

SLKCUTU6031 FA#10115120



LIBERTY NSB MONOPOLE

ENGINEERING

2009 INTERNATIONAL BUILDING CODE
2009 NATIONAL ELECTRIC CODE
TIA-222-G OR LATEST EDITION

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT & CABINETS FOR AT&T'S WIRELESS TELECOMMUNICATIONS NETWORK.

SITE INFORMATION

PROPERTY OWNER: VALLEY SELF STORAGE
ADDRESS: 4780 WOLF CREEK DR, EDEN, UT 84310

TOWER OWNER: AT&T
SITE NAME: LIBERTY
SITE NUMBER: SLKCUTU6031

SITE CONTACT: -

COUNTY: WEBER

LATITUDE (NAD 83) 41° 19' 12.305" N

LONGITUDE (NAD 83) 111° 49' 49.339" W

ZONING JURISDICTION: WEBER COUNTY

ZONING CLASSIFICATION: COMMERCIAL

PARCEL #: -

POWER COMPANY: ROCKY MTN POWER

TELEPHONE COMPANY: QWEST

SITE ACQUISITION CONTACT: JARED WHITE

RF ENGINEER: -

CONSTRUCTION MANAGER: -

CONTACT INFORMATION

ENGINEER: TECHNOLOGY ASSOCIATES
9847 SOUTH 500 WEST
SANDY, UT 84070

CONTACT: JEFF VANDERVEEN

PHONE: (801) 910-2965



4393 RIVERBOAT ROAD, SUITE #400
TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS
Information Technology

960 W. LEVOY DRIVE, SUITE 250
SALT LAKE CITY, UTAH 84123



Technology Associates

UTAH MARKET OFFICE

9847 SOUTH 500 WEST
SANDY, UTAH 84070
(801) 463-1020

REV	DATE	DESCRIPTION	BY
A	10/31/2012	ISSUED FOR REVIEW	J.R.

PRELIMINARY
NOT TO BE USED
FOR CONSTRUCTION

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.

LIBERTY
4780 WOLF CREEK DR.
EDEN, UT 84310
NSB MONOPOLE

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

APPROVALS

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

AT&T WIRELESS COMPLIANCE REPRESENTATIVE: _____ DATE: _____

AT&T WIRELESS REPRESENTATIVE: _____ DATE: _____

AT&T WIRELESS RF ENGINEER: _____ DATE: _____

GENERAL DYNAMICS ACQUISITION: _____ DATE: _____

TAIC SITE ACQUISITION: _____ DATE: _____

PROPERTY OWNER: _____ DATE: _____

GENERAL DYNAMICS CONSTRUCTION MANAGER: _____ DATE: _____

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY & CONFIDENTIAL. ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO IS STRICTLY PROHIBITED.

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DO NOT SCALE DRAWINGS

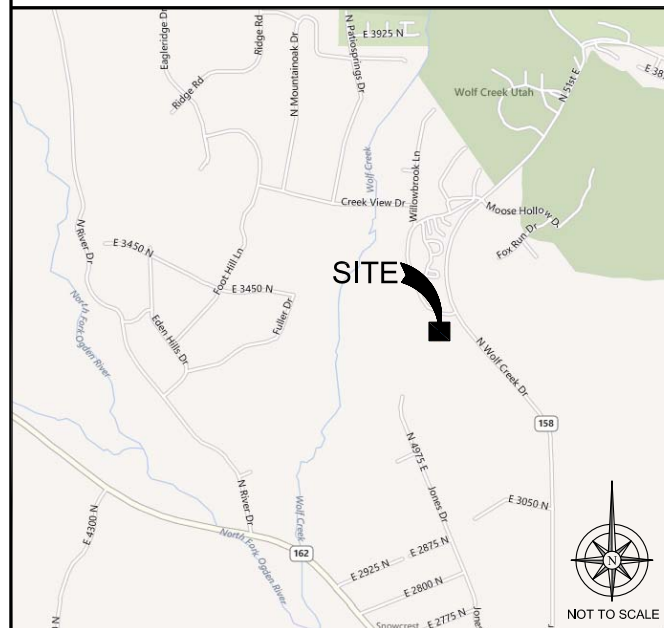
CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



Know what's below.
CALL before you dig.

CALL AT LEAST TWO WORKING
DAYS BEFORE YOU DIG

VICINITY MAP



LOCAL MAP



DRIVING DIRECTIONS

STARTING FROM AT&T OFFICE; 4393 RIVERBOAT ROAD, TAYLORSVILLE, UT:

- DEPART RIVERBOAT RD TOWARD UT-266 W / W 4500 S
- TURN LEFT ONTO UT-266 E / W 4500 S
- TAKE RAMP LEFT FOR I-15 N
- AT EXIT 344, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR UT-39
- TURN RIGHT ONTO UT-39 / W 12TH ST / W 1200 S
- TURN LEFT ONTO UT-158, ROAD CHANGES NAME TO N. WOLF CREEK DR. ONCE N. HWY 166 IS PASSED
- CONTINUE IN ROAD, THEN TURN LEFT (BEFORE SELF-STORAGE FACULTY) ONTO DIRT ACCESS ROAD (MONOPOLE)

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE SHALL BE NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

GENERAL CONSTRUCTION NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
GENERAL CONTRACTOR - OVERLAND CONTRACTING INC. (B&V)
SUBCONTRACTOR - CONTRACTOR (CONSTRUCTION)
OWNER - AT&T
- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
- GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT / ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- UNLESS OTHERWISE, THE WORK SHALL INCLUDE FURNISHING, MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- PLANS ARE NOT TO BE SCALED, THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO BE FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT / ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ARCHITECT / ENGINEER PRIOR TO PROCEEDING WITH WORK.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE SPACE FOR APPROVAL BY THE ARCHITECT / ENGINEER PRIOR TO PROCEEDING.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
- GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.
- ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
- SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. SUBCONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
- WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. SUBCONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWING PRIOR TO THE BEGINNING CONSTRUCTION.
- SUBCONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- 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 THE OWNER.
- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND SUBCONTRACTORS TO THE SITE AND / OR BUILDING.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.
- THE GENERAL CONTRACTOR SHALL MAINTAIN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISION, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
- THE GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2A:10:ABC AND SHALL BE WITHIN 25 FEET OF EACH DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT / ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, D) TRENCHING & EXCAVATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ARCHITECT / ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND / OR LOCAL UTILITIES.
- THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OF DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING, FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH GRADE AND COMPACTED TO 95 PERCENT STANCE PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
- ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- SUBCONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
- THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).
- OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH BY AT&T TECHNICIANS.
- NO OUTDOOR STORAGE OF OR SOLID WASTE CONTAINERS ARE PROPOSED.
- ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING." IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
- SUBCONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION, IF SUBCONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
- SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
- INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OF PROCEEDING WITH CONSTRUCTION.
- NO WHITE STROBIC LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.
- ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- NO NOISE, SMOKE, DUST, OR VIBRATION WILL RESULT FROM THIS FACILITY. (DISREGARD THIS NOTE IF THIS SITE HAS A GENERATOR)
- NO ADDITIONAL PARKING TO BE PROPOSED, EXISTING ACCESS AND PARKING TO REMAIN, UNLIKE NOTED OTHERWISE.
- NO LANDSCAPING IS PROPOSED AT THIS SITE, UNLESS NOTED OTHERWISE.

SITE WORK & DRAINAGE

PART 1 - GENERAL

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

- 1.1 REFERENCES:
- DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - CURRENT EDITION).
 - ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS).
 - OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATIONS).

- 1.2 INSPECTION AND TESTING:
- FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS SHALL BE PERFORMED BY SUBCONTRACTORS INDEPENDENT TESTING LAB. THIS WORK TO BE COORDINATE BY THE SUBCONTRACTOR.
 - ALL WORK SHALL BY INSPECTED AND RELEASED BY THE GENERAL CONTRACTOR WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONCERN TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND / OR CALLED FOR ON THE DRAWINGS. IT IS THE SUBCONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.

1.3 SITE MAINTENANCE AND PROTECTION:

- PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OR WORK UNTIL COMPLETION OF THE SUBCONTRACT.
- AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TRESS, AND SCRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
- KEEP SITE FREE OF ALL PONDING WATER.
- PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT AND EPA REQUIREMENTS.
- PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- EXISTING UTILITIES: DO NOT INTERRUPT EXISTING SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE ENGINEER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.

- PROVIDE A MINIMUM 48-HOUR NOTICE TO THE ENGINEER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.

PART 2 - PRODUCTS

- SUITABLE BACKFILL: ASTM D2321 (CLASS I, II, III OR IV(A) FREE FROM FROZEN LUMPS, REFUSE, STONES, OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- NON-POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS III, IV(A OR IV(B) COARSE AGGREGATE. FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS IA, IB OR II) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- SELECT STRUCTURAL FILL: FILL MATERIAL MEETING THE REQUIREMENTS OF ASTM E850-05, FOR USE AROUND UNDER STRUCTURES WHERE STRUCTURAL FILL MATERIAL ARE REQUIRED.
- GRANULAR BEDDING AND TRENCH BACKFILL: WELL - GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR SW-5M).
- COARSE AGGREGATE FOR ACCESS ROAD SUBBASE COURSE SHALL CONFORM ASTM D2940.
- UNSUITABLE MATERIAL: HIGH AND MODERATELY PLASTIC SILTS AND CLAYS (LL>45). MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSIONS AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.
- GEOTEXTILE FABRIC: MIRAFI 500X OR APPROVED EQUAL.
- PLASTIC MARKING TAPE SHALL BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING THE LOCATING UNDERGROUND UTILITIES 6 INCHES WIDE WITH A MINIMUM THICKNESS OF 0.004 INCHES. TAPE SHALL HAVE MINIMUM STRENGTH OF 1500 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL CONDUCTORS, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3 FEET DEEP. THE METALLIC CORE OF THE TAPE SHALL BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION, TAPE COLOR SHALL BE RED FOR ELECTRIC UTILITIES AND ORANGE FOR TELECOMMUNICATION UTILITIES.

PART 2 - EXECUTION

- 3.1 GENERAL:
- BEFORE START GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES, THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ANY TIME.
 - BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINE, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
 - CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE, REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.

- REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE, RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OR 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
- REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.

- EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED TILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL.
- REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS BURNING WILL NOT BE PERMITTED.
- PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND / OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES ON THE DRAWINGS AND TO ASCERTAIN AN EXISTENT AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE OR OTHER ITEM THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
- SEPARATE AND STOCK PILE ALL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.

- 3.2 BACKFILL:
- AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.
 - PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS AND UNSUITABLE MATERIALS.
 - BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACTED, WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED.
 - WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DRINKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS.
 - THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

- TRENCH EXCAVATION:
 - UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.
 - EXTEND THE TRENCH WIDTH A MINIMUM OF 7 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
 - WHEN SORE YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, BACKFILL AT THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.

- TRENCH BACKFILL:
 - PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWING AND THE UTILITY REQUIREMENTS.
 - NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING.
 - CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING, BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
 - PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCHES UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS.
 - PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE OR UNBALANCED LOADING.
 - EXCEED THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
 - COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GRATER THAT THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAT A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

- AGGREGATE ACCESS ROAD:
 - CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD TO THE LINES AND GRADES INDICATED ON THE DRAWINGS, SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL. ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS SHALL BE CORRECTED.
 - THE ENTIRE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 1557.
 - AFTER PREPARATION OF THE SUBGRADE IS COMPLETE THE GEOTEXTILE FABRIC (MIRAFI 500X) SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG THE ROADWAY THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUBGRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION, ROLLING OUT AS SMOOTHLY AS POSSIBLE.

- OVERLAPS PARALLEL TO THE ROADWAY WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY SURFACE WIDTH (I.E. WITHIN THE SHOULDER WIDTH) ONLY. NO LONGITUDINAL OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER. PARALLEL OVERLAPS SHALL BE A MINIMUM OF 3 FEET WIDE.
- TRANSVERSE (PERPENDICULAR TO THE ROADWAY) OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL ON TOP) AND SHALL HAVE A MINIMUM LENGTH OF 3 FEET.
- ALL OVERLAPS SHALL BE PINNED WITH STAPLES OF NAILS A MINIMUM OF 10 INCHES LONG TO INSURE POSITIONING DURING PLACEMENT OF AGGREGATE. PIN LONGITUDINAL SEAMS AT 25 FOOT CENTERS AND TRANSVERSE SEAMS EVERY 5 FEET.
- THE AGGREGATE BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS NOT MORE THAN 4 INCH (COMPACTED) THICKNESS. AGGREGATE TO BE PLACED ON GEOTEXTILE FABRIC SHALL BE END - DUMPED ON THE FABRIC FROM THE FREE END OF THE FABRIC OR OVER PREVIOUSLY PLACED AGGREGATE, THE FIRST LIFT SHALL BE BLADE DOWN TO A THICKNESS OF 8 INCHES PRIOR TO COMPACTION, AT NO TIME SHALL EQUIPMENT, EITHER TRANSPORTING THE AGGREGATE OR GRADING THE AGGREGATE, BE PERMITTED ON THE ROADWAY WITH LESS THAN 4 INCHES OF MATERIAL COVERING THE FABRIC.

- FINISH GRADING:
 - PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION, GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.
 - UTILIZE SATISFACTORY FILL MATERIAL, RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENTS OF REMOVED UNSUITABLE MATERIALS.
 - ACHIEVE FINISHED GRADE BY PLACING A MINIMUM OF 4 INCHES OF 1/2" - 3/4" CRUSHED STONE ON TOP SOIL STABILIZER FABRIC.
 - REPAIR ALL ACCESS ROADS AND SURROUND AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

- ASPHALT PAVING ROAD:
 - DIVISION 600 - KDOT FLEXIBLE PAVEMENT (UPDATE PER LOCAL DOT)
 - SECTION 403 - MODOT ASPHALT CONCRETE PAVEMENT.



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REV	DATE	DESCRIPTION	BY
A	10/31/2012	ISSUED FOR REVIEW	J.R.

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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.

LIBERTY

4780 WOLF CREEK DR.
EDEN, UT 84310
NSB MONOPOLE

SHEET TITLE
**GENERAL
NOTES**

SHEET NUMBER

T-2

ELECTRICAL NOTES:

PART 1 - GENERAL

- 1.1 GENERAL CONDITIONS:
- A. CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BIG, ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE SUBCONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
 - B. THE SUBCONTRACTOR SHALL OBTAIN PERMITS, LICENSES, MAKE ALL DEPOSITS, AND PAY ALL FEES REQUIRED FOR THE CONSTRUCTION PERFORMANCE FOR THE WORK UNDER THIS SECTION.
 - C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION, THE SUBCONTRACTOR SHALL VERIFY ALL DIMENSIONS, DRAWINGS SHALL NOT BE SCALED TO DETERMINED DIMENSIONS
- 1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES.

- A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES. CONDUIT BENDS SHALL BE THE RADIUS BEND FOR THE TRADE SIZE OF CONDUIT IN COMPLIANCE WITH THE LATEST EDITIONS OF NEC.

- 1.3 REFERENCES:
- A. THE PUBLICATIONS LISTED BELOW ARE PART OF THIS SPECIFICATION, EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE, THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTED, EXCEPT AS MODIFIED BY THE REQUIREMENT SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.
1. ANSIEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
 2. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
 3. ICE (INSULATED CABLE ENGINEERS ASSOCIATION)
 4. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
 5. NEPA (NATIONAL FIRE PROTECTION ASSOCIATION)
 6. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
 7. UL (UNDERWRITERS LABORATORIES, INC.)
 8. AT&T MOBILITY GROUNDING STANDARD ND-00071
- 1.4 SCOPE OF WORK:

- A. WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL, AND ASSOCIATED SERVICES REQUIRED TO COMPLETE REQUIRED CONSTRUCTION AND BE OPERATIONAL.
- B. ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED, AND ALIGNED BY THE SUBCONTRACTOR.
- C. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL OR EXCESS DIRT.
- D. THE SUBCONTRACTOR SHALL FURNISH TO THE OWNER WITH CERTIFICATES OF A FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.
- E. THE SUBCONTRACTOR SHALL PREPARE A COMPLETE SET OF AS-BUILT DRAWINGS, DOCUMENT ALL WIRING EQUIPMENT CONDITIONS, AND CHANGES WHILE COMPLETING THIS CONTRACT, THE AS-BUILT DRAWINGS SHALL BE SUBMITTED AT COMPLETION OF THE PROJECT.

