



CORRAL BLUFFS

FA#: 10093745

CROWN CASTLE: SITE# 855759

GENERATOR INSTALLATION PROJECT 30KW KOHLER DIESEL GENERATOR

2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929



GENERAL DYNAMICS
Information Technology



GEOSTRUCTURAL
PO BOX 2621, BOISE, ID 83701
530.539.4787
CONTACT@GEOSTRUCTURAL.COM
WWW.GEOSTRUCTURAL.COM

REVISIONS

REV	DATE	DESCRIPTION	INT
1	08/12/22	JURISDICTION COMMENTS	BM
0	06/29/20	ISSUED FOR CONSTRUCTION	JCM

CHECKED BY: GGD

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SITE INFORMATION:

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GENERATOR INSTALLATION
PROJECT

2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

JURISDICTION USE:

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T-1

SITE INFORMATION:

SITE ADDRESS: 2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

COUNTY: EL PASO

COORDINATES: 38.866683° / -104.576271° (FOR NAVIGATION ONLY)

PROPERTY LANDLORD OR OWNER: WASTE MANAGEMENT OF COLO INC

TAX ID #: 4405001001

ZONING: RR-5

OCCUPANCY GROUP: U - UNMANNED

CONSTRUCTION TYPE: II-B

POWER COMPANY: MOUNTAIN VIEW ELECTRIC

A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

VICINITY MAP:



AREA MAP:



CODE COMPLIANCE:

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF ALL GOVERNING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS ARE TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

INTERNATIONAL BUILDING CODE (IBC) 2015
NATIONAL ELECTRICAL CODE (NEC) 2017
NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 13, 30, 37, 70, 72, 110, 111
AMERICAN CONCRETE INSTITUTE (ACI) 318
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 607

DO NOT SCALE DRAWINGS:

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

CONTACT INFORMATION:

APPLICANT: AT&T MOBILITY
1375 CAMINO REAL STE 120
SAN BERNARDINO, CA 92408
PHONE: 951.534.8967

PROJECT MANAGER: GENERAL DYNAMICS WIRELESS SERVICES, LLC.
19240 DES MOINES DR. S. BLDG C STE 300
SEA TAC, WA 98048
PHONE: 425.606.8785
CONTACT: CHRISTOPHER HERMAN

ARCHITECTURE & ENGINEERING: GEOSTRUCTURAL, LLC.
PO BOX 2621
BOISE, ID 83701
PHONE: 530.539.4787
CONTACT: DON GEORGE

APPROVALS:

AT&T MANAGER _____

CONSTRUCTION MANAGER _____

SITE ACQ. MANAGER _____

PROPERTY OWNER _____

LANDLORD _____

SCOPE OF WORK:

INSTALL (1) STANDBY DIESEL GENERATOR WITH BASE FUEL TANK (8.44'x2.71') ON CONCRETE PAD (4'x8') AND ATS / EQUIPMENT WITHIN COMPOUND NEAR EXISTING AT&T EQUIPMENT AREA.

INTEGRATE NEW GENERATOR WITH EXISTING SERVICE.

NOTE: NO CHANGES OR ALTERATIONS TO THE TOWER, MOUNTS, ANTENNAS, FEEDLINES, ETC. IS PROPOSED AS A PART OF THIS SCOPE OF WORK.

DIG LINE:

THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVE GROUND STRUCTURES, AND/OR EXISTING UTILITIES BELIEVED TO BE IN THE WORKING AREA. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL UTILITIES, PIPELINES AND OTHER STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS.

ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AND ENGINEER AT THE CONTRACTOR'S EXPENSE.



SHEET INDEX:

SHEET	DESCRIPTION
T-1 (1)	TITLE SHEET
N-1 (2)	GENERAL NOTES
A-1 (3)	OVERALL SITE PLAN
A-2 (4)	ENLARGED SITE PLAN
S-1 (5)	GENERATOR PAD DETAILS & STRUCTURAL NOTES
S-2 (6)	GENERAL STRUCTURAL DETAILS
E-1 (7)	ELECTRICAL DETAILS
E-2 (8)	ELECTRICAL DETAILS
E-3 (9)	ELECTRICAL DETAILS
E-4.0 (10)	GENERATOR SPECIFICATIONS
E-4.1 (11)	GENERATOR SPECIFICATIONS
E-4.2 (12)	GENERATOR SPECIFICATIONS
E-5.0 (13)	ATS SPECIFICATIONS
E-5.1 (14)	CAM-LOCK BOX SPECIFICATIONS

TOTAL NUMBER OF SHEETS: 14

EL PASO COUNTY
FILE #: COM2223

NOTES TO SUBCONTRACTOR:

1. THE GENERAL SUBCONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. ALL DISCREPANCIES SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.

2. IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES, FORM WORK, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL ORDINANCES, TO SAFELY EXECUTE ALL WORK AND SHALL BE RESPONSIBLE FOR SAME. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.

3. THE SUBCONTRACTOR SHALL USE ADEQUATE NUMBER OF SKILLED WORKMAN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHOD NEEDED FOR PROPER PERFORMANCE OF THE WORK.

4. SUBCONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SUBCONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND SUBCONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.

5. SITE GROUNDING SHALL COMPLY WITH AT&T WIRELESS SERVICES TECHNICAL SPECIFICATIONS FOR FACILITY GROUNDING FOR CELL SITE STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T TOWERS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

6. ALL WORK SHALL COMPLY WITH OSHA AND STATE SAFETY REQUIREMENTS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.

7. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL CODES OR ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.

8. ANY DAMAGE TO THE ADJACENT PROPERTIES WILL BE CORRECTED AT THE SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE LANDOWNER AND THE CONSTRUCTION MANAGER.

9. THE COMPLETE BID PACKAGE INCLUDES THESE CONSTRUCTION DRAWINGS ALONG WITH THE SPECIFICATIONS. SUBCONTRACTOR IS RESPONSIBLE FOR REVIEW OF TOTAL BID PACKAGE PRIOR TO BID SUBMITTAL.

10. SUBCONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.

11. THE SUBCONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE OF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE SUBCONTRACTOR'S EXPENSE.

12. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE HELD TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO THE PROPERTY OUTSIDE THE LEASED PROPERTY SHALL BE REPAIRED BY THE SUBCONTRACTOR.

13. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES PRIOR TO DISPOSAL.

14. PERMITS: THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES, ETC.

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

16. THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVE GROUND STRUCTURES AND/OR EXISTING UTILITIES BELIEVED TO BE IN THE WORKING AREA. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO VERIFY ALL UTILITIES, PIPELINES AND OTHER STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS. THE SUBCONTRACTOR SHALL CONTACT THE LOCAL LOCATE SERVICE BEFORE DIGGING OR DRILLING. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AND ENGINEER AT THE SUBCONTRACTOR'S EXPENSE.

GENERAL PROJECT NOTES:

1. THIS PROPOSAL IS FOR THE ADDITION OF A NEW GENERATOR ON A NEW CONCRETE PAD TO AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY CONSISTING OF AN EQUIPMENT SHELTER/PLATFORM AND TOWER.

2. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE.

3. THE PROPOSED FACILITY IS UNMANNED AND IS NOT FOR HUMAN HABITAT. (NO HANDICAP ACCESS IS REQUIRED)

4. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH BY AT&T TECHNICIANS.

5. OUTDOOR STORAGE AND SOLID WASTE CONTAINERS ARE NOT PROPOSED.

6. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

7. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATION.

8. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTION REQUIRED FOR CONSTRUCTION.

9. SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

ELECTRICAL NOTES:

A. GENERAL

1. COORDINATE LOCATION AND POWER REQUIREMENTS OF ALL EQUIPMENT WITH AT&T AND EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.

2. COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL AND TELEPHONE SERVICES WITH THE PROPERTY REPRESENTATIVE, AT&T AND UTILITY COMPANIES. ROUTING OF CONDUITS MAY BE MODIFIED TO MEET SITE REQUIREMENTS. EXACT CONDUIT ROUTING TO BE DETERMINED IN THE FIELD.

3. ALL WIRING AND EQUIPMENT SHOWN ON ELECTRICAL SHEETS SHALL BE FURNISHED AND INSTALLED UNDER ELECTRICAL PORTION OF CONTRACT UNLESS OTHERWISE NOTED

4. UNINTERRUPTED ELECTRICAL SERVICE FOR EXISTING EQUIPMENT SHALL BE MAINTAINED DURING THE INSTALLATION OF THE WORK DESCRIBED UNDER THESE DOCUMENTS. TEMPORARY EQUIPMENT, CABLES AND WHATEVER ELSE IS NECESSARY SHALL BE PROVIDED AS REQUIRED TO MAINTAIN ELECTRICAL SERVICE. TEMPORARY SERVICE FACILITIES, IF REQUIRED AT ANY TIME, SHALL NOT BE DISCONNECTED OR REMOVED UNTIL NEW SERVICE EQUIPMENT IS IN PROPER OPERATION. IF ANY SERVICE OR SYSTEM MUST BE INTERRUPTED, THE CONTRACTOR SHALL REQUEST PERMISSION IN WRITING STATING THE DATE, TIME, ETC. THE SERVICE WILL BE INTERRUPTED AND THE AREAS AFFECTED. THIS REQUEST SHALL BE MADE IN SUFFICIENT TIME FOR PROPER ARRANGEMENTS TO BE MADE. WRITTEN PERMISSION SHALL BE OBTAINED FROM THE OWNER BEFORE INTERRUPTING ELECTRICAL SERVICE.

5. COORDINATE NEW WORK WITH OTHER TRADES AND VERIFY EXISTING CONDITIONS TO AVOID INTERFERENCE. IN CASE OF INTERFERENCE, AT&T'S REPRESENTATIVE WILL DECIDE WHICH WORK IS TO BE RELOCATED, REGARDLESS OF WHICH WAS FIRST INSTALLED.

6. THE INSTALLATION MUST COMPLY WITH NEC AND ALL FEDERAL, STATE AND LOCAL RULES AND REGULATIONS.

7. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE DEFINED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS AND RACEWAY ROUTING SHALL BE GOVERNED BY ACTUAL FIELD CONDITIONS AND/OR DIRECTIONS FROM AT&T'S REPRESENTATIVE.

8. CONTRACTOR SHALL PAY ALL PERMITS AND FEES REQUIRED.

9. ALL MATERIALS SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE STANDARDS REFERENCED BELOW:

- a. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
- b. ASTM (AMERICAN SOCIETY FOR TESTING MATERIALS)
- c. ETL (ELECTRICAL TESTING LABORATORY)
- d. ICEA (INSULATED CABLE ENGINEERS ASSOCIATION)
- e. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS)
- f. MBFU (NATIONAL BOARD OF FIRE UNDERWRITERS)
- g. NESC (NATIONAL ELECTRICAL SAFETY CODE)
- h. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
- i. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
- j. UL (UNDERWRITER'S LABORATORY)
- k. NEC (NATIONAL ELECTRICAL CODE)

10. CONTRACTOR SHALL REVIEW PLANS, DETAILS AND SPECIFICATIONS IN DETAIL AND ADJUST WORK TO CONFORM WITH ACTUAL SITE CONDITIONS SO THAT ELECTRICAL DEVICES AND EQUIPMENT WILL BE LOCATED AND READILY ACCESSIBLE. QUANTITIES LISTED IN MATERIAL LISTS ON THE DRAWINGS ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL PROVIDE HIS OWN TAKEOFF FOR MATERIAL QUANTITY AND TYPES BASED ON ACTUAL SITE CONDITIONS, IN ADDITION, CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS TO INSTALL EQUIPMENT FURNISHED BY AT&T OR ITS SUPPLIERS. ALL ITEMS NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED.

11. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) AT&T'S REPRESENTATIVE OF ANY CONFLICTS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK, IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.

ELECTRICAL NOTES:

12. ALL FLOORS WHERE PENETRATIONS ARE REQUIRED IN BUILDING ARE TO BE CORE DRILLED AND THEN FIREPROOFED.

B. WIRING/CONDUIT

1. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR AS REQUIRED BY CODE SUCH THAT NO MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) EXIST IN A CONDUIT RUN.

2. ALL POWER AND CONTROL/INDICATION WIRING SHALL BE TYPE THHN/THWN 600V RATED 75 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.

3. CONDUIT BENDS SHALL BE MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.

4. POWER WIRING SIZE SHALL NOT BE SMALLER THAN #12 AWG.

5. ALL WIRING SHALL BE COPPER. ALUMINUM WILL NOT BE ACCEPTABLE ALL POWER CIRCUITS SHALL CONTAIN A GROUND WIRE.

6. PHASE MARKINGS TO BE USED AT POWER CONDUCTOR TERMINATIONS.

7. CONTRACTOR SHALL ENSURE INTEGRITY IS MAINTAINED WHEN INSTALLING CONDUIT AND WIRING.

8. INSTALL PULL STRING IN ALL CONDUIT.

9. FOR ROOFTOP INSTALLS AND BUILD-OUTS, CONDUITS INSIDE BUILDING AND ON ROOF SHALL BE RGS, UNLESS OTHERWISE NOTED. FOR RAW LAND SITES AND CO-LOCATES, PVC SCHEDULE 80 SHALL BE UTILIZED UNLESS NOTED OTHERWISE.

10. MAINTAIN MINIMUM 1'-0" VERTICAL AND 1'-0" HORIZONTAL SEPARATIONS FROM ANY MECHANICAL GAS PIPING.

11. ALL WIRING ROUTED IN PLENUM TO BE RATED OR IN METALLIC FLEX (LIQUIDTITE) CONDUIT.

C. EQUIPMENT

1. EQUIPMENT/PARTS CONNECTED TO EXISTING PANELS, DUCTS, ETC. SHALL MATCH THE CHARACTERISTICS (A/C, V, A) OF THAT EQUIPMENT.

2. ALL ELECTRICAL EQUIPMENT OUTSIDE SHALL BE NEMA 3R RATED.

D. GROUNDING

1. ALL GROUND CONNECTIONS TO BUILDING SHALL BE MADE USING TWO-HOLE CONNECTORS. PROVIDE STAINLESS STEEL BOLTS AND LOCK WASHERS ON ALL MECHANICAL GROUND CONNECTIONS.

