

1 INDUSTRIAL AVE,
SUITE 3
MILWAUKEE NJ 07430
PHONE: 201.684.0055
FAX: 201.684.0066



July 1st, 2022

Members of the Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
22 Wayside Lane, Redding, CT 06896
Latitude: 41.1656
Longitude: -73.2426
T-Mobile Site#: CTFF575A - Hardening

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 84-foot level of the existing 109-foot flagpole tower at 22 Wayside Lane, Redding, CT. The 109-foot flagpole tower is owned by Crown Castle and the property is owned by Waide Wunschel Jo Ann. T-Mobile now intends to add a 48Kw generator to a proposed concrete pad within the existing compound.

Planned Modifications:

Ground:

Install New:

(1) Generac RD048 48 Kw AC Diesel Generator. Requires (2) 12-minute run cycles by-weekly.

The facility was approved by the Connecticut Siting Council in Docket No. 284 on October 7, 2004. This approval included conditions which this exempt modification application comply with.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-SOj-73, a copy of this letter is being sent to First Selectwoman Julia Pemberton, Elected Official, and Aimee Pardee, Land Use Director, as well as the tower and property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Eric Breun

Transcend Wireless

Cell: 201-658-7728

Email: ebreun@transcendwireless.com

Attachments

cc: Julia Pemberton - First Selectwoman of Redding

Aimee Pardee - Land Use Director

Crown Castle - Tower Owner

Waide Wunschel Jo Ann - Property Owner

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
AIMEE PARDEE
23 CROSS HIGHWAY
REDDING CT 06896



CT 068 0-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9267 3291



BILLING: P/P

Reference #1: CTFF575A

XOL 22.06.15 NV45 27.04.06/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

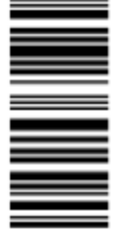
1 LBS

1 OF 1

SHIP TO:
WAIDE WUNSCHEL JO ANN
726 MIDDLE TURNPIKE
STORRS CT 06268

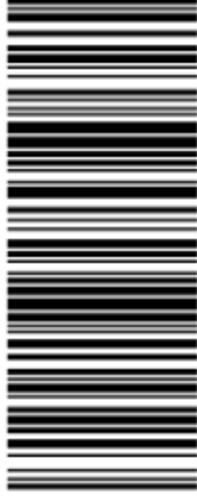


CT 063 0-01



UPS GROUND

TRACKING #: 1Z V25 742 03 9889 8770



BILLING: P/P

Reference #1: CTFF575A

XOL 22.06.15 NV45 27.04.06/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:

CROWN CASTLE USA
2000 CORPORATE DRIVE
CANONSBURG PA 15317



PA 153 0-10



UPS GROUND

TRACKING #: 1Z V25 742 03 9199 5301



BILLING: P/P

Reference #1: CTFF575A

XOL 22.06.15 NV45 27.0A 06/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:

FIRST SELECTWOMAN
JULIA PEMBERTON
100 HILL ROAD
REDDING CT 06896

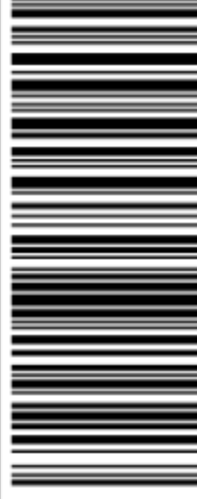


CT 068 0-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9646 8783



BILLING: P/P

Reference #1: CTFF575A

XOL 22.06.15 NV45 27.0A 06/2022*



TM

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/29/2022

Delivery Time: 11:32 AM

Signed by: ALICE

TRANSCEND WIRELESS

| | |
|----------------------------|---|
| Tracking Number: | 1ZV257420396468783 |
| Ship To: | JULIA PEMBERTON 100 HILL ROAD REDDING, CT 06896 US |
| Number of Packages: | 1 |
| UPS Service: | UPS Ground |
| Package Weight: | 1.0 LBS |
| Reference Number: | CTFF575A |

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/29/2022

Delivery Time: 2:13 PM

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Be in total control of how, when and where your packages are delivered.

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[Set Delivery Instructions](#)

[Manage Preferences](#)

TRANSCEND WIRELESS

| | |
|----------------------------|--|
| Tracking Number: | 1ZV257420398898770 |
| Ship To: | WAIDE WUNSCHER JO ANN 726 MIDDLE TURNPIKE STORRS, CT 06268 US |
| Number of Packages: | 1 |
| UPS Service: | UPS Ground |
| Package Weight: | 1.0 LBS |
| Reference Number: | CTFF575A |

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/29/2022

Delivery Time: 3:11 PM

Signed by: KEIL

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[Set Delivery Instructions](#)

[Manage Preferences](#)

TRANSCEND WIRELESS

Tracking Number: [1ZV257420392673291](#)

Ship To: AIMEE PARDEE
23 CROSS HIGHWAY
REDDING, CT 06896
US

Number of Packages: 1

UPS Service: UPS Ground

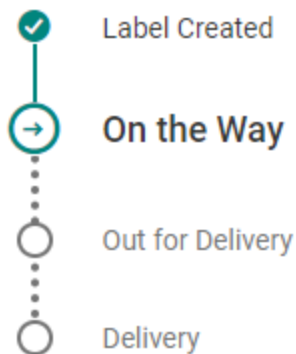
Package Weight: 1.0 LBS

Reference Number: [CTFF575A](#)

Your shipment
1ZV257420391995301

Estimated delivery

Tomorrow, June 30 by 7:00 P.M.



Ship To
CANONSBURG, PA US

22 WAYSIDE LN

Location

22 WAYSIDE LN

Mblu

36 / 10 / 1

Acct#

00256000

Owner

WAIDE WUNSCHEL JO ANN

Assessment

\$310,300

Appraisal

\$443,300

PID

2497

Building Count

1

Current Value

| Appraisal | | | |
|----------------|--------------|-----------|-----------|
| Valuation Year | Improvements | Land | Total |
| 2021 | \$218,500 | \$224,800 | \$443,300 |
| Assessment | | | |
| Valuation Year | Improvements | Land | Total |
| 2021 | \$152,900 | \$157,400 | \$310,300 |

Owner of Record

Owner

WAIDE WUNSCHEL JO ANN

Sale Price

\$0

Co-Owner

Certificate

Address

726 MIDDLE TURNPIKE

Book & Page

0409/0896

STORRS MANSFIELD, CT 06268

Sale Date

08/01/2017

Instrument

04

Ownership History

| Ownership History | | | | | |
|--------------------------|------------|-------------|-------------|------------|------------|
| Owner | Sale Price | Certificate | Book & Page | Instrument | Sale Date |
| WAIDE WUNSCHEL JO ANN | \$0 | | 0409/0896 | 04 | 08/01/2017 |
| ENRIGHT NANCY | \$0 | | 0393/1028 | 04 | 08/07/2014 |
| ENRIGHT EDWARD D & NANCY | \$0 | 1 | 0104/0965 | XX | 05/22/1979 |
| STOUT BARBARA | \$0 | 2 | 0099/0289 | XX | 07/26/1977 |

Building Information

Building 1 : Section 1

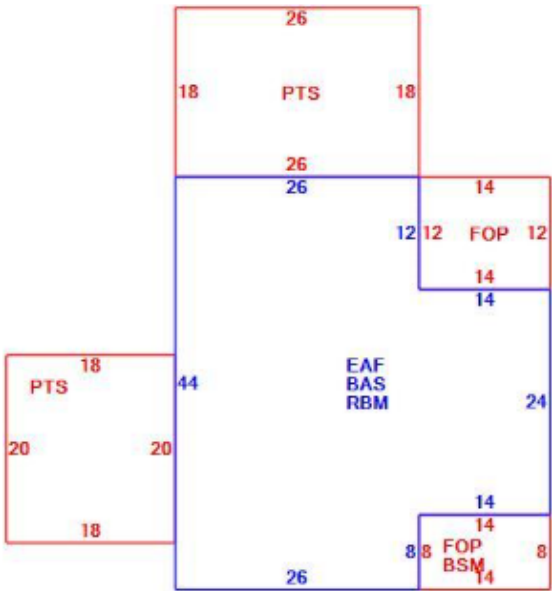
Year Built: 1810
Living Area: 2,072
Replacement Cost: \$346,176
Building Percent Good: 60
Replacement Cost
Less Depreciation: \$207,700

| Building Attributes | |
|---------------------|----------------|
| Field | Description |
| Style | Bungalow |
| Model | Residential |
| Grade: | B |
| Stories | 1 1/4 Stories |
| Occupancy | 1 |
| Exterior Wall 1 | Wood Shingle |
| Exterior Wall 2 | |
| Roof Structure | Gable |
| Roof Cover | Wood Shingle |
| Interior Wall 1 | Cust Wd Panel |
| Interior Wall 2 | |
| Interior Flr 1 | Pine/Soft Wood |
| Interior Flr 2 | |
| Heat Fuel | Oil |
| Heat Type: | Hot Water |
| AC Type: | None |
| Total Bedrooms | 3 Bedrooms |
| Full Bathrooms | 4 |
| Half Bathrooms | 1 |

Building Photo



Building Layout



| | |
|-------------------|---------|
| Total Xtra Fixtrs | 1 |
| Total Rooms | 7 |
| Bath Style: | Average |
| Kitchen Style: | Average |
| Fireplaces 2 | 3 |
| Cndtn | |
| Whirlpool Tubs | |
| Fin Bsmt Area | 1380 |
| Fin Bsmt Qual | 4 |
| Bsmt Garages | |
| Num Park | |
| Fireplaces | |
| Fndtn Cndtn | |
| Basement | |

| Building Sub-Areas (sq ft) | | | Legend |
|----------------------------|--------------------------|------------|-------------|
| Code | Description | Gross Area | Living Area |
| BAS | First Floor | 1,480 | 1,480 |
| EAF | Expansion Attic Finished | 1,480 | 592 |
| BSM | Basement Area | 112 | 0 |
| FOP | Framed Open Porch | 280 | 0 |
| PTS | Patio - Stone | 828 | 0 |
| RBM | Raised Basement | 1,480 | 0 |
| | | 5,660 | 2,072 |

Extra Features

| Extra Features | | | | | Legend |
|----------------|-------------|------------|-------|--------|--------|
| Code | Description | Size | Value | Bldg # | |
| GEN | Generator | 1.00 Units | \$0 | 1 | |

Land

| Land Use | | Land Line Valuation | |
|---------------|---------------------|---------------------|-----------|
| Use Code | 101 | Size (Acres) | 4.1 |
| Description | Single Family Res ⓘ | Frontage | |
| Zone | R-2 | Depth | |
| Neighborhood | 140 | Assessed Value | \$157,400 |
| Alt Land Appr | No | Appraised Value | \$224,800 |
| Category | | | |

Outbuildings

| Outbuildings | | | | | | <u>Legend</u> |
|--------------|-------------|----------|-----------------|-------------|----------|---------------|
| Code | Description | Sub Code | Sub Description | Size | Value | Bldg # |
| GAR1 | Garage | FR | Frame | 560.00 S.F. | \$10,600 | 1 |
| LNT | Lean-To | | | 196.00 S.F. | \$200 | 1 |

Valuation History

| Appraisal | | | |
|----------------|--------------|-----------|-----------|
| Valuation Year | Improvements | Land | Total |
| 2021 | \$218,500 | \$224,800 | \$443,300 |
| 2020 | \$218,500 | \$224,800 | \$443,300 |
| 2019 | \$218,500 | \$224,800 | \$443,300 |

| Assessment | | | |
|----------------|--------------|-----------|-----------|
| Valuation Year | Improvements | Land | Total |
| 2021 | \$152,900 | \$157,400 | \$310,300 |
| 2020 | \$152,900 | \$157,400 | \$310,300 |
| 2019 | \$152,900 | \$157,400 | \$310,300 |

| | | |
|---|---|-----------------|
| DOCKET NO. 284 – AT&T Wireless PCS, LLC d/b/a AT&T Wireless application for a Certificate of Environmental Compatibility and Public need for the construction, maintenance and operation of a wireless telecommunications facility at 259 Redding Road or 22 Wayside Lane in Redding, Connecticut. | } | Connecticut |
| | } | Siting |
| | } | Council |
| | | October 7, 2004 |

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to AT&T Wireless PCS, LLC d/b/a AT&T Wireless at Site B, located at 22 Wayside Lane, Redding, Connecticut. The Council denies certification of Site A, located at 259 Redding Road, Redding, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a flagpole approximately 50 feet to the north of the proposed site, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T Wireless and other entities, both public and private, but such tower shall not exceed a height of 120 feet above ground level, including appurtenances. The tower shall not be lit.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Redding, and all parties and intervenors as listed in the service list for the purpose of seeking comments, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:

- a. color options for the flagpole, with the preferred option of the Town of Redding;
- b. a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment building, access road, utility line, and landscaping; and
- c. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case

modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.

7. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
9. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved. Any request for extension of this period shall be filed with the Council not later than sixty days prior to expiration date of this Certificate and shall be served on all parties and intervenors and the Town of Redding, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Danbury New Times, The Hour (Norwalk) and the Redding Pilot.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

| | |
|--|---|
| <u>Applicant</u> | <u>Its Representative</u> |
| AT&T Wireless PCS, LLC d/b/a AT&T Wireless | Christopher B. Fisher, Esq. Cuddy & Feder LLP 90 Maple Avenue White Plains, NY 10601 |
| <u>Party</u> | <u>Its Representative</u> |
| Fred and Susan Baker | |
| <u>Intervenor</u> | <u>Its Representative</u> |
| Representative Hank Bielawa, 59 th District | |
| <u>Party</u> | <u>Its Representative</u> |
| Lee Shull | Ira W. Bloom, Esq. 27 Imperial Avenue Westport, CT 06880 |
| <u>Party</u> | <u>Its Representative</u> |
| Town of Redding | Monte E. Frank, Esq. Cohen & Wolf, P.C. 158 Deer Hill Avenue Danbury, CT 06810 |
| <u>Party</u> | <u>Its Representative</u> |
| William F. King and Jose E. Pereyra | Douglas I. Bayer Paul & Bayer, P.C. P.O. Box 459 Wilton, CT 06897-0459 |

T-Mobile

SITE NAME: ATT WAYSIDE LANE

SITE ID: CTFF575A

22 WAYSIDE LN

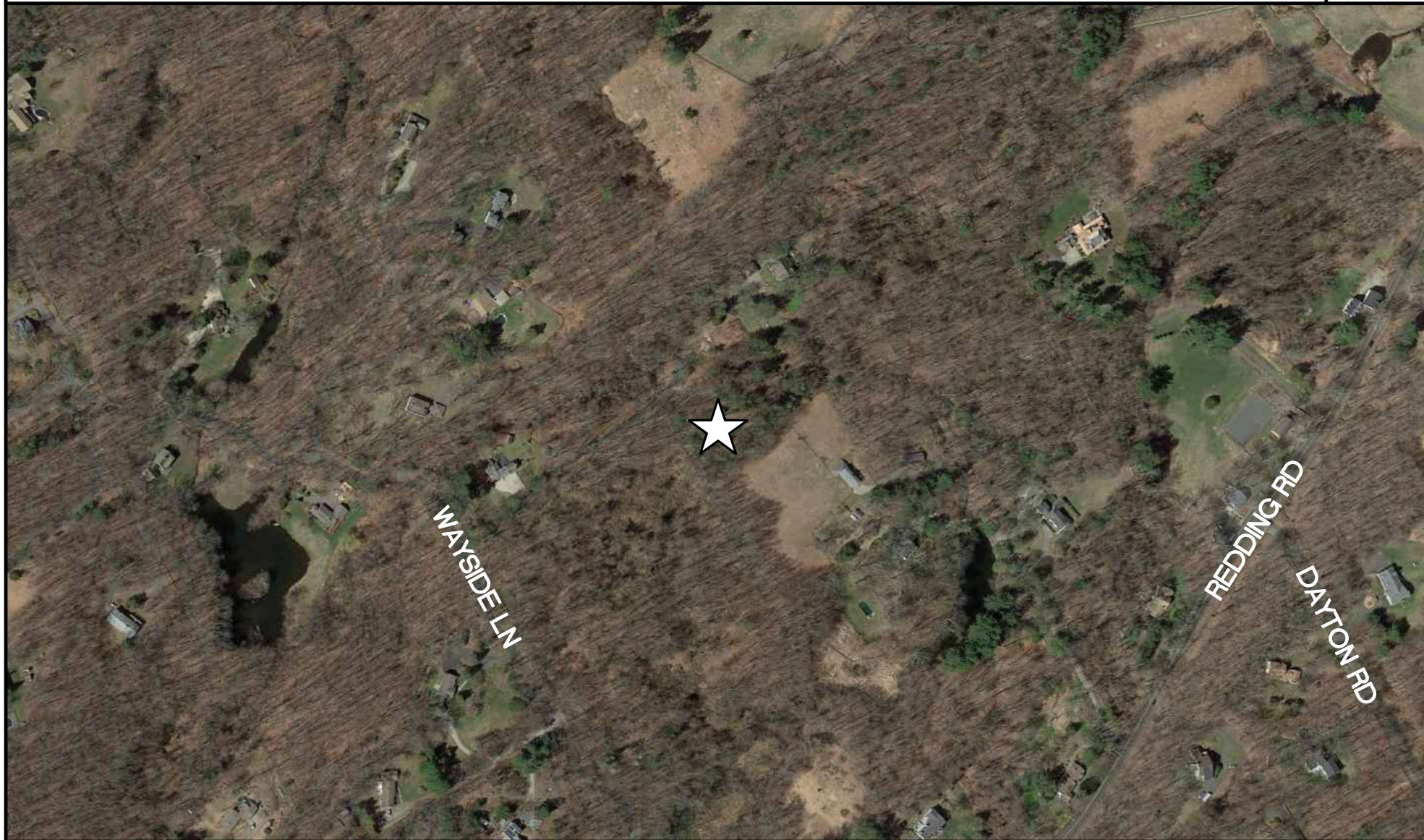
REDDING, CT 06896

GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2015 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2018 CONNECTICUT SUPPLEMENT, INCLUDING THE TIA/EIA-222 REVISION "G" "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES." 2017 CONNECTICUT FIRE SAFETY CODE, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE, WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
- ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS AND ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
- AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS, AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL, AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
- LOCATION OF EQUIPMENT AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS, SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED' ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE T-MOBILE CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
- COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUITS AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND CONFIRMED WITH THE PROJECT MANAGER AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT 'CALL BEFORE YOU DIG' AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
- CONTRACTOR SHALL COMPLY WITH THE OWNER'S ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.
- THE COUNTY/CITY/TOWN MAY MAKE PERIODIC FIELD INSPECTIONS TO ENSURE COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS.
- THE COUNTY/CITY/TOWN MUST BE NOTIFIED (2) WORKING DAYS PRIOR TO CONCEALMENT/BURIAL OF ANY SYSTEM OR MATERIAL THAT WILL PREVENT THE DIRECT INSPECTION OF MATERIALS. METHODS OR WORKMANSHIP. EXAMPLES OF THESE PROCESSES ARE BACKFILLING A GROUND RING OR TOWER FOUNDATION, POURING TOWER FOUNDATIONS, BURYING GROUND RODS, PLATES OR GRIDS, ETC. THE CONTRACTOR MAY PROCEED WITH THE SCHEDULED PROCESS (2) WORKING DAYS AFTER PROVIDING NOTICE UNLESS NOTIFIED OTHERWISE BY THE COUNTY/CITY/TOWN.
- PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER ON RECORD, PRIOR TO THE COMMENCEMENT OF ANY WORK.

SITE LOCATION MAP

N.T.S.



VICINITY MAP

N.T.S.



COORDINATES AND GROUND ELEVATION ARE REFERENCED FROM GOOGLE EARTH.

SITE COORDINATES: LATITUDE: 41° 16' 56" N
LONGITUDE: 73° 24' 26" W
GROUND ELEVATION: ±577' AMSL



PROJECT SUMMARY

THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:

- INSTALL (1) NEW 48 KW DIESEL FUELED BACK-UP AC GENERATOR ON A PROPOSED 9' x 4' CONCRETE PAD.
- INSTALL (1) 200A AUTOMATIC TRANSFER SWITCH MOUNTED TO THE BACK OF EXISTING UNISTRUT.

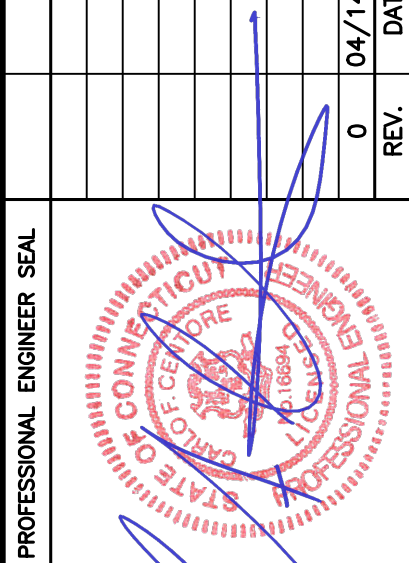
PROJECT INFORMATION

| | |
|---------------------|---|
| SITE NAME: | ATT WAYSIDE LANE |
| SITE ID: | CTFF575A |
| SITE ADDRESS: | 22 WAYSIDE LN REDDING, CT. 06896 |
| APPLICANT: | T-MOBILE NORTHEAST, LLC 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT. 06002 |
| CONTACT PERSON: | DAN REID (PROJECT MANAGER) TRANSCEND WIRELESS, LLC (203) 592-8291 |
| ENGINEER OF RECORD: | CEN TEK ENGINEERING, INC. 63-2 NORTH BRANFORD ROAD BRANFORD, CT. 06405 CARLO F. CENTORE, PE (203) 488-0580 EXT. 122 |
| SITE COORDINATES: | LATITUDE: 41°-16'-56" N LONGITUDE: 73°-24'-26" W GROUND ELEVATION: 577'± AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH. |

SHEET INDEX

| SHEET. NO. | DESCRIPTION | REV. |
|------------|--|------|
| T-1 | TITLE SHEET | 0 |
| N-1 | GENERAL NOTES AND SPECIFICATIONS | 0 |
| C-1 | COMPOUND PLAN AND EQUIPMENT PLANS | 0 |
| C-2 | TYPICAL EQUIPMENT DETAILS | 0 |
| E-1 | ELECTRICAL RISER DIAGRAM AND CONDUIT ROUTING | 0 |
| E-2 | ELECTRICAL SPECIFICATIONS | 0 |

PROFESSIONAL ENGINEER SEAL



CEN TEK engineering
Centered on Solutions

(203) 488-0580
(203) 488-0587 Fax
632 North Branford Road
Branford, CT 06405

www.CenTekEng.com

T-MOBILE NORTHEAST LLC

SITE NAME: ATT WAYSIDE LANE

SITE ID: CTFF575A

22 WAYSIDE LN

REDDING, CT 06896

DATE: 01/14/22

SCALE: AS NOTED

JOB NO. 22015.04

TITLE SHEET

T-1

Sheet No. 1 of 6

CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

DESCRIPTION

TJR

DRAWN BY

JLD

DATE

01/14/22

REV.

0

DESIGN BASIS:




1. DESIGN CRITERIA:

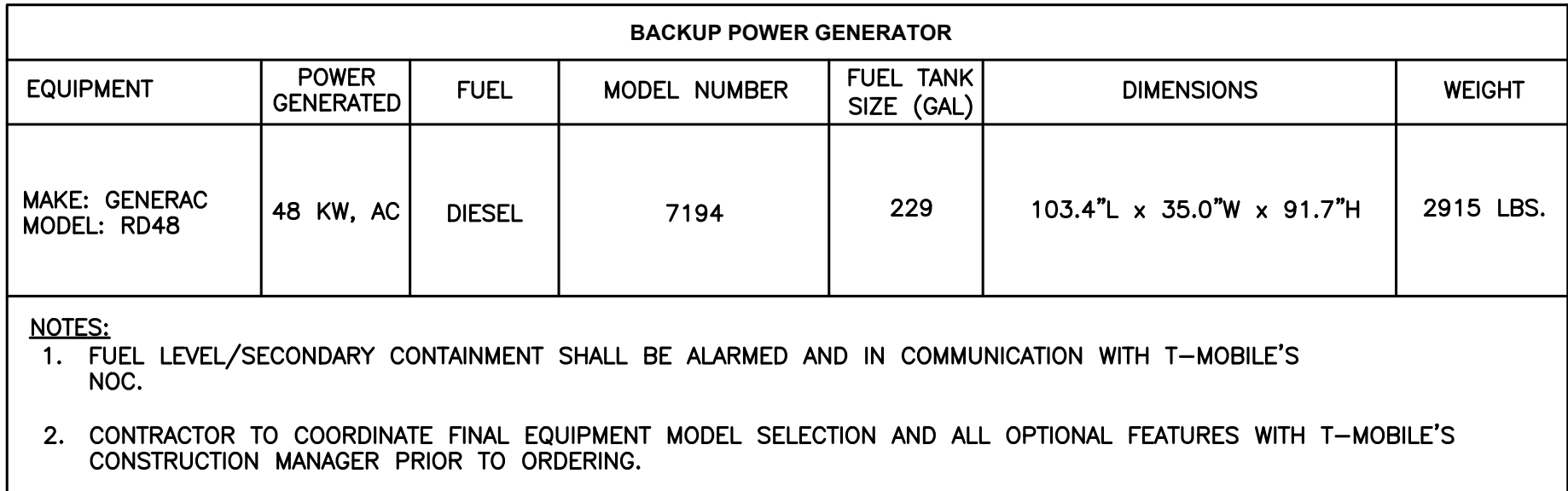
- ## SITE NOTES

- ### GENERAL NOTES

14. DRAWINGS INCLUDE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
15. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
16. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY COOTION PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
17. ANY AND ALL ERRORS, DISCREPANCIES, AND 'MISSED' ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE T-MOBILE CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTILL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
19. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
20. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
21. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUITS AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SYSTEMS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND CONFIRMED WITH THE PROJECT MANAGER AND OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK
22. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
23. THE CONTRACTOR SHALL CONTACT 'CALL BEFORE YOU DIG' AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
24. CONTRACTOR SHALL COMPLY WITH THE OWNER'S ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.
25. THE COUNTY/CITY/TOWN MAY MAKE PERIODIC FIELD INSPECTIONS TO ENSURE COMPLIANCE WITH THE DESIGN PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS.
26. THE COUNTY/CITY/TOWN MUST BE NOTIFIED (2) WORKING DAYS PRIOR TO CONSENT/CONCURRENCE/IF ANY SYSTEM OR MATERIAL THAT WILL PREVENT THE DIRECT INSPECTION OF MATERIALS, METHODS OR WORKMANSHIP. EXAMPLES OF THESE PROCESSES ARE BACKFILLING A GROUND RING OR TOWER FOUNDATION, POURING TOWER FOUNDATIONS, BURYING GROUND RODS, PLATES OR GRIDS, ETC. THE CONTRACTOR MAY PROCEED WITH THE SCHEDULED PROCESS (2) WORKING DAYS AFTER PROVIDING NOTICE UNLESS NOTIFIED OTHERWISE BY THE COUNTY/CITY/TOWN.
27. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER ON RECORD, PRIOR TO THE COMMENCEMENT OF ANY WORK.

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)

- | | | | | | | | | | | | |
|--|---|---|---|---|------|---|------|----------|-----|-----|---|
| <p>T-MOBILE NORTHEAST LLC</p> <p>SITE NAME: ATT WAYSIDE LANE SITE ID: C1FF575A 22 WAYSIDE LN REDDING, CT 06896</p> | <p>CENTEK engineering <i>Centered on Solutions</i></p> <p>(203) 488-0580 (203) 488-8597 Fax 652 North Brantford Road Brantford, CT 06405 www.CentekEng.com</p> | |   |  | REV. | 0 | DATE | 04/14/22 | JLD | TUR | CONSTRUCTION DRAWINGS — ISSUED FOR CONSTRUCTION |
| | <p>PROFESSIONAL ENGINEER SEAL</p> | | | | | | | | | | |
| <p>DATE: 01/14/22</p> <p>SCALE: AS NOTED</p> <p>JOB NO. 22015.04</p> | | <p>GENERAL NOTES AND SPECIFICATIONS</p> | | | | | | | | | |
| <p>N-1</p> | | | | | | | | | | | |
| <p>Sheet No. <u>2</u> of <u>6</u></p> | | | | | | | | | | | |



| | |
|--------------|---|
| SIGN NAME: | REGULATORY, NFPA 704 HAZARD ID |
| DESCRIPTION: | MOUNT ON GENERATOR ACCESS DOOR. CONSULT WITH GENERATOR MANUFACTURER MSDS SHEET FOR BLUE AND RES POSITIONS |
| NOTES: | <ol style="list-style-type: none"> 1) SIGNS EXPOSED TO WEATHER SHOULD BE CHECKED ANNUALLY FOR READABILITY. 2) SIGNS MUST BE UPDATED IF CHEMICAL STORAGE OR HAZARD INFORMATION FOR THE LOCATION CHANGES. 3) THE GC MUST REVIEW WITH LOCAL JURISDICTION WHEN FILLING FOR PERMITS, AS EACH JURISDICTION MAY HAVE DIFFERENT REQUIREMENTS AND COMPLY WITH POSTING REQUIREMENTS OR DIRECTIVES FROM THE LOCAL JURISDICTION. |



| AUTOMATIC TRANSFER SWITCH | | | | | |
|---|---------|---------|-----------|-----|-----------------|
| EQUIPMENT | PHASE | VOLTAGE | ENCLOSURE | AMP | DIMENSIONS |
| MAKE: GENERAC MODEL: RXSC200A3 | 1—PHASE | 120/240 | NEMA—3R | 200 | 17.3"L x 12.5"W |
| NOTES: 1. CONTRACTOR TO COORDINATE FINAL LOCATION AND MOUNTING CONFIGURATION OF THE AUTOMATIC TRANSFER SWITCH INSTALLATION. | | | | | |

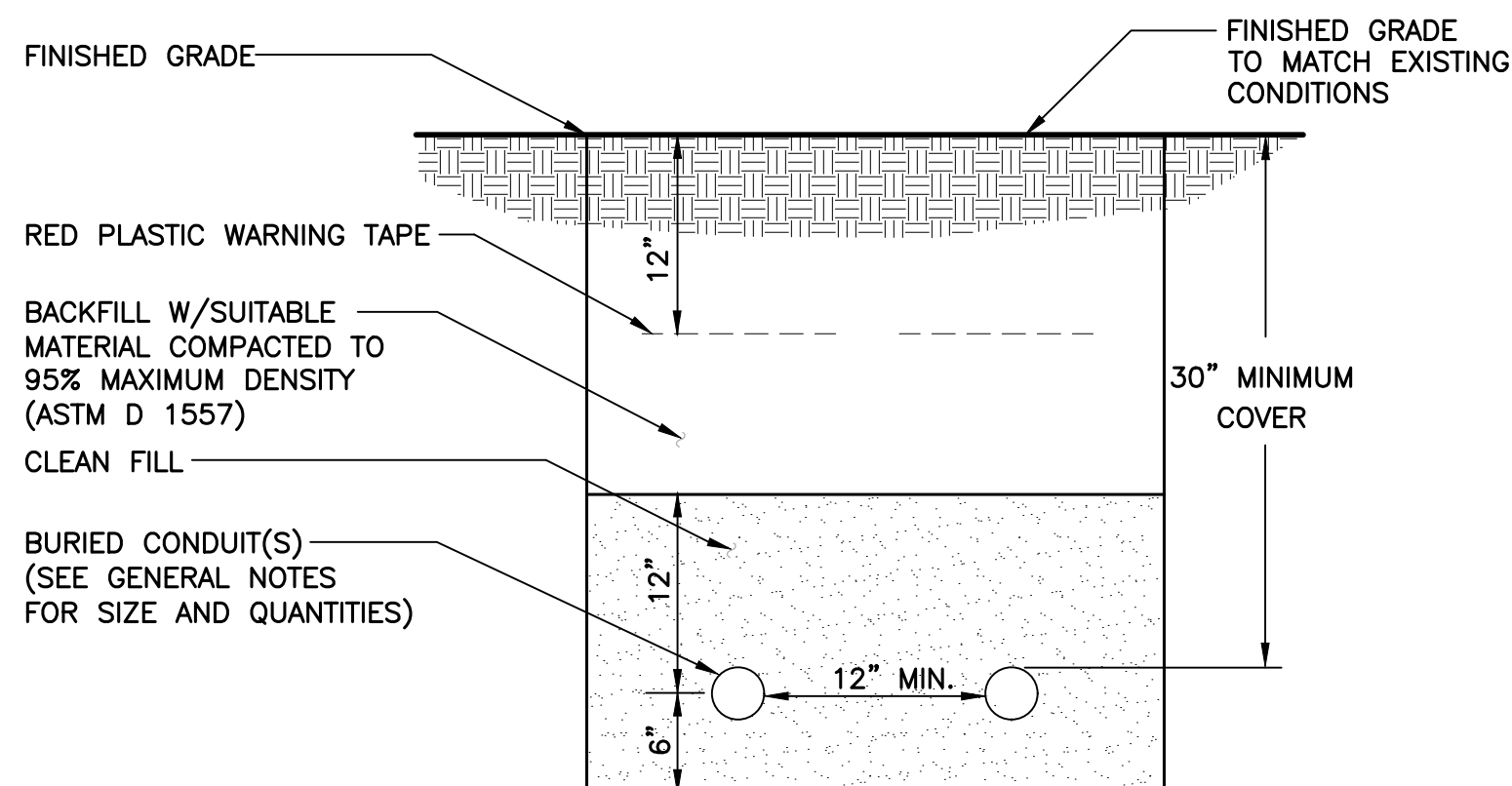
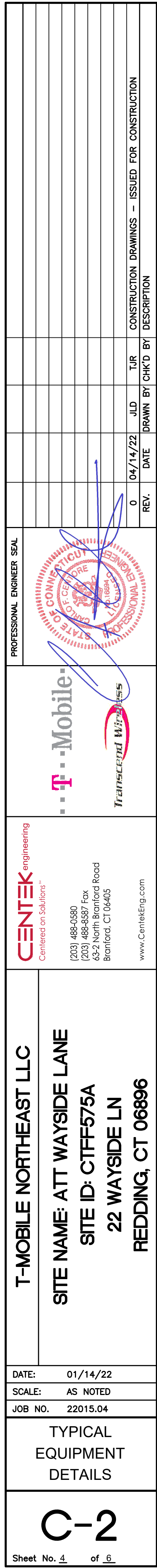
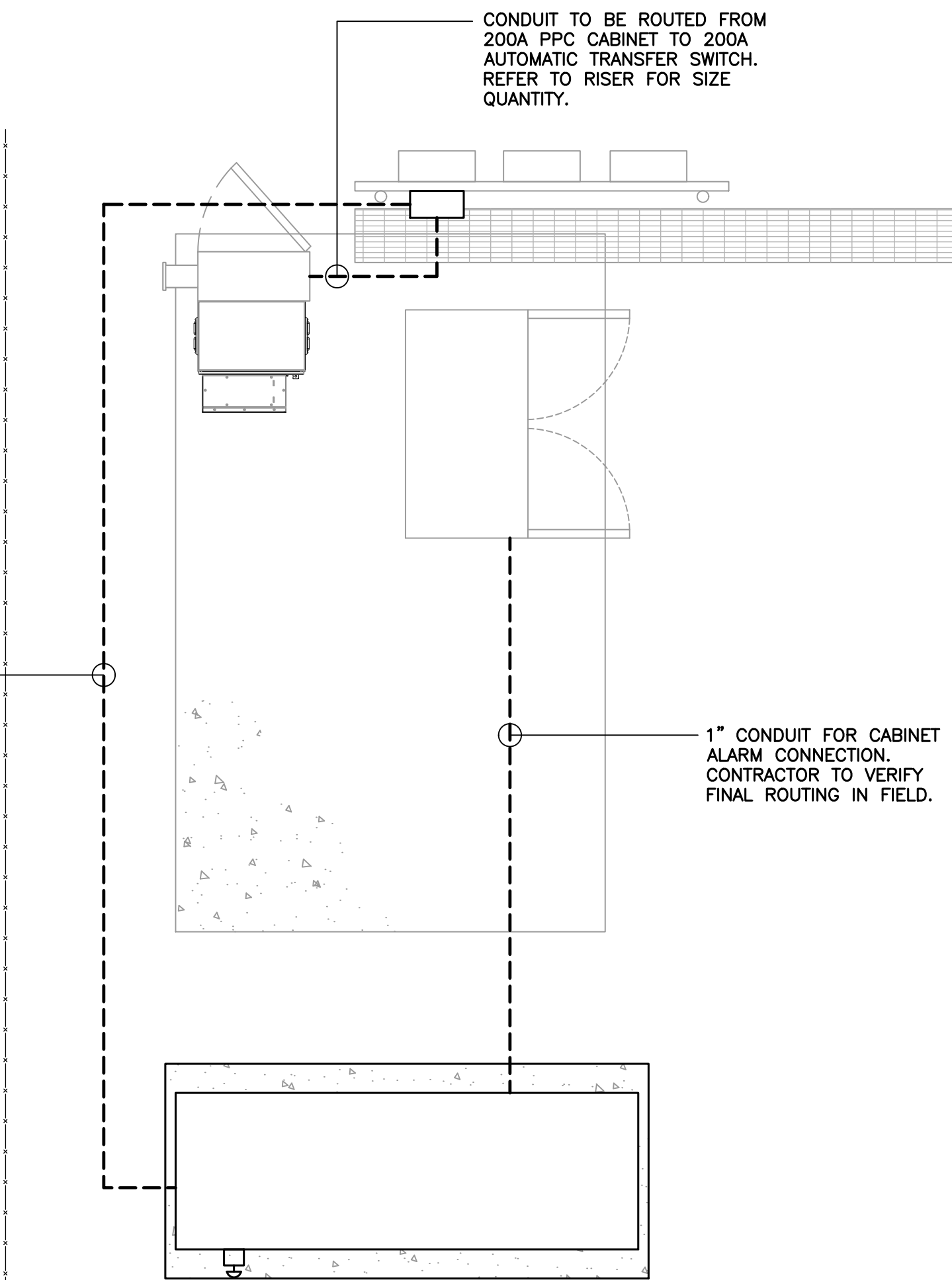
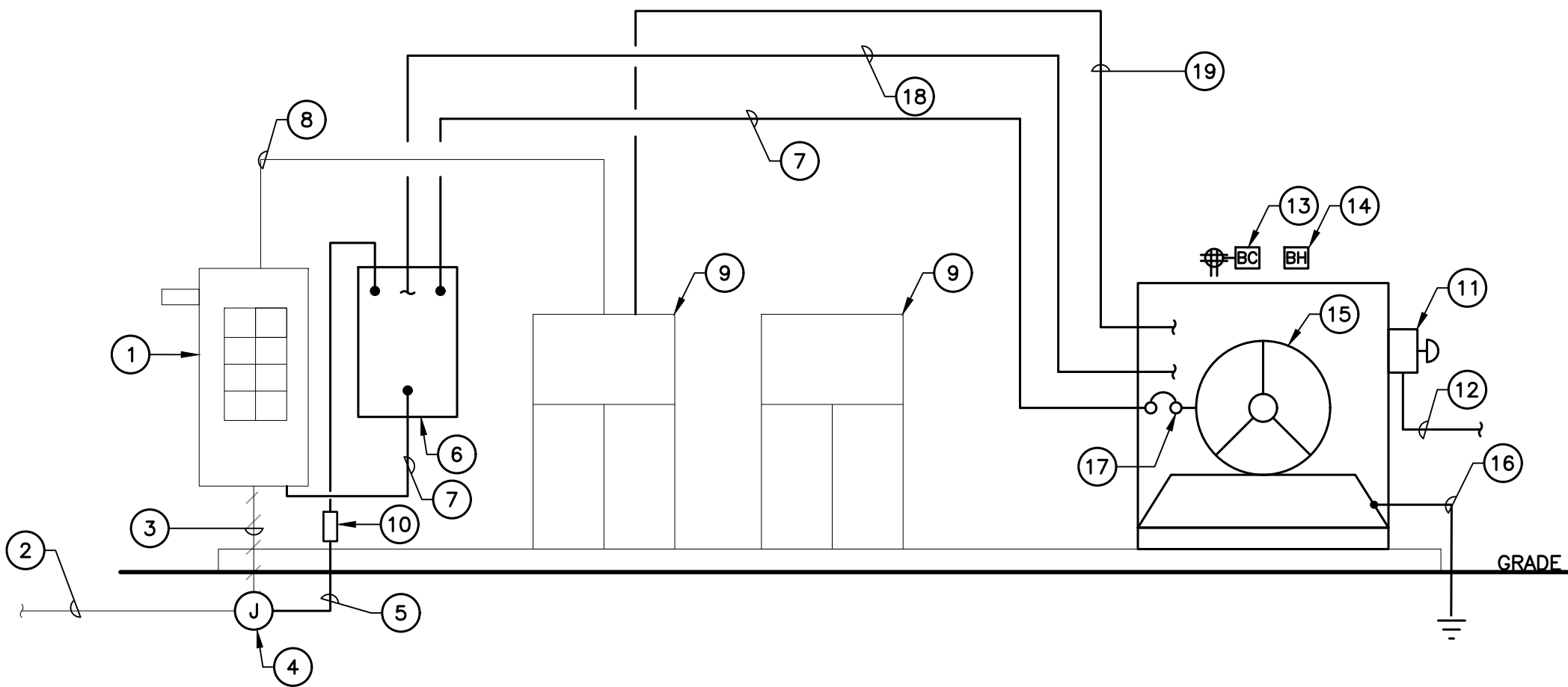


