



at&t

HUNTSVILLE
 7305 EAST 730 NORTH
 HUNTSVILLE, UTAH 84317
 FA# 10088492
 NOVA PROJECT ID: WES-MW-94775



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PROPRIETARY INFORMATION
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MasTec
 Network Solutions

APPROVALS	
ANITA JEN	05/30/14
90% CDS	DATE
MARK WHITEHOUSE	06/19/14
100% CDS	DATE
MARK WHITEHOUSE	09/03/14
100% CDS WITH STRUCTURALS	DATE
JOE MENDOZA	04/04/14
CONSTRUCTION	DATE
SITE ACQUISITION	DATE

PROJECT NAME
MICROWAVE UPGRADE

SITE NAME
HUNTSVILLE

FA NUMBER
10088492

7305 EAST 730 NORTH
 HUNTSVILLE, UTAH 84317

DRAWING DATES	
05/30/14	90% CD REVIEW (P1-B1)
06/19/14	100% FINAL CDS (P1-B2)
09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE
TITLE SHEET

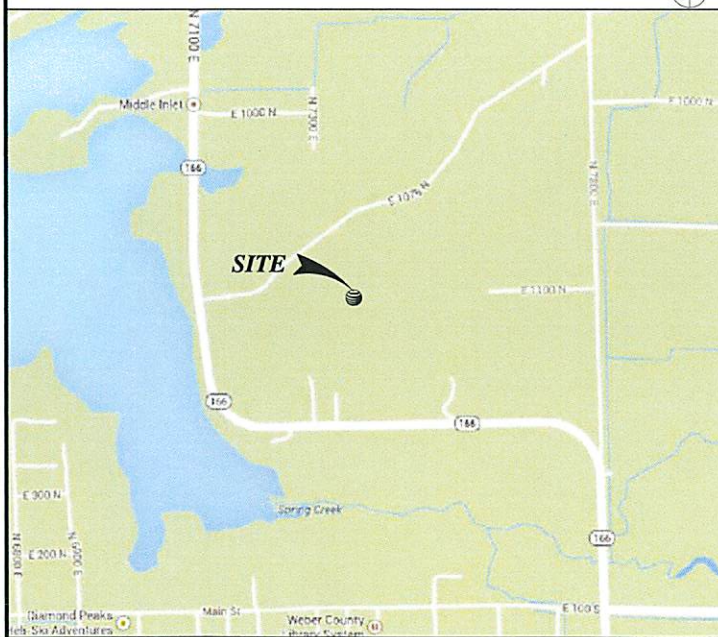
T-1

SPECIAL INSPECTIONS

1 CONCRETE	13.1 VERIFY SOIL CONDITIONS ARE SUBSTANTIALLY IN CONFORMANCE WITH THE SOIL INVESTIGATION REPORT
2 BOLTS INSTALLED IN CONCRETE	13.2 VERIFY THAT FOUNDATION EXCAVATIONS EXTEND TO PROPER DEPTH AND BEARING STRATA
3 CONCRETE MOMENT-RESISTING SPACE FRAME	13.3 PROVIDE SOIL COMPACTION TEST RESULTS, DEPTH OF FILL, RELATIVE DENSITY, BEARING VALUES
4 REINFORCING STEEL AND PRESTRESSING STEEL	13.4 PROVIDE SOIL EXPANSION TEST RESULTS, EXPANSION INDEX, RECOMMENDATIONS FOR FOUNDATIONS, ON-GRADE FLOOR SLAB DESIGN FOR EACH BUILDING SITE
5.1 ALL STRUCTURAL WELDING	14 SMOKE CONTROL SYSTEM
5.2 WELD TESTING DUCTILE MOMENT-RESISTING STEEL FRAME	15 SPECIAL CASES (DESCRIBE)
5.3 WELDING REINFORCING STEEL	16 OFF-SITE FABRICATION OF BUILDING COMPONENTS
6 HIGH-STRENGTH BOLTING	17 OTHER SPECIAL INSPECTIONS AS REQUIRED BY DESIGNER
7 STRUCTURAL MASONRY	
8 REINFORCED GYPSUM CONCRETE	
9 INSULATING CONCRETE FILL	
10 SPRAY-APPLIED FIREPROOFING	
11 DEEP FOUNDATIONS (PILING, DRILLED & CAISSONS)	
12 SHOTCRETE	

NO.	DESCRIPTION OF TYPE OF INSPECTION REQUIRED, LOCATION, REMARKS.

VICINITY MAP



CONSULTANT TEAM

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DEVELOPMENT SUMMARY

APPLICANT: AT&T MOBILITY
 188 INVERNESS DRIVE WEST, SUITE 400
 ENGLEWOOD, COLORADO 80112

LAND OWNER: FRANK WESSMAN CLAWSON
 7305 EAST 730 NORTH
 HUNTSVILLE, UTAH 84317

TOWER OWNER: CROWN CASTLE
 TOWER ID# 845669

OTHER ON-SITE TELECOM FACILITIES: YES

ASSESSORS PARCEL NUMBER: TBD

LATITUDE: 41° 16' 16.4" N 41.2712

LONGITUDE: 111° 46' 17.4" W -111.7715

LAT/LONG TYPE: NAD-83

ELEVATION: 4989.0' AMSL

EXISTING ZONING: TBD

PROPOSED PROJECT AREA: NO INCREASE IN S.F.

EXISTING TYPE OF CONSTRUCTION: TYPE V-B

PROPOSED TYPE OF CONSTRUCTION: TYPE V-B

EXISTING OCCUPANCY: U-2

PROPOSED OCCUPANCY: U-2

JURISDICTION: WEBER COUNTY

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A-3.1	DETAILS
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TM-9	TRANSITION STIFFENER PLATES

APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

IBC 2012 UTAH BUILDING CODE
 IBC 2012 UTAH STRUCTURAL CODE
 IPC 2012 UTAH PLUMBING CODE
 IMC 2012 UTAH MECHANICAL CODE
 INEC 2011 UTAH ELECTRIC CODE
 IFC 2012 UTAH FIRE/LIFE SAFETY CODE
 IECC 2009 UTAH ENERGY CODE

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL.

ACCESSIBILITY DISCLAIMER

THIS PROJECT IS AN UNOCCUPIED WIRELESS PCS TELECOMMUNICATIONS FACILITY AND IS EXEMPT FROM DISABLED ACCESS REQUIREMENTS.

SCALE

THE DRAWING SCALES SHOWN IN THIS SET REPRESENT THE CORRECT SCALE ONLY WHEN THESE DRAWINGS ARE PRINTED IN A 24"x36" FORMAT. IF THIS DRAWING SET IS NOT 24"x36", THIS SET IS NOT TO SCALE.

PRE-CON NOTES

MASTEC CONSTRUCTION MANAGER IS TO VERIFY THE TOWER MODIFICATIONS BY BLACK & VEATCH (PROJECT #: 182896, DATED 07-14-14) ARE COMPLETED PRIOR TO INSTALLING ANTENNAS; SEE TOWER MODIFICATION DRAWINGS.

PROJECT DESCRIPTION

AT&T MOBILITY PROPOSES TO MODIFY AN EXISTING UNMANNED WIRELESS COMMUNICATIONS FACILITY. THIS MODIFICATION WILL CONSIST OF THE FOLLOWING:

- INSTALL NEW TOWER MODIFICATIONS.
- INSTALL NEW 4'-0" AT&T MICROWAVE ANTENNA AT A 82'-0" RAD-CENTER
- INSTALL (1) NEW RUN OF EW-90 WAVEGUIDE CABLE
- INSTALL NEW ICE SHIELD MD-S4

GENERAL SPECIFICATIONS

1. THE LATEST EDITION OF THE AMERICAN INSTITUTE OF ARCHITECTS DOCUMENT A201 "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" ARE INCLUDED IN THESE SPECIFICATIONS AS IF COMPLETELY REPRODUCED HEREIN.
2. THIS FACILITY IS AN UNOCCUPIED PCS TELECOMMUNICATIONS SITE AND IS EXEMPT FROM DISABLED ACCESS REQUIREMENTS.
3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS PARTICIPATING SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ALL FIELD CONDITIONS AFFECTING THE PROPOSED PROJECT INCLUDING DEMOLITION, ELECTRICAL, MECHANICAL AND STRUCTURAL INSTALLATIONS, AS WELL AS WITH THE CONSTRUCTION AND CONTRACT DOCUMENTS AND SHALL CONFIRM THAT THE PROJECT CAN BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. SHOULD ANY ERRORS, OMISSION, OR DISCREPANCIES BE FOUND, THE GENERAL CONTRACTOR SHALL IMMEDIATELY NOTIFY AT&T MOBILITY CONSTRUCTION MANAGER AND THE ARCHITECT IN WRITING. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL INCLUDE THE MORE COSTLY OR EXTENSIVE WORK IN THIS BID, UNLESS SPECIFICALLY DIRECTED OTHERWISE. IF A DISCREPANCY EXISTS AND THE PROJECT MANAGER AND ARCHITECT ARE NOT NOTIFIED, THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL COSTS INCURRED TO REPAIR OR CORRECT ALL PROBLEMS THAT RESULT.
4. DRAWINGS SHALL NOT BE SCALED. THESE DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC ONLY. FIGURED DIMENSIONS HAVE PRECEDENCE OVER DRAWING SCALE AND DETAIL DRAWINGS HAVE PRECEDENCE OVER SMALL SCALE DRAWINGS. CONTRACTOR SHALL CHECK ACCURACY OF ALL DIMENSIONS IN THE FIELD. UNLESS SPECIFICALLY NOTED, DO NOT FABRICATE ANY MATERIALS, OR BEGIN ANY CONSTRUCTION UNTIL THE ACCURACY OF DRAWING DIMENSIONS HAS BEEN VERIFIED AGAINST ACTUAL FIELD DIMENSIONS.
5. THE CONTRACTOR SHALL INCLUDE IN HIS OR HER BID ALL MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE THE WORK AS INDICATED OR IMPLIED BY THESE DRAWINGS.
6. CONTRACTOR SHALL NOTIFY THE AT&T MOBILITY CONSTRUCTION MANAGER, THE PROPERTY OWNER AND THE ARCHITECT IF ANY DETAILS ARE CONSIDERED IMPRACTICAL, UNSUITABLE, UNSAFE, NOT WATERPROOF, OR NOT WITHIN CUSTOMARY TRADE PRACTICE. IF WORK IS PERFORMED, IT WILL BE ASSUMED THAT THERE IS NO OBJECTION TO ANY DETAIL. DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS, AND SHALL BE INCLUDED AS PART OF THE WORK.
7. EXISTING ELEVATIONS AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IF THEY DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE AT&T MOBILITY CONSTRUCTION MANAGER AND THE ARCHITECT SO THAT MODIFICATIONS CAN BE MADE BEFORE PROCEEDING WITH THE WORK.
8. THE CONTRACTOR SHALL VERIFY ALL TELEPHONE & RADIO EQUIPMENT LAYOUTS, SPECIFICATIONS, PERFORMANCE, INSTALLATION AND FINAL LOCATIONS WITH AT&T MOBILITY CONSTRUCTION MANAGER PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH ERICSSON RADIO SYSTEMS.
9. ALL SYMBOLS & ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING THEIR EXACT MEANING, THE AT&T MOBILITY CONSTRUCTION MANAGER AND THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK.
10. THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF THE WORK AND INCLUDE THOSE IN THE COST OF THE WORK TO AT&T MOBILITY.
11. THE CONTRACTOR SHALL PROVIDE CONTINUOUS SUPERVISION WHILE ANY SUBCONTRACTORS OR WORKMEN ARE IN THE SITE AND SHALL SUPERVISE AND DIRECT ALL WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
12. WORKMANSHIP THROUGHOUT SHALL BE OF THE BEST QUALITY OF THE TRADE INVOLVED, AND SHALL MEET OR EXCEED THE FOLLOWING MINIMUM REFERENCE STANDARDS FOR QUALITY AND PROFESSIONAL CONSTRUCTION PRACTICE:
- NRCA NATIONAL ROOFING CONTRACTORS ASSOCIATION
O'HARE INTERNATIONAL CENTER
10255 W. HIGGINS ROAD, SUITE 600
ROSEMONT, IL 60018
 - SMACNA SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
4201 LAFAYETTE CENTER DRIVE
CHATTILLY, VA 22021-1209
 - ITLP INTERNATIONAL INSTITUTE FOR LATH AND PLASTER
820 TRANSFER ROAD
ST. PAUL, MN 55114-1406
13. INSTALL ALL EQUIPMENT AND MATERIALS PER THE LATEST EDITION OF THE MANUFACTURER'S INSTALLATION SPECIFICATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED, OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
14. THE CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL NECESSARY BLOCKING, BRACING, FRAMING, HANGARS OR OTHER SUPPORTS FOR ALL ITEMS REQUIRING THE SAME.
15. THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL GIVE ALL NOTICES AND SHALL COMPLY WITH ALL APPLICABLE LOCAL CODES, REGULATIONS, LAWS AND ORDINANCES AS WELL AS STATE DEPARTMENT OF INDUSTRIAL REGULATIONS AND DIVISION OF INDUSTRIAL SAFETY (OSHHA) REQUIREMENTS.
16. THE CONTRACTOR SHALL PROTECT THE PROPERTY OWNERS, AND AT&T MOBILITY PROPERTY FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW AND EXISTING FINISHES, CONSTRUCTION, STRUCTURE, LANDSCAPING, CURBS, STAIRS, OR EQUIPMENT, ETC. SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF AT&T MOBILITY AND THE PROPERTY OWNERS REPRESENTATIVE, AT THE EXPENSE OF THE CONTRACTOR.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR, AND SHALL REPLACE OR REMEDY, ANY FAULTY, IMPROPER, OR INFERIOR MATERIALS OR WORKMANSHIP OR ANY DAMAGE WHICH SHALL APPEAR WITHIN ONE YEAR AFTER THE COMPLETION AND ACCEPTANCE OF THE WORK BY AT&T MOBILITY UNDER THIS CONTRACT.
18. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, OR CONTACT AN OUTSIDE AGENCY TO LOCATE ALL EXISTING UTILITIES, WHETHER SHOWN HEREIN OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR THE REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.
19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE PROJECT SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED AND ACCEPTED BY AT&T MOBILITY.
20. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER, POWER AND TOILET FACILITIES AS REQUIRED BY THE PROPERTY OWNER, AT&T MOBILITY, AND THE CITY OR GOVERNING AGENCY.
21. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REDLINING THE CONSTRUCTION DOCUMENTS TO ILLUSTRATE THE AS-BUILT CONDITION OF THE SITE. THIS SHALL BE DONE AFTER THE SITE HAS BEEN AWARDED FINAL INSPECTION BY THE RESPONSIBLE BUILDING AGENCY. ONE SET OF REDLINED DRAWINGS SHALL BE PROVIDED TO THE AT&T MOBILITY CONSTRUCTION MANAGER.
22. THE LATEST EDITION OF ALL PERMITTED AND APPROVED PLANS PERTAINING TO THIS PROJECT SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKERS. ALL CONSTRUCTION SETS SHALL REFLECT THE SAME INFORMATION. THE CONTRACTOR SHALL ALSO MAINTAIN IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES. THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.
23. THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND WASTE MATERIALS ON A DAILY BASIS, EXCEPT FOR THAT SPECIFIED AS REMAINING THE PROPERTY OF THE BUILDING OR PROPERTY OWNER AND SHALL EXERCISE STRICT CONTROL OVER JOB CLEANING THROUGHOUT CONSTRUCTION, INCLUDING FINAL CLEAN-UP UPON COMPLETION OF WORK. ALL AREAS ARE TO BE LEFT IN A BROOM CLEAN CONDITION AT THE END OF EACH DAY AND VACUUM CLEAN CONDITION, FREE FROM PAINT SPOTS, DUST OR SMUDGES OF ANY NATURE AT COMPLETION OF WORK.
24. THE GENERAL CONTRACTOR MUST PERFORM WORK DURING PROPERTY OWNER'S PREFERRED HOURS TO AVOID DISRUPTION OF NORMAL ACTIVITY.
25. ALL EXPOSED METAL SHALL BE HOT-DIPPED GALVANIZED.
26. SEAL ALL PENETRATIONS THROUGH FIRE-RATED AREAS WITH U.L. LISTED OR FIRE MARSHALL APPROVED MATERIALS IF AND WHERE APPLICABLE TO THIS FACILITY AND PROJECT SITE.
27. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-AT0BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE PROJECT AREA CONSTRUCTION.
28. ELECTRICAL POWER SYSTEM SHALL BE GROUNDED PER NEC ARTICLES 250 AND 810.
29. ALL NEW OPENINGS IN THE EXTERIOR ENVELOPE OF CONDITIONED SPACES SUCH AS AT WALL AND ROOF PENETRATIONS SHALL BE CALKED OR SEALED TO LIMIT INFILTRATION OF AIR AND MOISTURE.
30. UPON COMPLETION OF CONSTRUCTION, AT&T MOBILITY CONSTRUCTION MANAGER SHALL CONDUCT A WALK-THRU WITH PROPERTY OWNER OR REPRESENTATIVE OF PROPERTY OWNER.
31. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL SYSTEM EQUIPMENT IN A CLEAN WORKING ORDER UNTIL ACCEPTANCE OF THE PROJECT BY AT&T MOBILITY.
32. INSTALL ALL EQUIPMENT AND MATERIALS PER THE LATEST EDITION OF THE MANUFACTURER'S INSTALLATION SPECIFICATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED, OR WHERE LOCAL CODES OR REGULATION TAKE PRECEDENCE.

ROOFING & WATERPROOFING NOTES

1. CONTRACTOR SHALL CONTACT BUILDING OWNER TO DETERMINE IF ROOF IS UNDER WARRANTY. CONTRACTOR SHALL GUARANTEE THAT ANY AND ALL NEW ROOFING WORK MEETS THE SPECIFICATION OF ANY EXISTING ROOFING WARRANTIES SUCH THAT THE WARRANTY IS NOT MADE INVALID AS A RESULT OF THIS WORK. IF IT IS DETERMINED THAT THE ARCHITECT'S DETAILING IS INADEQUATE OR IMPROPER OR IF ANY OTHER DISCREPANCY IS FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT AND THE AT&T MOBILITY PROJECT MANAGER IN WRITING. ULTIMATELY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH THE ORIGINAL ROOF MANUFACTURER'S SPECIFICATIONS.
2. CONTRACTOR SHALL USE METHODS AND MATERIALS SIMILAR AND COMPATIBLE WITH EXISTING MATERIALS & CONDITIONS FOR ROOF PATCHING, NEW PENETRATIONS, ETC.
3. THE CONTRACTOR SHALL PROPERLY SEAL ALL NEW ROOF & BUILDING ENVELOPE PENETRATIONS SUCH THAT THE INTEGRITY OF THE ORIGINAL BUILDING ASSEMBLY AND ALL APPLICABLE WARRANTIES ARE MAINTAINED.
4. IF IT DEEMED NECESSARY TO REMOVE EXISTING FINISHES AND/OR MATERIALS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONSTRUCTING FINISHES AND MATERIALS TO LIKE-NEW CONDITION. CONTRACTOR SHALL MAINTAIN THE ORIGINAL COLORS, TEXTURES & FINISHES UNLESS SPECIFICALLY NOTED TO THE CONTRARY OR APPROVED BY THE AT&T MOBILITY CONSTRUCTION MANAGER IN ADVANCE.
5. AT THE AT&T MOBILITY CONSTRUCTION MANAGER'S DIRECTION, THE CONTRACTOR SHALL PROVIDE ROOFTOP WALKPADS TO ALL NEW EQUIPMENT INCLUDING ANTENNAS AND BTS UNITS AND ALONG COAX CABLE ROUTING. ON CONVENTIONAL ROOFING, THE WALK PADS SHALL BE "DUCK BOARDS" AS MANUFACTURED BY APC OR EQUAL. ON SPECIAL ROOFING SYSTEMS SUCH AS SINGLE MEMBRANE ROOFS WILL REQUIRE A SPECIFIC PRODUCT AS NOTED ON PLANS OR AS REQUIRED BY NOTES 1 & 2 ABOVE.

PENETRATION AT FIRE RATED ASSEMBLIES

1. AT THE AT&T MOBILITY PROJECT MANAGER'S DIRECTION, THE CONTRACTOR SHALL PROVIDE "HILT" HIGH PERFORMANCE FIRESTOP SYSTEM #FS601 AT ALL FIRE RATED PENETRATIONS INSTALLED PER MANUFACTURER'S LATEST INSTALLATION SPECIFICATIONS.
2. ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE CONSTRUCTED SO AS TO MAINTAIN AN EQUAL OR GREATER FIRE RATING.

PAINTING NOTES & SPECIFICATIONS

- A. GENERAL
- ALL PAINT PRODUCT LINES SHALL BE SHERWIN WILLIAMS UNLESS SPECIFICALLY NOTED OTHERWISE.
 - CONTRACTOR SHALL PREPARE ALL SURFACES AND APPLY ALL FINISHES PER LATEST EDITION OF MANUFACTURER'S SPECIFICATIONS.
 - COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS REGARDING SUFFICIENT DRYING TIME BETWEEN COATS WITH PROVISIONS AS RECOMMENDED BY MANUFACTURER FOR EXISTING WEATHER CONDITIONS.
 - FINISH COLOR AND TEXTURE OF ALL PAINTED SURFACES SHALL MATCH EXISTING ADJACENT SURFACES UNLESS OTHERWISE NOTED.
 - ALL PAINT MATERIAL DATA SHEETS SHALL BE PROVIDED TO THE AT&T MOBILITY CONSTRUCTION MANAGER.
 - PREPARE PREVIOUSLY PAINTED SURFACE BY LIGHT SANDING WITH 400 GRIT SANDPAPER AND NON-HYDROCARBON WASH. PREPARE GALVANIZED SURFACES BY ACID ETCH OR SOLVENT CLEANING IN ACCORDANCE WITH SSPC-SP1.
 - FURNISH DROP CLOTHES, SHIELDS, MASKING AND PROTECTIVE METHODS TO PREVENT SPRAY OR DROPPINGS FROM DAMAGING ADJACENT SURFACES AND FACILITIES.
 - APPLY PAINT BY AIRLESS SPRAY, SANDING LIGHTLY BETWEEN EACH SUCCEEDING ENAMEL COAT ON FLAT SURFACES. APPLY MATERIAL TO ACHIEVE A COATING NO THINNER THAN THE DRY FILM THICKNESS INDICATED.
 - APPLY BLOCK FILTER TO CONCRETE BLOCK CONSTRUCTION AT A RATE TO ENSURE COMPLETE COVERAGE WITH PORES COMPLETELY FILLED.
 - CONTRACTOR SHALL CORRECT RUNS, SAGS, MISSES AND OTHER DEFECTS INCLUDING INADEQUATE COVERAGE AS DIRECTED BY THE AT&T MOBILITY CONSTRUCTION MANAGER. REPAIR AS NECESSARY TO ACHIEVE SURFACES WHICH ARE SMOOTH, EVENLY COATED WITH UNIFORM SHEEN AND FREE FROM BLEMISHES.
- B. PAINTING SCOPE
- PAINT THE FOLLOWING MATERIALS AND SYSTEMS CHECKED BELOW WITH THE COATING SYSTEM INDICATED.

