PLAN SUBMITTALS.

THE CONTRACTOR SHALL CALL-IN AND COORDINATES ALL NECESSARY INSPECTIONS WITH THE PROPER CITY, COUNTY, STATE AUTHORITY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IDENTIFIED BY OSHA REGULATIONS. UPON REQUEST, THE CONTRACTOR SHALL PROVIDE DOCUMENTS SHOWING COMPLIANCE.

THE CONTRACTOR SHALL SUPPLY ALL TOOLS NECESSARY TO COMPLETE CONSTRUCTION INCLUDING INSTALLATION OF GROUNDING SYSTEM, IN ACCORDANCE WITH THE PLANS.

THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS THAT DEMONSTRATE COMPLETION OF CONSTRUCTION AND THAT NOTE ANY DEVIATIONS FROM THE PLANS.

BID WALK

A BID WALK WILL BE HELD ON-SITE TO DISCUSS ANY QUESTIONS OR POSSIBLE SUGGESTIONS THAT GC'S MAY HAVE IN REGARDS TO THIS INSTALLATION. BID WALK IS OPTIONAL BUT NO CHANGE ORDERS WILL BE ALLOWED UNLESS APPROVED CM. BID WALK IS DESIGNED TO CLEAR UP ANY CONCERNS OR QUESTIONS THAT GC'S MAY HAVE ABOUT THE INSTALLATION.

DATE:

TIME:

GENERAL CONTRACTOR'S PROJECT MANAGER (CONTRACTOR PM) BEFORE THE COMMENCEMENT OF ANY WORK. THE GC WILL ASSIGN A CONTRACTOR PROJECT MANAGER (CONTRACTOR PM) WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS CONTRACTOR PM WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT, WHICH WILL BE SUBMITTED TO THE CWL CM PRIOR TO THE COMMENCEMENT OF ANY WORK. THIS CONTRACTOR PM WILL ALSO:

SCHEDULE AN ON-SITE MEETING PRIOR TO PROJECT START, WITH ALL MAJOR PARTIES PRESENT. APPROPRIATE PARTIES INCLUDE (BUT ARE NOT LIMITED TO) CWL CM, CWL LOCAL OPERATIONS POC (MANAGER, SUPERVISOR OR TECHNICIAN), LOCAL POWER COMPANY, DESIGNATED ELECTRICIAN, LOCAL TELEPHONE COMPANY, GC CREW CHIEF / FOREMAN. THE CONTRACTOR PM WILL PROVIDE DAILY VERBAL UPDATES ON SITE WORK PROGRESS TO THE CWL CM.

CIVIL

THE CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND PIPES/CONDUITS USING AN INDEPENDENT UNDERGROUND LOCATOR SERVICE.

THE CONTRACTOR SHALL COORDINATE EXCAVATION WORK WITH CM/OWNER SO AS NOT TO INTERFERE WITH COMPOUND ACCESS BY SITE OWNER AND/OR CURRENT TENANTS.

ALL EXCAVATION SHALL BE DONE WITH CARE TO AVOID DAMAGING UNDERGROUND PIPES/CONDUITS. ANY DAMAGE CAUSED BY CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY AND MONITORED BY THE CONTRACTOR UNTIL REPAIRS ARE COMPLETED. THE CONTRACTOR SHALL NOTIFY THE CM BY PHONE IMMEDIATELY IF DAMAGE TO UNDERGROUND FACILITIES IS CAUSED BY CONSTRUCTION AND THE CONTRACTOR SHALL SUBMIT A WRITTEN REPORT OF THE INCIDENT TO THE CM AND TO THE OWNER OF THE DAMAGED FACILITIES WITHIN 24 HOURS.

THE CONTRACTOR SHALL ENSURE THAT THE SITE IS GRADED PROPERLY DURING CONSTRUCTION TO AVOID STANDING WATER AND USE APPROVED BACKFILL METHODS FOR ANY TRENCH WORK REQUIRED. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS USING LIKE MATERIALS.

ELECTRICAL
THE CONTRACTOR SHALL INSTALL SECONDARY ELECTRICAL SERVICES ACCORDING TO THE PLANS AND CURRENT NEC AND LOCAL CODES. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED ELECTRICAL INSPECTIONS.

TELCO – SHELTER (IF APPLICABLE)

IT IS THE CONTRACTOR RESPONSIBILITY TO PROVIDE AND RUN TELEPHONE CABLE FROM THE TELCO BOX ON THE H-FRAME TO THE TELCO TERMINATION POINT INSIDE THE EQUIPMENT SHELTER. CABLE SHALL CONSIST OF TWO (2) EACH 25-PAIR SHIELDED TELEPHONE CABLES AND 1 PULL STRING. CABLE WILL BE RUN INSIDE A 3" PVC PIPE. CONDUITS WILL BE OUTFITTED WITH ABOVE-GROUND FROST-SLEEVES ON BOTH ENDS, AND INTERNAL CABLES MUST BE INSTALLED WITH ABOUT 8" OF SLACK TO ALLOW FOR POTENTIAL FROST-HEAVE RELIEF. ALSO, LEAVE ONE PULL-STRING INSIDE THE CONDUIT – TIED OFF AT BOTH ENDS – FOR POTENTIAL FUTURE USE.

TELCO – OUTDOOR EQUIPMENT (IF APPLICABLE)

IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL 2 TELEPHONE CABLE (CAT5) AND A PULL STRING FROM THE TELCO BOX ON THE H-FRAME TO THE TELCO TERMINATION POINT INSIDE THE EQUIPMENT CABINET OR DSX LOCATION.

EQUIPMENT SHELTER (IF APPLICABLE)

THE CONTRACTOR PM MUST PREPARE A "SPREAD-FOOTING AND PERIMETER-TYPE" (OR PERIMETER WITH SLAB) FOUNDATION FOR THE SHELTER BASED ON SITE PLANS. DIMENSIONS AND SPECIFICATIONS (INCLUDING REBAR PLAN) WILL BE AS INDICATED ON APPROVED FINAL SITE DRAWINGS.

ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AS SPECIFIED IN THE BUILDING SPECIFICATIONS. CONCRETE SAMPLES ARE TO BE TESTED AND THE RESULTS PROVIDED TO THE SITE DEVELOPMENT ENGINEER. IF THE RESULTS DO NOT MEET MINIMUM REQUIREMENTS AND IS DETERMINED TO BE UNACCEPTABLE, CONTRACTOR IS RESPONSIBLE FOR CORRECTING THE DEFICIENCIES.

THE GC'S FOUNDATION INSTALLATION SHALL INCLUDE:

- FOUNDATION LAYOUT
- EXCAVATION
- REINFORCING STEEL
- CONCRETE
- CONCRETE TESTING
- PITCHING TO PREVENT WATER COLLECTION ON THE 4' X 4' SHELTER ENTRANCE
- BACK FILL AND COMPACTION

COORDINATION OF SHELTER DELIVERY, OFFLOAD, AND SET, ALONG WITH ALL NECESSARY PERMITS TO TRAVERSE PUBLIC ROADS AND GAIN ACCESS TO THE SITE, AND APPROPRIATE OFFLOAD TOOLS, ARE THE RESPONSIBILITY OF THE CONTRACTOR PM (THIS APPLIES TO THINGS SUCH AS: SHELTER DELIVERY VEHICLE(S), CRANE, CULVERTS, CURB-CUTS, TRAFFIC CONTROL, ROAD RESTRICTIONS, ETC).

THE CONTRACTOR PM WILL COMMUNICATE DIRECTLY WITH THE DRIVER OF THE SHELTER DELIVERY VEHICLE TO VERIFY ACTUAL SHELTER AND CONTENTS WEIGHT – AS WEIGHED BY HIGHWAY SCALES. THE CONTRACTOR PM IS RESPONSIBLE TO COORDINATE THE APPROPRIATELY SIZED / RATED CRANE AND LIFTING EQUIPMENT (IE: SPREADER BARS, LIFTING CABLES, LIFTING SHACKLES, ETC), BASED ON THE ACTUAL WEIGHT OF SHELTER AND CONTENTS.

POWER AND EQUIPMENT BAYS (IF APPLICABLE)

THE CONTRACTOR SHALL INSTALL ALL INTER-BAY CONNECTIONS ACCORDING TO THE PLANS, WHICH INCLUDE TELCO, DC CIRCUITS, ALARM CABLES, AND BATTERIES.

ALL EQUIPMENT BAY CONTACT AND SECURE POINTS ARE MADE OF ALUMINUM. IT IS EXPECTED THAT NO POWER TOOLS SHALL BE UTILIZED TO SECURE THE CARDS AND CABLES IN TO PLACE.

ANTENNAS/COAX/POWER/FIBER

THE CONTRACTOR SHALL USE TRUE NORTH TO SET ALL ANTENNA AZIMUTHS.

THE CONTRACTOR, IN ORDER TO MEET THE PERFORMANCE REQUIREMENTS FOR E-911 FOR COMMNET, AND OTHER PERFORMANCE/QUALITY CONTROL, SHALL USE AN ANTENNA ALIGNMENT TOOL IN ORDER TO ACCURATELY CAPTURE ALIGNMENT IN AZIMUTH, TILT, ROLL AND (OPTIONALLY) AGL HEIGHT. THE CONTRACTOR SHOULD USE EQUIPMENT OF GOOD QUALITY AND PREFERRED THOUGHT THE WIRELESS INDUSTRY.

THE CONTRACTOR SHALL TRANSPORT ANTENNAS IN A MANNER THAT WILL NOT DAMAGE OR EFFECT THE ANTENNAS PERFORMANCE AND PRE-SWEEP OR IF AVAILABLE PIM TEST PRIOR TO INSTALL.

THE CONTRACTOR SHALL INSPECT, CLEAN AND TEST FIBER CABLES PRIOR TO INSTALLING AND RECORD THE RESULTS TO CWL CM.

THE CONTRACTOR SHALL BY USE OF A TORQUE WRENCH, PROPERLY TORQUE JUMPER, COAX ANTENNAS, CONNECTIONS TO INSURE A SECURE CONNECTION AND TO AVOID OVER TIGHTENING.

THE CONTRACTOR WILL ATTACH ANTENNAS USING PROPER MOUNTING BRACKETS.

THE CONTRACTOR SHALL VERIFY THAT PIPE MOUNTS ARE VERTICAL (PLUMB).

THE CONTRACTOR SHALL COLD GALVANIZE SPRAY ALL DAMAGED PARTS OF THE HOT DIP GALVANIZATION.

THE CONTRACTOR SHALL INSTALL GROUNDING IN ACCORDANCE WITH THE PLANS AND MANUFACTURER'S RECOMMENDATIONS. GROUNDING KITS TO BE INSTALLED AT INTERVALS OF 100' ON TOWER.

THE CONTRACTOR SHALL INSTALL ICE-BRIDGE FROM TOWER TO THE APPROPRIATE RF BAY OR EQUIPMENT SHELTER, IF REQUIRED.

THE CONTRACTOR SHALL ROUTE SPECIFIED COAX/POWER/FIBER CABLES ALONG CABLE TRAY/ICE-BRIDGE USING HANGERS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL MARK EACH COAXIAL/POWER/FIBER CABLE IN ACCORDANCE WITH THE ANTENNA/FEEDLINE COLOR CODE SHEET AS SHOWN IN THE PLANS.

THE CONTRACTOR SHALL INSTALL HOISTING GRIPS, ACCORDING TO MANUFACTURER'S RECOMMENDATIONS (AS APPLICABLE).

THE CONTRACTOR SHALL INSTALL SURGE ARRESTORS/BIAS-T, IF REQUIRED, AND BUSS BARS IN APPROVED LOCATIONS.

THE CONTRACTOR SHALL WEATHERPROOF ALL COAX CONNECTIONS IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL PERFORM A "TAPE DROP" MEASUREMENT TO CONFIRM / VALIDATE ANTENNA CENTER LINE (ACL) HEIGHT.

GROUNDING

THE CONTRACTOR SHALL INSTALL THE GROUNDING SYSTEM IN ACCORDANCE WITH THE PLAN.

THE CONTRACTOR SHALL ROUTE GROUND LEADS TO ALL GROUNDING POINTS AND GROUND LEADS BY USING EXOTHERMIC WELDS OR APPROVED MECHANICAL COMPRESSION CONNECTIONS.

THE CONTRACTOR SHALL APPLY OXIDE-INHIBITING COMPOUND IN ALL REQUIRED LOCATIONS.

FOR NEW CONSTRUCTION, THE CONTRACTOR SHALL PERFORM A MEGGER TEST AFTER ALL ATTACHMENTS HAVE BEEN MADE TO THE EQUIPMENT AND PROVIDE READINGS TO THE CM FOR CLOSE OUT REPORTS.

IF REQUIRED, THE CONTRACTOR SHALL PROVIDE PHOTOS VERIFYING THAT ALL GROUND LEADS ARE IN PLACE AND CONNECTED TO SUBSURFACE GROUND RING PRIOR TO BACKFILLING GROUND SYSTEM EXCAVATION (CAD WELD OR BURNDY HY-GROUND CONNECTIONS BELOW GRADE).

MATERIALS

SECURITY AND PRESERVATION OF SITE MATERIALS AND EQUIPMENT ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. IN THE EVENT OF DAMAGE, THE CONTRACTOR SHALL PRESERVE THE ORIGINAL CONTAINER AND CONTACT CWL/CWL CM IMMEDIATELY.

THE CONTRACTOR SHALL COMPLETE INVENTORY VERIFICATION NO LATER THAN ONE (1) BUSINESS DAY AFTER RECEIPT OF MATERIALS. TO INDICATE COMPLETION OF INVENTORY, THE CONTRACTOR SHALL SIGN AND DATED A COPY OF MATERIAL LIST AND GIVE TO THE CM. ANY MISSING MATERIAL SHALL BE REPORTED THE CM IMMEDIATELY.

NOTE: FAILURE TO PERFORM INVENTORY VERIFICATION AS REQUIRED INDICATES ACKNOWLEDGEMENT FROM THE CONTRACTOR THAT THE MATERIALS AND EQUIPMENT WERE RECEIVED IN THEIR ENTIRETY AND THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY AND REPLACEMENT COSTS FOR EQUIPMENT SHORTAGES.

MISCELLANEOUS NOTES

THE CONTRACTOR SHALL REQUEST APPROVAL FROM THE CM FOR ANY CHANGES OR DEVIATIONS FROM THE PLANS.

FOR CHANGES THAT REQUIRED ADDITIONAL COSTS, THE CM WILL COMPLETE A CHANGE ORDER FORM OUTLINE THE REASON FOR THE CHANGE AND ITS COSTS.

SWEEP/PIM/FIBER TEST

AFTER THE INSTALLATION OF ANTENNAS & LINES, THE GENERAL CONTRACTOR SHALL SWEEP AND TEST ALL COMPONENTS AND PROVIDE A HARD COPY REPORT OF THE RESULTS. A GRAPH PRINTOUT IS TO BE PROVIDED TO THE LOCAL NETWORK OPERATIONS MANAGER AND CM BY THE GC FOR APPROVAL. SWEEP TESTS SHOULD BE PERFORMED BY THE GC TERMINATING EACH RUN OF COAX WITH A SHORT, 50 OHM LOAD, AND ANTENNA WITH JUMPER AND PROVIDING RETURN LOSS RESULTS.

AFTER THE INSTALLATION OF FIBER TRUNKS AND JUMPERS, THE GC SHOULD PROPERLY RE-TEST THE FIBER TO CONFIRM THE RESULTS ARE WITHIN TOLERANCE OF THE MANUFACTURES SUGGESTED LIMITS.

IF CONTRACTORS OFFER PIM TESTING, PIM TEST SHOULD BE CONDUCTED ON JUMPERS AND ANTENNAS TO CONFIRM THEY ARE IN TOLERANCE AND WORKING PROPERLY.

PIM TESTING STANDARD

REQUIREMENTS FOR PIM TESTING TO A LOAD

PASSING: -103DBM OR -146DBC TO A LOAD

REQUIRES APPROVAL: -102DBM TO -97DBM (-145DBC TO -140DBC) TO A LOAD

FAILING: BELOW -96DBM (-139DBC) TO A LOAD

SWEEP TEST REQUIRED PER EACH COAXIAL CABLE/ANTENNA SYSTEM

-ANTENNA ON GROUND BEFORE INSTALLING ON TOWER

-RETURN LOSS WITH 50 OHM LOAD CONNECTED TO MAIN COAXIAL LINE AND JUMPER

-DISTANCE TO FAULT (DTF) WITH 50 OHM LOAD CONNECTED TO MAIN COAXIAL LINE AND JUMPER

-RETURN LOSS WITH PRECISION SHORT CONNECTED TO MAIN COAXIAL LINE AND JUMPER

-DISTANCE TO FAULT (DTF) WITH PRECISION SHORT CONNECTED TO MAIN COAXIAL LINE AND JUMPER

-RETURN LOSS SYSTEM W/ANTENNA CONNECTED TO MAIN COAXIAL LINE AND JUMPER

-DISTANCE TO FAULT (DTF) SYSTEM W/ANTENNA CONNECTED TO MAIN COAXIAL LINE AND JUMPER

-18 IS THE PASS / FAIL LINE - ALL TESTS PERFORMED FROM THE POINT AT WHICH THE JUMPERS CONNECT TO THE DVPAS INSIDE THE GSM CABINET AND AT THE JUMPER GOING INTO THE CDMA CABINET. ALL LINES, REGARDLESS OF USE, ARE TO BE TESTED.

LEGEND



NORTH ARROW

ANTENNA

GROUND ACCESS WELL

GROUND ROD

GROUND BUSS BAR

MECHANICAL GRND. CONN.

EXOTHERMIC WELD

ELECTRIC BOX

TELEPHONE BOX

LIGHT POLE

FND. MONUMENT

SPOT ELEVATION

SET POINT

REVISION

KEYED NOTE

DETAIL REFERENCE

ELEVATION REFERENCE

SECTION REFERENCE

GROUT OR PLASTER

EXISTING BRICK

EXISTING MASONRY

CONCRETE

EARTH

GRAVEL

PLYWOOD

SAND

WOOD CONT.

WOOD BLOCKING

STEEL

CENTERLINE

PROPERTY/LEASE LINE

RIGHT OF WAY

MATCH LINE

WORK POINT

GROUND CONDUCTOR

TELEPHONE CONDUIT

ELECTRICAL CONDUIT

COAXIAL CABLE

OVERHEAD SERVICE CONDUCTORS

CHAIN LINK FENCING

RET (REMOTE ELECTRICAL TILT)

PDU (POWER DISTRIBUTION UNIT)

ALARM

RAILROAD TRACKS

#####

DESIGNER: JASON NGO

LEAD EE: SB

LEAD CE/SE: SAM

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
B	7/8/18	REVISED	JN
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F	4/2/19	REVISED CD	JN

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SITE NAME

FOX MOUNTAIN, NV

PROJECT

RAW LAND BUILD

SITE ADDRESS

LAT: 41°01'31.25374"N

LONG: 119°33'30.09025"W

10140 A FOX MOUNTAIN ROAD

GERLACH, NV 89412

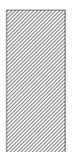
SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

COLOR CODE

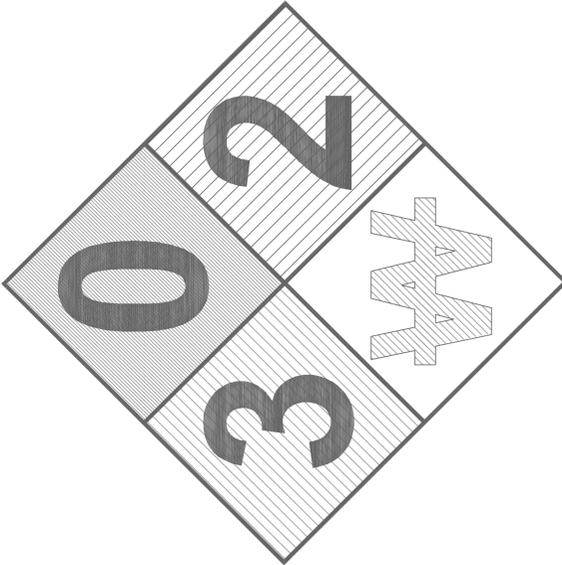
GREY  RED  BLACK 

BLUE  YELLOW 

SCALE: NTS **1**

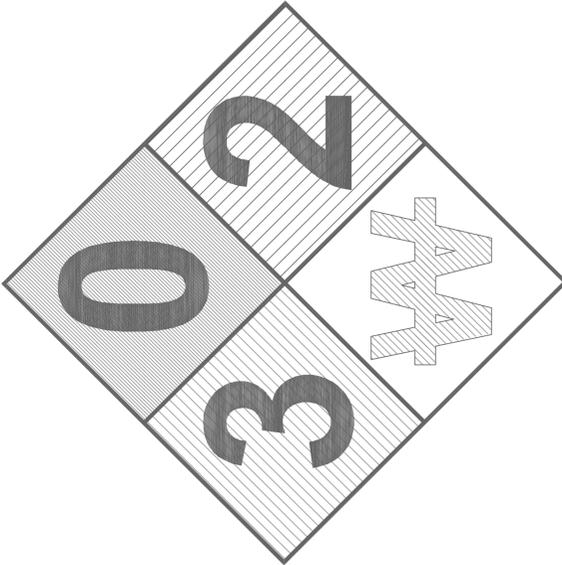
1

WHITE LETTERING / SYMBOL ON RED BACKGROUND (TYP.)