PART 2 - PRODUCTS

- 2.1 GENERAL:
- A. ALL MATERIALS AND EQUIPMENT SHALL BE UL LISTED, NEW AND FREE FROM DEFECTS.
 - B. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.
 - C. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OR APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
 - D. ALL OVER CURRENT DEVICES HAVE AN INTERRUPTING CURRENT RATING EQUAL TO OR GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 10,000 AC MINIMUM, VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT.
- 2.2 MATERIALS AND EQUIPMENT:
- A. CONDUIT:
 1. RIGID METAL CONDUIT (RMC) SHALL BE HOT - DIPPED GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LAQUERED IN ADDITION TO GALVANIZING.
 2. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED.
 3. CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON, ALL FITTINGS SHALL BE COMPRESSION AND CONCRETE TIGHT TYPE, GROUNDING BUSHINGS WITH INSULATED THROATS SHALL BE INSTALLED ON ALL CONDUIT TERMINATIONS.
 4. NONMETALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC, INSTALL USING SOLVENT - CEMENT - TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.
 - B. CONDUCTORS AND CABLE:
 1. CONDUCTORS AND CABLE SHALL BE FLAME - RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THHN/THHW-2, 600 VOLT, SIZE AS INDICATED, 12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR USED.
 2. 10 AWG AND SMALLER CONDUCTOR SHALL BE SOLID OR STRANDED AND 8 AWG AND LARGER CONDUCTOR SHALL BE STRANDED.
 3. SOLDERLESS, COMPRESSION - TYPE CONNECTORS SHALL BE USED FOR TERMINATION OF ALL STRANDED CONDUCTORS.
 4. STRAIN-RELIEF SUPPORTS GRIPS SHALL BE HUBBELL KELLEMS OR APPROVED EQUAL, CABLES SHALL BE SUPPORTED IN ACCORDANCE WITH THE NEC AND CABLE MANUFACTURER'S RECOMMENDATIONS.
 5. ALL CONDUCTORS SHALL BE TAGGED AT BOTH ENDS OF THE CONDUCTOR, AT ALL PULL BOXES, J-BOXES, EQUIPMENT AND CABINETS AND SHALL BE IDENTIFIED WITH APPROVED PLASTIC TAGS (ACTION CRAFT, BRADY, OR APPROVED EQUAL).
 - C. DISCONNECT SWITCHES:
 1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD - FRONT, QUICK - MAKE, QUICK - BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCK WITH COVER IN CLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE - D OR APPROVED EQUAL.
 - D. CHEMICAL ELECTROLYTIC GROUNDING SYSTEM:
 1. INSTALL CHEMICAL GROUNDING AS REQUIRED, THE SYSTEM SHALL BE ELECTROLYTIC MAINTENANCE FREE ELECTRODE CONSISTING OF RODS WITH A MINIMUM OF 2 AWG CU EXOTHERMICALLY WELDED PIGTAIL, PROTECTIVE BOXES, AND BACKFILL MATERIAL, MANUFACTURER SHALL BE LYNCOLE XT GROUNDING ROD TYPES K2 - (*)CS OR K2L - (*)CS (1" LENGTH AS REQUIRED.

2. GROUND ACCESS BOX SHALL BE A POLY-PLASTIC BOX FOR NON-TRAFFIC APPLICATIONS, INCLUDING BOLT DOWN FLUSH COVER WITH "BREATHER" HOLES, XT MODEL #XB-22, ALL DISCONNECT SWITCHES AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS ID NUMBERING, AND THE ELECTRICAL POWER SOURCE.
3. BACKFILL MATERIAL SHALL BE LYNCONITE AND LYNCOLE GROUNDING GRAVEL.

- E. SYSTEM GROUNDING:
 1. ALL GROUNDING COMPONENTS SHALL BE TINNED AND GROUNDING CONDUCTOR SHALL BE 2 AWG BARE, SOLID, TINNED, COPPER, ABOVE GRADE GROUNDING CONDUCTORS SHALL BE INSULATED WHERE NOTED.
 2. GROUNDING BUSES SHALL BE BARE, TINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION, STANDARD BUS BARS MGB, SHALL BE FURNISHED AND INSTALLED BY THE SUBCONTRACTOR, THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD, ALL GROUNDING BUSES SHALL BE IDENTIFIED WITH MINIMUM 3/4" LETTERS BY WAY OF STENCILING OR DESIGNATION PLATE.
 3. CONNECTORS SHALL BE HIGH - CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDED CONNECTORS FOR THE MATERIALS USED, USE TWO - HOLD COMPRESSION LUGS WITH HEAT SHRINK FOR MECHANICAL CONNECTIONS.
 4. EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.
 5. GROUND RODS SHALL BE COPPER - CLAD STEEL WITH HIGH - STRENGTH STEEL CORE AND ELECTROLYTIC - GRADE COPPER OUTER SHEATH, MOLTEN WELDED TO CORE, 5/8" X 10'-0", ALL GROUNDING RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES.
 6. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS IN COMPLIANCE WITH THE SPECIFICATIONS AND NEC, THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.

- F. OTHER MATERIALS:
 1. THE SUBCONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.
 2. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
- G. PANELS AND LOAD CENTERS:
 1. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

PART 3 - EXECUTION

- 3.1 GENERAL
- A. ALL MATERIAL AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - B. EQUIPMENT SHALL BE THOROUGHLY COVERED AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.
- 3.2 LABOR AND WORKMANSHIP:
- A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE INSTALLED BY EXPERIENCED WIREMEN, IN A NEAT AND WORKMAN - LIKE MANNER.
 - B. ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE SUBCONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.
 - C. UPON COMPLETION OF WORK, THE SUBCONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.
- 3.3 COORDINATION:
- A. THE SUBCONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER - FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.
- 3.4 INSTALLATION:
- A. CONDUIT:
 1. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS SPECIFIED, NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH TRADE SIZE.
 2. PROVIDE RIGID PVC SCHEDULE 80 CONDUITS FOR ALL RISERS, RMC OTHERWISE NOTED, EMT MAY BE INSTALLED FOR EXTERIOR CONDUITS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
 3. THE INSTALLATION OF SCHEDULE 40 PVC AND RMC CONDUITS SHALL BE 24 INCHES MINIMUM DEPTH, ALL 90 DEGREE BENDS SHALL BE RMC, EXPANSION JOINTS ARE REQUIRED ON ALL CONDUIT RISERS.
 4. USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION TO EQUIPMENT WITH MOVEMENT, VIBRATION, OR FOR EASE OF MAINTENANCE, USE LIQUID TIGHT, FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS, INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORT TO ALLOW FOR EXPANSION AND CONTRACTION.
 5. A RUN OF CONDUIT BETWEEN BOXES OR EQUIPMENT SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF THREE QUARTER-BENDS, CONDUIT BEND SHALL BE MADE WITH THE UL LISTED BENDER OR FACTORY 90 DEGREE ELBOWS MAY BE USED.
 6. FIELD FABRICATED CONDUITS SHALL BE CUT SQUARE WITH A CONDUIT CUTTING TOOL AND REAMED TO PROVIDE A SMOOTH INSIDE SURFACE.
 7. PROVIDE INSULATED GROUNDING BUSHING FOR ALL CONDUITS.
 8. SUBCONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION, TEMPORARY OPENING IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER, SUBCONTRACTOR SHALL REPLACE ANY CONDUITS CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.
 9. ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF CONDUCTORS OR CABLES, CONDUIT SHALL BE FREE OF DIRT AND DEBRIS.
 10. INSTALL PULL STRINGS IN ALL CLEAN EMPTY CONDUITS, IDENTIFY PULL STRINGS AT EACH END.
 11. INSTALL 2" HIGHLY VISIBLE AND DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUITS AND CONDUCTORS.
 12. CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.
 13. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS TO ALLOW FOR RACEWAYS AND CABLES TO BE ROUTED THROUGH THE BUILDING, DO NOT PENETRATE STRUCTURAL MEMBERS, SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE EFFECTIVELY SEALED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE, FIRE STOPS AT FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE, AND FUMES, ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

- B. CONDUCTORS AND CABLE:
 1. ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:

DESCRIPTION	208/240/120 VOLT SYSTEMS
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
GROUNDING	GREEN
 2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDULETS APPROVED FOR THIS PURPOSE.
 3. PULLING LUBRICANTS SHALL BE UL APPROVED, SHALL USE NYLON OR HEMP ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE CONDUIT.
 4. CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES & EQUIPMENT TO PERMIT MAKING A NEAT ARRANGEMENT, CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OF TERMINALS, CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND MOISTURE, SHARP BENDS OVER CONDUIT BUSHINGS ARE PROHIBITED, DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE SUBCONTRACTOR'S EXPENSE.
- C. DISCONNECT SWITCHES:
 1. INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB, CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEM AS INDICATED.
- D. GROUNDING:
 1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, AT&T MOBILITY GROUNDING STANDARD ND-00071, ND-00135, AND THE NATIONAL ELECTRICAL CODE.
 2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
 3. ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED, GROUNDING CONDUCTORS SHALL NOT BE LOOPEO OR SHARPLY BENT, ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.
 4. BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE SUBCONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 20 AWG COPPER, ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).
 5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS, BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS, WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
 6. SUBCONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING GROUNDING SYSTEM, ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMICWELDED PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 7. ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS, EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.
 8. APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED, USE KOPR-SHIELD ANTI-OXIDATION COMPOUND ON ALL COMPRESSION GROUNDING CONNECTIONS.
 9. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.
 10. BOND ALL INSULATED GROUNDING BUSHING WITH A BARE 6 AWG GROUNDING CONDUCTOR TO A GROUND BAR.
 11. DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE GREATER OF THE TWO DISTANCES.
 12. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.
 13. THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, REMOVE SEALING TAPE FROM LEACHING AND BREAHER HOLES, INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
 14. DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.
 15. IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT. FROM THE GROUNDING BAR AT THE BASE OF THE TOWER, A SECOND GROUNDING BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LINE ARRESTERS.
 16. SUBCONTRACTORS SHALL REPAIR, AND/OR REPLACE EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE SUBCONTRACTORS EXPENSE.
- E. ACCEPTANCE TESTING
 - A. CERTIFIED PERSONNEL USING CERTIFIED EQUIPMENT SHALL PERFORM REQUIRED TESTS AND SUBMIT WRITTEN TEST REPORTS UPON COMPLETION.
 - B. WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NON-COMPLYING ITEMS SHALL BE REMOVED FROM THE PROJECT SITE AND REPLACED WITH ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE FOR NON-COMPLIANCE.
 - C. TEST PROCEDURES:
 1. ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION, BEFORE CONNECTION TO DEVICES, THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS, TESTING SHALL BE FOR ONE MINUTE USING 1000V DC, PROVIDE WRITTEN DOCUMENTATION FOR ALL TEST LISTED TO SUBCONTRACTOR.
 2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS
 3. MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE CONDUCTORS AND NEUTRALS, SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES
 4. PERFORM GROUNDING TEST TO MEASURE GROUNDING RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD "SPONT" "FALL-OR-POTENTIAL" METHOD, PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH, NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 OHMS.



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REV	DATE	DESCRIPTION	BY
A	10/31/2012	ISSUED FOR REVIEW	J.R.

PRELIMINARY
NOT TO BE USED
FOR CONSTRUCTION

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.

LIBERTY
4780 WOLF CREEK DR.
EDEN, UT 84310
NSB MONOPOLE

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
T-3

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE SHOWN IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

GENERAL NOTES

- THIS FACILITY IS EXEMPT FROM HANDICAP REQUIREMENTS PER 2010 CBC SECTION 1105B.3.4 EXCEPTION #1. THIS FACILITY IS NON-OCCUPIABLE SPACE AND ENTERED ONLY BY SERVICE PERSONNEL. THIS SPACE IS NOT FOR HUMAN OCCUPANCY.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO SUBMITTING BIDS, AND PROCEEDING WITH ANY WORK.
- THE CONTRACTOR SHALL NOTIFY ENGINEER OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES AS THEY MAY BE DISCOVERED IN THE PLANS, SPECIFICATIONS, & NOTES PRIOR TO STARTING CONSTRUCTION, INCLUDING BUT NOT LIMITED BY DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ERRORS, OMISSION, OR INCONSISTENCY AFTER THE START OF CONSTRUCTION WHICH HAS NOT BEEN BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER AND SHALL INCUR ANY EXPENSES TO RECTIFY THE SITUATION. THE METHOD OF CORRECTION SHALL BE APPROVED BY THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR HAS THE RESPONSIBILITY TO LOCATE ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR OR SUBCONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGE TO THE UTILITIES CAUSED DURING THE EXECUTION OF THE WORK. CONTACT USA DIG ALERT @ 800-227-2600
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW OR EXISTING SURFACES, STRUCTURES OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE PROPERTY OWNER. THE CONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGED AREAS.
- A COPY OF THE APPROVED PLANS SHALL BE KEPT IN A PLACE SPECIFIED BY THE GOVERNING AGENCY, AND BY LAW SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL CONSTRUCTION SETS REFLECT THE SAME INFORMATION AS THE APPROVED PLANS. THE CONTRACTOR SHALL ALSO MAINTAIN ONE SET OF PLANS AT THE SITE FOR THE PURPOSE OF DOCUMENTING ALL AS-BUILT CHANGES, REVISIONS, ADDENDA, OR CHANGE ORDERS. THE CONTRACTOR SHALL FORWARD THE AS-BUILT/THIRD DRAWINGS TO THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT AT THE CONCLUSION OF THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE WORK IS IN PROGRESS UNTIL THE JOB IS COMPLETE.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY POWER, WATER, AND TOILET FACILITIES AS REQUIRED BY THE PROPERTY OWNER OR GOVERNING AGENCY.
- ALL CONSTRUCTION THROUGH THE PROJECT SHALL CONFORM TO THE LATEST C.B.C. AND ALL OTHER GOVERNING CODES, INCLUDING THE CALIFORNIA ADMINISTRATIVE CODES TITLE 8, 19, AND 24, THE MOST RESTRICTIVE CODE SHALL GOVERN.
- THE CONTRACTOR AND SUBCONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REGULATIONS INCLUDING ALL OSHA REQUIREMENTS.
- WHEN REQUIRED STORAGE OF MATERIALS OCCURS, THEY SHALL BE EVENLY DISTRIBUTED OVER THE FLOOR OR ROOF SO AS NOT TO EXCEED THE DESIGNED LIVE LOADS FOR THE STRUCTURE. TEMPORARY SHORING OR BRACING SHALL BE PROVIDED WHERE THE STRUCTURE OR SOIL HAS NOT ATTAINED THE DESIGN STRENGTH FOR THE CONDITIONS PRESENT.
- THE CONTRACTOR SHALL SUPERVISE AND COORDINATE ALL WORK, USING HIS PROFESSIONAL KNOWLEDGE AND SKILLS. HE IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCING AND COORDINATING ALL PORTIONS OF THE WORK UNDER THE PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS WITH RESPECT TO THE WORK TO COMPLETE THE PROJECT. BUILDING PERMIT APPLICATIONS SHALL BE FILED BY THE OWNER OR AUTHORIZED AGENT. CONTRACTOR SHALL OBTAIN THE PERMIT AND MAKE FINAL PAYMENT OF SAID DOCUMENT.
- ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE. DRAWINGS ARE NOT TO BE SCALED UNDER ANY CIRCUMSTANCES.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR SUPPORTS FOR INSTALLATION OF ITEMS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE THE FIRE MARSHALL OR U.I. APPROVED MATERIALS TO FILL/SEAL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
- NEW CONSTRUCTION ADDED TO EXISTING CONSTRUCTION SHALL BE MATCHED IN FORM, TEXTURE, MATERIAL AND PAINT COLOR EXCEPT AS NOTED IN THE PLANS.
- THE CONTRACTOR IS TO PROVIDE PORTABLE FIRE EXTINGUISHERS HAVING A MINIMUM 2A:10-B:C RATING WITHIN 75FT. OF TRAVEL TO ALL PORTIONS OF THE CONSTRUCTION AREA. (2010 CFC SECTION 906-1-1 & 7 AND SECTION 906.3.1)
- MATERIALS TESTING SHALL BE TO THE LATEST STANDARDS AVAILABLE AS REQUIRED BY THE LOCAL GOVERNING AGENCY RESPONSIBLE FOR APPROVING THE RESULTS.
- ALL GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENTS TO BE USED IN CONDITIONS WHICH ARE NOT SPECIFICALLY SHOWN OTHERWISE.
- ALL DEBRIS AND REFUSE IS TO BE REMOVED FROM THE PROJECT. PREMISES SHALL BE LEFT IN A CLEAN BROOM FINISHED CONDITION AT ALL TIMES.
- BUILDING INSPECTORS AND/OR OTHER BUILDING OFFICIALS ARE TO BE NOTIFIED PRIOR TO ANY GRADING AND CONSTRUCTION EFFORT AS MANDATED BY THE GOVERNING AGENCY.
- ALL SYMBOLS AND ABBREVIATIONS ARE CONSIDERED CONSTRUCTION INDUSTRY STANDARDS. IF A CONTRACTOR HAS A QUESTION REGARDING THEIR EXACT MEANING THE ARCHITECT OR THE ENGINEER RESPONSIBLE OF THE PROJECT SHALL BE NOTIFIED FOR CLARIFICATIONS.