2. ALL EQUIPMENT SURFACES TO BE BONDED TO GROUNDING SYSTEM SHALL BE STRIPPED OF ALL PAINT AND DIRT AT ANY POINT OF CONNECTION. CONNECTIONS TO VARIOUS METALS SHALL BE OF A TYPE AS TO PREVENT A GALVANIC OR CORROSIVE REACTION. AREA SHALL BE REPAINTED FOLLOWING BONDING.

3. ANY METALLIC ITEM WITHIN 6' OF ANY EQUIPMENT OR METALLIC INFRASTRUCTURE (RACKS, CABLE TRAY.. ETC.) OR GROUND CONDUCTORS MUST BE CONNECTED TO THE GROUNDING SYSTEM PER AT&T STANDARDS.

4. EXTERIOR, ABOVE GRADE GROUND CONNECTIONS SHALL BE FURNISHED WITH A LIBERAL PROTECTIVE COATING OF ANTI-OXIDATION COMPOUND.

5. ALL MATERIALS AND LABOR REQUIRED FOR THE GROUNDING SYSTEM AS INDICATED ON THE PLANS AND DETAILS, AND AS DESCRIBED HEREIN SHALL BE FURNISHED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.

6. EXACT LOCATION OF GROUND CONNECTION POINTS SHALL BE DETERMINED IN FIELD. ADJUST LOCATIONS INDICATED ON PLANS ACCORDING TO ACTUAL EQUIPMENT LOCATIONS TO KEEP THE GROUND CONNECTION CABLES AS SHORT AND STRAIGHT AS PRACTICAL.

7. PROVIDE ALL ELECTRICAL SYSTEM AND EQUIPMENT GROUNDS AS REQUIRED BY THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE, THE CURRENT EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE AND AT&T STANDARDS. BONDING JUMPERS WITH APPROVED GROUND FITTINGS SHALL BE INSTALLED AT ALL RACEWAYS, EQUIPMENT ENCLOSURES, PULL BOXES, ETC. TO MAINTAIN GROUND CONTINUITY WHERE REQUIRED BY CODE.

8. ALL BURIED EQUIPMENT GROUND CONDUCTORS SHALL BE #2 AWG BARE, TINNED, SOLID COPPER UNLESS NOTED OTHERWISE ON THE DRAWINGS.

E. INSPECTION/DOCUMENTATION

1. THE CONTRACTOR, UPON COMPLETION OF HIS WORK, SHALL PROVIDE AS-BUILT DRAWINGS. INFORMATION SHOULD BE GIVEN TO THE GENERAL CONTRACTOR FOR INCLUSION IN FINAL AS-BUILT SURVEY DOCUMENTS TO BE GIVEN TO THE OWNER.

2. CONTRACTOR SHALL SUPPLY DOCUMENTATION ATTESTING TO THE COMPLETE GROUND SYSTEM'S RESISTANCE TO GROUND (MAX. 5 OHMS).

3. AN ELECTRICAL INSPECTION SHALL BE MADE BY AN INSPECTING AGENCY APPROVED BY AT&T'S REPRESENTATIVE. CONTRACTOR SHALL COORDINATE ALL INSPECTIONS AND OBTAIN POWER COMPANY APPROVAL.

4. CONTRACTOR SHALL HAVE ATS AND GENERATOR RELAY INSTALLATION AND CONNECTIONS INSPECTED BY OTHERS TO ENSURE THAT UL LISTING FOR THAT EQUIPMENT IS NOT VOIDED.

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2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

JURISDICTION USE:

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
N-1

EXISTING CONDITIONS:

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NOTE:

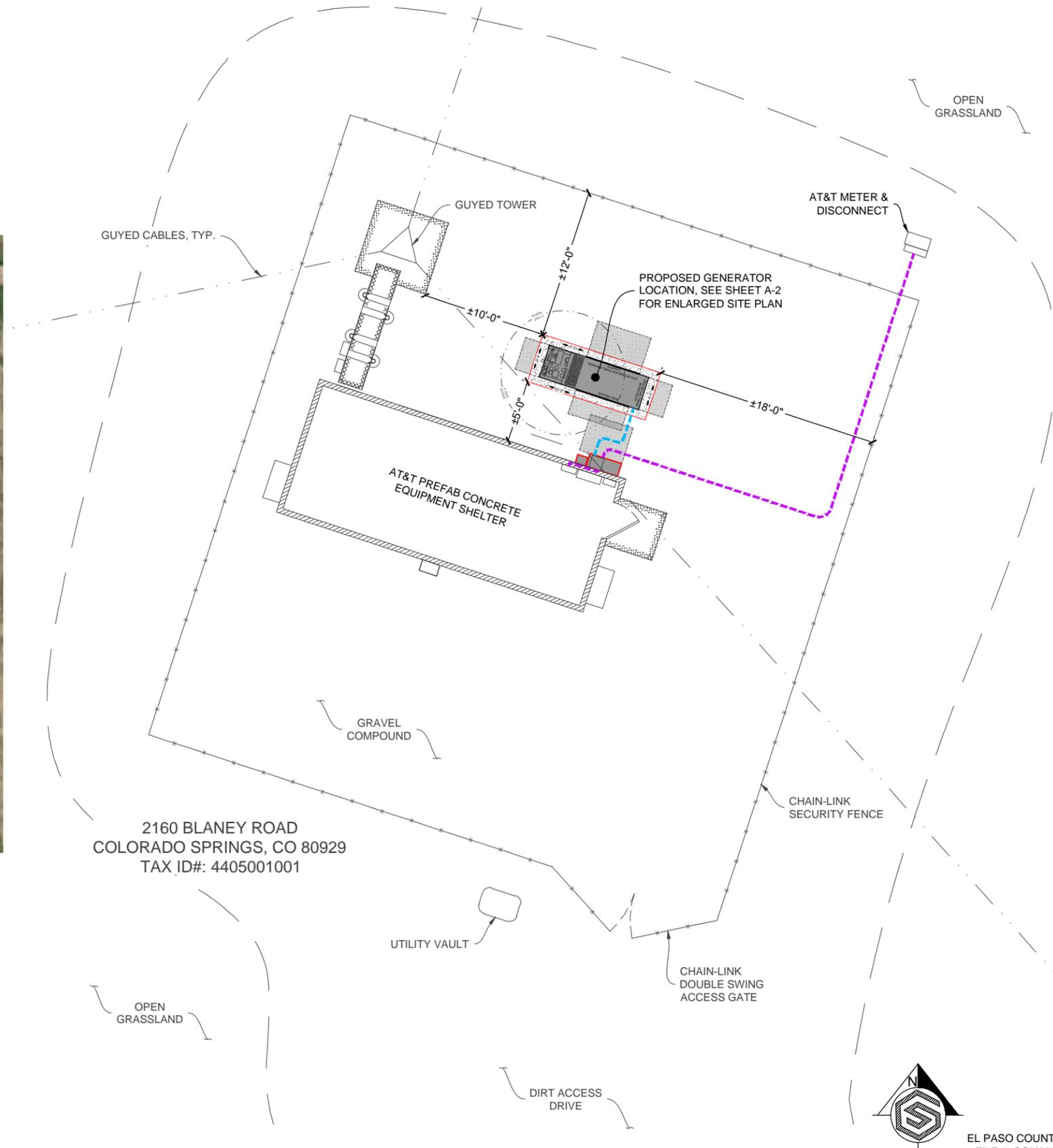
EVERYTHING SHOWN IS EXISTING UNLESS MARKED PROPOSED

TOWER TO PROPERTY LINES:

NORTH	~290'
EAST	~960'
SOUTH	~1000'
WEST	~270'



OVERALL PARCEL PLAN



2160 BLANEY ROAD
 COLORADO SPRINGS, CO 80929
 TAX ID#: 4405001001



EL PASO COUNTY
 FILE #: COM2223

SCALE: 1" = 10'-0" (11x17)

1

OVERALL SITE PLAN



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A-1

UTILITY NOTE:

THE UTILITIES AS SHOWN ON THIS SET OF DRAWINGS WERE DEVELOPED FROM RECORD INFORMATION. THE INFORMATION PROVIDED IS IMPLIED NOT INTENDED TO BE A COMPLETE INVENTORY OF THE UTILITIES IN THIS AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE CAUSED BY CONTRACTOR'S ACTIVITIES.

EXISTING CONDITIONS:

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SCOPE OF WORK DETAILS:

GENERAL:

- NEW KOHLER DIESEL GENERATOR PROVIDED BY GENERAL DYNAMICS & INSTALLED BY GENERAL CONTRACTOR. SEE SHEETS E-4.0, E-4.1, E-4.2.
- NEW CONCRETE PAD PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE SHEET S-1.
- NEW KOHLER AUTOMATIC TRANSFER SWITCH PROVIDED BY GENERAL DYNAMICS & INSTALLED BY CONTRACTOR. SEE SHEETS S-2, E-5.0, E-5.1.
- CONTRACTOR TO VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL RESTORE & REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
- INNER AND OUTER TANK TESTING DOCUMENTATION SHALL BE PROVIDED ONCE TANK IS IN PLACE ON SITE IN ACCORDANCE WITH NFPA 30.
- A CALIBRATION CHART OF PERMANENT AND DURABLE CONSTRUCTION SHALL BE LOCATED AT THE FILL BOX.

CONDUITS:

- INSTALL PULL STRING IN EACH CONDUIT.
- (1) NEW 2" AND (1) NEW 1" ELECTRICAL CONDUIT WITH CONDUCTORS TO BE INSTALLED FROM NEW GENERATOR TO NEW ATS. CONDUIT PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. SEE SHEETS E-1, E-2.
- (2) NEW 1" ELECTRICAL CONDUITS WITH CONDUCTORS TO BE INSTALLED FROM NEW GENERATOR TO AC PANEL. CONDUIT PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE SHEETS E-1, E-2.
- (1) NEW 1" ALARM CONDUIT & CABLING PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE SHEETS E-1, E-2.

GROUNDING:

- NEW EXOTHERMIC CONNECTION FROM EXISTING GROUND RING TO NEW MECHANICAL CONNECTION AT GENERATOR CHASSIS. GENERAL CONTRACTOR TO VERIFY LOCATION IN FIELD. LOCATE GROUND RODS NO MORE THAN 8'-0" APART. SEE SHEET E-3.

H-FRAME:

- CONTRACTOR TO PROVIDE NEW H-FRAME FOR ATS INSTALLATION (IF REQUIRED). MATCH EXISTING H-FRAME MATERIAL FOR CONSTRUCTION OF NEW H-FRAME. SEE SHEET S-2.

POWER ROUTING KEYED NOTES:

- (M/D)** EXISTING AT&T METER AND DISCONNECT
- (INT)** INTERCEPT EXISTING CONDUIT AND CONDUCTORS AND RE-ROUTE THROUGH PROPOSED ATS. COORDINATE PATH WITH CONSTRUCTION MANAGER
- (AC)** EXISTING AC LOAD CENTER
- (CON)** PROPOSED AT&T UNDERGROUND GENERATOR CONDUIT ROUTE. CONTRACTOR TO LOCATE EXISTING UTILITIES PRIOR TO EXCAVATION. SEE SHEETS E-1, E-2.

SEE SHEET E-1 FOR SINGLE LINE DIAGRAM.

GENERATOR KEYED NOTES:

- (GEN)** PROPOSED AT&T 30KW DIESEL GENERATOR W/ SOUND ATTENUATED ENCLOSURE, NORMAL/EMERGENCY TANK VENTING AND BASE FUEL TANK ON A CONCRETE PAD. SEE SHEETS S-1, S-2, E-3.
- (1)** FUEL FILL SHALL BE PROVIDED WITH SPILL CONTROL, WITH A SOLID FILL CONNECTION, AND WITH OVERFILL PREVENTION
- (2)** FUEL TANK NORMAL AND EMERGENCY VENTS SHALL TERMINATE AT LEAST 12'-0" ABOVE THE ADJACENT GRADE. SEE SHEET S-2.
- (3)** NFPA 704 PLACARD AND OTHER SIGNAGE. SEE SHEET E-4.2.