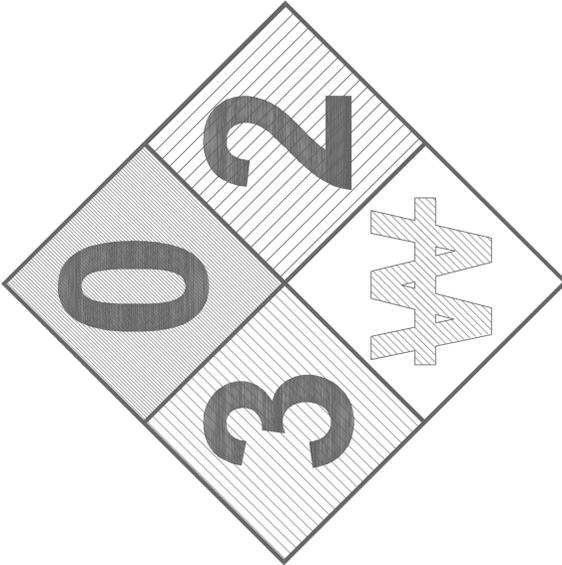
HAZARDOUS MATERIALS SIGNAGE

WHITE LETTERING / SYMBOL ON RED BACKGROUND (TYP.)



REQUIRED NFPA SIGNAGE

WHITE LETTERING / SYMBOL ON RED BACKGROUND (TYP.)



HAZARDOUS MATERIALS SIGNAGE

SCALE: NTS **2**

3

SCALE: NTS

FENCE SIGNAGE

WHITE LETTERING ON RED BACKGROUND (TYP.)



WHITE LETTERING ON RED BACKGROUND (TYP.)



RF SIGNAGE

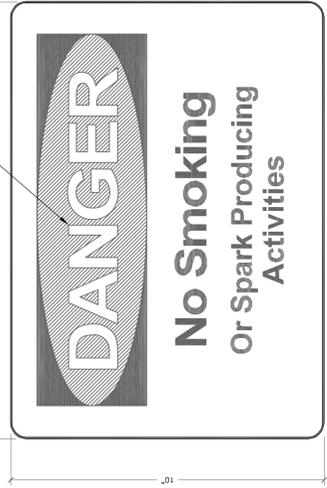
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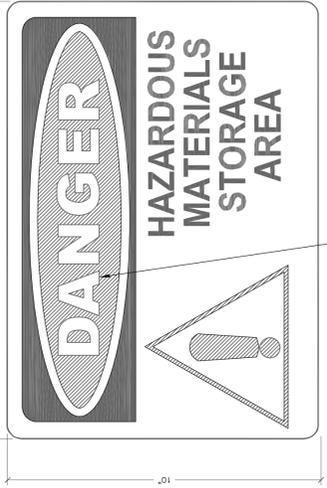
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HAZARDOUS MATERIALS SIGNAGE

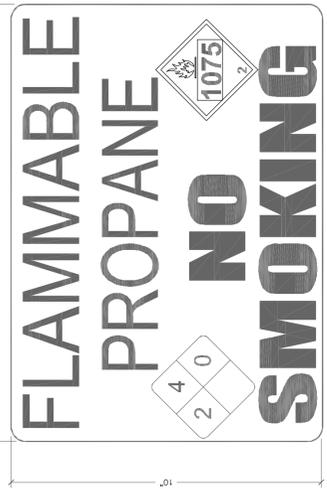
WHITE LETTERING ON RED BACKGROUND (TYP.)



WHITE LETTERING ON RED BACKGROUND (TYP.)



WHITE LETTERING ON RED BACKGROUND (TYP.)



WHITE LETTERING ON RED BACKGROUND (TYP.)



HAZARDOUS MATERIALS SIGNAGE

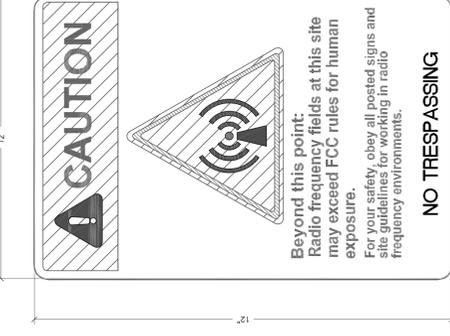
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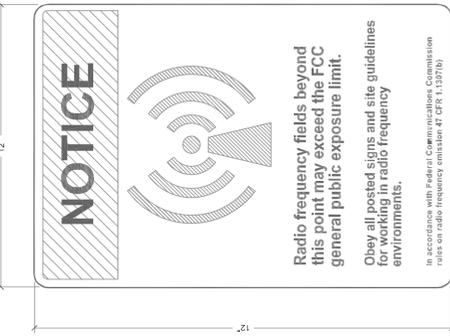
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FENCE SIGNAGE

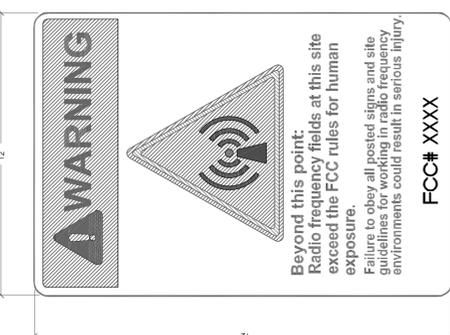
WHITE LETTERING ON RED BACKGROUND (TYP.)



WHITE LETTERING ON RED BACKGROUND (TYP.)



WHITE LETTERING ON RED BACKGROUND (TYP.)



RF SIGNAGE

SCALE: NTS **5**




1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524

PE SEAL



DESIGNER: JASON NGO

LEAD EE: SB

LEAD CE/SE: SAM

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
B	7/8/18	REVISED	JN
C	2/19/19	REVISED	JN
D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
F	4/2/19	REVISED CD	JN

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SITE NAME

FOX MOUNTAIN, NV

PROJECT

RAW LAND BUILD

SITE ADDRESS

LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE

SITE SIGNAGE DETAILS

SHEET NUMBER

SN-1

- COMPOUND PLAN KEYED NOTES: #
1. APPROXIMATE VALLEY GRADE DROP (TYP.)
 2. (E) DIRT ACCESS ROAD
 3. (E) BUILDING (TYP.)
 4. (E) SELF-SUPPORT TOWER (TYP.)
 5. (E) PROPANE TANK
 6. (E) SOLAR PANELS (TYP.)




Abn ENGINEERING
 1337 E DESERT FLOWER LANE
 PHOENIX, AZ 85048
 PHONE: (480) 213-8524

PE SEAL

DESIGNER: JASON NGO
 LEAD EE: SB
 LEAD CE/SE: SAM

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F	4/2/19	REVISED CD	JN

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SITE NAME
 FOX MOUNTAIN, NV

PROJECT
 RAW LAND BUILD

SITE ADDRESS
 LAT: 41°01'31.25374"N
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 10140 A FOX MOUNTAIN ROAD
 GERLACH, NV 89412

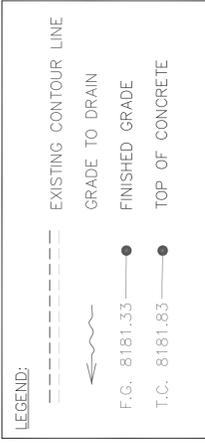
SHEET TITLE
 OVERALL SITE PLAN

SHEET NUMBER
 A-1

22'x34" SCALE: 1" = 10'-0"
 11'x17" SCALE: 1" = 20'-0"

- COMPOUND PLAN KEYED NOTES:**
1. (N) ACCESS DOOR
 2. (N) NEMA 4 J-BOX FOR POWER WIRES TRANSITION FROM U.G. TO SHELTER
 3. (N) EQUIPMENT SHELTER
 4. (N) BREAKER PANEL
 5. (N) FIRSTNET ALU CABINET
 6. (N) ZTE CABINET
 7. (N) MW RACK
 8. (N) CABLE LADDER, SUPPLIED BY GC
 9. (N) DC GENERATOR
 10. (N) GPS ANTENNA, SEE DETAIL 6 ON SHEET A-5
 11. (N) ICE BRIDGE, SEE DETAIL 5 ON SHEET A-5
 12. (N) 150' TALL MONOPOLE, SEE SHEET A-3 FOR MORE DETAILS
 13. NOT USED
 14. NOT USED
 15. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #1 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2
 16. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #2 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2
 17. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #3 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2
 18. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #4 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2
 19. (N) SOLAR ARRAY #1
 20. (N) SOLAR ARRAY #2
 21. (N) SOLAR ARRAY #3
 22. (N) SOLAR ARRAY #4
 23. (N) SOLAR ARRAY #5
 24. (N) 1000 GALLON PROPANE TANK (TYP. OF 2) MOUNTED ON NEW INTERLOCK PAVERS
 25. (N) SUPPORT PIPE (TYP.), SEE DETAIL 2 ON SHEET A-8
 26. (N) 1000 GALLON PROPANE TANK MOUNTED ON NEW INTERLOCK PAVERS
 27. (N) BOLLARD (TYP. OF 7), SEE DETAIL 1 ON SHEET A-8
 28. (N) U.G. CONDUIT FOR POLYETHYLENE FLEXIBLE GAS TUBING FROM PROPANE TANKS TO MOISTURE SLIP SEAL TEE, SEE DETAIL 4 ON SHEET A-8
 29. (N) MOISTURE SLIP SEAL TEE
 30. (N) U.G. CONDUIT FOR POLYETHYLENE FLEXIBLE GAS TUBING FROM MOISTURE SLIP SEAL TEE TO GENERATOR, SEE DETAIL 4 ON SHEET A-8
 31. APPROXIMATE VALLEY GRADE DROP

NOTE:
SOLAR ARRAYS TO FACE SOUTH



ABN ENGINEERING
1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524

PE SEAL
JASON NGO
DESIGNER:
LEAD EE: SB
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SITE NAME
FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
A-2.0

22"x34" SCALE: 3/8" = 1'-0"
11"x17" SCALE: 3/16" = 1'-0"

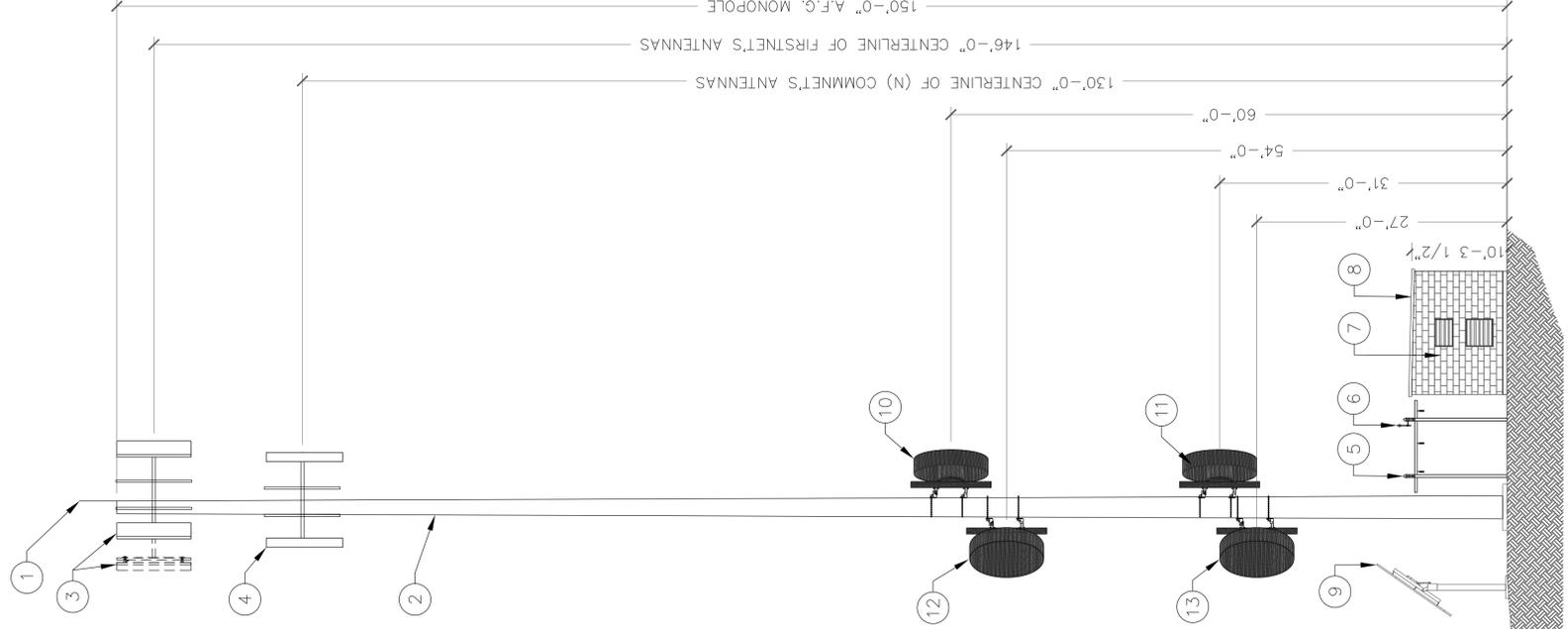
ENLARGE SITE PLAN

ELEVATION KEYED NOTES: #

- (N) 4' LIGHTING ROD
- (N) 150' TALL MONOPOLE
- (N) FIRSTNET'S ANTENNAS
- (N) COMMNET'S ANTENNAS
- (N) ICE BRIDGE
- (N) GPS ANTENNA
- (N) EQUIPMENT SHELTER
- (N) SLOPE ROOF
- (N) SOLAR ARRAY (TYP.)
- (N) (1) 8' MW DISH @ 60° RAD CENTER (TO SITE EMPIRE)
- (N) (1) 8' MW DISH [DIVERSITY] @ 31° RAD CENTER (TO SITE EMPIRE)
- (N) (1) 8' MW DISH @ 54° RAD CENTER (TO SITE VYA)
- (N) (1) 8' MW DISH [DIVERSITY] @ 27° RAD CENTER (TO SITE VYA)

NOTES:

(N) PROPANE TANKS ARE NOT VISIBLE ON THIS VIEW



SITE ELEVATION

22'x34" SCALE: 1/8" = 1'-0"
11'x17" SCALE: 1/16" = 1'-0"

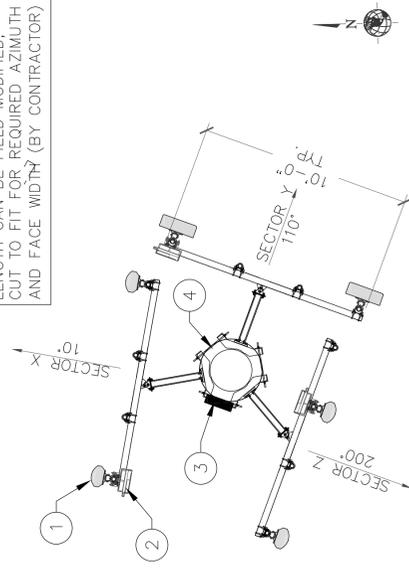


COMMNET'S ANTENNA LAYOUT KEYED NOTES: #

- (N) (2) RET DUAL BAND PANEL ANTENNAS, (3) SECTORS, TOTAL OF (6) ANTENNAS @ 10°, 110° & 200° AZIMUTH, MOUNTED ON (3) NEW PIPE FRAME STAND-OFF BRACKETS @ 130'-0" RAD CENTER. REFER TO SHEET A-4 FOR ANTENNA MODEL DETAILS
- (N) (1) RRU PER SECTOR. TOTAL OF (3) RRUS. SEE DETAILS 1, 2 & 3 ON SHEET A-6
- (N) (1) FITTA DISTRIBUTION BOX
- (N) (1) 150' TALL MONOPOLE

NOTE:

AS NEEDED, THE T-ARM FACE LENGTH CAN BE FIELD MODIFIED, CUT TO FIT FOR REQUIRED AZIMUTH AND FACE WIDTH (BY CONTRACTOR)



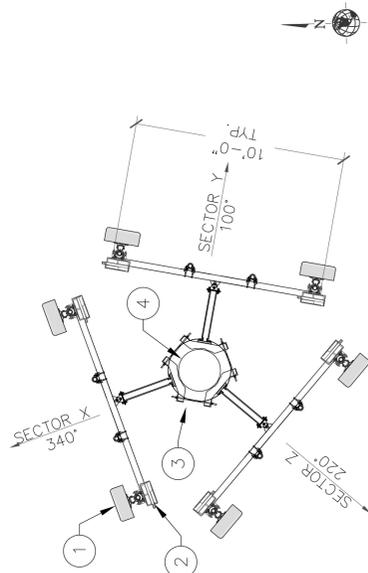
COMMNET'S ANTENNA LAYOUT

SCALE: NTS

2

FIRSTNET'S ANTENNA LAYOUT KEYED NOTES: #

- (N) (2) RET OCTOPORT PANEL ANTENNAS, (3) SECTORS, TOTAL OF (6) ANTENNAS @ 340°, 100° & 220° AZIMUTH, MOUNTED ON (3) NEW PIPE FRAME STAND-OFF BRACKETS @ 146" RAD CENTER. REFER TO SHEET A-4 FOR ANTENNA MODEL DETAILS
- (N) (2) RRHS PER SECTOR. TOTAL OF (6) RRUS. SEE DETAILS 1, 2 & 3 ON SHEET A-6
- (N) (1) FITTA DISTRIBUTION BOX
- (N) (1) 150' TALL MONOPOLE



FIRSTNET'S ANTENNA LAYOUT

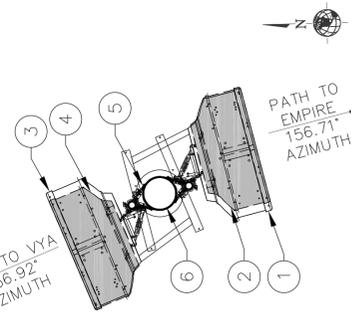
SCALE: NTS

3

MW DISH LAYOUT KEYED NOTES: #

- (N) (1) 8' MW DISH @ 60° RAD CENTER (336.92° AZIMUTH) (TO SITE EMPIRE)
- (N) (1) 8' MW DISH [DIVERSITY] @ 31° RAD CENTER (336.92° AZIMUTH) (BELOW) (TO SITE EMPIRE)
- (N) (1) 8' MW DISH @ 54° RAD CENTER (165.26° AZIMUTH) (TO SITE VYA)
- (N) (1) 8' MW DISH [DIVERSITY] @ 27° RAD CENTER (165.26° AZIMUTH) (BELOW) (TO SITE VYA)
- DISH MOUNT WITH SUPPORT BRACKET FOR TIE-BACK ARMS (TYP.)
- (N) 150' TALL MONOPOLE

PATH TO VYA
336.92° AZIMUTH



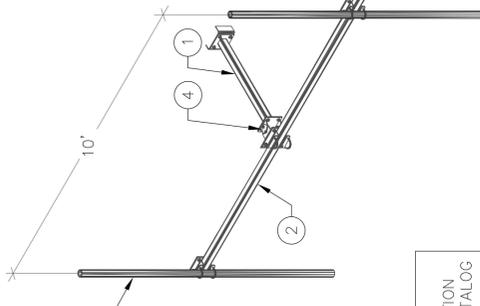
MV DISH LAYOUT

SCALE: NTS

4

STANDOFF KEYED NOTES: #

- 3' STANDOFF
- T-ARM
- PIPE MOUNT (TYP.)
- SWIVEL ASSEMBLY



NOTE:
FOR MORE INFORMATION AND INSTALLATION PLEASE REFER THE MANUFACTURER CATALOG

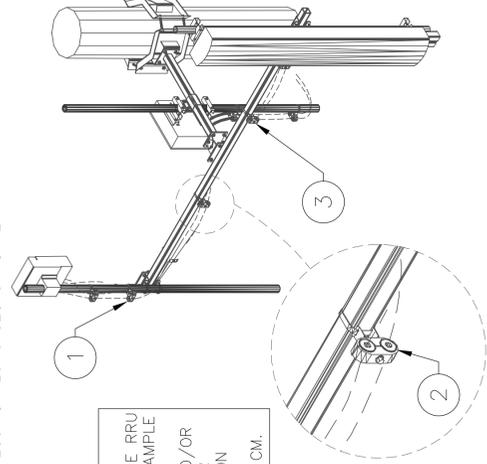
TYPICAL STANDOFF

SCALE: NTS

5

CABLE SECURED KEYED NOTES: #

- TYPICAL CABLE DRESSING ALONG MOUNTING PIPE
- CABLE BLOCK WITH UNIVERSAL SNAP-IN STANDOFF AND BANDING STRAP/ROUND MEMBER ADAPTER (TYP.)
- TYPICAL CABLE DRESSING ALONG SECTOR GATE



NOTE:
THE LOCATION OF THE RRU IS SHOWN AS AN EXAMPLE ONLY. GC TO REVIEW ANTENNA DETAIL AND/OR SCOPE OF WORK FOR SPECIFIC INSTALLATION DETAIL OR SEEL CLARIFICATION FROM CM.

