

PI TELECOM INFRASTRUCTURE V, LLC



SITE NAME: MOBILE NEILSON

SITE ID: AZPHU4390

WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY

APPROX. 1900' W OF INT. OF W MARICOPA RD (SR238) AND 99TH AVE  
GOODYEAR, ARIZONA

PROPOSED 195' SELF SUPPORT TOWER

AT&T  
SITE NO: AZPHU4390  
FA: 13799880  
USID: 174995  
PTN: 3901A06V4K

FINAL DEVELOPMENT PLANS

PROJECT SUMMARY

SITE NAME:	MOBILE NEILSON
SITE NUMBER:	N/A
TAX MAP PROPERTY ID:	N/A
SITE ADDRESS:	APPROX. 1900' W OF INT. OF W MARICOPA RD (SR238) AND 99TH AVE GOODYEAR, AZ 85139
JURISDICTION:	CITY OF GOODYEAR, AZ
TOWER OWNER:	PI TELECOM INFRASTRUCTURE, LLC 4601 TOUCHTON ROAD, BLDG. 300, SUITE 3200 JACKSONVILLE, FL 32246 (904) 450-4833
NAD83	
LATITUDE:	33° 03' 13.446" NORTH (NAD83)
LONGITUDE:	112° 16' 39.070" WEST (NAD83)
ELEVATION:	@ GRADE = 1328.7' (NAVD88)
APPLICANT:	PI TOWER DEVELOPEMENT LLC 4601 TOUCHTON ROAD BLDG 300, SUITE 3200 JACKSONVILLE, FL 32246
CO-APPLICANT:	AT&T 1355 W. UNIVERSITY DR. MESA, AZ 85201 MS. NICOLE RUSSELL (480) 444-4711
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
RFDS VERSION:	1.00
DATE:	12-9-16

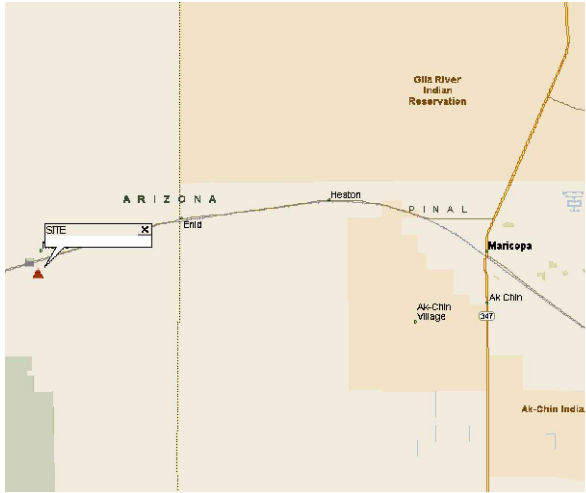
DESIGN INFORMATION

A&E FIRM:	B+T GROUP 840 E. McKELLIPS ROAD, BUILDING 2, SUITE 108 MESA, AZ 85203 GERALD MULDOWNY (352) 215-9100	ELECTRIC PROVIDER:	ARIZONA PUBLIC SERVICE (623) 932-6685
		TELCO PROVIDER:	TBD
SURVEYOR:	TERRAMARK LAND SURVEYING 24654 N LAKE PLEASANT PKWY #103-163 PEORIA, AZ (480) 440-1748		

CODE COMPLIANCE

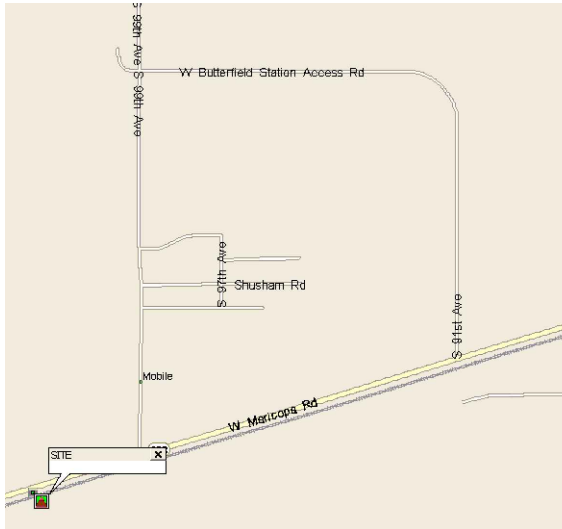
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:	
CODE TYPE	CODE
BUILDING/DWELLING	IBC 2012
STRUCTURAL	IBC 2012
MECHANICAL	IMC 2012
ELECTRICAL	NEC 2012

AREA MAP



NO SCALE

LOCATION MAP



NO SCALE

DRIVING DIRECTIONS

FROM AT&T OFFICE 1355 W UNIVERSITY DR, MESA, AZ 85201  
HEAD (WEST) ON W UNIVERSITY DR  
HEAD (SOUTH) ONTO AZ-101 LOOP [PRICE FWY]  
HEAD (WEST) ONTO US-60 [SUPERSTITION FWY]  
HEAD (SOUTH) ONTO I-10 [MARICOPA FWY]  
AT EXIT 164, HEAD (WEST) AZ-347 [W QUEEN CREEK RD]  
TURN (WEST) ONTO AZ-238 [W MARICOPA RD] APPROX. 14.0 MILES  
ARRIVE AT SITE ON YOUR LEFT 33.053735°, -112.2775194°

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES:  
• CONSTRUCT (1) NEW 195' SST TOWER  
• INSTALL FENCE AND ACCESS GATE  
• INSTALL (1) H-FRAME W/ UTILITY EQUIPMENT.  
• INSTALL NEW POWER & TELCO UTILITY SERVICES.  
• INSTALL NEW GROUNDING SYSTEM.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17.  
CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SEE SHEET GN-1 FOR  
ADDITIONAL CONSTRUCTION NOTES

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
GN-2	GENERAL NOTES	0
-	SURVEY	0
C-1	OVERALL SITE PLAN	0
C-2	PROPOSED IMPROVEMENTS PLAN	0
C-3	TOWER ELEVATION	0
C-3.1	ANTENNA SCHEDULE	0
C-4	FENCE DETAILS	0
C-5	ENGINEERING DETAILS	0
C-6	EROSION AND SEDIMENT CONTROL MASTER PLAN	0
C-7	EROSION AND SEDIMENT CONTROL DETAILS	0
C-8	TOWER LOCATION MAP	0
E-1	GENERAL ELECTRICAL NOTES AND SYMBOLS	0
E-2	TOWER GROUNDING PLAN	0
E-3	ONE-LINE DIAGRAM AND H-FRAME DETAIL	0
E-4	ELECTRICAL DETAILS	0
E-5	ELECTRICAL DETAILS	

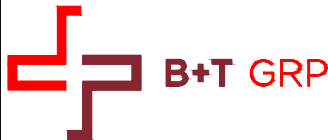
A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
PI TELECOM PROP:		
PI TELECOM CONST. MGR.:		
INTERCONNECT:		
PI TELECOM SITE DEV. MGR.:		
PROPERTY OWNER:		
STATUS CODE:		
1	ACCEPTED: WITH OR NO COMMENTS, CONSTRUCTION MAY PROCEED	
2	NOT ACCEPTED: RESOLVE COMMENTS AND RESUBMIT	

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.



CALL ARIZONA ONE CALL  
(800) 782-5348  
CALL 3 WORKING DAYS  
BEFORE YOU DIG!

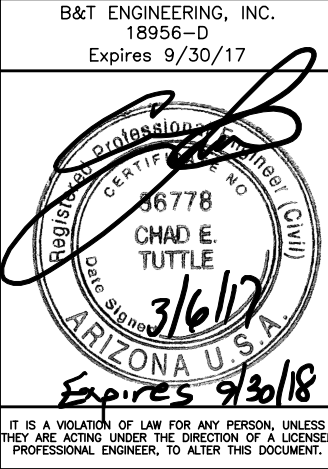


SCALE VERIFICATION  
0 BAR IS ONE INCH ON ORIGINAL DRAWING.  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SCALE: N.T.S.

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MOBILE NEILSON  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA  
PROPOSED 195'  
SELF SUPPORT TOWER

PROJECT NO:		108337	
CHECKED BY:		GAM	
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW



COVER SHEET

SHEET NUMBER:	REVISION:
T-1	0

SITE WORK GENERAL NOTES:

1.

ORDER OF CONSTRUCTION – EROSION CONTROL STRUCTURES INDICATED ON THE ATTACHED PLANS SHALL BE ERECTED PRIOR TO THE EXECUTION OF ANY SITE WORK. DRAINAGE STRUCTURES AND SURFACE WATER MANAGEMENT IMPROVEMENTS SHALL BE CONSTRUCTED DIRECTLY FOLLOWING SITE DEMOLITION AND PREPARATION TASKS.
2.

SEDIMENTATION CONTROL – SEDIMENTATION CONTROL SHALL BE ACCOMPLISHED DURING CONSTRUCTION THROUGH THE USE OF SILT FENCING PLACED AS SHOWN ON THE ATTACHED PLAN. THE CONTROL DEVICES SHALL BE SET AT THE ONSET OF SITE GRADING TO PREVENT ON-SITE SILTATION AND/OR SILTING OF PROPOSED RETENTION BASINS.
3.

EROSION CONTROL – THIS PROJECT MIGHT BE SUBJECT TO THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) REQUIREMENTS FOR CONSTRUCTION SITES. THE CONTRACTING PARTY OR CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND SUBMITTING ALL DOCUMENTS REQUIRED BY THE REGULATION, INCLUDING BUT NOT LIMITED TO SWPPP/SWMP; UNLESS PROVIDED FOR ELSEWHERE BY THE CONTRACTING PARTY.
4.

EXISTING IMPROVEMENTS – THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING IMPROVEMENTS AND UTILITIES PRIOR TO BID PREPARATION AND THE COMMENCEMENT OF CONSTRUCTION. ALL EXISTING ACTIVE UTILITIES ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. EXISTING INACTIVE OR ABANDONED UTILITY IMPROVEMENTS WHICH INTERFERE WITH THE PROPER EXECUTION OF THE WORK SHALL BE REMOVED OR CAPPED OR PLUGGED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF THE UTILITY OWNER.
5.

CODES AND STANDARDS – CONSTRUCTION SHALL CONFORM TO THE CODES AND STANDARDS REFERENCED BELOW INCLUDING THE INDICATED SECTIONS OF THE DOT STANDARD SPECIFICATIONS.
6.

CLEARING AND GRUBBING – CLEARING AND GRUBBING SHALL BE PERFORMED IN THE CONSTRUCTION LIMITS AS NOTED ON THE PLANS. THE CONTRACTOR SHALL EXPECT TO STRIP TO GENERAL DEPTHS OF 6" TO 12". DEEPER STRIPPING MAY BE NECESSARY IN AREAS OF MAJOR ROOT SYSTEMS. WHEREVER PAVEMENT OR BASE COURSE EXISTS WITHIN THE CONSTRUCTION LIMITS, THE SURFACE AND/OR BASES COURSES SHALL BE BROKEN UP FOR THE FULL EXISTING WIDTH AND DEPTH, REMOVED, AND DEPOSITED OFF-SITE.
7.

DEMOLITION – DEMOLITION DEBRIS FROM EXISTING STRUCTURES, IF ANY, SHALL BE REMOVED AND DEPOSITED OFF-SITE AT AN APPROVED LOCATION.
8.

FILL PLACEMENT – SOIL MATERIALS FOR FILLING SHALL CONFORM TO AASHTO SOIL GROUPS A-2, A-3 OR A-4 AND SHALL BE PLACED IN TEN (10) INCH LOOSE LIFTS TO THE GRADES SHOWN ON THE PLANS. EACH LIFT SHALL BE COMPACTED TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF MATERIAL IN ACCORDANCE WITH AASHTO T99 AS MODIFIED BY THE DOT. BACK FILL SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DOT CONSTRUCTION STANDARDS.
9.

SUBGRADE WORK – THE CONTRACTOR SHALL CLEAR AND STRIP THE AREA TO BE IMPROVED AND EXCAVATE TO THE TOP OF THE SUBGRADE. THE TOP OF THE SUBGRADE SHALL BE PROOF ROLLED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE TO LOCATE AND IDENTIFY SOFT SPOTS. SOIL MATERIALS IN SOFT AREAS SHALL BE REMOVED AND THESE AREAS SHALL BE BACKFILLED AS DIRECTED BY THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL DISPOSE OF THE EXCAVATED SUBGRADE MATERIALS, IF UNSUITABLE FOR FILL, OFF SITE.
10.

STABILIZED SUBGRADE – SUBGRADE SHALL BE STABILIZED WITH AGGREGATE STABILIZATION CONFORMING TO DOT SPECIFICATIONS. STABILIZER AGGREGATE SHALL BE IN ACCORDANCE WITH DOT SPECIFICATIONS. COMPACT THE ENTIRE DEPTH AND WIDTH OF THE STABILIZED SUBGRADE TO A DENSITY EQUAL TO AT LEAST 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T99.
11.

BASE COURSE – MATERIAL FOR THE AGGREGATE BASE COURSE (ABC) SHALL CONFORM TO DOT STANDARDS FOR AGGREGATE ROADWAYS. THE ABC BASE COURSE SHALL BE COMPACTED TO NO LESS THAN 95% OF THE MODIFIED PROCTOR DRY DENSITY (ASTM D1557 METHOD D). BASE COURSE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DOT STANDARDS FOR AGGREGATE ROADWAY CONSTRUCTION.
12.

THE CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS DURING THE COURSE OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS..
13.

CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE NATIVE VEGETATION WITH ALL OPEN SPACE AREAS AND CONFINE HIS OPERATIONS TO THE GRADING LIMITS SHOWN.
14.

CUT AND FILL SLOPES SHALL BE TRIMMED TO THE FINISH GRADE TO PRODUCE A SMOOTH SURFACE AND UNIFORM CROSS-SECTION. THE SLOPE OF THE EXCAVATIONS OR EMBANKMENTS SHALL BE SHAPED AND TRIMMED AND LEFT IN A NEAT AND ORDERLY CONDITION. ALL STONE, ROOTS, OR OTHER WASTE MATTER EXPOSED ON EXCAVATION OR EMBANKMENT SLOPES SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
15.

THE CONTRACTOR SHALL FURNISH, HAUL AND APPLY ALL WATER NECESSARY TO COMPLETE THE WORK COVERED BY THESE PLANS, INCLUDING THE CONTROL OF DUST FROM CONSTRUCTION ACTIVITIES IN ORDER TO MEET COUNTY AIR POLLUTION REGULATIONS. CONSTRUCTION WATER IS INCIDENTAL TO THE WORK BEING PERFORMED. THERE WILL NOT BE A SEPARATE MEASUREMENT NOR PAYMENT FOR WATER.
16.

BORING AND JACKING SHALL BE DONE IN ACCORDANCE SECTION 929 OF THE CITY OF TUCSON AND PIMA COUNTY STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS.

WORK WITHIN THE RIGHT-OF-WAY

THE METHOD AND MANNER OF PERFORMING THE WORK AND THE QUALITIES OF MATERIAL FOR CONSTRUCTION WITHIN THE RIGHT OF WAY SHALL CONFORM TO THE REQUIREMENTS SPECIFIED BY THE PUBLIC WORKS DEPARTMENT AND THE DEPARTMENT OF TRANSPORTATION (DOT). NO WORK SHALL BE DONE NOR MATERIALS USED IN THE CITY, COUNTY AND STATE RIGHT OF WAY, WITHOUT INSPECTION BY THE PUBLIC WORKS DEPARTMENT AND THE DOT RESPECTIVELY, AND THE CONTRACTOR/DEVELOPER SHALL FURNISH EACH DEPARTMENT EVERY REASONABLE FACILITY FOR ASCERTAINING WHETHER THE WORK PERFORMED AND MATERIALS USED ARE IN ACCORDANCE WITH THE REQUIREMENTS AND INTENT OF THE PLANS AND SPECIFICATIONS.

PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE:

1.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE OR INJURY TO PROPERTY OF ANY CHARACTER, DURING THE PROSECUTION OF THE WORK, RESULTING FROM ANY ACT, OMISSION, NEGLIGENCE, OR MISCONDUCT IN HIS MANNER OR METHOD OF EXECUTING THE WORK, OR AT ANY TIME DUE TO DEFECTIVE WORK OR MATERIALS, AND SAID RESPONSIBILITY WILL NOT BE RELEASED UNTIL THE PROJECT SHALL HAVE BEEN COMPLETED AND ACCEPTED.
2.

WHEN OR WHERE ANY DIRECT OR INDIRECT DAMAGE OR INJURY IS DONE TO PUBLIC OR PRIVATE PROPERTY BY OR ON ACCOUNT OF ANY ACT, OMISSION, NEGLIGENCE, OR MISCONDUCT IN THE EXECUTION OF THE WORK, OR IN CONSEQUENCE OF THE NON EXECUTION THEREOF BY THE CONTRACTOR, HE SHALL RESTORE, AT NO COST TO THE CONTRACTING AGENCY, SUCH PROPERTY TO A CONDITION SIMILAR OR EQUAL TO THAT EXISTING BEFORE SUCH DAMAGE OR INJURY WAS DONE, BY REPAIRING, REBUILDING, OR OTHERWISE RESTORING AS MAY BE DIRECTED, OR HE SHALL MAKE GOOD SUCH DAMAGE OR INJURY IN AN ACCEPTABLE MANNER. SUCH DAMAGE WILL INCLUDE BUT NOT BE LIMITED TO LANDSCAPED AREAS. THE CONTRACTOR SHALL RE GRADE THE DISTURBED AREA AS DIRECTED AND RESTORE THE SURFACE MATERIAL TO MATCH EXISTING IN TYPE AND QUALITY.
3.

THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING IMPROVEMENTS. SUCH RESTORATION WILL INCLUDE BUT NOT BE LIMITED TO ASPHALT, WALKWAYS, FENCES, LIGHTS, SPRINKLERS, LANDSCAPING, ETC. IN THE CASE OF LANDSCAPING, THE CONTRACTOR MAY REMOVE AND STORE SOD AND PLANT MATERIAL. IF, IN THE DETERMINATION OF THE ENGINEER, THE SOD AND/OR PLANT MATERIAL DID NOT SURVIVE THE TRANSPLANTING IN GOOD CONDITION, THE CONTRACTOR SHALL REPLACE THE SOD AND/OR PLANT MATERIAL TO MATCH IN TYPE AND QUALITY. ALSO, THE CONTRACTOR MAY SALVAGE ANY SPRINKLER SYSTEM MATERIALS, LIGHTING MATERIALS, ETC. IN THE EVENT THAT IT IS NOT FEASIBLE TO REINSTALL THE SALVAGED MATERIAL, NEW MATERIAL SHALL BE INSTALLED.

STRUCTURAL STEEL NOTES:

1.

ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
2.

ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3.

BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"Ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4.

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

INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.

GENERAL NOTES:

1.

FOR THE PURPOSE OF THESE CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)  
OWNER – PI TOWERS  
OEM – ORIGINAL EQUIPMENT MANUFACTURER
2.

PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3.

ALL 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. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4.

DETAILS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5.

UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6.

"KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7.

THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8.

IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
9.

SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, FIBER OPTIC LINES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS.
10.

THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11.

SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12.

SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13.

CONSTRUCTION SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES AND JURISDICTIONAL REQUIREMENTS.

ABBREVIATIONS AND SYMBOLS:

ABBREVIATIONS:

AGL	ABOVE GRADE LEVEL
BTS	BASE TRANSCEIVER STATION
(E)	EXISTING
MIN.	MINIMUM
N.T.S.	NOT TO SCALE
REF	REFERENCE
RF	RADIO FREQUENCY
T.B.D.	TO BE DETERMINED
T.B.R.	TO BE RESOLVED
TYP	TYPICAL
REQ	REQUIRED
EGR	EQUIPMENT GROUND RING
AWG	AMERICAN WIRE GAUGE
MGB	MASTER GROUND BAR
EG	EQUIPMENT GROUND
BCW	BARE COPPER WIRE
SIAD	SMART INTEGRATED ACCESS DEVICE
GEN	GENERATOR
IGR	INTERIOR GROUND RING (HALO)
RBS	RADIO BASE STATION

SYMBOLS:

	SOLID GROUND BUS BAR
	SOLID NEUTRAL BUS BAR
	SUPPLEMENTAL GROUND CONDUCTOR
	2-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
	SINGLE-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
	CHEMICAL GROUND ROD
	TEST WELL
	DISCONNECT SWITCH
	METER



Parallel  
INFRASTRUCTURE

4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

SCALE VERIFICATION

0 ——— 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.  
IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

SCALE: N.T.S.

SITE ID: AZPHU4390  
MOBILE NEILSON  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
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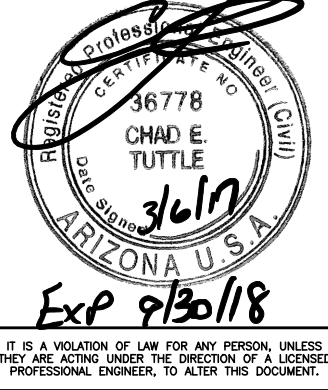
PROJECT NO: 108337

CHECKED BY: GAM

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

B&T ENGINEERING, INC.  
18956-D  
Expires 9/30/17



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.

GENERAL NOTES

SHEET NUMBER:

GN-1

REVISION:

0



ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PLASTIC TAPE PER COLOR SCHEDULE. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET & DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION WITH OUTER JACKET LISTED OR LABELED FOR THE LOCATION USED UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT) OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER).

ELECTRICAL INSTALLATION NOTES (CONT.):

- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND RATED NEMA 1 (OR BETTER) INDOORS OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. SLAB FOUNDATION DESIGN ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.

CONCRETE CAST AGAINST EARTH.....3 IN.  
CONCRETE EXPOSED TO EARTH OR WEATHER:  
#6 AND LARGER.....2 IN.  
#5 AND SMALLER & WWF.....1 1/2 IN.  
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:  
SLAB AND WALLS.....3/4 IN.  
BEAMS AND COLUMNS.....1 1/2 IN.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.  
CONCRETE EXPOSED TO EARTH OR WEATHER:  
#6 AND LARGER.....2 IN.  
#5 AND SMALLER & WWF.....1 1/2 IN.  
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:  
SLAB AND WALLS.....3/4 IN.  
BEAMS AND COLUMNS.....1 1/2 IN.
- A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

MASONRY NOTES:

- HOLLOW CONCRETE MASONRY UNITS SHALL MEET A.S.T.M. SPECIFICATION C90, GRADE N. TYPE 1. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF CONCRETE MASONRY (F'm) SHALL BE 1500 PSI.
- MORTAR SHALL MEET THE PROPERTY SPECIFICATION OF A.S.T.M. C270 TYP. "S" MORTAR AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
- GROUT SHALL MEET A.S.T.M. SPECIFICATION C475 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.
- CONCRETE MASONRY SHALL BE LAID IN RUNNING (COMMON) BOND.
- WALL SHALL RECEIVE TEMPORARY BRACING. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL GROUT IS FULLY CURED.

GREENFIELD GROUNDING NOTES:

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
- EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 AWG SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WIT A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS, WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.



SCALE VERIFICATION  
0 — BAR IS ONE INCH ON — 1"  
ORIGINAL DRAWING.  
IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

SCALE: N.T.S.

SITE ID: AZPHU4390  
MOBILE NEILSON  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA  
PROPOSED 195'  
SELF SUPPORT TOWER

PROJECT NO:		108337	
CHECKED BY:		GAM	
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

B&T ENGINEERING, INC.  
18956-D  
Expires 9/30/17

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.

GENERAL NOTES

SHEET NUMBER:	REVISION:
GN-2	0

LESSOR'S LEGAL DESCRIPTION

SITE IS LOCATED WITHIN THE EXISTING UNION PACIFIC RAILROAD RIGHT-OF-WAY.

LEASE AREA LEGAL DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 4 SOUTH, RANGE 1 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A FOUND 1 INCH IRON PIPE MARKING THE NORTH QUARTER CORNER OF SAID SECTION 29 FROM WHICH A FOUND 1 INCH IRON PIPE WITH TAG "RLS 30361" MARKING THE NORTHWEST CORNER OF SAID SECTION 29 BEARS NORTH 89°46'24" WEST, A DISTANCE OF 2640.87 FEET;

THENCE SOUTH 28°03'40" EAST, A DISTANCE OF 1794.31 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF S.R. 238 AS SHOWN ON A.D.O.T. DRAWING D-7-T-826 DATED FEBRUARY 12, 1987 AND TO THE POINT OF BEGINNING;

THENCE NORTH 73°26'41" EAST, ALONG SAID RIGHT-OF-WAY LINE, A DISTANCE OF 53.00 FEET;

THENCE SOUTH 16°33'19" EAST, A DISTANCE OF 46.50 FEET;

THENCE SOUTH 73°26'41" WEST, A DISTANCE OF 53.00 FEET

THENCE NORTH 16°33'19" WEST, A DISTANCE OF 46.50 FEET TO THE POINT OF BEGINNING.

SAID LEASE AREA CONTAINS 2,465 SQUARE FEET MORE OR LESS.

ACCESS AND UTILITY CORRIDOR LEGAL DESCRIPTION

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 4 SOUTH, RANGE 1 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A FOUND 1 INCH IRON PIPE MARKING THE NORTH QUARTER CORNER OF SAID SECTION 29 FROM WHICH A FOUND 1 INCH IRON PIPE WITH TAG "RLS 30361" MARKING THE NORTHWEST CORNER OF SAID SECTION 29 BEARS NORTH 89°46'24" WEST, A DISTANCE OF 2640.87 FEET;

THENCE SOUTH 28°03'40" EAST, A DISTANCE OF 1794.31 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF S.R. 238 AS SHOWN ON A.D.O.T. DRAWING D-7-T-826 DATED FEBRUARY 12, 1987 AND TO THE POINT OF BEGINNING;

THENCE SOUTH 16°33'19" EAST, A DISTANCE OF 42.25 FEET;

THENCE SOUTH 73°26'41" WEST, A DISTANCE OF 82.38 FEET;

THENCE NORTH 16°33'19" WEST, A DISTANCE OF 42.25 FEET TO THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF S.R. 238;

THENCE NORTH 73°26'41" EAST, ALONG SAID RIGHT-OF-WAY LINE, A DISTANCE OF 20.00 FEET;

THENCE SOUTH 16°33'19" EAST, A DISTANCE OF 22.25 FEET;

THENCE NORTH 73°26'41" EAST, A DISTANCE OF 29.38 FEET;

THENCE NORTH 16°33'19" WEST, A DISTANCE OF 22.25 FEET TO THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF S.R. 238;

THENCE NORTH 73°26'41" EAST, ALONG SAID RIGHT-OF-WAY LINE, A DISTANCE OF 33.00 FEET TO THE POINT OF BEGINNING.

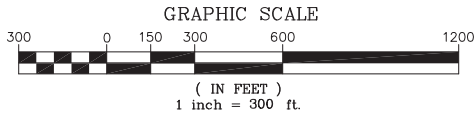
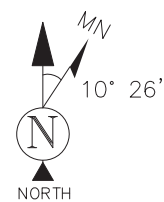
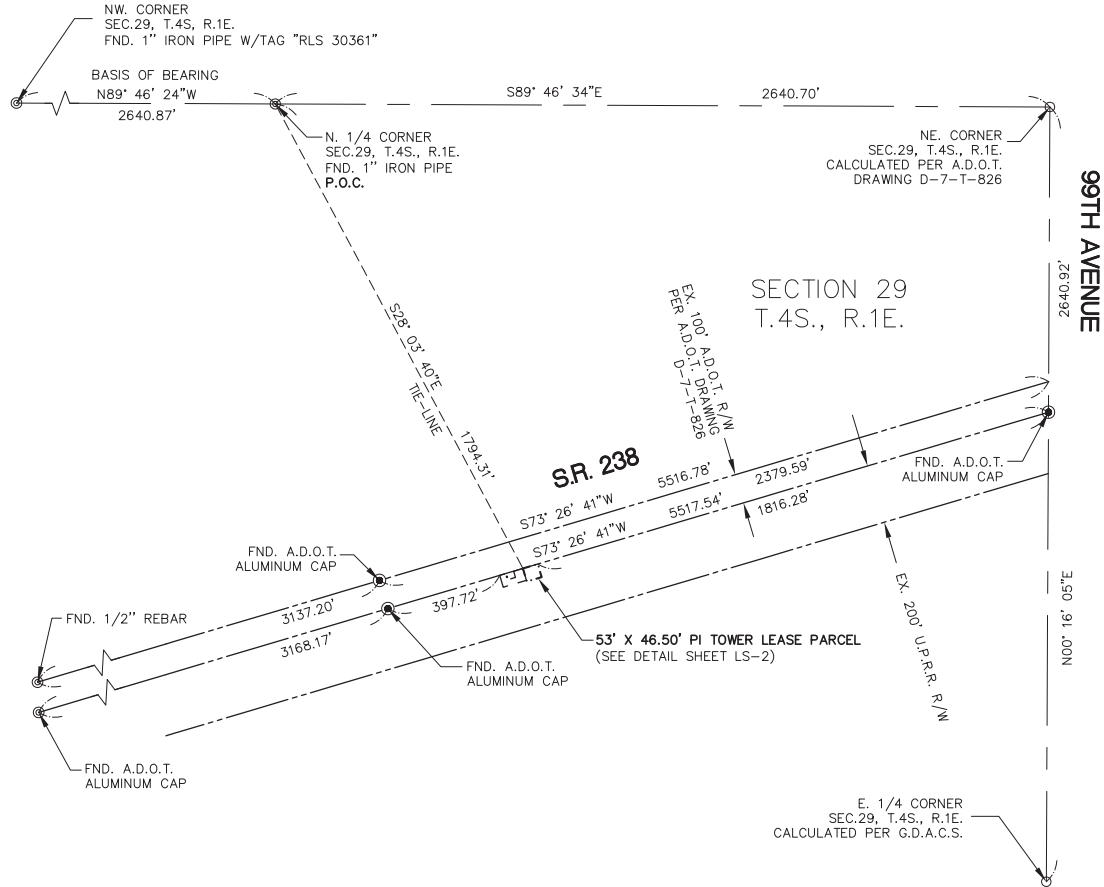
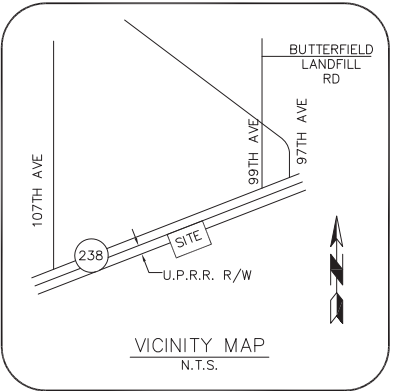
SAID ACCESS AND UTILITY CORRIDOR CONTAINS 2,827 SQUARE FEET MORE OR LESS.

