# **HUNTSVILLE** FA#10088492

### 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 SAVE

## **ENGINEERING**

2012 INTERNATIONAL BUILDING CODE 2014 NATIONAL ELECTRIC CODE 2009 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:

FRANK WESSMAN CLAWSON 7305 EAST 730 NORTH HUNTSVILLE, UT 84317

SITE NAME:

SITE CONTACT:

COUNTY:

LATITUDE (NAD 83) 41° 16' 16.4" N

LONGITUDE (NAD 83)

111° 46' 17.4" W

HUNTSVILLE

ZONING JURISDICTION: ZONING DISTRICT:

PARCEL#:

POWER COMPANY: ROCKY MTN POWER

TELEPHONE COMPANY SITE ACQUISITION CONTACT:

RF ENGINEER:

CENTURYLINK

RAQUEL COLLINS

CONSTRUCTION MANAGER:

### CONTACT INFORMATION

ENGINEER:

TECHNOLOGY ASSOCIATES, EC INC. SALT LAKE CITY, UT 84123

CONTACT:

JEFF VANDERVEEN

**⊠ UTL06045** 

LTE

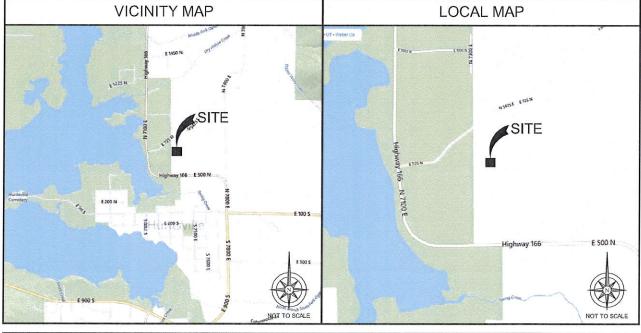
LTE 2C

LTE 3C

**SECTOR ADD** 



## **MONOPOLE**



### **DRIVING DIRECTIONS**

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

- . DEPART RIFERSOAT RD TOWNROUTGSWITH 7470S
  . TURN LEEF TOWN OUTGSE IT WARDS
  . REAR RIGHT ONTO UTJEST WARDS
  . REAR RIGHT ONTO UTJEST WARDS
  . KEEP STRAKEHT ONTO UTJEST WARDS
  . KEEP STRAKEHT ONTO US STANDAY
  . AT EAST 324, TAKE RAMP RIGHT FOR US-SENORIH TOYARD SO, OCCES
  . BEAR RIGHT ONTO US-SIA VISHOWAY
  . AT EAST 324, TAKE RAMP RIGHT FOR US-SENORIH TOYARD SO, OCCES
  . BEAR RIGHT ONTO US-SIA VISHOWAY
  . TAKE RAMP RIGHT FOR SIA ET TOWNROW MORGANI EVANSTON
  . TAKE RAMP RIGHT FOR SIA ET TOWNROW MORGANI EVANSTON
  . TAKE RAMP RIGHT FOR SIA ET TOWNROW MORGANI EVANSTON
  . TURN LEET TONTO UTJEST VIN OLD HEAVYAY RD
  . TURN RIGHT FOR TONTO UTJEST VIN OLD HEAVYAY RD
  . TURN RIGHT FOR TONTO UTJEST SIA VIN OLD HEAVYAY RD
  . TURN RIGHT FOR TONTO UTJEST SIA VIN OLD HEAVYAY RD
  . TURN RIGHT FOR TONTO UTJEST SIA VIN OLD HEAVYAY RD
  . TURN RIGHT FOR TONTO UTJEST SIA VIN OLD HEAVYAY RD
  . TURN RIGHT FOR TONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY RD
  . TURN RIGHT FOR TONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVYAY
  . TURN RIGHT ONTO UTJEST SIA VIN OLD HEAVY

### **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.

T&T WIRELESS COMPLIANCE REPRESENTATIVE:	DATE:	S S S S S S S S S S S S S S S S S S S
T&T WIRELESS REPRESENTATIVE:	DATE:	NTAINED
T&T WIRELESS RF ENGINEER:	DATE:	N COI ROPRIE
ENERAL DYNAMICS ACQUISITION:	DATE:	RMATIC IS PE
AEC SITE ACQUISITION:	DATE:	AWINGS AWINGS Y USE
ROPERTY OWNER:	DATE:	PRA PRA
ENERAL DYNAMICS CONSTRUCTION MANAGER	DATE:	

	DRAWING INDEX
SHEET NO:	DESCRIPTION:
T-1	TITLE SHEET
T-2	GENERAL NOTES
T-3	GENERAL NOTES
T-4	NOTES & LEGEND
T-5	SIGNAGE & NOTES
C-1	OVERALL SITE PLAN
C-1.1	ENLARGED SITE PLAN
C-2	EQUIPMENT PLAN
C-2.1	ANTENNA PLANS
C-3	ELEVATIONS
C-4	ELEVATIONS
E-1	ELECTRICAL NOTES
E-2	ELECTRICAL ONE-LINE DIAGRAM
G-1	GROUNDING PLAN
G-2	GROUNDING DETAILS
RF-1	DETAILS





CALL AT LEAST TWO WORKING DAYS BEFORE YOU DIG



IIS SET ( TIDENTIAL THAN AS

4393 RIVERBOAT ROAD, SUITE #400

GENERAL DYNAMICS nformation Technology

> 1152 W 2400 S. SUITE C. SALT LAKE CITY, UTAH 84119



### **UTAH MARKET OFFICE**

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123

0	3/06/2015	100% CONSTRUCTION	NSV
REV	DATE	DESCRIPTION	BY



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

## HUNTSVILLE FA#10088492

7305 EAST 730 NORTH HUNTSVILLE, UT 84317 MONOPOLE

TITLE SHEET

SHEET NUMBER

- 2. 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 INSEW YORK AND SHALL MAKE PROVISIONS GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL BE CONFIGURED. THE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY DISCREPANCIES SHALL BE BROUGHT OT THE TOTHER OF THE THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION, ANY DISCREPANCIES SHALL BE BROUGHT OT THE ATTENTION OF THE ARCHITECT & PROVINCE PRIOR TO THE COMMENCEMENT OF VIOLEMENT OF THE STATE OF THE CONTRACT AND MEMORY OF THE STATE OF THE CONTRACT AND MEMORY OF THE STATE OF THE ST
- 4. 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 WITHALL 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.
- 7. 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 THESE ARY QUESTIONS REGARDING THE CONTRACT DOQUMENTS, THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS WITH THE WORK DITEITS AND SUCKNING AS CLARIFICATIONS AND SUCKNING AND SUCKNING AS PARL BE INCLIDED AS PART OF WOORK AND PREPARED BY THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS AND SUCKNING WORK AND PREPARED BY THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS SHALL BE INCLIDED AS PART OF WOORK AND PREPARED BY THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS WITH THE WOORK AND PREPARED BY THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS WITH THE WOORK AND PREPARED BY THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS WITH THE WORK AND PREPARED BY THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS WITH THE WORK AND PREPARED BY THE ARCHITECT / ENBINEER PRIOR TO PROJECTIONS WITH THE WORK.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS 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.
- 11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLES,
- 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.
- 14. 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.
- 15. SUBCONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF
- 16. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BY REPAIRED AT THE SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- 17. 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, IN GOOD CONDITION, ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
- 21. THE GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATINS OF NOT LESS THAN 2-A TO 2-A-108-C AND SHALL BE WITHIN 75 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
- 22. ALL EXISTING ACTIVE SEYER, 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 EXCAVATIONS OR DRILLINGS AROUND ORNEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING GREW. THIS SHALL INCLUE, BUT NOT BE LIMITED. TO: A) FALL PROTECTION BY COMERING OF THE WORKING CHEW. THIS SHALL INCLUE, BUT NOT BE
- 23. 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 / EMSINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND / ORLOCAL UTILITIES.
- 24. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OF DRIVEWAY, SHALL BY GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
- 25. 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 SEGMENT CONTROL.
- NO FILL OR EMBANKMENT MATERIAL SHALL BY PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- 27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE, ALL TRENDIES IN PUBLIC RIGHT OF WAY SHALL BY BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL, PRE-APPROVED BY THE LOCAL JURISDICTION.
- 28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL IMMNER.
- 29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAVVINGS, 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.
- 31. SUBCONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.
- THE NEW FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN
  HABITAT (NO HANDICAP ACCESS REQUIRED).
- 33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T
- 34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE NEW.
- 35. 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 WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING." IN CASE OF A COPILITY EREVISED THE ENTWER THE CONSTRUCTION FOR FACIFICATION AND THE SPECIFICATION FOR FACILITY GROUNDING." 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.
- 37. SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
- 38. 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.
- 39. NO WHITE STROBIC LIGHTS ARE PERMITTED, LIGHTING, IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS,
- 40. ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS
- 41. NO NOISE, SMOKE, DUST, OR VIBRATION WILL RESULT FROM THIS FACILITY. (DISREGARD THIS NOTE IF THIS SITE HAS A GENERATOR)
- 42: NO ADDITIONAL PARKING TO BE NEW, EXISTING ACCESS AND PARKING TO REMAIN, UNLESS NOTED OTHERWISE.
- 44. CAPACITY OF THE TOWER TO SUPPORT PROPOSED LOADS IS TO BE DETERMINED BY OTHERS.

## SITE WORK & DRAINAGE PART 1 - GENERAL

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

### 1.1 REFERENCES

- A. DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION CURRENT EDITION).
- B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS).
- C. OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION)

### 1.2 INSPECTION AND TESTING:

- A. FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS SHALL BE PERFORMED BY SUBCONTRACTORS INDEPENDENT TESTING LAB. THIS WORK IS TO BE COORDINATED BY THE SUBCONTRACTOR
- B. 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 SUGCONTRACTORS RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDINS WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.

