CITY OF BILOXI
AGENDA ITEM
FACT SHEET

Item No.: 5 G

Council Meeting Date: April 4, 2023

ITEM TITLE: RESOLUTION

INTRODUCED BY: Mayor Andrew "FoFo" Gilich

CONTACT PERSON: E. Michael Leonard, CAO

Peter Abide, City Attorney

SUMMARY EXPLANATION:

Resolution authorizing consent replacement of equipment by T-Mobile South, LLC on the Margaret Sherry Tower Site (2145 Popps Ferry Road), pursuant to the Water Tower Option and Lease Agreement, dated November 16, 1999, as amended

Resolution ✓ **Ordinance** _____ **Public Hearing** _____ **Routine Agenda** _____

Exhibits for Review

Contract ✓ **Minutes** _____ **Plans/Maps** _____ **Deed** _____ **Lease** _____

Other (Specify): Exhibit A: Consent letter and construction drawings

Submittal Authorization: **Council President** _____ **Mayor** ✓

STAFF RECOMMENDATION: **Staff recommends approval**

COUNCIL ACTION: **Motion By:** _____ **Second By:** _____

Vote:	Councilmember	Yes	No	Other	Councilmember	Yes	No	Other
	Lawrence	___	___	___	Tisdale	___	___	___
	Gines	___	___	___	Glavan	___	___	___
	Newman	___	___	___	Barrett	___	___	___
	Deming	___	___	___				

ACTION TAKEN:

040423dcon

Resolution No.

RESOLUTION AUTHORIZING CONSENT REPLACEMENT OF EQUIPMENT BY T-MOBILE SOUTH, LLC ON THE MARGARET SHERRY TOWER SITE (2145 POPPS FERRY ROAD), PURSUANT TO THE WATER TOWER OPTION AND LEASE AGREEMENT, DATED NOVEMBER 16, 1999, AS AMENDED

WHEREAS, by Resolution No. 668-99, the governing authorities of the City of Biloxi (the "City") approved entry into that certain Water Tower Option and Lease Agreement (the "Agreement"), dated November 16, 1999, with Digiph PCS, Inc. for the lease of space located on top of the City's water tower at 2145 Popps Ferry Road for the purposes of installing and maintaining wireless telecommunication equipment in exchange for compensation in the amount of $18,000.00 per year, with a twelve percent (12%) increase every five (5) years;

WHEREAS, by Resolution No. 799-00, the City's governing authorities approved entry into a Consent and Estoppel Agreement, recognizing the transfer of the Agreement to Eliska Wireless Ventures I, Inc. as a result of Digiph PCS, Inc.'s assignment of interest;

WHEREAS, by Resolution No. 256-09, the City's governing authorities approved an Amendment to the Agreement, dated July 8, 2010, with Powertel/Memphis, Inc. d/b/a T-Mobile ("PowerTel"), as successor in interest to Digiph PCS, Inc. and Eliska Wireless Ventures I, Inc., and providing for the installation of additional equipment in exchange for additional compensation of $6,480.00 per year, subject to all terms and conditions of the Agreement, including the twelve percent (12%) increase every five (5) years;

WHEREAS, by Resolution No. 265-14, the City's governing authorities

consented to PowerTel's installation of additional equipment, with no increase to the annual rent;

WHEREAS, by Resolution No. 560-19, the City's governing authorities consented to PowerTel's installation of additional equipment, with no increase to the annual rent;

WHEREAS, by Resolution No. 819-19, the City consented to the assignment of all of PowerTel's rights and obligations under the Lease to T-Mobile South, LLC ("T-Mobile");

WHEREAS, by Resolution No. 499-20, the City consented to the removal of certain equipment by T-Mobile and the installation of new equipment as part of a technology upgrade;

WHEREAS, by Resolution No. 227-22, the City and T-Mobile entered into the Second Amendment to Water Tower Option and Lease Agreement, extending the Agreement for an additional five (5) years, with five (5) renewal terms of five (5) years each, for a total possible term of thirty (30) years, with a two and one-half percent (2.5%) increase in rent each year, beginning in December of 2026;

WHEREAS, pursuant to the Agreement, T-Mobile has the right, subject to the approval of the City, to make reasonable alterations to its equipment on the leased premises and has requested the City's consent to the installation of new equipment at this time;

WHEREAS, T-Mobile has requested certain the City's consent to the replacement of a generator, as further explained in the Consent Letter, attached

hereto as Exhibit “A”;

WHEREAS, the new equipment proposed by T-Mobile will not occupy additional space on the water tower and will not significantly increase the total weight of T-Mobile’s equipment located on the water tower;

WHEREAS, the City’s consent to T-Mobile’s plan, as described in Exhibit “A” attached hereto, will not relieve any other City water tower lessee of its separate obligations under a separate tower agreement with the City and the City’s consent shall not waive any rights or remedies the City currently has against any such lessee, and will not relieve any other such lessee of any outstanding obligations under separate agreements; and

WHEREAS, it is the recommendation of Peter C. Abide, City Attorney, that the City consent to T-Mobile’s plan regarding the placement and removal of equipment on the City’s water tower located at 2145 Popps Ferry Road, as described in Exhibit “A” attached hereto.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOUR AND THE CITY COUNCIL OF THE CITY OF BILOXI, MISSISSIPPI, AS FOLLOWS:

SECTION ONE: The findings, conclusions, and statements of fact contained in the foregoing preamble are hereby adopted, ratified and incorporated herein.

SECTION TWO: The Mayor is hereby authorized to execute, on behalf of the City of Biloxi, the letter, attached hereto as Exhibit ”A,” indicating the City’s consent to T-Mobile South, LLC’s installation of new equipment on the City’s water tower located at 2145 Popps Ferry Road.

SECTION THREE: This resolution shall take effect and be in force from and after adoption.

March 27, 2023

EXHIBIT A

City of Biloxi
140 Lemeuse Street
Biloxi, Mississippi 39533

Re: **Water Tower Option and Lease Agreement dated November 16, 1999, as the same may have been amended (the "Agreement"), between City of Biloxi ("Landlord") and DIGIPH PCS, Inc. ("T-Mobile")**
Site No.: 9MT0043A
Site Address: 2499 Popps Ferry Road, Biloxi, MS 39532

To whom it may concern:

T-Mobile is in the process of updating certain equipment that supports its wireless telecommunications network. As part of this effort and as permitted under the Agreement, T-Mobile will need to perform work at the above-referenced Site.

In order to update the equipment, T-Mobile is requesting Landlord to review the attached construction drawings ("CDs") and then provide your consent for that work ("Consent") by signing the acknowledgement below.

All work will be done in accordance with the terms of the Agreement. A T-Mobile representative will contact you in the coming weeks to coordinate access to the Property in order to complete the work. It is important that the work starts promptly and without costly delays.

If there is an on-site representative of Landlord with whom we should coordinate the upcoming work, please provide us his or her contact information where indicated below. If we do not hear back from you within two weeks, we will assume no coordination is required.

Kindly return this letter with the requested information filled out below, via email to belina.derzapf1@t-mobile.com. The signatory represents and certifies that he or she has full right, power and authority to execute for Landlord.

GENERAL NOTES

1. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTORS SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
2. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
3. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
4. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
5. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
6. THE SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
7. THE SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
8. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWING MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. ALL SAFETY PRECAUTIONS MUCH BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

LOCATION MAP

DIRECTIONS

FROM 3757 HALLS MILL RD. MOBILE, AL 36693: GET ON I-10 W IN TILLMANS CORNER, FOLLOW I-10 W TO CEDAR LAKE RD IN BILOXI. TAKE EXIT 44 FROM I-10 W, TAKE POPP'S FERRY RD TO RIVERVIEW DR. BILOXI PUBLIC SCHOOL DISTRICT, BILOXI, MS.

T··Mobile·

GENERATOR ADD

T-MOBILE SITE ID

9MT0043A

T-MOBILE SITE NAME

POPPS FERRY RD WT

SITE ADDRESS
2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

SITE SUMMARY

SITE TYPE:	GENERATOR ADD
GENERATOR TYPE:	GENERAC RD048
FUEL TYPE:	DIESEL
SITE ADDRESS:	2145 CT POPPS FERRY ROAD BILOXI, MS 39532
SITE LATITUDE: SITE LONGITUDE:	30.4365° (N 30° 26' 11.4") -88.9656° (W 88° 57' 56.2")
JURISDICTION:	NOT PROVIDED
POWER COMPANY: TELEPHONE COMPANY:	COAST ELECTRIC AT&T FIBER
TOWER OWNER/MANAGER:	CITY OF BILOXI CONTACT: NOT PROVIDED
WIRELESS CARRIER:	T-MOBILE 1110 MONTLIMAR DRIVE, SUITE 900 MOBILE, AL 36609 CONTACT: NOT PROVIDED PHONE: NOT PROVIDED
ENGINEER:	SMW ENGINEERING 730 E PARK BLVD SUITE 204 PLANO, TX 75074 CONTACT: JUDSON CAIN SOMMERVILLE, PE PHONE: (469) 409-1138

APPROVALS

DEPARTMENT	NAME/SIGNATURE	DATE
DEVELOPMENT MANAGER		
PROPERTY/TOWER OWNER		
SITE ACQUISITION MANAGER		
CONSTRUCTION MANAGER		
RF ENGINEER		
OPERATIONS MANAGER		

SHEET INDEX

BUILDING CODES

ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF THE (AS ADOPTED BY LOCAL JURISDICTION):

- INDUSTRIAL CODE (ANSI)
- OCCUPATIONAL SAFETY AND HEALTH STANDARDS (OSHA)
- NATIONAL ELECTRICAL CODE
- INTERNATIONAL BUILDING CODE
- UNIFORM MECHANICAL CODE
- INTERNATIONAL ENERGY CONSERVATION CODE

HANDICAP REQUIREMENTS

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS IS NOT REQUIRED.

