

**HIGHLANDS COUNTY
BOARD OF COUNTY COMMISSIONERS
(HCBCC)
PURCHASING DIVISION**

DATE: February 20, 2020

BID NO. ITB 20-009

ADDENDUM No. 1

Project: New Public Safety Administration Office

This addendum is being issued to provide new information to the solicitation and to address questions received.

Revisions/Updates to the solicitation:

1. The deadline for bid submittal has been revised to **Thursday, March 19, 2020 at 3:30 p.m.**
2. The Request for Information (RFI) has been revised. The deadline for RFI is Monday, March 9, 2020 at 5:00 p.m.
3. New specifications have been added and are provided as Attachment A-for the generator, Attachment B for the suspended ceiling, Attachment C for the carpet and Attachment D for the ceramic tile.

Questions and Answers:

1. Please provide the generator concrete pad specifications.
Answer: Please see attachment labeled Generator Spec. Based on the generator specification, the approximate size of the generator pad will need to be 16' long by 6' wide. The County will be purchasing the generator and automatic transfer switch for the Contractor to install. See Attachment A.
2. Can the Contractors use the \$2,500 permit amount as an allowance so that all are using the same number?
Answer: This is a Lump Sum Bid and the Contractor should use \$2,750 for the permit fee estimate.

3. Where can information on the acoustical ceiling specifications be found?
Answer: Please see Attachment B labeled 09511-Suspended Ceiling System.
4. Water leak evidence on the outside wall is noted. Are the Contractors responsible for anything on the roof?
Answer: The County has provided for all roof repairs and confirmed that at this time there are no leaks in the building
5. Will the County do a mold assessment on that area of the wall/ceiling where the leak was to determine if any mitigation is required before closing up the walls?
Answer: The county will assess and or replace any affected insulation prior to construction.
6. Where is the location of the waterline to the facility?
Answer: Original plans indicate that the water line is located along the back of property shown on our cover page of our plan set for this project.
7. What is the size of the waterline into the facility?
Answer: As-built information indicates a 2" diameter water line to this building. This has not been confirmed. The County is seeking additional information to provide on a future Addendum.
8. Has it been confirmed that the waterline is sufficient to provide proper flow (GPM) to support the sprinkler system?
Answer: No, this has not be confirmed.
9. Does the County have existing specifications/drawings of this building?
Answer: Yes, original site plans and construct plans are available. See the plans provided as separate files for the original building site plans and construction plans.
10. Who is responsibility if the GPM is not sufficient and the waterline requires to be upsized?
Answer: The bid submittal dates are being revised (see item 1 above) so that water main details can be provided to the Contractors. The County will provide further direction with a future Addendum.
11. Will the Contractor have electrical power to the building while Construction is underway? Or will the Contractor be responsible for providing temporary electrical supply?
Answer: Contractor is responsible for providing temporary electrical supply.

12. Who owns the Building?

Answer: The County owns the building which is located in the City limits of Sebring. The County and City have an agreement that allows the County Building Department to inspect and issue permits for this County Building.

13. Please explain the mechanical room and cabling being performed by others, not the Contractor.

Answer: The Contractor is responsible for the construction of the data room per the plans and specifications including the conduit and boxes throughout the entire building. The County IT Department will only provide for the installation of the Network Data cabling and terminations. The County will work with the Contractor to coordinate the installation prior to and during the construction.

14. Electrical site plan only shows half of the building, I thought the Generator was controlling the entire building?

Answer: Scope of this project only addresses the build-out of the Fire Rescue side of the building, however, the Emergency generator and ATS installation will support the entire building per the drawings. The Generator installation is an identified task that should be installed and operational by August 1, 2020.

15. Did Duke Energy approve having the meters after the transfer switch? If So, can they list who they talked to?

Answer: The Duke Energy engineer that the architect originally spoke with before the end of the year has been placed in a new position. However, the details on the plans and in the specifications were derived with Duke Energy's input.

16. RISER DIAGRAM NOTE - 1 Can they provide a Model Number for the 400A Meter Can?

Answer: The Contractor will get this information from his supplier. This will be reviewed during the submittal phase.

17. How was the size of the Generator figured without showing the load of the existing building?

Answer: A load test for the other tenants in the building was conducted and that information was provided to the engineer for inclusion in their comprehensive load calculations.

18. RISER DIAGRAM NOTES - 2,3 Where is this panel going to be located?

Answer: Just to the right of the new ATS, shown on E301.

19. RISER DIAGRAM NOTES - 9,10 What are these conduits for? Are they supposed to be empty?

Answer: Note indicate that they go to the ATS

20. RISER DIAGRAM NOTE – 11 Where is the disconnect going to be mounted? If it is not mounted on the building, please draw something to show how you want it installed.

Answer: The ATS should be mounted on the building wall in the approximate location as indicated on sheet E301.

21. RISER DIAGRAM NOTE – 14 Will a Site Plan show which Duke Energy Pole the power is being fed from?

Answer: Site plan shown on E401.

22. Is there going to be a Fire Alarm Print? Will the Fire Alarm be engineered by this company or will it need to be engineered by others? (the reason I am asking is because it is on this print)

Answer: E301 shows basis of design. The Contractors' Fire alarm contractor shall submit full documents under separate permit. The cost for the Fire Alarm design, installation and permitting shall be included in the bid price.

23. Plans specify carpet squares but does not give a product. Please provide what product should be used.

Answer: Please see Attachment C labeled 09680-Carpet

24. Plans specify ceramic tile to be used. Please provide what product needs to be used.

Answer: Please see Attachment E labeled 09300 - Ceramic



A-F Standby Systems
Power Generation



Date: January 10, 2020

To: Highlands County BOCC

Attn: Jamee A. Soto

Subject: FSA; Contract # FSA19-VEH17.0 2019/2020

Reference: FSA Item#102 _ Generac SD200- 200KW Generator Package

BASE Package consisting of:

Quantity 1 - Generac Industrial diesel engine-driven generator set with turbocharged/aftercooled 6-cylinder 6.7L engine, consisting of the following features and accessories:

- Stationary Emergency-Standby rated
- **130 kW Rating, wired for 120/208 VAC three phase, 60 Hz**
- Brushless Excitation
- **Level 1 Acoustic Enclosure, Steel**
 - **Industrial Grey Baked-On Powder Coat Finish**
- UL2200
- EPA Certified
- H-100 Control Panel
 - Meets NFPA 99 and 110 requirements
 - Temp Range -40 to 70 degrees C
 - Digital Microprocessor:
 - Two 4-line x 20 displays, full system status
 - 3 Phase sensing, +/-0.25% digital voltage regulation
 - RS232, RS485 and Canbus remote ports
 - Waterproof connections
 - All engine sensors are 4-20ma for minimal interference
 - Programmable I/O
 - Built-in PLC for special applications
 - Engine function monitoring and control:
 - Full range standby operation; programmable auto crank, Emergency Stop, Auto-Off-Manual switch
 - Isochronous Governor, +/-0.25% frequency regulation
 - Full system status on all AC output and engine function parameters
 - Service reminders, trending, fault history (alarm log)
 - I2T function for full generator protection
 - Selectable low-speed exercise
 - HTS transfer switch function monitoring and control
 - 2-wire start controls for any 2-wire transfer switch
- 150 MPH Wind Load Certified
- **Standard MLCB, 80% rated thermal-magnetic**
 - **225 Amp**
- Air Filter Restriction Ind
- Battery Charger, 10 Amp, NFPA 110 compliant, installed
- 110 AH, 925 CCA Group 31 Battery, with rack, installed
- Coolant Heater, 1500W
- **24 hour Double-Wall UL142 Basetank**
 - **Mechanical fuel level indicator gauge**
 - **Electronic fuel level sender**