- A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF YORK UNTIL COMPLETION OF THE SUBCONTRACT,
- B. AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
- C. KEEP SITE FREE OF ALL PONDING WATER.
- D. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT AND EPA REQUIREMENTS.
- F. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN VIRTING BY THE ENSINEER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
- G. PROVIDE A MINIMUM 48-HOUR NOTICE TO THE ENGINEER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY

- 2.1 SUITABLE BACKFILL: ASTM D2321 (CLASS I, II, III OR IVA) 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.
- 2.2 NON-POROUS GRANULAR EMBANKMENT AND BACKFILL; ASTM D3321 (CLASS III, IVA OR IVB) COARSE AGGREGATE, FREE FROM FROZEN LIMPS, REFUSE, STONES OR ROCKS LARSER THAM 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INCREANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.3 POROUS GRANLLAR EMBANKMENT AND BACKFILL: ASTM 52321 (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.
- 2.4 SELECT STRUCTURAL FILL: GRANULAR FILL MATERIAL MEETING THE REQUIREMENTS OF ASTM E850-95, FOR USE AROUND UNDER STRUCTURES WHERE STRUCTURAL FILL MATERIAL ARE REQUIRED.
- 2.5 GRANULAR BEDDING AND TRENCH BACKFILL: WELL GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR
- 2.6 COARSE AGGREGATE FOR ACCESS ROAD SUB-BASE COURSE SHALL CONFORM ASTM D2940.
- 2.7 UNSUITABLE MATERIAL, HIGH AND MODERATELY PLASTIC SILTS AND CLAYS (LL>45), MATERIAL CONTAINING REPUSE, FROZEN LUMPS, DENICLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSIONS AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICALLY WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.
- 2.8 GEOTEXTILE FABRIC: MIRAFI 500X OR APPROVED EQUAL.
- 2.9 PLASTIC MARKING TAPE: SHALL BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING THE LOCATING INDERSROUND UTILITIES 6 INCHES WIDE WITH A MINIMUM THICKNESS OF 0.024 INCHES. TAPE SHALL HAVE MINIMUM STEMORTH OF 1509 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL CONDUCTORS, ID BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3 TEET 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 3 - EXECUTION

### 3.1 GENERAL:

- A. 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.
- B. BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINE, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.
- C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH, 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 THAT 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 OF 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.
- D. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS, BURNING WILL NOT BE PERMITTED.
- E. 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 THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGOLAD STRUCTURE, OR OTHER ITEM THAT MIGHT INTERFERE WITH THE NEW CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
- F. 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.

- A. AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMA CURING PERIOD FOR CAST-IMPLACE 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 UNFORM HORIZONTAL LAYERS OF NO GREATER THAN E-INCHES LOOSE THICKNESS AND COMPACTED WHEN HAND OPERATED COMPACTIORS ARE USED, THE FILL MATERIAL SHALL SE PLACED IN HIFTS NOTTO EXCEED 4 IND-SES IN LOOSE DEPTH AND COMPACTED.
  - 3. WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED LINIT THE SPECIFICATION REQUIREMENTS ARE MET LALESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE
- B. 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.

### 3.3 TRENCH EXCAVATION

- A 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.
- B. EXTEND THE TRENCH WIDTH A MINIMUM OF 7 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT
- C. 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.

- A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWING AND THE UTILITY REQUIREMENTS.
- B. NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING
- C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING, BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
- D. 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.
- E. PROTECT CONDUIT FROM LATERAL MOVEMENT. IMPACT DAMAGE OR UNBALANCED LOADING
- F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
- G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GRATER THAT THAT OF THE EXISTING UNDISTURGED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAT A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCUTOR TEST, ASTIN 0598.

### 3.5 AGGREGATE ACCESS ROAD,

- A. CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD TO THE LINES AND GRADES INDICATED ON THE DRAWINGS, SCARFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL, ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS SHALL BE CORRECTED.
- B. 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.
- C. AFTER PREPARATION OF THE SUBGRADE IS COMPLETE THE GEOTEXTILE FABRIC (MIRAFI 500XI) SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LIORITUDINALLY ALONG THE ROADWAY THE FABRIC SHALL NOT BE DRAGGED ACKORDS THE SUBGRADE. PLACETTE ENTIRE ROLL IN A SINSTLE OPERATION. ROLLING OUT SOUTH 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.
- D. THE AGGREGATE BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS NOT MORE THAN 4 INCH (COMPACTED) THICKNESS, AGGREGATE TO BE PLACED ON GEOTEXTILE FABRICS SHALL BE END DUMPED ON THE FABRIC FROM THE FREE END OF THE FABRIC OR O'VER PREVIOUSLY PLACED AGGREGATE. THE FIRST LITE SHALL BE BLADED DOWN TO A THICKNESS OF BIOXES PRIOR TO COMPACTION, AT NO TIME SHALL EQUIPMENT, ETHER TRANSPORTING THE AGGREGATE OR GRADINS THE AGGREGATE, BE PERMITTED ON THE ROADWAY WITH LISSS THAT 4 INCHES OF MATERIAL COVERNIS THE FABRIC.
- E. THE AGGREGATE SHALL BE IMMEDIATELY COMPACTED TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVICED BY THE PROCTOR TEST, ASTM D 1557 WITH A TAMPING ROLLER, OR WITH A PNEUMATIC. TRED ROLLER, OR WITH A VIBRATORY MACHINE OR ANY COMBINATION OF THE ABOVE, THE TOP LAYER SHALL BE GIVEN A FINAL ROLLING WITH A THREE-WHELL OR TANDEM ROLLER.

- A. 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.
- B. UTILIZE SATISFACTORY FILL MATERIAL, RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENTS OF REMOVED UNSUITABLE MATERIALS.
- C. ACHIEVE FINISHED GRADE BY PLACING A MINIMUM OF 4 INCHES OF 1/2" 3/4" CRUSHED STONE ON TOP SOIL STABILIZER FABRIC.
- D. REPAIR ALL ACCESS ROADS AND SURROUND AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

### 3.7 ASPHALT PAVING ROAD:

- A. DIVISION 600 KDOT FLEXIBLE PAVEMENT (UPDATE PER LOCAL DOT) B. SECTION 403 - MODOT ASPHALT CONCRETE PAVEMENT



4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

### GENERAL DYNAMICS formation Technology

1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



### UTAH MARKET OFFICE

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020

a singlists som construction	$\geq$			
a singlists som construction	l			
a 2/02/2015 1/02/CONSTDICTION				[0] I
		3/06/2015	100% CONSTRUCTION	



UNLESS THEY ARE ACTING UNDER THE DIRECT OF A LICENSED PROFESSIONAL ENGINEER. TO ALTER THIS DOCUMENT.

## HUNTSVILLE FA#10088492

7305 EAST 730 NORTH HUNTSVILLE, UT 84317 MONOPOLE

> SHEET TITLE **GENERAL** NOTES

SHEET NUMBER

43. NO LANDSCAPING IS NEW AT THIS SITE, UNLESS NOTED OTHERWISE

### **ELECTRICAL NOTES:**

### PART I - GENERAL

### 1.1 GENERAL CONDITIONS:

- A. CONTRACTOR SHALL INSPECT THE EXISTING SITE CONDITIONS PRIOR TO SUBMITTING BIDS, 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 BE BROUGH 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 TO COMPUTING WITH THE LATEST EDITIONS OF NEC.

- A. THE PUBLICATIONS LISTED BELOW ARE PART OF THIS SPECIFICATION, EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDEDDUM IN EFFECT ON THE DATE. THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTIFICE EXCEPT AS MODIFICION THE APPLICATION THE DATE. THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTIFICE EXCEPT AS MODIFICION TO THE APPLICABLE PROVISION OF THESE PUBLICATIONS.
  - 1 ANSI/IEEE (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)

6. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)

- 5. NEPA (NATIONAL FIRE PROTECTION ASSOCIATION)

- 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, TRENCHING, 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 AUTHOR/TIES 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 ULLISTED, 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 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT.

### 2.2 MATERIALS AND EQUIPMENT

- RIGID METAL CONDUIT (RMC) SHALL BE HOT DIPPED GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED IN ADDITION TO GALVANIZING.
- 2. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED.
- 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. NON-METALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC. INSTALL USING SOLVENT CEMENT TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER

- CONDUCTORS AND CABLE SHALL BE FLAME RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THINNTHWIN-2, 600 VOLT, SIZE AS INDICATED, 12 AV/G 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 MANUFACTURERS 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:

DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD - FRONT, QUICK - MAKE, QUICK - BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCK WITH COVER IN QLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE - D OR APPROVED EQUAL.

### D. CHEMICAL ELECTROLYTIC GROUNDING SYSTEM:

- INSTALL CHEMICAL GROUNDING AS REQUIRED. THE SYSTEM SHALL BE ELECTROLYTIC MAINTENANCE FREE ELECTRODE CONSISTING OF RODS WITH A MINIMUM OF 2 AVIG OU EXCHIBEMALLY WELDED PIGTALL, PROJECTIVE BOXES, AND BACKFILL MATERIAL, MANUFACTURER SHALL BE LYNCOLE XIT GROUNDING ROD TYPES K2 ("CS OR K2L-("OS"), ELENGTHAS REQUIRED.
- 2. GROUND ACCESS BOX SHALL BE A POLY-PLASTIC BOX FOR NON-TRAFFIC APPLICATIONS, INCLUDING BOLT DOWN FLUSH COVER WITH "BREATHER" HOLES, XIT 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 PROVIDES STUDIES.
- 3. BACKFILL MATERIAL SHALL BE LYNCONITE AND LYNCOLE GROUNDING GRAVEL

### E. SYSTEM GROUNDING:

- 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.
- GROUNDING BUSES SHALL BE BARE, TINNED, ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION, STANDARO 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 MINIMM 34" LETTERS BY WAY OF STEINCILLING OR GIS(GNATION 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
- 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.
- 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:

- 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 TIGHTLY COVERED AND PROTECTED AGAINST DIRT OR WATER AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.

- A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE INSTALLED BY EXPERIENCED WIRE MEN, IN A NEAT AND WORKMANLIKE 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.

A. THE SUBCONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER - FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNINECESSARY DELAYS IN THE TOTAL WORK,

### 3.4 INSTALLATION:

- 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 OTHERVISE NOTED. EMIT MAY BE INSTALLED FOR EXTERIOR CONDUITS WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
- THE INSTALLATION OF SCHEDULE 40 PVC AND RINC CONDUITS SHALL BE 24 INCHES MINIMUM DEPTH, ALL 90 DEGREE BENDS SHALL BE RINC, 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 EXAMISIONAND CONTRACTION.
- 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 ULLISTED BENDER OR FACTORY 90 DEGREE ELBOWS MAY BE USED.
- 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 FOREIGIN MATTER SUBCONTRACTOR SHALL REPLACE ANY CONDUITS CONTRAINS FOREIGIN MATTER ANNOT BE PERMOVED.
- 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 RATED GO 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 SY
PHASE A	BLACK
PHASE B	RED
PHASE C	BLUE
NEUTRAL	WHITE
OPOLINIDANO	OPERN

- 2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAY CONDULETS APPROVED FOR THIS BURDOSE.
- 3. PULLING LUBRICANTS SHALL BE UL APPROVED, SHALL USE NYLON OR HEMP ROPE FOR PULLING CONDUCTOR OR CABLES INTO THE
- 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. SHAPP BENDS OVER CONDUIT BUSHINGS ARE PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE SUBCONTRACTORS EXPENSE.