PAINTING SCOPE				
SURFACE TO BE PAINTED	COATING SYSTEM	PANAT	NO. COAT	FINISH
ALL LIGHT				
ALL EQUIPMENT & CABINETS OTHER THAN THE BITE UNIT				
ANTENNAS CONCRETE TILT BRACKETS, MOUNTING BRACKETS AND ASSOCIATED HARDWARE (CABLE AND CABLE COUPLER BRACKET) TO VIEW EXPOSED CONDUIT AND WIRING, ETC.				
PLUMBING LATH WITH NEW AND OTHER METAL SURFACES				
SPONGE CONCRETE, CONCRETE BLOCK AND CONCRETE TILES WITH FINISH				
WOODWORK AND ROOF TRIM INCLUDING THE BACK SIDE OF ALL SCHEDULES				
CONCRETE PILES				
STEEL PILES AND METAL POLE STAND-OFF				

- C. COATING SYSTEM SPECIFICATIONS
- DTM ACRYLIC COATING (SERIES B66) BY SHERWIN WILLIAMS CO. 1MIL DFT PER COAT APPLIED IN TWO COATS OVER DTM BONDING PRIMER (B66A50).
 - 100% ACRYLIC, LATEX COATING EQUIVALENT TO A-100 (SERIES A-82) BY SHERWIN WILLIAMS CO. 1 MIL DFT PER COAT APPLIED IN TWO COATS OVER SPECIFIED PRIMER. PAINT & PRIMER
- D. ANTENNAS
- PRIMER - KEM AQUA E61-W525
 - TOPCOAT - COROTHANE II B65W200/B60V22
- BTS CABINET
- PRIMER - KEM AQUA E61-W525
 - TOPCOAT - COROTHANE II B65W200/B60V22
- COAXIAL JUMPER CABLES
- PRIMER - AS REQUIRED FOR ADHESION. APPLY ONE COAT OF KEM AQUA WATER REDUCIBLE PRIMER E61W25 REDUCED 25%
 - TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2
- RAW STEEL
- PRIMER - KEM BOND HS B50WZ4, DMT ACRYLIC PRIMER
 - TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2
- GALVANIZED METAL
- ACID ETCH WITH COMMERCIAL ETCH OR VINEGAR PRIMER COAT AND FINISH COAT (GALVITE HIGH SOLIDS OR DTM PRIMER/FINISH)
- STAINLESS STEEL
- PRIMER - OTM WASH PRIMER, B71Y1
 - TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2
- PRE-PRIMED STEEL
- TOUCH UP ANY RUST OR UN-PRIMED STEEL WITH KEM BOND HS, S50WZ4
- ALUMINUM & COPPER
- PRIMER - OTM WASH PRIMER, B71Y1
 - TOPCOAT - 2 COATS COROTHANE II POLYURETHANE B65W200/B60V2
- CONCRETE MASONRY
- PRIMER - PRO MAR EXTERIOR BLOCK FILLER
 - TOPCOAT - 2 COATS A-100 LATEX HOUSE & TRIM, SHEEN TO MATCH
- CONCRETE STUCCO (EXISTING)
- 2 COATS A-100 LATEX HOUSE & TRIM, SHEEN TO MATCH
- STUCCO
- PRIMER - PRO MAR MASONRY CONDITIONER B-46-W21000
 - TOPCOAT - SUPERPAINT A-80 SERIES A-89 SATIN A-84 GLOSS
- WOOD
- PRIMER - A-100 EXTERIOR ALKYD W009D PRIMER Y-24W20
 - TOPCOAT - 2 COATS A-100 LATEX HOUSE & TRIM SHEEN TO MATCH ADJACENT SURFACES
- GLU-LAM BEAMS
- PRIMER - A-100 EXTERIOR ALKYD WOOD PRIMER Y-24W20
 - TWO COATS SHOP APPLIED PER GLU-LAM MANUFACTURER'S SPECIFICATIONS
 - TOPCOAT - SUPERPAINT A-80 SERIES A-89 SATIN A-84 GLOSS
 - TWO COATS SHOP OR FIELD APPLIED AT CONTRACTOR'S OPTION
- FIELD CUTS/DAMAGE (PRIOR TO PRIME & PAINT)
- FIRST & SECOND COAT - CUPRINOL CLEAR WOOD PRESERVATIVE #158-0356
 - ALL PENETRATIONS INTO FINISHED CLU-LAMS SHALL BE CALKED WITH "SIKAFLEX" SEALANT
- STEEL TOUCH UP
- STEEL THAT HAS BEEN WELDED, CUT OR SCRATCHED IN THE FIELD SHALL BE TOUCHED UP WITH COLD GALVANIZED PAINT

STRUCTURAL SPECIFICATIONS

- A. GENERAL
- PRECEDENCE: UNLESS OTHERWISE SHOWN OR SPECIFIED, THE FOLLOWING GENERAL NOTES SHALL APPLY. INFORMATION ON THESE DRAWINGS SHALL HAVE THE FOLLOWING PRECEDENCE.
- ALL DIMENSIONS TO TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS.
 - NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
 - MATERIAL NOTES AND SPECIFICATIONS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER THE SPECIFICATIONS.
2. OTHER TRADES: SEE THE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN.
3. GENERAL DETAILS AND NOTES ON THESE SHEETS SHALL APPLY UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE. CONSTRUCTION DETAILS NOT FULLY SHOWN OR NOTED SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.
4. SHORING: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL ALL TEMPORARY BRACING AND SHORING TO INSURE THE SAFETY OF THE WORK UNTIL IT IS IN ITS COMPLETED FORM. THIS INCLUDES UNDERPINNING EXISTING FOOTINGS WHERE APPLICABLE.
5. SAFETY: THESE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
6. WATERPROOFING: WATERPROOFING AND DRAINAGE, DETAILS AND SPECIFICATIONS, ALTHOUGH SOMETIMES SHOWN ON STRUCTURAL DRAWING ARE OF GENERAL INFORMATION PURPOSES ONLY. WATERPROOFING AND DRAINAGE ARE SOLELY THE DESIGN RESPONSIBILITY OF THE ARCHITECT.
- B. STEEL
- ALL STRUCTURAL STEEL SECTIONS AND WELDED PLATE MEMBERS SHALL CONFORM TO ASTM A-36 AND BE FABRICATED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE AISC.
 - ALL BOLTS SHALL CONFORM TO ASTM A-307 UNLESS OTHERWISE NOTED ON PLANS. HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A-325
 - STEEL PIPE COLUMNS SHALL BE GRADE "B" CONFORMING TO ASTM A53.
 - STEEL TUBING SHALL BE GRADE "B" CONFORMING TO ASTM A500.
5. ALL WELDING SHALL BE DONE BY THE SHIELDED ARC METHOD. ALL WELDERS SHALL BE PROPERLY QUALIFIED AND BE PRE-APPROVED. SURPLUS METAL SHALL BE DRESSED OFF TO SMOOTH, EVEN SURFACES WHERE WELDS ARE NOT EXPOSED TO VIEW. ALL WELDING SHALL COMPLY WITH THE LATEST A.W.S. SPECIFICATIONS.
6. THE FOLLOWING WELDING EQUIPMENT MUST BE USED:
A. 250 AMP WELDERS.
B. ROD OVENS.
C. GRINDERS.
7. NO BUZZ BOXES SHALL BE USED.
8. ALL STRUCTURAL STEEL SHALL MILL CERTIFICATION. MILL CERTIFICATION SHALL BE KEPT ON THE JOB SITE FOR EXAMINATION BY THE DESIGN ENGINEER AND THE CITY INSPECTOR.
9. ALL HIGH STRENGTH BOLTS SHALL HAVE MILL CERTIFICATION. MILL CERTIFICATION SHALL BE KEPT ON THE JOB SITE FOR EXAMINATION BY THE INSPECTOR.
10. STEEL THAT HAS BEEN WELDED, CUT OR SCRATCHED IN THE FIELD SHALL BE TOUCHED UP WITH COLD GALVANIZED PAINT.
11. WELDING INDICATED IN THESE DRAWINGS IS DESIGNED FOR ONE HALF OF ALLOWABLE CODE STRESSES UNLESS SPECIFICALLY NOTED "FULL STRESS" AT END OF WELD SYMBOL.
- C. CONCRETE
1. STRENGTH: CONCRETE FOR THE PROJECT SHALL HAVE THE FOLLOWING ULTIMATE COMPRESSIVE STRENGTH AT AGE OF 28 DAYS:
- | LOCATION | STRENGTH | WT. | SLUMP | ADMIXTURE |
|-----------------|----------|--------|-------|-----------|
| A. SLAB&FOOTING | 3000psi | 150pcf | 4" | NONE |
2. INSPECTION: CONCRETE WITH SPECIFIED STRENGTH GREATER THAN 2500psi SHALL BE CONTINUOUSLY INSPECTED DURING PLACEMENT BY A DEPUTY INSPECTOR EMPLOYED BY A TESTING LABORATORY APPROVED BY THE BUILDING DEPT.
3. REBAR GRADES: REINFORCING STEEL SHALL BE CLEAN PREFORMED BARS CONFORMING TO ASTM A615 AS FOLLOWS:
- #4 & SMALLER BARS.....GRADE 40
 - #5 & LARGER BARS.....GRADE 60
 - ALL BARS AT CAISSON FOOTING...GRADE 60
4. CEMENT: FOUNDATIONS & SLABS: TYPE V, LOW ALKALI, CONFORMING TO ASTM C-150.
PIER/CAISSON FOOTINGS: TYPE V, LOW ALKALI, CONFORMING TO ASTM C-150.
5. AGGREGATE: USED IN THE CONCRETE SHALL CONFORM TO ASTM C-33. USE ONLY AGGREGATES KNOWN NOT TO CAUSE EXCESSIVE SHRINKAGE. THE MAXIMUM SIZE AGGREGATE IN CONCRETE WORK SHALL BE THE FOLLOWING:
- A. FOUNDATIONS & SLABS 9" OR LESS: 3/4" GRAVEL
 - B. PIER/CAISSON FOOTING: 1" GRAVEL
6. WATER: SHALL BE CLEAN AND FREE FROM DELETERIOUS AMOUNT OF ACIDS, ALKALIS, ORGANIC MATERIALS AND SHALL BE SUITABLE FOR HUMAN CONSUMPTION.
7. MIXING: PREPARATION OF CONCRETE SHALL CONFORM TO ASTM C-94. NO MORE THAN 90 MINUTES SHALL ELAPSE BETWEEN CONCRETE BATCHING AND CONCRETE PLACEMENT UNLESS APPROVED BY A TESTING AGENCY.
8. SEGREGATION OF AGGREGATES: CONCRETE SHALL NOT BE FLOPPED THROUGH REINFORCING STEEL (AS IN WALLS, COLUMNS, CAISSON, AND DROP CAPITALS) SO AS TO CAUSE SEGREGATION OF AGGREGATES. USE HOPPERS, CHUTES, TRUNKS OR PUMP HOSE SO THAT THE FREE UNCONFINED FALL OF CONCRETE SHALL NOT EXCEED 5 FT.
9. SPLICES OF REINFORCING STEEL SHALL BE LAPPED A MINIMUM OF 30 DIAMETERS AND SECURELY WIRED TOGETHER. SPLICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHEREVER POSSIBLE.
10. REAR CLEARANCE: MINIMUM COVERAGE FOR JOISTS, BEAMS, GIRDBERS AND COLUMNS SHALL BE TO FACE OF STIRRUPS OR TIES. UNLESS OTHERWISE NOTED, CONCRETE COVERAGE FOR REINFORCING BARS TO FACE OF BAR SHALL BE AS FOLLOWS:
- | | |
|---|--------|
| A. CONCRETE IN CONTACT WITH EARTH, UNFORMED | 3" |
| B. CONCRETE IN CONTACT WITH EARTH, FORMED | 2" |
| C. WALL, EXTERIOR FACE | 1-1/2" |
| D. WALL, INTERIOR FACE | 1" |
| E. STRUCTURAL SLABS | 3/4" |
| F. JOISTS | 3/4" |
| G. BEAMS, GIRDBERS & COLUMNS | 1-1/2" |
11. PENETRATIONS: NO SLEEVES OR CHASES SHALL BE PLACED IN BEAMS, SLABS, WALLS AND COLUMNS, EXCEPT THOSE SHOWN ON THE PLANS. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FOR INSTALLATIONS OF ANY ADDITIONAL SLEEVES OR CHASES. ALL PLUMBING, ELECTRICAL AND MECHANICAL OPENINGS SHALL BE SLEEVES. CORING IS NOT ALLOWED UNLESS PRIOR APPROVAL IS OBTAINED FROM THE STRUCTURAL ENGINEER.
12. EMBEDDED ITEMS: CONDUIT PLACED IN A CONCRETE SLAB SHALL NOT HAVE AN OUTSIDE DIAMETER GREATER THAN 1/4 THE THICKNESS OF THE SLAB. CONDUIT SHALL NOT BE EMBEDDED IN A SLAB THAT IS LESS THAN 3-1/2" THICK, UNLESS SLAB IS LOCALLY THICKENED. MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL BE SIX INCHES.
13. ANCHORING: ALL ANCHOR BOLTS, REINFORCING STEEL, DOWELS, INSERTS, ETC., SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE. NO REPOSITIONING DURING CONCRETE POUR IS ALLOWED.
14. CURING: SLABS SHALL BE SPRAYED WITH A CURING COMPOUND IMMEDIATELY AFTER FINISHING. CURING COMPOUNDS USED ON CONCRETE WHERE TILE OR FLOOR COVERING IS TO BE BONDED TO THE CONCRETE SURFACE SHALL BE APPROVED BY THE TILE OR FLOOR COVERING MANUFACTURER. KEEP SLAB WET FOR 7 DAY MINIMUM PERIOD.
15. CONSOLIDATION: ALL CONCRETE SHALL BE VIBRATED AS IT IS BEING PLACED WITH ELECTRICALLY OPERATED VIBRATING EQUIPMENT.
- D. TIMBER
- ALL FRAMING LUMBER FOR 4X AND LARGER BEAMS SHALL BE NO. 1 GRADE DOUGLAS FIR., S45, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
 - ALL FRAMING LUMBER FOR 2X RAFTERS AND JOISTS SHALL BE NO.2 GRADE DOUGLAS FIR, S45, UNLESS NOTED OTHERWISE ON DRAWINGS
 - STRIPPING, BLOCKING, BACKING AND OTHER NON-STRUCTURAL LUMBER SHALL BE NO. 2 OR STD & BTR GRADE DOUGLAS FIR, S45. 2X4 STUD WALLS SHALL BE D.F. STANDARD & BTR.
 - ALL BEAMS, JOISTS AND RAFTERS SHALL BE INSTALLED WITH CROWN SIDE UP.
 - ROOF PLYWOOD SHALL MATCH EXISTING PLYWOOD SHEATHING WITH A SPAN INDEX RATIO 32/16. EDGE NAIL WITH 8d AT 6" O.C. UNLESS NOTED OTHERWISE ON PLANS. FGLED NAIL WITH 8d AT 12" O.C.
 - PLYWOOD SHEETS SHALL BE LAID WITH THE FACE GRAIN PERPENDICULAR TO SUPPORTS AND WITH THE EDGES STAGGERED, UNLESS NOTED OTHERWISE ON THE PLANS.
 - PLYWOOD SHEETS SHALL BE GRADE MARKED BY DFPA, TECO, OR PTL AND SHALL CONFORM TO PS 1-83.
 - THE MAXIMUM MOISTURE CONTENT OF ALL LUMBER SHALL NOT EXCEED 24% AT THE TIME OF INSTALLATION.
 - MINIMUM NAILING SHALL COMPLY WITH TABLE 23-1-q OF BUILDING CODE. ALL NAILS SHALL BE COMMON WIRE NAILS.
 - ALL BOLTS SHALL HAVE STANDARD CUT WASHERS UNDER HEADS AND/OR NUTS WHERE IN CONTACT WITH WOOD.
 - LAG BOLTS SHALL BE SCREWED INTO PLACE. NOT DRIVEN. LAG BOLTS SHALL BE INSTALLED IN PRE-DILLED HOLES WITH A DIAMETER EQUAL TO 75% DIAMETER OF BOLT.
 - CONNECTORS: ALL SHEET METAL FRAMING CONNECTORS SHOWN IN THE PLANS SHALL BE STRONG CONNECTORS AS MANUFACTURED BY THE SAMSON COMPANY. SUBSTITUTIONS MAY BE MADE WHEN APPROVED BY THE STRUCTURAL ENGINEER.
 - ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH MASONRY OR CONCRETE SHALL BE WOLMANIZED PRESSURE TREATED LUMBER OR A NATURALLY DECAY RESISTANT LUMBER SUCH AS REDWOOD OR CEDAR.
 - ALASKAN YELLOW CEDAR GLUE-LAMINATED BEAMS
 - LUMBER SPECIES: ALASKAN YELLOW CEDAR (A.C.) CONFORMING TO 20F-V12
 - STRENGTH PROPERTIES:
 - F_b BOTTOM FIBER BENDING STRESS 2000psi MIN.
 - F_t TOP FIBER BENDING STRESS 1000psi MIN.
 - F_v SHEAR STRESS 190psi MIN.
 - F_c COMPRESSION STRESS PERPENDICULAR TO GRAIN 560psi MIN.
 - E MODULUS ELASTICITY 1400ksi MIN.
 - C. CAMBER TO RADIUS OF 1600' U.O.N.
 - D. ALL GLB'S SHALL BE FABRICATED WITH EXTERIOR GLUE.
 - E. MANUFACTURE OF GLB'S SHALL CONFORM TO THE UBC.
 - F. GLU-LAM MATERIAL SHALL BE IN ACCORDANCE WITH ANSI/AITC A190.1 AND ASTM D3737.



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JOE MENDOZA	04/04/14
CONSTRUCTION	DATE
SITE ACQUISITION	DATE

PROJECT NAME

MICROWAVE UPGRADE

SITE NAME

HUNTSVILLE

FA NUMBER

10088492

7305 EAST 730 NORTH
HUNTSVILLE, UTAH 84317

DRAWING DATES

05/30/14	90% CD REVIEW (P1-B1)
06/19/14	100% FINAL CDS (P1-B2)
09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE

SPECIFICATIONS AND NOTES

T-2

OVERALL SITE PLAN KEYNOTES

1 (E) AT&T LEASE AREA WITHIN (E) CROWN CASTLE COMPOUND; SEE SHEET A-1.1.



1



OVERALL SITE PLAN

SCALE:
1"=300'



1



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09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE

OVERALL SITE PLAN

A-0

SITE PLAN KEYNOTES

1 (E) AT&T LEASE AREA WITHIN (E) CROWN CASTLE COMPOUND WITH NEW MICROWAVE ANTENNA; SEE SHEET A-1.1.

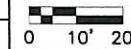


1



SITE PLAN

SCALE:
1"=20'



1



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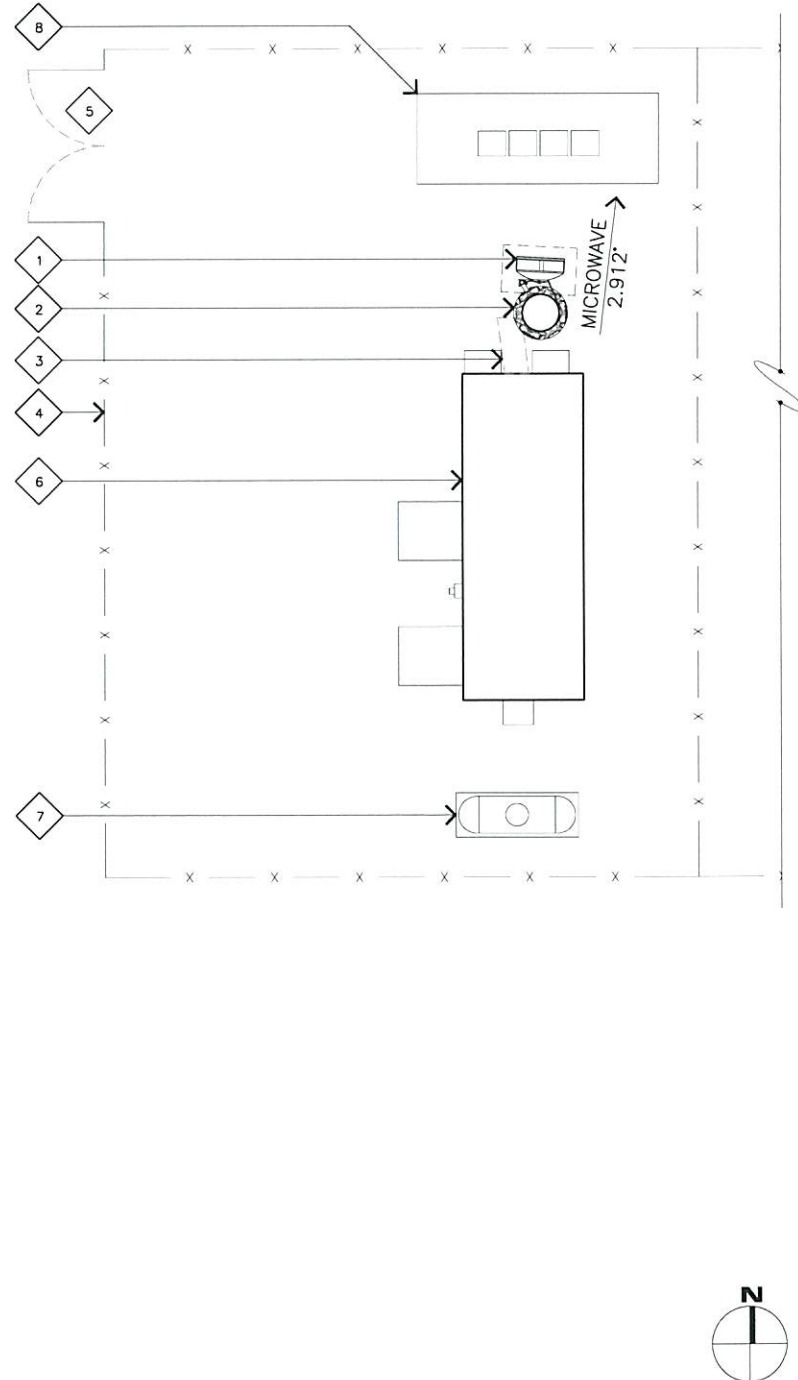
SHEET TITLE

SITE PLAN

A-1

ENLARGED SITE PLAN KEYNOTES

- 1 (N) AT&T 4'-0" MICROWAVE ANTENNA WITH ICE SHIELD MOUNTED TO (E) MONOPOLE; SEE DETAIL 2/A-3.
- 2 (E) MONOPOLE.
- 3 (E) AT&T CABLE BRIDGE WITH (E) AND (N) CABLE RUNS.
- 4 (E) CHAIN LINK FENCE ENCLOSURE.
- 5 (E) CHAIN LINK ACCESS GATES.
- 6 (E) AT&T EQUIPMENT SHELTER; SEE DETAIL 1/A-1.1.
- 7 (E) PROPANE TANK.
- 8 (E) OTHER CARRIER EQUIPMENT PLATFORM.



