

EXPEDITED
MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	17800 Bowie Mill Road, Derwood	Meeting Date:	4/20/2022
Resource:	(Master Plan Site #22/017-000A <i>Flint Hill II</i>)	Report Date:	4/13/2022
Applicant:	T-Mobile/Smartlink Group (Sonya Hemphill, Agent)	Public Notice:	4/6/2022
Review:	HAWP	Tax Credit:	No
Permit Number:	987920	Staff:	Michael Kyne
PROPOSAL: New hardscape, fencing, and generator			

STAFF RECOMMENDATION:

☒ Approve
☐ Approve with conditions

ARCHITECTURAL DESCRIPTION:

SIGNIFICANCE: Master Plan Site #22/017-000A, *Flint Hill II*
DATE: Early 1800s; c1860-75

Excerpt from *Places from the Past*:

Situated on a rise above Bowie Mill Road, Flint Hill is one of three houses in the Olney area that was associated in the early- to mid-1800s with the Bowie family. Washington Bowie, wealthy Georgetown shipping merchant, purchased 2,000 acres of land in 1820 and established a farm at Oatland. His son, Thomas Johns Bowie built Roseneath between 1825 and 1830 on 600 acres. While Thomas' eldest son, Washington Bowie III, inherited Roseneath, another son Thomas Johns Davis Bowie, inherited Flint Hill.

The house was constructed in several sections. The earliest part is the rear section, which is of log construction, said to be chinked with brick. The log house was built before the Bowie's 1820 purchase of the property. The exterior chimney on this section has an asymmetrical stone base with a brick stack. The main block, built c1860-75, is one room deep with a center passage plan. Italianate-style influence is evident in oversize scrolled brackets at the roof cornice and prominent window cornices. The front (east) door opens into a central hall with open-string, double-run staircase with a turned newel post and golden oak banister. A large bank barn is dated 1898.



Fig. 1: Subject property.

PROPOSAL:

The applicant proposes to install one diesel generator with 240 gallon above ground tank on a new 5' x 10' concrete pad next to an existing telecommunications equipment storage building at the subject property. An access gate will also be installed within existing fencing immediately adjacent to the project area to enclose and protect the generator.

APPLICABLE GUIDELINES:

IV. The Expedited Staff Report format may be used on the following type of cases:

2. Modifications to a property, which do not significantly alter its visual character.

Montgomery County Code; Chapter 24A-8

- (b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to ensure conformity with the purposes and requirements of this chapter, if it finds that:
 - (1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or
 - (2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or
 - (3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or
 - (4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or

- (5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship; or
 - (6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.
- (c) It is not the intent of this chapter to limit new construction, alteration or repairs to any 1 period or architectural style.

Secretary of Interior's Standards for Rehabilitation

The Secretary of the Interior defines rehabilitation as “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features, which convey its historical, cultural, or architectural values.” The *Standards* are as follows:

- 2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
- 9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

STAFF RECOMMENDATION:

Staff recommends that the Commission **approve** the HAWP application under the Criteria for Issuance in Chapter 24A-8(b), (1) & (2), having found that the proposal, as modified by the condition, will not substantially alter the exterior features of the historic resource and is compatible in character with the purposes of Chapter 24A;

and with the *Secretary of the Interior's Standards for Rehabilitation* #2 and #9;

and with the general condition that the applicant shall present an electronic set of drawings, if applicable, to Historic Preservation Commission (HPC) staff for review and stamping prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that final project design details, not specifically delineated by the Commission, shall be approved by HPC staff or brought back to the Commission as a revised HAWP application at staff's discretion;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make any alterations to the approved plans. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 or michael.kyne@montgomeryplanning.org to schedule a follow-up site visit.



**APPLICATION FOR
HISTORIC AREA WORK PERMIT**
HISTORIC PRESERVATION COMMISSION
301.563.3400

APPLICANT:

Name: T-MOBILE /SMARTLINK GROUP

E-mail: sonya.hemphill@smartlinkgroup.com

Address: ~~1362 MELLON RD~~ 17800 BOWIE MILL RD ~~HANOVER~~ ROCKVILLE ~~21076~~ 28055
City: Zip:

Daytime Phone: 703-705-2573

Tax Account No.: 00706980

AGENT/CONTACT (if applicable):

Name: Sonya Hemphill

E-mail: sonya.hemphill@smartlinkgroup.com

Address: 1362 MELLON RD HANOVER MD 21076

City: Hanover Zip: 21076

Daytime Phone: 703-705-2573

Contractor Registration No.:

LOCATION OF BUILDING/PREMISE: MIHP # of Historic Property 17800 Bowie Mill Rd Rockville, MD 20855

Is the Property Located within an Historic District? Yes/District Name
No/Individual Site Name

Is there an Historic Preservation/Land Trust/Environmental Easement on the Property? If YES, include a map of the easement, and documentation from the Easement Holder supporting this application.

Are other Planning and/or Hearing Examiner Approvals /Reviews Required as part of this Application? (Conditional Use, Variance, Record Plat, etc.?) If YES, include information on these reviews as supplemental information.

Building Number: Street:

Town/City: Nearest Cross Street:

Lot: Block: Subdivision: Parcel:

TYPE OF WORK PROPOSED: See the checklist on Page 4 to verify that all supporting items for proposed work are submitted with this application. Incomplete Applications will not be accepted for review. Check all that apply:

- | | | |
|----------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------|
| <input type="checkbox"/> New Construction | <input type="checkbox"/> Deck/Porch | <input type="checkbox"/> Shed/Garage/Accessory Structure |
| <input checked="" type="checkbox"/> Addition | <input type="checkbox"/> Fence | <input type="checkbox"/> Solar |
| <input type="checkbox"/> Demolition | <input type="checkbox"/> Hardscape/Landscape | <input type="checkbox"/> Tree removal/planting |
| <input type="checkbox"/> Grading/Excavation | <input type="checkbox"/> Roof | <input type="checkbox"/> Window/Door |
| | | <input checked="" type="checkbox"/> Other: GENERATOR ADD -NEW CONCRETE PAD |

I hereby certify that I have the authority to make the foregoing application, that the application is correct and accurate and that the construction will comply with plans reviewed and approved by all necessary agencies and hereby acknowledge and accept this to be a condition for the issuance of this permit.

Sonya Hemphill

3/25/22

Signature of owner or authorized agent

Date

Description of Property: Please describe the building and surrounding environment. Include information on significant structures, landscape features, or other significant features of the property:

Property is farmland

Description of Work Proposed: Please give an overview of the work to be undertaken:

T-Mobile proposes to install (1) 48kw diesel generator w/ 240gal above ground tank UL142 on a new 5' x 10' concrete pad at an existing telecommunications site.

Work Item 1: <u>Generator Install</u>	
Description of Current Condition:	Proposed Work: Install (1) 48kw diesel generator w/240gal above ground tank UL142 on a new 5' x 10' concrete pad

Work Item 2: <u>5'x10' concrete pad</u>	
Description of Current Condition:	Proposed Work: Install new 5' x 10' concrete pad

Work Item 3: _____	
Description of Current Condition:	Proposed Work:

HISTORIC AREA WORK PERMIT CHECKLIST OF APPLICATION REQUIREMENTS

	Required Attachments						
Proposed Work	I. Written Description	2. Site Plan	3. Plans/ Elevations	4. Material Specifications	5. Photographs	6. Tree Survey	7. Property Owner Addresses
New Construction	*	*	*	*	*	*	*
Additions/ Alterations	*	*	*	*	*	*	*
Demolition	*	*	*		*		*
Deck/Porch	*	*	*	*	*	*	*
Fence/Wall	*	*	*	*	*	*	*
Driveway/ Parking Area	*	*		*	*	*	*
Grading/Exc avation/Land scaing	*	*		*	*	*	*
Tree Removal	*	*		*	*	*	*
Siding/ Roof Changes	*	*	*	*	*		*
Window/ Door Changes	*	*	*	*	*		*
Masonry Repair/ Repoint	*	*	*	*	*		*
Signs	*	*	*	*	*		*

COPYRIGHT ADC THE MAP PEOPLE
PERMITTED USE NUMBER 20505142
MONTGOMERY
ADC MAP NO.: 24 GRID: E-1

SCOPE OF WORK:	(1) PROPOSED GENERAC 48 KW RD048 AC DIESEL GENERATOR (1) PROPOSED GENERAC SD SERIES 340 VOLT RATED, 10, 2 POLE, 200 AMP NEMA 3R AUTOMATIC TRANSFER SWITCH (1) PROPOSED 2' X 10' CONCRETE GENERATOR PAD
PROJECT DESIGN:	HARDENING
SITE ID NUMBER:	7WANI62B
SITE ADDRESS:	17800A BOWIE MILL ROAD ROCKVILLE, MD 20855
SITE COORDINATES:	LAT = N 30° 09' 00.40" (NAD 83) LONG = W 77° 08' 55.55" (NAD 83)
JURISDICTION:	MONTGOMERY COUNTY
ZONING:	RE-1
EXISTING USE:	AGRICULTURE / TELECOMMUNICATIONS
TAX ACCOUNT NUMBER:	0070860
PARTIAL AREA:	43.28 AC
PARTIAL OWNER:	FRACLEY, HARRY H ET AL
ADDRESS:	17800 BOWIE MILL ROAD ROCKVILLE, MD 20855
GROUND ELEVATION:	149F AMSL (AVG)
STRUCTURE TYPE:	SILT
STRUCTURE USE GROUP:	UTILITY (U)
PRIORITIZED WORK USE GROUP:	UTILITY (U)