### C. DISCONNECT SWITCHES

1. INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB, CONNECT TO WIRING SYSTEM AND GROUNDING SYSTEMAS INDICATED,

### D. GROUNDING:

- ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED.
  GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHAFFLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO
  GROUND INTHE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRAVISIENT VOLTAGE RISES.
- 4. BUILDINGS ANDIOR 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 RODETOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 AWG COPPER ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM. THE BUILDING STEEL COLUMNIS LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).
- 5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREV/S, BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS, WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, INGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED INL. TO ASSURE PERMANENT AND
- SUBCONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING GROUNDING SYSTEM. ALL
  UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIGWELD PROCESS AND INSTALLED IN ACCORDANCE
  WITH THE MANUFACTURERS 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 TYYO 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 BREATHER 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.
- 15. SUBCONTRACTORS SHALL REPAIR, AND/OR REPLACE EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE SUBCONTRACTORS EXPENSE.

- 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.

- ALL FEEDERS SHALL HAVE INSULATION TESTED AFTER INSTALLATION, BEFORE CONNECTION TO DEVICES, THE CONDUCTORS SHALL
  TEST FREE FROM SHORT CIRCUITS AND GROUNDS. TESTINGS SHALL BE FOR ONE MINUTE USING 1000V DC. PROVIDE WRITTEN
  DOCUMENTATION FOR ALL TESTS LISTED TO SUBCONTRACTOR.
- 2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.
- 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 3-POINT FALL OF-POTENTIAL METHOD. PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH. NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 01-MS.



4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS formation Technology

> 1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



### UTAH MARKET OFFICE

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020

100% CONSTRUCTION 3/06/2015 REV DATE DESCRIPTION



HUNTSVILLE FA#10088492 7305 EAST 730 NORTH HUNTSVILLE, UT 84317 MONOPOLE

UNLESS THEY ARE ACTING UNDER THE DIRECTION
OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET TITLE **GENERAL** 

NOTES

### **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 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 ARCHITECTENGINEER AND SHALL INCLUDING MEXPENSES OF DECTIFY THE STUTATION, THE METHOD OF CORRECTION SHALL BE APPROVED BY THE ARCHITECT OR THE ENSINEER 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 ⊚ \$11
- PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW OR EXISTING SUBFACES, 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.
- 6. 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 CONTRACTORS RESPONSIBILITY TO ENSURE ALL CONSTRUCTION SETS REFLECT THE SAME INFORMATION AS THE APPROVED PLANS. THE CONTRACTOR SHALL ALSO MINITAIN ONE SET OF PLANS AT THE SITE FOR THE PLIPPOSE OF DOCUMENTING ALL AS BUILT CHANGES, REVISIONS, ADDENDA, OR CHANGE ORDERS. THE CONTRACTOR SHALL FORWARD THE AS BUILT HIRRED 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.
- 10. THE CONTRACTOR AND SUBCONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REGULATIONS INCLUDING ALL OSHA REQUIREMENTS.
- 11. 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 SHORTING OR BIRACING SHALL BE PROVIDED WHERE THE STRUCTURE OR SOIL HAS NOT ATTAINED THE DESIGN STRENGTH FOR THE CONDITIONS PRESENT.
- 12. 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.
- 13. 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.
- 14. ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE, DRAWINGS ARE NOT TO BE SCALED UNDER ANY CIRCUMSTANCES.
- 15. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR SUPPORTS FOR INSTALLATION OF ITEMS INDICATED ON THE DRAY/INGS.
- THE CONTRACTOR SHALL PROVIDE THE FIRE MARSHALL OR U.L. 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 Y/ITHIN 75FT, OF TRAVEL TO ALL PORTIONS OF THE CONSTRUCTION AREA. (2010 CFC SECTION 906-1-1 & 7 AND SECTION 9063.1)
- 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.
- 21. 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)
- 3. 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 5,000 SQUARE FEET OR PORTION THEREOF ON EACH FLOOR (2010 OFC SECTION 906.1.1 & 7 AND SECTION 908.3.1)

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
A.B. A.B. A.B. A.B. A.B. A.B. A.C. A.C.	ANCHOR BOLT ABOVE ANTENNA CABLE COVER ASSEMBLY ANTENNA ADOVE FINISHED FLOOR ABOVE FINISHED FLOOR ABOVE FINISHED FLOOR ABOVE FINISHED GRADE ALLIMINUM ALTERNATE ANTENNA APPROXIMATELY) ARCHITECTUURAL) AMERICAN WIRE GAUGE BUILDING BLOCK BLOCK BLOCK BLOCK BLOCK BOUNDARY NAILING BARE TINNED COPPER WIRE BOTTOM OF FOOTING BARE TINNED COPPER WIRE BOTTOM OF FOOTING CABINET CANTILEVER(ED) CAST IN PLACE CELLING CLEAR COLLIMN CONGRETE	FAB. F.F. F.G. F.F. F.G. F.O.C. F.O.M. F.O.S. F.O.W. F.S. F.C.G. G.A. GL. GLB.(GLU-LAM) GPS GRND. HOR. HCR. HCR. HCR. HCR. HCR. HCR. HCR. HC	FABRICATION(OR) FRISH FLOOR FRISH FLOOR FRISH FLOOR FRISH SHOW FRISH SHOW FRISH SHOW FLOOR FRISH SHOW FACE OF GONGRETE FACE OF CONGRETE FACE OF STUD FACE OF WALL FINISH SURFACE FOOTING GROWTH (CABINET) GALGE GALVANIZE(D)	PWR. OTY. REF. RADUR) REF. REGD. RGS. RRUL SCH. SHT. SIIM. SPEC. SC. S.S. STD. STRUC. TEMP. THK. TMA T.O.G. T.O.F. T.O.F. T.O.F. T.O.W. TYP. U.G. U.H.O. V.W. W.P. W.P. W.P. W.F. W.F. W.F. W.F. W	POWER (CABINET) QUANTITY RADIUS REFERENCE REINFORCEMENT(ING) REQUIRED RIGID GALVANIZED STEEL RADIO REMOTE UNIT SCHEDULE SHEET SIMILAR SPECIFICATION(S) SQUARE STAINLESS STEEL STANDARD STEEL STANDARD STEEL STRUCTURAL TEMPORARY THICKINESS TOWER MOUNTED AMPLIFIER TOE NAIL TOP OF AUTEN TOP OF CURB TOP OF FOURDATION TOP OF FLATE (PARAPET) TOP OF STEEL TOP OF S
EQ. EXP. EXST.(E) EXT.	EQUAL EXPANSION EXISTING EXTERIOR	PPC PRC P.S.F. P.S.I. P.T.	POWER PROTECTION CABINET POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PRESSURE TREATED		



4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS nformation Technology

> 1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



**UTAH MARKET OFFICE** 

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020

-			
E			
9	3/06/2015	100% CONSTRUCTION	NSV
REV	DATE	DESCRIPTION	BY

2

--- CENTERLINE

---- X ---- CHAIN LINK FENCING



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

HUNTSVILLE FA#10088492 7305 EAST 730 NORTH HUNTSVILLE, UT 84317 MONOPOLE

> SHEET TITLE **NOTES & LENGEND**

**ABBREVIATIONS** 

Ç	EXISTING ANTENNA	XX	DETAIL REFERENCE		PROPERTY/LEASE LIN
$\otimes$	GROUND ROD			$\overline{\bigcirc}$	MATCH LINE
	GROUND BUS BAR	(XXX)	ELEVATION REFERENCE	<b></b>	WORK POINT
•	MECHANICAL GRND, CONN.		SECTION REFERENCE		GROUND CONDUCTO
	CADWELD	0	GROUT OR PLASTER	— т —	TELEPHONE CONDUIT
$\otimes$	GROUND ACCESS WELL		(E) BRICK	E	ELECTRICAL CONDUI
E	ELECTRIC BOX	VIIIIIIIIIIIIII	(E) MASONRY	•	(POWER)
T	TELEPHONE BOX	Section Control	CONCRETE	—— A ——	COAXIAL CABLE
$\Leftrightarrow$	LIGHT POLE		EARTH	T/E	OVERHEAD SERVICE CONDUCTORS

GRID REFERENCE

SPOT ELEVATION

FND. MONUMENT

A REVISION

SAND WOOD CONT.

GRAVEL

PLYWOOD

WOOD BLOCKING

3





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



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

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

Rd: 47 CFR 1.1307 (b)



**ALERTING SIGN** 

S

Α

В

Α

C

K

3

E E Τ

R

0

M

Α

N

E

N

N

Α

atst

atat

## **ALERTING SIGNS**

## **WARNING!**

DANGER DO NOT TOUCH TOWER!

SERIOUS "RF" BURN HAZARD!

MAINTAIN AN ADEQUATE CLEARANCE BETWEEN TOWER SUPPORTS AND GUY WIRES

FAILLRE TO OBEY ALL POSTED SIGNS AND SITE GLIDGLINGS FOR WORKING IN A RADIO FREQUENCY EVAVIBONED TO GLI DE RISLLET IN SERIOLS INJLEY. CONTACT CLREEN MAY EXCEED LIMITS PRESCRIBED IN ANSIEZE CYS.1-1992 FOR CONTROLLED ENVIRONMENTS.

atat O

## **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

ACTIVE ANTENNAS ARE MOUNTED

STAY BACK A MINIMUM

ON THE OUTSIDE OF THIS BUILDING BEHIND THE PANEL

ON THIS STRUCTURE

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  $\Delta$  F& F at  $$\operatorname{prior}$  to performing any maintenance or repairs near  $\Delta$  F& F antennas. This is Site# Contact the management office if this door/hatel/gate is found unlocked.

## INFORMACION

atat O

**INFO SIGN #1** 

OF 3 FEET FROM THESE ANTENNAS atat

INFO SIGN #2

INFO SIGN #4

	T	T	T	T	T	T		T
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 ANTENNA LEVEL IS: SIGN; OVER 99% CAU NO LESS THAN 3FT B ANTENNA AND 9FT A	0-99%: NOTICE ITION SIGN AT ELOW
MICROCELLS MOUNTED ON NON-JPA 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 LESS THAN 9FT ABO' ONLY IF THE EXPOSU 90% OF THE GENERA EXPOSURE AT 6FT AI	/E GROUND: JRE EXCEEDS L PUBLIC
ROOF TOPS			-					Ш
AT ALL ACCESS POINTS OF THE ROOF	х							
ON ANTENNAS	х		х	х				
CONCEALED ANTENNAS	х	Х						
ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING	х	×						
ANTENNAS ON SUPPORT STRUCTURE	х	Х						
ROOFTOP GRAPH:								•
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	x	ADJACENT TO EACH ANTENNA						
RADIATION IS BEYOND 3FT FROM ANTENNA	×	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	TILLY GIVAFII		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

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.

