

# PROJECT MANUAL

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## WESTERN MIDDLE SCHOOL GENERATOR REPLACEMENT

WESTERN MIDDLE SCHOOL

1 WESTERN JUNIOR HIGHWAY

GREENWICH, CT 06830

BID #2277-19

OCTOBER 16, 2019

ISSUED FOR BID

### MEP ENGINEER:

LANDMARK FACILITIES GROUP, INC.

252 EAST AVENUE

NORWALK , CT 06855



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**GREENWICH PUBLIC SCHOOLS**  
**Purchasing Department**  
**290 Greenwich Ave.**  
**Greenwich, Connecticut 06830**  
**(203) 625-7400**  
**Fax (203) 625-7677**  
**EUGENE H. WATTS**  
**Senior Buyer**

October 16, 2019

Dear Sir/ Madam:

You are invited to submit a bid for **Generator Replacement** at Western Middle School. This bid will be a lump sum for your work and material in accordance with the plans and specifications contained herein.

Bidders are urged to read all documents carefully and provide all information requested. Bids which are Incomplete, conditional, or contain irregularities of any kind, will be subject to rejection.

Bids must be submitted on the schedule form attached hereto. All unit prices must be filled in. Each bid must be submitted with one (1) original and three (4) copies of the bid. Bidders must submit bids in a clear, concise, and legible manner so as to permit proper evaluation of responsive bids. Faxed bids will not be accepted. The original bid and copies must be placed in a sealed plainly marked envelope bearing the following:

**GENERATOR REPLACEMENT (Western Middle School) - BID NUMBER: 2277-19**

**KEY PROJECT DATES**

A. Mandatory pre-bid walk through:

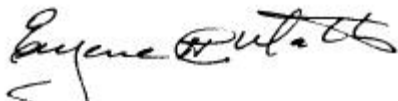
1. Wednesday **October 23**, 2019 at 11:00 am. Western Middle School (Main Entrance).

B. Bid Due Date:

1. Sealed proposals will be received as indicated below, and at that time and place will be publicly opened and read aloud.
2. Date: **November 6, 2019**
3. Time: **10:00 AM local time**
4. Location: **District Offices**
5. Address: GREENWICH PUBLIC SCHOOLS, 290 Greenwich Ave., Greenwich, Connecticut 06830, (203) 625-7411
6. All bidders are invited to attend the opening of bids.

Additional information for bidding is provided in the Instructions to Bidders.

Very truly yours,



Eugene H. Watts

## INSTRUCTIONS TO BIDDERS

1.1 The Greenwich Public Schools, Greenwich, CT, invites bid proposals for the following:

A. **Generator Replacement** for the Greenwich Public Schools at Western Middle School.

1.2 BACKGROUND:

A. TOWN / DISTRICT: The Town of Greenwich is approximately 30 miles northeast of New York City and has a population of about 60,000 residents. The Greenwich Public Schools enjoy a national reputation for excellence and have strong support from the community. The fifteen public schools have an enrollment of 9,000 students and consists of eleven elementary schools (K-5), the middle schools (6-8), and one comprehensive high school (9-12).

B. MEP ENGINEER: Landmark Facilities Group, Inc. 252 East Avenue, Norwalk CT 06855

1.3 SCHEDULE:

A. Mandatory Pre-Bid Walk Through:

1. Wednesday **October 23**, 2019 at 11:00 am, Western Middle School (Main Entrance).

B. Bid Due Date:

1. Sealed proposals will be received as indicated below, and at that time and place will be publicly opened and read aloud.

2. Date: **November 6, 2019**

3. Time: **10:00 AM local time**

4. Location: **District Offices**

5. Address: GREENWICH PUBLIC SCHOOLS, 290 Greenwich Ave., Greenwich, Connecticut 06830, (203) 625-7411

6. All bidders and other interested persons are invited to be present at this bid opening(s).

C. QUESTIONS:

1. Questions concerning this bid will be received by email only and directed to:

a. [bid\\_department@greenwich.k12.ct.us](mailto:bid_department@greenwich.k12.ct.us).

In the subject line you must put BID #2277-19, Generator Replacement.

2. All questions must be submitted no later than 12:00pm, October 28, 2019.

3. All answers will be provided by written BID ADDENDUM at [www.greenwichschools.org](http://www.greenwichschools.org) at noon on October 30, 2019. It is the responsibility of all bidders to verify that they are current with all posted information.

4. Failure to comply with these conditions will result in the bidder waiving his right to dispute the bid specifications and conditions.

1.4 BID SUBMISSION / REQUIREMENTS:

A. Each bid shall be signed and accompanied by a bid security payable to the Town of

Greenwich in the amount of ten (10%) of the bid and shall be in the form of a Bid Bond only as issued in the bid documents. Bid Bonds must use the Greenwich Public Schools Bid Bond Form (included within the bid documents), issued by a surety company listed on the current U.S. Dept of Treasury's Federal Register and be licensed to underwrite bonds in the State of Connecticut.