GENERAL FIRE NOTES:

- BUILDINGS UNDERGOING CONSTRUCTION, ALTERATION, OR DEMOLITION SHALL BE IN ACCORDANCE WITH 2010 CFC SECTION 1401 AND ALL GOVERNING CODES.
- ADDRESS SHALL BE PROVIDED FOR ALL NEW AND EXISTING BUILDINGS IN A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.(2010 CFC SECTION 505.1)
- DECORATIVE MATERIALS SHALL BE MAINTAINED IN A FLAME-RETARDANT CONDITION.(2010 CFC SECTION 807-1.2)
- PORTABLE FIRE EXTINGUISHERS: AT LEAST ONE FIRE EXTINGUISHER WITH A MINIMUM RATING OF 2-A-10B:C SHALL BE PROVIDED WITHIN 75 FEET MAXIMUM TRAVEL DISTANCE FOR EACH 6,000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR.(2010 CFC SECTION 906.1.1 & 7 AND SECTION 906.3.1)

ABBREVIATION DEFINITION

A.B.	ANCHOR BOLT
ABV.	ABOVE
ACCA	ANTENNA CABLE COVER ASSEMBLY
ADD'L	ADDITIONAL
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
ALUM.	ALUMINUM
ALT.	ALTERNATE
ANT.	ANTENNA
APPRX.	APPROXIMATE(LY)
ARCH.	ARCHITECT(URAL)
AWG.	AMERICAN WIRE GAUGE
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
BM.	BEAM
E.N.	BOUNDARY NAILING
BTWCW.	BARE TINNED COPPER WIRE
B.O.F.	BOTTOM OF FOOTING
B/U	BACK-UP CABINET
CAB.	CABINET
CANT.	CANTILEVER(ED)
C.I.P.	CAST IN PLACE
CLG.	CEILING
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION(OR)
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
d	PENNY (NAILS)
DBL.	DOUBLE
DEPT.	DEPARTMENT
D.F.	DOUGLAS FIR
DIA.	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DWG.	DRAWING(S)
DWL.	DOWEL(S)
EA.	EACH
EL.	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMT.	ELECTRICAL METALLIC TUBING
E.N.	EDGE NAIL
ENG.	ENGINEER
EQ.	EQUAL
EXP.	EXPANSION
EXST.(E)	EXISTING
EXT.	EXTERIOR

ABBREVIATION DEFINITION

FAB.	FABRICATION(OR)
F.F.	FINISH FLOOR
F.G.	FINISH GRADE
FIN.	FINISH(ED)
FLR.	FLOOR
FDN.	FOUNDATION
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.O.W.	FACE OF WALL
F.S.	FINISH SURFACE
FT.(I)	FOOT(FEET)
FTG.	FOOTING
G.	GROWTH (CABINET)
GA.	GAUGE
GL.	GALVANIZE(D)
G.F.I.	GROUND FAULT CIRCUIT INTERRUPTER
GLB.(GLU-LAM)	GLUE LAMINATED BEAM
GPS	GLOBAL POSITIONING SYSTEM
GRND.	GROUND
HDR.	HEADER
HGR.	HANGER
HT.	HEIGHT
ICGB.	ISOLATED COPPER GROUND BUS
IN.(")	INCHES
INT.	INTERIOR
LB.(#)	POUNDS
LB.	LAG BOLTS
L.F.	LINEAR FEET (FOOT)
L.	LONG(ITU DINAL)
MAS.	MASONRY
MAX.	MAXIMUM
M.B.	MACHINE BOLT
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTL.	METAL
(N)	NEW
NO.(#)	NUMBER
N.T.S.	NOT TO SCALE
O.G.	ON CENTER
OPNG.	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PLY.	PLYWOOD
PPC	POWER PROTECTION CABINET
PRC	PRIMARY RADIO CABINET
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
P.T.	PRESSURE TREATED

ABBREVIATION DEFINITION

PWR.	POWER (CABINET)
QTY.	QUANTITY
RAD.(R)	RADIUS
REF.	REFERENCE
REINF.	REINFORCEMENT(ING)
REQ'D.	REQUIRED
RGS.	RIGID GALVANIZED STEEL
RRU.	RADIO REMOTE UNIT
SCH.	SCHEDULE
SHT.	SHEET
SHM.	SMILAR
SPEC.	SPECIFICATION(S)
SO.	SQUARE
S.S.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STRUC.	STRUCTURAL
TEMP.	TEMPORARY
THK.	THICK(NESS)
TMA	TOWER MOUNTED AMPLIFIER
T.N.	TOE NAIL
T.O.A.	TOP OF ANTENNA
T.O.C.	TOP OF CURB
T.O.F.	TOP OF FOUNDATION
T.O.P.	TOP OF PLATE (PARAPET)
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.G.	UNDER GROUND
U.L.	UNDERWRITERS LABORATORY
U.N.O.	UNLESS NOTED OTHERWISE
V.I.F.	VERIFY IN FIELD
W	WIDE(WIDTH)
W/	WITH
WD.	WOOD
WP.	WEATHERPROOF
WT.	WEIGHT
⊕	CENTERLINE
⊖	PLATE

ABBREVIATIONS

	NEW ANTENNA		GRID REFERENCE		CENTERLINE
	EXISTING ANTENNA		DETAIL REFERENCE		PROPERTY/LEASE LINE
	GROUND ROD		ELEVATION REFERENCE		MATCH LINE
	GROUND BUS BAR		SECTION REFERENCE		WORK POINT
	MECHANICAL GRND. CONN.		GROUT OR PLASTER		GROUND CONDUCTOR
	CADWELD		(E) BRICK		TELEPHONE CONDUIT
	GROUND ACCESS WELL		(E) MASONRY		ELECTRICAL CONDUIT (POWER)
	ELECTRIC BOX		CONCRETE		COAXIAL CABLE
	TELEPHONE BOX		EARTH		OVERHEAD SERVICE CONDUCTORS
	LIGHT POLE		GRAVEL		CHAIN LINK FENCING
	FND. MONUMENT		PLYWOOD		
	SPOT ELEVATION		SAND		
	SET POINT		WOOD CONT.		
	REVISION		WOOD BLOCKING		
			STEEL		

2

A	10/31/2012	ISSUED FOR REVIEW	J.R.
REV	DATE	DESCRIPTION	BY

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LIBERTY
4780 WOLF CREEK DR.
EDEN, UT 84310
NSB MONOPOLE

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
T-4

GENERAL NOTES

LEGEND

3

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE BATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES

NOTICE

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

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

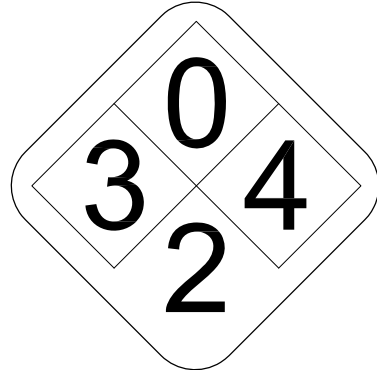
Ref: 47CFR 1.1307 (b)

CAUTION

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

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

Ref: 47CFR 1.1307 (b)



ALERTING SIGN

ALERTING SIGNS

WARNING!

DANGER DO NOT TOUCH TOWER!

SERIOUS "RF" BURN HAZARD!

MAINTAIN AN ADEQUATE CLEARANCE BETWEEN TOWER SUPPORTS AND GUY WIRES

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

ALERTING SIGN

PROPERTY OF AT&T

AUTHORIZED PERSONNEL ONLY

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

INFO SIGN #5

INFORMATION

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

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

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

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

INFORMACION

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

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

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

Esta es la estacion base numero _____

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

INFO SIGN #1



INFORMATION

ACTIVE ANTENNAS ARE MOUNTED

ON THE OUTSIDE OF THIS BUILDING

BEHIND THE PANEL

ON THIS STRUCTURE

STAY BACK A MINIMUM OF 3 FEET FROM THESE ANTENNAS

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

This is Site# _____

INFO SIGN #2

INFO SIGN #4

STAY BACK 3 FEET FROM ANTENNA

GENERAL SIGNAGE GUIDELINES

STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	INFO SIGN #5	STRIPING	NOTICE SIGN	CAUTION SIGN
TOWERS								
MONOPOLE/MONOPINE/MONOPALM	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN. 9FT ABOVE GROUND
SCE TOWERS/TOWERS WITH HIGH VOLTAGE	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN. 9FT ABOVE GROUND
LIGHT POLES/FLAG POLES	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			
UTILITY WOOD POLES (JPA)	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET		IF GP MAX VALUE OF MPE AT ANTENNA LEVEL IS: 0-99%: NOTICE SIGN; OVER 99% CAUTION SIGN AT NO LESS THAN 3FT BELOW ANTENNA AND 9FT ABOVE GROUND	
MICROCELLS MOUNTED ON NON-JAP POLES	ENTRANCE GATE SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET		NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND; ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT 6FT ABOVE GROUND	
ROOF TOPS								
AT ALL ACCESS POINTS OF THE ROOF	X							
ON ANTENNAS	X		X	X				
CONCEALED ANTENNAS	X	X						
ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING	X	X						
ANTENNAS ON SUPPORT STRUCTURE	X	X						
ROOFTOP GRAPH:								
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA						
RADIATION IS BEYOND 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA				DIAGONAL, YELLOW STRIPING AS TO ROOF VIEW GRAPH	EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNAS/BARRIER	
CHURCH STEEPLES	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			CAUTION SIGN AT THE ANTENNAS
WATER STATIONS	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			CAUTION SIGN AT THE ANTENNAS
<p>NOTES FOR ROOFTOP SITES:</p> <p>1. EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO: THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR</p> <p>2. IF ROOFVIEW SHOWS: ONLY BLUE= NOTICE SIGN, BLUE AND YELLOW= CAUTION SIGN, ONLY YELLOW= CAUTION SIGN TO BE INSTALLED.</p> <p>3. SHOULD THE REQUIRED STRIPING ARE INTERFERE WITH ANY STRUCTURES OR EQUIPMENT (A/C, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETS.), PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA, PRIOR TO STARTING THE WORK.</p>								



4393 RIVERBOAT ROAD, SUITE #400
TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS
Information Technology

960 W. LEVOY DRIVE, SUITE 250
SALT LAKE CITY, UTAH 84123



Technology Associates

UTAH MARKET OFFICE

9847 SOUTH 500 WEST
SANDY, UTAH 84070
(801) 463-1020

REV	DATE	DESCRIPTION	BY
A	10/31/2012	ISSUED FOR REVIEW	J.R.

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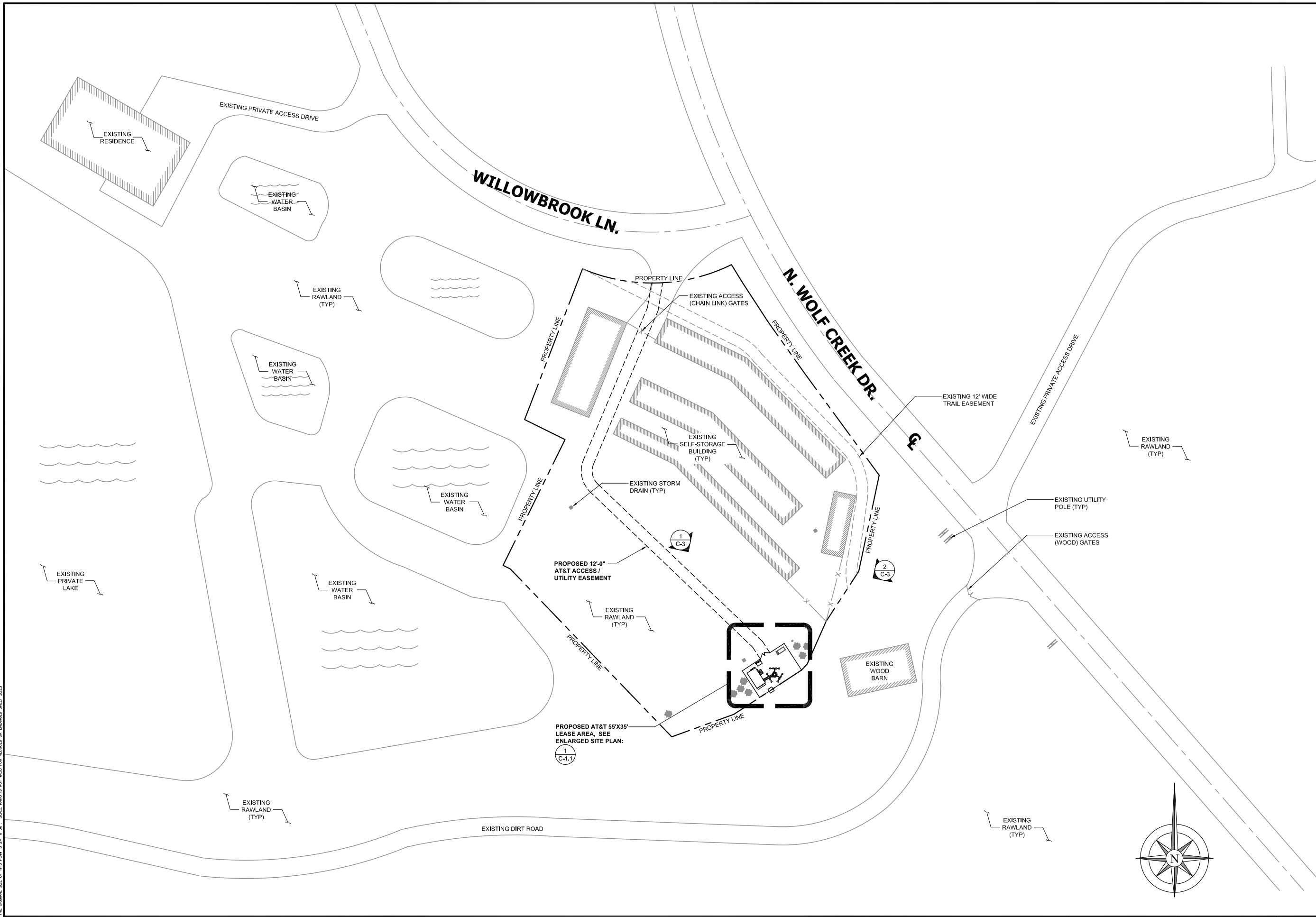
LIBERTY

4780 WOLF CREEK DR.
EDEN, UT 84310
NSB MONOPOLE

SHEET TITLE
SIGNAGE & NOTES

SHEET NUMBER
T-5

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE BOUND IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES.



