

June 5, 2024

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051
Attn: Melanie Bachman, Executive Director

Re: New Cingular Wireless PCS, LLC ("AT&T") and the Town of Farmington **Site Name:** Farmington Westerberg Drive / FA#10090928 For collocation at the existing wireless telecommunications facility located at 1 Westerberg Drive, Farmington, CT 06032

Dear Ms. Bachman,

AT&T is seeking to modify the exiting wireless site at the above-referenced address. We are submitting this application as an eligible facilities request under Section 6409, referenced below. Please find enclosed the following documents in support of our applications to obtain the permits required:

- 1. Exempt Modification Package
- 2. Exempt Modification Incompletion Letter
- 3. Construction Drawings
- 4. Structural Assessment

Section 6409 of the Federal Middle Class Tax Relief and Job Creation Act ("Section 6409") was adopted in 2012. Under Section 6409, your city retains discretionary zoning review over the construction of new towers, but simple collocations and/or equipment upgrades at existing telecommunications facilities must be approved. The new law provides that:

"a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." (Emphasis added.)

The federal law defines an "eligible facilities request" as "(A) collocation of new transmission equipment; (B) removal of transmission equipment; or (C) replacement of transmission equipment." (Emphasis added.)

Also, the Federal Communications Commission issued a Wireless Infrastructure Report and Order on October 17, 2014 ("FCC Order") which established regulations that clarify and streamline the municipal approval process for eligible facilities requests under Section 6409. A copy of the FCC Order is enclosed herewith.



The FCC Order clarifies that municipal review of an eligible facilities request is limited to determining whether the request falls within Section 6409:

"a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section [Section 6409]. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities."47 C.F.R. 1.40001(c)(1) (Emphasis added).

AT&T's Application is an Eligible Facilities Request under Section 6409

AT&T's application qualifies as an eligible facilities request under Section 6409 because the proposed installation involves "a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station."

As shown on the plans prepared by Ramaker dated 2/21/2024, AT&T's proposed installation consist principally of the following elements: The compound expansion of roughly an irregular 11' x 13' space (approximately 143 sf) for the installation of the proposed 20kW Generator located on a raised platform.

Accordingly, AT&T's installation involves "addition of transmission equipment" that will not increase the height of the tower nor the dimensions of the equipment compound. As a result, the installation "does not substantially change the physical dimensions of such tower or base station." Therefore, these proposed equipment upgrades constitute an "eligible facilities request" under Section 6409 and must be approved.

Timeline for Review and Approval.

We would like to highlight an important timing requirement for processing these applications. The FCC Order determined that a municipality must act on an eligible facilities request within sixty (60) days of receiving the application. 47 C.F.R. 1.40001(c)(2) (Emphasis added). (Note, the sixty (60)-day period is also known as the "Shot Clock"). Thus, the city must approve this application within sixty (60) days of its receipt. The FCC Order provides that upon a municipality's failure to act prior to expiration of the Shot Clock, the "request shall be deemed granted" and AT&T will be legally entitled to proceed with construction. 47 C.F.R. 1.40001(c)(4) (Emphasis added).

Note that the FCC Order does allow the Shot Clock to be tolled if an application is incomplete. However, in order to do so, a municipality must provide written notice that the application is incomplete within thirty (30) days of the submittal. 47 C.F.R. 1.40001(c)(3)(i). The notice must "clearly and specifically" describe the missing documents or information, 47 C.F.R. 1.40001(c)(3)(i), and, as previously mentioned, such documentation must be necessary to the determination of whether the application qualifies as an eligible facilities request. If the municipality requests additional information after the first thirty (30) days have passed, we will still provide any "reasonably related" information allowed under the FCC Order, but the Shot Clock will not be tolled.



In light of the foregoing, AT&T respectfully requests that its proposed wireless site modification be approved pursuant to Section 6409.

If the Connecticut Siting Council believes that AT&T's applications do not qualify as an eligible facilities request under Section 6409, please let me know immediately. Otherwise, if you have any questions, please feel free to call or email me. Thank you for your cooperation.

Sincerely,

Catherine Conklin

Site Acquisition Specialist

Catherine Conklin

M 301-266-0258 <u>Catherine.Conklin@gdit.com</u> 4603 Kemper Street Rockville, MD 20853 <u>www.gdit.com</u>

CC:

Joe Capodiferro, Town Council Chairman
Kathleen A. Blonski, Town Manager
Shannon Rutherford, Town Planner
Arnold Russell, Town of Farmington Treatment Plant/Water Pollution Control, Property Owner
David Landry, AT&T Mobility
Rachelle M. Lewis, AT&T Mobility



February 14, 2024

General Dynamics Wireless Services 993 Mansell Road, Suite D Roswell, GA 30076

SUBJECT: STRUCTURAL ASSESSMENT

CARRIER: AT&T MOBILITY

SITE: FARMINGTON WESTERBERG DRIVE (10090928)

1 WESTERBERG DRIVE

FARMINGTON, HARTFORD COUNTY, CONNECTICUT, 06032

RAMAKER & ASSOCIATES PROJECT NUMBER: 57094

RESULTS: EQUIPMENT PLATFORM: PASS 16.5%

FOUNDATION: PASS 22.6%

Dear General Dynamics Wireless Services:

Ramaker & Associates, Inc. (RAMAKER) respectfully submits this structural assessment for the above-mentioned site. The purpose of this report is to determine the structural integrity of the structure(s) with the proposed loading configurations. Engineering recommendations regarding the analysis results are provided in the following pages.

RAMAKER developed a finite element model of the platform using RISA analysis software. All information contained herein is valid only for the described structure configuration and loading conditions. RAMAKER reserves the right to modify our recommendations should alterations to the structure(s) loading occur.

If you have any questions or comments, please do not hesitate to contact our office.

Sincerely,

RAMAKER & ASSOCIATES, INC.

Thomas E. Moore Project Engineer Daryl R. Matzke, P.E. Supervising Engineer

ANALYSIS CRITERIA

State Building Code	2022 Connecticut State Building Code
Adopted Building Code	2021 IBC
Referenced Standard	TIA-222-H
Risk Category	II
Ultimate Design Wind Speed, V _{ult}	120 mph (3 sec. gust)
Exposure Category	С
Topographic Feature	None

SUPPORTING DOCUMENTATION

- Geotechnical report by RAMAKER, job number 57094, dated March 16, 2023
- Construction drawings by RAMAKER, project number 57094
- Other pertinent data procured or assumed by RAMAKER during site due diligence activities

RESULTS AND RECOMMENDATIONS

The maximum equipment platform stress capacities under the loading conditions previously described are as follows:

Component Type	Percent Capacity	Pass/Fail
Platform Beam	16.5	Pass
Lateral brace	2.3	Pass
RATING	16.5	PASS

The proposed equipment loading configuration includes the installation of one (1) Generac SD020 20 kW generator (2821 lbs) on the proposed equipment platform. By engineering calculation and inspection, the proposed equipment platform is capable of supporting the proposed equipment without causing an overstress condition in the steel equipment platform. See associated RAMAKER construction drawings for proposed equipment platform details.

FOUNDATION RESULTS

The maximum foundation stress capacities are as follows:

Component Type	Percent Capacity	Pass/Fail
Caisson - Soil Interaction	22.6	Pass
Caisson - Structural	4.7	Pass
RATING	22.6	PASS

The foundation was analyzed utilizing the foundation drawings and geotechnical report referenced above. Results of the analysis show that the foundations will be stressed to a maximum of 22.6 percent of capacity. Therefore, the foundations will pass the TIA-222-H analysis requirements under proposed loading conditions.

ASSUMPTIONS

This analysis is based on the theoretical design capacity of the members and is not a condition assessment of the structure. This analysis is based on the information supplied and the results are only as accurate as the data obtained from this information. The Scope of Work for RAMAKER did not require verification of the provided information. The following assumptions were made for this structural analysis.

- 1) The mounts were built and maintained in accordance with the manufacturer's drawings and specifications and including the TIA Standards.
- All structural members are in good condition and can achieve their full design capacity. All welds and connections can develop the full member capacity unless determined otherwise and explicitly stated in this report.
- 3) No physical deterioration has occurred in any of the structural components. No allowance was made for any damaged, missing, or rusted members, nor loose bolts or cracked welds.
- 4) All prior structural modifications, if any, are assumed to be properly installed and fully effective.
- 5) Information provided by the client regarding the structure, appurtenances, transmission cables, and other relevant information is assumed to be current and correct. Appurtenance sizes and weights as specified in the loading tables are best estimates and based on available information, if explicit documentation is not provided to RAMAKER. If the loading configuration is different than stated, then this analysis is invalid.
- 6) Mount steel grades meet the values as stated, unless noted otherwise:

Channel, Solid Round, Angle, Plate
Wide Flange
HSS (Rectangular)
Pipe
Unistrut
Threaded Rod
Connection Bolt
ASTM A36 (GR 36)
ASTM A53 (GR 35)
ASTM A653 SS (GR 33)
ASTM F1554 (GR 36)
ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. RAMAKER should be notified to determine the effect on the structural integrity of the mount.

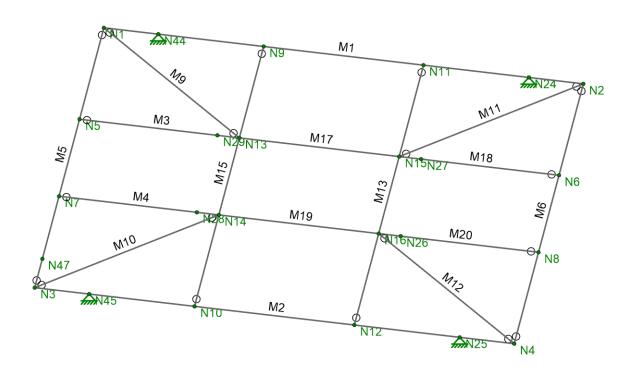
SCOPE AND LIMITATIONS

The engineering services performed by RAMAKER regarding this report are limited to an analysis of the mount and the capacity of its members. RAMAKER will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, or lack of maintenance. RAMAKER makes no warranties, expressed or implied in connection with this report and disclaims any liability arising from original design, material, fabrication and erection deficiencies or the "as-built" condition of this structure.

ATTACHMENTS

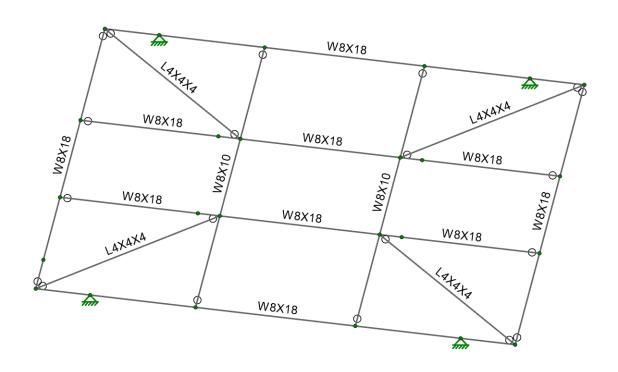
- Analysis Figures
- Analysis Calculations





RAMAKER	Ramaker & Associates, Inc.	Farmington Westerberg Drive	SK-1
- Congregation and	TEM		Feb 14, 2024 at 10:47 AM
	57094		57094 rev2.r3d





RAMAKER	Ramaker & Associates, Inc.	Farmington Westerberg Drive	SK-2
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Company : Ramaker & Associates, Inc.

Designer : TEM Job Number : 57094

Model Name: Farmington Westerberg Drive

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Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B RECT	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A500 Gr.C RND	29000	11154	0.3	0.65	0.527	46	1.4	62	1.3
7	A500 Gr.C RECT	29000	11154	0.3	0.65	0.527	50	1.4	62	1.3
8	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
9	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
10	A913 Gr.65	29000	11154	0.3	0.65	0.49	65	1.1	80	1.1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	lyy [in⁴]	Izz [in⁴]	J [in⁴]
1	W8X18	W8X18	Beam	Wide Flange	A992	Typical	5.26	7.97	61.9	0.172
2	L4x4x1/4	L4X4X4	HBrace	Single Angle	A36 Gr.36	Typical	1.93	3	3	0.044
3	C8x11.5	C8X11.5	Beam	Channel	A36 Gr.36	Typical	3.37	1.31	32.5	0.13
4	W8x10	W8X10	Beam	Wide Flange	A992	Typical	2.96	2.09	30.8	0.043

Member Primary Data

	Label	I Node	J Node	Section/Shape	Туре	Design List	Material	Design Rule
1	M1	N1	N2	W8X18	Beam	Wide Flange	A992	Typical
2	M2	N3	N4	W8X18	Beam	Wide Flange	A992	Typical
3	M3	N5	N13	W8X18	Beam	Wide Flange	A992	Typical
4	M4	N7	N14	W8X18	Beam	Wide Flange	A992	Typical
5	M5	N1	N3	W8X18	Beam	Wide Flange	A992	Typical
6	M6	N2	N4	W8X18	Beam	Wide Flange	A992	Typical
7	M9	N1	N13	L4x4x1/4	HBrace	Single Angle	A36 Gr.36	Typical
8	M10	N3	N14	L4x4x1/4	HBrace	Single Angle	A36 Gr.36	Typical
9	M11	N2	N15	L4x4x1/4	HBrace	Single Angle	A36 Gr.36	Typical
10	M12	N4	N16	L4x4x1/4	HBrace	Single Angle	A36 Gr.36	Typical
11	M13	N11	N12	W8x10	Beam	Wide Flange	A992	Typical
12	M15	N9	N10	W8x10	Beam	Wide Flange	A992	Typical
13	M17	N13	N15	W8X18	Beam	Wide Flange	A992	Typical
14	M18	N15	N6	W8X18	Beam	Wide Flange	A992	Typical
15	M19	N14	N16	W8X18	Beam	Wide Flange	A992	Typical
16	M20	N16	N8	W8X18	Beam	Wide Flange	A992	Typical

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	DL Self-Weight	DL	-1				
2	DL Equipment	DL		1			1
3	DL Grating	DL					1
4	DL Railing	DL			1	4	
5	WLz	WLZ		1		8	
6	WLx	WLX		5		2	
7	LL	LL			1		4
8	BLC 2 Transient Area Loads	None				14	
9	BLC 3 Transient Area Loads	None				8	
10	BLC 7 Transient Area Loads	None				12	



