

Middleton Westport Joint Zoning Committee Agenda

7/24/2019 6:00: PM

Westport Hall, 5387 Mary Lake Rd., Waunakee

Posted on the City's web site at meetings.cityofmiddleton.us/

Roll Call

Approval of Minutes

- 1.) Minutes of 06/19/19 meeting**

Agenda Items

- 1.) Initial Consultation--Rezone (County A1-Ex to Commercial) and Land Division (Small Parcel Creation) for Cell Tower and Equipment, AT&T/Ziegler, 6039 CTH K, Middleton ETZ**

Adjournment

Posted: 7/19/19 5:00 p.m.

It is possible that members of and possibly a quorum of members of other governmental bodies of the municipality may be in attendance at this meeting to gather information; however, no action will be taken by any governmental body at this meeting other than the governmental body specifically referenced in this notice.

Any person who has a qualifying disability as defined by the American With Disabilities Act that requires the meeting or materials at the meeting to be in an accessible location or format must contact the City Administrator at (608) 821-8350, 7426 Hubbard Ave., Middleton, WI at least 24 hours prior to the commencement of the meeting so that any necessary arrangements can be made to accommodate each request.

MINUTES

MIDDLETON/WESTPORT JOINT ZONING COMMITTEE

WEDNESDAY, JUNE 19, 2019 AT 6:00 P.M.

PRESENT: Dean Grosskopf, Ken Sipsma and Cyndi Kennedy, Town of Westport; Leif Hubbard, Jennifer Murray and Wayne Pferdehirt, City of Middleton

ALSO PRESENT: Eileen Kelley, Tom Wilson

1. Call to Order

Chair Sipsma called the meeting to order at 6 p.m.

2. Approve Minutes of 01/21/19

Moved by Hubbard, seconded by Pferdehirt, to approve the minutes of 01/21/19. Motion carried 6-0.

3. Initial Consultation, Proposed Rezoning (County A1-Ex to Commercial) and Land Division for Cell Tower and Equipment, AT&T/Ziegler, 6039 CTH K, Middleton ETZ

At the request of the applicant, this item will be rescheduled for a future meeting.

4. Initial Consultation, Proposed Rezoning and Certified Survey Map (Create 2 Single Family Lots), Ziegler, 6039 CTH K, Middleton ETZ

Committee members discussed this proposed Certified Survey Map. Staff noted that the Town Plan Commission had an initial consultation on this request a couple weeks ago. There could potentially be one more lot created for a house with the land then deed restricted for no further development or land divisions. No action was taken.

5. Proposed Church Use, Utility Connections and Potential Detachment, Cross Lutheran Church, Oncken Road, Community of Bishops Bay

The Joint Committee discussed the concept proposed by the applicant, which is detachment of 20 acres on Oncken Rd. from the City and attachment to the Town to allow a church to be built with a septic system or holding tank and a private well. Kelley noted that one of the concerns staff has is that this land is part of the established Middleton Utility District and other property owners may argue that a precedent has been set if the property develops without the planned sanitary sewer and water service. If a detachment does occur, it should be noted as part of the process that the detachment and subsequent re-annexation would not in any way affect the extents of the Middleton Utility District boundaries or payments.

Sipsma stated that the City has to decide if they would want to detach the property and the Town would have to determine if they would accept the property. If this did occur, there should be a date certain that the property would be brought back into the City and continue to be part of the Utility District with the appropriate payments. Grosskopf stated that he would be ok with this approach but only if the City wants to detach it. Murray stated that we do not want to set a precedent but this use does fit the overall

zoning and may be able to support this if there is a timeline for the property to pay their share of the Utility District. Pferdehirt said he is concerned with allowing a detachment that is to avoid City requirements. No action was taken.

6. Adjourn

Moved by Grosskopf, seconded by Kennedy, to adjourn. Motion carried 6-0 and the meeting adjourned at 7:26 p.m.

EILEEN KELLEY



AT&T CELL TOWER / EQUIPMENT

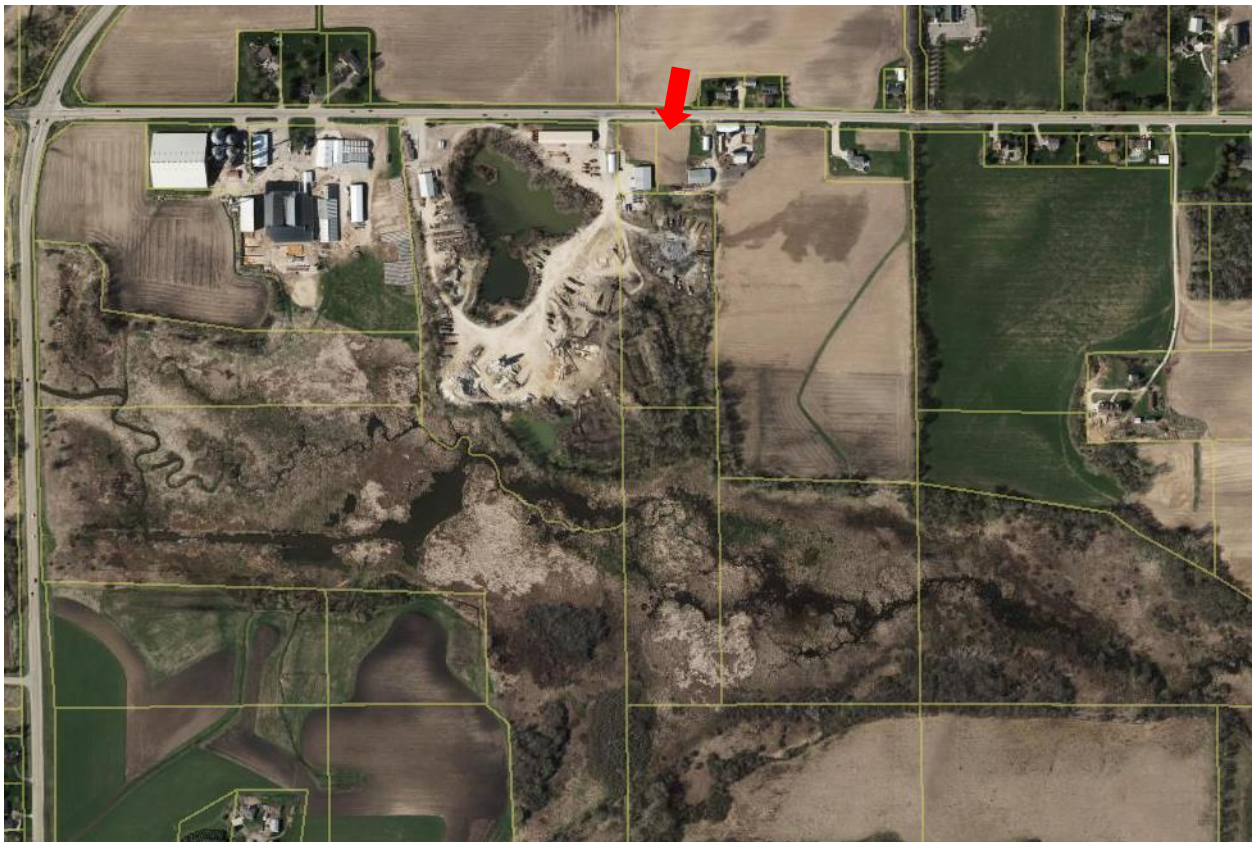
STAFF REPORT

MIDDLETON/WESTPORT JOINT ZONING CMTE

Meeting Date: July 24, 2019 **File:** PC-525
Request: Initial Consultation: Proposed Rezoning & Land Division for Cell Tower and Equipment, AT&T/Ziegler
Project Location: 6039 CTH K, Middleton ETZ
Prepared by: Mark Opitz, City Planner & Zoning Administrator **Date:** 7/19/19
mopitz@cityofmiddleton.us 608.821.8394

Property Owner: KAZ Living Trust

Site Context: To the west and southwest: Yahara Materials (30 acre and 13 acre parcels)
To the east: landowner's residence; Bruce Allen Hellenbrand (25 acre parcel)
To the south: WiDNR
To the north, across Hwy K: Ziegler farm and two residences



BACKGROUND AND COMMENTS

City and Town staff have received a request for a cell tower and related equipment on the subject property located within the ETZ. There are several issues to consider initially, including an existing tower on adjacent property. In addition to the applicant's materials, staff has provided an excerpt from the City's Zoning Ordinance, Section 10.103 Mobile Service Structure and Facilities Siting Regulations. If the project moves forward, it would require a Certified Survey Map and a rezoning, followed by a request for a conditional use permit.

Here is an excerpt from comments Tom Wilson provided to the Westport Plan Commission, which discussed this on June 10, 2019:

"ATT wants to place a cell tower of a total height with antennae of about 200 feet within a 65 foot square area on land between two farm and storage buildings along CTH K, between the Ziegler farm and buildings for Yahara Materials/Advance Concrete. The land is zoned County A-1 Exclusive, which does not provide for this use, so a rezone is necessary or a special CUP. It is located in the Middleton ETZ area, and Eileen Kelly may provide some thoughts to us before the meeting. She has been trying to work with the owners on co-location elsewhere, if possible. Also note that there are Federal laws on the location of towers which make it very difficult for communities to say no to their location, but can work to have them look appropriate for the area."

According to Eileen's notes, there is a tower on the Peavey site very close by at a height of 130 feet with a potential when additional antennae can be added to go to 180 feet.

RECOMMENDATION

Provide feedback to the applicant.

AGENDA ITEM #5:

Initial Consultation, Rezone (County A1-Ex to
Commercial) and Land Division
(Small Parcel Creation) for Cell Tower and
Equipment, AT&T/Ziegler,
6039 CTH K, Middleton ETZ



Town of Westport GIS

Town of Westport
5387 Mary Lake Road
Waunakee, WI 53597
(608) 849-4372



SCALE: 1 = 752'

Print Date: 5/2/2019

DISCLAIMER: The Town of Westport does not guarantee the accuracy of the material contained here in and is not responsible for any misuse or misrepresentation of this information or its derivatives.



22 April 2019

Town of Westport
Attn: Robert Anderson
5387 Mary Lake Rd
Waunakee, WI 53597

RE: AT&T Upgrades – Site WI2294_10587455 – Proposed AT&T Cell Tower on County Hwy K

Dear Permitting Officials;

SAC Wireless, on behalf of AT&T, is requesting the necessary approvals to construct a 190' lattice tower (with an overall height of 196') with appurtenant equipment on parcel 080929285512 in the Town of Westport to increase cellular service in the area.

Enclosed please find the following for Initial Consult:

- **Preliminary Site Plan (12)**
- **Preliminary Construction Drawings (1)**

We greatly appreciate your help with this proposed AT&T Facility upgrade. Please let me know if you have any questions.

Best Regards,

A handwritten signature in blue ink, appearing to read 'Erin McConnaughay', is written over a light blue horizontal line.

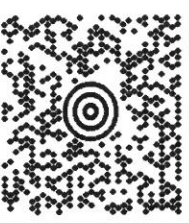
Erin McConnaughay
Zoning & Permitting
SAC Wireless for AT&T
540 W. Madison St. – 9th Floor
Chicago, IL 60661
815-343-0845
erin.mcconnaughay@sacw.com

ERIN MCCONNAUGHAY
3128954977
SAC WIRELESS
540 W MADISON
CHICAGO IL 60661


1 LBS

1 OF 1

SHIP TO:
ATTN: ROBERT ANDERSON
TOWN OF WESTPORT
5387 MARY LAKE RD
WAUNAKEE WI 53597-9128




WI 537 1-51



UPS GROUND


TRACKING #: 1Z 44A 8W2 03 9314 3849



BILLING: P/P

JOB CARD: SD4996

CS 21.0.21 WNTW50 09.0A.01/2019

TM








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THE UPS STORE
CHICAGO, IL 60607
1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
 2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
 3. **GETTING YOUR SHIPMENT TO UPS**
Customers with a Daily Pickup
Your driver will pickup your shipment(s) as usual.
Customers without a Daily Pickup
Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
Hand the package to any UPS driver in your area.

THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CARRIER SERVICES IS STRICTLY PROHIBITED.

<div>SITE PHOTO</div> <div></div>		<div>PROJECT : SITE # : FA # : PTN # : PACE # : JURISDICTION :</div> <div>NSB WI2294 10587455 3351A0J06P MRCHI036729 DANE COUNTY</div>		<div></div> <div>AT&T MOBILITY</div>																																																							
<div>SITE NAME : ADDRESS :</div> <div>WAUNAKEE - BDN 6039 COUNTY HIGHWAY K WAUNAKEE, WI 53597</div>																																																											
PROJECT INFORMATION		SCOPE OF WORK		DRAWING INDEX																																																							
<div>SITE NAME: WAUNAKEE – BDN COUNTY: DANE COUNTY ADDRESS: 6039 COUNTY HIGHWAY K WAUNAKEE, WI 53597</div> <div>ZONING DISTRICT: TBD</div> <div>SITE NUMBER: WI2294 FA NUMBER: 10587455 PTN #: 3351A0J06P PACE: MRCHI036729 USID: 232198</div> <div>LATITUDE: 43° 08' 52.4" N (43.147896) LONGITUDE: 89° 27' 38.8" W (–89.460771)</div> <div>PROPERTY OWNER: KAREN ZIEGLER</div> <div>LANDLORD CONTACT: KAREN ZIEGLER PHONE: (608) 209–4192</div> <div>POWER COMPANY: TBD</div> <div>FIBER VENDOR: TBD</div> <div>APPLICANT: AT&T WIRELESS 930 NATIONAL PARKWAY SCHAUMBURG, IL 60173</div>		<div>THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING: INSTALL (1) FENCED COMPOUND. INSTALL (1) 20’ WIDE UTILITY/ACCESS EASEMENT W/12’–0” ACCESS ROAD. INSTALL (1) 190’–0” SELF SUPPORT TOWER. INSTALL (6) PROPOSED AT&T PANEL ANTENNAS 2 PER SECTOR (TYP. OF 3 SECTORS), INSTALL (12) PROPOSED AT&T RRUS 4 PER SECTOR (TYP. OF 3 SECTORS), INSTALL PROPOSED WIC CABINET ON HELICAL ANCHORS AND PROPOSED AT&T GENERATOR ON HELICAL ANCHORS (INSTALL GENERATOR), INSTALL PROPOSED H–FRAME, INSTALL (2) PROPOSED RAYCAP DC6, INSTALL (4) PROPOSED AT&T 6 AWG DC TRUNK LINES, INSTALL (2) PROPOSED AT&T 18 PAIR FIBER LINES, INSTALL PROPOSED DC/FIBER JUMPERS. INSTALL TRANSFORMER, FIBER PED & HAND HOLE, PER PLANS. VERIFY WITH LOCAL UTILITY COMPANY. INSTALL CIENA, DC DISCONNECT AND PULL BOX ON NEW 4’–0” H–FRAME ON (4) NEW P–1000 UNISTRUT</div>		<table><tr><td>T1</td><td>TITLE SHEET</td></tr><tr><td>SP1</td><td>NOTES & SPECIFICATIONS</td></tr><tr><td>SP2</td><td>NOTES & SPECIFICATIONS</td></tr><tr><td>SP3</td><td>NOTES & SPECIFICATIONS</td></tr><tr><td>SP4</td><td>NOTES & SPECIFICATIONS</td></tr><tr><td>A1</td><td>SITE PLAN</td></tr><tr><td>A2</td><td>COMPOUND PLAN & LEGEND</td></tr><tr><td>A3</td><td>TOWER ELEVATION & ANTENNA PLAN</td></tr><tr><td>A4</td><td>SCHEDULE & CABLE NOTES</td></tr><tr><td>A5</td><td>ANTENNA, RRH, RRUS, RAYCAP DETAILS</td></tr><tr><td>A5.1</td><td>DETAILS</td></tr><tr><td>A6</td><td>WALK IN CABINET DETAILS</td></tr><tr><td>A6.1</td><td>WALK IN CABINET DETAILS</td></tr><tr><td>A6.2</td><td>WALK IN CABINET DETAILS</td></tr><tr><td>A7</td><td>FENCE DETAILS</td></tr><tr><td>A8</td><td>SITE DETAILS</td></tr><tr><td>E1</td><td>LEGEND AND DETAILS</td></tr><tr><td>E2</td><td>ELECTRICAL SLD AND PANEL SCHEDULE</td></tr><tr><td>E3</td><td>SHELTER GROUNDING PLAN & DETAILS</td></tr><tr><td>E4</td><td>ANTENNA GROUNDING – SLD</td></tr><tr><td>E5</td><td>GROUNDING DETAILS</td></tr><tr><td>E6</td><td>GROUNDING DETAILS</td></tr><tr><td>RF</td><td>RFDS PLUMBING DIAGRAM</td></tr><tr><td>SIGNAGE</td><td>SIGNAGE REQUIREMENTS</td></tr><tr><td>B1</td><td>PLAT OF SURVEY SURVEY (DONE BY OTHERS)</td></tr><tr><td>B1.1</td><td>PLAT OF SURVEY SURVEY (DONE BY OTHERS)</td></tr><tr><td>B1.2</td><td>PLAT OF SURVEY SURVEY (DONE BY OTHERS)</td></tr></table>		T1	TITLE SHEET	SP1	NOTES & SPECIFICATIONS	SP2	NOTES & SPECIFICATIONS	SP3	NOTES & SPECIFICATIONS	SP4	NOTES & SPECIFICATIONS	A1	SITE PLAN	A2	COMPOUND PLAN & LEGEND	A3	TOWER ELEVATION & ANTENNA PLAN	A4	SCHEDULE & CABLE NOTES	A5	ANTENNA, RRH, RRUS, RAYCAP DETAILS	A5.1	DETAILS	A6	WALK IN CABINET DETAILS	A6.1	WALK IN CABINET DETAILS	A6.2	WALK IN CABINET DETAILS	A7	FENCE DETAILS	A8	SITE DETAILS	E1	LEGEND AND DETAILS	E2	ELECTRICAL SLD AND PANEL SCHEDULE	E3	SHELTER GROUNDING PLAN & DETAILS	E4	ANTENNA GROUNDING – SLD	E5	GROUNDING DETAILS	E6	GROUNDING DETAILS	RF	RFDS PLUMBING DIAGRAM	SIGNAGE	SIGNAGE REQUIREMENTS	B1	PLAT OF SURVEY SURVEY (DONE BY OTHERS)	B1.1	PLAT OF SURVEY SURVEY (DONE BY OTHERS)	B1.2	PLAT OF SURVEY SURVEY (DONE BY OTHERS)
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<div>PROJECT MANAGEMENT: SAC WIRELESS 540 W. MADISON ST. 9TH FLOOR CHICAGO, ILLINOIS 60661 CONTACT: DANIEL KALINA EMAIL: DANIEL.KALINA@SACW.COM</div> <div>ARCHITECTURE & ENGINEERING: WESTCHESTER SERVICES LLC 604 FOX GLEN BARRINGTON, IL 60010 PHONE: (847)–277–0070</div> <div>SITE ACQUISITION: SAC AE DESIGN GROUP, INC. 540 W. MADISON ST. 9TH FLOOR CHICAGO, ILLINOIS 60661 CONTACT: GREG PHASSOS PHONE: (312)–971–7884 EMAIL: GREG.PHASSOS@SACW.COM</div> <div>AT&T CONSTRUCTION MANAGER: RYAN WOLLENBERG PHONE: (847)–330–7559 EMAIL: RW8363@ATT.COM</div>																																																											
		DRIVING DIRECTIONS																																																									
		<div>DIRECTIONS FROM: GREEN BAY INTERNATIONAL AIRPORT GREEN BAY, WI: HEAD NORTH ON INTERNATIONAL LANE AND TURN RIGHT ONTO DARWIN ROAD. SLIGHT RIGHT ONTO WI–113 N/NORTHPORT DR. CONTINUE TO FOLLOW WI–113 N AND PASS BY ADVANCED AUTO PARTS (ON THE RIGHT). USE THE LEFT TO LANES TO TURN LEFT ONTO CO HWY M. TURN RIGHT ONTO CO HWY K (1.2 MILES). SITE LOCATION WILL BE SOUTH SIDE OF THE STREET.</div>																																																									
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				<ul style="list-style-type: none">ALL WORK SHALL BE INSTALLED IN CONFORMANCE WITH CURRENT AT&T CONSTRUCTION INSTALLATION GUIDE.EXISTING CONDITIONS WILL BE CHANGED & VERIFIED IN FIELD. IF SIGNIFICANT DEVIATIONS OR DETERIORATION ARE ENCOUNTERED AT THE TIME OF CONSTRUCTION, A REPAIR PERMIT WILL BE OBTAINED & CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.THESE DRAWINGS ARE FULL SIZE & SCALEABLE ON 11”X17” SHEET SIZE.STATEMENT THAT COMPLIANCE WITH THE ENERGY CODE IS NOT REQUIRED. –SCOPE OF WORK DOES NOT INVOLVE MODIFICATIONS TO EXTERIOR ENVELOPE OF BUILDING, HVAC SYSTEMS OR ELECTRICAL LIGHTING.																																																							
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<div><div>AT&T</div><div>930 NATIONAL PARKWAY SCHAUMBURG, IL 60173</div></div>		<div><div>540 W. MADISON ST. 9TH FLOOR CHICAGO, IL 60661 WWW.SACW.COM 312.895.4977</div></div>		<div><div>604 FOX GLEN BARRINGTON, IL 60010 TELEPHONE: 847.277.0070 FAX : 847.277.0080 ae@westchesterservices.com</div></div>		<div>NSB 10587455/WI2294 WAUNAKEE – BDN 6039 COUNTY HIGHWAY K WAUNAKEE, WI 53597</div> <div>12</div>		<table><tr><th colspan="4">REVISIONS</th></tr><tr><th>REV.</th><th>DATE</th><th>DESCRIPTION</th><th>INITIALS</th></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td>B</td><td>03/12/19</td><td>PERMIT/CONSTRUCTION</td><td>DS</td></tr><tr><td>A</td><td>02/28/19</td><td>PERMIT/CONSTRUCTION</td><td>JM</td></tr><tr><td colspan="4">NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET</td></tr></table>		REVISIONS				REV.	DATE	DESCRIPTION	INITIALS					B	03/12/19	PERMIT/CONSTRUCTION	DS	A	02/28/19	PERMIT/CONSTRUCTION	JM	NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET				<div>02/28/19</div> <div>EXP. DATE: 07/31/20</div> <div>"I, HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF WISCONSIN"</div>		<div>SHEET TITLE</div> <div>TITLE SHEET</div>		<div>SHEET NUMBER</div> <div>T1</div> <div>Page 0 of 30</div>																					
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GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR / CM – SAC WIRELESS
SUB-CONTRACTOR – PER TRADE
OWNER – AT&T WIRELESS
2. SITE WORK (IF APPLICABLE) SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
3. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO DEPICT THE DESIGN INTENT OF THE INSTALLATION.
4. ANY MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
5. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
6. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL DOCUMENT & PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
7. CONTRACTOR / SUBCONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION.
8. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION. CONTRACTOR SHALL VERIFY EXISTING BURIED AND OVERHEAD UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL REPAIR ANY UTILITIES DAMAGED DURING THE COURSE OF CONSTRUCTION AND COORDINATE ANY REPAIRS WITH UTILITY COMPANY.
9. N /A
10. N/A
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

SITE PREPARATION:

SUB-CONTRACTOR’S SCOPE OF WORK

1. PROTECTION OF EXISTING TREES,VEGETATION AND LANDSCAPING MATERIALS WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.
2. CLEARING AND GRUBBING OF STUMPS, VEGETATION, DEBRIS, RUBBISH, DESIGNATED TREES, AND SITE IMPROVEMENTS.
3. TOPSOIL STRIPPING AND STOCKPILING.
4. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS, AND MONUMENTS.

SUB-CONTRACTORS QUALITY ASSURANCE

1. SUB-CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION ON SITE, ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE SUB-CONTRACTOR AT NO EXPENSE TO THE OWNER.
2. SUB-CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR WORK ON SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE WILL BE THE RESPONSIBILITY OF THE SUB-CONTRACTOR AND COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE SUB-CONTRACTORS EXPENSE.

SITE WORK:

EARTHWORK AND DRAINAGE

PART 1 – GENERAL

1. WORK INCLUDED: SEE SITE PLAN.
2. DESCRIPTIONS

ACCESS DRIVE W/ TURNAROUND AREA, LEASE AREA, AND IF APPLICABLE UNDERGROUND UTILITY EASEMENTS ARE TO BE CONSTRUCTED TO PROVIDE A WELL DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERIES AND MAINTENANCE PERSONNEL ACCESS.

3. QUALITY ASSURANCE

- A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS (AS NEEDED).
- B. APPLY AND MAINTAIN GRASS SEED AS RECOMMENDED BY THE SEED PRODUCER (IF REQUIRED).
- C. PLACE AND MAINTAIN VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT, AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS.
4. SEQUENCING

- A. CONFIRM SURVEY STAKES AND SET ELEVATION STAKES PRIOR TO ANY CONSTRUCTION.
- B. COMPLETELY GRUB THE ACCESS DRIVE W/ TURNAROUND, UNDERGROUND UTILITY EASEMENTS, (IF APPLICABLE) AND LEASE AREA PRIOR TO FOUNDATION CONSTRUCTION, PLACEMENT OF BACKFILL AND SUB-BASE MATERIAL.
- C. CONSTRUCT TEMPORARY CONSTRUCTION AREA ALONG ACCESS DRIVE.
- D. BRING THE LEASE AREA AND ACCESS DRIVE W/ TURNAROUND TO BASE COURSE ELEVATION PRIOR TO INSTALLING FOUNDATION.
- E. APPLY SOIL STERILIZER PRIOR TO PLACING BASE MATERIALS.
- F. GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION (INCLUDING UNDERGROUND UTILITY EASEMENTS) IMMEDIATELY AFTER BRINGING LEASE AREA AND ACCESS DRIVE W/ TURNAROUND TO BASE COURSE ELEVATION, WATER TO ENSURE GROWTH.
- G. REMOVE GRAVEL FROM TEMPORARY CONSTRUCTION ZONE TO AN AUTHORIZED AREA OR AS DIRECTED BY PROJECT MANAGER.
- H. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO STONE SURFACES.

5. SUBMITTALS

A. BEFORE CONSTRUCTION IF LANDSCAPING IS APPLICABLE TO THE CONTRACT, SUBMIT TWO COPIES OF THE LANDSCAPE PLAN UNDER NURSERY LETTERHEAD. IF A LANDSCAPE ALLOWANCE WAS INCLUDED IN THE CONTRACT, PROVIDE AN ITEMIZED LISTING OF PROPOSED COSTS ON NURSERY LETTERHEAD (REFER TO PLANS FOR LANDSCAPING REQUIREMENTS).

B. AFTER CONSTRUCTION

1. MANUFACTURER’S DESCRIPTION OF PRODUCT AND WARRANTY STATEMENT ON SOIL STERILIZED.
2. MANUFACTURER’S DESCRIPTION OF PRODUCT ON GRASS SEED AND FERTILIZER
3. LANDSCAPING WARRANTY STATEMENT.

6. WARRANTY

- A. IN ADDITION TO THE WARRANTY ON ALL CONSTRUCTION COVERED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPAIR ALL DAMAGE AND RESTORE AREA AS CLOSE TO ORIGINAL CONDITION AS POSSIBLE AT SITE AND SURROUNDINGS.
- B. SOIL STERILIZATION APPLICATION TO GUARANTEE VEGETATION FREE ROAD AND SITE AREAS FOR ONE YEAR FROM DATE OF FINAL INSPECTION.
- C. DISTURBED AREAS WILL REFLECT GROWTH OF NEW GRASS COVER PRIOR TO FINAL INSPECTION.
- D. LANDSCAPING, IF INCLUDED WITHIN THE SCOPE OF THE CONTRACT, WILL BE GUARANTEED FOR ONE YEAR FROM DATE OF FINAL INSPECTION.

PART 2 – PRODUCTS

1. MATERIALS

A. SOIL STERILIZER SHALL BE EPA-REGISTERED, PRE-EMERGENCE LIQUID:

TOTAL KILL PRODUCT 910 EPA 10292-7
PHASAR CORPORATION P.O. BOX 5123 DEARBORN, MI 48128 (313) 563-8000
AMBUSH HERBICIDE EPA REGISTERED
FRAMAR INDUSTRIAL PRODUCTS 1435 MORRIS AVE. UNION, NJ 07083 (800) 526-4924

B. ROAD AND SITE MATERIALS SHALL CONFORM TO TDOT SPECIFICATIONS FILL MATERIAL (UNLESS OTHERWISE NOTED) – ACCEPTABLE SELECT FILL SHALL BE IN ACCORDANCE WITH STATE DEPARTMENT OF HIGHWAY AND TRANSPORTATION STANDARD SPECIFICATIONS.

C. SOIL STABILIZER FABRIC SHALL BE MIRAFI – 500X.

PART 3 – EXECUTION

1. INSPECTIONS

LOCAL BUILDING INSPECTORS SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, UNLESS OTHERWISE SPECIFIED BY JURISDICTION.

2. PREPARATION

- A. CLEAR TREES, BRUSH AND DEBRIS FROM LEASE AREA, ACCESS DRIVE W/ TURN-AROUND AND UNDER GROUND UTILITY EASEMENTS AS REQUIRED FOR CONSTRUCTION.
- B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION, GRUB ORGANIC MATERIAL TO A MINIMUM OF SIX (6) INCHES BELOW GRADE.
- C. UNLESS OTHERWISE INSTRUCTED BY AT&T, TRANSPORT ALL REMOVED TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED LANDFILL.
- D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.
- E. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE THE AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.