CS-1	COVER SHEET
GN-1	GENERAL STRUCTURAL NOTES
GN-2	GENERAL NOTES
C-1	SITE PLAN
C-2	COMPOUND PLAN
S-1	STRUCTURAL DETAILS
E-1	EQUIPMENT POWER PLAN, POWER RISER, AND NOTES
E-2	ELECTRICAL SYMBOLS LIST, DETAILS, AND SCHEDULE
E-3	DETAILS
E-4	SITE SIGNAGE

THESE DRAWINGS ARE FORMATTED TO BE FULL-SIZE AT 24"x36". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

		APPROVED	APPROVED AS NOTED	DISAPPROVED
PROPERTY OWNER _____	DATE _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SITE ACQUISITION _____	DATE _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONSTRUCTION MANAGER _____	DATE _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ZONING _____	DATE _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

APPLICANT:	T-MOBILE NORTHEAST LLC 12050 BALTIMORE AVENUE BELTSVILLE, MD 20705 OFFICE: (240) 294-8600 FAX: (240) 294-8610
PROJECT MANAGEMENT FIRM:	SMARTLINK 1362 MILLON ROAD, SUITE 140 HANOVER, MD 21076 (410) 582-8043
ENGINEERING FIRM:	TELECENT ENGINEERING INC. 8215 COMMERCE ROAD, SUITE 1 FOREST HILL, MD 21050 (410) 692-5816 MORRIS & RITCHIE ASSOCIATES, INC. 1220-C EAST JOPPA ROAD, SUITE 505 TOWSON, MD 21286 (410) 821-1690

APPLICABLE BUILDING CODE:	IBC 2018
APPLICABLE ELECTRIC CODE:	NEC 2017
USE GROUP:	UTILITY (U)
CONSTRUCTION TYPE:	VB

THE PROPOSED T-MOBILE GENERATOR IS AN OPTIONAL STAND-BY UNIT AS DEFINED BY NFPA 70, ARTICLE 703 AND DOES NOT SUPPLY LIFE SAFETY EQUIPMENT. THE GENERATOR IS USED TO BACKUP THE TELEPHONE EXCHANGE EQUIPMENT IN ORDER TO KEEP THE CELL SITE IN FULL OPERATION IN THE EVENT OF NORMAL UTILITY POWER FAIL. THEREFORE, NFPA 110 DOES NOT APPLY.

FROM BELTSVILLE:

- TAKE MD-200 WEST TO US-1 NORTH.
- TAKE US-1 NORTH TO MD-200 WEST.
- TAKE MD-200 WEST RAMP TO I-95/I-270.
- TAKE MD-200 WEST TO MD-97/GEORGIA AVENUE.
- TAKE EXIT 8B FROM MD-200 WEST.
- TAKE EXIT 8B TOWARD MD-97/GEO.
- KEEP RIGHT AT THE FORK AND MERGE ONTO MD-97.
- TAKE CASHELL RD TO 17800 BOWIE MILL ROAD.
- DESTINATION IS AHEAD ON THE RIGHT.

12050 BALTIMORE AVENUE
BELTSVILLE, MARYLAND 20705
OFFICE: (240) 264-8600
FAX: (240) 264-8610



SITE ID:
7WAN162B
SITE NAME:
FRALEY FAMILY - ROCKVILLE
SITE ADDRESS:
17800A BOWIE MILL ROAD
ROCKVILLE, MD 28055
MONTGOMERY COUNTY

REVISION BLOCK		
NO.	DESCRIPTION	DATE
2	FINAL DWGS	01/17/2022
1	REVIEW DWGS	01/06/2022



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE
DOCUMENTS WERE PREPARED OR
APPROVED BY ME, TIMOTHY SMID
AND THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF
MARYLAND, LICENSE NO. 21585,
EXPIRATION DATE: MAY 8, 2025

DRAWN BY:	FVB
DESIGNED BY:	WGJ/FVB
ORIGINAL DATE:	01/06/2022
TEI PROJECT #:	21130U
DESIGN SCALE:	AS NOTED



THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS.

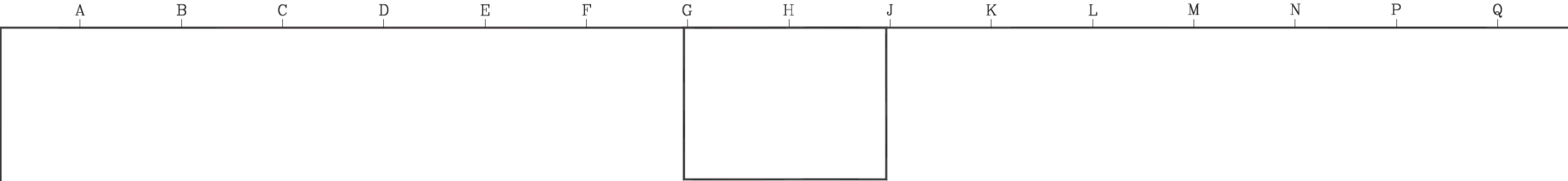
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COVER
SHEET

SHEET NUMBER

CS-1





GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CARRIER TEAM REPRESENTATIVES OF ANY CONFLICTS, ERRORS OR OMISSIONS 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.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION OR ON ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SLUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CARRIER TEAM REPRESENTATIVES.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. THE PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
17. THIS FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAPPED ACCESS).
18. THIS FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE. INTERRUPTING RATING (AIC) NOT LESS THAN THE MAXIMUM CURRENT TO WHICH THEY MAY BE SUBJECTED.
19. THIS FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.

SIGNAGE NOTES

SIGNS MOUNTED ON GENERATOR ENCLOSURE/DOOR (ON ALL 4 SIDES)

1. DANGER - DIESEL FUEL - FLAMMABLE - NO MATCHES, SMOKING, OR OPEN FLAMES
 2. DANGER - THIS EQUIPMENT STARTS AUTOMATICALLY
 3. WARNING - EYE AND EAR PROTECTION REQUIRED
 4. SAFETY - FUELING COMPANY: CHECK FUEL LINES PRIOR TO DEPARTURE TO PREVENT SPILLS
 5. NOTICE - FUELING COMPANY: REFUELING A RUNNING GENERATOR MUST BE DONE AT 50% OF NORMAL FILL RATE
 6. NFPA DIAMOND FOR "DIESEL" (1,2,0)
 7. OWNED BY T-MOBILE.
 8. FUEL TANK CAPACITY 240 GALLONS (MOUNTED TO TANK).
 9. NOTE: SIGNS CAN BE PURCHASED FROM PREFERRED VENDOR ORR SAFETY VIA T-MOBILE MARKETPLACE SYSTEM
- ALTERNATE: [HTTP://WWW.SPEEDYSIGNS.COM/SIGNS/OSHA_READYMADE.ASP](http://WWW.SPEEDYSIGNS.COM/SIGNS/OSHA_READYMADE.ASP)
ALTERNATE: [HTTPS://WWW.COMPLANESIGNS.COM](https://WWW.COMPLANESIGNS.COM)

GROUNDING NOTES

1. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADCWELD).
2. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE, AND FENCE POSTS SHALL BE EXOTHERMIC (CADCWELD) UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL WHERE GROUND WIRES ARE CADCWELDED TO GALVANIZED SURFACES, SPRAY CADCWELD WITH GALVANIZING PAINT.
3. ALL GROUNDING DEVICES SHALL BE UL APPROVED FOR THEIR INTENDED USE.
4. ALL GROUND CONDUCTORS SHALL BE #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR UNLESS NOTED OTHERWISE.
5. GROUNDING CONNECTIONS TO THE GROUND BAR ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET). CLEAN GROUND BAR TO SHINY METAL AFTER MECHANICAL CONNECTION. TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS. 90 DEGREE BENDS ARE PROHIBITED.
8. GROUND CONDUCTORS ABOVE GRADE SHALL BE #2 AWG, GREEN INSULATED, STRANDED COPPER CONDUCTOR UNLESS NOTED OTHERWISE.
9. REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE (CADCWELD) TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTION TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITIONED ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8" X 10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2, BARE, TINNED, SOLID COPPER WIRE BURIED 3" BELOW GRADE. GROUND RODS SHALL BE SPACED A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.
11. IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES.
12. EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-T.
13. CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING THE SITE. PROVIDE PHOTOS TO THE T-MOBILE CONSTRUCTION MANAGER.
14. GROUND RING AND CONNECTIONS TO IT SHALL BE #2 AWG, SOLID, BARE, TINNED, COPPER WIRE. EQUIPMENT GROUND CONNECTIONS TO MGB SHALL BE #2 AWG, STRANDED, INSULATED WIRE.
15. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.), PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BAR, APPLY KOPR-SHIELD OR EQUAL.
16. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE (5) OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY A T-MOBILE REPRESENTATIVE AND RECORDED ON THE "GROUND RESISTANCE TEST FORM".
17. WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE FROM 1" BELOW GRADE AND SEAL TOP WITH SILICONE.
18. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
19. ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6'-0" OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING THREE (3) RUNS OF #2, BARE, TINNED, SOLID, COPPER WIRE.
20. TOWER BASE BUSS BAR REQUIRES TWO (2) SOLID LEADS CADCWELD TO THE BUSS BAR.
21. MAIN EQUIPMENT BUSS BAR REQUIRES TWO (2) SOLID LEADS CADCWELD TO IT AND THE GROUND RING.
22. ALL SOLID LEADS TERMINATED TO EITHER A BUSS BAR OR EQUIPMENT SHALL BE PROTECTED WITH CARPLIX.
23. ALL SOLID GROUND LEADS NOT BEING USED SHALL BE COILED UP (POTIALS) FOR FUTURE USE AS NEEDED.
24. 5 OHMS TO GROUND IS REQUIRED FOR ACCEPTANCE. PHOTOS OF THE TESTS ARE REQUIRED AS WELL AS TEST RESULTS IN FORMAL DOCUMENTATION FORMAT.

ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE IN STRICT ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES. ALL WORK IS SUBJECT TO THE APPROVAL OF THE TABOILE REPRESENTATIVE.
2. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND SHALL PAY ALL ASSOCIATED CHARGES. CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS.
3. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL SPECIFIED MATERIALS AND EQUIPMENT. ALL MATERIALS SHALL BE UL LISTED.
4. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
5. WIRE, UNLESS OTHERWISE INDICATED, SHALL BE 600 VOLT, TYPE THW/THHN INSULATION FOR EXTERIOR USE. CONDUCTORS SHALL BE SIZED AND RUN AS INDICATED. CONDUCTORS SHALL BE SOFT DRAWN COPPER OF NOT LESS THAN 98% CONDUCTIVITY. MINIMUM CONDUCTOR SIZE IS #12 UNLESS NOTED OTHERWISE.
6. THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDING USING DOUBLE LOCKNUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS.
7. SUBMITTAL OF BIDS INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
8. ALL ELECTRICAL EQUIPMENT EXPOSED TO WEATHER SHALL BE PROTECTED IN NEMA 3R ENCLOSURES.
9. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PHENOLIC PLASTIC NAMEPLATES. PPC, MISCER, DISCONNECT, RAC3S, PBC0S, AND HF JUNCTION BOX. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS, EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
10. CONTRACTOR SHALL COORDINATE FINAL SERVICE TERMINATION LOCATIONS WITH TELEPHONE AND ELECTRIC UTILITY COMPANIES IN THE FIELD.
11. CONTRACTOR SHALL UPDATE PANEL SCHEDULES AND IDENTIFY ALL MISCELLANEOUS CIRCUITS NOT INDICATED ON SCHEDULES.
12. CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL THE MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
13. THESE PLANS ARE DIAGRAMMATIC ONLY. FOLLOW AS CLOSELY AS POSSIBLE.
14. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR COMPLETE AND CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY TO USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
15. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UL AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET THE APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND NFPA. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
16. CONDUIT: ALL ABOVE GRADE CONDUITS SHALL BE RIGID & LMC TO 6" AS STATED BELOW
A. RIGID CONDUIT SHALL BE UL LABELED GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED WHEN EXPOSED TO EXTERIOR ELEMENTS. RIGID
B. ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE UL LABEL. FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED FOR INTERIOR RUNS ONLY.
C. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET SHALL CONTAIN A FULL SIZE GROUND CONDUCTOR.
D. CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLATION.
E. PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE A GROUND CONDUCTOR IN ALL PVC RUNS, EXCEPT WHERE PERMITTED BY CODE TO OMIT.
17. ENTIRE JOB SHALL BE GAURANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL, AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
18. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250 & 810 AND THE UTILITY COMPANY STANDARDS.
19. COORDINATE WITH UTILITY COMPANY OR PROPERTY OWNER FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
20. ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING (AIC) NOT LESS THAN THE MAXIMUM CURRENT TO WHICH THEY MAY BE SUBJECTED.
21. RED-LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.



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TELETRON ENGINEERING INC.
2236 Commerce Road, Suite 1
Forest Hill, MD 21050
410-492-5819
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SITE ID:
7WAN162B
SITE NAME:
FRALEY FAMILY - ROCKVILLE
SITE ADDRESS:
17800A BOWIE MILL ROAD
ROCKVILLE, MD 20855
MONTGOMERY COUNTY

REVISION BLOCK

NO.	DESCRIPTION	DATE
2	FINAL DWGS	01/17/2022
1	REVIEW DWGS	01/06/2022



01/17/2022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, DAVID J. FVB, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11068, EXPIRATION DATE: MAY 4, 2023.

DRAWN BY: FVB
DESIGNED BY: WDJ/FVB
ORIGINAL DATE: 01/06/2022
TEI PROJECT #: 21130U
DESIGN SCALE: AS NOTED



Know what's below.
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PROTECT YOURSELF AND YOUR BUSINESS
THIS CHARTER DOES NOT REPLACE NECESSARY
CONNECTIONS THAT MAY BE DONE IN CONSULTATION
WITH THE LOCAL GOVERNMENT AND THE
ACT OF 1975 AND ALL RULES AND REGULATIONS
IN FORCE AT ANY TIME.

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

TEI#21130U



SITE PLAN
SCALE: 1" = 100'

SITE



NOTES:

1. APPLICANT: T-MOBILE NORTHEAST LLC
12050 BALTIMORE AVENUE
BELTSVILLE, MARYLAND 20705
TEL: (240) 264-8600
FAX: (240) 264-8610
 2. PROPERTY OWNER: FRALEY HARRY H ET AL
17800A BOWIE MILL ROAD
ROCKVILLE, MD 20855
 3. SITE DATA: DEED BOOK 0696 PAGE 0003
PARCELS: B-1, B-2, B-3
TRACT AREA: 45.2 ACRES
ADDRESS: 17800 BOWIE MILL ROAD
ROCKVILLE, MD 20855
EXISTING USED AGRICULTURE, TELECOMMUNICATIONS
 4. ZONING: RE-1
HORIZONTAL AND VERTICAL CONTROL SHOWN HEREON IS BASED ON INFORMATION PROVIDED BY T-MOBILE AND OBTAINED THROUGH THE MDC 1 ONLINE MAPS TOOL:
LATITUDE: N39° 09' 54" (36.1624)
LONGITUDE: W77° 05' 54" (-77.0983)
GROUND ELEVATION: 446' AMSL (AVSL)
 5. TOTAL DISTURBED AREA = 60 SF
 6. THIS PROJECT INVOLVES INSTALLING ONE (1) PROPOSED GENERATOR ON NEW 10' x 4' CONCRETE PAD AND ONE (1) PROPOSED AUTOMATIC TRANSFER SWITCH ON EXISTING MANHOLE.
 7. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
 8. STORMWATER MANAGEMENT NOTE: NO STORMWATER MANAGEMENT IS REQUIRED FOR THIS SITE.
 9. BOUNDARY SHOWN PER COUNTY RECORDS.
 10. THIS PLAN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. PLAN IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
 11. ALL DETAILS SHOWN ARE "STANDARD" OR "TYPICAL" FOR REFERENCE ONLY. FOR ACTUAL DETAILS, SEE ARCHITECTURAL, STRUCTURAL, OR CONSTRUCTION PLANS BY OTHERS.
 12. THE COMMUNICATIONS EQUIPMENT SHALL BE UNMANNED, WITH INFREQUENT VISITS (FOUR OR FEWER PER YEAR) BY MAINTENANCE PERSONNEL, AND WITH ACCESS AND PARKING FOR NO MORE THAN ONE VEHICLE. THE PROPOSED FACILITY IS NOT FOR HUMAN HABITATION AND THEREFORE HANDICAP ACCESS IS NOT REQUIRED.
 13. THE PROPOSED COMMUNICATIONS EQUIPMENT, ANTENNAS AND RELATED MOUNTING DEVICES DO NOT EXCEED TWELVE (12) FEET IN TOTAL HEIGHT.
- GENERAL NOTES:**
1. CONTRACTOR SHALL NOTIFY "MDS UTILITY" (311) 48 HOURS PRIOR TO BOUNDARY EXCAVATION IN THIS AREA. CONTRACTOR SHALL CONTACT A SURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST IF AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHENEVER OCCURRED BY THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. DAMAGE TO UTILITIES OR PROPERTY OF OTHER BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REIMBURSED TO PRE-CONSTRUCTION CONCERNS BY THE CONTRACTOR.
 2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.
 3. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THEIR PERMITS.
 4. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.
 5. THESE PLANS ARE NOT FOR RECONSTRUCTION OR CONVEYANCE.
 6. EXISTING PAYMENT AND OTHER SURFACES OBTAINED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE RETURNED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR.