Company : Ramaker & Associates, Inc. Designer : TEM

Job Number : 57094

Model Name: Farmington Westerberg Drive

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Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor		
1	DL	Yes	Υ	DL	1								
2	LL Service	Yes	Υ	LL	1								
3	DL + LL Service	Yes	Υ	DL	1	LL	1						
4	1.4DL	Yes	Υ	DL	1.4								
5	1.2DL + 0.5LL	Yes	Υ	DL	1.2	LL	0.5						
6	1.2DL	Yes	Y	DL	1.2								
7	1.2DL + 1.6LL	Yes	Y	DL	1.2	LL	1.6						
8	1.2DL + 1.6LL + 0.5WLX	Yes	Y	DL	1.2	LL	1.6	WLX	0.5				
9	1.2DL + 1.6LL + 0.5WLZ	Yes	Y	DL	1.2	LL	1.6			WLZ	0.5		
10	1.2DL + 1.6LL - 0.5WLX	Yes	Y	DL	1.2	LL	1.6	WLX	-0.5				
11	1.2DL + 1.6LL - 0.5WLZ	Yes	Υ	DL	1.2	LL	1.6			WLZ	-0.5		
	1.2DL + 1.6LL + 0.375WLX + 0.375WLZ	Yes	Y	DL	1.2	LL	1.6	WLX	0.375	WLZ	0.375		
	1.2DL + 1.6LL + 0.375WLX - 0.375WLZ	Yes	Υ	DL	1.2	LL	1.6	WLX	0.375	WLZ	-0.375		
	1.2DL + 1.6LL - 0.375WLX + 0.375WLZ	Yes	Υ	DL	1.2	LL	1.6	WLX	-0.375	WLZ	0.375		
	1.2DL + 1.6LL - 0.375WLX - 0.375WLZ	Yes	Y	DL	1.2	LL	1.6	WLX	-0.375	WLZ	-0.375		
16	1.2DL + 0.5WLX	Yes	Υ	DL	1.2			WLX	0.5				
17	1.2DL + 0.5WLZ	Yes	Y	DL	1.2					WLZ	0.5		
18	1.2DL - 0.5WLX	Yes	Y	DL	1.2			WLX	-0.5				
19	1.2DL - 0.5WLZ	Yes	Υ	DL	1.2					WLZ	-0.5		
20	1.2DL + 0.375WLX + 0.375WLZ	Yes	Υ	DL	1.2			WLX	0.375	WLZ	0.375		
21	1.2DL + 0.375WLX - 0.375WLZ	Yes	Y	DL	1.2			WLX	0.375	WLZ	-0.375		
22	1.2DL - 0.375WLX + 0.375WLZ	Yes	Υ	DL	1.2			WLX	-0.375	WLZ	0.375		
23	1.2DL - 0.375WLX - 0.375WLZ	Yes	Υ	DL	1.2			WLX	-0.375	WLZ	-0.375		
24	1.2DL + 0.5LL + 1.0WLX	Yes	Υ	DL	1.2	LL	0.5	WLX	1				
25	1.2DL + 0.5LL + 1.0WLZ	Yes	Υ	DL	1.2	LL	0.5			WLZ	1		
26	1.2DL + 0.5LL - 1.0WLX	Yes	Υ	DL	1.2	LL	0.5	WLX	-1				
27	1.2DL + 0.5LL - 1.0WLZ	Yes	Y	DL	1.2	LL	0.5			WLZ	-1		
28	1.2DL + 0.5LL + 0.75WLX + 0.75WLZ	Yes	Υ	DL	1.2	LL	0.5	WLX	0.75	WLZ	0.75		
29	1.2DL + 0.5LL + 0.75WLX - 0.75WLZ	Yes	Y	DL	1.2	LL	0.5	WLX	0.75	WLZ	-0.75		
30	1.2DL + 0.5LL - 0.75WLX + 0.75WLZ	Yes	Y	DL	1.2	LL	0.5	WLX	-0.75	WLZ	0.75		
31	1.2DL + 0.5LL - 0.75WLX - 0.75WLZ	Yes	Υ	DL	1.2	LL	0.5	WLX	-0.75	WLZ	-0.75		
32	1.2DL + 1.0WLX	Yes	Y	DL	1.2			WLX	1				
33	1.2DL + 1.0WLZ	Yes	Υ	DL	1.2					WLZ	1		
34	1.2DL - 1.0WLX	Yes	Υ	DL	1.2			WLX	-1				
35	1.2DL - 1.0WLZ	Yes	Y	DL	1.2					WLZ	-1		
36	1.2DL + 0.75WLX + 0.75WLZ	Yes	Υ	DL	1.2			WLX	0.75	WLZ	0.75		
37	1.2DL + 0.75WLX - 0.75WLZ	Yes	Y	DL	1.2			WLX	0.75	WLZ	-0.75		
38	1.2DL - 0.75WLX + 0.75WLZ	Yes	Y	DL	1.2			WLX	-0.75	WLZ	0.75		
39	1.2DL - 0.75WLX - 0.75WLZ	Yes	Y	DL	1.2			WLX	-0.75	WLZ	-0.75		
40	0.9DL + 1.0WLX	Yes	Υ	DL	0.9			WLX	1				
41	0.9DL + 1.0WLZ	Yes	Y	DL	0.9					WLZ	1		
42	0.9DL - 1.0WLX	Yes	Υ	DL	0.9			WLX	-1				
43	0.9DL - 1.0WLZ	Yes	Υ	DL	0.9					WLZ	-1		
44	0.9DL + 0.75WLX + 0.75WLZ	Yes	Υ	DL	0.9			WLX	0.75	WLZ	0.75		
45	0.9DL + 0.75WLX - 0.75WLZ	Yes	Υ	DL	0.9			WLX	0.75	WLZ	-0.75		
46	0.9DL - 0.75WLX + 0.75WLZ	Yes	Y	DL	0.9			WLX	-0.75	WLZ	0.75		
47	0.9DL - 0.75WLX - 0.75WLZ	Yes	Y	DL	0.9			WLX	-0.75	WLZ	-0.75		

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
0	N44	max	488.926	47	4074.221	12	631.72	43	0	47	0	47	0	47
1		min	-488.864	44	1347.495	47	-631.597	25	0	1	0	1	0	1
2	N45	max	682.352	46	4039.003	13	638.246	43	0	47	0	47	0	47
3		min	-682.285	29	1298	2	-638.37	25	0	1	0	1	0	1



Company : Ramaker & Associates, Inc. Designer : TEM

Job Number : 57094

Model Name: Farmington Westerberg Drive

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Envelope Node Reactions (Continued)

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	_ LC	MY [lb-ft]	LC	MZ [lb-ft]	_LC_
4	N24	max	520.68	46	4038	14	540.071	43	0	47	0	47	0	47
5		min	-520.729	29	1320.299	45	-539.961	25	0	1	0	1	0	1
6	N25	max	548.981	47	3749.221	15	539.544	43	0	47	0	47	0	47
7		min	-549.035	28	1253.69	44	-539.655	25	0	1	0	1	0	1
8	Totals:	max	1806.2	42	15898.917	11	2349.582	43						
9		min	-1806.2	24	5393.788	42	-2349.582	25						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

	Member	Shape	Code Checl	kLoc[ft]LCS	hear Check	(Loc[ft]	Dir	LC	phi*Pnc [lb]	ohi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft] Cb	Eqn
0	M1	W8X18	0.06	5.5 11	0.04	1.26	у	13	102103.661	236700	17475	63750	1.518	H1-1b
1	M2	W8X18	0.05	1.26 27	0.036	1.26	У	8	102103.661	236700	17475	63750	1.725	H1-1b
2	M3	W8X18	0.048	3.667 13	0.025	0	у	15	194253.389	236700	17475	61185.679	1	H1-1b
3	M4	W8X18	0.045	3.667 13	0.025	0	У	14	194253.389	236700	17475	61185.679	1	H1-1b
4	M5	W8X18	0.083	5.813 8	0.031	9	У	12	134820.009	236700	17475	59636.121	1.155	H1-1b
5	M6	W8X18	0.08	3.188 14	0.027	0	у	11	134820.009	236700	17475	59935.516	1.161	IH1-1b
6	M9	L4X4X4	0.022	2.422 39	0.001	4.845	у	4	43685.712	62532	3137.597	6114.409	1.136	H2-1
7	M10	L4X4X4	0.022	2.422 38	0.001	4.845	У	4	43685.713	62532	3137.597	6114.409	1.136	H2-1
8	M11	L4X4X4	0.023	2.422 37	0.001	4.845	У	4	43685.712	62532	3137.597	6114.409	1.136	H2-1
9	M12	L4X4X4	0.023	2.422 28	0.001	4.845	У	4	43685.712	62532	3137.597	6114.409	1.136	H2-1
10	M13	W8X10	0.165	5.813 13	0.028	9	У	9	40479.825	133200	6119.448	21938.257	1.163	H1-1b
11	M15	W8X10	0.165	5.813 15	0.029	9	У	9	40479.825	133200	6119.448	22008.206	1.166	H1-1b
12	M17	W8X18	0.066	1.833 11	0.019	3.667	У	10	194253.389	236700	17475	61185.679	1	H1-1b
13	M18	W8X18	0.048	0 15	0.025	3.667	у	13	194253.389	236700	17475	61185.679	1	H1-1b
14	M19	W8X18	0.062	1.833 9	0.019	0	у	8	194253.389	236700	17475	61185.679	1	H1-1b
15	M20	W8X18	0.045	0 15	0.025	3.667	y	8	194253.389	236700	17475	61185.679	1	H1-1b



Job **Farmington Westerberg Drive**

57094 Project

TEM

2/14/24

Wind Load on Antennas TIA-222-H

 $q_z = 0.00256 K_z K_{zt} K_s K_e K_d V^2$

Ш

Ground Elevation:

Height above ground level to the center of the antenna

By

Date

160 ft

Annex S:

Ν

 $F = q_z G_h C_a A_a$

Risk Categorization of Structures (Table 2-1)

 $K_{es}(F_{w})$: $K_{es}(t_i)$: 1.00 1.00

Exposure:

Risk Category:

Exposure Category

Ka:

V :

C 120 mph

psf

Basic Wind Speed (Annex B)

0.9

z : 15 ft

 K_z : 0.85 Velocity Pressure Coefficient (2.6.5.2)

1.00 K_{zt} :

Topographic Factor (2.6.6.4)

K_s: 1.00 Rooftop Wind Speed-up Factor (2.6.7)

K_e: 0.99 Ground Elevation Factor (Table 2-6)

K_d: q_z :

Wind Direction Probability Factor (Table 2-2) 0.95 29.6 Velocity Pressure at Height z

G_h: 1.00

Strength Design of Appurtenances and their Connections

Mount & Antenna Wind Loads

Appurtenance	Height	Width	h/D	Shape	C_a	A_a	Force	Force
	in	in				sq ft	lb	plf
Generac SD020 Generator	99.1	56.0	1.8	Flat	1.200	38.54	1368.7	165.7
W8X18 x 11 ft	132.0	8.1	16.2	Flat	1.707	7.46	377.0	34.3
W8X18 x 9 ft	108.0	8.1	13.3	Flat	1.609	6.11	290.7	32.3
Generac TAS200 Automatic Transfer Sw	48.0	12.0	4.0	Flat	1.267	4.00	150.0	
Generac TAS200 Camlock	24.3	9.4	2.6	Flat	1.204	1.58	56.4	
P30 (30x1) x 9 ft	108.0	30.0	3.6	Round	0.524	22.50	349.2	



Job **Farmington Westerberg Drive**

57094 Project

> TEM 2/14/24

Wind Load on Antennas TIA-222-H

 $q_z = 0.00256 K_z K_{zt} K_s K_e K_d V^2$

Ш

Ground Elevation:

Height above ground level to the center of the antenna

By

Date

160 ft

Annex S:

Ν

 $F = q_z G_h C_a A_a$

Risk Categorization of Structures (Table 2-1)

 $K_{es}(F_{w})$: $K_{es}(t_i)$: 1.00 1.00

Exposure:

Risk Category:

C **Exposure Category**

Ka: 0.9

V :

120 mph

Basic Wind Speed (Annex B)

z : 15 ft K_z : 0.85

Velocity Pressure Coefficient (2.6.5.2)

1.00 K_{zt} :

Topographic Factor (2.6.6.4)

K_s: 1.00

Rooftop Wind Speed-up Factor (2.6.7)

K_e: 0.99 Ground Elevation Factor (Table 2-6)

K_d:

Wind Direction Probability Factor (Table 2-2) 0.95

 q_z :

29.6 psf Velocity Pressure at Height z

G_h: 1.00

Strength Design of Appurtenances and their Connections

Mount & Antenna Wind Loads

Appurtenance	Height	Depth	h/D	Shape	C_a	A_a	Force	Force
	in	in				sq ft	lb	plf
Generac SD020 Generator	99.1	34.5	2.9	Flat	1.217	23.74	854.9	297.3
W8X18 x 11 ft	132.0	5.3	25.1	Flat	2.000	4.81	284.9	25.9
W8X18 x 9 ft	108.0	5.3	20.6	Flat	1.852	3.94	215.9	24.0
Generac TAS200 Automatic Transfer Sw	48.0	24.0	2.0	Flat	1.200	8.00	284.1	
Generac TAS200 Camlock	24.3	9.0	2.7	Flat	1.209	1.52	54.2	
P30 (30x1) x 9 ft	108.0	30.0	3.6	Round	0.524	22.50	349.2	

Drilled Pier Foundation

Project # : 57094 Site Name: Farmington Westerberg Driv

Report File:

TIA-222 Revison:

Tower Type: Monopole

Applied Loads									
	Comp.	Uplift							
Moment (kip-ft)									
Axial Force (kips)	4.0742								
Shear Force (kips)	0.6897								

Materia	l Properties	
Concrete Strength, f'c:	4	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	60	ksi

	Pier Design Data									
	Depth	9	ft							
	Ext. Above Grade	11	ft							
	Pier Section 1									
From 11' above grade to 9' below grade										
	Pier Diameter	2.5	ft							
-	Rebar Quantity	8								
	Rebar Size	6								
	Clear Cover to Ties	3	in							
	Tie Size	4								
	Tie Spacing	12	in							