ENLARGED SITE PLAN GENERAL NOTES

- A. OTHER CARRIER ANTENNAS NOT SHOWN FOR CLARITY.
- B. GROUND ALL (N) EQUIPMENT AND COAX PER DETAIL 4/A-3.
- C. OTHER CARRIER ANTENNAS NOT SHOWN FOR CLARITY.
- D. CONTRACTOR TO PROVIDE ALL LABOR TO INSTALL COAX, RETS AND ANTENNAS.
- E. MASTEC TO PROVIDE ALL COAX, CONNECTORS, ANCILLARY EQUIPMENT (INCLUDING WEATHER STRIPPING, GROUND KITS, ETC.).
- F. CONTRACTOR TO COLOR CODE ALL COAX. COLORED BANDS OF TAPE ON COAX IDENTIFY SECTOR, FREQUENCY, TECHNOLOGY, AND TRANSMIT GROUP AS FOLLOWS ON ALL COAX MODIFIED OR INSTALLED ONLY.
- G. WHEN ANTENNA LINES ARE DIPLEXED, THE COLOR CODE OF THE HIGHEST FREQUENCY PREVAILS (I.E. UMTS DIPLEXED WITH TDMA SHOULD HAVE COLOR 4 BANDS).
- H. ALL ANTENNAS AND ANTENNA CABLE SHALL BE FURNISHED BY MASTEC AND INSTALLED BY ANTENNA INSTALLATION CONTRACTOR.
- I. PRIOR TO PLACEMENT OF ANTENNA POLE MOUNTS, THE CONTRACTOR SHALL VERIFY THAT THE AZIMUTH AND DIMENSIONS SHOWN ON THE PLANS MATCH ACTUAL FIELD CONDITIONS. ALLOWABLE TOLERANCE: HORIZONTAL ALIGNMENT = ±5°; VERTICAL ALIGNMENT = ±1°.
- J. ANTENNA INSTALLATION CONTRACTOR SHALL PROVIDE ALL CONDUIT, CABLE TRAY, GROUNDS, ETC. FOR COMPLETE INSTALLATION OF ANTENNAS AND CABLES SHOWN AND INTENDED AS REQUIRED FOR A COMPLETE OPERATING SYSTEM IN ACCORDANCE WITH MASTEC STANDARDS.
- K. IN NO CASE SHALL THERE BE ANY MORE THAN TWO (2) 90° TURNS (OR EQUIVALENT) IN ANY CONTINUOUS LENGTH OF CONDUIT BETWEEN PULL BOXES OR SIMILAR FEATURES.
- L. ANTENNA CONDUIT SHALL ONLY INCLUDE FACTORY-MADE LARGE RADIUS SWEEPS AT ALL CHANGES IN DIRECTION. SWEEP RADIUS SHALL BE 18" MINIMUM ABOVE GROUND AND 36" MINIMUM BELOW GROUND.
- M. CONDUIT SHALL BE 3" MINIMUM. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC. ALL EXPOSED CONDUIT ABOVE GRADE LEVEL SHALL BE IMC OR RIGID GALVANIZED. ALL EXPOSED CONDUIT PROTECTED IN A BUILDING OR ON A ROOF SHALL BE EMT OR UV STABILIZED PAINTED SCHEDULE 80 PVC.
- N. IN HIGH TRAFFIC AREAS OR WHERE SUSCEPTIBLE TO DAMAGE CONTRACTOR SHALL PROVIDE FORMED 14 GA. GALVANIZED SHEET METAL COVER OVER COAXIAL CABLE ROUTES. WHERE CABLE IS RUN ON THE WALL, ATTACH UNISTRUT TO WALL AND COVER WITH 14 GA. GALVANIZED FORMED SHEET METAL COVER OR MATERIAL AS DIRECTED BY MASTEC CONSTRUCTION MANAGER.
- O. VERIFY ROUTE AND LENGTH OF CABLE PRIOR TO CUTTING. ADJUST INDICATED ROUTE AS REQUIRED TO CLEAR (E) EQUIPMENT AT FACILITIES.
- P. MAXIMUM LENGTH OF 7/8" COAX CABLE SHALL BE 140'-0". MAXIMUM LENGTH OF 1-1/4" COAX CABLE SHALL BE 190'-0". MAXIMUM LENGTH OF 1-5/8" COAX CABLE SHALL BE 235'-0".
- Q. VERIFY MODEL NUMBERS OF ANTENNAS WITH MASTEC SERVICES.
- R. THE CONTRACTOR SHALL PROVIDE TESTING OF ANTENNAS AND SHALL PROVIDE DOCUMENTATION TO THE MASTEC PROJECT MANAGER.
- S. GENERAL CONTRACTOR TO VERIFY ALL TORQUE TOLERANCES PER THE MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.

ENLARGED SITE PLAN

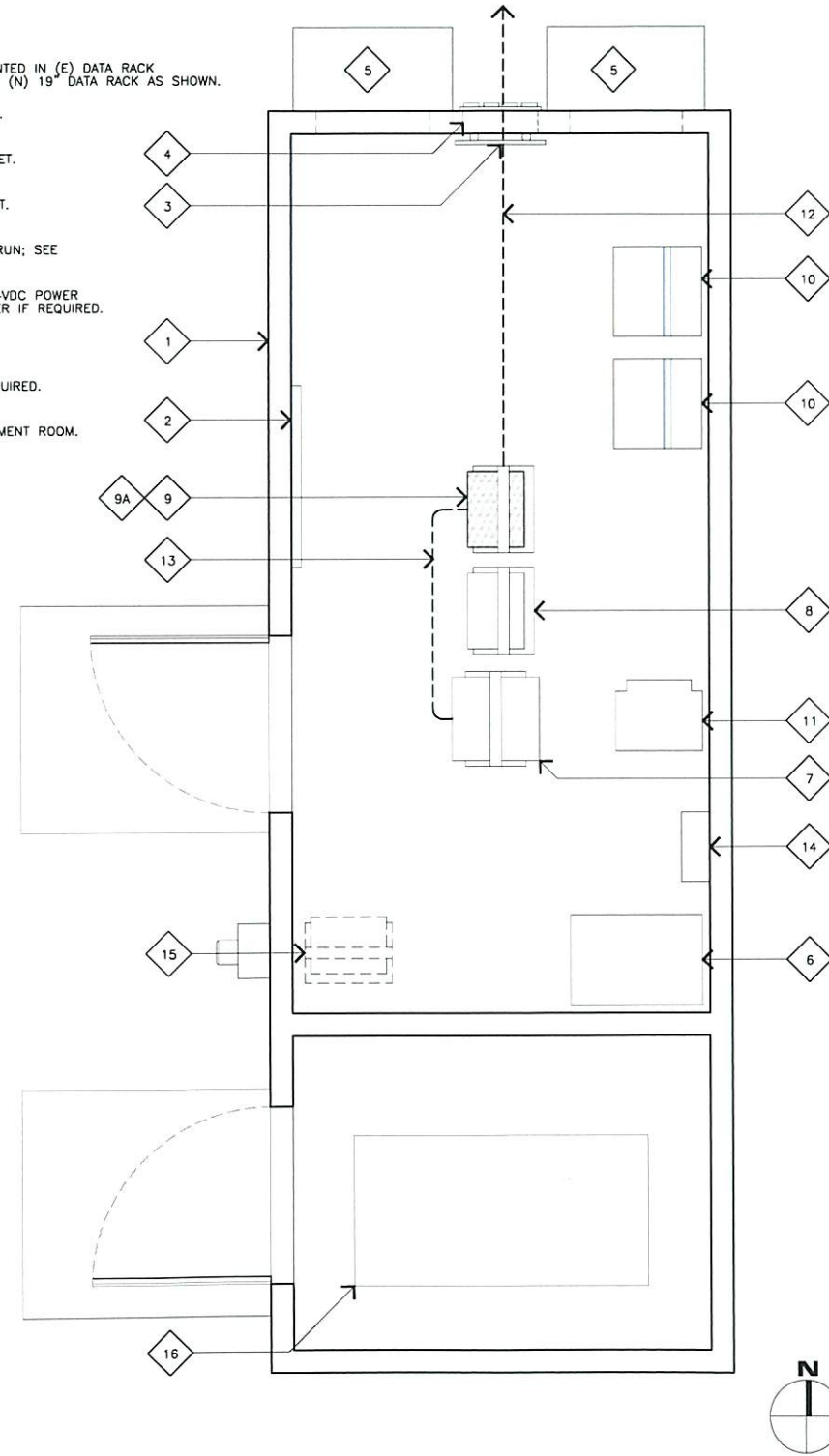
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1/8"=1'-0"



2

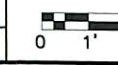
EQUIPMENT FLOOR PLAN KEYNOTES

- 1 (E) AT&T EQUIPMENT SHELTER.
- 2 (E) TELCO BACKBOARD.
- 3 (E) AT&T MAIN GROUND BUS BAR (MGB).
- 4 (E) AT&T CABLE ENTRY PORT WITH (E) AND (N) CABLES FROM EQUIPMENT TO ANTENNAS.
- 5 (E) AT&T EXTERIOR MOUNTED HVAC UNITS.
- 6 (E) AT&T BATTERIES.
- 7 (E) DC POWER PLANT.
- 8 (E) AT&T DATA RACK.
- 9 (N) AT&T MICROWAVE RADIO MOUNTED IN (E) DATA RACK IF INSUFFICIENT SPACE, MOUNT IN (N) 19" DATA RACK AS SHOWN.
- 9A (N) 24VDC TO -48VDC CONVERTER. IN (E) DATA RACK, IF REQUIRED.
- 10 (E) AT&T UMTS EQUIPMENT CABINET.
- 11 (E) AT&T GSM EQUIPMENT CABINET.
- 12 (N) (1) AT&T WAVEGUIDE CABLE RUN; SEE DETAIL 1/A-4.
- 13 (N) AT&T DC CABLE FROM (E) 24VDC POWER CABINET TO (N) -48VDC CONVERTER IF REQUIRED.
- 14 (E) AT&T ELECTRICAL PANEL.
- 15 (N) AT&T 19" DATA RACK, IF REQUIRED.
- 16 (E) GENERATOR WITHIN (E) EQUIPMENT ROOM.



EQUIPMENT PLAN

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



1



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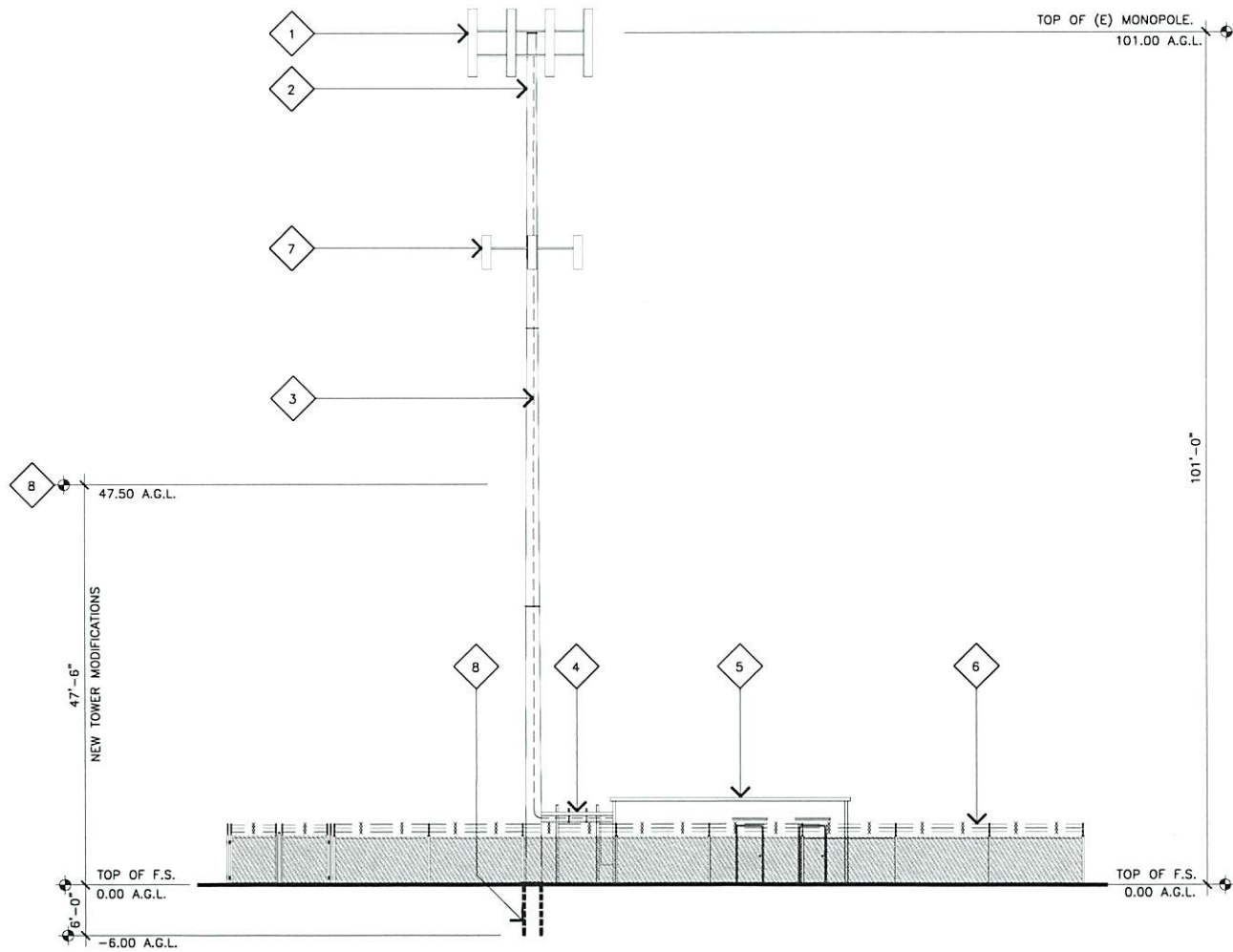
SHEET TITLE

ENLARGED SITE AND EQUIPMENT PLAN

A-1.1

EXISTING ELEVATION KEYNOTES

- 1 (E) AT&T PANEL ANTENNAS.
- 2 (E) MONOPOLE.
- 3 (E) COAX CABLES INSIDE OF MONOPOLE.
- 4 (E) AT&T CABLE BRIDGE.
- 5 (E) AT&T EQUIPMENT SHELTER.
- 6 (E) CHAIN LINK FENCE ENCLOSURE.
- 7 (E) OTHER CARRIER ANTENNAS MOUNTED TO (E) MONOPOLE.
- 8 NEW TOWER MODIFICATIONS; SEE TOWER MODIFICATION DRAWINGS.



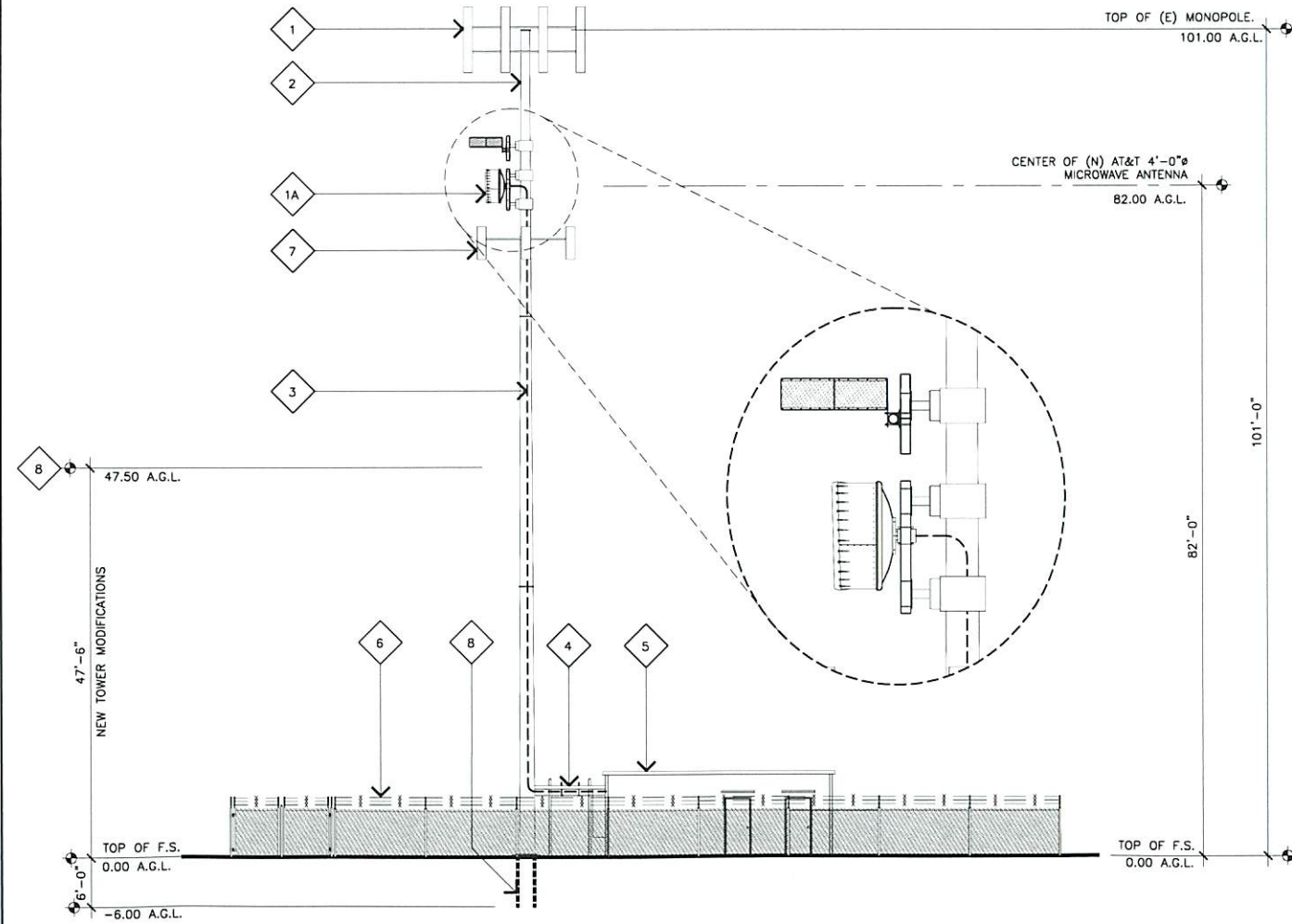
EXISTING WEST ELEVATION

SCALE: 3/32"=1'-0"
 0 3' 6' 12'

2

PROPOSED ELEVATION KEYNOTES

- 1 (E) AT&T PANEL ANTENNAS.
- 1A (N) AT&T 4'-0" MICROWAVE ANTENNA WITH ICE SHIELD MOUNTED TO (E) MONOPOLE.
- 2 (E) MONOPOLE.
- 3 (N) AT&T WAVEGUIDE CABLE RUN MOUNTED OUTSIDE OF MONOPOLE; SEE DETAILS 1/A-3.1 AND 2/A-3.1.
- 4 (E) AT&T CABLE BRIDGE.
- 5 (E) AT&T EQUIPMENT SHELTER.
- 6 (E) CHAIN LINK FENCE ENCLOSURE.
- 7 (E) OTHER CARRIER ANTENNAS MOUNTED TO (E) MONOPOLE.
- 8 NEW TOWER MODIFICATIONS; SEE TOWER MODIFICATION DRAWINGS.



PROPOSED WEST ELEVATION

SCALE: 3/32"=1'-0"
 0 3' 6' 12'

1



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SITE NAME
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FA NUMBER
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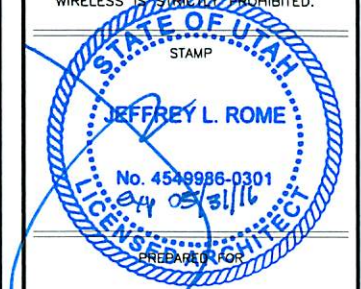
SHEET TITLE
 EXISTING & PROPOSED
 ELEVATIONS

A-2



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90% CDS	DATE
MARK WHITEHOUSE	06/19/14
100% CDS	DATE
MARK WHITEHOUSE	09/03/14
100% CDS WITH STRUCTURALS	DATE
JOE MENDOZA	04/04/14
CONSTRUCTION	DATE
SITE ACQUISITION	DATE

PROJECT NAME
MICROWAVE UPGRADE

SITE NAME
HUNTSVILLE

FA NUMBER
10088492

7305 EAST 730 NORTH
 HUNTSVILLE, UTAH 84317

DRAWING DATES

05/30/14	90% CD REVIEW (P1-B1)
06/19/14	100% FINAL CDS (P1-B2)
09/03/14	STRUCTURALS (P1-B3)