PLUMBING REQUIREMENTS

FACILITY HAS NO SANITARY OR POTABLE WATER

ONE CALL

MISSISSIPPI ONE-CALL
STATE WIDE CALL: 811
CALL BEFORE YOU DIG

T··Mobile·

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CA#: MS E-0269

JUDSON C. SOMMERVILLE
LICENSED PROFESSIONAL ENGINEER
21193
STATE OF MISSISSIPPI

12/02/2022

SITE INFORMATION
9MT0043A
2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

#	DATE	DESCRIPTION
0	11/01/22	ISSUED FOR CLIENT REV.
1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME
TITLE SHEET

SMW #
12-0770.4

DESIGNER:	SH
CHECKED BY:	JC
DRAWER:	JCB

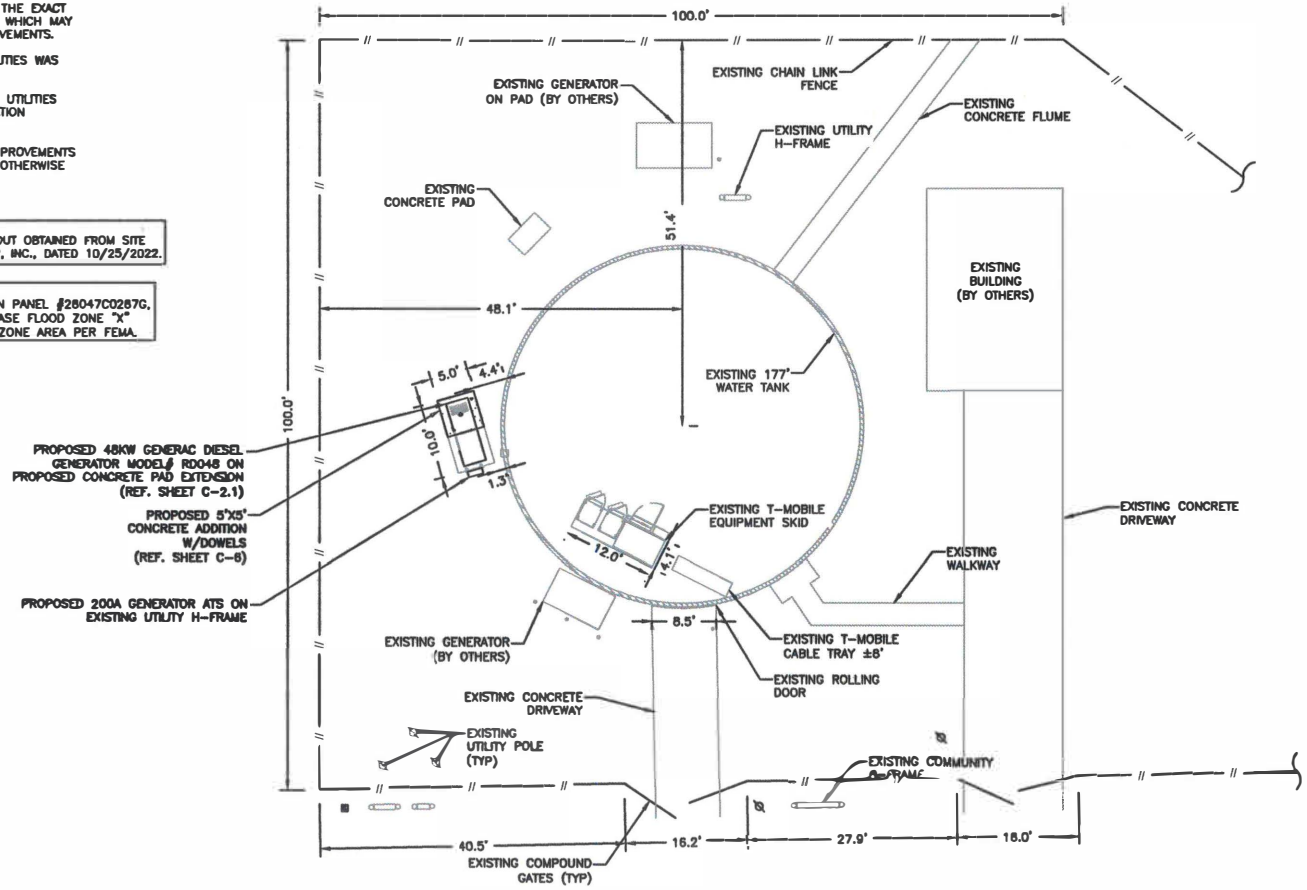
SHEET NUMBER
T-1

SITE NOTES:

1. DIGGING AND/OR TRENCHING INSIDE COMPOUND, MUST BE DONE BY HAND.
2. EXISTING SITE INFORMATION AND LAYOUT SHOWN REPRESENT INFORMATION OBTAINED FROM SBA & T-MOBILE.
3. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY THE EXACT LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH PROPOSED IMPROVEMENTS.
4. LOCATION OF UNDERGROUND UTILITIES WAS NOT PERFORMED.
5. THE ADEQUACY OF EXISTING SITE UTILITIES TO ACCOMMODATE NEW CO-LOCATION LOAD(S) WAS NOT VERIFIED.
6. ALL EXISTING VEGETATION AND IMPROVEMENTS SHOWN ARE TO REMAIN UNLESS OTHERWISE SHOWN IN THESE DRAWINGS.

SITE LAYOUT NOTE:
EXISTING SITE AND EQUIPMENT LAYOUT OBTAINED FROM SITE WALK BY SMW ENGINEERING GROUP, INC., DATED 10/25/2022.

FLOOD MAP NOTE:
SUBJECT PROPERTY IS LOCATED IN PANEL #28047C0287G, DATED 06/16/2009, AND IS IN BASE FLOOD ZONE "X" WHICH IS NOT A SPECIAL FLOOD ZONE AREA PER FEMA.



N

1 C-1 OVERALL SITE PLAN
SCALE: 1" = 16'

0' 16' 32' 48'
1" = 16' (11"x17")

T-Mobile

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CA#: MS E-0265

JUDSON C. SOMMERVILLE
LICENSED PROFESSIONAL ENGINEER
31193
STATE OF MISSISSIPPI

12/02/2022

SITE INFORMATION:
9MT0043A
2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

#	DATE	DESCRIPTION
0	11/01/22	ISSUED FOR CLIENT REV.
1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:
OVERALL SITE PLAN

SMW #: 12-0770.4

DESIGNER:	SH
CHECKED BY:	JE
ENGINEER:	JCS

SHEET NUMBER:
C-1

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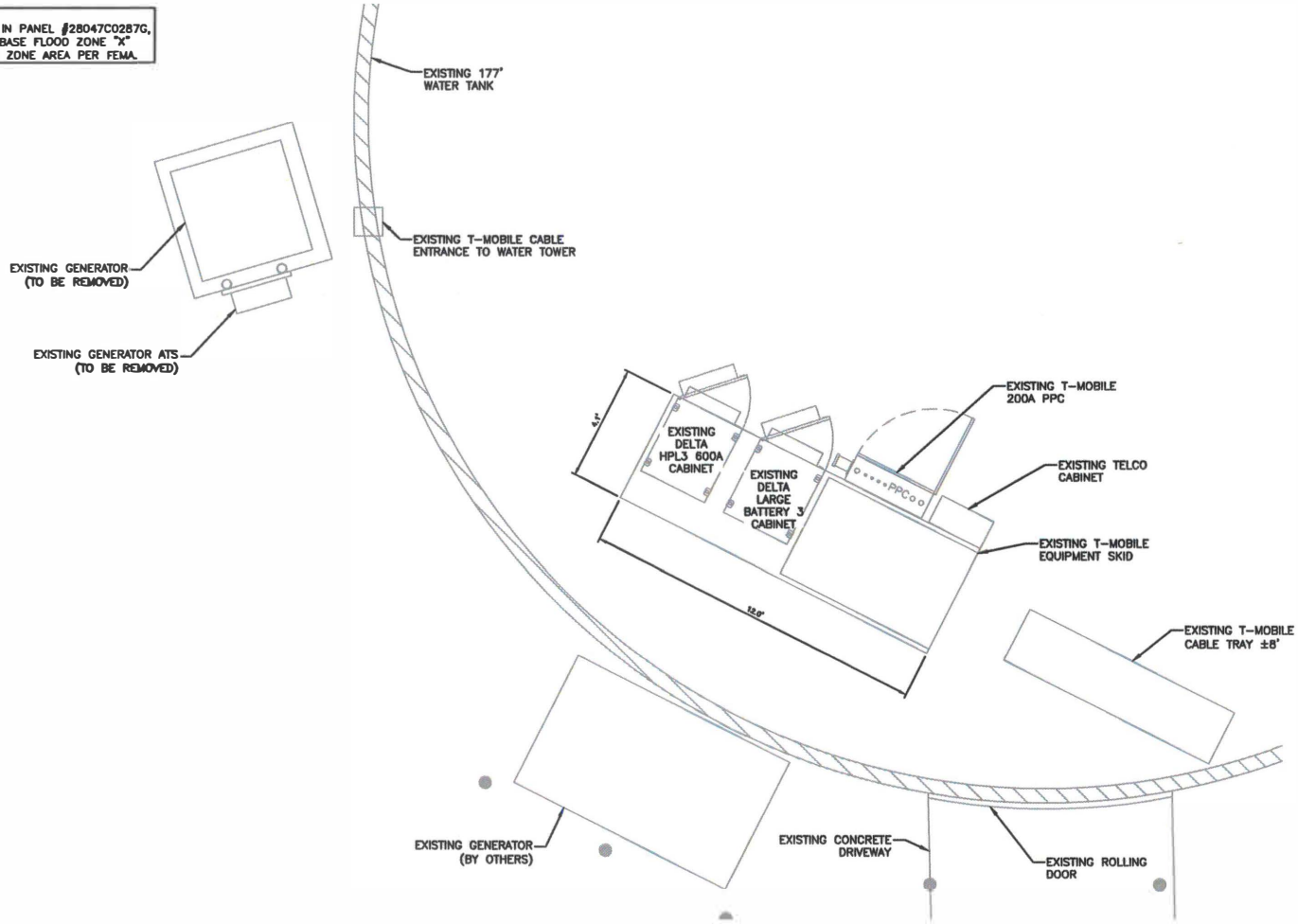

1 C-2 ENLARGED EQUIPMENT PLAN
SCALE: 1" = 4'

0' 4' 8' 12'
1" = 4' (11"x17")

T-Mobile

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STATE OF MISSISSIPPI

12/02/2022

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2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

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1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:
ENLARGED EQUIPMENT PLAN

SMW #: 12-0770.4
DESIGNER: SH
CHECKED BY: JE
ENGINEER: JCS

SHEET NUMBER: C-2

SITE LAYOUT NOTE:
EXISTING SITE AND EQUIPMENT LAYOUT OBTAINED FROM SITE WALK BY SMW ENGINEERING GROUP, INC., DATED 10/25/2022.