3. INSTALLATION

- A. GRADE OR FILL THE LEASE AREA AND ACCESS DRIVE W/ TURNAROUND AS REQUIRED IN ORDER THAT UPON DISTRIBUTION OF SPOILS, RESULTING FROM EXCAVATIONS, THE RESULTING GRADE WILL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM BENCHMARK, FINISHED GRADES, OR INDICATED SLOPES.
- B. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND ~~DO NOT~~ SPREAD BEYOND THE LIMITS OF PROJECT AREA UNLESS AUTHORIZED BY PROJECT MANAGER AND AGREED TO BY LANDOWNER.
- C. BRING THE ACCESS DRIVE W/ TURNAROUND TO BASE COURSE ELEVATION TO FACILITATE CONSTRUCTION AND OBSERVATION DURING CONSTRUCTION OF THE SITE.
- D. AVOID CREATING DEPRESSIONS WHERE WATER MAY POND.
- E. THE CONTRACT SHALL INCLUDE GRADING, BANKING, AND DITCHING, UNLESS OTHERWISE INDICATED.
- F. WHEN IMPROVING AN EXISTING ACCESS DRIVE, GRADE THE EXISTING DRIVE TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE BEFORE PLACING FILL OR STONE.
- G. PLACE FILL OR STONE IN SIX (6) INCH MAXIMUM LIFTS, AND COMPACT BEFORE PLACING NEXT LIFT.
- H. THE TOP SURFACE COURSE, SHALL EXTEND A MINIMUM OF ONE (1) FOOT BEYOND THE SITE FENCE (UNLESS OTHERWISE NOTED) AND SHALL COVER THE AREA AS INDICATED.
- I. APPLY RIPRAP TO THE SIDE SLOPES OF ALL FENCED SITE AREAS, PARKING AREAS, AND ALL OTHER SLOPES GREATER THAN 2:1.
- J. APPLY RIPRAP TO THE SIDES OF DITCHES OR DRAINAGE SWALES.
- K. RIPRAP ENTIRE DITCH FOR SIX (6) FEET IN ALL DIRECTIONS AT CULVERT OPENINGS.
- L. APPLY SEED, FERTILIZER, AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE RIPRAPPED.
- M. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER OR EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.
- N. IN DITCHES WITH SLOPES GREATER THAN 10%, MOUND DIVERSIONARY HEADWALLS IN THE DITCH AT CULVERT ENTRANCES. POSITION THE HEADWALL AT AN ANGLE NO GREATER THAT 60 DEGREES OFF THE DITCH LINE. RIPRAP THE UPSTREAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR SIX (6) FEET ABOVE THE CULVERT ENTRANCE.
- O. APPLY SEED AND FERTILIZER TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND LOOSEN THE SOIL.
- P. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.



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REVISIONS			
REV.	DATE	DESCRIPTION	INITIALS
B	03/12/19	PERMIT/CONSTRUCTION	DS
A	02/28/19	PERMIT/CONSTRUCTION	JM
NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET			

02/28/19

EXP. DATE: 07/31/20

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SHEET TITLE

NOTES &
SPECIFICATIONS

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SP1

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Q. ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS, BY WATERING, UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK THE BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

4. FIELD QUALITY CONTROL

COMPACT SOILS TO MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. INDICATE PERCENTAGE OF COMPACTION ACHIEVED ON AS-BUILT DRAWINGS.

5. PROTECTION

A. PROTECT SEEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1-2 INCHES, STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET WILL BE AN ACCEPTABLE ALTERNATE.
B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT WILL BE WRAPPED, TIED WITH HOSE PROTECTED WIRE, AND SECURED TO 2" X 2" X 4'-0" WOODEN STAKES EXTENDING TWO-FEET INTO THE GROUND ON FOUR SIDES OF THE TREE.
C. PROTECT ALL EXPOSED AREAS AGAINST WASHOUTS AND SOIL EROSION. PLACE STRAW BALES AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS. WHERE THE SITE OR ROAD AREAS HAVE BEEN ELEVATED IMMEDIATELY ADJACENT TO THE RAIL LINE, STAKE EROSION CONTROL FABRIC FULL LENGTH IN THE SWALE TO PREVENT CONTAMINATION OF THE RAIL BALLAST. ALL EROSION CONTROL METHODS SHALL CONFORM TO APPLICABLE BUILDING CODE REQUIREMENTS.

TRENCHING:

MATERIALS SUB-CONTRACTOR SHALL:

- FILL MATERIAL SHALL BE OBTAINED TO THE MAXIMUM EXTENT POSSIBLE FROM EXCAVATIONS ON SITE. THE STRUCTURAL FILL SHOULD BE SAND AND SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL GOVERNING JURISDICTION AND UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL CONTAIN NO ORGANIC MATERIAL, ROCKS, OR OBJECTIONABLE MATERIALS AND/OR MATERIALS DESIGNATED AS HAZARDOUS OR INDUSTRIAL BY THE EPA. THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL. BACKFILL OR BORROW SOIL SHALL BE PLACED IN 6" LOOSE LIFTS.

PIPE DETECTION AND IDENTIFICATION SUB-CONTRACTOR SHALL:

- UTILIZE WARNING TAPE. ALL UTILITY SERVICE TRENCHES SHALL BE MARKED WITH WARNING TAPE.

TRENCH EXCAVATION SUB-CONTRACTOR SHALL:

- DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY THE CONSTRUCTION MANAGER.
- TRENCH LENGTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.
- DISPOSAL OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY AS DIRECTED BY THE CONSTRUCTION MANAGER.
- USE HAND TRENCHING METHODS FOR EXCAVATION THAT CANNOT BE ACCOMPLISHED WITHOUT ENDANGERING EXISTING OR NEW STRUCTURES AND OTHER FACILITIES.

TRENCH PROTECTION SUB-CONTRACTOR SHALL:

- PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.
- SHEETING AND BRACING TO MEET OR EXCEED OSHA REQUIREMENTS.

BACKFILLING SUB-CONTRACTOR SHALL:

- NOTIFY THE CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF BACKFILLING.
- BACKFILL TRENCH WITH LIFTS UP TO 6" LOOSE MEASURE.
- PROTECT CONDUIT FROM LATERAL MOVEMENT AND DAMAGE FROM IMPACT OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. DO NOT FREE FALL BACKFILL INTO TRENCH UNTIL AT LEAST 6" OF COVER IS OVER CONDUIT.

COMPACTION SUB-CONTRACTOR SHALL:

- COMPACT BACKFILL TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 WITH PLUS OR MINUS 3% OF OPTIMUM MOISTURE CONTENT.
- IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL AND RE-COMPACT AS SPECIFIED.

3. ANY SUBSEQUENT SETTLEMENT OF TRENCH OR STRUCTURE BACKFILL DURING THE MAINTENANCE PERIOD SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL PROMPTLY CORRECTED.

FENCING AND GATE(S)

PART 1 - GENERAL

- WORK INCLUDED SEE PLAN FOR SITE AND LOCATION OF FENCE AND GATE(S).
- QUALITY ASSURANCE ALL STEEL MATERIALS UTILIZED IN CONJUNCTION WITH THIS SPECIFICATION WILL BE GALVANIZED OR STAINLESS STEEL. WEIGHT OF ZINC COATING ON THE FABRIC SHALL NOT BE LESS THAN 12 OUNCES PER SQUARE FOOT OF MATERIAL COVERED. POSTS SHALL BE HOT-DIPPED IN GRADE 'E' ZINC, 18 OUNCES PER SQUARE FOOT.
- SEQUENCING IF THE SITE AREA HAS BEEN BROUGHT UP TO SURFACE COURSE ELEVATION (PRIOR TO THE FENCE CONSTRUCTION), FENCE POST EXCAVATION SPOILS MUST BE CONTROLLED TO PRECLUDE CONTAMINATION OF SAID SURFACE COURSE.
- SUBMITTALS
 - MANUFACTURER'S DESCRIPTIVE LITERATURE.
 - CERTIFICATE OR STATEMENT OF COMPLIANCE WITH THE SPECIFICATIONS.

PART 2 - PRODUCTS

- FENCE MATERIAL
 - ALL FABRIC WIRE, RAILS, HARDWARE, AND OTHER STEEL MATERIALS SHALL BE HOT-DIPPED GALVANIZED.
 - FABRIC SHALL BE SIX-FOOT HIGH TWO-INCH CHAIN LINK MESH OF NO. 9 GAUGE (0.148") WIRE. THE FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO THE SPECIFICATIONS OF ASTM A-392 CLASS 1.
 - BARBED WIRE SHALL BE DOUBLE-STRAND, 12-1/2 GAUGE TWISTED WIRE, WITH 14-GAUGE, 4-POINT ROUND BARBS SPACED ON FIVE-INCH CENTERS.
 - ALL POSTS SHALL BE SCHEDULE - 40 MECHANICAL SERVICE PIPE AND SHALL BE TYPE 1 ASTM A-128 AND OF THE FOLLOWING DIAMETER POST 2" SCHEDULE 40 (2 3/8" O.D.) CORNER 3" SCHEDULE 40 (3 1/2" O.D.) GATE 3" SCHEDULE 40 (3 1/2" O.D.)
 - GATE POSTS SHALL BE EXTENDED 12 INCHES, INCLUDING DOME CAP, TO PROVIDE FOR ATTACHMENT OF BARBED WIRE.
 - ALL TOP AND BRACE RAILS SHALL BE 1 1/2" DIAMETER SCHEDULE - 40 MECHANICAL-SERVICE PIPE.
 - GATE FRAMES AND BRACES SHALL BE 1.90 INCH DIAMETER SCHEDULE 40 MECHANICAL-SERVICE PIPE. FRAMES SHALL HAVE WELDED CORNERS.
 - GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE, AND A FULL-WIDTH HORIZONTAL BRACE, SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
 - GATE HINGES SHALL BE MERCHANTS METAL MODEL 64386 HINGE ADAPTER WITH MODEL 6409, 188-DEGREE ATTACHMENT.
 - THE GUIDE (LATCH ASSEMBLY) SHALL BE HEAVY INDUSTRIAL DOUBLE GATE LATCH. SEE DETAIL.
 - LATCHES AND STOPS SHALL BE PROVIDED FOR ALL GATES.
 - PLUNGER ROD COMPLETE WITH RECEPTOR TO BE PROVIDED AT THE INACTIVE LEAF OF ALL DOUBLE GATE INSTALLATIONS.
 - ALL STOPS SHALL HAVE KEEPERS CAPABLE OF HOLDING THE GATE LEAF IN THE OPEN POSITION
 - A NO. 7 GAUGE ZINC COATED TENSION WIRE SHALL BE USED AT THE BOTTOM OF THE FABRIC, TERMINATED WITH BAND CLIPS AT CORNER AND GATE POSTS. ATOP EACH LINE/CORNER POST.
 - A SIX-INCH BY 1/2-INCH DIAMETER EYEBOLT TO HOLD TENSION WIRE SHALL BE PLACED AT LINE POSTS.
 - STRETCHER BARS SHALL BE 3/16-INCH BY 3/4-INCH OR HAVE EQUIVALENT CROSS-SECTIONAL AREA.
 - ALL CORNER GATE AND PANELS SHALL HAVE A 3/8-INCH TRUSS ROD WITH TURNBUCKLES.
 - ALL POSTS EXCEPT GATE POSTS SHALL HAVE A COMBINATION CAP AND BARBED WIRE SUPPORTING ARM. GATE POSTS SHALL HAVE A DOME CAP.
 - OTHER HARDWARE INCLUDES BUT MAY NOT BE LIMITED TO TIE CLIPS, BAND CLIPS AND TENSION BAND CLIPS.
 - BARBED WIRE GATE GUARDS SHALL BE FITTED WITH DOME CAPS.
 - BARBED WIRE SUPPORT ARMS SHALL BE PRESSED STEEL COMPLETE WITH SET BOLT AND LOCK WIRE IN THE ARM.
 - ALL CAPS SHALL BE MALLEABLE IRON, DOME OR ACORN SHAPED AS REQUIRED BY PIPE SIZE.
 - WHERE THE USE OF CONCERTINA HAS BEEN SPECIFIED, 24-INCH DIAMETERS COIL. BARBED TAPE, STAINLESS STEEL, CYCLONE FENCE MODEL G8P TO TYPE III SHALL BE FURNISHED. IT SHALL BE SUPPORTED ABOVE THE TOP RAIL BY USE OF SIX(6) WIRE BARBED WIRE ARMS POSITIONED ATOP EACH LINE/CORNER POST.

PART 3 - EXECUTION

1. INSPECTION

TO CONFIRM PROPER DEPTH AND DIAMETER OF POST HOLE EXCAVATIONS. ALL POST HOLES WILL BE EXCAVATED AS PER CONSTRUCTION DOCUMENTS.

2. INSTALLATION

- FOUNDATIONS SHALL HAVE A MINIMUM SIX (6) INCH CONCRETE COVER UNDER POST.
- ALL FENCE POSTS SHALL BE VERTICALLY PLUMB ; ONE QUARTER (1/4) INCH
- AT CORNER POSTS, GATE POSTS, AND SIDES OF GATE FRAME, FABRIC SHALL BE ATTACHED WITH STRETCHER AND TENSION BAND-CLIPS AT FIFTEEN(15) INCH INTERVALS.
- AT LINE POSTS, FABRIC SHALL BE ATTACHED WITH BAND-CLIPS AT FIFTEEN (15) INCH INTERVALS.
- FABRIC SHALL BE ATTACHED TO BRACE RAILS, TENSION WIRE AND TRUSS RODS WITH TIE-CLIPS AT TWO (2) FOOT INTERVALS.
- A MAXIMUM GAP OF ONE INCH WILL BE PERMITTED BETWEEN TIE CHAIN LINE FABRIC AND THE FINAL GRADE.
- GATE SHALL BE INSTALLED SO LOCKS ARE ACCESSIBLE FROM BOTH SIDES.
- GATE HINGE BOLTS SHALL HAVE THEIR THREADS PEENED OR WELDED TO PREVENT UNAUTHORIZED REMOVAL.
- CONCRETE TO BE A MINIMUM OF 3,000 PSI.

3. PROTECTION

UPON COMPLETION OF ERECTION, INSPECT FENCE MATERIAL AND PAINT FIELD CUTS OR GALVANIZING BREAKS WITH ZINC-BASED PAINT, COLOR TO MATCH THE GALVANIZED METAL.

APPLICABLE STANDARDS	
ASTM-A120	SPECIFICATION FOR PIPE, STEEL BLACK AND HOT-DIPPED ZINC COATED (GALVANIZED) WELDED AND SEAMLESS, FOR ORDINARY USES.
ASTM-A123	ZINC (HOT-DIP GALVANIZED) COATING ON IRON AND STEEL PRODUCTS.
ASTM-A153	STANDARD SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE.
ASTM-A392	SPECIFICATION FOR ZINC-COATED STEEL CHAIN LINK FENCE
FABRIC: ASTM-A491	SPECIFICATION FOR ALUMINUM-COATED STEEL CHAIN LINK FENCE
FABRIC ASTM-A525	STANDARD SPECIFICATION FOR STEEL SHEET ZINC COATED (GALVANIZED) BY THE HOT-DIPPED PROCESS.
ASTM-A570	SPECIFICATION FOR HOT-ROLLED CARBON STEEL SHEET AND STRIP. STRUCTURAL QUALITY.
ASTM-A535	SPECIFICATION FOR ALUMINUM COATED STEEL BARBED WIRE.

FEDERAL SPECIFICATION RR-F-191- FENCING, WIRE AND POST METAL (AND GATES, CHAIN LINK FENCE FABRIC, AND ACCESSORIES)

METALS

PART 1 - GENERAL

SECTION INCLUDES:

- STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, PLATES, BARS, THREADED STRUCTURAL FASTENERS, ANTENNA SUPPORT ASSEMBLIES, GRATING, STEEL PLATFORMS AND PEDESTAL SUPPORTS, AND GROUTING UNDER BASE PLATES.

QUALITY ASSURANCE

- FABRICATE STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- PERFORM DESIGN UNDER DIRECT SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE.

PART 2 - PRODUCTS

1. MATERIALS:

- | | |
|------------------------------|--|
| A. STRUCTURAL STEEL MEMBERS: | ASTM A572, GRADE 50 |
| B. STRUCTURAL TUBING: | ASTM A500, GRADE B |
| C. PIPE: | ASTM A53, TYPE E OR S, GRADE B |
| D. BOLTS, NUTS, AND WASHERS: | ASTM A325 |
| E. ANCHOR BOLTS: | ASTM A307 |
| F. WELDING MATERIALS: | AWS D1.1, TYPE REQUIRED FOR MATERIALS BEING WELDED |



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14

REVISIONS			
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SP2

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METALS CONTINUED

- G. GROUT: NON-SHRINK TYPE, PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIER ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 7000 psi AT 28 DAYS.
- H. SHOP AND TOUCH-UP PRIMER: SSPC 15, TYPE 1, RED OXIDE
- I. TOUCH-UP PRIMER FOR GALV. SURFACES: ZINC RICH TYPE
2. FABRICATION: CONTINUOUSLY SEAL JOINTED MEMBERS BY CONTINUOUS WELDS. GRIND EXPOSED WELDS SMOOTH.
3. FINISH:
- A. PREPARE STRUCTURAL COMPONENT SURFACES IN ACCORDANCE WITH SSPC SP-1 TO SP-10 PROCEDURES.
- B. STRUCTURAL STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED.

PART 3 – EXECUTION

EXAMINATION AND PREPARATION:

1. VERIFY THAT THE FIELD CONDITIONS ARE ACCEPTABLE TO PERFORM THE WORK.

ERECTION:

1. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.
2. NO UNAUTHORIZED WELDING SHALL BE PERFORMED ON CROWN CASTLE USA, INC. TOWERS. ALL OTHER WELDING SHALL BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY AWS 01.1 STRUCTURAL STEEL WELDING CODE-STEEL WELD ELECTRODES SHALL BE E70XX.
3. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER.
4. AFTER ERECTION, TOUCH-UP WELDS, ABRASIONS, AND SURFACES NOT SHOP PRIMED OR GALVANIZED WITH ZINC RICH PAINT (ALL EXISTING AND NEW AREAS).

FIELD QUALITY CONTROL:

1. FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS AND BOLT / NUT TORQUE .

CONCRETE:

PART 1 – GENERAL

1. WORK INCLUDES FORMWORK, REINFORCEMENT, ACCESSORIES, CAST-IN-PLACE CONCRETE, FINISHING, AND CURING.
2. INSPECTIONS
- A. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING BUILDING DEPARTMENT INSPECTIONS REQUIRED FOR THE SCOPE OF WORK BEING PERFORMED.
- B. ALL REINFORCING STEEL SHALL BE INSPECTED AND APPROVED BY THE AT&TWIRELESS CONSTRUCTION MANAGER PRIOR TO PLACEMENT OF CONCRETE.
- C. THE AT&TWIRELESS CONSTRUCTION MANAGER SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS.
3. QUALITY ASSURANCE
- A. CONSTRUCT AND ERECT CONCRETE FORM WORK IN ACCORDANCE WITH ACI 301 AND ACI 318.
- B. PERFORM CONCRETE REINFORCING WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ASTM A184.
- C. PERFORM CAST-IN-PLACE CONCRETE WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ACI 117-90.
4. SUBMITTALS

SUBMIT CONCRETE MIX DESIGN AND REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL BY AT&TWIRELESS CONSTRUCTION MANAGER/ENGINEER. THE SHOP DRAWINGS SHALL BE SUBMITTED IN EH FORM OF TWO (2) CONCRETE MIX DESIGN INFORMATION SHEETS AND TWO (2) BLUELINE DRAWINGS FOR REINFORCING STEEL.

PART 2 – PRODUCTS

1. REINFORCEMENT MATERIALS
- A. REINFORCEMENT STEEL, ASTM A615, 60KSI YIELD GRADE, REINFORCING STEEL RODS, PLAIN FINISH.
- B. WELDED STEEL WIRE FABRIC ASTM A185 PLAIN TYPE, IN FLAT SHEETS, PLAIN FINISH.
- C. CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS, SIZED AND SHAPED FOR SUPPORTS OF REINFORCING.
- D. FABRICATE CONCRETE REINFORCING IN ACCORDANCE WITH ACI 315, AND ACI 318, AND ASTM A184.
2. CONCRETE MATERIALS
- A. CEMENT: ASTM C150, PORTLAND TYPE.
- B. FINE AND COURSE AGGREGATES: ASTM C33 – MAXIMUM SIZE OF CONCRETE AGGREGATE SHALL NOT EXCEED ONE (1) INCH SIZE SUTABLE FOR INSTALLATION METHOS UTILIZED FOR ONE-THIRD CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING.
- C. WATER: CLEAN AND NOT DETRIMENTAL TO CONCRETE.
- D. AIR ENTRAINING ADMIZTURE: ASTM C260.
- E. BONDING AGENT: LATEX EMULSION FOR BONDING NEW TO OLD CONCRETE AS MANUFACTURED BY DAYTON SUPERIOR.
- F. NON-SHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICISING AGENTS.

3. CONCRETE MIX
- A. CONCRETE MATERIALS SHALL CONFORM TO THE APPROPRIATE A.C.I. REQUIREMENTS FOR EXPOSED STRUCTURAL CONCRETE.
- B. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94, ALT, 3.
- C. PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABILITY REQUIREMENTS OF ACI 318 CHAPTER F4 SHALL BE SATASFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. PROVIDE CONCRETE AS FOLLOWS:
1. COMPRESSIVE STRENGTH 4000 PSI AT 28 DAYS.
2. SLUMP : 3 INCHES.

EXECUTION:

1. INSERTS, EMBEDDED COMPONENTS AND OPENINGS
- A. THE CONTRACTOR SHALL COORDINATE AND CROSS CHECK ARCHITECTURAL, BUILDING AND ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, AND OTHER ITEMS RELATED TO CONCRETE WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THE PROPER LOCATION BEFORE PLACING CONCRETE.
- B. PROVIDE FORMED OPENINGS WHERE REQUIRED FOR WORK TO BE EMBEDED IN AND PASSING THROUGH CONCRETE MEMBERS.
- C. COORDINATE WORK OF OTHER SECTIONS IN FORMING AND SETTING OPENINGS, SLOTS, RECESSES, CHASES, SLEEVES, BOLTS, ANCHORS, AND OTHER INSERTS.
- D. INSTALL CONCRETE ACCESSORIES STRAIGHT, LEVEL ND PLUMB.
2. REINFORCEMENT PLACEMENT
- A. PLACE REINFORCEMENT, SUPPORTED AND SECURED AGAINST DISPLACEMENT.
- B. ENSURE REINFORCING IS CLEAN, FREE OF LOOSE SCALE, DIRT, OR OTHER FOREIGN COATINGS.
- C. WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
- D. MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE 3 INCHES UNLESS NOTED OTHERWISE.
- E. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL NOT EXCEED 3 INCHES OR BE LESS THAN 2 INCHES.

3. PLACING CONCRETE
- A. VIBRATE ALL CONCRETE.
- B. ALL CONCRETE WORK SHALL ADHERE TO THE LATEST A.C.I. STANDARDS FOR WINTER POURING AND CURING PROCEDURES IF SEASONAL CONDITIONS APPLY.
4. CURING
- A. AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING.
- B. MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSISTENT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
5. PROVIDE HAND RUBBED SMOOTH FINISH TO ALL EXPOSED VERTIACAL FORMED CONCRETE SURFACES.
6. FIELD QUALITY CONTROL
- A. SUBMIT THREE (3) CONCRETE TEST CYLINDERS – TAKEN EVERY 15 CUBIC YARDS OR LESS. SUBMIT CONCRETE TESTS TO THE PROJECT MANAGER IN ACCORDANCE TO ASTM C-31 AND C-39.
- B. SUBMIT ONE (1) ADDITIONAL TEST CYLINDER – TAKEN DURING COLD WEATHER POURS, AND CURED ON JOB SITE UNDER THE SAME CONDITIONS AS THE CONCRETE IT REPRESENTS.
- C. SUBMIT ONE (1) SLUMP TEST – TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
7. DEFECTIVE CONCRETE

MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED SPECIFICATIONS, DETAILS OR ELEVATIONS AS DIRECTED BY THE AT&TWIRELESS CONSTRUCTION MANAGER.

GENERAL ELECTRICAL NOTES:

1. ALL ELECTRICAL MATERIALS, EQUIPMENT AND INSTALLATION PROCEDURES TO CONFORM WITH AT&TWIRELESS SPECIFICATIONS.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATION TESTS AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. ALL MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NFPA, AND 'UL' LISTED.
4. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED PER THE NEC, AND ALL APPLICABLE LOCAL CODES.
5. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE A MINIMUM INTERRUPTING RATING OF 42,000 AIC.
6. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO VENDOR PRINTS PROVIDED BY AT&TWIRELESS FOR BTS CABINET.
7. PATCH, REPAIR, AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
8. PROVIDE AT&TWIRELESS WITH ONE SET OF COMPLETE ELECTRICAL 'AS-BUILT' DRAWINGS AT THE COMPLETION OF THE JOB SHOWING ACTUAL ROUTINGS AND WIRING CONNECTIONS.
9. ALL SINGLE-PHASE SELF CONTAINED METER CONNECTION DEVICES MUST INCLUDE HORN TYPE BY-PASS PROVISION SO THAT SERVICES WILL NOT BE INTERRUPTED WHEN A METER IS REMOVED FROM THE SOCKET.
10. ALL EQUIPMENT PUNCH OUTS AND CONDUITS (USED AND SPARE) TO BE RODENT PROOFED WITH CAPS, STEEL MESH, AND/OR FOAM FILL BY CONTRACTOR AS NEEDED.
11. NO SPOILS TO BE LEFT ON SITE WITHOUT THE WRITTEN CONSENT OF THE LANDOWNER.
12. CONTRACTOR TO PROVIDE 2 PHENOLIC LABELS AT METER ONE TO IDENTIFY 'AT&TWIRELESS DISCONNECT' AND THE OTHER TO GIVE THE SITE ADDRESS.
13. ALL CONTRACTOR FURNISHED MATERIALS AND EQUIPMENT SPECIFIED ON THE PROJECT SHALL BE NEW AND UNUSED, OF CURRENT MANUFACTURE AND OF THE HIGHEST GRADE.



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12

REVISIONS			
REV.	DATE	DESCRIPTION	INITIALS
B	03/12/19	PERMIT/CONSTRUCTION	DS
A	02/28/19	PERMIT/CONSTRUCTION	JM
NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET			

02/28/19

EXP. DATE: 07/31/20

"I, HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF WISCONSIN"

SHEET TITLE

NOTES &
SPECIFICATIONS

SHEET NUMBER

SP3
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GENERAL ELECTRICAL NOTES (CONTINUED):

14. ALL EQUIPMENT, MATERIAL AND THE INSTALLATION METHODS SPECIFIED ON THE PROJECT DRAWINGS SHALL BE DESIGNED AND FABRICATED IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS, AND APPROPRIATE INDUSTRIAL CONSENSUS STANDARDS AND CODES INCLUDING ANSI, IEEE, NEMA, NFPA AND UL, ALL AS REVISED AS OF THE DATE OF THIS WORK PACKAGE.
15. ALL ELECTRICAL ITEMS BOTH CONTRACTOR AND OWNER FURNISHED SHALL BE CHECKED FOR AGREEMENT WITH THE PROJECT DRAWINGS AND SPECIFICATIONS AND SHALL BE VISUALLY INSPECTED TO ENSURE THAT EQUIPMENT IS UNDAMAGED AND IS IN PROPER ALIGNMENT, INSTALLED PER MANUFACTURER’S INSTRUCTIONS, ELECTRICAL CONNECTIONS ARE TIGHT AND PROPERLY INSULATED WHERE REQUIRED, FUSES ARE OF THE PROPER TYPE AND SIZE, AND ELECTRICAL ENCLOSURES ARE OF THE PROPER NEMA TYPE.
16. NOTIFY OWNER IN WRITING OF ALL DISCREPANCIES BETWEEN DRAWINGS / SPECIFICATIONS AND FIELD INSTALLATIONS, OR IF THE VISUAL INSPECTIONS SHOW DAMAGE OR IMPROPER INSTALLATION.
17. THE EQUIPMENT AND MATERIALS SHALL BE FURNISHED AND INSTALLED TO OPERATE SAFELY AND CONTINUOUSLY WITH NO PROTECTION FROM THE WEATHER.
18. ELECTRICAL WORK REPRESENTED ON THE PROJECT DRAWINGS IS SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS AND ELEVATIONS OF ELECTRICAL EQUIPMENT SHALL BE DETERMINED IN THE FIELD AND VERIFIED WITH THE OWNER’S REPRESENTATIVE.
19. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF TEMPORARY, IF REQUIRED, AND PERMANENT POWER WITH THE LOCAL UTILITY COMPANY. THE TEMPORARY POWER AND ALL HOOKUP COSTS ARE TO BE PAID BY THE CONTRACTOR.
20. PROVIDE MOLDED CASE, BOLT ON, THERMAL MAGNETIC TRIP, SINGLE TWO OR THREE POLE CIRCUIT BREAKERS. MULTIPLE POLE CIRCUIT BREAKERS SHALL BE SINGLE HANDLE COMMON TRIP. SHORT CIRCUIT INTERRUPTING RATING SHALL BE AS REQUIRED FOR AVAILABLE FAULT CURRENTS. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE A SHORT CIRCUIT INTERRUPTING RATING EQUAL TO OR GREATER THAN THAT SHOWN ON THE PROJECT DRAWINGS.
21. CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING, BACKFILLING, AND REMOVAL OF DEBRIS IN CONNECTION WITH THE ELECTRICAL WORK IN ACCORDANCE WITH THE PROJECT DRAWINGS. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF UNDERGROUND UTILITIES AND GROUND WITH THE FOUNDATION INSTALLATION. HAND DIGGING WILL BE REQUIRED IN THE COMPOUND ONLY.
22. CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPPORTS FOR EQUIPMENT INSTALLED AS PART OF THIS PROJECT. SUPPORTS SHALL CONSIST OF GALVANIZED STEEL FRAMES, PLATES, BRACKETS, RACKS AND OTHER SHAPES OF ADEQUATE SIZE AND FASTENED WITH BOLTS, SCREWS OR BY WELDING TO PROVIDE RIGID SUPPORT.
23. CONTRACTOR SHALL CALL THE APPROPRIATE UTILITIES PROTECTION SERVICE BEFORE ANY UNDERGROUND WORK IS PERFORMED, SUCH AS TRENCHING, EXCAVATING, AND DRIVING GROUNDING RODS.
24. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENTLY ENGRAVED LAMINATED PHENOLIC NAMEPLATES. (MINIMUM LETTER HEIGHT SHALL BE 1/2”) NAMEPLATES SHALL BE FASTENED WITH STAINLESS STEEL SCREWS AND AS PER AT&TWIRELESS SPECIFICATIONS.