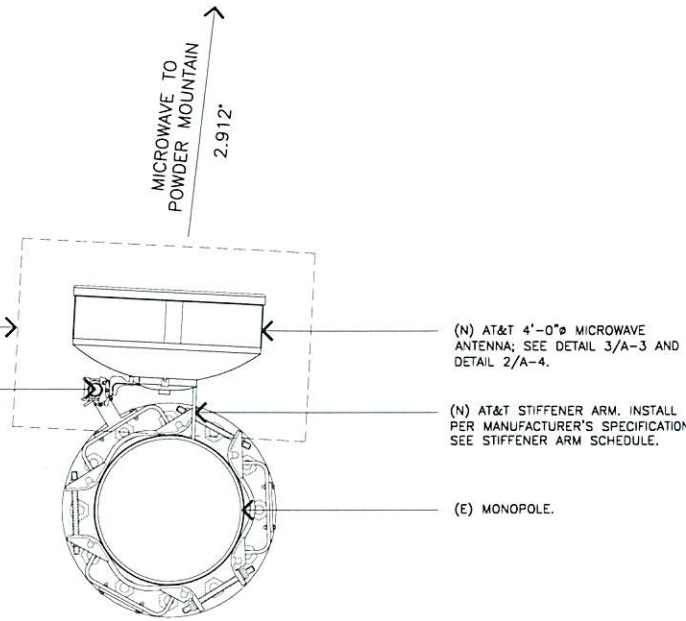
SHEET TITLE
ANTENNA DETAILS

A-3

JRA JOB NUMBER: 141038

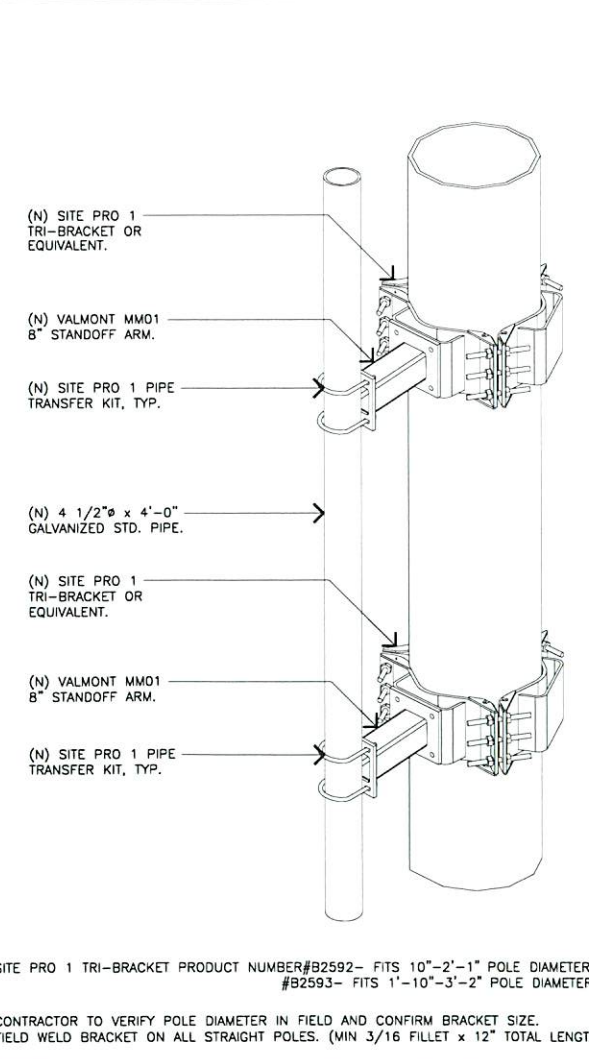
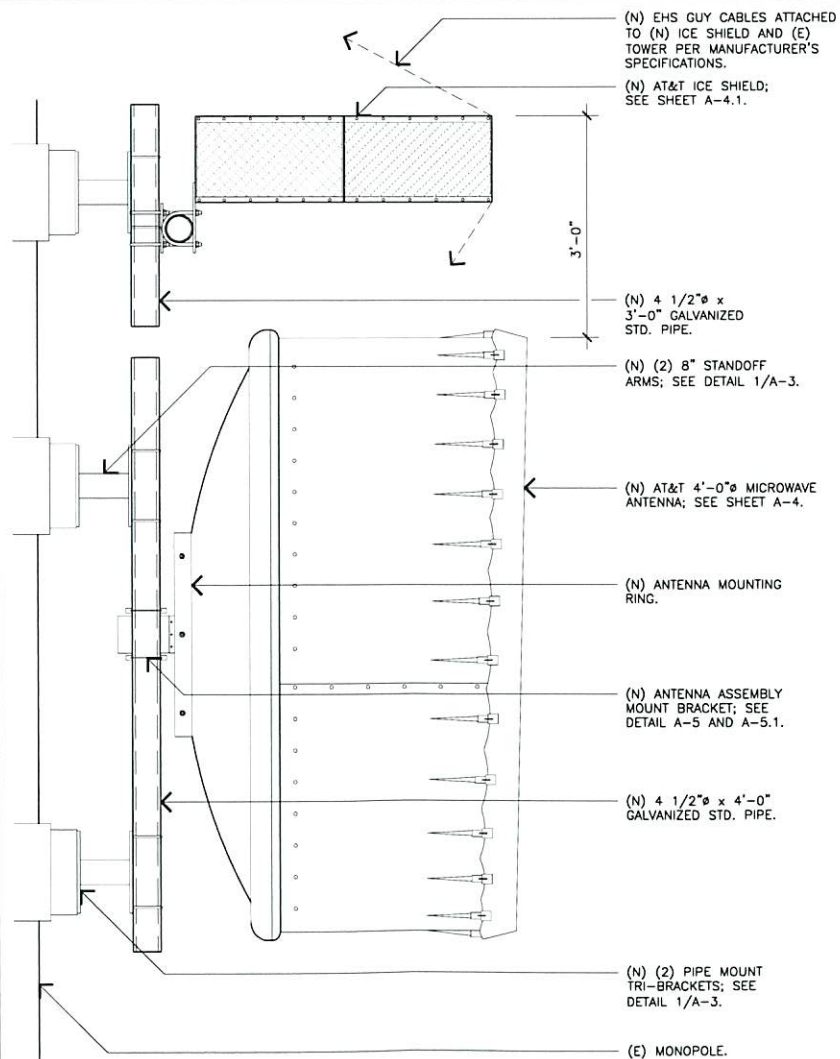
STIFFENER ARM SCHEDULE

SIZE OF MICROWAVE ANTENNA	NUMBER OF STIFFENER ARMS
1'-0" TO 3'-0"	NONE
4'-0"	1
6'-0"	2
8'-0" TO 10'-0"	3
12'-0" +	4



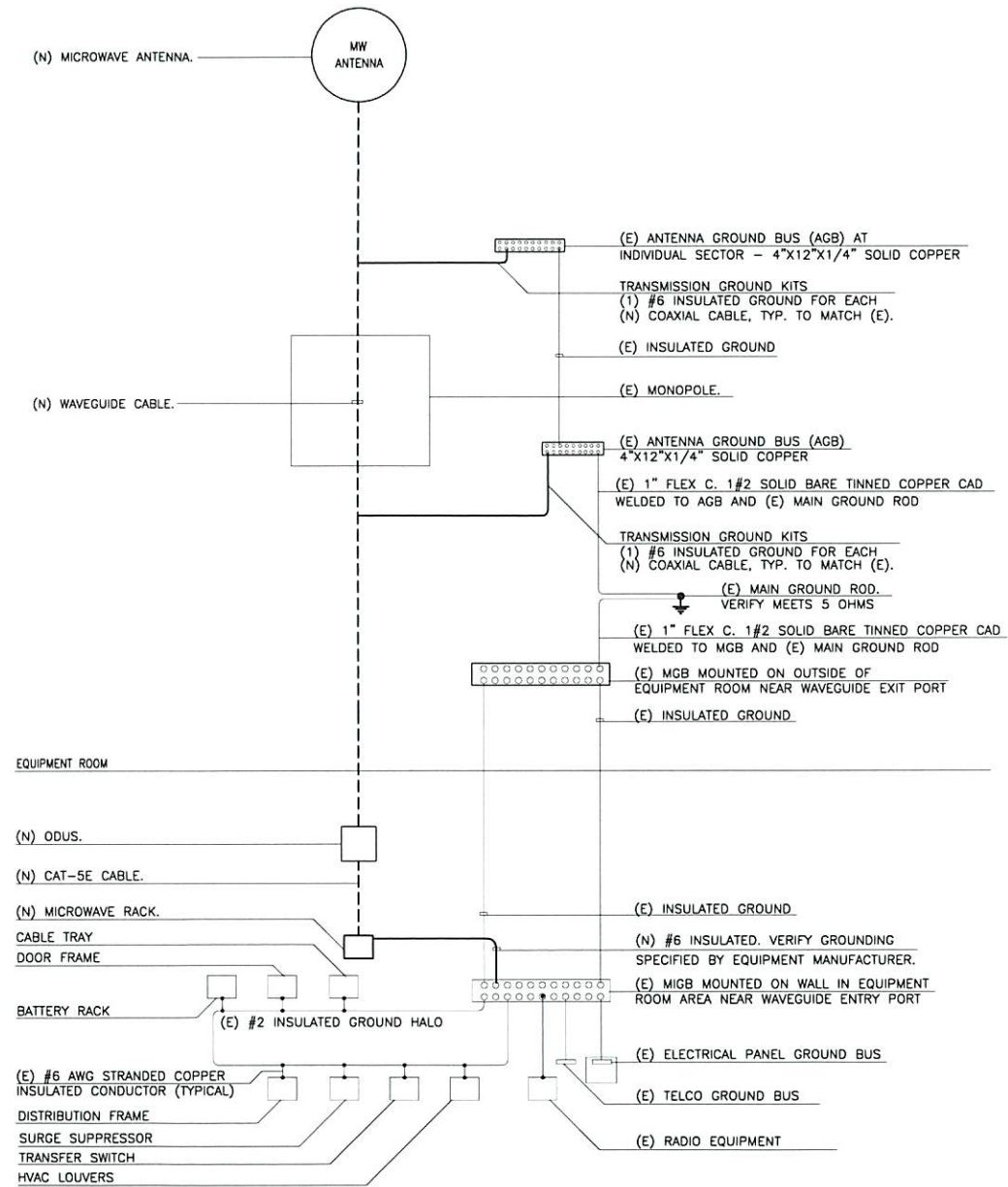
ANTENNA PLAN

SCALE:
 NONE **2**



SCALE:
 NONE **3**

SCALE:
 NONE **1**



GENERAL NOTES:

1. SPLICE GROUND CONNECTIONS.
2. FOLLOW COAXIAL CABLE MANUFACTURER'S RECOMMENDATIONS (TYPICAL)
3. ALL INSULATED GROUND WIRES TO BE STRANDED, AWG WIRE UNLESS NOTED OTHERWISE.
4. THIS IS TYPICAL FOR ONE SECTOR OF ANTENNAS. SEE PLANS FOR NUMBER OF SECTORS.
5. NUMBER OF COAX IS DIAGRAMATIC.
6. EXISTING DIPLEXER'S AND EXISTING TMA'S NOT SHOWN FOR CLARITY.

WAVEGUIDE & GROUNDING SYSTEM SCHEMATIC

SCALE:
 NONE **4**

MICROWAVE ANTENNA DETAIL

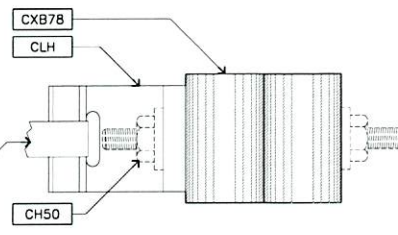
SCALE:
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TRI-BRACKET

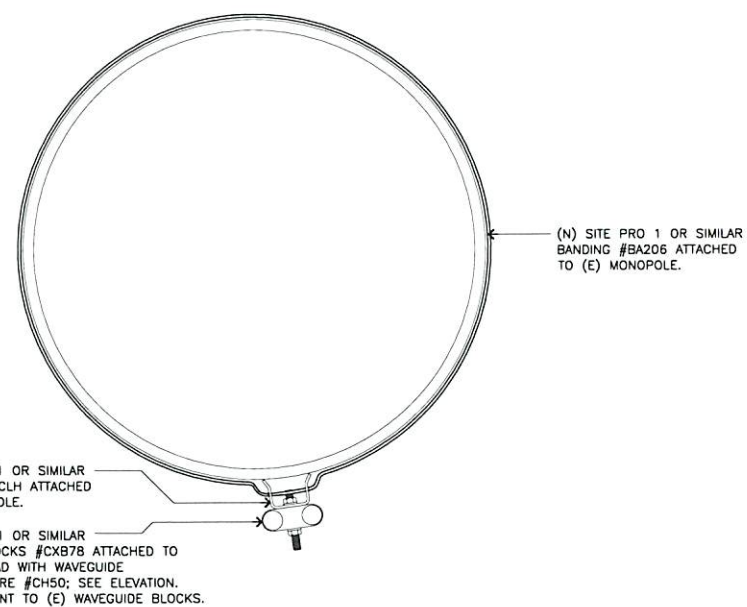
SCALE:
 NONE **1**

PARTS LIST			
DESIG	MARK	DESCRIPTION	QTY
---	CLH	CLAMP HEAD	1
---	CXB78	COAX BLOCKS	3
---	CH50	COAX BLOCK HARDWARE	1
---	BA206	STAINLESS BANDING	1

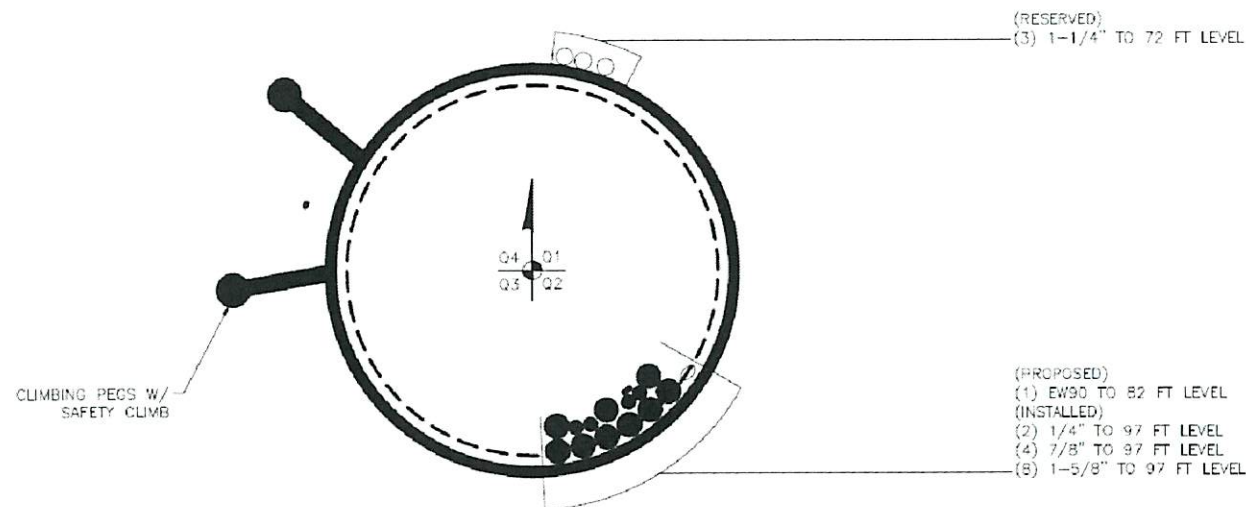
3/4" STAINLESS BANDING BA206
 STAINLESS BANDING BUCKLE BU256-25
 HEAVY DUTY BANDING TOOL T001



ELEVATION

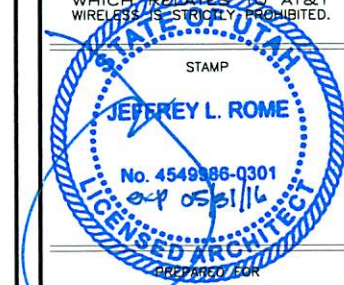


PLAN VIEW



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 architecture | telecommunications
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 Irvine, California 92617
 tel 949.760.3929 | fax 949.760.3931

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09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE
DETAILS

A-3.1

SITE PRO 1 COAX SUPPORT KIT

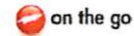
SCALE:
 NONE **2**

COAX CABLE CONFIGURATION

SCALE:
 NONE **1**

Product Specifications

COMMSCOPE®



VHLPX4-11W

1.2 m | 4 ft ValuLine® High Performance Low Profile Antenna.

General Specifications

Antenna Type	VHLPX - ValuLine® High Performance Low Profile Antenna
Diameter, nominal	1.2 m 4 ft

Mechanical Specifications

Fine Azimuth Adjustment	±15°
Fine Elevation Adjustment	±15°
Mounting Pipe Diameter	115 mm 4.5 in
Net Weight	40 kg 88 lb
Side Struts, Included	1 inboard
Side Struts, Optional	1 inboard
Wind Velocity Operational	200 km/h 124 mph
Wind Velocity Survival Rating	250 km/h 155 mph

Wind Forces At Wind Velocity Survival Rating

Axial Force (FA)	5326 N 1197 lbf
Side Force (FS)	2638 N 593 lbf
Twisting Moment (MT)	2370 N•m
Weight with 1/2 in (12 mm) Radial Ice	75 kg 165 lb
Zcg with 1/2 in (12 mm) Radial Ice	310 mm 12 in
Zcg without Ice	210 mm 8 in

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TALLEY®

You Connect the World. We Make it Easy.

Product Specifications



EW90

EW90, HELIAX® Standard Elliptical Waveguide



CHARACTERISTICS

Construction Materials

Jacket Material	PE
Conductor Material	Corrugated copper
Jacket Color	Black

Dimensions

Cable Volume	334.0 L/km 3.6 ft³/kft
Cable Weight	0.48 kg/m 0.32 lb/ft
Diameter Over Jacket (E Plane)	33.50 mm 1.32 in
Diameter Over Jacket (H Plane)	20.30 mm 0.80 in

Environmental Specifications

Installation Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Operating Temperature	-55 °C to +85 °C (-67 °F to +185 °F)
Storage Temperature	-70 °C to +85 °C (-94 °F to +185 °F)

General Specifications

Brand	HELIAX®
-------	---------

Mechanical Specifications

Maximum Twist	6.00 °/m 2.00 °/ft
Minimum Bend Radius, Multiple Bends (E Plane)	180.00 mm 7.00 in
Minimum Bend Radius, Multiple Bends (H Plane)	480.00 mm 19.00 in
Minimum Bend Radius, Single Bend (E Plane)	150.00 mm 6.00 in

www.commscope.com/andrew



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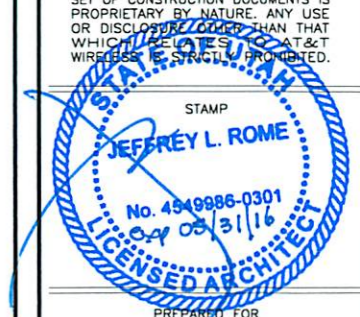
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Network Solutions

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HUNTSVILLE, UTAH 84317

DRAWING DATES

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09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE

SPECIFICATIONS

A-4

ANTENNA SPECIFICATIONS

SCALE:
NONE

2

WAVEGUIDE CABLE SPECIFICATIONS

SCALE:
NONE

1

Product Specifications

COMMSCOPE®



Andrew Solutions
MD-S4

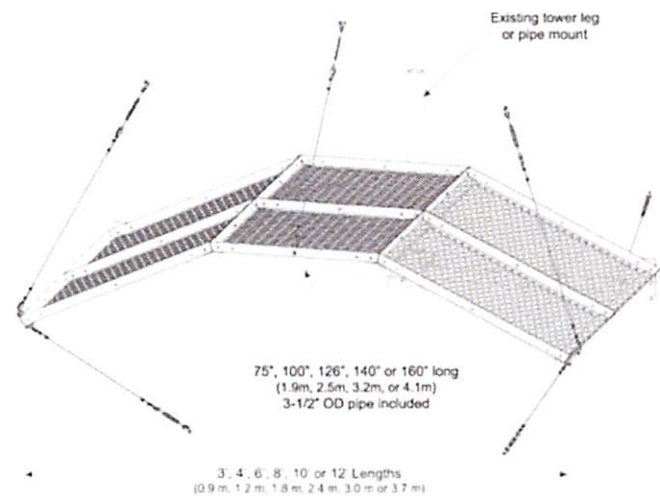
Microwave Antenna Ice Shield for 4 ft antennas

Dimensions

Height	1219.2 mm 48.0 in
Length	355.6 mm 14.0 in
Weight	131.6 kg 290.1 lb
Width	1905.0 mm 75.0 in

General Specifications

Product Type	Ice canopies and shields
Includes	Hardware Ice shield
Material Type	Hot dip galvanized steel
Mounting	Pipe, 114.3 mm (4-1/2 in) OD
Note	Contact 1-800-255-1478 (North America), 1-800-873-2307 (International), or your local Andrew representative. Custom lightweight or additional sizes available
Package Quantity	1



Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

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September 21, 2012



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06/19/14	100% FINAL CDS (P1-B2)
09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE

SPECIFICATIONS

A-4.1

ICE SHIELD SPECIFICATIONS

SCALE:
NONE

2

NOT USED

SCALE:
NONE

1

Installation Instructions

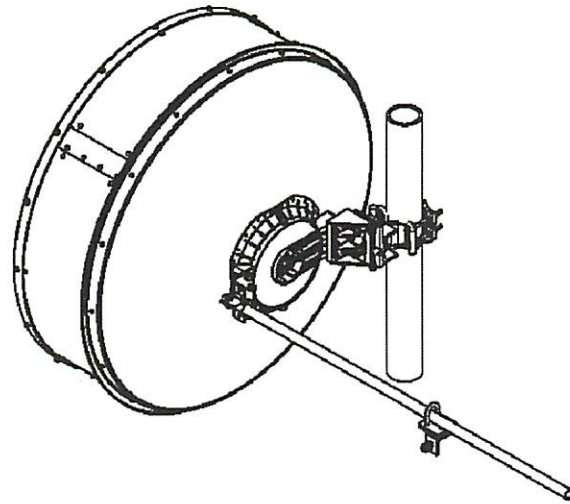
COMMSCOPE®
on the go

Title Line 1
Title Line 2



Bulletin 7628916
Version 03 Status RE Rev D
Model Version 01 Status RE Rev B

This document is for the following:
VHLP(X)4-*** 1.2m ANTENNA



SAFETY

ANTENNA INSTALLATION, MAINTENANCE OR REMOVAL MUST BE PERFORMED BY QUALIFIED EXPERIENCED INSTALLER.

It is essential that all appropriate national and local safety regulations be strictly observed to ensure the safety of personnel and to prevent damage to the equipment. CommScope cannot accept responsibility for accidents resulting from non-compliance with such regulations.

The Antenna is designed to attach to a vertical tower pipe of diameter 115mm
The mount provides adjustment ranges of $\pm 15^\circ$ fine elevation and $\pm 180^\circ$ ($\pm 15^\circ$ Fine) azimuth.

Always read the entire manual before commencing installation.

