



1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 708-7500

PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

CHECKED BY: RH		CHECKED BY: GMS	
REV	DESCRIPTION	DATE	INITIALS
1	PCD'S	05/27/25	BK/VL
2	FCD'S	06/25/25	PM
3	FCD'S REV 1	07/07/25	AZ
4	FCD'S REV 2	09/04/25	AZ



SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T-1

4 AZ
09/04/25

T-MOBILE SITE #

A5C0028A

T-MOBILE PROJECT ID #

A5C0028A-0002434251

T-MOBILE SITE NAME

LEE'S SUMMIT FIRE STATION



NATIONAL HARDENING PROJECT

SITE ADDRESS

207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

FACILITY OWNER ID

207 SE DOUGLAS ST FIRE DEPT HQ TOWER

SCOPE OF WORK

THE SCOPE OF WORK CONSISTS OF:

1. INSTALLATION OF NEW 48KW GENERAC RD048 GENERATOR W/ 240 GALLON DIESEL TANK.
2. INSTALLATION OF NEW AUTOMATIC TRANSFER SWITCH.
3. INSTALLATION OF NEW 4'-0" X 9'-6" CONCRETE PAD .
4. INSTALLATION OF (1) NEW 10 LB ABC FIRE EXTINGUISHER INSIDE WEATHERPROOF CABINET.
5. INSTALLATION OF NEW CONDUITS FOR POWER & COMMUNICATION FOR PROPOSED GENERATOR & AUTOMATIC TRANSFER SWITCH.
6. INSTALLATION OF (1) NEW 20 AMP 1-POLE BREAKER FOR GENERATOR BLOCK HEATER & LABEL "GEN GFCI".
7. INSTALLATION OF NEW MAN GATE.
8. INSTALLATION OF NEW RETAINING WALL AND GRADING.

DRIVING DIRECTIONS

DRIVING DIRECTIONS FROM KANSAS CITY INTERNATIONAL AIRPORT LOCATED AT:
1 KANSAS CITY BLVD, KANSAS CITY, MO 64153:

1. HEAD SOUTHWEST ON COOKINGHAM DR 0.3 MI
2. SLIGHT RIGHT ONTO THE PARIS STREET RAMP 0.1 MI
3. TURN LEFT ONTO PARIS ST 0.1 MI
4. TURN LEFT ONTO THE RAMP TO AIRPORT EXIT 0.1 MI
5. MERGE ONTO COOKINGHAM DR 0.8 MI
6. CONTINUE ONTO NW 120TH ST 0.5 MI
7. USE THE RIGHT 2 LANES TO TURN RIGHT TO MERGE ONTO I-29 S/US-71 S TOWARD KANSAS CITY 0.4 MI
8. MERGE ONTO I-29 S/US-71 S 13.0 MI
9. MERGE ONTO I-29 S/I-35 S/US-71 S 4.4 MI
10. CONTINUE ONTO US-71 0.2 MI
11. MERGE ONTO I-70 E/US-24 E/US-40 E, FOLLOW SIGNS FOR ST LOUIS
13. CONTINUE TO FOLLOW I-70 E 12.7 MI
14. TAKE EXIT 15A TO MERGE ONTO I-470 S/MO-291 S TOWARD LEE'S SUMMIT 6.6 MI
15. USE THE LEFT 2 LANES TO TAKE EXIT 10B FOR MO-291 S TOWARD HARRISONVILLE 0.5 MI
16. CONTINUE ONTO MO-291 S/RT 291 S 1.8 MI
17. TURN RIGHT ONTO E LANGSFORD RD 0.2 MI
18. CONTINUE ONTO SE 2ND ST 0.7 MI
19. TURN LEFT 118 FT.
20. TURN RIGHT 33 FT.

DESTINATION WILL BE ON THE LEFT 33 FT.
TOTAL TRAVEL ESTIMATE: 42.8 MI, 45 MIN

PROFESSIONAL LICENSURE

I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF THE GOVERNING LOCAL BUILDING CODE.

Gy Sadat.

LICENSED PROFESSIONAL
LICENSE # PE-2024012766

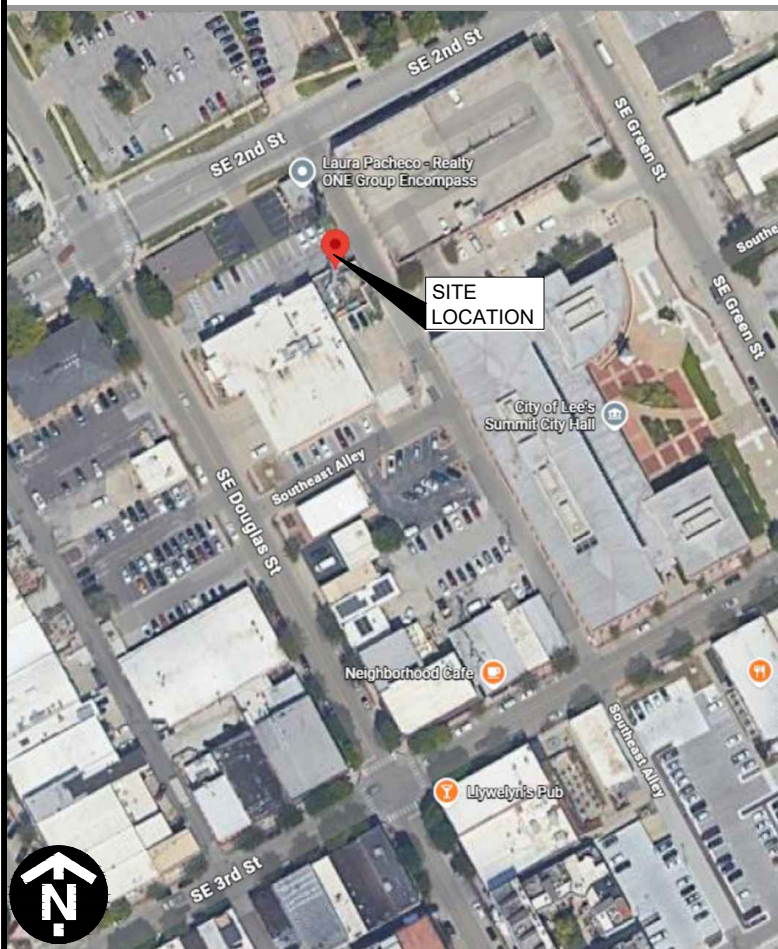
EXPIRES: 12/31/2026

SIGNED: 09/04/2025

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AERIAL MAP



APPLICABLE CODES

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

1. 2018 INTERNATIONAL BUILDING CODE .
2. 2017 NATIONAL ELECTRICAL CODE (NFPA 70) .
3. 2018 INTERNATIONAL PLUMBING CODE .
4. 2018 INTERNATIONAL MECHANICAL CODE .
5. 2018 INTERNATIONAL FUEL GAS CODE .
6. 2018 INTERNATIONAL FIRE CODE .
7. ICC/ANSI A117.1-2009
8. AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
9. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION
10. TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

4 AZ
09/04/25

GENERAL NOTES

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

FOR SITES WHERE A CRANE IS NECESSARY, THE CONTRACTOR SHALL CONFIRM AN UNOBSTRUCTED ROUTE FOR THE CRANE FROM PUBLIC ROAD TO TOWER SITE PRIOR TO CONSTRUCTION. NO AERIAL OBSTRUCTIONS UNDER FIFTEEN FEET ABOVE GRADE, INCLUDING AERIAL UTILITY LINES, ARE ALLOWED ALONG SAID CRANE ROUTE.

GC SHALL CONTACT THE A&E FIRM PRIOR TO BIDWALK AND CONSTRUCTION START TO CONFIRM THAT DRAWINGS ARE THE MOST RECENT SET.

PROJECT CONTACTS

APPLICANT:	T- MOBILE 1400 OPUS PLACE DOWNERS GROVE, IL 60515 MAIN: (773) 444-5400	ENGINEERING CONTACT:	CONCORDIA WIRELESS GM SADAT, PE PHONE: (847) 708-7500 FAX: (847) 589-0643
FACILITY OWNER:	CITY OF LEES SUMMIT	SITE ACQUISITION CONTACT:	CONCORDIA WIRELESS ANN KOOYMAN PHONE: (224) 230-7191
LANDLORD EMERGENCY NOC #:	816-969-1026		



SITE INFORMATION

LATITUDE:	N 38° 54' 50.1" / 38.913922 (NAD 83)
LONGITUDE:	W 94° 22' 35.1" / -94.376416 (NAD 83)
GROUND ELEVATION :	± 1022' ASML
SITE TYPE:	MONOPOLE
JURISDICTION:	CITY OF LEES SUMMIT
COUNTY:	JACKSON
PIN:	61-340-20-06-00-0-00-000



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SITE #: A5C0028A
LEE'S SUMMIT FIRESTATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:

SITE NOTES

SHEET NUMBER:

SP-1

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

1 PROJECT SYMBOLS

SCALE: NTS

ABV.	ABOVE
ADD'L	ADDITIONAL
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
ALUM.	ALUMINUM
ALT.	ALTERNATE
ANT.	ANTENNA
APPROX.	APPROXIMATE(LY)
ARCH.	ARCHITECT(URAL)
ATS	AUTOMATIC TRANSFER SWITCH
AWG.	AMERICAN WIRE GAUGE
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
BM.	BEAM
BTOW.	BARE TINNED COPPER WIRE
B.O.F.	BOTTOM OF FOOTING
B/U	BACK-UP CABINET
CAB.	CABINET
CANT.	CANTILEVER(ED)
C.I.P.	CAST IN PLACE
CLG.	CEILING
CLR.	CLEAR
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION(OR)
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
DBL.	DOUBLE
DEPT.	DEPARTMENT
DIA.	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DWG.	DRAWING(S)
DWL.	DOWEL(S)
EA.	EACH
EL.	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMT.	ELECTRICAL METALLIC TUBING
ENG.	ENGINEER
EQ.	EQUAL
EXP.	EXPANSION
EXIST.(E)	EXISTING
EXT.	EXTERIOR
FAB.	FABRICATION(OR)
F.F.	FINISH FLOOR
F.G.	FINISH GRADE
FIN.	FINISH(ED)
FLR.	FLOOR
FDN.	FOUNDATION
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.O.W.	FACE OF WALL
F.S.	FINISH SURFACE
FT.(')	FOOT(FEET)
FTG.	FOOTING
G.	GROWTH (CABINET)
GA.	GAUGE
GI.	GALVANIZE(D)
G.F.I.	GROUND FAULT CIRCUIT INTERRUPTER
GPS.	GLOBAL POSITIONING SYSTEM
GND.	GROUND
HGR.	HANGER
HT.	HEIGHT

ICGB.
IN.(')
INT.
LB.(#)
L.F.
L.
MAS.
MAX.
MDCMC

MECH.
MFR.
MIN.
MISC.
MTL.
(N)
NO.(#)
N.T.S.
O.C.
OPNG.
PCS
PLY.
PRC
P.S.F.
P.S.I.
P.T.
PWR.
QTY.
RAD.(R)
REF.
REINF.
RECD.
RGS.
SCH.
SHT.
SIM.
SPEC.
SQ.
S.S.
STD.
STL.
STRUC.
TEMP.
THK.
T.O.A.
T.O.C.
T.O.F.
T.O.P.
T.O.S.
T.O.W.
TYP.
U.G.
U.L.
U.N.O.
V.I.F.
W
W/
WAP.
WCS
WT.
℄
ℓ

ISOLATED COPPER GROUND BUS
INCH(ES)
INTERIOR
POUND(S)
LINEAR FEET (FOOT)
LONG(ITUINAL)
MASONRY
MAXIMUM
METRICOM DESIGNATED
CONSTRUCTION MANAGEMENT
& CONTRACTING
MECHANICAL
MANUFACTURER
MINIMUM
MISCELLANEOUS
METAL
NEW
NUMBER
NOT TO SCALE
ON CENTER
OPENING
PERSONAL COMMUNICATION SERVICES
PLYWOOD
PRIMARY RADIO CABINET
POUNDS PER SQUARE FOOT
POUNDS PER SQUARE INCH
PRESSURE TREATED
POWER (CABINET)
QUANTITY
RADIUS
REFERENCE
REINFORCEMENT(ING)
REQUIRED
RIGID GALVANIZED STEEL
SCHEDULE
SHEET
SIMILAR
SPECIFICATION(S)
SQUARE
STAINLESS STEEL
STANDARD
STEEL
STRUCTURAL
TEMPORARY
THICK(NESS)
TOP OF ANTENNA
TOP OF CURB
TOP OF FOUNDATION
TOP OF PLATE (PARAPET)
TOP OF STEEL
TOP OF WALL
TYPICAL
UNDER GROUND
UNDERWRITERS LABORATORY
UNLESS NOTED OTHERWISE
VERIFY IN FIELD
WIDE(WIDTH)
WITH
WIRED ACCESSED POINT
WIRELESS COMMUNICATION SERVICE
WEIGHT
CENTERLINE
PLATE

2 PROJECT ABBREVIATIONS

SCALE: NTS

- REPRESENTATIVES OF THE OWNER MUST BE NOTIFIED AT LEAST TWO FULL DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
- DO NOT SCALE BUILDING DIMENSIONS FROM DRAWINGS.
- ANY DRAIN AND/OR FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE RETURNED TO ITS ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS-CONSTRUCTED DRAWINGS AND ISSUED TO ARCHITECT/ENGINEER AT COMPLETION OF PROJECT.
- ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
- CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE. CONTRACTOR SHALL CALL PUBLIC/PRIVATE UTILITY LOCATE FOR UTILITY LOCATIONS 48 HOURS PRIOR TO START OF CONSTRUCTION.
- ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
- THE BUILDING DEPARTMENT ISSUING THE BUILDING PERMIT SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK OR AS STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
- GRADING OF THE SITE WORK AREA IS TO BE SMOOTH AND CONTINUOUS IN SLOPE AND IS TO FEATHER INTO EXISTING GRADES AT THE GRADING LIMITS.
- ALL EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR

BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.

- STRUCTURAL FILLS SUPPORTING PAVEMENTS SHALL BE COMPACTED TO 100% OF MAXIMUM STANDARD PROCTOR DRY DENSITY.
- NEW GRADES NOT IN BUILDING AND DRIVEWAY IMPROVEMENT AREA TO BE ACHIEVED BY FILLING WITH APPROVED CLEAN FILL AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
- ALL FILL SHALL BE PLACED IN UNIFORM LIFTS. THE LIFTS THICKNESS SHOULD NOT EXCEED THAT WHICH CAN BE PROPERLY COMPACTED THROUGHOUT ITS ENTIRE DEPTH WITH THE EQUIPMENT AVAILABLE.
- ANY FILLS PLACED ON EXISTING SLOPES THAT ARE STEEPER THAN 10 HORIZONTAL TO 1 VERTICAL SHALL BE PROPERLY BENCHED INTO THE EXISTING SLOPE AS DIRECTED BY A GEOTECHNICAL ENGINEER.
- THE GRADES WITHIN THE FENCED-IN AREA ARE TO BE ACHIEVED BY COMPACTING CLEAN FILL TO A DENSITY OF 90% OF STANDARD PROCTOR COVERING THE AREA WITH 6 MIL. VISQUENE (1' OVERLAP AT SEAMS) FOR WEED SUPPRESSION, THEN ACHIEVING FINISH GRADE BY ADDING 6" OF 3/4" CRUSHED STONE-NO FINES.
- CONTRACTOR SHALL CLEAN ENTIRE SITE AFTER CONSTRUCTION SO THAT NO PAPERS, TRASH, WEEDS, BRUSH OR ANY OTHER DEPOSITS WILL REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE DISPOSED OF OFF-SITE.
- ALL TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH THE IMPROVEMENTS SHALL BE PROTECTED.
- GC TO HIRE PUBLIC & PRIVATE LOCATE SERVICE IN ORDER TO LOCATE AND PROTECT ANY AND ALL SURFACE UTILITIES. DO NOT SCALE OFF THESE PLANS FOR ANY BELOW GRADE UTILITIES.
- THESE PLANS MAY NOT CONTAIN OR REVEAL ALL SUBSURFACE UTILITIES; GC IS RESPONSIBLE OF LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION.
- OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL:
 - BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - ACITEL/CO INTERFACE BOX(PPC)
 - ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - TOWERS, MONOPOLE

- TOWER LIGHTING
- GENERATORS & LIQUID PROPANE TANK
- ANTENNA STANDARD BRACKETS, FRAMES, AND PIPES FOR MOUNTING.
- ANTENNAS (INSTALLED BY OTHERS)
- TRANSMISSION LINE
- TRANSMISSION LINE JUMPERS
- TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
- TRANSMISSION LINE GROUND KITS
- HANGERS
- HOISTING GRIPS
- BTS EQUIPMENT

- CONTRACTOR TO FURNISH AND INSTALL THE FOLLOWING: THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT-CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
- T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNGRATED, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APURTENCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING UP.
- ALL EQUIPMENT FURNISHED AND WORK PERFORMED UNDER THE CONTRACT DOCUMENTS SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS OR WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE, UNLESS NOTED OTHERWISE. ANY FAILURE OF EQUIPMENT OR WORK DUE TO DEFECTS IN MATERIALS OR WORKMANSHIP SHALL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE OWNER.
- ALL WORK, MATERIAL, AND EQUIPMENT SHALL COMPLY WITH ALL REQUIREMENTS OF THE LATEST EDITIONS AND INTERIM AMENDMENTS OF THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE, OSHA, AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES. ALL ELECTRICAL EQUIPMENT PROVIDED UNDER THIS CONTRACT SHALL BE NEW (EXCEPT WHERE OTHERWISE NOTED) AND SHALL COMPLY WITH THE REQUIREMENTS OF THE UNDERWRITERS' LABORATORIES (U.L.) AND BEAR THE U.L. LABEL.

3 GENERAL NOTES

SCALE: NTS

GENERAL NOTES:

1.

T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO THE OWNER OR HIS ARCHITECT/ENGINEER.
2.

THE CONTRACTOR SHALL SUPPORT, BRACE AND SECURE EXISTING STRUCTURE AS REQUIRED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PROTECTION OF ANY EXISTING STRUCTURES DURING CONSTRUCTION. FIELD VERIFY ALL EXISTING DIMENSIONS WHICH AFFECT THE NEW CONSTRUCTION.
3.

THE CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY OF THE WORK TO BE COVERED UP OR ENCLOSED UNTIL IT HAS BEEN INSPECTED BY THE GOVERNING AUTHORITIES. ANY WORK THAT IS ENCLOSED OR COVERED UP BEFORE SUCH INSPECTION AND TEST SHALL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE; AFTER IT HAS BEEN INSPECTED, THE CONTRACTOR SHALL RESTORE THE WORK TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.
4.

ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT/ENGINEER AND OWNER (T-MOBILE) ASSUME NO RESPONSIBILITY WHATEVER AS TO THE SFOCIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL SAID UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING AFFECTED UTILITIES.
5.

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE PROJECT MANAGER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS OWN RISK AND EXPENSE.
6.

CONTRACTORS SHALL CLEAN ENTIRE SITE EACH DAY AFTER CONSTRUCTION SUCH THAT NO PAPERS, TRASH, DEBRIS, WEEDS, BRUSH, OR ANY OTHER DEPOSITS REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE PROPERLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
7.

ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY THE CONTRACTOR WITH LOCAL GAS, ELECTRIC, TELEPHONE, AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS LOCATION.
8.

DURING CONSTRUCTION, THE CONTRACTOR SHALL AT ALL TIMES MAINTAIN THE UTILITIES OF THE BUILDING/SITE WITHOUT INTERRUPTION. SHOULD IT BE NECESSARY TO INTERRUPT ANY SERVICE OR UTILITY, THE CONTRACTOR SHALL SECURE PERMISSION IN WRITING FROM THE BUILDING/PROPERTY OWNER FOR SUCH INTERRUPTION, AT LEAST 72 HOURS IN ADVANCE. ANY INTERRUPTION SHALL BE MADE WITH A MINIMUM AMOUNT OF INCONVENIENCE TO THE BUILDING/PROPERTY OWNER AND ANY SUCH SHUTDOWN TIME SHALL BE COORDINATED WITH THE BUILDING/PROPERTY OWNER.
9.

CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION.
10.

CONTRACTOR SHALL SUBMIT AT THE END OF THE PROJECT A COMPLETE SET OF AS BUILT DRAWINGS TO T-MOBILE'S PROJECT ENGINEER.
11.

GC WILL NOT START THE CONSTRUCTION UNTIL AFTER THEY RECEIVE THE PRE CON PACKAGE AND HAVE A PRE CON WALK WITH THE PROJECT MANAGER.

DIVISION 2 - SITE WORK:

1.

THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE PROJECT MANAGER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT LIMITED TO:

A.

FALL PROTECTION

B.

CONFINED SPACE

C.

ELECTRICAL SAFETY

D.

TRENCHING AND EXCAVATION
2.

REMOVE FROM SITE/OWNER'S PROPERTY ALL WASTE MATERIALS, UNUSED EXCAVATED MATERIAL INCLUDING MATERIAL CLASSIFIED UNSATISFACTORY, CONTAMINATED OR DANGEROUS TRASH AND DEBRIS, AND DISPOSE OF IN A LEGAL MANNER.
3.

ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.

4.

THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED, AND COVERED WITH MULCH
5.

CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, AS REQUIRED DURING CONSTRUCTION.

CONTRACTOR IS RESPONSIBLE FOR LAYOUT AND CONSTRUCTION STAKING. CONTRACTOR SHALL ESTABLISH GRADE AND LINE STAKES PRIOR TO CONSTRUCTION.

CONCORDIA DOES NOT GUARANTEE OR WARRANT THAT THE AFOREMENTIONED EASEMENTS ARE SFICIENT FOR CONSTRUCTION TRAFFIC. GC SHALL CONSULT WITH A T-MOBILE REPRESENTATIVE AND LANDLORD WITH EXACT LOGISTICS TO FACILITATE CONTRACTIBILITY OF THE SITE AND DELIVERY OF CRITICAL MATERIALS SUCH AS THE TOWER, STEEL, CONCRETE AND CRANES TO THE PROPOSED LEASE AREA. GC SHALL RESTORE SITE TO ORIGINAL CONDITIONS AND REPLACE ANY AND ALL DISTURBED TREES OR LANDSCAPING.

CONCORDIA IS NOT RESPONSIBLE FOR THE MAINTENANCE AND/OR OPERATIONAL FEASIBILITY.

SCOPE OF WORK FOR THESE PLANS DOES NOT INVOLVE VALUE ENGINEERING AS WELL AS MAINTAINABILITY OPERATIONS OF THE SITE, ACCESS OR UTILITIES.

DIVISION 3 - CONCRETE:

1.

MINIMUM ALLOWABLE CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI AT 28 DAYS WHEN TESTED IN ACCORDANCE WITH THE AMERICAN SOCIETY FOR TESTING AND MATERIALS METHODS STANDARDS ASTM C172, ASTM C31 AND ASTM C39 UNLESS OTHERWISE NOTED.
2.

CONCRETE FOR ALL FOUNDATIONS: 540 LBS PER CUBIC YARD OF CONCRETE MINIMUM CEMENT CONTENT FOR 1-INCH MAXIMUM SIZE AGGREGATE, SLUMP RANGE 3 INCHES TO 5 INCHES, TOTAL AIR CONTENT 4 PERCENT TO 7 PERCENT BY VOLUME. AIR ENTRAINING ADMXTURE REQUIRED TO CONTROL TOTAL AIR CONTENT, WATER REDUCING ADMIXTURE PERMITTED TO OBTAIN SLUMP OVER 3-INCHES.
3.

ALL CONCRETE CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI 318) BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND (ACI 301) STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE.
4.

REBARS SHALL BE ASTM A-615 DEFORMED TYPE WITH MINIMUM YIELD STRENGTH OF 60,000 PSI (40,000 PSI GRADE MAY BE USED FOR TIES & STIRRUPS).

WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
5.

DETAILING SHALL BE IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OF DETAILING REINFORCED CONCRETE STRUCTURES (ACI STD-315 LATEST EDITION).
6.

CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4".UNLESS OTHERWISE NOTED.
7.

REINFORCING STEEL SHALL BE ACCURATELY PLACED AND ADEQUATELY SECURED IN POSITION. LOCATION OF REINFORCEMENT SHALL BE INDICATED ON THE DRAWINGS. THE FOLLOWING MINIMUM COVER (INCHES) FOR REINFORCEMENT SHALL BE PROVIDED, EXCEPT AS NOTED ON DRAWINGS.

MINIMUM COVER (INCHES)

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ... 3"

EXPOSED TO EARTH OR WEATHER:

#6 THROUGH #18 ... 2"

#5 BAR AND SMALLER ... 1-1/2"
8.

TESTS

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER REJECTION WHEN SUCH DEFECT IS DISCOVERED NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.

A. FIVE CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER PIER FOUNDATION. TWO SHALL BE TESTED @ THREE DAYS, TWO @ TWENTY- EIGHT DAYS. THE FIFTH CYLINDER SHALL BE KEPT SEPARATELY, IF REQUIRED TO BE USED IN THE FUTURE.

B. ONE ADDITIONAL TEST CYLINDER SHALL BE TAKEN DURING COLD WEATHER AND CURED ON SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.

C. ONE SLUMP TEST SHALL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
9.

PLACING CONCRETE

A. THE ENGINEER SHALL BE NOTIFIED NOT LESS THAT 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT, UNLESS INSPECTION IS WAIVED IN EACH CASE, PLACING OF CONCRETE SHALL BE PERFORMED ONLY IN THE PRESENCE OF THE ENGINEER. CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMWORK, EMBEDDED PARTS, STEEL REINFORCEMENT, FOUNDATION SURFACES AND JOINTS INVOLVED IN THE PLACING HAVE BEEN APPROVED, AND UNTIL FACILITIES ACCEPTABLE TO THE T-MOBILE REPRESENTATIVE HAVE BEEN PROVIDED AND MADE READY FOR ACCOMPLISHMENT OF THE WORK AS SPECIFIED. CONCRETE MAY NOT BE ORDERED FOR PLACEMENT UNTIL ALL ITEMS HAVE BEEN APPROVED AND T-MOBILE HAS PERFORMED A FINAL INSPECTION AND GIVEN APPROVAL TO START PLACEMENT IN WRITING.

B. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.

10.

PROTECTION

A. IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISHED WORK SHALL BE PROTECTED.

B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.

C. ALL CONCRETE SHALL BE WATER CURED BY CONTINUOUS (NOT PERIODIC) FINE MIST SPRAYING OR SPRINKLING ALL EXPOSED SURFACES. WATER SHALL BE CLEAN AND FREE FROM ACID, ALKALI, SALTS, OIL, SEDIMENT, AND ORGANIC MATTER. SUCCESSFUL CURING SHALL BE OBTAINED BY USE OF AN AMPLE WATER SUPPLY UNDER PRESSURE IN PIPES, WITH ALL NECESSARY APPLIANCES OF SPRINKLERS, AND SPRAYING DEVICES.

ELECTRICAL NOTES:

1.

ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTRUAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2.

ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3.

CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

DIVISION 5:

STRUCTURAL STEEL

1.

ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECIFICATIONS AND CODES.
2.

PROVIDE STRUCTURAL STEEL AS FOLLOWS:

WIDE FLANGE SHAPES

STEEL PIPE

STEEL TUBE (HSS)

ANCHOR RODS (THREADED RODS)

ALL OTHER STEEL

ASSUMED EXISTING STEEL GRADE

ASTM A992 GR50

ASTM A53 GR B

ASTM A1085 OR A500 GR. C

ASTM F1554 GR. 50 (U.N.O.)

ASTM A36

ASTM A36 (U.N.O.)
3.

ALL STRUCTURAL STEEL TO BE STRAIGHT AND FREE OT TWIST. COLUMN BEARING ENDS TO BE TRUE AND SQUARE. ALL COLUMNS TO BE PLUMB AND LEVEL BEARING.
4.

ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 HOT-DIP GALVANIZED.
5.

ALL CONNECTIONS, UNLESS INDICATED OTHERWISE, SHALL BE SIMPLE SHEAR CONNECTIONS UTILIZING A MIN. OF TWO 3/4" DIAMETER A325 HIGH STRENGTH BOLTS IN BEARING TYPE CONNECTIONS. ALL JOINTS SHALL BE SNUG-TIGHTENED.
6.

UNLESS NOTED ON THE CONTRACT DRAWINGS, ALL CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR, USING RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS FOR 100% OF THE UNIFORM LOAD SHOWN IN THE MAXIMUM TOTAL UNIFORM LOAD TABLES 3-6 THRU 3-9 OF THE AISC STEEL CONSTRUCTION MANUAL FOR THE SPAN SHOWN ON THE DRAWING.
7.

ALL WELDING ELECTRODES SHALL BE E70XX.
8.

ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 STRUCTURAL WELDING CODE, LATEST EDITION, AND SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
9.

THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED, AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER TO REVIEW FOR COMPLIANCE WITH THE DESIGN INTENT PRIOR TO THE START OF FABRICATION AND/OR ERECTION.
10.

MINIMUM FILLET WELD SIZE SHALL COMPLY WITH THE AISC REQUIREMENTS, BUT SHALL NOT BE LESS THAN 3/16 INCH, UNLESS NOTED OTHERWISE.
11.

ALL PARTIAL PENETRATION WELD SIZES INDICATED DESIGNATE EFFECTIVE THROAT SIZE UNLESS NOTED OTHERWISE.
12.

ALL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP.
13.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES, ESPECIALLY WITH RELATION TO TEMPERATURE DIFFERENTIAL, ERECTION TOLERANCES, AND WITH RESPECT TO STRUCTURAL STEEL FRAMING INTO BEAMS, COLUMNS, OR WALLS.
14.

AFTER FABRICATION, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS AND SHALL BE HOT-DIP GALVANIZED PER ASTM A123.
15.

THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS, FOR THE WORK OF OTHER TRADES, WITHOUT THE PRIOR APPROVAL OF THE ARCHITECT/ENGINEER.
16.

ALL ADDITIONAL STEEL REQUIRED BY THE CONTRACTOR FOR ERECTION PURPOSES AND SITE ACCESS OF STOCKPILED MATERIALS SHALL BE PROVIDED AT NO COST TO THE OWNER. ALL SUCH ADDITIONAL STEEL SHALL BE REMOVED BY THE CONTRACTOR UNLESS APPROVED BY THE OWNER IN WRITING.
17.

ALL PLAN DIMENSIONS ARE TO STRUCTURAL STEEL MEMBER CENTERLINES, EXCEPT FOR CHANNELS AND ANGLES. CHANNEL AND ANGLE DIMENSIONS ARE TO THE BACK FACE OF THE WEB.

NON-STRUCTURAL COMPONENT

ANCHORAGE NOTES:

MECHANICAL, PLUMBING, COMMUNICATION, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED AND BRACED TO RESIST THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE ASCE 7-16 CHAPTER 13, 26, 29 AND 30 FOR THE LOADS LISTED ABOVE EXCEPT, MECHANICAL AND ELECTRICAL EQUIPMENT IN SEISMIC DESIGN CATEGORY "B" ARE EXEMPT FROM REQUIREMENTS OF CHAPTER 13.

1.

PERMANENT EQUIPMENT AND COMPONENTS.
2.

TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARDWIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS, OR WATER.
3.

MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT THE ATTACHMENT NEED NOT BE DETAILED ON THE INSTALLATION SHOP DRAWINGS.

1.

COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
2.

COMPONENTS WEIGHING LESS THAN 20 POUNDS, AND IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED SHOP DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD. THE OWNER'S FIELD INSPECTOR SHALL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

RELEASED FOR CONSTRUCTION

As Noted on Plan Review

Development Services Department
Lee's Summit, Missouri
09/29/2025



1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 708-7500

PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

CHECKED BY: RH

CHECKED BY: GMS



SITE #: A5C0028A
LEE'S SUMMIT FIRESTATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:
**GENERAL NOTES
& SPECIFICATIONS**

SHEET NUMBER:

SP-2



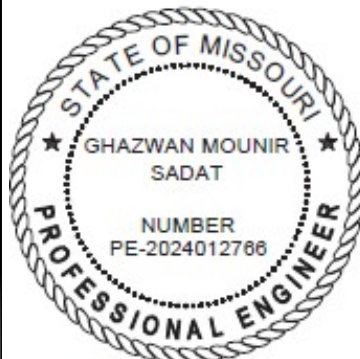
1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

CHECKED BY: RH

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Expires: 12-31-2028

SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:

SITE PLAN

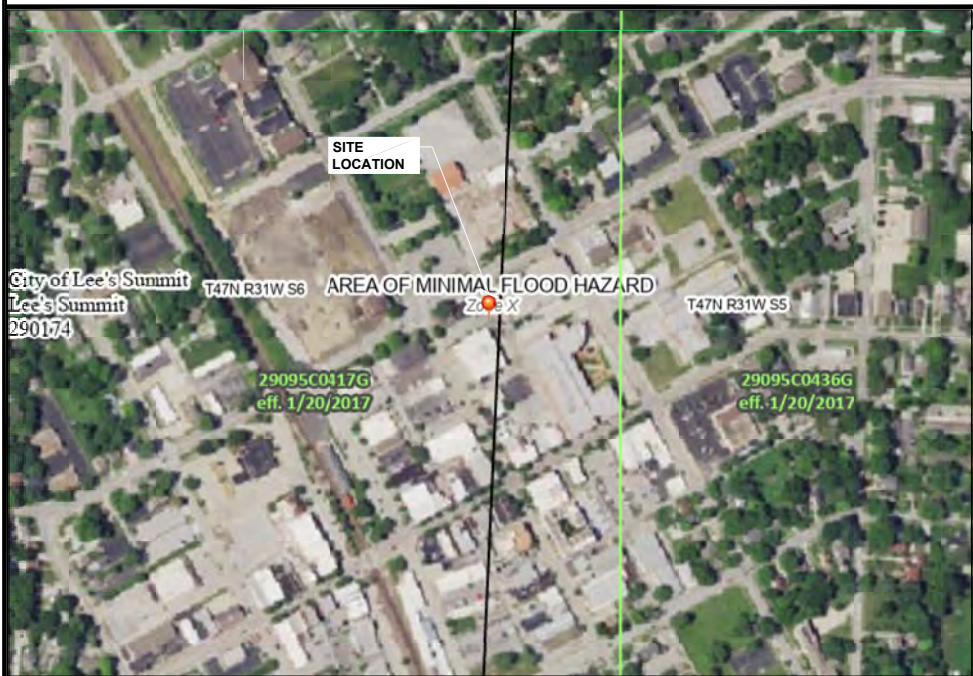
SHEET NUMBER:

A-1

LEGEND & SYMBOLS

	UTILITY POLE		CHAIN-LINK FENCE
	SIGN		IRON FENCE
	TELCO PEDESTAL		WOOD FENCE
	FIRE HYDRANT		OVERHEAD WIRES
	LIGHT STANDARD		LOT LINE
	INLET		PROPERTY LINE
	CATCH BASIN		LEASE AREA LINE
	MANHOLE		UTILITY EASEMENT LINE
	TRAFFIC SIGNAL		CENTER LINE
	ROW MARKER		UNDERGROUND ELECTRIC LINE
	IRON PIPE SET		UNDERGROUND GAS LINE
	IRON PIPE FOUND		UNDERGROUND FIBER LINE
	BUFFALO BOX		UNDERGROUND TELCO LINE
	VALVE BOX		UNDERGROUND STORM SEWER/SANITARY LINE
	HORIZONTAL CONTROL POINT		UNDERGROUND WATER LINE
	HANDICAPPED PARKING SPACE		UNDERGROUND COMMUNICATION/MONITORING LINE
	DT10' CONIFEROUS TREE W/SIZE		
	CT10' BRUSH		
	TREE LINE		
	CONTOUR W/ELEVATION		
	EXISTING GUARDRAIL		
	CONCRETE		
	ASPHALT		
	GRAVEL		
	CULTIVATED FIELD		
	GRASS AREA		
	ICE BRIDGE		
	STEEL PLATFORM		

SITE ACCESS NOTE:
GC TO FOLLOW LANDLORD
ESTABLISHED NOTIFICATION PROCESS
AND SITE ACCESS PROCEDURE.



FLOOD PLAIN MAP INFO: THE PROJECT SITE "DOES NOT" APPEAR TO BE LOCATED WITHIN A FLOOD PLAIN SITE LOCATED IN "ZONE X" - AREA OF MINIMAL FLOOD HAZARD.

2

FLOOD PLAIN MAP

N.T.S.



1

SITE PLAN

SCALE: 1/16"=1'-0" (1/16"=2'-0" IF 11 X 17 SHEET SIZE)





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CERTIFICATE OF AUTHORIZATION # A-2024018412

CHECKED BY: RH

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Expires: 12-31-2028

SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:
**EXISTING EQUIPMENT
LAYOUT**

SHEET NUMBER:

A-1A

LEGEND

EXISTING EQUIPMENT TO REMAIN

NEW EQUIPMENT

EXISTING EQUIPMENT TO BE REMOVED

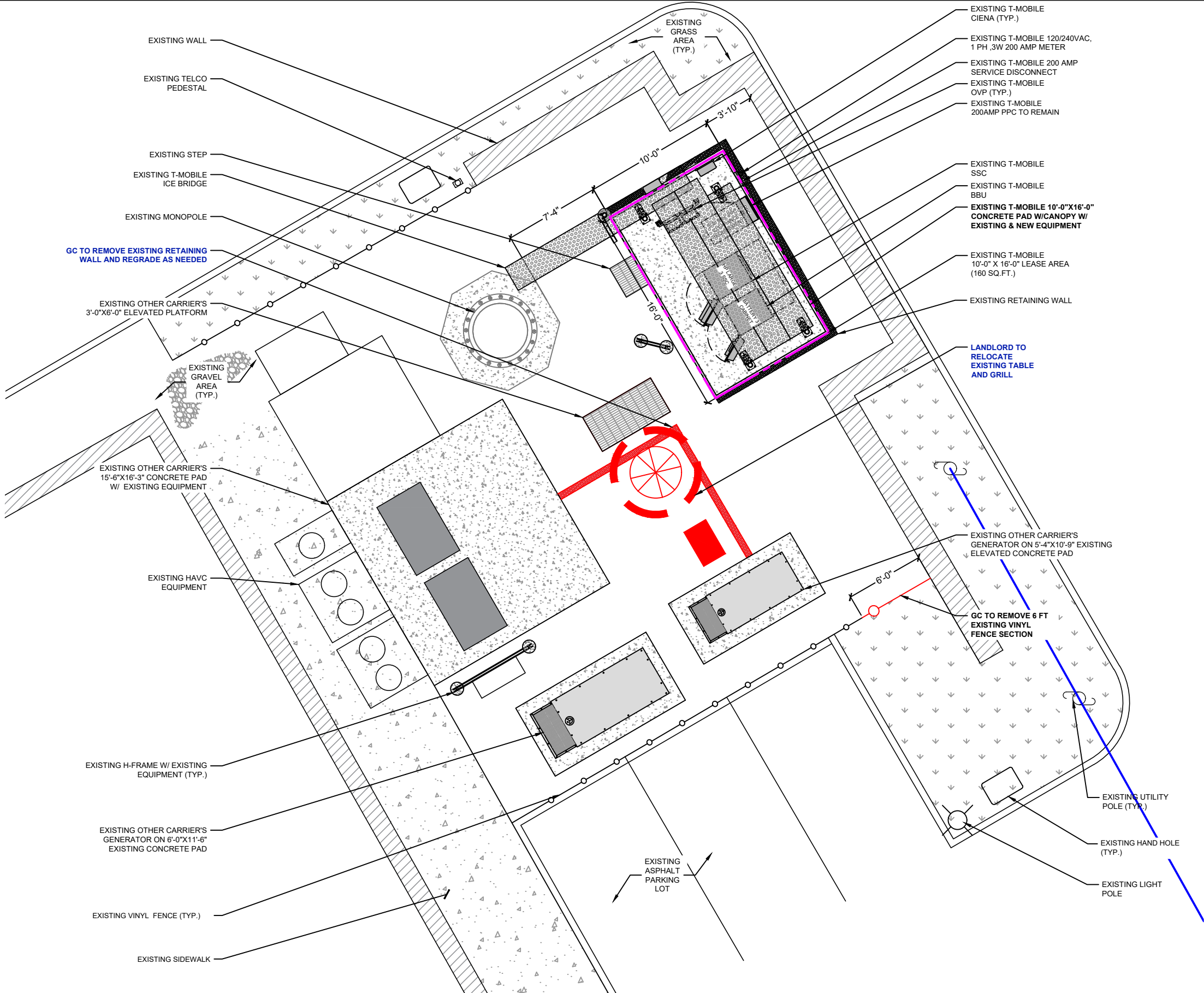
EXISTING EQUIPMENT TO BE RELOCATED

EXISTING LEASE AREA

ADDITIONAL LEASE AREA

EXISTING T-MOBILE LEASE AREA	160	SQ.FT.
EXISTING CONCRETE PAD	160	SQ.FT.
PROPOSED GENERATOR CONC. PAD	38	SQ.FT.
GENERATOR 3-FT CLEARANCE AREA	85	SQ.FT.
ADDITIONAL LEASE AREA NEEDED	38	SQ.FT.