T-Mobile
T-MOBILE NORTHEAST LLC
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BELTSVILLE, MARYLAND 20705
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FAX: (240) 264-8610



MORRIS & RITCHIE ASSOCIATES, INC.
Civil/Structural Engineers
2320-B South Arden Road, Suite 400C
Bowie, Maryland 20814
Office: (410) 651-5000
Fax: (410) 651-5168

SITE ID: 7WAN162B
SITE NAME: FRALEY FAMILY - ROCKVILLE

SITE ADDRESS: 17800A BOWIE MILL ROAD
ROCKVILLE, MARYLAND 20855
MONTGOMERY COUNTY

REVISION BLOCK

NO.	DESCRIPTION	DATE
2	FINAL DWGS	01/17/22
1	REVIEW DWGS	01/06/22



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 37729, EXPIRATION DATE: 07/09/2025.

DRAWN BY: PG
DESIGNED BY: JT
ORIGINAL DATE: 01/05/2022
MRA PROJECT #: 20473.167
DESIGN SCALE: AS NOTED



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

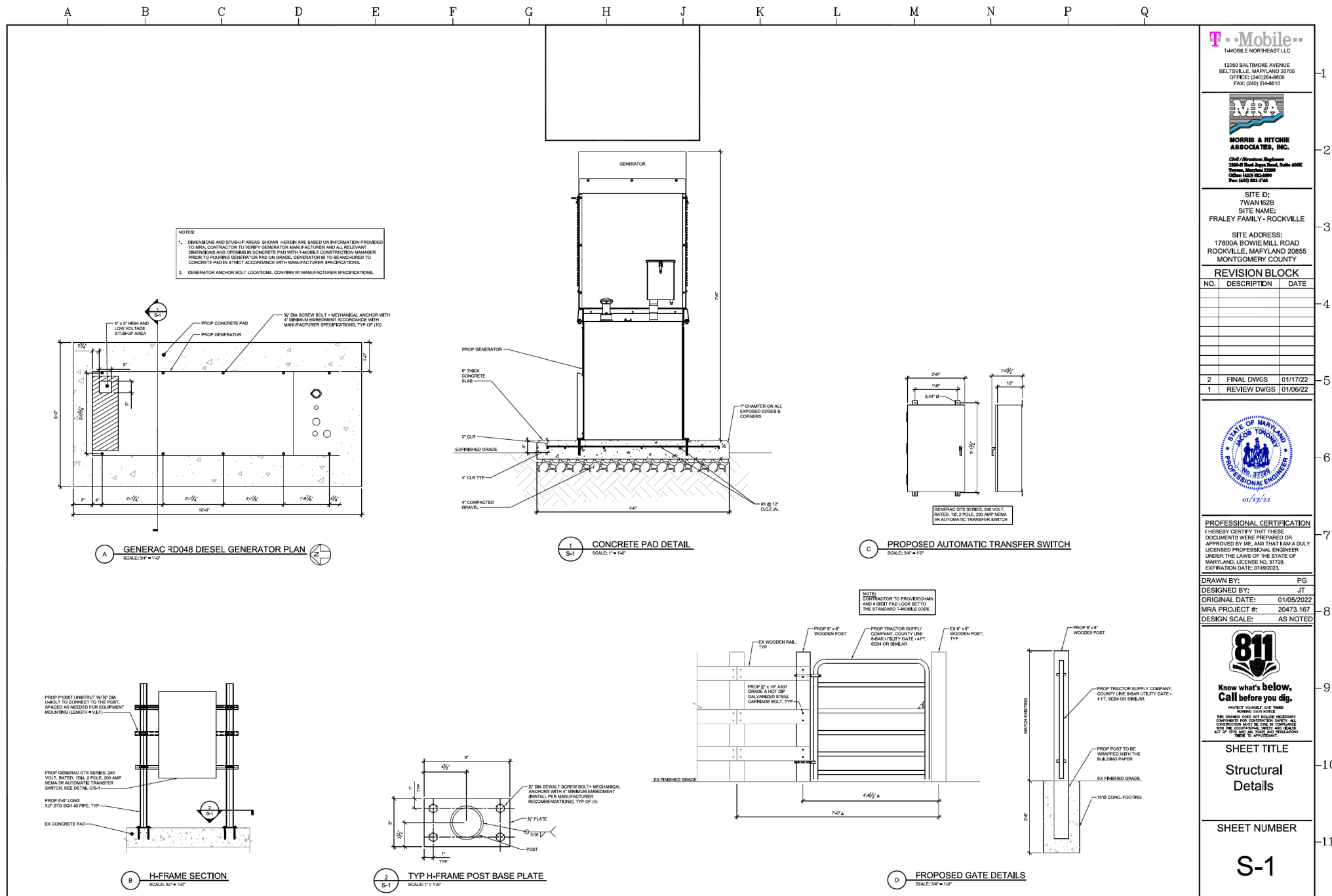
PROTECT YOURSELF, GIVE THEM WARNING. DIAL 811.
THE DRAWING DOES NOT INCLUDE NECESSARY CONSIDERATIONS FOR CONSTRUCTION. THE CONTRACTOR MUST BE SURE TO COMPLY WITH THE LOCAL, STATE AND FEDERAL ACTS, RULES AND REGULATIONS MADE TO APPROPRIATE.

SHEET TITLE

Site Plan

SHEET NUMBER

C-1



T-Mobile
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BELTSVILLE, MARYLAND 20705
OFFICE: (240) 264-8600
FAX: (240) 224-8610

MRA
MORRIS & RITCHIE ASSOCIATES, INC.
Old / Structures Engineer
2220 N. East Street, Suite 400
Baltimore, Maryland 21208
Office: (410) 651-2000
Fax: (410) 651-1548

SITE ID:
7WAN162B
SITE NAME:
FRALEY FAMILY - ROCKVILLE
SITE ADDRESS:
17800A BOWIE MILL ROAD
ROCKVILLE, MARYLAND 20855
MONTGOMERY COUNTY

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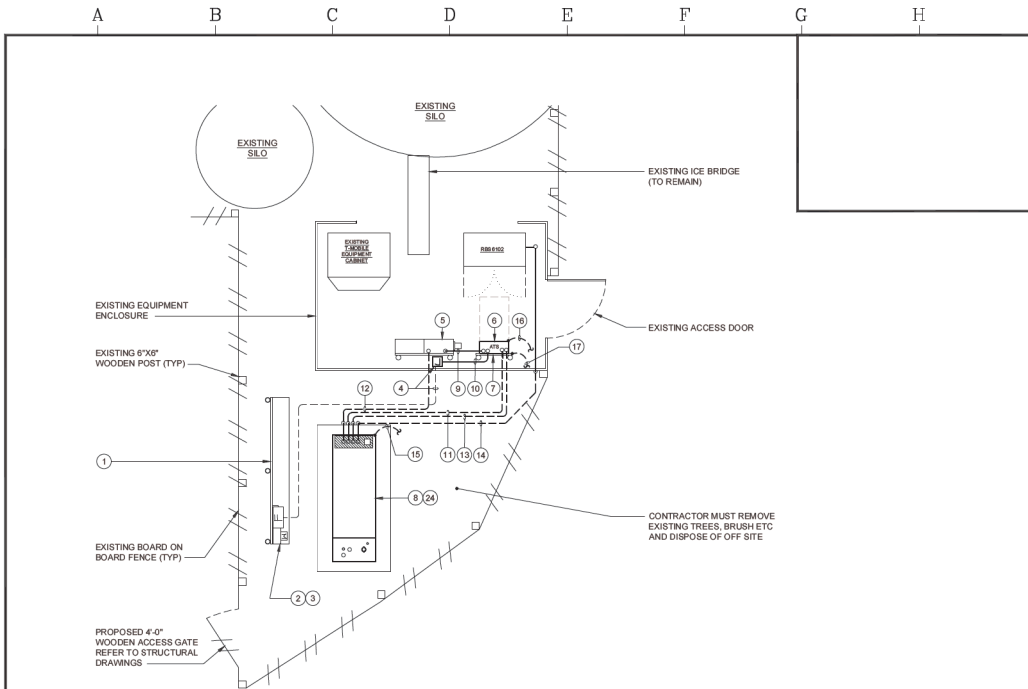
PROFESSIONAL CERTIFICATION
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DRAWN BY: PG
DESIGNED BY: JT
ORIGINAL DATE: 01/05/2022
MRA PROJECT #: 20473.167
DESIGN SCALE: AS NOTED

811
Know what's below.
Call before you dig.
PROTECT YOURSELF, GIVE THREE WARNING DAYS NOTICE
THIS DRAWING DOES NOT INCLUDE NECESSARY CONSIDERATIONS FOR UNDERGROUND UTILITIES. THE CONTRACTOR MUST BE IN FULL COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL OSHA AND REGULATIONS THERE TO APPROPRIATE.