GENERAL RACEWAY NOTES:

1. CONDUIT AND CONDUIT FITTINGS SHALL MEET ANSI AND NEC STANDARDS FOR MATERIAL AND WORKMANSHIP AND SHALL BE UL LISTED.
- A. RIGID STEEL CONDUIT SHALL CONFORM TO ANSI C801 AND REQUIREMENTS OF NEC, PARAGRAPH 346 AND BE STANDARD WEIGHT, MILD RIGID STEEL, HOT DIP GALVANIZED WITH INSIDE AND OUTSIDE FINISHED WITH A PROTECTIVE ZINC COATING. COUPLING ELBOWS AND BENDS SHALL MEET THESE SAME REQUIREMENTS. FITTINGS SHALL BE OF THE GALVANIZED IRON OR STEEL THREADED TYPE.
- B. PVC CONDUIT SHALL CONFORM TO UL STANDARD 651-89 AND THE REQUIREMENTS OF NEC, PARAGRAPH 347. CONDUIT SHALL BE HEAVY WALL TYPE, SCHEDULE 40 OR 80, AND SUNLIGHT RESISTANT. FITTINGS SHALL BE OF THE UNTHREADED SOLVENT CEMENT TYPE.
- C. EMT CONDUIT (FOR USE BEHIND WALLS OR ABOVE SUSPENDED CEILINGS ONLY). ELECTRIC METALLIC TUBING SHALL CONFORM TO ANSI C803 AND THE REQUIREMENTS OF NEC, PARAGRAPH 348 AND BE PROTECTED ON EXTERIOR WITH A ZINC COATING AND ON INTERIOR SURFACES WITH EITHER A ZINC COATING OR LACQUER ENAMEL. FITTINGS SHALL BE ZINC COATED STEEL.
2. MINIMUM CONDUIT SIZE SHALL BE 3/4”, SIZES NOT SHOWN ON DRAWINGS SHALL BE PER NEC.

3. ALL SPARE CONDUITS SHALL HAVE A METALLIC PULL WIRE.
4. CONDUIT SUPPORTS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AND IN ACCORDANCE WITH THE NEC.
5. UNDERGROUND CONDUITS.
- A. INSTALL A WARNING TAPE TWELVE INCHES ABOVE EACH CONDUIT OR SET OF CONDUITS.
- B. IDENTIFY EACH CONDUIT AT BOTH ENDS. INSTALL MINIMUM OF 3’-0” BELOW THE FINISHED GRADE, OR DEEPER IF NOTED ON PLAN DRAWINGS.
- C. SLOPE A MINIMUM OF 4” PER 100’-0” TO DRAIN AWAY FROM BUILDINGS AND EQUIPMENT.
- D. USE MANUFACTURED ELECTRICAL ELBOWS AND FITTINGS FOR BELOW GRADE BENDS.
- E. MAKE JOINTS AND FITTINGS WATERTIGHT ACCORDING TO MANUFACTURER’S INSTRUCTIONS.
- F. INSTALL A COUPLING BEFORE EACH WALL PENETRATION.
- G. RESTORE SURFACE FEATURES DISTURBED BY EXCAVATION (AND TRENCHING) IN ALL AREAS.

GENERAL CONDUCTOR NOTES:

1. ALL POWER, CONTROL AND COMMUNICATION WIRING SHALL MEET NEMA-WC, ASTM, UL, AND NEC STANDARDS FOR MATERIAL AND WORKMANSHIP UNLESS OTHERWISE SPECIFIED.
- A. SERVICE ENTRANCE CONDUCTORS SHALL BE COPPER, 600 VOLT, SUNLIGHT RESISTANT, SUITABLE FOR WET LOCATIONS, TYPE USE-2. THE GROUNDED NEUTRAL CONDUCTOR SHALL BE IDENTIFIED WITH A WHITE MARKING AT EACH TERMINATION.
- B. CONDUCTORS FOR FEEDER AND BRANCH CIRCUITS SHALL BE COPPER 600 VOLT, TYPE THHN / THWN WITH A MINIMUM SIZE OF #12 AWG.
2. ALL CONDUCTOR ACCESSORIES INCLUDING CONNECTORS, TERMINATIONS, INSULATING MATERIALS, SUPPORT GRIPS, MARKER AND CABLE TIES SHALL BE FURNISHED AND INSTALLED SUPPLIER’S INSTALLATION INSTRUCTIONS SHALL BE OBTAINED FOR CABLE ACCESSORIES. THESE INSTRUCTIONS SHALL BE IN THE POSSESSION OF THE CRAFTSMAN WHILE INSTALLING THE ACCESSORIES AND SHALL BE AVAILABLE TO THE COMPANY FOR REFERENCE.
3. WHERE POSSIBLE, NO. 6 AWG AND SMALLER WIRE SHALL BE COLORED CODED BY THE COLOR OF THE INSULATION COVERING. COLOR CODING OF WIRE LARGER THAN NO. 6 AWG MAY BE BY MEANS OF SELF-ADHESIVE WRAP AROUND TYPE MARKERS, PER NEC.
4. TERMINAL CONNECTOR FOR CONDUCTORS 8 AWG AND LARGER SHALL BE PRESSURE OR BOLTED CLAMP TYPE BURNDY QUIKUG, VARILUG OR ACCEPTABLE EQUAL: OR COMPRESSION TYPE, BURNDY TYPE YAV OR YA (LONG BARREL), PANDUIT TYPE LCA OR LCC, OR ACCEPTABLE EQUAL. ACCEPTABLE CONNECTORS INCLUDED WITH COMPANY-FURNISHED EQUIPMENT MAY BE USED.
5. TERMINATION PROVISIONS OF EQUIPMENT FOR CIRCUITS RATED 100 AMPERES OR LESS OR MARKED FOR NOS. 14 THROUGH 1 CONDUCTORS, SHALL BE USED ONLY FOR CONDUCTORS RATED 66°C (140°F). CONDUCTORS WITH HIGHER TEMPERATURE RATINGS SHALL BE PERMITTED, PROVIDED THE AMPACITY OR THE CONDUCTOR SIZE USED.
6. TERMINATION PROVISIONS OF EQUIPMENT FOR CIRCUITS RATED OVER 100 AMPERES, OR MARKED FOR CONDUCTORS LARGER THAN NO.1 SHALL BE USED ONLY FOR CONDUCTORS RATED 75°C (167°F) CONDUCTORS WITH HIGHER TEMPERATURE RATINGS SHALL BE PERMITTED, PROVIDED THE AMPACITY OF EACH CONDUCTOR IS DETERMINED BASED UPON THE 75°C (167°F) AMPACITY OF THE CONDUCTOR SIZE USED.
7. ALL 600 VOLT OR LESS WIRING, WHERE COMPRESSION TYPE CONNECTORS ARE USED, SHALL BE INSULATED WITH AT LEAST ONE TURN OF ‘SCOTCHFILL’ ELECTRICAL INSULATING PUTTY AND THEN COVERED WITH TWO HALF TURNS OF TAPE SIMILAR TO 3M COMPANY’S ‘33 PLUS (33+) PLASTIC TAPE OR 88 OUTDOOR TAPE.
8. TERMINAL CONNECTORS FOR CONDUCTORS SMALLER THAN 8 AWG SHALL BE COMPRESSION TYPE CONNECTORS SIZED FOR THE CONDUCTOR AND THE TERMINAL. THE CONNECTORS SHALL BE CONSTRUCTED OF FINE GRADE HIGH CONDUCTIVITY COPPER IN ACCORDANCE WITH QQ-C-516 AND SHALL BE TIN-PLATED IN ACCORDANCE WITH MIL-T-10727. THE INTERIOR SURFACE OF THE CONNECTOR WIRE BARREL SHALL BE SERRATED AND THE EXTERIOR SURFACE OF THE CONNECTOR WIRE BARREL SHALE BE PROVIDED WITH CRIMP GUIDES.

GENERAL GROUNDING NOTES:

1. ALL WORK SHALL COMPLY WITH THE LATEST AT&TWIRELESS GROUNDING SPECIFICATIONS AND REQUIREMENTS.
2. ALL METALLIC COMPONENTS ON THE SITE MUST BE GROUNDED TO THE GROUND RING. THIS INCLUDES STEEL CONDUITS USED TO DELIVER THE TELCO AND POWER UTILITY LINES TO THE SITE OR USED TO PROVIDE ACCESS BY UTILITIES OR CONTRACTORS TO THE VARIOUS CABINETS.
3. ALL GROUND LEADS ABOVE GRADE SHALL BE INSTALLED IN 1/2” SEAL TIGHT.
4. WHEN EARTH RESISTANCE TEST INDICATES THAT THE SOIL IS ABOVE MINIMUM ALLOWABLE RESISTANCE, THAN THE CONTRACTOR SHALL ESTIMATE THE TYPE, NUMBER AND ARRANGEMENT OF EARTH ELECTRODES. CONTRACTOR SHALL ALSO CONSIDER COMPANY’S SITE SPECIFIC APPROACHES FOR IMPROVING EARTH RESISTANCE AT THE SITE BY METHODS INDICATED BELOW:
- RAW LAND
- A. USE MULTIPLE RODS
- B. LENGTHEN THE EARTH ELECTRODE
- C. TREAT THE SOIL
- D. USE CHEMICAL RODS
5. THE CONTRACTOR MUST VERIFY THAT NEW GROUNDING SYSTEM RESISTANCE IS EQUAL TO OR LESS THAN FIVE (5) OHMS PER AT&TWIRELESS SPECIFICATIONS.
6. RUN ALL GROUND WIRES IN AN ORGANIZED MANNER, AVOID CROSSING OF WIRES WHEREVER POSSIBLE. DO NOT RUN WIRES OVER CONCRETE SLAB.
7. INSTALL ALL GROUND WIRES IN A DOWNWARD SLOPE FOR MAXIMUM LIGHTNING PROTECTION.
8. MAINTAIN ALL MINIMUM BENDING RADII OF THE GROUNDING WIRES.
9. DO NOT REMOVE MORE INSULATION FROM THE GROUND WIRES THAN NECESSARY WHEN CADWELDING OR CRIMPING IF EXCESS INSULATION IS REMOVED, THE CONNECTION WILL BE CONSIDERED UNACCEPTABLE AND WILL BE CORRECTED PER THE AT&TWIRELESS REPRESENTATIVES’S DIRECTION.
10. DOWN LEAD FOR ANTENNA SECTORS MUST BE CONNECTED DIRECTLY TO THE GROUND RING.
11. ALL BASE TRANSCEIVER SITE EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE INTERNATIONAL ELECTRICAL CODE (NEC), AND THE LATEST EDITION OF LIGHTNING PROTECTION CODE NFPA 780 AND AT&TWIRELESS STANDARDS.
12. THE ELECTRICAL SERVICE TO THE SITE SHALL BE GROUNDED AT THE SERVICE DISCONNECTING MEANS REQUIRED IN ARTICLE 250 OF THE NATIONAL ELECTRIC CODE, IN ACCORDANCE WITH ANY LOCAL CODE.
13. ALL UNDERGROUND (BELOW GRADE) GROUNDING CONNECTIONS SHALL BE MADE BY THE CADWELD PROCESS (MECHANICAL LUG ATTACHMENTS BELOW GRADE ARE NOT ACCEPTABLE). CONNECTIONS SHALL INCLUDE ALL CABLE SPLICES (TEES, X’S, ETC.) ALL CABLE CONNECTIONS TO GROUND RODS, GROUND ROD SPLICES, AND LIGHTING PROTECTION SYSTEM AS INDICATED. ALL MATERIALS USED (MOLDS, WELDING METALS, TOOLS, ETC.) SHALL BE BY CADWELD AND INSTALLED PER MANUFACTURERS RECOMMENDATION AND PROCEDURES.
14. ALL GROUNDING AND BONDING CONDUCTORS THAT ARE CONNECTED ABOVE GRADE INTERIOR TO A BUILDING SHALL BE CONNECTED USING TWO HOLE CRIMP TYPE (COMPRESSION) CONNECTORS FOR #2 AND #6 AWG INSULATED COPPER CONDUCTOR.
15. ALL GROUNDING CONNECTIONS, INTERIOR AND EXTERIOR, MADE THROUGHOUT THIS DOCUMENT SHALL BE MADE USING AN ANTI-OXIDATION COMPOUND, THE ANTI-OXIDATION COMPOUND SHALL BE ‘THOMAS AND BETTS’ KOPR-SHIELD (TIM OF JET LUBE, INC.) THERE IS NO EQUIVALENT FOR THIS PRODUCT: NO OTHER COMPOUND WILL BE ACCEPTED. COAT ALL WIRES BEFORE LUGGING. COAT ALL SURFACES BEFORE CONNECTING.
16. ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED AND MODIFIED TO ENSURE PROPER CONTACT PRIOR TO CADWELD, GALVANIZING SHALL BE REMOVED BY GRINDING SURFACE TO BARE METAL ‘SLAG’ FROM CADWELD MUST BE REMOVED AND WELD SHALL BE SPRAYED WITH COLD GALVANIZE AFTER COMPLETION.

GENERAL GROUNDING NOTES CONTINUED:

17. FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONDUCTOR SHALL NOT BE USED. CLIPS OF THE FOLLOWING MATERIALS AND TYPES MAY BE USED TO SUPPORT GROUNDING CONDUCTORS.
- PLASTIC CLIPS
- STAINLESS STEEL CLIPS WHICH DO NOT COMPLETELY SURROUND THE GROUNDING CONDUCTOR.
- FERROUS METAL CLIPS WHICH DO NOT COMPLETELY SURROUND THE GROUNDING CONDUCTOR.
18. ALL BELOW GRADE GROUNDING CONDUCTORS SHALL BE BARE SOLID COPPER WIRE. ABOVE-GRADE GROUNDING CONDUCTORS MAY BE EITHER OR AS INDICATED ON THE DRAWINGS:
- BARE TINNED SOLID COPPER WIRE
- THWN-INSULATED, CONTINUOUS GREEN COLOR, SOLID COPPER WIRE
- THWN-INSULATED, CONTINUOUS GREEN COLOR STRANDED COPPER WIRE
- A. THE UNDERGROUND GROUND RING SHALL HAVE A #2 AWG BARE TINNED SOLID COPPER WIRE.
- B. #2 THWN SHALL BE STRANDED COPPER WITH GREEN THWN INSULATION SUITABLE FOR WET INSTALLATION (OR SOME ABOVE GROUND APPLICATIONS, I.E. INDOOR GROUNDING RING)
- C. #2 BARE TINNED COPPER SHALL BE SOLID. ALL BURIED WIRE SHALL MEET THIS CRITERIA INCLUDING CABLE TRAY GROUNDING WIRES AND WIRES INDICATED ON THE DRAWINGS.
- (THE MINIMUM BEND RADIUS IS 8” FOR #6 AWG AND SMALLER, AND 12 INCHES FOR WIRE LARGER THAN #6 AWG)
19. ALL HARDWARE, BOLTS, NUTS, WASHERS, AND LOCK WASHERS SHALL BE 18-8 STAINLESS STEEL. EVERY CONNECTION SHALL BE (BOLT-FLATWASHER-BUSS-LUG-FLATWASHER-LOCKWASHER-NUT), IN THAT EXACT ORDER WITH NUT FACING OUTWARD, BACK TO BACK LUGGING SHALL BE (BOLT-FLATWASHER-LUG-FLATWASHER-LUG-BUSS-LUG-FLATWASHER-LOCK WASHER-NUT), IN THAT EXACT ORDER IS ACCEPTED WHERE NECESSARY TO CONNECT MANY LUGS TO A BUSS BAR. STACKING OF LUGS, BUS-LUG-LUG, IS NOT ACCEPTABLE.
20. THE COMPRESSION GROUND LUG FOR #2 AWG BARE SOLID GROUNDING CONDUCTORS SHALL BE BURNDY TYPE YA3C-2TC.
21. THE ANTENNA CABLES SHALL BE GROUNDED AT THE TOP AND BOTTOM OF THE VERTICAL RUN. THE ANTENNA CABLE SHIELD SHALL BE BONDED TO A COPPER GROUND BUS AT THE LOWEST POINT OF THE VERTICAL RUN. THE ANTENNA CABLE SHELD SHALL BE GROUNDED JUST BEFORE ENTERING THE BTS. GROUNDING KITS ON COAX CABLE SHALL HAVE A MINIMUM BEND OF 6” AND SHALL BE KEPT AS CLOSE TO VERTICAL AS POSSIBLE. FLAT WASHER SUPPLIED WITH GROUND KITS MUST BE REPLACED WITH SMALLER STAINLESS STEEL FLAT WASHERS, WASHERS MUST REMAIN FLAT AGAINST GROUND BAR, ALL FASTENERS MUST BE STAINLESS STEEL AND KOPR-SHIELD MUST BE USED ON BOTH SIDES OF THE GROUND BAR.



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18

REVISIONS			
REV.	DATE	DESCRIPTION	INITIALS
B	03/12/19	PERMIT/CONSTRUCTION	DS
A	02/28/19	PERMIT/CONSTRUCTION	JM
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SHEET TITLE

NOTES & SPECIFICATIONS

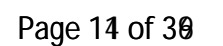
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SP4

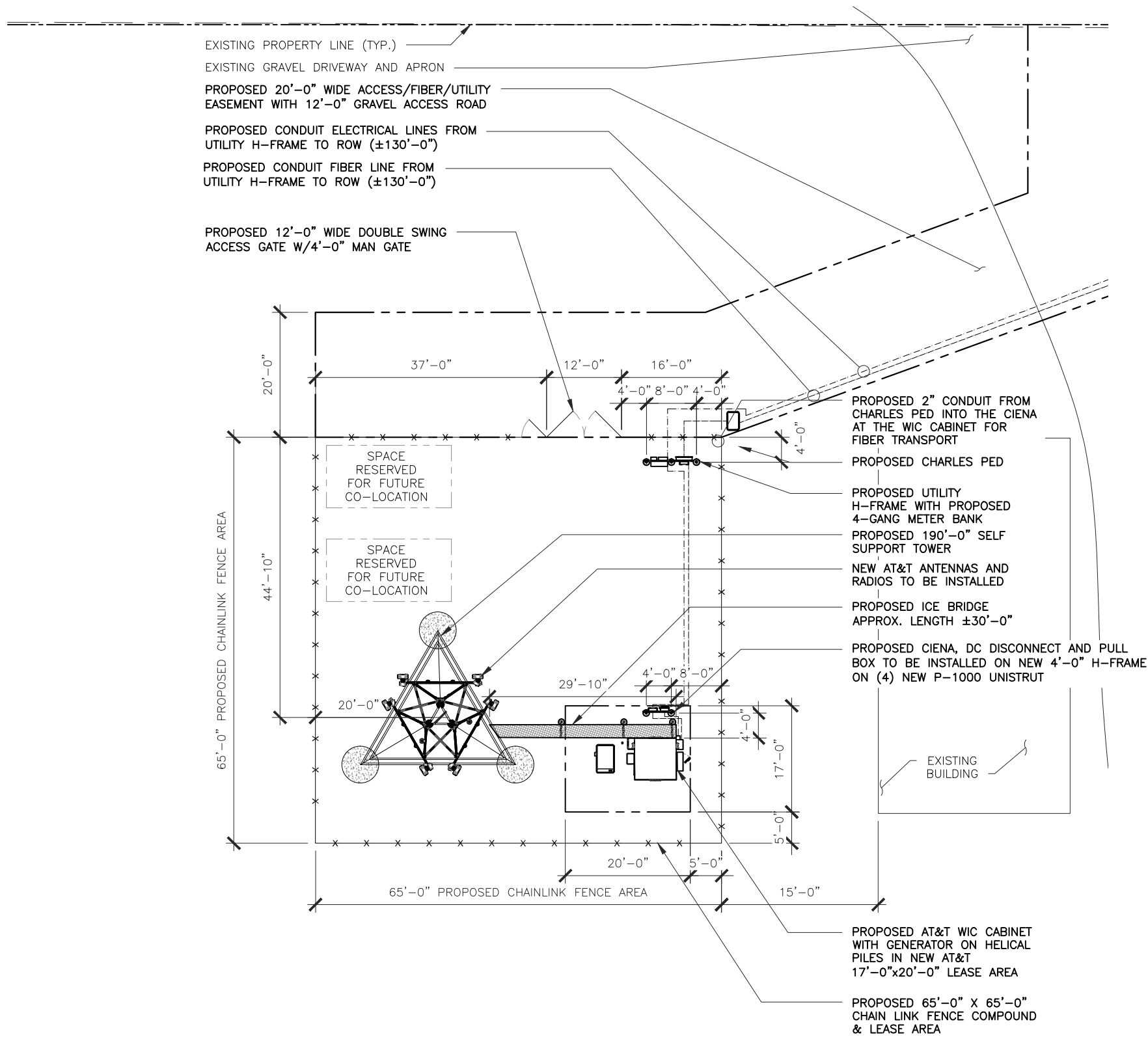
Page 18 of 38

50' 0 25' 50'

SCALE: 1" = 50'-0" (24x36)
(OR) 1/2" = 50'-0" (11x17)

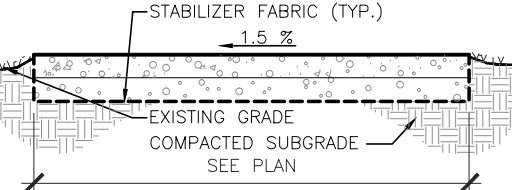


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NOTE:
ALL EXISTING TREES AND BUSHES TO BE REMOVED WITHIN LEASE AREA.

SITE AREA	ACCESS DRIVE
BASE COURSE: 4" MIN. OF COMPACTED CA-6 COARSE AGGREGATE.	BASE COURSE: 6" MIN. OF COMPACTED CA-3 COARSE AGGREGATE.
TOP COURSE: 4" MIN. OF COMPACTED CA-7 COARSE AGGREGATE.	TOP COURSE: 3" MIN. OF COMPACTED CA-6 COARSE AGGREGATE.



GRAVEL PAVING DETAIL	3
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- ELEVATIONS ARE ABOVE MEAN SEA LEVEL.
- DO NOT SCALE DIMENSIONS FROM THIS DRAWING.
- ALL EXISTING RECORDED EASEMENTS ARE INDICATED ON THIS DRAWING TO THE BEST OF THE ARCHITECT'S KNOWLEDGE PER VISUAL INSPECTION, SURVEY DRAWINGS, AND INFORMATION RECEIVED FROM AT&T WIRELESS.
- REFER TO SP1 AND SP2 FOR EROSION CONTROL AND SOIL STABILIZATION METHODS

GENERAL NOTES	2
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LOCATION: BASE OF TOWER
ELEVATION: xxx.xx' A.M.S.L. (@ BASE GUY TOWER)
LATITUDE: xx' xx' xx.xx"
LONGITUDE: -xx' xx' xx.xx"

HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NAVD88

SURVEY BENCHMARK/PROJECT DATUM

EXISTING		NEW
— SAS —	SANITARY SEWER	— SAS —
— STS —	STORM SEWER	— STS —
— W —	WATER MAIN	— W —
(RIM INV)	SANITARY MANHOLE ELEVATIONS	(RIM INV)
(RIM INV)	STORM STRUCTURE ELEVATIONS	(RIM INV)
— P —	PROPERTY LINE & R.O.W.	— P —
— S —	SURFACE DRAINAGE	— S —
○	LIGHT STANDARD	●
○	STREET LIGHT	●
672.75	SPOT ELEVATION	672.75
672	CONTOUR	672
672	CONTOUR TO BE REGRADED	672
— G — G —	GAS MAIN	— G — G —
⊙	MANHOLE	⊙
○	CATCH BASIN	●
○	FIRE HYDRANT	●
---	EASEMENT LINE	---
---	FENCE	---
UE/UT	BURIED UTILITY LINE	---UE/UT---
⊙	UTILITY POLE	●
— OHE —	OVERHEAD UTILITY LINE	— OHE —
	BUILDING	



COMPOUND PLAN

20' 0 10' 20' SCALE: 1" = 20'-0" (24x36)
(OR) 1/2" = 20'-0" (11x17)

LEGEND	1
--------	---

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REV.	DATE	DESCRIPTION	INITIALS
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A	02/28/19	PERMIT/CONSTRUCTION	JM
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SHEET TITLE
COMPOUND PLAN & LEGEND

SHEET NUMBER
A2
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ANTENNA NOTES:

1. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
2. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
3. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
4. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
5. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
6. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
7. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.

STRUCTURAL NOTES:

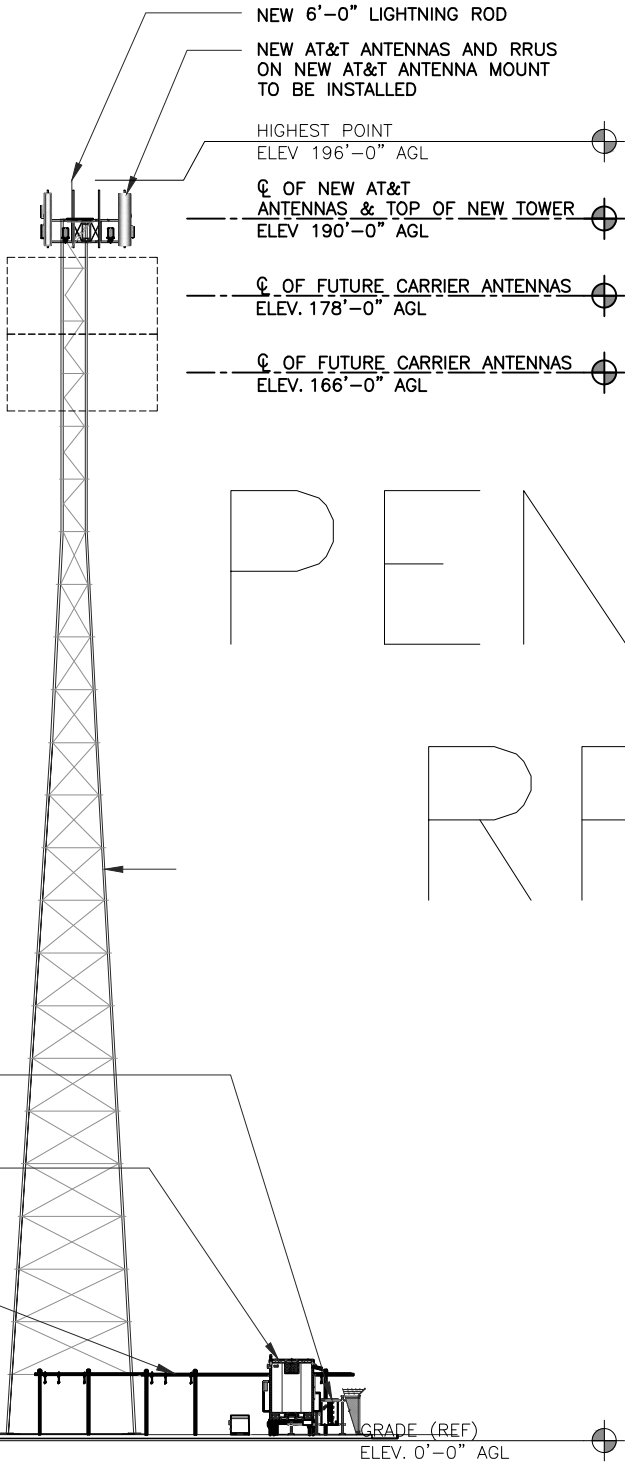
1. TOWER STRUCTURAL CALCULATIONS PREPARED BY OTHERS. CONTRACTOR TO VERIFY WITH PROJECT MANAGER TO OBTAIN A COPY
2. CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.