B. Each bid shall be accompanied by a completed copy of the CONTRACTOR'S

QUALIFICATION STATEMENT included in the bid documents. The Greenwich Public Schools reserves the right to request further information and/or supplemental information with respect to the QUALIFICATION STATEMENT of its sole discretion.

C. Each bidder shall utilize the specified manufacturers. Should the contractor desire to substitute other articles, materials, apparatus, products or process, other than those specified or approved as equal, the contractor shall apply to the engineer, in writing, for approval of such substitution. It should be noted that the bid shall not be based on a substituted article, material, apparatus, product or process. No substitution review shall take place prior to bid.

D. Each form of the bid contains a section for alternates and for unit prices. All alternates prices must be completed with a dollar value. Blanks, "Not Applicable" (N/A), "No Effect", etc in these portions of the BID FORM shall be construed to indicate that the particular alternate shall be performed without increased to the contract price as they relate to the scope of the trade package.

E. Unit prices which do not affect the work all the bidder's trade may be filled in "Not Applicable" or "(N/A)". "Not Applicable" or Blanks in these Bid Forms shall be construed to indicate that the unit price is not applicable as it relates to the scope of the trade package.

F. TAX: No amount shall be added for the Connecticut sales tax or Federal tax. The Greenwich Public School system is exempt from the payment of taxes imposed by the Federal government and/or State of Connecticut. Taxes must not be included in the bid price.

G. PERMIT FEES: Greenwich Public Schools will secure the building permit(s) and upon award of the Contract they will be transferred to the awarded contractor / vendor. No cost should be included in the base bid for the building permit.

H. WAGES: All work shall be done in accordance with applicable State statutes; conditions of Prevailing Wages shall apply. Prevailing Wage Schedule provided herein is for demonstrable purposes only. It is the responsibility of the bidder / vendor to verify actual rates.

I. BACKGROUND CHECK: Per Connecticut General Statutes CGS § 10-221d, which went into effect July 1, 2016, and 10-222c, all people who are entering into a paid agreement with a school district must submit to a mandatory background check.

#### COLLUSION AMONG BIDDERS:

1. More than one offer from an individual, firm, partnership, corporation, or association under the same or different name will be rejected. Reasonable grounds for believing that a bidder is interested in more than one bid for the work contemplated will cause rejection of all bids in which the bidder is interested. Any or all bidders will be rejected if there is any reason for believing that collusion exists among the bidders.

2. Participants in such collusion may not be considered in the future offers for the same work. Each bidder, by submitting a bid, certifies that it is not part to any collusive action.

3. Each bid shall be accompanied by a completely filled in and properly executed **Non-Collusive Affidavit**, provided.

J. EMPLOYMENT DISCRIMINATION BY CONTRACTOR PROHIBITED: The successful bidder will not discriminate against any employee or applicant for employment because of race, religion, color, sex, or nation origin, except where religion, sex or national original is a bona fide occupational qualification reasonably necessary to the normal operation of the contractor.

The successful bidder agrees to post in a conspicuous place, available to employees and applicants for employment, notices setting forth the provision of this nondiscrimination clause. The successful bidder in all solicitations or advertisements for employment, placed by or on behalf of the contractor, will state that such successful bidder in an EQUAL OPPORTUNITY EMPLOYER.

K. QUALIFICATIONS: No qualifications to the bid are allowed. If bids are qualified, they may be deemed non-responsive and subsequently rejected.

L. No Bidder may withdraw their Bid within 90 days after the actual date of Bid Opening.

M. COPIES: Failure to submit a bid with four copies does not constitute a material defect.

N. BID EVALUATION: A committee composed of various administrators will evaluate bids. The following criteria guidelines will be used in analyzing and evaluating this bid:

1. Conformance to the requirements of this bid, i.e. conformance to Terms, Conditions and Scope of Work.

2. Proven skills and technical competence.

3. Background of the firm.

4. For Vendor firm, identification of all personnel who will have a principal responsibility.

5. The Board of Education may consider proximity of the vendor's service as a factor in determining lowest responsible bid. Companies must be located within 60 miles of the School District in order to submit a bid.

6. The Board of Education shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform the work and the bidder shall furnish the Board of Education with information and data for this purpose as the Board of Education may request. The right is reserved to reject any bid where, on investigation, the evidence or information submitted by such bidders does not satisfy the Board of Education that the bidder is qualified to carry out properly the terms of the Contract.