- **Emergency Vent**
- 3 Owner's Manuals
- 120V GFCI and 240V Outlet
- 2-Year Comprehensive Warranty

Quantity 1 - Start Up and commissioning (per FSA)

Quantity 1 - Freight to Jobsite Off Loading by Others (Per FSA)

Base FSA for SD130 – 130KW Generator Package.....\$35,100.00

Upgrade Generator Package, 200KW Diesel.....\$15,250.00

(24 hour tank = 372 usable gallons for the 200KW)

Total investment for the above equipment (Not including any applicable tax): \$50,350.00

Notes

1. This Quotation is in accordance with the FSA cooperative through the Florida Sheriff's Association.

Sincerely,

John Lundahl

John Lundahl Sales Engineer
Acf Standby Systems
813-309-3980
j.lundahl@acfpower.com



A-F Standby Systems
Power Generation



Date: January 10, 2020

To: Highlands County BOCC

Attn: Jamee A. Soto

FSA19-VEH17.0 2019/2020

Reference: Item # 227 Generac – 600 Amp GTS Transfer Switch

Quantity 1 - GTS Series Automatic Transfer Switch consisting of the following features and accessories:

- 600 Amp, 3 Pole, 120/208 VAC three phase, 60 Hz, with 2-Wire Start Circuit
 - Utility Voltage Sensing Controls:
 - Adjustable Drop-out and Pick-up
 - Adjustable Utility Interrupt Delay
 - Adjustable Logic Controls:
 - Minimum Standby Voltage
 - Minimum Standby Frequency
 - Engine Warmup
 - Inphase Monitor
 - Time Delay Neutral
 - Return to Utility
 - Engine Cooldown
 - Transfer on Exercise
- Auto/Normal/Standby switch
- Remote Auto Control circuit
- Signal Before Transfer contacts
- Single set of Auxiliary Contacts
- UL 1008 Listed, CSA Certified
- NEMA 3R Enclosure
- Instrument package
- Std set of 3 Manuals
- Electrically operated, mechanically held 'Trip to Neutral'
 - Electrically operated 'Permissive' contacts
- 2-Year Basic Warranty

Quantity 1 - Start Up and commissioning

Quantity 1 - Freight to Jobsite Off Loading by Others

Base FSA for Generac GTS600\$7,100.00

PSTS 800 Upgrade to PSTS SER 800A.....\$3,900.00

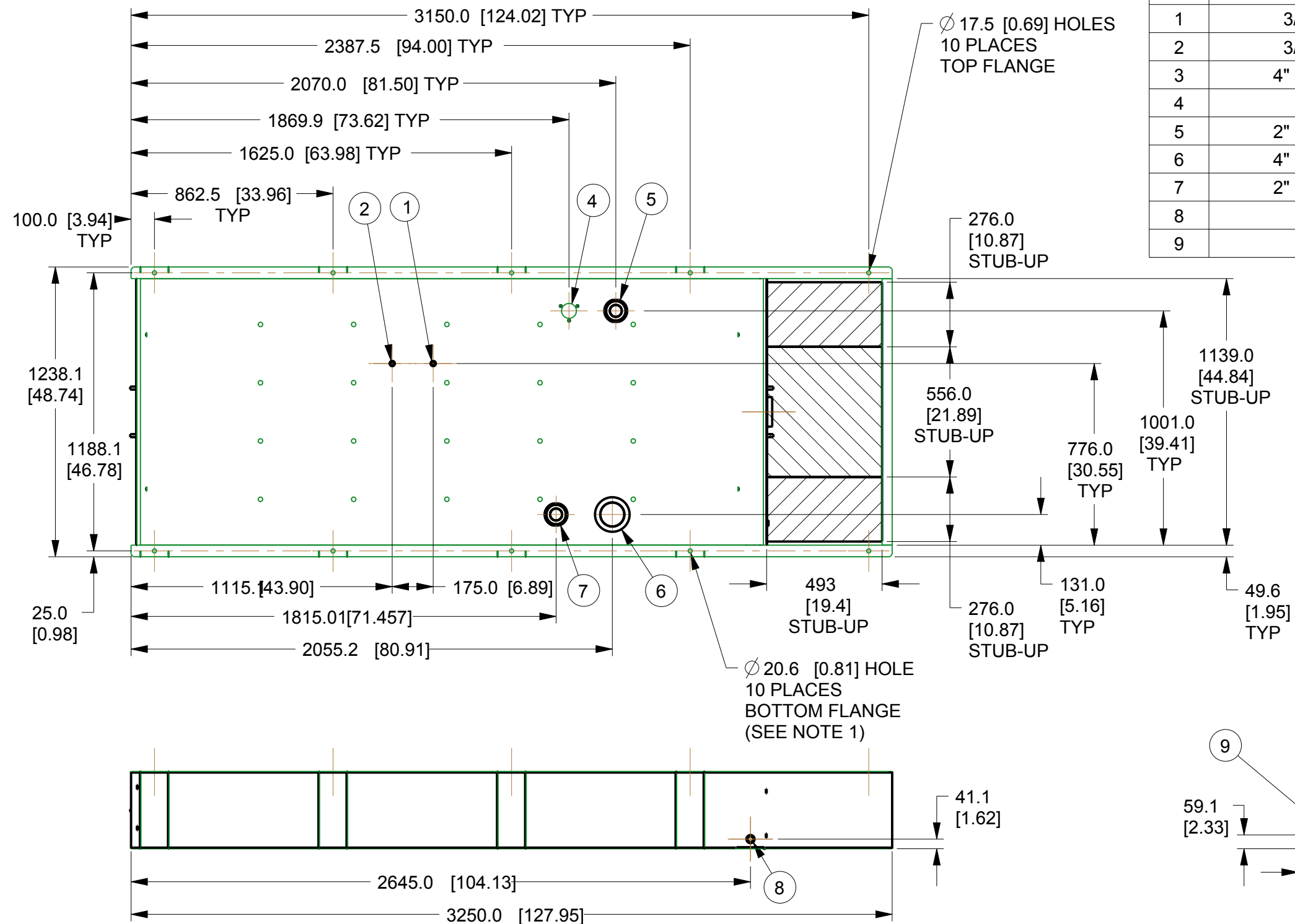
(NOTE: SER means Service Entrance Rated.)