PROPOSED UTILITY H-FRAME WITH PROPOSED 4-GANG METER BANK

PROPOSED AT&T WIC CABINET WITH GENERATOR ON HELICAL PILES - SEE SHEET A6

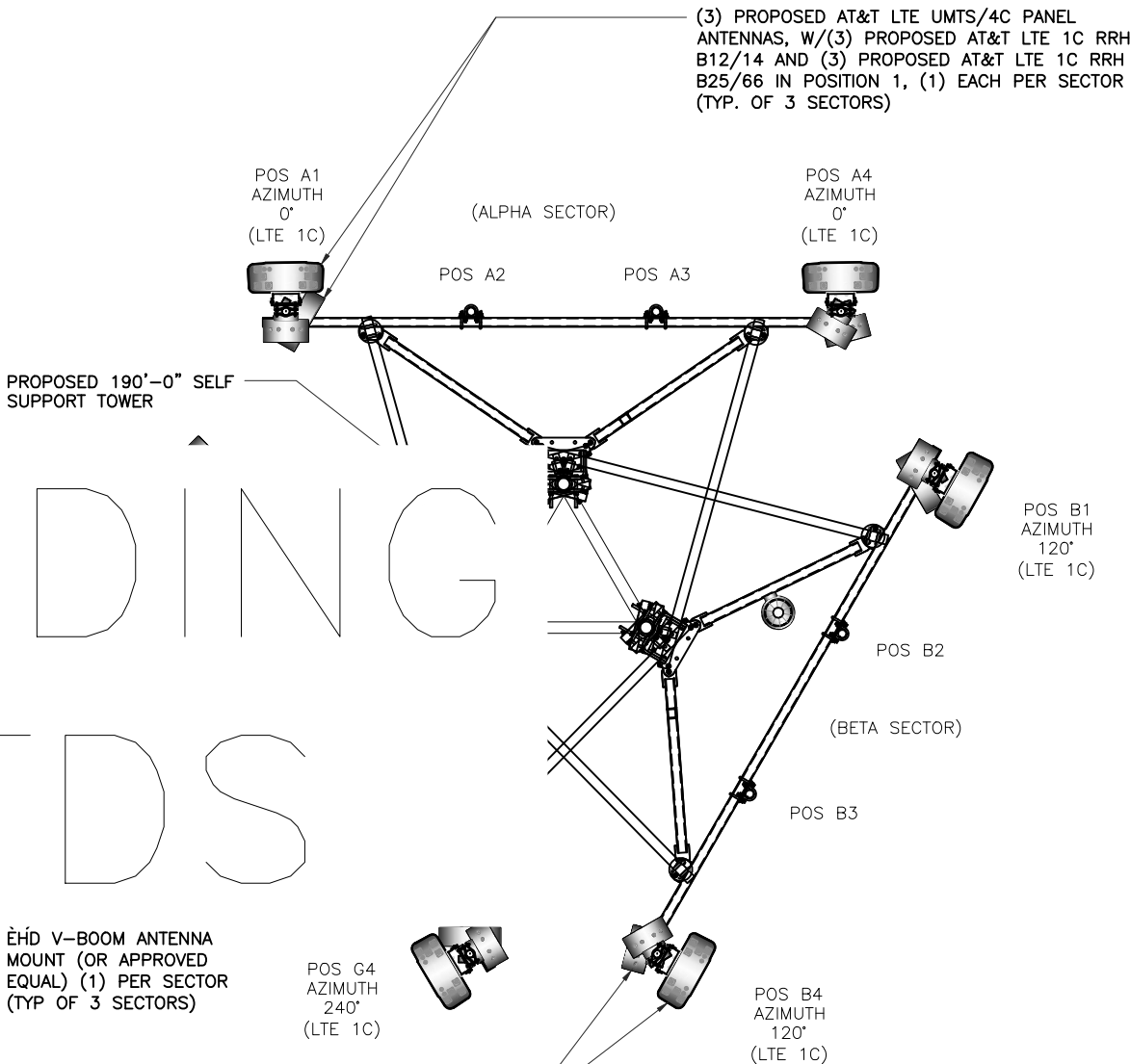
PROPOSED ICE BRIDGE APPROX. LENGTH ±30'-0"

NEW 65'-0"X65'-0" CHAIN LINK FENCE COMPOUND

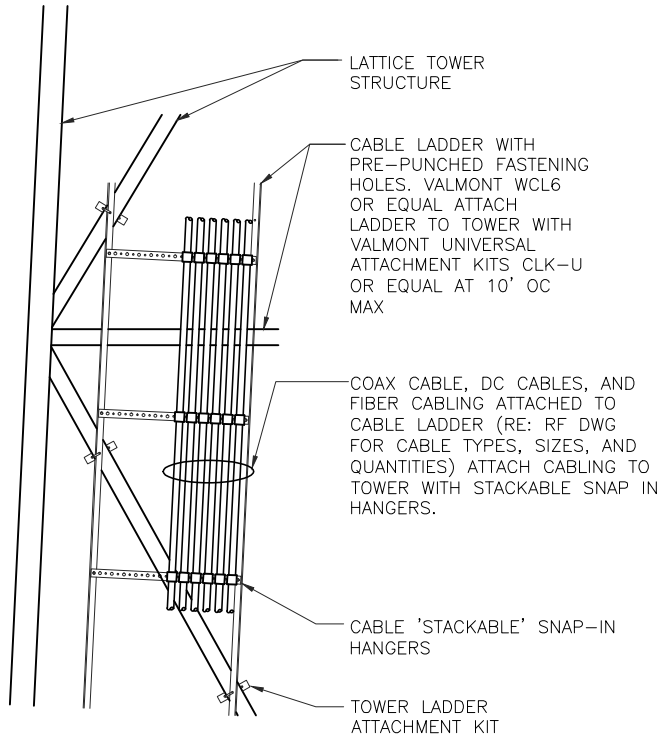


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1. TOWER STRUCTURAL CALCULATIONS PREPARED BY OTHERS. CONTRACTOR TO VERIFY WITH PROJECT MANAGER TO OBTAIN A COPY
2. CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.



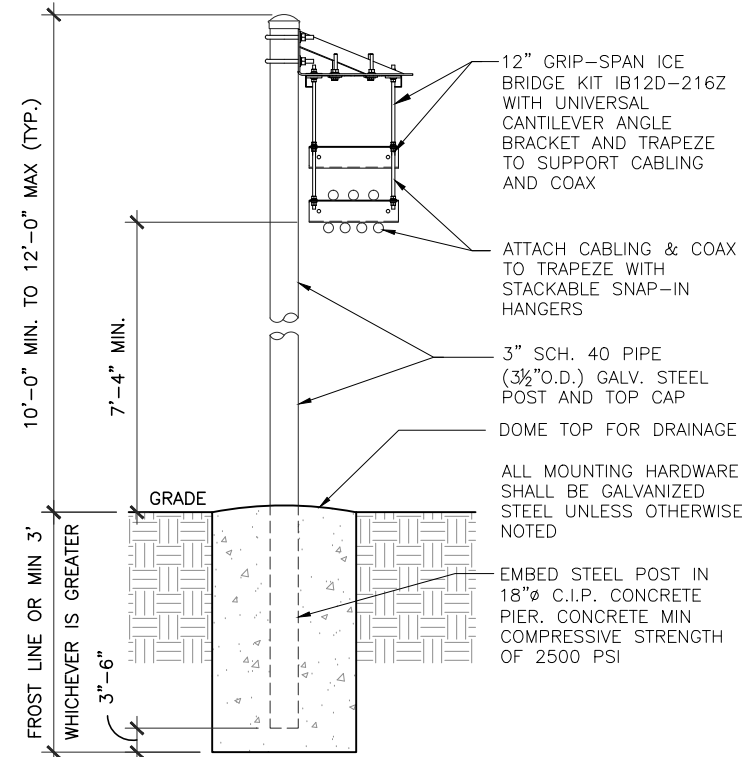
NOTE:
FINAL LOADING/RAD TO BE AFTER SCOPING.



CABLE RUN DETAIL

NO SCALE

2

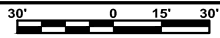


ICE BRIDGE DETAIL

NO SCALE

1

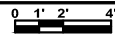
PROPOSED TOWER ELEVATION



SCALE: 1" = 30'-0" (24x36)
(OR) 1/2" = 30'-0" (11x17)

4

PROPOSED ANTENNA PLAN



SCALE: 1/4" = 1'-0" (24x36)
(OR) 1/8" = 1'-0" (11x17)

3



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SHEET TITLE
TOWER
ELEVATION &
ANTENNA PLAN

SHEET NUMBER
A3
Page 18 of 39

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1. CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
2. CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
3. CONTRACTOR TO USE ROSENBERGER FIBER LINE HANGER COMPONENTS (OR ENGINEER APPROVED EQUAL).

NOTES

NO SCALE

3

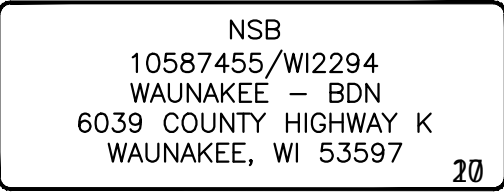
CABLE MARKING LOCATIONS TABLE	
NO	LOCATIONS
1	EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

1. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
2. THE STANDARD IS BASED ON EIGHT COLORED TAPES-RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
3. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
4. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
5. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
6. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
7. ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
8. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE NEW TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

ANTENNA AND CABLING INFORMATION

NO SCALE

2



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SHEET TITLE

SCHEDULE & CABLE NOTES

SHEET NUMBER

A4

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PROPOSED ANTENNA CONFIGURATION AND CABLE SCHEDULE										
SECTOR	POS	TECH	ANTENNA	ANTENNA CL HEIGHT	AZ	TMA/RRU	DC SURGE AND DISTRIBUTION	CABLE TYPE	CABLE LENGTH	DOWN TILTS
A	1	LTE 1C	NNH4-65C-R6 (N)		0°	RRH 4T4R B12/14 (N) RRH 4T4R B25/66 (N)		(2) 6 AWG DC TRUNK LINE (N) (1) 18 PAIR FIBER (N)	200'	0
	2	EMPTY								
	3	EMPTY								
	4	LTE 1C	NNH			IARED WITH A1) SHARED WITH A1)		0		
B	1	LTE 1C	NNH					DC TRUNK LINE (N) SHARED WITH A1)	200'	0
	2	EMPTY								
	3	EMPTY								
	4	LTE 1C	NNH					IARED WITH B1) SHARED WITH A1)		0
C	1	LTE 1C	NNH	190' AGL	240°	RRH 4T4R B5 (N) RRH 4T4R B25/66 (N)		DC TRUNK LINE (N) SHARED WITH A1)	200'	0
	2	EMPTY								
	3	EMPTY								
	4	LTE 1C	NNH4-65C-R6 (N)							DC (SHARED WITH C1) FIBER (SHARED WITH A1)

* INCLUDES SAFETY FACTOR OF 20' FT. (10 FT. AT BOTH ENDS OF CABLE RUN). CONTRACTOR TO VERIFY RF DATA WITH AT&T WIRELESS CONSTRUCTION MANAGER AND/OR RF ENGINEER PRIOR TO INSTALLATION

(N) = NEW
(X) = EXISTING
(XR) = EXISTING/RELOCATED
(E) = ELECTRICAL
(M) = MECHANICAL

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PROPOSED SURGE PROTECTION UNIT (RAYCAP PART # DC6-48-60-18-8C)

2 3/8"Ø X 24" SCH 40 GALV. STL. PIPE MOUNT

STAND-OFF ARM MOUNT (COMMSCOPE P/N XP-197-S OR ENGINEER APPROVED EQUAL)

SQUARE TUBING PLATFORM MEMBER

NOKIA AIRSCALE RRH 4T4R-B5

DIMENSIONS, HxWxD: 26.7"x12.9"x7.4"

WEIGHT, WITHOUT MOUNTING KIT: 46 kg (100.7 lbs)

AIRSCALE DUAL RRH 4T4R-B25/66

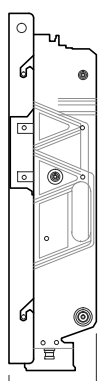
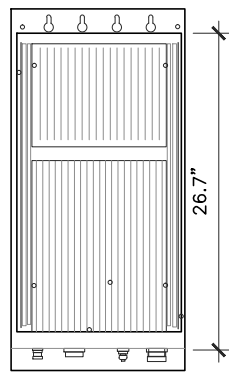
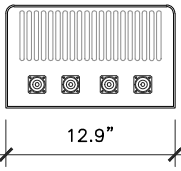
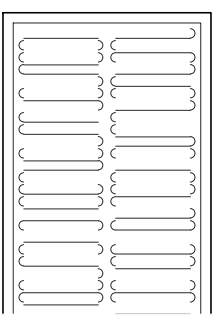
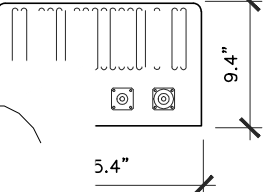
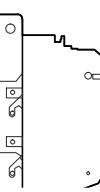
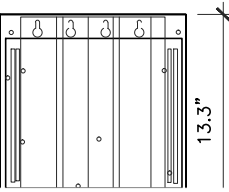
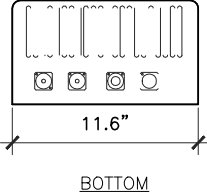
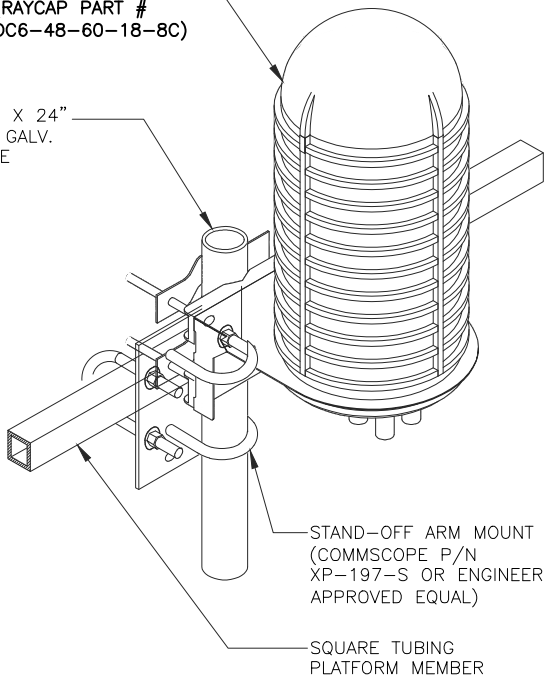
DIMENSIONS, HxWxD: 28.7"x15.4"x9.4"

WEIGHT, WITHOUT MOUNTING KIT: 40 kg (88.2 lbs)

NOKIA AIRSCALE DUAL RRH 4T4R-B12/14

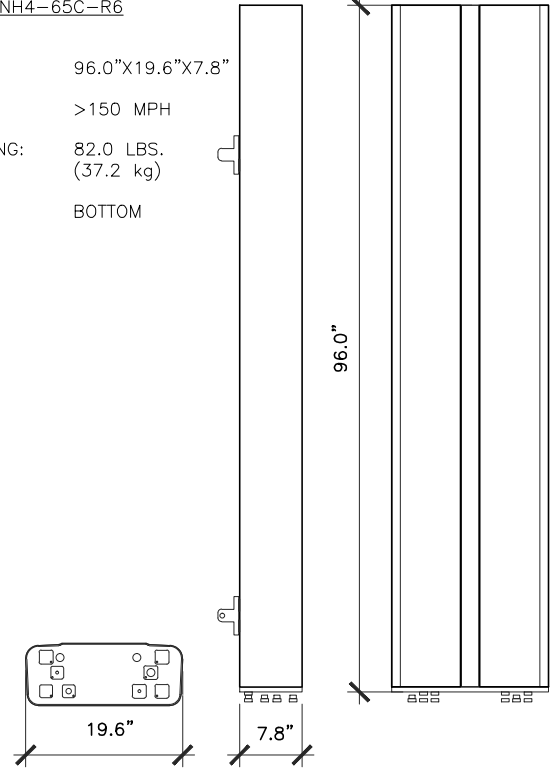
DIMENSIONS, HxWxD: 26.7"x12.9"x7.4"

WEIGHT, WITHOUT MOUNTING KIT: 46 kg (100.7 lbs)



PENDING

RFDS

RAYCAP DC6 DETAIL	NOT TO SCALE	8	LTE RRH DETAIL	NOT TO SCALE	4	LTE RRH DETAIL	NOT TO SCALE	2
						<p>COMMSCOPE ANTENNAS NNH4-65C-R6</p> <p>DIMENSIONS, HXWxD: 96.0"x19.6"x7.8"</p> <p>SURVIVAL WIND SPEED: >150 MPH</p> <p>WEIGHT, WITHOUT MOUNTING: 82.0 LBS. (37.2 kg)</p> <p>CONNECTOR POSITION: BOTTOM</p> 		

NOT USED

NOT TO SCALE

7

NOT USED

NOT TO SCALE

5

NOT USED


NOT TO SCALE

3


LTE ANTENNA DETAIL

NOT TO SCALE


1



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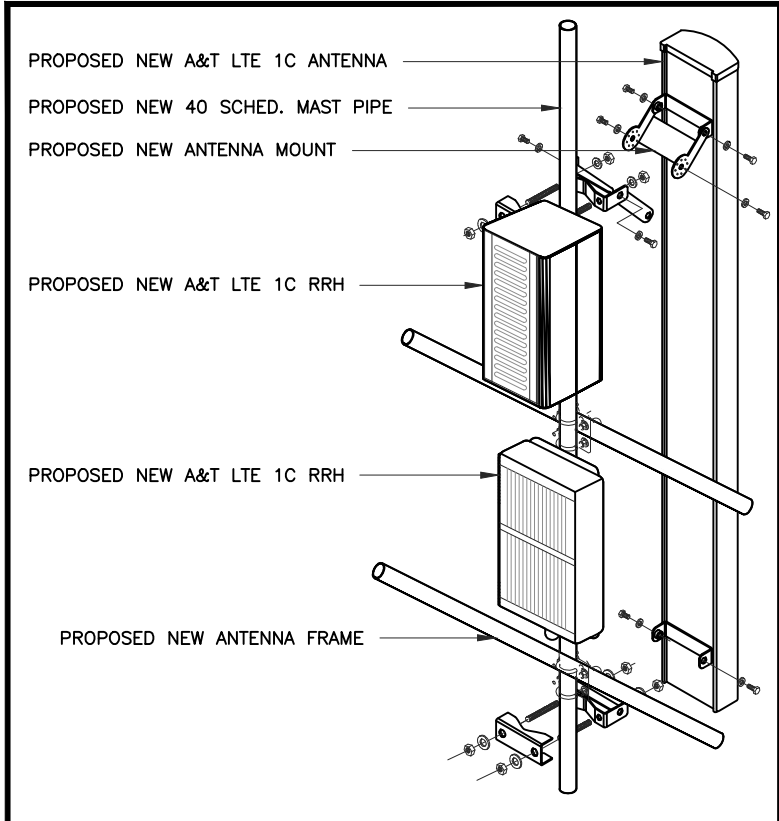
ANTENNA, RRUS & RAYCAP DETAILS

SHEET NUMBER

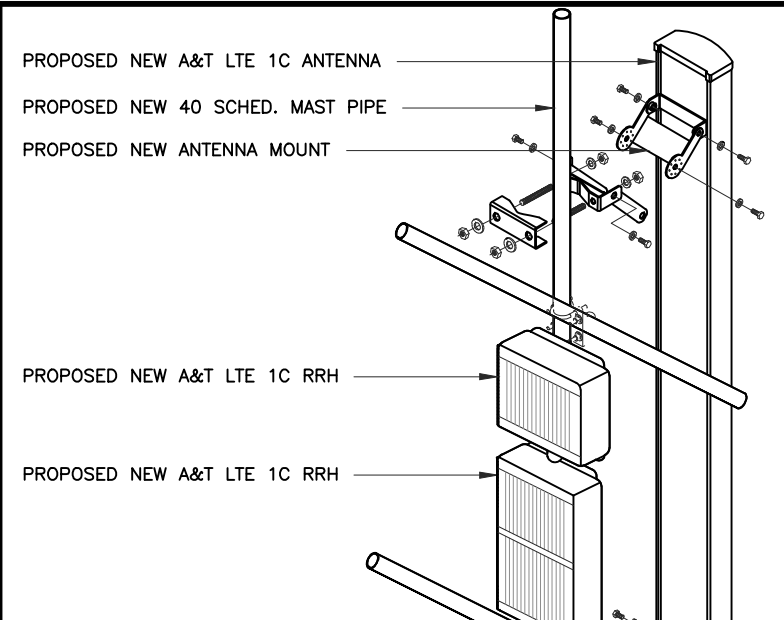
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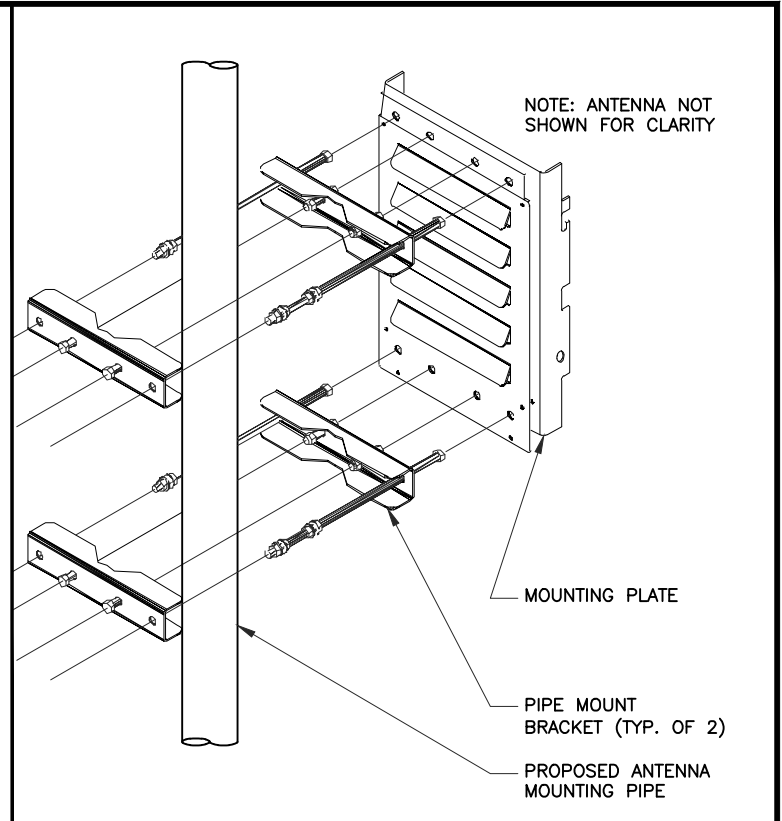
LTE ANT. & RRH MOUNT DETAIL	NOT TO SCALE	6	L
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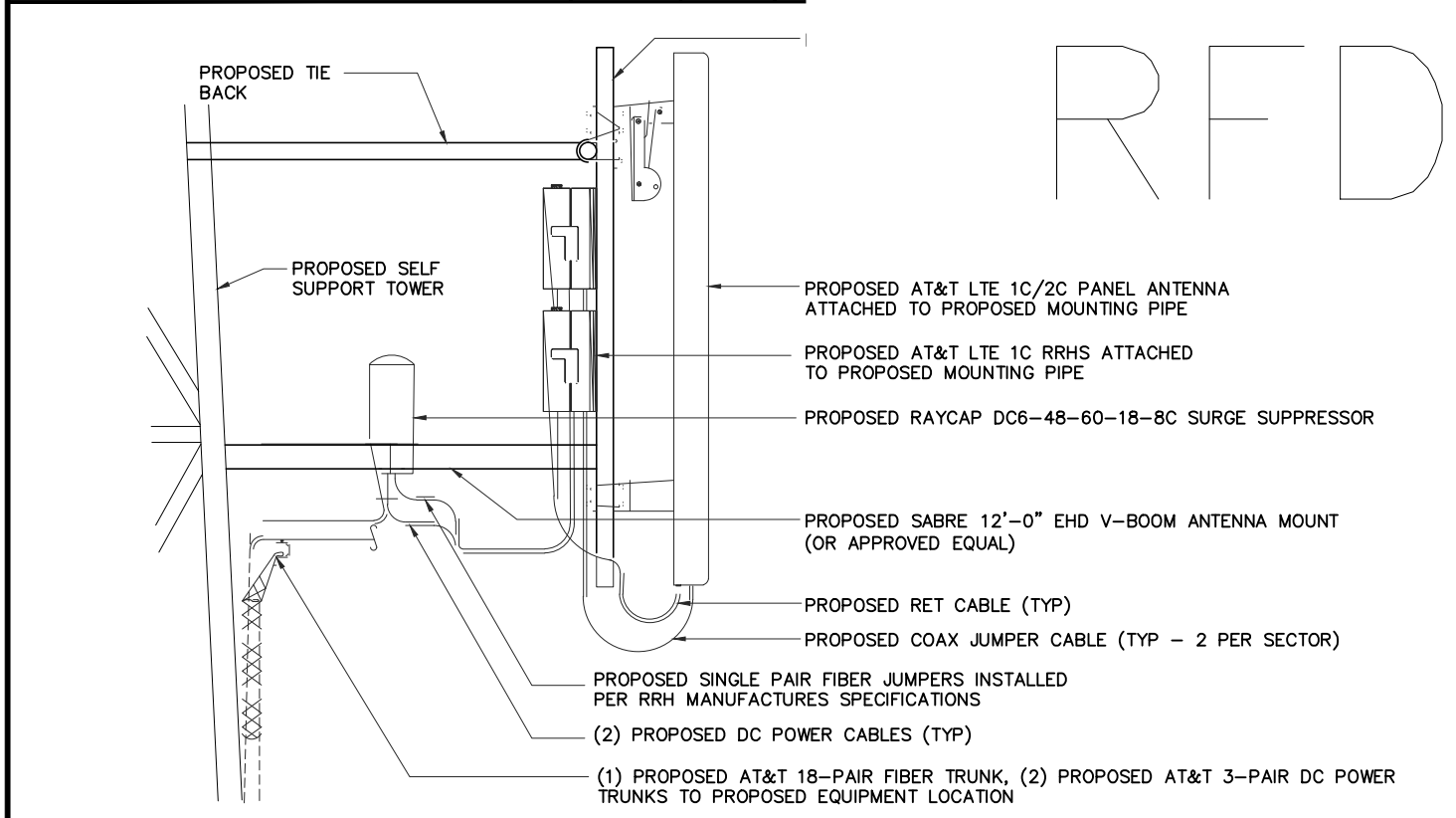
LTE ANT. & RRH MOUNT DETAIL	NOT TO SCALE	6	L
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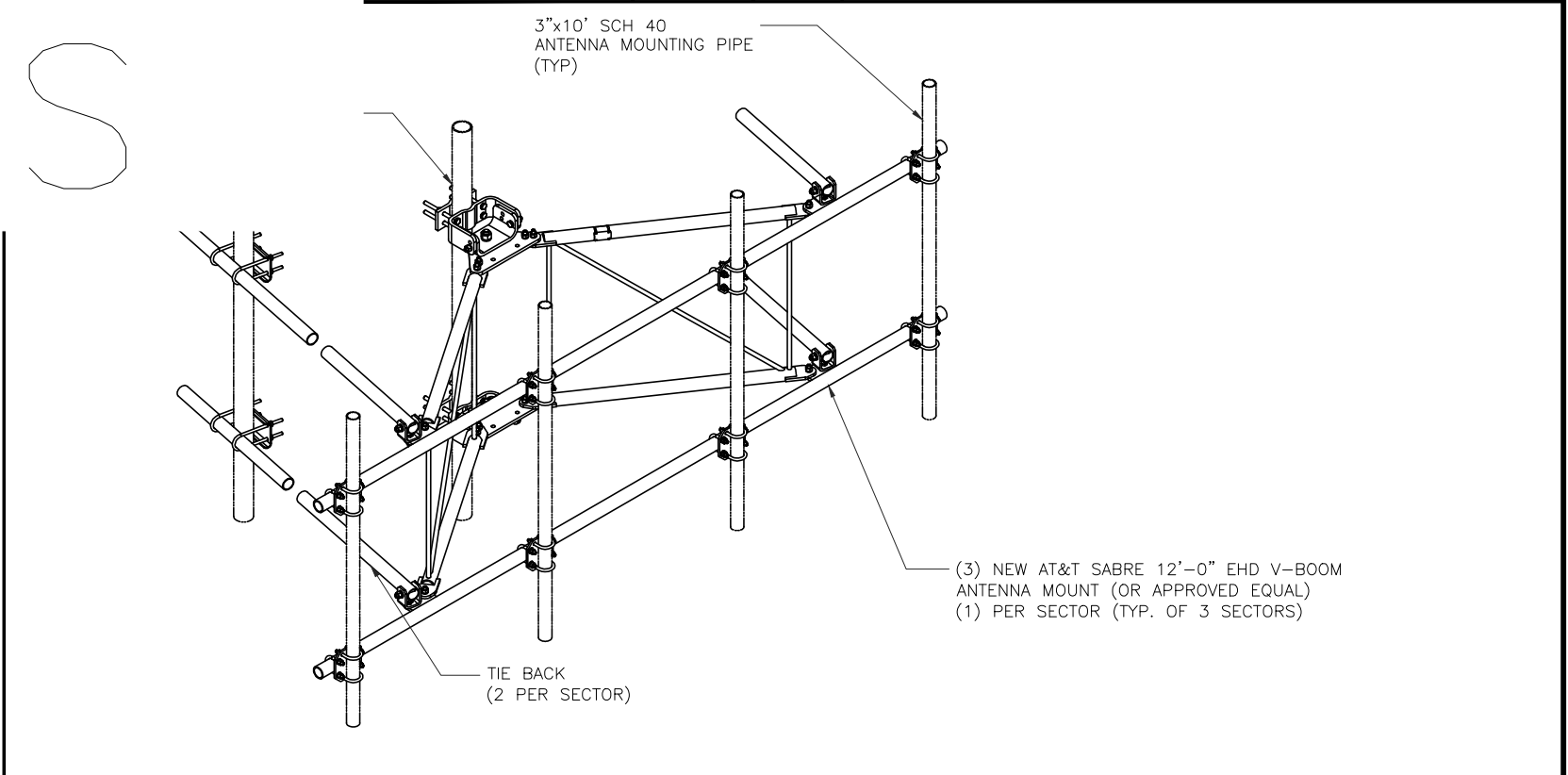
	NOT TO SCALE	4	
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TYPICAL RRH MOUNTING DETAIL	NOT TO SCALE	2	
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ANTENNA, RRU, RRH & RAYCAP DC6 MOUNTING DETAIL	NOT TO SCALE	5	
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SABRE 12'-0" EHD V-BOOM ANTENNA MOUNT DETAIL	NOT TO SCALE	1	
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SHEET TITLE