Diagram illustrating the cross-section detail of a concrete slab on compacted gravel base. The slab is 8" thick and supported by a 1' thick compacted gravel base. The slab is reinforced with #5 rebar at 18" O.C. The top surface is finished with a 3/4" chamfer all around. The bottom surface is finished with a 2" clear (TYP.) layer. The slab is supported by a 1' thick compacted gravel base. The slab is 8" thick. The slab is reinforced with #5 rebar at 18" O.C. The top surface is finished with a 3/4" chamfer all around. The bottom surface is finished with a 2" clear (TYP.) layer. The slab is supported by a 1' thick compacted gravel base. The slab is 8" thick. The slab is reinforced with #5 rebar at 18" O.C. The top surface is finished with a 3/4" chamfer all around. The bottom surface is finished with a 2" clear (TYP.) layer. The slab is supported by a 1' thick compacted gravel base.





1 ELECTRICAL CONDUIT ROUTING PLAN



2 ELECTRICAL RISER DIAGRAM

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SECTION 16010

- A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN INFRINGEMENT OF SUCH CODES OR REGULATIONS.
- B. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNERS REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES THAT MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR THE SCHEDULING OF ALL INSPECTIONS THAT MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- E. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.
- F. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
- G. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TYPE OF EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
- H. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THREE (3) COMPLETE SETS OF APPROVED DRAWINGS, ENGINEERING DATA SHEETS, MAINTENANCE AND OPERATING INSTRUCTION MANUALS FOR ALL SYSTEMS AND THEIR RESPECTIVE EQUIPMENT. THESE MANUALS SHALL BE INSERTED IN VINYL COVERED 3-RING BINDERS AND TURNED OVER TO OWNER'S REPRESENTATIVE ONE (1) WEEK PRIOR TO FINAL PUNCH LIST.
- I. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- J. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.
- K. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS (AS-BUILTS), LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.
- L. PROVIDE TEMPORARY POWER AND LIGHTING IN WORK AREAS AS REQUIRED.
- M. SHOP DRAWINGS:
 - 1. CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS PROPOSED FOR USE ON THIS PROJECT, GIVING ALL DETAILS, WHICH INCLUDE DIMENSIONS, CAPACITIES, ETC.
 - 2. CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF ALL TEST REPORTS CALLED FOR IN THE SPECIFICATIONS AND DRAWINGS
- N. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH OWNER'S SPECIFICATIONS, AND REQUIREMENTS OF ALL LOCAL AUTHORITIES HAVING JURISDICTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH APPROPRIATE INDIVIDUALS TO OBTAIN ALL SUCH SPECIFICATIONS AND REQUIREMENTS. NOTHING CONTAINED IN, OR OMITTED FROM, THESE DOCUMENTS SHALL RELIEVE CONTRACTOR FROM THIS OBLIGATION.

1.01. CONDUITS

- A. MINIMUM CONDUIT SIZE FOR BRANCH CIRCUITS, LOW VOLTAGE CONTROL AND ALARM CIRCUITS SHALL BE 3/4". CONDUITS SHALL BE PROPERLY FASTENED AS REQUIRED BY THE N.E.C.
- B. THE INTERIOR OF RACEWAYS/ENCLOSURES INSTALLED UNDERGROUND SHALL BE CONSIDERED TO BE WET LOCATION, INSULATED CONDUCTORS SHALL BE LISTED FOR USE IN WET LOCATIONS. PROVIDE WEATHERPROOF CONSTRUCTION IN WET LOCATIONS.
- C. CONDUIT INSTALLED UNDERGROUND SHALL BE INSTALLED TO MEET MINIMUM COVER REQUIREMENTS OF TABLE 300.5.
- D. PROVIDE RIGID GALVANIZED STEEL CONDUIT (RMC) FOR THE FIRST 10 FOOT SECTION WHEN LEAVING A BUILDING OR SECTIONS PASSING THROUGH FLOOR SLABS
- E. ONLY LISTED PVC CONDUIT AND FITTINGS ARE PERMITTED FOR THE INSTALLATION OF ELECTRICAL CONDUCTORS, SUITABLE FOR UNDERGROUND APPLICATIONS.

| CONDUIT TYPE | NEC REFERENCE | APPLICATION | MIN. BURIAL DEPTH (PER NEC TABLE 300.5) ^{1,2} |
|--------------------------|-------------------------------|--|---|
| EMT | ARTICLE 358 | INTERIOR CIRCUITING, EQUIPMENT ROOMS, SHELTERS | N/A |
| RMC, RIGID GALV. STEEL | ARTICLE 344, 300.5, 300.50 | ALL INTERIOR/ EXTERIOR CIRCUITING, ALL UNDERGROUND INSTALLATIONS. | 6 INCHES |
| PVC, SCHEDULE 40 | ARTICLE 352, 300.5, 300.50 | INTERIOR/ EXTERIOR CIRCUITING AND GROUNDING SYSTEMS, UNDERGROUND INSTALLATIONS, WHERE NOT SUBJECT TO PHYSICAL DAMAGE. ¹ | 18 INCHES |
| PVC, SCHEDULE 80 | ARTICLE 352, 300.5, 300.50 | INTERIOR/ EXTERIOR CIRCUITING AND GROUNDING SYSTEMS, UNDERGROUND INSTALLATIONS, WHERE SUBJECT TO PHYSICAL DAMAGE. ¹ | 18 INCHES |
| LIQUID TIGHT FLEX. METAL | ARTICLE 350 | SHORT LENGTHS (MAX. 3FT.) WIRING TO VIBRATING EQUIPMENT IN WET LOCATIONS. | N/A |
| FLEX. METAL | ARTICLE 348 | SHORT LENGTHS (MAX. 3FT.) WIRING TO VIBRATING EQUIPMENT IN WET LOCATIONS. | N/A |

¹ PHYSICAL DAMAGE IS SUBJECT TO THE AUTHORITY HAVING JURISDICTION.

² UNDERGROUND CONDUIT INSTALLED UNDER ROADS, HIGHWAYS, DRIVEWAYS, PARKING LOTS SHALL HAVE MINIMUM DEPTH OF 24".

³ WHERE SOLID ROD PREVENTS COMPLIANCE WITH MINIMUM COVER DEPTHS, WIRING SHALL BE INSTALLED IN PERMITTED RACEWAY FOR DIRECT BURIAL. THE RACEWAY SHALL BE COVERED BY A MINIMUM OF 2" OF CONCRETE EXTENDING DOWN TO ROCK.

1.01. CONDUCTORS

- A. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDS CUPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #8 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:
- | | | |
|-------------|------------------|--------------------------|
| <u>LINE</u> | <u>COLOR</u> | <u>COLOR</u> |
| A | BLACK | BROWN |
| B | RED | ORANGE |
| C | BLUE | YELLOW |
| N | CONTINUOUS WHITE | GREY |
| G | CONTINUOUS GREEN | GREEN WITH YELLOW STRIPE |
- B. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.

1.01. BOXES

- A. FURNISH AND INSTALL OUTLET BOXES FOR ALL DEVICES, SWITCHES, RECEPTACLES, ETC.. BOXES TO BE ZINC COATED STEEL.
- B. FURNISH AND INSTALL PULL BOXES IN MAIN FEEDERS RUNS WHERE REQUIRED. PULL BOXES SHALL BE GALVANIZED STEEL WITH SCREW REMOVABLE COVERS, SIZE AND QUANTITY AS REQUIRED. PROVIDE WEATHERPROOF CONSTRUCTION IN WET LOCATIONS.

1.01. WIRING DEVICES

- A. THE FOLLOWING LIST IS PROVIDED TO CONVEY THE QUALITY AND RATING OF WIRING DEVICES WHICH ARE TO BE INSTALLED. A COMPLETE LIST OF ALL DEVICES MUST BE SUBMITTED BEFORE INSTALLATION FOR APPROVAL.
1. 15 MINUTE TIMER SWITCH – INTERMATIC #FF15M (INTERIOR LIGHTS)
 2. DUPLEX RECEPTACLE – P&S #2095 (GFCI) SPECIFICATION GRADE
 3. SINGLE POLE SWITCH – P&S #CSB20AC2 (20A-120V HARD USE) SPECIFICATION GRADE
 4. DUPLEX RECEPTACLE – P&S #5362 (20A-120V HARD USE) SPECIFICATION GRADE
- B. PLATES – ALL PLATES USED SHALL BE CORROSION RESISTANT TYPE 304 STAINLESS STEEL. PLATES SHALL BE FROM SAME MANUFACTURER AS SWITCHES AND RECEPTACLES. PROVIDE WEATHERPROOF HOUSING FOR DEVICES LOCATED IN WET LOCATIONS.
- C. OTHER MANUFACTURERS OF THE SWITCHES, RECEPTACLES AND PLATES MAY BE SUBMITTED FOR APPROVAL BY THE ENGINEER.