SHEET TITLE
Structural Details

SHEET NUMBER
S-1

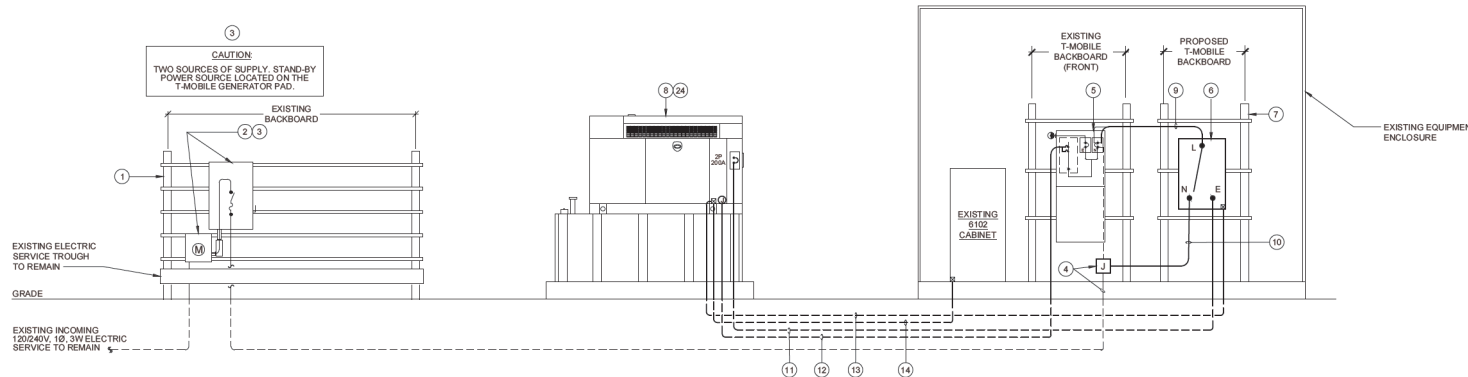


18 19 20 21 22 23 EQUIPMENT POWER PLAN
SCALE: 1/4" = 1'-0"

NOTE:
THE SITE PLAN IS SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND THE EXACT LOCATION OF THE T-MOBILE EQUIPMENT PAD SHALL BE COORDINATED WITH FINAL CIVIL DRAWINGS PRIOR TO START OF WORK.

DRAWING NOTES

- 1 EXISTING ELECTRIC SERVICE BACKBOARD TO REMAIN.
- 2 EXISTING T-MOBILE UTILITY METER AND 240V SERVICE ENTRANCE RATED 2P200A FUSED SERVICE DISCONNECT SWITCH (FUSED AT 200A) MOUNTED ON EXISTING ELECTRIC SERVICE BACKBOARD TO REMAIN.
- 3 PROVIDE CAUTION TWO SOURCES OF SUPPLY STICKER ON SERVICE DISCONNECT SWITCH. BACKGROUND SHALL BE YELLOW WITH BLACK BLOCK STYLE LETTERING. REFER TO DETAIL, THIS SHEET.
- 4 EXISTING 3/30 + #6 GRD - 2" CONDUIT BELOW GRADE FROM EXISTING SERVICE DISCONNECT SWITCH. COORDINATE EXISTING POWER CABLES. CONTRACTOR SHALL PROVIDE WEATHER PROOF JUNCTION BOX (SIZED PER NEC) TO INTERCEPT EXISTING FEEDER AND EXTEND TO "NORMAL" LUGS IN ATS. THIS WILL BECOME THE "NORMAL" POWER FEED. COORDINATE EXACT ROUTING OF EXISTING FEEDER WITH T-MOBILE REPRESENTATIVE IN THE FIELD. REMOVE PORTIONS OF EXISTING FEEDER NOT USED AS REQUIRED.
- 5 EXISTING T-MOBILE 120/240V, 10, 3W, 200A MCB POWER CABINET MOUNTED ON EXISTING T-MOBILE BACKBOARD REFER TO PANEL SCHEDULE, SHEET E-2 FOR ADDITIONAL INFORMATION.
- 6 PROVIDE AND INSTALL GENERAC GTS SERIES, 240 VOLT, RATED, 10, 2 POLE, 200 AMP NEMA 3R AUTOMATIC TRANSFER SWITCH MOUNTED ON PROPOSED BACKBOARD, WHEN DRILLING INTO ATS, CONTACTS SHALL BE COVERED TO AVOID METALLIC SHAVINGS DROPPING INTO ATS CONTACTS. AFTER DRILLING, CONTRACTOR SHALL VACUUM INSIDE OF ATS. COORDINATE FINAL MOUNTING LOCATION WITH T-MOBILE REPRESENTATIVE.
- 7 MOUNT PROPOSED T-MOBILE AUTOMATIC TRANSFER SWITCH TO FRONT OF PROPOSED BACKBOARD, PROVIDE HORIZONTAL KNOCKOUT STRUT TO SUPPORT PROPOSED AUTOMATIC TRANSFER SWITCH. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- 8 PROPOSED T-MOBILE 120/240V, 10, 3W, 40 KW DIESEL GENERATOR MOUNTED ON PROPOSED CONCRETE EQUIPMENT PAD. COORDINATE ALL GENERATOR REQUIREMENTS WITH EQUIPMENT MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION ON GENERATOR PAD.
- 9 EXTEND 3/30 + #6 GRD - 2" CONDUIT (LOAD FEEDER), COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
- 10 EXTEND 3/30 + #6 GRD - 2" CONDUIT (NORMAL FEEDER), COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
- 11 EXTEND 3/30 + #6 GRD - 2" CONDUIT BELOW GRADE (EMERGENCY FEEDER), COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
- 12 EXTEND 2#12 AWG + #12 GRD (BATTERY CHARGER) AND 2#12 AWG + #12 GRD (BLOCK HEATER) IN 3/4" CONDUIT BELOW GRADE TO TWO (2), 1 POLE, 20 AMP BREAKERS IN T-MOBILE PANEL.
- 13 EXTEND CAT 5 ALARM CABLES IN ONE (1) - 1" CONDUIT BELOW GRADE FROM AUTOMATIC TRANSFER SWITCH TO GENERATOR FOR GENERATOR CONTROLS AND ALARMING (GENERATOR FAULT/TROUBLE, GENERATOR LOW FUEL AND GENERATOR RUN). COORDINATE ALL REQUIREMENTS WITH GENERATOR MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
- 14 EXTEND CAT 5 ALARM CABLES IN ONE (1) - 1" CONDUIT BELOW GRADE FROM GENERATOR TO EXISTING T-MOBILE 6102 EQUIPMENT CABINET FOR GENERATOR CONTROLS AND ALARMING (GENERATOR FAULT/TROUBLE, GENERATOR LOW FUEL AND GENERATOR RUN). COORDINATE ALL REQUIREMENTS WITH GENERATOR MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
- 15 EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM T-MOBILE BURIED GROUND ROD AND BOND TO INTERIOR FRAME OF GENERATOR PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL GENERATOR GROUNDING REQUIREMENTS WITH EQUIPMENT MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
- 16 EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST EXISTING BURIED GROUND ROD AND BOND TO AUTOMATIC TRANSFER SWITCH.
- 17 EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST EXISTING BURIED GROUND ROD AND BOND NEW ATS BACKBOARD.
- 18 ALL CONDUITS BELOW GRADE SHALL BE SCHEDULE 40 PVC. ALL CONDUITS ABOVE GRADE AND/OR EXPOSED TO WEATHER SHALL BE SEALTIGHT / RIGID GALVANIZED STEEL.
- 19 ALL UNISTRUT SHALL BE STAINLESS STEEL. HARDWARE SHALL BE HOT DIPPED GALVANIZED.
- 20 CONDUIT ROUTING IS DIAGRAMMATIC, EXACT CONDUIT ROUTE SHALL BE COORDINATED WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
- 21 COORDINATE ALL UNDERGROUND SERVICES WITH MISS UTILITY 48 HOURS PRIOR TO DIGGING. CONTRACTOR SHALL HAND-DIG WITHIN 2'-0" OF ALL UNDERGROUND SERVICES.
- 22 REFER TO DRAWING PREPARED BY MRA FOR SITE PLAN.
- 23 THE SPECIFIED STAND-BY USE GENERATOR IS NOT A SEPARATELY DERIVED SYSTEM. THE CONTRACTOR SHALL VERIFY THAT THE AUTOMATIC TRANSFER SWITCH DOES NOT SWITCH THE NEUTRAL CONDUCTOR. IF THE MANUFACTURER INSTALLED A MAIN BONDING JUMPER IN THE GENERATOR, THE CONTRACTOR SHALL DISCONNECT AND REMOVE THE JUMPER TO PREVENT VIOLATING NEC ARTICLE 250.6, OBJECTIONABLE CURRENT OVER GROUNDING CONDUCTORS.
- 24 CONTRACTOR SHALL BOX OUT PORTION OF PROPOSED CONCRETE SLAB BELOW GENERATOR STUB UP AREA FOR EXTENSION OF CONDUITS UP THROUGH BOTTOM OF GENERATOR. ALL CONDUIT STUB UP LOCATIONS SHALL BE WITHIN DESIGNATED CONDUIT STUB-UP AREA AND TURN UP THROUGH BOX OUT IN SLAB. COORDINATE FINAL CONDUIT BOX OUT LOCATION IN THE FIELD WITH SITE CONDITIONS (GENERATOR FUEL TYPE, BOLT PATTERN, ETC.). REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.



17 18 19 20 21 22 POWER RISER
NO SCALE

0 1 2 3 4 8 12
SCALE: 1/4" = 1'-0"

T-Mobile
T-MOBILE NORTHEAST LLC

12050 BALTIMORE AVENUE
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MONTGOMERY COUNTY

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	FINAL DWGS	01/17/2022
2	REVIEW DWGS	01/06/2022



01/17/2022

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, TIMOTHY SMITH, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 10067. EXPIRATION DATE: MAY 8, 2023.