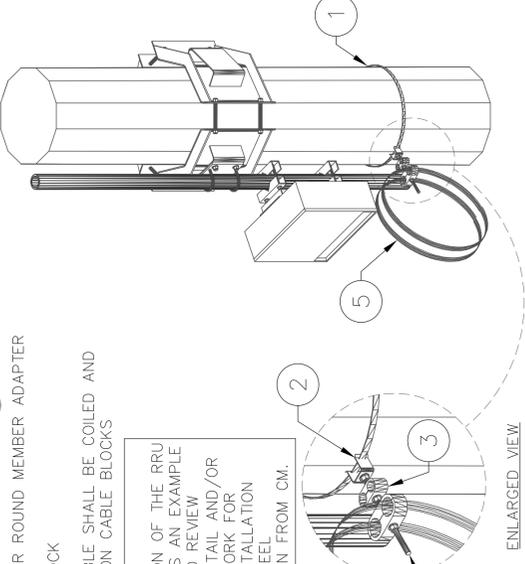
CABLE SECURED DETAIL

SCALE: NTS

6

CABLE SECURED KEYED NOTES: #

- BANDING OR ROUND MEMBER ADAPTER
- STANDOFF
- CABLE BLOCK
- ALLTHREAD
- EXCESS CABLE SHALL BE COILED AND SECURED ON CABLE BLOCKS



NOTE:
THE LOCATION OF THE RRU IS SHOWN AS AN EXAMPLE ONLY. GC TO REVIEW ANTENNA DETAIL AND/OR SCOPE OF WORK FOR SPECIFIC INSTALLATION DETAIL OR SEEL CLARIFICATION FROM CM.

EXCESS CABLE SECURED DETAIL

SCALE: NTS

7



Abn ENGINEERING
1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524



DESIGNER: JASON NGO
LEAD EE: SB
LEAD CE/SE: SAM

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
B	7/8/18	REVISED	JN
C	2/19/19	REVISED	JN
D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
F	4/2/19	REVISED CD	JN

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SITE NAME
FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
SITE ELEVATION & DETAILS

SHEET NUMBER
A-3

SUMMARY:
WARNING WHEN DRILLING, WEAR THE NECESSARY PROTECTIVE GEAR, SUCH AS GLOVES AND SAFETY GLASSES.

CAUTION:
UNEVEN BOLT INSTALLATION CAN DAMAGE CABINET FLOOR.

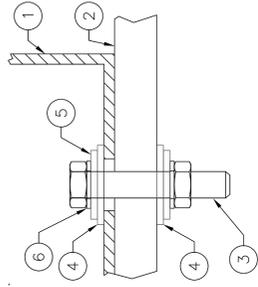
NOTE:
1. THE DIAMETER OF THE ANCHOR HOLE IN THE CABINET FLOOR IS 9/16" THE ANCHOR BOLT SIZE IS 1/2" X 2" - 13 TPI (N.C.)
2. CONTRACTOR CAN MARK ANCHOR HOLE LOCATIONS THROUGH THE FLOOR WITH THE CABINET IN PLACE OR USING A CARDBOARD TEMPLATE.
3. CONTRACTOR CAN MAKE THE TEMPLATE BY TRACING THE OUTLINE OF THE CABINET BOTTOM INCLUDING THE ANCHOR HOLES.

MOUNTING THE CABINET STEPS:

- LIFT THE CABINET INTO PLACE ON THE STEEL PLATFORM TO MARK BOLT HOLE LOCATIONS.
- MARK THE BASE THROUGH THE MOUNTING BOLT HOLES.
- MOVE THE CABINET OFF THE BASE, IF NECESSARY.
- DRILL THE ANCHOR HOLES MARKED ON THE PLATFORM AND CLEAR ANY DEBRIS.
- LIFT THE CABINET INTO PLACE AND ALIGN IT OVER THE DRILLED HOLES.
- INSERT WASHER ON BOLT AND INSERT BOLT/ WASHER THROUGH HOLE.
- ON EACH BOLT (UNDERNEATH) INSTALL A FLAT WASHER AND SECURE IT WITH A NUT.
- TIGHTEN THE NUTS.

EQUIPMENT ANCHORAGE KEYED NOTES: (#)

- CABINET FRAMING
- FLOOR
- 1/2" DIA. THRU BOLT (TOTAL 4); VERIFY SIZE W/ MANUFACTURER SPECS.
- 1/2" WASHER (SERIES W)
- FLAT WASHER
- LOCK WASHER



CABINET BOLTING DETAIL

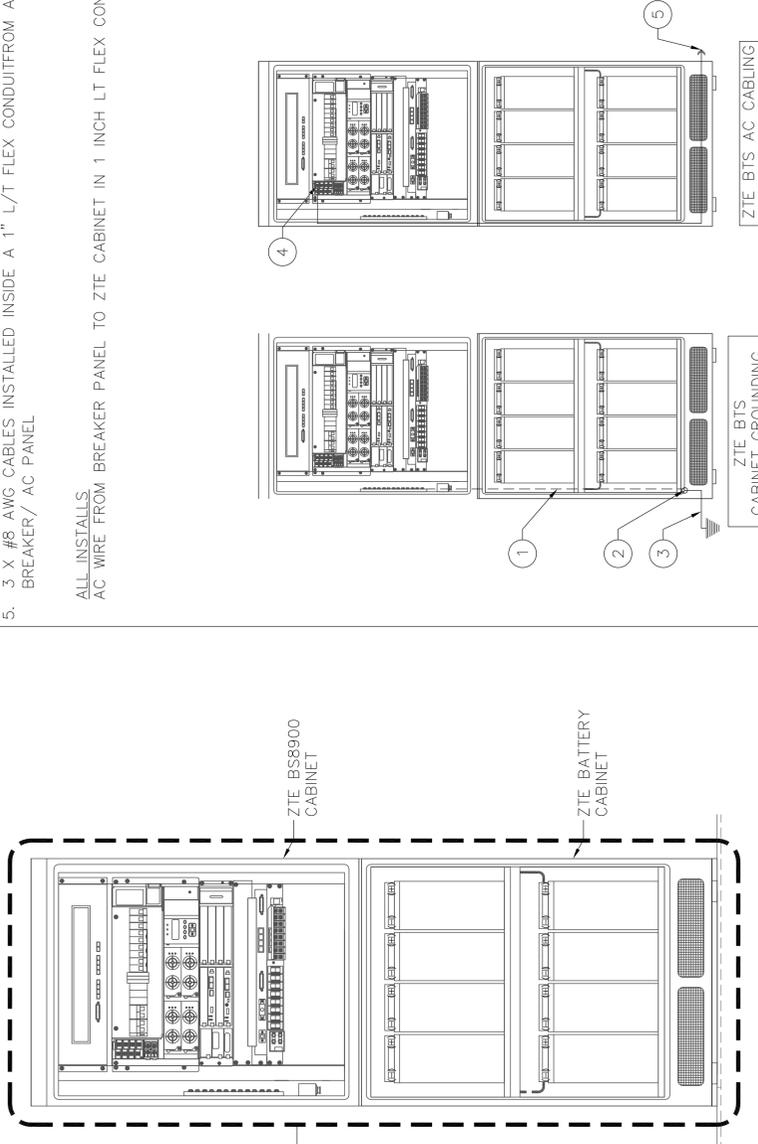
SCALE: N.T.S. **1**

ZTE CABINET BOLTING

ZTE CABINET WIRING KEYED NOTES: (#)

- #2 AWG STRANDED GROUND WIRE TO CABINET BUSS BAR
- #12 AWG SOLID TINNED GROUND RING TAIL
- SINGLE HOLE GROUND TERMINATION - USE STAR WASHERS
- AC CONNECTION
- 3 X #8 AWG CABLES INSTALLED INSIDE A 1" L/T FLEX CONDUIT FROM A 40 AMP BREAKER/ AC PANEL

ALL INSTALLS:
AC WIRE FROM BREAKER PANEL TO ZTE CABINET IN 1 INCH LT FLEX CONDUIT



CABINET ELEVATION

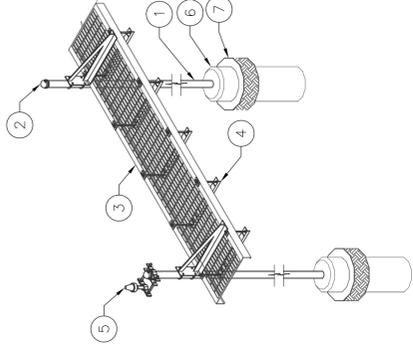
SCALE: N.T.S. **2**

ZTE CABINET WIRING

SCALE: N.T.S. **4**

ICE BRIDGE KEYED NOTES: (#)

- 3" SCH. 40 PIPE COLUMN,
- 3/2" FENCE POST CAP
- 24 X10" GRIP SPAN BRIDGE CHANNEL
- TRAPEZE KIT (TYP.)
- GPS ANTENNA
- 18" Ø CONCRETE FORM TUBE 4" ABOVE GRADE & 36" BELOW GRADE (CONCRETE 3000 PSI COMP. STRENGTH MINIMUM)
- FINISHED GRADE MATCH EXISTING SURFACING



NOTE:

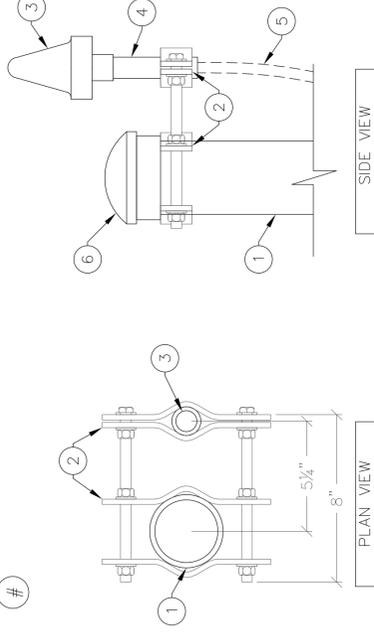
- FOR MORE INFORMATION AND INSTALLATION PLEASE REFER THE MANUFACTURER

ICE BRIDGE DETAILS

SCALE: N.T.S. **5**

GPS ANTENNA MOUNT KEYED NOTES: (#)

- ICEBRIDGE SUPPORT PIPE
- PIPE TO PIPE MOUNTING KIT BY SUPPLIER
- GPS ANTENNA
- GPS ANTENNA MOUNTING PIPE
- GPS ANTENNA COAXIAL CABLE
- SUPPORT PIPE CAP

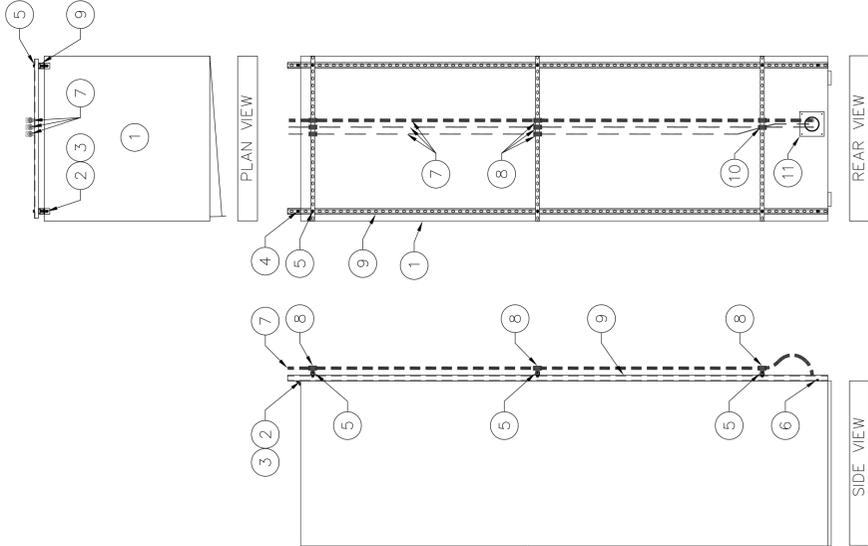


GPS ANTENNA MOUNTING DETAIL

SCALE: N.T.S. **6**

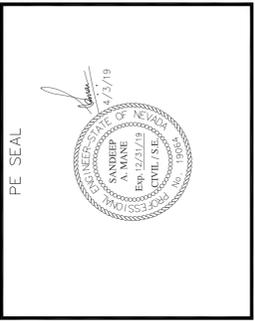
COAX SUPPORT AT EQUIPMENT CABINET KEYED NOTES: (#)

- ZTE CABINET
- 3/8"Øx16 TPI ALL W/ NUT & WASHERS THROUGH CABINET TOP
- UNISTRUT P1068 L BRACKET
- 3/8"Øx16 TPI ALL THREAD W/ WASHERS & BOLTS
- UNISTRUT P3300T 24" LONG MIN. W/ CHANNEL NUT, BOLT & SPRING ATTACHED TO VERTICAL UNISTRUT (TYP.)
- 3/8"Øx16 TPI ALL W/ NUT & WASHERS THROUGH PREDRILLED HOLES IN CABINET BASE FRAME
- FIBER / JUMPER / COAXIAL CABLE
- UNIVERSAL SNAP IN HANGER WITH RUBBER CABLE GROMMET (TYP.)
- VERTICAL UNISTRUT P1068L (TYP.)
- UNIVERSAL DOUBLE SNAP IN HANGER WITH RUBBER CABLE GROMMET
- SINGLE ENTRY PORT WITH ENTRY PORT BOOT



COAX SUPPORT AT EQUIPMENT CABINET

SCALE: N.T.S. **7**



DESIGNER: JASON NGO
LEAD EE: SB

LEAD CE/SE: SAM

REV.	DATE	DESCRIPTION	BY
B	7/8/18	REVISED	JN
C	2/19/19	REVISED	JN
D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
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SITE NAME
FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

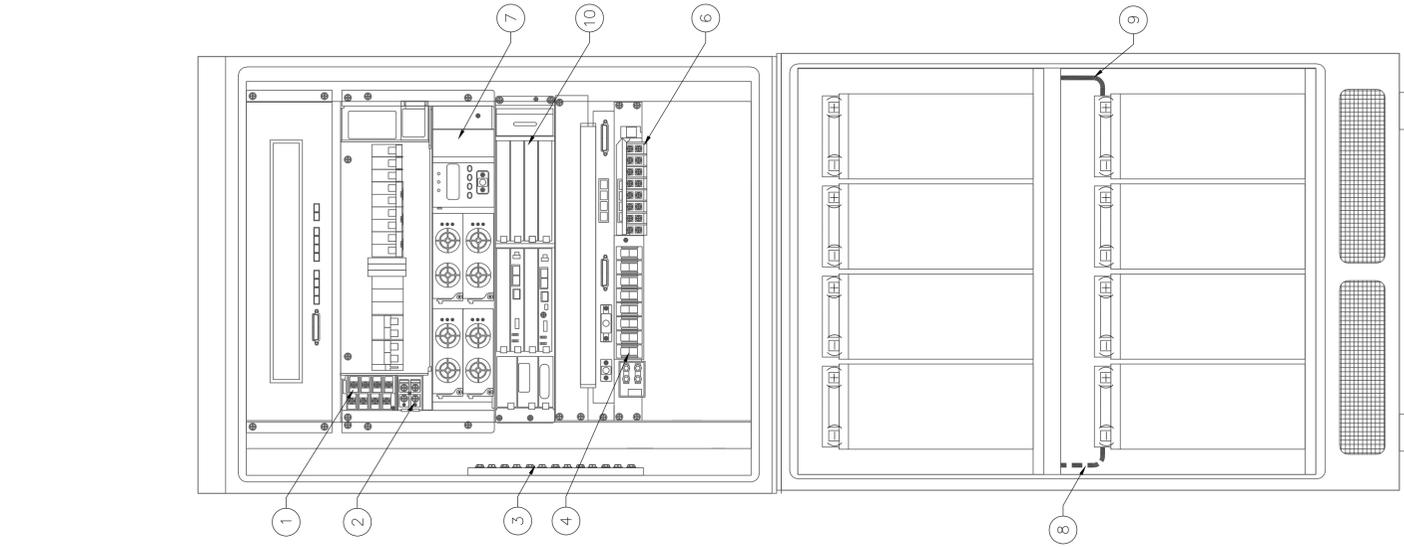
SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
ZT CABINET & DETAILS

SHEET NUMBER
A-5

ZTE_CABINET KEYED NOTES: (#)

1. AC CIRCUIT - NOT USED
2. BATTERY CONNECTIONS FROM BATTERY STRING - NOT USED
3. GROUND BAR
4. RRU BREAKERS
5. GPS CONNECTION
6. RRU CONNECTION
7. ALARM CONNECTION
8. BLUE WIRE GOING TO THE -48 VOLT
9. BLACK WIRE GOING TO THE -48 VOLT RETURN
10. UMTS BBU



UMTS/LTE CABINET LAYOUT

SCALE: N.T.S.