Total investment for the above equipment (Not including any applicable tax): \$11,000.00

Attachment A

I/N	TANK FITTING	FUNCTION
1	3/8" NPT COUPLING	FUEL SUPPLY
2	3/8" NPT COUPLING	FUEL RETURN
3	4" NPT WELD FLANGE	EMERGENCY VENT (OUTER)
4		FUEL LEVEL
5	2" NPT WELD FLANGE	FUEL FILL
6	4" NPT WELD FLANGE	EMERGENCY VENT (INNER)
7	2" NPT WELD FLANGE	VENT
8	3/4" NPT FLANGE	DRAIN
9	Ø 22 MM HOLE	LEAK DETECTOR

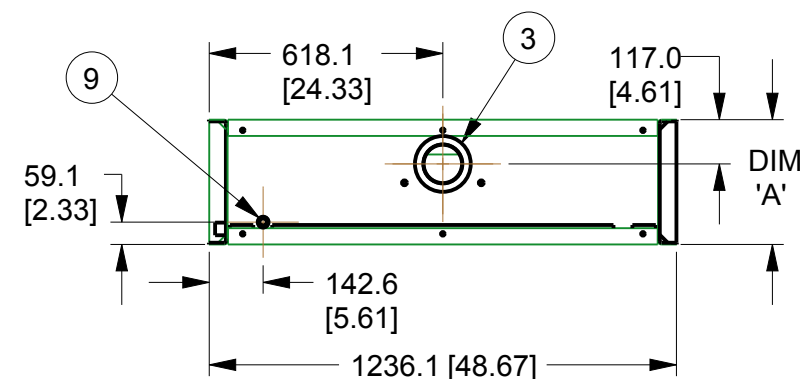
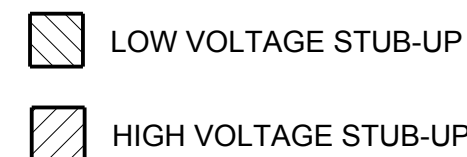
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CAPACITY SHOWN: LITER [GALLONS]
WEIGHT SHOWN: KILOGRAMS [POUNDS]
LENGTH SHOWN: MM [INCH]

UL #142 / ULC-S601 LISTED

NOTE:
1 MOUNTING BOLTS OR STUDS FOR MOUNTING BASETANK
TO CONCRETE PAD SHALL BE 5/8-11 GRADE 5.
(USE STANDARD SAE TORQUE SPECS)



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

TANK P/N	0J18520ST03	0J18530ST03	0J18540ST03
DIM 'A'	330 [13]	635 [25]	940 [37]
TOTAL TANK CAPACITY	625 [165]	1450 [383]	2270 [600]
USABLE TANK CAPACITY	580 [153]	1407 [372]	2227 [589]
DRY WEIGHT [EST]	456 [1005]	647 [1427]	836 [1844]

INSTALLATION DRAWING

GENERAC POWER SYSTEMS OWNS THE COPYRIGHT OF THIS DRAWING
WHICH IS SUPPLIED IN CONFIDENCE AND MUST NOT BE USED FOR
ANY PURPOSE OTHER THAN FOR WHICH IT IS SUPPLIED WITHOUT
THE EXPRESS WRITTEN CONSENT OF GENERAC POWER SYSTEMS.
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ELECTRONICALLY APPROVED
INSIDE WINDCHILL

GENERAC

TITLE

INSTALL BASE TANK D8.7L E-GRP

ISSUE DATE: 02/10/11

SIZE
B

CAGE NO
N/A

DWG NO

0J4217

REV
D

SCALE

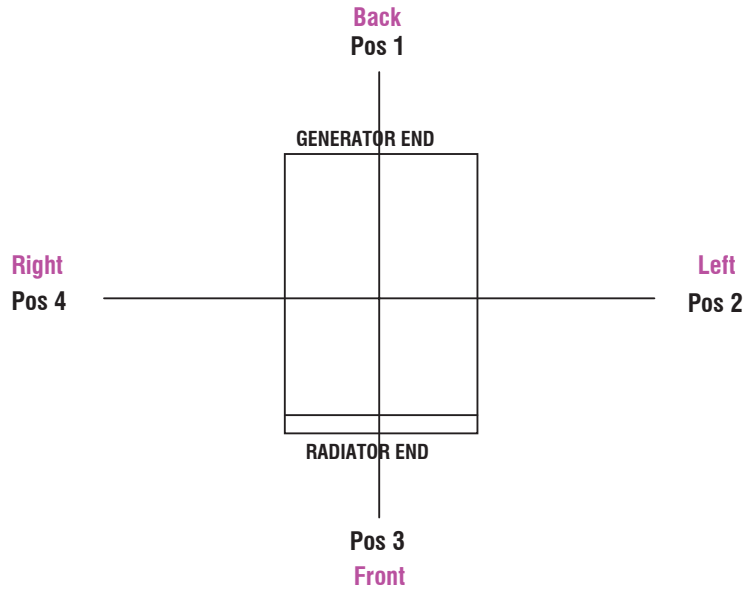
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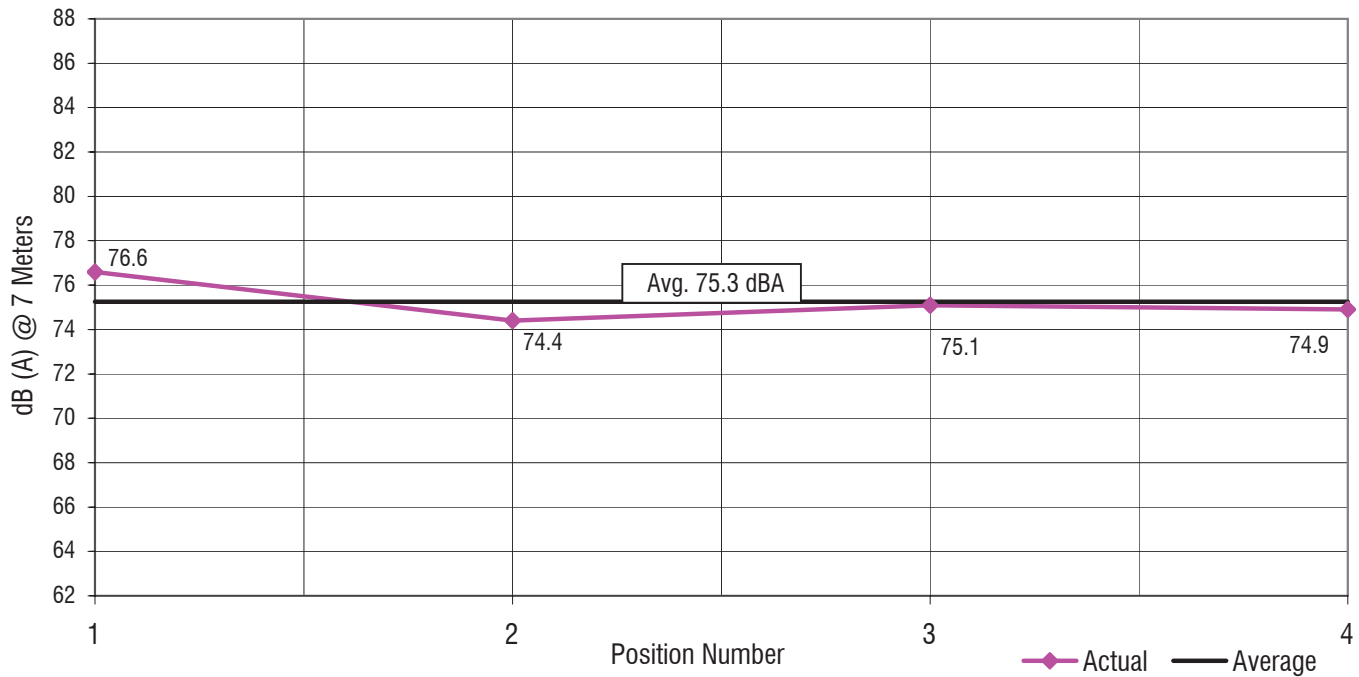
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SHEET 1 of 1

LEVEL 1 ACOUSTIC ENCLOSURE SD200 8.7L IVECO



Measured Sound Levels - 60 Hz



Notes:

1. All positions 23 ft (7M) from side faces of generator set.
2. Generator operating at full load.
3. Test conducted on a 100 foot diameter asphalt surface.
4. Non-enclosed sets do not include exhaust sound during testing.