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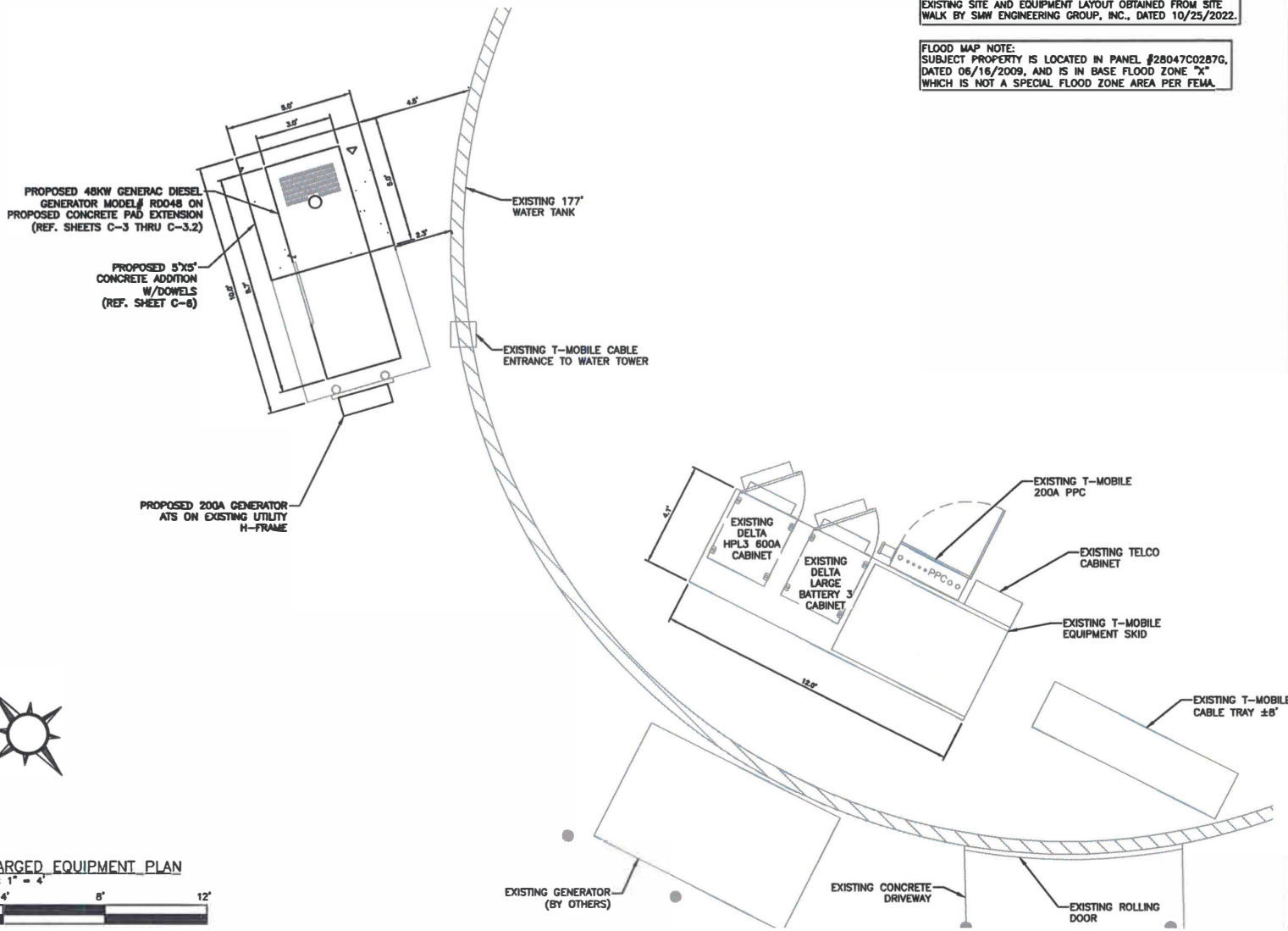

1 C-2 ENLARGED EQUIPMENT PLAN
SCALE: 1" = 4'

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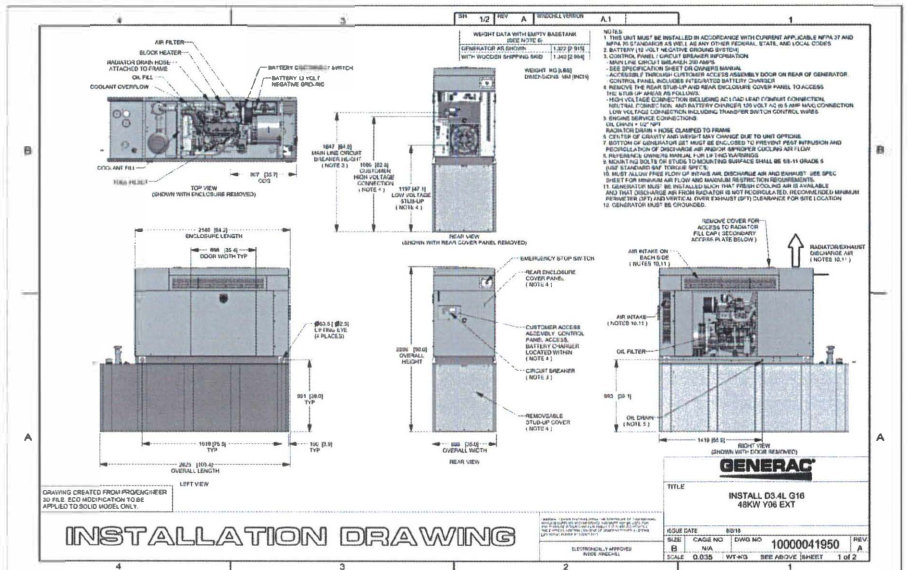
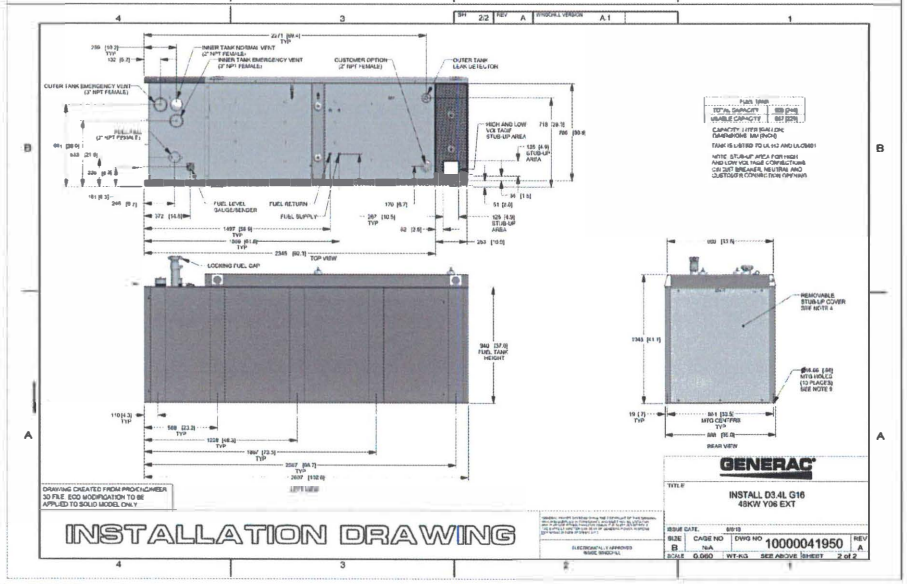
1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:
ENLARGED EQUIPMENT PLAN

SMW #: 12-0770.4
DESIGNER: SH
CHECKED BY: JE
ENGINEER: JCS

SHEET NUMBER: C-2.1





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CA#: MS E-0265

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31193
STATE OF MISSISSIPPI

12/02/2022

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2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

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1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:
GENERATOR DETAILS

SMW #: 12-0770.4
DESIGNER: SH
CHECKED BY: JE
ENGINEER: JCS

SHEET NUMBER:
C-3

GENERATOR SPEC SHEETS

NOT TO SCALE

1

RD048 | 3.4L | **48kW**
INDUSTRIAL DIESEL GENERATOR SET

GENERAC | INDUSTRIAL

Model Number
48kW: G0071940

Standby Power Rating
48 kW, 60 Hz

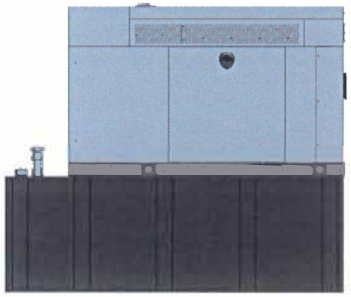

Image used for illustration purposes only

CODES AND STANDARDS

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

- UL2200, 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.

SPEC SHEET
2 OF 6

RD048 | 3.4L | **48kW**
INDUSTRIAL DIESEL GENERATOR SET

GENERAC | INDUSTRIAL

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

SPEC SHEET
2 OF 6

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T-Mobile

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CA#: MS E-0265

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12/02/2022

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BILOXI, MS 39532

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1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:
GENERATOR DETAILS

SMW#: 12-0770.4
DESIGNER: SH
CHECKED BY: JS
ENGINEER: JCS

SHEET NUMBER:
C-3.1

RD048 | 3.4L | 48kW
INDUSTRIAL DIESEL GENERATOR SET

GENERAC | INDUSTRIAL

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

ALTERNATOR SPECIFICATIONS

SPEC SHEET

RD048 | 3.4L | 48kW
INDUSTRIAL DIESEL GENERATOR SET

GENERAC | INDUSTRIAL

OPERATING DATA

POWER RATINGS

STARTING CAPABILITIES (skVA)

FUEL CONSUMPTION RATES*

COOLING

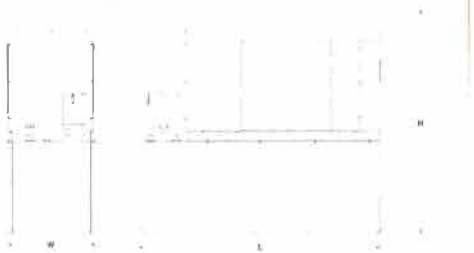
COMBUSTION AIR REQUIREMENTS

SPEC SHEET

RD048 | 3.4L | 48kW
INDUSTRIAL DIESEL GENERATOR SET

GENERAC | INDUSTRIAL

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 x (2.625) x 35.0 (894) x 90.0 (2.286)

48kW Fuel Consumption

Fuel Tank Gross Base Capacity	240
Fuel Tank Gross Usable Capacity	228
Fuel Tank Net Usable Capacity (Run Hours Based on Net Usable Capacity)	189
Run Hours 100% Load	12
Run Hours @ 75% Load	87
Run Hours 50% Load	96

Sound Emission Data

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

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

SPEC SHEET

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T-Mobile

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CA#: MS E-0265

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12/02/2022

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BILOXI, MS 39532

#	DATE	DESCRIPTION
0	11/01/22	ISSUED FOR CLIENT REV.
1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:
GENERATOR DETAILS

SMW #: 12-0770.4
DESIGNER: SH
CHECKED BY: JS
ENGINEER: JCS

SHEET NUMBER: C-3.2

GENERATOR SPEC SHEETS

NOT TO SCALE | 1

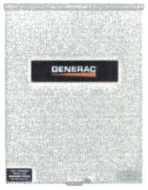
Automatic Transfer Switches

GENERAC®

Service and non-Service rated
Automatic Smart Transfer Switches

Automatic Transfer Switches 1 of 2

100 - 400 Amps, Single Phase



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*CUL only applies to non-service rated switches

Description

Generac Automatic Transfer Switches are designed for use with single phase generators that utilize an Evolution™ or Nexus™ Controller. The 100, 200, and 400 amp open transition switches are available in single phase in both service equipment rated and non-service equipment rated configurations. The 150 and 300 amp open transition switches are only available in a service rated equipment configuration.