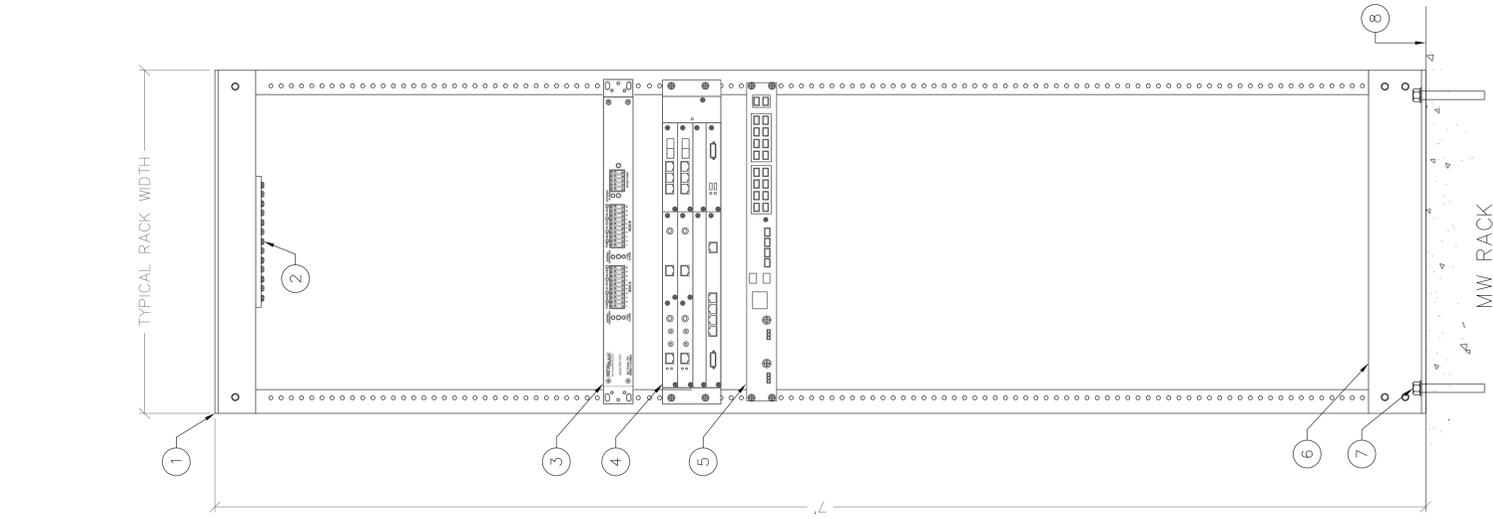
1 MW RACK DETAIL

SCALE: N.T.S.

2

MW RACK KEYED NOTES: (#)

1. RACK
2. GROUND BAR
3. GMT FUSE PANEL
4. MICROWAVE RADIO RACK
5. ROUTER INSTALLED BY GC
6. RACK ASSEMBLY TO FLOOR PER MANUFACTURER'S SPECIFICATIONS
7. ATTACHED RACK TO FLOOR PER MANUFACTURER'S SPECIFICATIONS
8. FLOOR

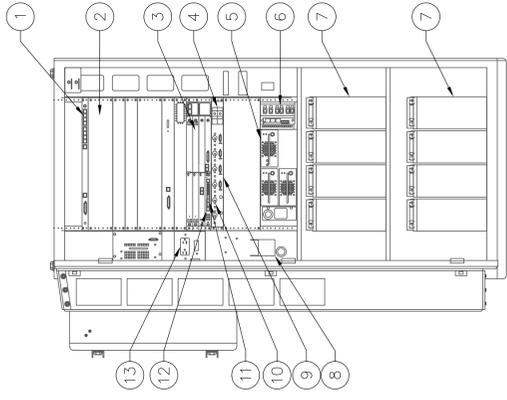


SCALE: N.T.S.

2

ALU_9929_CABINET KEYED NOTES: (#)

1. ALARM SHELF: EXTERNAL ALARMS
2. EMPTY EXPANSION BBU RACK
3. BBU SHELF
4. RRU POWER BLOCK
5. RECTIFIERS (TYP.)
6. BATTERY CONNECTIONS
7. BATTERY SHELF (TYP.)
8. AC POWER CONNECTION - NOT USED
9. PDP
10. RRU BREAKERS
11. FIBER OPTIC PORTS
12. DAT CABLE CONNECTION
13. AC OUTLET



FRONT - DOOR OPEN

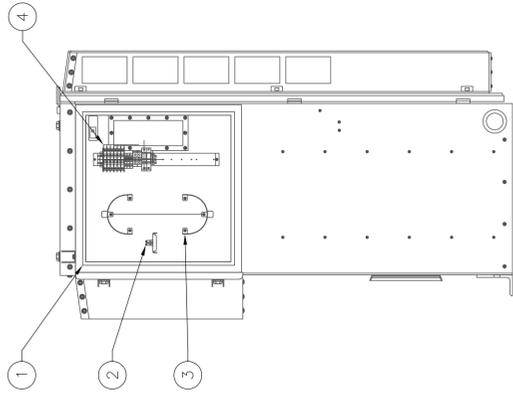
ALU 9929 CABINET - FRONT ELEVATION

SCALE: N.T.S.

3

ALU_9929_CABINET KEYED NOTES: (#)

1. DC DISTRIBUTION/FIBER MANAGEMENT BOX
2. FIBER PATCH PANEL
3. EXCESS FIBER OPTIC CABLE STORAGE
4. RRU DC BLOCK



RIGHT SIDE - DOOR OPEN

ALU 9929 CABINET - SIDE ELEVATION

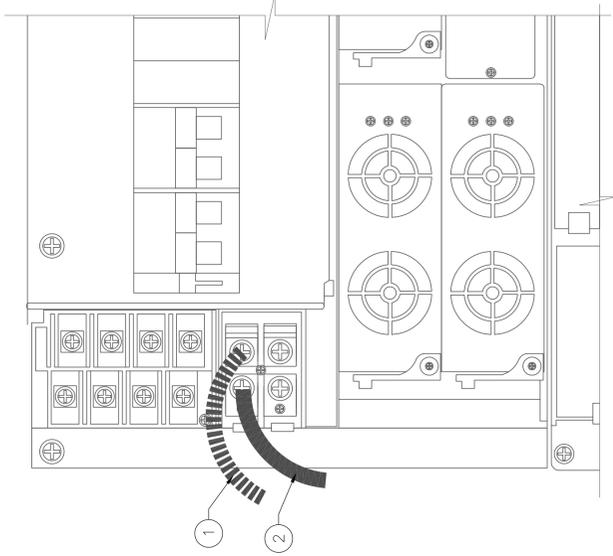
SCALE: N.T.S.

4

ZTE_BATTERY_HOOKUPS KEYED NOTES: (#)

1. BLUE WIRE FROM (-) SIDE OF BATTERY
2. BLACK WIRE FROM (+) SIDE OF BATTERY

NOTE - CONTRACTOR SHALL VERIFY VOLTAGE PRIOR TO MAKING CONNECTIONS



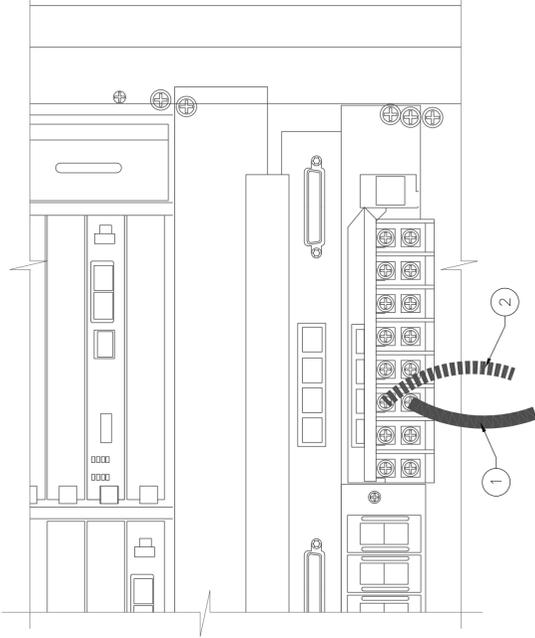
ZTE BATTERY HOOKUPS

SCALE: N.T.S.

5

ZTE_DCPD4_CONNECTION KEYED NOTES: (#)

1. BLACK WIRE -48V RETURN GOING UP TOWER TO FTTA BOX AND LANDED ON BLACK BLOCK IN FTTA BOX
2. RED WIRE -48V GOING UP TOWER TO FTTA BOX AND LANDED ON RED BLOCK IN FTTA BOX



ZTE DCPD4 CONNECTIONS

SCALE: N.T.S.

6



1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524

PE SEAL



DESIGNER: JASON NGO

LEAD EE: SB

LEAD CE/SE: SAM

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
B	7/8/18	REVISED	JN
C	2/19/19	REVISED	JN
D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
F	4/2/19	REVISED CD	JN

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SITE NAME

FOX MOUNTAIN, NV

PROJECT

RAW LAND BUILD

SITE ADDRESS

LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE

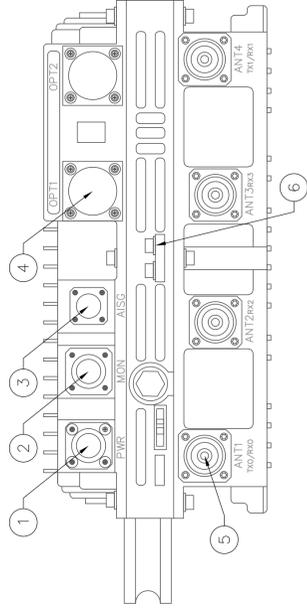
CONSTRUCTION DETAILS

SHEET NUMBER

A-6.0

RRU JUMPER & FIBER CONNECTION KEYED NOTES: (#)

1. POWER WIRE WITH GROUND TO FTTA BOX (TOWER MOUNTED) OR TO DCPD4 (BASE MOUNTED)
2. EXTERNAL ALARMS (IF REQUIRED)
3. RET CONNECTIONS
4. FIBER CONNECTION FROM FTTA BOX (TOWER MOUNTED) OR INSIDE OF ZTE CABINET (BASE MOUNTED)
5. JUMPER CONNECTION - SEE SDP
6. #2 GROUND WIRE TO EITHER TOWER TOP BUSS BAR (IF TOWER MOUNTED) OR BASE MOUNTED BUSS BAR (IF BASE MOUNTED)



BOTTOM VIEW OF UMTS/LTE REMOTE RADIO UNIT (RRU)

RRU JUMPER & FIBER CONNECTIONS

SCALE: N.T.S. **1**

LTE RRH - BOTTOM VIEW

SCALE: N.T.S. **3**

NOT USED

SCALE: N.T.S. **5**

R8882 RRU POWER CONNECTOR

SCALE: N.T.S. **2**

LTE RRH - TOP VIEW

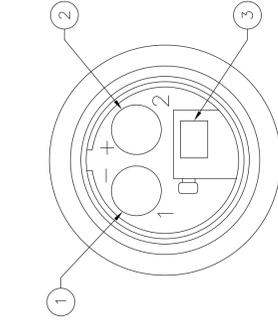
SCALE: N.T.S. **4**

NOT USED

SCALE: N.T.S. **6**

RRH KEYED NOTES: (#)

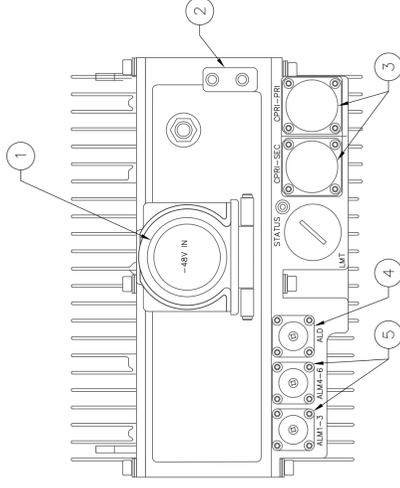
1. ANTENNA JUMPER CONNECTIONS



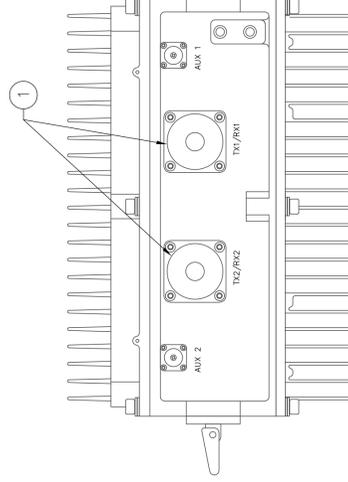
TOP VIEW OF LTE REMOTE RADIO HEAD (RRH)

RRH KEYED NOTES: (#)

1. RRH DC POWER CONNECTION (UNDER RED CAP) - SEE DETAIL 4 ON THIS SHEET
2. GROUND CONNECTION
3. FIBER OPTIC CONNECTION FROM FTTA BOX (TOWER MOUNTED) OR INSIDE OF LTE CABINET (BASE MOUNTED)
4. RET CONNECTIONS
5. EXTERNAL ALARMS (IF REQUIRED)



BOTTOM VIEW OF LTE REMOTE RADIO HEAD (RRH)



TOP VIEW OF LTE REMOTE RADIO HEAD (RRH)



DESIGNER: JASON NGO
LEAD EE: SB
LEAD CE/SE: SAM

REV.	DATE	DESCRIPTION	BY
B	7/8/18	REVISED	JN
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SITE NAME
FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
A-6.1

CABLE COLOR CODE SCHEDULE			RRU P/N CODE (LOCATED ON RRU TAG)
TECHNOLOGY	CABLE TYPE	TAPE COLOR	
LTE	POWER TRUNK	1 ORANGE WRAP	12955731012 ZXSDR R88 S8500 (B6B) 850 CDMA<E DUAL MODE
LTE	FIBER TRUNK	1 ORANGE WRAP	12955731009 ZXSDR R88 S8500 (B6A) 850 STANDARD CDMA ONLY
GSM/UMTS	POWER TRUNK	1 YELLOW WRAP	12955731011 ZXSDR R88 S1900 (B6B) 1900 CDMA<E DUAL MODE
GSM/UMTS	FIBER TRUNK	1 YELLOW WRAP	12955731010 ZXSDR R88 S8500 (B6B) 1900 STANDARD CDMA ONLY
CDMA	POWER TRUNK	1 GREEN WRAP	
CDMA	FIBER TRUNK	1 GREEN WRAP	12955731037 850 CDMA R8882 NEW SINGLE MODE
UMTS	POWER TRUNK	1 PURPLE WRAP	12955731035 1900 CDMA R8882 NEW SINGLE MODE
UMTS	FIBER TRUNK	1 PURPLE WRAP	
DO	POWER TRUNK	1 WHITE WRAP	12955731023 ZXSDR R8882 S8500(B6B) - 850 GSM/UMTS
DO	FIBER TRUNK	1 WHITE WRAP	12955731024 ZXSDR R8882 S1900(B6B) - 1900 GSM/UMTS
TECHNOLOGY	CABLE TYPE	TAPE COLOR	COMMENTS
LTE	POWER TRUNK	1 ORANGE+FREQ+SECTOR	
LTE	FIBER TRUNK	1 ORANGE+FREQ+SECTOR	
GSM/UMTS	POWER TRUNK	1 YELLOW+FREQ+SECTOR	
GSM/UMTS	FIBER TRUNK	1 YELLOW+FREQ+SECTOR	
CDMA	POWER TRUNK	1 GREEN+FREQ+SECTOR	
CDMA	FIBER TRUNK	1 GREEN+FREQ+SECTOR	
UMTS	POWER TRUNK	1 PURPLE+FREQ+SECTOR	
UMTS	FIBER TRUNK	1 PURPLE+FREQ+SECTOR	
DO	POWER TRUNK	1 WHITE+FREQ+SECTOR	
DO	FIBER TRUNK	1 WHITE+FREQ+SECTOR	
FREQUENCY	COLOR		
700	BLACK/BLANK		
850	GREY		
1900	BROWN		
EXAMPLE	CABLE TYPE	COLOR	
	X	COAX JUMPER	RED
	Y	COAX JUMPER	WHITE
	Z	COAX JUMPER	BLUE
			COLOR CODE FOR LTE FOR 700MHZ - 1 ORANGE WRAP - 1 BLACK OR LEAVE BLANK (CABLE COLOR IS ALREADY BLACK) ON POWER / FIBER TRUNK
			COLOR CODE FOR GSM/UMTS FOR 850 MHz - 1 YELLOW WRAP, 1 GREY

CABLE COLOR CODE SCHEDULE

SCALE: N.T.S. **1**

FTTA DISTRIBUTION BOX KEYED NOTES: #

- SIDE A FIBER DISTRIBUTION
- SIDE B POWER DISTRIBUTION
- FIBER TRUNK
- FIBER JUMPERS
- POWER JUMPERS
- FIBER JUMPERS COMING OUT
- POWER JUMPERS GOING IN
- FIBER TRUNK GOING IN
- POWER TRUNK GOING IN

RRU POWER COLOR CODE - FN LTE

SCALE: N.T.S. **2**

LTE RRU POWER COLOR CODE KEYED NOTES: #

- LTE SECTORS
- BLACK WIRE
- RED / WHITE WIRE
- RED / YELLOW WIRE
- RED / GREEN WIRE

LTE POWER:
RED / WHITE - X
RED / YELLOW - Y
RED / GREEN - Z

UMTS RRU POWER COLOR CODE KEYED NOTES: #

- UMTS SECTORS (FTTA #1)
- BLACK WIRE
- RED / WHITE WIRE
- RED / YELLOW WIRE
- RED / GREEN WIRE

UMTS POWER:
RED / WHITE - X
RED / YELLOW - Y
RED / GREEN - Z

LTE RRU POWER CONNECTIONS

SCALE: N.T.S. **4**

FTTA CONNECTION BOX KEYED NOTES: #

- FIBER AND POWER JUMPERS CONSTRUCTOR SHALL FOLLOW COLOR CODE 1/A-7
- FIBER TRUNK (S)
- POWER TRUNK FROM ZTE TO FTTA

FTTA CONNECTION BOX

SCALE: N.T.S. **5**

FIBER TRUNK CONNECTION KEYED NOTE: #

- FTTA FIBER BLOCK

FTTA BOX 1:
UMTS - FIBER TRUNK 1
FIBER 1 - PORT 01 - X
FIBER 2 - PORT 02 - Y
FIBER 3 - PORT 03 - Z
#1 TRUNK 4, 5, 6, 7 SPARES

FTTA BOX 2:
LTE - FIBER TRUNK 3
FIBER 1 - PORT 01 - X
FIBER 2 - PORT 02 - Y
FIBER 3 - PORT 03 - Z
FIBER 4 - PORT 04 - X
FIBER 5 - PORT 05 - Y
FIBER 6 - PORT 06 - Z
#2 TRUNK 7 SPARES

NOTE: THERE ARE (2) FTTA BOXES FOR THIS SITE.
1. BOX #1 FOR COMNET'S UMTS AND LTE
2. BOX #2 FOR FIRSTNET LTE

NOTE:
CABINET AND/OR BBU EQUIPMENT RECEIVED IN THE FIELD MAY VARY AND THEREFORE COULD CHANGE PORT ASSIGNMENTS. FIBER ASSIGNMENT IN BOTH CABINET AND FTTA BOXES. ANY CHANGES MUST BE REQUINED IN THE DRAWINGS AND REPORTED BACK TO THE CONSTRUCTION MANAGER

Commnet
Connecting Rural America

Abn ENGINEERING

1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524

DESIGNER: JASON NGO

LEAD EE: SB

LEAD CE/SE: SAM

PE SEAL

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
B	7/8/18	REVISED	JN
C	2/19/19	REVISED	JN
D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
F	4/2/19	REVISED CD	JN

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SITE NAME

FOX MOUNTAIN, NV

PROJECT

RAW LAND BUILD

SITE ADDRESS

LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE

CONSTRUCTION DETAILS

SHEET NUMBER

A-7

SCALE: N.T.S. **8**

SCALE: N.T.S. **7**

SCALE: N.T.S. **6**

SCALE: N.T.S. **5**

SCALE: N.T.S. **3**

SCALE: N.T.S. **2**

SCALE: N.T.S. **1**

SCALE: N.T.S. **4**

SCALE: N.T.S. **1**

SCALE: N.T.S. **5**

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SCALE: N.T.S. **27**

SCALE: N.T.S. **27**

SCALE: N.T.S. **28**

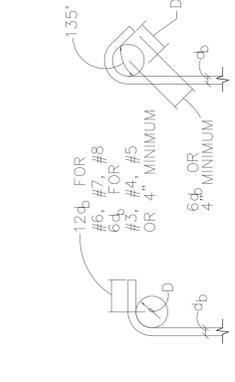
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SCALE: N.T.S. **29**

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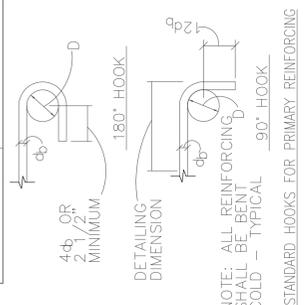
BAR SIZE	BEND DIA. "D" (INSIDE OF BAR)
#3 THRU #5	4db
#6 THRU #8	6db



NOTE: ALL REINFORCING SHALL BE BENT COLD - TYPICAL 90° HOOK.