SITE ACCESS NOTE:
GC TO FOLLOW LANDLORD
ESTABLISHED NOTIFICATION PROCESS
AND SITE ACCESS PROCEDURE.



1 **ENLARGED T-MOBILE EXISTING EQUIPMENT LAYOUT**
SCALE: 1/4"=1'-0" (1/4"=2'-0" IF 11 X 17 SHEET SIZE)





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CHECKED BY: RH

CHECKED BY: GMS



Expires: 12-31-2028

SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:
**PROPOSED EQUIPMENT
LAYOUT**

SHEET NUMBER:

A-1B

LEGEND

EXISTING EQUIPMENT TO
REMAIN

NEW EQUIPMENT

EXISTING EQUIPMENT TO
BE REMOVED

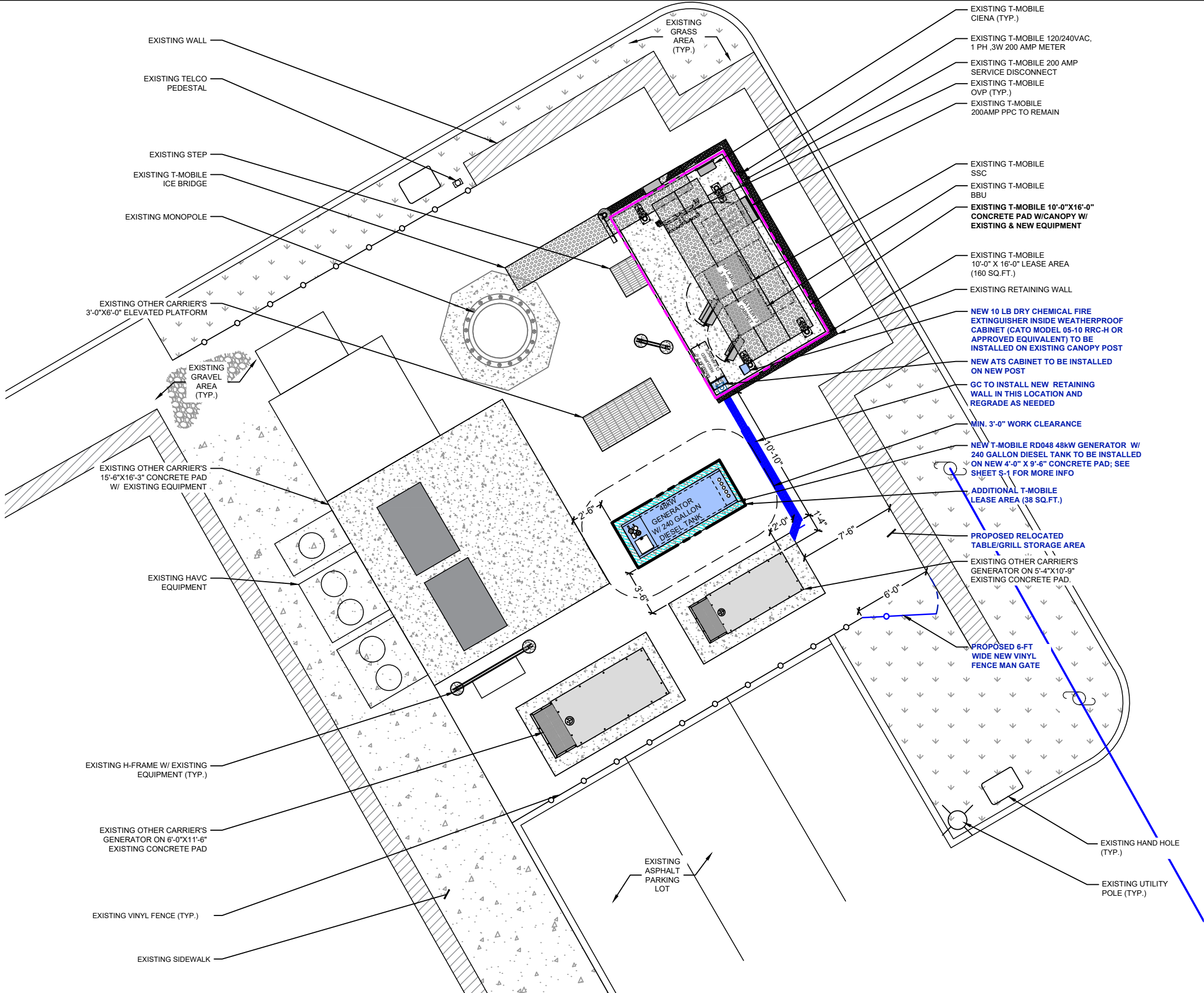
EXISTING EQUIPMENT TO
BE RELOCATED

EXISTING LEASE AREA

ADDITIONAL LEASE AREA

EXISTING T-MOBILE LEASE AREA	160	SQ.FT.
EXISTING CONCRETE PAD	160	SQ.FT.
PROPOSED GENERATOR CONC. PAD	38	SQ.FT.
GENERATOR 3-FT CLEARANCE AREA	85	SQ.FT.
ADDITIONAL LEASE AREA NEEDED	38	SQ.FT.

SITE ACCESS NOTE:
GC TO FOLLOW LANDLORD
ESTABLISHED NOTIFICATION PROCESS
AND SITE ACCESS PROCEDURE.



1 ENLARGED T-MOBILE PROPOSED EQUIPMENT LAYOUT
SCALE: 1/4"=1'-0" (1/4"=2'-0" IF 11 X 17 SHEET SIZE)





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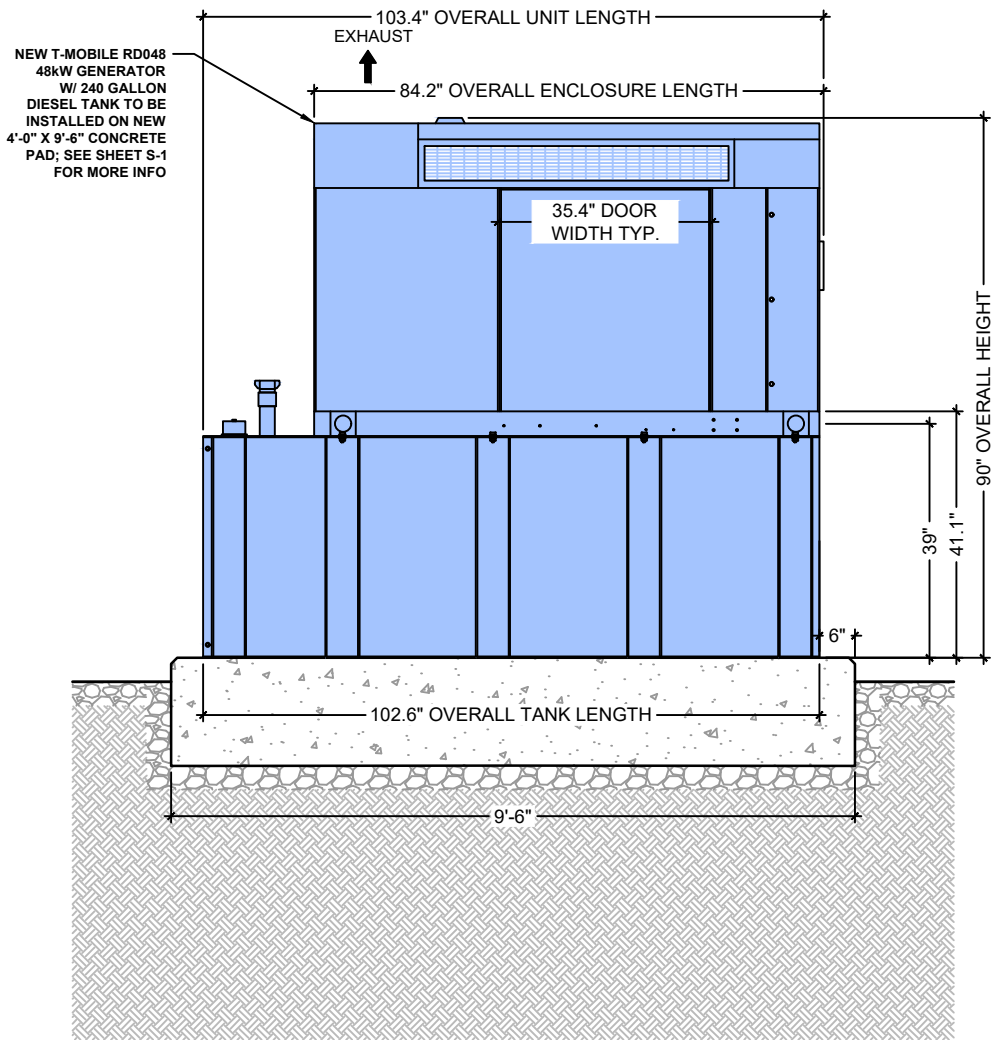
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LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

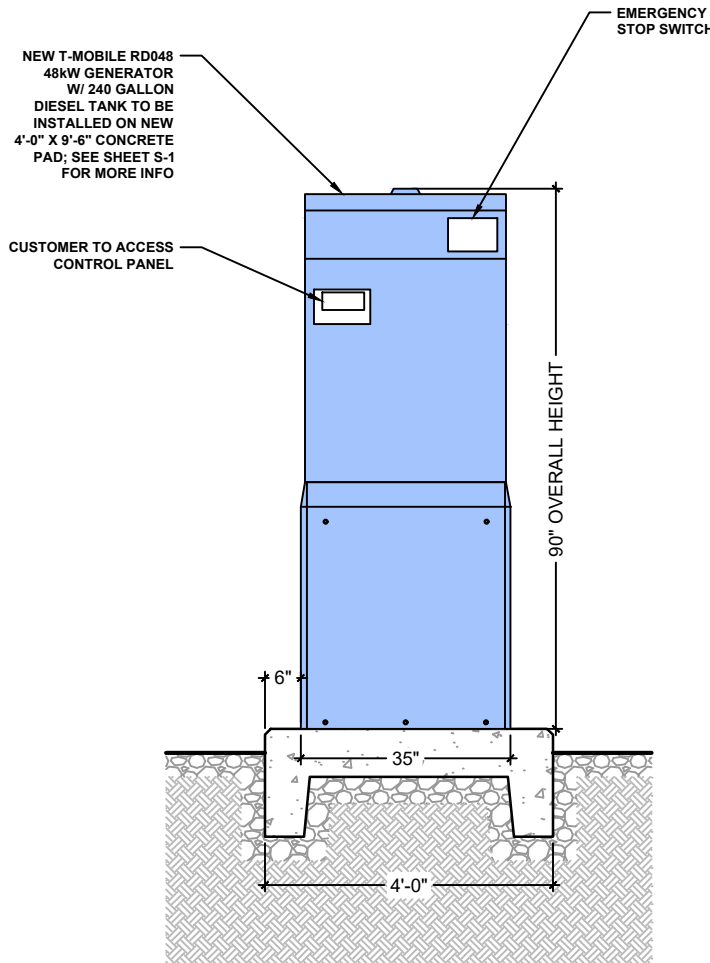
SHEET TITLE:
GENERATOR ELEVATION

SHEET NUMBER:

A-2



1 **GENERATOR ELEVATION (SIDE VIEW)**
SCALE: 3/4"=1'-0" (3/4"=1'-0" IF 11X17 SHEET SIZE)



2 **GENERATOR ELEVATION (REAR VIEW)**
SCALE: 3/4"=1'-0" (3/4"=1'-0" IF 11X17 SHEET SIZE)

SIGNAGE REQUIREMENTS:

- 1.STORAGE CONTAINER MUST HAVE A DATAPLATE. (PROVIDED BY TANK MANUFACTURER DURING TANK FABRICATION)
NFPA 58:5.2.8.3
2. STORAGE CONTAINER MUST BE MARKED DESCRIBING THE CONTENETS (PROPANE OR LIQUEFIED PETROLEUM GAS) AND A STATEMENT OF THE HAZARD (FLAMMABLE).
NFPA 1:60.1.13 & IFC :2703.5
3. STORAGE CONTAINER MUST BE MARKED WITH HAZMAT ID. (CERTAIN ENTRANCES TO STORAGE OR DISPENSING AREAS MAY ALSO REQUIRE HAZMAT ID MARKING)
NFPA 1:60.1.13, NFPA 704:1.3 & IFC :2703.5
4. NO SMOKING SIGNS MUST BE POSTED IN AREAS OR SITES WHERE FLAMMABLE GASES ARE USED OR STORED. NO SMOKING OR OPEN FLAMES WITHIN 25-FT OF POINT OF TRANSFER.
NFPA 1:60.1.13, IFC: 3807.2, IFC :2703.7 & NFPA 58 :7.2.3.2 (B)
5. THE MAXIMUM PERMITTED PERCENTAGE (%) OF TANK CAPACITY MUST BE MARKED EITHER ON THE DATAPLATE OR ADJACENT TO THE FIXED MAXIMUM LIQUID LEVEL GAUGE.
NFPA 58:5.7.5.4



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PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

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1 SIGNAGE REQUIREMENTS

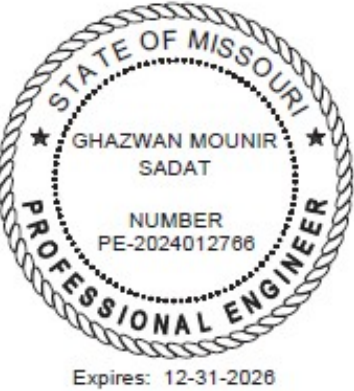
N.T.S.

2 DIESEL SIGN

N.T.S.

3 FLAMMABLE SIGN

N.T.S.



SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:

SIGNAGE

SHEET NUMBER:

A-3

4 DIESEL

N.T.S.

5 HAZARD LEVEL INDICATOR SIGN

N.T.S.

6 NO SMOKING SIGN

N.T.S.

T-Mobile

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Concordia

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PROFESSIONAL DESIGN FIRM
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CHECKED BY: RH

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SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

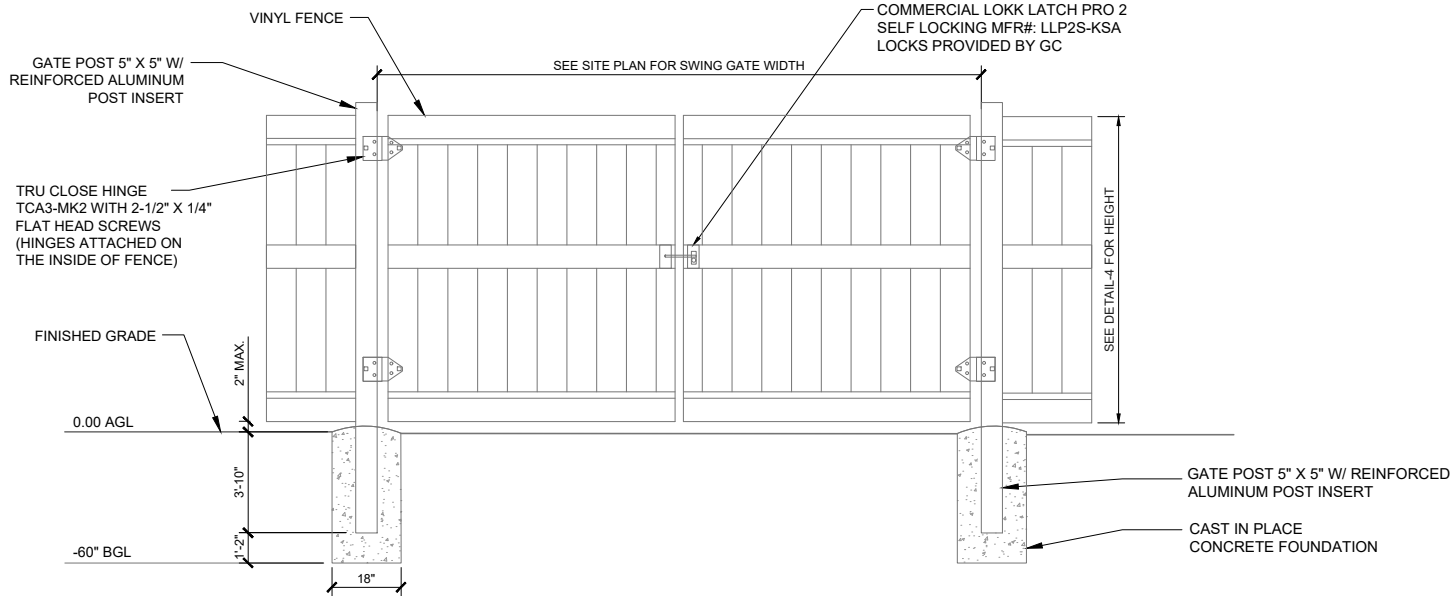
SHEET TITLE
**VINYL 8-FT HEIGHT FENCE
DETAILS**

SHEET NUMBER:

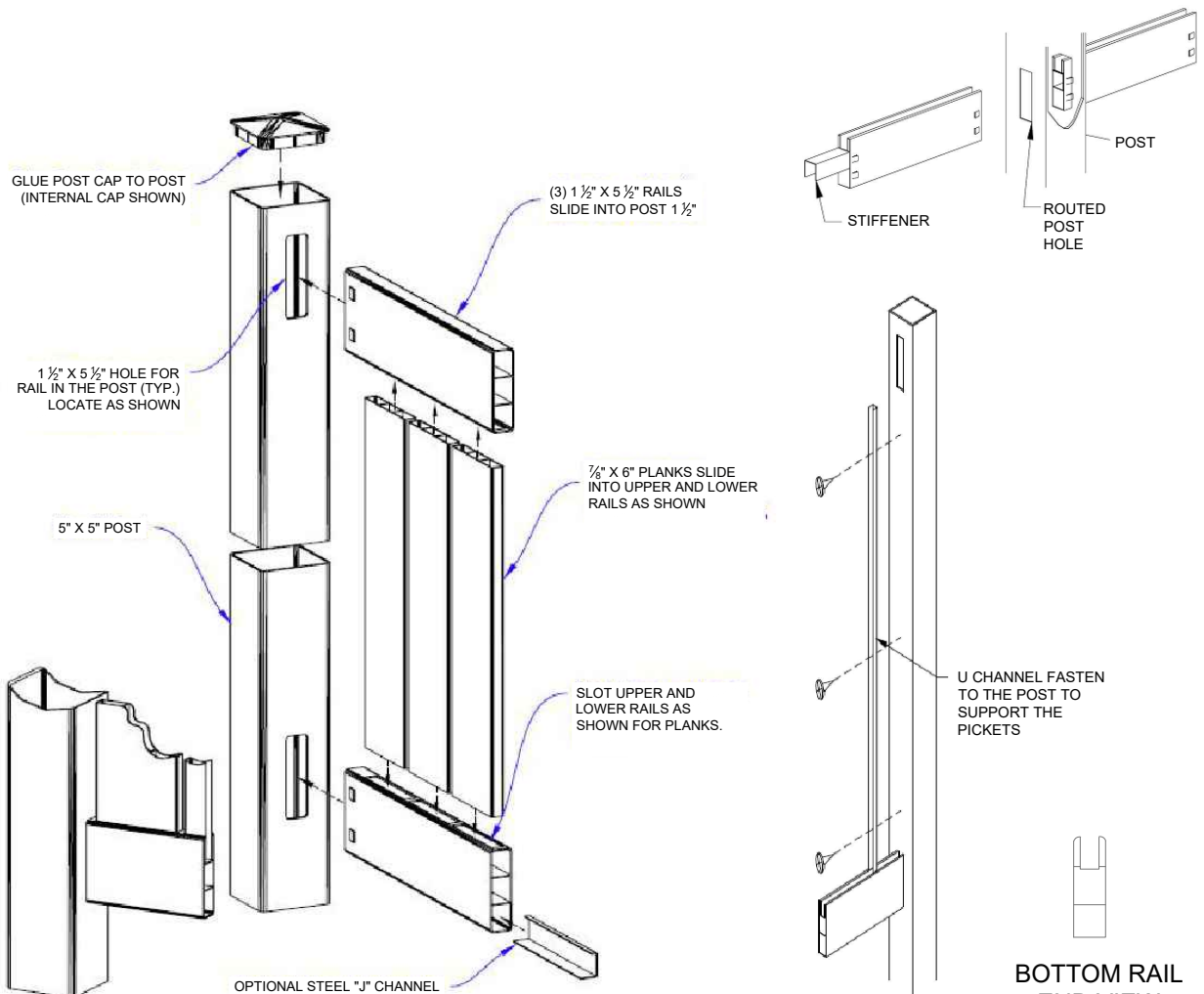
A-4

4 AZ
09/04/25

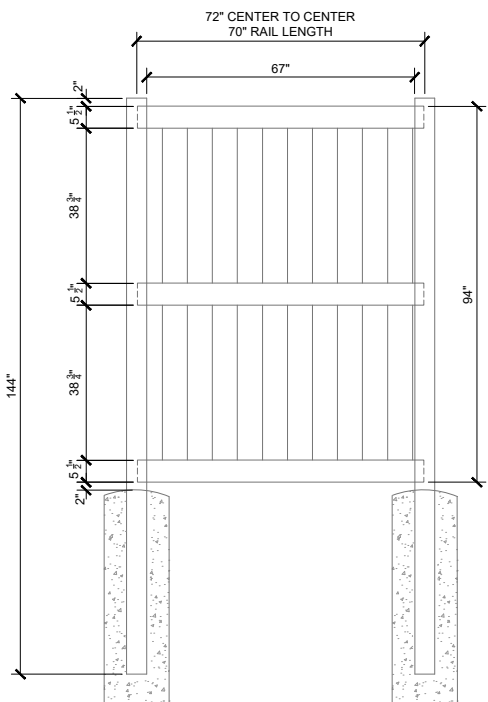
4 AZ
09/04/25



1 VINYL FENCE SWING GATE DETAIL
SCALE: N.T.S.



3 VINYL FENCE POST DETAILS
SCALE: N.T.S.



DESCRIPTION	QTY
1.5"x5.5"x71.5" TOP & BOTTOM RAIL	2
1.5"x5.5"x71.5" MID RAIL	1
7/8"x6"x42" T&G	22
U-CHANNEL 38.75"	4
BOTTOM RAIL STIFFENER 71"	1

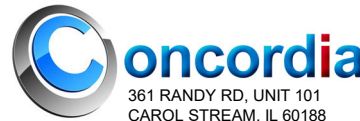
4 VINYL FENCE DETAIL
SCALE: 1/2"=1'-0" (1/2"=2'-0" IF 11"x17" SHEET SIZE)



5 TYPICAL INSTALLATION OF VINYL FENCE PANEL
SCALE: N.T.S.



1400 OPUS PLACE
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CAROL STREAM, IL 60188
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PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

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SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:
**CONCRETE BLOCK
RETAINING WALL**

SHEET NUMBER:

C-1

PART 1 GENERAL

DELIVERY, STORAGE AND HANDLING

- A. THE CONTRACTOR SHALL CHECK THE MATERIALS UPON DELIVERY TO ASSURE THAT PROPER MATERIAL HAS BEEN RECEIVED.
- B. DELIVER AND HANDLE MATERIALS IN SUCH MANNER AS TO PREVENT DAMAGE. STORE ABOVE GROUND ON WOOD PALLETTS OR BLOCKING. REMOVE DAMAGED OR OTHERWISE UNSUITABLE MATERIAL, WHEN SO DETERMINED, FROM THE SITE.
1. FACES OF CONCRETE WALL UNITS SHALL BE FREE OF CHIPS, CRACKS AND STAINS.
2. THE CONTRACTOR SHALL PREVENT EXCESSIVE MUD, WET CEMENT, EPOXY AND LIKE MATERIAL, WHICH MAY AFFIX THEMSELVES, FROM COMING IN CONTACT WITH THE MATERIALS.

EXTRA MATERIALS

- A. FURNISH OWNER WITH THREE (10) REPLACEMENT UNITS IDENTICAL TO THOSE INSTALLED ON THE PROJECT, IF REQUIRED.

DEFINITIONS

- A. GEOSYNTHETIC REINFORCEMENT IS A MATERIAL SPECIFICALLY FABRICATED FOR USE AS A SOIL REINFORCEMENT.
- B. CONCRETE RETAINING WALL UNITS ARE AS DETAILED ON THE DRAWINGS
- C. FREE DRAINING AGGREGATE IS A MATERIAL USED AROUND AND BEHIND THE CONCRETE WALL UNITS.
- D. BACKFILL IS THE SOIL WHICH IS USED AS FILL BEHIND THE DRAINAGE AGGREGATE, AND WITHIN THE REINFORCED SOIL MASS IF APPLICABLE.
- E. FOUNDATION SOIL IS THE MASS SUPPORTING THE LEVELING PAD AND REINFORCED ZONE OF THE RETAINING WALL SYSTEM.

ANCHOR DIAMOND RETAINING WALL SYSTEM

PART 2 PRODUCTS

MATERIALS

- A. HIGH STRENGTH, HIGH DENSITY CONCRETE UNITS, FREEZE-THAW RESISTANT WITH REAR ALIGNMENT FLANGE PROVIDING A 1 1/8" SET BACK FROM PLANE WITH EACH COURSE, "ANCHOR DIAMOND RETAINING WALL UNITS" AS MANUFACTURED UNDER THE LICENSE OF ANCHOR WALL SYSTEMS.
1. CONCRETE WALL UNITS SHALL MEET REQUIREMENTS OF ASTM C90-90 EXCEPT COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 3,000 PSI AND THE MAXIMUM WATER ABSORPTION SHALL BE LIMITED TO 6.0 PERCENT.
2. THE CONCRETE UNITS SHALL HAVE ADEQUATE FREEZE THAW RESISTANCE IN ACCORDANCE WITH ASTM C666-90, MODIFIED TO 50 CYCLES.
3. EXTERIOR DIMENSIONS MAY VARY. CONCRETE WALL UNITS ARE REQUIRED TO HAVE A MINIMUM OF 0.67 SQUARE FOOT FACE AREA.
4. COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD SELECTIONS.

5. GEOMETRY 6" HIGH DIAMOND STRAIGHT TEXTURE: SPLIT ROCK FACE
6. THE CONCRETE UNITS SHALL BE POSITIVELY INTERLOCKED WITH INTEGRAL CONCRETE SHEAR CONNECTIONS.
7. ANCHOR DIAMOND UNIT DIMENSIONS SHALL NOT VARY MORE THAN +/- 1/16" FROM THAT IN ANY MOLDED DIMENSION.

B. GEOSYNTHETIC REINFORCEMENT:

- MIRAGRID 8XT POLYESTER FOR USE AS SOIL REINFORCEMENT AS REQUIRED.

- C. BASE: MATERIAL SHALL CONSIST OF DRAINAGE AGGREGATE, SANDS, GRAVEL AND/OR CONCRETE AS SHOWN ON THE CONSTRUCTION DRAWINGS. A MIN. OF 6" OF COMPACTED BASE IS REQUIRED.

- D. DRAINAGE AGGREGATE: FILL BETWEEN UNITS SHALL CONSIST OF FREE-DRAINING, COARSE AGGREGATE IN ACCORDANCE WITH ASTM 448-86; STANDARD CLASSIFICATION FOR SIZE OF AGGREGATE FOR ROAD AND BRIDGE CONSTRUCTION, DESIGNATION 57, 67, 6, 7, OR 8.

- E. BACKFILL: MATERIALS ARE IMPORTED SAND AND GRAVEL (#57, ASTM C33)
- F. DISCHARGE PIPE: THE DRAINAGE COLLECTION PIPE SHALL BE A PERFORATED OR SLOTTED PVC OR CORRUGATED HDPE PIPE. THE PIPE SHALL BE COVERED WITH A GEOTEXTILE SOCK TO FUNCTION AS A FILTER.

PART 3 EXECUTION

EXAMINATION

- A. EXAMINE THE AREAS AND CONDITIONS UNDER WHICH THE RETAINING WALL IS TO BE ERRECTED AND NOTIFY THE ARCHITECT OR ENGINEER IN WRITING OF CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK. DO NOT PROCEED WITH THE WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

EXCAVATION

- A. THE CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.
- B. THE CONTRACTOR SHALL BE CAREFUL NOT TO DISTURB BASE BEYOND THE LINES SHOWN.

FOUNDATION PREPARATION

- A. FOUNDATION SOIL SHALL BE EXCAVATED AS REQUIRED FOR FOOTING OR BASE DIMENSION SHOWN ON THE CONSTRUCTION DRAWINGS, OR AS DIRECTED BY THE ENGINEER.
- B. FOUNDATION SOIL SHALL BE EXAMINED BY THE PROJECT GEOTECHNICAL ENGINEER TO ENSURE THAT THE ACTUAL FOUNDATION SOIL STRENGTH MEETS OR EXCEEDS THAT REQUIRED ON THE CONSTRUCTION DRAWINGS. SOIL NOT MEETING THE REQUIRED STRENGTH SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE MATERIAL.

BASE COURSE PREPARATION

- A. BASE MATERIALS SHALL BE PLACED AS SHOWN ON THE CONSTRUCTION DRAWINGS WITH A MIN. THICKNESS OF 6".
- B. BASE MATERIALS SHALL BE INSTALLED UPON UNDISTURBED SOILS.
- C. MATERIAL SHALL BE COMPACTED SO AS TO PROVIDE A LEVEL, HARD SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. COMPACTION WILL BE PERFORMED TO SPECIFICATIONS AS REQUIRED BY THE PROJECT ENGINEER.

- D. BASE MATERIALS SHALL BE PREPARED TO ENSURE COMPLETE CONTACT OF RETAINING WALL UNITS. GAPS SHALL NOT BE ALLOWED.
- E. BASE MATERIALS SHALL BE TO THE DEPTHS AND WIDTHS SHOWN.

BACKFILL PLACEMENT

- A. REINFORCED BACKFILL SHALL BE PLACED, SPREAD AND COMPACTED IN A MANNER MINIMIZING SLACK IN THE REINFORCEMENT.
- B. FILL IN THE REINFORCED ZONE SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6" IN LOOSE THICKNESS WHERE HAND OPERATED COMPACTION EQUIPMENT IS USED AND NOT EXCEEDING 12" LOOSE THICKNESS WHERE HEAVY SELF-PROPELLED COMPACTION EQUIPMENT IS USED.
- C. ALL FILL PLACED IN THE REINFORCED ZONE MUST BE COMPACTED TO A MIN. OF 95 PERCENT OF THE SOIL'S STANDARD PROCTOR MAX. DRY DENSITY (ASTM D 698) OR AS RECOMMENDED BY THE PROJECT GEOTECHNICAL
- D. ONLY LIGHTWEIGHT HAND OPERATED EQUIPMENT SHALL BE ALLOWED WITHIN 6 FEET OF THE BACK OF THE RETAINING WALL UNITS.

CAP UNIT INSTALLATION

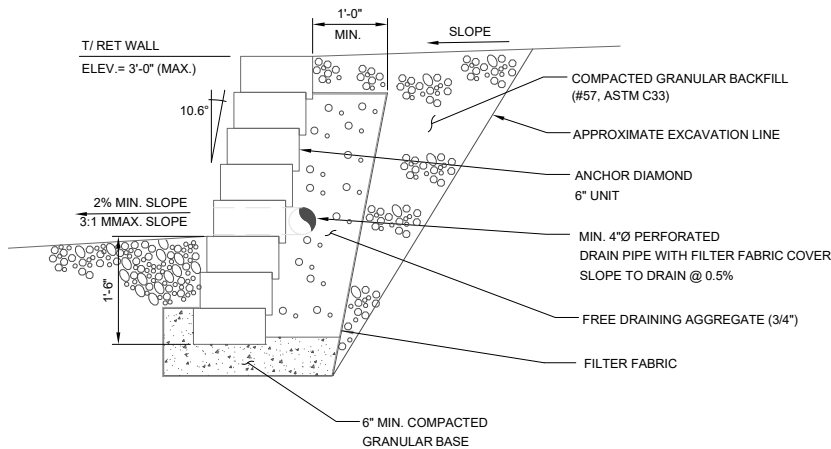
- A. APPLY CONSTRUCTION ADHESIVE TO THE CLEANED TOP SURFACE OF THE UNIT BELOW AND PLACE THE CAP UNIT INTO DESIRED POSITION.
- B. CAP UNITS MAY NEED TO BE CUT TO OBTAIN THE PROPER FIT.
- C. BACKFILL AND COMPACT TO FINISH GRADE.

ADJUSTING AND CLEANING

- A. DAMAGED UNITS SHOULD BE REPLACED WITH NEW UNITS DURING CONSTRUCTION.
- B. CONTRACTOR SHALL REMOVE DEBRIS CAUSED BY THIS CONSTRUCTION AND LEAVE ADJACENT PAVED AREAS BROOM CLEAN.

ENGINEER.

- A. ERECT UNITS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS SPECIFIED HEREIN.
- B. FIRST COURSE OF CONCRETE WALL UNITS SHALL BE PLACED ON THE PREPARED BASE MATERIAL. UNITS SHALL BE CHECKED FOR LEVEL AND ALIGNMENT. THE TOP OF ALL UNITS FOR EACH LEVEL IN THE BASE COURSE SHALL BE AT THE SAME ELEVATION.
- C. ENSURE THAT CONCRETE WALL UNITS ARE IN FULL CONTACT WITH BASE.
- D. CONCRETE WALL UNITS SHALL BE PLACED SIDE BY SIDE FOR FULL LENGTH OF WALL ALIGNMENT. ALIGNMENT MAY BE DONE BY USING A STRING LINE OR OFFSET OF WALL LINE.
- E. FILL ALL VOIDS BETWEEN CONCRETE WALL UNITS WITH FREE-DRAINING AGGREGATE.
- F. A MIN. OF 12" OF FREE-DRAINING AGGREGATE SHALL BE PLACED BEHIND THE CONCRETE WALL UNITS PER SPECIFICATIONS.
- G. DRAIN TILE SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW OF WATER TO OUTSIDE OF THE REINFORCED ZONE. THE DRAINAGE COLLECTION PIPE SHALL BE CONNECTED TO THE SITE STORM SYSTEM.
- H. REMOVE ALL EXCESS FILL FROM TOP OF UNITS AND INSTALL NEXT COURSE. ENSURE DRAINAGE AGGREGATE AND BACKFILL AREA COMPACTED BEFORE INSTALLATION OF NEXT COURSE.
- I. INSTALL EACH SUCCEEDING COURSE. BACKFILL AS EACH COURSE IS COMPLETED. PULL THE UNITS FORWARD UNTIL THE REAR LOCATOR OF THE UNIT IS IN FULL CONTACT WITH THE BACK IF THE PREVIOUS COURSE.
- J. INSTALL GEOSYNTHETIC REINFORCEMENT IN ACCORDANCE WITH REINFORCEMENT MANUFACTURER'S RECOMMENDATIONS.



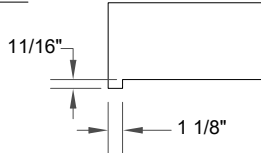
NOTES:

1. GRID LENGTHS MAY BE ELONGATED IN FIELD AS DESIRED FOR UNIFORMITY
2. MIN. SOIL BRG CAPACITY Q = 2500 PSF
3. SOIL ANGLE OF FRICTION, ϕ = 28° MIN.
4. BACKFILL ANLE OF FRICTION, ϕ = 34° MIN.
5. COMPACT BACKFILL TO 95% MODIFIED PROCTOR DENSITY

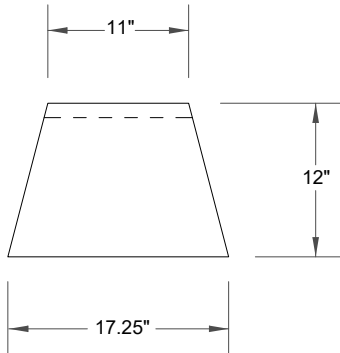
1 TYPICAL RETAINING WALL SECTION

SCALE: N.T.S.

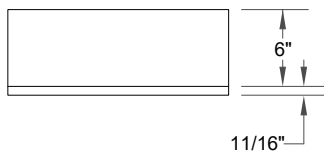
SIDE VIEW



TOP VIEW

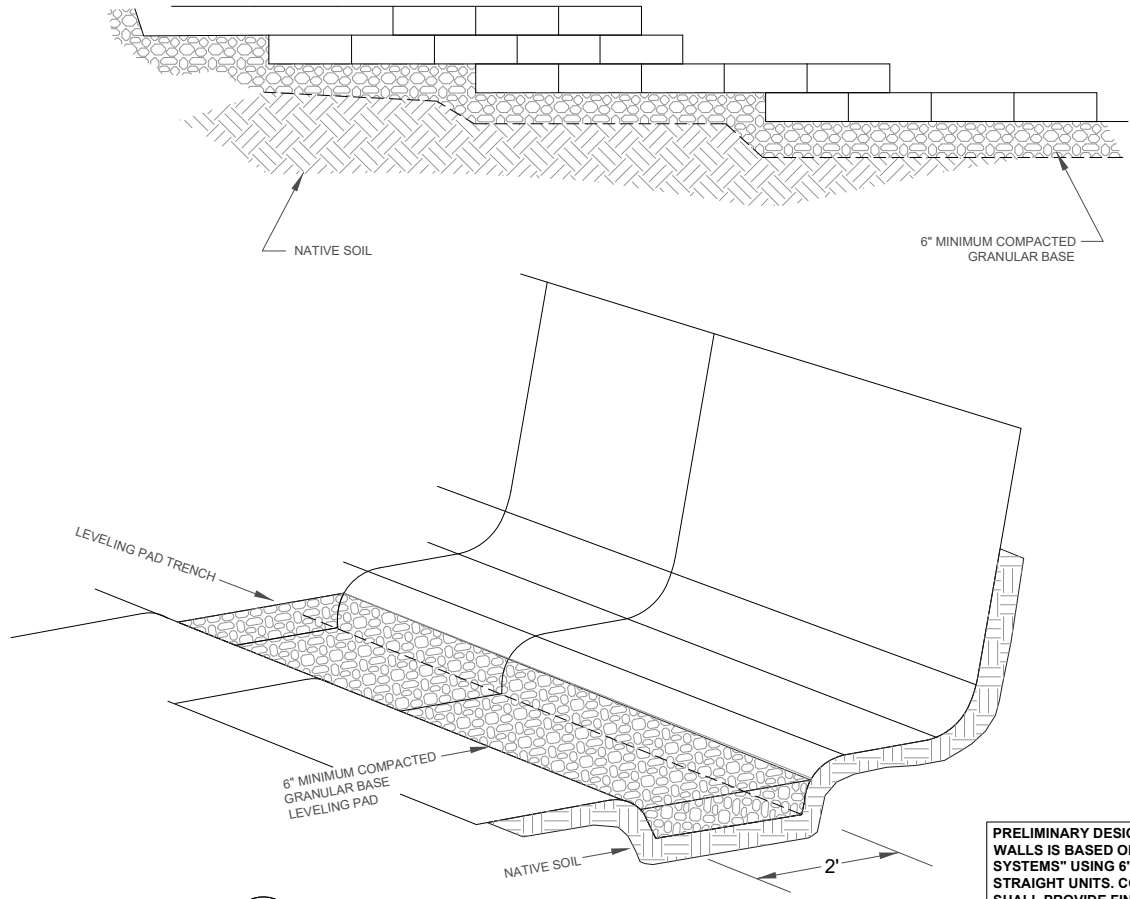
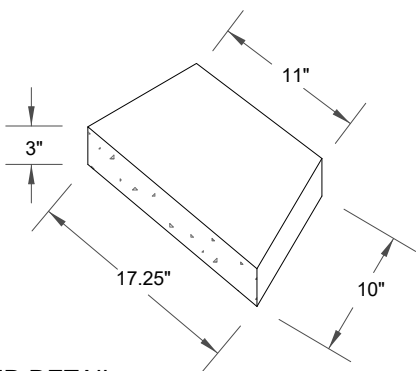
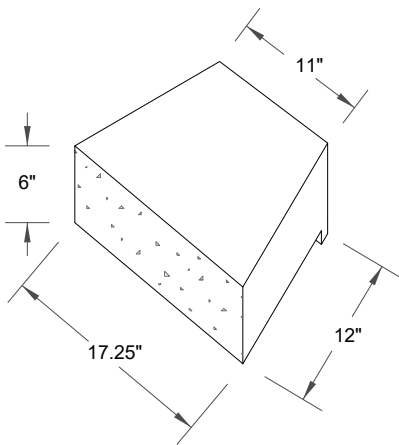


FACE VIEW



2 ANCHOR DIAMOND DETAIL

SCALE: N.T.S.