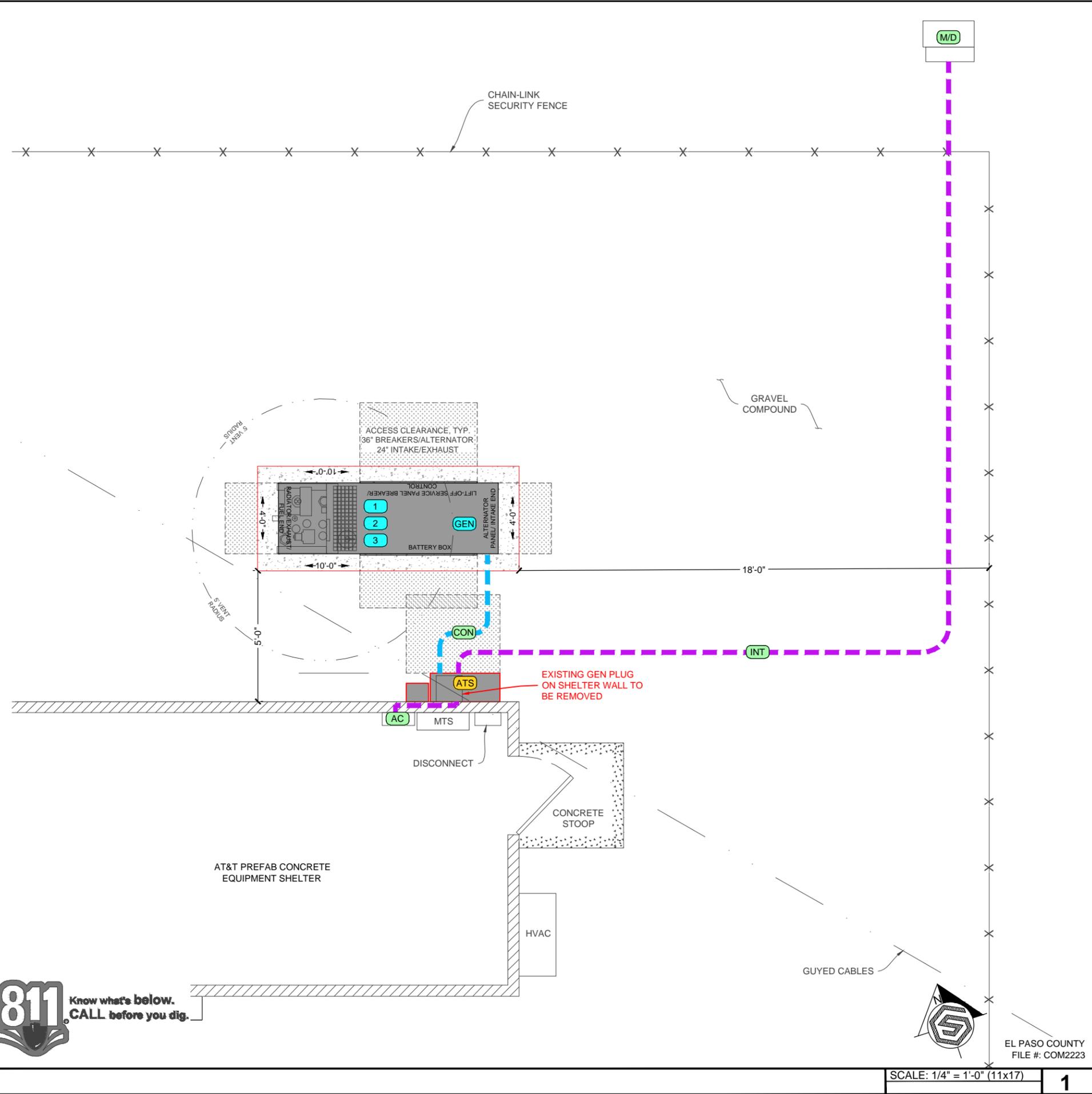
ATS / EQUIPMENT KEYED NOTES:

- (ATS)** PROPOSED ATS W/ CAMLOCK MOUNTED ON SHELTER WALL WITH 36" FRONT CLEARANCE. SEE SHEET S-2.

NOTE:

EVERYTHING SHOWN IS EXISTING UNLESS MARKED PROPOSED

ENLARGED SITE PLAN



SCALE: 1/4" = 1'-0" (11x17) **1**



GENERAL DYNAMICS
Information Technology



REVISIONS			
REV	DATE	DESCRIPTION	INT
1	08/12/22	JURISDICTION COMMENTS	BM
0	06/29/20	ISSUED FOR CONSTRUCTION	JCM

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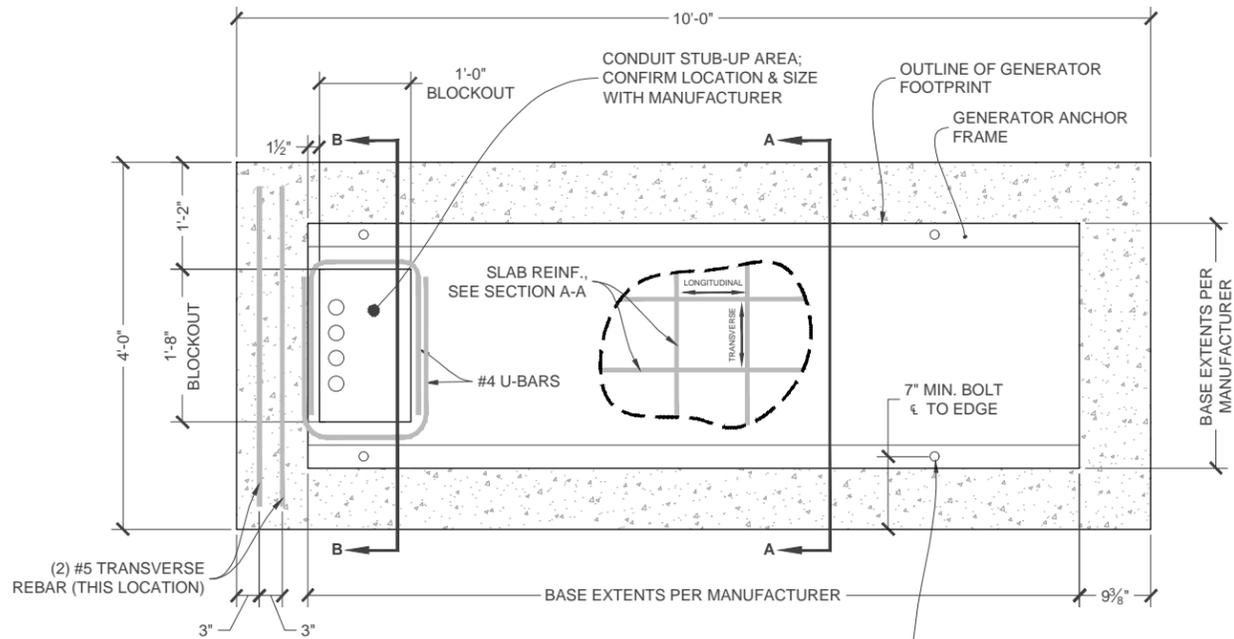
SITE INFORMATION:
CORRAL BLUFFS
10093745
GENERATOR INSTALLATION PROJECT
2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

JURISDICTION USE:

SHEET TITLE:
ENLARGED SITE PLAN

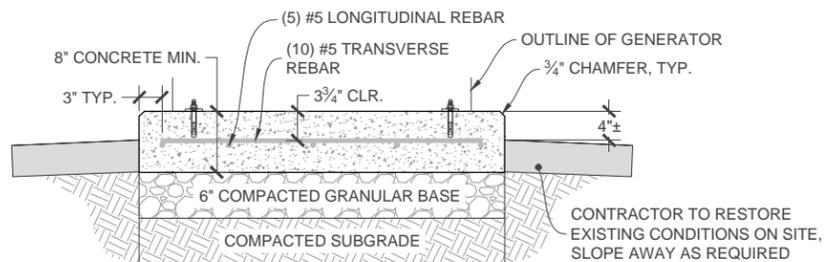
SHEET NUMBER:
A-2

EL PASO COUNTY
FILE #: COM2223

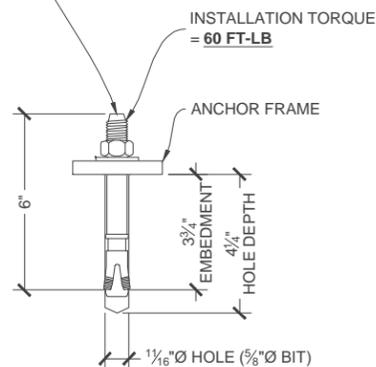


GENERATOR PAD DETAIL
SCALE: 1/2" = 1'-0"

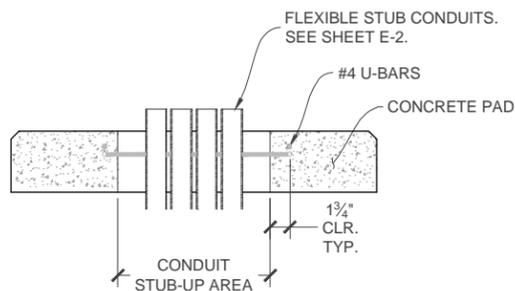
(4) 5/8"Ø x 3 3/4" EMBED HILTI KWIK BOLT TZ2 STAINLESS STEEL EXPANSION ANCHOR (OR APPROVED EQUAL). REFERENCE ICC-ES ESR-4266 REPORT.



GENERATOR PAD - SECTION A-A
SCALE: 1/2" = 1'-0"



TYPICAL ANCHOR



GENERATOR PAD - SECTION B-B
SCALE: 1/2" = 1'-0"

STRUCTURAL DESIGN NOTES:

ALL LOADS DERIVED FROM REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, ASCE 7 & ANSI TIA-222.
BUILDING & COMMUNICATION STRUCTURES: (38.866683° / -104.576271°)

- WIND LOADS: IBC 2015 & ASCE 7-10
V = 115 MPH ULTIMATE WIND SPEED (90 MPH V_{ASD})
STRUCTURE CLASS = II; EXPOSURE CATEGORY = C; TOPOGRAPHIC CATEGORY = 1.
IMPORTANCE FACTOR = 1.0.
- SEISMIC LOADS: IBC 2015 & ASCE 7-10
STRUCTURE CLASS = II; SITE CLASS = D.
S_s = 0.165; S₁ = 0.058; S_{ds} = 0.176

CONCRETE NOTES:

- PRIOR TO EXCAVATION, CHECK THE AREA FOR UNDERGROUND FACILITIES.
- ALL CONCRETE SHALL BE IN ACCORDANCE WITH CHAPTER 19 OF THE IBC & ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION & HAVE THE FOLLOWING PROPERTIES:
 - A MINIMUM 28-DAY COMPRESSIVE STRENGTH (f_c) OF 4,000 PSI.
 - B CEMENT SHALL BE "LOW-ALKALI" TYPE IIA (MODERATE SULFATE RESISTANCE, AIR ENTRAINING) CONFORMING TO ASTM C150.
 - C MAXIMUM WATER/CEMENT RATIO OF 0.45 AND AIR-ENTRAINED 4% TO 7%.
 - D CONCRETE PROPORTIONING SHALL BE DESIGNED BY AN APPROVED LABORATORY. TOLERANCES IN ACCORDANCE WITH ACI 117. COPIES OF CONCRETE MIX SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO PLACEMENT.
 - E ALL AGGREGATE USED IN CONCRETE SHALL CONFORM TO ASTM C33. USE ONLY AGGREGATES KNOWN NOT TO CAUSE EXCESSIVE SHRINKAGE. MAXIMUM AGGREGATE SIZE TO BE 3/4".
 - F MAXIMUM SLUMP: REFER TO GEOTECHNICAL REPORT WHEN APPLICABLE.
- FORMWORK FOR CONCRETE SHALL CONFORM TO ACI 347. TOLERANCES FOR FINISHED CONCRETE SURFACES SHALL MEET CLASS-C REQUIREMENTS. IN NO CASE SHALL FINISHED CONCRETE SURFACES EXCEED THE FOLLOWING VALUES AS MEASURED FROM NEAT PLAN LINES AND FINISHED GRADES: ± 1/4" VERTICAL, ± 1" HORIZONTAL.
- CHAMFER ALL EXPOSED CORNERS AND FILLET ENTRANT ANGLES 3/4" U.N.O.
- CONCRETE FINISHING: CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH ACI. PROVIDE ROUGH FINISH FOR ALL SURFACES NOT EXPOSED TO VIEW AND SMOOTH FINISH FOR ALL OTHERS, U.N.O.
- STEEL REINFORCEMENT AND CONCRETE SHOULD BE PLACED IMMEDIATELY UPON COMPLETION OF THE FOUNDATION EXCAVATION. CONTRACTOR SHALL NOT ALLOW A COLD JOINT TO FORM IN THE CONCRETE. PORTION AT GRADE SHOULD BE FORMED. TEMPORARY CASING MAY BE REQUIRED TO PREVENT CAVING PRIOR TO CONCRETE PLACEMENT.

REINFORCING STEEL NOTES:

- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615. VERTICAL/HORIZONTAL BARS SHALL BE GRADE 60; TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. ALL REINFORCING STEEL SHALL HAVE 3" (± 3/8") OF CONCRETE COVER, U.N.O.
- ALL BAR BENDS, HOOKS, SPLICES AND OTHER REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ACI 315.
- ALL BARS SHALL BE SPLICED WITH A MINIMUM LAP OF 48 BAR DIAMETERS. LAP SPLICES OF DEFORMED BARS IN TENSION ZONES SHALL BE CLASS-B SPLICES. WELDING OF BARS IS NOT PERMITTED.
- AT ALL CORNERS AND WALL INTERSECTIONS, PROVIDE BENT HORIZONTAL BARS TO MATCH THE HORIZONTAL REINFORCING STEEL.
- PROVIDE VERTICAL DOWELS IN FOOTINGS AND AT CONSTRUCTION JOINTS TO MATCH VERTICAL REINFORCING BAR SIZE AND SPACING.
- ACI-APPROVED PLASTIC-COATED BAR CHAIRS OR PRECAST CONCRETE BLOCKS SHALL BE PROVIDED FOR SUPPORT OF ALL GRADE-CAST REINFORCING STEEL & SHALL BE SUFFICIENT IN NUMBER TO PREVENT SAGGING. METAL CLIPS OR SUPPORTS SHALL NOT BE PLACED IN CONTACT WITH THE FORMS OR THE SUB-GRADE.
- DOWELS AND ANCHOR BOLTS SHALL BE WIRED OR OTHERWISE HELD IN CORRECT POSITION PRIOR TO PLACING CONCRETE. IN NO CASE SHALL DOWELS OR ANCHOR BOLTS BE "STABBED" INTO FRESHLY-POURED CONCRETE.

FOUNDATION & SOIL NOTES:

- FOUNDATION DESIGN BASED ON PRESUMPTIVE MINIMUM SOIL PARAMETERS (ALLOWABLE BEARING = 1,000 PSF; ALLOWABLE PASSIVE SLIDING = 100 PSF/FT) IN ACCORDANCE WITH THE IBC.
- THE EXCAVATION SHALL BE INSPECTED PRIOR TO THE PLACEMENT OF CONCRETE AND THE CONTRACTOR SHALL PROVIDE A NOTICE OF INSPECTION FOR THE BUILDING INSPECTOR FOR REVIEW AND RECORDS PURPOSES.
- THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS NECESSARY TO SUPPORT THE EXCAVATION DURING CONSTRUCTION.
- ALL FOUNDATIONS TO BE PLACED ON FIRM, UNDISTURBED, INORGANIC MATERIAL. PROOF ROLL SUB-GRADE PRIOR TO PLACING CONCRETE WHERE THE MATERIAL HAS BEEN DISTURBED BY EQUIPMENT. UNACCEPTABLE/DISTURBED MATERIAL SHALL BE OVER-EXCAVATED AND REPLACED WITH "LEAN CONCRETE FILL" OR REPLACED WITH STRUCTURAL BACKFILL.
- STRUCTURAL BACKFILL SHALL BE GRANULAR FREE-DRAINING MATERIAL FREE OF DEBRIS, ORGANICS, REFUSE AND OTHERWISE DELETERIOUS MATERIALS. MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 6" IN DEPTH AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557 (MODIFIED PROCTOR).