DETAILS

SHEET NUMBER

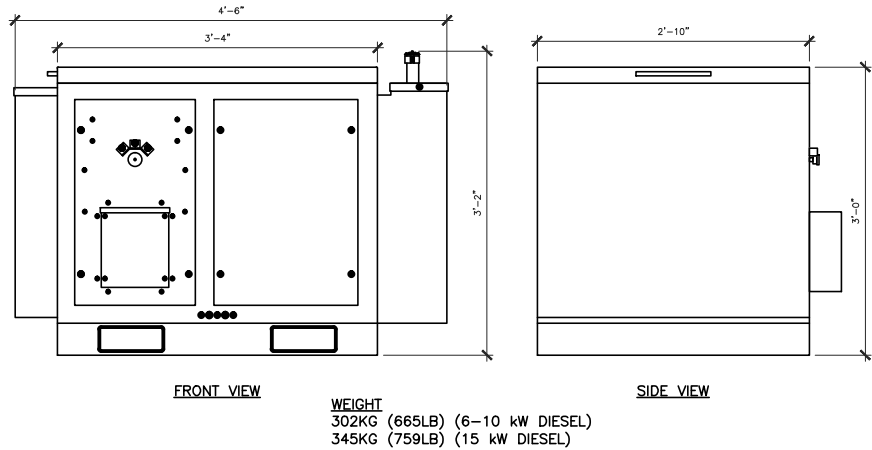
A5.1

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NOT USED

SCALE
N.T.S. 5

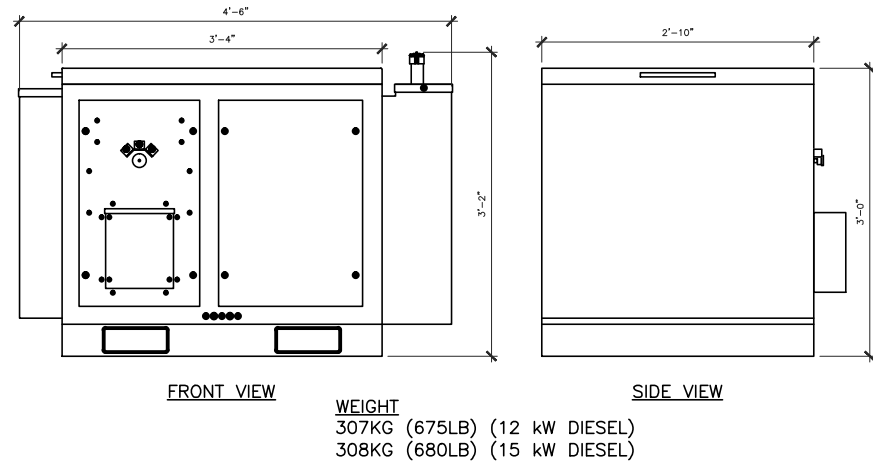
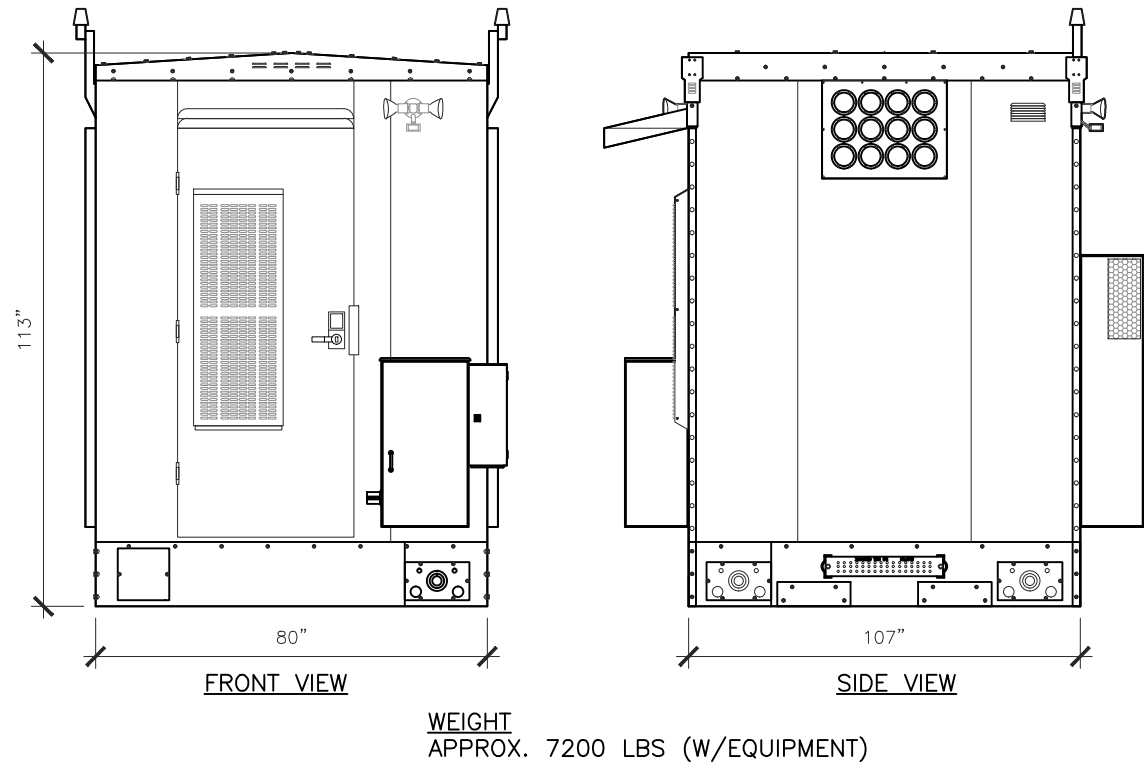


NOT USED

SCALE
N.T.S. 4

POLAR POWER 8220-100 (DIESEL GENERATOR)

SCALE
N.T.S. 2



EQUIPMENT PAD CONDUIT LAYOUT DETAIL

SCALE
N.T.S. 3

POLAR POWER 8220-100 (NG GENERATOR)

SCALE
N.T.S. 1



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SHEET TITLE

WALK IN CABINET
DETAILS

SHEET NUMBER

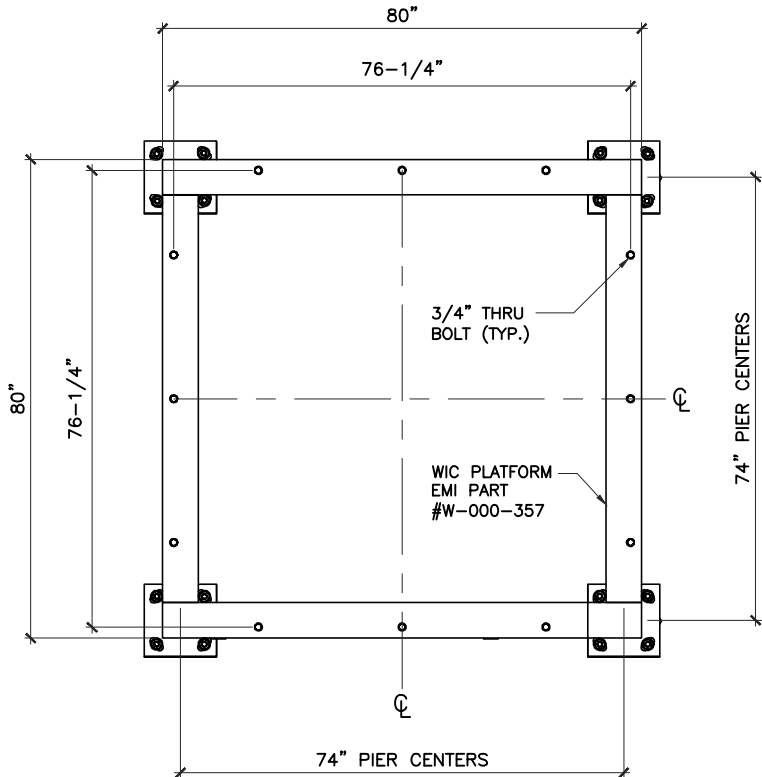
A6

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EQUIPMENT FOUNDATION STRUCTURAL NOTES

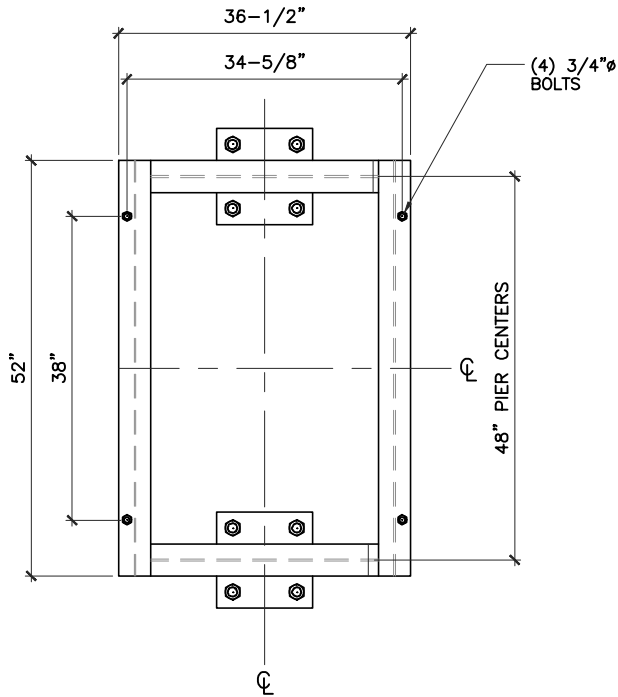
1. PLATFORM DESIGN LOADS
a. ASCE 7-10/IBC 2015 EXPOSURE B, (REF. PILE DESIGN TABLE FOR DESIGN WIND SPEED)
b. MAX. AXIAL COMPRESSION PER LEG = 6000 LBS
c. MAX. UPLIFT PER LEF = 1200 LBS
d. MAX. HORIZONTAL SHEAR = 3000 PSF
2. PRESUMPTIVE SOIL PARAMETERS
a. SOIL UNIT WEIGHT, γ = 90 PCF
b. ANGLE OF INTERNAL FRICTION = 30°
3. SEISMIC DESIGN PARAMETERS
a. OCCUPANCY CATEGORY
b. SITE CLASS = D
c. SEISMIC USE GROUP = SUG II
d. SEISMIC DESIGN CATEGORY – REF. TO PILE DESIGN TABLE
4. ALL FABRICATION AND INSTALLATION SHOULD BE DONE BY A CONTRACTOR EXPERIENCED IN SIMILAR WORK.
5. CONTRACTOR SHOULD OBSERVE ALL OSHA AND OTHER APPLICABLE SAFETY GUIDELINES DURING INSTALLATION.
6. ALL FABRICATION AND INSTALLATION PROCEDURES AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. CONTRACTOR SHOULD FIELD VERIFY ALL DIMENSIONS AND FIT BEFORE FABRICATION.
8. THE DRAWINGS DO NOT INCLUDE ALL THE EXISTING FIELD CONDITIONS, SOME OF WHICH MAY INTERFERE WITH THE INSTALLATION. CONTRACTOR SHOULD CONDUCT A FIELD SURVEY TO IDENTIFY ANY POTENTIAL DIFFICULTIES IN THE INSTALLATION BEFORE WORK COMMENCES. CONTACT THE ENGINEER IF THE FIELD CONDITIONS REQUIRED ANY CHANGES IN THE DESIGN.
9. CONTRACTOR MAY HAVE TO TEMPORARILY REMOVE EXISTING TRANSMISSION LINES AND OTHER OBSTRUCTIONS TO INSTALL NEW STRUCTURE. COORDINATE ALL SUCH PROCEDURES WITH THE BUILDING OWNER.
10. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LICENSES, PERMITS AND ANY OTHER APPROVALS REQUIRED FOR CONSTRUCTION.
11. PAINT THE NEW MEMBERS TO MATCH THE EXISTING STRUCTURE.
12. THE STRUCTURAL STEEL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANCHOR BOLT LOCATIONS, ELEVATION OF TOP OF CONCRETE AND BEARING PLATES,ALIGNMENT ETC. PRIOR TO START OF STEEL ERECTION.
13. THE LATEST EDITION OF THE FOLLOWING SPECIFICATIONS SHALL GOVERN:
a. AISC – "ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
b. AISC – "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
c. AWS – "D1.1 STRUCTURAL WELDING CODE – STEEL"
14. MATERIAL, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
a. STRUCTURAL SHAPES AND PLATES
A992 OR A572
Fy = 50 KSI
A36
Fy = 36 KSI
c. STRUCTURAL TUBING
A500 Gr. B
Fy = 46 KSI
d. HIGH STRENGTH BOLTS
A325
A36
e. THREADED RODS
A36
f. ANCHOR BOLTS
A307 OF A36
g. PIPE (HANDRAIL)
SCH. 40 PIPE
15. ALL STEEL SHALL BE HOT DIPPED GALVANIZED A PER ASTM A123 SPECIFICATIONS.
16. ALL STEEL HARDWARE SHALL BE HOT DIPPED GALVANIZED A PER ASTM A153
17. ALL BOLTS SHALL BE DOMESTIC, NEW 1/2" DIA. HIGH STRENGTH GALVANIZED BOLTS, BEARING TYPE "X", UNLESS OTHERWISE NOTED IN THE DRAWINGS AND SHALL CONFORM TO ASTM A325 SPECIFICATIONS. USE ANCO LOCKNUTS & FLAT WASHERS ON ALL BOLTS.
18. ALL FINISHED BOLT HOLES SHALL NOT BE MORE THAN 1/16" LARGER THAN THE BOLT DIAMETER UNLESS OTHERWISE NOTED.
19. ALL BOLTS SHALL BE TIGHTENED USING TURN-OF-THE-NUT METHOD.
20. ALL BOLT HOLES EDGE DISTANCES SHALL BE 1-1/2" UNLESS OTHERWISE NOTED.
21. ALL WELDING SHALL BE DONE USING E-70 ELECTRODES AND IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STANDARDS AND SPECIFICATIONS.
22. ANY FIELD CUTS MUST BE THOROUGHLY CLEANED AND DOUBLE COATED.
23. DO NOT HEAT STRUCTURAL MATERIAL FOR STRAIGHTENING BENT OR WARPED MEMBERS.
24. CLEAN THE SITE OF ALL DEBRIS UPON COMPLETION OF THE WORK. STORE ALL SURPLUS MATERIALS NEATLY IN AN AREA APPROVED BY THE OWNER.
25. BEFORE FIELD WELDING CLEAN ALL PAINT AND GALVANIZING TO BARE METAL. PREHEATING AND POST HEATING OF THE BASE METAL SHOULD BE AS PER AWS D1.1 SPECIFICATION AND APPLICABLE CODES REGARDING PREHEATING AND POSTHEATING.
26. CONTRACTOR TO PROVIDE FIRE PROTECTION BEFORE FIELD WELDING.
27. HOLES IN STEEL SHALL BE DRILLED OR PUNCHED. ALL SLOTTED HOLES SHALL BE PROVIDED WITH SMOOTH EDGES. BURNING OF HOLES AND TORCH CUTTING AT THE SITE IS NOT PERMITTED. ALL HOLES IN BEARING PLATES SHALL BE DRILLED.
28. EPOXY ANCHORS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



ELEVATED WIC PLATFORM PLAN

NO SCALE

4



ELEVATED GENERATOR PLATFORM PLAN

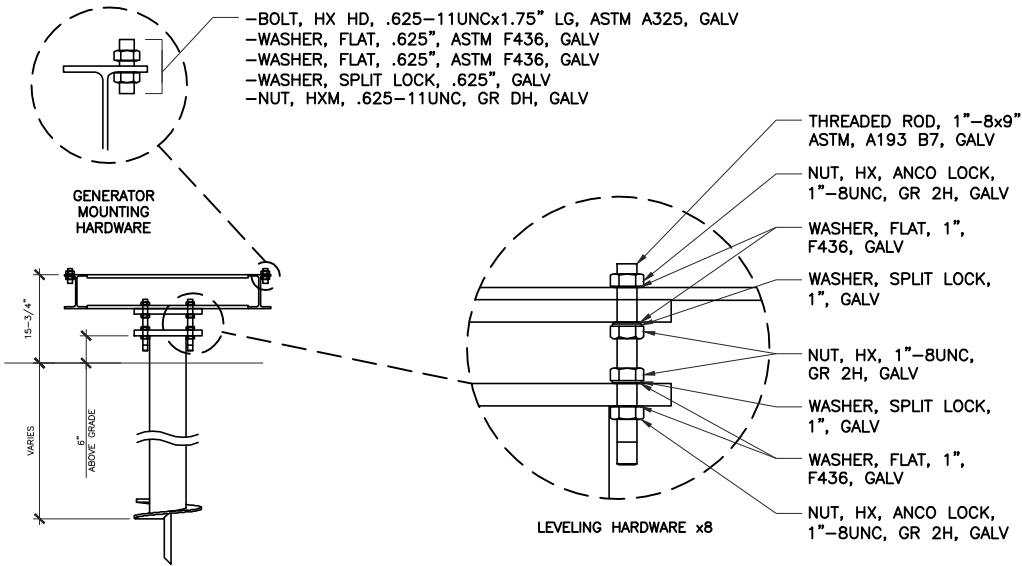
NO SCALE

2

NOTES

NO SCALE

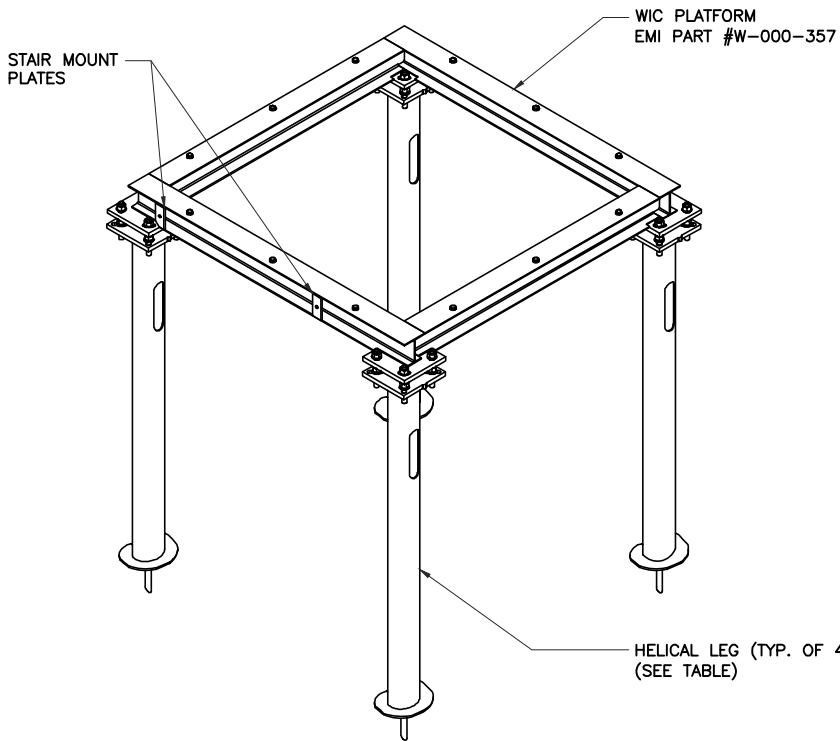
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ELEVATED PLATFORM CONNECTIONS

NO SCALE

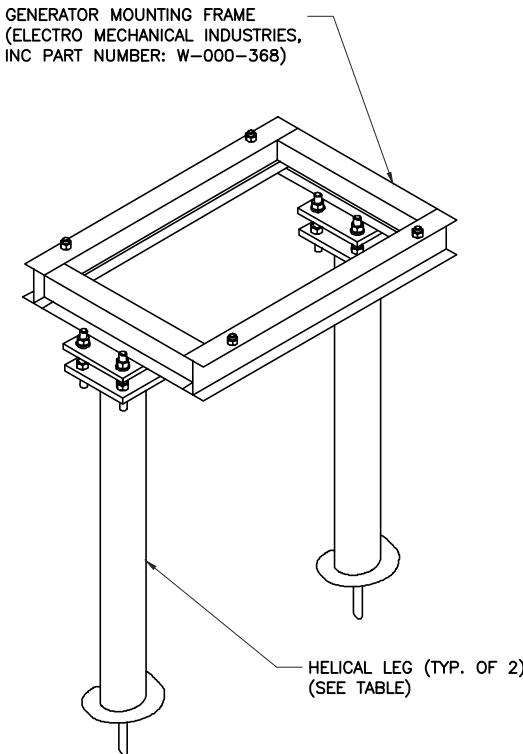
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ELEVATED WIC PLATFORM

NO SCALE

3



ELEVATED GENERATOR PLATFORM

NO SCALE

1



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9TH FLOOR
CHICAGO, IL 60661
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WAUNAKEE, WI 53597

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REVISIONS			
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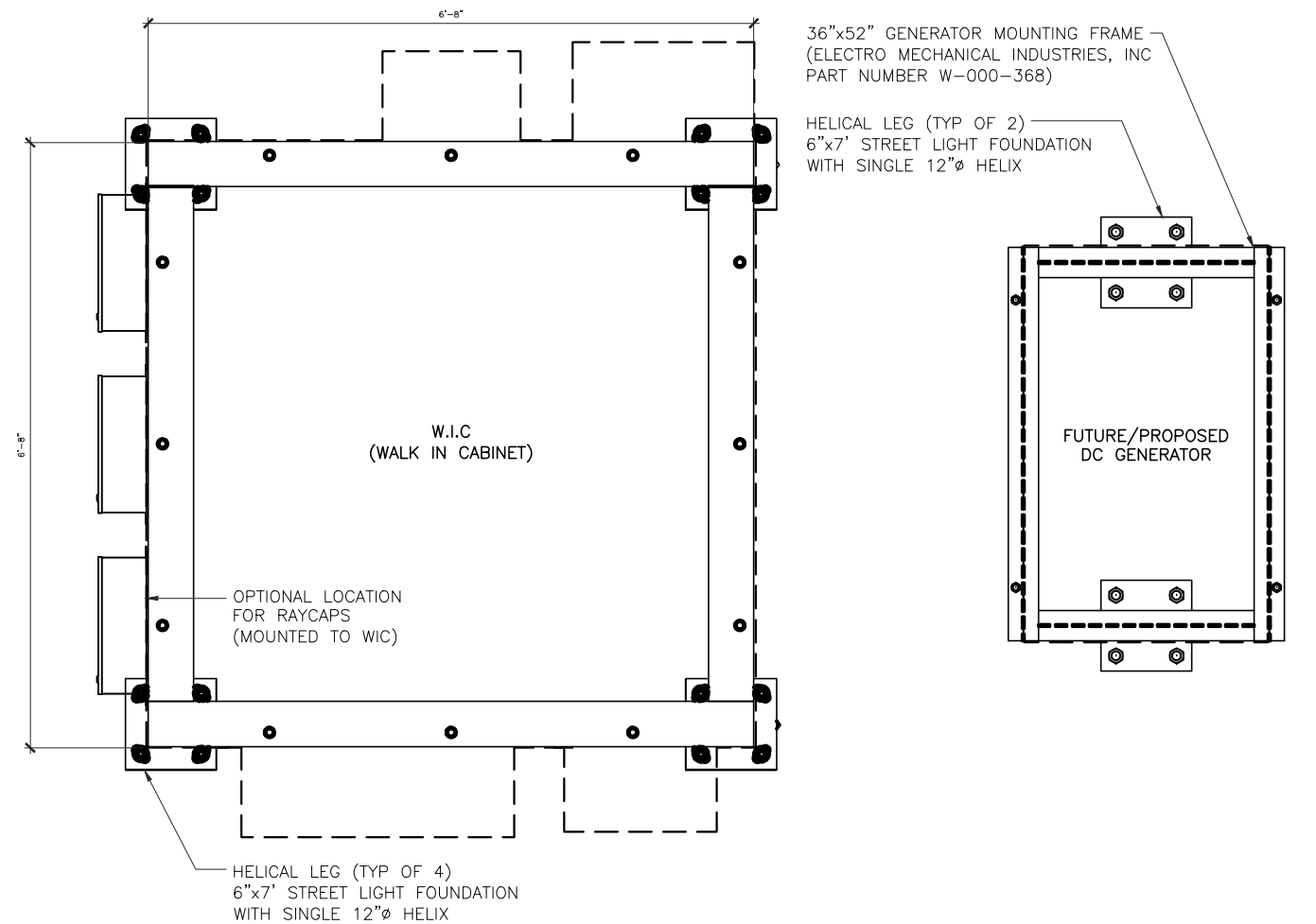
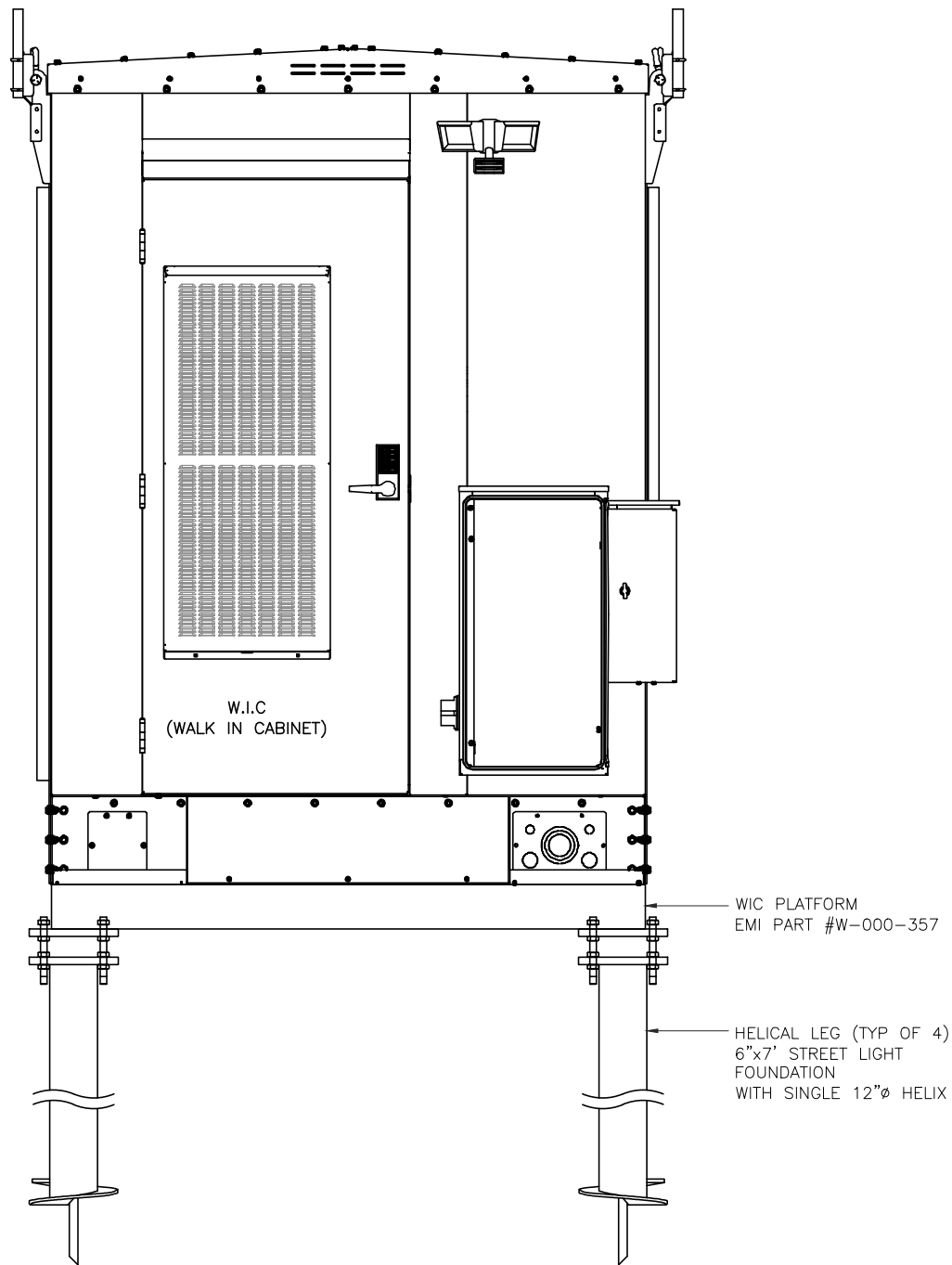
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SHEET TITLE
WALK IN CABINET
DETAILS

SHEET NUMBER
A6.1
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PILE DESIGN TABLE							
SEISMIC DESIGN CATEGORY ^b	S _B	S ₁	DESIGN WIND SPEED (MPH)	LIGHTPOLE FOUNDATION			
				DEPTH (ft)	SHAFT SIZE (in)	HELIX SIZE (in)	PART #
A, B	0.15	0.05	100	7	4	12	TBD
A, B	0.30	0.125	100	7	6	12	T1121051 OR T112-0262
C, D ^a	1.25	0.50	150	15	6	14	T1121353

NOTES:
a: THE GOVERNING SHEAR CORRESPONDING TO 150 MPH WIND AND THE AFOREMENTIONED SEISMIC PARAMETERS ARE APPROXIMATELY EQUAL. ACCORDINGLY, A MINIMUM EMBEDMENT OF 12'-0" FOR A 6" OD SHAFT WITH 14" HELIX IS REQUIRED FOR BOTH SEISMIC CATEGORY C, D AND FOR SITE WITH DESIGN WIND SPEED OF 150 MPH.
b: FOR SITES BELONGING TO SEISMIC CATEGORY E & F, SITE SPECIFIC ANALYSIS INCLUDING GEOTECHNICAL INVESTIGATION SHALL BE PERFORMED.