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NSB MONOPOLE

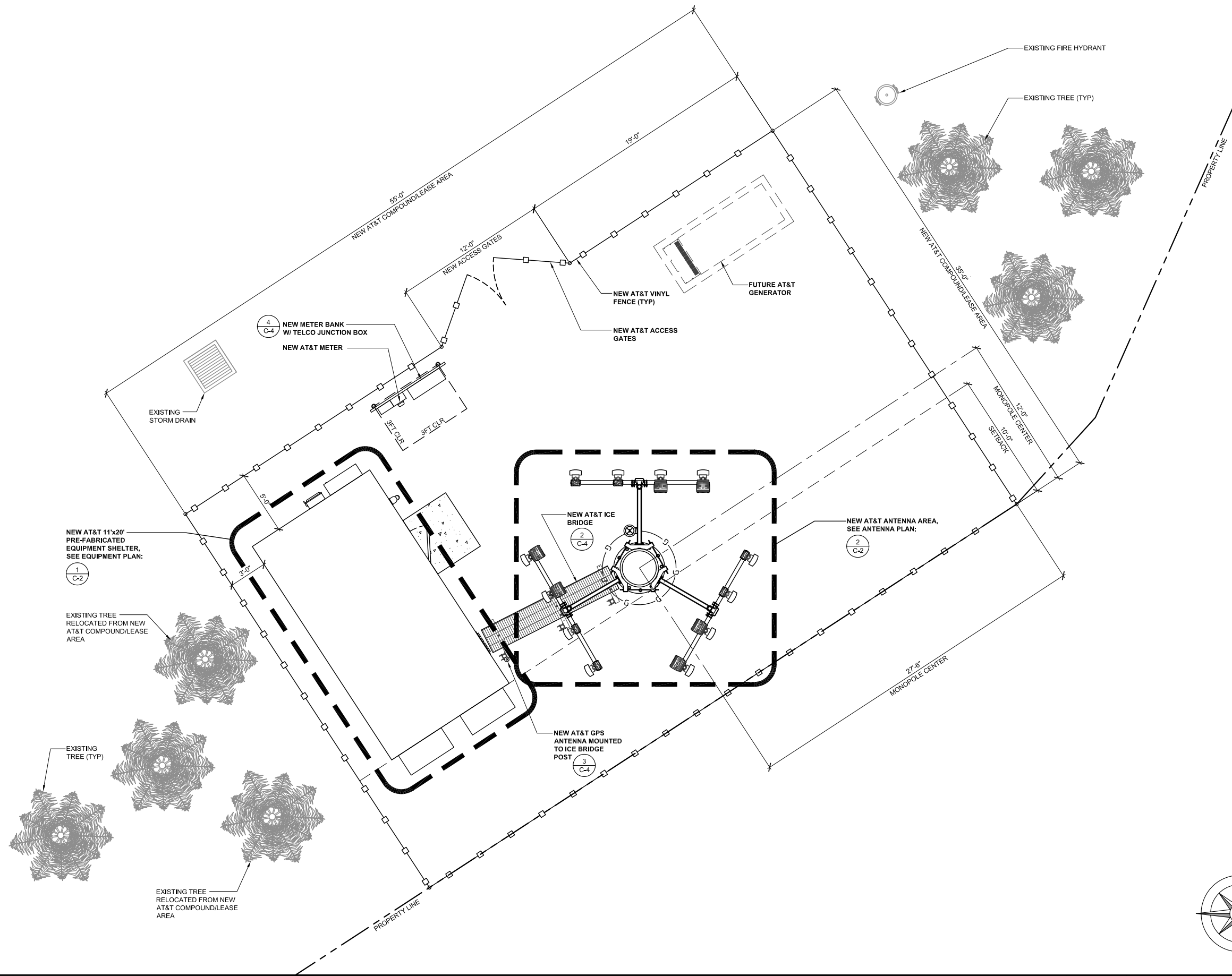
SHEET TITLE
**OVERALL
SITE PLAN**

SHEET NUMBER
C-1

OVERALL SITE PLAN

50' 0 25' 50' SCALE: 1" = 50'-0" (24x36)
(OR) 1/2" = 50'-0" (11x17)

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE BOUND IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES.



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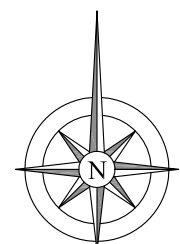
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SHEET TITLE
**ENLARGED
SITE PLAN**

SHEET NUMBER
C-1.1



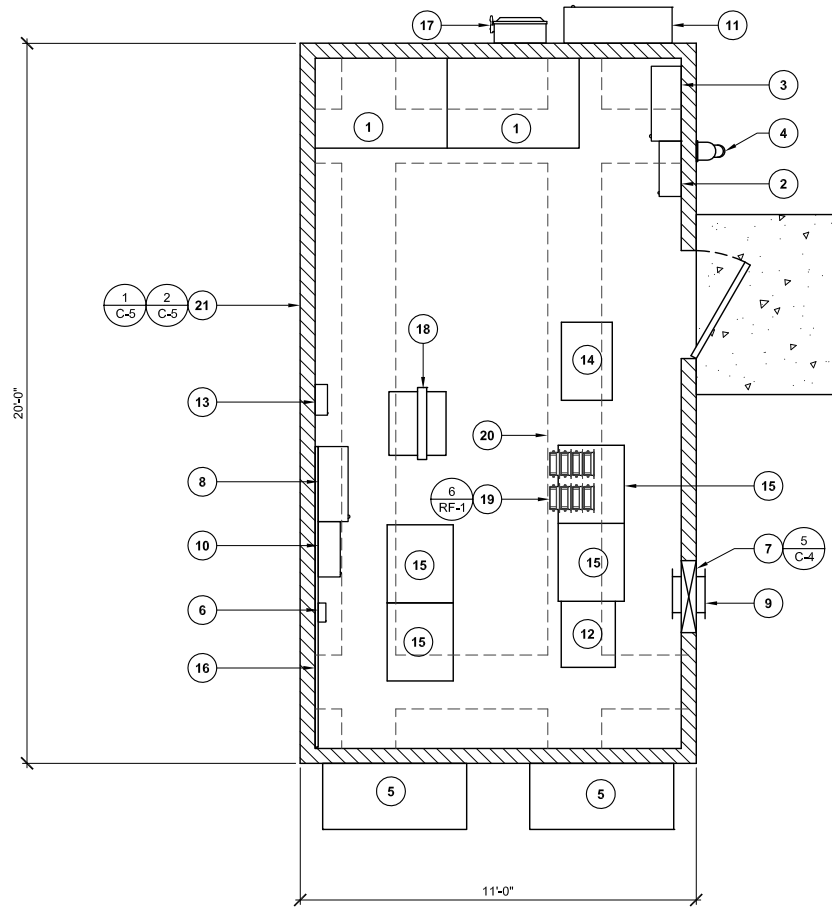
0 1' 2' 4' SCALE: 1/4" = 1'-0" (24x36)
(OR) 1/8" = 1'-0" (11x17)

1

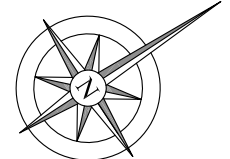
ENLARGED SITE PLAN

KEY NOTES

- 1 NEW BATTERIES / GEL CELL
- 2 NEW AC MAIN BREAKER PANEL
- 3 NEW TRANSFER SWITCH
- 4 NEW GENERATOR PLUG
- 5 NEW HVAC UNIT
- 6 NEW 66 / TELCO PUNCHDOWN BLOCK
- 7 NEW CABLE ENTRY PORT
- 8 NEW TELCO CABINET (UTILITY DEMARK)
- 9 NEW GROUND BAR
- 10 NEW NIU (S)
- 11 NEW TELCO JUNCTION BOX
- 12 NEW DSX PANEL
- 13 NEW ALARM DEMARCATION
- 14 NEW RECTIFIER
- 15 NEW CABINET
- 16 NEW TELCO BOARD
- 17 NEW DISCONNECT SWITCH
- 18 NEW 19" RACK
- 19 (8) NEW AT&T DIPLEXERS MOUNTED TO CABLE LADDER (ABOVE)
- 20 NEW AT&T CABLE LADDER (ABOVE)
- 21 NEW AT&T 12'x20' PRE-FABRICATED SHELTER



NOTE:
1. AT&T SHALL VERIFY & APPROVE ALL EQUIPMENT & CABINET LOCATIONS PRIOR TO THEIR INSTALLATION.



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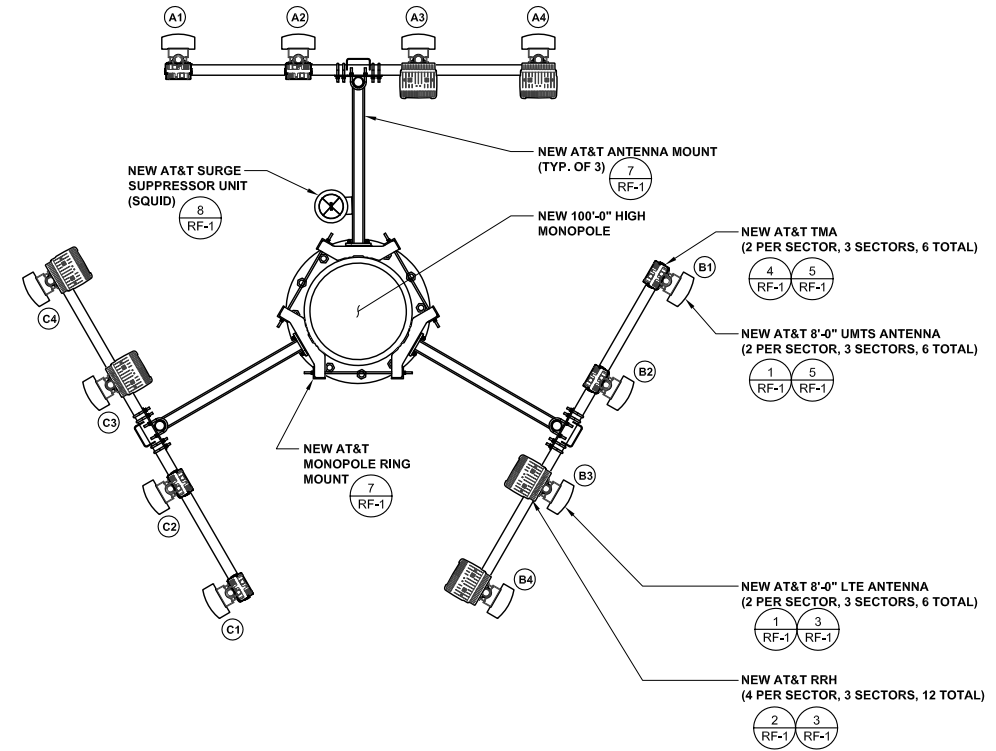
EQUIPMENT PLAN

0 1' 2' 3' SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

1

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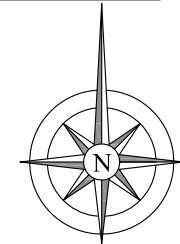
NOTE:
1. AT&T SHALL VERIFY & APPROVE ALL ANTENNA TYPES & ANTENNA LOCATIONS PRIOR TO THEIR INSTALLATION.



NEW ANTENNA AND TRANSMISSION CABLE REQUIREMENT

SECTOR	ANTENNA TYPE	TECHNOLOGY	ANTENNA AZIMUTH	TRANSMISSION CABLE		
				QTY.	LENGTH	TYPE
A1	NEW ANTENNA	UMTS	0°	2	105'	COAX
A2	NEW ANTENNA	UMTS	0°	2	105'	COAX
A3	NEW ANTENNA	LTE	0°	1	105'	FIBER
A4	NEW ANTENNA	LTE	0°	1	105'	FIBER
B1	NEW ANTENNA	UMTS	120°	2	105'	COAX
B2	NEW ANTENNA	UMTS	120°	2	105'	COAX
B3	NEW ANTENNA	LTE	120°	1	105'	FIBER
B4	NEW ANTENNA	LTE	120°	1	105'	FIBER
C1	NEW ANTENNA	UMTS	240°	2	105'	COAX
C2	NEW ANTENNA	UMTS	240°	2	105'	COAX
C3	NEW ANTENNA	LTE	240°	1	105'	FIBER
C4	NEW ANTENNA	LTE	240°	1	105'	FIBER

NOTE TO CONTRACTOR:
ANTENNA CLEARANCE AND MOUNTING TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION WITH FINAL ANTENNA SPECIFICATIONS, MOUNTING HARDWARE, AND RF DESIGN. ANTENNA PIPE MOUNT MODIFICATION MAY BE REQUIRED.



ANTENNA PLAN

0 1' 2' 3' SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

2

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EDEN, UT 84310
NSB MONOPOLE

SHEET TITLE
EQUIPMENT & ANTENNA PLANS

SHEET NUMBER
C-2

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE BOUND IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES.



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GENERAL DYNAMICS
Information Technology

960 W. LEVOY DRIVE, SUITE 250
SALT LAKE CITY, UTAH 84123



Technology Associates

UTAH MARKET OFFICE
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(801) 463-1020

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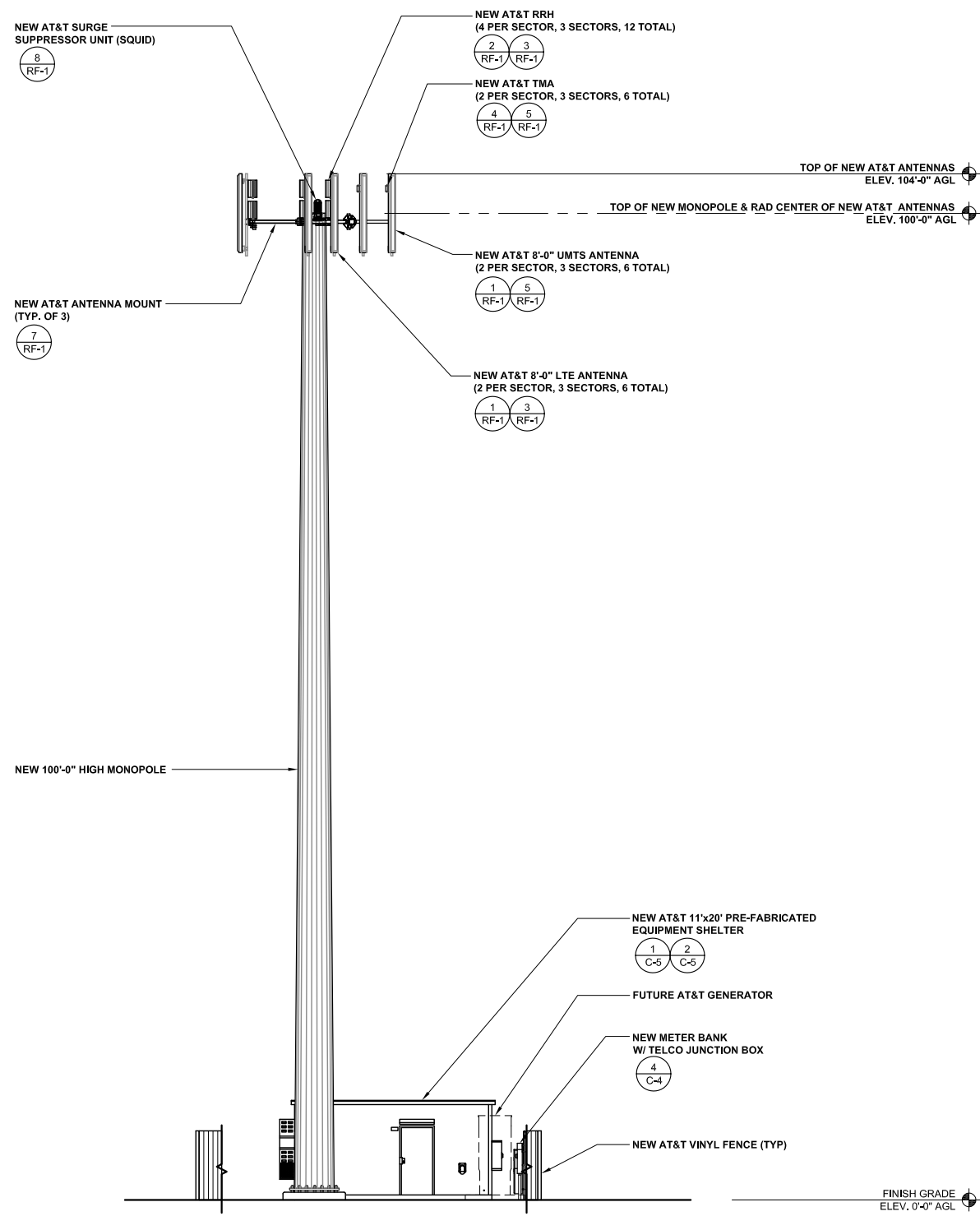
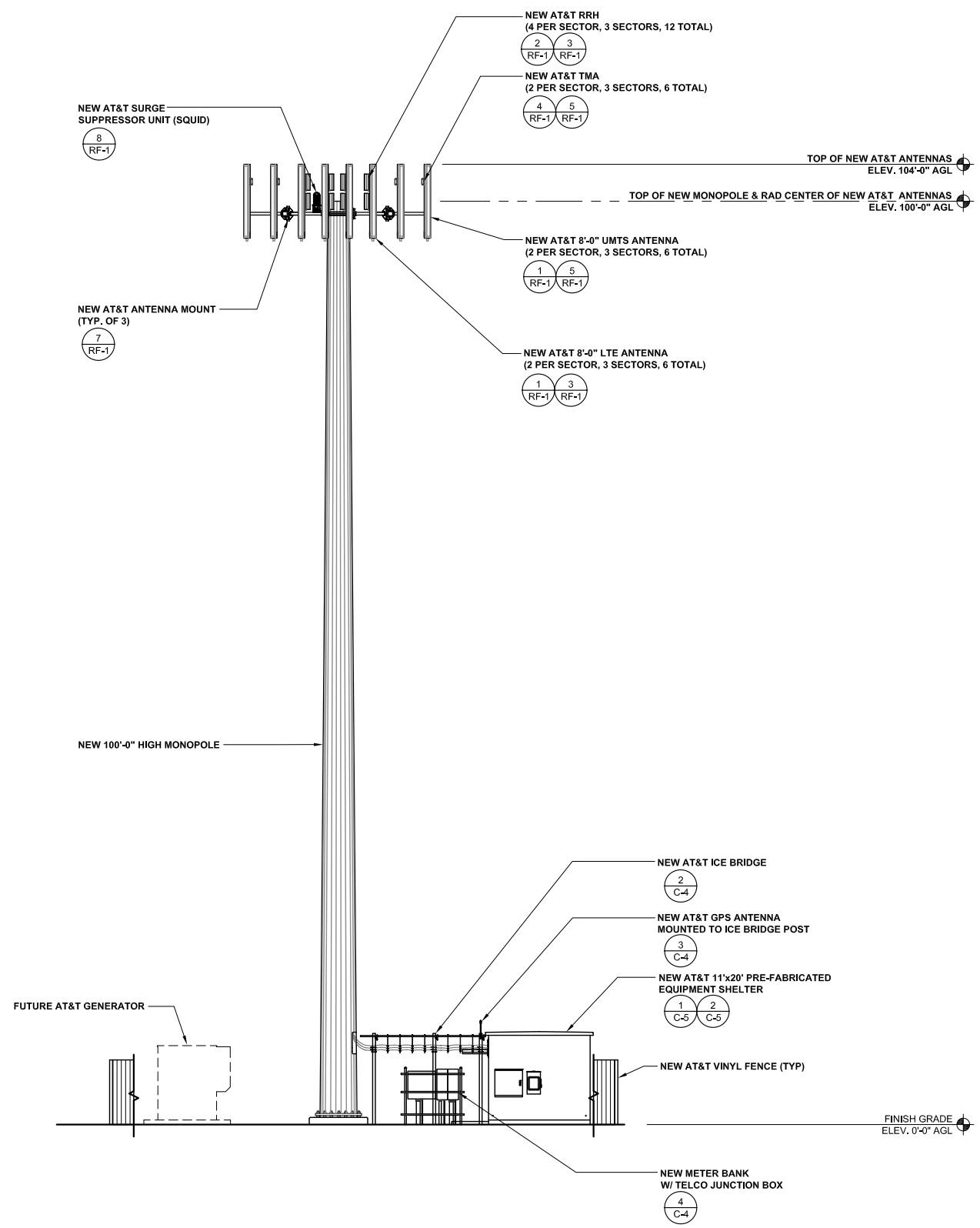
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SHEET TITLE
**NORTHWEST &
NORTHEAST
ELEVATIONS**