DRAWN BY: FVB
DESIGNED BY: WGJ/FVB
ORIGINAL DATE: 01/06/2022
TEI PROJECT #: 21130U
DESIGN SCALE: AS NOTED



Know what's below.
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PROTECT YOURSELF AND THE PUBLIC. CALL 811 BEFORE YOU DIG. THIS DRAWING DOES NOT REPLACE NECESSARY FIELD SURVEYING AND FIELD VERIFICATION. CONTRACTORS MUST BE AWARE OF THE ACT OF 1975 AND ALL RULES AND REGULATIONS MADE BY THEREAFTER.

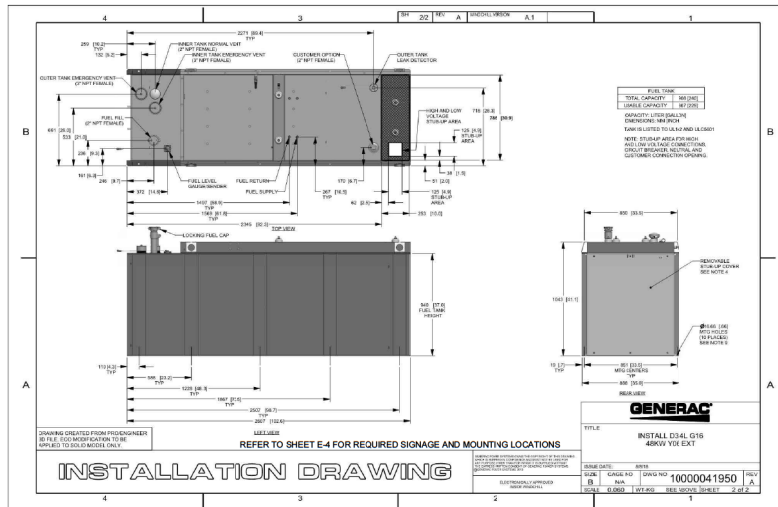
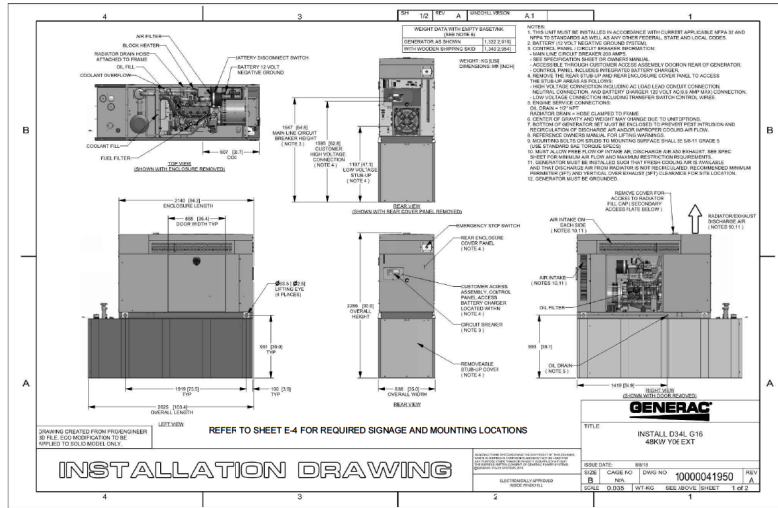
SHEET TITLE
EQUIPMENT
POWER PLAN,
POWER RISER,
AND NOTES

SHEET NUMBER

E-1

TEI#21130U

A B C D E F G H J K L M N P Q



DETAIL - GENERAC 48 KW DIESEL GENERATOR
NO SCALE

(EXISTING)

PANEL PP

120/240 VOLTS 1Ø 3 WIRE 200 AMP MCB

DESCRIPTION	C R T	C T R	DESCRIPTION
BTS	40 1 2	60	SURGE SUPPRESSOR
LIGHT	20 5 6	60	UTMS
GENERATOR BATTERY CHARGER	20 7 8	60	
GENERATOR BLOCK HEATER	20 9 10	11 -	SPACE
FAN	10 11	12 15 GF1	

LOAD CALCULATION:
EXISTING LOAD = 4.8 KVA x 125% = 6.0 KVA
PROPOSED EQUIPMENT LOAD= 1.7 KVA
TOTAL: 7.7 KVA

TOTAL LOAD: 7.7 KVA
32.08 AMPS @ 120/240V, 1Ø

- NOTES:**
- CONTRACTOR SHALL PROVIDE UPDATED, TYPED PANEL DIRECTORY WITH RESPECTIVE CIRCUIT NAMES AFTER PROJECT COMPLETION, PER N.E.C. ARTICLE 408.4.
 - CONTRACTOR SHALL PROVIDE NEW CIRCUIT BREAKERS AS SHOWN IN AVAILABLE SPACE IN EXISTING PANEL. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING IN STYLE, TYPE, AND A.I.C. RATING.

Evolution Controller Customer Connections	Notable FCB Alarm Connections 11-24	T-Mobile Standard Alerts
NC#8-Gen Running	NC 4110 grd 4111 pin 13	Generator Running
NC#11-Not In Auto	NC 4110 grd 4111 pin 14	Generator Alarm Critical
NC#2-Door Alarm	NC 4110 grd 4111 pin 15	Generator Alarm NSI
NC#5-Low Fuel	NC 4110 grd 4111 pin 16	Low Fuel
RSC#200A3-Auxiliary Contacts	NC 4110 grd 4111 pin 17	ATS in Emergency Position

Evolution Controller Customer Connections	Chosen Alarm Base/Connections	T-Mobile Standard Alerts
NC#8-Gen Running	NC - A5	Generator Running
NC#11-Not In Auto	NC - A6	Generator Alarm Critical
NC#2-Door Alarm	NC - A7	Generator Alarm NSI
NC#5-Low Fuel	NC - A8	Low Fuel
RSC#200A3-Auxiliary Contacts	NC - A9	ATS in Emergency Position

- NOTE:**
- CONTRACTOR SHALL EXTEND PAIR OF ALARM CONDUCTORS FROM OUTER TANK LEAK DETECTOR TO DOMINANT MACHINERY CABINET ON SITE (6501 OR 6180). CONDUCTORS SHALL TERMINATE ON ALARMS TERMINALS TO ALERT NOC IN THE EVENT OF A FUEL TANK LEAK.

DETAIL - GENERATOR ALARMS
NO SCALE

ELECTRICAL SYMBOLS LIST

NOTE: ALL MOUNTING HEIGHTS ARE TO CENTER LINE OF THE OUTLET BOX UNLESS OTHERWISE INDICATED.

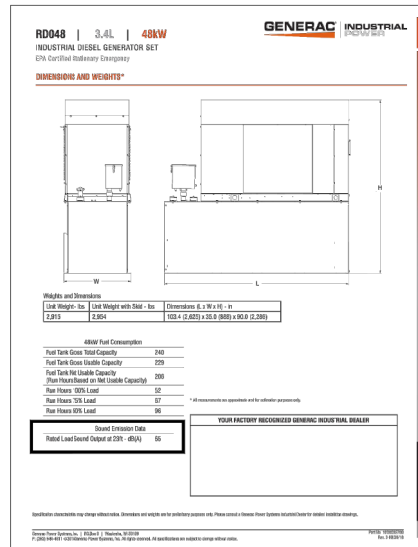
	DISCONNECT SWITCH - FUSED/NO FUSED
	120/240V PANELBOARD
	EQUIPMENT MOUNTING BACKBOARD
	DRAWING NOTE
	BURIED ELECTRIC FEEDERS
	BURIED BRANCH CIRCUIT
	METER
	GROUND CONDUCTOR BELOW GRADE
	BURIED GROUND ROD

ABBREVIATIONS

AF	- ABOVE FINISHED FLOOR	MTD	- MOUNTED
ATS	- AUTOMATIC TRANSFER SWITCH	UG	- UNDERGROUND
C, D/T	- CONDUIT	V	- VOLTS
DN	- DOWN	W	- WITH
GRD	- GROUND	WP	- WEATHERPROOF
M	- MOUNTING HEIGHT		

NOISE ORDINANCE NOTES:

PER MANUFACTURER'S CUT SHEET DATA, THE RATED LOAD SOUND OUTPUT @23' IS 65 DB. PER MONTGOMERY COUNTY NOISE ORDINANCE:
RESIDENTIAL AREA - DAYTIME 65 DB MAX. RESIDENTIAL AREA - NIGHTTIME 55 DB MAX.
THE NEAREST ADJACENT PROPERTY LINE TO THE PROPOSED GENERATOR IS 30'-3". THE INSTALLATION OF THE GENERATOR CONFORMS WITH MONTGOMERY COUNTY NOISE ORDINANCE AND DOES NOT REQUIRE ACOUSTICAL SOUND DAMPENING MATERIALS.



T-Mobile
T-MOBILE NORTHEAST LLC

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BELTSVILLE, MARYLAND 20705
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SITE ID:
7W1N162B
SITE NAME:
FRALEY FAMILY - ROCKVILLE
SITE ADDRESS:
17800A BOWIE MILL ROAD
ROCKVILLE, MD 20855
MONTGOMERY COUNTY

REVISION BLOCK

NO.	DESCRIPTION	DATE
2	FINAL DWGS	01/17/2022
1	REVIEW DWGS	01/06/2022



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 1006, EXPIRATION DATE: MAY 1, 2023.