3 BASE PREPARATION DETAIL

SCALE: N.T.S.

PRELIMINARY DESIGN OF RETAINING WALLS IS BASED ON "ANCHOR WALL SYSTEMS" USING 6" DIAMOND STRAIGHT UNITS. CONTRACTOR SHALL PROVIDE FINAL ENGINEERING DESIGN



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SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:
CONCRETE PAD DETAILS

SHEET NUMBER:

S-1

NOTE:

1. BOLTS CAN BE INSTALLED 3 DAYS AFTER POURING CONCRETE PROVIDED THE KWIK BOLTS ARE ONLY TIGHTENED TO A SNUG TIGHT CONDITION.
2. APPLY "HILTI" HIT-RE 500-SD EPOXY TO ALL GAPS TO PREVENT WATER/MOISTURE BUILD-UP.
3. PROVIDE 5 ANCHOR BOLTS PER EACH SIDE OF THE TANK BASE PER MANUFACTURER'S RECOMMENDATIONS.

GENERATOR CONNECTION DESIGN CRITERIA:

1. GENERATOR ANCHORS ARE DESIGNED TO MEET THE INTERNATIONAL BUILDING CODE 2018 CRITERIA FOR WIND SPEED.
2. WIND PARAMETERS:

SURVIVAL WIND VELOCITY PER ASCE7-10	140 MPH
EQUIVALENT WIND VELOCITY PER ASCE7-05	108 MPH
WIND EXPOSURE	B
WIND RISK CATEGORY	II
WIND IMPORTANCE FACTOR	1.0

CONCRETE PAD CONSTRUCTION NOTES

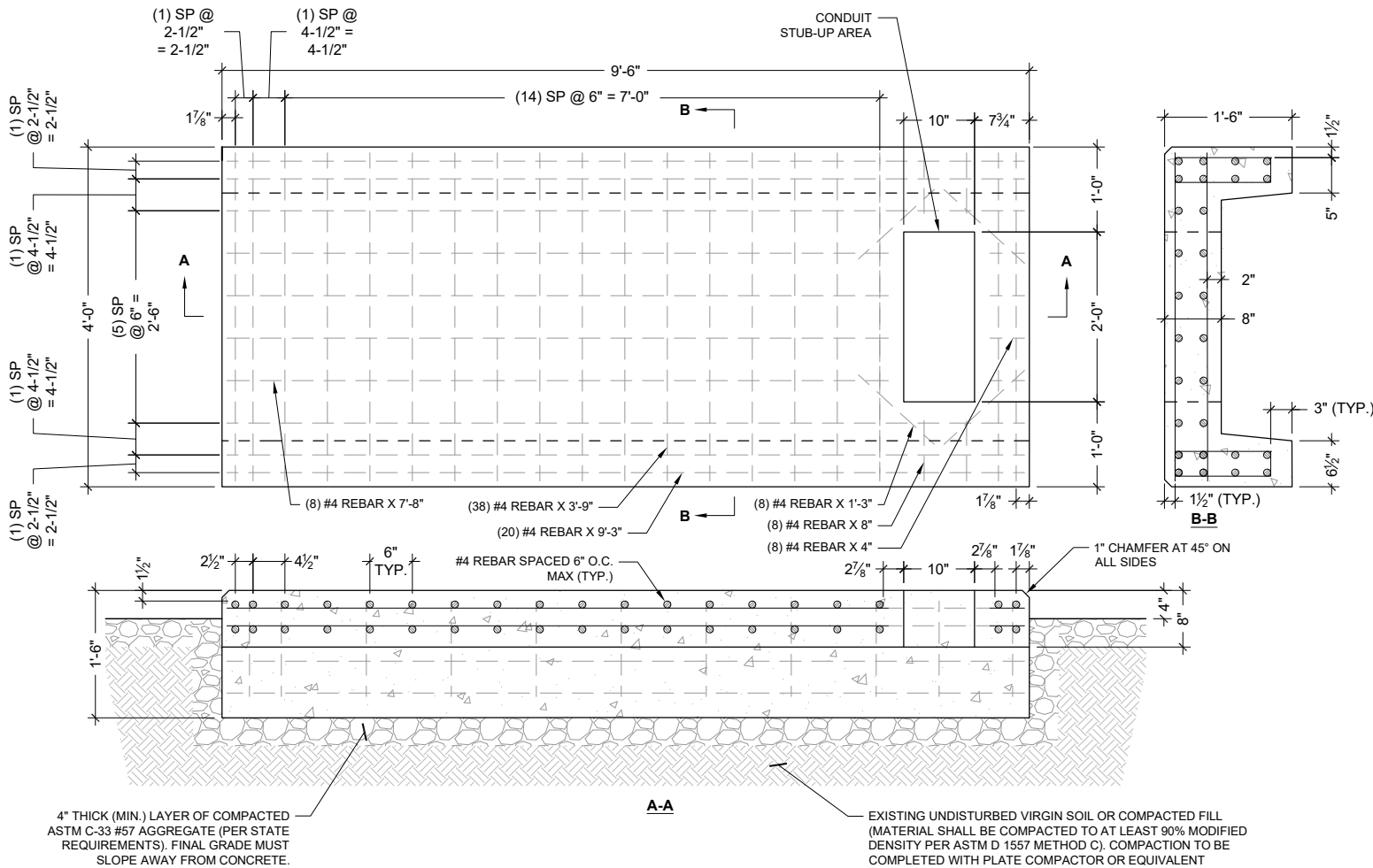
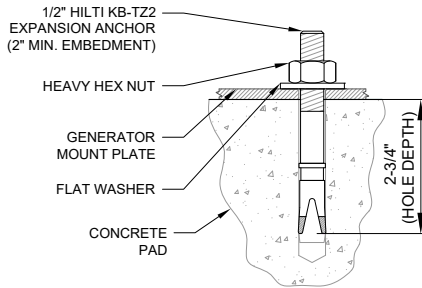
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.
2. CONCRETE SLUMP: 2" TO 4".
3. AIR ENTRAINMENT: 5% TO 7%.
4. REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
5. MINIMUM CLEAR CONCRETE COVER FOR REBAR IS 1 1/2".
6. REINFORCING MATERIAL SHALL BE IN ACCORDANCE WITH ASTM A615.
7. ALL REBARS SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
8. CONCRETE VOLUME: 1.17 CUBIC YARDS.

CONCRETE PAD AND EMBEDMENT TOLERANCES

1. CONCRETE DIMENSIONS: PLUS OR MINUS 1/4".
2. REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/4" INCLUDING CONCRETE COVER.

FOUNDATION NOTES

1. FOUNDATION WAS DESIGNED BY ASSUMING ALLOWABLE SOIL BEARING CAPACITY OF 1,500 PSF.
2. THE SOIL UNDERNEATH THE CONCRETE PAD MUST BE FREE OF ORGANIC MATTER OR OTHER DELETERIOUS SUBSTANCES, AND SHOULD BE LEVELED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY BEFORE PLACING THE FOUNDATION. PAD SHALL BE INSTALLED LEVEL TO WITHIN +/- 1/8".



1 CONCRETE PAD DETAIL

SCALE: 1"=1'-0" (1"=2'-0" IF 11 X 17 SHEET SIZE)

IMPORTANT NOTES:

1. GC TO ORDER UTILITY LOCATE SERVICE IN ORDER TO LOCATE AND PROTECT ANY AND ALL SURFACE UTILITIES ENCOUNTERED. DO NOT SCALE OFF THESE PLANS FOR ANY BELOW GRADE UTILITIES.

2. THESE PLANS MAY NOT CONTAIN OR REVEAL ALL SUBSURFACE UTILITIES; GC IS RESPONSIBLE OF LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION.

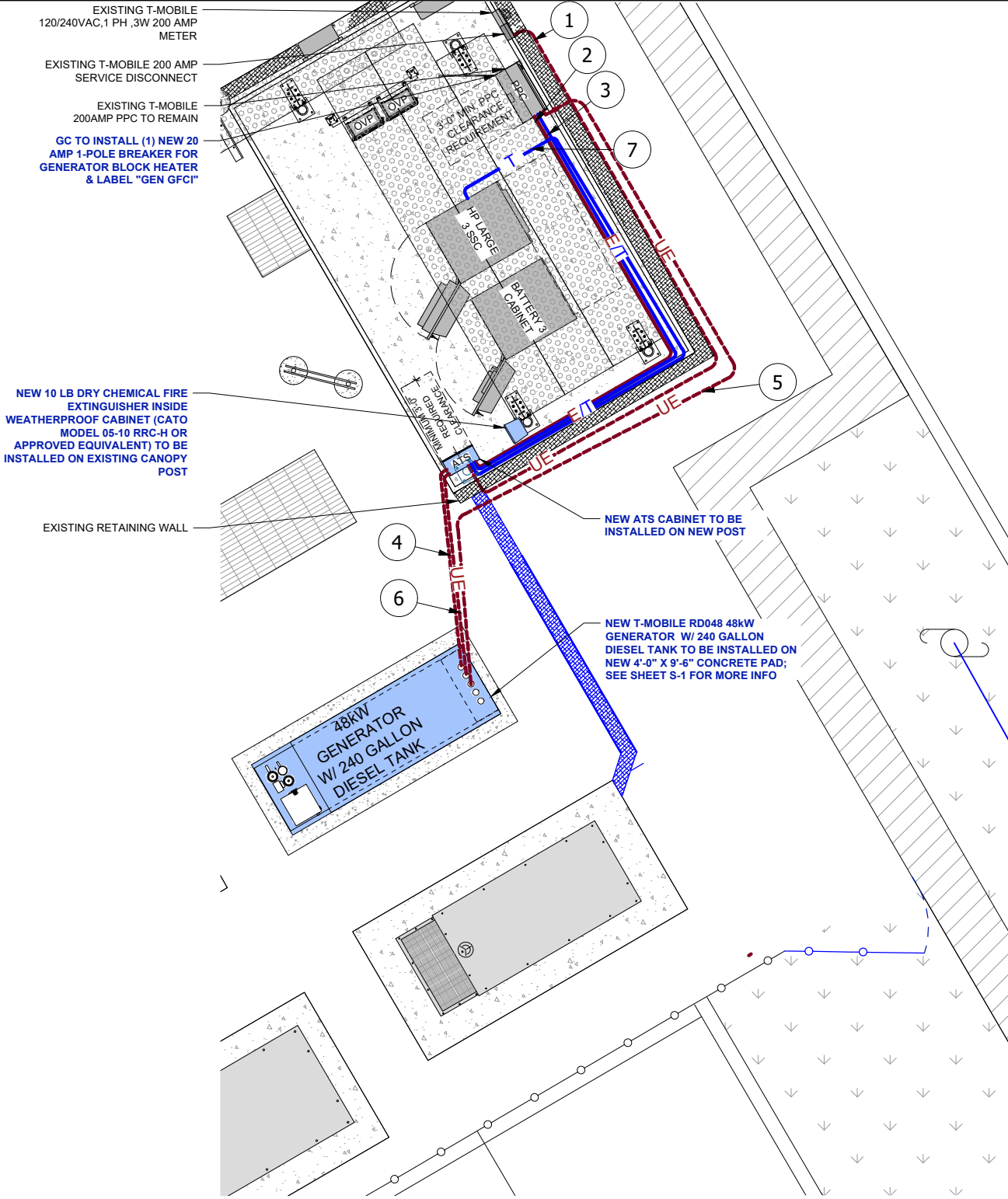
3. GC WILL NOT START CONSTRUCTION UNTIL AFTER THEY RECEIVE THE PRE CON PACKAGE AND HAVE A PRE CON WALK WITH THE CLIENT PM

4. ALL UNISTRUT, FASTENERS, HARDWARE, ETC; ARE TO BE EITHER HOT-DIPPED GALVANIZED OR STAINLESS STEEL. GENERAL CONTRACTOR SHALL NOT USE ZINC-PLATED OR PRE-GALVANIZED

5. WIRE SIZES SHOWN ARE ESTIMATED MINIMUMS. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND COMPLY WITH THE APPLICABLE LOCAL ELECTRICAL AND BUILDING CODES IN ADDITION TO CURRENT NEC CODE AND FOLLOW WHICHEVER IS MORE CONSERVATIVE. CONTRACTOR SHALL ESTIMATE PHASE CONDUCTOR SIZE & UTILIZE THE APPROPRIATE WIRE SIZE AND TYPE ASSUMING A 3% VOLTAGE DROP. CONTRACTOR TO CONFIRM WITH LOCAL ELECTRICAL INSPECTOR PRIOR TO CONSTRUCTION. NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO CONSTRUCTION START.

6. POWER ROUTE TO BE CONFIRMED WITH T-MOBILE PRIOR TO CONSTRUCTION START.

7. GC TO HAND DIG ALL NEW TRENCHES INSIDE COMPOUND.



LEGEND

- UT-- UNDERGROUND ALARM CONDUIT
— T — ALARM CABLE
---UE--- UNDERGROUND ELECTRIC CONDUIT
—E— ELECTRIC CONDUIT

1

UTILITY PLAN

SCALE: 3/8"=1'-0" (3/8"=2'-0" IF 11x17 SHEET SIZE)



Know what's below.
Call 811 before you dig.

UTILITY LEGEND

NO.	FROM	TO	WIRE QTY. & TYPE	GROUND (CU WIRE)	CONDUIT SIZE	FUNCTION	APPROXIMATE CONDUIT LENGTH
1	EXISTING SERVICE DISCONNECT (200A, 120/240V, 1Ø, 3W)	ATS	(3) 3/0	(1) #6	2" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC	NORMAL POWER FEEDER TO ATS	±48'
2	ATS	PPC	(3) 3/0	(1) #6	2" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC	POWER FEEDER TO PPC	±21'
3	ATS	PPC	(5) #18 TYPE TC WIRES	N/A	1" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC	ALARM CIRCUIT	±21'
4	GENERATOR	ATS	(3) 3/0	(1) #6	2" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC	EMERGENCY POWER FEEDER TO ATS	±21'
5	GENERATOR	PPC	(2) #12	(1) #12	1" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC	(1) 20 AMP 1-POLE BREAKER FOR GENERATOR BLOCK HEATER	±52'
6	GENERATOR	ATS	(5) #18 TYPE TC WIRES	N/A	1" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC	CIRCUIT FOR BATTERY CHARGER & COMMERCIAL POWER SENSING	±21'
7	ATS	FSEE (ALARM BOX)	(2) CAT6 CABLES	N/A	1" RIGID RMC (ABOVE GROUND), UNDERGROUND SCH. 40 GREY PVC	ALARM CABLES (RUN INTO ALARM BOX. PROVIDE 24" OF SLACK CABLE. FINAL PUNCH DOWN IS BY GC. LABEL ALL WIRES)	±32'

NOTE: * THE CONDUIT LENGTH GIVEN IS BASED ON THE DRAWING +15%. THE EXACT LENGTH TO BE VERIFIED IN FIELD. GC TO VERIFY LENGTHS AFTER COORDINATING W/ SERVICE UTILITY COMPANIES.

RELEASED FOR CONSTRUCTION

As Noted on Plan Review

Development Services Department
Lee's Summit, Missouri
09/29/2025

T-Mobile

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Concordia
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PROFESSIONAL DESIGN FIRM
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SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:
UTILITY PLAN AND
DETAILS

SHEET NUMBER:

E-1



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DETAILS

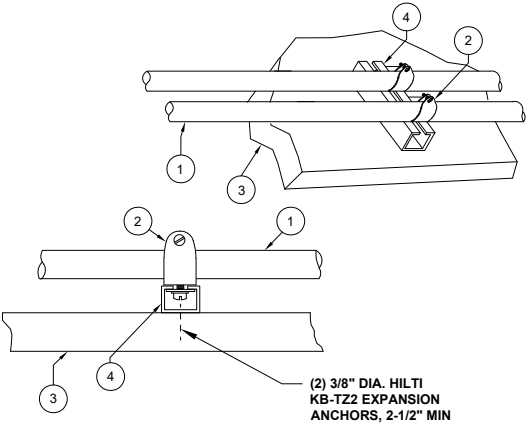
SHEET NUMBER:

E-1A



UNISTRUT MOUNTING CHART	
CONSTRUCTION TYPE	USE
CONCRETE (SOLID)	3/8"Ø HILTI HIT-HY150 ADHESIVE ANCHOR WITH SCREEN, MINIMUM EMBEDMENT 2-1/2"

- 1 CONDUIT
2 FIMO OR BUTTERFLY CLAMP AS REQUIRED
3 EXISTING CONCRETE PAD
4 "UNISTRUT" P1000 "T" SERIES LENGTH BASED ON NUMBER OF CONDUIT TO BE MOUNTED



1

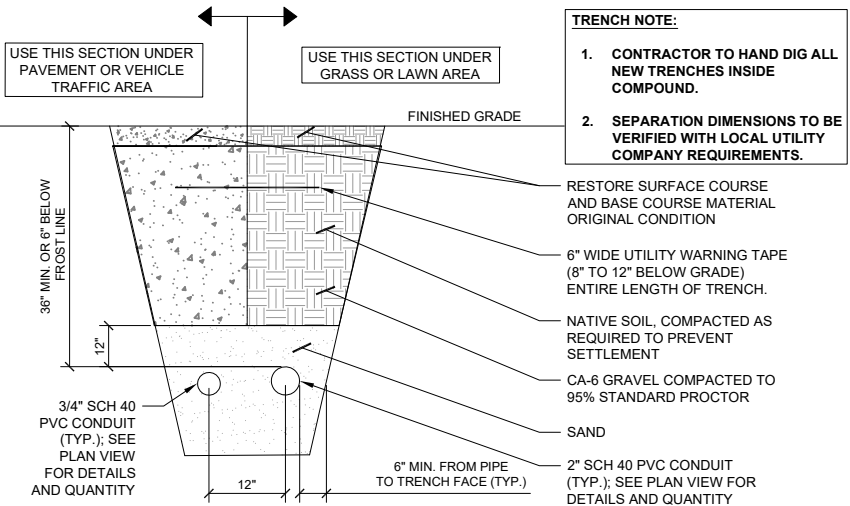
ABOVE GROUND CONDUIT SUPPORT DETAILS

SCALE: N.T.S.

2

JOINT UTILITY TRENCH DETAIL

N.T.S.



3

PPC DETAILS

N.T.S.