WARNING

Do not use any installation components (screws, nuts, etc) other than with the equipment or recommended by the supplier

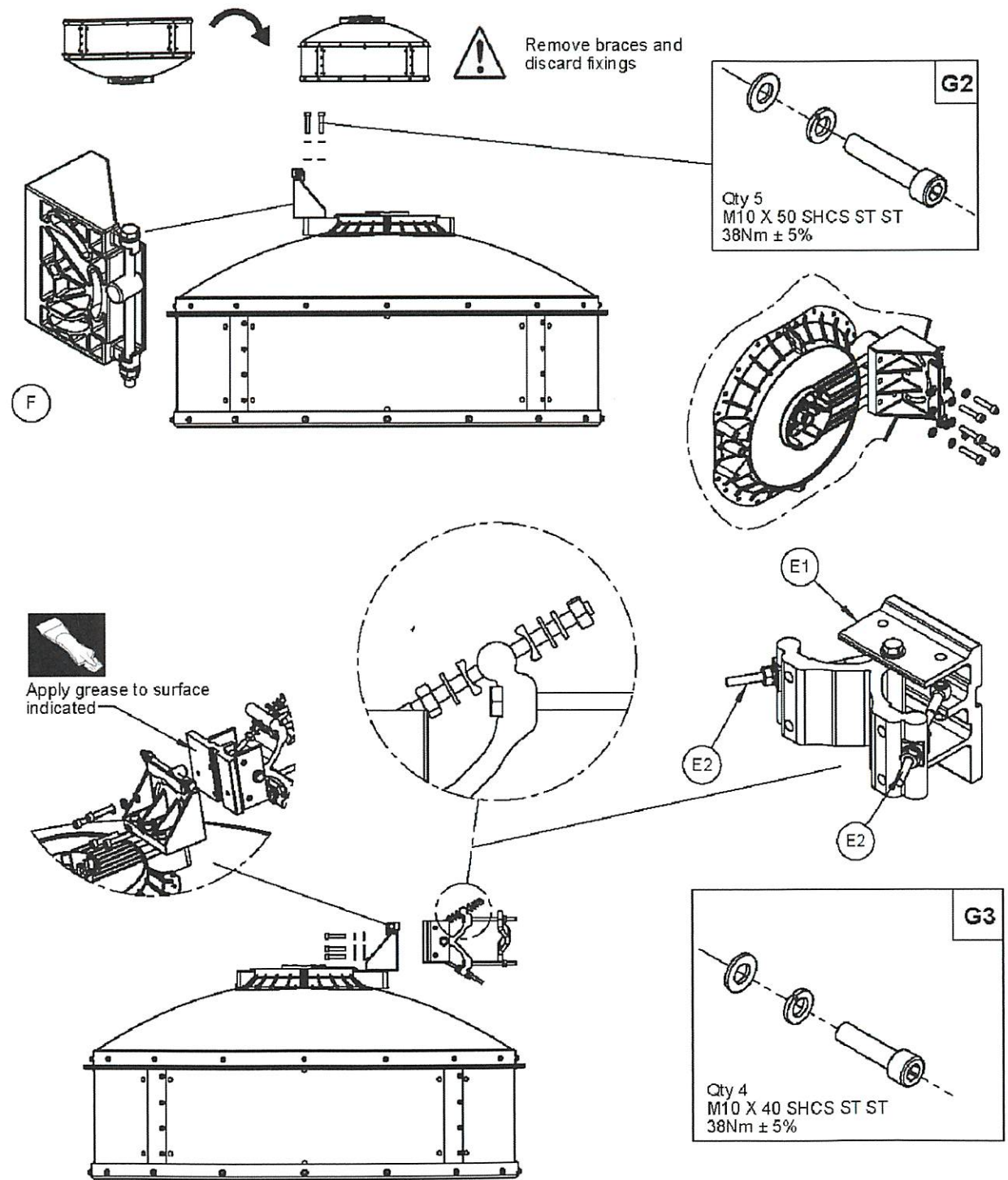
Andrew Solutions
Customer Service 24 hours
U.S.A., Canada, Mexico: 1-800-255-1479
or 1-888-235-5732
UK: 0800 259055
Other Europe: +44 592 782 612

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Notice: Andrew disclaims any liability or responsibility for the results of improper or unsafe installation, inspection, maintenance, or removal practices.
Aviso: Andrew no acepta ninguna obligación ni responsabilidad como resultado de prácticas incorrectas o peligrosas de instalación, inspección, mantenimiento o retiro.
Avis: Andrew decline toute responsabilité pour les conséquences de procédures d'installation, d'inspection, d'entretien ou de retrait incorrectes ou dangereuses.
Hinweis: Andrew lehnt jede Haftung oder Verantwortung für Schäden ab, die aufgrund unsachgemäßer Installation, Überprüfung, Wartung oder Demontage auftreten.
Atenção: A Andrew abdica do direito de toda responsabilidade pelos resultados de práticas inadequadas e sem segurança de instalação, inspeção, manutenção ou remoção.
Avvertenza: Andrew declina eventuali responsabilità derivanti dall'esecuzione di procedure di installazione, ispezione, manutenzione e smontaggio improprie e poco sicure.
注意: Andrew 公司申明對於不恰當或不安全的安裝、檢驗、維修或拆卸操作所導致的後果不負任何責任和責任。



INSTALLATION INSTRUCTIONS SECTION 8 MOUNT ATTACHMENT AND ALIGNMENT 7628916



jra
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PROJECT NAME
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SITE NAME
HUNTSVILLE
FA NUMBER
10088492
7305 EAST 730 NORTH
HUNTSVILLE, UTAH 84317

DRAWING DATES

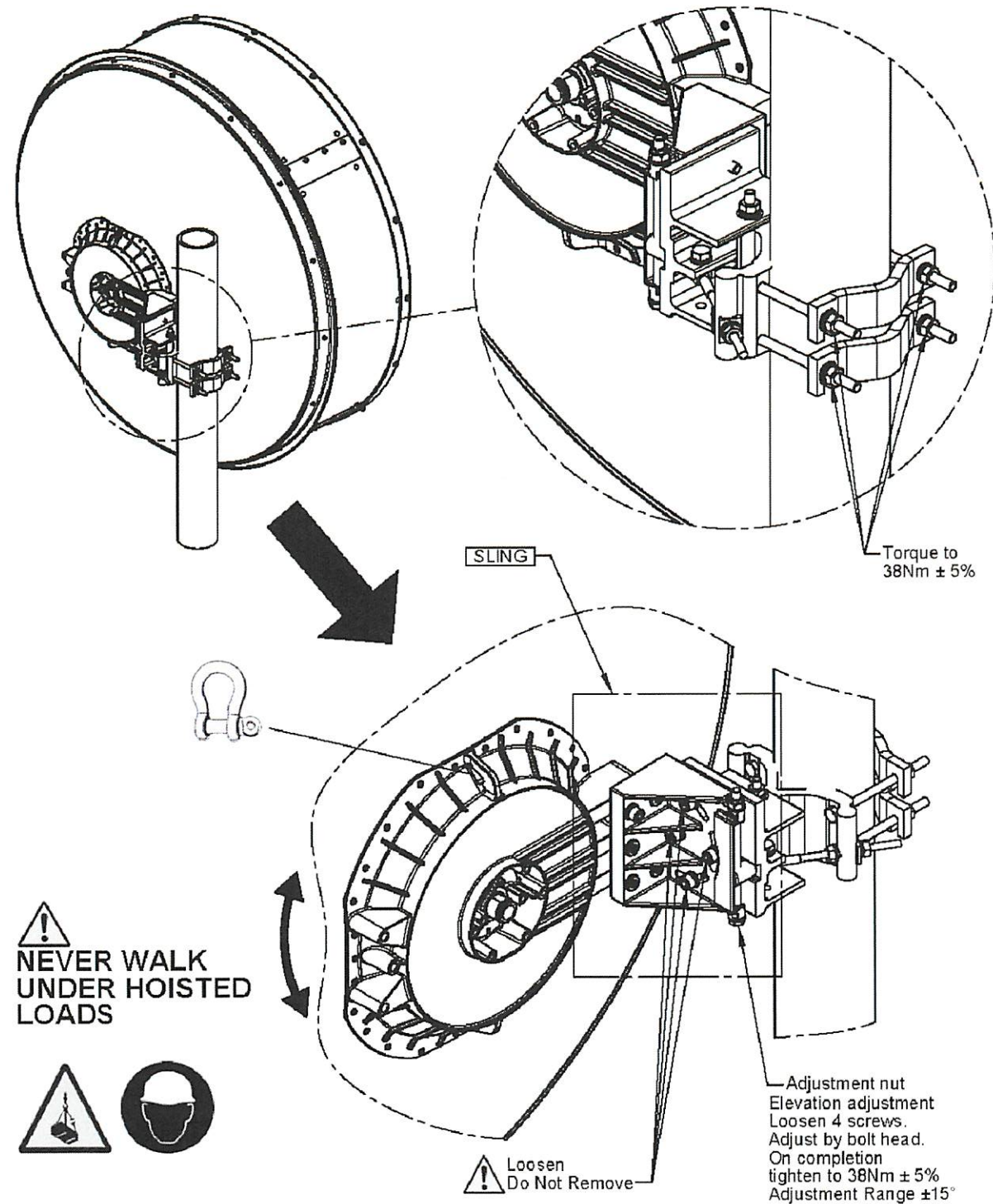
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06/19/14	100% FINAL CDS (P1-B2)
09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE
ANTENNA MOUNTING DETAILS

INSTALLATION INSTRUCTIONS

SECTION 8
MOUNT ATTACHMENT AND ALIGNMENT

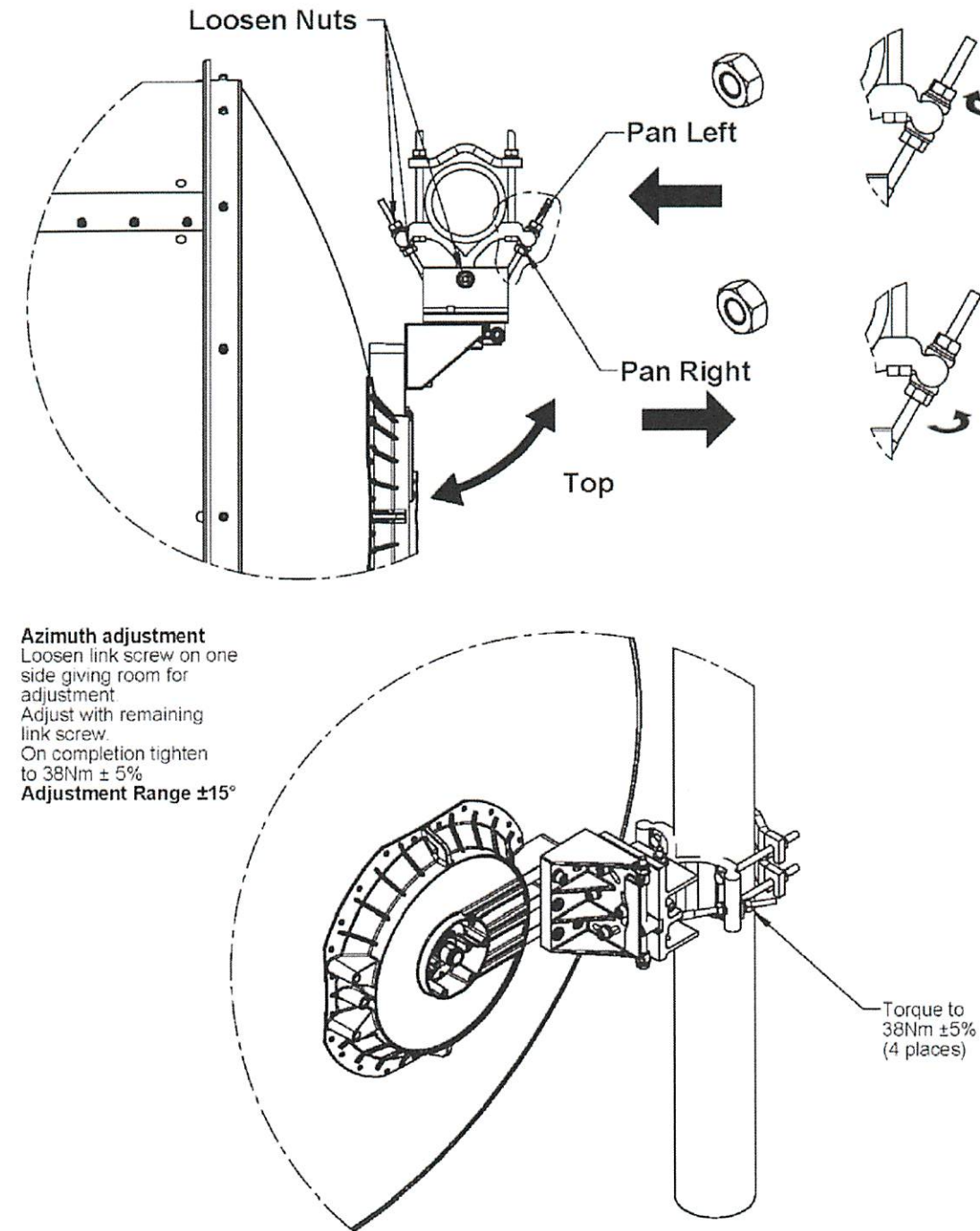
7628916



INSTALLATION INSTRUCTIONS

SECTION 8
MOUNT ATTACHMENT AND ALIGNMENT

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09/03/14	STRUCTURALS (P1-B3)

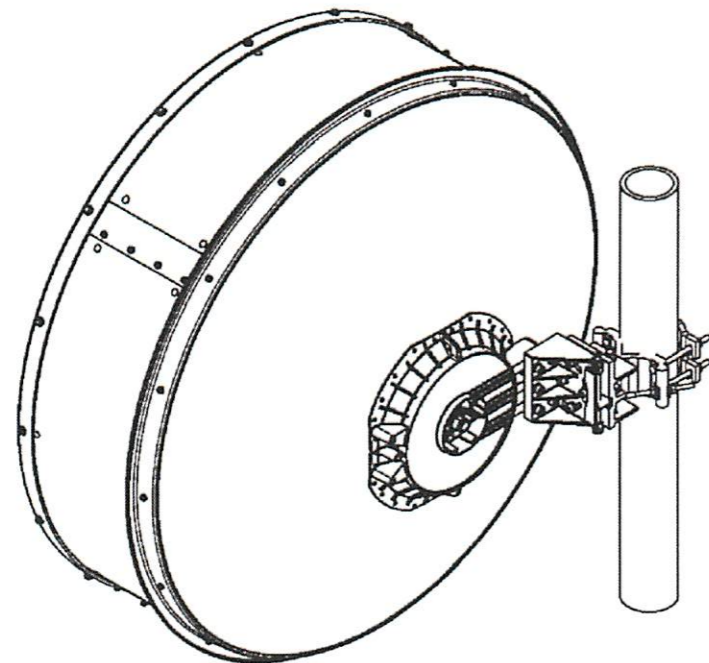
SHEET TITLE

ANTENNA MOUNTING DETAILS

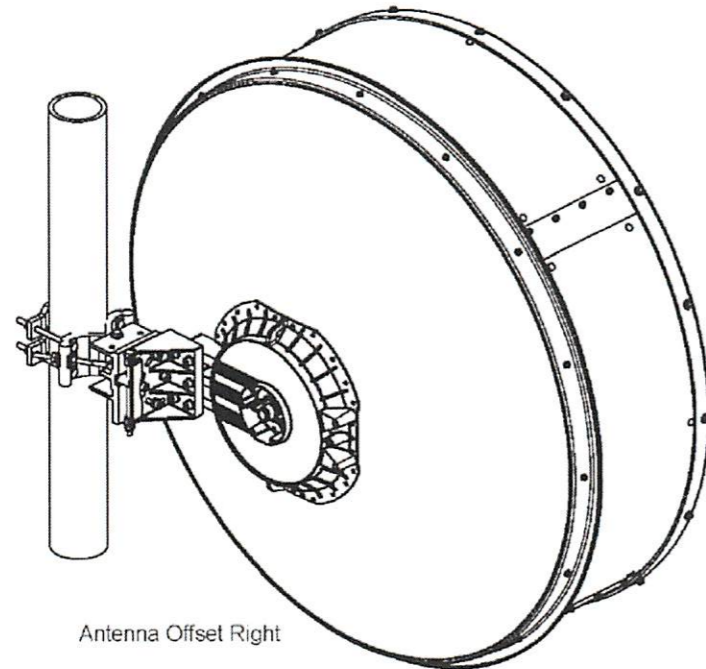
INSTALLATION
INSTRUCTIONS

SECTION 8
MOUNT ATTACHMENT AND ALIGNMENT

7628916



Antenna Offset Left

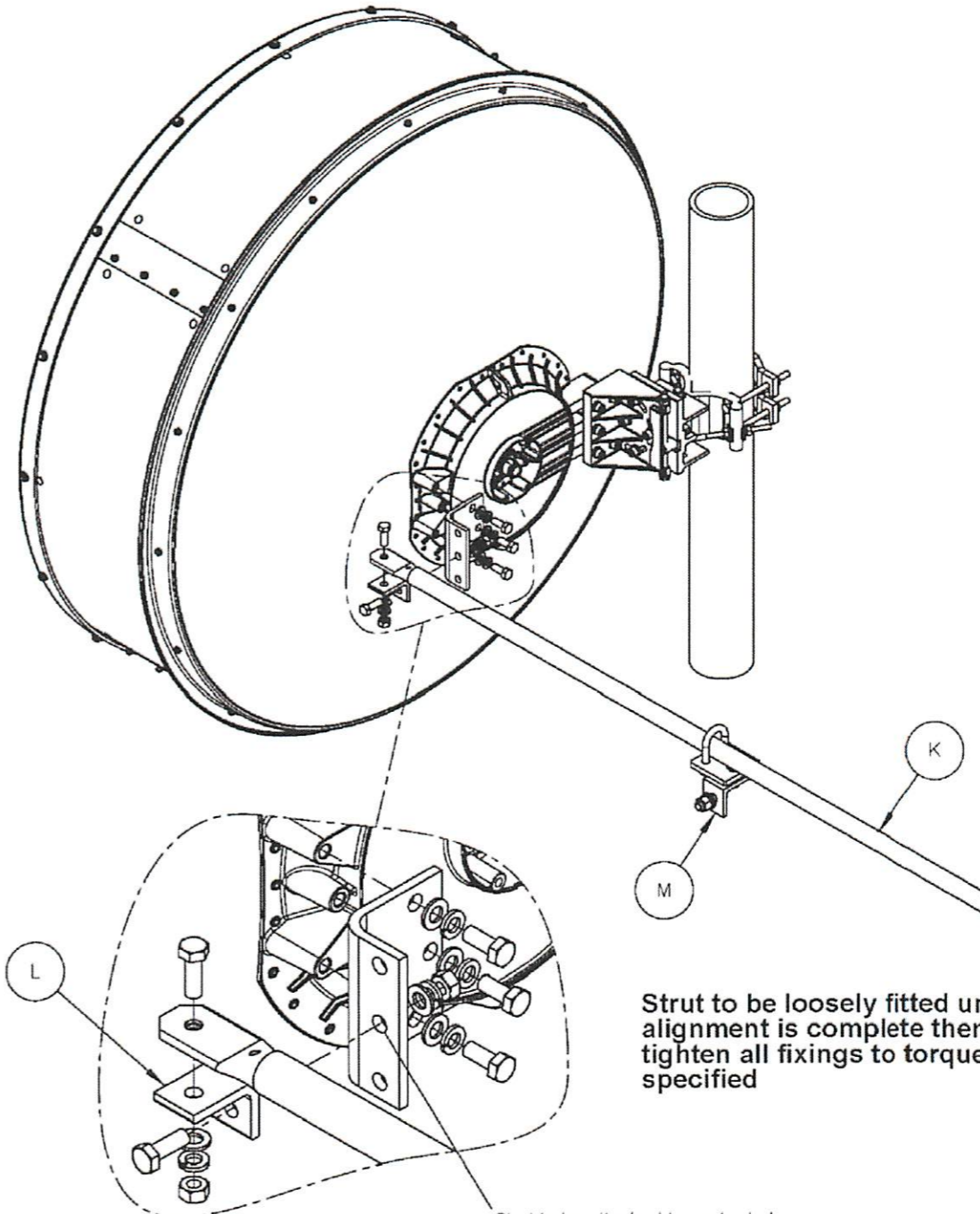


Antenna Offset Right

INSTALLATION
INSTRUCTIONS

SECTION 8
MOUNT ATTACHMENT AND ALIGNMENT

7628916



Strut to be loosely fitted until alignment is complete then tighten all fixings to torque specified

Strut to be attached to center hole. Tighten all hardware to a torque of 38Nm ±5%



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09/03/14	STRUCTURALS (P1-B3)

SHEET TITLE
ANTENNA MOUNTING DETAILS

MONOPOLE REINFORCEMENT DRAWINGS

SITE NAME: HUNTSVILLE
BU NUMBER: 845669

SITE ADDRESS:
7305 EAST 730 NORTH
HUNTSVILLE, UT, 84317
WEBER COUNTY, USA

PREPARED FOR:

**CROWN
CASTLE**



BLACK & VEATCH

10950 GRANDVIEW DRIVE
 OVERLAND PARK, KANSAS 66210
 (913) 458-2000

PROJECT NO: 182896

DRAWN BY: TYW

CHECKED BY: HK

REV	DATE	DESCRIPTION
0	07/14/14	ISSUED FOR CONSTRUCTION

CODE COMPLIANCE

THIS REINFORCEMENT DESIGN IS BASED ON THE REQUIREMENTS OF TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES USING A 3-SECOND GUST WIND SPEED OF 89 MPH WITH NO ICE, 50 MPH WITH 0.25 INCH THICKNESS AND 60 MPH UNDER SERVICE LOADS, EXPOSURE CATEGORY D.

TOWER INFORMATION

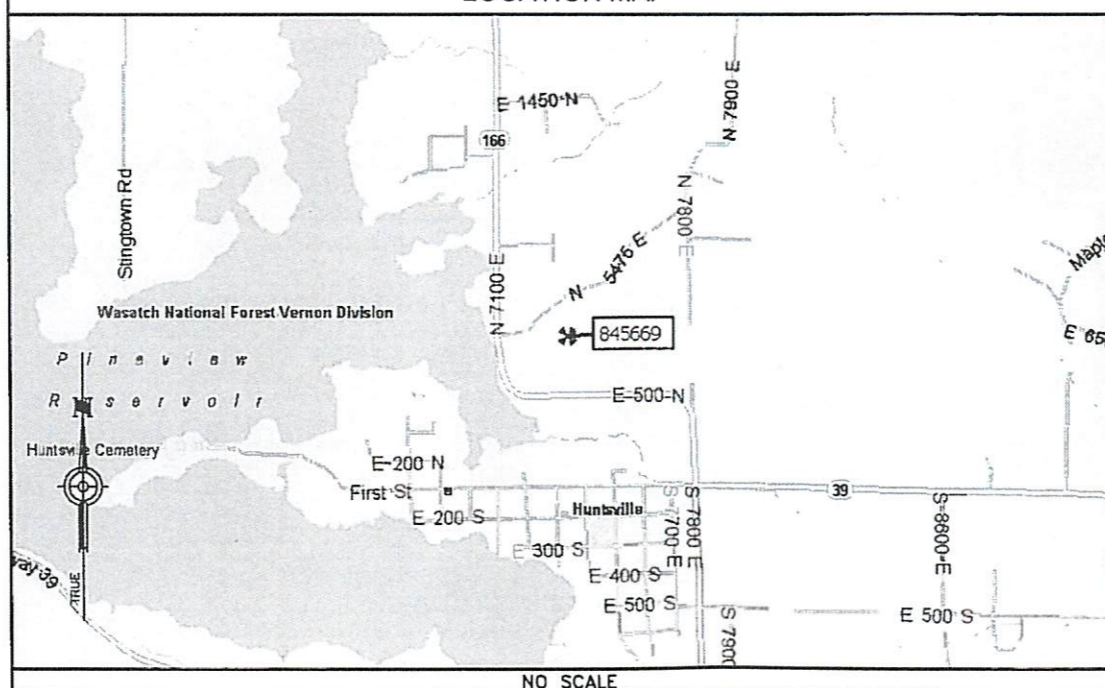
TOWER MANUFACTURER / DWG#: UNKNOWN
 TOWER HEIGHT / TYPE: 97.5 FT MONOPOLE TOWER
 TOWER LOCATION: LATITUDE 41° 16' 16.4"
 DATUM: NAD 1983 LONGITUDE -111° 46' 17.4"
 STRUCTURAL DESIGN DRAWING: B&V / WO #792967
 STRUCTURAL ANALYSIS REPORT: CCI / WO #769657
 APPLICATION ID: 225690 REV #01

PROJECT CONTACTS

CROWN TOWER STRUCTURAL ANALYST
 LAUREN BROWN
 (480) 735-6909
 LAUREN.BROWN@CROWNCastle.COM
 5350 NORTH 48TH STREET, SUITE 305
 PHOENIX, AZ 85226

BLACK & VEATCH STRUCTURAL LEAD ENGINEER
 ERIC S. BRANDSTADTER, P.E.
 (913) 458-7360
 BRANDSTADTERES@BV.COM
 10950 GRANDVIEW DRIVE
 OVERLAND PARK, KS 66210

LOCATION MAP



DRIVING DIRECTIONS

FROM DISTRICT OFFICE: ON I-15 IN OGDEN, TAKE EXIT#344 (12TH STREET). GO EAST THROUGH OGDEN CANYON TOWARDS HUNTSVILLE. ROAD TURNS NORTH (7800 E). GO 1.4 MILES. ROAD TURNS LEFT (WEST). GO WEST 0.6 MILES. ROAD TURNS NORTH. GO 0.2 MILES TO FARM HOUSE ON RIGHT. ACCESS ROAD IS THERE.