SD200

8.7L

Industrial Diesel Generator Set

EPA Certified Stationary Emergency

Standby Power Rating
200 kW 250 kVA 60 Hz

Prime Power Rating**
180 kW 225 kVA 60 Hz



*Built in the USA using domestic and foreign parts

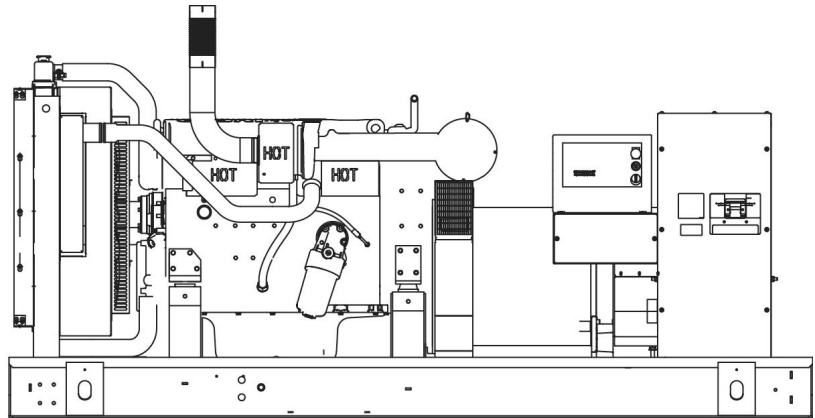


Image used for illustration purposes only

**EPA Certified Prime ratings are not available in the U.S. or its Territories

Codes and Standards

Generac products are designed to the following standards:



UL2200, UL508, UL142, UL498



NFPA70, 99, 110, 37



NEC700, 701, 702, 708



ISO9001, 8528, 3046, 7637, Pluses #2b, 4



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41

American National Standards Institute



IBC 2009, CBC 2010, IBC 2012, ASCE 7-05,
ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

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

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

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

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

SD200

Standard Features

ENGINE SYSTEM

- General
- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer (enclosed only)
- Factory Filled Oil
- Radiator Duct Adapter (open set only)

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
- 120 VAC Coolant Heater

Engine Electrical System

- Battery charging alternator
- Battery cables
- Battery tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 12 leads (3-phase, non 600 V)
- Class H insulation material
- Vented rotor
- 2/3 pitch
- Skewed stator
- Auxiliary voltage regulator power winding
- Amortisseur winding
- Brushless Excitation
- Sealed Bearings
- Automated manufacturing (winding, insertion, lacing, varnishing)
- Rotor dynamically spin balanced (get tolerance)
- Full load capacity alternator
- Protective thermal switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of circuits - high/low voltage
- Separation of circuits - multiple breakers
- Silencer Heat Shield
- Wrapped Exhaust Piping
- Silencer housed in discharge hood (enclosed only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated Units)
- 1 Year Limited Warranty (Prime rated units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (if selected)

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™ - Textured polyester powder coat

TANKS (if selected)

- UL 142
- Double wall
- Vents
- Sloped top
- Sloped bottom
- Factory pressure tested (2 psi)
- Rupture basin alarm
- Fuel level
- Check valve in supply and return lines
- Rhino Coat™ - Textured polyester powder coat
- Stainless hardware

CONTROL SYSTEM



Control Panel

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run

- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance algorithm
- Sealed Boards
- Password parameter adjustment protection
- Single point ground

- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

SD200

Configurable Options

ENGINE SYSTEM

- General
- Oil Make-Up System
- Oil Heater
- Industrial Exhaust Silencer

Fuel System

- Flexible fuel lines
- Primary fuel filter

Engine Electrical System

- 10A UL battery charger
- 2.5A UL battery charger
- Battery Warmer

ALTERNATOR SYSTEM

- Alternator Upsizing
- Anti-Condensation Heater
- Tropical coating
- Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

- Main Line Circuit Breaker
- 2nd Main Line Circuit Breaker
- Shunt Trip and Auxiliary Contact
- Electronic Trip Breakers

GENERATOR SET

- Gen-Link Communications Software (English Only)
- IBC Seismic Certification
- 8 Load Position Load Center
- 2 Year Extended Warranty
- 5 Year Warranty
- 5 Year Extended Warranty

ENCLOSURE

- Weather Protected
- Level 1 Sound Attenuation
- Level 2 Sound Attenuation
- Steel Enclosure
- Aluminum Enclosure
- 150 MPH Wind Kit
- 12 VDC Enclosure Lighting Kit
- 120 VAC Enclosure Lighting Kit
- AC/DC Enclosure Lighting Kit
- Door Alarm Switch

TANKS (Size on last page)

- Electrical Fuel Level
- Mechanical Fuel Level
- 8" Vent Extension
- 13" Vent Extension
- 19" Vent Extension

CONTROL SYSTEM

- 21-Light Remote Annunciator
- Remote Relay Panel (8 or 16)
- Oil Temperature Sender with Indication Alarm
- Remote E-Stop (Break Glass-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Surface Mount)
- Remote E-Stop (Red Mushroom-Type, Flush Mount)
- Remote Communication - Modem
- Remote Communication - Ethernet
- 10A Run Relay
- Ground fault indication and protection functions

Engineered Options

ENGINE SYSTEM

- Coolant heater ball valves
- Block Heaters
- Fluid containment pans

ALTERNATOR SYSTEM

- 3rd Breaker System

GENERATOR SET

- Special Testing

ENCLOSURE

- Motorized Dampers
- Door switched for intrusion alert
- Enclosure ambient heaters

TANKS

- Overfill protection valve
- UL2085 Tank
- ULC S-601 Tank
- Stainless Steel Tank
- Special Fuel Tanks (MIDEQ and FL DEP/DERM, etc.)
- Vent Extensions

CONTROL SYSTEM

- Spare inputs (x4) / outputs (x4) - H Panel Only
- Battery Disconnect Switch

Rating Definitions

Standby – Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime – Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications.

Power ratings in accordance with ISO 8528-1, Second Edition dated 2005-06-01, definitions for Prime Power (PRP) and Emergency Standby Power (ESP).

SD200

application and engineering data

ENGINE SPECIFICATIONS

General

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L (cu in)	8.7 (530.91)
Bore - mm (in)	117 (4.61)
Stroke - mm (in)	135 (5.31)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	4 Valve
Piston Type	Alloy Aluminum
Crankshaft Type	Dropped Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	± 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow
Crankcase Capacity - L (qts)	28 (29.57)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Flow	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed (rpm)	2538 rpm
Fan Diameter mm (in)	762 (30.0)
Coolant Heater Wattage	2000
Coolant Heater Standard Voltage	120 V /240 V

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump	Electronic
Fuel Pump Type	Engine Driven Gear
Injector Type	Common Rail
Fuel Supply Line - mm (in)	12.7 (0.5) NPT
Fuel Return Line - mm (in)	12.7 (0.5) NPT

Engine Electrical System

System Voltage	24 VDC
Battery Charging Alternator	Std
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	520 mm
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	< 5%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Permanent Magnet
Bearings	Single Seated Cartridge
Coupling	Direct, 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%

SD200

operating data

POWER RATINGS

	Standby
Single-Phase 120/240 VAC @1.0pf	200 kW Amps: 833
Three-Phase 120/208 VAC @0.8pf	200 kW Amps: 694
Three-Phase 120/240 VAC @0.8pf	200 kW Amps: 601
Three-Phase 277/480 VAC @0.8pf	200 kW Amps: 301
Three-Phase 346/600 VAC @0.8pf	200 kW Amps: 241