Rebar & Pier Options Embedded Pole Input Belled Pier Inputs

•	s Results	
Soil Lateral Check	Compression	Uplift
$D_{v=0}$ (ft from TOC)	15.06	-
Soil Safety Factor	24.84	-
Max Moment (kip-ft)	10.20	-
Rating*	5.1%	-
Soil Vertical Check	Compression	Uplift
Skin Friction (kips)	39.76	-
End Bearing (kips)	44.27	-
Weight of Concrete (kips)	15.83	-
Total Capacity (kips)	84.03	-
Axial (kips)	19.91	-
Rating*	22.6%	-
Reinforced Concrete Flexure	Compression	Uplift
Critical Depth (ft from TOC)	15.08	-
Critical Moment (kip-ft)	10.19	-
Critical Moment Capacity	205.68	-
Rating*	4.7%	-
Reinforced Concrete Shear	Compression	Uplift
Critical Depth (ft from TOC)	16.31	-
Critical Shear (kip)	5.55	-
Critical Shear Capacity	138.11	-
Rating*	3.8%	-

Check Limitation Apply TIA-222-H Section 15.5:

Additional Longitudinal Rebar Input Effective Depths (else Actual): **Shear Design Options** Check Shear along Depth of Pier: Utilize Shear-Friction Methodology:

Override Critical Depth:

Go to Soil Calculations

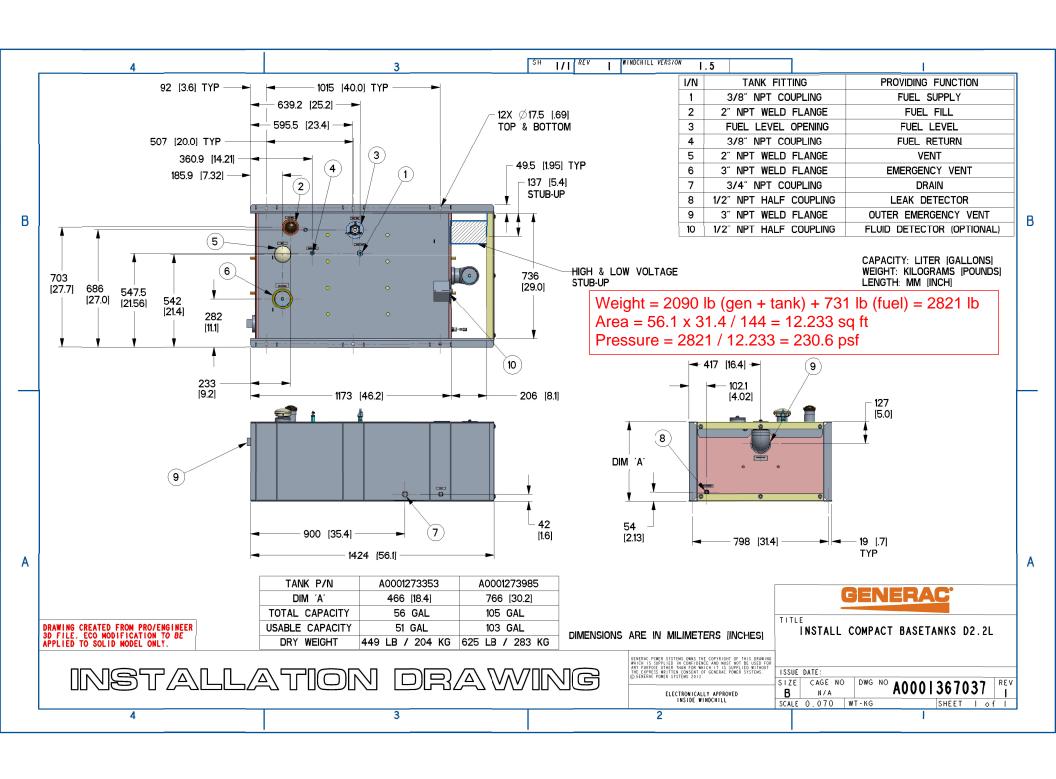
Struct	tural Foundation Rating*	4.7%
	Soil Interaction Rating*	22.6%
4-5 44	T11 000 110 11	

^{*}Rating per TIA-222-H Section 15.5

Soil Profile Groundwater Depth 4 # of Layers 6

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	Y _{soil} (pcf)	Y _{concrete} (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)			Ultimate Skin Friction Uplift Override (ksf)		SPT Blow Count	Soil Type
1	0	0.5	0.5	112	150			0.000	0.000					Cohesionless
2	0.5	2	1.5	115	150			0.000	0.000					Cohesionless
3	2	3.5	1.5	117	150			0.000	0.000					Cohesionless
4	3.5	4	0.5	117	150	1.1		0.605	0.605	0.700	0.700			Cohesive
5	4	6	2	73	87.6	5.5		2.475	2.475	2.000	2.000			Cohesive
6	6	9	3	72	87.6		36	0.000	0.000	0.800	0.600	11.200		Cohesionless

Developed by Crown Castle Version 5.0.3





ASCE 7 Hazards Report

Address:

No Address at This Location

Standard: ASCE/SEI 7-16

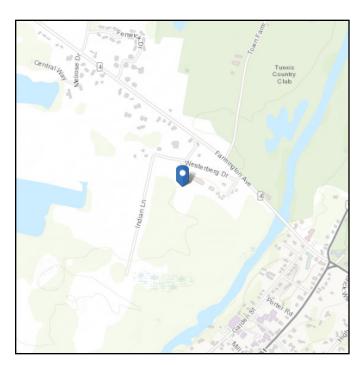
Risk Category: ^Ⅱ

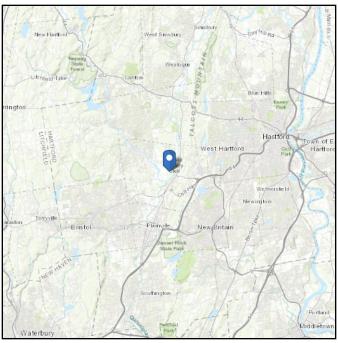
Soil Class: D - Default (see

Section 11.4.3)

Latitude: 41.730484 **Longitude:** -72.835488

Elevation: 159.72 ft (NAVD 88)





Wind

Results:

Wind Speed 117 Vmph 120 mph, per 2022 Connecticut State Building

10-year MRI 75 Vmph Code - Appendix P

25-year MRI 84 Vmph 50-year MRI 90 Vmph 100-year MRI 97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Fri Feb 24 2023

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Seismic

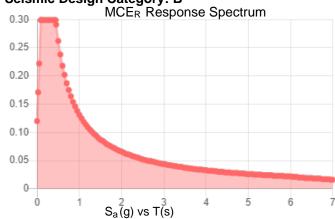
D - Default (see Section 11.4.3)

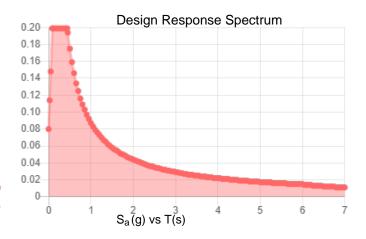
Site Soil Class:

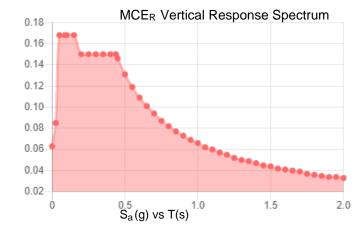
Results:

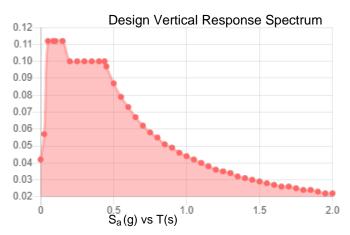
S _s :	0.187	S_{D1} :	0.087
S_1 :	0.055	T _L :	6
F _a :	1.6	PGA:	0.101
F _v :	2.4	PGA _M :	0.161
S _{MS} :	0.299	F _{PGA} :	1.598
S _{M1} :	0.131	l _e :	1
S _{DS} :	0.199	C_v :	0.7

Seismic Design Category: B









Data Accessed: Fri Feb 24 2023

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.



Ice

Results:

Ice Thickness: 1.50 in.

Concurrent Temperature: 15 F

Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Fri Feb 24 2023

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Municipality	Basic Design Wind Speeds, V (mph)				Allov	vable Stres Speed (m	s, V_{asd}	Wind	Ground Snow Load	MCE (Wind-Borne Debris Region ¹		Hurricane- Prone
Municipanty	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV	p_g (psf)	S s (g)	S ₁ (g)	Risk Cat. III Occup. I-2	Risk Cat. IV	Region
Cornwall	105	115	125	130	81	89	97	101	40	0.172	0.054			
Coventry	110	120	130	135	85	93	101	105	30	0.188	0.055			Yes
Cromwell	110	120	130	135	85	93	101	105	30	0.207	0.056			Yes
Danbury	110	120	125	130	85	93	97	101	30	0.225	0.056			Yes
Darien	110	120	130	135	85	93	101	105	30	0.250	0.057		Type B	Yes
Deep River	115	125	135	140	89	97	105	108	30	0.210	0.054			Yes
Derby	110	120	130	135	85	93	101	105	30	0.202	0.054			Yes
Durham	110	120	130	135	85	93	101	105	30	0.211	0.055			Yes
East Granby	110	120	125	130	85	93	97	101	35	0.173	0.054			Yes
East Haddam	115	125	135	135	89	97	105	105	30	0.214	0.056			Yes
East Hampton	110	125	130	135	85	97	101	105	30	0.210	0.056			Yes
East Hartford	110	120	130	135	85	93	101	105	30	0.191	0.055			Yes
East Haven	110	125	135	135	85	97	105	105	30	0.200	0.053	Type B	Type B	Yes
East Lyme	120	130	135	140	93	101	105	108	30	0.198	0.053	Type B	Type B	Yes
East Windsor	110	120	130	135	85	93	101	105	30	0.177	0.055			Yes
Eastford	110	120	130	135	85	93	101	105	40	0.180	0.055			Yes
Easton	110	120	130	135	85	93	101	105	30	0.218	0.055			Yes
Ellington	110	120	130	135	85	93	101	105	35	0.178	0.055			Yes
Enfield	110	120	125	130	85	93	97	101	35	0.172	0.055			Yes
Essex	115	125	135	140	89	97	105	108	30	0.207	0.054			Yes
Fairfield	110	120	130	135	85	93	101	105	30	0.219	0.055		Type B	Yes
Farmington	110	120	130	135	85	93	101	105	35	0.188	0.055			Yes
Franklin	115	125	135	140	89	97	105	108	30	0.195	0.054			Yes
Glastonbury	110	120	130	135	85	93	101	105	30	0.200	0.055			Yes
Goshen	110	115	125	130	85	89	97	101	40	0.172	0.054			
Granby	110	120	125	130	85	93	97	101	35	0.171	0.054			Yes
Greenwich	110	120	130	135	85	93	101	105	30	0.274	0.059		Type B	Yes
Griswold	120	125	135	140	93	97	105	108	30	0.189	0.054			Yes
Groton	120	130	140	140	93	101	108	108	30	0.190	0.052	Type B	Type A	Yes
Guilford	115	125	135	140	89	97	105	108	30	0.204	0.054	Type B	Type B	Yes
Haddam	115	125	135	135	89	97	105	105	30	0.214	0.055			Yes
Hamden	110	120	130	135	85	93	101	105	30	0.202	0.054			Yes



GENERATOR PROJECT 20KW GENERAC DIESEL GENERATOR 200A GENERAC ATS

1 WESTERBERG DRIVE **FARMINGTON, CT 06032**

VICINITY MAP - SITE LOCATION

SITE NAME: FARMINGTON WESTERBERG DRIVE

FA LOCATION CODE: 10090928

SCOPE OF WORK

ADD STANDBY GENERATOR, ASSOCIATED RAISED PLATFORM, AND UTILITY EQUIPMENT TO EXISTING AT¢T EQUIPMENT AREA. THÉRE WILL BE NO CHANGE IN THE SÍZE OR HEIGHT OF THE TOWER OR

> TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT

CALL BEFORE YOU DIG 811 OR 1-800-922-4455

CONNECTICUT PUBLIC ACT 87-71 REQUIRES MIN. 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE.

APPLICABLE BUILDING CODE & STANDARDS

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

- INTERNATIONAL BUILDING CODE 2021
- . NATIONAL ELECTRIC CODE 2020
- 3. AMERICAN CONCRETE INSTITUTE (ACI) 3 I 8. BUILDING CODE REQUIREMENTS FOR STRUCTURAL
- . AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION
- . TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL TOWER AND ANTENNA SUPPORTING STRUCTURES
- 5. TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR



PROJECT INFORMATION

PROJECT MANAGER

1

MATTHEW HIGGINS GENERAL DYNAMICS WIRELESS SERVICES

WESTWOOD, MA 02090 Matthew.Higgins@GDIT.com

RAMAKER & ASSOCIATES, INC. 855 COMMUNITY DRIVE SAUK CITY, WI 53583 PH: (608) 643-4100 -AX: (608) 643-7999 CONTÀCT: TYLER BEATTY tbeatty@ramaker.com

APPLICANT INFORMATION: 150 STANDARD DR ANOVER, MD 21076

SITE NAME: FARMINGTON WESTERBERG DRIVE FA NUMBER: 10090928

PROPERTY OWNER:

BROKEN SOUND PARKWAY BOCA RATON, FL 33487

ADDRESS: I WESTERBERG DRIVE

FARMINGTON, CT 06032 COUNTY: HARTFORD

41.73048390° -72.83548810° LONG.:

GROUND ELEVATION: 163 FT AMSL

DO NOT SCALE DRAWINGS

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

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO THE CLIENT IS STRICTLY PROHIBITED

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T- I TITLE SHEET

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A-O OVERALL SITE PLAN

A-I SITE PLAN

SITE PLAN & EQUIPMENT LAYOUT

FENCE EXTENSION DETAILS

ELECTRICAL & GROUNDING:

- PANEL AND PENETRATION DETAILS ATS, CONDUIT & GROUND ROD DETAILS
- GENERAC GENERATOR SPECIFICATIONS
- E-4. I GENERAC GENERATOR SPECIFICATIONS
- F-4 2 GENERAC GENERATOR SPECIFICATIONS E-5 GENERAC ATS SPECIFICATIONS
- E-5. I GENERAC ATS SPECIFICATIONS

SIGNATURE BLOCK

EQUIPMENT PLATFORM DETAILS SITE ACQUISITION

AT¢T MGR. DATE

DATE GENERAL DYNAMICS CONSTRUCTION MGR.

DATE

RAMAKER (608) 643-4100 www.ramaker.com

PREPARED FOR:



CONSULTANT:

GENERAL DYNAMICS

Information Technology, Inc.