Standard Features

Service rated (RXSW) Generac Automatic Transfer Switches are housed in an aluminum NEMA/UL Type 3R enclosure*, with electrostatically applied and baked powder paint. The Heavy Duty Generac Contactor is a UL 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 5 year limited warranty.

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

DPM Technology

Through the use of digital power technology (DPM), these switches have the capability to manage up to 4 individual HVAC (24 VAC controlled) loads with no additional hardware. When used in tandem with Smart Management Modules, up to 8 more loads can be managed as well, providing the most installation efficient power management options available.

GENERAC ISO 9001:2008

Automatic Transfer Switches 2 of 2

GENERAC

100-400 Amps, Single Phase — Automatic Smart 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 2-1500 seconds by a qualified dealer*
Engine warm up delay	5 seconds
Standby voltage sensor	65% for 5 seconds
Utility voltage pickup	>80%
Re-transfer time delay	15 seconds
Engine cool-down timer	60 seconds
Exerciser	5 or 12 minutes adjustable weekly/Bi-weekly/Monthly**

The transfer switch can be operated manually without power applied.

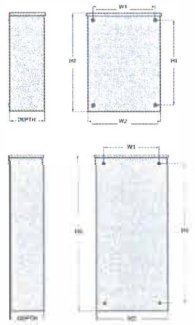
*When used in conjunction with units utilizing Evolution™ controls **Adjustable via the controller

Specifications

Model	RXSC100A3		RXSC200A3
Amps	100		200
Voltage	120/240, 1ø		120/240, 1ø
Load Transition Type (Automatic)	Open Transition		Open Transition
Enclosure Type	NEMA/UL 3R		NEMA/UL 3R
UL Rating	UL/CUL		UL/CUL
Withstand Rating (Amps)	10,000		10,000
Lug Range	I/O - #14		250 MCM - #6

Dimensions

Model		RXSC100A3	RXSC200A3
Height (in./mm)	H1	17.7in/447.5	17.7in/447.5
	H2	20/508	20/508
Width (in./mm)	W1	12.5/317.5	12.5/317.5
	W2	14.6/370.8	14.6/370.8
Depth (in./mm)		7.09/180.1	7.09/180.1
Weight (lbs./kilo)		20/9.07	20/9.07



GENERAC

GeneracPowerSystems, Inc. • S45 W29290 HWY. 59, Waukesha, WI 53189 • generac.com

T··Mobile·

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CA#: MS E-0265

JUDSON C. SOMMERVILLE
LICENSED PROFESSIONAL ENGINEER
31193
STATE OF MISSISSIPPI

12/02/2022

SITE INFORMATION

9MT0043A
2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

#	DATE	DESCRIPTION:
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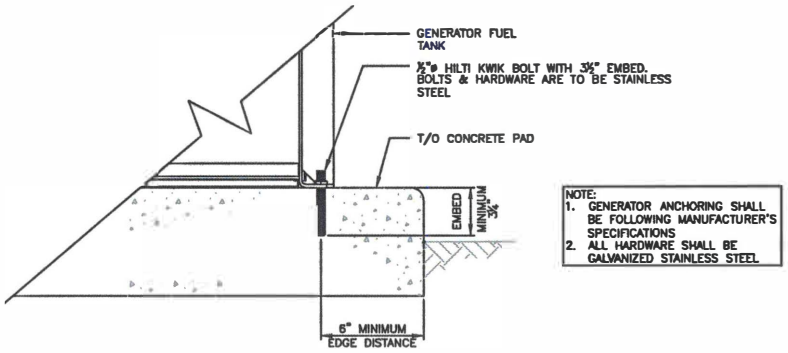
SHEET NAME:

ATS DETAILS

SMW #: 12-0770.4

SHEET NUMBER: C-4

DESIGNED:	SH
CHECKED BY:	JC
ENGINEER:	JCS



NOTE:
1. GENERATOR ANCHORING SHALL BE FOLLOWING MANUFACTURER'S SPECIFICATIONS
2. ALL HARDWARE SHALL BE GALVANIZED STAINLESS STEEL

GENERATOR ANCHORING DETAIL

NOT TO SCALE

1

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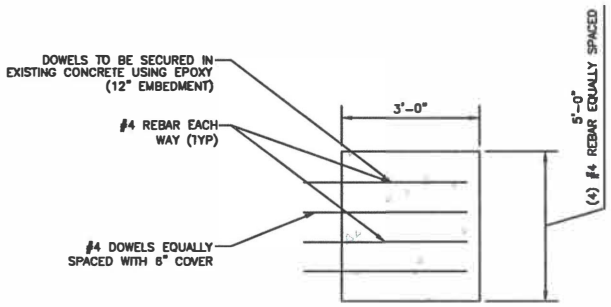
SHEET NAME:
PAD & ANCHOR DETAILS

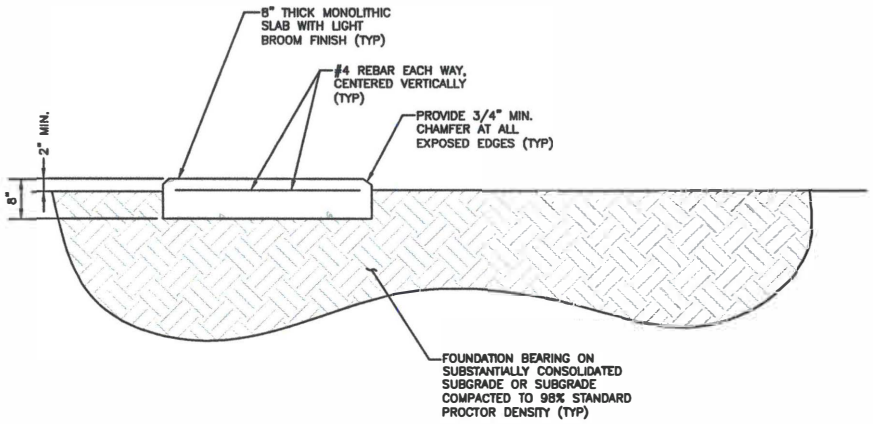
SMW #: 12-0770.4

DESIGNER:	SH
CHECKED BY:	JK
ENGINEER:	JCS

SHEET NUMBER:
C-5



1 CONCRETE EXTENSION DETAIL - TOP VIEW
SCALE: N.T.S



CONCRETE EXTENSION DETAIL

NOT TO SCALE | 1

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CA#: MS E-0265

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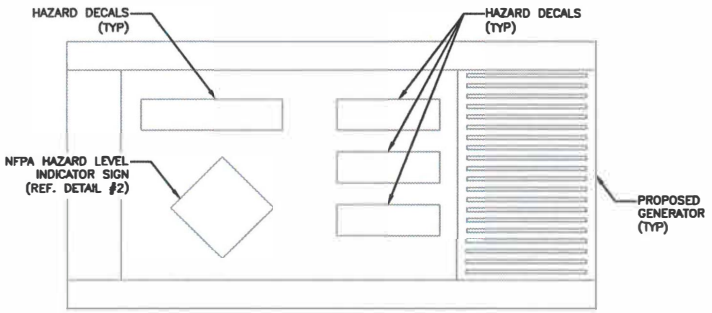
SMW #: 12-0770.4
DESIGNER: SH
CHECKED BY: JE
ENGINEER: JCS

SHEET NUMBER:
C-6

GROUND LUG	1" BLACK LETTERS ON WHITE BACKGROUD
NO SMOKING	3" LETTERS ON WHITE BACKGROUND (INSTALL ON ONE VISIBLE SIDE)
COMBUSTIBLE	3" LETTERS ON WHITE BACKGROUND (INSTALL ON ONE VISIBLE SIDE)
DIESEL FUEL	3" LETTERS ON WHITE BACKGROUND (INSTALL ON ONE VISIBLE SIDE)

NOTE FOR CONTRACTOR:

SIGNS MUST BE OF DURABLE MATERIAL. SIGNS SHALL NOT BE OBSCURED OR REMOVED AND SHALL BE IN ENGLISH AS A PRIMARY LANGUAGE. COMBUSTIBLE SIGN MAY ALSO BE WHITE LETTERS ON A RED BACKGROUND



GENERATOR LABELING REQUIREMENTS — NOT TO SCALE — 1

HAZARD SIGN NOTE:

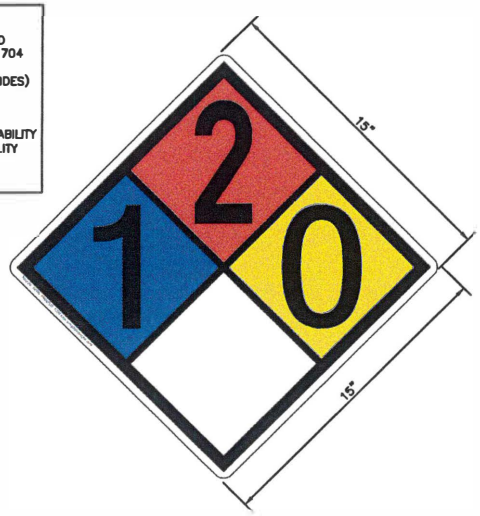
STAMPED ALUMINUM HAZARD SIGNAL SYSTEM PER NFPA 704 CHAPTER 6, 15" DIAMOND (INSTALL ON ALL VISIBLE SIDES)

HAZARD RATINGS:

TWELVE O'CLOCK – FLAMMABILITY
THREE O'CLOCK – INSTABILITY
SIX O'CLOCK – SPECIAL
NINE O'CLOCK –HEALTH

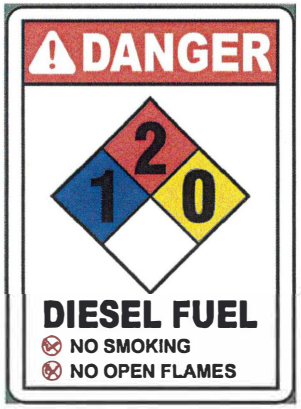
REFERENCES:

NFPA 704
UFC 7001.9
IFC 27035



NFPA HAZARD SIGNAGE EXAMPLE — NOT TO SCALE — 2

DIESEL FUEL – DANGER SIGN EXAMPLE — 3



DIESEL FUEL DANGER / NO SMOKING – SIGN EXAMPLE — 4

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SHEET NAME:
SIGNAGE DETAILS

SMW #: 12-0770.4
DESIGNER: SH
CHECKED BY: JC
ENGINEER: JCS

SHEET NUMBER: C-7

A – GENERAL

A1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (EDITION ADOPTED BY LOCAL JURISDICTION) AND APPLICABLE LOCAL CODES.