STANDARD HOOKS FOR STIRRUPS AND TIE REINFORCING

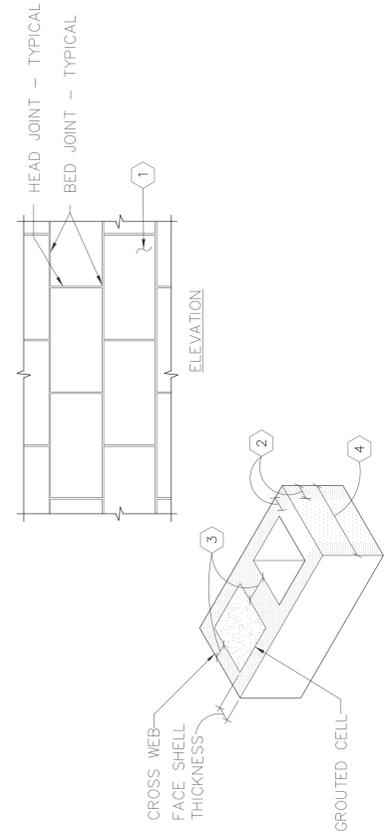
BAR SIZE	BEND DIA. "D" (INSIDE OF BAR)
#3 THRU #8	6db
#9, #10, #11	8db
#14 AND #18	10db



NOTE: ALL REINFORCING SHALL BE BENT COLD - TYPICAL 180° HOOK.

STANDARD HOOKS FOR PRIMARY REINFORCING

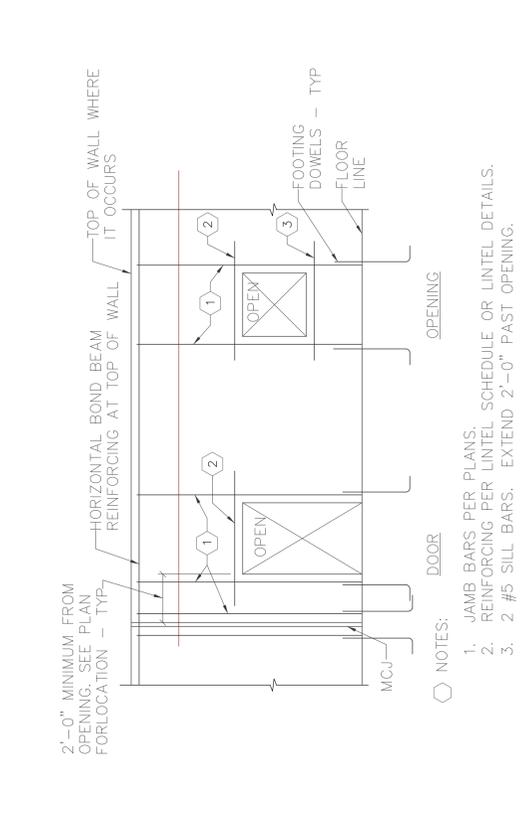
TYPICAL REINFORCING BAR DETAILS



NOTES: (#)

- LAY CMU IN RUNNING BOND U.N.O. ON DRAWINGS.
- ALL HEAD AND BED JOINTS SHALL BE FILLED SOLIDLY WITH MORTAR FOR THE FULL THICKNESS OF THE FACE SHELL EXCEPT WHERE JOINTS ARE RAKED.
- SPREAD OUT FULL MORTAR BED AT CROSS WEBS IN STARTING COURSE ON FOOTINGS AND IN ALL COURSES OF PIERS, COLUMNS, AND PILASTERS, AND IN WALLS WHERE WEBS ARE ADJACENT TO CELLS OR CAVITIES TO BE REINFORCED OR FILLED WITH GROUT. FOR STARTING COURSE ON FOOTINGS WHERE CELLS ARE NOT GROUTED, SPREAD OUT FULL MORTAR BED INCLUDING AREAS UNDER CELLS.
- FOR SOLID GROUTED WALLS, THE HEAD JOINTS SHALL BE COMPLETELY FILLED OR BUTTERED FOR FULL WIDTH OF THE WALL AND UNIT SHOVED INTO PLACE. DO NOT SLUSH HEAD JOINTS.

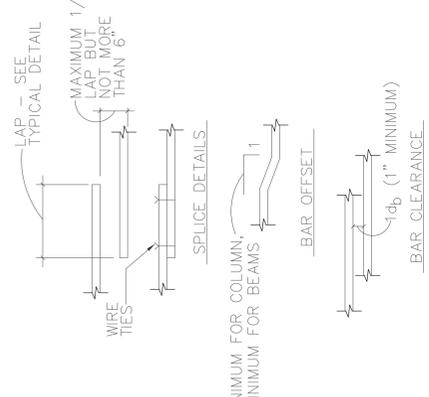
MORTAR REQUIREMENTS AT TYPICAL CMU CONSTRUCTION



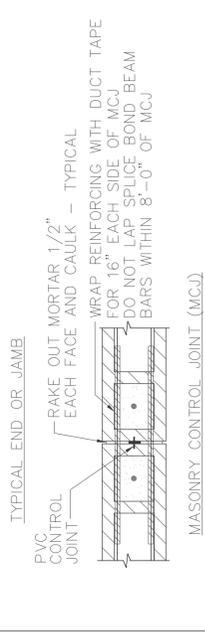
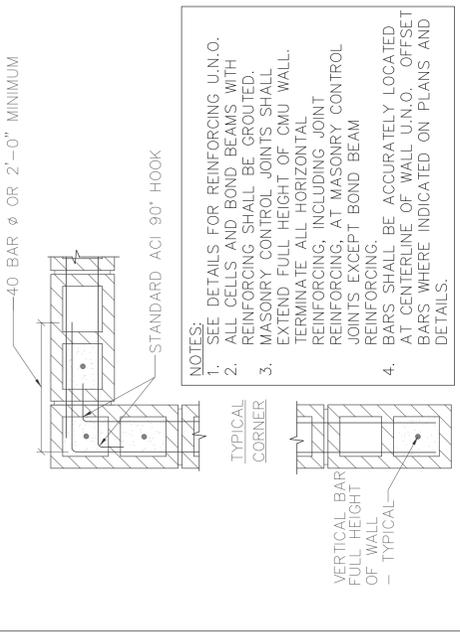
NOTES:

- JAMB BARS PER PLANS.
- REINFORCING PER LINTEL SCHEDULE OR LINTEL DETAILS.
- #5 SILL BARS. EXTEND 2'-0" PAST OPENING.

TYPICAL CMU WALL REINFORCING AT OPENINGS



TYPICAL KEY IN CONCRETE



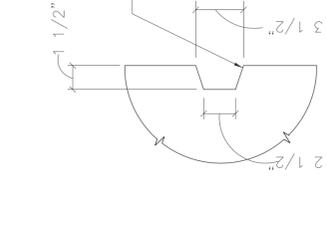
PLAN VIEW - TYPICAL CMU WALL REINFORCING

BOLT DIAMETER	VERT BOLT EMBEDMENT LENGTH	HORIZ BOLT EMBEDMENT LENGTH
1/2"	7"	5"
5/8"	7"	5"
3/4"	8"	5"
7/8"	8"	6"
1"	9"	6"
1 1/8"	12"	9"

NOTES:

- PROVIDE ANCHOR BOLTS AND EPOXY BOLTS PER THIS SCHEDULE IN CONCRETE OR MASONRY UNLESS NOTED OTHERWISE ON PLANS OR DETAILS.
- ANCHOR BOLTS AND EPOXY BOLTS SHALL BE INSTALLED WITH STEEL WASHERS. EPOXY BOLTS SHALL BE USED ONLY WHERE SPECIFICALLY SHOWN ON THE DRAWINGS OR WHEN APPLICATION IS APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.

TYPICAL EPOXY BOLT AND ANCHOR BOLT EMBEDMENT SCHEDULE



TYPICAL KEY IN CONCRETE

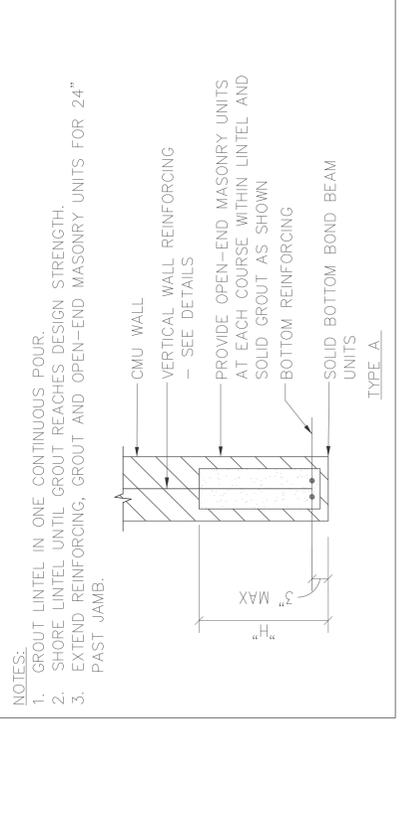
BAR SIZE	POSITION	CONCRETE f'c (PSI) AND LAP CLASS			
		3000 CLASS B	4000 CLASS B	5000 CLASS B	6000 CLASS B
#3	TOP	28	24	22	20
	OTHER	22	19	17	16
#4	TOP	37	32	29	26
	OTHER	29	25	22	20
#5	TOP	47	40	36	33
	OTHER	36	31	28	25
#6	TOP	56	48	43	40
	OTHER	43	37	33	31
#7	TOP	81	70	63	58
	OTHER	93	80	72	66
#8	TOP	93	80	72	66
	OTHER	72	62	55	51
#9	TOP	105	91	81	74
	OTHER	81	70	63	57
#10	TOP	118	102	91	83
	OTHER	91	79	70	64
#11	TOP	131	113	101	93
	OTHER	101	87	78	71
#14	TOP	121	105	94	86
	OTHER	93	81	72	66
#18	TOP	161	139	125	114
	OTHER	124	107	96	88

REBAR LAP SPlice TABLE NOTES:

- "d" DENOTES BAR DIAMETER.
- TABLE IS BASED ON ASTM A615 GRADE 60 REINFORCING STEEL/UNCOATED BARS. MULTIPLY TABULATED LAP LENGTHS BY 1.2 FOR EPOXY COATED BARS.
- TOP BARS ARE HORIZONTAL BARS WITH 12" OR MORE OF CONCRETE BELOW THEM.
- MULTIPLY TABULATED LAP LENGTHS BY 1.5 WHEN THE CLEAR SPACE BETWEEN BARS IS LESS THAN 2d
- MULTIPLY TABULATED LAP LENGTH BY 1.3 FOR UTILITY WEIGHT CONCRETE.

REINFORCING BAR LAP SPlice TABLE

MARK	TYPE	LINTEL SIZE	REMARKS
ML1	A	H = 16"; 2 #5 BOTTOM REINFORCING	---



MASONRY LINTEL (ML) SCHEDULE



ABN ENGINEERING

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PHOENIX, AZ 85048
PHONE: (480) 213-8524



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LEAD EE: SB
LEAD CE/SE: SAM

SUBMITTALS

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SITE NAME
FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

SITE ADDRESS
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LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
MASONRY DETAIL

SHEET NUMBER
S-2

N.T.S. 2

N.T.S. 5

N.T.S. 8



DESIGNER: JASON NGO
LEAD EE: SB
LEAD CE/SE: SAM

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LAT: 41°01'31.25374"N
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10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
BUILDING FOUNDATION
& ROOF FRAMING PLAN

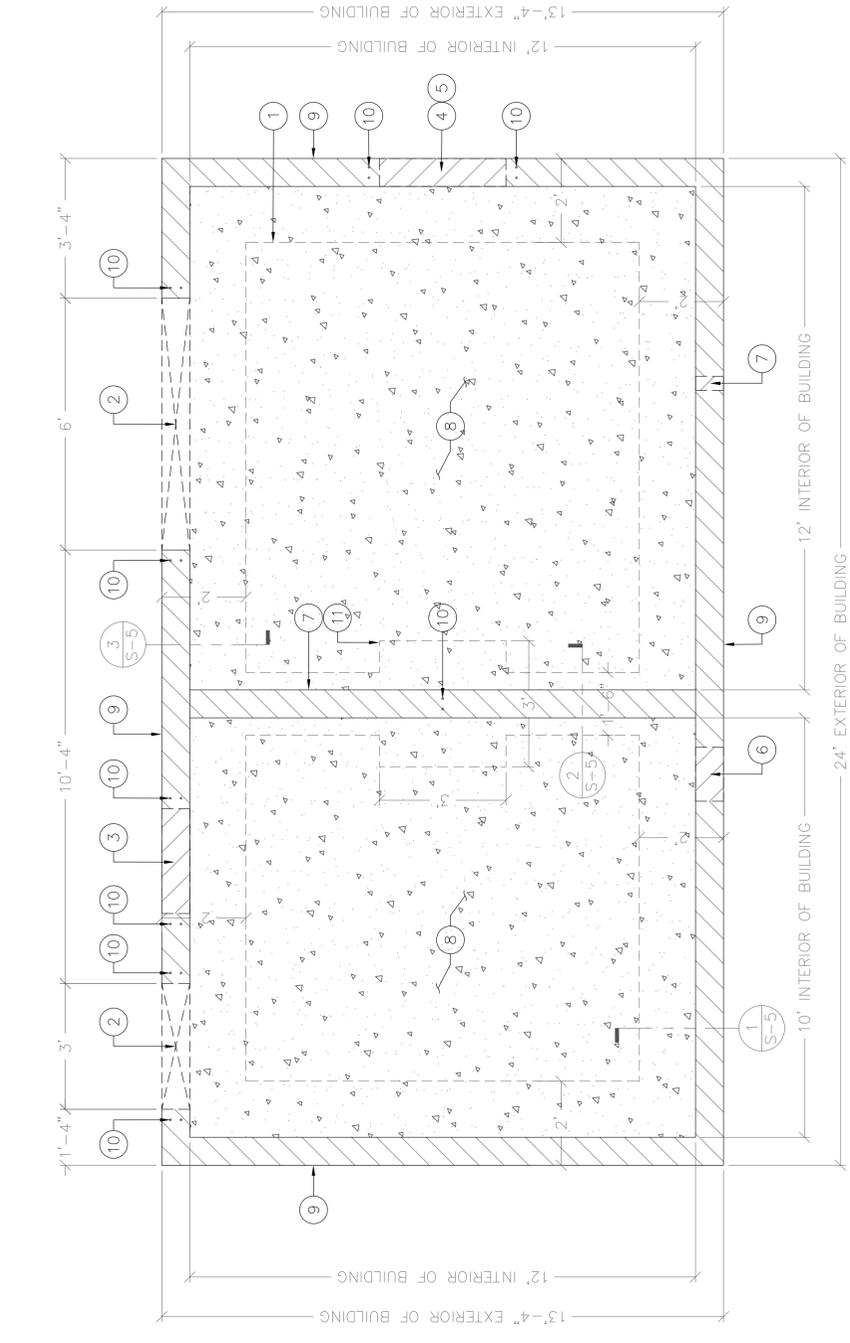
SHEET NUMBER
S-3

- EQUIPMENT SHELTER KEYED NOTES: (#)
1. WALL FOOTING (TYP.)
 2. DOOR OPENING. SEE DETAIL 6 ON SHEET S-2
 3. VENT OPENING ABOVE. SEE DETAIL 6 ON SHEET S-2
 4. EXHAUST AIR SUPPLY OPENING ABOVE. SEE DETAIL 6 ON SHEET S-2
 5. EXHAUST VENT OPENING ABOVE. SEE DETAIL 6 ON SHEET S-2
 6. ENTRY PORT OPENING. SEE DETAIL 6 ON SHEET S-2
 7. POWER WIRE ENTRY OPENING. SEE DETAIL 6 ON SHEET S-2
 8. 8" THK SLAB W/ #4 @ 12" O.C. EACH WAY (TYP.)
 9. 8" THK BEARING CMU WALL (TYP.)
 10. (2) #5 VERTICAL BARS (TYP.)
 11. 3'x3' FOOTING AT BEAM BEARING LOCATION. EXTEND WALL FOOTER REINFORCING ACROSS ENTIRE FOOTING WIDTH

NOTE:
PRIOR TO ANY WORK, VERIFY DOOR OPENING SIZE WITH GENERATOR SPECS. ADJUST THE OPENING SIZE AND DOOR SIZE AS NECESSARY. ALSO VERIFY OTHER OPENINGS FOR VENT AND EXHAUST WITH RESPECTIVE MANUFACTURER FOR SIZE AND LOCATIONS.