MECHANICAL ANCHOR NOTES:

- HILTI PRODUCTS MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, AS INCLUDED IN THE ADHESIVE PACKAGING.
- CONTRACTOR SHALL AVOID DRILLING HOLES IN VERTICAL/HORIZONTAL REINFORCING BARS.
- HOLES MUST BE WIRE BRUSHED AND BLASTED WITH COMPRESSED AIR PRIOR TO INSTALLATION. TEMPERATURES/METHODS/WORKING TIME/ETC. ARE TO BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.



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0	06/29/20	ISSUED FOR CONSTRUCTION	JCM

CHECKED BY: GGD

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SITE INFORMATION:
CORRAL BLUFFS

10093745
GENERATOR INSTALLATION PROJECT

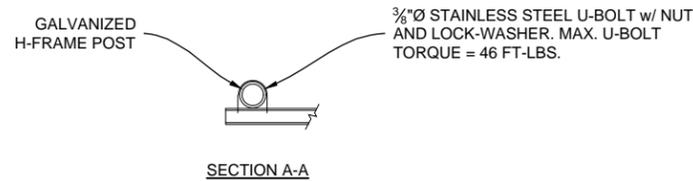
2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

JURISDICTION USE:

SHEET TITLE:
GENERATOR PAD DETAILS

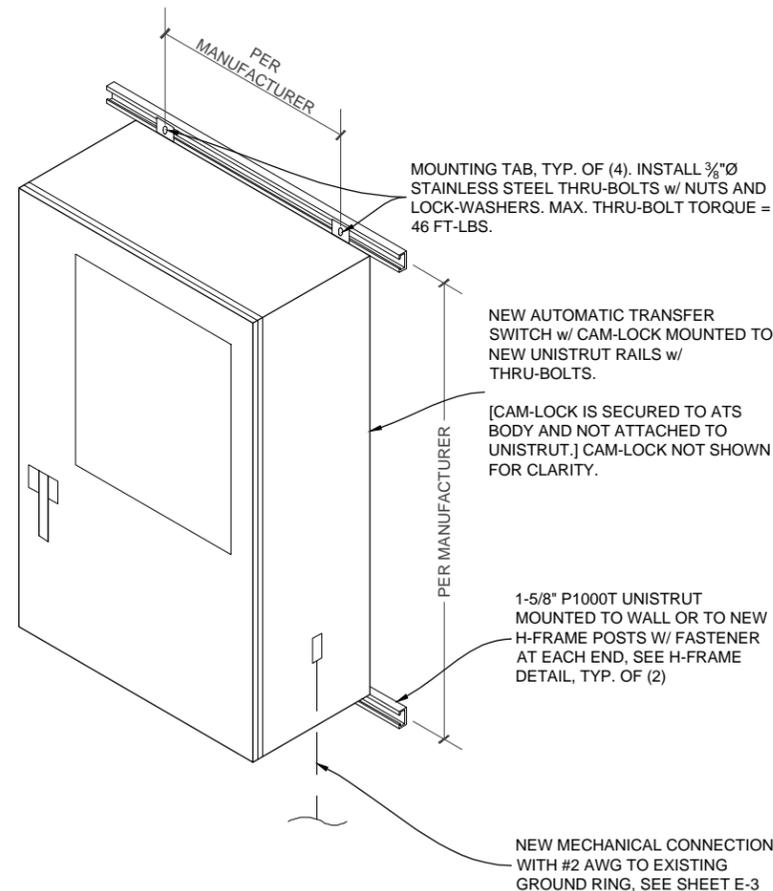
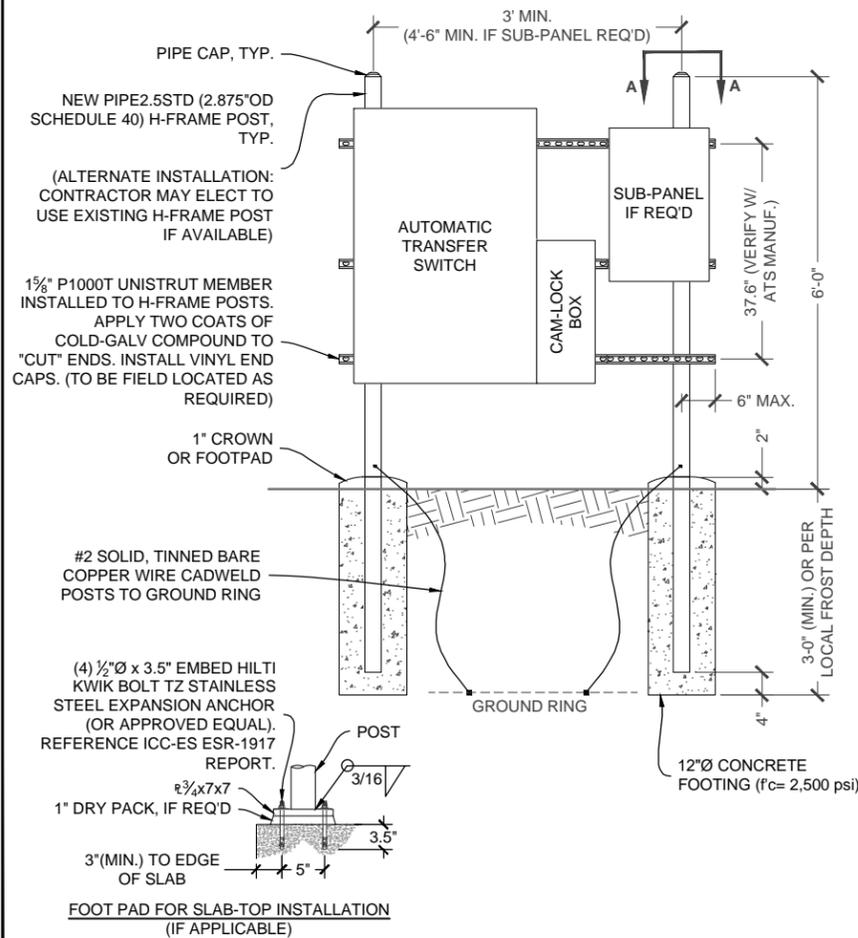
SHEET NUMBER:
S-1

ATS LOCATION NOTE:
 ATS LOCATION SHOWN IN PLANS IS THE BEST AVAILABLE BASED ON THE INFORMATION PROVIDED. ALTERNATIVE LOCATION MAY BE REQUIRED AND SHALL BE APPROVED BY CONSTRUCTION MANAGER AND/OR LANDLORD. THIS DETAIL PROVIDES ALTERNATIVE METHODS OF INSTALLATION (NOT ALL DETAILS MAY BE USED).



UNISTRUT WALL ATTACHMENT:	
WALL CONSTRUCTION TYPE	FASTENER
HOLLOW, AT STUD	3/8" DIA. x 2-1/2" EMBED LAG SCREW
CONCRETE BLOCK (HOLLOW)	3/8" DIA. HILTI HY-270 WITH SCREEN, MINIMUM EMBEDMENT 2-3/8"
CONCRETE (SOLID)	3/8" DIA. HILTI HY-200, MINIMUM EMBEDMENT 2-3/8"

NOTES:
 1. USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR WALL MOUNT AND CONNECTION OF CHANNELS
 2. GC SHALL USE NON-SHRINKING CAULK TO WEATHER SEAL ALL PENETRATIONS INTO OR THROUGH WALL



DOUBLE WALL FUEL TANK BASE SPECIFICATION:

REF: AT&T 30KW GENERATOR PACKAGE
 UL REGISTRATION NUMBER: MH 18459
 UL 142 DOUBLE WALL FUEL TANK BASE SPECIFICATION
 FUEL TANK BASE CONSTRUCTION:

- + BE CONSTRUCTED IN ACCORDANCE WITH UNDERWRITERS LABORATORIES STANDARD UL-142. BE CONSTRUCTED IN ACCORDANCE WITH FLAMMABLE COMBUSTIBLE LIQUIDS CODE, NFPA 30; THE STANDARD FOR INSTALLATION USE OF STATIONARY COMBUSTIBLE ENGINE GAS TURBINES, NFPA 37; AND THE STANDARD FOR EMERGENCY STANDBY POWER SYSTEMS, NFPA 110.
- + ANCHORS MINIMUM (4) 5/8" FOR GEN-SET MOUNTING

SUB BASE TANK TESTING:

- + PRIMARY TANK & SECONDARY CONTAINMENT BASIN SECTIONS SHALL BE PRESSURIZED AT 3-5 PSI AND LEAK-CHECKED TO ENSURE INTEGRITY OF SUB BASE WELD SEAMS PER UL-142 STANDARDS

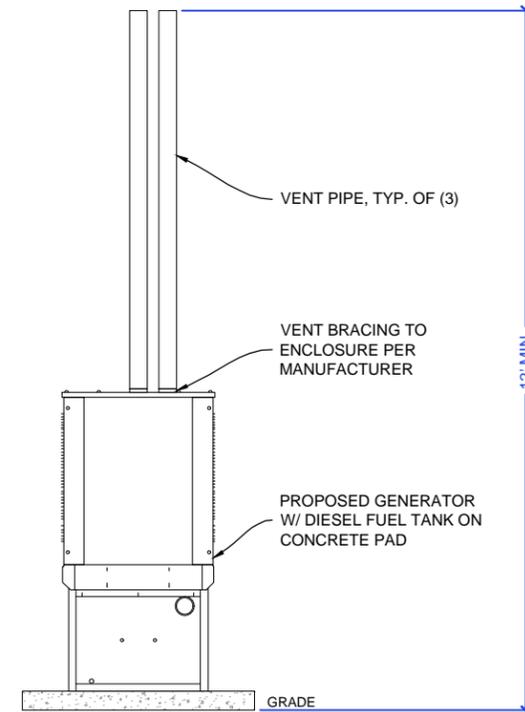
FUEL FILL: 5 GALLON SPILL CONTAINMENT WITH ALARM

- + 40% REMAINING FOR ALARM
- + 20% REMAINING FOR SHUT-DOWN

FACTORY PRE-SET AT 90% FULL FOR ALARM

FUEL CONTAINMENT BASIN:

- + SUB BASE TANK SHALL INCLUDE A WELDED STEEL CONTAINMENT BASIN, SIZED AT A MINIMUM OF 110% OF THE TANK. CAPACITY TO PREVENT ESCAPE OF FUEL INTO THE ENVIRONMENT IN THE EVENT OF A TANK RUPTURE. A FUEL CONTAINMENT BASIN LEAK DETECTOR SWITCH SHALL BE PROVIDED.



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SITE INFORMATION:
 CORRAL BLUFFS
 10093745
 GENERATOR INSTALLATION PROJECT
 2160 BLANEY ROAD
 COLORADO SPRINGS, CO 80929

JURISDICTION USE:

SHEET TITLE:
 GENERAL STRUCTURAL DETAILS

SHEET NUMBER:
 S-2

CONDUIT / WIRE SCHEDULE:						
NO.	FROM	TO	WIRES	GROUND	CONDUIT SIZE	FUNCTION
1	NORMAL POWER SOURCE	AUTOMATIC TRANSFER SWITCH	(3) 3/0	(1) #4	2"	NORMAL POWER FEEDER TO ATS (CUT BACK EXISTING)
2	AUTOMATIC TRANSFER SWITCH	LOAD CENTER	(3) 3/0	(1) #4	2"	POWER FEEDER FROM ATS TO PANEL
3	GENERATOR	AUTOMATIC TRANSFER SWITCH	(3) 3/0	(1) #4	2"	STANDBY POWER FEEDER TO ATS
4	AUTOMATIC TRANSFER SWITCH	GENERATOR	(2) #10	(1) #10	1"	START CIRCUIT
5	LOAD CENTER (DISTRIBUTION CENTER)	GENERATOR, ATS	(2) #12 (1) #12 (2) #12	(1) #12 (1) #12 (1) #12	1" 1" 1"	CKT FOR GEN BLOCK HEATER & BATTERY HEATER, CKT FOR BATTERY CHARGER, CKT FOR ATS CONTROLS
6	GENERATOR	THROUGH ATS TO ALARM BLOCK	12-PAIR 24 AWG OR 2EA 6-PAIR CAT5	N/A	1"	ALARM CABLES (1) 12 PAIR 24 AWG. PROVIDE 24" OF SLACK CABLE. FINAL PUNCH DOWN IS BY AT&T TECH. LABEL ALL WIRES
7	AUTOMATIC TRANSFER SWITCH	ALARM BLOCK	(2) 12-PAIR 24 AWG OR (2) 6-PAIR CAT5 (1) 1-PAIR 24AWG	N/A	1"	ALARM CABLES (1) 12 PAIR 24 AWG (RUN THRU INTERIOR OF SHELTER OR GROUND EQUIPMENT & INTO ALARM BOX). PROVIDE SINGLE PAIR FOR COMMERCIAL POWER FAIL ALARM. PROVIDE 24" OF SLACK CABLE. FINAL PUNCH DOWN IS BY AT&T TECH. LABEL ALL WIRES

NOTE: ALL CONDUCTORS TO BE COPPER UNLESS NOTED OTHERWISE.