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

Alternator	kW	480 VAC						208/240 VAC					
		10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	200	187	280	373	467	560	653	140	210	280	350	420	490
Upsize 1	300	303	454	605	757	908	1059	227	341	454	568	681	794
Upsize 2	350	383	575	767	958	1150	1342	280	410	535	640	770	900

FUEL CONSUMPTION RATES*

Diesel - gph (lph)

Fuel Pump Lift - ft (m)
3 (1)
Total Fuel Pump Flow (Combustion + Return) lph (gph)
98 (26)

Percent Load	gph (lph)
25%	4.4 (16.7)
50%	8.3 (31.4)
75%	11.9 (45)
100%	14.8 (56)

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

COOLING

		Standby
Coolant Flow per Minute	gpm (lpm)	63.3 (240)
Coolant System Capacity	gal (L)	12.7 (49.2)
Heat Rejection to Coolant	BTU/hr	545,646
Inlet Air	cfm (m3/hr)	8872 (251)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)
Max. Ambient Temperature (before derate)	F° (C°)	110 (43.3)
Maximum Radiator Backpressure	in H ₂ O	0.5

COMBUSTION AIR REQUIREMENTS

		Standby
Flow at Rated Power	cfm (m3/min)	595 (16.8)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	320
Piston Speed	ft/min (m/min)	1593 (486)
BMEP	psi	265

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

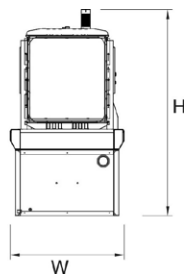
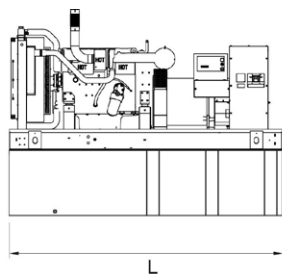
EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m3/min)	1345 (38.1)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	920 (493)
Exhaust Outlet Size (Open Set)	mm (in)	101.6 (4)

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

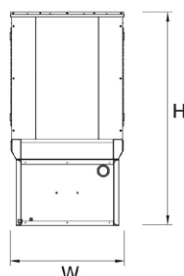
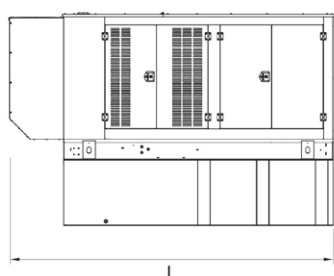
SD200

dimensions and weights*



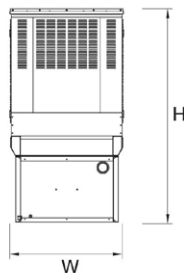
OPEN SET

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Tank & Open Set
NO TANK	-	128 (3251) x 54 (1372) x 58 (1473)	4465 (2025)
10	153 (579.2)	128 (3251) x 54 (1372) x 71 (1803)	5470 (2481)
25	372 (1407)	128 (3251) x 54 (1372) x 83 (2108)	5892 (2673)
40	589 (2227)	128 (3251) x 54 (1372) x 95 (2413)	6309 (2862)
47	693 (2623.3)	136 (3454) x 54 (1372) x 95 (2413)	6060 (2749)
64	946 (3581)	208 (5283) x 54 (1372) x 99 (2515)	7490 (3397)
90	1325 (5015.7)	278 (7061) x 54 (1372) x 99 (2515)	8505 (3858)



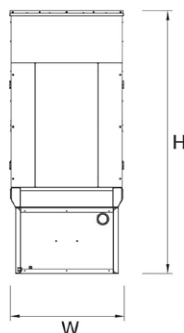
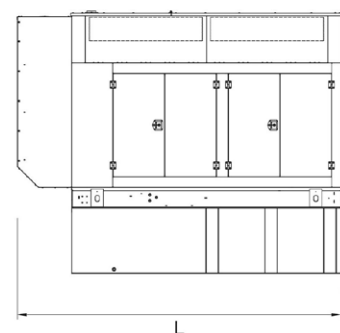
STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	155 (3937) x 54 (1372) x 70 (1778)	941 (427)	474 (215)
10	153 (579.2)	155 (3937) x 54 (1372) x 83 (2108)		
25	372 (1407)	155 (3937) x 54 (1372) x 95 (2413)		
40	589 (2227)	155 (3937) x 54 (1372) x 107 (2718)		
47	693 (2623.3)	155 (3937) x 54 (1372) x 107 (2718)		
64	946 (3581)	208 (5283) x 54 (1372) x 111 (2819)		
90	1325 (5015.7)	278 (7061) x 54 (1372) x 111 (2819)		



LEVEL 1 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	180 (4572) x 54 (1372) x 70 (1778)	1246 (565)	606 (275)
10	153 (579.2)	180 (4572) x 54 (1372) x 83 (2108)		
25	372 (1407)	180 (4572) x 54 (1372) x 95 (2413)		
40	589 (2227)	180 (4572) x 54 (1372) x 107 (2718)		
47	693 (2623.3)	180 (4572) x 54 (1372) x 107 (2718)		
64	946 (3581)	234 (5944) x 54 (1372) x 111 (2819)		
90	1325 (5015.7)	304 (7722) x 54 (1372) x 111 (2819)		



LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	155 (3937) x 54 (1372) x 93 (2362)	1482 (672)	708 (321)
10	153 (579.2)	155 (3937) x 54 (1372) x 106 (2692)		
25	372 (1407)	155 (3937) x 54 (1372) x 118 (2997)		
40	589 (2227)	155 (3937) x 54 (1372) x 130 (3302)		
47	693 (2623.3)	155 (3937) x 54 (1372) x 130 (3302)		
64	946 (3581)	208 (5283) x 54 (1372) x 132 (3353)		
90	1325 (5015.7)	278 (7061) x 54 (1372) x 132 (3353)		

*All measurements are approximate and for estimation purposes only. Sound dBA can be found on the sound data sheet. Enclosure Only weight is added to Tank & Open Set weight to determine total weight.

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

SECTION 09680 / CARPET**PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Conform to Division 1, Section 09000 and other sections of this division.

1.02 DESCRIPTION OF WORK

- A. The extent of carpeting is shown on the drawings, in finish schedule, and is defined to include carpet, cushion, adhesive, seaming, anchorage, edge treatment and accessories as required.

1.03 QUALITY ASSURANCE

- A. Manufacturer: A firm with at least five (5) years' experience in production of carpet tiles of type and quality similar to that required for project; and who will, when requested, send a qualified technical representative to project site to advise on proper installation procedures.
- B. Installer: A firm with not less than five years of experience in installation of commercial carpet, by methods similar to those required for this project.
- C. General Information Standard: Refer to "Carpet Specifier's Handbook" by the Carpet and Rug Institute for general information and recommendations and for definitions of terminology.

1.04 SUBMITTALS

- A. Submit in accordance with General, Supplementary and Special Conditions.
- B. Manufacturer's Data: Submit data to show compliance with requirements, including test laboratory reports and manufacturer's instructions and recommendations for installation and maintenance.
- C. Samples: Submit two 24" x 24" samples of each type, color and pattern of carpeting materials required, and 12" length of edge guard stripping.
- D. Maintenance Materials: Deliver specified overrun and usable scrap materials to OWNER'S designated storage space as directed, properly packaged/protected and identified.
- E. Shop Drawings: **Submit shop drawings for approval showing layout including all edge conditions, and conditions where joined or butted to adjacent materials.**

- F. Maintenance Manual: Submit manual of carpet manufacturer's complete recommendations for the care, cleaning and maintenance of each type of carpeting; prepared after detailed analysis of OWNER'S intended occupancies and resulting traffic conditions.