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SITE #: A5C0028A
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LEES SUMMIT, MO 64063

SHEET TITLE:
ONE LINE DIAGRAM

SHEET NUMBER:

E-1B

MATERIALS NOTES:

A ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING & VERIFYING THE TYPE OF ELECTRICAL SERVICE AS WELL AS THE ACTUAL CONDUIT DISTANCE TO SERVICE POINT -- ELECTRICAL CONTRACTOR TO NOTIFY ENGINEER OF DISCREPANCIES IMMEDIATELY -- OTHERWISE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING PHASE CONDUCTORS FROM THE SERVICE POINT TO LOAD CENTER IN ORDER TO COMPLY WITH THE LOCAL BUILDING/ELECTRICAL CODE AS WELL AS THE NEC AND UTILITY COMPANY REQUIREMENTS

B ELECTRICAL CONTRACTOR TO FURNISH & INSTALL NEW SERVICE GROUND IN COMPLIANCE WITH LOCAL ELECTRICAL, NEC & ELECTRICAL UTILITY REQUIREMENTS.

SERVICE EQUIPMENT NOTES:

- 1.) SERVICE EQUIPMENT SHALL HAVE A SHORT CIRCUIT TO WITHSTAND RATING THAT IS EQUAL TO OR EXCEEDS THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL. THE INSTALLATION SHALL BE FREE FROM ANY SHORT CIRCUITS AND GROUNDS.
- 2.) ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO WITHSTAND 80 M.P.H. WIND SPEED, EXPOSURE C.
- 3.) ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- 4.) PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF ELECTRICAL WORK.

CONDUIT NOTES:

- 1.) RGS SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, OR EXPOSED ABOVE GRADE.
- 2.) EMT SHALL BE USED ONLY FOR INTERIORS RUNS AND SHALL HAVE COMPRESSION TYPE FITTINGS.
- 3.) SEALTITE, FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE.
- 5.) SERVICE CONDUITS SHALL HAVE NO MORE THAN (3) -90° BENDS IN ANY SINGLE RUN. THE ELECTRICAL CONTRACTOR SHALL PROVIDE PULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS.
- 6.) SERVICE CONDUIT SHALL BE AT A MINIMUM DEPTH OF 42".
- 7.) ALL COAX, POWER AND TELEPHONE SYSTEM CONDUIT SHALL HAVE A MINIMUM 36" RADIUS SWEEPS TO EQUIPMENT, PULL BOXES, TOWER, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES.

NOTES ON POWER COORDINATION:

- 1.) ROUTING SHOWN IS BASED ON ASSUMPTIONS MADE FROM VISUAL FIELD OBSERVATIONS OF EXISTING EQUIPMENT.
- 2.) THESE PLANS/DIAGRAM MAY OR MAY NOT REFLECT AND/OR CONTAIN THE FINAL SCENARIO FOR POWER OR FIBER ROUTING.
- 3.) THE ELECTRICAL DESIGN SHOWN IS FOR PERMITTING PURPOSES ONLY AND IS NOT FOR CONSTRUCTION.
- 4.) CONCORDIA IS NOT RESPONSIBLE FOR CODE COMPLIANCE OR COMPLIANCE WITH POWER CODE.
- 5.) ELECTRICIAN IS REQUIRED TO CONFIRM COMPLIANCE OF SITE WITH LOCAL, COUNTY, STATE AND/OR NATIONAL ELECTRICAL CODES. THE MOST RESTRICTIVE OF SUCH CODES SHALL GOVERN AND BE APPLICABLE.
- 6.) ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING FINAL SCENARIO & CODE COMPLIANCE & IS RESPONSIBLE FOR COORDINATING WITH T-MOBILE POWER COORDINATOR.
- 7.) ELECTRICAL CONTRACTOR SHALL BID ON THESE PLANS USING THE WORST CASE SCENARIO.

CONDUCTOR NOTES:

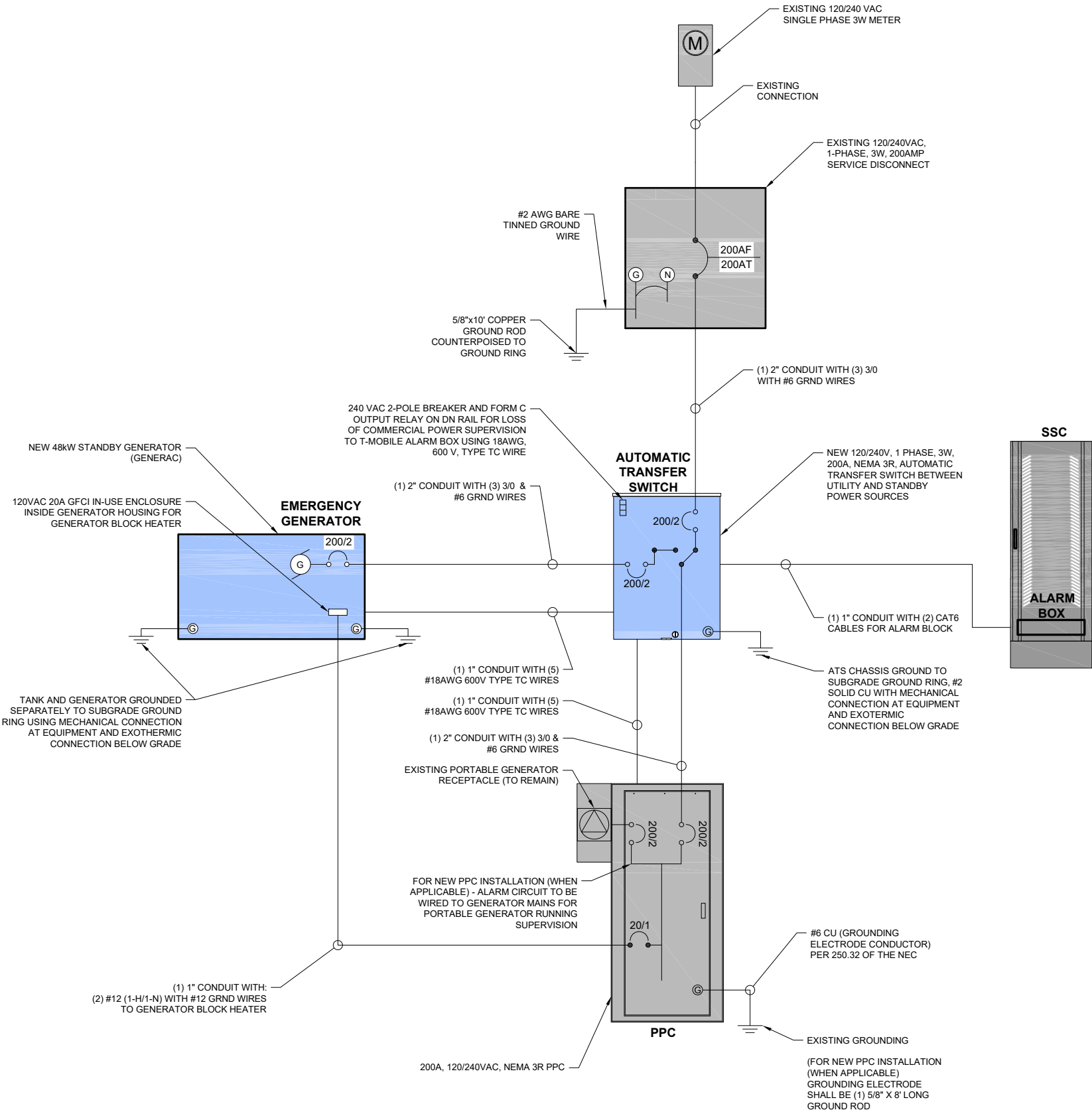
- 1.) ALL CONDUCTORS SHALL BE COPPER
- 2.) ALL WIRING SHALL BE COPPER WITH XHHW/THWN DUAL RATED 600 VOLTS INSULATION.
- 3.) CONDUCTORS SHALL BE 12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE.
- 4.) GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED.

CONDUIT MATERIAL SCHEDULE:

- UNLESS NOTED OTHERWISE, ALL CONDUIT RUNS SHALL CONFORM TO THE FOLLOWING :
- 1.) ALL BELOW GRADE HORIZONTAL CONDUITS SHALL BE PVC
 - 2.) ALL BELOW GRADE 3' @ 45° BENDS SHALL BE STEEL W/THREADED CONNECTIONS.
 - 3.) SEALTITE FLEXIBLE CONDUIT MAY BE USED WHERE CODE PERMITS.

LEGEND

- EXISTING EQUIPMENT TO REMAIN
- NEW EQUIPMENT



1

ONE LINE DIAGRAM
SCALE: N.T.S



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PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

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CHECKED BY: GMS



SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:
ALARM SCHEDULE

SHEET NUMBER:

E-2

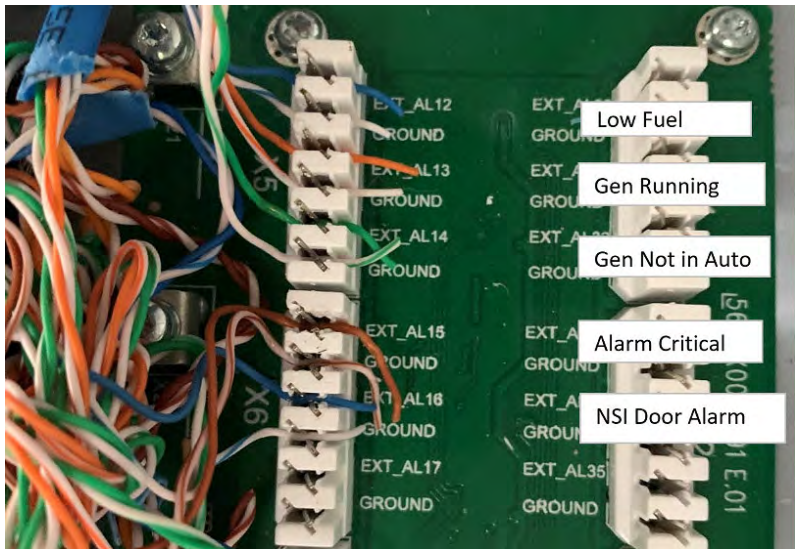
ALARM LABEL CODING (GENERATOR TO FSEB)

GENERAC GENERATOR, LOCP RELAY INSTALLED			TERMINATION AT FSEB						TERMINATION AT GENERATOR			
NAME	LINE #	DESCRIPTION	POLARITY	EAC CABLE	WIRES	TERMINAL BLOCK	WIRES	TERMINAL BLOCK	WIRES	TERMINATION	WIRES	TERMINATION
GENERATOR LOW FUEL	13	NC#5-LOW FUEL	NC	CAT6 TO GENERATOR RELAY	WHITE/BLUE	X4111 PIN 13	BLUE	X4110 PIN 13	WHITE/BLUE	GENERAC CUSTOMER CONNECTION RB4 #3	BLUE	GENERAC CUSTOMER CONNECTION RB4 #2
GENERATOR RUNNING	14	NC#8-GEN RUNNING	NC	CAT6 TO GENERATOR RELAY	WHITE/ORANGE	X4111 PIN 14	ORANGE	X4110 PIN 14	WHITE/ORANGE	GENERAC CUSTOMER CONNECTION RB4 #9	ORANGE	GENERAC CUSTOMER CONNECTION RB4 #8
GENERATOR NOT IN AUTO	15	NC#11-NOT IN AUTO	NC	CAT6 TO GENERATOR RELAY	WHITE/GREEN	X4111 PIN 15	GREEN	X4110 PIN 15	WHITE/GREEN	GENERAC CUSTOMER CONNECTION RB4 #12	GREEN	GENERAC CUSTOMER CONNECTION RB4 #11
GENERATOR ALARM CRITICAL	16	COMMON SHUTDOWN ALARM OUTPUT	NC	CAT6 TO GENERATOR RELAY	WHITE/BROWN	X4111 PIN 16	BROWN	X4110 PIN 16	WHITE/BROWN	GENERAC CUSTOMER CONNECTION TB4 #2	BROWN	GENERAC CUSTOMER CONNECTION TB4 #1
GENERATOR ALARM NSI	17	NC#2-DOOR ALARM	NC	CAT6 TO GENERATOR RELAY	WHITE/BLUE	X4111 PIN 17	BLUE	X4110 PIN 17	WHITE/BLUE	GENERAC CUSTOMER CONNECTION RB4 #6	BLUE	GENERAC CUSTOMER CONNECTION RB4 #5

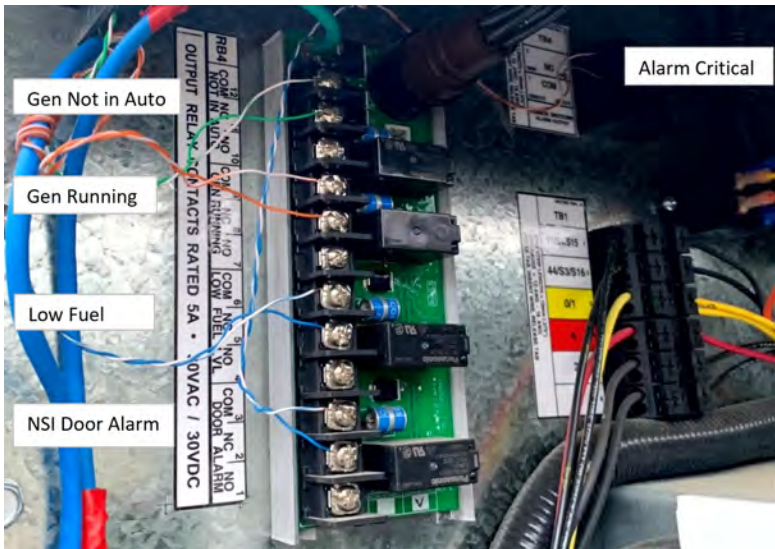
ALARM LABEL CODING (GENERATOR TO FSEE)

GENERAC GENERATOR, LOCP RELAY INSTALLED			TERMINATION AT FSEE ONLY IF STARTS ON 0						TERMINATION AT GENERATOR			
NAME	LINE #	DESCRIPTION	POLARITY	EAC CABLE	WIRES	TERMINAL BLOCK	WIRES	TERMINAL BLOCK	WIRES	TERMINATION	WIRES	TERMINATION
GENERATOR LOW FUEL	12	NC#5-LOW FUEL	NC	CAT6 TO GENERATOR RELAY	WHITE/BLUE	X4111 PIN 12	BLUE	X4110 PIN 12	WHITE/BLUE	GENERAC CUSTOMER CONNECTION RB4 #3	BLUE	GENERAC CUSTOMER CONNECTION RB4 #2
GENERATOR RUNNING	13	NC#8-GEN RUNNING	NC	CAT6 TO GENERATOR RELAY	WHITE/ORANGE	X4111 PIN 13	ORANGE	X4110 PIN 13	WHITE/ORANGE	GENERAC CUSTOMER CONNECTION RB4 #9	ORANGE	GENERAC CUSTOMER CONNECTION RB4 #8
GENERATOR NOT IN AUTO	14	NC#11-NOT IN AUTO	NC	CAT6 TO GENERATOR RELAY	WHITE/GREEN	X4111 PIN 14	GREEN	X4110 PIN 14	WHITE/GREEN	GENERAC CUSTOMER CONNECTION RB4 #12	GREEN	GENERAC CUSTOMER CONNECTION RB4 #11
GENERATOR ALARM CRITICAL	15	COMMON SHUTDOWN ALARM OUTPUT	NC	CAT6 TO GENERATOR RELAY	WHITE/BROWN	X4111 PIN 15	BROWN	X4110 PIN 15	WHITE/BROWN	GENERAC CUSTOMER CONNECTION TB4 #2	BROWN	GENERAC CUSTOMER CONNECTION TB4 #1
GENERATOR ALARM NSI	16	NC#2-DOOR ALARM	NC	CAT6 TO GENERATOR RELAY	WHITE/BLUE	X4111 PIN 16	BLUE	X4110 PIN 16	WHITE/BLUE	GENERAC CUSTOMER CONNECTION RB4 #6	BLUE	GENERAC CUSTOMER CONNECTION RB4 #5

TERMINATIONS TO FSEB/FSEE



TERMINATIONS TO GENERATOR



IMPORTANT NOTES:

1. A FLAG STYLE LABEL IS TO BE PLACED ON EACH ALARM CABLE NOT MORE THAN 5" FROM ANY TERMINATION POINT. THE CABLE LABELS ARE TO DEFINE THE CIRCUIT DESCRIPTION AND POINT OF TERMINATION ON EACH END OF THE CABLE WITH THE NEAR END ("THIS POSITION") AND FAR END ("TO POSITION") INFORMATION AND TERMINATION POINTS.
2. ALARM WIRING TERMINATIONS SHALL BE RING OR FORK TONGUE VINYL INSULATED COMPRESSION TYPE, UL-CSA APPROVED MANUFACTURERS WITH 600V INSULATION.
3. (2) OUTDOOR RATED CAT 6 CABLES TO BE UTILIZED FOR ALARM CONNECTIONS; POLYOLEFIN INSULATION, RIP CORD AND OUTER PVC JACKET.
4. TERMINATIONS FOR SHIELDED ALARM CABLING SHALL BE SIMILAR, WITH TERMINATIONS FOR LOOP AND BRAIDED GROUND CONDUCTORS.
5. ALL FIELD ALARMS INCLUDING GENERATOR ALARMS ARE TO ROUTE DIRECTLY TO THE ALARM BOX FOR TERMINATION.
6. CLEARLY LABEL AND TAG ALL COMPONENTS.

LABELS AT FSEB/FSEE



LABELS AT GENERATOR



T-Mobile

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SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
LEE'S SUMMIT, MO 64063

SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:

EG-1

GENERATOR NOTE:

1. GENERATOR SYSTEM SHALL BE SOLIDLY GROUND PER NEC 250.20.
2. BASE GROUND WIRES TO BE IN NON-METALLIC LIQUID TIGHT. GC TO SEAL OPEN ENDS WITH SILICONE.

LEGEND:

- MECHANICAL CONNECTION
- EXOTHERMIC CONNECTION

NEW T-MOBILE GENERATOR W/ DIESEL TANK
TO BE INSTALLED ON NEW CONCRETE PAD

BOND #2 TINNED SOLID
COPPER GROUND
CONDUCTOR TO GENERATOR
FRAME AS RECOMMENDED BY
GENERATOR MANUFACTURER.
(TYP.)