CENTER OF GEODETIC COORDINATES

PROPOSED PI TOWER SELF-SUPPORT TOWER LOCATION  
LATITUDE: 33° 03' 13.514" NORTH (NAD83)  
LONGITUDE: 112° 16' 39.155" WEST (NAD83)  
ELEVATION @ GRADE = 1328.7' (NAVD88)

FLOOD ZONE

THIS IS TO CERTIFY THAT THE ABOVE SUBJECT PROPERTY LIES WITHIN ZONE 'X' AS DESIGNATED ON THE FIRM FLOOD INSURANCE RATE MAP, MAP NUMBER 04013C3400M, DATED NOVEMBER 04, 2015. ZONE 'X' IS DESIGNATED AS BEING AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY UNDER THAT CIRCUMSTANCE.



NOTES

1. A TITLE REPORT WAS NOT PROVIDED AT THE TIME OF THE SURVEY.
2. SURVEYOR HAS NOT PERFORMED A SEARCH OF PUBLIC RECORDS TO DETERMINE ANY DEFECT IN TITLE.
3. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OR A.L.T.A./N.S.P.S. TITLE SURVEY OF THE PROPERTY AND IS NOT INTENDED TO VERIFY OWNERSHIP. ANY CORNER OR CONTROL MONUMENTS SHOWN HEREON ARE FOR THE PURPOSE OF CONTROLLING RECORD BOUNDARY INFORMATION, EXISTING EASEMENTS AND FOR DESCRIBING PROPOSED EASEMENTS AND LEASE PREMISES. THE SURVEYOR HAS NOT MADE CORNER DETERMINATIONS ON ANY SUCH MONUMENTS.
4. SURVEYOR DOES NOT GUARANTEE THE LOCATION, EXISTENCE, SIZE OR DEPTH OF ANY PUBLIC OR PRIVATE UTILITY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT BLUE STAKE AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. REMOVAL, RELOCATION AND/ OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE WORD "CERTIFY" OR "CERTIFICATION" BY A PERSON OR FIRM THAT IS REGISTERED OR CERTIFIED BY THE BOARD OF TECHNICAL REGISTRATION IS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OR FINDINGS THAT ARE SUBJECT OF THIS CERTIFICATION AND DOES NOT CONSTITUTE AN EXPRESS OR IMPLIED WARRANTY OR GUARANTEE.

BASIS OF BEARING

THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 29, TOWNSHIP 4 SOUTH, RANGE 1 EAST BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM ARIZONA STATE PLANE ZONE CENTRAL, DETERMINED BY GPS OBSERVATIONS.

BEARING=NORTH 89°46'24" WEST

SURVEY DATE

THE FIELD SURVEY FOR THE PROJECT WAS COMPLETED ON 11/22/2016.

PROJECT BENCHMARK

FOUND 1" IRON PIPE MARKING THE NORTH QUARTER CORNER OF SECTION 29, TOWNSHIP 4 SOUTH, RANGE 1 EAST, GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA PER BOOK 746 OF MAPS, PAGE 8. (G.D.A.C.S.)

ELEVATION=1,322.54'(NAVD88)

SITE BENCHMARK

SET 60D NAIL

ELEVATION=1,328.84'(NAVD88)

LAND SURVEYOR'S CERTIFICATION

I, MARK J. GRIM, HEREBY CERTIFY THAT THIS SURVEY WAS PERFORMED UNDER MY SUPERVISION DURING THE MONTH OF NOVEMBER, 2016 AND THE MONUMENTS EXIST AS SHOWN HEREON.

MARK J. GRIM RLS # 51969

03/06/17  
DATE



SITE NAME:  
MOBILE NEILSON

SITE ADDRESS:  
APPROX. 1900'W. OF SR238 & 99TH AVE  
MARICOPA, AZ 85239

SUBMITTALS

NO.	BY	DATE	SUBMITTAL
1	MJG	12/01/16	PRELIM SUBMITTAL
2	MJG	12/02/16	FINAL SUBMITTAL
3	MJG	03/06/17	REVISION 1



24654 N. LAKE PLEASANT PKWY #103-163  
PEORIA, AZ 85383  
P. 480-440-1748  
F. 623-777-1782  
www.terramarksurveying.com

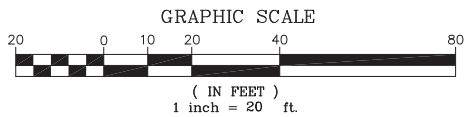
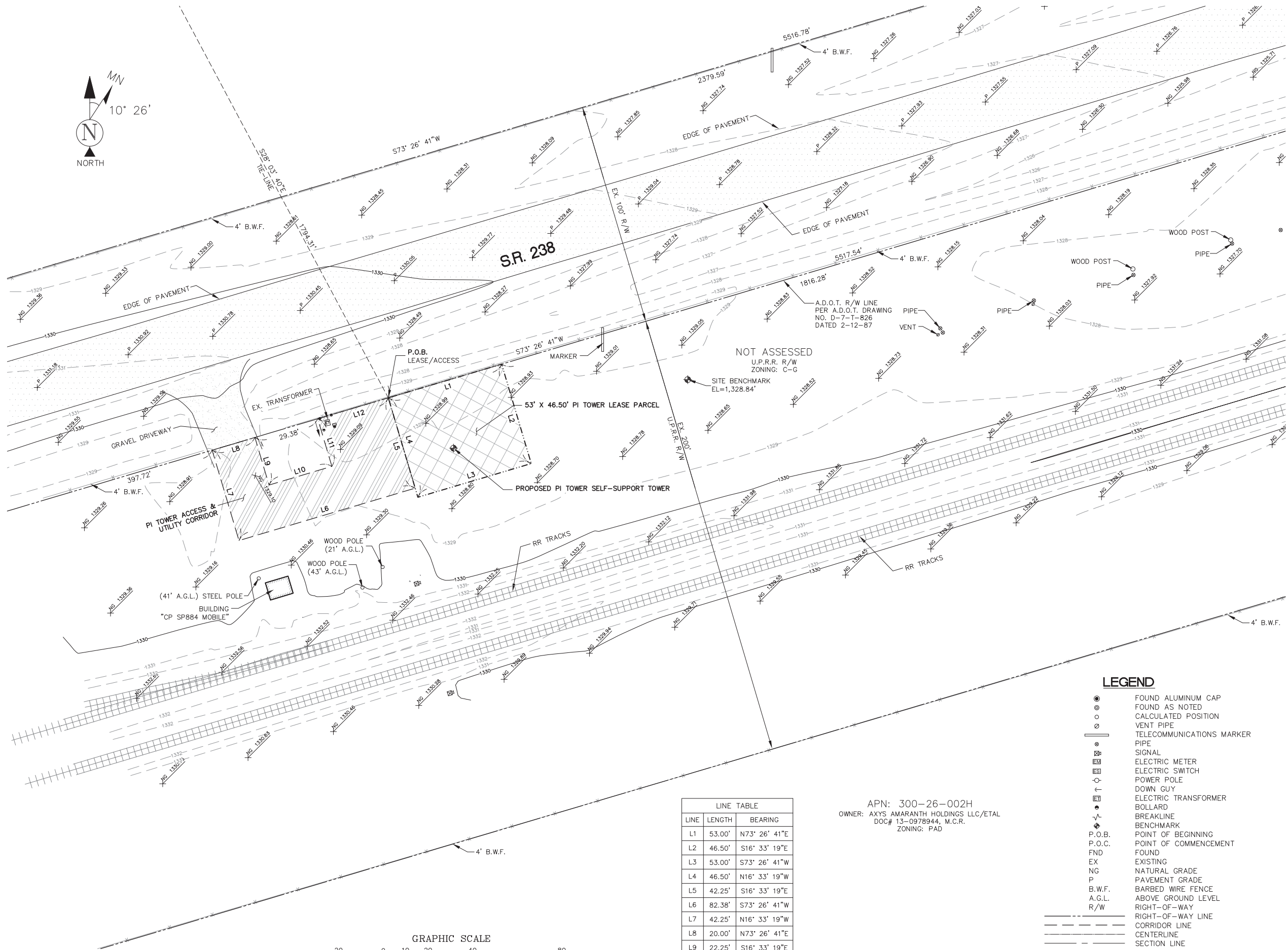
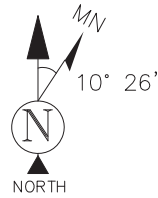


SITE SURVEY

JOB NO:	FIELD BY:	DRAWN BY:
1502002	MJG	MJG

SHEET NO.:  
1 OF 2  
SHEET NAME:  
LS-1





LINE TABLE		
LINE	LENGTH	BEARING
L1	53.00'	N73° 26' 41"E
L2	46.50'	S16° 33' 19"E
L3	53.00'	S73° 26' 41"W
L4	46.50'	N16° 33' 19"W
L5	42.25'	S16° 33' 19"E
L6	82.38'	S73° 26' 41"W
L7	42.25'	N16° 33' 19"W
L8	20.00'	N73° 26' 41"E
L9	22.25'	S16° 33' 19"E
L10	29.38'	N73° 26' 41"E
L11	22.25'	N16° 33' 19"W
L12	33.00'	N73° 26' 41"E

APN: 300-26-002H  
OWNER: AXYS AMARANTH HOLDINGS LLC/ETAL  
DOC# 13-0978944, M.C.R.  
ZONING: PAD

LEGEND	
	FOUND ALUMINUM CAP
	FOUND AS NOTED
	CALCULATED POSITION
	VENT PIPE
	TELECOMMUNICATIONS MARKER
	PIPE
	SIGNAL
	ELECTRIC METER
	ELECTRIC SWITCH
	POWER POLE
	DOWN GUY
	ELECTRIC TRANSFORMER
	BOLLARD
	BREAKLINE
	BENCHMARK
	P.O.B.
	P.O.C.
	FND
	EX
	NG
	P
	B.W.F.
	A.G.L.
	R/W
	CORRIDOR LINE
	CENTERLINE
	SECTION LINE
	LEASE LINE
	TIE-LINE
	BARB WIRE FENCE
	PAVED AREA
	GRAVEL AREA



SITE NAME:  
MOBILE NEILSON

SITE ADDRESS:  
APPROX. 1900'W. OF SR238 & 99TH AVE  
MARICOPA, AZ 85239

SUBMITTALS

NO.	BY	DATE	SUBMITTAL
1	MJG	12/01/16	PRELIM SUBMITTAL
2	MJG	12/02/16	FINAL SUBMITTAL
3	MJG	03/06/17	REVISION 1



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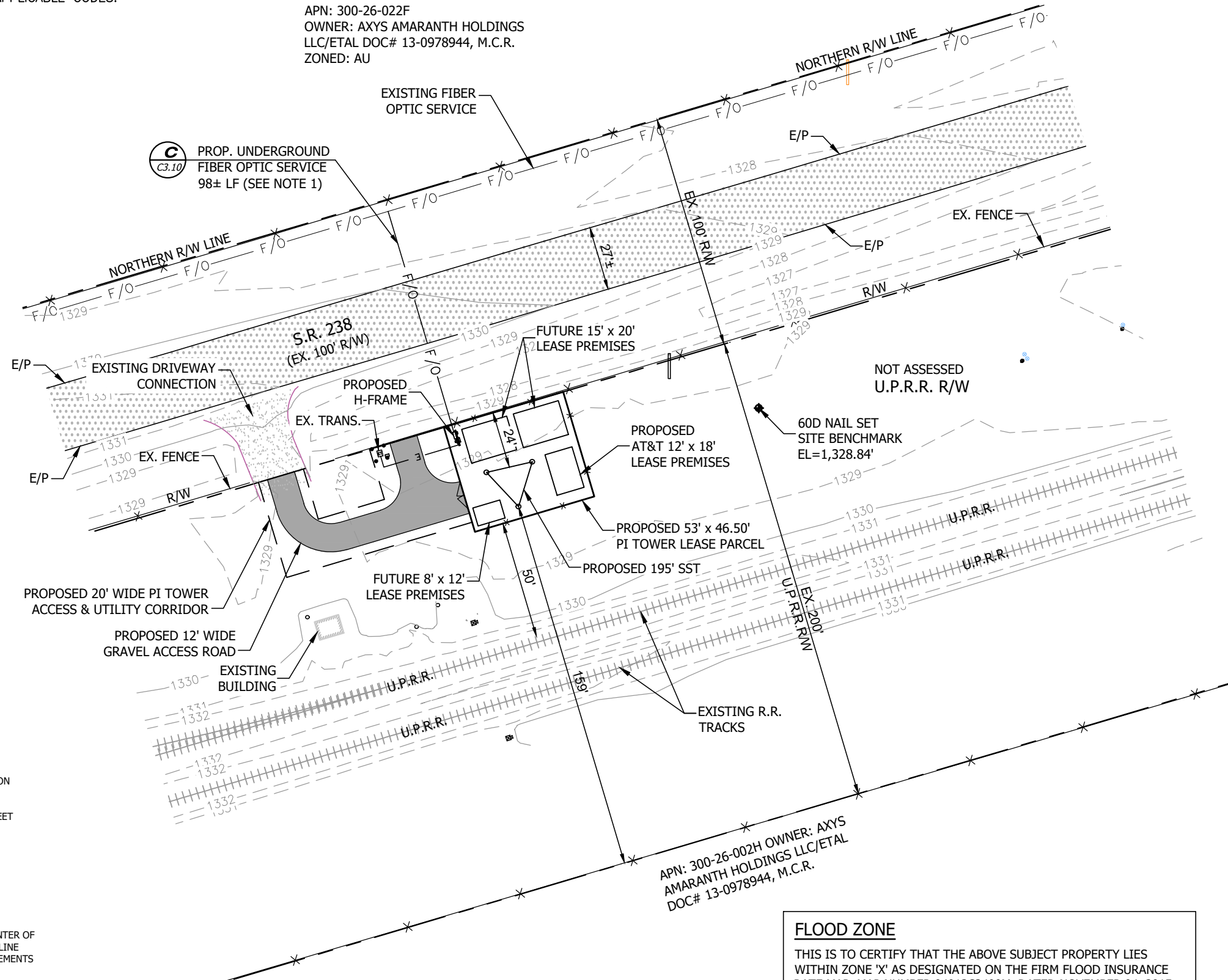
SITE SURVEY

JOB NO:	FIELD BY:	DRAWN BY:
1502002	MJG	MJG

SHEET NO.:	SHEET NAME:
2 OF 2	LS-2

1. INSTALL 98 LF± UNDERGROUND FIBER OPTIC SERVICE IN (1) 4" SCH. 40 PVC CONDUIT. INSTALL IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.

**C** PROP. UNDERGROUND  
C3.10 FIBER OPTIC SERVICE  
98± LF (SEE NOTE 1)



1. SEE LEGEND, SITE DATA, AND GENERAL NOTES ON SHEETS GN-1.

2. TOWER LATITUDE, LONGITUDE & ELEVATION MEET  
FAA"1-A" ACCURACY REQUIREMENTS.

3. PROPOSED 195' SELF SUPPORT TOWER.  
CENTER OF TOWER:

LATITUDE: 33° 03' 13.446" NORTH (NAD83)  
LONGITUDE: 112° 16' 39.070" WEST (NAD83)  
ELEVATION @ GRADE = 1328.7' (NAVD88)

4. THE PERPENDICULAR DISTANCES FROM THE CENTER OF PROPOSED TOWER TO PARENT TRACT BOUNDARY LINE WERE ESTABLISHED FROM ACTUAL FIELD MEASUREMENTS AND OBSERVATIONS PERFORMED BY TERRAMARK CONSULTING AND ARE AS FOLLOWS:

<u>NORTH:</u>	24'
<u>SOUTH:</u>	159'
<u>EAST:</u>	N/A
<u>WEST</u>	N/A

5. CONTRACTOR TO VERIFY POWER & TELCO DEMARCS WITH UTILITY PROVIDERS PRIOR TO BIDDING PROJECT.

THIS IS TO CERTIFY THAT THE ABOVE SUBJECT PROPERTY LIES WITHIN ZONE 'X' AS DESIGNATED ON THE FIRM FLOOD INSURANCE RATE MAP, MAP NUMBER 04013C3400M, DATED NOVEMBER 04, 2015. ZONE 'X' IS DESIGNATED AS BEING AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY UNDER THAT CIRCUMSTANCE.