N.T.S. 1



FOUNDATION PLAN & WALL LAYOUT

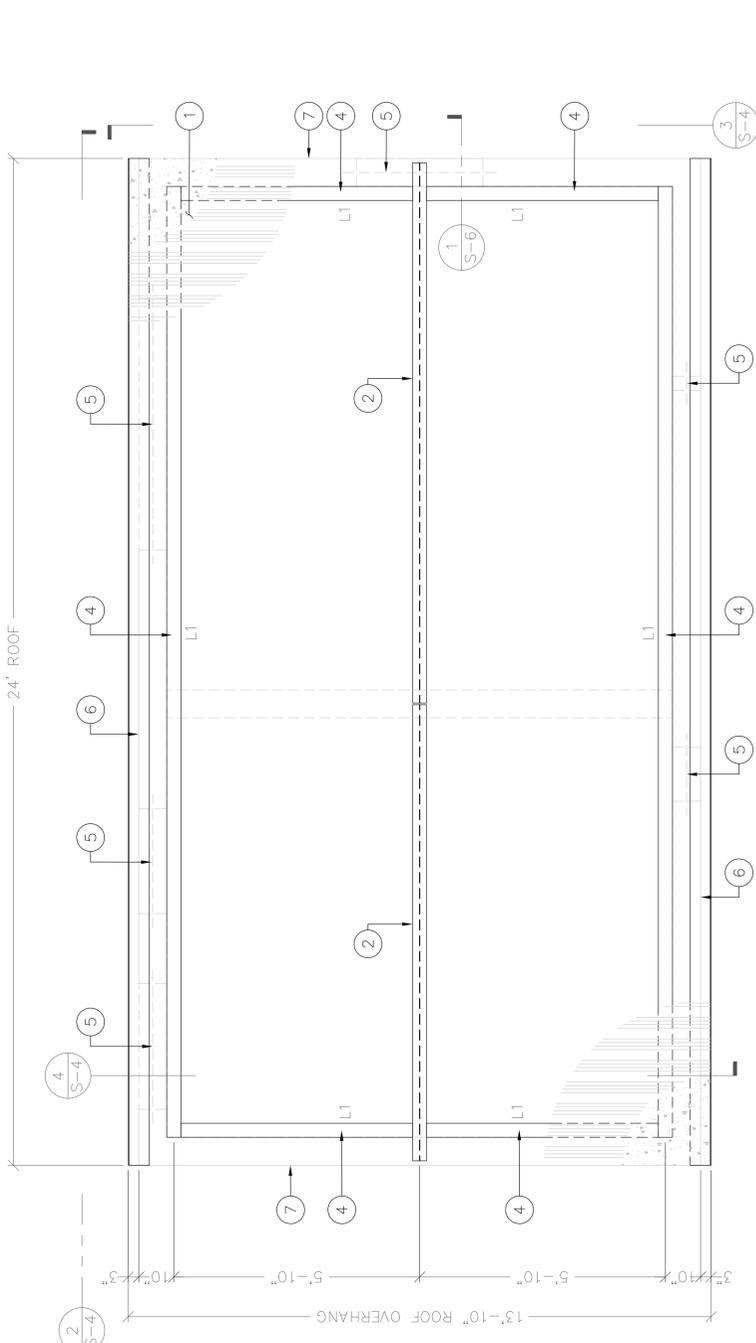
- ROOF FRAMING KEYED NOTES: (#)
1. 2" CONCRETE TOPPING WITH W.W.F. 6X6 - W2.9X2.9 OVER 1-1/2" X 22 GAGE STEEL DECK PER GENERAL STRUCTURAL NOTES. TOTAL SLAB THICKNESS = 3-1/2"
 2. STEEL BEAM
 3. 8" THICK CMU WALL BELOW
 4. L1 IS THE ANGLE LEDGER ATTACHED TO WALL
 5. MASONRY UNTEL. SEE SCHEDULE FOR DETAIL
 6. CLOSURE BENT PLATE PER DETAIL SHEET S-5
 7. ALONG SHORT SIDES, USE 3/16" CLOSURE PLATE TO SEAL THE CONCRETE AND DECK

STEEL LEDGER (L) SCHEDULE

MARK	LEDGER SIZE	CONNECTION	REMARKS
L1	STEEL ANGLE 4x4x1/4 CONTINUOUS	SEE ANCHORAGE DETAIL ON SHEET S-5	---

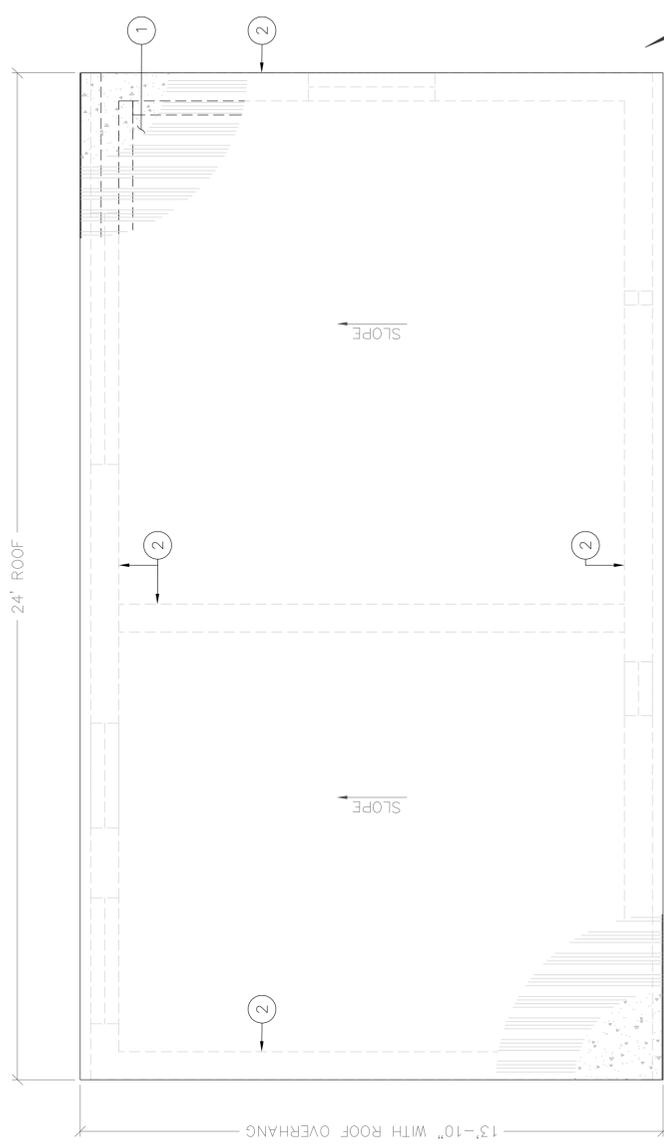


N.T.S. 2



ROOF FRAMING PLAN

- ROOF KEYED NOTES: (#)
1. CONCRETE ROOF DECK
 2. 8" THICK CMU WALL BELOW

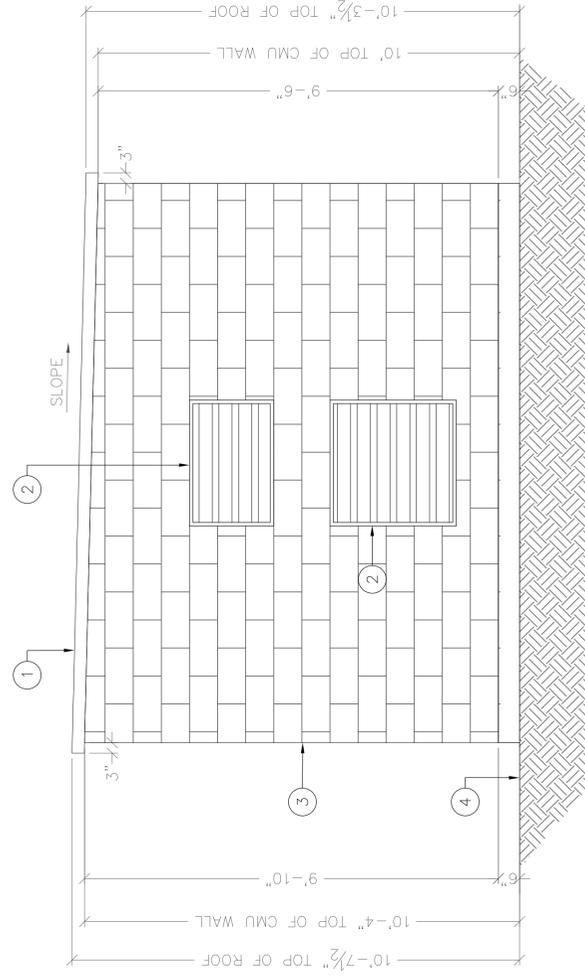


ROOF PLAN

N.T.S.

1

- ELEVATION KEYED NOTES: (#)
1. CONCRETE ROOF DECK
 2. SCREEN VENT LOUVER
 3. CMU BLOCK BUILDING
 4. FINISHED GRADE

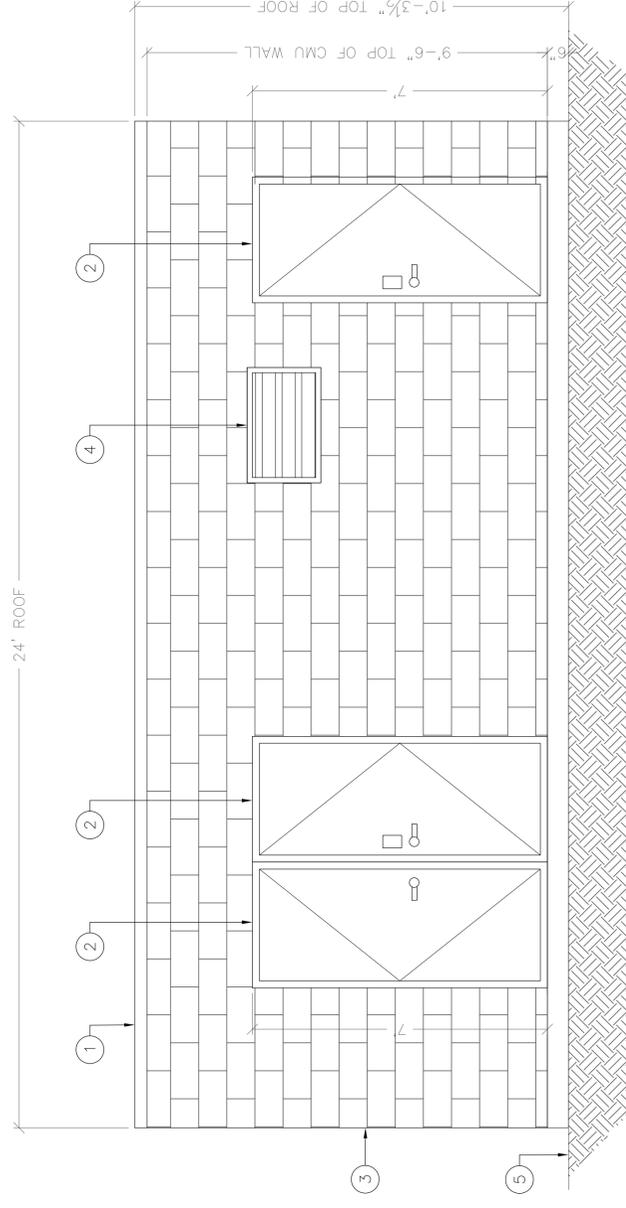


SOUTHEAST ELEVATION

N.T.S.

3

- ELEVATION KEYED NOTES: (#)
1. CONCRETE ROOF DECK
 2. ACCESS DOOR (TYP.)
 3. CMU BLOCK BUILDING
 4. VENT FAN, REFER MANUFACTURER SPECIFICATIONS
 5. FINISHED GRADE

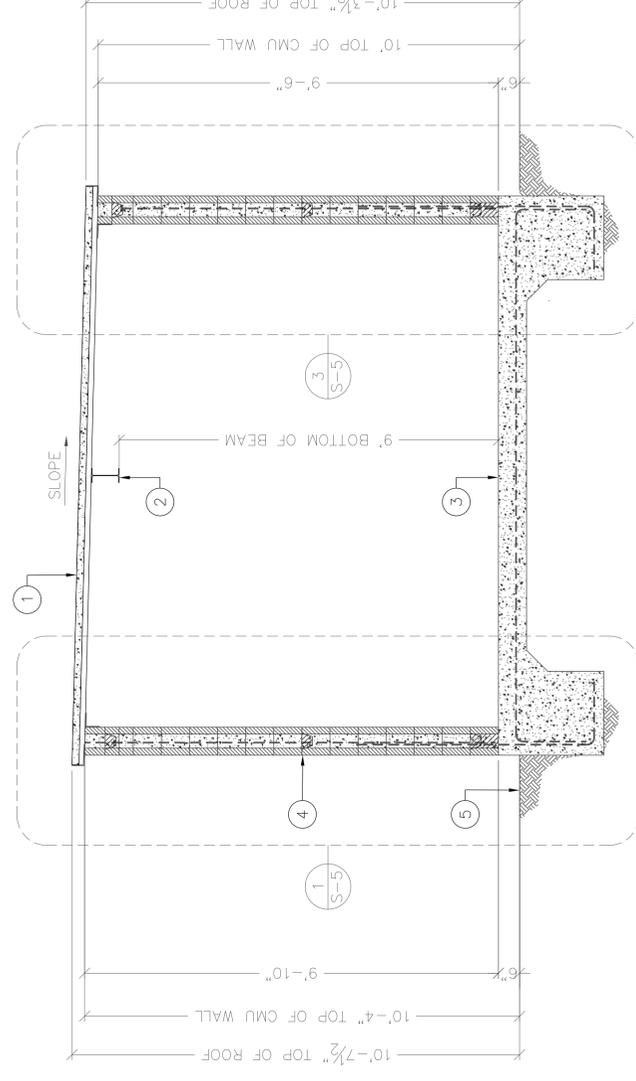


NORTHEAST ELEVATION

N.T.S.

2

- ELEVATION KEYED NOTES: (#)
1. CONCRETE ROOF DECK
 2. STEEL BEAM PER PLAN
 3. 8" THK. SLAB W/ #4 @ 12" O.C. EACH WAY (TYP.)
 4. CMU BLOCK BUILDING
 5. FINISHED GRADE



BUILDING SECTION

N.T.S.

4

- NOTE:
1. PRIOR TO ANY WORK, VERIFY DOOR OPENING SIZE WITH GENERATOR SPECS. ADJUST THE OPENING SIZE AND DOOR SIZE AS NECESSARY. ALSO VERIFY OTHER OPENINGS FOR VENT AND EXHAUST WITH RESPECTIVE MANUFACTURER.



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PE SEAL



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FOX MOUNTAIN, NV

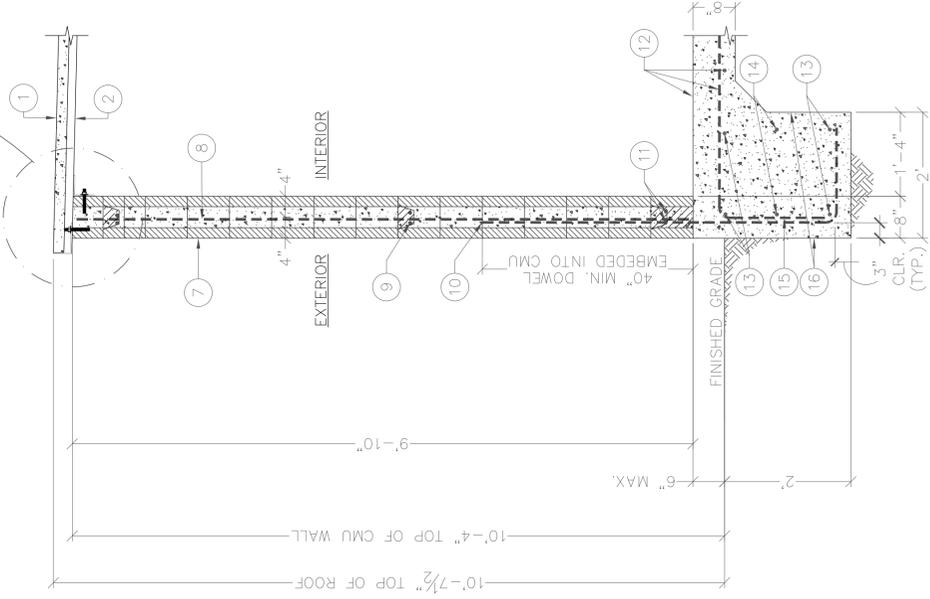
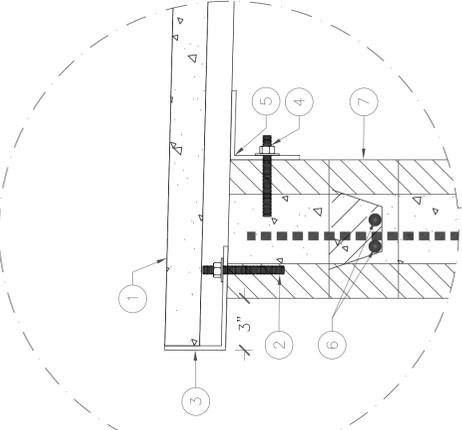
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RAW LAND BUILD

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GERLACH, NV 89412

SHEET TITLE
ROOF PLAN, BUILDING ELEVATIONS AND SECTION

SHEET NUMBER
S-4

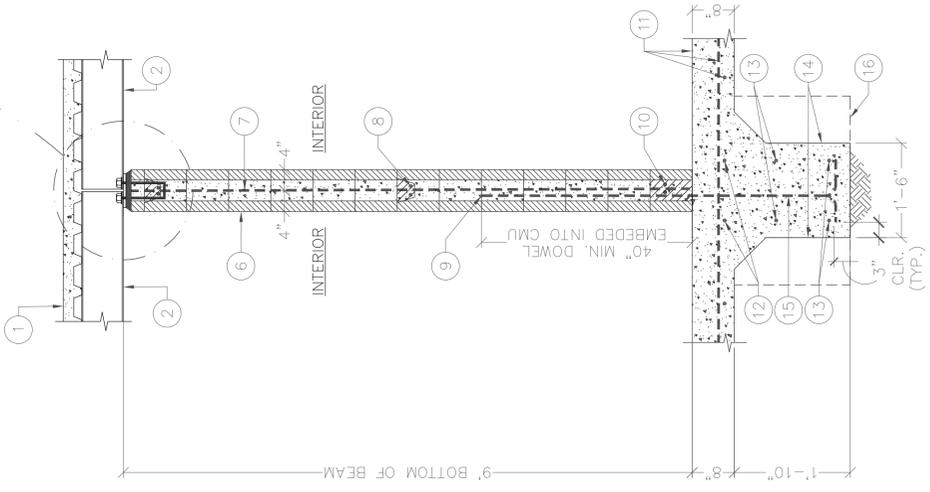
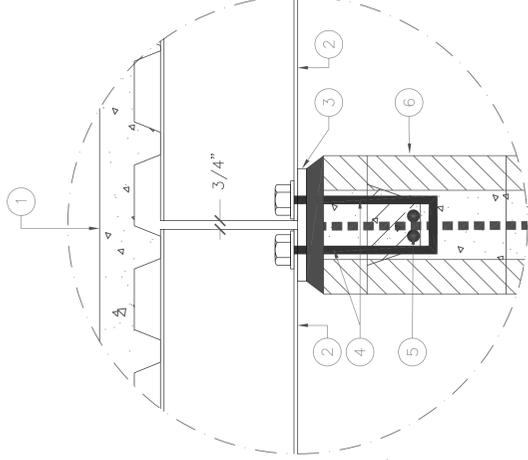
- KEYED NOTES: (#)**
1. CONCRETE ROOF DECK
 2. 1/2" DIA. ANCHOR BOLTS AT 36" O.C. INTO TOP BOND BEAM, 3-1/4" MIN. EMBEDMENT. USE C.I.P. OR EXPANSION ANCHORS AT GC'S PREFERENCE
 3. 6x3-1/2x3/16" THICK BENT PLATE
 4. 1/2" DIA. ANCHOR BOLTS AT 36" O.C. INTO TOP BOND BEAM, 3-1/4" MIN. EMBEDMENT. USE C.I.P. OR EXPANSION ANCHORS AT GC'S PREFERENCE
 5. LEDGER ANGLE
 6. (2) #5 CONTINUOUS GROUDED BOND BEAM
 7. MASONRY WALL
 8. #5 VERTICAL BARS @ 48" O.C. (AT CENTER)
 9. #5 CONTINUOUS BAR IN BOND BEAM
 10. VERTICAL LAP 40"
 11. (2) #5 CONTINUOUS GROUDED BOND BEAM
 12. 8" THK. CONCRETE PAD W/ #4 @ 12" O.C. EACH WAY, 20" HOOK AT THE END IN TURNDOWN
 13. (2) #4 CONTINUOUS (TOP & BOTTOM)
 14. (2) #4 CONTINUOUS AT MID HEIGHT OF TURNDOWN
 15. DOWELS TO MATCH WALL REINFORCING, 18" HOOK AT THE END
 16. TYPICAL TURNDOWN AT PERIMETER



1 ROOF DECK AT MASONRY WALL - BEARING WALL

N.T.S.