GENERAL DYNAMICS 101 STATION DR WESTWOOD, MA 02090

hereby certify that this plan, specification, or report was prepare y me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of <u>Connecticut</u>.



02/21/24 REVISED GENERATOR AND PLATFORM SIZE 08/17/23 ADDED LEASE AREA DETAILS

03/30/23 ADDED STRUCTURAL DETAILS IARK DATE DESCRIPTION DATE 12/19/2022

FARMINGTON WESTERBERG DRIVE FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

TITLE SHEET

SCALE: NONE

57094 T- I

NOTES TO SUBCONTRACTOR:

- I. THE GENERAL SUBCONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.
- 2. IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION. THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES, FORM WORK, ETC. IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL ORDINANCES, TO SAFELY EXECUTE ALL WORK AND SHALL BE RESPONSIBLE FOR SAME. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.
- 3. THE SUBCONTRACTOR SHALL USE ADEQUATE NUMBER OF SKILLED WORKMAN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHOD NEEDED FOR PROPER PERFORMANCE OF THE WORK
- 4. CONSTRUCTION SUBCONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION SUBCONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION SUBCONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.
- 5. SITE GROUNDING SHALL COMPLY WITH AT&T WIRELESS SERVICES TECHNICAL SPECIFICATIONS FOR FACILITY GROUNDING FOR CELL SITE STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T TOWERS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN. GROUNDING SHALL BE COMPLETED BEFORE ERECTION OF TOWER
- G. ALL WORK SHALL COMPLY WITH OSHA AND STATE SAFETY REQUIREMENTS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION, IF TEMPORARY LIGHTING AND MARKING IS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION (FAA), IT IS THE SUBCONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE NECESSARY LIGHTS AND NOTIFY THE PROPER AUTHORITIES IN THE EVENT OF A PROBLEM.
- 7. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL CODES OR ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.
- 8. ANY DAMAGE TO THE ADJACENT PROPERTIES WILL BE CORRECTED AT THE SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE LANDOWNER AND THE ENGINEER.
- 9. THE COMPLETE BID PACKAGE INCLUDES THESE CONSTRUCTION DRAWINGS ALONG WITH THE SPECIFICATIONS. SUBCONTRACTOR IS RESPONSIBLE FOR REVIEW OF TOTAL BID PACKAGE PRIOR TO BID SUBMITTAL..
- IO. SUBCONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.
- I I. THE SUBCONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE OF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE SUBCONTRACTOR'S EXPENSE.
- 12. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE HELD TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO THE PROPERTY OUTSIDE THE LEASED PROPERTY SHALL BE REPAIRED BY THE SUBCONTRACTOR.
- I 3. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES PRIOR TO DISPOSAL.
- 14. SEEDING AND MULCHING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAIN AN ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD.
- I 5. PERMITS: THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES, ETC.
- I 6. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DRAWINGS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
- I 7. THE PLANS SHOW SOME KNOWN SUBSURFACE STRUCTURES, ABOVE GROUND STRUCTURES AND/OR EXISTING UTILITIES BELIEVED TO BE IN THE WORKING AREA. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO VERIFY ALL UTILITIES, PIPELINES AND OTHER STRUCTURES SHOWN OR NOT SHOWN ON THESE PLANS. THE SUBCONTRACTOR SHALL CONTACT THE LOCAL JURISDICTION'S DIGGER'S HOTLINE BEFORE DIGGING OR DRILLING. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER AND ENGINEER AT THE SUBCONTRACTOR'S EXPENSE.

GENERAL NOTES:

- I. THIS PROPOSAL IS FOR THE ADDITION OF A NEW GENERATOR ON A CONCRETE PAD TO AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY CONSISTING OF AN EQUIPMENT SHELTER AND TOWER.
- 2. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE.
- 3. THE PROPOSED FACILITY IS UNMANNED AND IS NOT FOR HUMAN HABITAT. (NO HANDICAP

- ACCESS IS REQUIRED)
- 4. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH BY AT&T TECHNICIANS.
- 5. OUTDOOR STORAGE AND SOLID WASTE CONTAINERS ARE NOT PROPOSED.
- G. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- 7. SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATION.
- $\ensuremath{\mathcal{S}}$. Subcontractor shall be responsible for obtaining all permits and inspection required for construction.
- 9, SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

ELECTRICAL NOTES:

- COORDINATE LOCATION AND POWER REQUIREMENTS OF ALL EQUIPMENT WITH AT\$T AND EQUIPMENT SUPPLIER PRIOR TO INSTALLATION.
- COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL AND TELEPHONE SERVICES
 WITH THE PROPERTY REPRESENTATIVE, AT&T AND UTILITY COMPANIES. ROUTING OF
 CONDUITS MAY BE MODIFIED TO MEET SITE REQUIREMENTS. EXACT CONDUIT ROUTING TO
 BE DETERMINED IN THE FIELD.
- 3. ALL WIRING AND EQUIPMENT SHOWN ON ELECTRICAL SHEETS SHALL BE FURNISHED AND INSTALLED UNDER ELECTRICAL PORTION OF CONTRACT UNLESS OTHERWISE NOTED
- 4. UNINTERRUPTED ELECTRICAL SERVICE FOR EXISTING EQUIPMENT SHALL BE MAINTAINED DURING THE INSTALLATION OF THE WORK DESCRIBED UNDER THESE DOCUMENTS. TEMPORARY EQUIPMENT, CABLES AND WHATEVER ELSE IS NECESSARY SHALL BE PROVIDED AS REQUIRED TO MAINTAIN ELECTRICAL SERVICE. TEMPORARY SERVICE FACILITIES, IF REQUIRED AT ANY TIME, SHALL NOT BE DISCONNECTED OR REMOVED UNTIL NEW SERVICE EQUIPMENT IS IN PROPER OPERATION. IF ANY SERVICE OR SYSTEM MUST BE INTERRUPTED, THE CONTRACTOR SHALL REQUEST PERMISSION IN WRITING STATING THE DATE, TIME, ETC. THE SERVICE WILL BE INTERRUPTED AND THE AREAS AFFECTED. THIS REQUEST SHALL BE MADE IN SUFFICIENT TIME FOR PROPER ARRANGEMENTS TO BE MADE. WRITTEN PERMISSION SHALL BE OBTAINED FROM THE OWNER BEFORE INTERRUPTING ELECTRICAL SERVICE.
- 5. COORDINATE NEW WORK WITH OTHER TRADES AND VERIFY EXISTING CONDITIONS TO AVOID INTERFERENCE. IN CASE OF INTERFERENCE, AT&T'S REPRESENTATIVE WILL DECIDE WHICH WORK IS TO BE RELOCATED, REGARDLESS OF WHICH WAS FIRST INSTALLED.
- 6. THE INSTALLATION MUST COMPLY WITH NEC AND ALL FEDERAL, STATE AND LOCAL RULES AND REGULATIONS.
- 7. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE DEFINED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS AND RACEWAY ROUTING SHALL BE GOVERNED BY ACTUAL FIELD CONDITIONS AND/OR DIRECTIONS FROM AT\$T'S REPRESENTATIVE.
- 9. ALL MATERIALS SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE STANDARDS REFERENCED BELOW:
 - a. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)b. ASTIM (AMERICAN SOCIETY FOR TESTING MATERIALS)
 - c. ETL (ELECTRICAL TESTING LABORATORY)
 - d. ICEA (INSULATED CABLE ENGINEERS ASSOCIATION)
 - : IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS)

 MBFU (NATIONAL BOARD OF FIRE UNDERWRITERS)
 - g. NESC (NATIONAL ELECTRICAL SAFETY CODE)
 - NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
 - I. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
 - J. UL (UNDERWRITER'S LABORATORY)
- IO. CONTRACTOR SHALL REVIEW PLANS, DETAILS AND SPECIFICATIONS IN DETAIL AND ADJUST WORK TO CONFORM WITH ACTUAL SITE CONDITIONS SO THAT ELECTRICAL DEVICES AND EQUIPMENT WILL BE LOCATED AND READILY ACCESSIBLE. QUANTITIES LISTED IN MATERIAL LISTS ON THE DRAWINGS ARE FOR INFORMATION ONLY. THE CONTRACTOR SHALL PROVIDE HIS OWN TAKEOFF FOR MATERIAL QUANTITY AND TYPES BASED ON ACTUAL SITE CONDITIONS, IN ADDITION, CONTRACTOR SHALL PROVIDE ALL NECESSARY MATERIALS TO INSTALL EQUIPMENT FURNISHED BY AT&T OR ITS SUPPLIERS. ALL ITEMS NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, BUT WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION, SHALL BE INCLUDED.
- II. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) AT\$T'S REPRESENTATIVE OF ANY CONFLICTS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK, IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- I 2. ALL FLOORS WHERE PENETRATIONS ARE REQUIRED IN BUILDING ARE TO BE CORE DRILLED AND THEN FIREPROOFED.

B. WIRING/CONDUIT

- . PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR AS REQUIRED BY CODE SUCH THAT NO MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (380 DEGREES TOTAL) EXIST IN A CONDUIT RUN.
- 2. ALL POWER AND CONTROL/INDICATION WIRING SHALL BE TYPE THHN/THWN 800V RATED 75 DEGREES CELSIUS, UNLESS NOTED OTHERWISE.

- 3. SCHEDULE 80 PVC CONDUIT SHALL BE USED ABOVE GROUND, WHERE ABOVE GRADE IS DEFINED AS THE GROUND OF THE TURN-UP
- 4. BELL END OR TERMINAL ADAPTER MUST BE INSTALLED ON END OF PVC CONDUIT PER NEC 352.46. 300.4 F, (3)
- CONDUIT BENDS SHALL BE MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
- 6. POWER WIRING SIZE SHALL NOT BE SMALLER THAN #12 AWG.
- 7. ALL WIRING SHALL BE COPPER. ALUMINUM WILL NOT BE ACCEPTABLE ALL POWER CIRCUITS SHALL CONTAIN A GROUND WIRE.
- 8. PHASE MARKINGS TO BE USED AT POWER CONDUCTOR TERMINATIONS.
- CONTRACTOR SHALL ENSURE INTEGRITY IS MAINTAINED WHEN INSTALLING CONDUIT AND WIRING.
- 10. INSTALL PULL STRING IN ALL CONDUIT.
- I I. FOR ROOFTOP INSTALLS AND BUILD-OUTS, CONDUITS INSIDE BUILDING AND ON ROOF SHALL BE RGS, UNLESS OTHERWISE NOTED. FOR RAW LAND SITES AND CO-LOCATES, PVC SCHEDULE 80 SHALL BE UTILIZED UNLESS NOTED OTHERWISE.
- I 2. MAINTAIN MINIMUM I '-O" VERTICAL AND I '-O" HORIZONTAL SEPARATIONS FROM ANY MECHANICAL GAS PIPING.
- 13. ALL WIRING ROUTED IN PLENUM TO BE RATED OR IN METALLIC FLEX (LIQUIDITE) CONDUIT.

C. EQUIPMENT

- I. EQUIPMENT/PARTS CONNECTED TO EXISTING PANELS, DUCTS, ETC. SHALL MATCH THE CHARACTERISTICS (A/C, V, A) OF THAT EQUIPMENT.
- 2. ALL ELECTRICAL EQUIPMENT OUTSIDE SHALL BE NEMA OR 3R RATED

O GROUNDING

- ALL GROUND CONNECTIONS TO BUILDING SHALL BE MADE USING TWO-HOLE CONNECTORS
 PROVIDE STAINLESS STEEL BOLTS AND LOCK WASHERS ON ALL MECHANICAL GROUND
 CONNECTIONS.
- ALL EQUIPMENT SURFACES TO BE BONDED TO GROUNDING SYSTEM SHALL BE STRIPPED OF ALL PAINT AND DIRT. CONNECTIONS TO VARIOUS METALS SHALL BE OF A TYPE AS TO CAUSE A GALVANIC OR CORROSIVE REACTION. AREA SHALL BE REPAINTED FOLLOWING BONDING.
- 3. ANY METALLIC ITEM WITHIN 6' OF GROUND CONDUCTORS MUST BE CONNECTED TO THE GROUNDING SYSTEM
- 4. EXTERIOR, ABOVE GRADE GROUND CONNECTIONS SHALL BE FURNISHED WITH A LIBERAL PROTECTIVE COATING OF ANTI-OXIDE COMPOUND.
- ALL MATERIALS AND LABOR REQUIRED FOR THE GROUNDING SYSTEM AS INDICATED ON THE PLANS AND DETAILS, AND AS DESCRIBED HEREIN SHALL BE FURNISHED BY THIS CONTRACTOR UNITESS OTHERWISE NOTED.
- EXACT LOCATION OF GROUND CONNECTION POINTS SHALL BE DETERMINED IN FIELD. ADJUST LOCATIONS INDICATED ON PLANS ACCORDING TO ACTUAL EQUIPMENT LOCATIONS TO KEEP THE GROUND CONNECTION CABLES AS SHORT AS PRACTICAL.
- 7. PROVIDE ALL ELECTRICAL SYSTEM AND EQUIPMENT GROUNDS AS REQUIRED BY THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE AND THE CURRENT EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE. BONDING JUMPERS WITH APPROVED GROUND FITTINGS SHALL BE INSTALLED AT ALL RACEWAYS, EQUIPMENT ENCLOSURES, PULL BOXES, ETC. TO MAINTAIN GROUND CONTINUITY WHERE REQUIRED BY CODE.
- ALL EQUIPMENT GROUND CONDUCTORS SHALL BE TIN COATED, #2 AWG COPPER UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- PROVIDE PRE AND POST GROUND TEST RESULTS, USING CLAMP-ON TESTER. TEST RESULTS SHALL BE PHOTOS WITH DIGITAL TIME AND GPS STAMPED/EMBEDDED.

E. INSPECTION/DOCUMENTATION

- THE CONTRACTOR, UPON COMPLETION OF HIS WORK, SHALL PROVIDE AS-BUILT DRAWINGS INFORMATION SHOULD BE GIVEN TO THE GENERAL CONTRACTOR FOR INCLUSION IN FINAL AS-BUILT SURVEY DOCUMENTS TO BE GIVEN TO THE OWNER.
- 2. CONTRACTOR SHALL SUPPLY DOCUMENTATION ATTESTING TO THE COMPLETE GROUND SYSTEM'S RECEPTIVITY (MAX. 5 OHMS).
- AN ELECTRICAL INSPECTION SHALL BE MADE BY AND INSPECTING AGENCY APPROVED BY AT&T'S REPRESENTATIVE. CONTRACTOR SHALL COORDINATE ALL INSPECTIONS AND OBTAIN POWER COMPANY APPROVAL.
- 4. CONTRACTOR SHALL HAVE ATS AND GENERATOR RELAY INSTALLATION AND CONNECTIONS INSPECTED BY OTHERS TO ENSURE THAT UL LISTING FOR THAT EQUIPMENT IS NOT VOIDED.