SHEET NUMBER
C-3



NORTHWEST ELEVATION

0 2' 4' 8' SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)

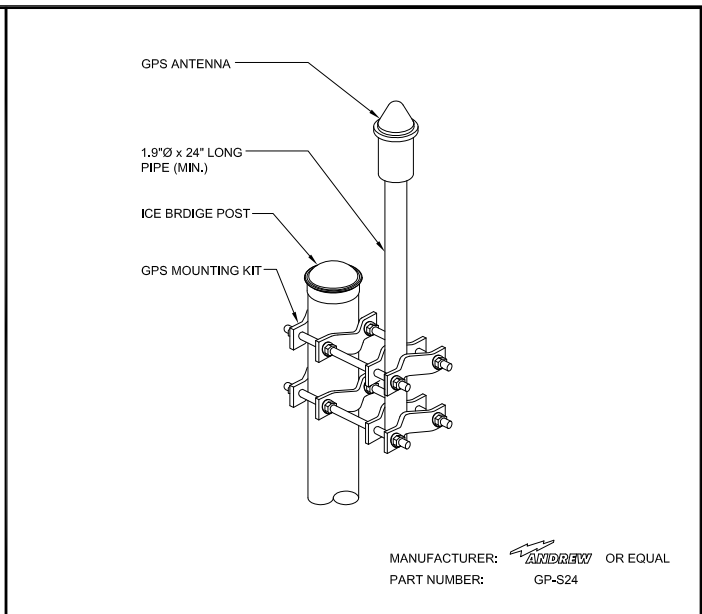
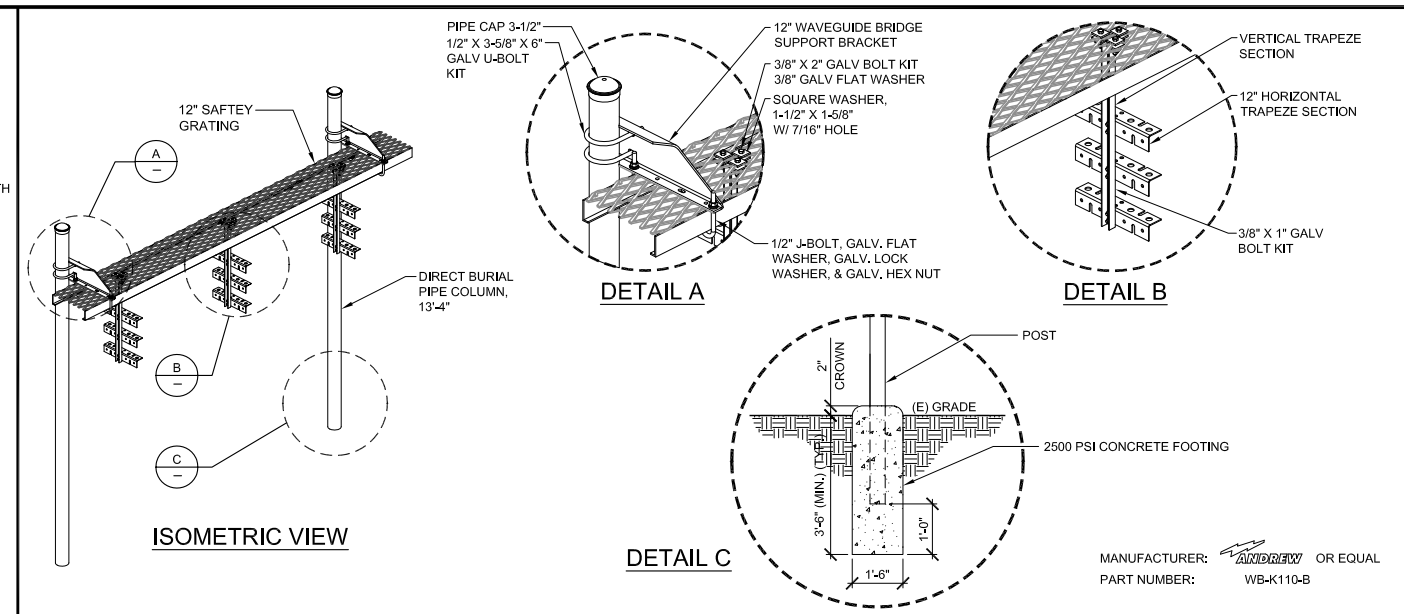
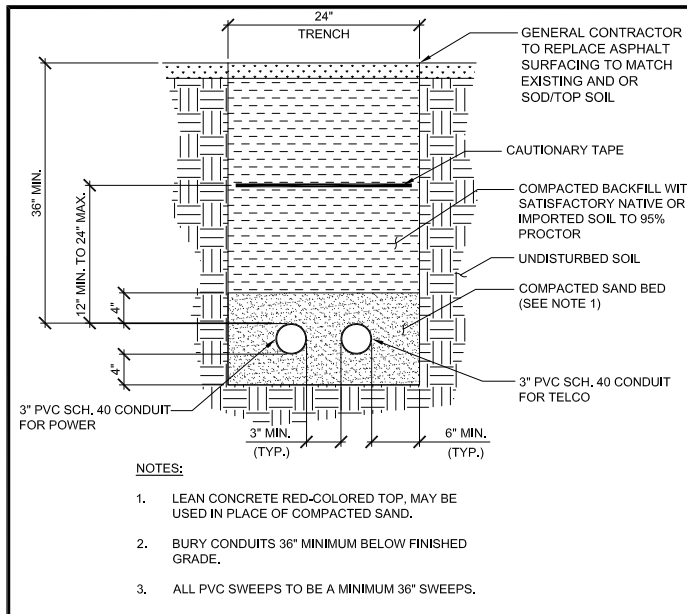
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NORTHEAST ELEVATION

0 2' 4' 8' SCALE: 1/8" = 1'-0" (24x36)
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2

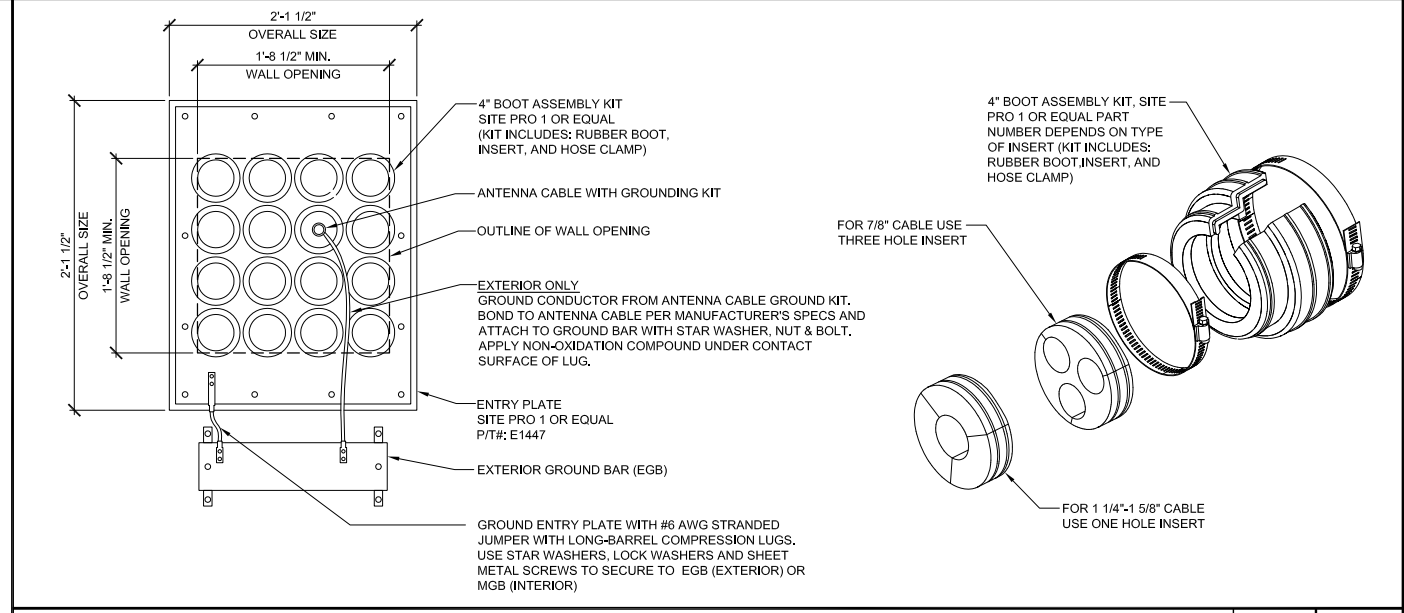
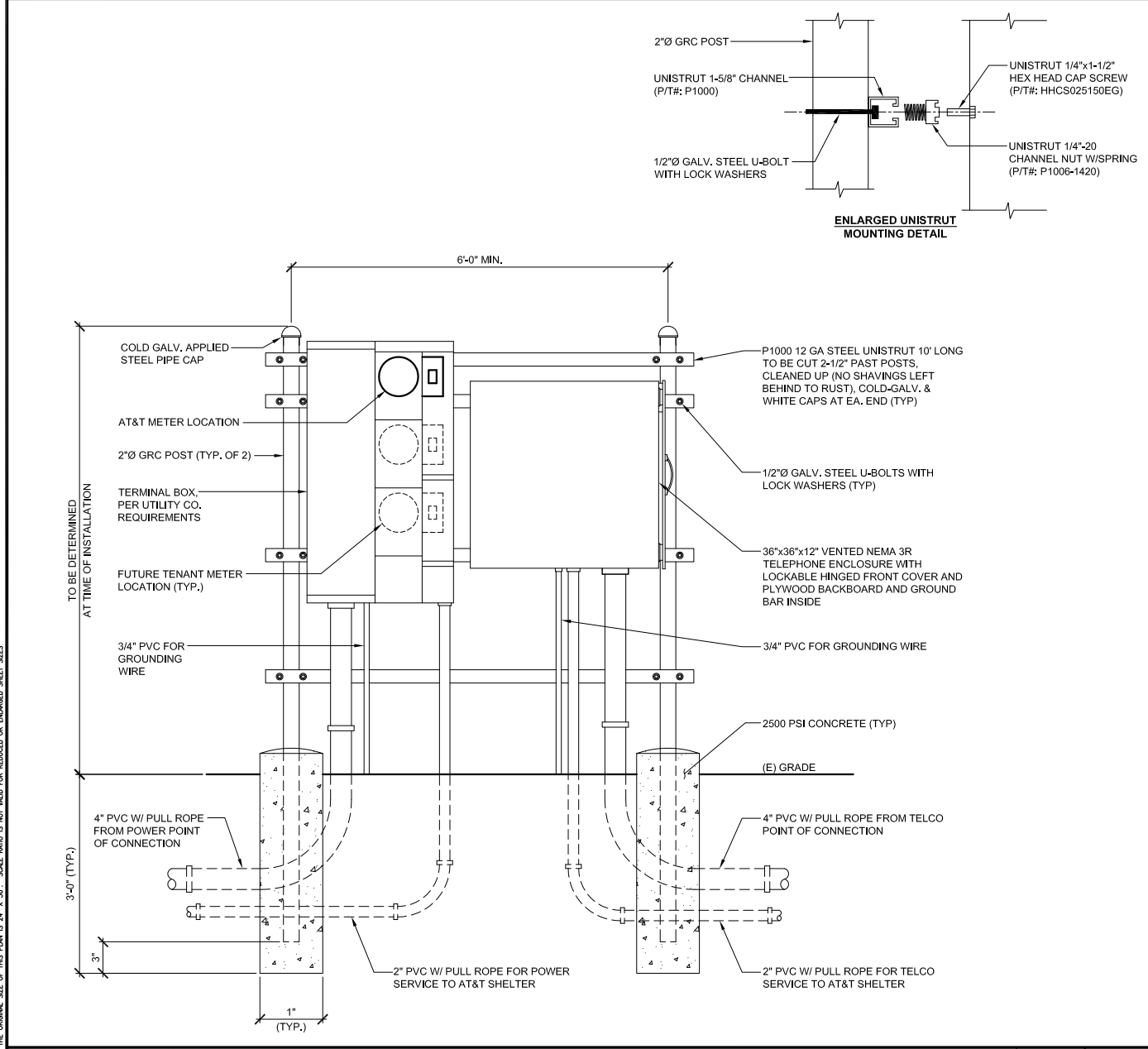
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POWER / TELCO TRENCH SCALE N.T.S. 1