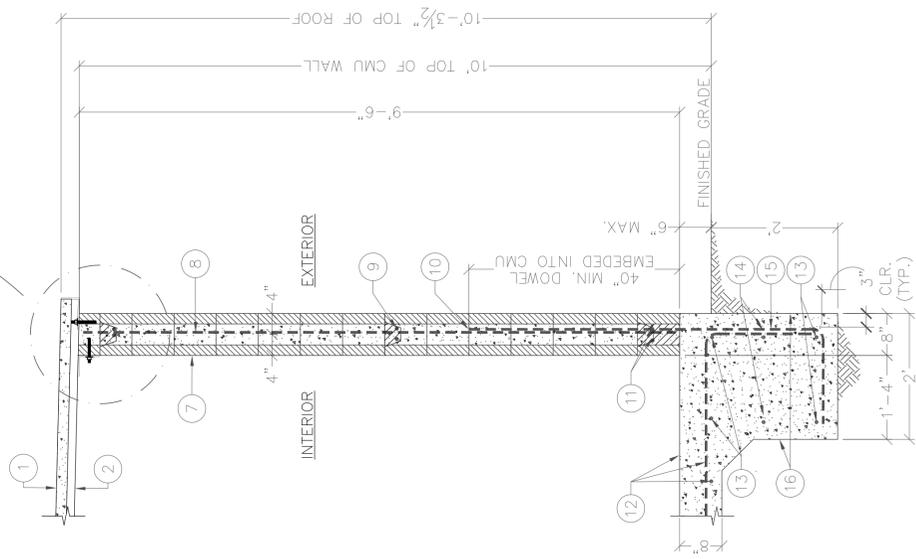
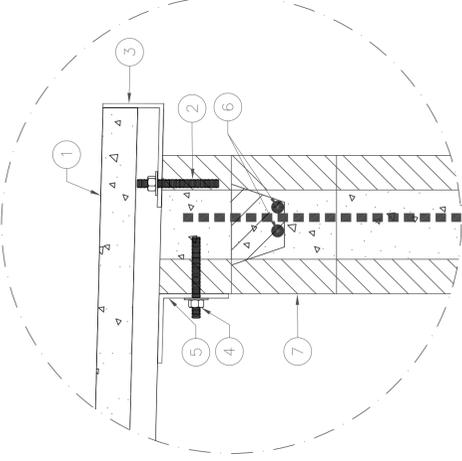
- KEYED NOTES: (#)**
1. CONCRETE ROOF DECK
 2. STEEL BEAM
 3. 1/2" THICK PLATE
 4. 3/4" DIA. ANCHOR BOLTS AT 24" O.C
 5. (2) #5 CONTINUOUS GROUDED BOND BEAM
 6. MASONRY WALL
 7. #5 VERTICAL BARS @ 48" O.C. (AT CENTER)
 8. #5 CONTINUOUS BAR IN BOND BEAM
 9. VERTICAL LAP 40"
 10. (2) #5 CONTINUOUS GROUDED BOND BEAM
 11. 8" THK. CONCRETE PAD W/ #4 @ 12" O.C. EACH WAY, 20" HOOK AT THE END IN TURNDOWN
 12. (2) #4 CONTINUOUS (TOP & BOTTOM)
 13. (2) #4 CONTINUOUS AT MID HEIGHT OF TURNDOWN
 14. DOWELS TO MATCH WALL REINFORCING, 18" HOOK AT THE END
 15. TYPICAL TURNDOWN AT PERIMETER
 16. 3'x3' FOOTING AT BEAM BEARING (BEYOND), SEE FOUNDATION PLAN, EXTEND WALL FOOTER REINFORCEMENT WITH (1) #4 CONT. ALL AROUND



2 ROOF DECK AND BEAM AT INTERIOR-BEARING WALL

N.T.S.

- KEYED NOTES: (#)**
1. CONCRETE ROOF DECK
 2. 1/2" DIA. ANCHOR BOLTS AT 36" O.C. INTO TOP BOND BEAM, 3-1/4" MIN. EMBEDMENT. USE C.I.P. OR EXPANSION ANCHORS AT GC'S PREFERENCE
 3. 6x3-1/2x3/16" THICK BENT PLATE (SLV)
 4. 1/2" DIA. ANCHOR BOLTS AT 36" O.C. INTO TOP BOND BEAM, 3-1/4" MIN. EMBEDMENT. USE C.I.P. OR EXPANSION ANCHORS AT GC'S PREFERENCE
 5. LEDGER ANGLE
 6. (2) #5 CONTINUOUS GROUDED BOND BEAM
 7. MASONRY WALL
 8. #5 VERTICAL BARS @ 48" O.C. (AT CENTER)
 9. #5 CONTINUOUS BAR IN BOND BEAM
 10. VERTICAL LAP 40"
 11. (2) #5 CONTINUOUS GROUDED BOND BEAM
 12. 8" THK. CONCRETE PAD W/ #4 @ 12" O.C. EACH WAY, 20" HOOK AT THE END IN TURNDOWN
 13. (2) #4 CONTINUOUS (TOP & BOTTOM)
 14. (2) #4 CONTINUOUS AT MID HEIGHT OF TURNDOWN
 15. DOWELS TO MATCH WALL REINFORCING, 18" HOOK AT THE END
 16. TYPICAL TURNDOWN AT PERIMETER



3 ROOF DECK AT-BEARING WALL

N.T.S.

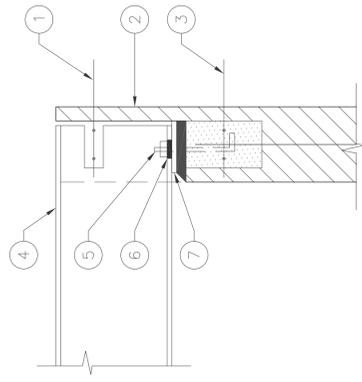
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KEY NOTES:

- BOND BEAM REINFORCING CONTINUOUS FROM BEYOND.
- MASONRY WALL.
- #5 X 3'-6" IN 8" DEEP X 4'-0" LONG GROUTED BOND BEAM.
- STEEL BEAM.
- 2 - 3/4" ϕ AUTOMATIC WELDED THREADED STUDS ON BEAM GAGE.
- 1 1/2" LONG HORIZONTALLY SLOTTED HOLE ON BEAM GAGE - EACH SIDE OF WEB.
- STEEL BEARING PLATE WITH 2 - 3/4" ϕ ANCHORS OVER 1" \pm DRYPACK.

NOTE:
CONCRETE ROOF DECK NOT SHOWN FOR CLARITY.

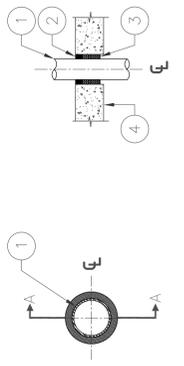


STEEL BEAM AT EXTERIOR MASONRY WALL

N.T.S.

DETAIL KEYED NOTES: (#)

- CONDUIT TO BE INSTALLED WITHIN THE FIRESTOP SYSTEM. CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
- FILL: VOID OR CAVITY MATERIAL SEALANT - MIN. 1" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE *ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SIDES OF WALL.
- HILTI CONSTRUCTION CHEMICALS, INC. - FS601, FS604 OR FS-ONE SEALANT
- WALL
- PACKING MATERIAL - MIN. 2-1/2" THICKNESS OF MIN. 4.0 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FROM BOTH SURFACES OD WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.



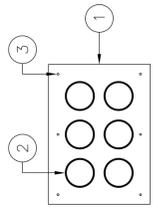
SECTION A-A

PIPE PENETRATION AT WALL

N.T.S.

ENTRY PORT KEYED NOTES: (#)

- ASSEMBLED PORT
- ENTRY PORT COVER 4" ϕ
- #14X1-1/2" SS PHILLIPS OVAL TAP SCREW



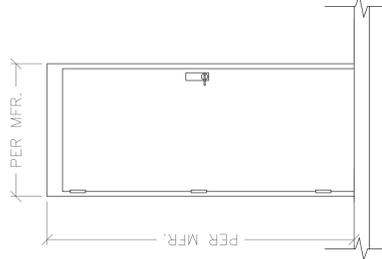
ENTRY PANEL DETAIL

N.T.S.

5 NOT USED

NOTES:

- ALL DOOR HARDWARE SHALL BE LEVER TYPE, PUSH TYPE OR PANIC HARDWARE. VERIFY THIS DETAIL WITH CUSTOMER AND MANUFACTURER, AND FOLLOW MANUFACTURER'S SPECIFICATIONS FOR ACTUAL INSTALLATION.



DOOR SCHEDULE

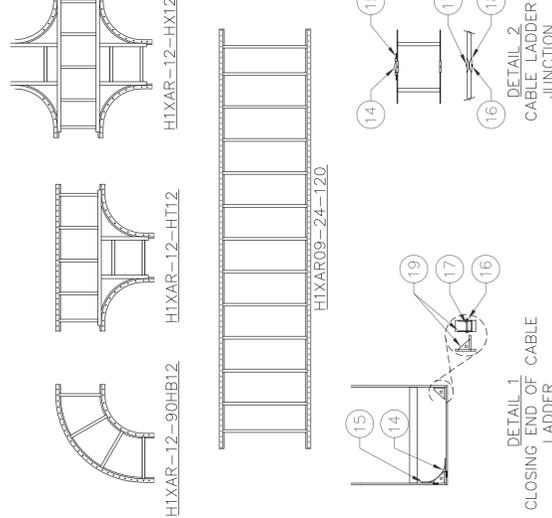
DR #	OPENING SIZE	THK.	DOOR TYPE	MATERIAL	HINGE
1	(1) 3'-0" x 7'-0"	1 3/4"	NEW	DOOR FRAME COORDINATE WITH PROJECT OWNER	CONT. GEAR
2	(2) 3'-0" x 7'-0"	1 3/4"	NEW	COORDINATE WITH PROJECT OWNER	CONT. GEAR

DOOR SCHEDULE

N.T.S.

INDOOR CABLE TRAY KEYED NOTES: (#)

- (2) 4" ϕ CONDUITS
- CUT THROUGH CEILING TILE (TYP.)
- EXISTING CEILING DROP
- ARRESTOR TRAPEZE KIT; REFER TO ANDREW AT-K306-U
- SYSTEM BUS BAR
- WALL MOUNTED CABLE TRAY
- EQUIPMENT RACK
- EQUIPMENT ROOM FLOOR
- CMU WALL
- 3/8" ϕ TITEN HD W/ 3/4" EMBEDMENT PER ESR-2713 REPORT
- SB-165
- AUXILIARY STRINGER TUBE OF CABLE RUNWAY SB-155
- SB-166
- #6 AWG GREEN STANDARD
- 2-HOLE W/ 1/4" BOLTS & STAR WASHERS
- NUT
- SPLICE CLAMP
- CORNER CLAMP



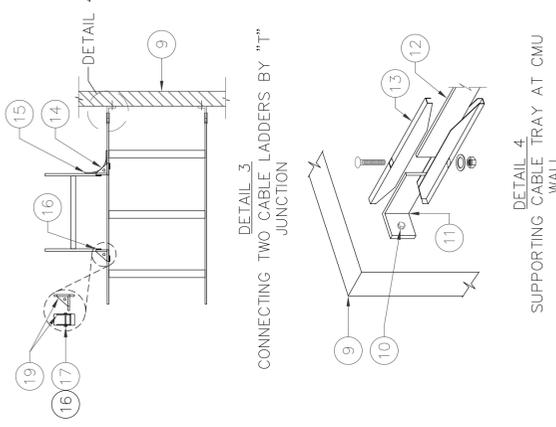
DETAIL 1
CLOSING END OF CABLE LADDER

CABLE TRAY DETAIL INSIDE EQUIPMENT ROOM

N.T.S.

ENTRY PORT KEYED NOTES: (#)

- ALL CABLE TRAY MEASUREMENTS ARE ACCURATE WITHIN $\pm 1/8"$.
- CABLE TRAY SYSTEMS SHALL BE COOPER B-LINE OR EQUAL. VERIFY PRIOR TO CONSTRUCTION.



DETAIL 3
CONNECTING TWO CABLE LADDERS BY "T" JUNCTION

DETAIL 4
SUPPORTING CABLE TRAY AT CMU WALL

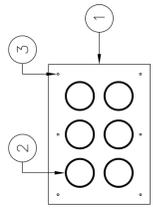
N.T.S.

PIPE PENETRATION AT WALL

N.T.S.

ENTRY PORT KEYED NOTES: (#)

- ASSEMBLED PORT
- ENTRY PORT COVER 4" ϕ
- #14X1-1/2" SS PHILLIPS OVAL TAP SCREW



ENTRY PANEL DETAIL

N.T.S.

5 NOT USED

ABN ENGINEERING
1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524

PE SEAL

DESIGNER: JASON NGO
LEAD EE: SB
LEAD CE/SE: SAM

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
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SITE NAME
FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
S-6



- | | |
|--|---|
| 1. (N) ACCESS DOOR | 21. (N) SOLAR ARRAY #2 |
| 2. (N) NEMA 4 J-BOX FOR POWER WIRES TRANSITION FROM U.G. TO SHELTER | 22. (N) SOLAR ARRAY #3 |
| 3. (N) EQUIPMENT SHELTER | 23. (N) SOLAR ARRAY #4 |
| 4. (N) BREAKER PANEL | 24. (N) 1000 GALLON PROPANE TANK (TYP. OF 2) MOUNTED ON NEW INTERLOCK PAVERS |
| 5. (N) FIRSTNET ALU CABINET | 25. (N) SUPPORT PIPE (TYP.). SEE DETAIL 2 ON SHEET A-8 |
| 6. (N) ZTE CABINET | 26. (N) 1000 GALLON PROPANE TANK MOUNTED ON NEW INTERLOCK PAVERS |
| 7. (N) MW RACK | 27. (N) BOLLARD (TYP. OF 7), SEE DETAIL 1 ON SHEET A-8 |
| 8. (N) CABLE LADDER, SUPPLIED BY GC | 28. (N) U.G. CONDUIT FOR POLYETHYLENE FLEXIBLE GAS TUBING FROM PROPANE TANKS TO MOISTURE SLIP SEAL TEE, SEE DETAIL 4 ON SHEET A-8 |
| 9. (N) DC GENERATOR | 29. (N) MOISTURE SLIP SEAL TEE |
| 10. (N) GPS ANTENNA, SEE DETAIL 6 ON SHEET A-5 | 30. (N) U.G. CONDUIT FOR POLYETHYLENE FLEXIBLE GAS TUBING FROM MOISTURE SLIP SEAL TEE TO GENERATOR, SEE DETAIL 4 ON SHEET A-8 |
| 11. (N) ICE BRIDGE, SEE DETAIL 5 ON SHEET A-5 | 31. APPROXIMATE VALLEY GRADE DROP |
| 12. (N) 150' TALL MONOPOLE, SEE SHEET A-3 FOR MORE DETAILS | |
| 13. NOT USED | |
| 14. NOT USED | |
| 15. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #1 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 | |
| 16. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #2 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 | |
| 17. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #3 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 | |
| 18. (N) U.G. CONDUIT FOR DC POWER RUN FROM COMBINER BOX #4 TO COMBINER BOX IN SHELTER, SEE DETAIL 4 ON SHEET E-2 | |
| 19. (N) SOLAR ARRAY #1 | |
| 20. (N) COMBINER BOX MOUNTED A BASE (TYP.) | |

OVERALL ELECTRICAL PLAN

22"x34" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"
4" 3" 2" 1" 0"

11

ELECTRICAL GENERAL NOTES:

- SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT. CONTRACTOR IS RESPONSIBLE FOR ALL FIELD VERIFICATION. THESE PLANS ARE DIAGRAMMATIC ONLY, AND ARE NOT TO BE SCALED.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. AS REQUIRED FOR A COMPLETE AND PROPERLY OPERABLE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY (UL) AND SHALL BEAR THE INSPECTION LABEL "I" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION (AHJ). MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND NBFU. ALL CONDUIT INSTALLED SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED.
- ELECTRICAL CONTRACTOR SHALL CARRY OUT HIS WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY, LOCAL CODES AND O.S.H.A.
- ELECTRICAL CONTRACTOR SHALL SECURE ALL NECESSARY ELECTRICAL PERMITS, AND PAY ALL REQUIRED FEES.
- COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF NO LESS THAN ONE YEAR AFTER THE DATE OF JOB COMPLETION. DATE OF JOB COMPLETION SHALL BE THE DATE ON THE CONTRACTOR'S "NOTICE OF COMPLETION" SUBMITTED TO THE OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.
- ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE, AND TRUE TAPE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE SET OF COMPLETE ELECTRICAL "AS BUILT" DRAWINGS, SHOWING ACTUAL DIMENSIONS AND CIRCUITS, WITHIN 10 WORKING DAYS OF PROJECT COMPLETION.
- ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO PROJECT MANAGER AT JOB COMPLETION.
- USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURE. ALL CONDUCTORS SHALL BE COPPER.
- THE EXTERIOR GROUND RING SHALL BE TESTED PER COMMNET WIRELESS SPECIFICATIONS USING A 3-POINT FALL OF POTENTIAL TEST. IF THE GROUNDING SYSTEM RESISTANCE TO EARTH IS GREATER THAN 5 OHMS, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE RESPONSIBLE ENGINEER.
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN AMP INTERRUPT RATING (AIC) NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
- PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
- IN DRILLING HOLES INTO CONCRETE (WHETHER FOR FASTENING OR ANCHORING PURPOSES OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC.) IT MUST BE CLEARLY UNDERSTOOD THAT TENDONS AND REBARS WILL NOT BE DRILLED INTO, CUT, OR DAMAGED UNDER ANY CIRCUMSTANCES.
- LOCATION OF TENDONS AND REBARS ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING STEEL TENDONS.
- PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH APPLICABLE LOCAL BUILDING CODES, USING U.L. RATED MATERIALS.
- ELECTRICAL CONTRACTOR IS TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOK-UP COSTS SHALL BE PAID BY THE CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR CATALOG CUT-SHEETS ON ALL NON-SPECIFIED ORIGINAL MATERIALS AND EQUIPMENT, TO PROJECT MANAGER PRIOR TO COMMENCEMENT OF THE WORK.
- ALL GROUNDING SYSTEM LEADS SHALL BE TESTED FOR CONTINUITY WITH THE GROUND LOOP CONDUCTOR. ALL FAULTY CONNECTIONS OR CONDUCTORS SHALL BE REPAIRED OR REPLACED AS REQUIRED.
- CLEAN PREMISES DAILY OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK PREMISES IN A COMPLETE AND UNDAMAGED CONDITION.
- ALL EXTERIOR WALL PENETRATIONS SHALL BE SEALED WITH POLYSEAM SEALANT.
- ALL #2 TINNED BARE COPPER DOWNLEADS TO BE PROTECTED BY 1/2" P.V.C. PIPE AND SECURED.
- COMPRESSION FITTINGS TO BE USED ON ALL CONDUITS (NO SETSCREWS).
- ALL #6 STRANDED COPPER WITH GREEN INSULATION TO BE ATTACHED WITH CRIMPED DOUBLE LUG, ATTACHED WITH NUTS, BOLTS, AND STAR WASHERS TYPICAL AND NO-OX. GREASE BETWEEN LUG AND BUSS BAR.
- ALL ABOVE GROUND CONDUIT SHALL BE SCHEDULE 80 PVC WITH UV PROTECTION OR GRG.