4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

## GENERAL DYNAMICS Information Technology

1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



### **UTAH MARKET OFFICE**

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020

0	3/06/2015	100% CONSTRUCTION	NSV
REV	DATE	DESCRIPTION	BY



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

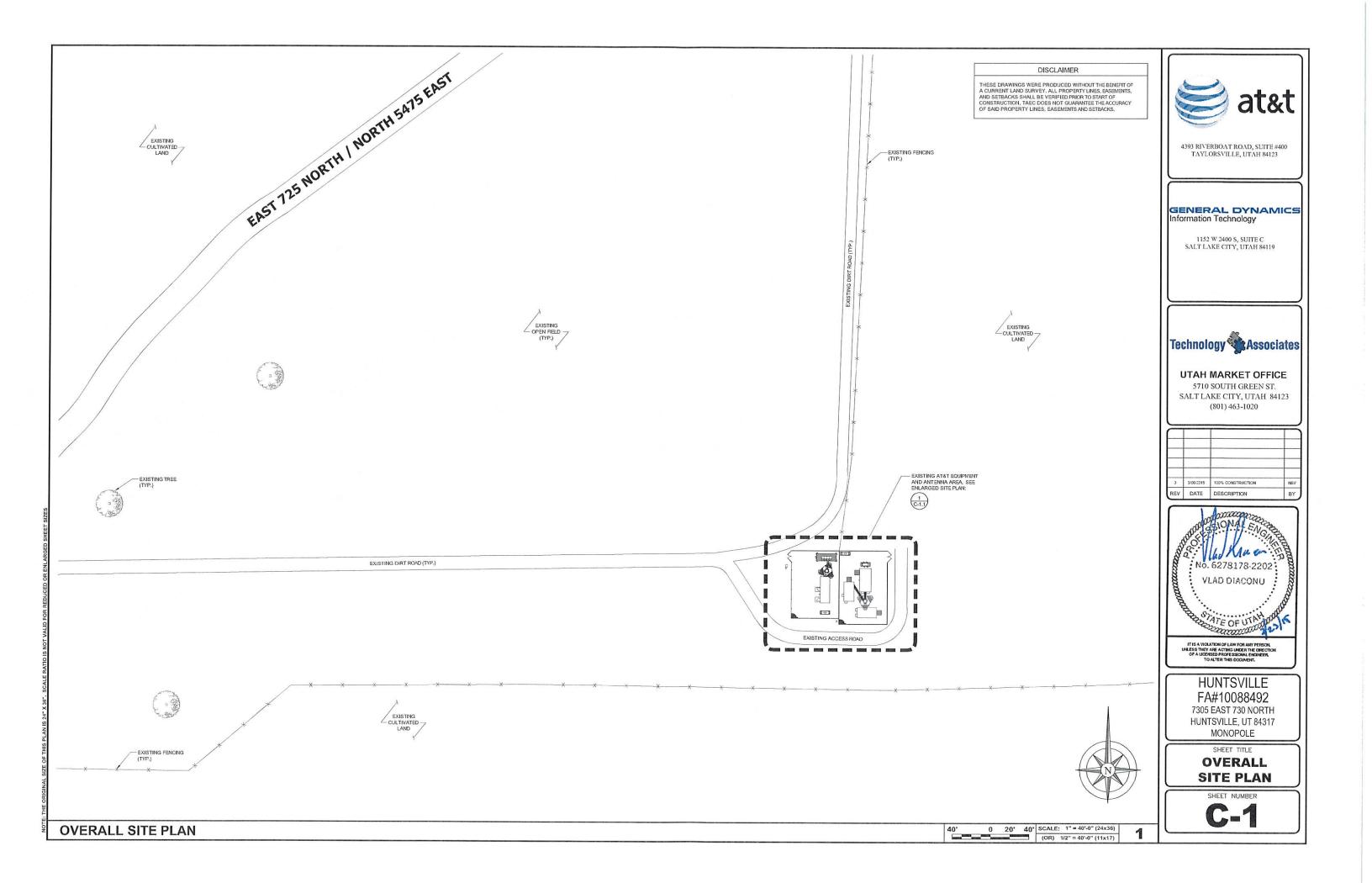
## HUNTSVILLE FA#10088492 7305 EAST 730 NORTH

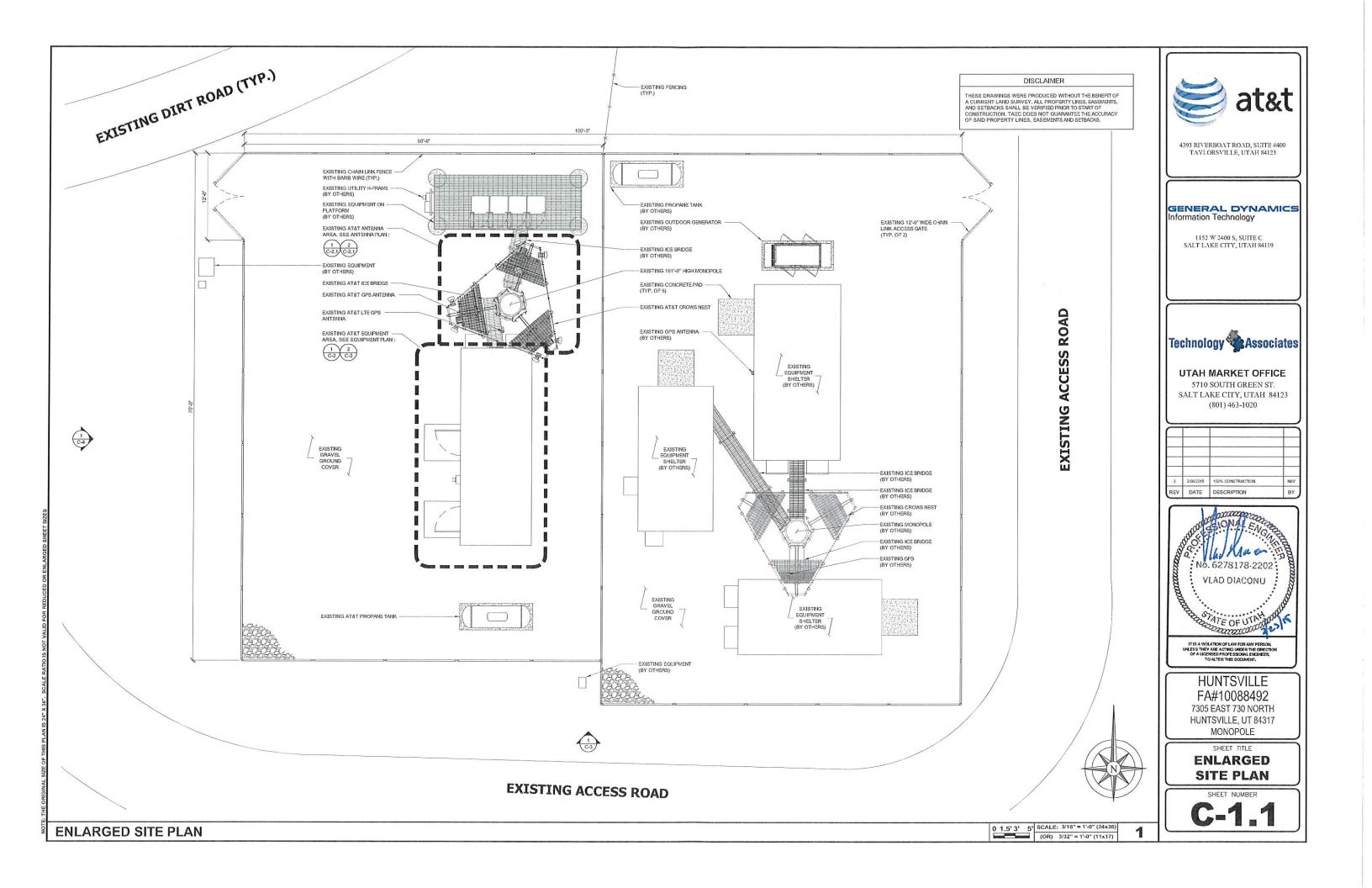
HUNTSVILLE, UT 84317 MONOPOLE

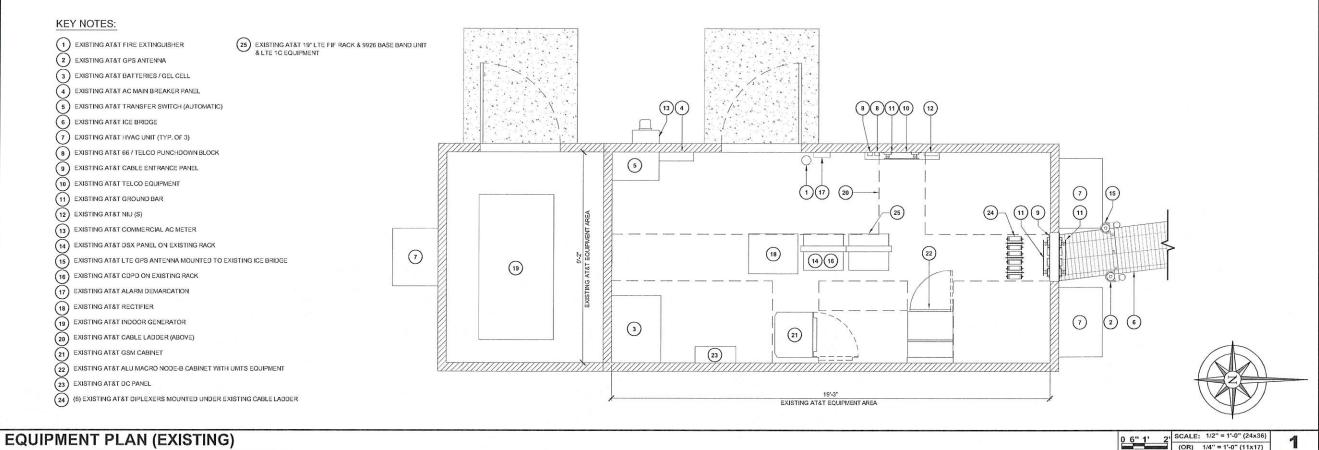
> SHEET TITLE SIGNAGE

& NOTES

SHEET NUMBER **T-5** 







4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

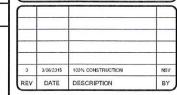
GENERAL DYNAMICS Information Technology

1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



**UTAH MARKET OFFICE** 

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020





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

HUNTSVILLE FA#10088492 7305 EAST 730 NORTH HUNTSVILLE, UT 84317 MONOPOLE

SHEET TITLE **EQUIPMENT** PLAN

**NOT USED** 

SCALE

NOTE TO ALL:
CAPACITY OF THE TOWER TO SUPPORT PROPOSED LOADS IS TO BE DETERMINED BY OTHERS.



TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS nformation Technology

1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



**UTAH MARKET OFFICE** 

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020





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

HUNTSVILLE FA#10088492 7305 EAST 730 NORTH HUNTSVILLE, UT 84317

MONOPOLE

SHEET TITLE **ANTENNA PLANS** 

EXISTING AT&T 6'-0" UMTS ANTENNA W/ TMA (1 PER SECTOR, 3 SECTORS, 3 TOTAL) - EXISTING AT&T GSM OMNI ANTENNA (2 PER SECTOR A & B, 4 TOTAL) TO REMAIN EXISTING AT&T CROWS NEST EXISTING 101'-0" HIGH MONOPOLE - EXISTING AT&T (LTE 1C) RRH (1 PER SECTOR, 3 SECTORS, 3 TOTAL) TO REMAIN - EXISTING AT&T 8'-0" LTE ANTENNA (1 PER SECTOR, 3 SECTORS, 3 TOTAL) TO BE REMOVED

1

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

**ANTENNA PLAN (EXISTING)** 

	C4)	
EXISTING AT&T SURGE SUPPRESSOR "SQUID" (1 TOTAL)	(A)	EXISTING AT&T 6"-0" UMTS ANTENNA W TIVA (1 PER SECTOR, 3 SECTORS, 3 TOTAL)
9		EXISTING AT&T GSM OWNLANTENNA (2 PER SECTOR A & B, 4 TOTAL)
		EXISTING AT&T CROWS NEST
	(A)	EXISTING 101-0" HIGH MONOPOLE  EXISTING AT&T (LTE 1C) FRH
B3 (B3)		(1 PER SECTOR, 3 SECTORS, 3 TOTAL)
	60	NEW ATAT 5'-0' LTE ANTENNA (1 PER SECTOR, 3 SECTORS, 3 TOTAL)
		NEW AT&T (LTE 2C) PCS RRH (1 PER SECTOR, 3 SECTORS, 3 TOTAL)

NEW ANTENNA AND TRANSMISSION CABLE REQUIREMENT TRANSMISSION CABLE TECHNOLOGY QTY. LENGTH (A1) EXISTING ANTENNA UMTS NO CHANGES (A2) NO CHANGES GSM EXISTING OMNI ANTENNA (A3) NO CHANGES EXISTING OMNI ANTENNA GSM (A4) 115' NEW HEXPORT ANTENNA LTE 1C / 2C 90° EXISTING ANTENNA UMTS 210° NO CHANGES EXISTING OMNI ANTENNA GSM NO CHANGES EXISTING OMNI ANTENNA GSM NO CHANGES **B**4 NEW HEXPORT ANTENNA LTE 1C / 2C 210° 115' (C1) EXISTING ANTENNA UMTS 340° NO CHANGES C2 TO BE DETERMINED **©**3 EMPTY TO BE DETERMINED C4) LTE 1C / 2C 340°

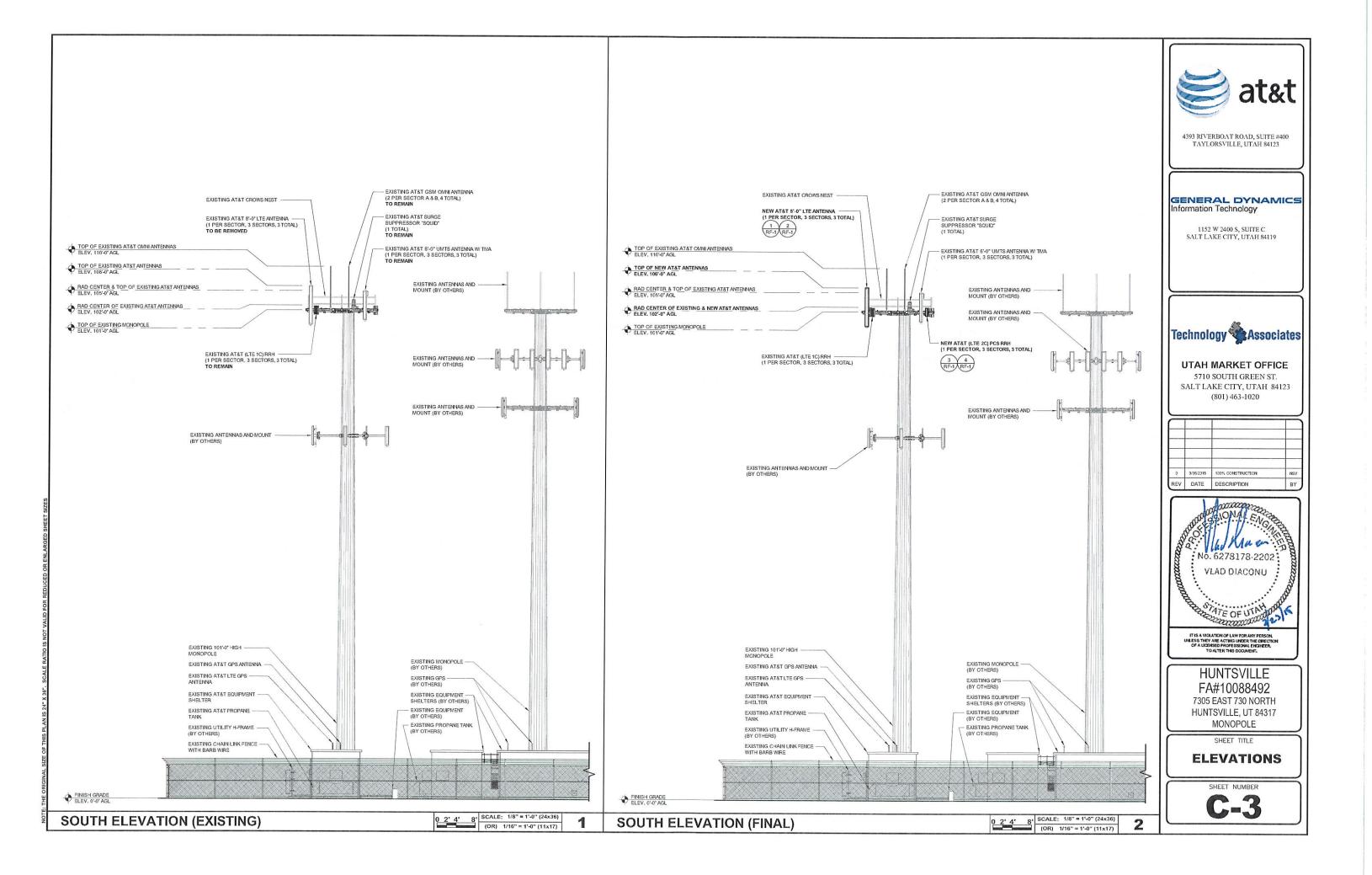
NOTE TO CONTRACTOR:
ANTENNA CLEARANCE AND MOUNTING TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION WITH FINAL ANTENNA
SPECIFICATIONS, MOUNTING HARDWARE, AND RE DESIGN, ANTENNA PIPE MOUNT MODIFICATION MAY BE REQUIRED.

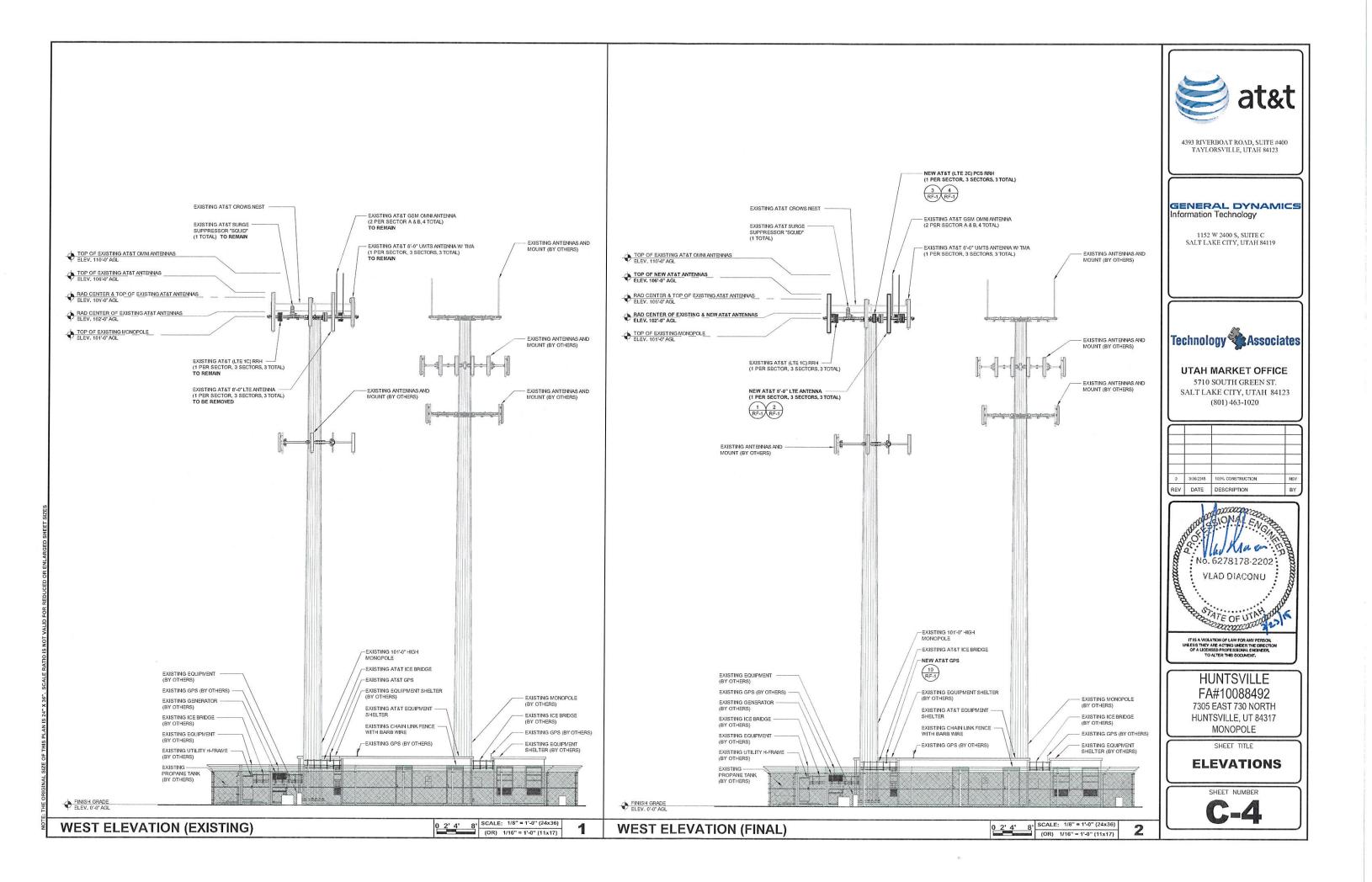
NOTE TO CONTRACTOR: RF JUMPERS NEED TO BE OF EQUAL LENGTH FOR LTE 1C AND LTE 2C, COIL EXCESS CABLE NEAR RRH.