EQUIPMENT ELEVATION



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SHEET TITLE

WALK IN CABINET
DETAILS

SHEET NUMBER

A6.2

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0 1' 2' 3'

SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

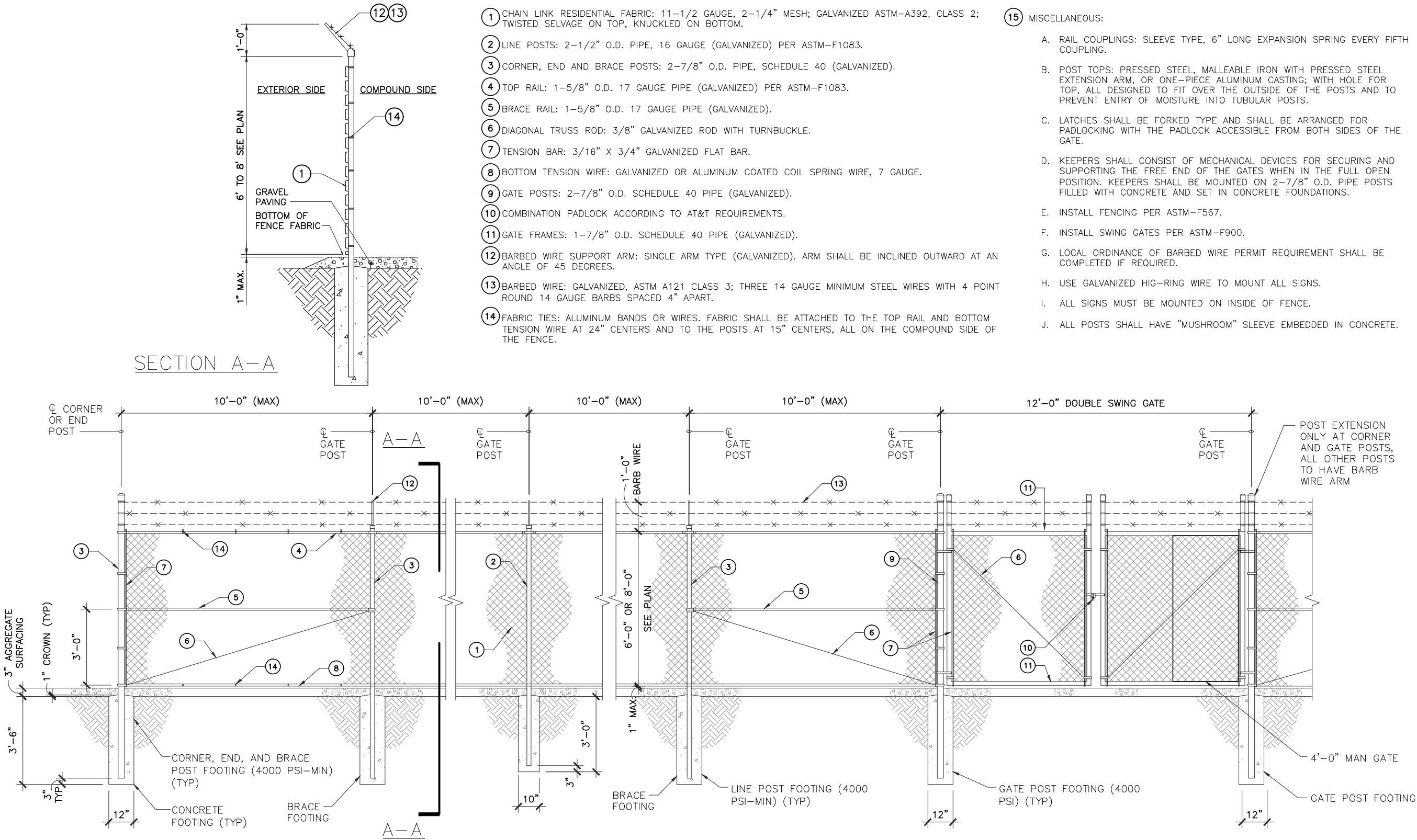
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MATERIAL DESCRIPTION

- 1
- CHAIN LINK RESIDENTIAL FABRIC: 11-1/2 GAUGE, 2-1/4" MESH; GALVANIZED ASTM-A392, CLASS 2; TWISTED SELVAGE ON TOP, KNUCKLED ON BOTTOM.
- 2
- LINE POSTS: 2-1/2" O.D. PIPE, 16 GAUGE (GALVANIZED) PER ASTM-F1083.
- 3
- CORNER, END AND BRACE POSTS: 2-7/8" O.D. PIPE, SCHEDULE 40 (GALVANIZED).
- 4
- TOP RAIL: 1-5/8" O.D. 17 GAUGE PIPE (GALVANIZED) PER ASTM-F1083.
- 5
- BRACE RAIL: 1-5/8" O.D. 17 GAUGE PIPE (GALVANIZED).
- 6
- DIAGONAL TRUSS ROD: 3/8" GALVANIZED ROD WITH TURNBUCKLE.
- 7
- TENSION BAR: 3/16" X 3/4" GALVANIZED FLAT BAR.
- 8
- BOTTOM TENSION WIRE: GALVANIZED OR ALUMINUM COATED COIL SPRING WIRE, 7 GAUGE.
- 9
- GATE POSTS: 2-7/8" O.D. SCHEDULE 40 PIPE (GALVANIZED).
- 10
- COMBINATION PADLOCK ACCORDING TO AT&T REQUIREMENTS.
- 11
- GATE FRAMES: 1-7/8" O.D. SCHEDULE 40 PIPE (GALVANIZED).
- 12
- BARBED WIRE SUPPORT ARM: SINGLE ARM TYPE (GALVANIZED). ARM SHALL BE INCLINED OUTWARD AT AN ANGLE OF 45 DEGREES.
- 13
- BARBED WIRE: GALVANIZED, ASTM A121 CLASS 3; THREE 14 GAUGE MINIMUM STEEL WIRES WITH 4 POINT ROUND 14 GAUGE BARBS SPACED 4" APART.
- 14
- FABRIC TIES: ALUMINUM BANDS OR WIRES. FABRIC SHALL BE ATTACHED TO THE TOP RAIL AND BOTTOM TENSION WIRE AT 24" CENTERS AND TO THE POSTS AT 15" CENTERS, ALL ON THE COMPOUND SIDE OF THE FENCE.

- 15
- MISCELLANEOUS:
- A.
- RAIL COUPLINGS: SLEEVE TYPE, 6" LONG EXPANSION SPRING EVERY FIFTH COUPLING.
- B.
- POST TOPS: PRESSED STEEL, MALLEABLE IRON WITH PRESSED STEEL EXTENSION ARM, OR ONE-PIECE ALUMINUM CASTING; WITH HOLE FOR TOP, ALL DESIGNED TO FIT OVER THE OUTSIDE OF THE POSTS AND TO PREVENT ENTRY OF MOISTURE INTO TUBULAR POSTS.
- C.
- LATCHES SHALL BE FORKED TYPE AND SHALL BE ARRANGED FOR PADLOCKING WITH THE PADLOCK ACCESSIBLE FROM BOTH SIDES OF THE GATE.
- D.
- KEEPERS SHALL CONSIST OF MECHANICAL DEVICES FOR SECURING AND SUPPORTING THE FREE END OF THE GATES WHEN IN THE FULL OPEN POSITION. KEEPERS SHALL BE MOUNTED ON 2-7/8" O.D. PIPE POSTS FILLED WITH CONCRETE AND SET IN CONCRETE FOUNDATIONS.
- E.
- INSTALL FENCING PER ASTM-F567.
- F.
- INSTALL SWING GATES PER ASTM-F900.
- G.
- LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLETED IF REQUIRED.
- H.
- USE GALVANIZED HIG-RING WIRE TO MOUNT ALL SIGNS.
- I.
- ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE.
- J.
- ALL POSTS SHALL HAVE "MUSHROOM" SLEEVE EMBEDDED IN CONCRETE.



CHAIN LINK FENCE DETAILS

NO SCALE

1



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FENCE DETAILS

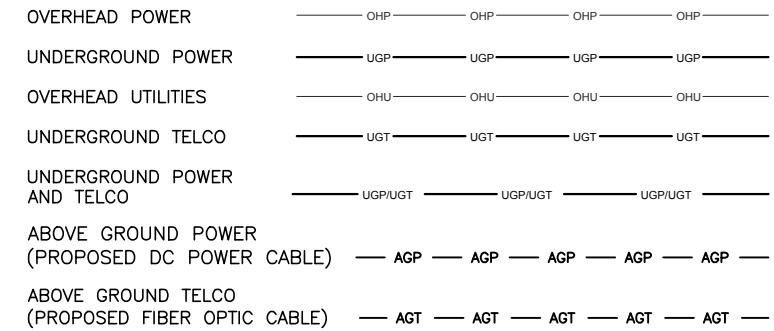
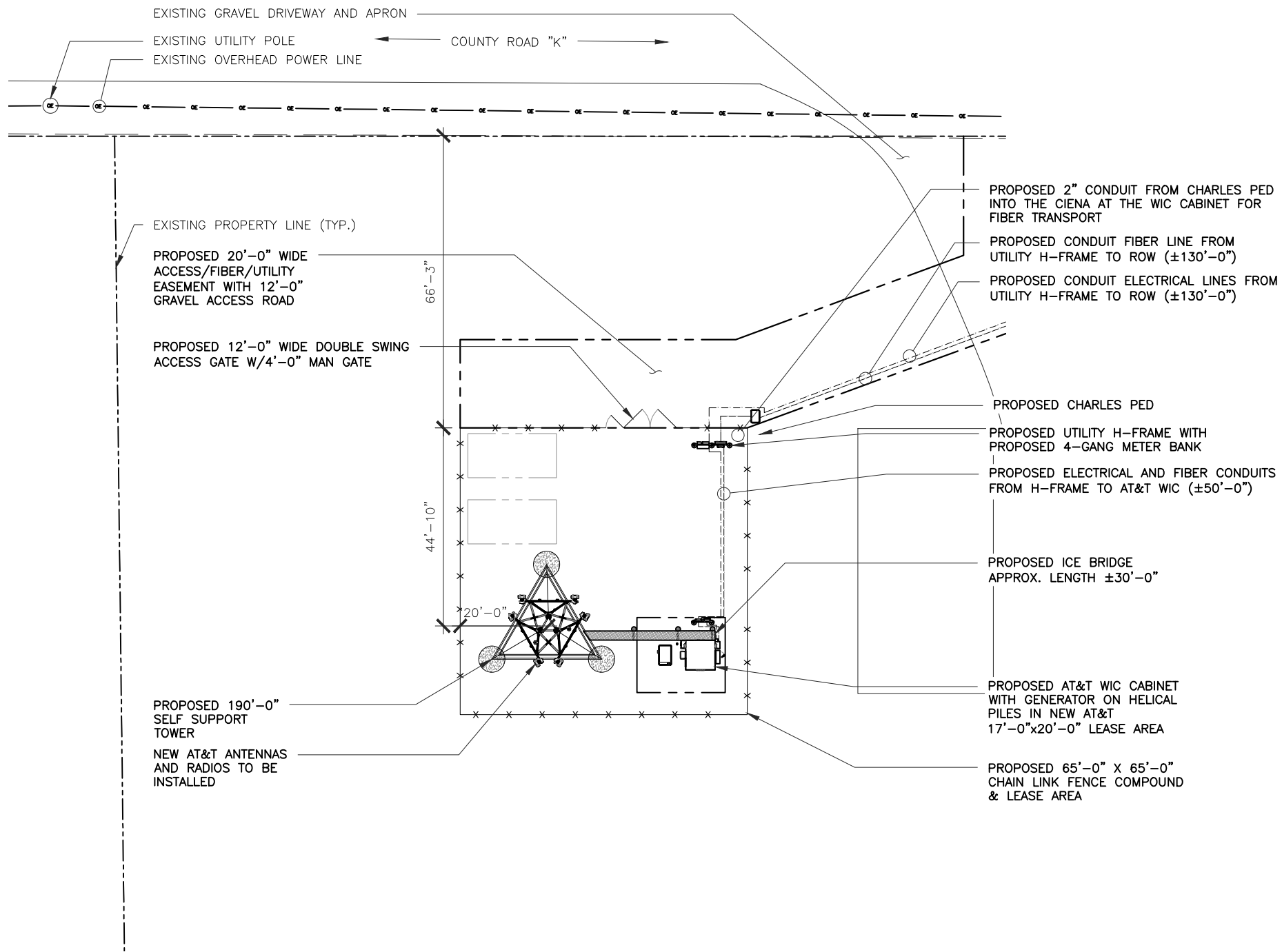
SHEET NUMBER

A7

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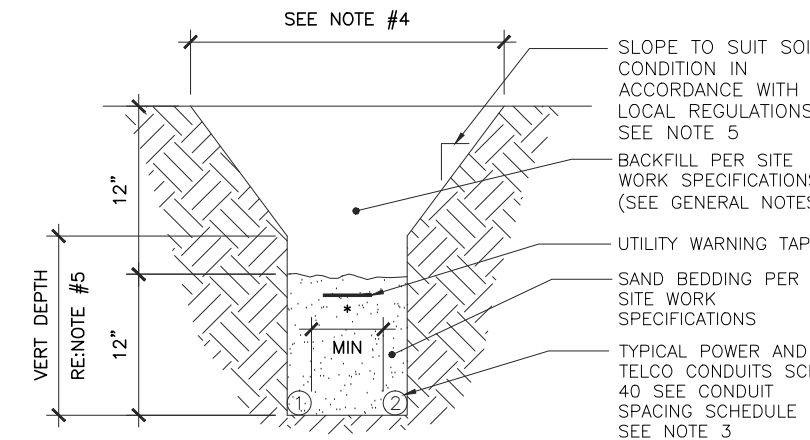
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1. ALL UNDERGROUND CONDUITS SHALL BE SCH 40 PVC. EXCEPT THAT ELBOWS AND RISERS SHALL BE RMC ALL UNDERGROUND ELBOWS SHALL BE SWEEPING BENDS. 2'-0" MINIMUM SHALL BE REQUIRED.
2. THE TELEPHONE SERVICE CABLES SHOULD BE INSTALLED IN RIGID METAL CONDUIT, (10'-0") TEN FEET IN LENGTH BEFORE ENTERING A SHELTER OR BUILDING PER AT&T STANDARD ATT-TP 26416.
3. TWO CONDUITS ARE SHOWN IN DETAIL 2, ALTHOUGH MULTIPLE CONDUITS CAN BE PLACED IN THE SAME TRENCH. A MINIMUM SEPARATION IS REQUIRED PER THE LOCAL JURISDICTIONS AND UTILITY COMPANIES. IN ALL OTHER CASES, USE THE CONDUIT SPACING SCHEDULE TO MAINTAIN MINIMUM SPACING BETWEEN THE EXTERIOR WALL TO EXTERIOR WALL SEPARATION OF CONDUITS.
4. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
5. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
6. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION.

LEGEND NOT TO SCALE 2



CONDUIT SPACING SCHEDULE		
CONDUIT #1	MINIMUM CONDUIT SEPARATION	CONDUIT #2
POWER	* = 6 INCHES	POWER
POWER	* = 12 INCHES	TELCO, COMMUNICATIONS & CONTROL CIRCUITS
TELCO, COMMUNICATIONS & CONTROL CIRCUITS	* = 6 INCHES	TELCO, COMMUNICATIONS & CONTROL CIRCUITS

UTILITY PLAN

20' 0 10' 20' SCALE: 1" = 20'-0" (24x36) (OR) 1/2" = 20'-0" (11x17)

3

TRENCH DETAIL

NOT TO SCALE

1



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SHEET TITLE
LEGEND AND DETAILS

SHEET NUMBER
E1
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NO	FROM	TO	CONFIGURATION
①	TRANSFORMER	UTILITY METER	(3) 3/0, (1) #4 AWG GND
②	SERVICE DISCONNECT	TRANSFER SWITCH	(3) 3/0, (1) #4 AWG GND
③	TRANSFER SWITCH	AC LOAD CENTER	(3) 3/0, (1) #4 AWG GND
④	AC LOAD CENTER	EMERSON RECTIFIER #1	(2) #10, (1) #10 AWG GND
⑤	AC LOAD CENTER	EMERSON RECTIFIER #2	(2) #10, (1) #10 AWG GND
⑥	AC LOAD CENTER	EMERSON RECTIFIER #3	(2) #10, (1) #10 AWG GND
⑦	AC LOAD CENTER	EMERSON RECTIFIER #4	(2) #10, (1) #10 AWG GND
⑧	AC LOAD CENTER	EMERSON RECTIFIER #5	(2) #10, (1) #10 AWG GND
⑨	AC LOAD CENTER	EMERSON RECTIFIER #6	(2) #10, (1) #10 AWG GND
⑩	AC LOAD CENTER	EMERSON RECTIFIER #7	(2) #10, (1) #10 AWG GND
⑪	AC LOAD CENTER	EXTERIOR GFCI	(1) #12 BLK, (1) #12 WHT, (1) #12 GND
⑫	AC LOAD CENTER	HVAC #1	(1) #6 THHN/THWN, (1) #10 AWG GND
⑬	AC LOAD CENTER	HVAC #2	(1) #6 THHN/THWN, (1) #10 AWG GND
⑭	AC LOAD CENTER	POWER FAIL RELAY	(2) #12 THHN/THWN, (1) #12 NUET, (1) #12 AWG GND
⑮	AC LOAD CENTER	INTERIOR RECEPTACLES	(1) #12 BLK, (1) #12 WHT, (1) #12 AWG GND
⑯	AC LOAD CENTER	INTERIOR LIGHTS	(1) #12 BLK, (1) #12 WHT, (1) #12 AWG GND
⑰	AC LOAD CENTER	EXTERIOR LIGHTS	(1) #12 BLK, (1) #12 WHT, (1) #12 AWG GND

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.

2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.

3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.

4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.

5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.

6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.

7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATION EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.

9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.

10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.

11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.

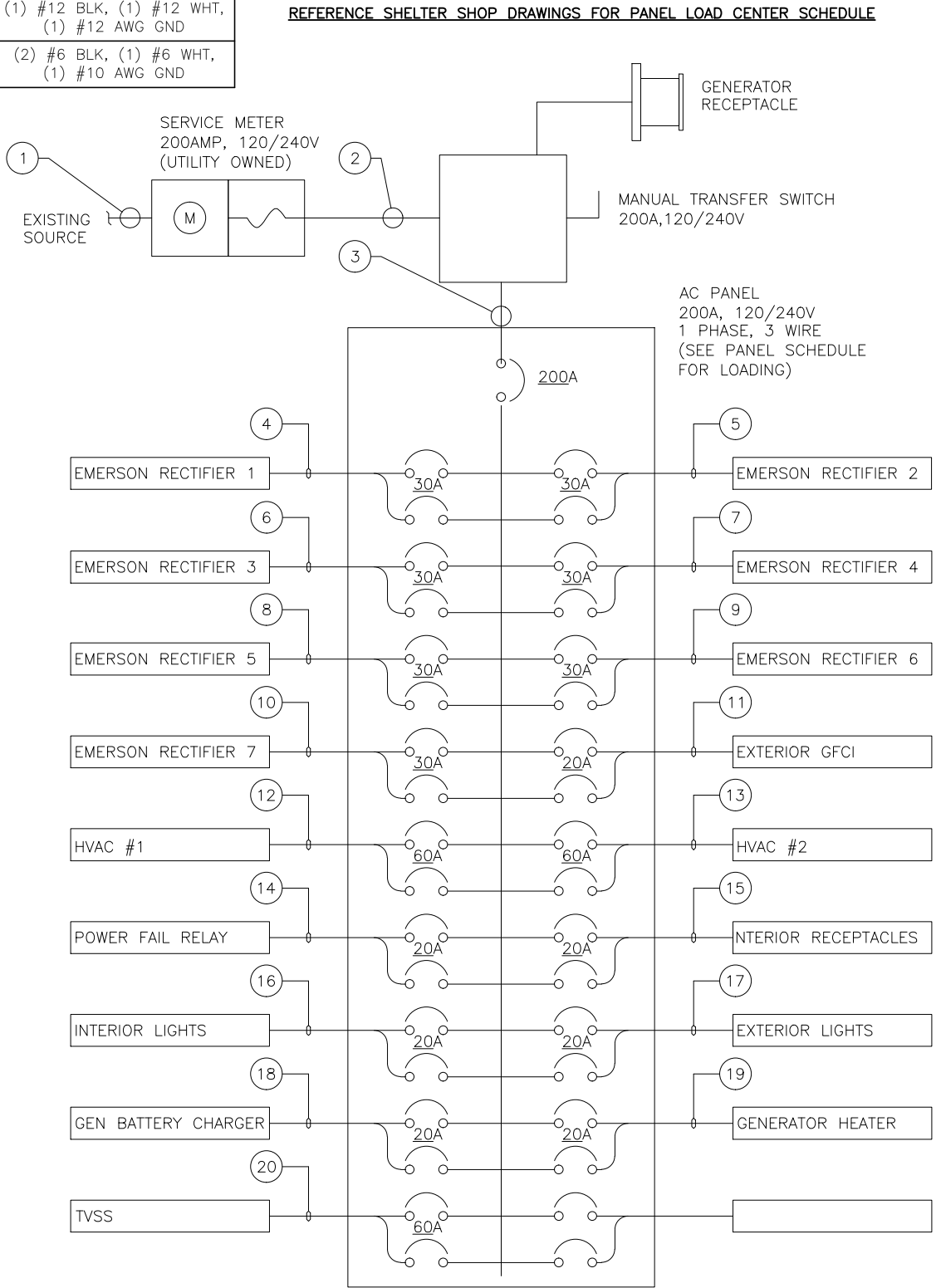
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.

13. DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTOR WIRING. RED MARKINGS SHALL IDENTIFY +24V. BLUE MARKINGS SHALL IDENTIFY -48V. REFER TO ATT-002-290-701.

14. DC POWER WIRING SIZE 14 AWG TO 10 AWG SHALL BE TELCOFLEX III. DC POWER WIRING 8 AWG AND LARGER SHALL BE TELCOFLEX IV. REFER TO ATT-002-290-701.

15. LTE POWER WIRING SHALL BE ACCORDANCE WITH ATT-002-290-531.

NO	FROM	TO	CONFIGURATION
⑱	AC LOAD CENTER	GEN BATTERY CHARGER	(1) #12 BLK, (1) #12 WHT, (1) #12 AWG GND
⑲	AC LOAD CENTER	GENERATOR HEATER	(1) #12 BLK, (1) #12 WHT, (1) #12 AWG GND
⑳	AC LOAD CENTER	TVSS	(2) #6 BLK, (1) #6 WHT, (1) #10 AWG GND



ELECTRIC SLD AND PANEL SCHEDULE

NOT TO SCALE

1



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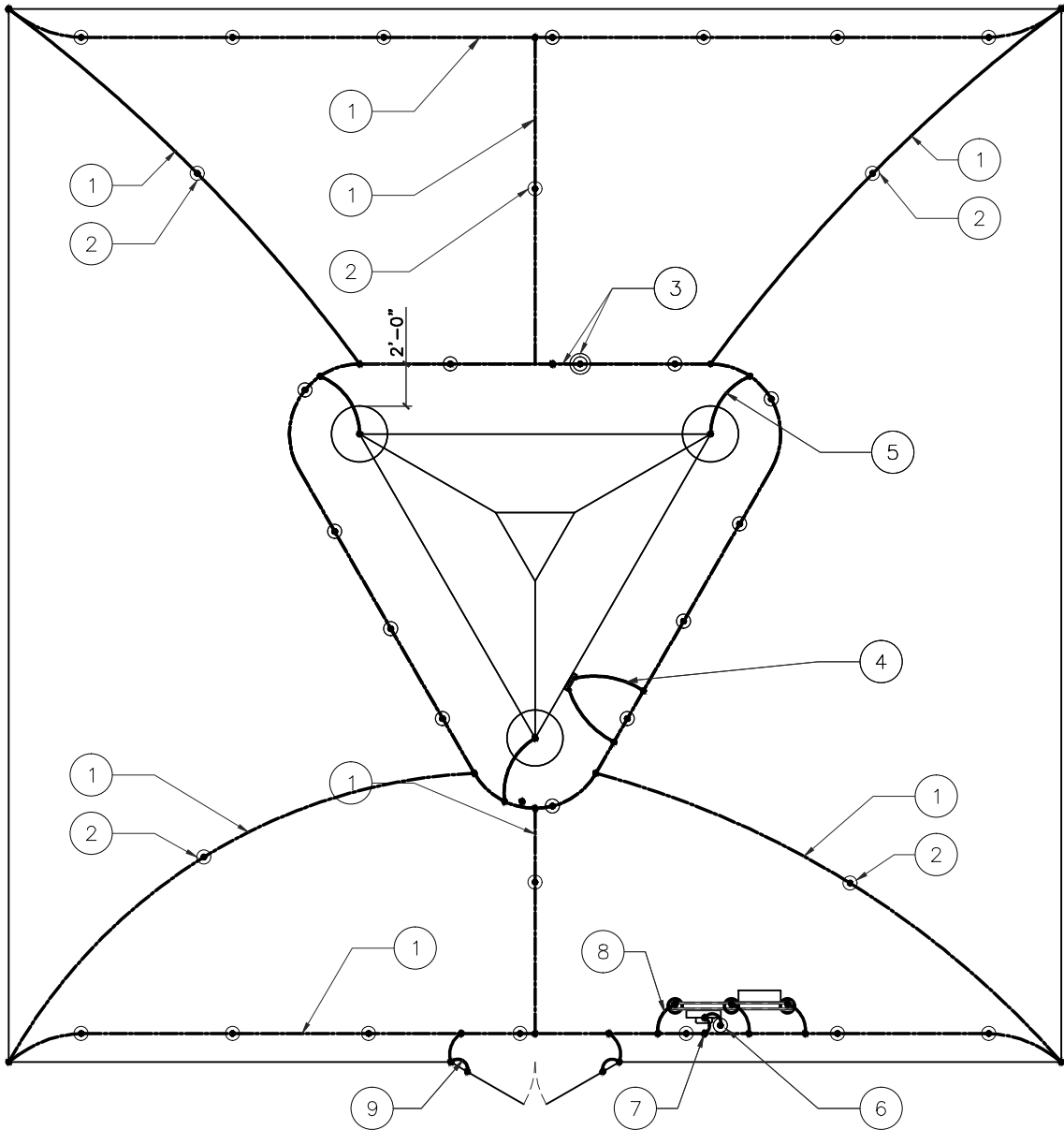
ELECTRIC SLD AND PANEL SCHEDULE

SHEET NUMBER

E2

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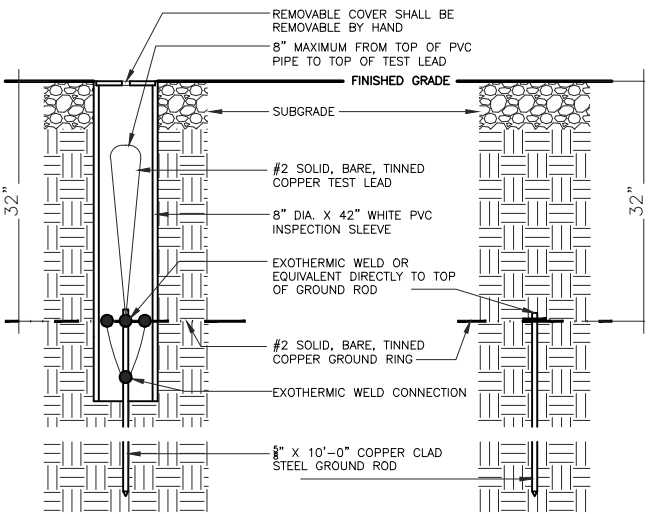
- GROUND RING, #2 SOLID TINNED, BARE COPPER WIRE
- 5/8"Ø x 10'-0" COPPER CLAD STEEL GROUND ROD SPACED MIN. 10'-0", MAX 15'-0" APART
- GROUND SYSTEM TEST WELL
- #2 SOLID TINNED, BARE COPPER GROUND WIRE FROM LOWER TOWER GROUND BAR TO NEW GROUND RING (2 REQ'D)
- #2 SOLID TINNED, BARE COPPER GROUND WIRE FROM TOWER BASE PLATE TO NEW GROUND RING
- 5/8"Ø x 10'-0" COPPER CLAD GROUND ROD FOR ELECTRICAL SERVICE GROUND
- #2 SOLID TINNED, BARE COPPER GROUND WIRE FROM ELECTRICAL SERVICE GROUND TO LIGHTNING PROTECTION GROUND RING
- #2 SOLID TINNED, BARE COPPER GROUND WIRE, BOND UTILITY POST W/ VS TYPE CADWELD. (1 PER POST REQ'D)
- A.L.T. OR EQUAL 2/0 GROUNDING CONDUCTOR W/BLACK NEOPRENE INSULATION & PRE-CAPPED ENDS ATTACHED TO GATE POST AND GATE FRAME W/ VS TYPE EXOTHERMIC. INSTALL W/ WELDS 18" ABOVE FINISH GRADE
- IN THE EVENT A PAD/PIER FOUNDATION IS INSTALLED, THE BURIED GROUND RING SHALL BE INSTALLED A MINIMUM 2 FT. FROM THE EDGE OF CONCRETE



GROUNDING LEGEND

- EXOTHERMIC WELD CONNECTION
- COMPRESSION FITTING CONNECTION
- 5/8"x10' COPPER-CLAD STEEL GROUND ROD
- 5/8"x10' COPPER-CLAD STEEL GROUND ROD WITH INSPECTION WELL
- PROPOSED GROUND WIRING
- EXISTING GROUND WIRING
- TINNED COPPER GROUND BAR 1/4"x4"x12" OR 1/4"x4"x20"
- COLLECTOR GROUND BAR
- MAIN GROUND BAR

NOTE:
SEE COMPOUND PLAN FOR
COMPOUND ORIENTATION,
UTILITY H-FRAME, GATE AND
TOWER LOCATION



GROUND WELL, ROD, AND TEST WELL DETAIL

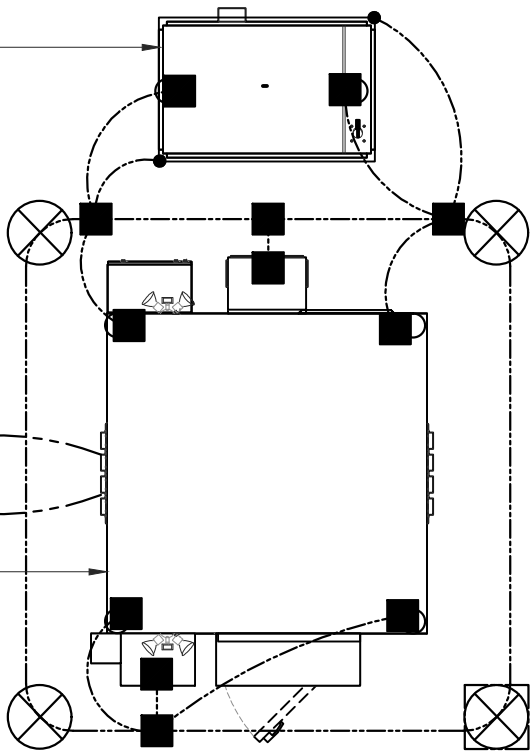
SCALE	2
N.T.S.	