1.01. DISCONNECT SWITCHES

- A. FUSIBLE AND NON-FUSIBLE, 600V, HEAVY DUTY DISCONNECT SWITCHES SHALL BE AS MANUFACTURED BY SQUARE "D". PROVIDE FUSES AS CALLED FOR ON THE CONTRACT DRAWINGS. AMPERE RATING SHALL BE CONSISTENT WITH LOAD BEING SERVED. DISCONNECT SWITCH COVER SHALL BE MECHANICALLY INTERLOCKED TO PREVENT COVER FROM OPENING WHEN THE SWITCH IS IN THE "ON" POSITION. EXTERIOR APPLICATIONS SHALL BE NEMA 3R CONSTRUCTION WITH PADLOCK FEATURE.

1.01. SEISMIC RESTRAINT

- A. ALL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH ZONE 2 SEISMIC REQUIREMENTS.

1.01. LABELING AND IDENTIFICATION NOMENCLATURE FOR ELECTRICAL EQUIPMENT

- A. CONTRACTOR SHALL FURNISH AND INSTALL NON-METALLIC ENGRAVED BACK-LIT NAMEPLATES ON ALL PANELS AND MAJOR ITEMS OF ELECTRICAL EQUIPMENT.
- B. LETTERS TO BE WHITE ON BLACK BACKGROUND WITH LETTERS 1-1/2 INCH HIGH WITH 1/4 INCH MARGIN.
- C. IDENTIFICATION NOMENCLATURE SHALL BE IN ACCORDANCE WITH OWNER'S STANDARDS.

1.01. GROUNDING

- A. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
- B. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
- C. GROUNDING OF PANELBOARDS:
 - 1. PANELBOARD SHALL BE GROUNDED BY TERMINATING THE PANELBOARD FEEDER'S EQUIPMENT GROUND CONDUCTOR TO THE EQUIPMENT GROUND BAR KIT(S) LUGGED TO THE CABINET. ENSURE THAT THE SURFACE BETWEEN THE KIT AND CABINET ARE BARE METAL TO BARE METAL. PRIME AND PAINT OVER TO PREVENT CORROSION.
 - 2. CONDUIT(S) TERMINATING INTO THE PANELBOARD SHALL HAVE GROUNDING TYPE BUSHINGS. THE BUSHINGS SHALL BE BONDED TOGETHER WITH BARE #10 AWG COPPER CONDUCTOR WHICH IN TURN IS TERMINATED INTO THE PANELBOARD'S EQUIPMENT GROUND BAR KIT(S).
- D. EQUIPMENT GROUNDING CONDUCTOR:
 - 1. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122.
 - 2. THE MINIMUM SIZE OF EQUIPMENT GROUND CONDUCTOR SHALL BE #12 AWG COPPER.
 - 3. EACH FEEDER OR BRANCH CIRCUIT SHALL HAVE EQUIPMENT GROUND CONDUCTOR(S) INSTALLED IN THE SAME RACEWAY(S).
- E. CELLULAR GROUNDING SYSTEM:

CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 10 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:

 - 1. GROUND BARS
 - 2. EXTERIOR GROUNDING (WHERE REQUIRED DUE TO MEASURED AC RESISTANCE GREATER THAN SPECIFIED).
 - 3. ANTENNA GROUND CONNECTIONS AND PLATES.
- F. CONTRACTOR, AFTER COMPLETION OF THE COMPLETE GROUNDING SYSTEM BUT PRIOR TO CONCEALMENT/BURIAL OF SAME, SHALL NOTIFY OWNER'S PROJECT ENGINEER WHO WILL HAVE A DESIGN ENGINEER VISIT SITE AND MAKE A VISUAL INSPECTION OF THE GROUNDING GRID AND CONNECTIONS OF THE SYSTEM.
- G. ALL EQUIPMENT SHALL BE BONDED TO GROUND AS REQUIRED BY N.E.C., MFG. SPECIFICATIONS, AND OWNER'S SPECIFICATIONS.

1.01. DISTRIBUTION EQUIPMENT

- A. REFER TO CONTRACT DRAWINGS FOR DETAILS AND SCHEDULES.

1.01. FUSES

- A. FUSES SHALL BE NONRENEWABLE TYPE AS MANUFACTURED BY "BUSSMAN" OR APPROVED EQUAL. FUSES RATED TO 1/10 AMPERE UP TO 600 AMPERES SHALL BE EQUIVALENT TO BUSSMAN TYPE LPN-RK (250V) UL CLASS RK1, LOW PEAK, DUAL ELEMENT, TIME-DELAY FUSES. FUSES SHALL HAVE SEPARATE SHORT CIRCUIT AND OVERLOAD ELEMENTS AND HAVE AN INTERRUPTING RATING OF 200 KAIC. UPON COMPLETION OF WORK, PROVIDE ONE SPARE SET OF FUSES FOR EACH TYPE INSTALLED.

1.01. TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM

- A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:
- TEST 1: THERMAL OVERLOAD AND MAGNETIC TRIP TEST, AND CABLE INSULATION TEST FOR ALL CIRCUIT BREAKERS RATED 100 AMPS OR GREATER.
- TEST 2: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM.
- THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:
1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
 2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
 3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- B. THESE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNER'S CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION REPRESENTATIVE AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.
- C. THE CONTRACTOR SHALL FORWARD SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM'S REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.
- D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

1.01. TESTS BY CONTRACTOR

- A. ALL TESTS AS REQUIRED UPON COMPLETION OF WORK, SHALL BE MADE BY THIS CONTRACTOR. THESE SHALL BE CONTINUITY AND INSULATION TESTS; TEST TO DETERMINE THE QUALITY OF MATERIALS, ETC. AND SHALL BE MADE IN ACCORDANCE WITH N.E.C. RECOMMENDATIONS. ALL FEEDERS AND BRANCH CIRCUIT WIRING (EXCEPT CLASS 2 SIGNAL CIRCUITS) MUST BE TESTED FREE FROM SHORT CIRCUIT AND GROUND FAULT CONDITIONS AT 500V IN A REASONABLY DRY AMBIENT OF APPROXIMATELY 70 DEGREES F.
- B. CONTRACTOR SHALL PERFORM LOAD PHASE BALANCING TESTS. CIRCUITS SHALL BE CONNECTED TO THE PANELBOARDS SO THAT THE NEW LOAD IS DISTRIBUTED AS EQUALLY AS POSSIBLE BETWEEN EACH LOAD AND NEUTRAL. 10% SHALL BE CONSIDERED AS REASONABLE AND ACCEPTABLE ALLOWANCE. BRANCH CIRCUITS SHALL BE BALANCED ON THEIR OWN PANELBOARDS. FEEDER LOADS SHALL, IN TURN, BE BALANCED ON THE SERVICE EQUIPMENT. REASONABLE LOAD TEST SHALL BE ARRANGED TO VERIFY LOAD BALANCE IF REQUESTED BY THE ENGINEER.
- C. ALL TESTS, UPON REQUEST, SHALL BE REPEATED IN THE PRESENCE OF OWNER'S REPRESENTATIVE. ALL TESTS SHALL BE DOCUMENTED AND TURNED OVER TO OWNER. OWNER SHALL HAVE THE AUTHORITY TO STOP ANY OF THE WORK NOT BEING PROPERLY INSTALLED. ALL SUCH DETECTED WORK SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER AND THE TESTS SHALL BE REPEATED.

[illegible]

Protector™ Series

GENERAC®

Diesel Generator Set

INCLUDES:

- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese) with external viewing window for easy indication of generator status and breaker position.
- Isochronous Electronic Governor
- Sound Attenuated Aluminum Enclosure
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- $\pm 1\%$ Voltage Regulation
- Integrated Base Tank Provides Up to 40 Hours of Run Time
- 5 Year Limited Warranty*
- UL 2200 / UL142 / ULC S601 Listed
- Meets code requirements for External Vent and Fill

Standby Power Rating

Model RD015 - 15 kW 60 Hz
Model RD020 - 20 kW 60 Hz
Model RD030 - 30 kW 60 Hz
Model RD048 - 48 kW 60 Hz (single phase only)
Model RD050 - 50 kW 60 Hz (three phase only)



QUIET-TEST



*Built in the USA using domestic and foreign parts

Meets EPA Emission Regulations
CA/MA Emissions Compliant

* 5 year warranty applicable to U.S. and Territories/Canada. International warranty is 3 year limited.

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
 - ✓ PROTOTYPE TESTED
 - ✓ SYSTEM TORSIONAL TESTED
 - ✓ NEMA MG1-22 EVALUATION
 - ✓ MOTOR STARTING ABILITY
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at $\pm 1\%$.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES.** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

GENERAC®



GENERATOR SPECIFICATIONS

| | |
|-------------------------------------|--------------------------------------|
| Type | Synchronous |
| Rotor Insulation Class | H (15 & 20 kW) or F (30, 48 & 50 kW) |
| Stator Insulation Class | H |
| Telephone Interference Factor (TIF) | <50 |
| Alternator Output Leads 1-Phase | 3 wire |
| Alternator Output Leads 3-Phase | 6 wire |
| Bearings | Single Sealed Cartridge |
| Coupling | Direct, Flexible Disc |
| Excitation System | Direct |

VOLTAGE REGULATION

| | |
|------------|---------------------------|
| Type | Electronic |
| Sensing | Single Phase |
| Regulation | ± 1% |
| Features | Adjustable Voltage & Gain |

GOVERNOR SPECIFICATIONS

| | |
|-------------------------|------------------------|
| Type | Electronic Isochronous |
| Steady State Regulation | ± 0.25% |

ELECTRICAL SYSTEM

| | |
|--|--|
| Battery Charge Alternator | 50 Amp (15 & 20 kW) or 70 Amp (30, 48 & 50 kW) |
| Smart Battery Charger | 2 Amp |
| Recommended Battery (battery not included) | Group 27F, 700 CCA |
| System Voltage | 12 Volts |

GENERATOR FEATURES

| |
|---|
| <p>Revolving field heavy duty generator Directly connected to the engine Operating temperature rise 120°C above a 40°C ambient Class H insulation is NEMA rated Class F insulation is NEMA rated All models fully prototype tested</p> |
|---|

ENCLOSURE FEATURES

| | |
|---------------------------------------|--|
| Aluminum weather protective enclosure | Ensures protection against mother nature. Electrostatically applied textured epoxy paint for added durability. |
| Enclosed critical grade muffler | Quiet, critical grade muffler is mounted inside the unit to prevent injuries and maximize sound dampening. |
| Small, compact, attractive | Makes for an easy, eye appealing installation. |
| SAE | Sound attenuated enclosure ensures quiet operation. |

(All ratings in accordance with BS5514, ISO3046, ISO8528, SAE J1349 and DIN6271)

15 • 20 • 30 • 48 • 50 kW

application & engineering data

ENGINE SPECIFICATIONS: 15 & 20 kW

| | |
|--------------------------|----------------------|
| Make | Generac |
| Model | In-line |
| Cylinders | 4 |
| Displacement (Liters) | 2.28 |
| Bore (in./mm) | 3.46/88 |
| Stroke (in./mm) | 3.70/94 |
| Compression Ratio | 21.3:1 |
| Intake Air System | Naturally Aspirated |
| Cylinder Head Type | Cast Iron OHV |
| Piston Type | Aluminum |
| EPA Emissions Compliance | Emergency Stationary |

ENGINE SPECIFICATIONS: 30 kW

| | |
|--------------------------|----------------------|
| Make | Generac |
| Model | In-line |
| Cylinders | 4 |
| Displacement (Liters) | 2.4 |
| Bore (in/mm) | 3.54/90 |
| Stroke (in/mm) | 3.70/94 |
| Compression Ratio | 21.3:1 |
| Intake Air System | Turbocharged |
| Cylinder Head Type | Cast Iron OHV |
| Piston Type | Aluminum |
| EPA Emissions Compliance | Emergency Stationary |

ENGINE SPECIFICATIONS: 48/50 kW

| | |
|--------------------------|--------------------------|
| Make | Generac |
| Model | In-Line |
| Cylinders | 4 |
| Displacement (Liters) | 3.4 |
| Bore in/mm | 3.86/98 |
| Stroke in/mm | 4.45/113 |
| Compression Ratio | 18.5:1 |
| Intake Air System | Turbocharged/Aftercooled |
| Cylinder Head Type | Cast Iron OHV |
| Piston Type | Aluminum |
| EPA Emissions Compliance | Emergency Stationary |