FINISHED GRADE

GROUND RING

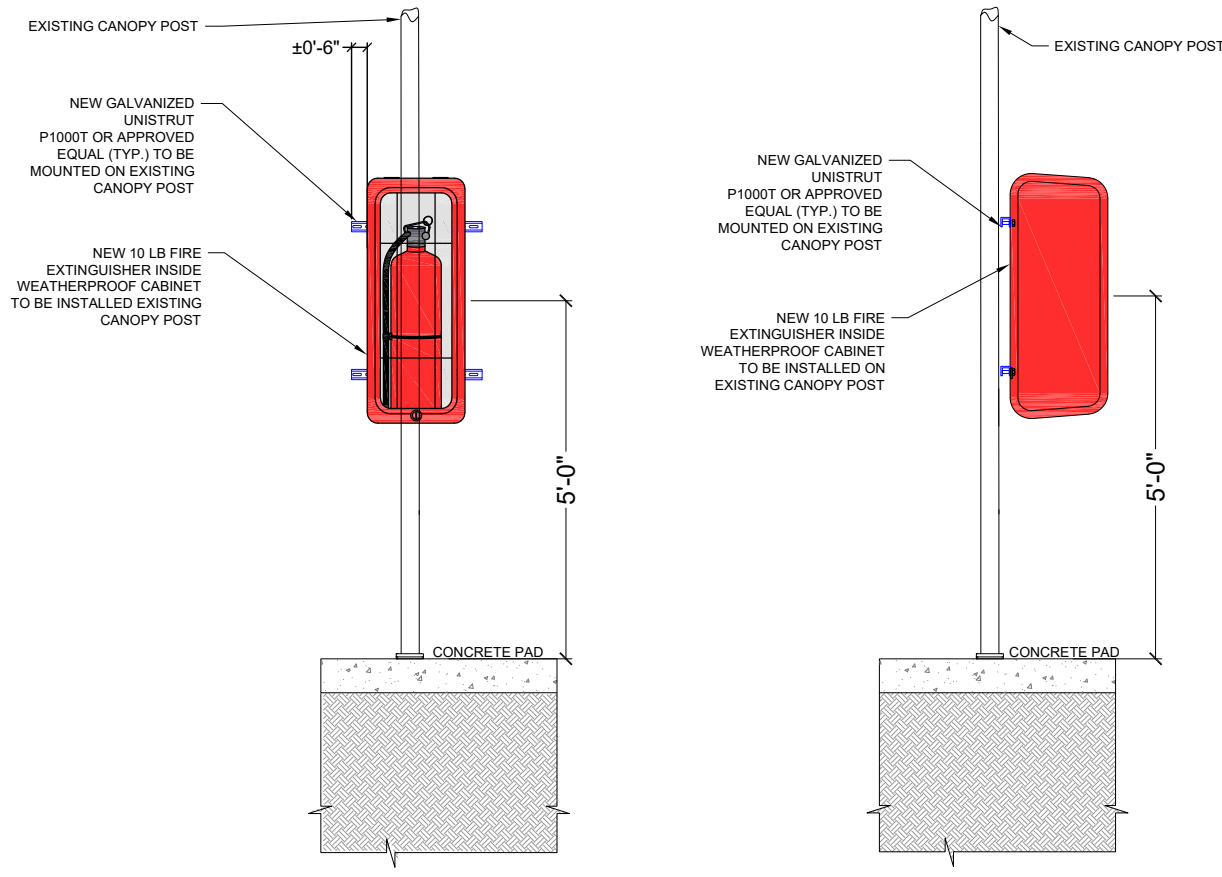
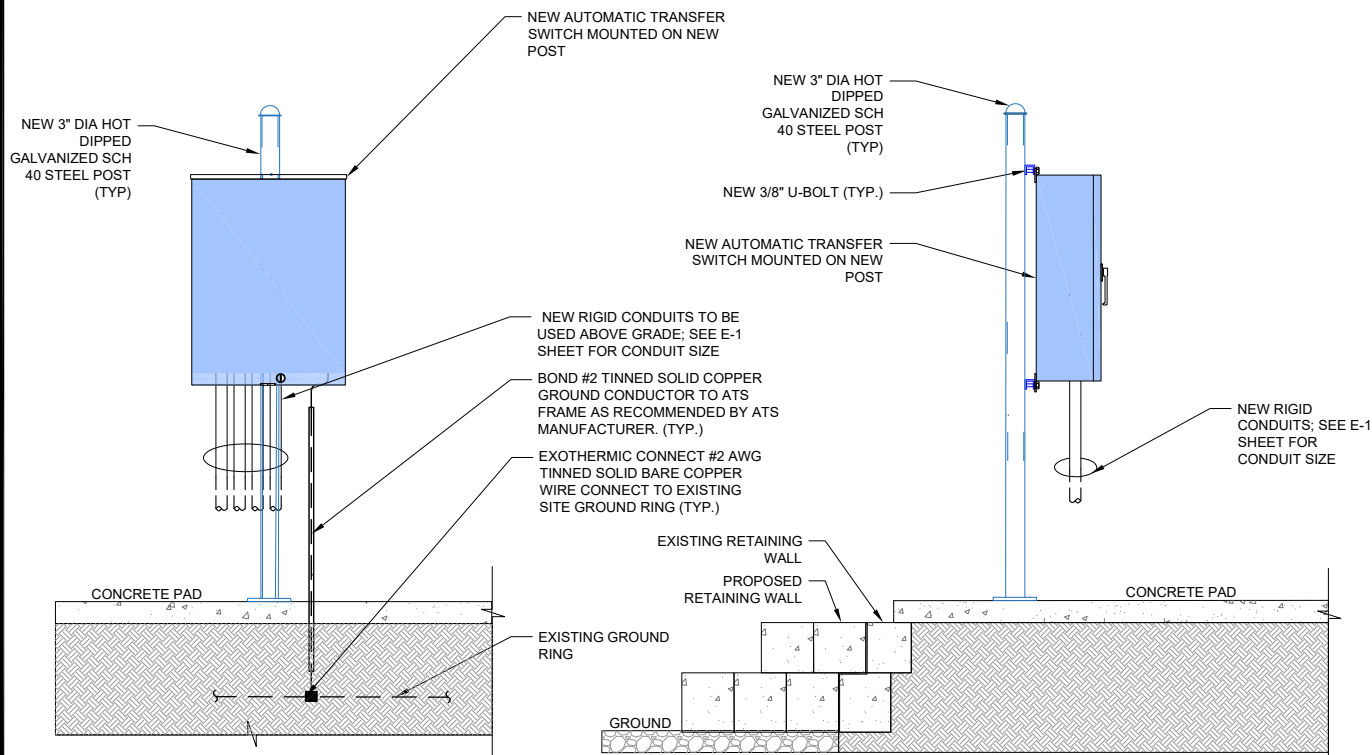
EXTEND GROUND CONDUCTORS IN 1/2"
RIGID H.W. CONDUIT ADJACENT TO PAD,
OFFSET AND ATTACHED TO EXTERIOR OF
GENERATOR HOUSING AND EXTEND TO
GROUND LUGS AS REQUIRED. VERIFY
LOCATION WITH MANUFACTURER

EXOTHERMIC CONNECT #2 AWG
TINNED SOLID BARE COPPER
WIRE CONNECT TO EXISTING
SITE GROUND RING (TYP.)

1

GENERATOR GROUNDING ELEVATION (TYP.)

SCALE: N.T.S.



2

(TYP.) AUTOMATIC TRANSFER SWITCH MOUNTING AND GROUNDING DETAILS

SCALE: N.T.S.



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SITE #: A5C0028A
LEE'S SUMMIT FIRE STATION
207 S.E. DOUGLAS ST
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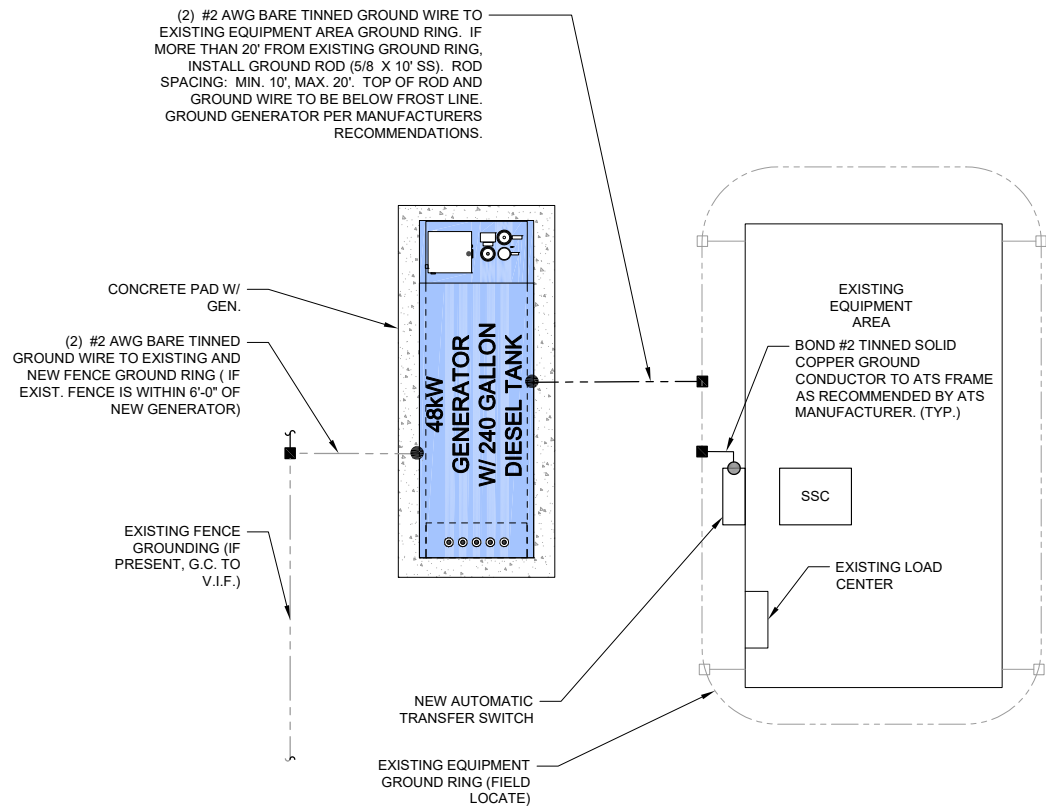
SHEET TITLE:
**GROUNDING
DETAILS**

SHEET NUMBER:

EG-2

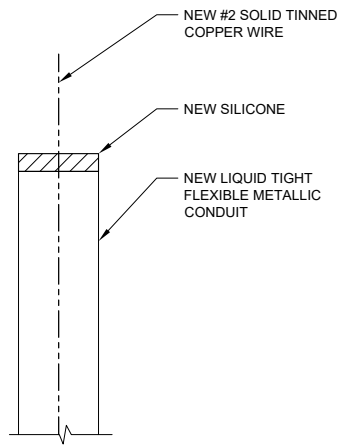
LEGEND:

- MECHANICAL CONNECTION
- EXOTHERMIC CONNECTION



1 GROUNDING PLAN (TYP.)

SCALE: N.T.S.

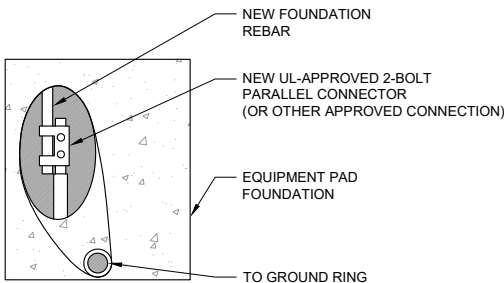


GROUND WIRE NOTE:

CONTRACTOR TO USE CLEAR OR GRAY SILICONE AS NECESSARY TO SEAL LIQUID TIGHT FLEXIBLE METALLIC CONDUIT.

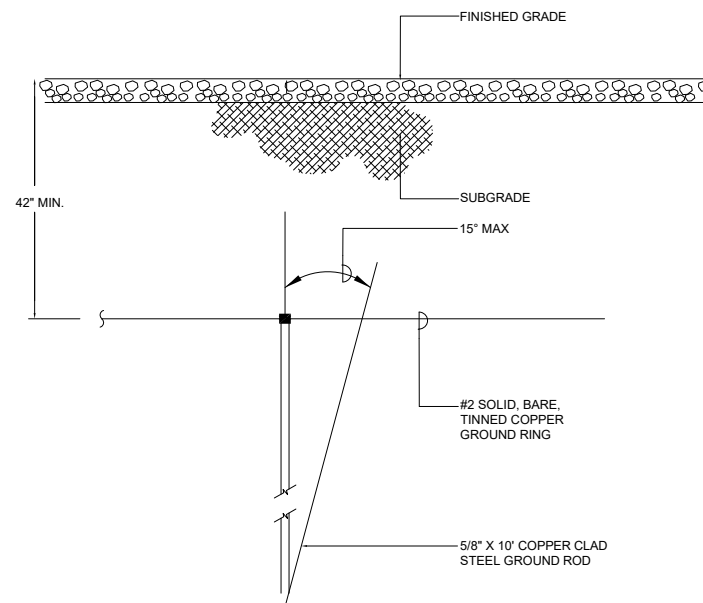
EQUIPMENT PAD GROUNDING NOTES:

1. CONNECTION SHALL BE COVERED BY NO LESS THAN 2" OF CONCRETE
2. ATTEMPT TO MAKE CONNECTION TO A 6'-0" RUN OF REBAR OR GREATER.
3. APPLY HEAT SHRINK OR ELECTRICAL TAPE AROUND THE CONDUCTOR TO AVOID CORROSION.
4. CONNECTION TO REMAIN OUTSIDE THE SLEEVE AND VISIBLE



GROUNDING PLAN NOTES:

VERIFY QTY., LENGTH, TYPE, & CONFIGURATION OF GROUND RODS TO ENSURE SYSTEM PROVIDES GROUND RESISTANCE OF 5 OHMS OR LESS.



2 GROUND WIRE WEATHERPROOFING

SCALE: N.T.S.

3 EQUIPMENT PAD GROUNDING

SCALE: N.T.S.

4 GROUND ROD DETAIL

SCALE: N.T.S.

RD048 | 3.3L | 48 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency

GENERAC[®] INDUSTRIAL
POWER
Model Number
48 kW: G0079600

Standby Power Rating
48 kW, 60 Hz

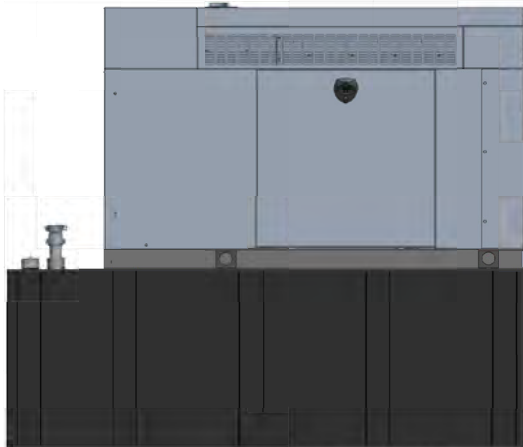


Image used for illustration purposes only



Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL489, UL142
- CSA C22.2, ULC S601
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99
- ISO 3046, 8528, 9001
- NEMA ICS1, ISC10, MG1, 250, ICS6, AB1
- ANSI/IEEE C62.41

Powering Ahead

For over 60 years, Generac has provided innovative design and superior manufacturing. Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application. Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

RD048 | 3.3L | 48 kW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency

GENERAC[®] INDUSTRIAL
POWER

STANDARD FEATURES

ENGINE SYSTEM

- Block Heater
- Oil Drain Extension
- Fan Guard
- Factory Filled Oil and Coolant

GENERATOR SET

- Sound Attenuated Aluminum Enclosure
- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Wrapped Exhaust Piping
- Standard Factory Testing
- Ready to Accept Full Load in <10 Seconds
- External Emergency Stop Push Button

ENCLOSURE

- Lockable Doors - Keyed Lock with Padlock Hasp
- Rust Proof Hardware
- RhinoCoat™ - Textured Polyester Powder Coat

Electrical System

- Battery
- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor
- Smart Battery Charger
- Battery Disconnect

ALTERNATOR SYSTEM

- 2/3 Pitch
- Skewed Stator
- Sealed Bearings
- Low Temperature Rise (<120 °C)
- Low THD (<5%)

Cooling System

- Closed Coolant Recovery System
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension
- Can Operate at up to 122 °F (50 °C) Ambient Temperature

Fuel System

- Primary Fuel Filter
- Stainless Steel Fuel Lines

FUEL TANKS

- 48 Minimum Hour Run Time
- UL142/ULC S601 Listed
- Lockable Fuel Cap

CONTROL SYSTEM



Evolution™ Controller

- Two-Line Plain Text LCD Display
- Programmable Start Delay Between 10-30 Seconds
- 10 Second Engine Start Sequence
- 5 Second Engine Warm Up
- 1 Minute Engine Cool-Down
- Starter Lock-Out
- Smart Battery Charger
- Automatic Voltage Regulation with Over and Under Protection
- Automatic Low Oil Pressure Shutdown
- Overspeed Shutdown
- High Temperature Shutdown
- Overcrank Protection
- Safety Fused
- Failure to Transfer Protection
- Low Battery Protection
- 50 Event Run Log
- Future Set Capable Exerciser
- Incorrect Wiring Protection
- Internal Fault Protection

- Common External Fault Capability
- Governor Failure Protection
- OBD2 Diagnostic Port

Alarms

- Door Open
- Fuel Level
 - 90% Full
 - 50% Low Fuel
 - 10% Shutdown
- Generator Running
- Not in Auto
- Common Shutdown

OPTIONAL SHIPPED LOOSE AND FIELD INSTALL KITS

GENERATOR SET

- Paint Kit
- Scheduled Maintenance Kit

FUEL TANK

- Fuel Fill Drop Tube
- Spill Box
- 90% Fuel Audible Alarm
- Tank Risers
- Spill Box Drainback Kit
- Vent Extension Support Kit
- Overfill Prevention Valve



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CERTIFICATE OF AUTHORIZATION # A-2024018412

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SPEC SHEET

1 of 5

SPEC SHEET

2 of 5

SITE #: A5C0028A
LEE'S SUMMIT FIRESTATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:
GENERATOR
SPECIFICATIONS

SHEET NUMBER:

SPEC-1

RD048 | 3.3L | 48 kW
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General		Cooling System	
Make	Mitsubishi	Cooling System Type	Closed Recovery
Cylinder #	4	Fan Type	Pusher
Type	In-Line	Fan Speed - RPM	2,340
Displacement - in ³ (L)	201.38 (3.3)	Fan Diameter - in (mm)	17 (431.8)
Bore - in (mm)	3.70 (94)	Fuel System	
Stroke - in (mm)	4.72 (120)	Fuel Type	Ultra Low Sulfur Diesel Fuel
Compression Ratio	19:1	Fuel Specification	ASTM
Cylinder Head Type	Cast Iron OHV	Fuel Pump Type	Mechanical Engine Driven Gear
Piston Type	Aluminum	Injector Type	Mechanical
Intake Air System	Turbocharged/Aftercooled	Fuel Supply Line - in (mm)	0.31 (7.94) ID
Engine Governing		Fuel Return Line - in (mm)	0.31 (7.94) ID
Governor	Electronic	Fuel Filtering (Microns)	6
Frequency Regulation (Steady State)	±0.25%	Engine Electrical System	
Lubrication System		System Voltage	12 VDC
Oil Pump Type	Gear	Battery Charger Alternator	Standard
Oil Filter Type	Full Flow Spin-On Canister	Battery Size	Group 27F
Crankcase Capacity - qt (L)	11.2 (10.6)	Battery Voltage	12 VDC
		Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	Generac	Standard Excitation	Direct
Poles	4	Bearings	Single Sealed Cartridge
Field Type	Rotating	Coupling	Direct via Flexible Disc
Insulation Class - Rotor	F	Prototype Short Circuit Test	Yes
Insulation Class - Stator	H	Voltage Regulator Type	Electronic
Total Harmonic Distortion	<5%	Regulation Accuracy (Steady State)	±1.0%
Telephone Interference Factor (TIF)	<50		

RD048 | 3.3L | 48 kW
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



OPERATING DATA

POWER RATINGS

Standby			
Single-Phase 120/240 VAC @1.0pf	48 kW	Amps: 200	Circuit Breaker Size Amps: 200

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip at 30%	
120/240 V, Single-Phase at 0.4pf	189 Amps

FUEL CONSUMPTION RATES*

Percent Load	Diesel gph (Lph)
25%	1.23 (4.66)
50%	2.02 (7.66)
75%	3.02 (11.43)
100%	4.02 (15.22)
* Fuel supply installation must accommodate fuel consumption rates at 100% load.	

COOLING

Standby		
Air Flow	cfm (m ³ /min)	3,038 (86)
Coolant System Capacity	gal (L)	2.8 (10.6)
Heat Rejection to Coolant	BTU/hr (MJ/hr)	111,000 (117.1)
Temperature Deration	3% for every 5 °C above 25 °C or 1.7% for every 5 °F over 77 °F	
Altitude Deration	1% for every 100 m above 915 m or 3% for every 1,000 ft over 3,000 ft	
Maximum Ambient Temperature Operating Range	°F (°C)	50 (122)
Maximum Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

Standby	
Flow at Rated Power - cfm (m ³ /min)	90 (2.5)

ENGINE			EXHAUST		
		Standby			Standby
Rated Engine Speed	RPM	1,800	Exhaust Flow (Rated Output)	cfm (m³/min)	230 (6.5)
			Exhaust Temperature (Rated Output)	°F (°C)	930 (499)

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.