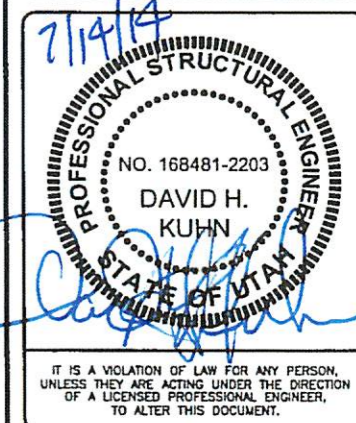
BASE PLATE ANCHOR CHAIRS

DRAWING INDEX

SHEET NO:	SHEET TITLE
TM-1	TITLE PAGE
TM-2	MODIFICATION INSPECTION CHECKLIST
TM-3	NOTES
TM-4	AJAX/DTI SPECIFICATIONS & TIGHTENING PROCEDURE
TM-5	TOWER ELEVATION
TM-6	TOWER SECTIONS
TM-7	BASE PLATE ANCHOR CHAIRS
TM-8	TRANSITION STIFFENER PLATES
TM-9	TRANSITION STIFFENER PLATES

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

BU #845669
 WO #792967
 HUNTSVILLE
 7305 EAST 730 NORTH
 HUNTSVILLE, UT 84317
 WEBER COUNTY, USA

SHEET TITLE
 TITLE PAGE

SHEET NUMBER
TM-1

MODIFICATION INSPECTION NOTES

GENERAL

1. THE MODIFICATION INSPECTION IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD.
2. THE MODIFICATION INSPECTION IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION ITSELF. NOR DOES THE MODIFICATION INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTENT RESIDES WITH THE ENGINEER OF RECORD AT ALL TIMES.
3. ALL MI'S SHALL BE CONDUCTED BY A CROWN ENGINEERING SERVICE VENDOR (AESV) THAT IS APPROVED TO PERFORM ELEVATED WORK FOR CROWN. SEE CROWN ENG-BUL-10173, "APPROVED MI VENDORS".
4. TO ENSURE THAT THE REQUIREMENTS OF THE MODIFICATION INSPECTION ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MODIFICATION INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS PO OR PAYMENT IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN COMMUNICATION WITH THE OTHER PARTY. CONTACT LISTED ON TITLE SHEET SHALL BE CONTACTED IF SPECIFIC INSPECTOR CONTACT INFORMATION IS NOT KNOWN.
5. ALL REQUEST FOR INFORMATION (RFI'S) SHALL BE MADE AVAILABLE TO THE MODIFICATION INSPECTOR BY GC.
6. REFER TO CROWN ENG-SOW-10007, "MODIFICATION INSPECTION SOW", FOR FURTHER DETAILS AND REQUIREMENTS.

MODIFICATION INSPECTOR

1. THE MODIFICATION INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PURCHASE ORDER (PO) OR PAYMENT FOR THE MODIFICATION INSPECTION TO:
 - REVIEW THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.
 - WORK WITH GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
 - DISCUSS ANY SITE SPECIFIC INSPECTIONS OR CONCERNS.
2. THE MODIFICATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MODIFICATION INSPECTION REPORT TO CROWN.

GENERAL CONTRACTOR

1. THE GC IS REQUIRED TO CONTACT THE MODIFICATION INSPECTOR AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO:
 - REVIEW THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.
 - WORK WITH MODIFICATION INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MODIFICATION INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
 - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.
2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST AND CROWN ENG-SOW-10007.

RECOMMENDATIONS

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

CANCELLATION OR DELAY IN SCHEDULED MODIFICATION INSPECTION

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

CORRECTION OF FAILING MODIFICATION INSPECTION

1. IF THE MODIFICATION INSTALLATION SHOULD FAIL THE MODIFICATION INSPECTION ("FAILED MODIFICATION INSPECTION"), THE GC SHALL WORK WITH MODIFICATION INSPECTOR TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
 - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENTAL MODIFICATION INSPECTION.
 - OR, WITH TOWER OWNER'S APPROVAL, THE GC MAY WORK WITH ENGINEER OF RECORD TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

VERIFICATION INSPECTIONS

1. TOWER OWNER RESERVES THE RIGHT TO CONDUCT A VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MODIFICATION INSPECTION(S) ON TOWER MODIFICATION PROJECTS.
2. ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH CROWN ENG-SOW-10007.
3. VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MODIFICATION INSPECTION" OR "PASS AS NOTED MODIFICATION INSPECTION" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS

1. BETWEEN THE GC AND THE MODIFICATION INSPECTOR, THE FOLLOWING PHOTOGRAPHS ARE TO BE TAKEN AND INCLUDED IN THE MODIFICATION INSPECTION REPORT:
 - PRE-CONSTRUCTION GENERAL SITE CONDITIONS.
 - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION.
 - ** RAW MATERIALS
 - ** PHOTOS OF CRITICAL DETAILS
 - ** FOUNDATION MODIFICATIONS
 - ** REBAR PLACEMENT
 - ** FOUNDATION DEPTH VERIFICATION
 - ** SOIL COMPACTION PROCESS
 - ** COLD GALVANIZED VERIFICATION
 - ** GUY WIRE GROUNDING SYSTEM VERIFICATION
 - ** POST INSTALL ANCHOR DRILL HOLE DIAMETER AND DEPTH
 - ** WELD PREPARATION
 - ** WELD INSTALLATION PRIOR TO SURFACE COATING
 - ** BOLT INSTALLATION AND TORQUE
 - ** FINAL INSTALLED CONDITION
 - ** SURFACE COATING REPAIR
 - POST CONSTRUCTION PHOTOGRAPHS.
 - ** FINAL IN FIELD CONDITION
 - ** ANY OTHER PHOTOS DEEMED RELEVANT TO SHOW COMPLETE DETAILS OF MODIFICATION.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS PLEASE REFER TO CROWN ENG-SOW-10007.

2. PHOTOS OF ABOVE GROUND MODIFICATIONS TAKEN FROM GROUND LEVEL SHALL BE CONSIDERED INADEQUATE.

PREPARED FOR:

CROWN CASTLE



BLACK & VEATCH

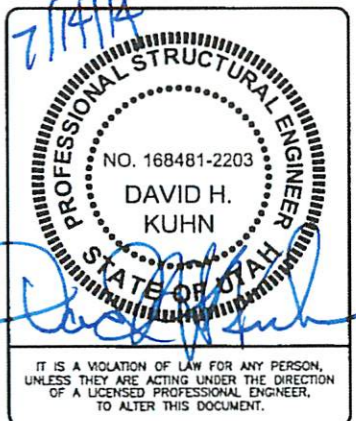
10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182896

DRAWN BY: TYW

CHECKED BY: HK

REV	DATE	DESCRIPTION
0	07/14/14	ISSUED FOR CONSTRUCTION



BU #845669
WO #792967
HUNTSVILLE
7305 EAST 730 NORTH
HUNTSVILLE, UT 84317
WEBER COUNTY, USA

SHEET TITLE
MODIFICATION INSPECTION CHECKLIST

SHEET NUMBER
TM-2

MODIFICATION INSPECTION CHECKLIST

BEFORE CONSTRUCTION		DURING CONSTRUCTION		AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
X	MODIFICATION INSPECTION CHECKLIST DRAWING	X	CONSTRUCTION INSPECTION	X	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWING(S)
X	FABRICATOR QUALITY MANAGEMENT DOCUMENTATION	-	FOUNDATION INSPECTION/REBAR INSPECTION	X	POST INSTALLED ANCHOR ROD PULL-OUT TESTING (OR ALTERNATE MANUFACTURER'S APPROVED METHOD)
X	FABRICATOR CERTIFIED WELD INSPECTION	-	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTS (7 DAY AND 28 DAY CYLINDER BREAKS - REPORT REQUIRED)	-	HELICAL PILE PULL-OUT TESTING (OR ALTERNATE MANUFACTURER'S APPROVED METHOD)
X	MATERIAL TEST REPORTS	-	POST INSTALLED ANCHOR ROD VERIFICATION	-	HOLLOW BAR ANCHOR PULL-OUT TESTING (OR ALTERNATE MANUFACTURER'S APPROVED METHOD)
X	FABRICATION NDE INSPECTION	X	BASE PLATE GROUT VERIFICATION	X	PHOTOGRAPHS
X	NDE REPORT OF MONOPOLE BASE PLATE (AS REQUIRED)	-	THIRD PARTY CERTIFIED WELD INSPECTION (NDE REPORT REQUIRED)	-	
X	PACKING SLIPS	X	EARTHWORK: LIFT PLACEMENT AND DENSITY (REPORT REQUIRED)	X	
X	NDE TEST OF EXISTING MONOPOLE SHAFT TO BASE PLATE WELD	-	ON-SITE COLD GALVANIZED VERIFICATION	-	
		X	GUY WIRE TENSION REPORT		
		X	GC AS-BUILT DOCUMENTS		

NOTE: NDE DENOTES NON-DESTRUCTIVE EXAMINATION

NOTE: X DENOTES A DOCUMENT REQUIRED FOR THE MODIFICATION INSPECTION REPORT
- DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MODIFICATION INSPECTION REPORT

GENERAL NOTES

1. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST BE EXPERIENCED IN THE PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED, THAT HE IS PROPERLY LICENSED, AND THAT HE IS PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.
2. THE GENERAL NOTES AND TYPICAL DETAILS ARE APPLICABLE TO ALL PARTS OF THE STRUCTURE AND SHALL BE READ IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS AND PROJECT SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVALS FROM ALL AUTHORITIES HAVING JURISDICTION FOR THIS PROJECT AND SHALL NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY, OR CITY) ENGINEER 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
5. ERECT GUARDS AND BARRIERS PER APPLICABLE LABOR AND CONSTRUCTION SAFETY REGULATIONS.
6. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, POSSIBLE INTERFERENCES, AND DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT ANY AND ALL DISCREPANCIES TO THE ENGINEER OF RECORD (EOR) AND FIELD PERSONNEL IMMEDIATELY. ANY AND ALL FIELD CHANGES SHALL BE APPROVED AND DOCUMENTED BY THE EOR PRIOR TO FIELD IMPLEMENTATION.
7. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR TWO (2) YEARS FROM THE DATE OF COMPLETED CONSTRUCTION.
8. USE ONLY THE LATEST ISSUES OF ANY APPLICABLE CODES, STANDARDS, OR REGULATIONS MENTIONED IN THE FOLLOWING NOTES AND SPECIFICATIONS, UNO.
9. ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH ANSI, ASTM, ACI, TIA, AND AISC STANDARDS AS REFERENCED IN THE APPLICABLE CODE.
10. STRUCTURAL ELEMENTS SHOWN ON THESE DRAWINGS ARE DESIGNED IN ACCORDANCE WITH APPLICABLE BUILDING CODES/STANDARDS. ALL CONSTRUCTION, EXCEPT WHERE NOTED OTHERWISE, SHALL COMPLY WITH THOSE CODES/STANDARDS.
11. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS, AND IN CONFORMANCE WITH THE DRAWINGS. ANY AND ALL SUBSTITUTIONS MUST BE DULY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER OF RECORD PRIOR TO FABRICATION AND INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
12. ALL MANUFACTURER'S HARDWARE ASSEMBLY INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION PROCEDURES MEET THE REQUIREMENTS OF OSHA, THE OWNER, AND ALL OTHER APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. CONSTRUCTION SHALL BE PERFORMED ONLY IN "GOOD WEATHER". "GOOD WEATHER" MEANS LITTLE OR NO WIND AND RAIN AND MINIMUM TEMPERATURE OF 50 DEGREES F. CONTACT ENGINEER FOR ADDITIONAL INSTRUCTIONS IF "GOOD WEATHER" CANNOT BE ACHIEVED.
14. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIAL ACCESS, WITH THE RESIDENT LEASING AGENT.
15. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SAFEGUARD ALL EXISTING STRUCTURES OR BURIED SERVICES AFFECTED BY THIS CONSTRUCTION. CONTRACTOR IS ALSO RESPONSIBLE FOR TEMPORARILY RELOCATING ANY LINES OR STRUTS AS NECESSARY TO COMPLETE THE REQUIRED WORK.
16. STRUCTURAL DESIGN IS FOR THE COMPLETE CONDITION ONLY. THE CONTRACTOR MUST BE COGNIZANT THAT THE REMOVAL OF ANY STRUCTURAL COMPONENT OF AN EXISTING TOWER HAS THE POTENTIAL TO CAUSE THE PARTIAL OR COMPLETE COLLAPSE OF THE STRUCTURE. ALL NECESSARY PRECAUTIONS MUST BE TAKEN TO ENSURE STRUCTURAL INTEGRITY, INCLUDING, BUT NOT LIMITED TO, ENGINEERING ASSESSMENT OF CONSTRUCTION STRESSES WITH INSTALLATION MAXIMUM WIND SPEED AND/OR TEMPORARY BRACING AND SHORING.
17. DO NOT SCALE DRAWINGS.
18. FOR THIS ANALYSIS AND MODIFICATION, THE TOWER HAS BEEN ASSUMED TO BE IN GOOD CONDITION WITHOUT ANY DEFECTS. IF THE CONTRACTOR DISCOVERS ANY INDICATION OF AN EXISTING STRUCTURAL DEFECT, CONTACT THE ENGINEER OF RECORD IMMEDIATELY.
19. MODIFICATION WORK SHALL BE COMPLETED IN CALM WIND CONDITIONS / OR APPROPRIATE WIND SPEED FOR THE TYPE OF MODIFICATION WORK TO BE INSTALLED.
20. THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED OR ALTERED WITHOUT THE EXPRESS APPROVAL OF THE ENGINEER OF RECORD.
21. CONTRACTOR TO VERIFY REQUIRED STEEL PLATE LENGTHS FORM BOTTOM OF SECTION TO BOTTOM OF NEXT SECTION.
22. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
23. ALL CHANGES/ALTERNATES/REVISIONS TO THESE DRAWINGS SHALL BE DOCUMENTED BY REQUEST FOR INFORMATION (RFI) FORM APPROVED BY ENGINEER OF RECORD. FINAL WORK AUTHORIZATION AND ALL CHANGE ORDERS SHALL BE APPROVED BY CLIENT AND/OR CLIENT REPRESENTATIVE PRIOR TO PROCEEDING WITH ANY WORK THAT DEVIATES FROM THE ORIGINAL DESIGN, SCOPE, PRICE AND/OR SCHEDULE.
24. IN THE EVENT OF AN EMERGENCY, CONTRACTOR SHALL CONTACT BLACK & VEATCH AND CROWN CASTLE PERSONNEL TO REPORT ANY EVENT OR EMERGENCY INCIDENT AT ANY CROWN CASTLE TOWER SITE PER THE CONTACT INFORMATION PROVIDED ON SHEET TM-1.

STRUCTURAL STEEL NOTES

1. DESIGN, FABRICATION, ERECTION, ALTERATION AND MAINTENANCE SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED OTHERWISE (UNO).
 - A. TIA-222: STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS
 - B. TIA-1019-A: INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS
 - C. AISC: MANUAL OF STEEL CONSTRUCTION
2. ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS, UNO.
 - A. STRUCTURAL STEEL, ASTM A572 GRADE 65 (FY = 65KSI).
 - B. ALL BOLTS, ASTM A325 TYPE 1 GALVANIZED HIGH STRENGTH BOLTS.
 - C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL HOLES SHALL BE CUT WITH A GRINDER OR DRILLED. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER OF RECORD.
4. ALL FASTENERS SHALL NOT BE REUSED.
5. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED ASTM A325 BOLTS.
6. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
7. HOT-DIP GALVANIZE ALL ITEMS, UNO. GALVANIZE PER ASTM A123, ASTM A153/A153M OR ASTM A653 G90, AS APPLICABLE.
8. FOR A LIST OF CROWN APPROVED COLD GALVANIZING COMPOUNDS, REFER TO CROWN ENG-BUL-10149, "TOWER PROTECTIVE COATINGS BULLETIN".
9. AFTER FINAL INSPECTION, ALL EXPOSED STRUCTURAL STEEL AS THE RESULT OF THIS SCOPE OF WORK INCLUDING WELDS, FIELD DRILLED HOLES, AND SHAFT INTERIORS (WHERE ACCESSIBLE), SHALL BE CLEANED AND COLD GALVANIZING APPLIED BY BRUSH IN ACCORDANCE WITH CROWN ENG-BUL-10149, "TOWER PROTECTIVE COATINGS BULLETIN". PHOTO DOCUMENTATION IS REQUIRED TO BE SUBMITTED TO THE MI INSPECTOR.

WELDING NOTES

1. ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE-STEEL".
2. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
3. ALL ARC WELDING ON CROWN STRUCTURES SHALL BE DONE IN ACCORDANCE WITH THE CROWN ENG-PLN-10015, "CUTTING AND WELDING SAFETY PLAN" AND AWS D1.1 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELDING INSPECTOR (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE-DURING-POST, USING THE ACCEPTANCE CRITERIA OF AWS D1.1. THE CWI SHALL WORK WITH THE GC ON THE LEVEL OF INTERACTION NEEDED TO CONDUCT THE WELDING INSPECTION. THE CERTIFIED WELDING INSPECTION IS THE RESPONSIBILITY OF THE GC.
4. FOR ALL WELDING, USE E80XX ELECTRODES FOR SMAW PROCESS AND EBXT-XX ELECTRODES FOR FCAW PROCESS, UNO.
5. SURFACES TO BE WELDED SHALL BE FREE FROM SCALE, SLAG, RUST, MOISTURE, GREASE OR ANY OTHER FOREIGN MATERIAL THAT WOULD PREVENT PROPER WELDING. GRIND THE SURFACE ADJACENT TO THE WELD FOR A DISTANCE OF 2" MINIMUM ALL AROUND. ENSURE BOTH AREAS ARE 100% FREE OF ALL GALVANIZING.
6. REPAIR THE GALVANIZED COATING. ALL AREAS AFFECTED BY THE FIELD DRILLING, FIELD GRINDING AND FIELD WELDING, BOTH INSIDE AND OUTSIDE THE MONOPOLE, SHALL BE REPAIRED PER CROWN DOCUMENT ENG-STD-10149. PRODUCTS TO BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. AREAS THAT HAVE BEEN TOUCHED UP SHOULD BE INSPECTED AS PART OF THE ROUTINE MAINTENANCE OS THE STRUCTURE. NO SPRAY PAINT IS ALLOWED. AFTER ZINC-RICH PAINT IS DRY, OVERCOAT WITH OWNER'S PAINT SPECIFICATIONS, APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. DO NOT WELD IF THE TEMPERATURE OF THE STEEL IN THE VICINITY OF THE WELD AREA IS BELOW 0° F. WHEN THE TEMPERATURE IS BETWEEN 0° F AND 32° F, PREHEAT AND MAINTAIN THE STEEL IN THE VICINITY OF THE WELD AREA AT 70° F DURING THE WELDING PROCESS.
8. DO NOT WELD ON WET OR FROST-COVERED SURFACES & PROVIDE ADEQUATE PROTECTION FROM HIGH WINDS.
9. FULL PENETRATION WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 100% NDE INSPECTED BY UT IN ACCORDANCE WITH AWS D1.1.
10. PARTIAL PENETRATION AND FILLET WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 50% NDE INSPECTED BY MP IN ACCORDANCE WITH AWS D1.1.
11. MOVE ALL COAX AND OTHER FLAMMABLE MATERIALS FROM ANY AREA THAT MAY BE HEATED DURING CONSTRUCTION.
12. CONTRACTOR SHALL MAKE PROPER PRECAUTIONS AND PROCEDURES TO PROTECT THE STRUCTURE FROM CATCHING FIRE DURING ALL WELDING OPERATIONS. THE FOLLOWING FIRE SAFETY PREVENTION PROTOCOL IS THE MINIMUM REQUIREMENTS DURING WELDING OPERATIONS. ALSO REFERENCE CROWN DOCUMENT ENG-BUL-10172 FOR ADDITIONAL WELDING REQUIREMENTS.
 - 500 GALLON WATER TANK WITH PUMP TO BE ON SITE AT ALL TIMES.
 - 2 FIRE EXTINGUISHERS ON SITE AT ALL TIMES.
 - 2 MAN FIRE WATCH ON ANY ADJACENT STRUCTURES, FIELDS AND POLE.
 - INTERMITTENT COOLING OF WELDED SURFACE TO REDUCE HEAT IN STRUCTURE.

DETAIL DRAWINGS SHALL GOVERN OVER ANY VARIANCE FROM THIS SHEET

PREPARED FOR:

CROWN CASTLE



BLACK & VEATCH

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182896

DRAWN BY: TYW

CHECKED BY: HK

REV	DATE	DESCRIPTION
0	07/14/14	ISSUED FOR CONSTRUCTION

7/14/14

PROFESSIONAL STRUCTURAL ENGINEER
NO. 168481-2203
DAVID H. KUHN
STATE OF UTAH

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

BU #845669
WO #792967
HUNTSVILLE
7305 EAST 730 NORTH
HUNTSVILLE, UT 84317
WEBER COUNTY, USA

SHEET TITLE
NOTES

SHEET NUMBER
TM-3

AJAX/DTI BOLT SPECIFICATIONS AND TIGHTENING PROCEDURE

M20 AJAX/DTI BOLT ASSEMBLY COMPONENT SPECIFICATIONS:

BOLT:
AJAX ONESIDE™ BLIND BOLT (M8.8; EQUIVALENT TO A325)
FINISH: HOT DIP GALVANIZED PER ASTM A153.

SPLIT WASHER:
AJAX ONESIDE™ SPLIT WASHER
FINISH: HOT DIP GALVANIZED PER ASTM A153.

SHEAR SLEEVE:
Fu = 120 KSI MIN. (ASTM A519)
29MM O.D. x 20MM I.D.
LENGTH = NOMINAL [GRIP-6MM] = [GRIP-0.25"] (TOL -0", +1/32")
SLEEVES SHALL BE ROUND, WITH ENDS CUT SQUARE AND DEBURRED.
FINISH: GALVANIZED (COLD GALVANIZED AS PER CROWN ENG-BUL-10149, HOT DIP GALVANIZED PER ASTM A123, MECHANICALLY GALVANIZED AND SPUN) OR CADMIUM PLATED.

SOLID WASHER:
AJAX ONESIDE™ SOLID WASHER
FINISH: HOT DIP GALVANIZED PER ASTM A153.

DIRECT TENSION INDICATOR WASHER:
SQUIRTER® DTI, ASTM F959M
FINISH: COLD MECHANICALLY GALVANIZED (TO ASTM B695) AND EPOXY COATED.

MANUFACTURER:
APPLIED BOLTING TECHNOLOGY PRODUCTS, INC.
1413 ROCKINGHAM ROAD, BELLOWS FALLS, VERMONT, USA 05101
PHONE: 1-800-552-1999
WEBSITE: WWW.APPLIEDBOLTING.COM

DISTRIBUTORS OF SQUIRTER® DTI'S:
<http://www.appliedbolting.com/applied-bolting-distributors.html>

FLAT WASHER:
HARDENED FLAT WASHER, ASTM F436M (MINIMUM HARDNESS RC38)
FINISH: COLD MECHANICALLY GALVANIZED

HEX NUT:
AJAX ONESIDE™ HEAVY HEX NUT
FINISH: HOT DIP GALVANIZED PER ASTM A153.