WEIGHTS AND DIMENSIONS

| | 15 kW | 20 kW | 30 kW | 48 kW | 50 kW |
|----------------------------|-----------------------------|-------|-----------------------------|----------|-------|
| Weight (lb/kg) | 1380/626 | | 1927/874 | 2197/997 | |
| Dimensions (LxWxH) (in/cm) | 81 x 31 x 50/205 x 78 x 128 | | 95 x 35 x 57/242 x 89 x 145 | | |

ENGINE LUBRICATION SYSTEM

| | |
|------------------------------------|--|
| Oil Pump Type | Gear |
| Oil Filter Type | Full flow spin-on canister |
| Crankcase Capacity (quarts/liters) | 6.87/6.5 - 15 & 20 kW 6.8/6.4 - 30 kW 7.4/7 - 48 & 50 kW |

ENGINE COOLING SYSTEM

| | |
|----------------------|---|
| Type | Pressurized radiator - 15 & 20 kW Closed recovery - 30, 48 & 50 kW |
| Water Pump | Pre-lubed, self-sealing |
| Fan Speed (rpm) | 1800 - 15 & 20 kW 2061 - 30 kW 2029 - 48 & 50 kW |
| Fan Diameter (in/mm) | 18.11/460 (15 & 20 kW) 22/559 (30, 48 & 50 kW) |
| Fan Mode | Pusher |

FUEL SYSTEM

| | |
|--------------------------|---------------------------------------|
| Fuel Type | Ultra Low Sulfur Diesel Fuel |
| Fuel Pump Type | Mechanical Engine Driven Gear |
| Injector Type | Mechanical |
| Fuel Supply Line (mm/in) | 7.94/0.31 (ID) |
| Fuel Return Line (mm/in) | 7.94/0.31(ID) |
| Fuel Specification | ASTM |
| Fuel Filtering (microns) | 5 - 15, 20 & 30 kW 10 - 48 & 50 kW |

TANK SPECIFICATIONS

| | |
|------------------------------|---|
| Total Size (gallons/liters) | 34/128.7 - 15 & 20 kW 62/234.7 - 30, 48 & 50 kW |
| Usable Size (gallons/liters) | 32/121.1 - 15 & 20 kW 57/215.8 - 30, 48 & 50 kW |
| Run Time @ 1/2 Load (hrs) | 41 - 15 kW 31 - 20 kW 38 - 30 kW 25 - 48 & 50 kW |
| Listings | UL142 ULC-S601 |

15 • 20 • 30 • 48 • 50 kW

operating data

GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

| | | kW (Standby) | Amp (Standby) | CB Size |
|-----------------|-----------------------|---------------------|----------------------|----------------|
| RD015 | 120/240 V, 1Ø, 1.0 pf | 15 | 62 | 70 |
| | 120/208 V, 3Ø, 0.8 pf | 15 | 52 | 60 |
| | 120/240 V, 3Ø, 0.8 pf | 15 | 45 | 50 |
| RD020 | 120/240 V, 1Ø, 1.0 pf | 20 | 83 | 100 |
| | 120/208 V, 3Ø, 0.8 pf | 20 | 69 | 80 |
| | 120/240 V, 3Ø, 0.8 pf | 20 | 60 | 70 |
| RD030 | 120/240 V, 1Ø, 1.0 pf | 30 | 125 | 150 |
| | 120/208 V, 3Ø, 0.8 pf | 30 | 104 | 125 |
| | 120/240 V, 3Ø, 0.8 pf | 30 | 90 | 100 |
| | 277/480 V, 3Ø, 0.8 pf | 30 | 45 | 50 |
| RD048/ RD050 | 120/240 V, 1Ø, 1.0 pf | 48 | 200 | 200 |
| | 120/208 V, 3Ø, 0.8 pf | 50 | 173 | 200 |
| | 120/240 V, 3Ø, 0.8 pf | 50 | 150 | 175 |
| | 277/480 V, 3Ø, 0.8 pf | 50 | 75 | 90 |

SURGE CAPACITY IN AMPS

| | | Voltage Dip @ < .4 pf | |
|-----------------|---------------|---------------------------------|-----|
| | | 15% | 30% |
| RD015 | 120/240 V, 1Ø | 53 | 129 |
| | 120/208 V, 3Ø | 37 | 90 |
| | 120/240 V, 3Ø | 32 | 78 |
| | 120/240 V, 1Ø | 87 | 211 |
| RD020 | 120/208 V, 3Ø | 59 | 143 |
| | 120/240 V, 3Ø | 51 | 124 |
| | 120/240 V, 1Ø | 66 | 168 |
| RD030 | 120/208 V, 3Ø | 59 | 144 |
| | 120/240 V, 3Ø | 51 | 125 |
| | 277/480 V, 3Ø | 26 | 64 |
| | 120/240 V, 1Ø | 69 | 189 |
| RD048/ RD050 | 120/208 V, 3Ø | 90 | 218 |
| | 120/240 V, 3Ø | 78 | 189 |
| | 277/480 V, 3Ø | 36 | 87 |
| | 120/240 V, 1Ø | 69 | 189 |

ENGINE FUEL CONSUMPTION

| | | gal/hr | L/hr |
|-----------------|--------------------|--------|-------|
| RD015 | 25% of rated load | 0.51 | 1.93 |
| | 50% of rated load | 0.79 | 2.99 |
| | 75% of rated load | 1.14 | 4.31 |
| | 100% of rated load | 1.48 | 5.58 |
| RD020 | 25% of rated load | 0.67 | 2.6 |
| | 50% of rated load | 1.05 | 3.97 |
| | 75% of rated load | 1.52 | 5.32 |
| | 100% of rated load | 1.98 | 7.48 |
| RD030 | 25% of rated load | 0.92 | 3.5 |
| | 50% of rated load | 1.45 | 5.5 |
| | 75% of rated load | 1.96 | 7.4 |
| | 100% of rated load | 2.74 | 10.4 |
| RD048/ RD050 | 25% of rated load | 1.35 | 5.11 |
| | 50% of rated load | 2.15 | 8.14 |
| | 75% of rated load | 3.06 | 11.58 |
| | 100% of rated load | 3.98 | 15.07 |

STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

15 • 20 • 30 • 48 • 50 kW

operating data

ENGINE COOLING

| | 15 kW | 20 kW | 30 kW | 48/50 kW |
|---|-----------|-----------|---------------|---------------|
| Air flow (inlet air including alternator and combustion air in cfm/cmm) | 2824/80 | 2824/80 | 3038/86 | 2824/80 |
| System coolant capacity (gal/liters) | 2.8/10.6 | 2.8/10.6 | 2.8/10.6 | 2.8/10.6 |
| Heat rejection to coolant (BTU per hr/MJ per hr) | 63,535/67 | 63,535/67 | 111,000/117.1 | 135,900/143.4 |
| Maximum operation air temperature on radiator (°C/°F) | 50/122 | | | |
| Maximum ambient temperature (°C/°F) | 50/122 | | | |

COMBUSTION REQUIREMENTS

| | | | | |
|-------------------------------|-----------|-----------|---------|----------|
| Flow at rated power (cfm/cmm) | 84.76/2.4 | 84.76/2.4 | 90/2.55 | 190/5.38 |
|-------------------------------|-----------|-----------|---------|----------|

SOUND EMISSIONS

| | |
|---|----|
| Sound output in dB(A) at 23 ft (7 m) with generator in exercise mode* | 65 |
| Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load* | 70 |

*Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters.

EXHAUST

| | | | | |
|---|------------|------------|-----------|------------|
| Exhaust flow at rated output (cfm/cmm) | 98.88/2.8 | 98.88/2.8 | 230/6.51 | 448/12.7 |
| Exhaust temperature at rated output (°C/°F) | 604.4/1120 | 604.4/1120 | 454.4/850 | 604.4/1120 |

ENGINE PARAMETERS

| | | | | |
|-----------------------|------|------|----|----|
| Rated Synchronous RPM | 1800 | | | |
| HP at rated kW | 26.4 | 33.5 | 49 | 85 |

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

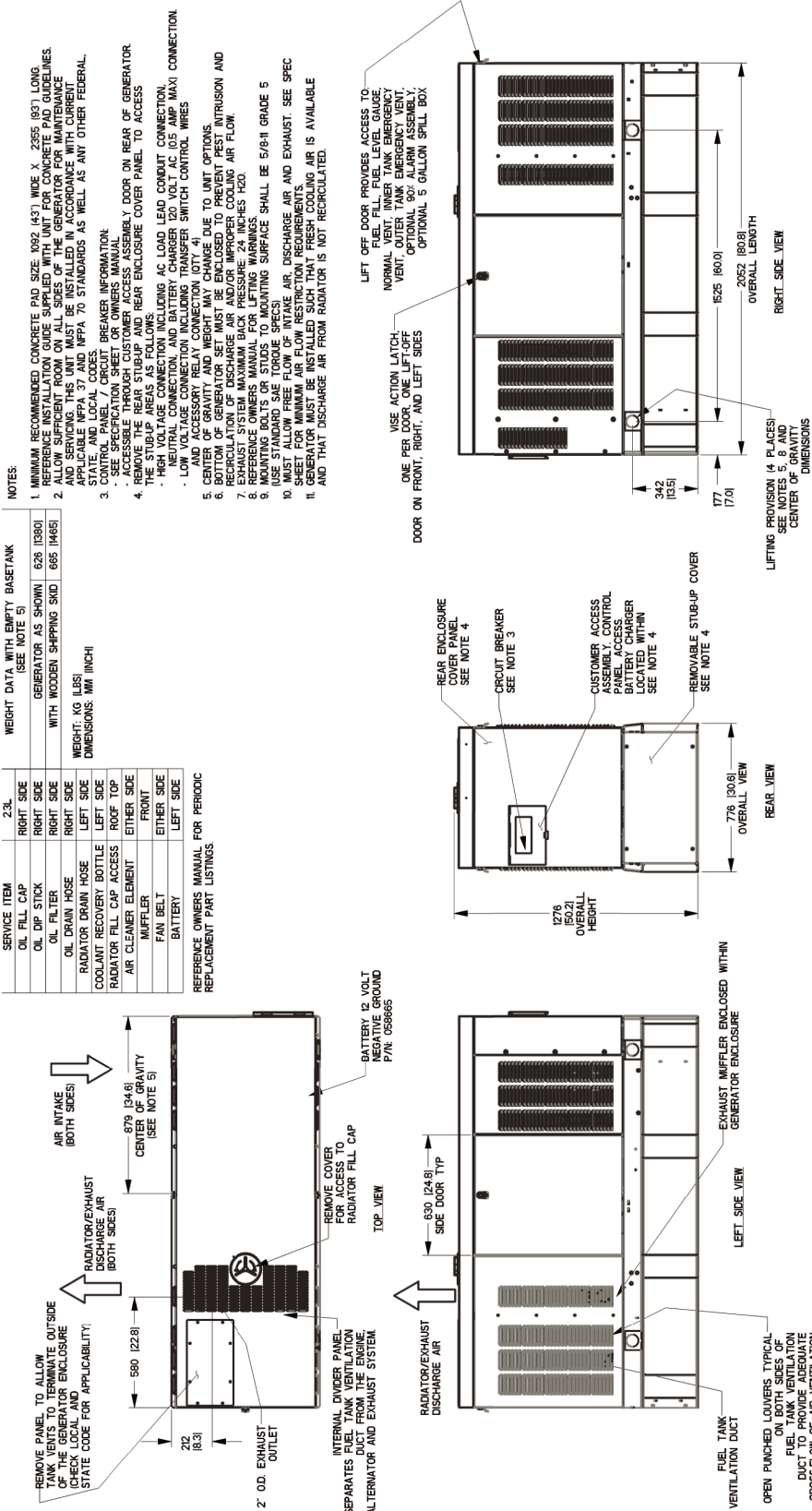
| | |
|--|--|
| Temperature Deration | 3% for every 5 °C above 25 °C or 1.7% for every 5 °F above 77 °F |
| Altitude Deration (15, 30, 48 & 50 kW) | 1% for every 100 m above 915 m or 3% for every 1000 ft above 3000 ft |
| Altitude Deration (20 kW) | 1% for every 100 m above 305 m or 3% for every 1000 ft above 1000 ft |