NEW GENERATOR ON
HELICAL PIER PLATFORM

TO CABLE BRIDGE POSTS

TOWER BASE
GROUND BAR

NEW W.I.C. ENCLOSURE
ON HELICAL PIER
PLATFORM



GROUNDING PLAN AND DETAILS

NOT TO
SCALE

3

EQUIPMENT GROUNDING PLAN

NOT TO
SCALE

1



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WAUNAKEE, WI 53597

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REVISIONS			
REV.	DATE	DESCRIPTION	INITIALS
B	03/12/19	PERMIT/CONSTRUCTION	DS
A	02/28/19	PERMIT/CONSTRUCTION	JM
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02/28/19

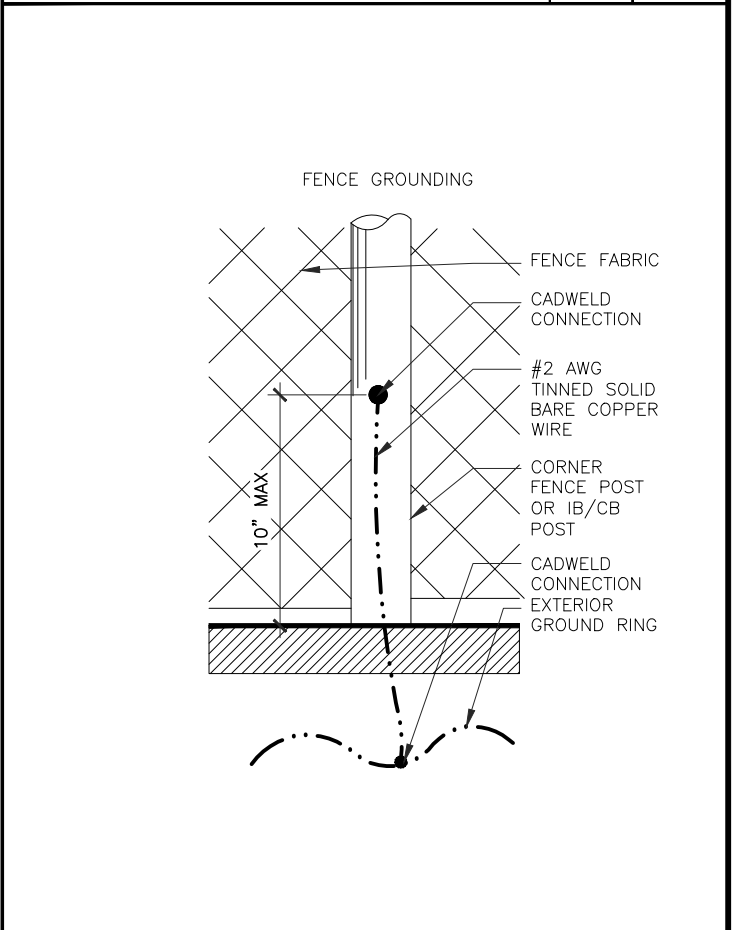
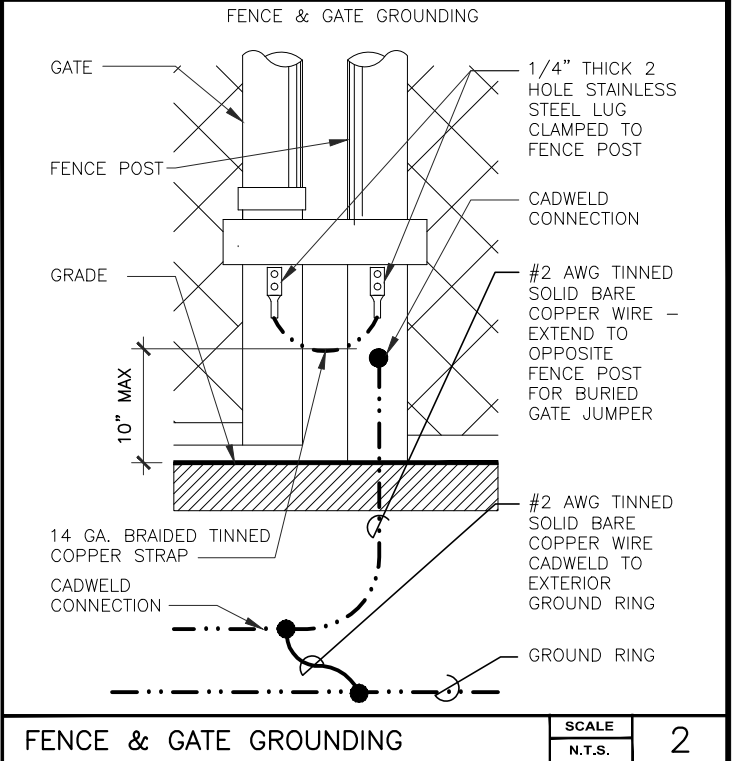
EXP. DATE: 07/31/20
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SHEET TITLE
SHELTER
GROUNDING PLAN
& DETAILS

SHEET NUMBER
E3
Page 24 of 39

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PENDING
RFDS



GENERIC ANTENNA GROUNDING SINGLE LINE DIAGRAM

0 3" 6" 1' SCALE: 3/4 = 1'-0" (24x36) (OR) 3/8" = 1'-0" (11x17)

3

FENCE GROUND

SCALE

N.T.S.

1



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EXP. DATE: 07/31/20

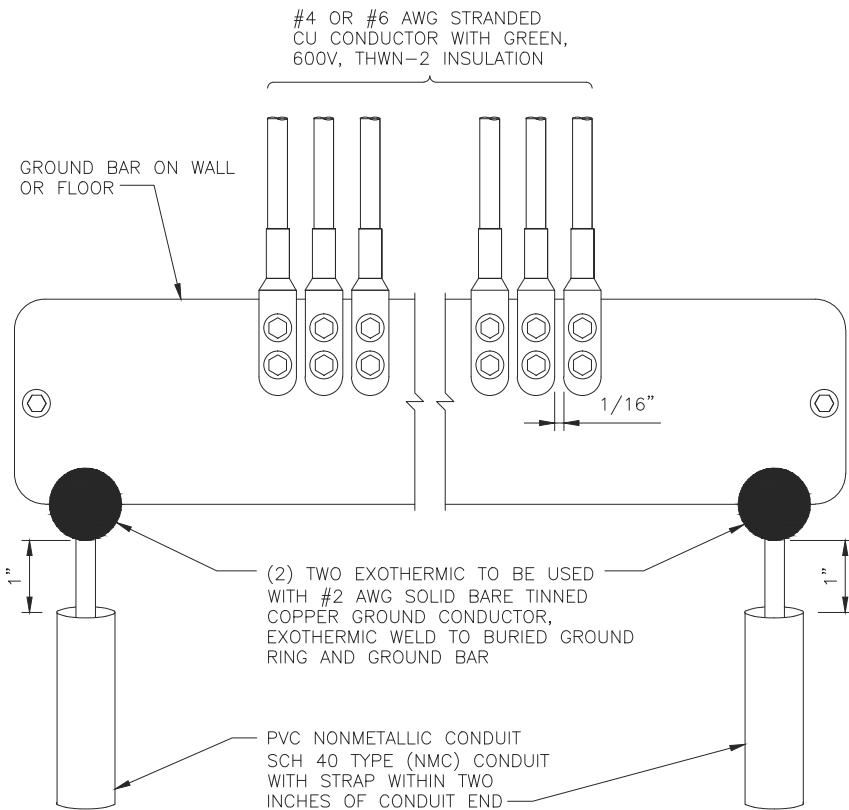
SHEET TITLE
GENERIC
ANTENNA
GROUNDING
SLD

SHEET NUMBER

E4

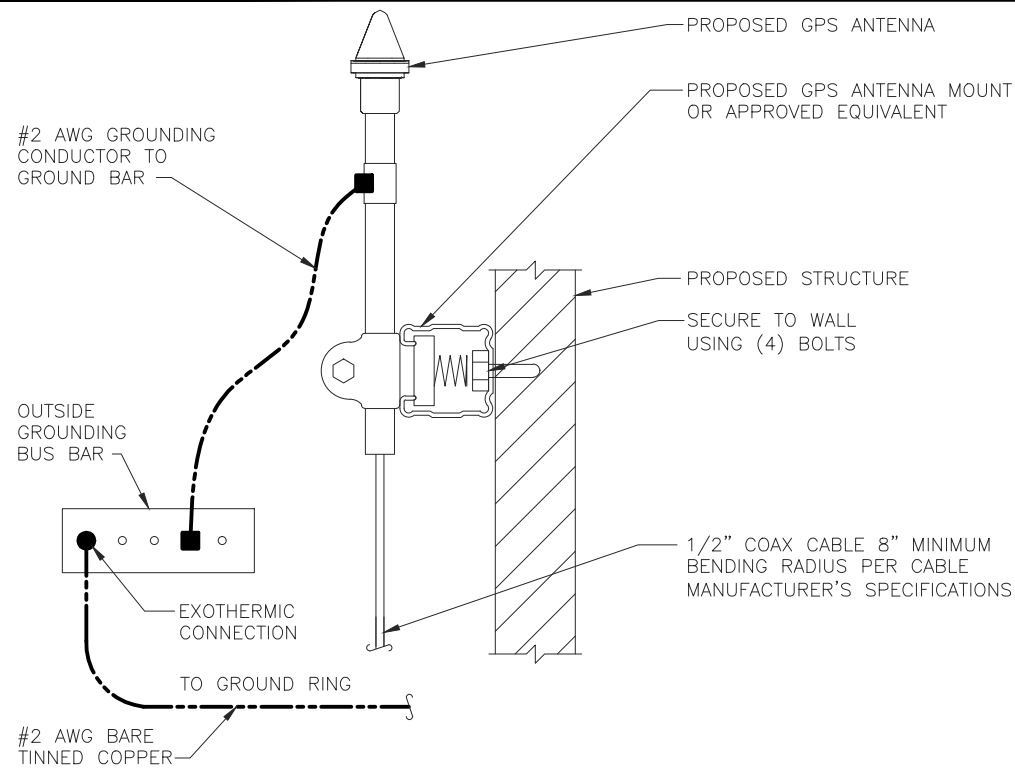
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GROUND BAR DETAIL

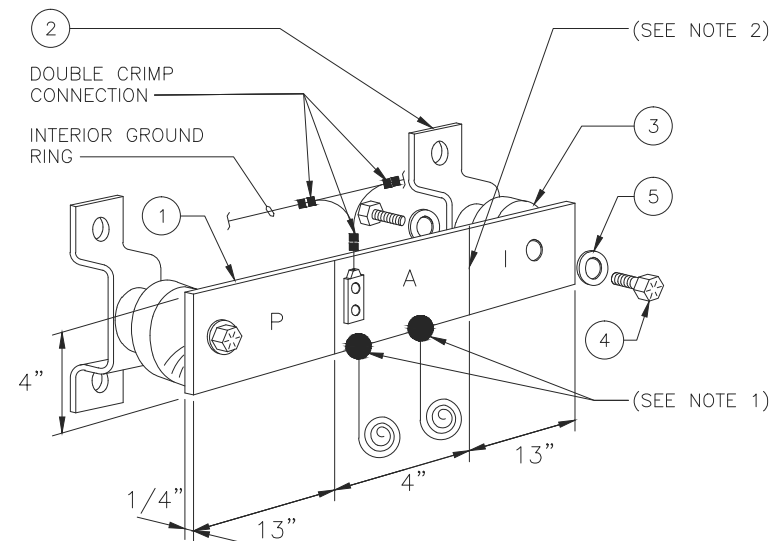
SCALE
N.T.S. 4



GPS ANTENNA GROUNDING

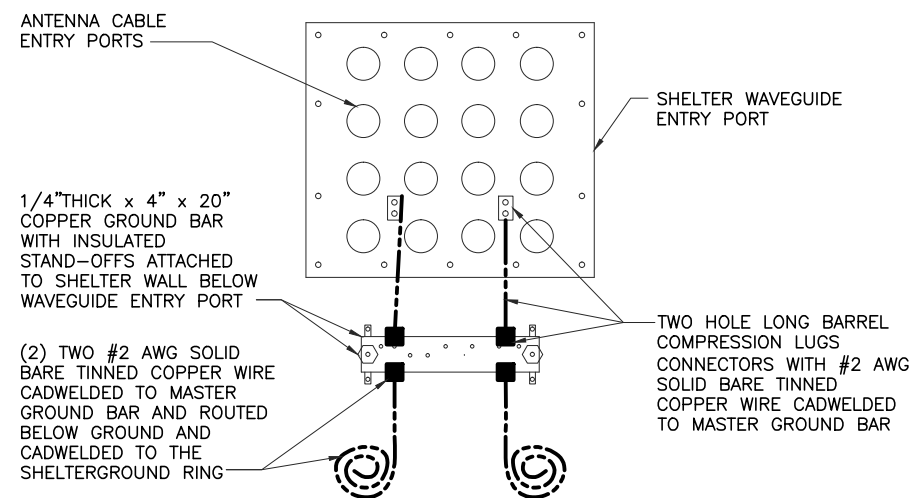
SCALE
N.T.S. 3

NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C.			
NO	REQUIRED	PART NUMBER	DESCRIPTION
①	1	1/4"x4"x30"	SOLID GROUND BAR
②	2	A-6056	WALL MOUNTING BRACKET
③	2	3061-4	INSULATORS
④	4	3012-1	5/8"-11x1" H.H.C.S.
⑤	4	3015-8	5/8" LOCKWASHER



MASTER GROUND BAR DETAIL

SCALE
N.T.S. 2



COAX GROUND KIT DETAIL

SCALE
N.T.S. 1

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "P" – SURGE PROTECTORS

- (EC) CELL REFERENCE GROUND BAR (IF COLLOCATED)
- (EC) GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
- (EC) TELCO GROUND BAR (#2 AWG)
- (EC) COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (3/0)
- (EC) FIBER GROUND BAR (#2 AWG)
- (EC) POWER ROOM REFERENCE GROUND BAR (#2 AWG)
- (AT&T) RECTIFIER FRAMES

SECTION "A" – SURGE ABSORBERS

- (EC) INTERIOR GROUND RING (#2 AWG)
- (EC) EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
- (EC) METALLIC COLD WATER PIPE (IF AVAILABLE) (1/0 AWG)
- (EC) BUILDING STEEL (IF AVAILABLE) (1/0 AWG)

SECTION "I" – ISOLATED GROUND ZONE

- (AT&T) ALL ISOLATED GROUND REFERENCE
- (AT&T) GROUND WINDOW BAR

DETAIL NOTES:

- EXOTHERMICALLY WELD #2 AWG BARE TINNED SOLID COPPER CONDUCTOR TO GROUND BAR. ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
- THE INSTALLER SHALL USE PERMANENT MARKER TO DRAW THE LIKE BETWEEN SECTION AND LABEL EACH SECTION ("P", "A", "I" WITH 1" HIGH LETTERS



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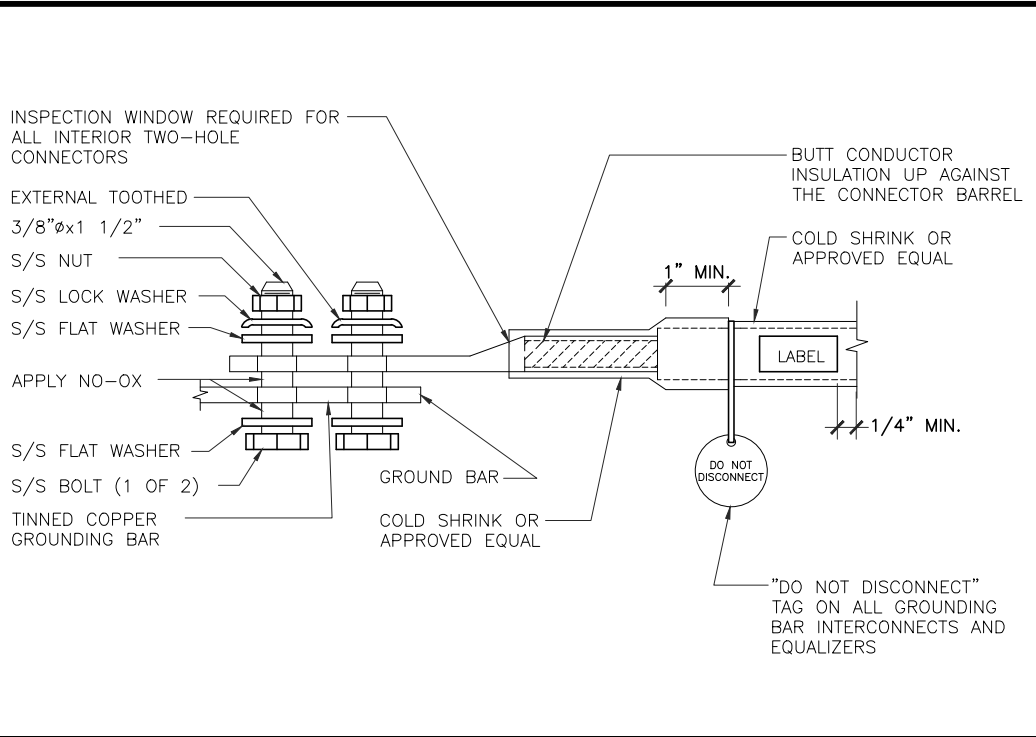
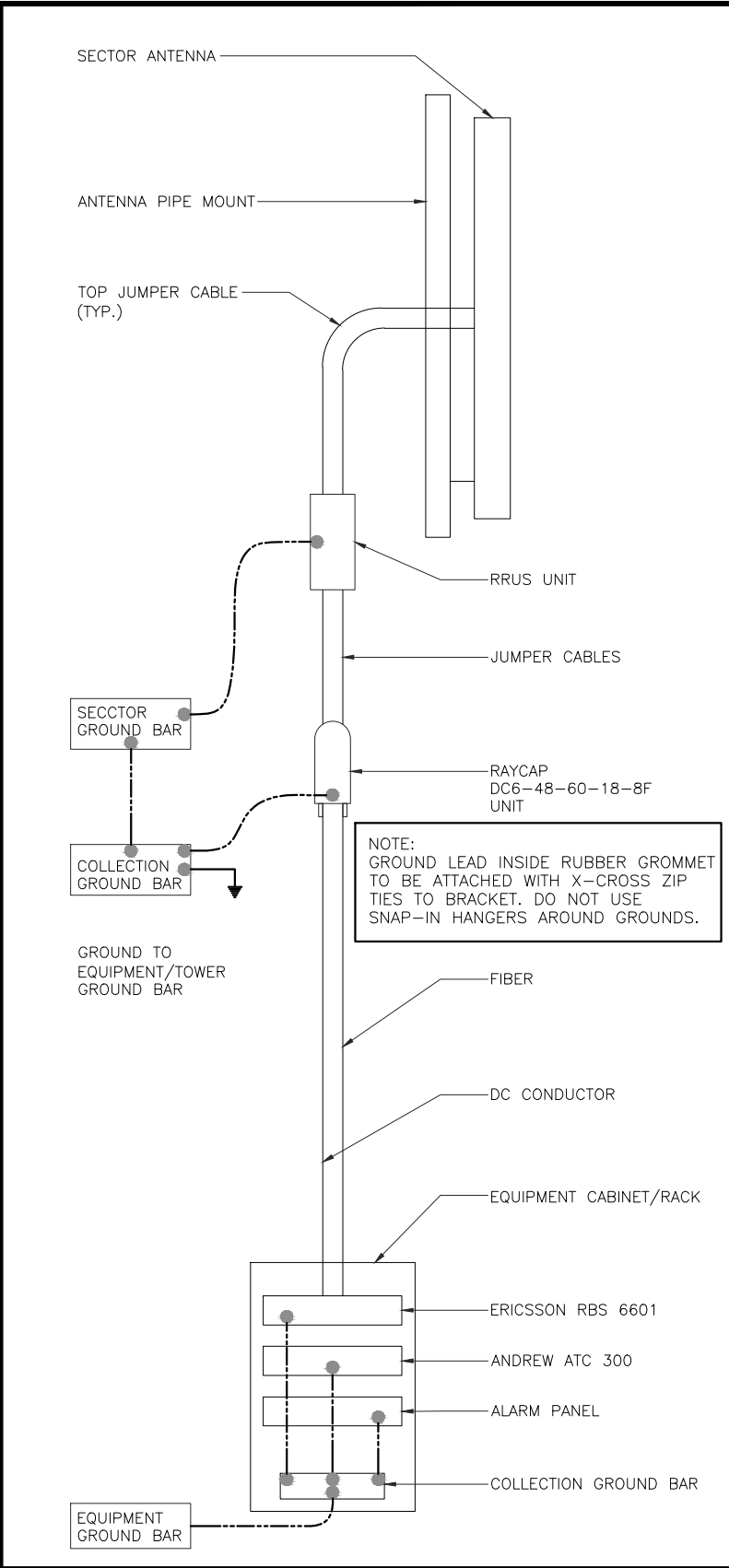
02/28/19

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SHEET TITLE
GROUNDING
DETAILS

SHEET NUMBER
E5
Page 26 of 39

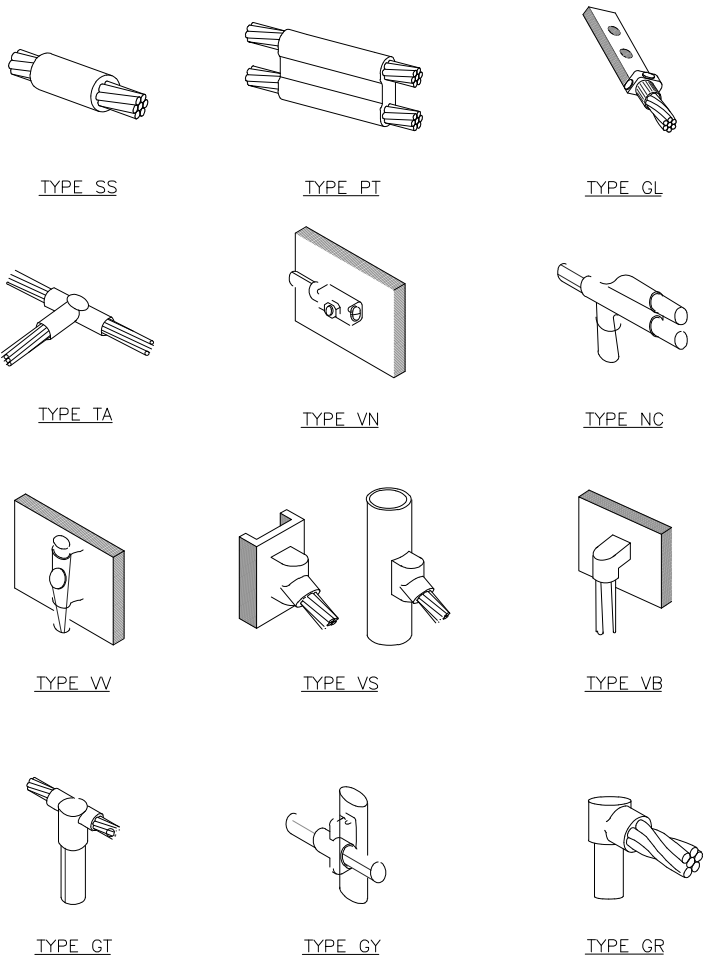
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EXTERIOR TWO HOLE LUG DETAIL

NO SCALE

3



CABLE GROUNDING

NO SCALE

4

NOT USED

NO SCALE

2

CADWELD DETAILS

NO SCALE

1



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SHEET TITLE
GROUNDING
DETAILS

SHEET NUMBER
E6
Page 20 of 30

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AT&T
930 NATIONAL PARKWAY
SCHAUMBURG, IL 60173



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**WESTCHESTER
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BARRINGTON, IL 60010
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ae@westchesterservices.com

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SHEET TITLE

LEGEND AND
DETAILS


SHEET NUMBER

RF

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NOTICE




Beyond This Point you are entering a controlled area where RF emissions *may exceed* the FCC General Population Exposure Limits.

Follow all posted signs and site guidelines for working in a RF environment.



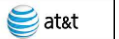
Ref: 47CFR 1.1307(b)

CAUTION



Beyond This Point you are entering a controlled area where RF emissions *may exceed* the FCC Occupational Exposure Limits.

Obey all posted signs and site guidelines for working in a RF environment.



Ref: 47CFR 1.1307(b)



ALERTING SIGN
(FOR CELL SITE BATTERIES)



ALERTING SIGN
(FOR DIESEL FUEL)



ALERTING SIGN
(FOR PROPANE)

ALERTING SIGNS

WARNING!

DANGER DO NOT TOUCH TOWER!


SERIOUS "RF" BURN HAZARD!

MAINTAIN AN ADEQUATE CLEARANCE BETWEEN TOWER SUPPORTS AND GUY WIRES

FAILURE TO OBEY ALL POSTED SIGNS AND SITE GUIDELINES FOR WORKING IN A RADIO FREQUENCY ENVIRONMENT COULD RESULT IN SERIOUS INJURY. CONTACT CURRENT MAY EXCEED LIMITS PRESCRIBED IN ANSI/IEEE C95.1-1992 FOR CONTROLLED ENVIRONMENTS.



PROPERTY OF AT&T



AUTHORIZED PERSONNEL ONLY

IN CASE OF EMERGENCY, OR PRIOR TO PERFORMING MAINTENANCE ON THIS SITE, CALL 800-638-2822 AND REFERENCE CELL SITE NUMBER

ALERTING SIGN

INFO SIGN #4

INFORMATION

AT&T operates telecommunications antennas at this location. Remain at least 3 feet away from any antenna and obey all posted signs.

Contact the owner(s) of the antenna(s) before working closer than 3 feet from the antenna.

Contact AT&T at _____ prior to performing any maintenance or repairs near AT&T antennas. This is Site# _____

Contact the management office if this door/hatch/gate is found unlocked.

INFORMACION


En esta propiedad se ubican antenas de telecomunicaciones operadas por AT&T. Favor mantener una distancia de no menos de 3 pies y obedecer todos los avisos.

Comuníquese con el propietario o los propietarios de las antenas antes de trabajar o caminar a una distancia de menos de 3 pies de la antena.

Comuníquese con AT&T _____ antes de realizar cualquier mantenimiento o reparaciones cerca de las antenas de AT&T.

Esta es la estación base número _____

Favor comunicarse con la oficina de la administración del edificio si esta puerta o compuerta se encuentra sin candado.