1.05 PRODUCT DELIVERY AND STORAGE

- A. Deliver carpeting materials in protective wrapping, and store inside, protected from weather, moisture and soiling.

1.06 JOB CONDITIONS

- A. Coordinate installation of carpeting with preparations consistent with and full regard for project completion and closeout. Delay installation until space enclosures and other general finish work have been completed; and until continuing construction traffic in carpeted areas will be minimal; and until ambient conditions are being maintained by operation of HVAC system to comply with specified requirements, including carpet manufacturer's recommendations. Include moisture testing of slab if necessary.

PART 2 - PRODUCTS

2.01 CARPET

- A. Provide a commercial-grade nylon carpet meeting the following minimum requirements:
Referenced standard is Shaw Contract, manufactured by Shaw Industries, Dalton, Georgia. Other manufacturer's products deemed to meet or exceed this specification will be acceptable.

<u>Product Type:</u>	Carpet Tile
<u>Collection:</u>	Rewoven
<u>Style Number:</u>	5T007
<u>Construction:</u>	Multi-level Pattern Cut/ Loop
<u>Fiber:</u>	Eco Solution Q® Nylon
<u>Dye Method:</u>	100% Solution Dyed
<u>Primary Backing:</u>	Synthetic
<u>Secondary Backing:</u>	Ecworx® Tile
<u>Protective Treatments:</u>	SSP® Shaw Soil Protection
<u>Warranty:</u>	Lifetime Commercial Limited
<u>Product Size:</u>	24.0 x 24.0 inches
<u>Gauge:</u>	1/10 inch
<u>Stitches:</u>	13 per inch
<u>Finished Pile Thickness:</u>	0.129 inches
<u>Average Density:</u>	5581 per cu. Yd.
<u>Kilotex:</u>	11.84 kilotex (metric unit)
<u>Total Thickness:</u>	0.249 inches
<u>Tufted Weight:</u>	20.0 oz/yd ²

- B. Tolerances: Specifications are subject to standard industry manufacturing tolerances of $\pm 5\%$.
- C. Flammability Ratings: Shall meet all local, state, and federal requirements. Shall meet the requirements of DDD-C-95, DOC-FF1-70, and ASTM-D-2859-70T (Pill and Tablet Tests) on the face and on the back. The carpet and pad, as an assembly, in corridors, stairways, and other means of egress, shall have a minimum critical radiant flux of 0.45 watts/ cm², as determined by NBS-IR-75-950 Flooring Radiant Panel Test (NFPA 253, ASTM-E-648).
- D. Microbial Resistance: Passes AATCC=174.
- E. Carpet construction shall exclude any compounds which are known to contribute to the "Sick-Building Syndrome", including 4-phenylcyclohexene (4-PC).
- F. All carpet shall fulfill the following smoke development requirement; a specific density (Dm) of four hundred fifty (450) or less (flaming), as determined by ASTM E-662-83 and shall meet NFPA 258 requirements for maximum smoke density of 450.

2.02 CARPET ACCESSORIES

- A. Carpet Edge Guard: Manufacturer's standard extruded or molded vinyl or rubber carpet edge guard, of the profile and size indicated or required by the particular installation.

NOTE: Where carpet abuts ceramic or quarry tile, provide 1/2" x 1/2" x 1/8" Hardtop zinc L-Angle edge strip.

- B. Installation Adhesive: Provide adhesive recommended by carpet or cushion manufacturer for adequate adhesion and water resistance at each application, which complies with requirements of overall flammability rating for carpeting installation and which is compatible with concrete floor sealers specified in Division 3.
- C. Seaming Cement: Seaming adhesive of the type recommended by the carpet manufacturer for sealing seams and buttering cut edges of carpet backing at seams, to form secure seams and eliminate pile loss at seams.
- D. Miscellaneous Materials: Provide adhesives and other accessory items and materials of types recommended by carpet manufacturer, and as recommended by installer for project requirements.

2.03 CARPET COLORS

- A. Carpet colors shall be selected from the manufacturer's standard running line of yarn colors. ARCHITECT reserves the right to select two (2) carpet colors with no limitation on quantities of each color.

2.04 WARRANTY

- A. Provide special project warranty, signed by CONTRACTOR and installer, agreeing to repair or replace defective materials and workmanship of carpeting work during one (1) year warranty period, without cost to OWNER.
- B. Provide carpet manufacturer's written non-prorated warranty against wear, edge ravel, and delamination of the backing for ten (10) years from the date of installation. If carpet fails to perform as guaranteed, the affected area will be repaired at the expense of the manufacturer, upon request of the OWNER.

PART 3 - EXECUTION

3.01 PRE-INSTALLATION REQUIREMENTS

- A. Prepare sub-floor as instructed in Section 09651, paragraph 3.02.
 - 1. Installer must examine substrates and conditions under which carpeting is to be installed, and notify CONTRACTOR in writing of conditions detrimental to proper completion of the work. Do not proceed with installation of carpeting until unsatisfactory conditions have been corrected in a manner acceptable to installer, carpet manufacturer, ARCHITECT and OWNER.
 - 2. Do not install carpet over concrete with either excessive moisture or dust producing surface which is not adequately sealed.
 - 3. Sequence carpeting installation with other work in a manner which will minimize possibility of damage or deterioration to carpeting, and yet not delay completion of project. If possible carpet installation should be the last material installed.
 - 4. Clean surfaces to be carpeted immediately prior to installation of carpeting materials, by vacuum cleaning.
 - 5. Dimensions: Prior to start of carpet installation, check critical dimensions of spaces to be carpeted, to ensure that planned use of materials will fulfill requirements, including locations for seams, joints and edgings.

3.02 INSTALLATION

- A. General: Comply with manufacturer's instructions and recommendations. Maintain direction of pattern and texture, including lay of pile. Do not seam weft to warp, except as specifically indicated for a direction change.
 - 1. Extend carpet under open-bottomed and raised-bottom obstructions, and under removable flanges of obstructions. Extend carpet into closets and alcoves of rooms indicated to be carpeted, unless another floor finish is indicated for such spaces. Extend carpet under movable furniture and equipment and freestanding millwork/casework units, unless otherwise indicated.
 - 2. Provide cut-outs or running joints (as applicable) for removable access covers and similar required access through carpeting to substrate. Install

carpet divider strips, with corners accurately mitered and tightly butted. Apply seaming cement to cut edges of carpet.

3. Install carpet edge guard at locations where edge of carpet is exposed to traffic, except where another device, such as expansion joint cover system or threshold, is indicated with integral carpet binder bar or edge guard. Anchor edge guard to substrate.
- B. Doors: Where seams relate to doors, center seams under door thickness. Do not place carpet seams in traffic direction in doorways.
- C. Glue-Down Installation: Install a test sample to demonstrate effectiveness of adhesive. With OWNER'S personnel present, remove sample, demonstrating procedure to minimize damage to carpet. Apply primer to entire substrate where necessary for adequate bond of carpet.
- D. Fit sections of carpet into each room or space prior to application of adhesive. Trim off mill edges unless carpet has been pre-trimmed. Maintain straight seams, true with lines of building.
- E. Apply adhesive uniformly to substrate in accordance with manufacturer's instruction. Butt carpet edges tightly together to form seams without gaps. Roll lightly to eliminate any pockets and ensure uniform total-area bond of carpet to substrate. Remove adhesive (if any appears) promptly from face of installed carpet, or replace full section of carpet.