7. Apparent low bidder agrees to submit the following Supplements to Greenwich Public Schools within 48 hours after submission of the Bid for consideration in award of the Contract:

a. Subcontractors; Include the names of all Subcontractors and the portions of the Work they will perform.

b. Cost Breakdown identifying the Bid Price/Sum segmented into portions as requested, broken down per school building. (Schedule of Values)

O. AWARD: The Contract shall be awarded to the lowest responsible and qualified bidder, meaning the bidder whose bid is the lowest of those bidders possessing the skill, ability, and integrity necessary to faithfully perform the work based on objective criteria considering past performance and financial responsibility. In considering past performance, the Greenwich Public Schools shall evaluate the skill, ability, and integrity of bidders in terms of the bidders' fulfillment of contract obligations and all the bidders' experienced or lack of experience with projects of similar size and scope. The Greenwich Public Schools reserves the right to consider as unqualified to do the work required by the bid documents any bidder that does not habitually perform with its own forces the major portion of the work involved in the bid documents. No contract will be awarded to any bidder who is at time of award not qualified under applicable regulations issued by the Secretary of Labor, United States of Department of Labor, or any applicable State and local laws and regulations.

P. REJECTION: after review of all sectors, terms, and conditions, including price, Greenwich Public Schools reserves the right to reject any and all bids, or any part thereof, or waive defects in same.

Q. Any bid may be withdrawn prior to the opening time and date. Any bids received after the specified time and date will not be considered.

#### 1.5 BIDDER QUALIFICATIONS:

A. The Contractor shall hold a current "DAS Contractor Prequalification Certificate" (not a predetermination letter) from the Department of Administrative Services of the State of

Connecticut according to Connecticut General Statutes Section 4a-100, 4b-101, 4b-91,  
previously stated as Public Act 03-215 and as amended by Public Act 04-141.

B. Bidders shall submit with their bids a "DAS Contractor Prequalification Certificate" as well as a current "Update (bid) Statement".

C. Questions regarding these requirements should be directed to the State of Connecticut, DAS. Contact information can be found at **[www.das.state.ct.us](http://www.das.state.ct.us)**.

D. Companies must be located within 60 miles of the School District in order to submit a bid.

E. Companies submitting a bid must be in business under the same corporate name for a minimum of five (5) years.

F. Non-Connecticut Contractors: Pursuant to Connecticut General Statutes §12-430(7), as amended by Public Act No. 11-61, Section 66, a non-resident contractor shall comply with the State of Connecticut's bonding requirements.

#### 1.6 CONTRACT:

A. SINGLE PRIME CONTRACT will be let for:

1. General Construction

2. Bid awards must be approved by the Greenwich Public Schools. All contractors shall be required to execute the Greenwich Public Schools standard form of Contract and accompanying Payment & Performance Bonds without exception.

B. LENGTH: This bid is for awarding the contract to cover the period beginning December 2, 2019. Once this Bid is awarded, successful bidder must make arrangements to meet with Greenwich Public Schools as required.

C. OPTION TO EXTEND: All work associated with the project shall be completed on or before July 14, 2020. The Board of Education may, at their option and with the approval of the vendor, extend the period of the Contract to December 31, 2020. If the Board of Education intends to extend the contract period, the vendor shall be notified in writing by the purchasing department at least fourteen (14) calendar days prior to the expiration of the original contract.

D. AWARD OF CONTRACT: The contract will be awarded by the Board of Education to a qualified firm or person at compensation determined to be fair and reasonable considering budgetary limitations, scope, complexity, and the nature of goods and/or services.

1. If there is a conflict between the Contract Agreement and the General Conditions, the Contract Agreement shall prevail.

2. The successful bidder will produce for the Greenwich Public Schools review a current financial statement, which will remain strictly confidential.

E. The contractor shall simultaneously with the signing of the Contract, furnish the Town the executed Performance, Maintenance, and Payment Bond of a surety company authorized to do business the State of Connecticut, and acceptable to the Town, in the sum of all the full amount of the Contract Obligation in the form provided by the Town. The Performance Bond will not be required where the total estimated cost of labor and materials under the contract with respect to which such general bid is submitted is less than one hundred thousand dollars (\$100,000). Once a contract exceeds \$100,000 the bidder will be responsible for obtaining and paying for all bonds required by Greenwich Public Schools.

F. FEE PAYMENTS: The Greenwich Public Schools reserves the right to provide payment in accordance with completion of services based on the Project Schedule.

G. BACKGROUND CHECK: The bidder is required to do Employee Background Checks as imposed by Section 2 of Public Act 16-67, which amended Conn. Gen. Stat, 10-222c.

**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION**

3.1 PROVISIONS:

A. Consumption or use of alcohol and / or drugs is prohibited on school property. Any individual with alcohol or drugs will be removed from said property and will not be allowed to work on the project. Smoking is prohibited in all school buildings and on school grounds.