A2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.

A3. ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE U.L. APPROVED OR LISTED.

A4. ALL POWER WIRING SHALL BE STRANDED COPPER, TYPE THHN/THHW, AND 90 DEGREES C RATED.

A5. GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE, TIN COATED COPPER AND EQUIPMENT GROUND CONDUCTORS SHALL BE GREEN INSULATED, UNLESS OTHERWISE NOTED.

A6. ALL POWER WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT, PVC, OR FLEXIBLE LIQUIDTIGHT CONDUIT, AS INDICATED.

A7. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT FEES, AND SCHEDULE INSPECTIONS.

A8. CONTRACTOR SHALL APPLY FOR ELECTRICAL SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS, SERVICE ROUTING, AND METER SOCKET TYPE WITH LOCAL POWER COMPANY.

A9. CONTRACTOR SHALL APPLY FOR TELEPHONE SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS AND SERVICE ROUTING WITH TELEPHONE COMPANY.

A10. PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING, AND ALL ITEMS INCIDENTAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.

A11. WHERE LONG POWER CABLE RUNS PREVAIL, CONTRACTOR SHALL CALCULATE THE VOLTAGE DROP AND SIZE WIRES AND CONDUIT ACCORDINGLY.

A12. WHERE TRANSFORMER IS REQUIRED FOR ELECTRICAL SERVICE, TRANSFORMER SECONDARY SHALL BE GROUNDED PER N.E.C., ARTICLE 250-26.

A13. REFER TO SITE SPECIFIC DWGS FOR ELEVATIONS.

A14. ALL ELECTRICAL DEVICES EXPOSED TO WEATHER SHALL BE OF RAINPROOF CONSTRUCTION AND SHALL REQUIRE WATER TIGHT CONDUIT HUBS. NEMA 3R TYPICAL

A15. CONTRACTOR SHALL COIL CABLES AT HANDHOLE WITH LENGTHS AS REQUIRED BY ELECTRICAL UTILITY FOR CONNECTION BY UTILITY.

A16. ALL UNDERGROUND SERVICE ENTRANCE POWER CABLES SHALL BE TYPE FOR SUCH USE. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND RE-SIZE CABLES PER NEC REQUIREMENTS FOR CABLE RUNS EXCEEDING 250 FEET.

B – POWER CABLE AND SERVICE

B1. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING TO BTS AND VERIFY EXACT CONDUIT ROUTING. RACEWAY SYSTEM MATERIALS AND DEVICES FURNISHED SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA, AND UL. RACEWAY SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE N.E.C.

B2. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND ROOFS TO PREVENT MOISTURE PENETRATION OR VERMIN INFESTATION.

B3. CONDUCTORS RUNNING ALONG HORIZONTAL SURFACES (ROOF TOP OR SLAB) SHALL BE INSTALLED IN RIGID CONDUIT SUPPORTED ON ELECTRICAL CONDUIT SUPPORT.

B4. ALL VERTICAL RUNS OF POWER CABLE EXCEEDING 60 FEET IN LENGTH SHALL BE SUPPORTED PER N.E.C. ARTICLE 300 USING KELLEMS GRIPS OR ACCEPTABLE EQUAL CABLE SUPPORT SYSTEM.

B5. WHERE A SEPARATE ELECTRICAL SERVICE DROP IS ADDED, CONTRACTOR SHALL INSTALL PERMANENT SERVICE DISCONNECT OR GROUPING THEREOF, DENOTING ALL OTHER SERVICE ENTRANCES, LOCATION OF EACH AND THE AREAS SERVED BY EACH.

B6. WHERE ELECTRICAL POWER IS TO BE SUB-FED FROM AN EXISTING DISTRIBUTION SYSTEM, THE FOLLOWING SHALL APPLY:
- A) CONTRACTOR SHALL PERFORM LOAD TESTING TO DETERMINE MAXIMUM FEEDER DEMAND PER N.E.C. ARTICLE 220-35.
- B) CONTRACTOR SHALL VERIFY WHETHER EXISTING FEEDER CAPACITY EXCEEDS VALUE CALCULATED PER N.E.C. ARTICLE 220-35
- C) EACH BRANCH CIRCUIT PROTECTIVE DEVICE SHALL HAVE SAME INTERRUPTING RATING AS EQUIPMENT SUPPLYING IT.
- D) PREFERRED MEANS OF SUPPLY SHALL BE A BRANCH CIRCUIT PROTECTIVE DEVICE LOCATED IN EXISTING PANEL.
- E) IF A BRANCH CIRCUIT PROTECTIVE DEVICE CANNOT BE OBTAINED OR SPACE IS NOT AVAILABLE, A BRANCH CIRCUIT MAY BE TAPPED FROM EXISTING FEEDER CONDUCTORS USING AN INSTALLED 2-POLE FUSED DISCONNECT AND METER BASE PER N.E.C. ARTICLE 240-21 WITH TEN FOOT (10) MAXIMUM TAP CONDUCTORS. FUSED DISCONNECT SHALL BE LISTED SAME OR BETTER INTERRUPTING RATING AS EXISTING SOURCE OF SUPPLY.

C – RF (COAX) AND LOW VOLTAGE CABLE

C1. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE SUPPORTED USING ANDREW "SNAP-IN" HANGERS OR ACCEPTABLE EQUAL.

C2. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE ROUTED AS FOLLOWS:
- A) RUNNING ALONG HORIZONTAL SURFACES: USE WAVEGUIDE SUPPORTS OR BRIDGE KIT MOUNTED ON CONCRETE SLEEPERS.
- B) RUNNING ALONG VERTICAL TOWER FACE: WAVEGUIDE LADDER W/HANGERS OR KELLEMS GRIPS.
- C) RUNNING ALONG OR ADJACENT TO BTS PLATFORM: USE 12 X 3 OPEN OR COVERED ELECTRICAL LADDER TRAY.

D – IDENTIFICATION

D1. LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON OUTSIDE EQUIPMENT OR BOX FRONT COVERS.

D2. PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH SAFETY SWITCH AND ALL OTHER ELECTRICAL CABINETS, ETC.

D3. DURING TRENCH BACK-FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE TWELVE INCHES BELOW FINISHED GRADE.

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SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CA#: MS E-0285

JUDSON C. SOMMERVILLE
LICENSED PROFESSIONAL ENGINEER
21193
STATE OF MISSISSIPPI

12/02/2022

SITE INFORMATION:

9MT0043A
2145 CT POPPS FERRY ROAD
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ELECTRICAL NOTES

SMW #: 12-0770.4

DESIGNER: SH
CHECKED BY: JC
ENGINEER: JCS

SHEET NUMBER: E-1

A – GENERAL

A1. INSTALLATION OF GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE AND WITH ALL BUILDING CODES OF AUTHORITIES HAVING JURISDICTION.

A2. GROUNDING CONDUCTORS SHALL BE #2 AWG TINNED SOLID BARE COPPER BELOW AND ABOVE GRADE, UNLESS OTHERWISE NOTED AND SHALL BE ROUTED IN A DOWNWARD PATH TOWARDS GROUND BARS.

A3. GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AND DIRECT AS POSSIBLE WITH MINIMUM BEND RADIUS OF 12 INCHES.

A4. ALL BELOW GRADE CONNECTIONS SHALL BE CADWELD TYPE CONNECTIONS AND ALL CONNECTIONS TO EQUIPMENT AND GROUND BARS SHALL BE 2–HOLE BRONZE COMPRESSION CONNECTORS UNLESS OTHERWISE NOTED.

A5. CONTRACTOR SHALL INSTALL NEW PCS GROUNDING SYSTEM PER SPECIFICATIONS AND INTERCONNECT NEW SYSTEMS TO ANY EXISTING GROUNDING SYSTEMS AS REQUIRED BY NFPA 70 AND 780 (THIS APPLIES TO ELECTRICAL POWER DISTRIBUTION GROUNDING SYSTEM, LIGHTNING PROTECTION GROUNDING SYSTEM, COAX CABLE GROUNDING SYSTEM AND ANY OTHER EXISTING GROUNDING SYSTEMS).

A6. GROUNOING CONDUCTORS SHALL BE BONDED TO CABLE SUPPORTS, ANTENNA FRAMES, AND ANY SUPPORT FRAMES OR RACKS USING CADWELD OR MECHANICAL CONNECTIONS.

A7. CONTRACTOR SHALL PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS, STAINLESS STEEL HARDWARE SHALL BE USED THROUGHOUT.

A8. GROUNDING CONDUCTORS EMBEDDED IN CONCRETE OR PENETRATING WALLS AND FLOORS SHALL BE ENCASED IN PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS UNLESS REQUIRED BY LOCAL CODES OR OTHERWISE INDICATED ON DRAWINGS. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS TO PREVENT MOISTURE PENETRATION AND VERMIN INFESTATION.

A9. CONTRACTOR SHALL BOND PCS GROUNDING SYSTEM VIA THE MASTER GROUND BAR TO ALL METAL OBJECTS WITHIN 12 FEET OF EQUIPMENT, CONDUIT AND CABLES.

A10. BONDING OF GROUNDED CONDUCTOR (NEUTRAL) AND GROUNDING CONDUCTOR SHALL BE AT SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250–28.

A11. CONTRACTOR SHALL VERIFY EXACT CONDUIT ROUTING FOR GROUNDING CONDUCTORS WHERE APPLICABLE.

A12. A GROUND LEAD IS REQUIRED ONLY FOR BTS SUPPORTED ON STEEL FRAME. AN ADDITIONAL GROUND LEAD IS REQUIRED IF CABLE TRAY IS USED.

A13. CONNECTIONS TO CGB SHALL BE ARRANGED IN THE FOLLOWING THREE GROUPS:

- SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO CABINET AND POWER PEDESTAL GROUND).
- SURGE ABSORBERS (GROUNDING ELECTRODE RING OR BUILDING STEEL).
- NON–SURGING OBJECTS (EGB GROUND IN BTS).

A14. DOUBLING OR STACKING OF ANY GROUNDING CONNECTIONS IS NOT ACCEPTABLE.

A15. ALL GROUND BARS SHALL BE INSTALLED WITH STAND OFF INSULATORS.