3.04 OVERRUN REQUIREMENTS

- A. Provide two percent (2%) minimum more yardage than yardage calculated for proper installation and test samples, including waste and excess usable scraps to be saved. Indicate on submittal calculated quantity of excess material.
 1. OWNER'S Maintenance Stock: Deliver unused specified overrun and usable scraps to OWNER'S storage space as designated, properly packaged and identified for maintenance use.
 2. The 2% overrun stock will not be used by CONTRACTOR for replacing installed carpet which is not accepted by OWNER or ARCHITECT.

3.04 CONTRACTOR RESPONSIBILITY

- A. This CONTRACTOR shall take all necessary precautions to avoid, and shall be responsible for, damage to building, walls, and floors and materials of other trades during installation period.

3.05 CLEANING, PROTECTION, FOLLOW-UP SERVICE

- A. Remove debris from installation, carefully sorting pieces to be saved from scraps to be disposed of.

- B. Vacuum carpet with a commercial machine, with rotating agitator or beater in nozzle. Remove spots or replace carpet where spots cannot be removed. Small patches will not be accepted. Full width sections will be required no less than 8'-0" in length.
- C. Carpeted areas are to be protected during remainder of construction period, so that carpet will be in undamaged and unsoiled condition at time of acceptance. Provide non-staining cover material for protective cover.

PART 4 - QUALITY CONTROL TESTS

- 4.01 The OWNER may select at random samples of carpet for purposes of testing by a testing laboratory selected by OWNER. Testing will be done at OWNER'S expense to assure that materials meet or exceed requirements.

END OF SECTION 09680

SECTION 09300 / CERAMIC AND QUARRY TILE**PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Conform to Division 1, Section 09000 and other sections of this division. See Section 09000 finish schedule for colors.

1.02 QUALITY GRADE

- A. Conform to Standard Specifications for Ceramic Tile TCA 137.1 (latest edition) for tile types.

1.03 APPLICABLE TECHNICAL CODES AND STANDARDS

- A. Conform to all applicable provisions, as judged by ARCHITECT, of American National Standards Institutes following specification:
 - 1. Glazed ceramic wall tile, ceramic tile pavers, and ceramic tile base installed with dry-set Portland cement mortar: ANSI A108.5 (latest edition).
 - 2. Ceramic mosaic floor tile, ceramic floor tile and glazed wall tile installed in Portland cement mortars: ANSI A108.1 (latest edition).
 - 3. Conform to the general standards for installation as included in the latest edition of the "Handbook for Ceramic Tile Installation" published by The Tile Council of America.
 - 4. TCA installation method as:
 - Floor: F111 Cement Mortar, Cleavage Membrane
 - F112 Cement Mortar Bonded
 - F113 Latex-Portland Cement Mortar
 - Wall: W223 Organic Adhesive - Solid Backing

PART 2 - PRODUCTS**2.01 CERAMIC MOSAIC FLOOR TILE**

- A. Standard grade, unglazed dust-pressed porcelain type 2" x 2" size, minimum 1/4" thick with cushion edges. Pattern to be solid color field. ARCHITECT reserves right to choose any colors from Grade 3 price level manufactured by Florida Tile, American Olean, Dal-Tile, or approved.

2.02 PORCELAIN CERAMIC TILE PAVERS

- A. Florida Tile Natura "Granite" Series 12" x 12", provide with P3689 6" x 8" cove base, to include left and right corners.

2.03 CEMENTITIOUS MATERIALS

Portland Cement: ASTM C150-59 Type I, domestically produced.

Hydrated Lime: ASTM C206-49, Type S.

Aggregate: Sand conforming to ASTM C144-66T for mortar and grout. Fine sand must pass 16-mesh screen.

Water: clean and fit to drink.

Sand: ASTM C-144.

2.04 DRY-SET PORTLAND CEMENT MORTAR

Conform to ANSI A118.1 (latest edition).

Organic Adhesive: ANSI 136.1, Type I.

2.05 GROUT

Portland cement, as recommended by tile manufacturer for installation of ceramic mosaic floor tile and grout for glazed base and wall tile.

ANSI A118.6 Latex-Portland Cement (walls).

ANSI A108.10 floor.

Color to be selected by ARCHITECT from manufacturer's standard pre-mixed grout colors.

2.06 MARBLE THRESHOLD

- A. Domestic white marble nominal 2 1/2" x 3/4" section with 1/4" chamfered edges (except at tile to tile locations) full width of each opening at bed-set floor locations. Use 1/2" thick threshold at thin set floor tile locations.

2.07 MARBLE WINDOW SILLS

- A. Marble, natural or cultured, white color, minimum 5/8" thick x width as required to extend 1/2" minimum to 3/4" maximum beyond face of wall. Ease all exposed areas.

2.08 INSTALLATION MATERIALS

Install according to manufacturer's instructions.

A. Cleavage Membrane/Moisture Barrier

Note: Do not use cleavage membrane as waterproofing.

- 1. Where indicated on the drawings and elsewhere, as required for cleavage and to prevent penetration of small amounts of water, provide a system using 0.004" thick polyethylene sheeting complying with ASTM D2103 or 15-pound asphalt-saturated felt complying with ASTM D226 or a similar system approved in advance by the Architect.

B. Waterproof Membrane

- 1. Where indicated on the drawings and elsewhere as required to prevent passage of large water, provide a waterproof membrane using one of those listed on the

"Tested Materials " list of the Ceramic Tile Institute or provide a similar system approved in advance by the Architect.

Bonsal WP-6000

Laticrete 9235

Summitville S-9000

Schluter Ditra or Kerdi Matting

Noble

C. Expansion/Control Joint Backing Material

1. Provide closed cell polyethylene foam weighing not less than 2.7 pounds per cubic foot and in dimension approximately 20% thicker than the width of the expansion joint which is used.

D. Expansion/Control Joint Sealant

Provide in colors selected by the Architect.

1. At joints between floors and walls and at perimeter of metal door frames, provide one part silicone material.
2. At joints in traffic areas and at perimeter joints, provide two-part polyurethane material with Shore A hardness of 35.
Provide Summitville S-48 Two-Component Expansion Joint Sealant

E. Edge and Transition Strips

1. Tile edge and transition strips shall be roll-formed stainless steel edge strips 1/8" wide at top edge; height shall be as required by setting bed depth. Strip shall have integral perforated anchoring leg for setting the strip into the setting material.
 - a. Strip shall be equal to Schluter – SCHIENE-E (stainless steel).

PART 3 - EXECUTION

3.01 SCOPE OF WORK

A. Bed Set Tile – Not used.

B. Thin Set Tile

- floor in toilet rooms
- all ceramic tile pavers

3.02 THIN SET FLOORS

- A. Prepare floor slab with steel trowel finish in accordance with Division 3 tolerances, filling, patching or grinding as necessary to achieve tolerances. Install tile with approved adhesive so that all tiles are fully supported and embedded with no hollow spots.