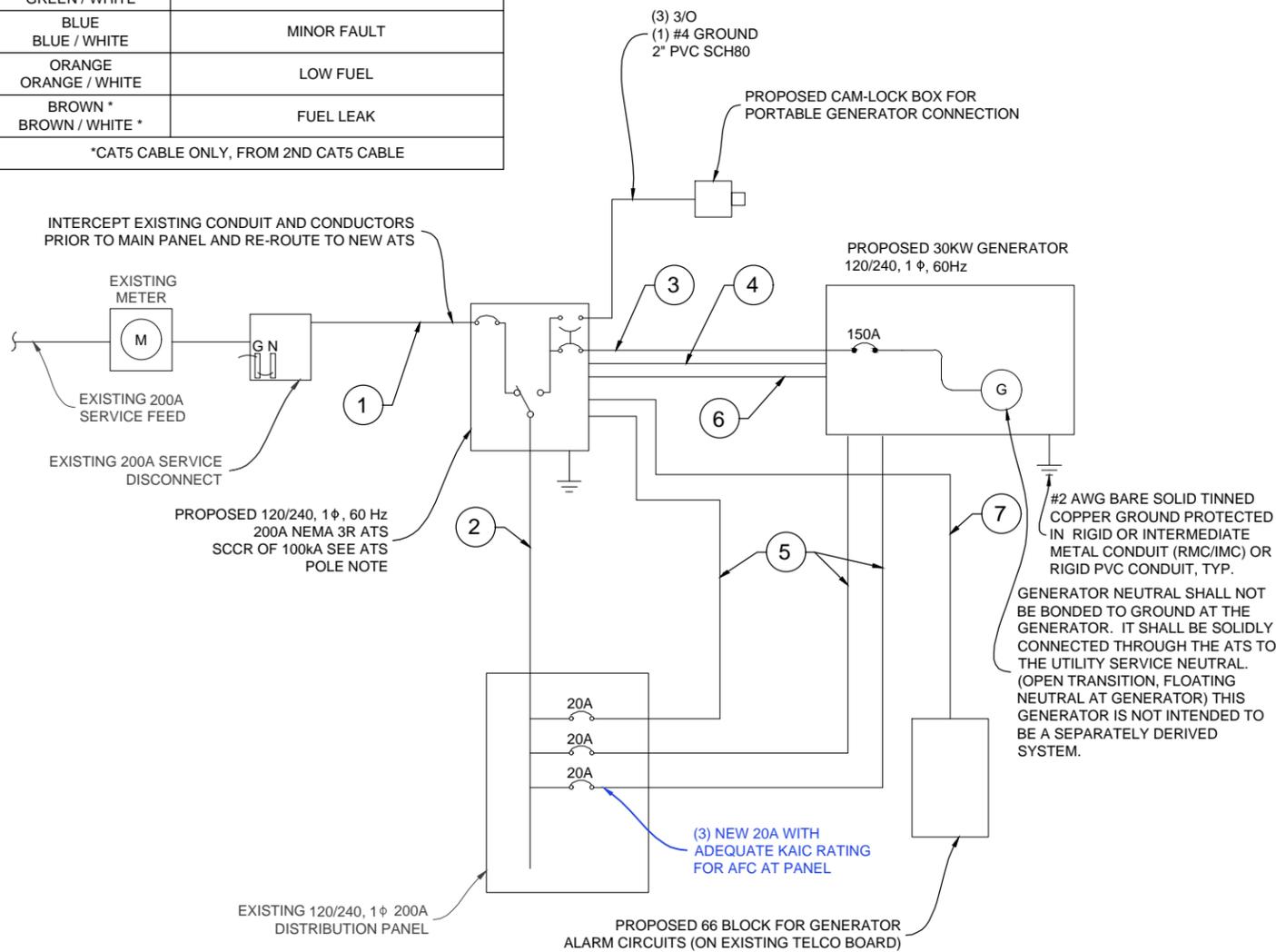
ATS POLE NOTE:

PROPOSED ATS/CAMLOCK ARE CONFIGURABLE FOR SINGLE OR THREE PHASE OPERATION. IN SINGLE PHASE INSTALLATIONS, 3-POLE ATS TO BE INSTALLED WITH ONE POLE NOT CONNECTED (UNUSED) AND TO BE CONFIGURED FOR DUAL-POLE USE. NEUTRAL SHALL NOT BE SWITCHED.

ALARM WIRE IDENTIFICATION CHART:

WIRE	ALARM
BROWN BROWN / WHITE	GENERATOR RUNNING
GREEN GREEN / WHITE	CRITICAL FAULT
BLUE BLUE / WHITE	MINOR FAULT
ORANGE ORANGE / WHITE	LOW FUEL
BROWN * BROWN / WHITE *	FUEL LEAK

*CAT5 CABLE ONLY, FROM 2ND CAT5 CABLE



SINGLE LINE DIAGRAM



(3) PROPOSED 20 AMP BREAKERS FOR BLOCK HEATER, BATTERY HEATER, AND BATTERY CHARGER ON NEW AT&T GENERATOR

EXISTING DISTRIBUTION PANEL

PANEL NOTES:

- CONTRACTOR TO LABEL WIRES WITH P-TOUCH OR SIMILAR LABELS ONLY. ABSOLUTELY NO HANDWRITTEN LABELS.
- CONTRACTOR SHALL PERFORM A POWER STUDY ON EXISTING AC PANEL PRIOR TO INSTALLING, CHANGING, ALTERING, OR REMOVING ANY BREAKER. NO WORK SHALL BE COMPLETED ON AC PANEL WITHOUT PROPER INSPECTOR OR ENGINEER APPROVED DOCUMENTATION CONFIRMING CAPACITY ON SITE. ALL WORK SHALL CONFORM TO NEC VERSION ENFORCED BY A.H.J. AT TIME OF INSTALLATION.
- CONTRACTOR SHALL VERIFY THAT THE MAXIMUM DEMAND FOR ALL CONNECTED EQUIPMENT AT THIS SITE AS CALCULATED PER NEC 220 DOES NOT EXCEED THE GENERATOR OUTPUT CIRCUIT BREAKER RATING. (SEE NOTE #4 ALSO.)
- IF MAXIMUM DEMAND OF GENERATOR OUTPUT CIRCUIT BREAKER RATING AS CALCULATED PER NEC 220 IS CONTINGENT ON THE TWO HVAC UNITS NOT OPERATING CONCURRENTLY, THEN CONTRACTOR SHALL VERIFY THAT THE HVAC LEAD/LAG CONTROLLER IS CONFIGURED TO PREVENT CONCURRENT OPERATION. IF NOT, THEN CONTRACTOR SHALL RECONFIGURE IT AS NEEDED TO PREVENT TRIPPING THE CIRCUIT BREAKER.

EL PASO COUNTY
FILE #: COM2223

CONTRACTOR SHALL NOT SUBMIT BIDS OR PERFORM CONSTRUCTION WORK ON THIS PROJECT WITHOUT ACCESS TO THE CURRENT COMPLETE SET OF DRAWINGS LISTED IN THE TITLE-SHEET INDEX.



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SITE INFORMATION:

CORRAL BLUFFS

10093745

GENERATOR INSTALLATION
PROJECT

2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

JURISDICTION USE:

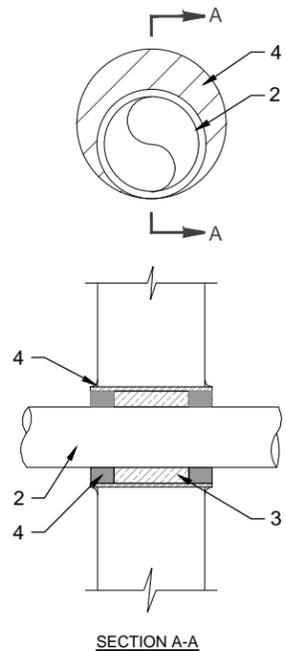
SHEET TITLE:

**ELECTRICAL
DETAILS**

SHEET NUMBER:

E-1

K



U.L. SYSTEM NO. C-AJ-1150
 CONDUIT THROUGH BEARING WALL SIMILAR TO U.L. DESIGN NO. U902
 F RATING = 3 HR
 T RATING = 0 HR

- FLOOR OR WALL ASSEMBLY : MINIMUM 4-1/2" THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAMETER OF OPENING IS 4". (SEE CONCRETE BLOCKS 9CATZ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- THROUGH PENETRATIONS : ONE METALLIC PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE ANNULAR SPACE SHALL BE MINIMUM 0", (POINT CONTACT) TO MAXIMUM 1-3/8". THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:
 - STEEL PIPE-NOMINAL 6" DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE
 - IRON PIPE-NOMINAL 6" DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE.
 - CONDUIT - NOMINAL 4" DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR NOMINAL 3-1/2" DIAMETER (OR SMALLER) STEEL CONDUIT.
- PACKING MATERIAL: MINIMUM 6" THICKNESS OF MIN 4.0 PCF MINERAL WOOL BATTING INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
- FILL, VOID, OR CAVITY MATERIAL*: SEALANT: MINIMUM 1/4" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH TOP SURFACE OF FLOOR AND WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE AND CONCRETE, A MINIMUM 1/2" DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE/PIPE INTERFACE ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL. W-RATING APPLIES ONLY WHEN CP601S OR CP604 SEALANT IS USED.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. : CP601S, CP604, CP606, OR FS-ONE SEALANT.

* BEARING THE UL CLASSIFICATION MARK

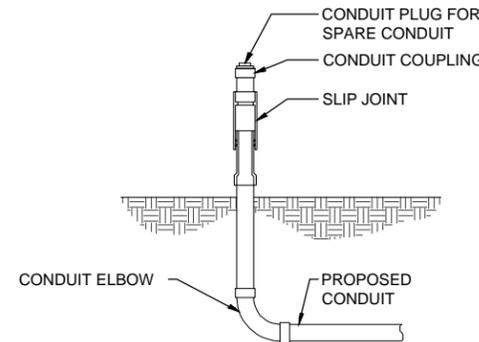
NOTE:
 1. IF EXISTING CONSTRUCTION VARIES FROM THIS DETAIL, AN EQUAL 3-HR U.L. PENETRATION APPROPRIATE FOR THE EXISTING WALL TYPE SHALL BE CONSTRUCTED
 2. GC SHALL USE NON-SHRINKING CAULK TO WEATHERSEAL ALL PENETRATIONS INTO OR THRU SHELTER WALL.

SECTION A-A

OUTER WALL PENETRATION DETAIL (IF APPLICABLE)

CONDUIT NOTES:

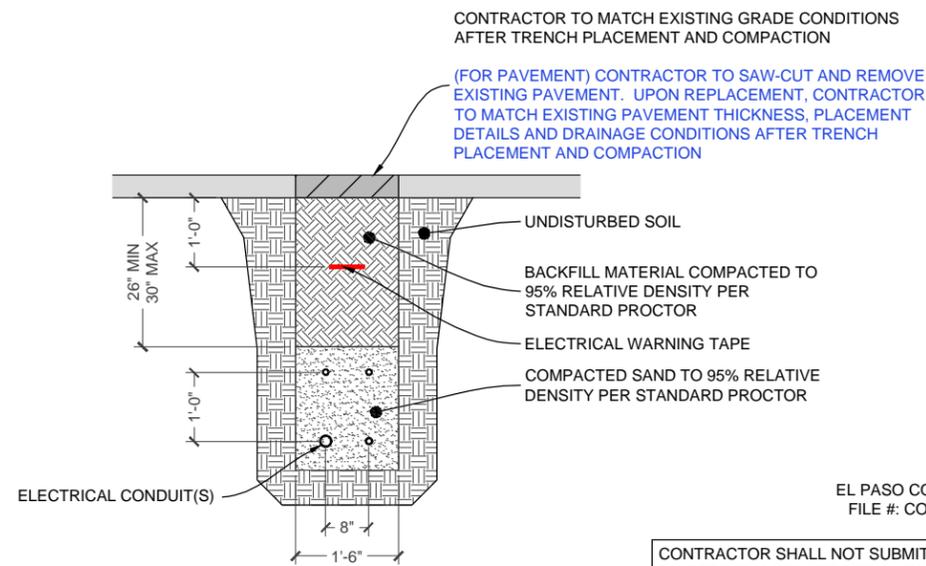
- VERIFY WIRE AND CONDUIT QUANTITY & SIZES WITH GENERATOR MAKE & MODEL # PRIOR TO INSTALLATION. VERIFY ELECTRICAL REQUIREMENTS WITH LOCAL UTILITY PROVIDER.
- ALL CONDUIT ABOVE GRADE OR IN AREAS OF HIGH TRAFFIC SHALL BE SCH 80 PVC
- PROVIDE SCH 40 PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
- PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLE, BTS EQUIPMENT, ETC.)
- INSTALL UTILITY PULLBOXES PER NEC.



SLIP JOINT DETAIL (IF APPLICABLE)

CONDUIT NOTES:

- VERIFY WIRE AND CONDUIT QUANTITY & SIZES WITH GENERATOR MAKE & MODEL # PRIOR TO INSTALLATION. VERIFY ELECTRICAL REQUIREMENTS WITH LOCAL UTILITY PROVIDER.
- ALL CONDUIT ABOVE GRADE OR IN AREAS OF HIGH TRAFFIC SHALL BE SCH 80 PVC
- PROVIDE SCH 40 PVC CONDUIT BELOW GRADE EXCEPT AS NOTED BELOW.
- PROVIDE RGS CONDUIT AND ELBOWS AT STUB UP LOCATIONS (I.E. SERVICE POLE, BTS EQUIPMENT, ETC.)
- INSTALL UTILITY PULLBOXES PER NEC.