B – PREPARATION

B1. SURFACES: ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED TO ENSURE PROPER CONTACT. ALL GALVANIZED SURFACES ON WHICH GALVANIZING HAS BEEN REMOVED BY CUTTING, DRILLING, OR ANY OTHER OPERATION SHALL BE RE–GALVANIZED IN ACCORDANCE WITH ASTM A780 USING "ZINC RICH" COATING AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS COMPANY (LOCATED IN QUINCY, MASSACHUSETTS), OR ACCEPTABLE EQUAL. NO WASHERS ARE ALLOWED BETWEEN ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON–OXIDIZING AGENT ("COPPER SHIELD") APPLIED PRIOR TO INSTALLATION.

B2. GROUND BAR: ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON–OXIDIZING AGENT ("COPPER SHIELD") APPLIED. NO FINGER PRINTS OR DISCOLORED COPPER SHALL BE PERMITTED.

C – BUILDINGS

C1. ELECTRICAL CONTRACTOR SHALL PERFORM REQUIRED TESTING ON GROUNDING SYSTEM ONCE GROUNDING SYSTEM IS COMPLETELY CONSTRUCTED AND BEFORE SERVICE POWER AND GROUND IS CONNECTED (SEE NOTE T1 FOR TEST DESCRIPTION).

C2. A #4/0 AWG COPPER CONDUCTOR SHALL BE ROUTED FROM MASTER GROUND BAR AT BTS SITE TO MAIN METAL COLD WATER PIPE AND BONDED TO PIPE WITH BRONZE 2–HOLE PIPE CLAMP. CLAMP SHALL BE CONNECTED TO WATER PIPE WITHIN 5 FEET OF ENTRY OF PIPE INTO BUILDING WITH NO DEVICES BETWEEN ENTRY POINT AND CONNECTION AND SHALL COME IN CONTACT WITH PIPE FOR A MINIMUM DISTANCE OF 4 INCHES.

C3. METAL RACEWAYS, ENCLOSURES, FRAMES AND OTHER NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT SHALL BE KEPT AT LEAST 6 FEET AWAY FROM LIGHTNING ROD CONDUCTORS OR THEY MUST BE BONDED TO LIGHTING ROD CONDUCTORS AT THE LOCATION WHERE SEPARATION DISTANCE IS LESS THAN 6 FEET.

C4. A MASTER GROUND BAR (MGB) SHALL BE INSTALLED NEAR BTS WITH BUILDING PRINCIPAL GROUND BAR (BPG) INSTALLED NEAR ENTRANCE OF MAIN METAL COLD WATER PIPE INTO BUILDING. A #4/0 AWG STRANDED COPPER DOWN CONDUCTOR (VERTICAL GROUND RISER) SHALL BE USED TO INTERCONNECT GROUND BARS.

C5. VERTICAL RISER SHALL CONSIST OF A #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR INSIDE 3/4" CONDUIT.

C6. CONTRACTOR SHALL BOND BUILDING PRINCIPAL GROUND BAR (BPG) NEAR MAIN METAL COLD WATER PIPE TO EXISTING BUILDING GROUND RING AS WELL AS TO MAIN METAL COLD WATER PIPE WITH #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR.

C7. ANTENNA GROUND BARS (AGB) SHALL BE INSTALLED NEAR ANTENNAS AND SHALL BE BONDED TO MASTER GROUND BAR (MGB) WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR.

C8. IF CODES REQUIRE VERTICAL RISER TO BE ISOLATED IN CONDUIT, PVC CONDUIT IS PREFERRED. IF METALLIC CONDUIT IS USED, GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF THE CONDUIT AND BONDED TO GROUND BARS USING #2 AWG (THWN) STRANDED COPPER CONDUCTORS WITH GREEN INSULATION.

D – LAND BUILDS AND CO–LOCATES

D1. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS UNIFORMLY SPACED AROUND THE EQUIPMENT FOUNDATION AND AROUND THE PERIMETER OF THE TOWER FOUNDATION. THE GROUND RODS SHALL BE 5/8" X 10'–0" COPPER CLAD STEEL INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND CONDUCTOR TO FORM A GROUND RING AT A DEPTH OF 30 INCHES BELOW THE SURFACE OF THE SOIL. A MINIMUM OF 1 FOOT AND A MAXIMUM OF 3 FEET CLEARANCES SHALL BE MAINTAINED FROM FOUNDATIONS. TOWER AND EQUIPMENT GROUND RINGS SHALL BE INTERCONNECTED WITH TWO GROUNDING CONDUCTORS OF EQUAL LENGTH AND MATERIALS.

D2. GROUND RODS SHALL BE BONDED TO GROUND RINGS AND INTERCONNECTING CONDUCTORS AT EQUAL INTERVALS OF APPROXIMATELY 10 FEET.

D3. WAVEGUIDE BRIDGE SHALL BE BONDED TO GROUND RINGS OR INTERCONNECTING CONDUCTORS WITH GROUNDING CONDUCTORS BONDED TO DIAGONALLY OPPOSED SUPPORT POSTS.

D4. GROUND BARS SHALL BE BONDED TO GROUND RING WITH SINGLE GROUNDING CONDUCTOR.

D5. BONDS TO ANTENNA MASTS, FENCE POSTS, WAVEGUIDE BRIDGE, TOWER STEEL (UNLESS PROHIBITED BY TOWER MANUFACTURER) AND THOSE BELOW GRADE SHALL BE EXOTHERMIC TYPE (CADWELD). ALL OTHER BONDS SHALL BE BRONZE 2–HOLE COMPRESSION FITTINGS UNLESS OTHERWISE NOTED.

D6. GROUNDING CONDUCTORS MAKING A TRANSITION FROM ABOVE TO BELOW GRADE SHALL BE INSULATED FROM EARTH CONTACT BY PASSING THROUGH PVC CONDUIT. THE CONDUIT SHALL EXTEND AT LEAST 8 INCHES ABOVE AND 12 INCHES BELOW GRADE LEVEL.

E – LIGHTNING PROTECTION

E1. IF EXISTING BUILDING HAS AN NFPA 780 AIR TERMINAL SYSTEM, EXISTING SYSTEM SHALL BE BONDED TO A GROUND BAR TO BOND THE EXISTING SYSTEM TO THE NEW SYSTEM. SHOULD THE EXISTING SYSTEM COME WITHIN 6 FEET OF ANTENNA STRUCTURES, EXISTING SYSTEM SHALL ALSO BE BONDED TO COAX GROUND BARS.

E2. IF SITE IS IN A HIGH RISK AREA AND ANTENNAS DO NOT FALL WITHIN EXISTING CONE OF PROTECTION FOR BUILDING, AIR TERMINALS SHALL BE INSTALLED AT ANTENNAS. A SINGLE AIR TERMINAL MAY BE USED WHEN TWO ANTENNAS ARE MOUNTED ON SAME STRUCTURE AND IT HAS BEEN DETERMINED THAT BOTH ANTENNAS WILL FALL WITHIN LIGHTNING CONE OF PROTECTION FOR SINGLE AIR TERMINAL.

T – GROUNDING REQUIREMENTS

T1. CONTRACTOR SHALL INSPECT AND TEST ANY NEW OR EXISTING T–MOBILE GROUNDING SYSTEM WITH A BIDDLE–MEGGER TESTER UTILIZING THE FALL OF POTENTIAL METHOD AND CONTACT CONSTRUCTION MANAGER IF RESISTANCE EXCEEDS 5 OHMS AND SHALL FIELD MODIFY GROUNDING SYSTEM AS NECESSARY TO ACHIEVE COMPLIANCE. TEST RESULTS AND CONCLUSIONS SHALL BE RECORDED FOR PROJECT CLOSE–OUT DOCUMENTATION.

T2. COAX CABLE OUTER CONDUCTORS (SHIELDS) SHALL BE GROUNDED USING COAX GROUNDING KITS AT A MINIMUM OF TWO POINTS, INCLUDING AT ANTENNA AND AT MASTER GROUND BAR. THE COAXIAL CABLE SHALL NOT EXCEED 100 FEET BETWEEN GROUNDING KITS.

T3. GROUNDING CONDUCTOR CONSISTING OF 2–#2 AWG TINNED SOLID BARE COPPER WIRE SHALL BE BONDED TO WAVEGUIDE ENTRY GROUND BAR USING CADWELD CONNECTIONS.

T4. COAX CABLE ENTERING A BUILDING SHALL BE GROUNDED WITH COAX GROUNDING KITS TO AN INSULATED COAX GROUND BAR WHICH SHALL BE INSTALLED ON THE OUTSIDE FACE OF THE BUILDING, BELOW THE CABLE ENTRY PORTS.

T5. WHEN COAX CABLES ENTER A BUILDING FROM A TOWER, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE EXTERNAL GROUND RING USING 2–#2 AWG BARE TINNED SOLID COPPER ISOLATED IN PVC CONDUIT.

T6. WHEN COAX CABLES ENTER A BUILDING FROM A ROOF TOP, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE MASTER GROUND BAR NEAR THE BTS USING #2 AWG STRANDED INSULATED COPPER CONDUCTOR (SEE BUILDINGS NOTES ON THIS DRAWING FOR CONNECTION TO PRINCIPLE GROUND BAR AND BUILDING GROUND).

GROUNDING NOTES

T-Mobile

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CAJ: MS E-0265

JUDSON C. SOMMERVILLE LICENSED PROFESSIONAL ENGINEER 21193 STATE OF MISSISSIPPI

12/02/2022

SITE INFORMATION:

9MT0043A

2145 CT POPPS FERRY ROAD

BILOXI, MS 39532

#	DATE	DESCRIPTION
0	11/01/22	ISSUED FOR CLIENT REV.
1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:

GROUNDING NOTES

SMW #: 12–0770.4

DESIGNER:	SH
CHECKED BY:	JE
ENGINEER:	JCS

SHEET NUMBER:

E-2

ELECTRICAL KEY NOTES:

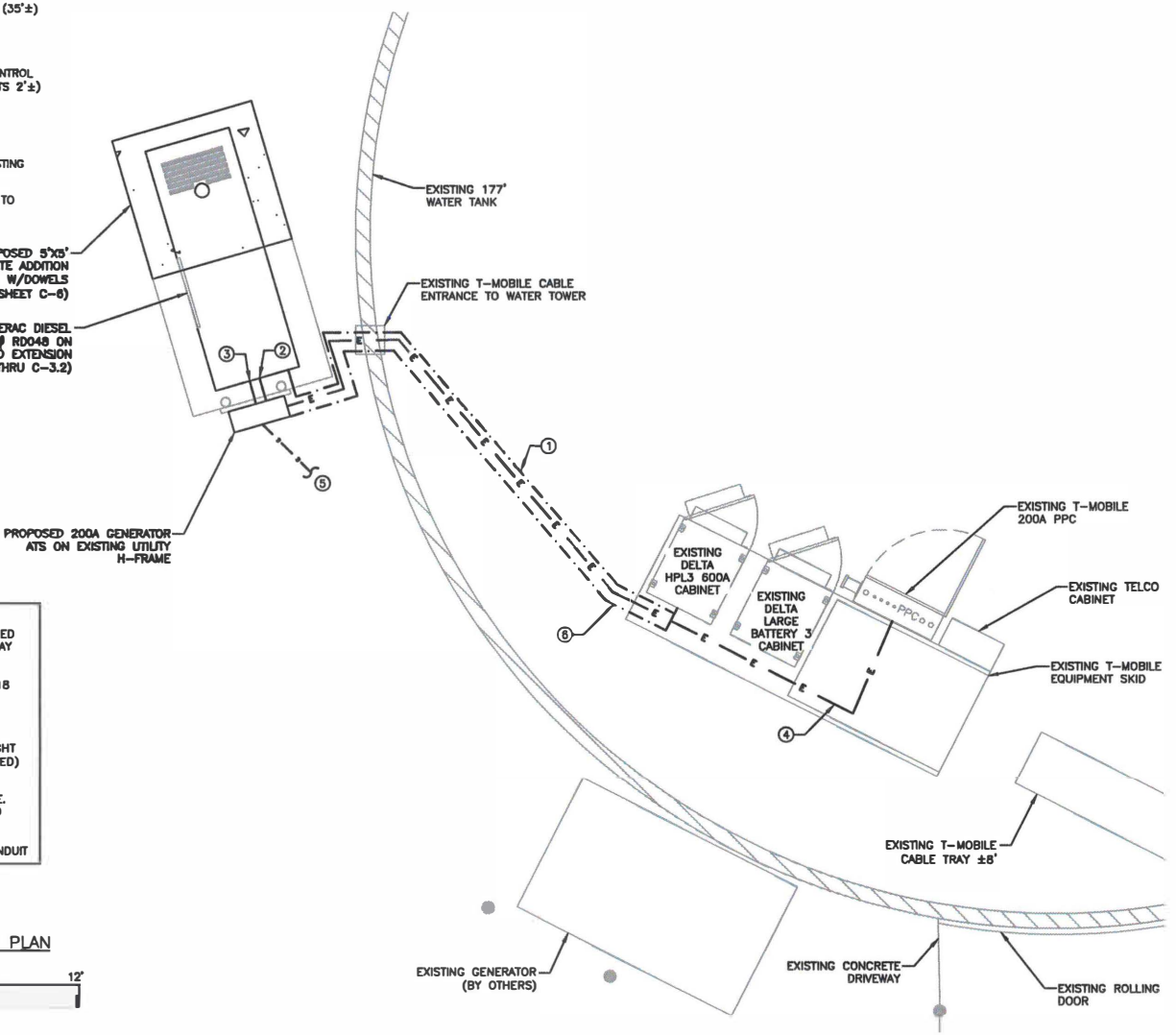
1. PROPOSED 2"ø PVC SCHEDULE 80 CONDUIT FOR (2) CAT6 ALARM CABLES FROM PROPOSED GENERATOR TO EXISTING SSC CABINET (35'±)
2. PROPOSED 2"ø PVC SCHEDULE 80 CONDUIT FOR POWER FROM PROPOSED GENERATOR TO PROPOSED T-MOBILE ATS (2'±).
3. PROPOSED 1"ø PVC SCHEDULE 80 CONDUIT FOR ALARM AND CONTROL WIRING FROM PROPOSED GENERATOR TO PROPOSED T-MOBILE ATS 2'±)
4. PROPOSED 2"ø PVC SCHEDULE 80 CONDUIT FOR POWER FROM PROPOSED ATS TO EXISTING T-MOBILE LOAD CENTER (40'±)
5. PROPOSED 2"ø PVC SCHEDULE 80 CONDUIT FROM MAIN SERVICE DISCONNECT TO ATS. CONTRACTOR TO ROUTE POWER INSIDE EXISTING UTILITY EASEMENT
6. PROPOSED 1"ø PVC SCHEDULE 80 CONDUIT FROM SSC CABINET TO T-MOBILE ATS FOR ALARMING (21'±)

NOTE FOR CONSTRUCTION:
NO CONDUITS CAN BE RUN ACROSS THE PLATFORM. CONDUITS MAY BE RUN UNDER THE PLATFORM.

SITE LAYOUT NOTE:
EXISTING SITE AND EQUIPMENT LAYOUT OBTAINED FROM SITE WALK BY SMW ENGINEERING GROUP, INC., DATED 10/25/2022.

FLOOD MAP NOTE:
SUBJECT PROPERTY IS LOCATED IN PANEL #28047C0287G, DATED 06/16/2009, AND IS IN BASE FLOOD ZONE "X" WHICH IS NOT A SPECIAL FLOOD ZONE AREA PER FEMA.

ELECTRICAL NOTES:
1. FIND THE FSEE/FSEB/HPL3 ALARM BLOCK AND LAND LABELED LOPC AND GENERATOR ALARMS TO THAT LOCATION, AS IT MAY OR MAY NOT BE MOUNTED IN THE SITE SUPPORT CABINET
2. NO CAT 5/6 TO BE USED FOR ALARM WIRE – ONLY USE 18 GAUGE, 600 VOLT, TYPE TC TRAY CABLE
3. ENSURE ALL ALARM WIRES ARE LABELED ON BOTH ENDS
4. POWER CONDUIT ABOVE GRADE MUST BE METALLIC SEAL TIGHT WITH METAL (BRIDGEPORT STYLE) CONNECTORS (UL APPROVED) OR RIGID GALVANIZED
5. MINIMIZE ANY ACROSS THE PAD CONDUIT RUNS IF POSSIBLE. ANY CONDUIT THAT DOES CROSS THE PAD WILL BE MARKED WITH HIGH VIS TAPE/PAINT TO SHOW TRIP HAZARD.
6. ALL CONDUITS ABOVE GROUND TO BE RMC GALVANIZED CONDUIT



1 C-2 ENLARGED EQUIPMENT PLAN
SCALE: 1" = 4'

0' 4' 8' 12'
1" = 4' (11"x17")

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SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CA#: MS E-0265

JUDSON C. SOMMERVILLE
LICENSED PROFESSIONAL ENGINEER
21193
STATE OF MISSISSIPPI

12/02/2022

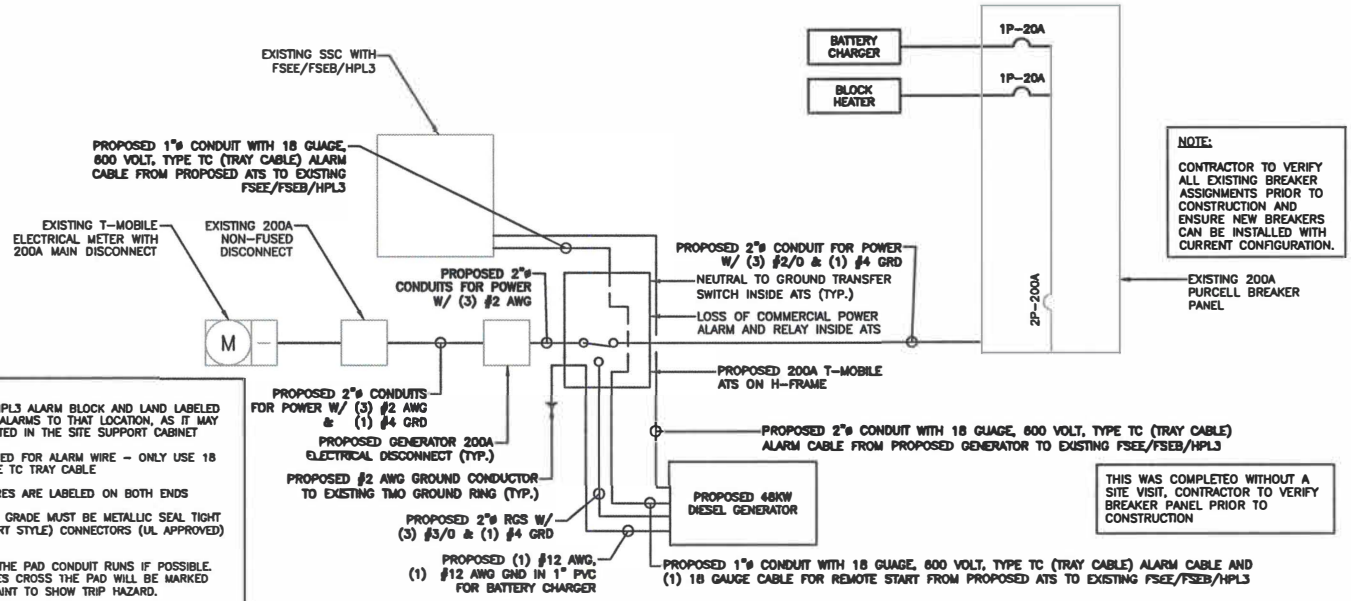
SITE INFORMATION
9MT0043A
2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

#	DATE	DESCRIPTION
0	11/01/22	ISSUED FOR CLIENT REV.
1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME
PROPOSED ELECTRICAL PLAN

SMW #: 12-0770.4
DESIGNER: SH
CHECKED BY: JE
ENGINEER: JCS

SHEET NUMBER: E-3



NOTE:

CONTRACTOR TO VERIFY ALL EXISTING BREAKER ASSIGNMENTS PRIOR TO CONSTRUCTION AND ENSURE NEW BREAKERS CAN BE INSTALLED WITH CURRENT CONFIGURATION.

THIS WAS COMPLETEO WITHOUT A SITE VISIT, CONTRACTOR TO VERIFY BREAKER PANEL PRIOR TO CONSTRUCTION

ELECTRICAL NOTES:

1. FIND THE FSEE/FSEB/HPL3 ALARM BLOCK AND LAND LABELED LOPC AND GENERATOR ALARMS TO THAT LOCATION, AS IT MAY OR MAY NOT BE MOUNTED IN THE SITE SUPPORT CABINET
2. NO CAT 5/6 TO BE USED FOR ALARM WIRE – ONLY USE 18 GAUGE, 600 VOLT, TYPE TC TRAY CABLE
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6. ALL CONDUITS ABOVE GROUND TO BE RMC GALVANIZED CONDUIT

ELECTRICAL ONE-LINE DIAGRAM

NOT TO SCALE

1

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SMW ENGINEERING GROUP, INC.
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CAF: MS E-0265

JUDSON C. SOMMERVILLE
LICENSED PROFESSIONAL ENGINEER
31193
STATE OF MISSISSIPPI

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SITE INFORMATION:

9MT0043A
2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

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SHEET NAME:

ONE-LINE DIAGRAM

SMW #: 12-0770.4

DESIGNED:	SH
CHECKED BY:	JE
ENGINEER:	JCS

SHEET NUMBER:

E-4

GROUNDING KEY NOTES:

① #2 AWG ATS CASE BOND TO EXISTING T-MOBILE COPPER GROUND RING USING MECHANICAL TWO HOLE LUG.