ICE BRIDGE DETAIL SCALE N.T.S. 2

GPS ANTENNA MOUNT SCALE N.T.S. 3



UTILITY H-FRAME DETAIL SCALE N.T.S. 4

NOT USED SCALE N.T.S. 6

NOT USED SCALE N.T.S. 7

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SHEET TITLE
DETAILS

SHEET NUMBER
C-4

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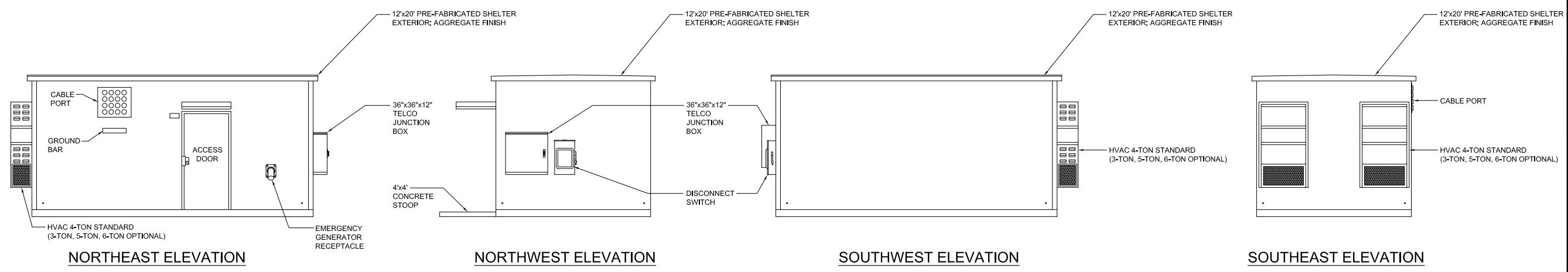
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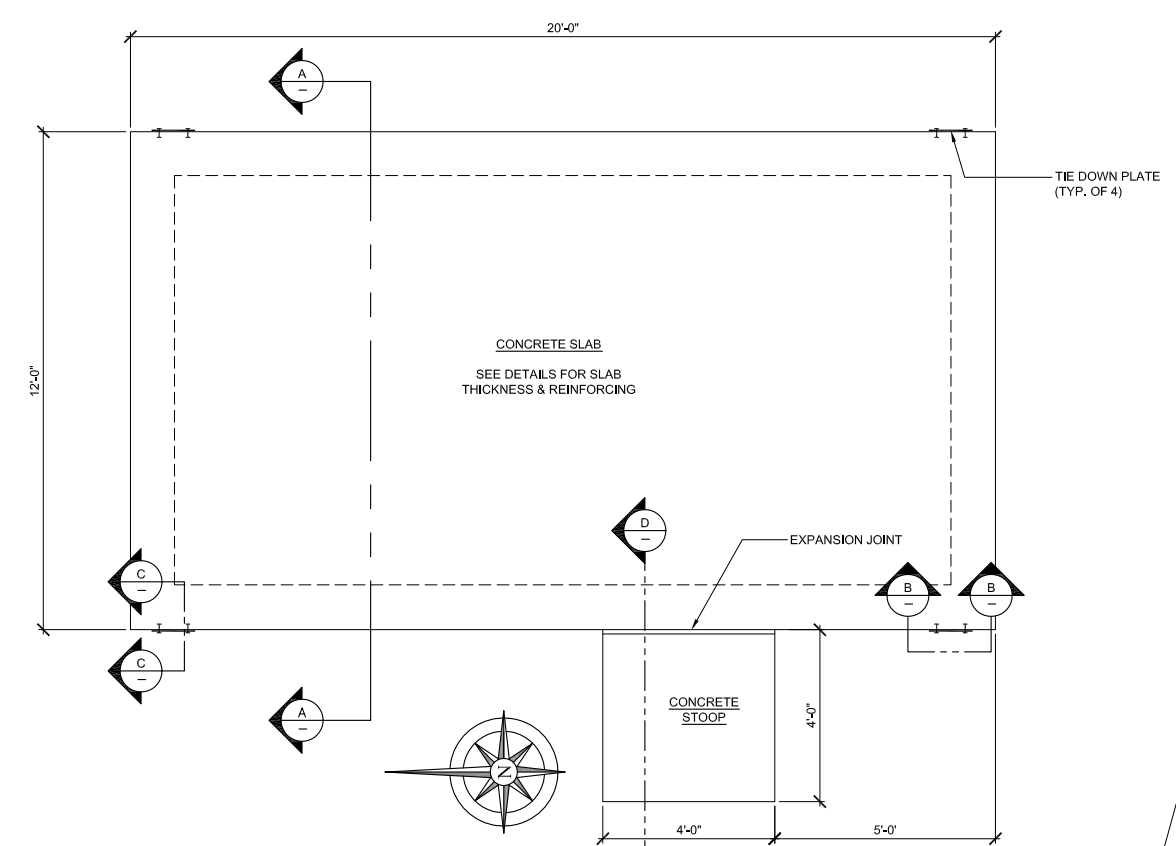
SHEET TITLE
DETAILS

SHEET NUMBER
C-5

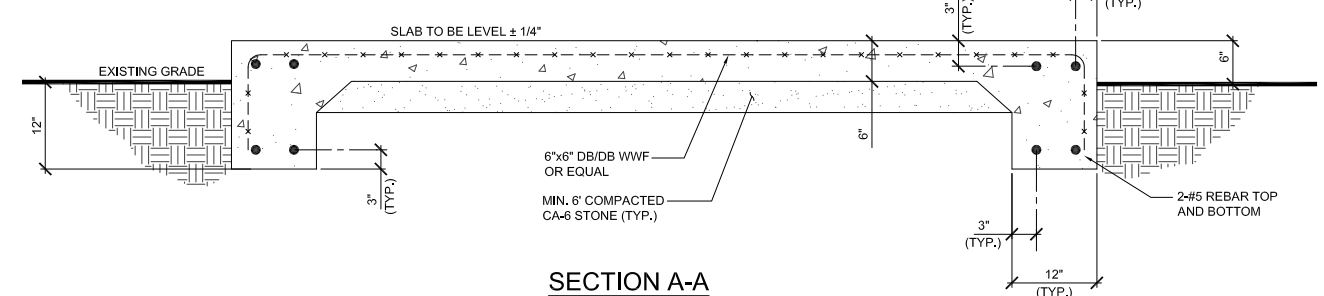


SHELTER ELEVATIONS

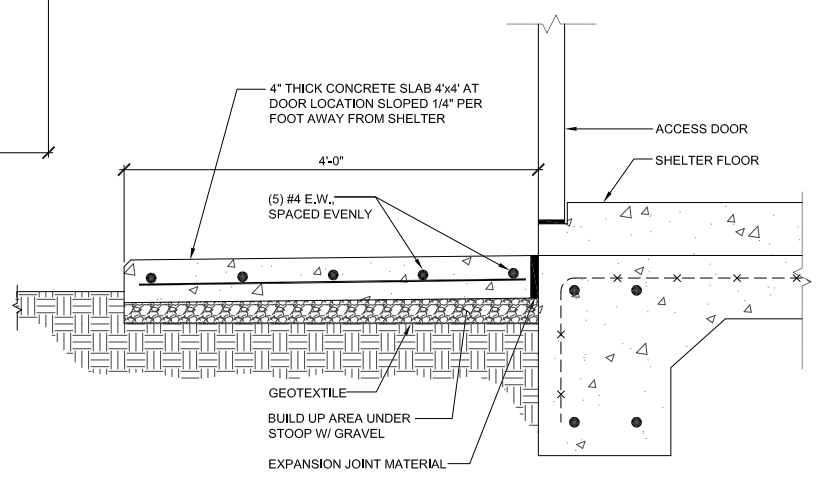
SCALE
N.T.S. **1**



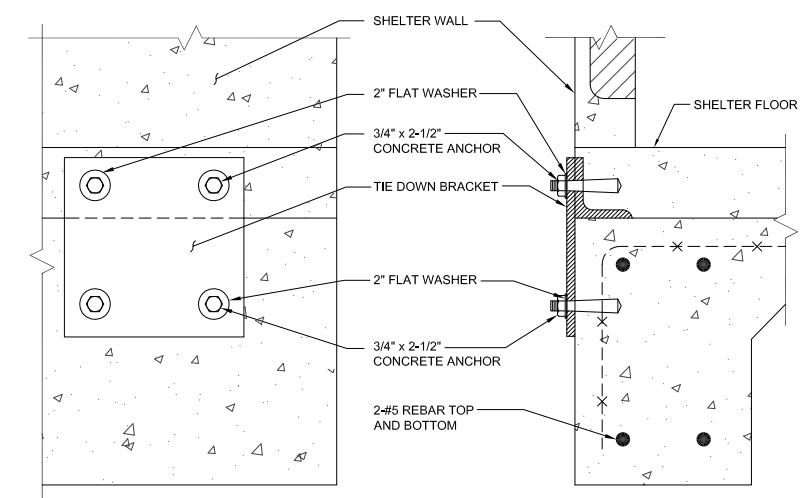
- NOTES:**
1. SLAB TO BE LEVEL $\pm 1/4"$.
 2. FOOTING TO EXTEND A MINIMUM OF 12" BELOW GRADE.
 3. SLAB FOUNDATION DESIGNED ASSUMING MAXIMUM SOIL BEARING PRESSURE OF 2000 PSF.
 4. SLAB FOUNDATION DESIGNED ASSUMING MAXIMUM SOIL PLASTICITY INDEX OF 27.
 5. CONCRETE STRENGTH SHALL BE A MINIMUM OF 3000 PSI.
 6. THE SITE SHALL BE STRIPPED OF ALL VEGETATION PRIOR TO FILL OR CONSTRUCTION OF THE FOUNDATION PAD.
 7. ALL FILL SAND SHALL BE 0-15 P.I. WITH A COMPACTION TEST RUN ON EACH 6" LIFT - COMPACTED TO 90% MODIFIED PROCTOR.
 8. ANY SOFT AREAS (TREE STUMP HOLES, ETC.) SHALL BE CUT OUT AND RECOMPACTED TO SAID PROCTOR.
 9. THE SUBCONTRACTOR SHALL KEEP THE SITE SO IT WILL HAVE POSITIVE DRAINAGE AT ALL TIMES.
 10. ALL EXCAVATIONS SHALL BE FREE OF WATER BEFORE POURING CONCRETE.
 11. MINIMUM SOIL BEARING CAPACITY OF 2,000 PSF IN ALL FOUNDATION AND SLAB AREAS.



SECTION A-A



SECTION D-D



SECTION B-B

SECTION C-C

TYPICAL EQUIPMENT SHELTER FOUNDATION PLAN

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

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE RATIO IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES.

ELECTRICAL NOTES

1. WIRING SHALL BE AWG COPPER WITH THHN/THWN OR EQUIVALENT INSULATION. #12 MINIMUM INSTALLED IN 3/4" MINIMUM RACEWAY. SIGNAL WIRING SHALL BE INSULATED #22 AWG. NO BX OR ROMEX CABLE IS PERMITTED. RACEWAY SHALL BE SURFACE MOUNTED.
2. WIRING DEVICES AND EQUIPMENT SHALL BE UL LISTED SPECIFICATION GRADE.
3. MATERIALS SHALL BE NEW AND CONFORM TO THE APPLICABLE STANDARDS ESTABLISHED FOR EACH ITEM BY THE ORGANIZATIONS USED BELOW.
 - AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)
 - UNDERWRITER'S LABORATORY (UL)
 - NATIONAL ELECTRICAL MANUFACTURING ASSOCIATION (NEMA)
 - AMERICAN STANDARDS ASSOCIATION (ASA)
 - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
4. INSTALLATION OF MATERIALS SHALL COMPLY WITH CURRENT REGULATIONS ADOPTED BY LOCAL JURISDICTION INCLUDING BUT NOT LIMITED TO:
 - THE NATIONAL ELECTRICAL CODE (NFPA 70)
 - THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)
 - THE LIFE SAFETY CODE (NFPA 101)
 - LOCAL BUILDING CODES
5. THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING LOCKNUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTOR. RECEPTACLES AND EQUIPMENT BRANCH CIRCUITS SHALL BE GROUNDED WITH A FULL-SIZED EQUIPMENT GROUNDING CONDUCTOR RUN IN THE CIRCUIT'S CONDUIT.
6. OUTLET AND JUNCTION BOXES SHALL BE HOT DIPPED GALVANIZED, ZINC-COATED, OR CADMIUM PLATED STEEL NOT LESS THAN 4" SQUARE AND SUITABLE FOR THE TYPE SERVICE AND OUTLET. OUTLET AND JUNCTION BOXES SHALL BE SURFACE MOUNTED AND LABELED WITH BRANCH CIRCUIT BREAKER NUMBER.
7. LABEL ALL EQUIPMENT SERVED FROM AT&T PANEL BOARD WITH LABELS SIZED IN RELATION TO USAGE.
8. OUTDOOR CONDUCTORS ABOVE GROUND SHALL BE INSTALLED IN RIGID GALVANIZED STEEL OR INTERMEDIATE METAL CONDUIT UNLESS NOTED OTHERWISE. HORIZONTAL OUTDOOR CONDUCTORS BELOW GRADE SHALL BE INSTALLED IN RIGID SCHEDULE 40 PVC.
9. CONTRACTOR TO PROVIDE AND INSTALL ENGRAVED LABEL WITH 1/2" MINIMUM LETTERS ON THE AT&T METER SOCKET ENCLOSURE.

SYMBOLS

- ⊗ GROUND ROD WITH ACCESS
- ⊗ XIT GROUND ROD
- ⊗ GROUND ROD
- ⊡ DISCONNECT SWITCH
- M UTILITY METER
- ⌋ CIRCUIT BREAKER
- ⌋ FUSE
- Ⓞ GENERATOR
- Ⓞ LIGHT SWITCH
- COMPRESSION, CLAMP, OR DOUBLE HOLE LUG TYPE GROUND CONNECTION
- EXOTHERMIC CONNECTION (CADWELD) TO GROUND RING AND COMPRESSION TO GROUND HALO
- G — GROUNDING WIRE, DASHED LINE INDICATES UNDERGROUND
- T — TELEPHONE LINE, DASHED LINE INDICATES UNDERGROUND
- C — COAXIAL CABLE, DASHED LINE INDICATES UNDERGROUND
- A — ANTENNA COAX
- Ⓞ 2 E3 DETAIL REFERENCE DETAIL NO.2 ON SHEET E3

ABBREVIATIONS

- ACCA ANTENNA CABLE COVER ASSEMBLY
- AWG AMERICAN WIRE GAUGE
- BTWC BARE TINNED COPPER WIRE
- C CONDUIT
- CIGBE COAX INSULATED GROUND
- CO BAR EXTERNAL CONDUIT ONLY
- DWG DRAWING
- EMT ELECTRICAL METALLIC TUBING
- NEW OR EX. EXISTING
- GEN GENERATOR
- GFI GROUND FAULT CIRCUIT INTERRUPTER
- GND GROUND
- GPS GLOBAL POSITIONING SYSTEM
- GR GROWTH
- IGR INTERIOR GROUND RING (HALO)
- MIGB MASTER ISOLATED GROUND BAR (N)
- PCS PERSONAL COMMUNICATION SERVICE
- PDC POWER PROTECTION CABINET
- PRC PRIMARY RADIO CABINET
- PVC POLYVINYL CHLORIDE CONDUIT
- RGS RIGID GALVANIZED STEEL
- RWY RACEWAY
- S.L.D. SINGLE LINE DIAGRAM
- TMLP VERIZON WIRELESS LIMITED PARTNERSHIP
- TEL TELEPHONE
- TYP. TYPICAL
- WP WEATHERPROOF EQUIPMENT



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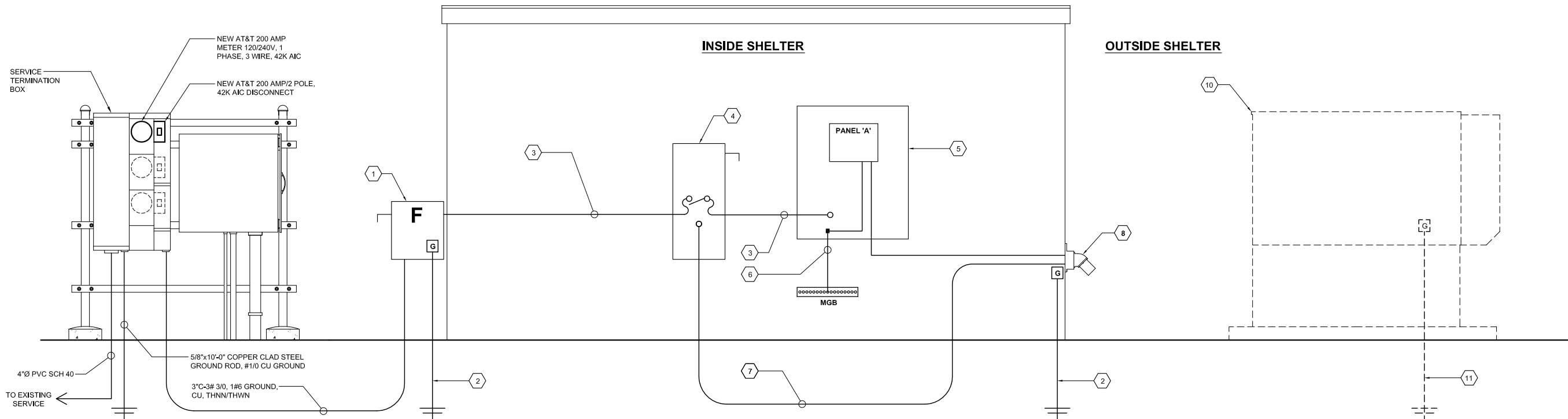
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SHELTER ELEVATIONS