**Call before you dig.**  
1.800.STAKE.IT / 602.263.1100



**Parallel**  
INFRASTRUCTURE

4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

### SCALE VERIFICATION

0 ————— 1"  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.  
IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

SCALE: 1"=50'

**SITE ID: AZPHU4390**  
**MOBILE NEILSON**  
**WIRELESS TELECOMMUNICATION**  
**CO-LOCATION FACILITY**  
**APPROX. 1900' W OF INT. OF W**  
**MARICOPA RD (SR238) & 99TH AVE**  
**GOODYEAR, ARIZONA**

**PROPOSED 195'**  
**SELF SUPPORT TOWER**

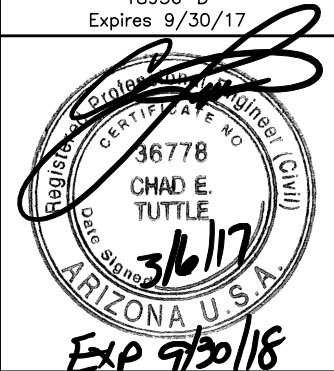
PROJECT NO:	108337
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CHECKED BY:	GAM
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ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

B&T ENGINEERING, INC.  
18956-D  
Expires 9/30/17



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.

## OVERALL SITE PLAN

SHEET NUMBER: REVISION:

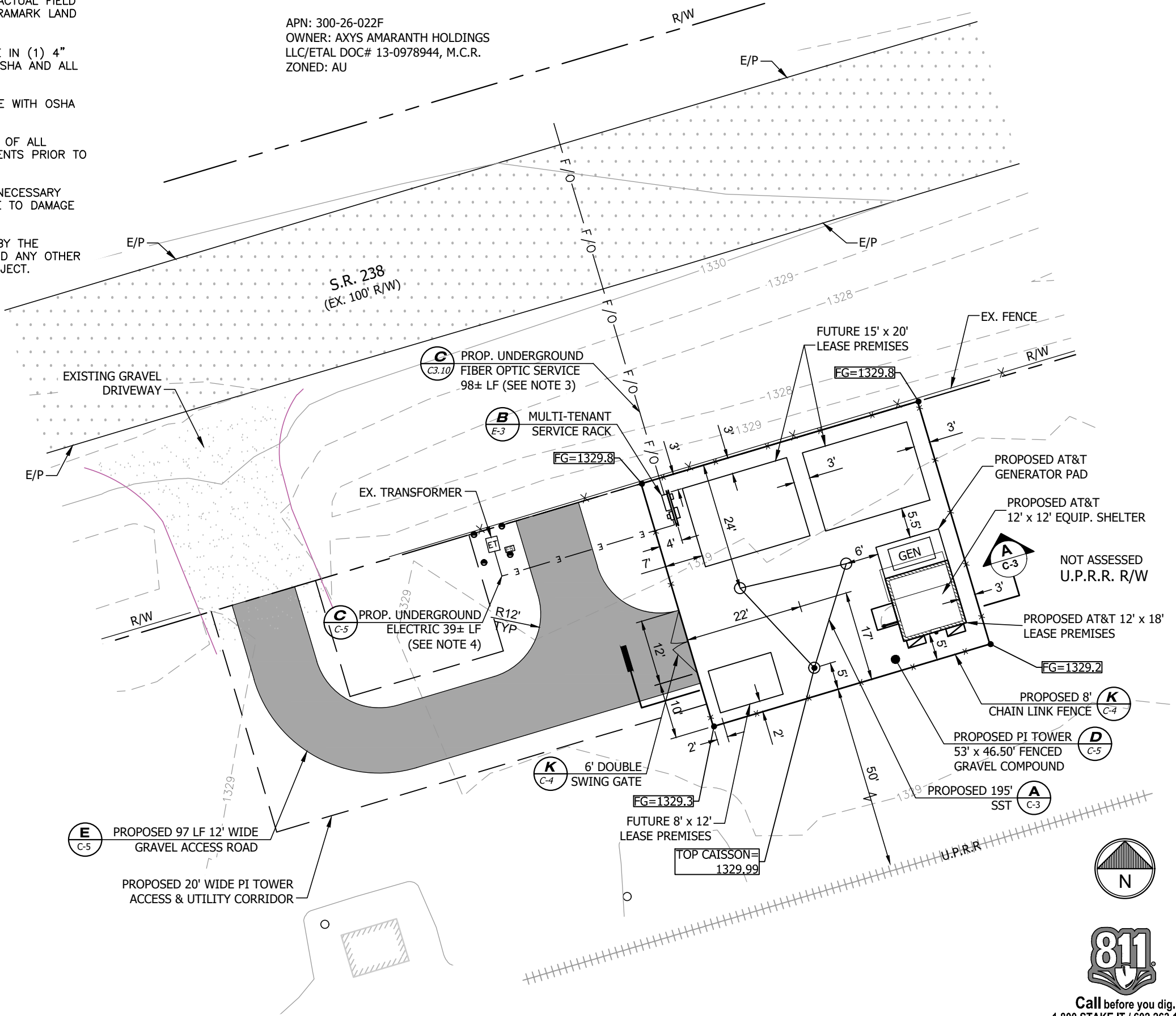
C-1

O

NOTES:

1. SEE LEGEND, ABBREVIATIONS & GENERAL NOTES ON SHEETS GN-1.
2. EXISTING FEATURES SHOWN HEREON ARE BASED ON ACTUAL FIELD MEASUREMENTS AND OBSERVATIONS PERFORMED BY TERRAMARK LAND SURVEYING, DATED NOVEMBER 22, 2016.
3. INSTALL 98 LF± UNDERGROUND FIBER OPTIC SERVICE IN (1) 4" SCH. 40 PVC CONDUIT. INSTALL IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.
4. INSTALL 39 LF± UNDERGROUND ELEC IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.
5. THE CONTRACTOR SHALL FIELD-VERIFY THE LOCATION OF ALL EXISTING ABOVE GROUND AND UNDERGROUND IMPROVEMENTS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY RELOCATION OR REPAIR OF EXISTING IMPROVEMENTS DUE TO DAMAGE CAUSED DURING CONSTRUCTION.
7. ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY THE CONTRACTOR WITH LOCAL GAS, ELECTRIC, TELEPHONE AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS PROJECT.

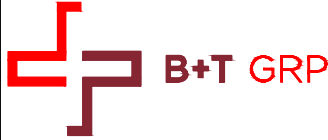
APN: 300-26-022F  
OWNER: AXYS AMARANTH HOLDINGS  
LLC/ETAL DOC# 13-0978944, M.C.R.  
ZONED: AU



THE CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING ON THE WORK CONTAINED WITHIN THIS DESIGN PACKAGE. DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO BIDDING.

LEGEND

- 3807 — INDICATES EXISTING CONTOUR
- SF — INDICATES PROPOSED SILT FENCE
- FG=2990.9 INDICATES FINISHED GRADE ELEVATION



**Parallel**  
INFRASTRUCTURE

4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

SCALE VERIFICATION

0 — 1" —  
BAR IS ONE INCH ON  
ORIGINAL DRAWING.  
IF NOT ONE INCH ON  
THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

SCALE: 1"=20'

SITE ID: AZPHU4390  
**MOBILE NEILSON**  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA  
PROPOSED 195'  
SELF SUPPORT TOWER

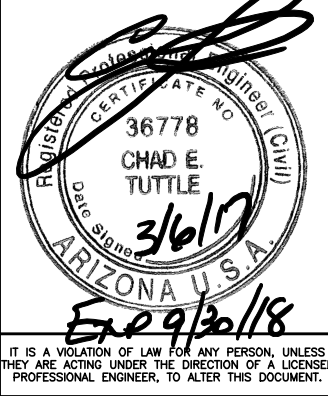
PROJECT NO: 108337

CHECKED BY: GAM

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

B&T ENGINEERING, INC.  
18956-D  
Expires 9/30/17



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PROPOSED  
IMPROVEMENTS PLAN

SHEET NUMBER: REVISION:

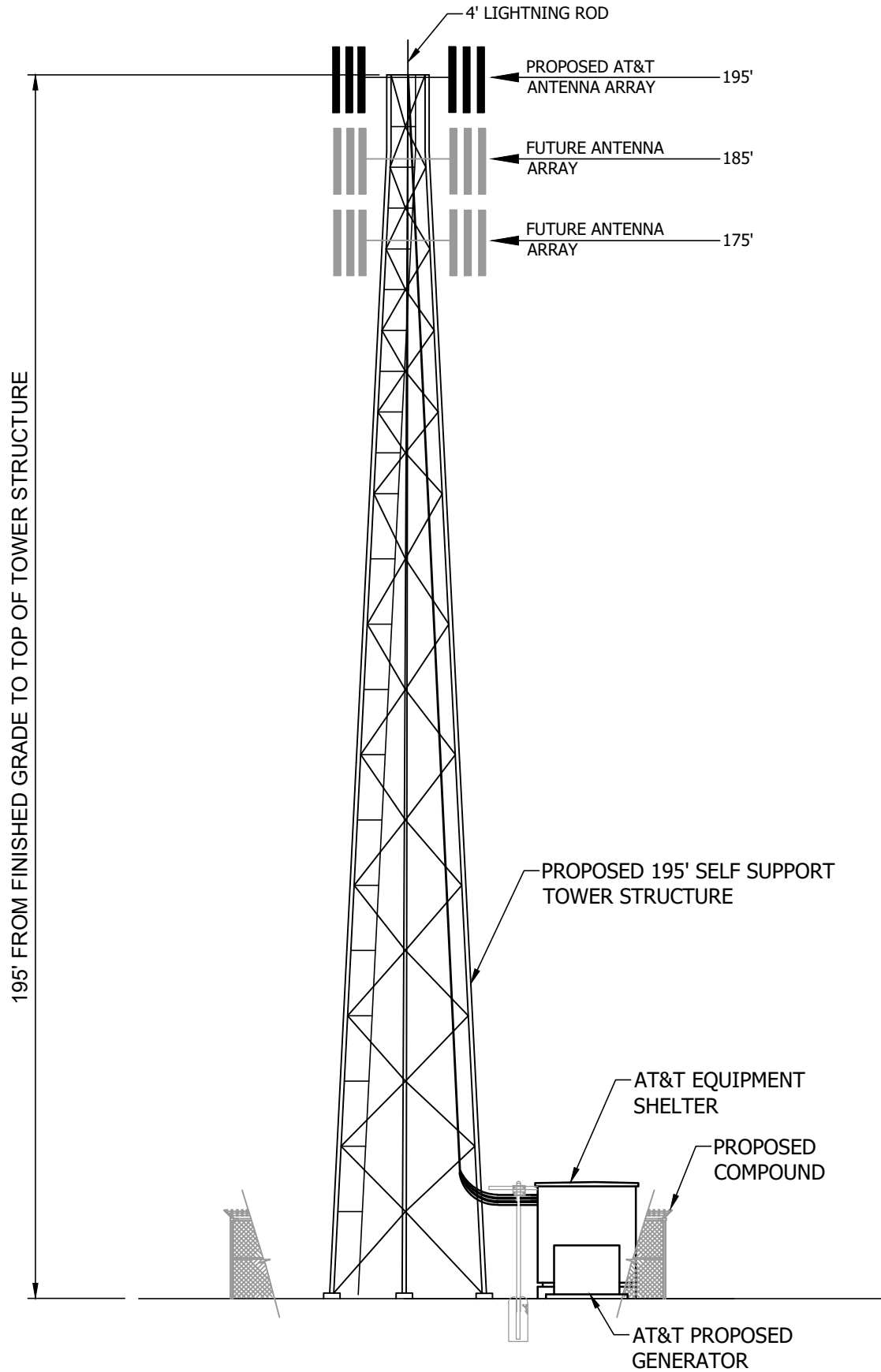
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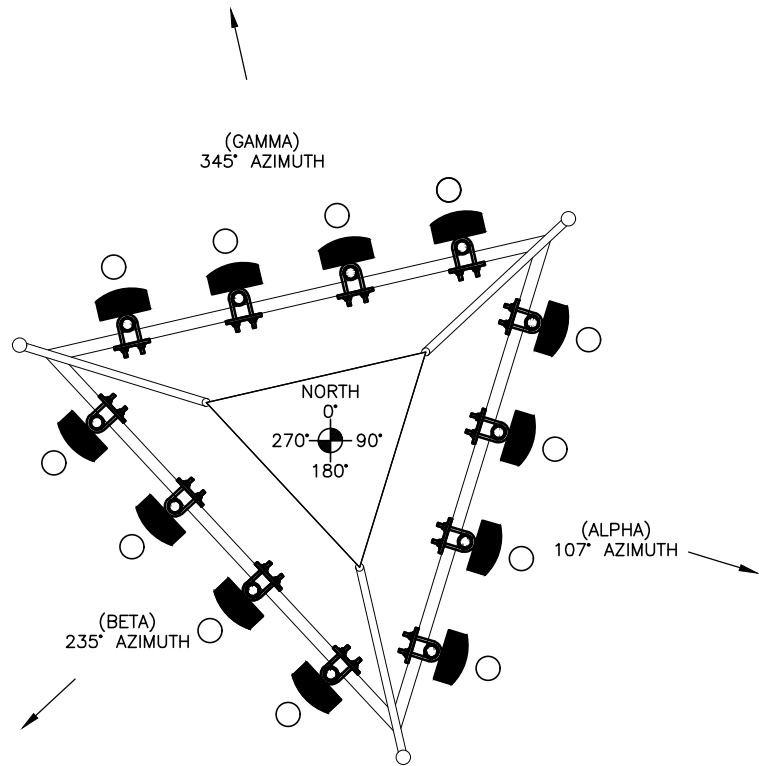
108337\_AZ Mobile Neilson\_CD's.dwg - Sheet:C-3 - User: chendricks - Mar 06, 2017 - 9:43am



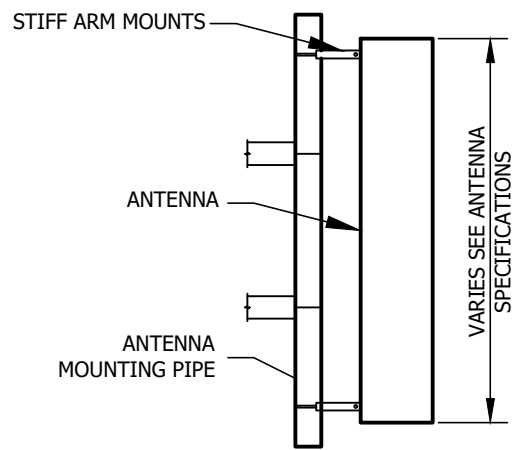
**A** SELF SUPPORT TOWER NORTH ELEVATION VIEW N.T.S.

**NOTES:**

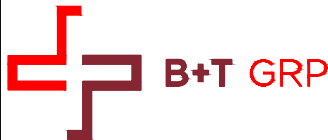
1. REFER TO STRUCTURAL PLANS BY OTHERS FOR TOWER SPECIFICATION & DETAILS.
2. THIS DETAIL IS FOR INFORMATION ONLY AND NOT FOR CONSTRUCTION PURPOSES.
3. NAVIGATIONAL HAZARD LIGHTING IS NOT REQUIRED IN ACCORDANCE WITH FAA REGULATIONS.
4. THE TOWER SHALL HAVE A GALVANIZED FINISH.
5. CARRIER RAD CENTER LINES SHALL BE VERIFIED WITH PI TELECOM INFRASTRUCTURE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. ANTENNAS SHALL HAVE A MINIMUM SEPARATION OF 2' FORM TIP TO TOE BETWEEN CARRIERS.