UTILITY TRENCH SECTION (IF APPLICABLE)

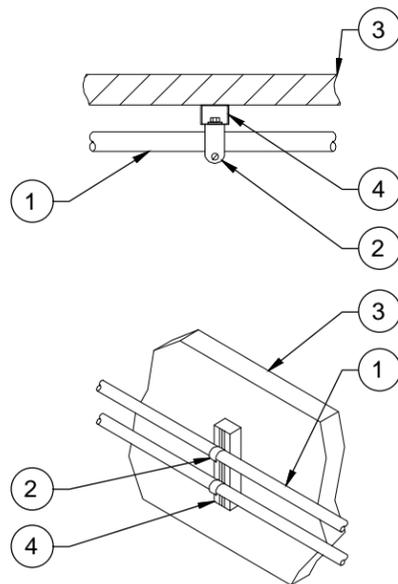
EL PASO COUNTY
 FILE #: COM2223

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UNISTRUT WALL ATTACHMENT:

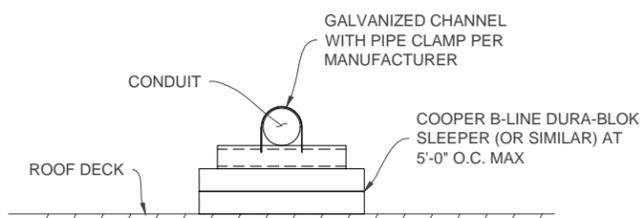
WALL CONSTRUCTION TYPE	FASTENER
HOLLOW, AT STUD	3/8" DIA. x 2-1/2" EMBED LAG SCREW
CONCRETE BLOCK (HOLLOW)	3/8" DIA. HILTI HY-270 WITH SCREEN, MINIMUM EMBEDMENT 2-3/8"
CONCRETE (SOLID)	3/8" DIA. HILTI HY-200, MINIMUM EMBEDMENT 2-3/8"

- NOTES:
 1. USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR WALL MOUNT AND CONNECTION OF CHANNELS
 2. GC SHALL USE NON-SHRINKING CAULK TO WEATHER SEAL ALL PENETRATIONS INTO OR THROUGH WALL



- CONDUIT (TYP)
- P1119 OR P2558 CLAMP
- EXISTING WALL/CEILING
- VERTICAL "UNISTRUT" P1000T. REQUIRED LENGTH BASED ON QUANTITY OF CONDUIT TO BE MOUNTED. INSTALL AT 5'-0" O.C. MAX. W/ FASTENER AT EACH END.

CONDUIT WALL MOUNT DETAIL (IF APPLICABLE)



ROOF CONDUIT MOUNTING DETAIL (IF APPLICABLE)



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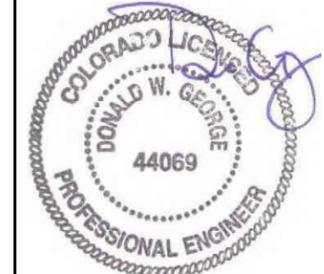


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REVISIONS			
REV	DATE	DESCRIPTION	INT
1	08/12/22	JURISDICTION COMMENTS	BM
0	06/29/20	ISSUED FOR CONSTRUCTION	JCM

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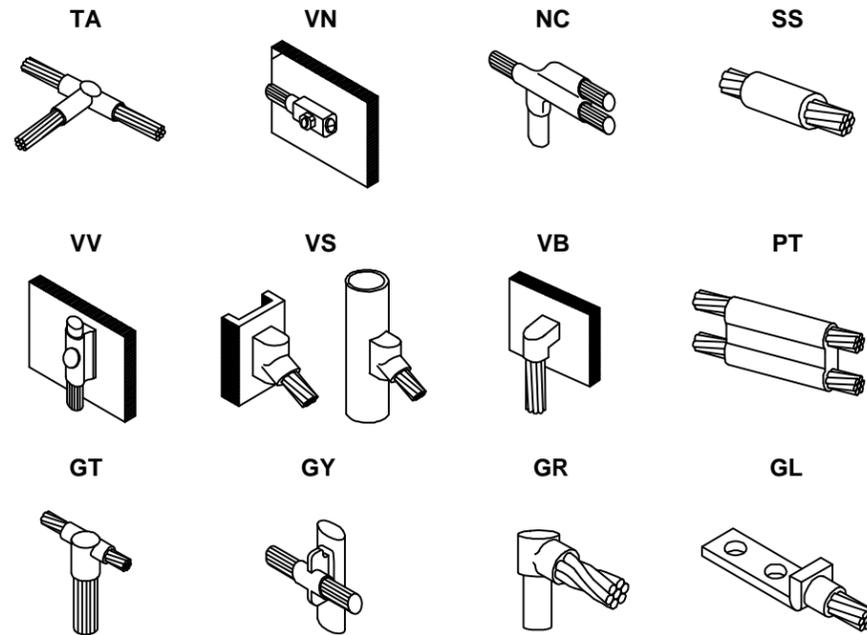


SITE INFORMATION:
 CORRAL BLUFFS
 10093745
 GENERATOR INSTALLATION PROJECT
 2160 BLANEY ROAD
 COLORADO SPRINGS, CO 80929

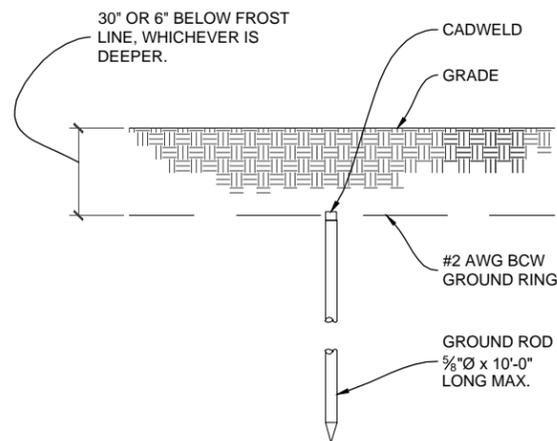
JURISDICTION USE:

SHEET TITLE:
 ELECTRICAL
 DETAILS

SHEET NUMBER:
 E-2



CADWELD DETAILS



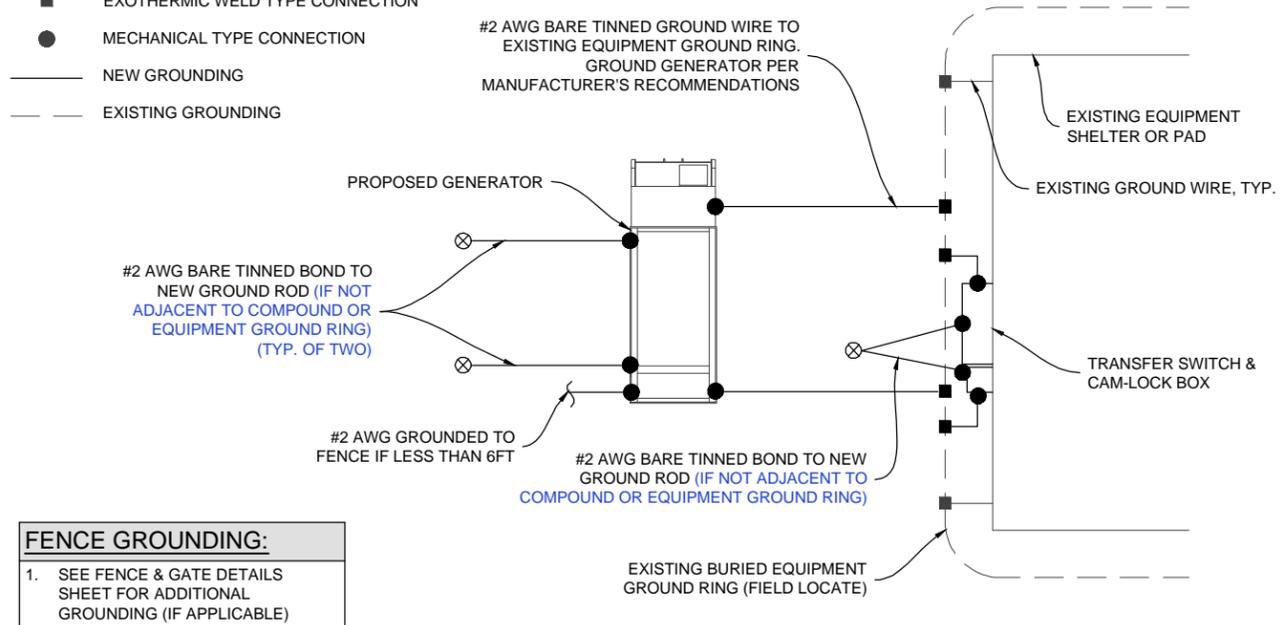
GROUND ROD DETAILS

- GROUND ROD NOTES:**
- GROUND RODS MAY BE:
 - COPPER CLAD STEEL
 - SOLID COPPER
 - GROUND RODS SHALL HAVE A MAXIMUM SPACING TWICE THE LENGTH OF ROD
 - SEE RESISTIVITY REPORT FOR VERIFICATION AS AVAILABLE
 - A LARGER CONDUCTOR SHALL BE REQUIRED IN AREAS HIGHLY PRONE TO LIGHTNING AND/OR AREAS WITH HIGHLY ACIDIC SOIL
 - GROUND RODS INSTALLED WITHIN CLOSE PROXIMITY TO TOWER OR WHEN SOIL IS AT OR BELOW 2,000 OHM-CM, SHALL BE GALVANIZED TO PREVENT GALVANIC CORROSION OF TOWER, (SEE ANSI/TIA-EIA-222)
 - PROVIDE (1) GROUND LEAD TO EACH SIDE OF THE GENERATOR

- GROUNDING NOTES:**
- IF MORE THAN 20' FROM EXISTING GROUND RING, INSTALL GROUND ROD (5/8" x 10' SS), ROD SPACING: 8' MAX. TOP OF ROD AND GROUND WIRE TO BE BELOW FROST LINE.
 - CONTRACTOR SHALL COORDINATE INCOMING SERVICES WITH LOCAL UTILITIES PRIOR TO TRENCHING.
 - ALL CONDUCTORS SHALL BE COPPER, 75 DEGREES C RATED, AND CONDUCTOR INSULATION BE THWN OR THHN.
 - ALL TERMINATION SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C RATED CONDUCTORS OPERATING AT 75°C.
 - GROUND FAULT PROTECTION REQUIRED FOR UTILITY RECEPTACLES.
 - GENERATOR NEUTRAL SHALL NOT BE GROUNDED AT THE GENERATOR. REFER TO SINGLE LINE DETAIL, SHEET E-1.
 - EQUIPMENT LOCATED OUTSIDE OR EXPOSED TO MOISTURE SHALL BE NEMA 3R RATED.
 - CONTRACTOR SHALL USE SCHEDULE 80 PVC CONDUIT THROUGH CONCRETE AND ABOVE GROUND, UNLESS OTHERWISE NOTED.
 - ALL NEWLY INSTALLED EQUIPMENT SHALL BE RATED "AT 10K AIC" MINIMUM. HIGHER RATINGS SHALL BE REQUIRED WHERE AVAILABLE FAULT CURRENT EXCEEDS THIS VALUE. EXACT FAULT CURRENT AVAILABLE SHALL BE COORDINATED WITH LOCAL UTILITY BASED ON EXACT CONDITIONS (XFMR SIZE, PERCENT IMPEDANCE, LENGTH OF CONDUCTORS, ETC).

ELECTRICAL SYMBOLS LEGEND

- EXOTHERMIC WELD TYPE CONNECTION
- MECHANICAL TYPE CONNECTION
- NEW GROUNDING
- - - EXISTING GROUNDING



TYPICAL GROUNDING DIAGRAM



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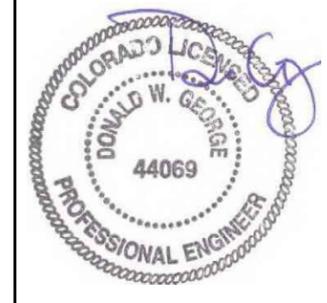


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10093745
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2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

JURISDICTION USE:

SHEET TITLE:
**ELECTRICAL
DETAILS**

SHEET NUMBER:
E-3

EL PASO COUNTY
FILE #: COM2223
CONTRACTOR SHALL NOT SUBMIT BIDS OR PERFORM CONSTRUCTION WORK ON THIS PROJECT WITHOUT ACCESS TO THE CURRENT COMPLETE SET OF DRAWINGS LISTED IN THE TITLE-SHEET INDEX.



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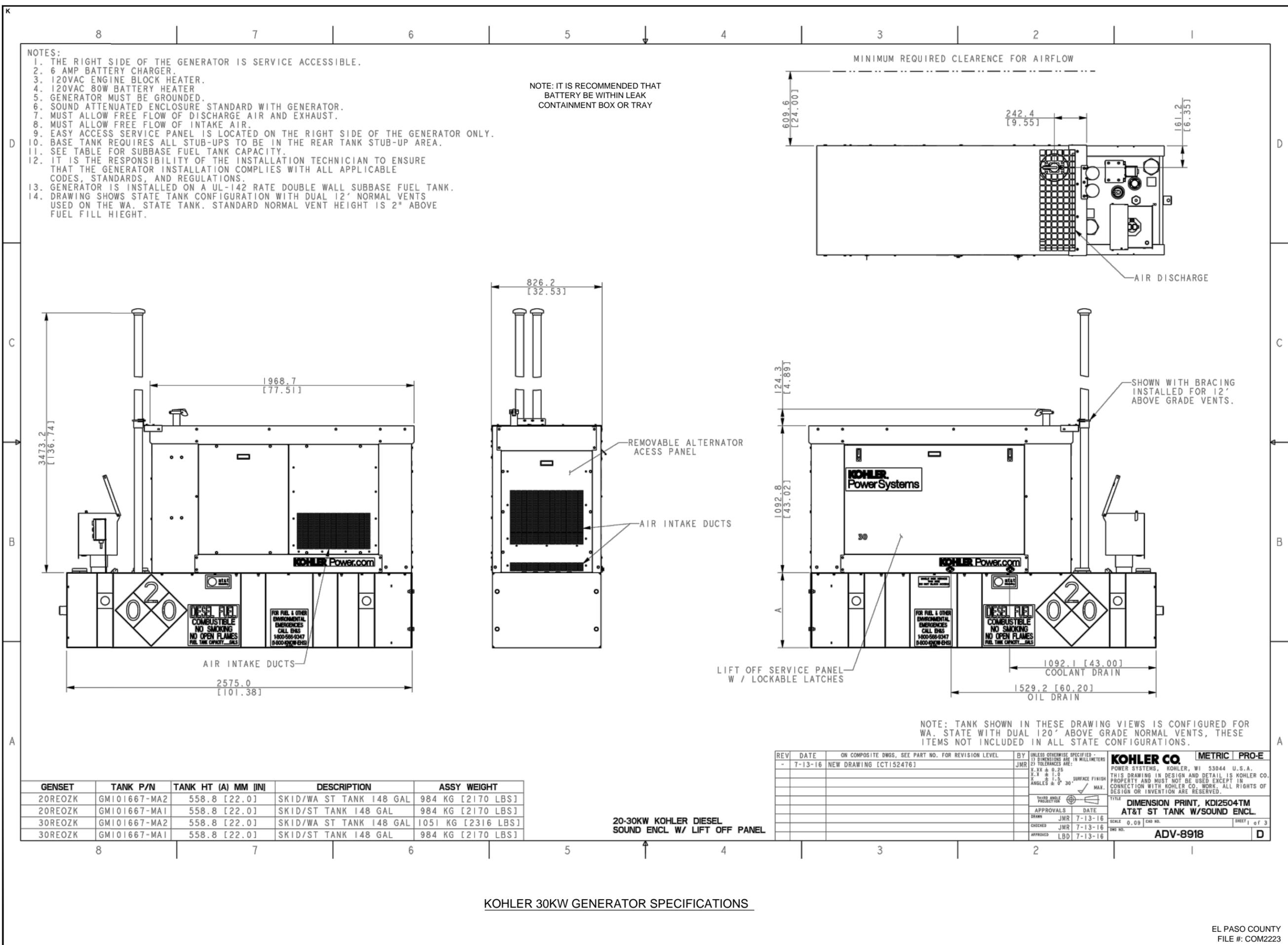
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GENERATOR INSTALLATION
PROJECT
2160 BLANEY ROAD
COLORADO SPRINGS, CO 80929