SCALE
N.T.S. 1

KEY NOTES:

- 1 NEW 200 AMPHERE, 120/240 VOLT, 2-POLE 3-WIRE, HEAVY DUTY FUSED DISCONNECT SWITCH, SIEMENS # SN324 OR SQUARE "D" #H224N, NEMA 3R ENCLOSURE, CLASS RK1, 200 AMP FUSES, BUSSMANN TYPE LPN-RK, C.L., D.E., T.D.
- 2 NEW 5/8"Ø x 10'-0" COPPER CLAD STEEL GROUND ROD AND #1/0 CU GROUND. BOND TO GROUND GRID.
- 3 NEW 2"C-3#3/0, 1#6 GROUND, CU, THHN/THWN.
- 4 NEW AUTOMATIC TRANSFER SWITCH, GENERAC MODEL #0049402, 200 AMP, 120/240 VOLT, 1-PHASE, 3-WIRE, 2 POLE, 42 KAIC.
- 5 NEW INTEGRATED LOADCENTER (PANEL 'A') WITH 200 AMP/2-POLE, 120/240 VOLT, 42KAIC MANUAL TRANSFER SWITCH PROVIDED BY SHELTER MANUFACTURER.
- 6 NEW 1/2"C - 1#2 CU BOND TO MASTER GROUND BAR "MGB"
- 7 NEW 2-1/2"C - 3#3/0, 1#6 GROUND, CU, THHN/THWN
- 8 GENERATOR RECEPTACLE
- 9 NEW 1"C - 3#10, 1#10 GROUND, CU, THHN/THWN GENERATOR SUPPORT BRANCH CIRCUITS
- 10 FUTURE GENERATOR
- 11 FUTURE 5/8"Ø x 10'-0" COPPER CLAD STEEL GROUND ROD AND #1/0 CU GROUND



ONE-LINE DIAGRAM

SCALE
N.T.S. 2

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SHEET TITLE
**ELECTRICAL NOTES
& ONE-LINE DIAGRAM**

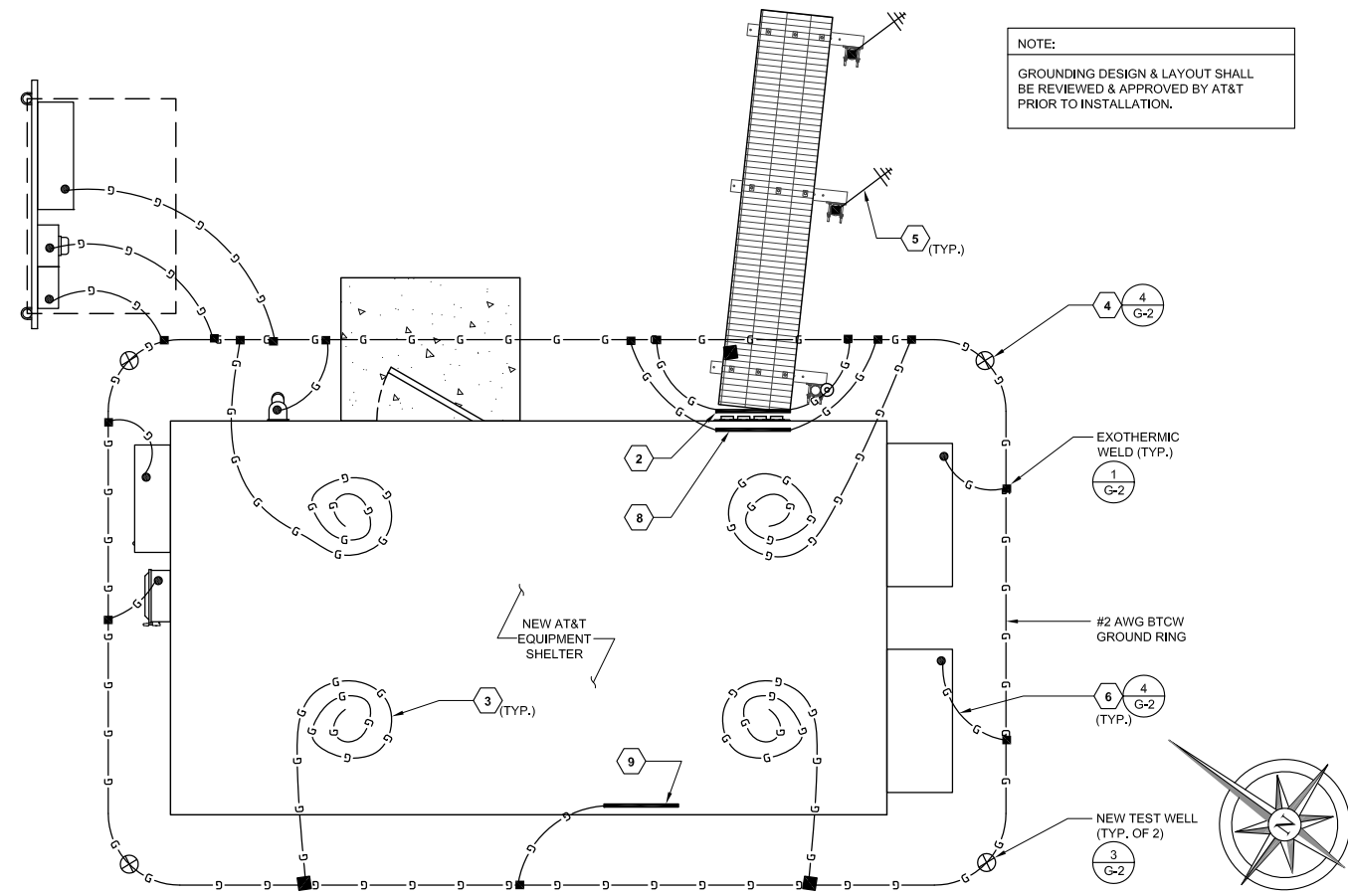
SHEET NUMBER
E-1

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REV	DATE	DESCRIPTION	BY
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GROUNDING SPECIFICATIONS

- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE CURRENTLY IN EFFECT FOR THE AUTHORITY HAVING JURISDICTION.
- ALL GROUNDING DEVICE SHALL BE U.L. LISTED FOR THEIR INTENDED USE.
- GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID COPPER UNLESS OTHERWISE NOTED.
- CONNECTIONS OF ALL GROUND WIRES TO THE GROUND RING SHALL BE EXTHERMIC (CAD-WELDED), UNLESS OTHERWISE NOTED, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AT&T WIRELESS BROADBAND STANDARDS.
- GROUNDING CONDUCTORS SHALL BE ROUTED ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. WHEN REQUIRED, GROUND LEADS SHALL BE BENT TO A MINIMUM OF 8" RADIUS.
- WHERE GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO THE GROUND RING, INSTALL WIRE IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM CONNECTION POINT TO 5' BELOW GRADE AND SEAL THE TOP WITH SILICONE SEALANT.
- ALL GROUND BARS SHALL BE TINNED, 1/4" COPPER, SECTOR BARS 2", COLLECTOR AND MGB BARS 4", OF SUFFICIENT LENGTH TO ACCOMMODATE ALL REQUIRED CONNECTIONS WITHOUT DOUBLING LIGS, AND EACH INSTALLED WITH ISOLATORS. WHEN CONNECTING GROUND BARS (WITHIN 10 FEET OF GRADE) DIRECTLY TO THE GROUND RING, 2 EA. #2 SOLID DOWNLEADS SHALL BE CAD-WELDED TO THE GROUND BAR, 1 AT EACH OPPOSITE BOTTOM CORNER, AND EACH SHALL RUN IN 3/4" HEAVY WALL LIQUID TIGHT FLEXIBLE CONDUIT FROM GROUND BAR DOWN TO THE GROUND RING. WHEN CONNECTING SECTOR GROUND BARS, DAISY-CHAIN THE GROUND BARS AND RUN 1 EA. #2 AWG STRANDED COPPER WIRE WITH THWN INSULATION FROM THE MIDDLE GROUND BAR TO THE GROUND RING AND CAD-WELD TO THE RING.
- WHEN ATTACHING STRANDED GROUND LEADS TO THE GROUND BARS, 2 HOLE COMPRESSION LUGS SHALL BE USED, PROTECT WITH WEATHERPROOF HEAT SHRINK, AND WITH A THIN COAT OF "KOPR SHIELD" OR EQUIVALENT PROPERLY APPLIED AND ATTACHED ONLY WITH STAINLESS STEEL HARDWARE.
- WHEN GROUNDING EQUIPMENT ENCLOSURES, PANELS, FRAMES, AND OTHER METAL APPARATUS, A #6 AWG STRANDED COPPER WIRE WITH THWN INSULATION SHALL BE ATTACHED UTILIZING A 2 HOLE COMPRESSION TYPE LUG, PROTECTED WITH WEATHERPROOF HEAT A CLEAN AND CORROSION FREE METALLIC SURFACE UTILIZING STAINLESS STEEL SELF-TAPPING SCREWS AS NOTED IN NOTE 10 BELOW.
- PREPARE ALL BONDING SURFACES FOR GROUND CONNECTIONS BY REMOVING ANY AND ALL PAINT AND CORROSION TO SHINY METAL. FOLLING CAD-WELDED CONNECTIONS TO NON-COPPER SURFACES, APPLY ONE COAT OF ANY ANTI-OXIDIZING PAINT, "COLD GALV" OR EQUIVALENT.
- GROUND RODS SHALL BE COPPER-CLAD STEEL 5/8"x10', SPACED NO LESS THAN 10' ON CENTER.
- ALL GROUND SYSTEM CONDUCTORS AND CONDUITS SHALL BE SECURED UTILIZING ONLY NONMETALLIC, NON-CONDUCTIVE, UV RATED CLAMPS, BRACKET, AND OR SUPPORTS.
- WHEN REQUIRED, THE CONTRACTOR SHALL ENGAGE THE SERVICES OF AN INDEPENDENT TESTING FIRM TO VERIFY, UTILIZING A MEGGER TEST, THAT THE RESISTANCE TO EARTH OF THE NEW GROUND SYSTEM IS EQUAL TO OR LESS THAN 5 (OHMS), A COPY OF THE COMPLETE TESTING REPORT SHALL BE PROVIDED TO THE AT&T REPRESENTATIVE.
- ALL MATERIALS AND HARDWARE SHALL BR INSTALLED IN A WORKMAN-LIKE MANNER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, AND DEFINED IN NFPA-70 AND APPROVED BY A,J,H,I.

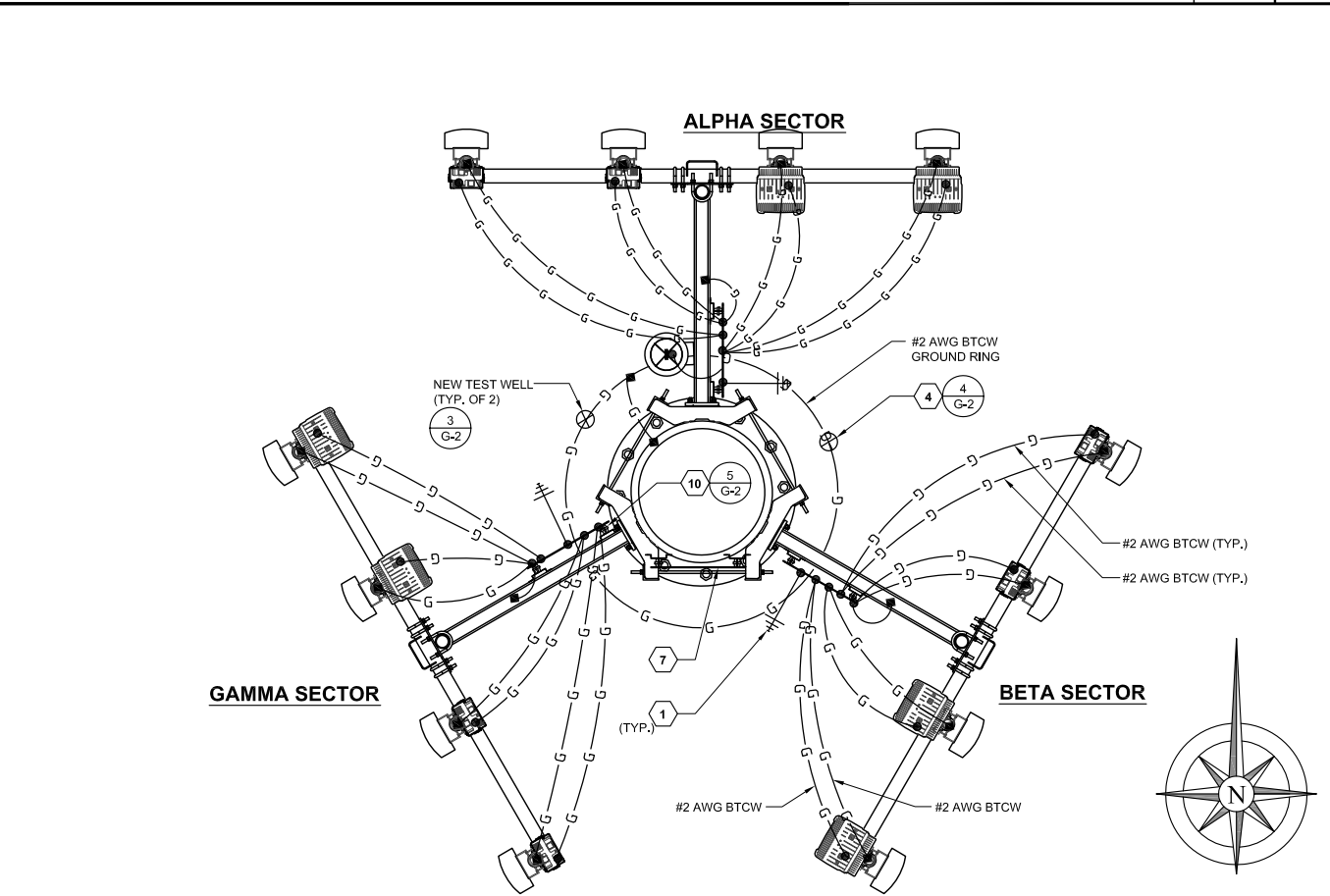


EQUIPMENT GROUNDING

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

KEY NOTES:

- UPPER GROUND BAR: EXTEND #2 TINNED CU WIRE TO LOWER GROUND BAR AND MAKE MECHANICAL LUG CONNECTION.
- HATCHPLATE GROUND BAR: EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING UP TO THE HATCHPLATE GROUND BAR AND MAKE AN EXOTHERMIC WELD.
- GROUND OF INTERNAL GROUND RING: EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING THROUGH 1/2" PVC SLEEVE INTO EQUIPMENT SHELTER FOR CONNECTION TO INTERIOR HALO GROUND RING. TYPICAL AT 4 BUILDING CORNERS
- GROUND ROD: COPPERCLAD STEEL, 5/8" TEN (10) FEET LONG.
- ICE BRIDGE SUPPORT POST GROUNDING: EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING TO ALL ICE BRIDGE SUPPORT POSTS AND EXOTHERMIC ALLY WELD.
- HVAC GROUNDING: EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING TO THE HVAC UNIT AND MAKE A MECHANICAL CONNECTION.
- LOWER GROUND BAR: EXTEND #2 TINNED CU WIRE FROM BURIED GROUND UP TO THE GROUND BAR AND MAKE AN EXOTHERMIC WELD AT GROUND RING. SECURE GROUND BAR DIRECTLY TO TOWER WITH STAINLESS STEEL MOUNTING MATERIAL.
- CELL REFERENCE GROUND BAR: EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING UP TO THE CELL REFERENCE GROUND BAR (INSIDE SHELTER) AND MAKE A MECHANICAL CONNECTION.
- TELCO GROUND BAR: EXTEND #2 TINNED CU WIRE FROM BURIED GROUND RING UP TO TELCO GROUND BAR (INSIDE SHELTER) AND MAKE A MECHANICAL CONNECTION.
- ANTENNA GROUND BAR: MOUNT GROUND BAR DIRECTLY TO TOWER AT TOP OF CABLE RUNS; SECURE TO TOWER WITH STAINLESS STEEL MOUNT.