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

**ANTENNA PLAN (FINAL)** 

2





### 1. GENERAL REQUIREMENTS

- A ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH TALL LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRIC CODE AND ALL STATE AND LOCAL CODES, NOTHING IN THESE FLANS OR SPECIFICATIONS SHALL BE CONSTRUED AS TO PERMIT WORK NOT CONFORMING TO THE MOST STRINGENT OF THESE CODES, SHOULD CHANGES BE INCESSARY UNTIL THE DRAWINGS OR SPECIFICATIONS TO MAKE THE WORK COMPLY WITH THESE REQUIREMENTS, THE CONTRACTOS SHALL IMMEDIATELY MODIFY THE ARCHITECT IN WRITING AND CEASE WORK ON PARTS OF THE CONTRACT WHICH ARE
- B. THE CONTRACTOR SHALL MAKE A SITE VISIT PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY ALL EXISTING CONDITIONS AND SHALL NOTIFY THE ARCHITECT IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES THE CONTRACTOR ASSUMES ALL LIABILITY FOR FAILURE TO COMPLY WITH THIS PROVISION.
- C. THE EXTENT OF THE WORK IS INDICATED BY THE DRAWINGS, SCHEDULES, AND SPECIFICATIONS AND IS SUBJECT TO THE TERMS AND CONDITIONS OF THE CONTRACT. THE WORK SHALL CONISTS OF FURNISHING ALL LABOR, SOUIPMENT, MATERIAS AND SUPPLIES NECESSARY FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. THE WORK SHALL ALSO INCLUDE THE COMPLETION OF ALL ELECTRICAL WORK NOT MENTIONED OR SHOWN WHICH ARE NECESSARY FOR SUCCESSFUL OPERATION OF ALL SYSTEMS.
- D. THE CONTRACTOR SHALL PREPARE A BID FOR A COMPLETE AND OPERATIONAL SYSTEM, WHICH INCLUDES THE COST FOR MATERIAL AND LABOR.
- E. WORKMANSHIP AND NEAT APPEARANCE SHALL BE AS IMPORTANT AS THE OPERATION. DEFECTIVE OR DAMAGED MATERIALS SHALL BE REPLACED OR REPAIRED PRIOR TO FINAL ACCEPTANCE IN A MANNER ACCEPTABLE TO OWNER AND ARCHITECT/ENGINEER.
- F. COMPLETE THE ENTIRE INSTALLATION AS SOON AS THE PROGRESS.
- G. THE ENTIRE ELECTRICAL SYSTEM INSTALLED UNDER THIS CONTRACT SHALL BE DELIVERED IN PROPER WORKING ORDER, REPLACE, WITHOUT ADDITIONAL COST TO THE OWNER, ANY DEFECTIVE MATERIAL AND EQUIPMENT WITHIN ONE YEAR FROM THE DATE OF
- H. ANY ERROR, OMISSION OR DESIGN DISCREPANCY ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR CLARIFICATION OR CORRECTION BEFORE
- I. "PROVIDE": INDICATES THAT ALL ITEMS ARE TO BE FURNISHED.
- J. CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES.

### 2. EQUIPMENT LOCATION

- A. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE DESIRED LOCATIONS OR ARRANGEMENTS OF CONDUIT RUNS, OUTLETS, EQUIPMENT, ETC., AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE. PROPER JUDGMENT MUST BE EXERCISED IN EXECUTING THE WORK SO AS TO SECURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF STRUCTURE CONDITIONS ENCOUNTERED.
- B, IN THE EVENT CHANGES IN THE INDICATED LOCATIONS OR ARRANGEMENTS ARE NECESSARY, DUE TO FIELD CONDITIONS IN THE BUILDING CONSTRUCTION OR REARRANGEMENT OF FURNISHINGS OR EQUIPMENT, SUCH CHANGES SHALL BE MADE WITHOUT COST. PROVIDING THE CHANGE IS ORDERED BEFORE THE COMDUIT RUNS, ETC., AND WORK DIRECTLY CONNECTED TO THE SAME IS INSTALLED AND NO EXTEN METERIALS ASPERSONIED.
- ONLY, COORDINATE THE FIXTURE LOCATION WITH MECHANICAL EQUIPMENT TO AVOID INTERFERENCE, COORDINATE THE WORK O THIS SECTION WITH THAT OF ALL OTHER TRADES, WHERE CONFLICTS OCCUR. CONSULT WITH THE RESPECTIVE CONTRACTOR AND COME TO AGREEMENT AS TO CHANGES NECESSARY, OBTAIN WRITTEN ACCEPTANCE FROM ARCHITECT/ENGINEER FOR THE NEW CHANGES

### 3. SHOP DRAWINGS

A. N/A UNLESS NOTED OTHERWISE.

### 4. SUBSTITUTIONS

A. NO SUBSTITUTIONS ARE ALLOWED.

A. BEFORE FINAL ACCEPTANCE OF WORK, THE CONTRACTOR SHALL INSURE THAT ALL EQUIPMENT, SYSTEMS, FIXTURES, ETC., ARE WORKING SATISFACTORILY AND TO THE INTENT OF THE

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING OUT AND PAYING FOR ALL THE REQUIRED PERMITS, INSPECTION AND EXAMINATION WITHOUT ADDITIONAL EXPENSE TO THE OWNER.

### 7. GROUNDING

- A. THE CONTRACTOR SHALL PROVIDE A COMPLETE, AND APPROVED GROUNDING SYSTEM INCLUDING ELECTRODES. ELECTRODE CONDUCTOR, BONDING CONDUCTORS, AND EQUIPMENT CONDUCTORS AS REQUIRED BY ARTICLE 250 OF NATIONAL ELECTRICAL CODE.
- B. CONDUITS CONNECTED TO EQUIPMENT AND DEVICES SHALL BE METALLICALLY JOINED TOGETHER TO PROVIDE AN EFFECTIVE ELECTRICAL CONTINUITY.
- C. FEEDERS AND BRANCH CIRCUIT WIRING INSTALLED IN A NONMETALLIC CONDUIT SHALL INCLUDE A CODE SIZED GROUNDING CONDUCTOR HAVING GREEN INSULATION. THE GROUND CONDUCTOR SHALL BE PROPERLY CONNECTED AT BOTH ENDS TO MAINTAIN ELECTRICAL CONTINUITY.
- D. REFER TO GROUND BUS DETAILS, PROVIDE NEW SYSTEM, COMPLETE WITH CONDUCTORS, GROUND ROD(S) AND DESCRIBED
- E. ALL GROUNDING CONDUCTORS SHALL BE SOLID LINED COPPER AND ANNEALED #2 UNLESS NOTED OTHERWISE.
- SHALL BE #2 STRANDED, GROUND THHN (GREEN) INSULATION.
- G. ALL GROUND CONNECTIONS SHALL BE MADE WITH "HYGROUND" COMPRESSION SYSTEM BURNDY CONNECTORS EXCEPT WHERE
- H. PAINT AT ALL GROUND CONNECTIONS SHALL BE REMOVED.
- I. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE OWNER FOR FUTURE INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE. SUBMIT TEST REPORTS AND FURNISH TO SMART SMR ONE COMPLETE SET OF PRINTS SHOWING "INSTALLED WARDLY SMART SMR ONE COMPLETE SET OF PRINTS SHOWING "INSTALLED WARDLY SMART SMR.

### 8. UTILITY SERVICE

- A. TELEPHONE AND ELECTRICAL METERING FACILITIES SHALL TELEFRONE AND ELECTRICAL WEITERING AGAILTIES SHALL
  CONFORM TO THE REQUIREMENTS OF THE SERVING UTILITY
  COMPANIES, CONTRACTOR SHALL VERIFY SERVICE LOCATIONS AND
  REQUIREMENTS, SERVICE INFORMATION WILL BE FURNISHED BY
- B. CONFORM TO ALL REQUIREMENTS OF THE SERVING UTILITY

### 9. PRODUCTS

A. ALL MATERIALS SHALL BE NEW, CONFORMING WITH THE NEC. ANSI. NEMA, AND THEY SHALL BE U.L. LISTED AND LABELED.

### B CONDUIT

- RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLASS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR, RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP ROCESS NO. 3.
- ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
- FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE. SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL
- 4. CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILING OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAVS, VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH
- 5. ALL UNDERGROUND CONDUITS SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24\* BELOW
- 6. ALL CONDUIT ONLY (C.O.) SHALL HAVE PULL ROPE.
- 7. CONDUITS RUN ON ROOFS SHALL BE INSTALLED ON 4 X 4 SLEEPERS, 6'-0" ON CENTER, SET IN NON-HARDENING MASTIC

- C. ALL WIRE AND CABLE SHALL BE COPPER, 600 VOLT, #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. TYPE THIN INSULATION USED UNLESS CONDUCTORS INSTALLED IN CONDUIT EXPOSED TO WEATHER, IN WHICH CASE TYPE THIM INSULATION SHALL BE USED.
- DUPLEX RECEPTACLES SHALL BE SPECIFICATION GRADE WITH WHITE FINISH (UNLESS NOTED BY ARCHITECTIENGINEER), 20 AMP, 125 VOLT, THREE WIRE GROUNDING TYPE, NEWA 5-20R. MOUNT RECEPTACLE AT +12" ABOVE FINISHED FLOOR UNLESS OTHERWISE INDICATED ON DRAWINGS OR IN DETAILS, WEATHERPROOF RECEPTACLES SHALL BE GROUND FAULT INTERRUPTER TYPE WITH SIERRA #WPD-8 LIFT COVERPLATES.
- F. TOGGLE SWITCHES SHALL BE 20 AMP, 120 VOLT AC, SPECIFICATION GRADE WHITE (UNLESS NOTED OTHERWISE) FINISH. MOUNT SWITCHES AT +48" ABOVE FINISHED FLOOR.
- G. PANELBOARDS SHALL BE DEAD FRONT SAFETY TYPE WITH ANTI-BURN SOLDERLESS COMPRESSION APPROVED FOR COPPER CONDUCTORS, COPPER BUS BARS, FULL SIZED NEUTRAL BUS, GROUND BUS AND EQUIPPED WITH QUICK-MAKE QUICK-BREAK BOLT-IN TYPE THERMAL MAGNETIC CIRCUIT BREAKERS, NOUNT TOP OF THE PANELBOARDS AT 6'-3' ABOVE FINISHED FLOOR, PROVIDE TYPEWRITTEN CIRCUIT DIRECTORS. DIRECTORY.
- H. ALL CIRCUIT BREAKERS, MAGNETIC STARTERS AND OTHER ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
- GROUND RODS SHALL BE COPPER CLAD STEEL, 5/8" ROUND AND 10" LONG. COPPERWELD OR APPROVED EQUAL