DRAWN BY: FVB
DESIGNED BY: WGJ/FVB
ORIGINAL DATE: 01/06/2022
TEI PROJECT #: 21130U
DESIGN SCALE: AS NOTED



Know what's below. Call before you dig.

811

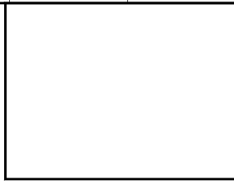
THIS DRAWING DOES NOT INCLUDE NECESSARY CONSTRUCTION OF THE PROJECT OR INSTALLATION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

SHEET TITLE
ELECTRICAL SYMBOLS LIST, DETAILS, AND SCHEDULE

SHEET NUMBER

E-2

TEI#21130U



GENERAC INDUSTRIAL POWER

**100 - 400 Amps,
600 VAC**

Automatic Transfer Switches

Standard Features

- Single coil design, electrically operated and mechanically held
- Programmable controller
- SPDT auxiliary contacts
- Main contacts are silver alloy to resist welding and sticking
- Conformal coating protects all critical internal parts
- Indicating LEDs for switch position—Normal, Emergency, and Standby Operating
- NEMA 1 enclosure with hinged door and key-locking handle
- Three-position switch—Fast Test, Auto, Normal Test
- Arc chutes on main contacts

Optional Accessories

- NEMA 12 enclosure
- NEMA 3R enclosure
- NEMA 4 & 6X enclosure
- External AC meter package
- Controls accessible through door in door design on NEMA type 3R and 4 enclosures—key lock provided on access door
- 4-pole design for neutral solution
- Two (2) sets of auxiliary contacts
- Prefabricated isolator selector switch
- Manual 1 position selector switch
- Remote automatic control circuit
- Signal before transfer contacts
- Return to normal inter bypass

- Standard time delay manual to reduce switchover problems.
- Logic control will inphase monitor regulates switch functions and allows adjustable switch settings with LED indicators.
- Control switches located on the front of the door for ease of operation
- All switches are UL 1008 listed and CSA certified.
- Electrically-operated, mechanically-held and interlocked main contacts with break before make design for fast, positive connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive with no derates.
- 2, 3, and 4 Pole 600 VAC contactors.
- 100 millisecond transfer time.

100 - 400 Amps • 600 VAC

100 - 400 Amp, 600 VAC

2 of 2

GENERAC
GENERATING EQUIPMENT

GTS Control Systems

Lithium Voltage	Endorsement		Endorsement		Endorsement		Endorsement		Endorsement	
	Dropout	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Preload	Preload	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Line Interrupt	Line Interrupt	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Engine Minimum Run	Engine Minimum Run	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Engine Warning	Engine Warning	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Return to Battery	Return to Battery	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Standby Voltage	Standby Voltage	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Standby Frequency	Standby Frequency	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Time Delay Neutral	Time Delay Neutral	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Transfer on Exercise	Transfer on Exercise	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Warning Time Delay	Warning Time Delay	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Time Delay Neutral Bypass	Time Delay Neutral Bypass	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)
Engine Monitor	Engine Monitor	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)	75-95% (A0)

Withstand Current - 600 Volt GTS Series

GTS Rated Amps	100	150	200	300	400
FUSE PROTECTED					
Maximum RMS Symmetrical Fault Current - Amps	200,000	200,000	291,000	200,000	200,000
Maximum Fuse Size - Amps	400	400	400	600	600
Fuse Class	J.T	J.T	J.T	J.T	J.T
CIRCUIT BREAKER PROTECTED (See separate sheet for specific circuit breakers)					
Maximum RMS Symmetrical Fault Current - Amps	14,000	25,000	25,000	35,000	35,000
Protective Device Rating (Amps) - Amps	150	300	300	600	600

* Tested in accordance with the withstand and clearing requirements of UL 1008 and CSA Standards
 • Current ratings are based on 400 VAC

Unit Dimensions

GTS Rated Voltage	Enduse Height	Enduse Width	Enduse Height	Enduse Width	Enduse Height	Enduse Width	Enduse Height	Enduse Width	Enduse Height	Enduse Width	Enduse Height
100	AS	36	24	18	12	12	12	12	12	12	12
150	AS	36	24	18	12	12	12	12	12	12	12
200	AS	36	24	18	12	12	12	12	12	12	12
300	AS	36	24	18	12	12	12	12	12	12	12
400	AS	36	24	18	12	12	12	12	12	12	12

Terminal Lug Wire Ranges

TYPE RATED AMP	CONDUCTOR TERMINALS (1/2\"/>
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* Not included in GTS with switchboard. ** Allowable wire range in brackets is for 2 wires per leg

Generac Power Systems, Inc. • 545 W25920 HWY 56, Waukesha, WI 53188 • generac.com

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DETAIL - GENERAC GTS AUTOMATIC TRANSFER SWITCH
NO SCALE

T-Mobile
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MONTGOMERY COUNTY

REVISION BLOCK		
NO.	DESCRIPTION	DATE

2	FINAL DWGS	01/17/2022
1	REVIEW DWGS	01/06/2022



01/17/2022

PROFESSIONAL CERTIFICATION

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, TIMOTHY SMIT, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21586, EXPIRATION DATE: MAY 1, 2023.

DRAWN BY:	FVB
DESIGNED BY:	WGJ/FVB
ORIGINAL DATE:	01/06/2022
TEI PROJECT #:	21130U
DESIGN SCALE:	AS NOTED



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PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

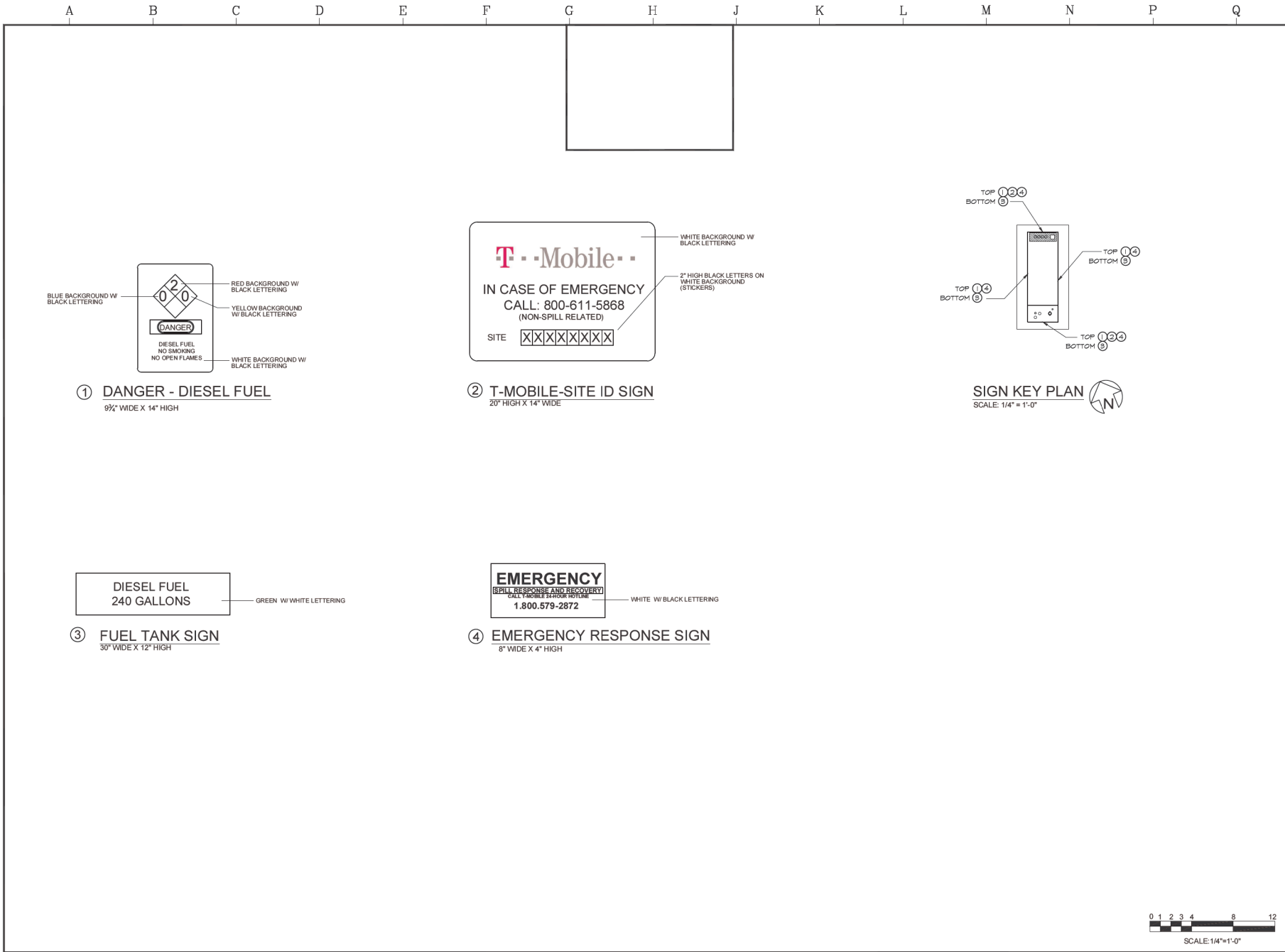
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SHEET TITLE

DETAILS

SHEET NUMBER

E-3



T-Mobile
T-MOBILE NORTHEAST LLC

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PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE
DOCUMENTS WERE PREPARED FOR
APPROVED BY ME, TIMOTHY BRADY,
AND THAT I AM A duly LICENSED
PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF
MARYLAND, LICENSE NO. 10088
EXPIRATION DATE: MAY 8, 2023.