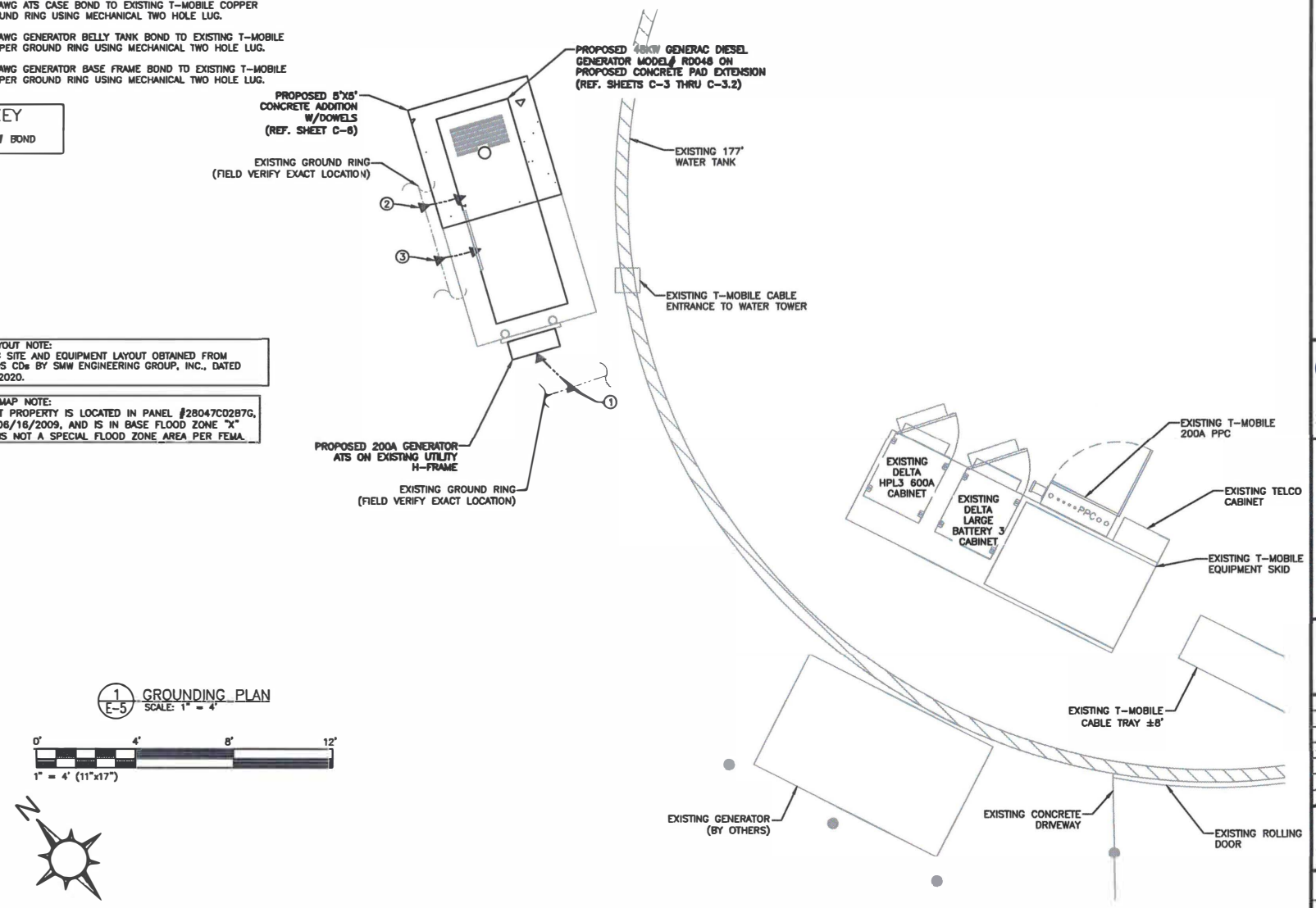
② #2 AWG GENERATOR BELLY TANK BOND TO EXISTING T-MOBILE COPPER GROUND RING USING MECHANICAL TWO HOLE LUG.

③ #2 AWG GENERATOR BASE FRAME BOND TO EXISTING T-MOBILE COPPER GROUND RING USING MECHANICAL TWO HOLE LUG.

KEY
▼ BOND

SITE LAYOUT NOTE:
EXISTING SITE AND EQUIPMENT LAYOUT OBTAINED FROM PREVIOUS CDs BY SMW ENGINEERING GROUP, INC., DATED 07/13/2020.

FLOOD MAP NOTE:
SUBJECT PROPERTY IS LOCATED IN PANEL #28047C0287G, DATED 06/16/2009, AND IS IN BASE FLOOD ZONE "X" WHICH IS NOT A SPECIAL FLOOD ZONE AREA PER FEMA.



1 E-5 GROUNDING PLAN
SCALE: 1" = 4'

0' 4' 8' 12'
1" = 4' (11"x17")

N

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SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW

CA#: MS E-0265

JUDSON C. SOMMERVILLE
LICENSED PROFESSIONAL ENGINEER
31193
STATE OF MISSISSIPPI

12/02/2022

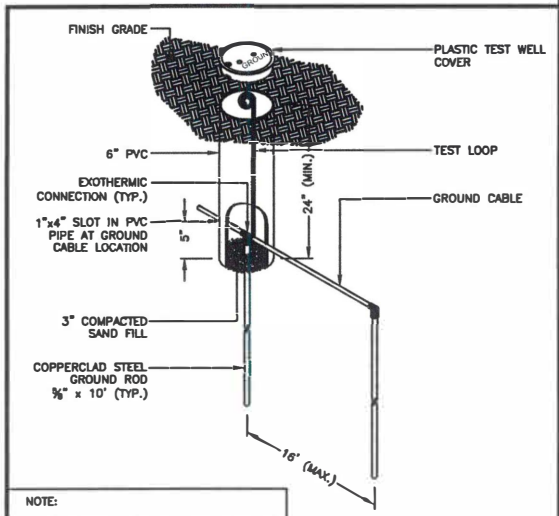
SITE INFORMATION
9MT0043A
2145 CT POPPS FERRY ROAD
BILOXI, MS 39532

#	DATE	DESCRIPTION
0	11/01/22	ISSUED FOR CLIENT REV.
1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:
GROUNDING PLAN & DETAILS

SMW#: 12-0770.4
DESIGNED: SH
CHECKED BY: JE
ENGINEER: JCS

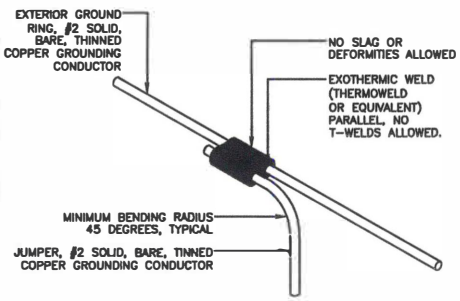
SHEET NUMBER: E-5



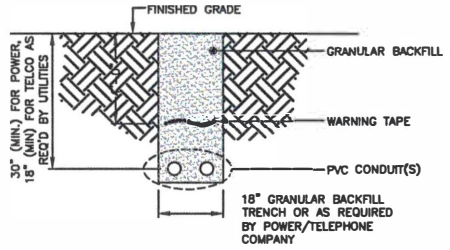
NOTE:

ALL WORK SHALL CONFORM TO THE LOCAL BUILDING CODES. DEPTH MAY VARY.

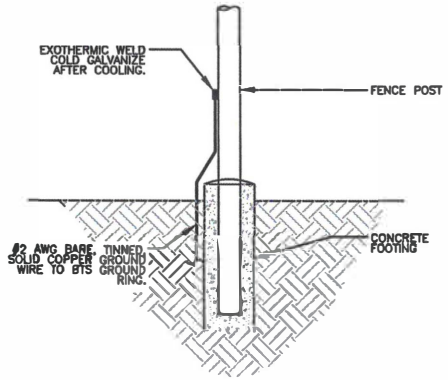
GROUND ROD INSPECTION WELL DETAIL — NOT TO SCALE | 1



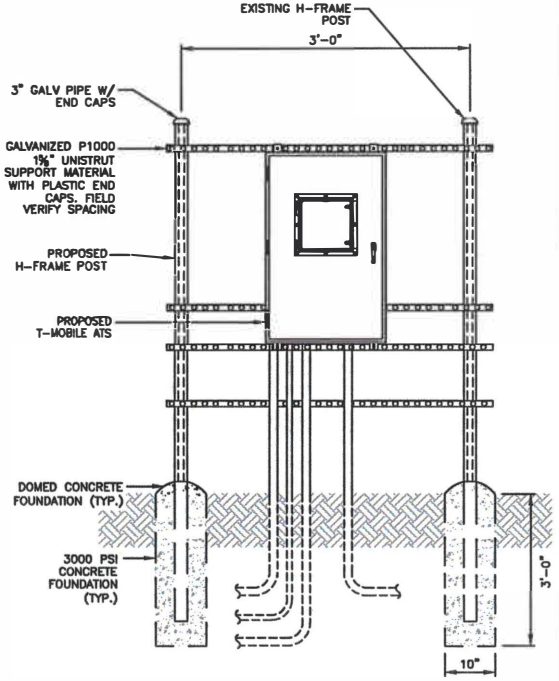
EXOTHERMIC WELD DETAIL — NOT TO SCALE | 2



UTILITY TRENCH DETAIL — NOT TO SCALE | 3



FENCE POST BONDING DETAIL — NOT TO SCALE | 4



RISER DIAGRAM — NOT TO SCALE | 5

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STATE OF MISSISSIPPI

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1	12/02/22	ISSUED FOR CONSTRUCTION

SHEET NAME:

GROUNDING PLAN & DETAILS

SMW #: 12-0770.4

DESIGNED:	SH
CHECKED BY:	JC
ENGINEER:	JCS

SHEET NUMBER: E-6

If you have any questions, please contact my direct line at 940-765-7500 or via email at belina.derzapf1@t-mobile.com. Thank you in advance for your prompt cooperation with this matter.

Sincerely,

Belinda Derzapf

Belinda Derzapf
Contractor – Technology & Enterprise Procurement

Encls. CD's dated December 02, 2022

Acknowledged, Accepted and Agreed:

City of Biloxi

By:_____
Print Name: _____
Title:_____
Date:_____

On-Site Contact Information:

Name: _____

Title/Role: _____

Phone Number: _____

E-Mail: _____