BOLT ASSEMBLY AND INSTALLATION:
BOLT ASSEMBLY SHALL ADHERE TO THE REQUIREMENTS OF DETAIL A, THIS DRAWING.
NON-PETROLEUM BASED, WATER SOLUBLE, INERT BOLT LUBRICANT SHALL BE USED ON ALL AJAX BOLTS TO ENSURE PROPER TENSIONING OF THE ASSEMBLY. CARE SHOULD BE TAKEN TO ENSURE THE BOLT HEAD AND SPLIT WASHER ARE NOT LUBRICATED AS THIS MAY CAUSE EXCESSIVE BOLT SLIPPAGE UPON APPLYING TORQUE, WHICH MAY LEAD TO DIFFICULTIES IN ENGAGING THE SQUIRTER® DTI WASHER PROPERLY. NOTE: ONLY LUBRICATING THE THREADS OF THE NUT MAY ACHIEVE BETTER RESULTS.
THE TYPICAL RULE OF THUMB WHEN USING AN IMPACT WRENCH IS TO ENGAGE FOR NO MORE THAN 10 SECONDS. IF THE BOLT IS NOT SPINNING AND THE SQUIRTER.
HAVE NOT ENGAGED AFTER 10 SECONDS USING AN IMPACT WRENCH, REMOVE THE NUT AND REAPPLY LUBRICANT. NOTE: PROLONGED USE OF THE IMPACT WRENCH TENDS TO HEAT THE BOLT THREAD/NUT, THEREBY, INCREASING FRICTION ON THE THREADS WHICH WOULD REQUIRE ADDITIONAL TORQUE. HOLDING FOR LONGER THAN 10 SECONDS CAN BE COUNTERPRODUCTIVE.

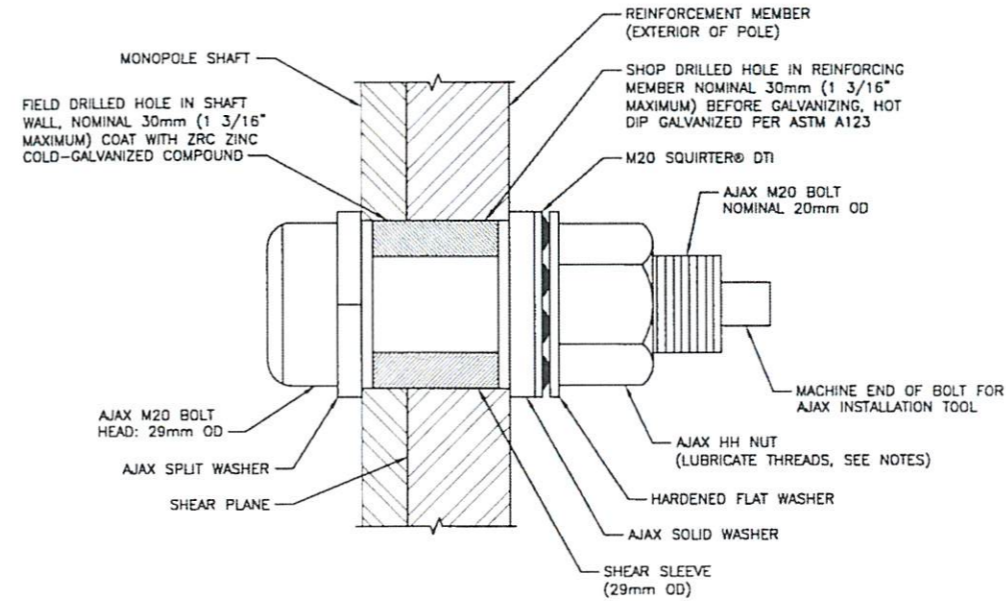
A MINIMUM OF 4 OUT OF 5 SQUIRTER® DTI "BUMPS" SHALL BE ENGAGED IN ANY AJAX/DTI BOLT ASSEMBLY IN THE END CONNECTION OF REINFORCING MEMBERS. INTERMEDIATE BOLTS SHALL ENGAGE A MINIMUM OF 3 OUT OF 5 SQUIRTER® DTI "BUMPS".

DTI WASHERS MUST BE PLACED DIRECTLY AGAINST THE OUTER AJAX WASHER WITH THE "BUMPS" FACING AWAY FROM THE AJAX WASHER. PLACE A HARDENED WASHER BETWEEN THE DTI AND THE AJAX NUT. THE DTI "BUMPS" SHALL BEAR AGAINST THE UNDERSIDE OF A HARDENED FLAT WASHER, NEVER DIRECTLY AGAINST THE NUT.

FOLLOW THE DTI MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION, LUBRICATION, TIGHTENING, AND INSPECTION.

INSPECTION:
VISUALLY INSPECT ALL BOLT ASSEMBLIES TO ENSURE THE MINIMUM "BUMP" ENGAGEMENT AS DEFINED IN THE SECTION "BOLT ASSEMBLY AND INSTALLATION" HAS BEEN ACHIEVED.
FOR MORE INFORMATION ON INSPECTION, SEE THE MANUFACTURER'S GUIDELINES.
WHERE FEASIBLE, CHECK A SAMPLE OF THE END CONNECTION DTI WASHERS WITH THE APPROPRIATE FEELER GAGE. IF THE FEELER GAGE CANNOT BE INSERTED TO THE BOLT SHANK HALF WAY AROUND THE BOLT, THE INSTALLATION IS OKAY. IF YOU CAN INSERT THE FEELER GAGE TO THE SHANK ALL THE WAY AROUND THE BOLT, THE INSTALLATION IS NOT OKAY. IF YOU FIND MORE THAN ONE SUCH "NOT OKAY" BOLT IN ANY ONE END CONNECTION, CHECK ALL BOLTS IN THAT END CONNECTION. A MINIMUM OF THREE BOLTS SHALL BE CHECKED IN EACH END CONNECTION. PHOTOS SHALL BE TAKEN TO INDICATE THE BOLTS TESTED.

ALL BOLT ASSEMBLIES AND DTI WASHERS SHALL BE VISUALLY INSPECTED. THE BOLT INSPECTOR SHALL PROVIDE COMPLETE PHOTO DOCUMENTATION OF ALL BOLTS AFTER TIGHTENING CLEARLY SHOWING THE CONDITION OF THE DTI WASHERS.



DETAIL A
M20 AJAX/DTI BOLT ASSEMBLY
NO SCALE

PREPARED FOR:

**CROWN
CASTLE**



BLACK & VEATCH

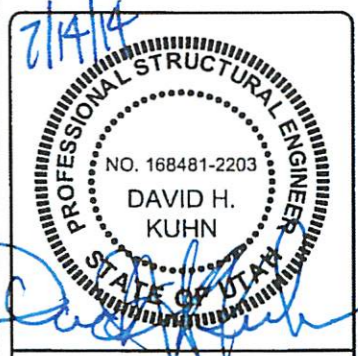
10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182896

DRAWN BY: TYW

CHECKED BY: HK

REV	DATE	DESCRIPTION
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BU #845669
WO #792967
HUNTSVILLE
7305 EAST 730 NORTH
HUNTSVILLE, UT 84317
WEBER COUNTY, USA

SHEET TITLE
AJAX/DTI BOLT SPECS
& TIGHTENING PROCEDURE

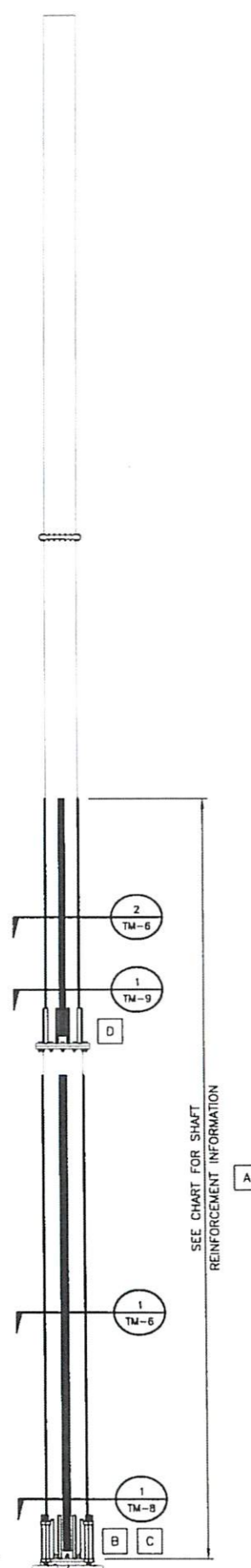
SHEET NUMBER
TM-4

ELEVATION 97.5'

ELEVATION 65.0'

ELEVATION 32.5'

ELEVATION 0.0'
TOP OF BASE PLATE



TOWER ELEVATION
NO SCALE

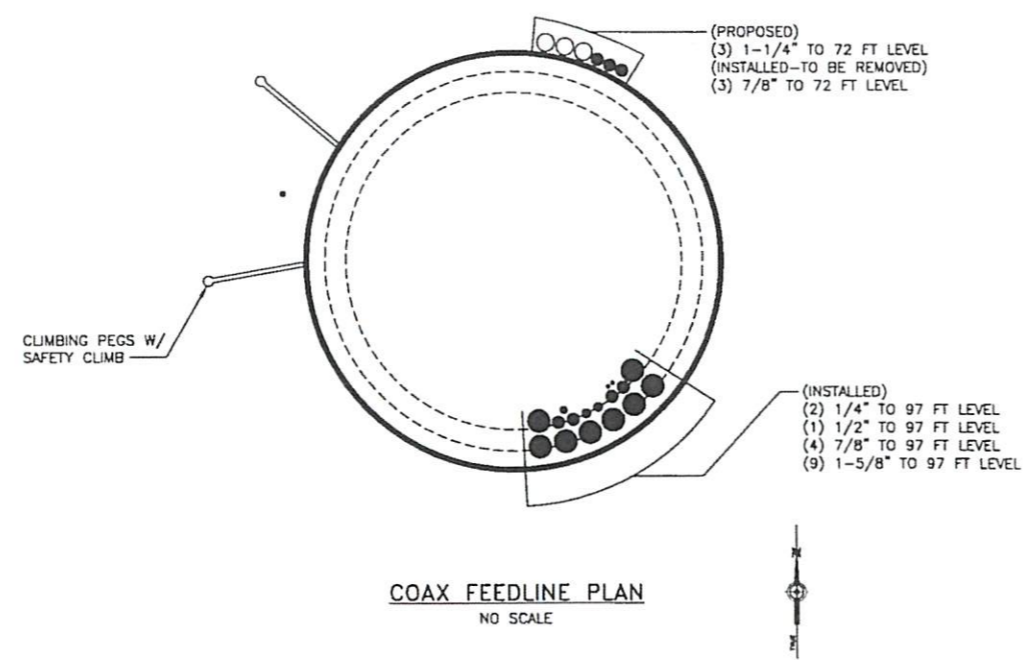
SEE CHART FOR SHAFT
REINFORCEMENT INFORMATION

POLE MODIFICATION SCHEDULE			
CALLOUT	ELEVATION (FT)	MODIFICATION	REFERENCE SHEET
A	0.0 - 47.5	INSTALL NEW PLATE REINFORCEMENT	TM-6
B	0.0	INSTALL (4) NEW #14 GRADE A615-75 HOT DIP GALVANIZED ALL-THREAD REBAR WILLIAMS R61 (OR EQUIVALENT) EMBEDDED 72" WITH ANCHOR ROD CHAIRS	TM-7
C	0.0	INSTALL (8) NEW 3/4" TRANSITION STIFFENER PLATES	TM-7 TM-8
D	32.5	INSTALL (8) NEW 3/4" TRANSITION STIFFENER PLATES	TM-9

CCI FLAT PLATE (65 KSI) REINFORCEMENT SCHEDULE										
BOTTOM ELEVATION	TOP ELEVATION	PART NUMBER	FLATS / DEGREES (°)	TERMINATION BOLTS (BOTTOM)	TERMINATION BOLTS (TOP)	MAX INTERMEDIATE BOLT SPACING	AJAX BOLT QUANTITY PER PLATE	STEEL WEIGHT PER PLATE (BLACK)	TOTAL AJAX BOLT QUANTITY	TOTAL STEEL WEIGHT (BLACK)
0'-6"	30'-6"	CCI-SFP-06010030	0°, 90°, 180°, 270°	8	8	1'-4"	35	612	105	1836
33'-0"	48'-0"	CCI-SFP-04510015	0°, 90°, 180°, 270°	6	6	1'-8"	19	229.5	57	688.5
								TOTAL	162	2524.5

NOTES FOR CROWN REINFORCING (65 KSI) MATERIAL

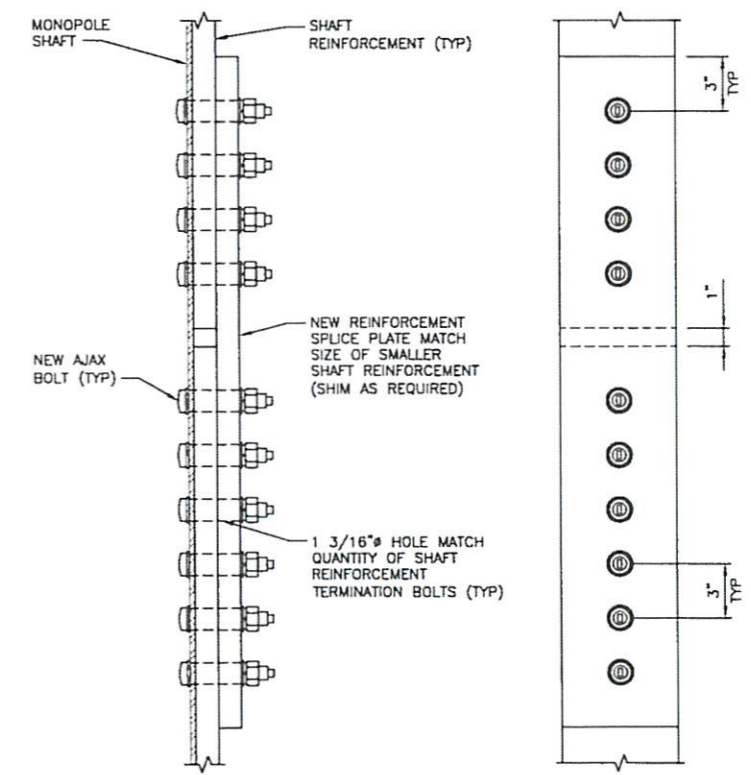
- DO NOT WELD WITHOUT APPROVAL FROM THE EOR.
- SHIMS FOR MONOPOLE REINFORCEMENT MEMBER SHALL BE REQUIRED WHERE GAPS BETWEEN THE POLE SHAFT AND REINFORCING MEMBER EXIST AT FASTENER LOCATIONS. FOR INTERMEDIATE CONNECTIONS, THE MINIMUM SHIM LENGTH AND WIDTH SHALL BE THE WIDTH OF THE REINFORCING MEMBER. FOR TERMINATION CONNECTIONS, A CONTINUOUS SHIM PLATE (PREFERRED) OR EQUIVALENT INDIVIDUAL SHIM PLATES THE WIDTH OF THE REINFORCING MEMBER MAY BE USED. SHIM THICKNESS SHALL BE NO LESS THAN 1/16". STACKING OF SHIMS IS PERMITTED.
- ALL FLAT PLATE REINFORCEMENT IS TO BE INSTALLED CENTERED ON ITS DESIGNATED FLAT, UNO.
- SEE CMRP 65 KSI PARTS CATALOG 2nd EDITION FOR PART DETAILS.
- AS AN ALTERNATIVE TO USING DTI WASHERS, AJAX BOLTS MAY BE PRETENSIONED PER THE AISC TURN-OF-NUT METHOD.



COAX FEEDLINE PLAN
NO SCALE

EXISTING FEEDLINE PLAN SHOWN ON THIS DRAWING IS BASED ON CURRENT BEST KNOWLEDGE OF THE EXISTING CONDITION. IF THE EXISTING FEEDLINE LAYOUT IS NOT AS SHOWN ON THIS DRAWING CONTRACTOR SHALL NOTIFY ENGINEER.

CONTRACTOR SHALL FIELD VERIFY AND MEASURE DIMENSIONS OF THE SITE STRUCTURE BEFORE FABRICATION OF MATERIALS FOR ALL TOWER MODIFICATION INSTALLATIONS.



REINFORCED SPLICE PLATE DETAIL
NO SCALE

PREPARED FOR:

CROWN CASTLE

BLACK & VEATCH

10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO:	182896
DRAWN BY:	TYW
CHECKED BY:	HK

REV	DATE	DESCRIPTION
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7/14/14

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BU #845669
WO #792967
HUNTSVILLE
7305 EAST 730 NORTH
HUNTSVILLE, UT 84317
WEBER COUNTY, USA

SHEET TITLE
TOWER
ELEVATION

SHEET NUMBER
TM-5

PREPARED FOR:

CROWN CASTLE



BLACK & VEATCH

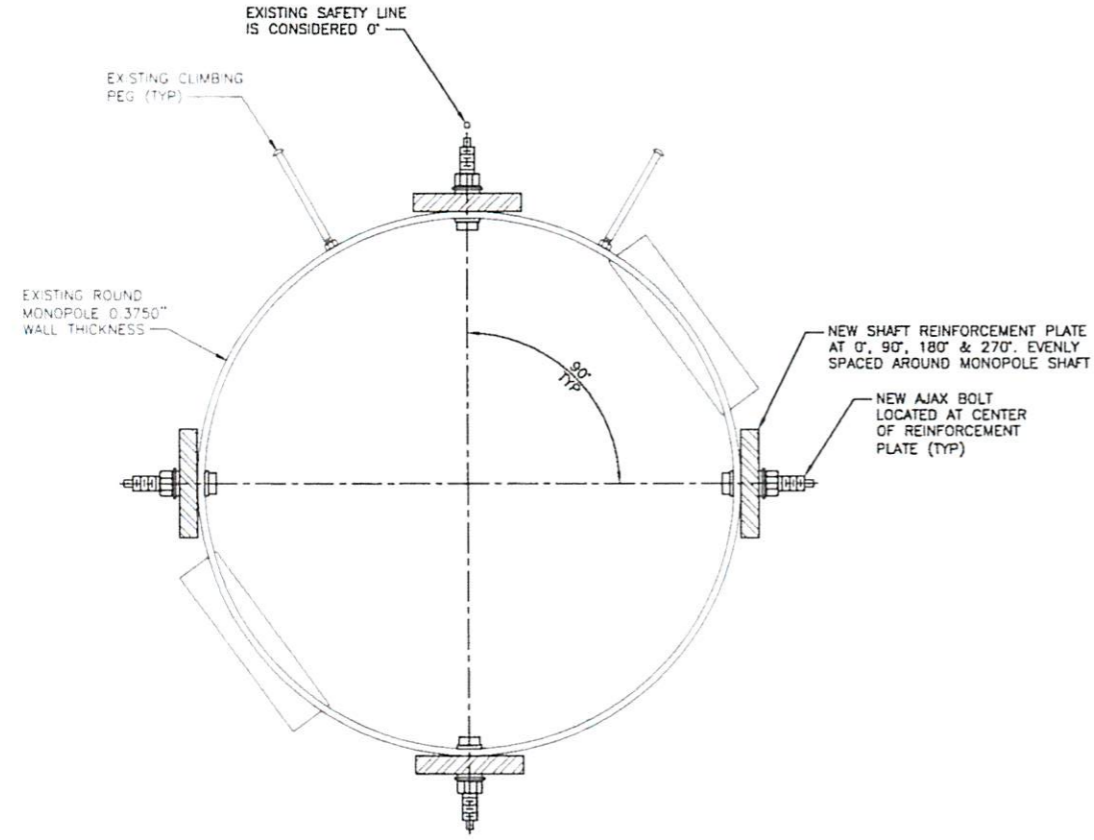
10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182896

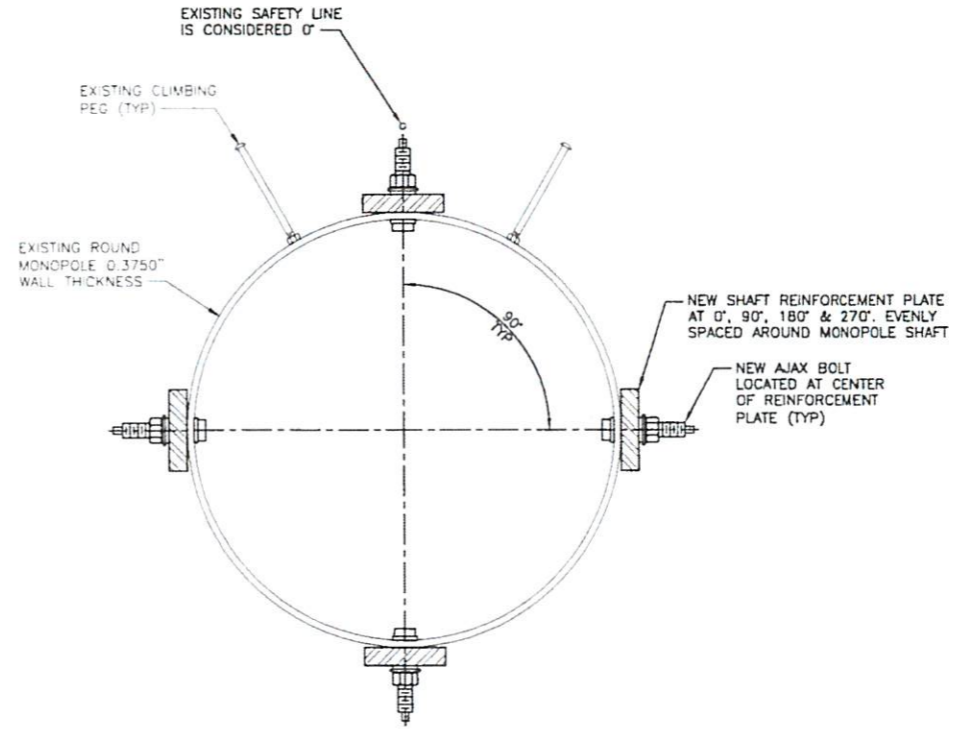
DRAWN BY: TYW

CHECKED BY: HK

REV	DATE	DESCRIPTION
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SECTION 1
NO SCALE