JURISDICTION USE:

SHEET TITLE:
**GENERATOR
SPECIFICATIONS**

SHEET NUMBER:
E-4.0



KOHLER 30KW GENERATOR SPECIFICATIONS

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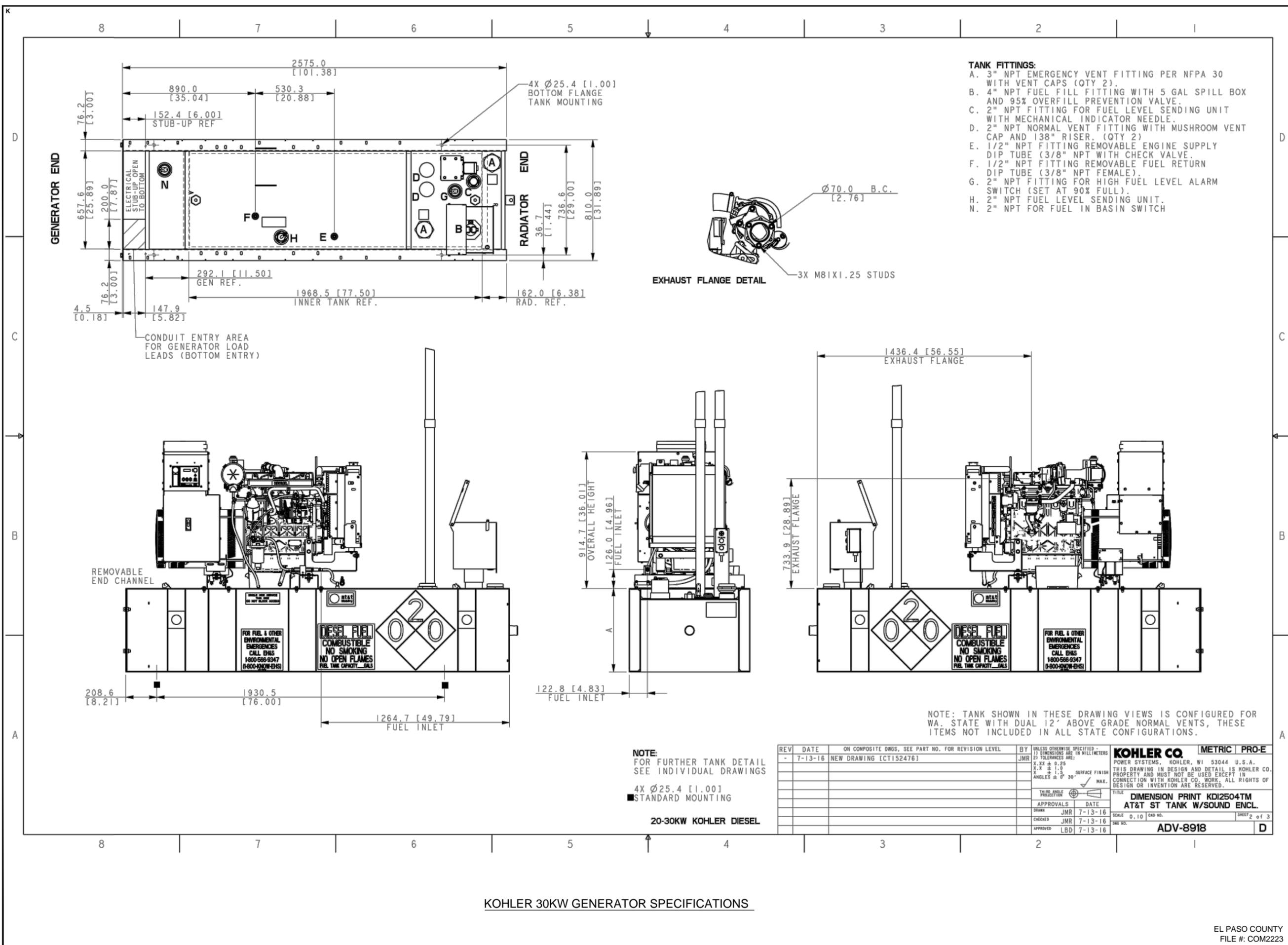
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JURISDICTION USE:

SHEET TITLE:
**GENERATOR
SPECIFICATIONS**

SHEET NUMBER:
E-4.1



KOHLER 30KW GENERATOR SPECIFICATIONS

ITEM	PART NO	QTY	DESCRIPTION
1	GM103644	1	KIT, SECONDARY CONTAINMENT TANK LABELS
2	GM41683	1	SWITCH, HIGH FUEL LEVEL 90%
3	GM42349	1	CAP, FUEL
4	GM42350	1	ADAPTER, FUEL CAP
5	GM62600	1	BOX, FUEL ALARM
6	GM89009	1	VALVE, CHECK (3/8" NPT), STAINLESS
7	GM90067	2	TUBE, DIP, ASSY, 3/8", SS
8	GM92508	1	TANK, SPILL/FILL, 5 GAL., 2" NPT
9	GM92517	1	PIPE, NIPPLE
10	GM92617	2	DECAL, AT&T, DECAL BASE
11	GM92878	2	DECAL, AT&T, COMBUST.
12	GM92879	2	DECAL, AT&T, EHS
13	GM93094	2	DECAL, AT&T, MOBILITY
14	GM98904	1	TANK, FINAL WELDMENT
15	M7985A-04010-20	4	SCREW, PAN HEAD MACHINED
16	PFS-1280	1	BASE, WOOD
17	PNP-2002-30	4	BOLT, CARRIAGE (1/2-13 X 3.00")
18	SA10752	4	NUT, SPRING (1/4-20 MINI)+ZINC
19	SA10998	1	COUPLING, FULL PIPE
20	SA21977	1	SWITCH, FUEL IN BASIN TOP MTD 2" 20H
21	SA22035	1	GAUGE, ADJ. FUEL LEVEL
22	SA23662	2	DECAL, NFPA 704
23	SA24291-13	1	GAUGE, ADJ. FUEL LEVEL
24	SA30119	1	VALVE, OVERFILL PREVENTION, I228-03-25M07
25	SA31070	1	BRACKET
26	SA35525	2	CAP, EMERGENCY VENT (3 IN. NPT)
27	SA37644	1	LABEL, SINGLE SIDE SERVICE
28	X-25-113	4	WASHER, PLAIN
29	X-25-142	4	WASHER, PLAIN, .281 IDX.625IN.OD
30	X-75-44	1	PLUG, PIPE (2"NPTF)
31	X-89-17	4	NUT, HEX, 1/2-13
32	X-465-6	4	BOLT, HEX CAP (1/4-20 X 1/2") GR5

THIS IS AN AUTOMATED TABLE. ALL UPDATES MUST BE MADE IN THE ASSEMBLY. ITEMS 1 IS FIXED

- TANK FITTINGS:
- A. 3" NPT EMERGENCY VENT FITTING PER NFPA 30 WITH VENT CAPS (QTY 2).
 - B. 4" NPT FUEL FILL FITTING WITH A 5 GAL SPILL BOX AND 95% OVERFILL PREVENTION VALVE.
 - C. 2" NPT FUEL LEVEL GAUGE FITTING W/ DIRECT READING MECHANICAL GAUGE.
 - D. 2" NPT NORMAL VENT FITTING WITH MUSHROOM VENT CAP AND 15" RISER.
 - E. 1/2" NPT FITTING FOR REMOVABLE ENGINE SUPPLY DIP TUBE (3/8" NPT WITH CHECK VALVE).
 - F. 1/2" NPT FITTING FOR REMOVABLE FUEL RETURN DIP TUBE (3/8" NPT FEMALE).
 - G. 2" NPT ADDITIONAL FITTING FOR OPTIONAL ACCESSORY (INSTALL STEEL 2" NPT PIPE PLUG).
 - H. 2" NPT FUEL LEVEL SENDING UNIT.
 - N. 2" NPT FOR FUEL IN BASIN SWITCH.
 - P. 2" NPT FITTING FOR HIGH FUEL LEVEL ALARM SWITCH (SET AT 90% FULL, SILICONE PACKED)

ALL FITTINGS INSTALLED BY SUPPLIER.

1. BAFFLE TO SEPARATE HOT AND COLD SIDE OF TANK.
2. MATERIAL:
 - COVER: 7GA
 - INNER TANK (ENDS, SIDES, BOTTOM, BAFFLE), 10 GA
 - RAILS, END CHANNELS & GUSSETS, 7 GA
 - OUTER TANK BOTTOM, 10 GA
3. EXTERIOR: PRIME OR PAINT BLACK PER G-57.
4. TANK WEIGHT.....451 KG [995 LBS]
5. THIS FUEL TANK IS DESIGNED TO SUPPORT A GENERATOR SET.
6. FITTINGS "E" & "F" TO BE PLUGGED WITH PLASTIC SHIPPING PLUGS.
7. EACH TANK TO BE PACKAGED AS A SEPARATE UNIT.

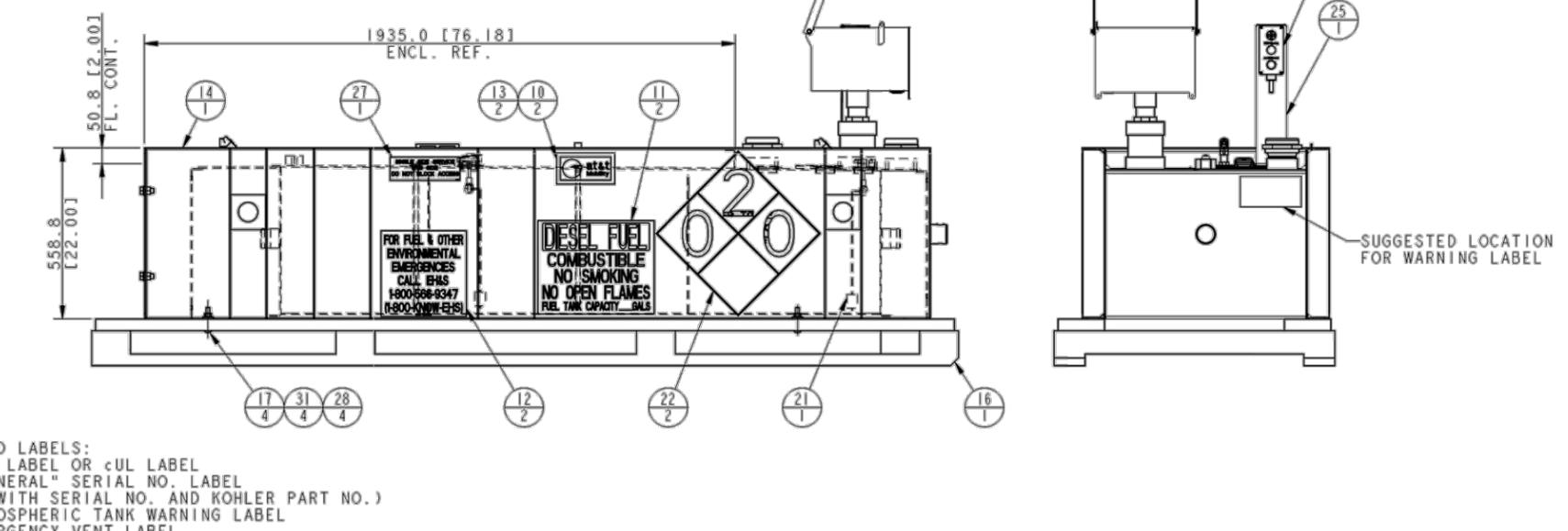
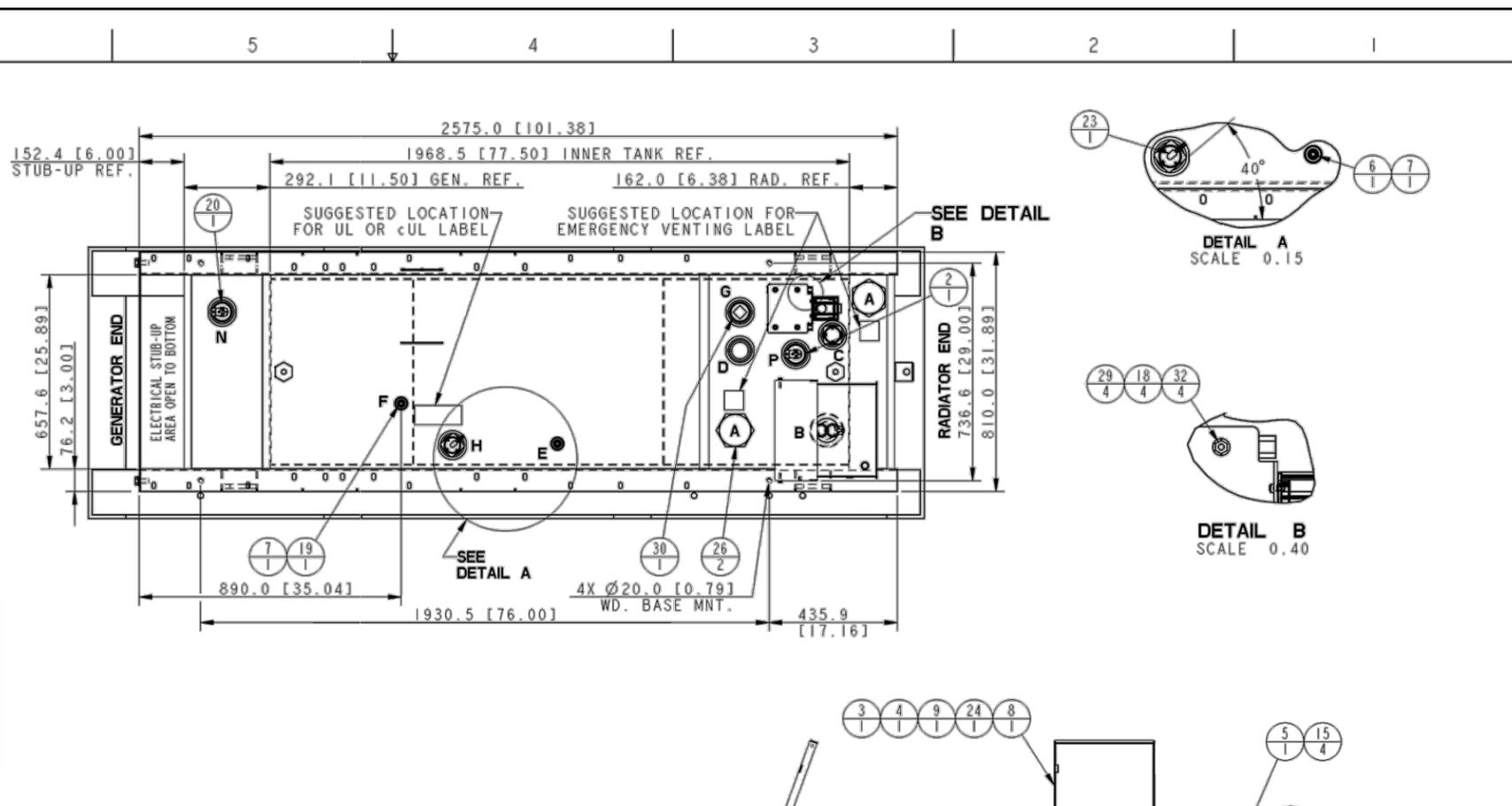
8. REQUIRED LABELS:
- UL LABEL OR cUL LABEL
 - "GENERAL" SERIAL NO. LABEL (WITH SERIAL NO. AND KOHLER PART NO.)
 - ATMOSPHERIC TANK WARNING LABEL
 - EMERGENCY VENT LABEL
 - PORT IDENTIFICATION LABELS
 - SINGLE SIDE SERVICE LABEL