PREPARED FOR:



CONSULTANT:

GENERAL DYNAMICS

Information Technology, Inc.

GENERAL DYNAMICS 101 STATION DR WESTWOOD, MA 02090

Certification \$ Seal:

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Connecticut.



2/21/2024 Signature: Date:

3 D2/21/24 REVISED GENERATOR AND PLATFORM SIZE
2 D8/17/23 ADDED LEASE AREA DETAILS
1 D3/30/23 ADDED STRUCTURAL DETAILS

S MARK DATE DESCRIPTION

FARMINGTON

WESTERBERG DRIVE FA ID # 10090928

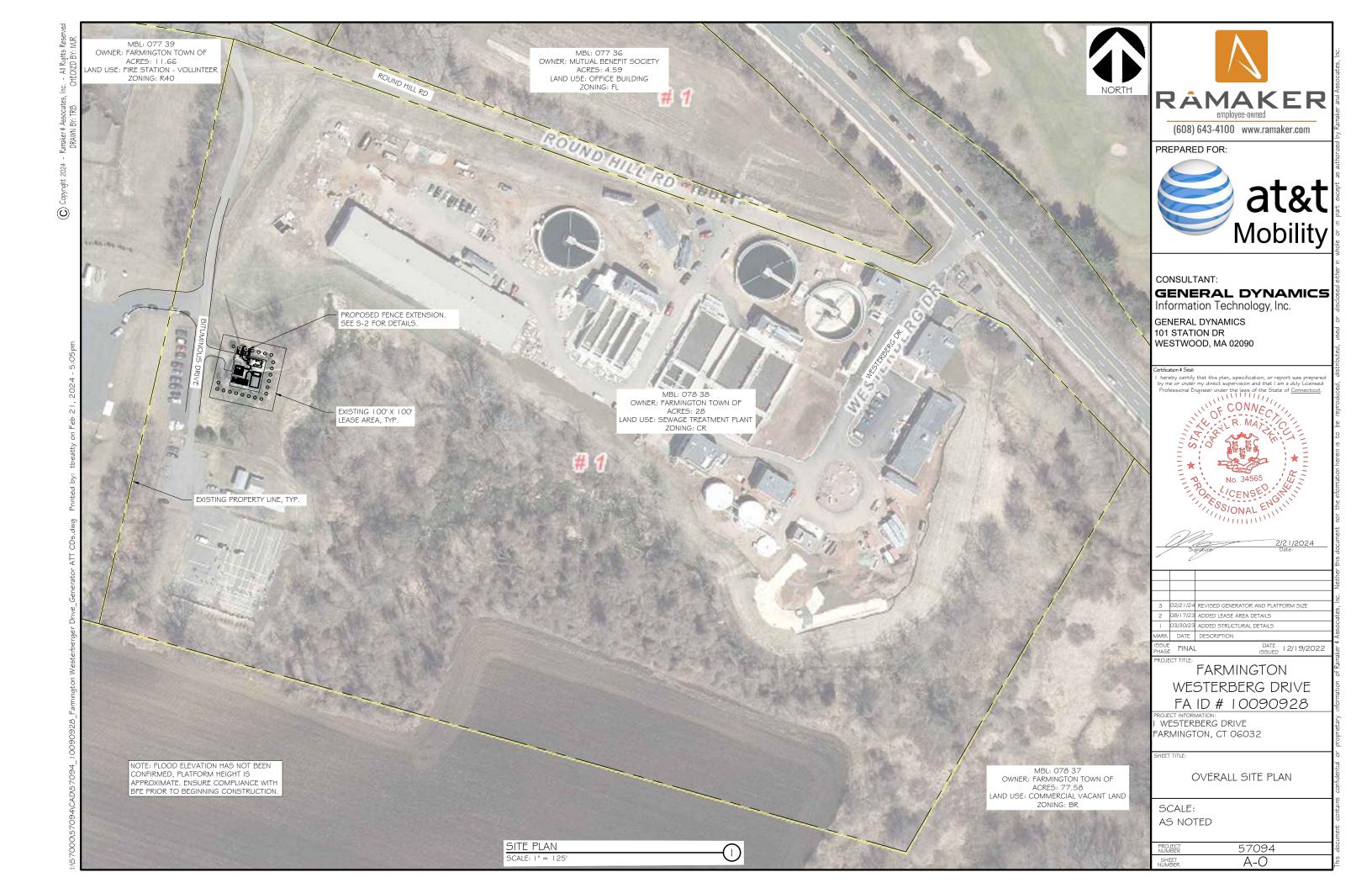
I WESTERBERG DRIVE FARMINGTON, CT 06032

HEET TITLE:

GENERAL NOTES

SCALE: NONE

PROJECT 57094
SHEET NUMBER N-I



SCOPE OF WORK DETAILS

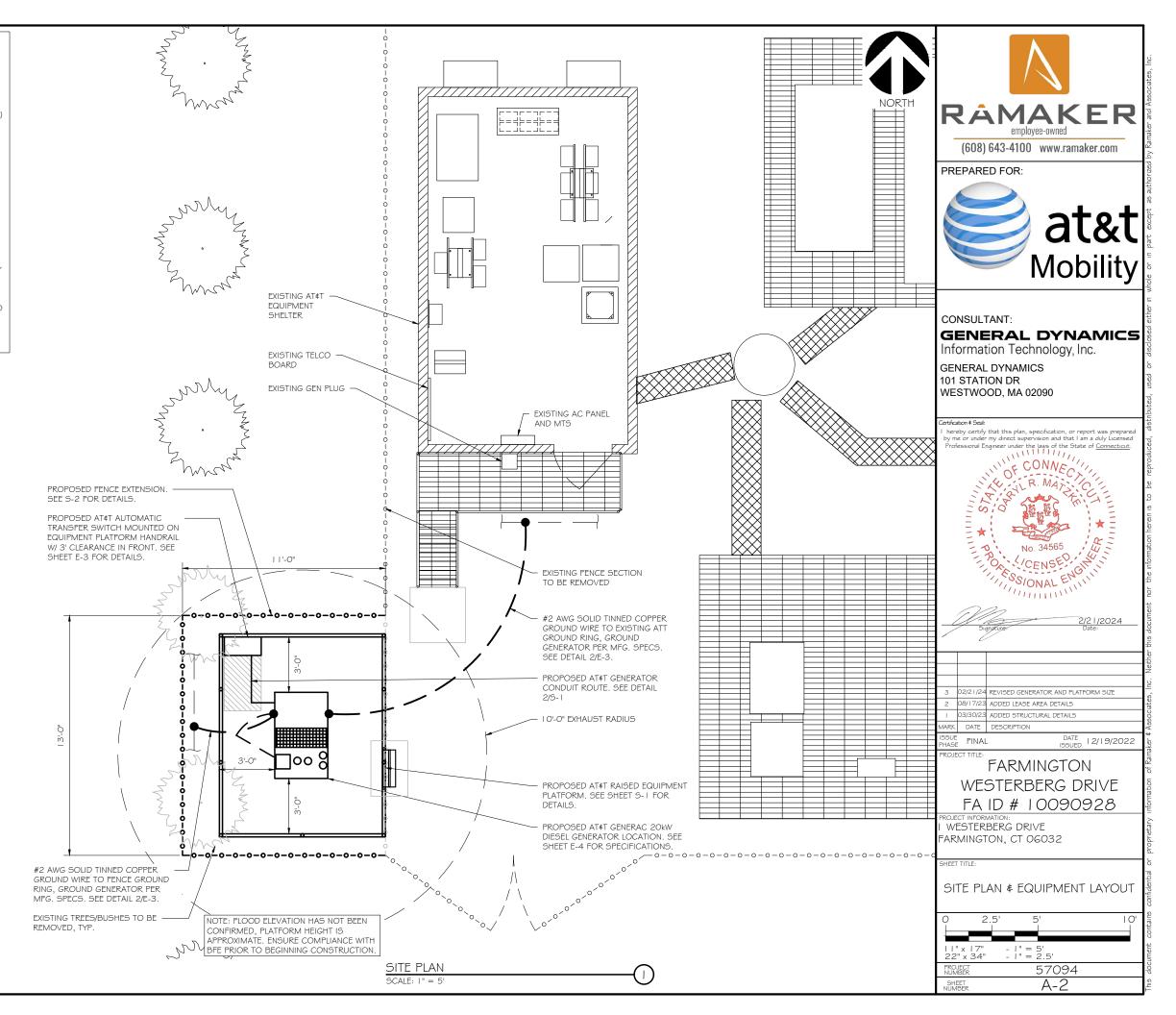
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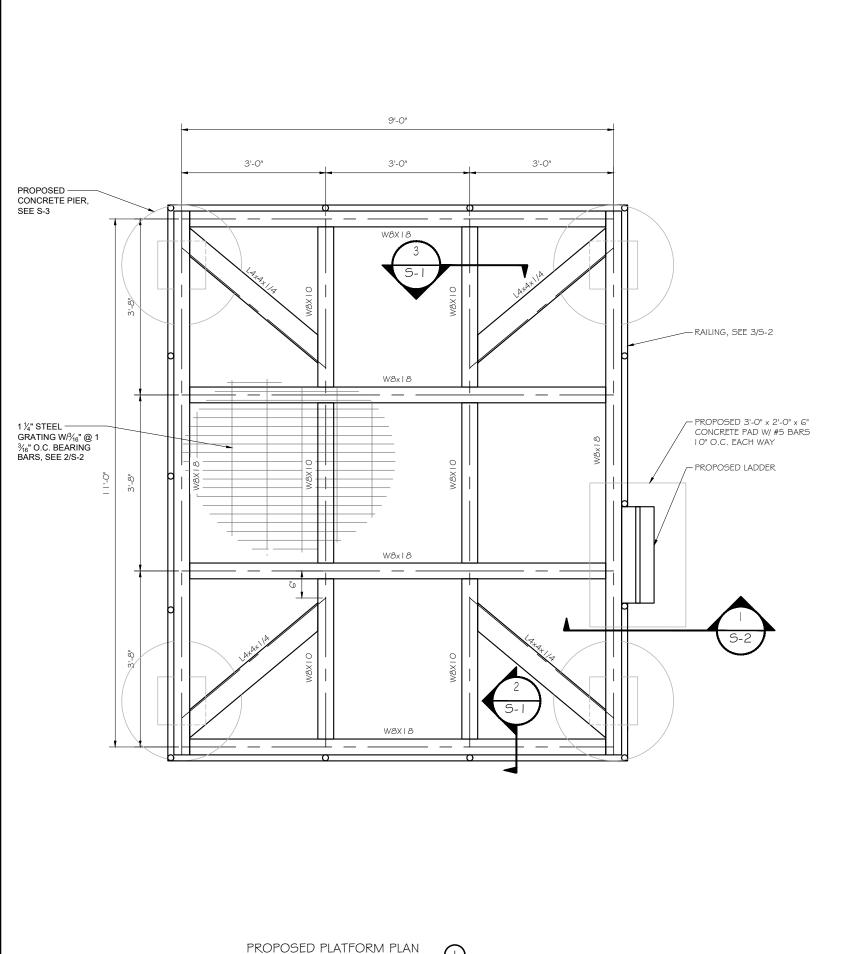
- NEW GENERAC DIESEL GENERATOR PROVIDED BY GENERAL DYNAMICS & INSTALLED BY GENERAL CONTRACTOR, SEE E-4.
- NEW RAISED PLATFORM PROVIDED \$ INSTALLED BY GENERAL CONTRACTOR (AS REQUIRED) SEE S-1
- NEW GENERAC AUTOMATIC TRANSFER SWITCH PROVIDED BY GENERAL DYNAMICS \$ INSTALLED BY CONTRACTOR (AS REQUIRED)
- CONTRACTOR TO VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION
- CONTRACTOR SHALL RESTORE & REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION

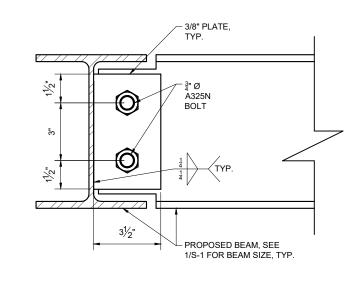
- INSTALL PULL STRING IN EACH CONDUIT

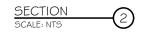
 (I) NEW 2" AND (I) NEW I" ELECTRICAL CONDUITS WITH
 CONDUCTORS TO RUN FROM NEW GENERATOR TO NEW ATS. CONDUIT PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 ¢ E-3.
- (I) NEW I" ELECTRICAL CONDUIT WITH CONDUCTORS TO RUN FROM NEW GENERATOR TO AC PANEL. CONDUIT PROVIDED \$ INSTALLED BY GENERAL CONTRACTOR. SEE E-1, E-2 \$ E-3.
- (I) NEW I" ALARM CONDUIT & CABLING PROVIDED & INSTALLED BY GENERAL CONTRACTOR. SEE E-I, E-2 & E-3.

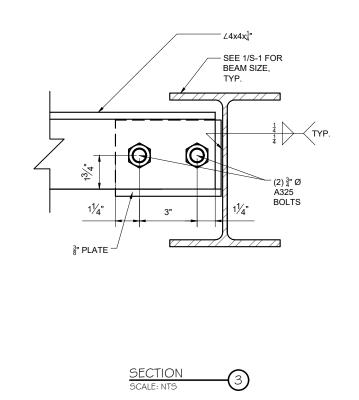
NEW EXOTHERMIC CONNECTION FROM EXISTING GROUND RING TO NEW MECHANICAL CONNECTION AT GENERATOR CHASSIS. GENERAL CONTRACTOR TO VERIFY LOCATION IN FIELD. LOCATE GROUND RODS NO MORE THAN 8'-O" APART.













PREPARED FOR:



CONSULTANT:

GENERAL DYNAMICS

Information Technology, Inc.

GENERAL DYNAMICS 101 STATION DR WESTWOOD, MA 02090

hereby certify that this plan, specification, or report was prepare, by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Connecticut.