### 10. INSTALLATION

- PROVIDE SUPPORTING DEVICES FOR ALL ELECTRICAL EQUIPMENT, FIXTURES, BOXES, PANEL, ETC., SUPPORT LUMINARIES FROM UNDERSIDE OF STRUCTURAL CEILING, EQUIPMENT SHALL BE BRACED TO WITHSTAND HORIZONTAL FORCES IN ACCORDANCE WITH STATE AND LOCAL CODE REQUIREMENTS, PROVIDE PRIOR ALIGNMENT AND LEVELING OF ALL DEVICES AND FIXTURES
- CUTTING, PATCHING, CHASES, OPENINGS: PROVIDE LAYOUT IN ADVANCE TO ELIMINATE UNINECESSARY CUTTING OR DRILLING OF WALLS, FLOORS CELLINGS, AND ROOPS, ANY DAYAGE TO BUILDING STRUCTURE OR EQUIPMENT SHALL BE REPARED BY THE CONTRACTOR. OBTAIN PERMISSION FROM THE ARCHITECT/ENGINEER BEFORE CORING.
- IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., IT MUST BE CLEARLY JNDERSTOOD THAT TENDONS AND/OR REINFORCING STEEL WILL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES.
- D. LOCATION OF TENDONS AND/OR REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE, MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY OR OTHER
- PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH THE REQUIREMENTS OF THE U.B.C.

### 11. PROJECT CLOSEOUT

- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS FOR APPROVAL.
  SUBMIT TEST REPORTS TO PROJECT MANAGER, CLEAN PREMISES
  OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
- PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS AND CIRCUITS.
- ALL BROCHURES, OPERATING MANUALS, CATALOG, SHOP DRAWINGS, ETC., SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.

- 1. EQUIPMENT POWER SHALL BE 200A, 1Ø, 3W, 120/208V OR
- UTILITY RECEPTACLE IS A GFCI DUPLEX OUTLET INSTALLED IN THE DEADFRONT OF PPC.
- PROVIDED A MIN. 36" WORK CLEARANCE IN FRONT OF PANELS SERVICE EQUIPMENT,
- ALL BREAKERS IN THE ELEC. PANEL ARE RATED 10,000 RMS SYMMETRICAL AMPS, 240V MAX. 75°C.
- 5. ALL WIRING SHALL BE COPPER 75°C U.N.O.
- 6 CONDUIT REQUIREMENTS (TYP. UNO.) UNDERGROUND: PVC (SCHED 40 OR 80)

  INDOOR: EMT (RGS IN TRAFFIC AREAS)

  OUTDOOR: RGS (ABOVE GRADE)
- APPLETON EMERGENCY GENERATOR PLUG AT 36" A.F.F. CONTRACTOR TO VERIEY EXACT LOCATION WITH LANDLORD AND UTILITY COORDINATOR.
- 8. PLACE "TRUE TAPE" AND PULL ROPE IN THE CONDUITS AS REQUIRED.

SCALE

N.T.S.

SCALE

3

## **ELECTRICAL NOTES**

Α	AMPERE	ELEC	ELECTRICAL	MFR	MANUFACTURER	SAF	SAFETY
ACCA	ANTENNA CABLE COVER	EMT	ELECTRICAL METALLIC TUBING	MIN	MINIMUM	SDBC	SOFT DRAWN BARE COPPER
	ASSEMBLY	ENCL	ENCLOSURE	MLO	MAIN LUGS ONLY	SEC	SECONDARY
AIC	AMPERE INTERRUPTING	EXIST	EXISTING	MTD	MOUNTED	S.N.	SOLID NEUTRAL
	CAPACITY	FAC	FACTOR	MTG	MOUNTING	SURF	SURFACE
APPROX	APPROXIMATELY	F/A	FIRE ALARM	MTS	MANUAL TRANSFER SWITCH	SW	SWITCH
AT	AMPERE TRIP	FLUOR	FLUORESCENT	N	NEUTRAL	TEL	TELEPHONE
AWG	AMERICAN WIRE GAGE	FT	FOOT/FEET	(N)	NEW	TYP	TYPICAL
BATT	BATTERY	FU	FUSE	NEMA	NATIONAL ELECTRICAL	U/G	UNDERGROUND
BD	BOARD	G	GROUND		MANUFACTURERS ASSOC.	U.L.	UNDERWRITER'S LABORATORY INC.
BR	BRANCH	GEN	GENERATOR	ОН	OVERHEAD	]	
BRKR	BREAKER	GFCI	GROUND FAULT CIRCUIT	P	POLE	U.N.O.	UNLESS NOTED OTHERWISE
BTCW	BARE TINNED COPPER WIRE		INTERRUPTER	PCS	PERSONAL COMMUNICATION	V	VOLT
BTS	BASE TRANSMISSION SYSTEM	GND	GROUNDING	_	SYSTEM	VAC	VOLT ALTERNATING CURRENT
С	CONDUIT	GPS	GLOBAL POSITIONING SYSTEM	PH	PHASE -	W	WATT OR WIRE
CAB	CABINET	GR	GROWTH	PNLBD	PANELBOARD	W/	WITH
СВ	CIRCUIT BREAKER	HDBC	HARD DRAWN COPPER WIRE	PPC	POWER PROTECTION CABINET	W/O	WITHOUT
CKT	CIRCUIT	HPS	HIGH PRESSURE SODIUM	PRC	PRIMARY RADIO CABINET	XFER	TRANSFER
CONT	CONTINUOUS	LG	LENGTH	PRI	PRIMARY	XFMR	TRANSFORMER
DEM	DEMAND	LPS	LOW PRESSURE SODIUM	PWR	POWER	XLPE	CROSS-LINK POLYETHYLENE
(E)	EXISTING	MAX	MAXIMUM	RCPT	RECEPTACLE		
EGR	EMERGENCY GEN, RECEPTACLE	MECH	MECHANICAL	RGS	RIGID GALVANIZED STEEL		

GENERAL ABBREVIATIONS	
	LIGHTING FIXTURE, 1/175W, METAL HAL

5/8" X 10'-0" ,CU, GND ROD IN TEST WELL 30" MIN. BELOW GRADE. CHEMICAL GROUND ROD (XIT GROUND ROD) POWER RUN

POWER/TELCO RUN MECHANICAL CONNECTION

CIRCUIT BREAKER - GROUNDING CONDUCTOR

LITH ITY METER BASE

GROUNDING CONDUCTOR

- OHT - OVERHEAD TELEPHONE LINE

— T — TELCORUN

FUSE, SIZE AND TYPE AS INDICATED SAFETY SWITCH, 2P-240V-60A W/60A FUSES, NEMA 3R ENCLOSURE, SQ D CATALOG NO, H222NRB

MANUAL TRANSFER SWITCH, 2P-240V-200A, NO FUSE, NEMA 3R ENCLOSURE  $\Box$ 

> LIGHTING FIXTURE, FLUORESCENT, 10.94" x 4'-0", 2/40W. FOH SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG

LIGHTING FIXTURE, FLUORESCENT, 10.94" x 8'-0", 2'95W, SURFACE MOUNTING TYPE, HUBBELL LIGHTING CATALOG TOGGLE SWITCH, 1P-120V-15A, WP #TWSM232T LIGHTING FIXTURE, HIGH PRESSURE SODIUM, 1/70W, WALL MOUNTING TYPE, HUBBELL LIGHTING CATALOG #NRG-307

 $H\Box$ OR 1/50W, HUBBELL LIGHTING CATALOG #NRG-121 HO EXIT SIGN, THERMOPLASTIC LED, SINGLE FACE, UNIVERSAL MOUNTING,

W/BATTERY PACK, HUBBELL LIGHTING CATALOG #PRE COMBINATION, EXIT SIGN & EMERGENCY LIGHTING. EXIT HUBBELL LIGHTING CATALOG #PRC

EMERGENCY LIGHTING, 2/50W, HUBBELL LIGHTING CATALOG

LIGHTING FIXTURE, INCANDESCENT, 1/100W, WALL Ю MOUNTING TYPE, HUBBELL LIGHTING CATALOG

LIGHTING FIXTURE, HALOGEN, QUARTZ, 1/300W, HUBBELL LIGHTING CATALOG #QL-505

N.T.S. ALIDE, HUBBELL CAT #MIC-0175H-336

5/8" X 10"-0" ,CU, GND ROD 30" MIN, BELOW GRADE.

CADWELD CONNECTION

HALO GROUND CONNECTION

\*\*

STEPDOWN TRANSFORMER

RECEPTACLE, 2P-3W-125V-15A, DUPLEX, GROUND TYPE, HUBBEL CATALOG #5362

TOGGLE SWITCH, 1P-125V-15A, HUBBELL CATALOG #HBL

IONIZATION SMOKE DETECTOR W/ALARM HORN & AUXILIARY CONTACT, 120 VAC, GENTEX PART NO. 7100F

(E) POLE MOUNTED XFMR

(N) POLE MOUNTED XFMER

(N) PAD MOUNTED XFMER

(E) PAD MOUNTED XFMER

SCALE N.T.S.