ANTENNA GROUNDING

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



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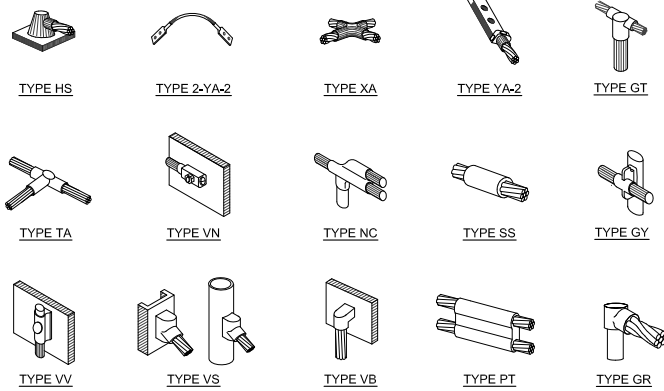
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SHEET TITLE
GROUNDING PLANS

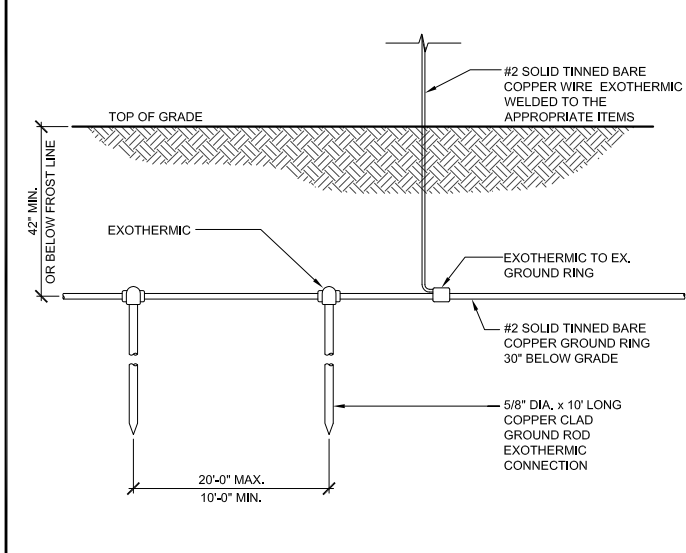
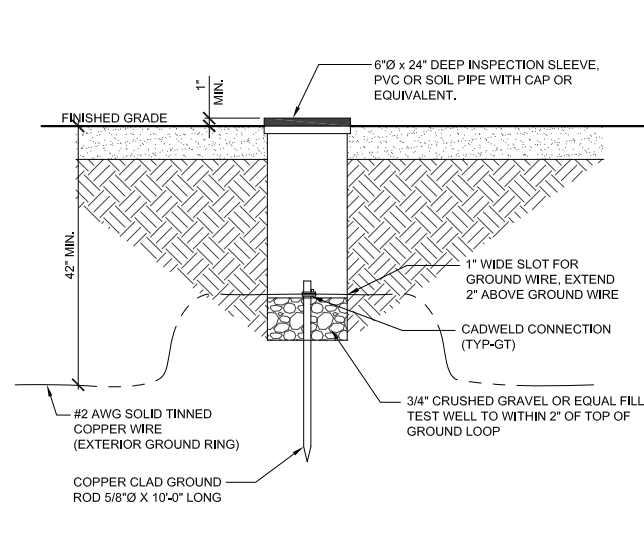
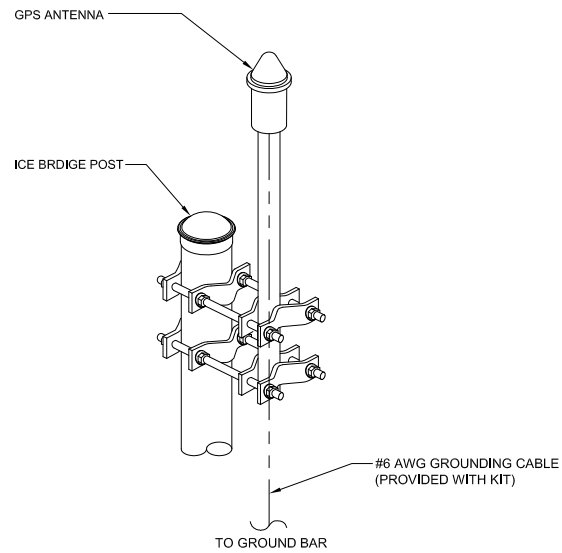
SHEET NUMBER
G-1

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NOTES



NOTE:
EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH PROJECT MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.



EXOTHERMIC WELDING

SCALE
N.T.S. 1

GPS GROUNDING

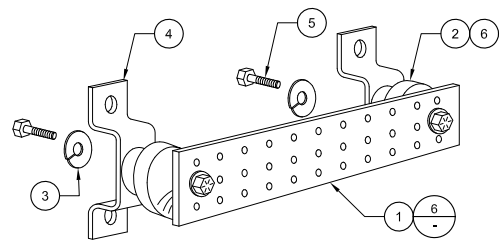
SCALE
N.T.S. 2

TEST WELL

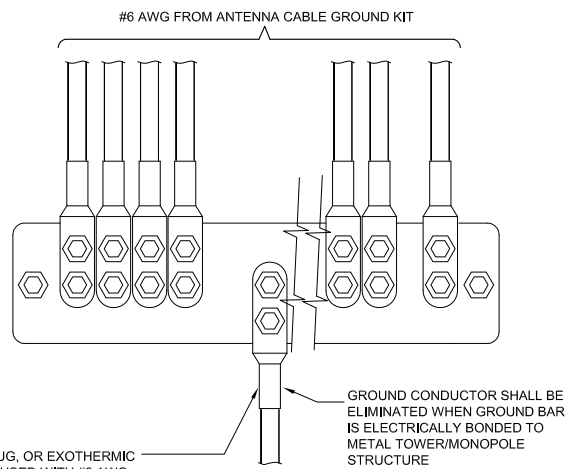
SCALE
N.T.S. 3

GROUND ROD

SCALE
N.T.S. 4



- 1 COPPER GROUND BAR, 1/4"x4"x20", HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION. (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)
- 2 INSULATORS
- 3 5/8" LOCKWASHERS
- 4 WALL MOUNTING BRACKET
- 5 5/8-11 X 1" HHCS BOLTS
- 6 INSULATORS SHALL BE ELEMENATED WHEN BONDING DIRECTLY TO TOWER/MONOPOLE. CONNECTION TO TOWER OR MONOPOLE STRUCTURE SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

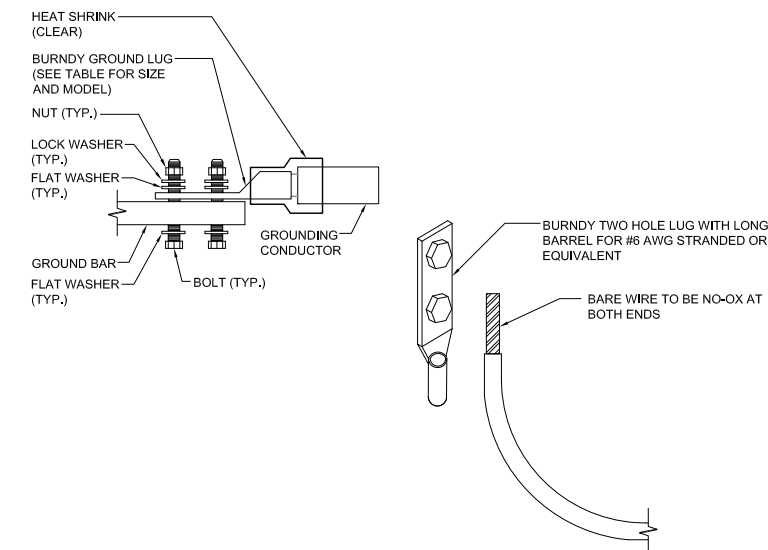


TWO HOLE LUG, OR EXOTHERMIC WELD TO BE USED WITH #2 AWG BCW TO BUILDING WATER MAIN OR GROUND RING

NOTE:
GROUND BARS AT THE BOTTOM OF TOWERS/MONOPOLES SHALL ONLY USE EXOTHERMIC WELDS.

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

- NOTES:
- ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER, LOCK WASHER AND NUT.
 - COPPER SHIELD, ANTI-OX, CR NO-OX OR EQUIVALENT SHALL BE PLACE WHERE ALL DISSIMILAR METALS CONNECT.
 - ALL LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



12" OR 18" GROUND BAR

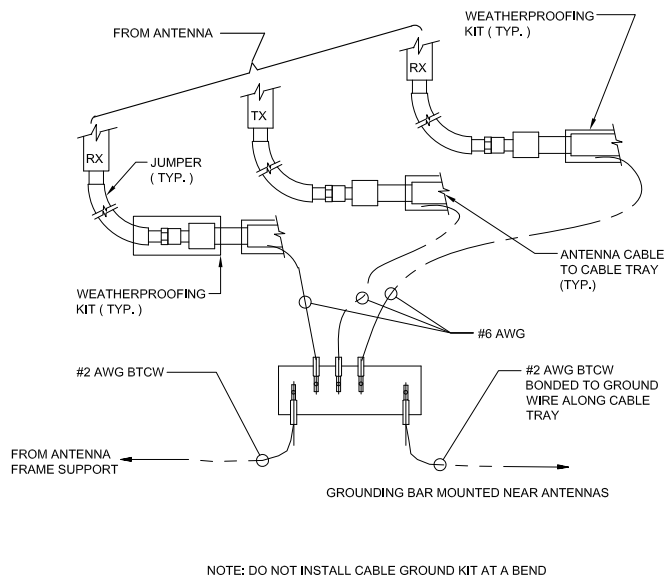
SCALE
N.T.S. 5

GRD WIRE TO GROUND BAR

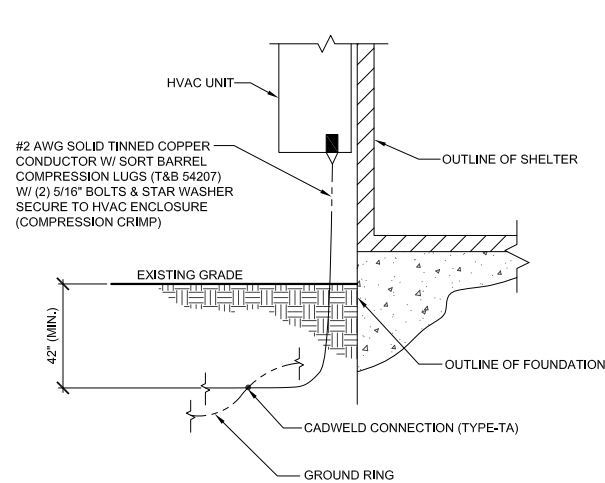
SCALE
N.T.S. 6

MECHANICAL LUG CONNECTION

SCALE
N.T.S. 7



NOTE: DO NOT INSTALL CABLE GROUND KIT AT A BEND



ANTENNA GROUND KIT

SCALE
N.T.S. 8

HVAC GROUNDING

SCALE
N.T.S. 9

NOT USED

SCALE
N.T.S. 10

NOT USED

SCALE
N.T.S. 11



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Technology Associates

UTAH MARKET OFFICE

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SANDY, UTAH 84070
(801) 463-1020

REV	DATE	DESCRIPTION	BY
A	10/31/2012	ISSUED FOR REVIEW	J.R.

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LIBERTY
4780 WOLF CREEK DR.
EDEN, UT 84310
NSB MONOPOLE

SHEET TITLE
**GROUNDING
DETAILS**

SHEET NUMBER
G-2

NOTE: THE ORIGINAL SIZE OF THIS PLAN IS 24" X 36". SCALE BOUND IS NOT VALID FOR REDUCED OR ENLARGED SHEET SIZES.

KATHREIN 800 10766

RADOME MATERIAL: UV RESISTANT FIBERGLASS
 RADOME COLOR: LIGHT GRAY
 DIMENSIONS, HxWxD: 96" x 11.8" x 6"
 WEIGHT, W/ PRE-MOUNTED BRACKETS: 75.8 lb
 CONNECTOR: 4 x 7/16 DIN FEMALE (LONG NECK)

ALCATEL - LUCENT 9942 RRH 700

OPERATIONAL BANDWIDTH: 15.5MHz, 2 LTE CARRIERS
 WEIGHT: 51 LBS.
 SIZE: 12.2" x 10.8" x 21"

NOTE: RRH SHALL BE MOUNTED TO ANTENNA MOUNTING PIPE (BEHIND ANTENNA)

POWERWAVE TT19-08BP111-001

DIMENSIONS HxWxD: 9.9" x 6.7" x 5.4"
 BANDWIDTH (MHz): 1850-1910 W/ 824-894 BYPASS
 WEIGHT: 16 lbs
 RF CONNECTORS: DIN 7/16 FEMALE (long neck)

ANTENNA SPECIFICATIONS SCALE N.T.S. **1**

RRH SPECIFICATIONS SCALE N.T.S. **2**

ANTENNA & RRH MOUNTING SCALE N.T.S. **3**

TMA SPECIFICATIONS SCALE N.T.S. **4**

POWERWAVE CM1007-DBPXC-003

DIMENSIONS HxWxD: 9.4" x 8.3" x 3.3"
 BANDWIDTH (MHz): LOW PORT, 698-894 MHz
 HIGH PORT, 1710-2170 MHz
 WEIGHT: 10.1 lbs
 RF CONNECTORS: DIN 7/16 FEMALE (long neck)

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	MC-RM3060-3	Ø 30" - Ø 60" RING MOUNT	1	306.98 LBS
2	MT197H	HARDWARE KIT (ITEM 3)	3	0.28 LBS
3	GB-4352A	5/8" X 2-1/2" GALV. BOLT KIT (A325)	12	65.58 LBS
4	MT197.01	36" SINGLE SUPPORT ARM	3	65.58 LBS
5	MT216NSH	HARDWARE KIT (ITEMS 6-8)	3	11.80 LBS
6	MT216.13	CENTER BRACKET	3	0.72 LBS
7	GUB-63560	5/8" X 3-5/8" X 6" GALV U-BOLT	30	0.72 LBS
8	GUB-6456	5/8" X 4-5/8" X 6 1/2" GALV U-BOLT	6	0.72 LBS
9	MT-219-H	HARDWARE KIT (Next 3 Items)	12	7.93 LBS
10	MT217.01	PIPE MOUNT PLATE	12	0.57 LBS
11	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT KIT	24	1213.8 LBS
12	GUB-4356	1/2" X 3-5/8" X 6" GALV U-BOLT KIT	24	1334.6 LBS
13	MT216.01	3/4" O.D. X 12-6" GALV. PIPE	3	94.20 LBS
14	MT-XXXX	2-3/8" O.D. PIPE (SEE TABLE)	12	-

PART LIST FOR USE WITH T-FRAME MC-K12S-12 SERIES

T-FRAME #	PIPE #	DESCRIPTION	QTY	T-FRAME WEIGHT
MC-K12L-8	-	-	0	851.6 LBS
MC-K12L-8-72	MT-651	2-3/8" O.D. X 72" GALV PIPE	6	1049.1 LBS
MC-K12L-8-96	MT-651-96	2-3/8" O.D. X 96" GALV PIPE	6	1063.1 LBS
MC-K12L-9-72	MT-651	2-3/8" O.D. X 72" GALV PIPE	9	1147.9 LBS
MC-K12L-9-96	MT-651-96	2-3/8" O.D. X 96" GALV PIPE	9	1213.8 LBS
MC-K12L-12-72	MT-651	2-3/8" O.D. X 72" GALV PIPE	12	1246.6 LBS
MC-K12L-12-96	MT-651-96	2-3/8" O.D. X 96" GALV PIPE	12	1334.6 LBS

MANUFACTURER: ANDREW
 PART #: MC-K12L-12 SERIES

ANTENNA & TMA MOUNTING SCALE N.T.S. **5**

DIPLEXER SPECIFICATIONS SCALE N.T.S. **6**

ANTENNA MOUNT SCALE N.T.S. **7**

RAYCAP DC6-48-60-18-8F

NUMBER OF RADIOS PROTECTED SUPPRESSION CONNECTION METHOD: 6 COMPRESSION LUG, #2-#14 AWG COPPER, #2-#12 ALUMINUM
 ENVIRONMENTAL RATING: IP 68, 7M 72HRS
 WEIGHT: 32.8 LBS (141.45 N)

SURGE SUPPRESSOR SCALE N.T.S. **8**

NOT USED SCALE N.T.S. **9**

NOT USED SCALE N.T.S. **10**

NOT USED SCALE N.T.S. **11**

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 NSB MONOPOLE

SHEET TITLE
DETAILS

SHEET NUMBER
RF-1

4393 RIVERBOAT ROAD, SUITE #400
 TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS
 Information Technology

960 W. LEVOY DRIVE, SUITE 250
 SALT LAKE CITY, UTAH 84123

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