Ž,		2/21/2024
	Signature:	Date:

3 02/21/24 REVISED GENERATOR AND PLATFORM SIZE 2 08/17/23 ADDED LEASE AREA DETAILS I 03/30/23 ADDED STRUCTURAL DETAILS

MARK DATE DESCRIPTION

DATE ISSUED | 2/19/2022

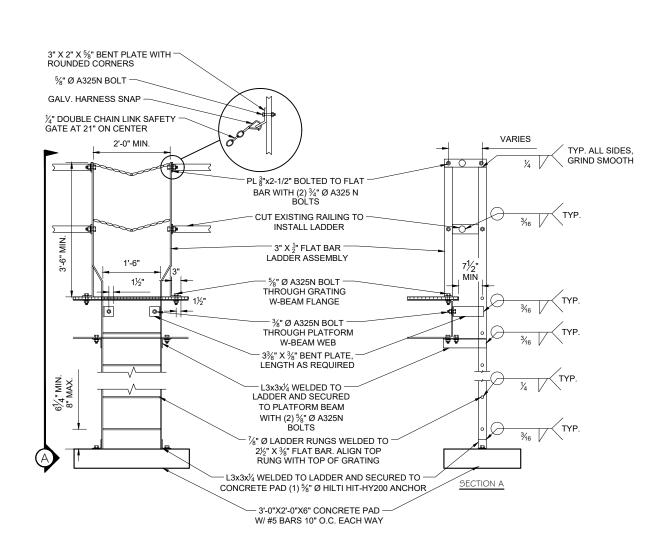
FARMINGTON WESTERBERG DRIVE FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

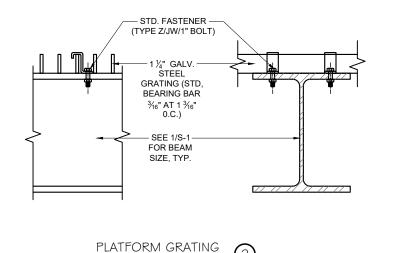
STRUCTURAL DETAILS

SCALE: NONE

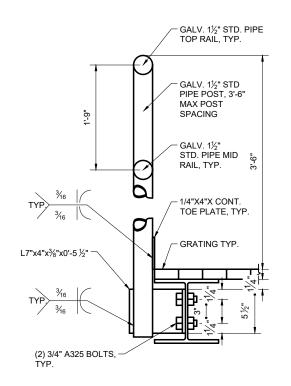
57094 S-1



PROPOSED LADDER



SCALE: NTS





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GENERAL DYNAMICS 101 STATION DR WESTWOOD, MA 02090



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DATE | 2/19/2022

FARMINGTON WESTERBERG DRIVE

FA ID # 10090928 WESTERBERG DRIVE

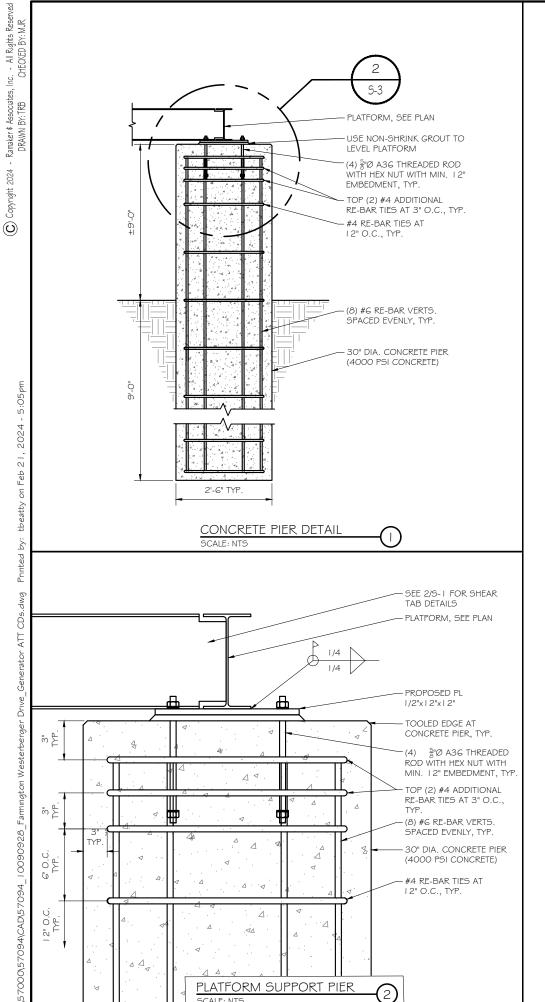
FARMINGTON, CT 06032

STRUCTURAL DETAILS

SCALE: NONE

57094 5-2

SCALE: NTS



STRUCTURAL STEEL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES

MATERIAL SPECIFICATIONS
WIDE FLANGE SECTIONS 50 KSI, ASTM A992

ANGLES, PLATES, AND CHANNELS 36 KSI, ASTM A36 SQUARE AND RECTANGULAR HSS 46 KSI, ASTM A500 GRADE B

PIPE 35 KSI, ASTM A53 GRADE B

HIGH STRENGTH BOLTS ASTM A325-N

HEAVY HEX NUTS ASTM A563 WELDING ELECTRODES E70XX

- ALL CONNECTION BOLTING IS TO BE WITH GALV. A-325N BOLTS UNLESS NOTED OTHERWISE. BOLTS NEED ONLY BE TIGHTENED TO THE SNUG-TIGHT CONDITION. SNUG-TIGHT IS DEFINED AS THE TIGHTNESS OBTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A PERSON USING AN ORDINARY SPUD WRENCH.
- ALL WELDING SHALL COMPLY WITH THE AWS STRUCTURAL WELDING CODES. ALL WELDING TO BE PERFORMED BY AWS PRE-QUALIFIED WELDERS CERTIFIED FOR THE GIVEN APPLICATION. ALL WELDING TO BE SHOP WELDED.
- ALL STEEL EXPOSED TO MOISTURE, SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER ASTM A- I 23. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH 2 COATS OF ZRC COLD GALVANIZING COMPOUND MANUFACTURED BY ZRC CHEMICAL PRODUCTS CO. QUINCY, MA OR USE THERMAL SPRAYING WITH PLATTZINC 85/15 AS MANUFACTURED BY PLATT BROTHERS & COMPANY WATERBURY, CT.
- ALL PIPE SIZES ARE NOMINAL DIAMETER.
- CONTRACTOR SHALL MEASURE AND VERIFY ALL EXISTING CONDITIONS AND MEASUREMENTS IN FIELD. ANY UNUSUAL CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE PURCHASE, FABRICATION AND ERECTION OF ANY MATERIAL.
- INCORRECTLY FABRICATED, DAMAGED, OTHERWISE MISFITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO THE OWNER, ENGINEER, AND CONSTRUCTION MANAGER PRIOR TO ANY REMEDIAL OR CORRECTIVE ACTION. ALL ACTIONS SHALL REQUIRE APPROVAL FROM THE OWNER,
- CONTRACTOR SHALL PROMPTLY REMOVE ANY & ALL DEBRIS FROM SITE.
- 10. ALL STEEL TO BE ERECTED PLUMB AND LEVEL.

STRUCTURAL GENERAL NOTES

- DESIGN & CONSTRUCTION OF ALL WORK SHALL CONFORM TO LOCAL BUILDING CODES, ACI 3 | 8-11. IN CASE OF CONFLICT BETWEEN THE CODES, STANDARDS, REGULATIONS, SPECIFICATIONS, GENERAL NOTES AND/OR MANUFACTURER'S REQUIREMENTS, USE THE MOST STRINGENT PROVISIONS.
- I.2 IT IS THE EXPRESS INTENT OF PARTIES INVOLVED IN THIS PROJECT THAT THE CONTRACTOR OR SUBCONTRACTOR OR INDEPENDENT CONTRACTOR OR THE RESPECTIVE EMPLOYEES SHALL EXCULPATE THE ARCHITECT, THE ENGINEER, TECH. CONSTRUCTION MANAGER, THE OWNER, \$ THEIR AGENTS FROM ANY LIABILITY WHATSOEVER \$ HOLD THEM HARMLESS AGAINST LOSS, DAMAGES, LIABILITY OR ANY EXPENSE ARISING IN ANY MATTER FROM THE WRONGFUL OR NEGLIGENT ACT, OR FAILURE TO CARRY METHODS, TECHNIQUES OR PROCEDURES OR FAILURE TO CONFORM TO THE STATE SCAFFOLDING ACT IN CONNECTIONS WITH THE WORK.
- 1.3 DO NOT SCALE DRAWINGS
- 1.4 VERIFY ALL EQUIPMENT MOUNTING DIMENSIONS PER MANUFACTURER DRAWINGS
- 3.0 CONCRETE
- 3.1 MEET OR EXCEED THE FOLLOWING CODES \$ STANDARDS:

DESIGN : ACI318-11

CONSTRUCTION : ACI30 I

: CRSI MANUAL OF STANDARD PRACTICE DETAILING

: ASTM A 615 GRADE 60, DEFORMED REINF. STEEL

MIXING : ASTM C 94. READY MIX CONCRETE

AIR ENTRAINMENT : ACI 3 | 8 AND ASTM C-260

AGGREGATE : ASTM C 33 AND C 330 (FOR LIGHT WEIGHT)

3.2 CONCRETE STRENGTH AT 28 DAYS SHALL BE 4000 PSI MINIMUM 3.3 DO NOT FIELD BEND OR WELD TO GRADE GO REINFORCED STEEL

3.4 PROVIDE AIR ENTRAINED CONCRETE WITH AIR CONTENT OF 5 TO 7% FOR ALL CONCRETE EXPOSED TO EARTH OR WEATHER.

3.5 MAXIMUM AGGREGATE SIZE: 3/4"

- 3.6 DO NOT USE IN ADMIXTURE, WATER OR OTHER CONSTITUENTS OF CONCRETE WHICH HAS CALCIUM CHLORIDE.
- 3.7 MINIMUM COVER FOR REINFORCING STEEL SHALL BE AS SHOWN ON PLAN.
- 4.0 FOUNDATION & EXCAVATION NOTES
- 4. I PIERS SHALL REACH A MINIMUM DEPTH OF 9'-O"
- 4.2 ALL ORGANIC AND/OR OTHER UNSUITABLE MATERIAL SHALL BE REMOVED FROM FOUNDATION \$ SLAB SUBGRADE \$ BACKFILL AREAS, \$ THEN BACKFILLED WITH ACCEPTABLE GRANULAR FILL COMPACTED TO 95% OF MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT (ASTM D I 557).
- 4.3 THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY WATER, FROST, OR ICE FROM PENETRATING ANY FOOTING OR STRUCTURAL SUBGRADE BEFORE # AFTER PLACING OF CONCRETE, AND UNTIL SUCH CONCRETE HAS FULLY CURED.



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hereby certify that this plan, specification, or report was pres v me or under my direct supervision and that I am a duly Licensed ofessional Engineer under the la



2/21/2024

3 02/21/24 REVISED GENERATOR AND PLATFORM SIZE 08/17/23 ADDED LEASE AREA DETAILS I 03/30/23 ADDED STRUCTURAL DETAILS

MARK DATE DESCRIPTION

DATE 12/19/2022

FARMINGTON WESTERBERG DRIVE FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

STRUCTURAL DETAILS

SCALE: NONE

57094 S - 3

DIAGRAM CIRCUIT SCHEDULE

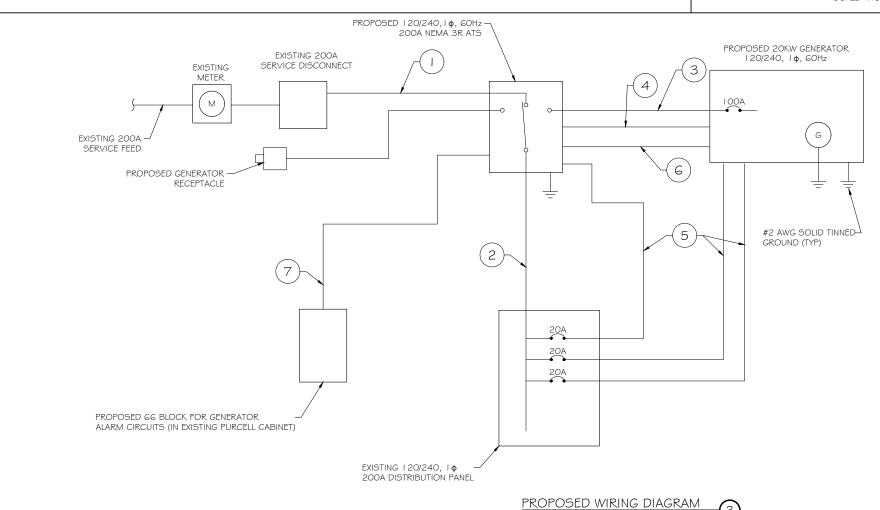
NO.	FROM	TO	WIRES	GROUND	CONDUIT SIZE	FUNCTION
	NORMAL POWER SOURCE	AUTOMATIC TRANSFER SWITCH	(3) 3/0	(1) #4	2"	NORMAL POWER FEEDER TO ATS (CUT BACK EXISTING)
2	AUTOMATIC TRANSFER SWITCH	LOAD CENTER	(3) 3/0	(1) #4	2"	POWER FEEDER FROM ATS TO PANEL
3	GENERATOR	AUTOMATIC TRANSFER SWITCH	(3) #3	(1) #8	¹ / ₄ "	EMERGENCY POWER FEEDER TO ATS
4	AUTOMATIC TRANSFER SWITCH	GENERATOR	(2) #10	(1) #10	1"	START CIRCUIT
5	LOAD CENTER (DISTRIBUTION CENTER)	GENERATOR, ATS	(2) #12 (2) #12 (2) #12	(1) #12 (1) #12 (1) #12	" "	CIRCUIT FOR GENERATOR BLOCK HEATER \$ BATTERY HEATER CIRCUIT FOR BATTERY CHARGER CIRCUIT FOR ATS
6	GENERATOR	AUTOMATIC TRANSFER SWITCH	I 2-PAIR 24 AWG OR 2EA G-PAIR CAT5	N/A	1 "	ALARM CABLES (I) I 2 PAIR 24 AWG, PROVIDE 24" OF SLACK CABLE, FINAL PUNCH DOWN IS BY AT\$T TECH, LABEL ALL WIRES
7	AUTOMATIC TRANSFER SWITCH	ALARM BLOCK	I 2-PAIR 24 AWG OR 2EA G-PAIR CAT5	N/A	1	ALARM CABLES (1) 12 PAIR 24 AWG (RUN TO PURCELL CABINET \$ INTO ALARM BOX). PROVIDE 24" OF SLACK CABLE. FINAL PUNCH DOWN IS BY AT\$T TECH. LABEL ALL WIRES

ALARM WIRE IDENTIFICATION CHART

WIRE	ALARM
BROWN BROWN / WHITE	GENERATOR RUNNING
GREEN GREEN / WHITE	CRITICAL FAULT
BLUE BLUE / WHITE	MINOR FAULT
ORANGE ORANGE / WHITE	LOW FUEL
BROWN * BROWN / WHITE *	FUEL LEAK
*CAT5 CABLE ONLY, FROM 2ND CAT5 CABLE	

CIRCUIT DETAIL

ALARM WIRING IDENTIFICATION CHART (2)



SCALE: NTS



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DATE ISSUED | 2/19/2022

FARMINGTON WESTERBERG DRIVE FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

WIRING DETAILS

SCALE: NONE

57094 E- I

Breaker

Type

2P

1P

1P

1P

2P

2P

2P

2P

2P

1P

1P

1P

1P

1P

On/Off

OFF

ON

ON

ON

ON

ON

ON

OFF

OFF

OFF

OFF

ON

ON

ON

Size

50

20

20

20

30

30

30

30

30

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20

20

20

20

Breaker

Position

11

13

15

17

19

21

23

25

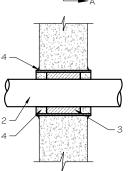
33

35

37

39

41



IF EXISTING CONSTRUCTION VARIES FROM THIS DETAIL, AN EQUAL 3-HR U.L. PENETRATION APPROPRIATE FOR THE EXISTING WALL TYPE SHALL BE CONSTRUCTED

GC SHALL USE NON-SHRINKING CAULK TO WEATHERSEAL ALL PENETRATIONS INTO OR THRU SHELTER WALL.