SCALE: NTS 2

ELECTRICAL NOTES

SHEET NUMBER	E-1
--------------	-----

SHEET TITLE
OVERALL ELECTRICAL PLAN & ELECTRICAL NOTES

SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

PROJECT
RAW LAND BUILD

SITE NAME
FOX MOUNTAIN, NV

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D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
F	4/2/19	REVISED CD	JN

LEAD CE/SE: SAM

LEAD EE: SB

DESIGNER: JASON NGO



PE SEAL



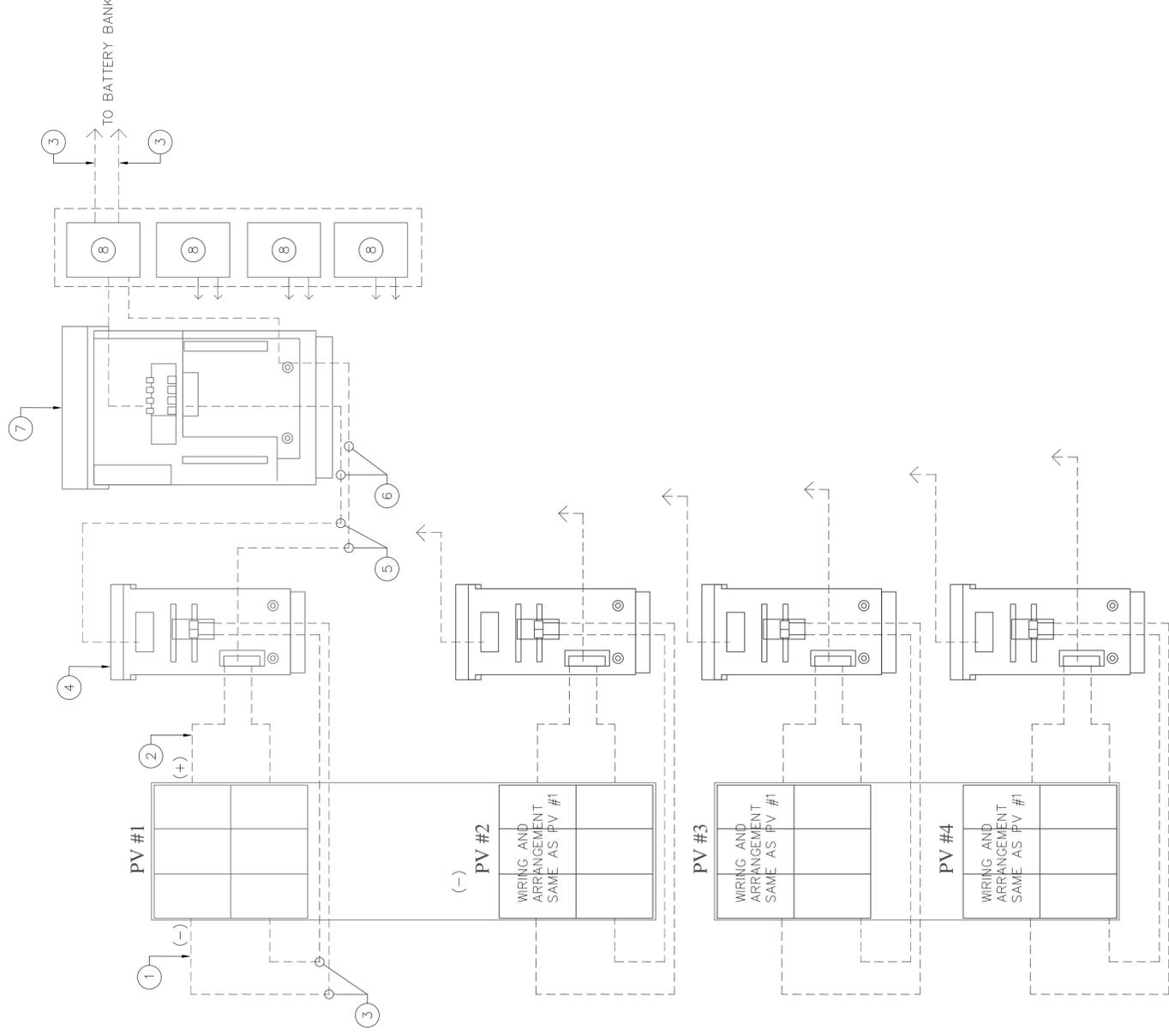
1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524



DETAIL KEYED NOTES: (#)

1. NEGATIVE GROUND
2. POSITIVE GROUND
3. INTERNAL WIRING BY MANUFACTURER (TYP.)
4. COMBINER 60A, 150VDC (4X) -15A BREAKERS, 150VDC (8X) BEHIND EACH OF (4) PV ARRAY STRUCTURES
5. (2) #4 WIRES PROVIDED BY GC
6. CONDUIT EXISTS TO DC GENERATOR STUB UPS AT BASE OF SHELTER
7. COMBINER 120A, 150VDC -20A BREAKERS, 150VDC (4X)
8. XANTREX CHARGE CONTROLLERS (4X) LOCATED IN DC GENERATOR

NOTE:
VERIFY AND CONFIRM THIS DC ONE-LINE DIAGRAM WITH THE MANUFACTURER



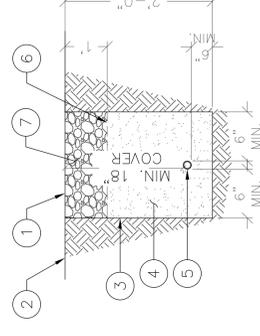
DC ONE-LINE DIAGRAM

SCALE: N.T.S. 1

NOT USED

UTILITY TRENCH KEYED NOTES: (#)

1. MATCH EXISTING SURFACE
2. FINISHED GRADE
3. VERT. DEPTH W/O SHORING PER GOVERNING CODES
4. CLEAR BEDDING W/ MIN. 12" COVERAGE OVER CONDUIT
5. PVC CONDUIT FOR SOLAR POWER RUN. COORDINATE WITH SOLAR MANUFACTURER FOR CONDUIT SIZE
6. WARNING TAPE 12" ABOVE CONDUIT
7. ENGINEERING FILL MATERIAL



NOTE:
THIS DETAIL NOT APPLICABLE TO WATER LINE(S)

UTILITY TRENCH DETAIL

SCALE: N.T.S. 4

NOT USED

SCALE: N.T.S. 3

SUBMITTALS			
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FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
ONE-LINE DIAGRAM & DETAILS

SHEET NUMBER
E-2

SCALE: N.T.S. 5

NOT USED

UTILITY TRENCH DETAIL

SCALE: N.T.S. 1

DC ONE-LINE DIAGRAM



Ahn ENGINEERING
1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524



DESIGNER: JASON NGO
LEAD EE: SB
LEAD CE/SE: SAMI



GROUNDING PLAN

- LEGEND:**
- T08— TINNED SOLID ALLOY 110 COPPER TOWER BUSS BAR BONDED TO TOWER STEEL.
 - ⊗ TEST WELL, SEE DETAIL 5 ON SHEET G-2
 - ⊙ 5/8" DIA. x 10' COPPER CLAD GROUND ROD. SEE DETAIL 4 ON SHEET G-2. (TYP. OF 16)
 - G— GROUND RING, REFER TO DETAIL 3 ON SHEET G-2.
 - EXOTHERMIC WELD OR IRREVERSIBLE HIGH-COMPRESSION CRIMP.
 - MECHANICAL CONNECTION.

GENERAL NOTES:

- A. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
- B. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
- C. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
- D. REFER TO G-2 & G-3 FOR GROUNDING DETAILS.
- E. ALL METALLIC SURFACES SHALL BE PREPARED PRIOR TO BONDING. COLD GALV. SPRAY SHALL BE USED ON ANY EXOTHERMIC WELD TO PREVENT CORROSION. ANY AREA TO BE COLD GALV. SPRAY SHALL BE TAPED OFF PRIOR TO APPLICATION.

- CONSTRUCTION KEYED NOTES: (#)**
1. GROUNDING ELECTRODE CONDUCTOR SYSTEM (GROUND RING), #2 AWG. SOLID BARE TINNED COPPER CONDUCTOR. GROUNDING ELECTRODE CONDUCTOR SHALL BE BURIED 30" BELOW GRADE WHERE APPLICABLE. ABOVE GRADE GROUNDING ELECTRODE CONDUCTOR TO BE ROUTED IN FLEXIBLE NON-METALLIC LIQUID TIGHT CONDUIT & FASTENED TO CONCRETE SURFACE EVERY 3' MAX. FASTENERS SHALL BE FLEXIBLE CONDUIT HALF STRAPS W/ 1/4"Ø x 2" (L) RED HEAD HAMMER-SET NAIL DRIVE ANCHOR OR EQUIV. (TYP.)
 2. 5/8" DIA. x 10' LONG COPPER CLAD GROUND ROD PLACED MINIMUM EVERY 10' APART (TYP.). SEE DETAIL 4 ON SHEET G-2.
 3. BOND METAL DOOR FRAMING TO GROUND HALO, SEE DETAIL 9 ON SHEET G-3
 4. TEST WELL, SEE DETAIL 5 ON SHEET G-2
 5. BOND #2 AWG STRANDED NON-JACKETED INTERIOR GROUNDING HALO TO MAIN GROUND BAR (MGB)
 6. BOND #2 AWG STRANDED NON-JACKETED GENERATOR ROOM GROUNDING HALO TO MGB
 7. HORSESHOE HALO BREAK LOCATION, 6" CLEARANCE MINIMUM (TYP.)
 8. MAIN GROUND BUS BAR (MGB) INSTALLED BY SHELTER MANUFACTURER
 9. EXTERIOR GROUND BUS BAR (EGB) BOND TO GROUND RING WITH (2) #2 AWG SOLID TINNED BARE COPPER CONDUCTORS. IN ADDITION, BOND ENTRY PANEL TO EGB WITH #2 AWG THHN COPPER CONDUCTOR, SEE DETAIL 8 ON SHEET G-2
 10. BOND CABINETS AND MW RACK TO #2 AWG GREEN JACKET EQUIPMENT GROUND CONDUCTOR PER MANUFACTURER'S SPECS (TYP.)
 11. BOND CABLE LADDER TO MGB WITH #6 AWG THHN COPPER CONDUCTOR (TYP.). SEE DETAIL 8 ON SHEET G-3
 12. INSTALL #2 AWG JUMPER AT CABLE LADDER CORNER (TYP.)
 13. BOND GENERATOR TO GROUND RING PER MANUFACTURER SPECS
 14. BOND VENT METAL FRAMING TO GROUND RING WITH #2 AWG (TYP.). SEE DETAIL 10 ON SHEET G-2
 15. BOND EXHAUST VENT METAL FRAMING TO GROUND RING WITH #2 AWG
 16. INSTALL A #2 AWG SOLID BARE TINNED COPPER CONDUCTOR GROUND RADIAL BETWEEN SHELTER AND POLE. SEE DETAIL 3 ON SHEET G-2
 17. BOND POLE BASEPLATE TO GROUND RING AT MANUFACTURER SPECIFIED LOCATIONS WITH #2 AWG SOLID BARE TINNED COPPER CONDUCTOR (TYP. OF 3 BONDING), SEE DETAIL 11 ON SHEET G-2
 18. TOWER GROUND BUS BAR (TGB) TOP AND BOTTOM, SEE DETAIL 6 ON SHEET G-2
 19. ANTENNA GROUND BUS BAR (AGB) AT ANTENNA LEVEL, SEE DETAIL 9 ON SHEET G-2
 20. BOND RRU/RRH TO AGB (TYP.)
 21. BOND AIR HANDLER METAL FRAMING TO GROUND HALO WITH #2 AWG
 22. #2 AWG SOLID BARE TINNED COPPER CONDUCTOR (TYP.)
 23. BOND SOLAR RACKING AND SOLAR PANEL TO GROUND RADIAL WITH #2 AWG (TYP.)
 24. BOND COMBINER BOX TO GROUND RADIAL WITH #2 AWG (TYP.)
 25. BOND BOLLARD TO GROUND RADIAL WITH #2 AWG (TYP.)
 26. BOND SUPPORT PIPE TO GROUND RADIAL WITH #2 AWG (TYP.). SEE DETAIL 3 ON SHEET G-3
 27. MECHANICALLY BOND PROPANE TANK LEG TO GROUND RADIAL WITH #2 AWG (TYP.). SEE DETAIL 3 ON SHEET G-3

22"x34" SCALE: 1/4" = 1'-0"
11"x17" SCALE: 1/8" = 1'-0"



Abn ENGINEERING

1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524

PE SEAL

DESIGNER: JASON NGO
LEAD EE: SB
LEAD CE/SE: SAM

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FOX MOUNTAIN, NV

PROJECT
RAW LAND BUILD

SITE ADDRESS
LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE
GROUNDING PLAN

SHEET NUMBER
G-1



Commnet
Connecting Rural America



ABN ENGINEERING

1337 E DESERT FLOWER LANE
PHOENIX, AZ 85048
PHONE: (480) 213-8524

PE SEAL



DESIGNER: JASON NGO

LEAD EE: SB

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D	2/22/19	REVISED	JN
E	2/25/19	FINAL CD	JN
F	4/2/19	REVISED CD	JN

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SITE NAME

FOX MOUNTAIN, NV

PROJECT

RAW LAND BUILD

SITE ADDRESS

LAT: 41°01'31.25374"N
LONG: 119°33'30.09025"W
10140 A FOX MOUNTAIN ROAD
GERLACH, NV 89412

SHEET TITLE

GROUNDING DETAILS

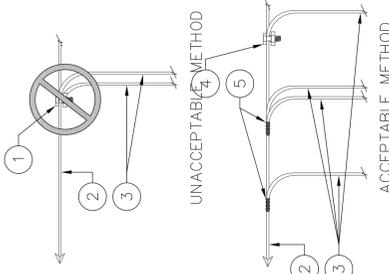
SHEET NUMBER

G-3

BONDING TO GROUND BUS CONDUCTOR KEYED NOTES: (#)

- SPLIT BOLT TO IGB
- EQUIPMENT GROUNDING CONDUCTORS
- SPLIT BOLT CONNECTION
- IRREVERSIBLE CRIMP CONNECTION (MUST BE LISTED FOR MULTIPLE CONNECTIONS)

NOTE: ROUTE ALL CONDUCTORS TOWARDS THE IGB.



SCALE: N.T.S. **7**

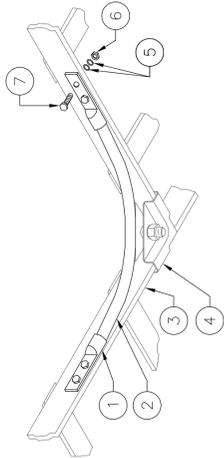
NOT USED

SCALE: N.T.S. **10**

BONDING TO GROUND BUS CONDUCTOR DETAIL

CABLE LADDER CORNER BONDING KEYED NOTES: (#)

- 2-HOLE LUG (355027-405)
- #6 AWG THHN COPPER CONDUCTOR
- CABLE RACK
- CORNER CLAMP
- 1/2" LOCK WASHER & 1/4" WASHER
- SS 1/2" -20 HEX NUT
- SS 1/4" -20 BOLT



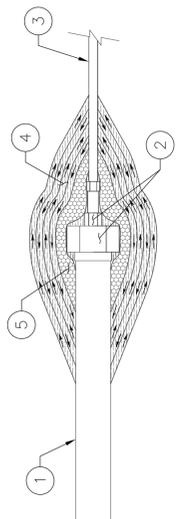
SCALE: N.T.S. **8**

NOT USED

SCALE: N.T.S. **11**

WEATHERPROOFING KEYED NOTES: (#)

- COAX
- COAX TO JUMPER CONNECTION (TYP.)
- JUMPER (TYP.)
- 3M SCOTCH SUPER 33+ VINYL ELECTRICAL TAPE (OR EQUIVALENT)
- VAPOR WRAP SEALANT

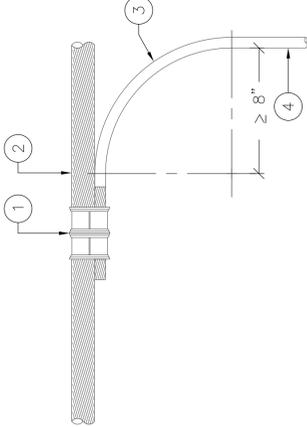


SCALE: N.T.S. **4**

WEATHERPROOF DETAIL

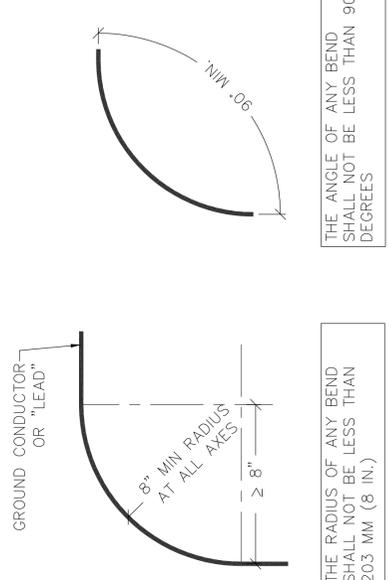
HALO AROUND TAP KEYED NOTES: (#)

- C-TAP T&B #54730
- #2 AWG STRANDED NON-JACKETED
- #6 GRN. 8" MIN BEND RADIUS AT ALL AXES
- GROUND CONDUCTOR OR "LEAD"



SCALE: N.T.S. **5**

ACCEPTABLE GROUND CONDUCTOR BEND DETAIL



THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 203 MM (8 IN.)

THE ANGLE OF ANY BEND SHALL NOT BE LESS THAN 90 DEGREES

GROUND LUG KEYED NOTES: (#)

- NUT
- LOCK WASHER
- FLAT WASHER
- BOLT
- BURNDY GROUND LUG (SEE TABLE FOR SIZE AND MODEL)
- HEAT SHRINK (CLEAR)
- GROUNDING CONDUCTOR
- GROUND BUSS BAR OR METALLIC BONDING SURFACE
- BURNDY 2-HOLE LUG W/ LONG BARREL FOR #6 AWG STRANDED
- BARE WIRE TO BE NO-OXED AT BOTH ENDS
- HEAT SHRINK
- #6 AWG THHN COPPER WIRE

WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG	YA6C-2TC38	3/8" - 16 NC S 3 BOLT
#2 AWG SOLID	YA3C-2TC38	3/8" - 16 NC S 3 BOLT
#2 AWG STRANDED	YA2C-2TC381	3/8" - 16 NC S 3 BOLT
#2/0 AWG	YA26-2TC38	3/8" - 16 NC S 3 BOLT
#4/0 AWG	YA28-2N	1/2" - 16 NC S 3 BOLT

SCALE: N.T.S. **1**

GROUNDING LUG DETAIL

BONDING CONNECTION KEYED NOTES: (#)

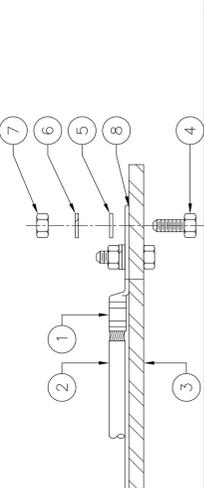
- 2-HOLE LUG
- #6 AWG THHN COPPER CONDUCTOR OR COARSER (AS NOTED), FOR ANCILLARY CONNECTIONS
- PRIMARY GROUND BAR/METAL ENCLOSURE
- 1/4" -20 HEX BOLT
- 1/4" FLAT WASHER
- 1/4" LOCK WASHER
- 1/4" -20 HEX NUT
- NO-OX TO BE APPLIED BETWEEN LUG AND GROUND BAR

NOTE: SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS

A. BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF LUG CONTACT

B. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG AND WIPE CLEAN EXCESS COMPOUND

D. ONLY ONE LUG PER SET OF BOLTS

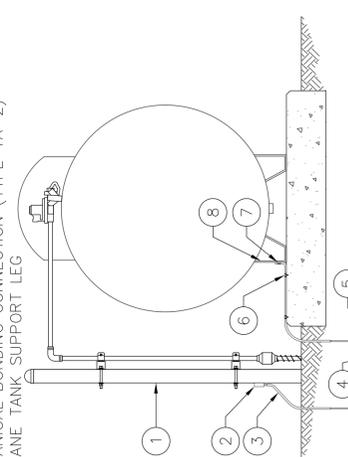


SCALE: N.T.S. **2**

BONDING CONNECTION DETAIL

PROPANE TANK BONDING KEYED NOTES: (#)

- STEEL PIPE
- EXOTHERMIC WELD (TYPE V5)
- #2 AWG SOLID TINNED BARE COPPER CONDUCTOR ROUTED IN FLEXIBLE NON-METALLIC LIQUID TIGHT CONDUIT (CARFLEX) (TYP.)
- EXOTHERMIC WELD
- GROUND RING
- FASTENED CARFLEX W/ HALF STRAPS & 1/4" x 2" (L) RED HEAD HAMMER-SET NAIL DRIVE ANCHOR OR APPROVAL EQUAL
- MECHANICAL BONDING CONNECTION (TYPE YA-2)
- PROPANE TANK SUPPORT LEG



GROUNDING DETAIL

SCALE: N.T.S. **3**

SCALE: N.T.S. **6**

ACCEPTABLE GROUND CONDUCTOR BEND DETAIL

SCALE: N.T.S. **9**

WEATHERPROOF DETAIL

SCALE: N.T.S. **12**

NOT USED