INFO SIGN #1

NOTICE

GUIDELINES FOR WORKING IN RADIOFREQUENCY ENVIRONMENTS

- All personnel should have electromagnetic energy (EME) awareness training.
- All personnel entering this site must be authorized.
- Obey all posted signs.
- Assume all antennas are active.
- Before working on antennas, notify owners and disable appropriate transmitters.
- Maintain minimum 3 feet clearance from all antennas.
- Do not step in front of antennas.
- Use personal RF monitors while working near antennas.
- Never operate transmitters without shields during normal operation.
- Do not operate base station antennas in equipment room.

INFO SIGN #5

INFORMATION

ACTIVE ANTENNAS ARE MOUNTED

☐ ON THE OUTSIDE OF THIS BUILDING


☐ BEHIND THIS PANEL

☐ ON THIS STRUCTURE

STAY BACK A MINIMUM OF 3 FEET FROM THESE ANTENNAS

Contact AT&T at _____ and follow their instructions prior to performing any maintenance or repairs closer than 3 feet from the antennas.

This is AT&T site# _____




INFO SIGN #2

STAY BACK 3 FEET FROM ANTENNA

INFO SIGN #3

GENERAL SIGNAGE GUIDELINES							
Structure Type	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	Striping	NOTICE SIGN	CAUTION SIGN
Towers							
Monopole/Monopine/Monopalm	entrance gates, shelter doors OR on the outdoor cabinets	climbing side of the Tower	On backside of Antennas	entrance gates, shelter doors OR on the outdoor cabinets			At the height of the first climbing step, min. 9ft above ground
SCE Towers / Towers with high voltage	entrance gates, shelter doors OR on the outdoor cabinets	climbing side of the Tower	On backside of Antennas	entrance gates, shelter doors OR on the outdoor cabinets			At the height of the first climbing step, min. 9ft above ground
Light Poles / Flag Poles	entrance gates, shelter doors OR on the outdoor cabinets	on the pole, no less than 3ft below the Antenna and no less than 9ft above ground	On backside of Antennas	entrance gates, shelter doors OR on the outdoor cabinets			
Utility Wood Poles (JPA)	entrance gates, shelter doors OR on the outdoor cabinets	on the pole, no less than 3ft below the Antenna and no less than 9ft above ground	On backside of Antennas	entrance gates, shelter doors OR on the outdoor cabinets		If GPmax value of MPE at antenna level is: 0-99%: Notice sign; over 99%: Caution sign at no less than 3ft below antenna and 9ft above ground	
Microcells mounted on non-JPA poles	entrance gates, shelter doors OR on the outdoor cabinets	on the pole, no less than 3ft below the Antenna and no less than 9ft above ground	On backside of Antennas	entrance gates, shelter doors OR on the outdoor cabinets			Notice or Caution sign at no less than 9ft above ground; only if the exposure exceeds 90% of the General Public exposure at 6ft above ground or at outside surface of adjacent buildings
Roof Tops							
At all access points to the roof	X			X			
On Antennas	X		X	X			
Concealed Antennas	X	X		X			
antennas mounted facing outside the building	X	X		X			
antennas on support structure	X	X		X			
Roofview Graph:							
Radiation area is within 3ft from antenna	X	adjacent to each antenna		X		either Notice or Caution sign (based on Roofview results) at antennas/barrier	
Radiation area is beyond 3ft from antenna	X	adjacent to each antenna		X	diagonal, yellow striping as to Roofview graph		
Church Steeples	Access to steeple	adjacent to antennas if antennas are concealed	On backside of Antennas	Access to steeple			Caution sign at the antennas
Water Stations	Access to ladder	adjacent to antennas if antennas are concealed	On backside of Antennas	Access to ladder			Caution sign beside Info sign #1, min. 9ft above ground
Notes for Rooftop sites:							
1. Either NOTICE or CAUTION signs need to be posted at each sector as close as possible to: the outer edge of the striped off area or the outer antennas of the sector.							
2. If Roofview shows: only blue = Notice Sign, blue and yellow = Caution Sign, only yellow = Caution Sign to be installed.							
3. Should the required striping area interfere with any structures or equipment (A/C, vents, roof hatch, doors, other antennas, dishes, etc.), please notify AT&T to modify the striping area, prior to starting the work							

SIGNAGE GUIDELINES CHART



AT&T

930 NATIONAL PARKWAY
SCHAUMBURG, IL 60173

SOC

WIRELESS

540 W. MADISON ST.
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CHICAGO, IL 60661
www.socw.com
312.895.4977

WESTCHESTER SERVICES LLC

604 FOX GLEN
BARRINGTON, IL 60010
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FAX : 847.277.0080
ae@westchesterservices.com

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SHEET TITLE

LEGEND AND DETAILS

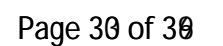
SHEET NUMBER

SIGNAGE

Page 22 of 39

50' 0 25' 50'

SCALE: 1" = 50'-0" (24x36)
(OR) 1/2" = 50'-0" (11x17)



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ANTENNA NOTES:

1. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
2. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
3. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
4. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
5. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
6. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
7. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.

STRUCTURAL NOTES:

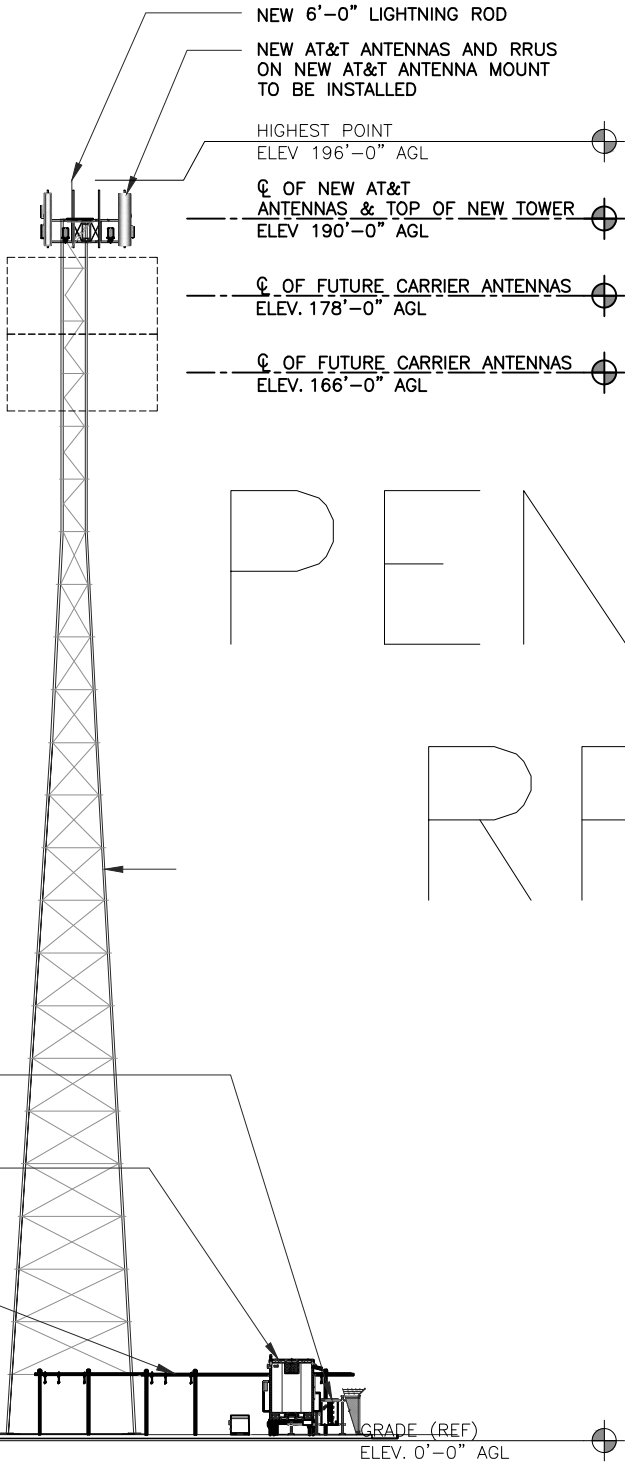
1. TOWER STRUCTURAL CALCULATIONS PREPARED BY OTHERS. CONTRACTOR TO VERIFY WITH PROJECT MANAGER TO OBTAIN A COPY
2. CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.

PROPOSED UTILITY H-FRAME WITH PROPOSED 4-GANG METER BANK

PROPOSED AT&T WIC CABINET WITH GENERATOR ON HELICAL PILES - SEE SHEET A6

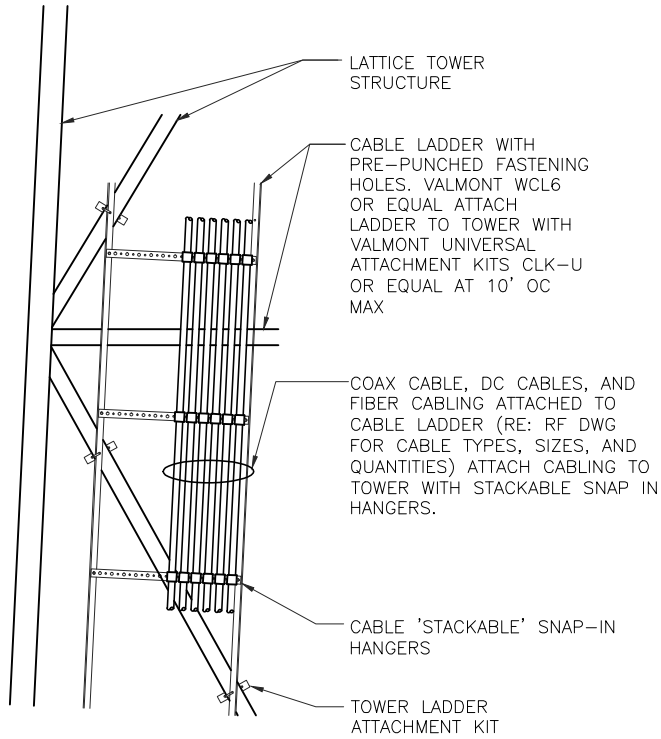
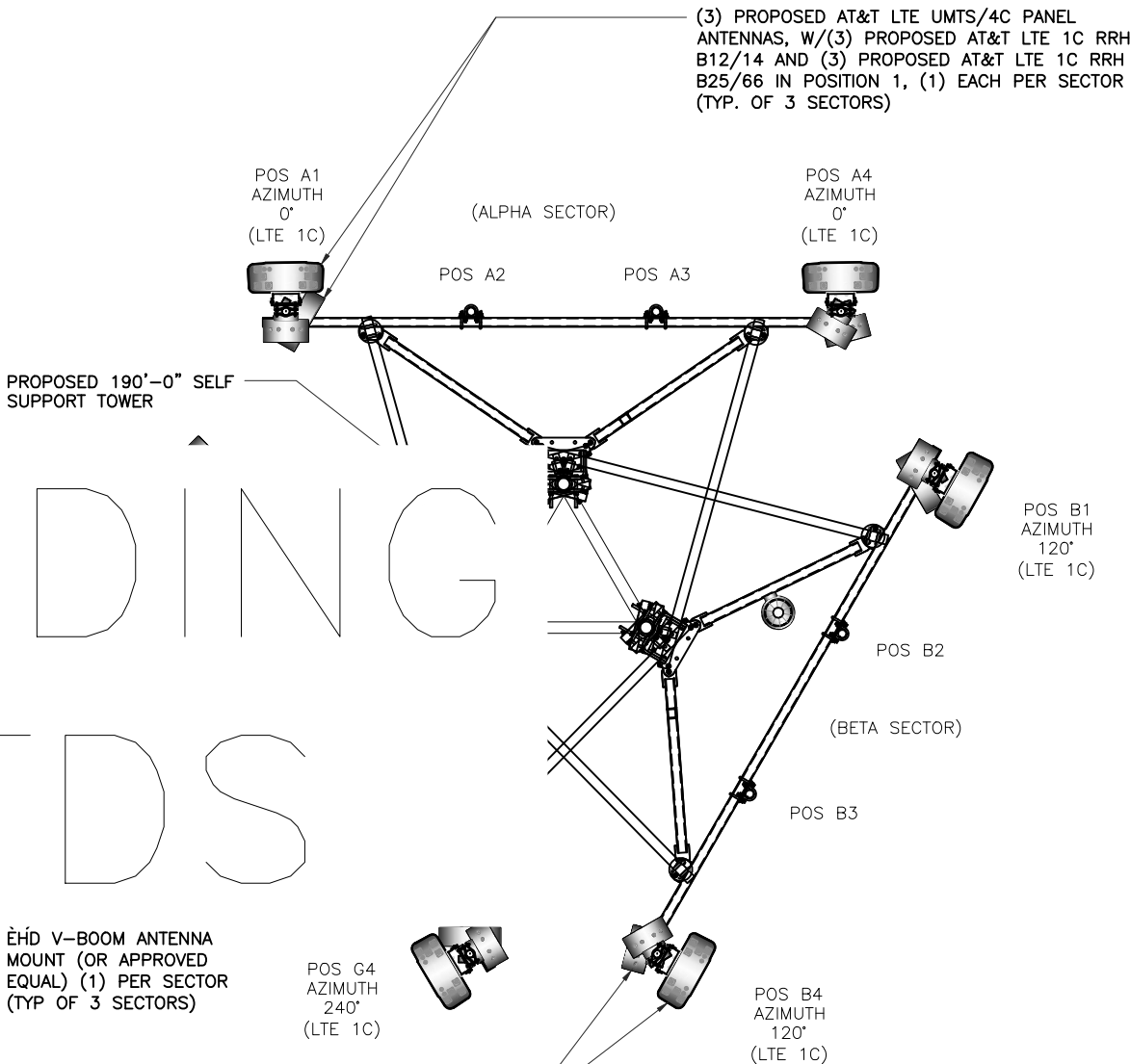
PROPOSED ICE BRIDGE APPROX. LENGTH ±30'-0"

NEW 65'-0"X65'-0" CHAIN LINK FENCE COMPOUND



STRUCTURAL NOTES:

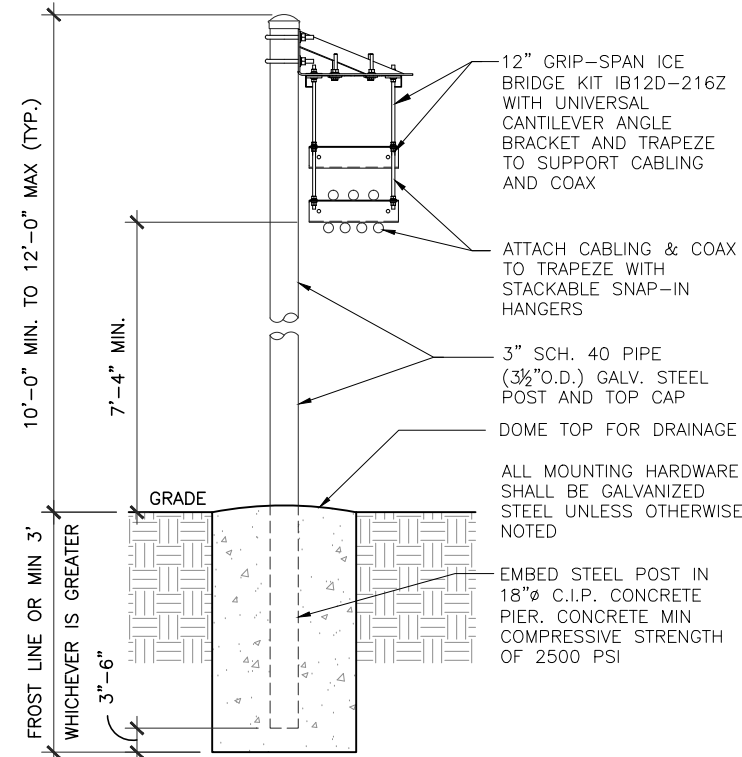
1. TOWER STRUCTURAL CALCULATIONS PREPARED BY OTHERS. CONTRACTOR TO VERIFY WITH PROJECT MANAGER TO OBTAIN A COPY
2. CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.



CABLE RUN DETAIL

NO SCALE

2

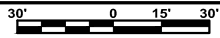


ICE BRIDGE DETAIL

NO SCALE

1

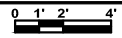
PROPOSED TOWER ELEVATION



SCALE: 1" = 30'-0" (24x36)
(OR) 1/2" = 30'-0" (11x17)

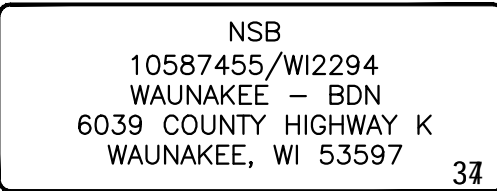
4

PROPOSED ANTENNA PLAN



SCALE: 1/4" = 1'-0" (24x36)
(OR) 1/8" = 1'-0" (11x17)

3

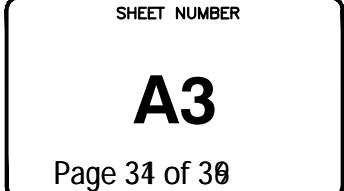


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- (f) Landscaping. Each project subject to design review must provide landscaping of sufficient height and density to accomplish positive visual impact within three years from the time of planting.
- (g) All developments and occupancies subject to design review shall plan and construct so that surface drainage positively drains from the structures and so that compliance is achieved with the Erosion Control and Storm Water Drainage Ordinance.
- (h) The following principals of landscape design are stated as guides to be applied with discretion by the Plan Commission taking into account how visible the site is to public view, sensitivity of neighboring properties and the cost considerations: Overhead canopy trees contribute to a pattern within the neighborhood and streetscape focus plantings (trees or shrubs) accomplish screening of less attractive elements, afford privacy, noise control and windbreak, soften transitions from vertical to horizontal features and create visual focal points. Ground plane plantings (lawns, ground cover, etc.) provide lower level continuity, and retard soil erosion. Terraces, trellises, walks, drives, garden walls and berms and related elements increase variety. Park, Recreation and Forestry Commission preferences on species shall be made available in writing to project applicants.
- (i) Storage of materials, fuel, scrap, inoperative vehicles and similar objects in places that are readily visible from major public rights of way or parts of neighboring properties where a significant amount of viewing is expected shall be minimized and, where necessary, shall be reasonably screened. Where other portions of this Ordinance establish more stringent standards, the other portions shall govern.
- (j) Exterior lighting shall comply with the terms of Chapter 33 of this Code of Ordinances.

10.102 RECOMMENDATIONS

Other features of site design and construction, building and structural design and construction and landscaping that are not listed under directives may also be addressed by Plan Commission advisory suggestions within the design review process upon a finding that the suggestion would be desirable to make the development a positive asset to the visual appearance of the community and positive contribution to the growth and stability of the community tax base.

10.103 MOBILE SERVICE STRUCTURE AND FACILITIES SITING REGULATIONS

(1) Purpose and Scope

- (a) The purpose and intent of this section is to strike a balance between the state and federal interest concerning the construction, modification and siting of mobile service facilities and mobile service support structures for use in providing personal wireless services, and the City's interests in:
 - (1) Protecting residential areas and land uses from the potential adverse impacts of towers and antennas.
 - (2) Minimizing the total number of towers throughout the community.
 - (3) Encouraging the joint use of new and existing tower sites as a primary siting option rather than construction of additional single-use towers.
 - (4) Avoiding potential damage to adjacent properties from tower failure through engineering and careful siting of tower structures.
- (b) The regulations contained in this section are subject to the limitations combined in Wis Stats. §66.0404 (4) and such other federal laws preempting or limiting local authority including but not limited to 47 U.S.C. §1455. In the event the applicant believes this

section or any part thereof imposes requirements upon the applicant's proposed facility that are in excess of the City's authority, the applicant shall notify the zoning administrator in writing including a citation to the state or federal limitation in question. In such event, the Zoning Administrator may affirm the City's ordinance or may recommend to the Common Council that the subject provision be amended, replaced, or that a variance be granted.

(2) Definitions

Unless expressly indicated, all terms in this Section shall have the meanings established in Wis. Stats. §66.0404(1).

(3) New Constructions and Substantial Modifications of Facilities and Support Structures

- (a) An application for a permit to engage in the siting or construction of a new mobile service support structure and facilities or to engage in a Class 1 collocation shall be submitted in writing to the Zoning Administrator. The Zoning Administrator shall submit a copy of the application to the Building Inspector for review and recommendation on all structural requirements. The application shall contain the following information:
 - (1) The name and business address of, and the contact individual for, the applicant.
 - (2) The location of the proposed or affected support structure.
 - (3) The location of the proposed mobile service facility.
 - (4) If the application is to substantially modify an existing support structure, a construction plan which describes the proposed modifications to the support structure and the equipment and network components, including antennas, transmitters, receivers, base stations, power supplies, cabling, and related equipment associated with the proposed modifications.
 - (5) If the application is to construct a new mobile service support structure, a construction plan which describes the proposed mobile service support structure and the equipment and network components, including antennas, transmitters, receivers, base stations, power supplies, cabling, and related equipment to be placed on or around the new mobile service support structure.
 - (6) If the application is to construct a new mobile service support structure, an explanation as to why the applicant chose the proposed location and why the applicant did not choose collocation, including a sworn statement from an individual who has responsibility over the placement of the mobile service support structure attesting that collocation within the applicant's search ring would not result in the same mobile service functionality, coverage, and capacity; is technically infeasible; or is economically burdensome to the mobile service provider.
 - (7) If the application is to construct a new mobile service support structure, the application shall demonstrate that the structure will be located a distance from any residential dwelling structure that is equal to the height of the mobile service support structure plus 10 feet measured from the base of the support structure to the nearest portion of the residential dwelling structure (including roof overhangs, porches and patios). Alternatively, the applicant may demonstrate through submittal of an engineering certification showing that the mobile service support structure is designed to collapse within a smaller distance than the height of the structure.

- (b) The Zoning Administrator shall inform the applicant within ten (10) days of receipt of the application if the application is not complete. Notification shall be in writing and shall specify in detail the information that was incomplete.
- (c) Within ninety (90) days of receipt of a completed application, the Zoning Administrator shall issue a written decision to approve or deny the application. If the application is denied, the written decision shall set forth the reasons for denial based upon substantial evidence. The Zoning Administrator and the applicant may agree in writing to an extension of the ninety-(90) day period.
- (d) Decisions to deny an application shall be supported by substantial evidence. Such evidence shall be included in the written decision.
- (e) Pursuant to Wis Stats. § 66.0404 (2)(f), the decision of the Zoning Administrator, or of the Common Council under subsection (1)(b), is a final decision appealable to circuit court.

(4) Abandonment

If a mobile service support structure shall cease to be used for a period exceeding one year and a day, it shall be considered abandoned. The owner or operator of said structure shall remove the structure and related improvements upon at no cost to the City within ninety (90) days thereafter and return the site to an erosion and dust free condition. Prior to the issuance of any building or zoning permits to construct the support structure, a performance bond shall be provided to guarantee that a support structure that has ceased being used for mobile service facilities purposes is removed. The bond amount shall be the lesser of twenty thousand dollars (\$20,000) or an amount based on a written estimate of a person qualified to remove such structures. Responsibility to remove abandoned structures may be assigned to the owner of property upon which the structure is located or any other mobile service provider with facilities on the structure upon notice to the Zoning Administrator that such assignment has been made and accepted and filing of a new bond for the new responsible party. Notwithstanding the forgoing, the owner of property upon which the structure sits may be held jointly and severally liable by the City for the obligation and cost of removal of any abandoned structure and in the event the structure is not removed in accordance with this Section, upon sixty day's notice, the City may cause the structure to be removed and assess the cost thereof to the property under Wis. Stats. §66.0627.

(5) Structural Requirements

Every mobile service support structure and mobile service facility shall be designed and constructed so as to comply with the requirements of Chapter 11 of the City of Middleton Code of Ordinances, and International Building Code (IBC) 3108, as amended from time to time. If, upon inspection, the Building Inspector concludes that a structure or facility fails to comply with such codes in effect at the time of construction, and constitutes a danger to persons or property, then upon notice being provided to the owner of the structure or facility, the owner shall have thirty (30) days or such time as determined by the Building Inspector to bring such tower into compliance with said codes. Failure to bring such structure or facility into compliance within said thirty (30) days or such time as determined by the Building Inspector shall constitute grounds for the removal of the structure or facility at owner's expense.

(6) Tower and Building Design

All new mobile service support structures and facilities shall be designed as follows:

- (a) Mobile service facilities and mobile service support structures shall be constructed out of metal or other nonflammable material.
- (b) Mobile service facilities and mobile service support structures shall insure that sufficient anti-climbing measures have been incorporated into the facility, as needed, to reduce potential for trespass and injury.

- (c) Emergency back-up generators shall be completely enclosed on all sides. Other efforts to mitigate noise from such generators may be required.
- (d) All new mobile service support structures shall be structurally and electrically designed to accommodate at least three (3) separate antenna arrays, unless credible evidence is presented that said construction is economically and technologically unfeasible. Multiple-user mobile service support structures shall be designed to allow for future rearrangement of antennas and to accept antennas mounted at varying heights. Parking areas, access roads, and utility easements shall be shared by site users.
- (e) Mobile service support structures are not subject to the height restrictions established for any district in which they are located except that Airport Height Limitations established under Section 10.95 shall apply.

(7) Location

A good faith effort in achieving collocation shall be required of the applicant and host entity, subject to existing collocation contracts, and all of the following measures shall be implemented for new mobile service support structures and Class 1 collocations:

- (a) No mobile service support structure shall be installed closer than one-quarter (1/4) mile from another mobile service support structure, measured from the base of the existing structure to the base of the proposed structure, unless the applicant provides a sworn statement from an individual who has responsibility over the placement of the mobile service support structure attesting that collocation within the applicant's search ring:
 - (1) Would not result in the same mobile service functionality, coverage, and capacity;
 - (2) is technically infeasible, or
 - (3) is economically burdensome to the mobile service provider.
- (b) Mobile service support structure(s) may be located on a lot in a residential district, only if said lot is greater than two (2) acres in area and the principal use is other than residential.
- (c) Mobile service support structures towers, guy wires, appurtenant equipment and buildings shall comply with the yard and set back requirements of the zoning district in which they are located.
- (d) Mobile service support structures shall be located no closer to any residential dwelling structure than a distance that is equal to the height of the mobile service support structure and attached facilities (including possible future collocated facilities) plus 10 feet measured from the base of the support structure to the nearest portion of the residential dwelling structure (including roof overhangs, porches and patios) unless the applicant demonstrates through submittal of an engineering certification showing that the mobile service support structure is designed to collapse within a smaller distance than the height of the structure and attached facilities (including possible future collocated facilities). Unless the Building Inspector can demonstrate by substantial evidence that the engineering certification is flawed, the mobile service support structure shall be located no closer to any residential dwelling structure than zone of collapse established by the engineering certification plus 10 feet.

(8) Class 2 Collocations

- (a) An application for a permit to engage in Class 2 Collocation shall be submitted in writing to the Building Inspector and shall contain the following:
 - (1) The name and business address of, and the contact individual for, the applicant.
 - (2) The location of the proposed or affected support structure.

- (3) The location of the proposed mobile service facility.
- (b) The Building Inspector shall inform the applicant within five (5) days of receiving the application if the application is not complete. Notification shall be in writing and shall specify in detail the information that was incomplete.
- (c) Within forty-five (45) days of receipt of a completed application, the Building Inspector shall issue a written decision to approve or deny the application, except that the Building Inspector and the applicant may agree in writing to an extension.
- (d) Decisions to deny an application shall be supported by substantial evidence. Such evidence shall be included in the written decision.
- (e) The decision of the Building Inspector is a final decision appealable to circuit court.

10.105 OFF STREET PARKING AND LOADING

This section provides for the regulation of accessory off street parking and loading facilities. The regulations are intended to:

- (1) Increase the safety and capacity of public streets by requiring off street loading facilities to be provided.
- (2) Minimize adverse effects of off street parking and loading facilities on adjoining properties.
- (3) Lessen congestion and prevent the overtaking of public streets by regulating the location and capacity of accessory off street parking or off street loading facilities.

General Regulations:

(4) Application to Changed Circumstances

- (a) When the intensity of use of any building, structure or premises shall be increased through addition of dwelling units, gross floor area, seating capacity or other units of measurements specified herein for required parking or loading facilities, parking and loading facilities as required herein shall be provided for such increase in intensity of use.
- (b) When the existing use of a building or structure is changed to a new use, parking or loading facilities shall be provided as required for such new use.
- (c) Accessory off street parking or loading facilities in existence on the effective date of this Ordinance and located on the same lot as the building or uses served shall not hereafter be reduced below, or if already less than, shall not be further reduced below, the requirements for a similar new building or use under the provisions of this Ordinance.

(5) Permissive Parking and Loading Facilities

Nothing in this Ordinance shall be deemed to prevent the voluntary establishment of accessory off street parking or loading facilities to serve an existing use of land or buildings, provided that there is adherence to all regulations herein governing the location, capacity, design and operation of such facility.

(6) Control of Off Street Parking Facilities

In cases where parking facilities are permitted on land other than the zoning lot on which the building or use served is located, such facilities shall be in the same possession as the zoning lot occupied by the building or use to which the parking facilities are accessory. Such possession shall be by deed whereby the owner of land on which the parking facilities are to be located shall be bound by a covenant filed and recorded in the Dane County Register of Deeds Office, requiring such owner, his or her heirs or assigns to maintain the required number of parking facilities for the duration of the use served.