CONTROLLER FEATURES

| | |
|---|--|
| 2-Line Plain Text Multilingual LCD Display | Simple user interface for ease of operation. |
| Mode Buttons: Auto | Automatic Start on Utility failure. Programmable 7 day exerciser. |
| Manual | Start with starter control, unit stays on. If utility fails, transfer to load takes place. |
| Off | Stops unit. Power is removed. Control and charger still operate. |
| Ready to Run/Maintenance Messages | Standard |
| Engine Run Hours Indication | Standard |
| Programmable start delay between 2-1500 seconds | Standard (programmable by dealer only) |
| Utility Voltage Loss/Return to Utility Adjustable | From 140-171 V/190-216 V |
| Future Set Capable Exerciser/Exercise Set Error Warning | Standard |
| Run/Alarm/Maintenance Logs | 50 Events Each |
| Engine Start Sequence | Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration). |
| Starter Lock-out | Starter cannot re-engage until 5 sec after engine has stopped. |
| Smart Battery Charger | Standard |
| Charger Fault/Missing AC Warning | Standard |
| Low Battery/Battery Problem Protection and Battery Condition Indication | Standard |
| Automatic Voltage Regulation with Over and Under Voltage Protection | Standard |
| Under-Frequency/Overload/Stepper Overcurrent Protection | Standard |
| Safety Fused/Fuse Problem Protection | Standard |
| Automatic Low Oil Pressure/High Oil Temperature Shutdown | Standard |
| Overcrank/Overspeed (@ 72 Hz)/RPM Sense Loss Shutdown | Standard |
| High Engine Temperature Shutdown | Standard |
| Internal Fault/Incorrect Wiring Protection | Standard |
| Common External Fault Capability | Standard |
| Field Upgradable Firmware | Standard |

15 & 20 kW

Drawing #0K7025-C (1 of 2)

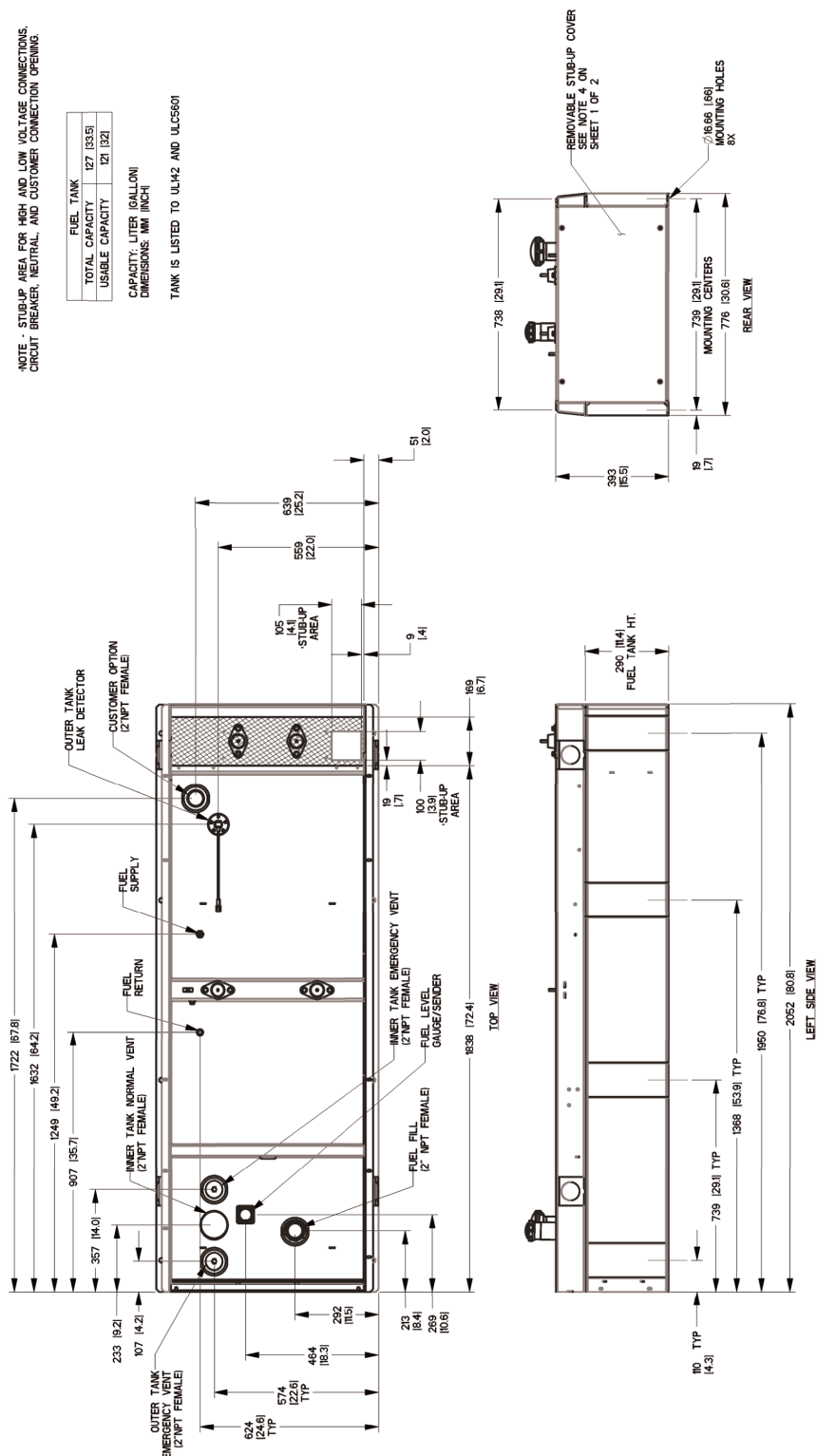


NOTE - STUB-UP AREA FOR HIGH AND LOW VOLTAGE CONNECTIONS, CIRCUIT BREAKER, NEUTRAL, AND CUSTOMER CONNECTION OPENING.

| FUEL TANK | |
|-----------------|------------|
| TOTAL CAPACITY | 127 [33.5] |
| USABLE CAPACITY | 121 [32] |

CAPACITY: LITER [GALLON]
DIMENSIONS: MM [INCH]

TANK IS LISTED TO UL142 AND ULC5601

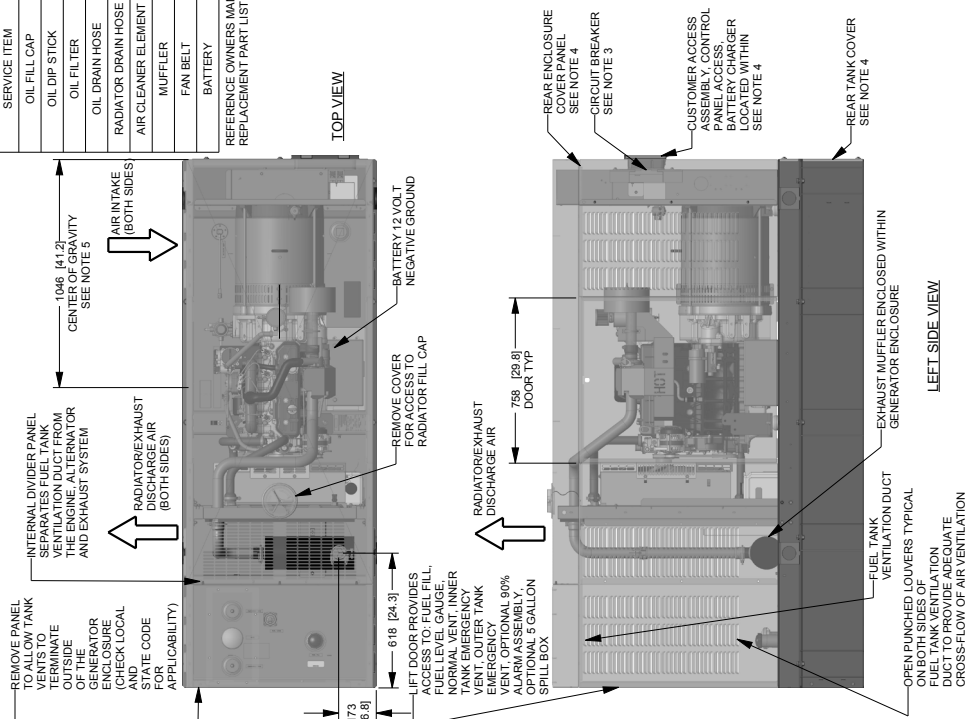


Drawing #0K7002-C (1 of 2)

REFERENCE OWNERS MANUAL FOR PERIODIC REPLACEMENT PART LISTINGS.

NOTES:

1. MINIMUM RECOMMENDED CONCRETE PAD SIZE: 1194 (47") WIDE X 2718 (107") LONG. REFERENCE INSTALLATION GUIDE SUPPLIED WITH UNIT.
2. FOR CONCRETING GUIDELINES, SEE THE CONCRETE SIDE OF THE GENERATOR FOR MAINTENANCE AND SERVICING. THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH CURRENT APPLICABLE NFPA 37 AND NFPA 70 STANDARDS AS WELL AS ANY OTHER FEDERAL, STATE, AND LOCAL CODES.
3. SEE THE FOLLOWING BREAKER INFORMATION:
 - SEE SPECIFICATION SHEET OR OWNER'S MANUAL
 - SEE SPECIFICATION THROUGH CUSTOMER ACCESS ASSEMBLY DOOR ON REAR OF GENERATOR
4. REAR TANK AND REAR ENCLOSURE COVER PANEL TO ACCESS THE SUB-UP AREAS AS FOLLOWS:
 - HIGH VOLTAGE CONNECTION INCLUDING AC 120 VOLT AC/DC CONNECTION
 - NEUTRAL CONNECTION, BATTERY CHARGER 120 VOLT AC (0.5 AMP MAX) CONNECTION
 - GROUNDING CONNECTIONS
 - 5. CENTER OF GRAVITY AND WEIGHT MAY CHANGE DUE TO UNIT OPTIONS.
 - 6. ENGINE SERVICE CONNECTIONS
5. OIL DRAIN 3/8" NPT
6. BOTTOM OF GENERATOR SET MUST BE ENCLOSED TO PREVENT PEST INTRUSION AND RECHARGING OF DISCHARGE AIR AND/OR IMPROPER COOLING AIR FLOW.
7. EXHAUST SYSTEM MAINTENANCE BACK PRESSURE 35 INCHES H₂O.
8. MOUNTING BOLTS OR STUDS TO CONCRETE PAD SHALL BE 5/8-11 GRADE 5 (USE STANDARD SAE TORQUE SPECS)



30 kW

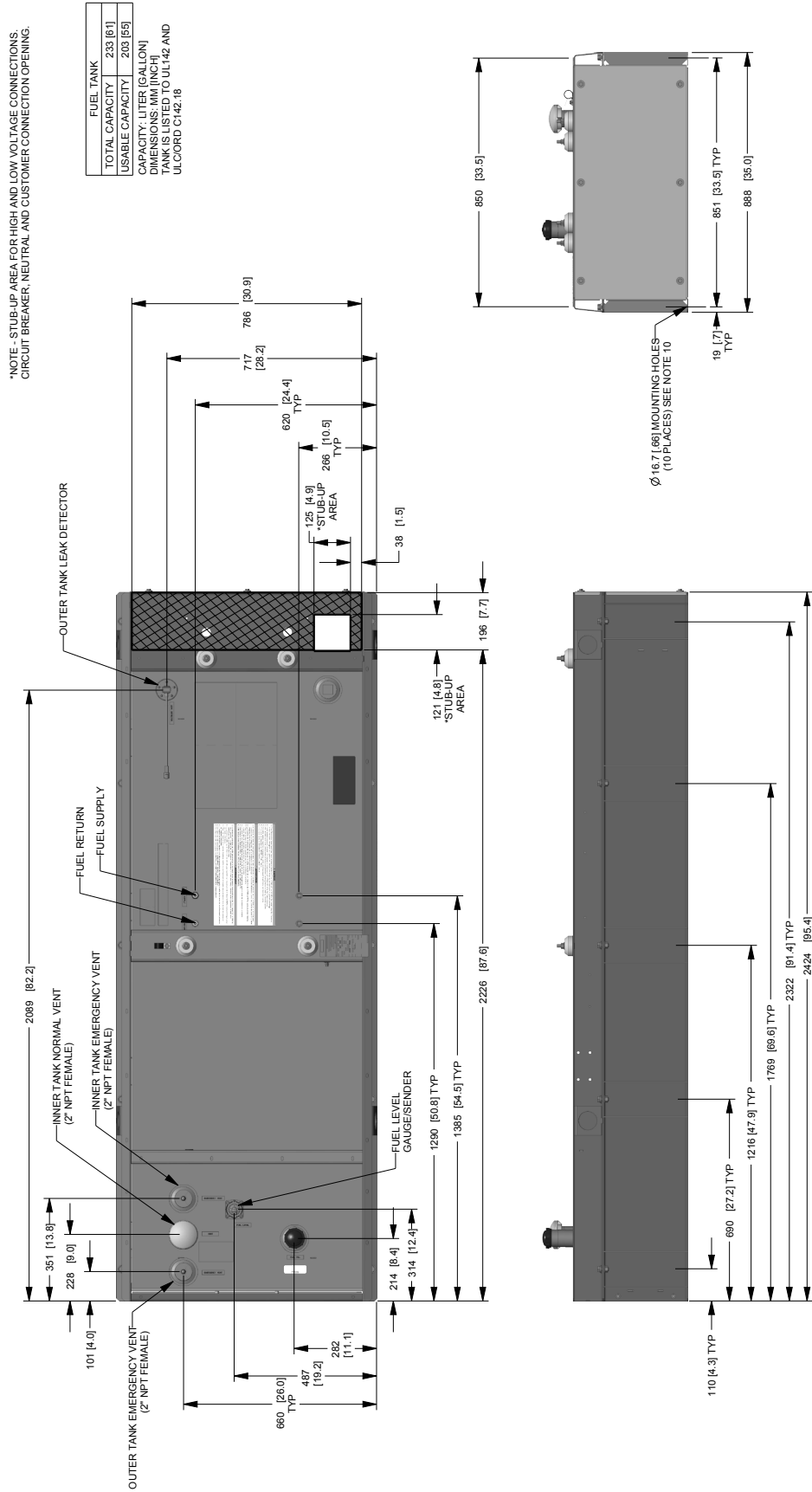
GENERAC®

installation layout

Drawing #0K7002-B (2 of 2)