**B** PROPOSED ANTENNA ORIENTATION N.T.S.



**C** ANTENNA SECTION N.T.S.



**Parallel**  
INFRASTRUCTURE  
4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

**SCALE VERIFICATION**

0 1"  
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**SCALE: N.T.S.**

SITE ID: AZPHU4390  
**MOBILE NEILSON**  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA  
PROPOSED 195'  
SELF SUPPORT TOWER

PROJECT NO:		108337	
CHECKED BY:		GAM	
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

B&T ENGINEERING, INC.  
18956-D  
Expires 9/30/17

**REGISTERED PROFESSIONAL ENGINEER (CIVIL)**  
36778  
CHAD E. TUTTLE  
3/6/17  
ARIZONA U.S.A.  
Exp 9/30/18

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**TOWER ELEVATION**

SHEET NUMBER:	REVISION:
C-3	0



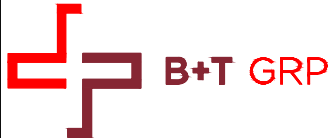
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ANTENNA AND FEEDLINE SCHEDULE											
ANTENNA SECTOR	ANTENNA POSITION	AZIMUTH	RAD CENTER	EXISTING/ PROPOSED	MODEL NO.	MECH. TILT	ELEC. TILT	RRU MODEL	TMA MODEL	FEEDLINE SIZE	FEEDLINE LENGTH
ALPHA	A1	107°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	A2	107°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	A3	107°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	A4	107°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	2°	-	(1) RRH2x40W-07AT	(1) FIBER TRUNK	210'
BETA	B1	235°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	B2	235°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	B3	235°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	B4	235°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	1°	-	(1) RRH2x40W-07AT	(1) FIBER TRUNK	210'
GAMMA	C1	345°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	C2	345°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	C3	345°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	0°	-	-	-	-
	C4	345°	190'	PROPOSED	ET-X-UW-70-16-70-18-iR-AT-RA	0°	1°	-	(1) RRH2x40W-07AT	(1) FIBER TRUNK	210'

1

NEW/PROPOSED SECTOR/CELL INFORMATION

SCALE: N.T.S.



Parallel

INFRASTRUCTURE

4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

SCALE VERIFICATION

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SCALE: N.T.S.

SITE ID: AZPHU4390

MOBILE NEILSON

WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W. OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA

PROPOSED 195'  
SELF SUPPORT TOWER

PROJECT NO: 108337

CHECKED BY: GAM

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

B&T ENGINEERING, INC.  
18956-D  
Expires 9/30/17

Exp 9/30/18

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ANTENNA SCHEDULE

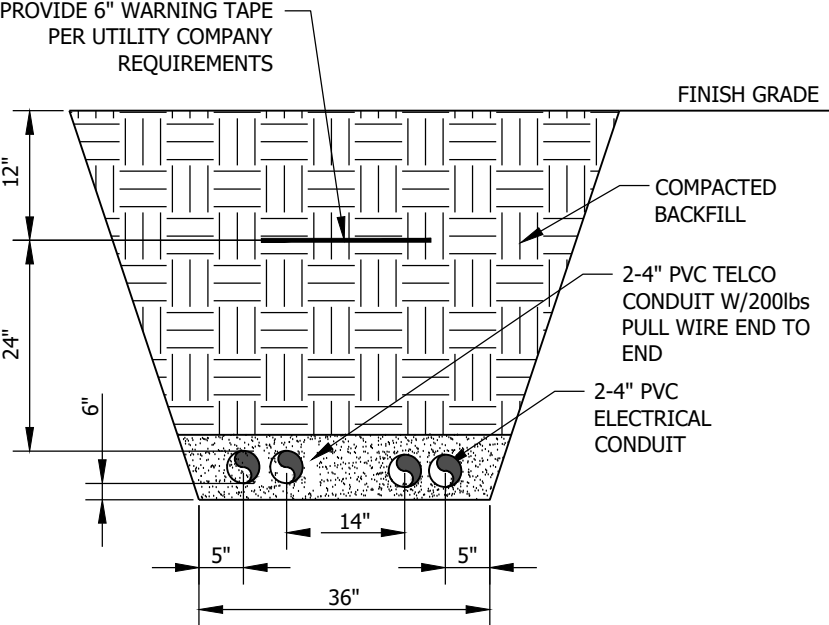
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REVISION: 0

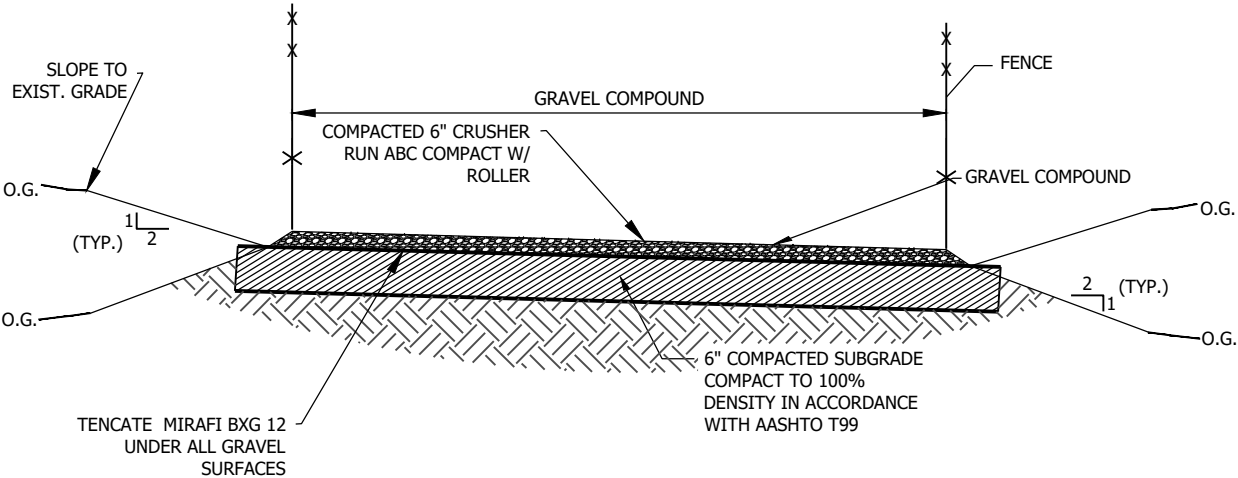




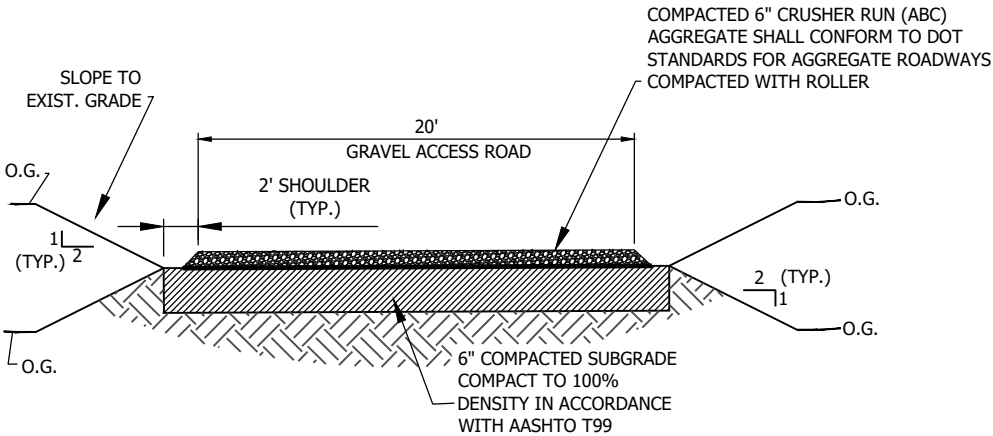
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UTILITY TRENCH  
DETAIL C N.T.S.

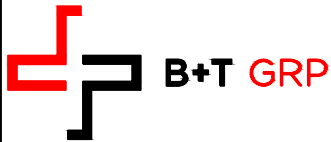


GRAVEL COMPOUND  
SECTION D N.T.S.



- NOTES:**
1. THE CONTACTOR MUST EITHER SUPER-ELEVATE OR CROWN ALL ROAD SECTIONS.
  2. THE MAXIMUM SUPER-ELEVATION SHALL NOT EXCEED 6% CROSS SLOPE.

ON GRADE GRAVEL ROAD  
SECTION E N.T.S.



**Parallel**  
INFRASTRUCTURE  
4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

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ENGINEERING DETAILS	
SHEET NUMBER:	REVISION:
C-5	0

APN: 300-26-022F  
OWNER: AXYS AMARANTH HOLDINGS  
LLC/ETAL DOC# 13-0978944, M.C.R.  
ZONED: AU

### KEY NOTES:

- ① CONSTRUCT SILT FENCE PER DETAIL 'F' ON SHEET C-7

**LEGEND:**

**SF**

— 2950 —

— SF —

### SCALE VERIFICATION

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**SITE ID: AZPHU4390**  
**MOBILE NEILSON**  
**WIRELESS TELECOMMUNICATION**  
**CO-LOCATION FACILITY**  
**APPROX. 1900' W OF INT. OF W**  
**MARICOPA RD (SR238) & 99TH AVE**  
**GOODYEAR, ARIZONA**  
**PROPOSED '195'**  
**SELF SUPPORT TOWER**

PROJECT NO:	108337
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## EROSION AND SEDIMENT CONTROL MASTER PLAN

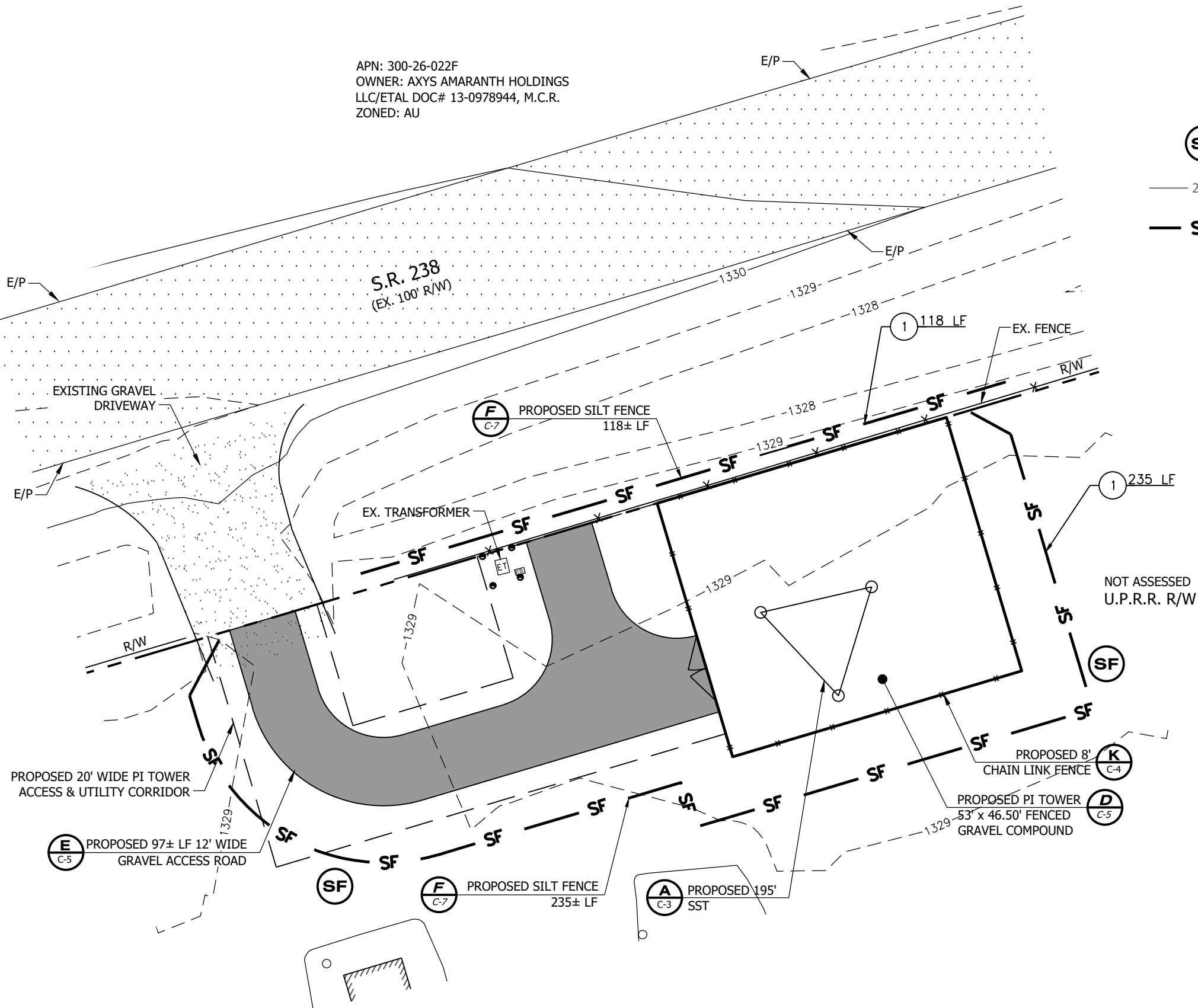
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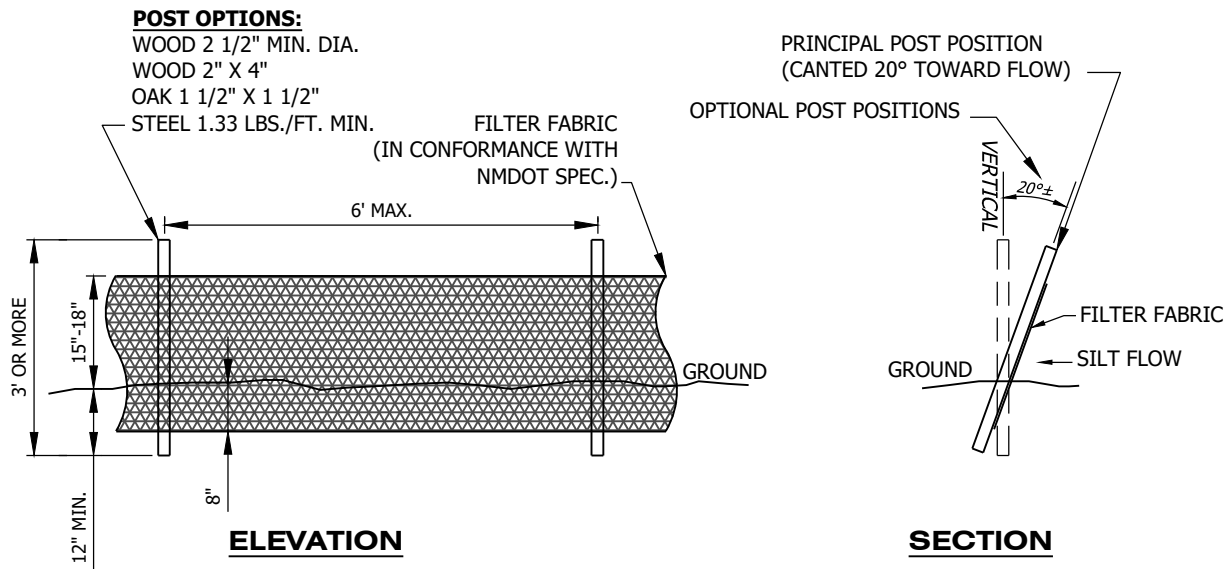


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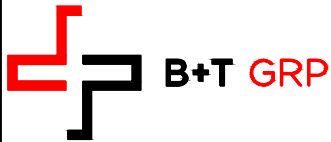


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**TYPE III SILT FENCE  
DETAIL**

N.T.S. **F**



**Parallel**  
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BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

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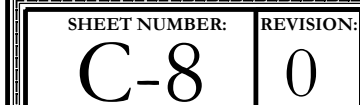
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**EROSION AND  
SEDIMENT CONTROL  
DETAILS**

SHEET NUMBER: **C-7**  
REVISION: **0**





**TOWER LOCATION MAP**  
SCALE: 1" = 1/4 MILE



GENERAL ELECTRICAL NOTES:

1. SCOPE: PROVIDE LABOR, MATERIALS, AND EQUIPMENT, ETC., REQUIRED TO COMPLETE THE INSTALLATION SHOWN ON THE DRAWINGS.

2. CODES AND STANDARDS: INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND ORDINANCES, UTILITY COMPANY REGULATIONS, AND APPLICABLE REQUIREMENTS OF LATEST EDITIONS OF:

A. NFC -- NATIONAL FIRE CODES

B. UL -- UNDERWRITERS LABORATORIES

C. NEC -- NATIONAL ELECTRICAL CODE

D. NEMA -- NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION

E. OSHA -- OCCUPATIONAL SAFETY AND HEALTH ACT

F. SBC -- STANDARD BUILDING CODE

3. PERMITS: OBTAIN AND PAY FOR REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC.

4. COORDINATION: COORDINATE WORK WITH OTHER TRADES.

5. SUBMITTALS: SUBMIT BROCHURES FOR APPROVAL ON SERVICE DISCONNECTING MEANS AND OTHER MAJOR SYSTEM COMPONENTS.

6. EXISTING SERVICES: DO NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.

7. EQUIPMENT: CONNECT ELECTRICALLY OPERATED EQUIPMENT.

8. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES & SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.