9. TANK CAPACITY.....562 L [148 GAL]
10. CONTAINMENT.....135%
11. TANK EMERGENCY VENTING CAPACITY...41,356 CFH
12. SAFE FILL HEIGHT (WHERE APPLICABLE)...431.8 [17.00]

WELD SPEC:
WEL PER WELD SPECIFICATION
WEL 7.5.1-36 WELDING OF PRODUCTS

AT&T STATE TANK
15-30KDI TIER IV

KOHLER 30KW GENERATOR SPECIFICATIONS



REV	DATE	ON COMPOSITE DWGS. SEE PART NO. FOR REVISION LEVEL	BY	UNLESS OTHERWISE SPECIFIED - DIMENSIONS ARE IN MILLIMETERS
-	8-17-15	NEW DRAWING [CTI21221]	SDS	2. TOLERANCES ARE: 2.4 ± 0.25 1.6 ± 1.0 ANGLED ± 0° 30'
A	7-7-16	(A-4) UPDATED FAMILY GROUP NOTE. [CTI51988]	JMR	
B	7-13-17	(D-8) GM103644 (1) WAS SA22448 (1) [CTI76115]	YBY	

APPROVALS	DATE	TITLE
SDS	8-17-15	KOHLER CO. METRIC PRO-E
JMR	8-17-15	POWER SYSTEMS, KOHLER, WI 53044 U.S.A.
GDF	8-17-15	THIS DRAWING IN DESIGN AND DETAIL IS KOHLER CO. PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH KOHLER CO. WORK. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.

SCALE 0.11 CAD NO. SHEET 1 OF 1
Dwg No. GM98903 D

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COLORADO SPRINGS, CO 80929

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GENERATOR SPECIFICATIONS

SHEET NUMBER:
E-4.2

EL PASO COUNTY
FILE #: COM2223

12 OF 14



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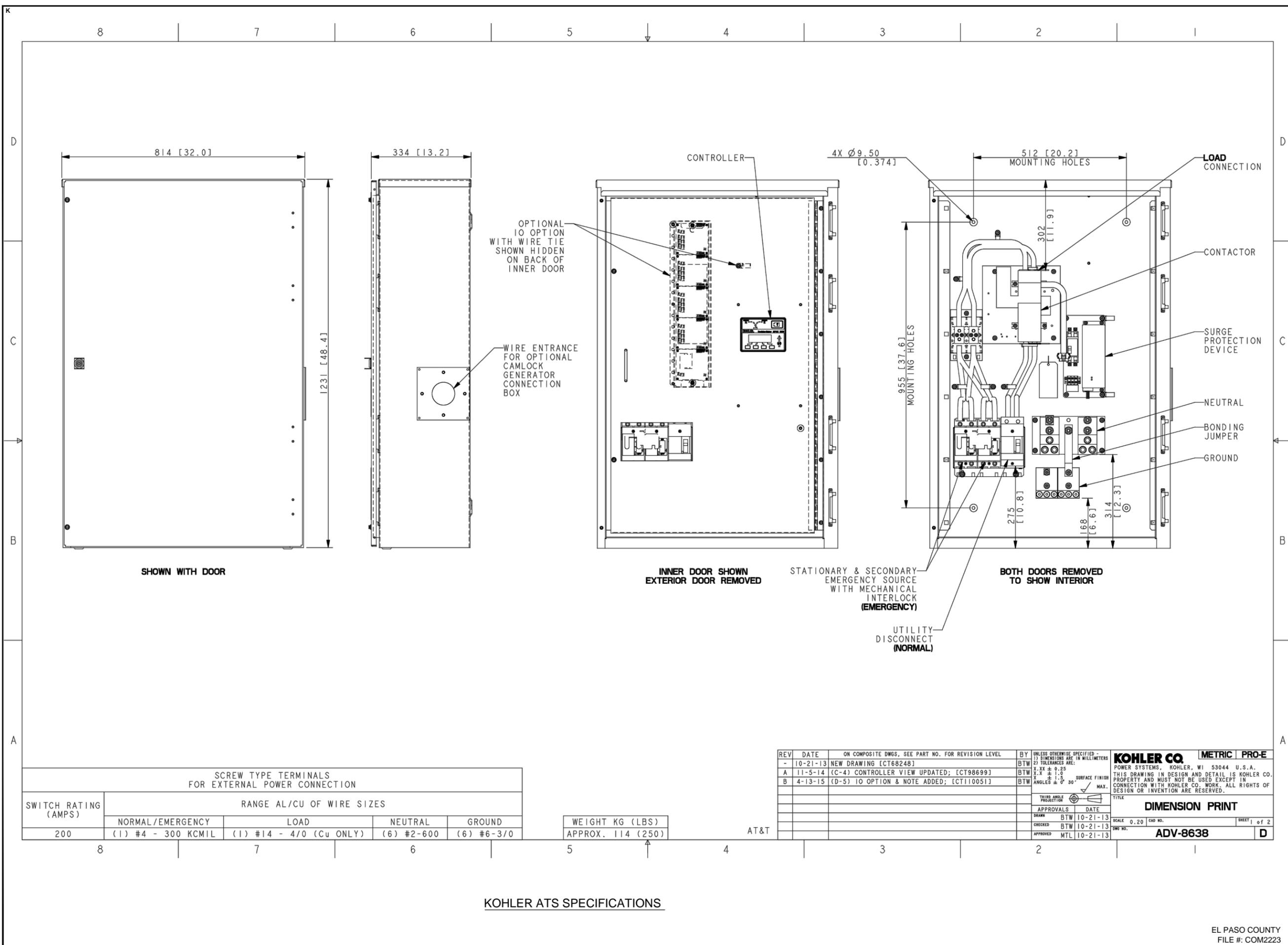
JURISDICTION USE:

SHEET TITLE:

ATS
SPECIFICATIONS

SHEET NUMBER:

E-5.0



SCREW TYPE TERMINALS FOR EXTERNAL POWER CONNECTION				
SWITCH RATING (AMPS)	RANGE AL/CU OF WIRE SIZES			
	NORMAL/EMERGENCY	LOAD	NEUTRAL	GROUND
200	(1) #4 - 300 KCMIL	(1) #14 - 4/0 (Cu ONLY)	(6) #2-600	(6) #6-3/0

WEIGHT KG (LBS)
APPROX. 114 (250)

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	10-21-13	NEW DRAWING [CT68248]	BTW
A	11-5-14	(C-4) CONTROLLER VIEW UPDATED; [CT98699]	BTW
B	4-13-15	(D-5) IO OPTION & NOTE ADDED; [CT110051]	BTW

KOHLER CO. METRIC PRO-E
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.
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SCALE 0.20 CAP NO. SHEET 1 of 2
ADV-8638 D

KOHLER ATS SPECIFICATIONS

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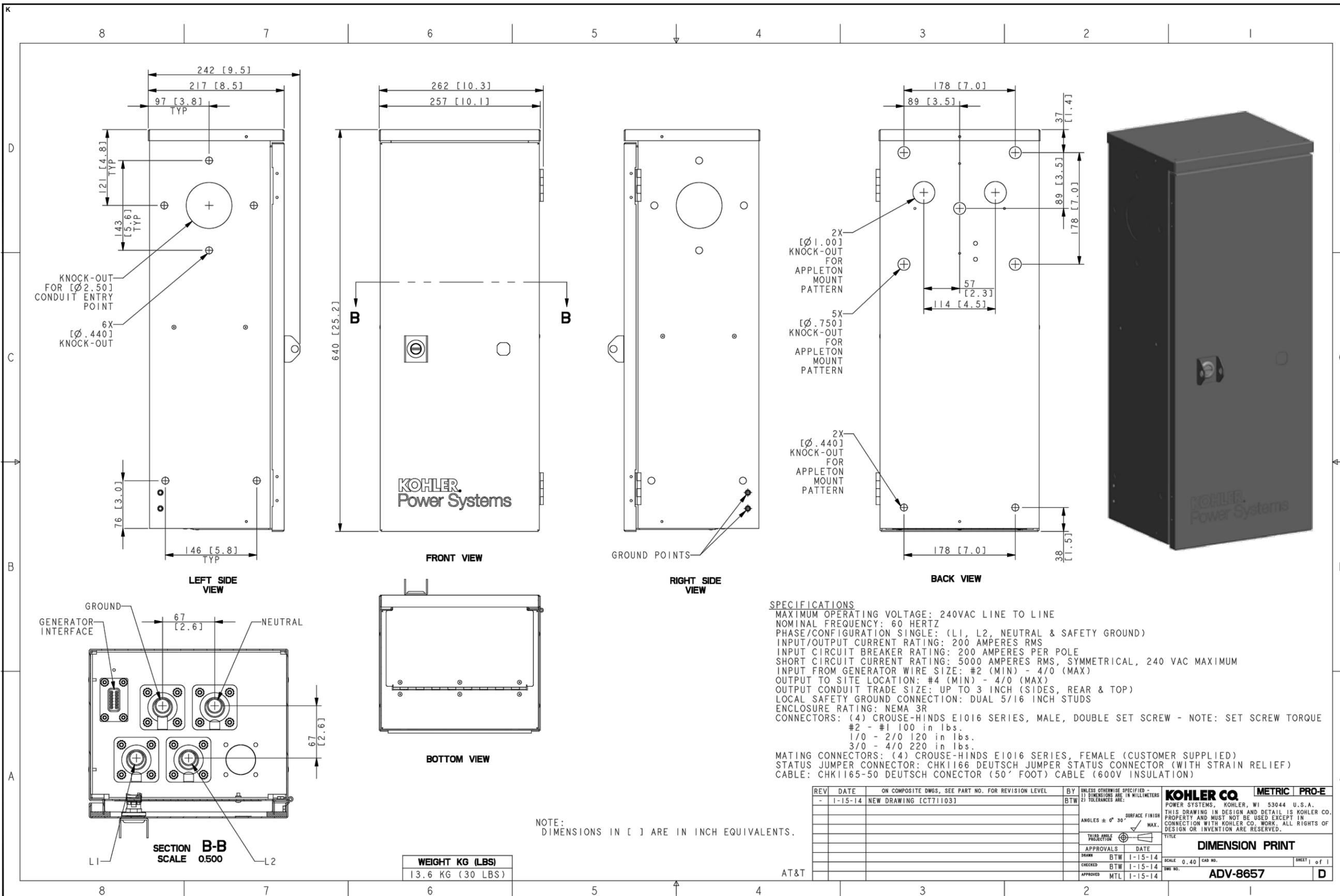
JURISDICTION USE:

SHEET TITLE:

CAM-LOCK BOX
SPECIFICATIONS

SHEET NUMBER:

E-5.1



KOHLER CAM-LOCK BOX SPECIFICATIONS