DRAWN BY: FVB
DESIGNED BY: WGJ/FVB
ORIGINAL DATE: 01/06/2022
TEI PROJECT #: 21130U
DESIGN SCALE: AS NOTED



Know what's below.
Call before you dig.
PROTECT YOURSELF. SAVE TIME.
WORKING SAFELY MEANS
THESE DRAWINGS SHOW AND INCLUDE NECESSARY
CONSTRUCTION THAT BE DONE IN COMPLIANCE
WITH THE OCCUPATIONAL SAFETY AND HEALTH
ACT OF 1970 AND ALL RULES AND REGULATIONS
ISSUED THEREUNDER.

SHEET TITLE

SITE SIGNAGE

SHEET NUMBER

E-4

TEI#21130U

RD048 | 3.4L | 48kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC® | INDUSTRIAL
POWER

Model Number
48kW: G0071940

ABOVE GROUND FUEL TANK GROSS TOTAL CAPACITY 240 GAL UL142

Standby Power Rating

48 kW, 60 Hz

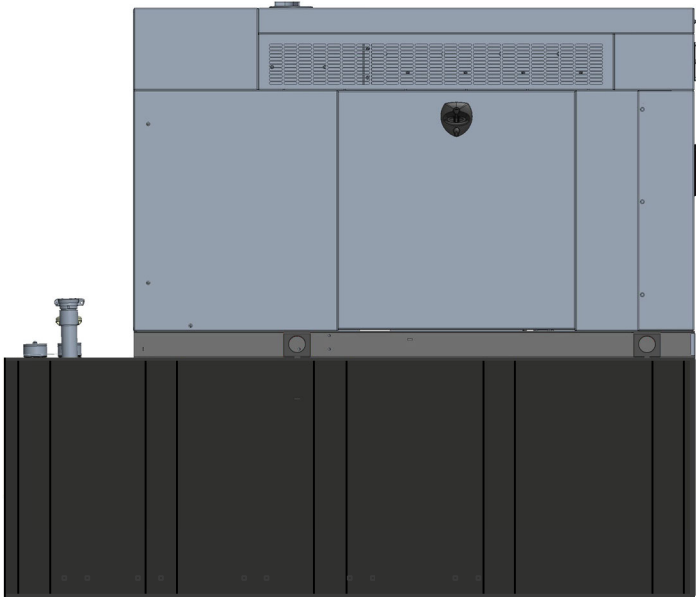


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CODES AND STANDARDS

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



UL2200, UL508, UL489, **UL142**



CSA C22.2



BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99



ISO 3046, 8528, 9001



NEMA ICS1, ICS10, MG1, 250, ICS6, AB1



ANSI/IEEE C62.41

POWERING AHEAD

For over 50 years, Generac has led the industry with 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's 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 application under adverse conditions.

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

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

STANDARD FEATURES

ENGINE SYSTEM

- Block Heater
- Oil Drain Extension
- Fan Guard
- Factory Filled Oil & 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 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

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	4
Type	In-Line
Displacement - in³ (L)	207.48 (3.4)
Bore - in (mm)	3.86 (98)
Stroke - in (mm)	4.45 (113)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	Cast Iron OHV
Piston Type	Aluminum

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-On Canister
Crankcase Capacity - L (qts)	7.0 (7.4)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed (rpm)	2,029
Fan Diameter - mm (in)	22 (559)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specification	ASTM
Fuel Pump Type	Mechanical Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line (mm/in)	7.94 (0.31) ID
Fuel Return Line (mm/in)	7.94 (0.31) ID
Fuel Filtering (microns)	10

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	Group 27F
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	Generac
Poles	4
Field Type	Rotating
Insulation Class - Rotor	F
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Direct
Bearings	Sealed Ball
Coupling	Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Regulation Accuracy (Steady State)	±1.0%

RD048 | 3.4L | 48kW

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

STARTING CAPABILITIES (sKVA)

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

FUEL CONSUMPTION RATES*

Percent Load	Diesel gal/hr (L/hr)
25%	1.35 (5.11)
50%	2.15 (8.14)
75%	3.06 (11.58)
100%	3.98 (15.07)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Air Flow (Radiator and Alternator)	cfm (m³/min)	2824 (80)
Coolant System Capacity	gal (l)	2.8 (10.6)
Heat Rejection to Coolant	BTU/hr (MJ/hr)	135,900 (143.4)
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 or 3% for every 1000 ft over 3000 ft	
Maximum Ambient Temperature Operating Range	°F (°C)	-20 - 122 (-28 - 50)
Maximum Radiator Backpressure	in H ₂ O	0.5

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power cfm (m³/min)	190 (5.38)

ENGINE

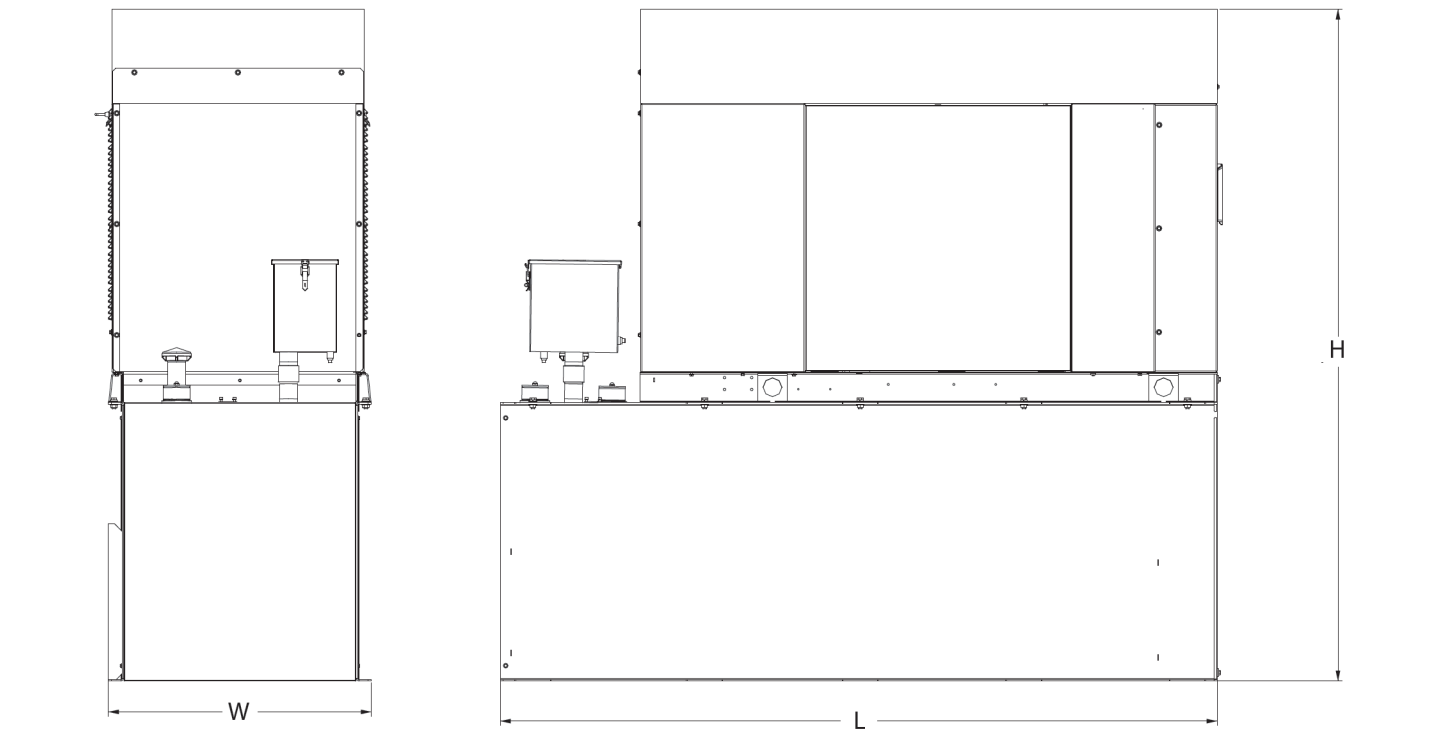
		Standby
Rated Engine Speed	rpm	1800

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m³/min)	448 (12.7)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1120 (604.4)

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

DIMENSIONS AND WEIGHTS*



Weights and Dimensions

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

48kW Fuel Consumption

Fuel Tank Gross Total Capacity	240
Fuel Tank Gross Usable Capacity	229
Fuel Tank Net Usable Capacity (Run Hours Based on Net Usable Capacity)	206
Run Hours 100% Load	52
Run Hours 75% Load	67
Run Hours 50% Load	96

* All measurements are approximate and for estimation purposes only.

Sound Emission Data

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

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

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