9. IDENTIFICATION: IDENTIFY SERVICE DISCONNECTING MEANS WITH PERMANENT NAMEPLATE.

10. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDS, ETC., FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIAL AND/OR WORKMANSHIP WILL BE REPAIRED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR PERIOD OF WARRANTY.

11. CUTTING AND PATCHING: PROVIDE CUTTING REQUIRED TO DO THE WORK. DO NOT CUT MAJOR STRUCTURAL ELEMENTS WITHOUT APPROVAL. PATCHING SHALL BE OF QUALITY EQUAL TO AND OF MATCHING APPEARANCE WITH EXISTING CONSTRUCTION.

12. DITCHING AND BACKFILL: PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES.

13. RACEWAYS: UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC CONDUIT (MEET NEMA TC2 - 1990). EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL CONDUIT BEFORE RISING ABOVE GRADE IN AREAS SUBJECT TO DAMAGE. PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LB. TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 24" RADIUS. RGS CONDUITS, WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT.

14. SUPPORTS: AS REQUIRED BY THE NEC.

15. CONDUCTORS: USE 98% CONDUCTIVITY COPPER WITH TYPE XHHW-2 INSULATION, 600 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.

16. CONNECTORS FOR POWER CONDUCTORS: USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR #10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR #8 AWG AND LARGER.

17. SERVICE: 240/120V, SINGLE PHASE, 3 WIRE CONNECTION AVAILABLE FROM UTILITY COMPANY. COORDINATE AND PAY ALL FEES.

18. TELEPHONE SERVICE: PROVIDE EMPTY CONDUITS WITH PULL WIRES AS INDICATED ON DRAWINGS.

19. UTILITY FRAME METER CENTER: (AS REQUIRED) PROVIDED BY OWNER, INSTALLED BY CONTRACTOR. THE ELECTRICAL DESIGN ON THESE DRAWINGS IS BASED ON A METER CENTER CONFIGURED AS FOLLOWS:

A. A NEMA 3R ENCLOSURE, MOUNTED ON THE FRONT SIDE OF AN EQUIPMENT FRAME INCORPORATING 120/240V, 200A METER SOCKETS AND CIRCUIT BREAKER HOUSINGS. EACH METER/CIRCUIT BREAKER COMBINATION SHALL PROVIDE SERVICE TO ONE (1) CARRIER (OR TOWER LIGHTING AS REQUIRED). METERS ARE TO BE PROVIDED BY LOCAL POWER COMPANY.

B. TOWERS REQUIRING FAA LIGHTING SHALL BE ALLOCATED ONE METER SOCKET AND CIRCUIT BREAKER HOUSING IN THE METER BANK. CIRCUIT BREAKER TO BE SIZED AS REQUIRED FOR TOWER LIGHTING EQUIPMENT. METER IS TO BE PROVIDED BY LOCAL POWER COMPANY.
- GENERAL GROUNDING NOTES:
1. SITE GROUNDING SHALL COMPLY WITH GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

2. GROUND RODS:

A. 5/8" x 10' LONG COPPER CLAD STEEL

B. STANDARD SPACING: 10'

C. TOP SHALL BE A MINIMUM OF 2'-6" BELOW BASE OF GRAVEL

3. GROUND CONDUCTORS:

A. #2 BARE TINNED SOLID COPPER UNLESS INDICATED OTHERWISE

B. WHEN DIRECTION OF CONDUCTOR CHANGES, IT SHALL BE DONE GRADUALLY

C. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH CONCRETE SLABS.

D. GROUND RINGS SHALL BE BURIED A MINIMUM OF 2'-6" BELOW BASE OF GRAVEL. GROUND RINGS SHALL BE LOCATED A MINIMUM OF 2'-0" FROM OUTSIDE EDGE OF CABINETS, TOWER FOUNDATION, AND OTHER SITE OBJECTS.

4. GROUND CONNECTIONS:

A. ALL CONNECTIONS SHALL BE EXOTHERMIC (CADWELD OR EQUIVALENT) UNLESS INDICATED OTHERWISE.

B. ALL MATERIALS USED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

C. CONNECTIONS AT GROUND BARS AND SERVICE DISCONNECTING MEANS SHALL CONSIST OF LUGS CADWELDED TO GROUND CONDUCTORS UNLESS INDICATED OTHERWISE. LUGS SHALL BE ATTACHED TO GROUND BARS USING STAINLESS STEEL OR HOT-DIPPED GALVANIZED STEEL BOLTS, NUTS, AND LOCKWASHERS.

5. COAXIAL TRANSMISSION LINE GROUNDING:

A. VERTICAL RUNS THAT ARE 200' OR LESS SHALL REQUIRE A GROUNDING KIT AT THE TOP AND BOTTOM OF TOWER.

B. VERTICAL RUNS THAT ARE GREATER THAN 200' SHALL REQUIRE A GROUNDING KIT (IN ADDITION TO THE ABOVE) FROM THE TOP EVERY 150' TOWARDS THE GROUND UNTIL THE DISTANCE IS LESS THAN 150' FROM THE GROUND (NOT FOR MONOPOLES).

C. CONNECTIONS AT GROUND BARS AND SERVICE DISCONNECTING MEANS SHALL CONSIST OF LUGS CADWELDED TO GROUND CONDUCTORS UNLESS INDICATED OTHERWISE. LUGS SHALL BE ATTACHED TO GROUND BARS USING STAINLESS STEEL OR HOT-DIPPED GALVANIZED STEEL BOLTS, NUTS, AND LOCKWASHERS.

D. ALL GROUNDING KITS SHALL BE PROVIDED BY OTHERS AND INSTALLED BY CONTRACTOR.

6. MISCELLANEOUS ITEMS TO BE CONNECTED TO THE GROUNDING SYSTEM:

A. ANY METAL FENCE POST WITHIN 6' OF THE GROUND RING.

B. TRANSMISSION LINE ENTRANCE HATCH.

C. METAL CABINET PARTS NOT GROUNDED BY THE INTERNAL GROUND RING.

D. METAL FUEL STORAGE TANKS.

E. ANY SIGNIFICANT METAL OBJECT WITHIN 6' OF THE EXTERNAL GROUNDING SYSTEM OR ANY OTHER GROUNDED OBJECT.

F. EXTERIOR ICE SHIELDS.

G. GENERATOR AND SUPPORT SKID OR BASE AND SWITCH.

7. INSTALLATION AND TESTING:

A. CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER IMMEDIATELY IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO FIELD CONDITIONS.

B. CONTRACTOR SHALL NOT COVER UP GROUND RING AND CONNECTIONS UNTIL AN INSPECTION HAS BEEN PERFORMED. COORDINATE INSPECTION WITH CONSTRUCTION MANAGER.

C. PROVIDE TESTING OF GROUNDING SYSTEM AS DIRECTED BY CONSTRUCTION MANAGER.

8. THE MAXIMUM ALLOWABLE RESISTANCE READING SHALL BE 5 OHMS TO GROUND. IF THE RESISTANCE OF THE ENTIRE GROUNDING SYSTEM AS MEASURED AT THE MASTER GROUND BAR EXCEEDS 5.0 OHMS, THE ELECTRICAL CONTRACTOR AND OWNER'S REPRESENTATIVE SHALL BE NOTIFIED SO THAT ADDITIONAL GROUND LOCATIONS CAN BE UTILIZED.

9. ALL EXPOSED GROUND LEADS TO GROUND RING, PLACED IN CONCRETE, SHALL BE ENCASED IN 3/4" FLEXIBLE CONDUIT, SEAL TYPE OR SIMILAR.

10. ALL GROUND WIRE CONNECTIONS TO EQUIPMENT GROUND RING THAT ARE RUNNING ABOVE GROUND SHALL BE RUN INSIDE SEALTIGHT FLEX CONDUIT.

11. ALL CONNECTIONS ABOVE GROUND EXCEPT CONNECTIONS TO GROUND BARS OR ARRESTOR BRACKET SHALL BE WITH DOUBLE LUG CONNECTORS. CONNECTIONS TO GROUND BARS & ARRESTORS SHALL BE CADWELD.

12. COMPACT BACKFILL OF ALL TRENCHES FOR GROUNDING RING. SITE SOIL OR #57 STONE MAY BE USED FOR BACKFILL MATERIALS. CONTRACTOR SHALL OBTAIN APPROVAL FOR BACKFILL MATERIALS TO BE USED FROM CONSTRUCTION MANAGER.

13. CONTRACTOR SHALL PROVIDE S.S. FLAT & LOCK WASHERS AS REQUIRED FOR COMPLETE INSTALLATION OF GROUND LEADS AT GROUND BUS.

ABBREVIATIONS

AFG	ABOVE FINISHED GRADE	P	POLE
A	AMP(S)	PH	PHASE
AIC	AMPERE INTERRUPTING CAPACITY	PCS	PERSONAL COMMUNICATION SYSTEM
ATS	AUTOMATIC TRANSFER SWITCH	PPC	POWER/PROTECTION CABINET
AWG	AMERICAN WIRE GAUGE	PVC	POLYVINYL CHLORIDE
BCW	BARE COPPER WIRE	REP	REPRESENTATIVE
C	CONDUIT	RGS	RIGID GALVANIZED STEEL
DWG	DRAWING	RWY	RACEWAY
G	GROUND	SCH	SCHEDULE
GEN	GENERATOR	SPE	SERVICE PROTECTION ENCLOSURE
GND	GROUND	TBD	TO BE DETERMINED
GPS	GLOBAL POSITIONING SYSTEM	TYP	TYPICAL
HZ	HERTZ	UG	UNDERGROUND
KWH	KILOWATT HOUR	V	VOLT(S)
MIN	MINIMUM		
NTS	NOT TO SCALE		

SYMBOLS LEGEND

	METER
	DISCONNECT SWITCH
	EXPOSED RACEWAY
	UNDERGROUND RACEWAY
	CONDUIT TURNED TOWARD VIEWER
	5/8"ø x 10'-0" GROUND ROD
	GROUND ROD TEST WELL
	GROUNDING CONDUCTOR
	EXOTHERMIC GROUND CONNECTION
	MECHANICAL GROUND CONNECTION
	GROUND BAR

THE CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING ON THE WORK CONTAINED WITHIN THIS DESIGN PACKAGE. DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO BIDDING.

SCALE: N.T.S.

SITE ID: AZPHU4390

MOBILE NEILSON

WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA

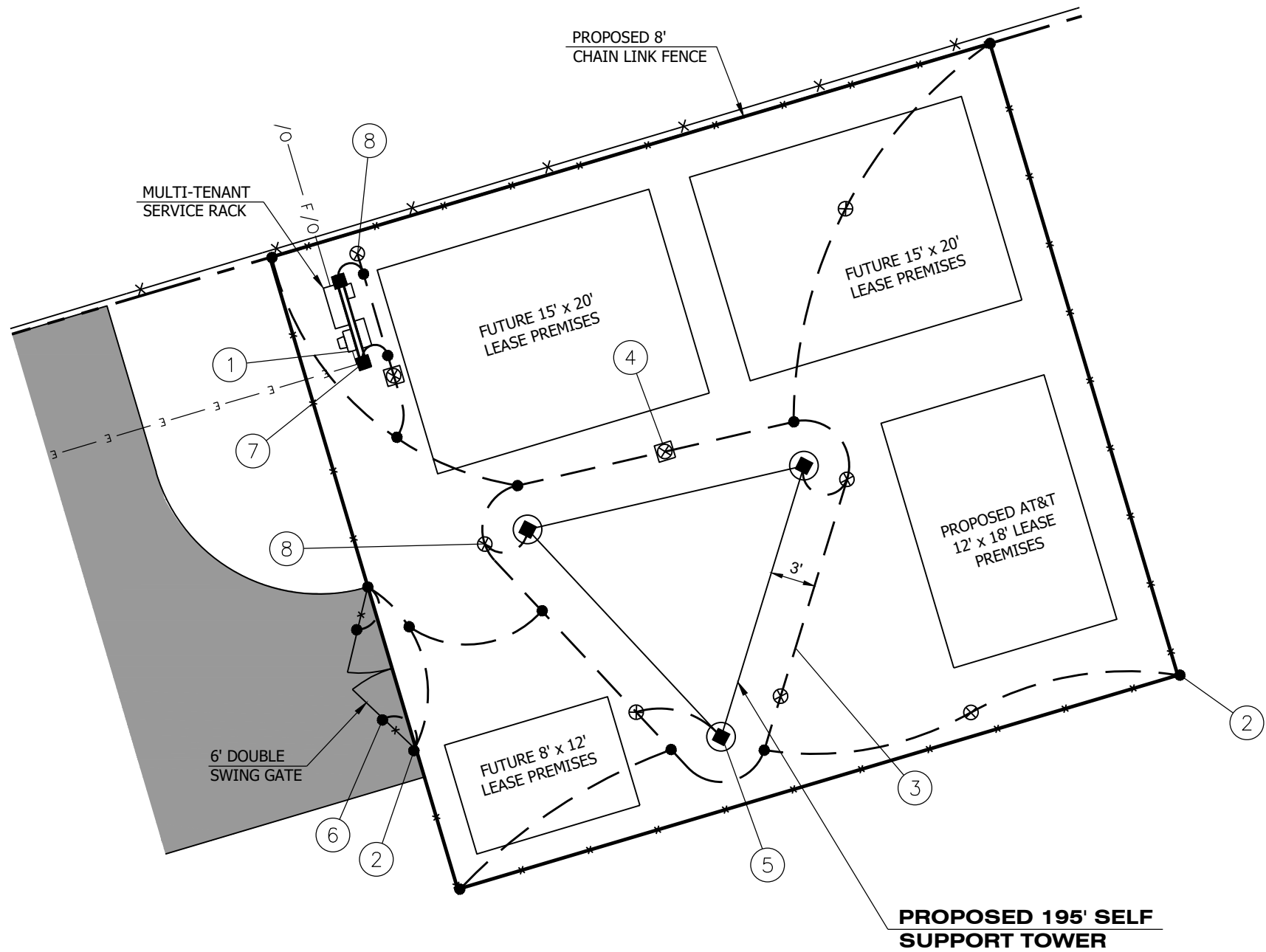
PROPOSED 195'  
SELF SUPPORT TOWER

PROJECT NO:		108337	
CHECKED BY:		GAM	
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

GENERAL ELECTRICAL  
NOTES AND SYMBOLS

SHEET NUMBER:	REVISION:
E-1	0

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TOWER GROUNDING SCHEMATIC NOT TO SCALE

GROUNDING KEYED NOTES:

- 1 GROUND SERVICE DISCONNECT TO SERVICE GROUNDING ELECTRODE IN ACCORDANCE WITH NEC 250.
- 2 BOND FENCE POST TO GROUND ROD (TYPICAL). DETAIL 3, SHEET E5.00
- 3 GROUND ROD (TYPICAL). DETAIL 4, SHEET E5.00
- 4 GROUND ROD WITH INSPECTION WELL (TYPICAL). DETAIL 2, SHEET E5.00
- 5 CONNECT TOWER TO GROUND RING. CADWELD TO TOWER BASE PLATE OR GROUND LUG PROVIDED BY TOWER MANUFACTURER (TYPICAL 4 PLACES). DETAIL 5, SHEET E5.00
- 6 CONNECT GATE TO GATE POST (TYPICAL FOR 2) WITH #4/O WELDING CABLE THAT HAS BEEN CRIMPED AT EACH END FOR THE CADWELD PROCESS LENGTH TO ALLOW FULL SWING OF GATE. BOND POST TO GROUND ROD.
- 7 BOND ALL UTILITY FRAME LEGS TO GROUND RING.
- 8 PLACE 2 GROUND RODS APPROXIMATELY 6' APART WHEN THE UTILITY FRAME IS PLACED. BOND ALL FRAME-MOUNTED EQUIPMENT AND FRAME LEGS TO PROPOSED GROUND RODS. GROUND RODS WILL BE BONDED TO COMPOUND GROUNDING SYSTEM ONCE IT IS INSTALLED.