3.03 LAYOUT AND FITTING

- A. Layout all tile areas so field patterns center on areas, and with no tiles cut less than half size. Provide all trim pieces herein specified and as required for complete installation. Grind and carefully fit around all equipment, trim and accessories. Wet cure all tile floors and grout.
- B. This requirement is for all tile locations (floors, walls, etc.) and deviations if necessary due to job conditions must have prior approval of ARCHITECT, before installation. Failure to follow these requirements, if installation is determined to be in violation, will require removal and replacement.
- C. Tile shall be cut accurately such that grout joint between base and floor tile is equal to a typical field joint.
- E. Expansion/Control Joints
 - 1. Floors: Layout and locate as called for on drawings. Rake joints clean, full depth, then pack and caulk joints with approved material. Coordinate with floor slab placement to make certain floor slab control (sawn or formed) align with intended tile expansion/control joints. Each location where a floor slab joint occurs shall also include a tile expansion/control joint. In the event this placement requirement is not practical, then reinforce/bridge floor slab joint with an approved mesh.
 - 2. Walls: If tile occurs at wall expansion/control joints, then joint is to extend through tile, with joint neatly prepared and caulked. Where interior tile walls meet exterior walls, corner joint is to be raked clean and caulked.
 - 3. Use factory tile edge each side of joint wherever possible.

3.04 MARBLE THRESHOLD

- A. Run in one piece from jamb to jamb. Bed set with floor tile. Center under door. Thinset (topset) type will not be accepted.

3.05 GROUTING

- A. Grout all joints in tile work with specified type with no voids or irregularities.

3.06 MARBLE WINDOW SILLS

- A. Install in single piece, with mastic, then caulk perimeter. Must obtain prior approval from OWNER to use multiple pieces. Set to project 1/2" to 3/4" beyond finish wall surface. Make butt joints only as approved. Caulk all such joints and perimeter joints at windows, including under projecting lip at wall. Obtain approval of butt joint locations at long sill conditions.

1. Marble sills are required at all window locations at exterior walls. All sills are to extend 1/2" minimum underneath the window frame.

3.07 CLEANING

- A. Clean tile thoroughly after grouting is finished. Use acid only as recommended by referenced ASA specifications.

3.08 ADDITIONAL TILE REQUIREMENTS

- A. Provide OWNER with additional tiles of each type, style and color at substantial completion. Provide tile as listed below:
 1. 1/2 box of floor tile
 2. 2 boxes of wall tile
 3. 5 linear feet of base and cap tile

3.09 PROTECTION

- A. Protect from all traffic while tile sets. Protect from damage thereafter.
 1. At the Punch List Inspection, the Polk County School Board Building Inspector shall mark any defective, damaged, broken, etc. tile with a permanent marker and these shall be replaced at the CONTRACTOR'S expense.

END OF SECTION 09300

SECTION 09511 / SUSPENDED CEILING SYSTEM**PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Conform to Division 1, Section 09000 and other sections of this division.
- 1.02 Do not begin work until all painting or wall coating work is completed.
- 1.03 Prior to start of work verify with ARCHITECT that he has viewed and approved all above ceiling installations.
- 1.04 This section includes typical suspended ceilings and an additional suspended grid to support attic insulation barrier.

PART 2 - PRODUCTS**2.01 SUSPENSION SYSTEM**

- A. Acceptable Systems:
- | | | |
|------------------------|---|--------------------|
| Armstrong | – | “Prelude XL” |
| Chicago Metallic Corp. | – | 200 System |
| USG | – | Donn Brand DX |
| BPB Celotex | – | Classic Tab System |

Main Tees: (1 1/2" depth minimum)

Armstrong	-	#7300
Donn/USG	-	DX 24
CMC	-	211
BPB Celotex	-	C12-12-15

4'-0" Cross Tees: (1 1/2" depth minimum)

Armstrong	-	# XL7340
Donn/USG	-	DX 424
CMC	-	214
BPB Celotex	-	CS4-12-15

2'-0" Cross Tees: (1" depth minimum)

Armstrong	-	# XL7128
Donn/USG	-	DX 216
CMC	-	229
BPB Celotex	-	CS2-12-08

- B. Wall Mould: Matching angle shape with 1" exposed face.

- C. Hanger Wire
 - 1. Suspended Finish Ceiling Grid: AWG steel wire, #12.
- D. Fasteners: Self tapping sheet metal screws and masonry nails.
- E. Clips: Hold down clips for acoustical panels, fabricated by suspension system manufacturer.

2.02 ACOUSTICAL PANELS: (ALL CLASS A FLAME SPREAD RATING)

- A. Regular Panels: (SUSP. 1) Armstrong World Industries, Inc., No. 1728/1729, (Celotex Vantage 10, USG Interiors, Radar, No. 2110/2310) 24" x 24" & 48" x 5/8" lay-in. CAC allowable range 35-39, light reflectance value not less than 82%, NRC minimum absorption of .50 and maximum of .60 sabins per square foot at 500 CPS, flame spread 0-25, and white vinyl latex paint finish, fine fissured texture, non-directional, mineral fiber, .70 lb./SF.
- B. Wall Mould Caulking: gun grade polymerized non-staining caulking compound formulated to minimum requirements of Federal Specification TT-C-598B; A.C. Horn "Volcatex" or as approved.

PART 3 - EXECUTION

3.01 GENERAL

- A. Install acoustical materials only by authorized applicators of materials used. Do all work in strict accord with manufacturer's printed instruction covering handling, care, and installation of his products.

3.02 SUSPENSION SYSTEMS

A. Ceiling System

- 1. Lay out each room to conform to reflected ceiling plans. Also see drawings for coordination with Division 15 and 16 work.
- 2. Attach hanger wires to the additional insulation barrier grid (at the hanger wire not grid) or roof structure. Hangers shall have a minimum spacing of 4 feet each way. Securely loop and twist to each fastener and main tee. Standard clips for fastening hanger wires to metal deck and/or bar joists are permitted. Insure each main hanger track piece has a minimum of two (2) hanger wires. Suspension wires shall not exceed 1:6 out of plumb unless countersloping wires or horizontal bracing is provided. Suspension wires shall be arranged such that ducts, pipes, etc. do not press against wires.
- 3. Main tee members shall be one piece without seams/joints of any kind in rooms/spaces 12 feet or less. Main tee members shall be a minimum of 6 feet

in length regardless of room/space dimension. Deviations to these instructions shall have the approval of the OWNER/ARCHITECT prior to installation.

4. Insure that all HVAC and electrical fixtures (including all lights, exit lights, speakers, exhaust grills, A/C diffusers, etc.) in ceiling system are supported on two main tee members, and that each item penetrating ceiling support is supported with two hanger wires, one at each diagonal corner of each fixture. Frame around all HVAC and electrical fixtures occurring in ceiling system, tied from structure above, not grid support. Comply with National Electric Code, Article 410, for additional light fixture attachment. Wire slopes as above.
5. Install all cross tees to true lines to accommodate ceiling tile panels, at spacing as indicated
6. Install all wall moulds with continuous caulking bead applied to wall mould prior to erection. Also continuously caulk crack between wall and wall mould after mould is installed. Erect to wall, true and level with nails or screws at 2'-0" centers, minimum 3/4" long.
7. Install special ceiling closures to cover all vertical changes in ceiling planes and/or where shown on drawings.

3.03 CLEANING AND PROTECTION

- A. Following erection, clean all dirty or discolored tile and leave free of defects. Use clips to hang finish grid from sub-grid. Remove units which are damaged along edge or in panel, or improperly applied and replaced as directed by ARCHITECT.

3.04 EXCESS MATERIALS

- A. Provide five percent of the total floor area for each type of tile in full unbroken cartons of regular (SAG) ceiling panels for OWNER use. Store in designated location. This material is not to be used by the CONTRACTOR for replacement of damaged ceilings.

END OF SECTION 09511