SECTION 2
NO SCALE

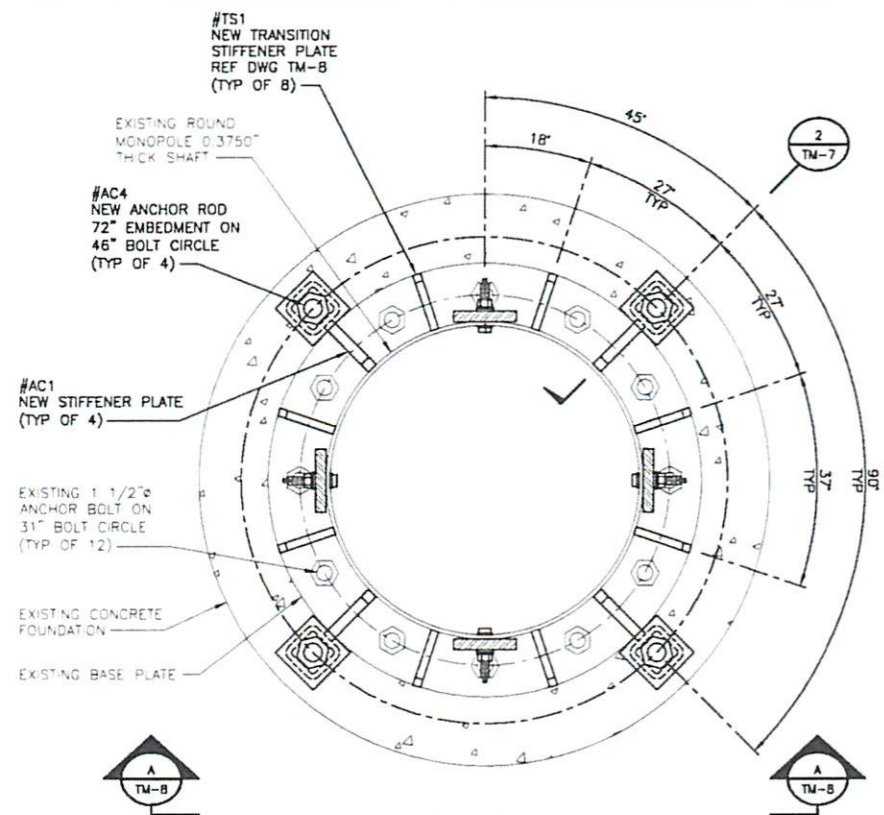
7/14/14

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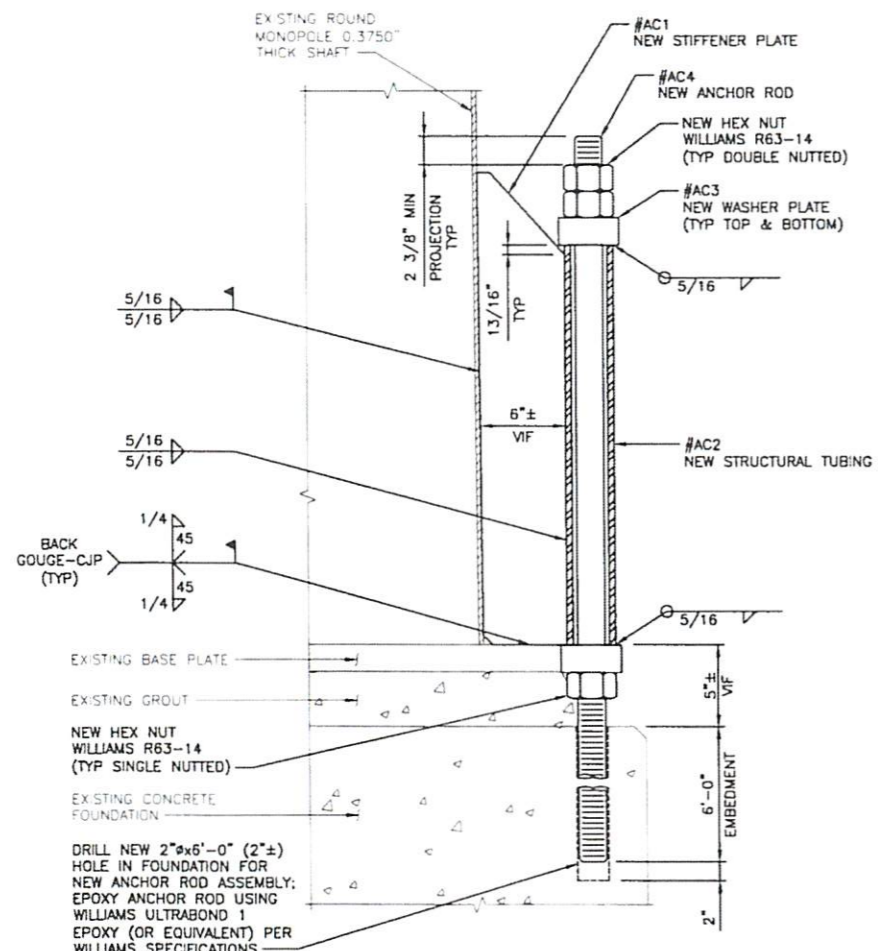
BU #845669
WO #792967
HUNTSVILLE
7305 EAST 730 NORTH
HUNTSVILLE, UT 84317
WEBER COUNTY, USA

SHEET TITLE
TOWER SECTIONS

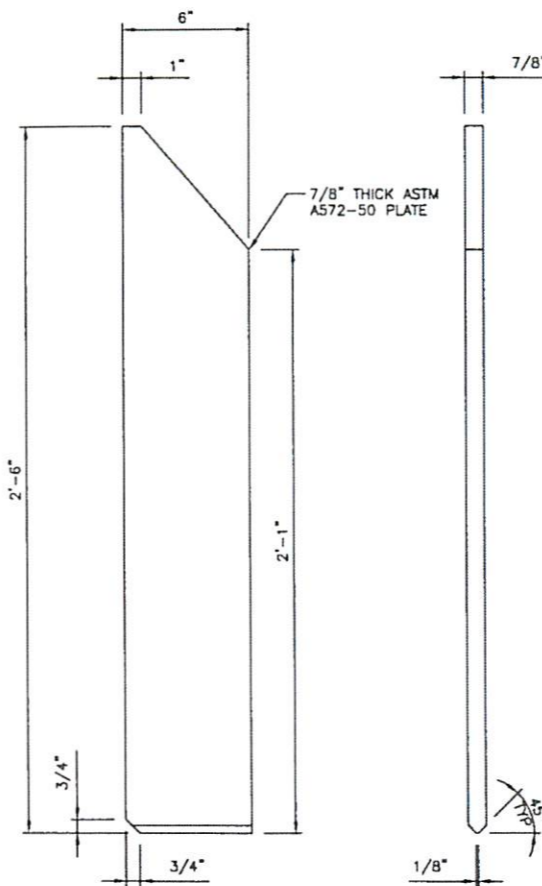
SHEET NUMBER
TM-6



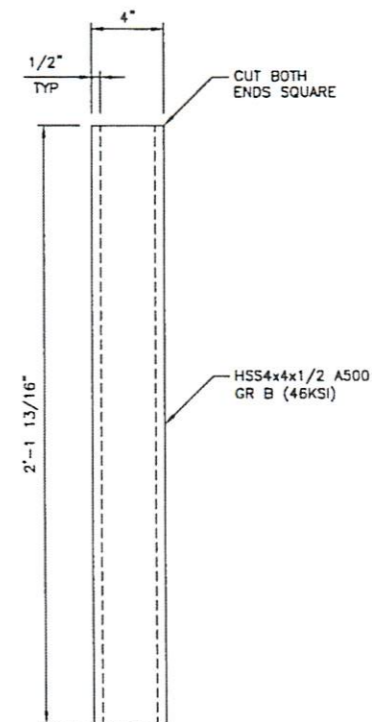
SECTION 1
ANCHOR ROD PLAN
NO SCALE



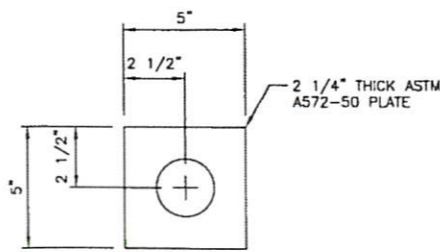
SECTION 2
NO SCALE



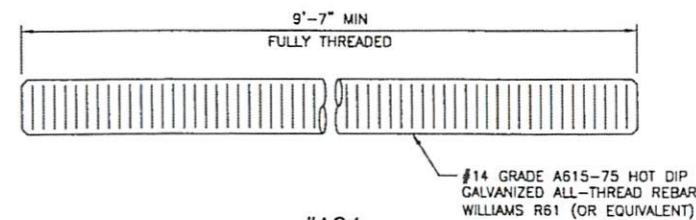
#AC1
STIFFENER PLATE
NO SCALE



#AC2
STRUCTURAL TUBING
NO SCALE



#AC3
WASHER PLATE
NO SCALE



#AC4
ANCHOR ROD
NO SCALE

NOTES

- ALL HSS SHAPES SHALL BE A500 GRADE C, 46 KSI.
- NEW ANCHOR RODS TO BE DRILLED AND EPOXIED INTO FOUNDATION USING WILLIAMS ULTRABOND 1 EPOXY (OR EQUIVALENT) PER WILLIAMS SPECIFICATIONS.
- ALL NEW ANCHOR RODS SHALL BE WILLIAMS R61 GRADE 75 ALL-THREAD REBAR -- ASTM A615.
- ALL NEW ANCHOR RODS SHALL BE INSTALLED WITH DOUBLE HEX NUTS ON THE TOP OF THE NEW ANCHOR ROD CHAIR AND ONE LEVELING HEX NUT ON THE BOTTOM OF THE NEW ANCHOR ROD CHAIR. CONTRACTOR SHALL CAREFULLY REMOVE EXISTING GROUT AS NECESSARY TO ENSURE PROPER INSTALLATION OF LEVELING NUTS.
- TAKE ALL MEASUREMENTS NECESSARY TO AVOID DAMAGING EXISTING REINFORCING BARS DURING DRILLING OPERATIONS. NOTIFY CROWN CASTLE IMMEDIATELY IF EXISTING REINFORCING BARS ARE ENCOUNTERED AND INTERFERE WITH PLACEMENT OF NEW ANCHORS. MINOR ADJUSTMENTS TO PROPOSED LOCATION OF NEW ANCHORS MAY BE REQUIRED.
- NEW #14 ANCHOR ROD REINFORCING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. ONCE ALL RESIN & GROUT HAVE CURED, NEW ANCHOR ROD REINFORCING SHALL BE PROOF LOADED TO 113 KIPS. SEE ENG-PRC-10119: PULL-OUT TESTING POST-INSTALLED ANCHOR RODS, FOR SPECIFICATIONS. FOR WILLIAMS R61 ALL-THREAD, TORQUE TENSION TESTING IS AN APPROVED ALTERNATE FOR BARS EQUAL TO OR GREATER THAN #11 IN SIZE. TESTING PER MANUFACTURER'S RECOMMENDATIONS. TIGHTEN ALL HEX NUTS TO SNUG PLUS 1/8 TURN OF NUT.

PREPARED FOR:

CROWN
CASTLE



BLACK & VEATCH

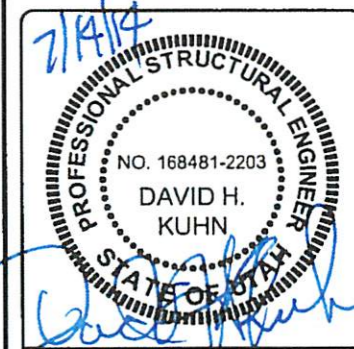
10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
(913) 458-2000

PROJECT NO: 182896

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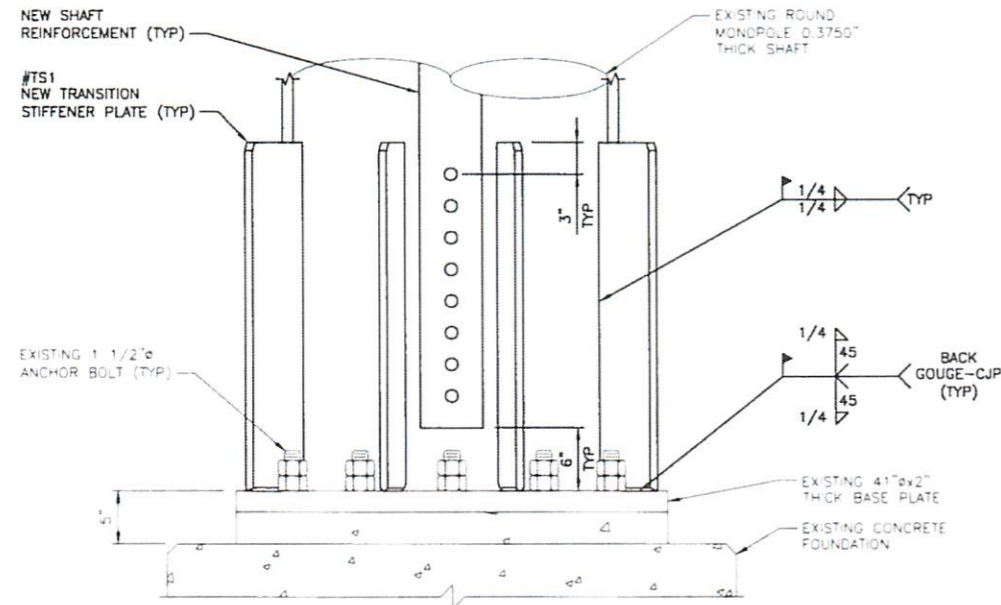
BU #845669
WO #792967
HUNTSVILLE
7305 EAST 730 NORTH
HUNTSVILLE, UT 84317
WEBER COUNTY, USA

SHEET TITLE
BASE PLATE
ANCHOR CHAIRS

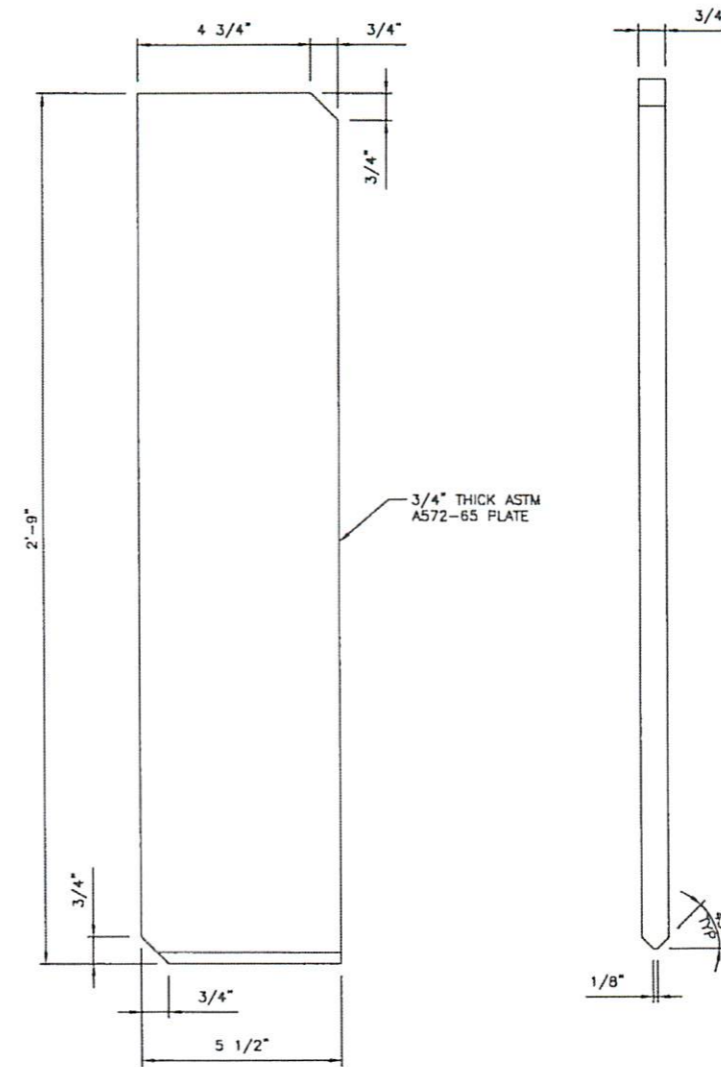
SHEET NUMBER
TM-7

NOTES

1. GRADE OF STEEL FOR TRANSITION STIFFENER PLATES TO BE A572-65 UNLESS NOTED OTHERWISE. ALL NEW PLATES SHALL BE HOT-DIPPED GALVANIZED.



ELEVATION A
NO SCALE



#TS1
TRANSITION STIFFENER PLATE
NO SCALE

PREPARED FOR:

**CROWN
CASTLE**



BLACK & VEATCH

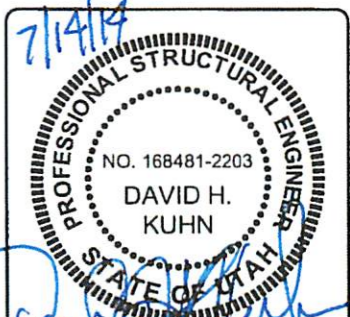
10950 GRANDVIEW DRIVE
OVERLAND PARK, KANSAS 66210
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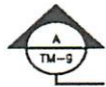
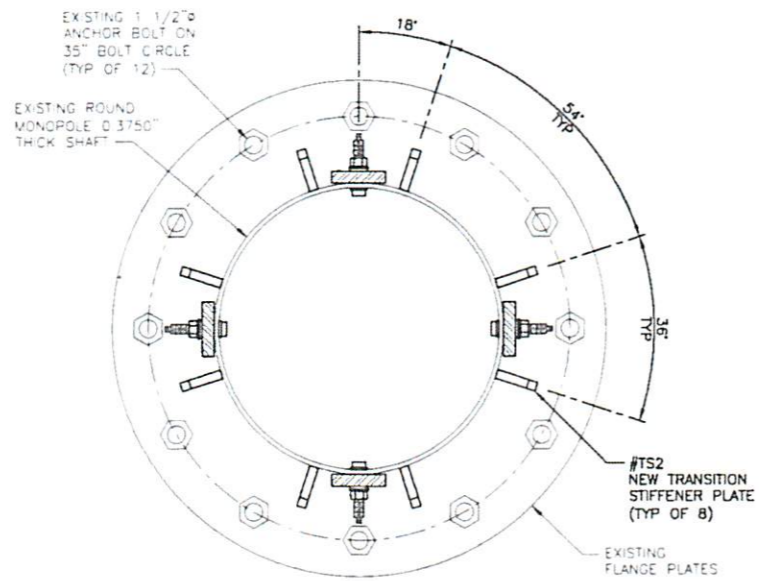
SHEET TITLE
**TRANSITION
STIFFENER PLATES**

SHEET NUMBER

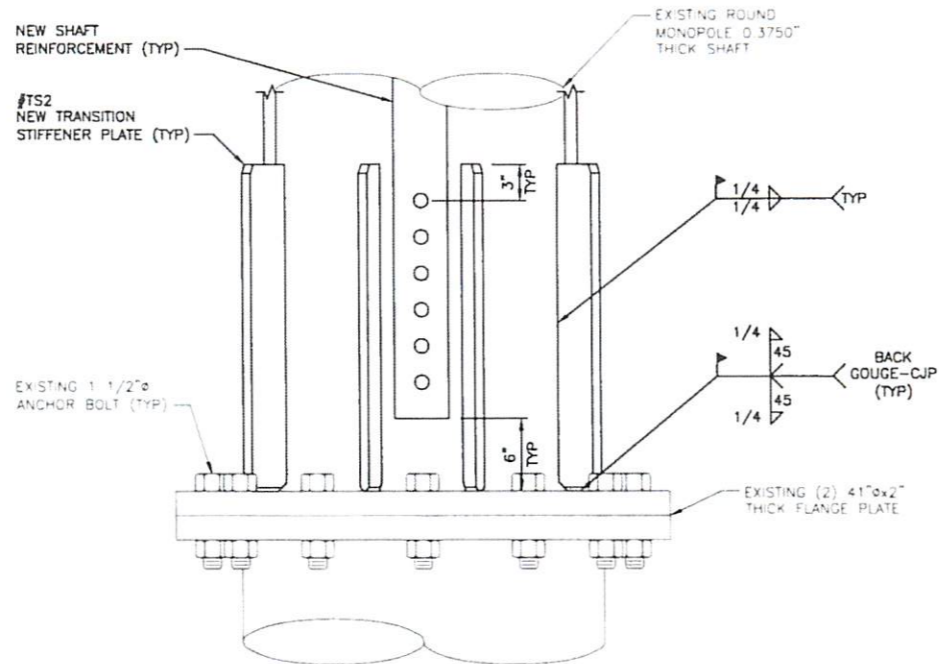
TM-8

NOTES

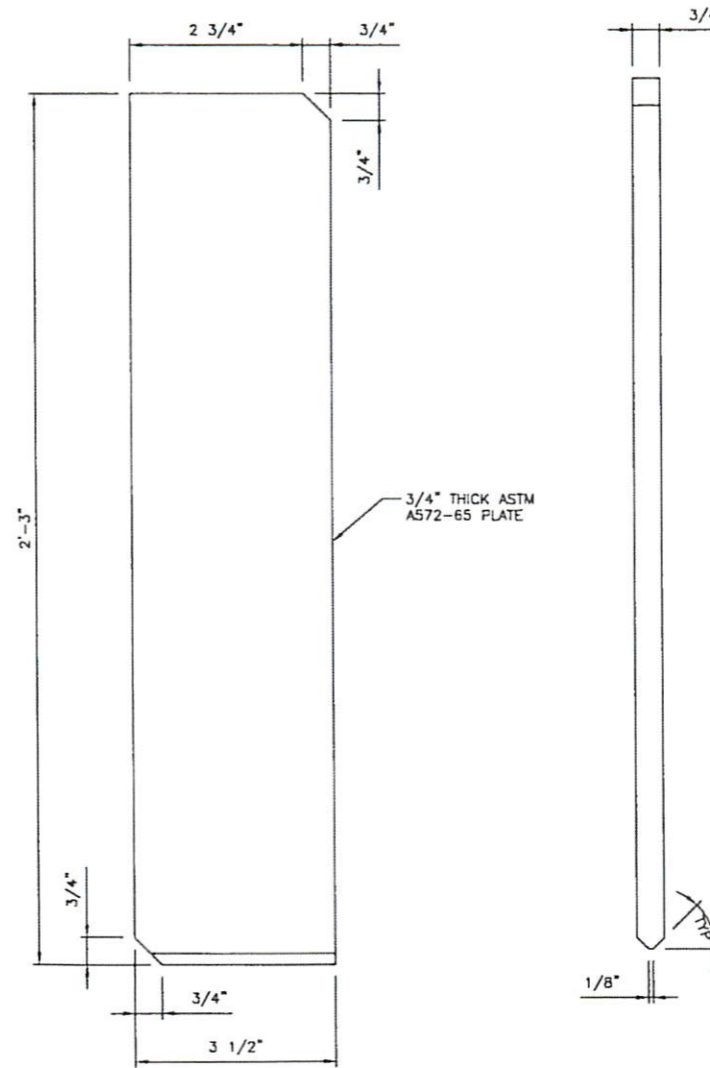
1. GRADE OF STEEL FOR TRANSITION STIFFENER PLATES TO BE A572-65 UNLESS NOTED OTHERWISE. ALL NEW PLATES SHALL BE HOT-DIPPED GALVANIZED.



SECTION 1
TRANSITION STIFFENER PLATE DETAIL
NO SCALE



ELEVATION A
NO SCALE



#TS2
TRANSITION STIFFENER PLATE
NO SCALE

PREPARED FOR:

CROWN CASTLE



BLACK & VEATCH

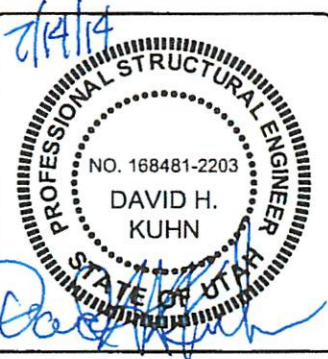
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SHEET TITLE
TRANSITION STIFFENER PLATES

SHEET NUMBER
TM-9