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

- 1. FLOOR OR WALL ASSEMBLY: MINIMUM 4-1/2" THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIAMETER OF OPENING IS 4". SEE CONCRETE BLOCKS 9CATZ) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- 2. THROUGH PENETRATIONS : ONE METALLIC PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE ANNULAR SPACE SHALL BE MINIMUM O". (POINT CONTACT) TO MAXIMUM 1-3/8". THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:
 - A. STEEL PIPE-NOMINAL 6" DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER)
 - B. IRON PIPE-NOMINAL 6" DIAMETER (OR SMALLER) CAST OR DUCTILE IRON PIPE. C. CONDUIT - NOMINAL 4" DIAMETER (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR NOMINAL 3-1/2" DIAMETER (OR SMALLER) STEEL CONDUIT.
- 3. PACKING MATERIAL: MINIMUM 6" THICKNESS OF MIN 4.0 PCF MINERAL WOOL BATTING INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL
- 4. FILL, VOID, OR CAVITY MATERIAL*: SEALANT: MINIMUM 1/4" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR AND WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PIPE AND CONCRETE, A MINIMUM 1/2" DIAMETER BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE/PIPE INTERFACE ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL. W RATING APPLIES ONLY WHEN CPGO IS OR CPGO4 SEALANT IS

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. : CP6015, CP604, CP606, OR FS-ONE SEALANT.

* BEARING THE UL CLASSIFICATION MARK

OUTER WALL PENETRATION DETAIL (IF APPLICABLE)



Circuit Label

SPARE

TELCO RECEPT.

RECEPT. LEFT

HVAC 1

RECTIFIER 2 AND 8

RECTIFIER 4 AND 10

SPARE

SPARE

RECEPT. RIGHT

SPARE

SMOKE DETECTOR

EMPTY

EMPTY

FMPTY

EMPTY

EMPTY

Type GR CABLE TAP TOP OF GROUND ROD

Type VN

HORIZONTAL

CABLE TAP TO
VERTICAL STEEL
SURFACE OR
THE SIDE OF
HORIZONTAL PIPE



Type GY THROUGH CABLE TO SIDE OF GROUND ROD



THROUGH VERTICAL STEEL



HORIZONTAL CABLE TAP TO HORIZONTAL STEEL SURFACE OR PIPE. CABLE OFF





Т<u>ур</u>е ТА TEE OF HORIZONTAL RUN AND TAP CABLES.

AC Distribution Panel - Layout Diagram

Circuit Label

SPARE

INTERIOR LIGHTS

GFCI

EXTERIOR LIGHTS

RECTIFIER 1 AND 7

RECTIFIER 3 AND 9

RECTIFIER 5 AND 11

SPARE

SPARE

SPARE

SPARE

ATS

BLOCK HEATER 🔪

BATTERY CHARGER

EMPTY

Breaker

Position

10

12

14

16

18

20

22

24

26

28

30

32

34

36

38

40

42

Breaker

Type

1P

1P

1P

2P

2P

2P

2P

2P

1P

1P

1P

On/Off

OFF

ON

ON

ON

ON

ON

OFF

OFF

ON

OFF

ON

Size

20

20

20

50

30

30

30

30

20

20

20

PROPOSED 20A BREAKERS FOR ATS, BLOCK HEATER AND BATTERY CHARGER ON NEW AT&T GENERATOR

CONTRACTOR TO LABEL WIRES WITH P-TOUCH OR SIMILAR LABELS ONLY. ABSOLUTELY NO HANDWRITTEN LABELS.

*CONTRACTOR TO UTILIZE NEXT AVAILABLE IN SEQUENCE SINGLE BREAKER POSITION FOR GENERATOR, BATTERY CHARGER, BATTERY HEATER AND BLOCK HEATER



Type VS CABLE TAP DOWN VERTICAL STEEL SURFACE OR SIDE OF HORIZONTAL OR VERTICAL PIPE Type VV

VERTICAL CABLE SURFACE OR TO THE SIDE OF EITHER HORIZONTAL OR VERTICAL PIPE

FA ID # 10090928 WESTERBERG DRIVE FARMINGTON, CT 06032

MARK DATE DESCRIPTION

PANEL AND PENETRATION **DETAILS**

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y nie of finder my direct supervision and tradit and a duty discussed professional Engineer under the laws of the State of Connecticut.

ESSIONAL EN

3 02/21/24 REVISED GENERATOR AND PLATFORM SIZE 2 08/17/23 ADDED LEASE AREA DETAILS I 03/30/23 ADDED STRUCTURAL DETAILS

FARMINGTON

WESTERBERG DRIVE

2/21/2024

DATE 12/19/2022

Information Technology, Inc.

PREPARED FOR:

CONSULTANT:

GENERAL DYNAMICS

WESTWOOD, MA 02090

101 STATION DR

SCALE: NONE

57094 SHEET E-2

CADWELD DETAILS SCALE: NTS

CONDUIT (TYP)

2

BUTTERFLY CLAMP AS REQUIRED

(3)

EXISTING WALL/CEILING

(4

VERTICAL "UNISTRUT" P I 000 T' SERIES LENGTH BASED ON NUMBER OF CONDUIT TO BE MOUNTED

WALL CONSTRUCTION TYPE	USE
HOLLOW	3/8" DIA. TOGGLE BOLT
HOLLOW, AT STUD	3/8" DIA. LAG SCREW
CONCRETE BLOCK (HOLLOW)	3/8" DIA. HILTI HY-20 WITH SCREEN, MINIMUM EMBEDMENT 2-1/2"
CONCRETE (SOLID)	3/8" DIA. HILTI HY-150 WITH SCREEN MINIMUM EMBEDMENT 2-1/2"

NOTE: USE GALVANIZED OR STAINLESS STEEL HARDWARE FOR WALL MOUNT & CONNECTIONS OF CHANNELS SPACE UNITS @ 5'-O" O.C. LENGTH OF RUN

SCALE: NTS

- CADWELD - GRADE #2 AWG BCW GROUND RING GROUND ROD COPPERWELD 5/8"Ø x 8'-0"

GROUND ROD DETAIL

₽ LONG (MAX)

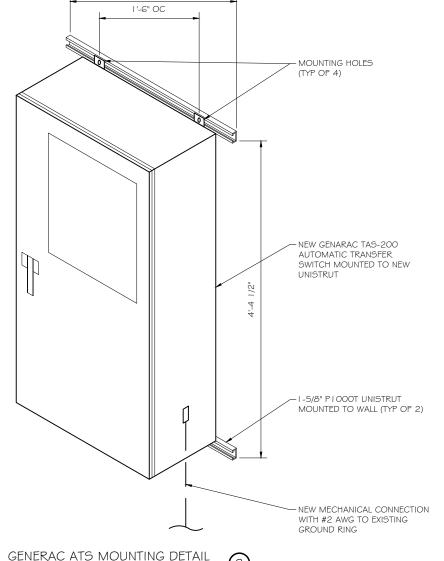
CONDUIT WALL MOUNT SCALE: NTS

2'-6"

WALL CONSTRUCTION TYPE	USE
HOLLOW	3/8" DIA. TOGGLE BOLT
HOLLOW, AT STUD	3/8" DIA. LAG SCREW
CONCRETE BLOCK (HOLLOW)	7/16" DIA. HILTI HY-20 WITH SCREEN MINIMUM EMBEDMENT 2-1/2"
CONCRETE (SOLID)	7/16" DIA. HILTI HY-150 WITH SCREEN MINIMUM EMBEDMENT 2-1/2"

SCALE: NTS

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





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PREPARED FOR:

SEE RESISTIVITY REPORT FOR VERIFICATION AS

A LARGER CONDUCTOR SHALL BE REQUIRED IN AREAS HIGHLY PRONE TO LIGHTNING AND/OR AREAS WITH HIGHLY ACIDIC SOIL GROUND RODS INSTALLED

WITHIN CLOSE PROXIMITY TO TOWER OR WHEN SOIL IS AT OR BELOW 2,000 OHM-CM,

SHALL BE GALVANIZED TO

CORROSION OF TOWER,

(SEE ANSI/TIA-EIA-222-G)

PROVIDE (I) GROUND LEAD TO EACH SIDE OF THE GENERATOR

PREVENT GALVANIC

AVAILABLE



CONSULTANT:

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3	02/21/24	REVISED GENERATOR AND PLATFORM SIZE
2	08/17/23	ADDED LEASE AREA DETAILS
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MARK DATE DESCRIPTION

DATE ISSUED | 2/19/2022

FARMINGTON WESTERBERG DRIVE

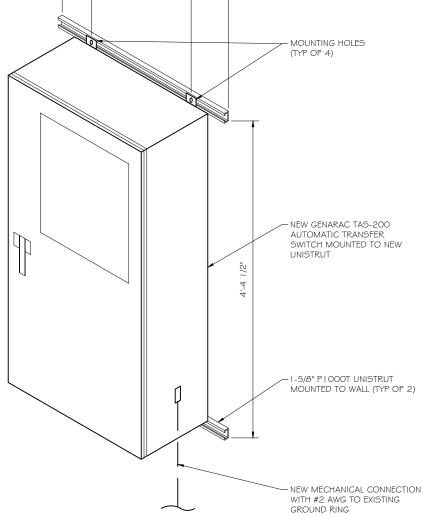
FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

ATS, CONDUIT & GROUND ROD DETAILS

SCALE: NONE

57094 E-3



ANSI

SDC020 | 2.2L | 20 kW INDUSTRIAL DIESEL GENERATOR SET

GENERAC* INDUSTRIAL

EPA Certified Stationary Emergency

Standby Power Rating 20 kW, 25 kVA, 60 Hz



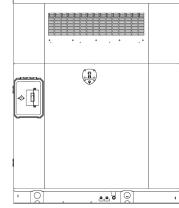


Image used for illustration purposes only

Codes and Standards

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





UL2200, UL6200, UL1236, UL489,





CSA C22.2, ULC S601





BS5514 and DIN 6271



SAE J1349



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



ISO 3046, 7637, 8528, 9001



NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C62.41

Powering Ahead

For over 60 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse

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

SDC020 | 2.2L | 20 kW INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

STANDARD FEATURES

ENGINE SYSTEM

- · Oil Drain Extension
- Air Cleaner
- Stainless Steel Flexible Exhaust Connection
- · Factory Filled Oil and Coolant
- Engine Coolant Heater

FUEL SYSTEM

- Fuel Lockoff Solenoid
- Primary Fuel Filter

COOLING SYSTEM

- · Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- · Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze

ELECTRICAL SYSTEM

Battery Charging Alternator

CONTROL SYSTEM

- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect[™]
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator Permanent Magnet Excitation
- Sealed Bearing
- Rotor Dynamically Spin Balanced
- Amortisseur Winding (3-Phase Only)
- Full Load Capacity Alternator
- · Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- · Separation of Circuits High/Low Voltage
- Wrapped Exhaust Piping

Remote Ports

· 3-Phase AC Volts

3-Phase Amps

Power Factor

· Full Range Standby Operation

Ruptured Tank Detection

Auxiliary Shutdown Switch

Optional Modules Selected)

Compatible with NFPA 110, Level 1 or 2 (When

I²T Function for Full Generator Protection

· Remote Communications

• Line Power/Gen Power

CANbus

kW

- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood

ENCLOSURE

· Rust-Proof Fasteners with Nylon Washers to Protect Finish

GENERAC INDUSTRIAL

- High Performance Sound-Absorbing Material
- Gasketed Doors
- Aluminum Enclosure
- Level 2 Sound Attenuated
- Twist-Lock Handle RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS (If Selected)

- UL 142/ULC S601
- Double Wall
- Normal and Emergency Vents
- Factory Pressure Tested Rupture Basin Alarm
- Fuel Level
- · Check Valve In Supply and Return Lines
- RhinoCoat[™] Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

Full System Status Display

- Multilingual 128x64 Graphical Display with Heater
- Fasy Status View LED Screen
- Full System Status
- Run Hours
- Service Reminders
- Fault History (Alarm Log) Oil Pressure
 - Oil Temperature (Optional/When Equipped)
 - Oil Level (Optional/When Equipped)
 - Output for Fuel Level High/Low Warning
 - Water Temperature
 - Water Level Fuel Pressure/Level
 - Engine Speed
 - Battery Voltage Alternator Frequency

Alarms and Warnings

Common Alarm Output

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CONSULTANT:

PREPARED FOR:

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3 02/21/24 REVISED GENERATOR AND PLATFORM SIZE 08/17/23 ADDED LEASE AREA DETAILS