4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS formation Technology

1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



**UTAH MARKET OFFICE** 

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020





HUNTSVILLE FA#10088492 7305 EAST 730 NORTH HUNTSVILLE, UT 84317 MONOPOLE

SHEET TITLE **ELECTRICAL** NOTES

SHEET NUMBER

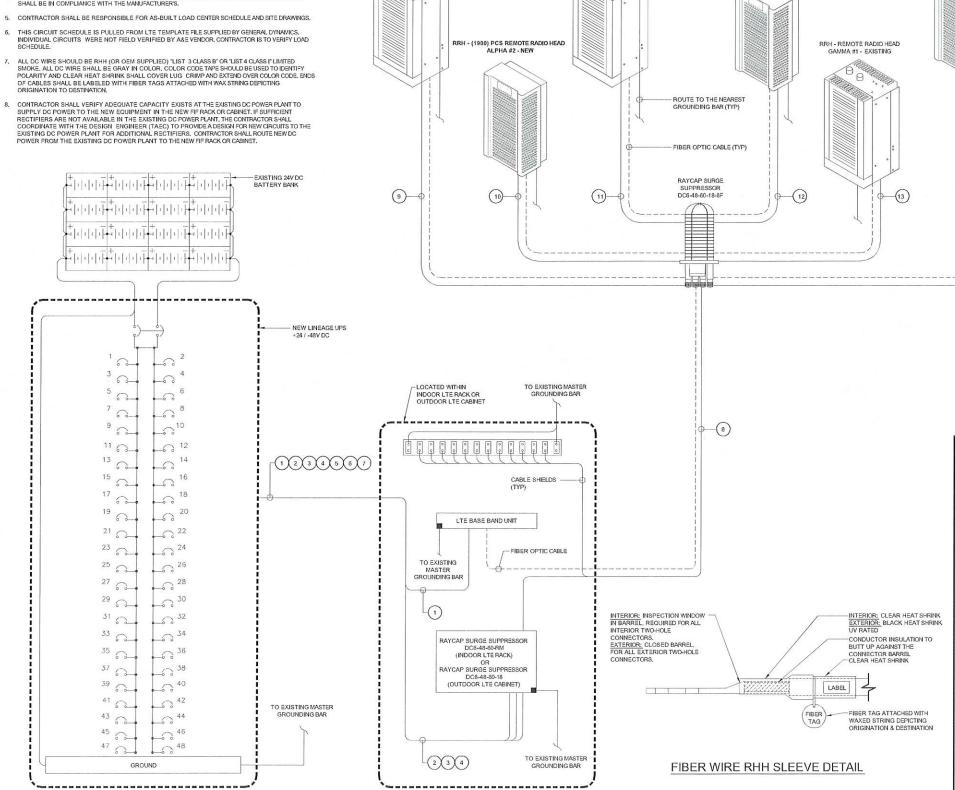
**ELECTRICAL GENERAL NOTES** 

**GENERAL LEGEND** 



- INSTALL ADDITIONAL CIRCUITS TO RECTIFIERS AS REQUIRED, TO PROVIDE ADDITIONAL 48V DC POWER FOR LTE SYSTEM.
- THE SCOPE OF WORK SHALL DICTATE THE EQUIPMENT TO BE INSTALLED, EQUIPMENT SHALL BE EQUAL TO OR BETTER THAN REFERRED VENDORS.
- THE CONTRACTOR SHALL VERIFY THE LOAD CENTER SCHEDULE IS ACCURATE AND TRUE, IF THE LOAD CENTER SCHEDULE IS NOT TRUE THE CONTRACTOR SHALL NOTIFY THE ENGINEERING STAFF THE CORRECTIONS AS SOON AS FRACTICABLE.
- 4. CONTRACTOR SHALL PROVIDE ALL CONDUITS. CIRCUITS REQUIRED OF A COMPLETED SYSTEM AND SHALL BE IN COMPLIANCE WITH THE MANUFACTURER'S.

- SUPPLY DO POWER TO THE NEW EQUIPMENT IN THE NEW FIF RACK OR CABINET. IF SUFFICIENT RECTIFIERS ARE NOT AVAILABLE IN THE EXISTING DC POWER PLANT, THE CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER (TAEC) TO PROVIDE A DESIGN FOR NEW CIRCUITS TO THE EXISTING DC POWER PLANT FOR ADDITIONAL RECTIFIERS, CONTRACTOR SHALL ROUTE NEW DC



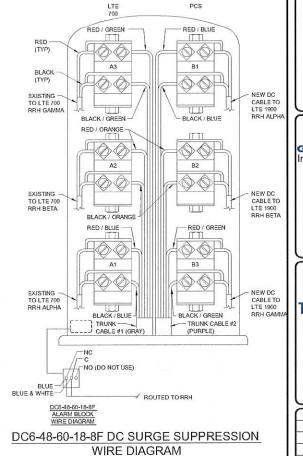
RRH - REMOTE RADIO HEAD

RRH - REMOTE RADIO HEAD BETA #1 - EXISTING

RRH - (1900) PCS REMOTE RADIO HEAD BETA #2 - NEW

RRH - (1900) PCS REMOTE RADIO HEAD GAMMA #2 -NEW

-(14)



	D	C CIRCUIT SCHEDULE		
	FROM	то	CONFIGURATION	
1	-48V DC CIRCUIT	LTE BASE BAND UNIT	(1) 2-#10 RHH TC-RE DC CABLE	
2	-48V DC CIRCUIT	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	(1) 2-#10 RHH TC-RE DC CABLE	
3	-48V DC CIRCUIT	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	(1) 2#10 RHH TC-RE DC CABLE	
4	-48V DC CIRCUIT	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	(1) 2-#10 RHH TC-RE DC CABLE	
5	-48V DC CIRCUIT	RRH REMOTE RADIO HEAD ALPHA #2 - NEW	(1) 2-#10 RHH TC-RE DC CABLE	
6	-48V DC CIRCUIT	RRH REMOTE RADIO HEAD BETA #2 - NEW	(1) 2-#10 RHH TC-RE DC CABLE	
7	-48V DC CIRCUIT	RRH REMOTE RADIO HEAD GAMMA #2 - NEW	(1) 2-#10 RHH TC-RE DC CABLE	
(8)	RAYCAP SURGE SUPPRESSOR DC6-48-60-RM OR DC6-48-60-18	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	(2) 6-#8 RHH TC-RE DC CABLE	
9	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD ALPHA #1	(1) 6-#12 RHH TC-RE-DC CABLE - EXISTING	
RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F		RRH REMOTE RADIO HEAD ALPHA #2 - NEW	(1) 6-#12 RHH TC-RE-DC CABLE	
(1)	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD BETA#1	(1) 6-#12 RHH TC-RE-DC CABLE - EXISTING	
12	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD BETA #2 - NEW	(1) 6-#12 RHH TC-RE-DC CABLE	
13)	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD GAMMA#1	(1) 6-#12 RHH TC-RE-DC CABLE - EXISTING	
14	RAYCAP SURGE SUPPRESSOR DC6-48-60-18-8F	RRH REMOTE RADIO HEAD GAMMA #2 - NEW	(1) 6-#12 RHH TC-RE-DC CABLE	



4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

GENERAL DYNAMICS ormation Technology

> 1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



**UTAH MARKET OFFICE** 

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020

. :			
0	3/06/2015	160% CONSTRUCTION	NSV
REV	DATE	DESCRIPTION	BY



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

HUNTSVILLE FA#10088492 7305 EAST 730 NORTH HUNTSVILLE, UT 84317 MONOPOLE

SHEET TITLE

**ELECTRICAL** ONE-LINE DIAGRAM

SHEET NUMBER

### ELECTRICAL GROUNDING SPECIFICATIONS

- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE CURRENTLY IN EFFECT FOR THE AUTHORITY HAVING JURISDICTION.
- 2. ALL GROUNDING DEVICES SHALL BE U.L. LISTED FOR THEIR INTENDED USE.
- 3. GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID COPPER UNLESS OTHERWISE NOTED.
- CONNECTIONS OF ALL GROUND WIRES TO THE GROUND RING SHALL BE EXOTHERMIC (CAD-WELDED), UNLESS OTHERWISE NOTED, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND ATAT WIRELESS BROADBAND STANDARDS.
- 5. GROUNDING CONDUCTORS SHALL BE ROUTED ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, WHEN REQUIRED, GROUND LEADS SHALL
- 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.
- 7. 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 LUGS, AND EACH INSTALLED WITH ISOLATORS, WHEN CONNECTING GROUND BARS WITHIN 10 FEET OF GRADE) DIRECTLY TO THE GROUND RINS, 2 EA, 22 SOLID DOWNLEADS SHALL BE CAD-WEID 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 THYM INSULATION FROM THE MIDDLE GROUND BAR TO THE GROUND BARS AND RUN 1 EA. #2 AWG STRANDED COPPER WIRE WITH THYM INSULATION FROM THE MIDDLE GROUND BAR TO THE GROUND RING AND CAD-WELD TO THE RING,
- 8. 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 "KOP'R 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, FOLLOWING CAD-WELDED CONNECTIONS TO NON-COPPER SURFACES, APPLY ONE COAT OF ANY ANTI-OXIDIZING PAINT, "COLD GALV" OR EQUIVALENT.
- 11. GROUND RODS SHALL BE COPPER-CLAD STEEL 5/8"x10", SPACED NO LESS THAN 10" ON CENTER,
- 12. ALL GROUND SYSTEM CONDUCTORS AND CONDUITS SHALL BE SECURED UTILIZING ONLY NONMETALLIC, NON-CONDUCTIVE, UV RATED CLAVPS, BRACKET, AND OR SUPPORTS.
- 13. 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.H.J.

LEGEND		
н	EXOTHERMIC CONNECTION	
•	MECHANICAL CONNECTION	
<del>, ,</del>	EQUIPMENT GROUND BAR	
677773	ANTENNA GROUND BAR (AS REQUIRED)	
	#2 AWG GROUND LEAD (AS REQUIRED)	

1. CONTRACTOR TO REPLACE ALL MISSING GROUND BARS

**NOT USED** SCALE N.T.S. **GAMMA SECTOR** NEW GROUND #2 BTCW FROM NEW AT&T (LTE 2C) PCS RRH TO EXISTING

**BETA SECTOR** 



4393 RIVERBOAT ROAD, SUITE #400 TAYLORSVILLE, UTAH 84123

## GENERAL DYNAMICS Information Technology

1152 W 2400 S, SUITE C SALT LAKE CITY, UTAH 84119



### **UTAH MARKET OFFICE**

5710 SOUTH GREEN ST. SALT LAKE CITY, UTAH 84123 (801) 463-1020

0	3/06/2015	100% CONSTRUCTION	_
REV	DATE	DESCRIPTION	



## HUNTSVILLE FA#10088492 7305 EAST 730 NORTH

HUNTSVILLE, UT 84317 MONOPOLE

SHEET TITLE GROUNDING

PLAN

SHEET NUMBER G-1

**ANTENNA GROUNDING** 

NEW MGB 1/4"X4"X18" (TYP. AS REQUIRED)

> SCALE NTS

MAIN GROUND BAR (TYP.)

-NEW GROUND #2 BTCW FROM NEW AT&T LTE ANTENNA MOUNTING PIPE TO EXISTING MAIN GROUND BAR (TYP.)

EXOTHERMIC WELD (TYP.)

ALPHA SECTOR

(1) G-2

3

**NOTES & LEGEND** 

SCALE