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SHEET TITLE:
GENERATOR
SPECIFICATIONS

SHEET NUMBER:

SPEC-2



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SHEET TITLE:
**GENERATOR
SPECIFICATIONS**

SHEET NUMBER:

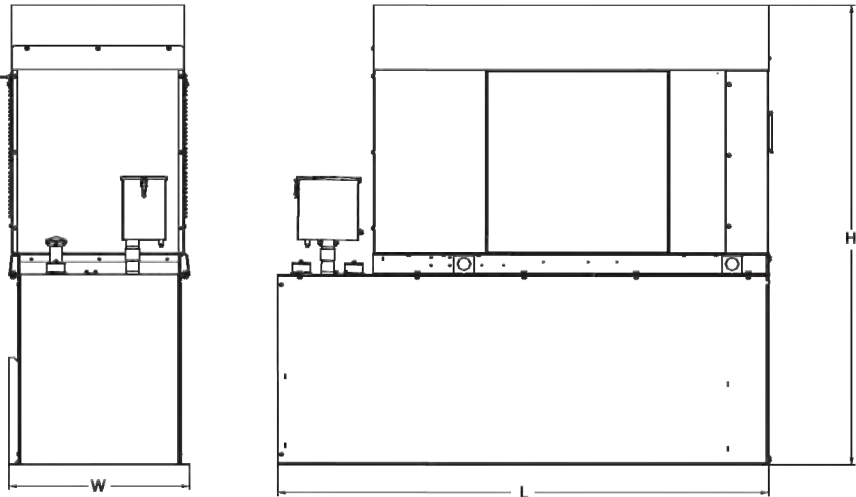
SPEC-3

RD048 | 3.3L | 48 kW
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency



DIMENSIONS AND WEIGHTS*



Unit Weight - lbs (kg)	Unit Weight with Skid - lbs (kg)	Dimensions (L x W x H) - in (kg)
2,915 (1,322)	2,954 (1,340)	103.4 (2,625) x 35.0 (888) x 90.0 (2,286)

48 kW Fuel Consumption (gal)	
Fuel Tank Gross Total Capacity	240
Fuel Tank Gross Usable Capacity	229
Fuel Tank Net Usable Capacity (Run Hours Based on Net Usage Capacity)	206
Run Hours at 100% Load	51
Run Hours at 75% Load	68
Run Hours at 50% Load	103

Sound Emission Data	
Rated Load Sound Output at 23 ft - dB (A)	65

* All measurements are approximate and for estimation purposes only.
Drawing is for illustration purposes only, not to scale.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

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Part No. A0000705000
Rev. B 06/08/2020

SPEC SHEET

5 of 5



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PROFESSIONAL DESIGN FIRM
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SHEET TITLE:
**GENERATOR
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SHEET NUMBER:

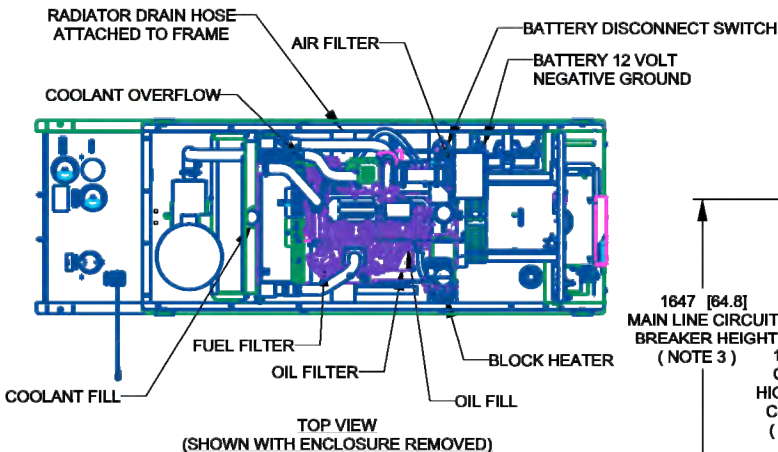
SPEC-4

SH 1/2 REV C WINDCHILL VERSION C.4

WEIGHT DATA WITH EMPTY BASETANK (SEE NOTE 6)	
GENERATOR AS SHOWN	1,322 [2,915]
WITH WOODEN SHIPPING SKID	1,340 [2,954]

WEIGHT: KG [LBS]
DIMENSIONS: MM [INCH]

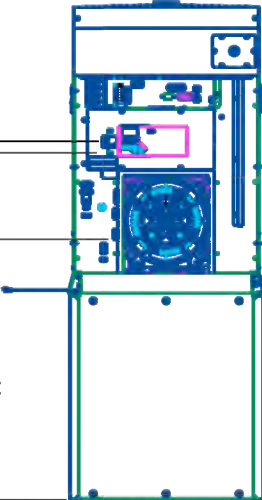
- NOTES:
- THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
 - BATTERY (12 VOLT NEGATIVE GROUND SYSTEM).
 - CONTROL PANEL / CIRCUIT BREAKER INFORMATION:
 - MAIN LINE CIRCUIT BREAKER 200 AMPS.
 - SEE SPECIFICATION SHEET OR OWNERS MANUAL.
 - ACCESSIBLE THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR.
 - CONTROL PANEL INCLUDES INTEGRATED BATTERY CHARGER.
 - REMOVE THE REAR STUB-UP AND REAR ENCLOSURE COVER PANEL TO ACCESS THE STUB-UP AREAS AS FOLLOWS:
 - HIGH VOLTAGE CONNECTION INCLUDING AC LOAD LEAD CONDUIT CONNECTION, NEUTRAL CONNECTION, AND BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION.
 - LOW VOLTAGE CONNECTION INCLUDING TRANSFER SWITCH CONTROL WIRES.
 - ENGINE SERVICE CONNECTIONS:
 - OIL DRAIN = 1/2" NPT
 - RADIATOR DRAIN = HOSE CLAMPED TO FRAME
 - CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 - BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECIRCULATION OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
 - REFERENCE OWNERS MANUAL FOR LIFTING WARNINGS.
 - MOUNTING BOLTS OR STUDS TO MOUNTING SURFACE SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)
 - MUST ALLOW FREE FLOW OF INTAKE AIR, DISCHARGE AIR AND EXHAUST. SEE SPEC SHEET FOR MINIMUM AIR FLOW AND MAXIMUM RESTRICTION REQUIREMENTS.
 - GENERATOR MUST BE INSTALLED SUCH THAT FRESH COOLING AIR IS AVAILABLE AND THAT DISCHARGE AIR FROM RADIATOR IS NOT RECIRCULATED. RECOMMENDED MINIMUM PERIMETER (3FT) AND VERTICAL OVER EXHAUST (5FT) CLEARANCE FOR SITE LOCATION.
 - GENERATOR MUST BE GROUNDED.



1647 [64.8]
MAIN LINE CIRCUIT
BREAKER HEIGHT
(NOTE 3)

1595 [62.8]
CUSTOMER
HIGH VOLTAGE
CONNECTION
(NOTE 4)

1197 [47.1]
LOW VOLTAGE
STUB-UP
(NOTE 4)



EMERGENCY STOP SWITCH

REAR ENCLOSURE
COVER PANEL
(NOTE 4)

CUSTOMER ACCESS
ASSEMBLY, CONTROL
PANEL ACCESS,
BATTERY CHARGER
LOCATED WITHIN
(NOTE 4)

CIRCUIT BREAKER
(NOTE 3)

REMOVEABLE
STUB-UP COVER
(NOTE 4)

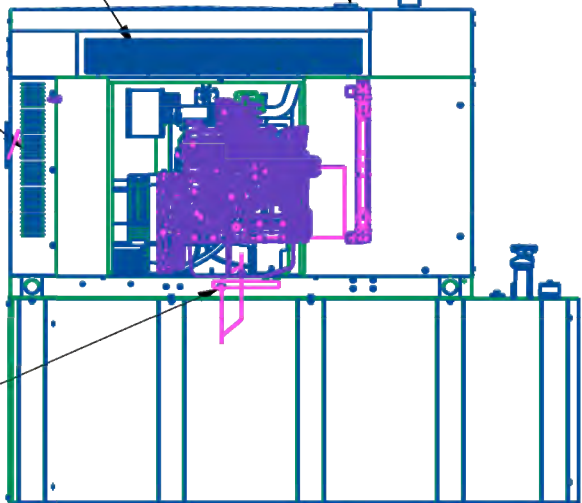
AIR INTAKE ON
EACH SIDE
(NOTES 10,11)

REMOVE COVER FOR
ACCESS TO RADIATOR
FILL CAP (SECONDARY
ACCESS PLATE BELOW)

RADIATOR/EXHAUST
DISCHARGE AIR
(NOTES 10,11)

AIR INTAKE
(NOTES 10,11)

OIL DRAIN
(NOTE 5)



RIGHT VIEW
(SHOWN WITH DOOR REMOVED)



TITLE				
INSTALL D3.3L G2 48KW Y06 EXT				
ISSUE DATE: 8/01/19				
SIZE B	CAGE NO N/A	DWG NO A0000317219	REV C	
SCALE 0.035	WT-KG SEE ABOVE	SHEET 1 of 2		

DRAWING CREATED FROM PRO/ENGINEER
3D FILE. ECO MODIFICATION TO BE
APPLIED TO SOLID MODEL ONLY.

INSTALLATION DRAWING

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ELECTRONICALLY APPROVED
INSIDE WINDCHILL



1400 OPUS PLACE
DOWNERS GROVE, IL 60515
MAIN: (773) 444-5400



PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

CHECKED BY: RH CHECKED BY: GMS

SITE #: A5C0028A
LEE'S SUMMIT FIRESTATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:
**GENERATOR
SPECIFICATIONS**

SHEET NUMBER:

SPEC-5

SH 2/2 REV C WINDCHILL VERSION C.4

NOTE: ROUNDED TO NEAREST GALLON

240 GAL EXTENDED BASETANK (P/N: 10000036243)		
DEPTH: INCHES	U.S. GALLONS	NOTES
0	2	
1	9	
2	17	
3	24	
4	31	
5	38	
6	46	
7	53	
8	60	
9	67	
10	74	
11	82	
12	89	
13	96	
14	103	
15	111	
16	118	
17	125	
18	132	
19	140	
20	147	
21	154	
22	161	
23	168	
24	176	
25	183	
26	190	
27	197	
28	205	
29	212	
30	219	
31	226	
31.38	229	USABLE TANK CAPACITY
32	234	
32.9	240	TOTAL TANK CAPACITY

TANK IS LISTED TO UL142 AND ULCS801

NOTE: STUB-UP AREA FOR HIGH AND LOW VOLTAGE CONNECTIONS, CIRCUIT BREAKER, NEUTRAL AND CUSTOMER CONNECTION OPENING.

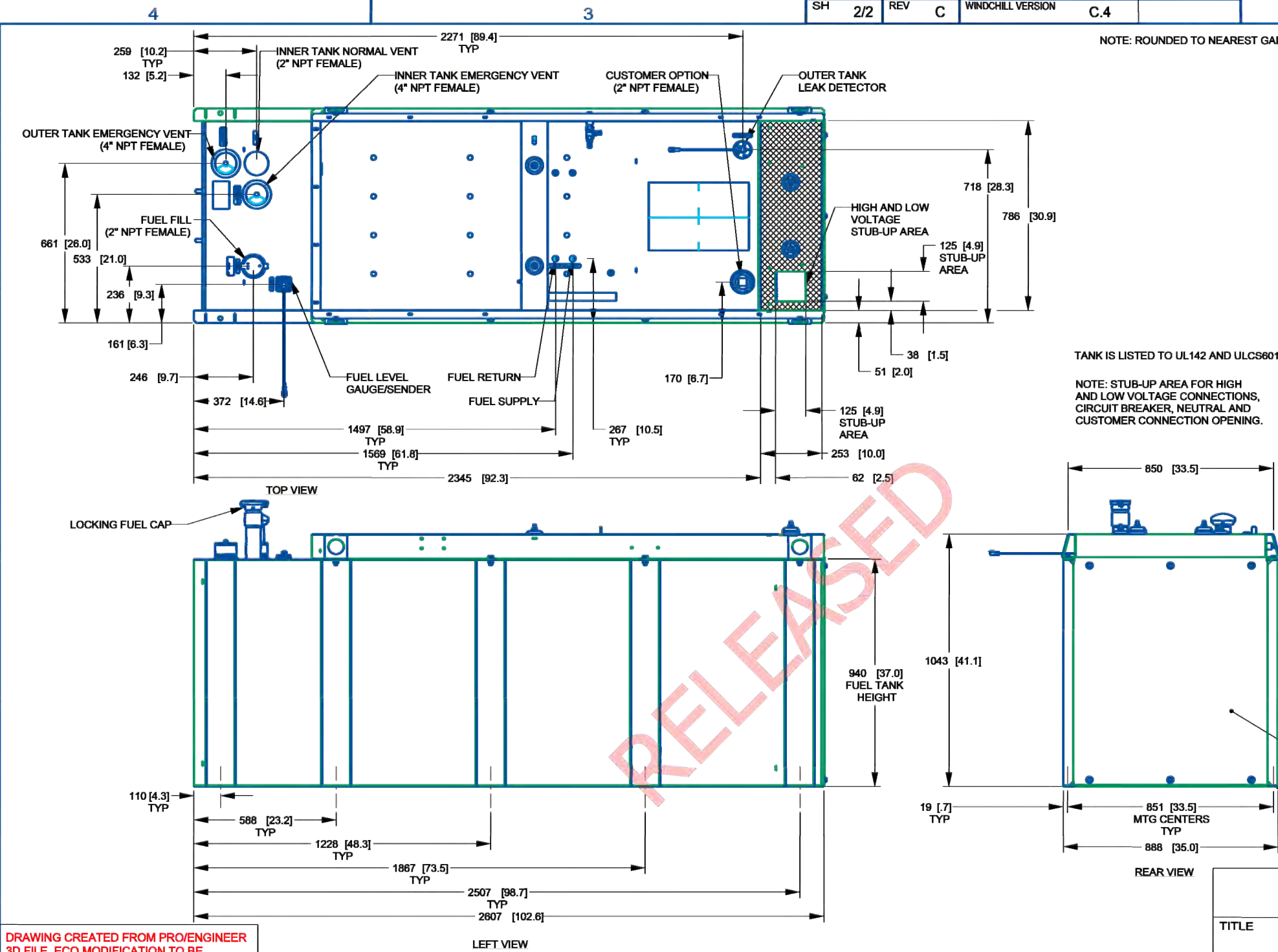


TITLE
INSTALL D3.3L G2
48KW Y06 EXT

ISSUE DATE: 8/01/19		DWG NO A0000317219	REV C
SIZE B	CAGE NO N/A		
SCALE 0.060	WT-KG SEE ABOVE	SHEET 2 of 2	

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INSTALLATION DRAWING



1400 OPUS PLACE
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361 RANDY RD, UNIT 101
CAROL STREAM, IL 60188
MAIN: (847) 708-7500

PROFESSIONAL DESIGN FIRM
CERTIFICATE OF AUTHORIZATION # A-2024018412

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SITE #: A5C0028A
LEE'S SUMMIT FIRESTATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:
ATS SPECIFICATIONS

SHEET NUMBER:

SPEC-6

GENERAC®

Service and Non-Service Rated Automatic Transfer Switches

Automatic Transfer Switches

Automatic Transfer Switches

1 of 3 2 of 3

Automatic Transfer Switches



Models: RXSC100A3
RXSW100A3
RXSW150A3
RXSC200A3
RXSW200A3



Description

This series of Generac Automatic Transfer Switches is designed for use with single phase generators that utilize an Evolution™ or Nexus™ Controller. The 100 and 200 Amp open transition switches are available in single phase in both service equipment rated and non-service equipment rated configurations. The 150 Amp open transition switch is only available in a service rated equipment configuration.

Standard Features

Service rated (RXSW) Generac Automatic Transfer Switches are housed in an aluminum NEMA Type 3R enclosure*, with electrostatically applied and baked powder paint. The Heavy Duty Generac Contactor is an ETL recognized device, designed for years of service. The controller at the generator handles all the timing, sensing, exercising functions, and transfer commands. All switches are covered by a five year limited warranty.

* Non-service rated (RXSC) switches are housed in a steel enclosure.

Load Management Technology

Through the use of the integrated Smart A/C Module (SACM), these switches have the capability to manage up to four individual HVAC (24 VAC controlled) loads with no additional hardware. When used in tandem with external Smart Management Modules, a total of eight more loads can be managed, providing the most installation efficient power management options available.

GENERAC®



100-200 Amps, Single Phase

GENERAC®

Automatic Transfer Switches

Functions

All timing and sensing functions originate in the generator controller.

Utility Voltage Drop-out	<65%
Timer to Generator Start	10 Second Factory Set, Adjustable Between 2 - 1,500 Seconds by a Qualified Dealer*
Engine Warmup Delay	5 Seconds
Standby Voltage Sensor	65% for 5 Seconds
Utility Voltage Pickup	>80%
Re-transfer Time Delay	15 Seconds
Engine Cooldown Timer	60 Seconds
Exerciser	Nexus™: 12 Minutes Weekly Evolution™: 5 to 12 Minutes Adjustable, Weekly/Bi-weekly/Monthly
The Transfer Switch can be Operated Manually Without Power Applied	

* When used in conjunction with units utilizing Evolution™ controls

Specifications

Model	RXSC100A3	RXSW100A3	RXSW150A3	RXSC200A3	RXSW200A3
Amps	100	100	150	200	200
Voltage	120/240, 1ø	120/240, 1ø	120/240, 1ø	120/240, 1ø	120/240, 1ø
Load Transition Type (Automatic)	Open Transition	Open Transition Service Rated	Open Transition Service Rated	Open Transition	Open Transition Service Rated
Enclosure Type	NEMA 3R	NEMA 3R	NEMA 3R	NEMA 3R	NEMA 3R
ETL Rating	cETLus	ETLus	ETLus	cETLus	ETLus
Withstand Rating (Amps)	10,000	10,000	22,000	10,000	22,000
Lug Range	2/0 - #14		250 MCM - #6		



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CHECKED BY: RH

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SITE #: A5C0028A
LEE'S SUMMIT FIRESTATION
207 S.E. DOUGLAS ST
LEES SUMMIT, MO 64063

SHEET TITLE:
ATS SPECIFICATIONS

SHEET NUMBER:

SPEC-7

GENERAC®

Automatic Transfer Switches

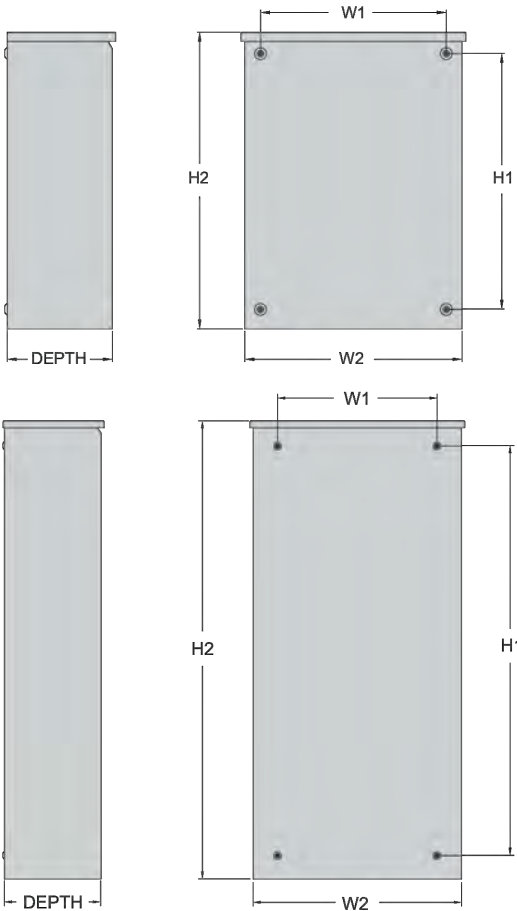
100-200 Amps, Single Phase

Dimensions

Model		RXSC100A3	RXSW100A3	RXSW150A3	RXSC200A3	RXSW200A3
Height - in (mm)	H1	17.2 (437.9)	17.2 (437.9)	26.8 (679.4)	17.2 (437.9)	26.8 (679.4)
	H2	20.0 (508.0)	20.0 (508.0)	30.0 (672.0)	20.0 (508.0)	30.0 (672.0)
Width - in (mm)	W1	12.5 (317.5)	12.5 (317.5)	10.5 (266.7)	12.5 (317.5)	10.5 (266.7)
	W2	14.6 (370.8)	14.6 (370.8)	13.5 (342.9)	14.6 (370.8)	13.5 (342.9)
Depth - in (mm)		7.1 (180.1)	7.1 (180.1)	6.3 (160.1)	7.1 (180.1)	6.3 (160.1)
Weight - lbs (kg)		20.0 (9.1)	22.5 (10.2)	39.0 (17.7)	20.0 (9.1)	39.0 (17.7)

Automatic Transfer Switches

3 of 3



GENERAC®

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