I 03/30/23 ADDED STRUCTURAL DETAILS

ARK DATE DESCRIPTION DATE 12/19/2022

FARMINGTON WESTERBERG DRIVE FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

GENERAC 20KW GENERATOR **SPECIFICATIONS**

SCALE: NONE

57094 F-4

GENERAC 20KW GENERATOR **SPECIFICATIONS** SCALE: NTS



Power Zone® 410 Controller Features Programmable Auto Crank Selectable Low Speed Exercise RS-232 x2

• RS-485 x2

 3-Phase Sensing Digital Voltage Regulator Time

Date

On/Off/Manual Switch

 Emergency Stop Modbus[®] RTU

Not in Auto Flashing Light

GENERAC | INDUSTRIAL

O NFPA 110 Compliant 21-Light Remote Annunciator

O Remote E-Stop (Break Glass-Type, Surface Mount)

Remote E-Stop (Red Mushroom-Type, Flush Mount)

INDUSTRIAL DIESEL GENERATOR SET

CONFIGURABLE OPTIONS

EPA Certified Stationary Emergency

SDC020 | 2.2L | 20 kW

ENGINE SYSTEM

- Oil Heater
- Fluid Containment Pan
- O Coolant Heater Isolation Ball Valves

FUEL SYSTEM

O NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- O 10A UL Listed Battery Charger
- Battery Warmer

ALTERNATOR SYSTEM

- Anti-Condensation Heater
- Tropical Coating

GENERATOR SET

- Extended Factory Testing
- Pad Vibration Isolators

CIRCUIT BREAKER OPTIONS

- O Main Line Circuit Breaker
- O Shunt Trip and Auxiliary Contact

O Electronic Trip Breakers ENCLOSURE

- O Up to 190 MPH Wind Load Rating (Contact Factory
- for Availability) O AC/DC Enclosure Lighting Kit
- O Door Open Alam Switch

WARRANTY (Standby Gensets Only)

- O 2 Year Extended Limited Warranty
- O 5 Year Limited Warranty
- O 5 Year Extended Limited Warranty
- O 7 Year Extended Limited Warranty O 10 Year Extended Limited Warranty
- - Overfill Protection Valve

O 10A Engine Run Relay

CONTROL SYSTEM

O Remote Relay Assembly (8 or 16)

O Battery Disconnect Switch

Surface Mount)

100 dB Alarm Hom

O Ground Fault Annunciation

O 120V GFCI and 240V Outlets

Oil Temperature Indication and Alarm O Spare Inputs (x4) / Outputs (x4)

O Remote E-Stop (Red Mushroom-Type,

FUEL TANKS (Size On Last Page)

- O Spill Box Return Hose
- O 2.5 Gallon Spill Box
- Tank Risers
- O Fuel Level Switch and Alarm
- O 12' Vent System

O Fire Rated Stainless Steel Fuel Hose

- Stainless Steel Tanks

SDC020 | 2.2L | 20 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

^	_	_	_		ı
п	н	n	е	ГH	

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Туре	In-Line
Displacement - in ³ (L)	135 (2.22)
Bore - in (mm)	3.3 (84)
Stroke - in (mm)	3.9 (100)
Compression Ratio	23.3:1
Intake Air Method	Naturally Aspirated
Cylinder Head	Cast Iron
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.5%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow Cartridge
Crankcase Capacity - qt (L)	11.2 (10.6)

Cooling System

Cooling System Type	Pressurized Closed
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Puller
Fan Speed - RPM	3,000
Fan Diameter - in (mm)	11 (279)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Inject Pump	Distribution Injection Pump
Fuel Pump Type	Cassette
Injector Type	Indirect, Pintle Nozzle
Fuel Supply Line - in (mm)	0.31 (7.94) ID
Fuel Return Line - in (mm)	0.31 (7.94) ID

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0035124Y26	
Poles	4	
Field Type	Revolving	
Insulation Class - Rotor	Н	
Insulation Class - Stator	Н	
Total Harmonic Distortion	<5% (3-Phase Only)	
Telephone Interference Factor (TIF)	<50	

Standard Excitation	Permanent Magnet Excitation
Bearings	Single Sealed
Coupling	Direct via Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

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PREPARED FOR:



CONSULTANT:

GENERAL DYNAMICS

Information Technology, Inc.

GENERAL DYNAMICS 101 STATION DR WESTWOOD, MA 02090

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3 02/21/24 REVISED GENERATOR AND PLATFORM SIZE 2 08/17/23 ADDED LEASE AREA DETAILS I 03/30/23 ADDED STRUCTURAL DETAILS ARK DATE DESCRIPTION

FARMINGTON WESTERBERG DRIVE FA ID # 10090928

DATE | 2/19/2022

WESTERBERG DRIVE FARMINGTON, CT 06032

GENERAC 20KW GENERATOR SPECIFICATIONS

SCALE: NONE

57094 F-4 I

GENERAC 20KW GENERATOR SPECIFICATIONS

SCALE: NTS



EPA Certified Stationary Emergency

SDC020 | 2.2L | 20 kW

OPERATING DATA

POWER RATINGS

	Sta	andby	
Single-Phase 120/240 VAC @1.0pf	20 kW, 20 kVA	Amps: 83	
Three-Phase 120/208 VAC @0.8pf	20 kW, 25 kVA	Amps: 70	
Three-Phase 120/240 VAC @0.8pf	20 kW, 25 kVA	Amps: 60	
Three-Phase 277/480 VAC @0.8pf	20 kW, 25 kVA	Amps: 30	

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

120/240 VAC 1Ø	30%	277/480 VAC 3Ø	30%	208/240 VAC 3Ø	30%
A0035044N26	50	K0035124Y26	68	K0035124Y26	50

FUEL CONSUMPTION RATES*

Diesel - gp	h (Lph)
-------------	-----	------

Fuel Pump Lift- ft (m)	Percent Load	Standby	
3 (1)	25%	0.6 (2.1)	
	50%	0.9 (3.5)	
Total Fuel Pump Flow (Combustion + Return) - gph (Lph)	75%	1.3 (4.8)	
16.6 (63)	100%	1.6 (6.2)	

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

COOLING

		Standby
Air Flow (Fan Air Flow Across Radiator) - Compact	cfm (m³/min)	1,653 (46.8)
Coolant Flow	gpm (Lpm)	15.5 (58.7)
Coolant System Capacity	gal (L)	4.2 (16.0)
Heat Rejection to Coolant	BTU/hr (kW)	76,090 (22.3)
Inlet Air	cfm (m³/min)	1,714 (48.5)
Maximum Operating Ambient Temperature	°F (°C)	120 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin	No. 0199280SSD
Maximum Additional Radiator Backpressure	in H ₂ O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power - cfm (m3/min)	61.4 (1.7)

ENGINE			EXHAUST	
		Standby		Standby
Rated Engine Speed	RPM	1,800	Exhaust Flow (Rated Output) cfm (m³/min)	160.4 (4.5)
Horsepower at Rated kW**	hp	32.5	Maximum Allowable Backpressure inHg (kPa)	40.9 (138.5)
Piston Speed	ft/min (m/min)	1,182 (360)	Exhaust Temperature (Rated Output) °F (°C)	950 (510)

psi (kPa) 105.8 (729.4) ** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

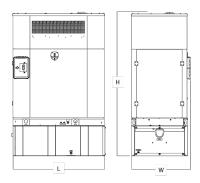
Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards. Standby - See Bulletin 0187500SSB Prime - See Bulletin 0187510SSB

SDC020 | 2.2L | 20 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

DIMENSIONS AND WEIGHTS*



Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - Ibs (kg)
No Tank	-	56.0 (1,422) x 34.5 (876) x 68.9 (1,749)	1,465 (664)
31.9	51 (193)	56.0 (1,422) x 34.5 (876) x 87.3 (2,215)	1,914 (868)
64.4	103 (390)	56.0 (1,422) x 34.5 (876) x 99.1 (2,515)	2,090 (948)

COMPACT VARIANT

CONILA	U VANIAN		
Run Time -	Usable Capacity	L x W x H - in (mm)	Weight - Ibs (kg)
Hours	- Gal (L)	50.0 (d. 400)	1 105 (00.0)
No Tank	-	56.0 (1,422) x 34.5 (876) x 68.9 (1,749)	1,465 (664)
31.9	51 (193)	56.0 (1,422) x 34.5 (876) x 87.3 (2,215)	1,914 (868)

GENERAC INDUSTRIAL

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

Generac Power Systems, Inc. | P.O. Box 8 | Waukesha, WI 53189

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Part No. A0001352184 Rev. A 04/21/2021

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PREPARED FOR:



CONSULTANT:

GENERAL DYNAMICS

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GENERAL DYNAMICS 101 STATION DR WESTWOOD, MA 02090

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FARMINGTON WESTERBERG DRIVE FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

GENERAC 20KW GENERATOR **SPECIFICATIONS**

SCALE: NONE

57094 E-4.2

GENERAC 20KW GENERATOR SPECIFICATIONS

SCALE: NTS



TTS Series Switches 200 Amps 600 VAC



TAS200 TAS200

200A Automatic Transfer Switch

TAS200

1 of 3 2 of 3

The Generac TAS200 Automatic Transfer Switch

Flexibility for multiple application installations

Multiple generator support with 3 source panel

Designed with a 6 inch touch screen controller for improved user interface

Camlock functionality for mobile generator sources



Features

- STEEL CONSTRUCTION
- NEMA 3R ENCLOSURE WITH HINGED "PADLOCKING" DOORS
- STAINLESS STEEL HARDWARE
- CAMLOCK "QUICK CONNECT" CAPABILITY
- OPERATIONAL STATUS VIEW VIA **6 INCH TOUCH SCREEN**
- TEST FUNCTION FAST TEST & NORMAL TEST
- UL1008 LISTED FOR EMERGENCY SYSTEMS

Optional Features

- EXTENDED WARRANTY
- THREE-PHASE VOLTAGE CONFIGURATIONS

Codes and Standards

Generac products are designed to the following standards:



UL1008, UL508, UL50. CSA C22.2 No. 178



NEC 700, 701 and 702



NEMA 250

Application and Engineering Data

Dimensions	24"W x 12"D x 48"H	
Weight	210 lbs.	
	Single Chamber with Main Door	
	Steel	
Construction	UL Type / NEMA 3R Rated	
	Powder Coat Finish for Corrosion Resistance	
	C-UL-US Listed - Automatic Transfer Switch	
	Stainless Steel Hardware	
	3-Point Latching System with Pad-Lockable Handles	
Mounting Ontions	Wall	
Mounting Options	H-frame	
Installed	Pre-wired alarm terminal strip	

Electrical Specifications	400/040 C'I Ph 000A
Voltage/Phase/Amps	120/240 Single-Phase, 200A
	120/208 3-Phase, 200A 120/240 3-Phase, 200A
Breaker	Eaton 200 amp Utility Breaker
	Eaton 200 amp Generator Breaker
Maximum RMS Symmetrical Fault Current - Amps	25k AIC Rated
Protective Device Continuous Rating (Max) Amp	200
Input to Generator	350MCM - #6 AWG
Output to Site	350MCM - #6 AWG
Generator Annunciator Connector	Deutsch DTM04-12PA-L012
Alarm Terminal Board	Generator Run Alarm
	Generator Fail — Shutdown Alarm
	Generator Fail – Non Shutdown Alarm
	Low Fuel Alarm
	Generator Theft Alarm
	AC Utility Fail Alarm

Camlock Component		
Camlock Component	Shipped loose for multiple installation options	
Dimensions	9" W x 9.4" D x 24.25" H	GENERAC
200A Camlock Generator Connection	Single-Phase: Black L1, Red L2, White-Neutral, Green-Ground	
	3-Phase: Black L1, Red L2, Blue L3, White-Neutral, Green-Ground	
	Uses 4 CH E1016 Male Connectors	
	Mating Connector – CH E1016 Female	



PREPARED FOR:



CONSULTANT:

GENERAL DYNAMICS

Information Technology, Inc.

GENERAL DYNAMICS 101 STATION DR WESTWOOD, MA 02090



3 02/21/24 REVISED GENERATOR AND PLATFORM SIZE 2 08/17/23 ADDED LEASE AREA DETAILS I 03/30/23 ADDED STRUCTURAL DETAILS

MARK DATE DESCRIPTION

DATE | 2/19/2022

FARMINGTON WESTERBERG DRIVE FA ID # 10090928

WESTERBERG DRIVE FARMINGTON, CT 06032

GENERAC ATS SPECIFICATIONS

SCALE: NONE

57094 E-5

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• Engine Minimum Run Timer: 5-30 minutes

• Engine Cooldown Timer: 0-20 minutes

GENERAC INDUSTRIAL

TTS Control Systems

TAS200

Touch Screen Interface





INDICATORS AND BUTTONS

· System Ready indicator

Standby Operating indicator

Utility Available indicator

GEN/UTIL Switch Position indicator

TVSS status

Normal Test button

Fast Test button

Return to Normal button

Reset button

Exercising indicator

DETAILS SCREEN

System Settings:

- System Voltage/Phases:
- 120/240V single phase (standard)
- 120/208V three phase (optional)
- 120/240V three phase (optional)
- Utility Fail Monitor:
- Under Voltage: 75-95% of nominal voltage
- Over Voltage: 105%-125% of nominal voltage
- Pickup (hysteresis): fixed at 5 volts
- Delay time: 0-60s
- Utility Interrupt Delay: 0-60s
- Return to Utility Timer: 1-30 minutes
- Transfer:
- In-phase, or
- Time-Delay-Neutral at 0.0-10.0s in 1 second increments

- Engine Warm-up timer: 0-20 minutes
- Time-Delay-Neutral at 0.0-10.0s in 1 second increments
- Voltage: 85-95% of nominal
- Frequency: 85-95% of nominal

Exercise Settings:

- Time of day
- · Day of week
- Exercise:
- Exercise with/without load
- Exercise once every 1, 2, or 4 weeks.
- Exercise time-of-day
- Exercise day of week
- Exercise duration: 15-30 minutes

Screen Settings:

- Brightness & Contrast button
- Screen Calibration button Startup/Clean screen

Diagnostics:

- Digital I/O bits status
- Voltage A/D readings

Mimic Diagram:

- · System Ready
- · Transfer switch position
- Utility available
- Standby available
- Maintenance/Auto switch position
- Generator source TS position
- TVSS status

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hereby certify that this plan, specification, or report was prepare, by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Connecticut.



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57094 PROJECT NUMBER SHEET E-5.1

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