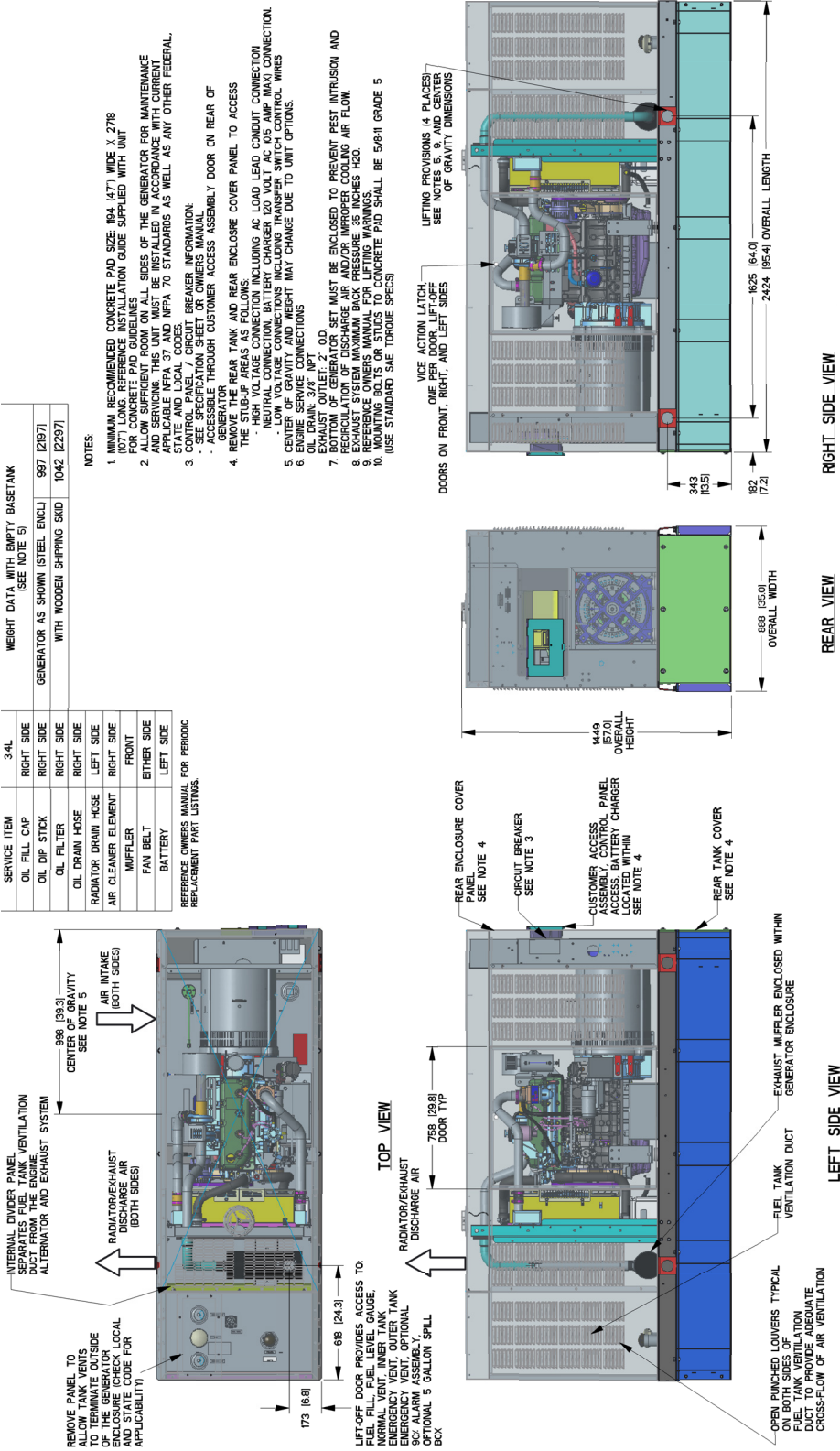
Protector™ Series

9 of 12

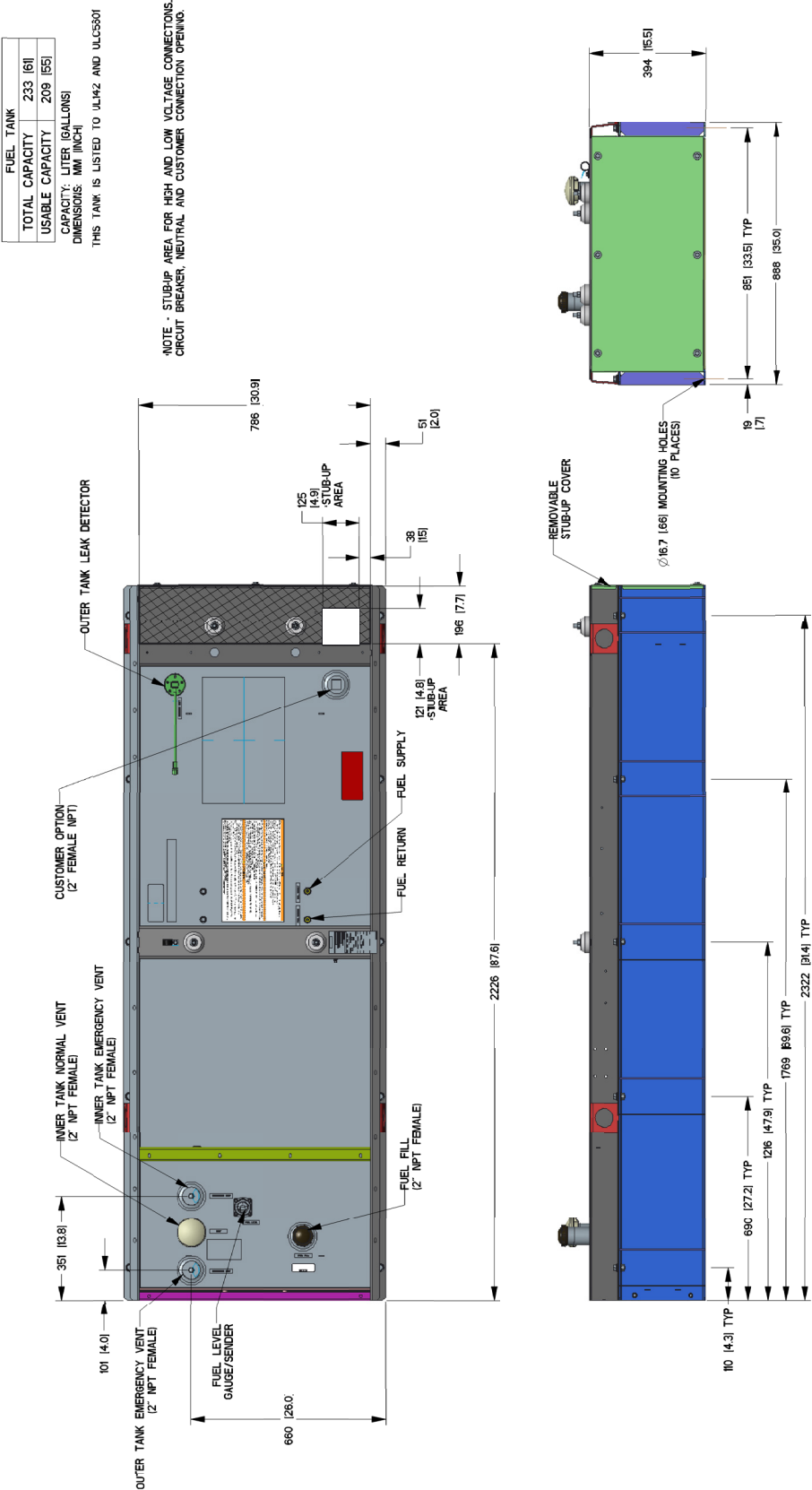


48 & 50 kW

Drawing #0K6968-C (1 of 2)



48 & 50 kW



15 • 20 • 30 • 48 • 50 kW**available accessories**

| Model # | Product | Description |
|---|-----------------------------------|---|
| G006463-4 | Mobile Link™ | Generac's Mobile Link allows you to check the status of your generator from anywhere that you have access to an Internet connection from a PC or with any smart device. You will even be notified when a change in the generator's status occurs via e-mail or text message. Note: Harness Adapter Kit required. Available in the U.S. only. |
| G006478-0 | Harness Adapter Kit | The Harness Adapter Kit is required to make liquid-cooled units compatible with Mobile Link™. |
| G006502-0 | Spill Box | The 5-gallon spill box screws into the existing fuel fill port of the base tank. It captures and contains fuel if over fueling or spilling occurs during the fill process. |
| G006504-0 | 90% Fuel Level Alarm | The 90% fuel level alarm alerts the fuel fill operator when the tank reaches a 90% fill level by sounding an audible alarm and triggering an LED warning light. |
| G006505-0 - 15 & 20 kW G006506-0 - 30, 48 & 50 kW | Tank Risers | Tank risers are required in some municipalities to help avoid potential base tank corrosion caused by mounting on rough surfaces. |
| G006507-0 | Fuel Fill Drop Tube | A powder coat painted, steel fuel fill drop tube is required in some municipalities to prevent sparking due to static electricity buildup, which can be caused by the fuel dropping into the tank from the fill area. Using a drop tube also results in submerged filling, which increases the fuel delivery flow rate and reduces vapors, foam and potential tank evaporation. |
| G006513-0 - 15 & 20 kW G006517-0 - 30 kW G006516-0 - 48 & 50 kW | Stainless Steel Fuel Lines | Some municipalities require the use of stainless steel fuel lines instead of the standard hoses provided with the diesel generator products. These stainless steel lines are fire resistant for additional safety. |
| G006510-0 | E-Stop | E-stop allows for immediate fuel shutoff and generator shutdown in the event of an emergency. |
| G006511-0 | Spill Box Drainback Kit | The spill box drainback kit allows fuel that was captured in the 5-gallon spill box to be drained directly back into the fuel tank to avoid vapors. |
| G006588-1 | Vent Extension Support Kit | The vent extension support kit consists of two aluminum plates with the appropriate pipe cutouts to secure the vent extension pipes coming through the top of the generator enclosure. It helps to minimize stress on the NPT fittings integrated on the tank and also helps protect against pests. |
| G006512-0 | Lockable Fuel Cap | The cast iron, lockable fuel cap provides the ability to lock the fuel system to prevent unwanted fuel tampering or fuel siphoning. |
| G006572-0 - 15 & 20 kW G006571-0 - 30 kW G006570-0 - 48 & 50 kW | Maintenance Kits | The Protector Maintenance Kits offer all the hardware necessary to perform complete maintenance on Generac Protector generators. |
| G006560-0 - 15 & 20 kW G006559-0 - 30 kW G006558-0 - 48 & 50 kW | Cold Weather Kits | Recommended for generators installed in regions where the temperature regularly falls below 32 °F (0 °C). The Cold Weather Kits consist of a block heater with all necessary mounting hardware and a battery warmer with a thermostat built into the battery wrap. |
| G005704-0 | Paint Kit | If the generator enclosure is scratched or damaged, it is important to touch-up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch-up a generator enclosure. |
| G006664-0 | Local Wireless Remote | Completely wireless and battery powered, Generac's wireless remote monitor provides you with instant status information without ever leaving the house. |
| G006665-0 | Wireless Remote Extension Harness | Recommended for use with the Wireless Remote on units up to 60 kW, required for use on units 70 kW or greater. |
| G006873-0 | Smart Management Module (50 Amps) | Manage large loads by utilizing up to 8 individual Smart Management modules. These devices are installed directly in line with existing appliance wiring for easy installation. |