GROUNDING NOTES:

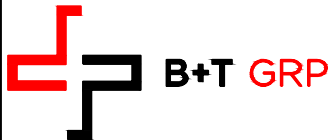
- 1. ALL GROUNDING CONNECTIONS SHALL BE MADE WITH THOMAS AND BETTS KOPR (TM OF JET LUBE, INC.) THERE IS NO EQUIVALENT FOR THIS ANTI-OXIDATION COMPOUND. NO OTHER COMPOUND WILL BE ACCEPTED. COAT ALL WIRES BEFORE LUGGING. COAT ALL SURFACES BEFORE CONNECTING. ALL DISSIMILAR METAL CONNECTIONS SHALL INCORPORATE A "DRAGON TOOTH WAHSE" BETWEEN THE LUG AND THE METAL.
- 2. CONTRACTOR SHALL VERIFY THE ADEQUACY OF THE INSTALLED SYSTEM. CONTRACTOR SHALL CONDUCT A "SITE RESISTANCE TO EARTH GROUNDING TESTING". INSTALLED SYSTEM SHALL ACHIEVE A GROUND RESISTANCE OF 5 OHMS.
- 3. TEST SHALL BE WITNESSED BY A CARRIER REPRESENTATIVE, IF REQUIRED.
- 4. BARE COPPER CONDUCTORS SHALL NOT BE INSTALLED WHERE THEY MAY BE IN CONTACT WITH GALVANIZED METALS. THE CONDUCTORS SHALL BE INSULATED IN PVC CONDUIT OR PLACED ON STAND OFF SUCH THAT NO CONTACT BETWEEN DIFFERENT MATERIALS MAY OCCUR.
- 5. CONNECTION OF COPPER TO GALVANIZED MATERIALS SHALL BE AVOIDED. BRASS OR STAINLESS STEEL LUGS SHALL BE USED FOR CONNECTION OF COPPER CONDUCTORS TO GALVANIZED MATERIALS.
- 6. WHEN COPPER CONDUCTORS ARE CONNECTED TO ALUMINUM SURFACES OR CONDUCTORS, LUGS OR SPLIT BOLTS MARKED WITH THE DESIGNATION AL/CU SHALL BE USED.

GROUNDING LEGEND

- 5/8"x10'-0" COPPER CLAD GROUND ROD WITH INSPECTION WELL (FIELD VERIFY LOCATION WITH MANAGER)
- 5/8"x10'-0" COPPER CLAD GROUND ROD AT 15'-0" MAX. CENTERS
- MECHANICAL CONNECTION
- EXOTHERMIC WELD (CAD WELD)
- #2 SOLID COPPER TINNED WIRE UNLESS NOTED OTHERWISE



Call before you dig. 1.800.STAKE.IT / 602.263.1100



Parallel INFRASTRUCTURE  
4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

SCALE VERIFICATION  
0 BAR IS ONE INCH ON ORIGINAL DRAWING. 1"  
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SCALE: 1"=10'

SITE ID: AZPHU4390  
MOBILE NEILSON  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA  
PROPOSED 195'  
SELF SUPPORT TOWER

PROJECT NO: 108337

CHECKED BY: GAM

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	3/6/17	CAH	DEVELOPMENT REVIEW

B&T ENGINEERING, INC.  
18956-D  
Expires 9/30/17  
CHAD E. TUTTLE  
3/6/17  
ARIZONA U.S.A.  
Exp 9/30/18  
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.

TOWER GROUNDING PLAN

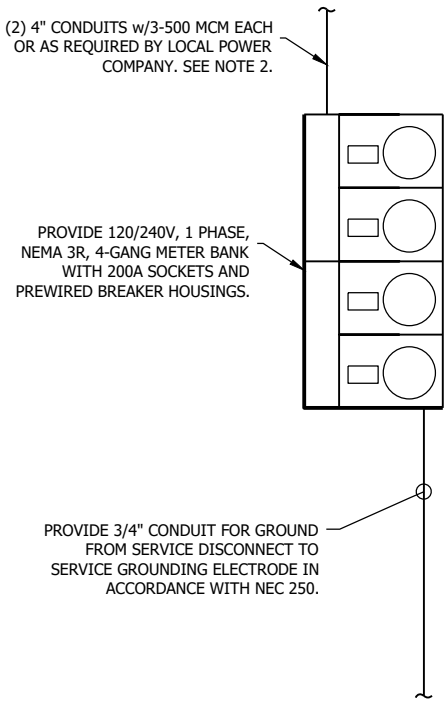
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E-2 0

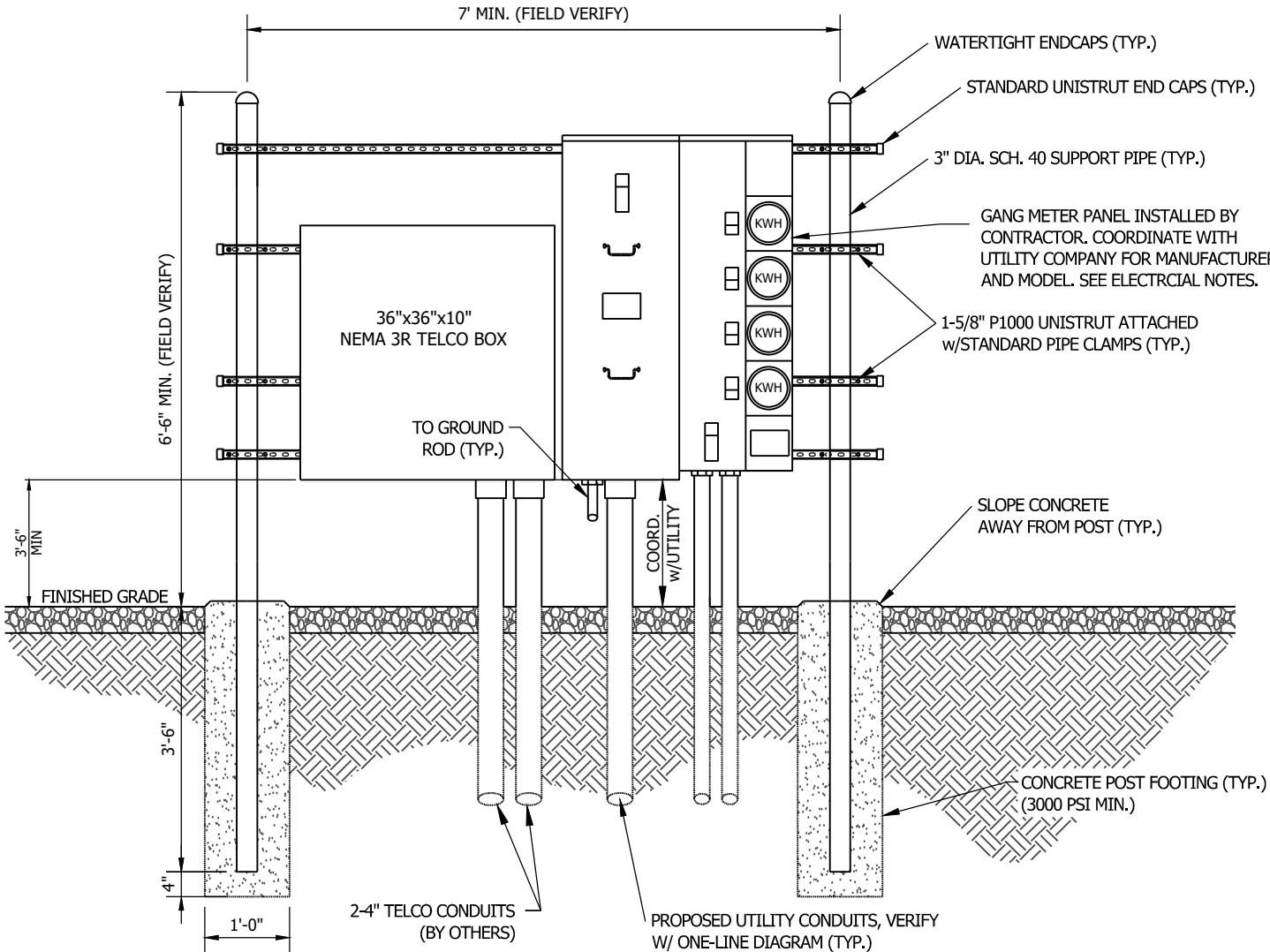


NOTES:

- 1. FOR STANDARD GENERAL ELECTRICAL SPECIFICATIONS SEE SHEET E1.00.
- 2. FOR SITE SPECIFIC UTILITY CONDUIT LAYOUT SEE SHEET E2.00.
- 3. ALL CONDUIT RACEWAYS SHALL BE INSTALLED PER UTILITY TRENCH DETAIL SHOWN ON SHEET E6.00 ELECTRICAL DETAILS.
- 4. CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT IS SUITABLE FOR AVAILABLE FAULT CURRENT.
- 5. CONTRACTOR SHALL ROUTE POWER CONDUIT(S) AS SHOWN ON SHEET E2.00. COORDINATE ELECTRICAL SERVICE WITH UTILITY COMPANY.
- 6. ONE-LINE DIAGRAM IS SCHEMATIC ONLY, NOT INDICATIVE OF ACTUAL EQUIPMENT LAYOUT.



ONE LINE DIAGRAM  
N.T.S.

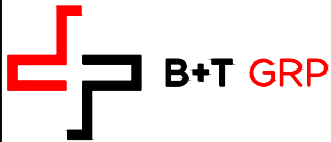


METER CENTER RACK & H-FRAME  
DETAIL  
N.T.S. **B**

NOTES:

- 1. CONTRACTOR SHALL FIELD LOCATE THE UTILITY FRAME AS SHOWN ON SITE PLAN.
- 2. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE CONDUIT RUN TO THE MAIN SERVICE CONNECTION OR TRANSFORMER.
- 3. THE CONTRACTOR SHALL COORDINATE WITH THE LOCAL UTILITY COMPANY FOR THE GROUND ROD REQUIREMENTS. IF REQUIRED, THE CONTRACTOR SHALL ORDER AND PAY FOR NECESSARY GROUND TESTS.
- 4. ADJUSTMENTS TO THE METER PEDESTAL DESIGN MAY BE REQUIRED DEPENDING ON THE EXACT METER PANEL INSTALLED. CONTRACTOR SHALL FIELD COORDINATE ADJUSTMENTS AND INFORM THE ENGINEER IF ANY UNUSUAL CONDITIONS ARE FOUND TO EXIST.
- 5. BOND TELCO BOX TO GROUND PER PHONE COMPANY REQUIREMENTS.
- 6 REFER TO ELECTRICAL SHEETS FOR ADDITIONAL EQUIPMENT INFORMATION.

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**Parallel**  
INFRASTRUCTURE  
4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

SCALE VERIFICATION  
0 1" BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.  
SCALE: N.T.S.

SITE ID: AZPHU4390  
**MOBILE NEILSON**  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA  
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18956-D  
Expires 9/30/17

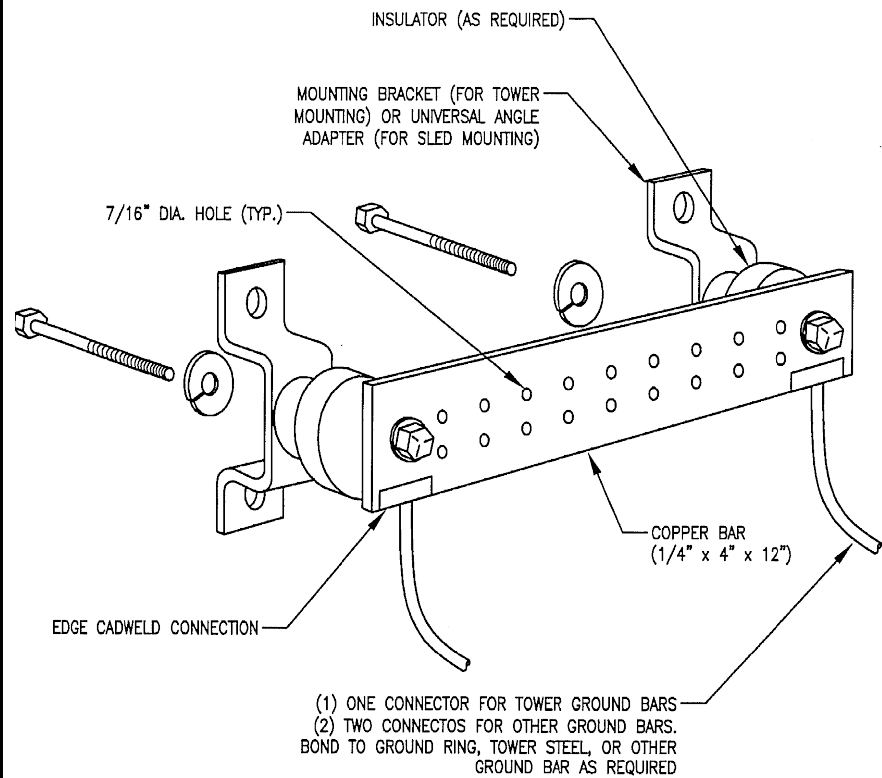
**Professional Engineer (Civil)**  
36778  
CHAD E. TUTTLE  
3/6/17  
Exp 9/30/18

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ONE-LINE DIAGRAM  
& H-FRAME DETAIL

SHEET NUMBER:	REVISION:
E-3	0

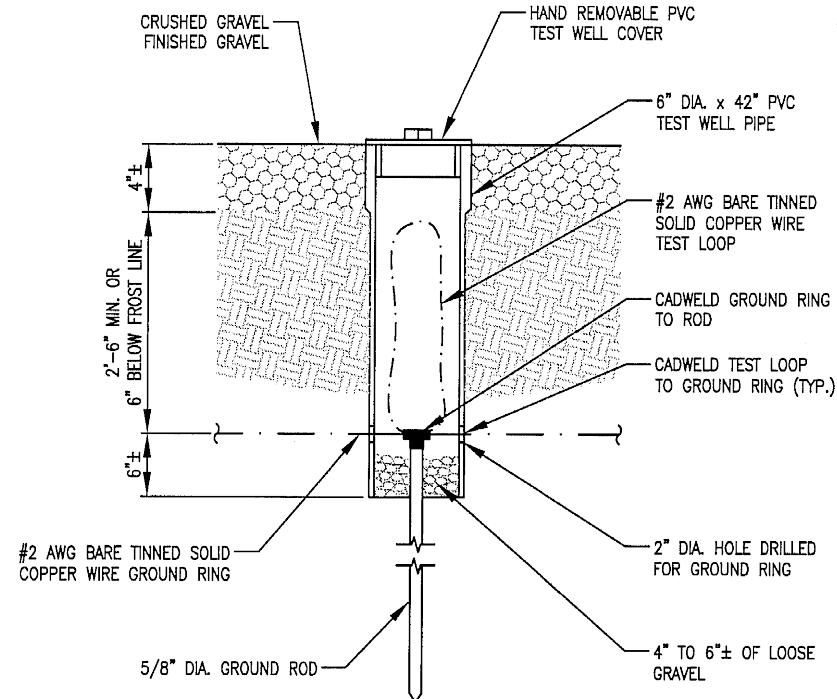
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TYPICAL GROUND BAR

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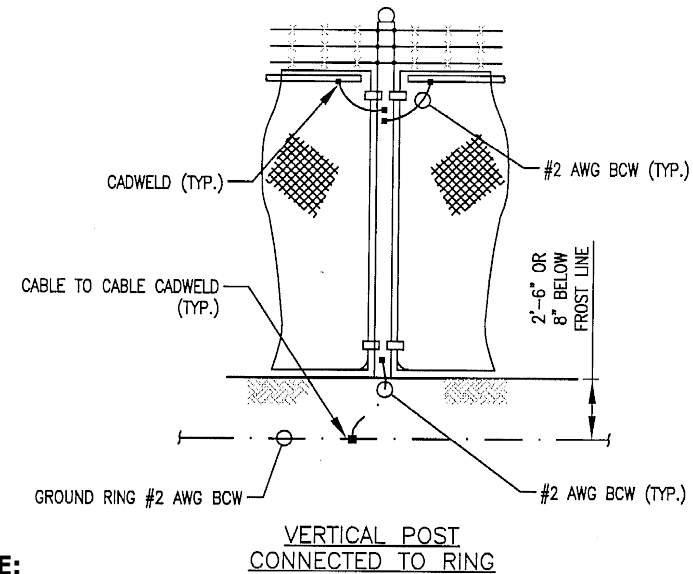
1



TEST WELL DETAIL

N.T.S.

2



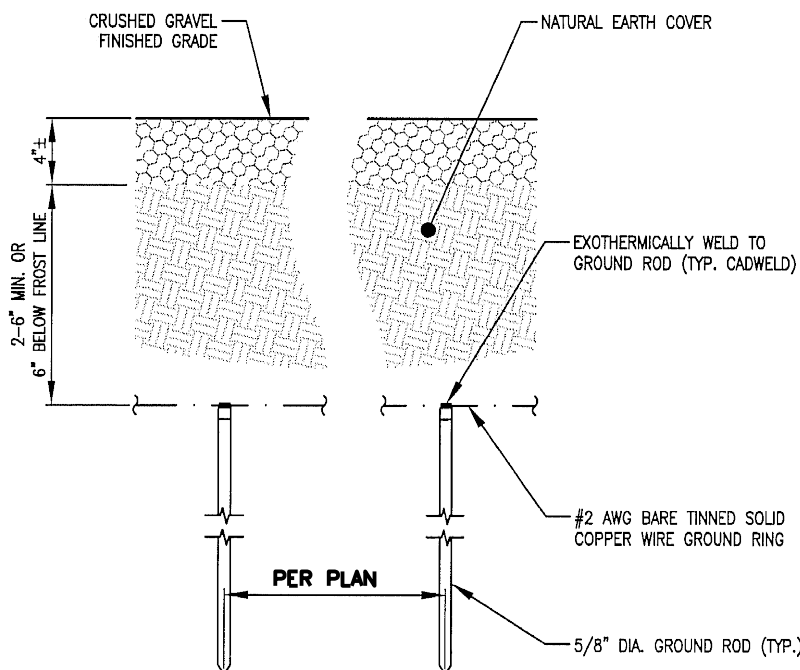
NOTE:

1. VERTICAL POSTS SHALL BE BONDED TO THE GROUND RING AT EACH CORNER AND AT EACH GATE POST. AS A MINIMUM ONE VERTICAL POST SHALL BE BONDED TO THE GROUND RING IN EVERY 100 FOOT STRAIGHT RUN OF FENCE.
2. HORIZONTAL POLES SHALL BE BONDED TO EACH OTHER.
3. BOND EACH HORIZONTAL POLE/BRACE TO EACH OTHER AND TO EACH VERTICAL POST THAT IS BONDED TO THE EXTERIOR GROUND RING.

FENCE GROUNDING

N.T.S.

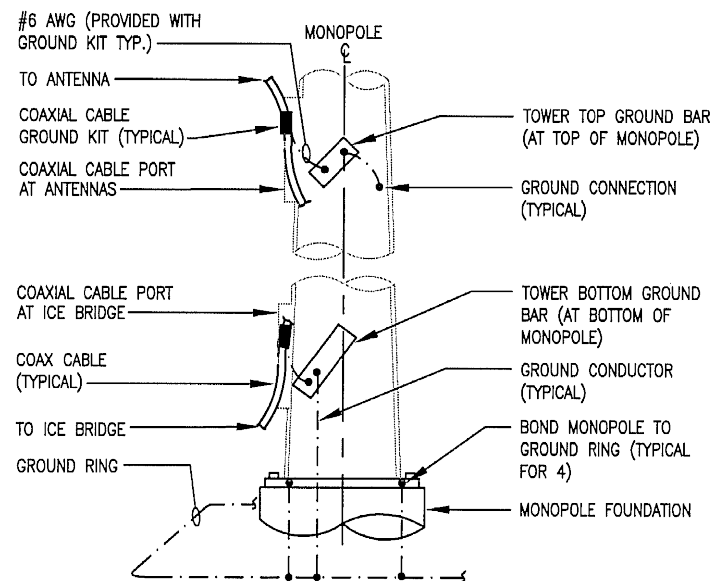
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GROUND RING DETAIL

N.T.S.

4



NOTE: (THIS DETAIL ONLY)

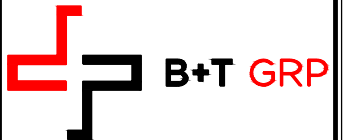
NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE ANTENNA RAD CENTER LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.

TOWER GROUNDING DETAIL

N.T.S.

5

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**Parallel**  
INFRASTRUCTURE

4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

SCALE VERIFICATION

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SCALE: 1"=20'

SITE ID: AZPHU4390  
**MOBILE NEILSON**  
WIRELESS TELECOMMUNICATION  
CO-LOCATION FACILITY  
APPROX. 1900' W OF INT. OF W  
MARICOPA RD (SR238) & 99TH AVE  
GOODYEAR, ARIZONA  
PROPOSED 195'  
SELF SUPPORT TOWER

PROJECT NO: 108337

CHECKED BY: GAM

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B&T ENGINEERING, INC.  
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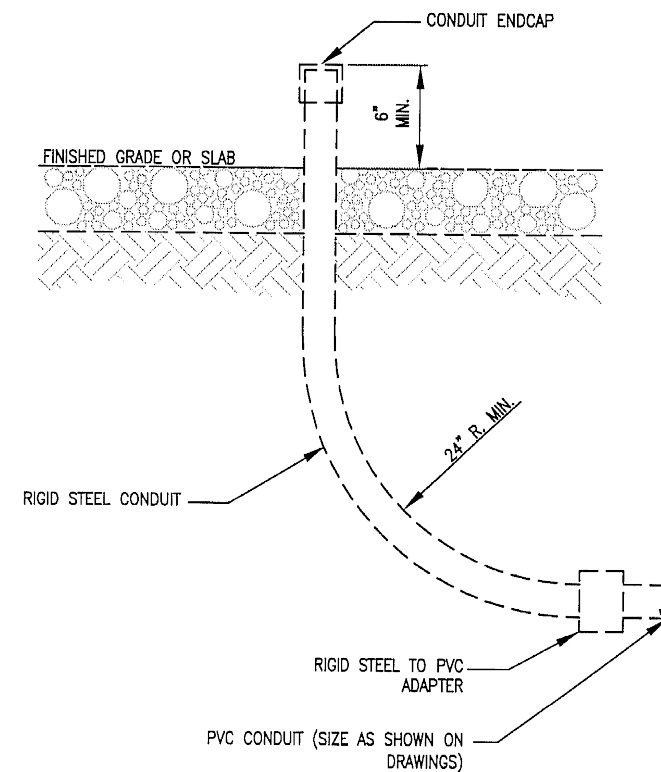
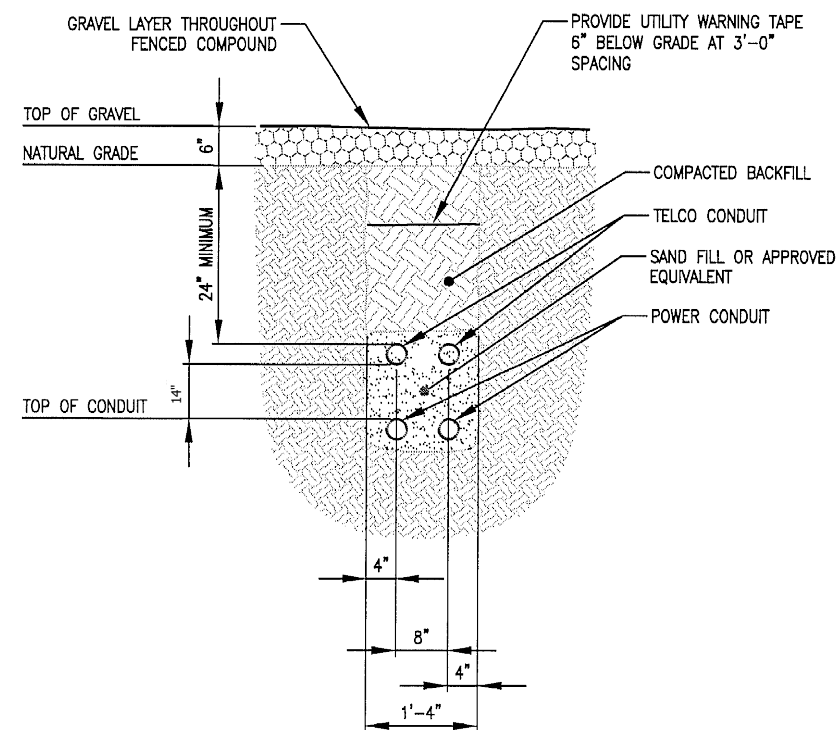
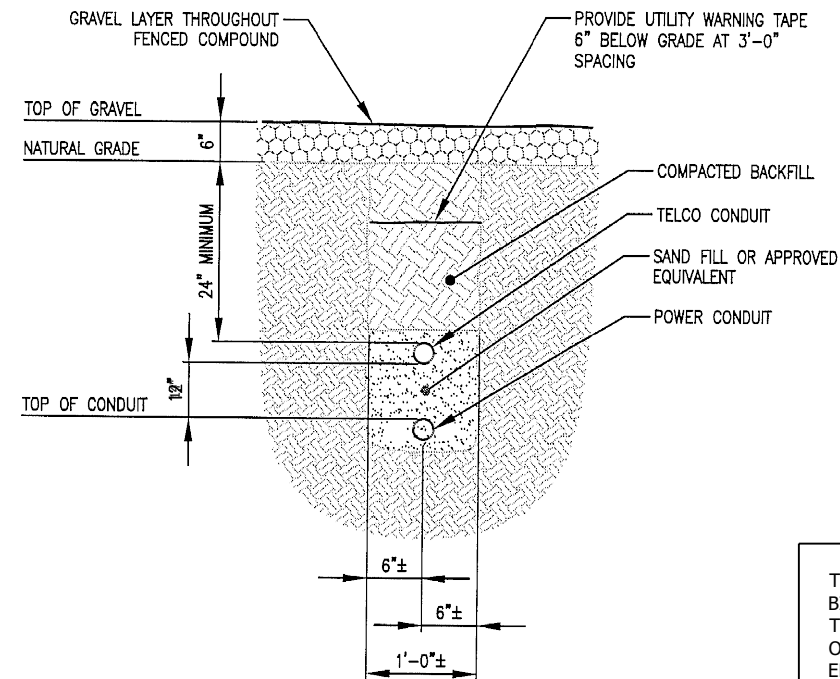
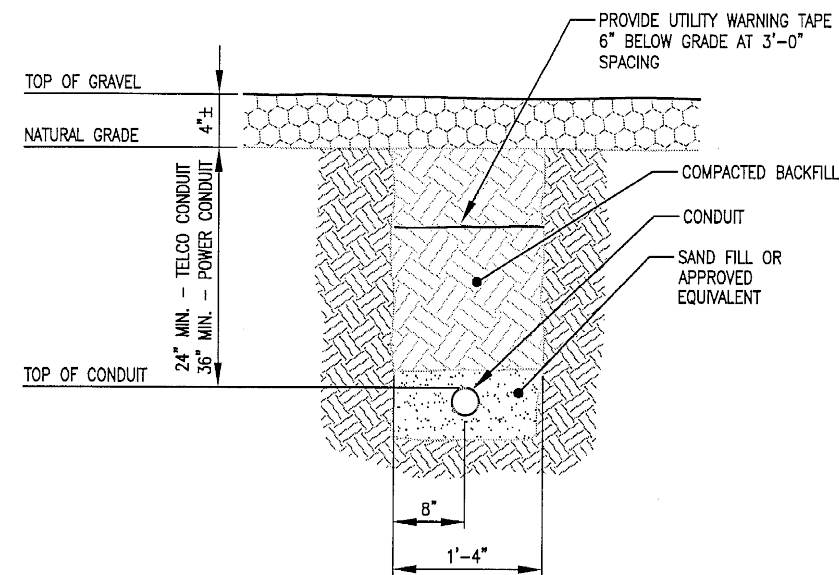
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**ELECTRICAL  
DETAILS**

SHEET NUMBER: REVISION:

E-4

0



4601 TOUCHTON ROAD  
BLG. 300, SUITE 3200  
JACKSONVILLE, FL 32246

### SCALE VERIFICATION

0 ————— 1"

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THIS SHEET, ADJUST  
SCALES ACCORDINGLY.

SCALE: N.T.S.

**SITE ID: AZPHU4390**  
**MOBILE NEILSON**  
**WIRELESS TELECOMMUNICATION**  
**CO-LOCATION FACILITY**  
**APPROX. 1900' W OF INT. OF W**  
**MARICOPA RD (SR238) & 99TH AVE**  
**GOODYEAR, ARIZONA**

**PROPOSED 195'**  
**SELF-SUPPORT TOWER**

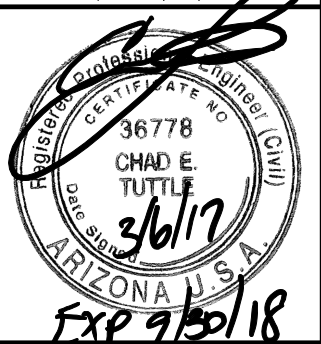
PROJECT NO: 108337

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## ELECTRICAL DETAILS

<b>SHEET NUMBER:</b>	<b>REVISION:</b>
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E-5

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