B. Greenwich Public Schools reserves the right to reject any proposed subcontractor for reasonable cause.

## BID FORM

The undersigned hereby proposes to furnish all labor, materials, devices, appliances, supplies, equipment, services and other facilities necessary to complete all of the work of the above referenced Contract, as required by, and in accordance with, the provisions of the Instructions to Bidders, the Conditions of the Contract, the Drawings and Specifications, all as prepared by Landmark Facilities Group, Inc. dated October 16, 2019; and that, if this Proposal is accepted, the Undersigned agrees to enter into an Agreement with the Owner to perform this work for the sum(s) as follows:

SUBMITTED BY: \_\_\_\_\_

Bidder's Full Name \_\_\_\_\_

Address \_\_\_\_\_

City, \_\_\_\_\_ State, \_\_\_\_\_ Zip \_\_\_\_\_

### 1.1 BASE BID VALUE:

A. **BASE BID:** The Base Bid Proposal for all work required by the Contract Document for the Generator Replacement Project at **WESTERN MIDDLE SCHOOL** and Related Work is as follows:

\_\_\_\_\_ (\$ \_\_\_\_\_) DOLLARS

### 1.2 ALTERNATE VALUES:

The values of Alternates to the Base Bid amount are identified below.

- |    |              |       |       |
|----|--------------|-------|-------|
| 1. | Alternate #1 | _____ | _____ |
| 2. | Alternate #2 | _____ | _____ |
| 3. | Alternate #3 | _____ | _____ |
| 4. | Alternate #4 | _____ | _____ |
| 5. | Alternate #5 | _____ | _____ |
| 6. | Alternate #6 | _____ | _____ |

### 1.3 ACCEPTANCE:

A. If this bid is accepted by Greenwich Public Schools within the time period stated above, we will:

1. Execute the Agreement within seven days of receipt of Notice of Award.
2. Furnish the required bonds within seven days of receipt of Notice of Award.

B. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Greenwich Public Schools by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

### 1.4 CONTRACT TIME:

A. The Undersigned agrees in the Base Bid to complete the work as per the Milestone Schedule provided in the Specifications.

**1.5 ADDENDA:**

A. The following Addenda have been received. The modifications to the Bid Document noted below have been considered and all cost are included in the Bid Sum.

- |    |                 |             |
|----|-----------------|-------------|
| 1. | Addendum# _____ | Date _____. |
| 2. | Addendum# _____ | Date _____. |
| 3. | Addendum# _____ | Date _____. |
| 4. | Addendum# _____ | Date _____. |
| 5. | Addendum# _____ | Date _____. |

**1.6 BIDDER'S FURTHER AFFIRMATION AND DECLARATION**

A. The above name bidder and should this bid be a joint bid each party thereto, further affirm and declares;

1. That said bidder is of lawful age and the only one interested in this bid; and that no other person, firm or corporation, except those herein above names has any interest in this bid or in the contract proposed to be entered into.

2. That said bidder is not in arrears to the Greenwich Public School upon debt or contract, and is not a defaulter, as surety or otherwise upon any obligation to the Greenwich Public Schools.

3. That no member of the Greenwich Public Schools or any officer or employee of the Greenwich Public School or person whose salary is payable in whole or in part from the School District treasury, or the spouse of any foregoing is or shall be or become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise, in this bid, or in the performance of the Contract, or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof.

4. That he/she has carefully examined the site of the work and that, from his / her own investigations, he/ she has satisfied him/ herself as to the nature and location of the work, and character, quality and quantity of material, and all difficulties likely to be encountered, the kind and extent of equipment and other facilities needed for the performance of the work, the general and local conditions, and all other items which may, in any way, effect the work or its performance.

5. That if a corporation, this bid or proposal containing the Non-Collusive Binding Certification and the foregoing Affirmation and Declaration has been authorized by the Board of Directors of such Corporation, which authorization includes the signing and submission of this bid or proposal and the inclusion therein of the said Certificate of Non-Collusion and Affirmation and Declaration as the Act and Deeds of the Corporation.

**BID FORM SIGNATURE(S)**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Corporate Seal

Company Name: \_\_\_\_\_

was hereunto affixed in the presence of:

\_\_\_\_\_  
Subscribed and sworn before me this day of \_\_\_\_\_ 2019

Notary Public: \_\_\_\_\_

My Commission Expire: \_\_\_\_\_

### CONTRACTOR'S QUALIFICATION STATEMENT

With the submittal of the Bid Proposal Form (Section 00 0400), the bidder shall attach this Contractor's Qualification Statement and shall answer the Questions herein. Failure to answer these questions in full may be cause for rejection of the bidder's proposal. **If more space is needed, please attach other sheets with reference to subject paragraph.**

The Board of Education reserves the right to consider, but not limited to, the financial responsibility, experience and reputation in the construction industry, as well as the specific qualifications listed below and elsewhere in this document in considering bids and awarding the contract. The Board of Education reserves the right to waive any informalities if, at its discretion the interest of the Greenwich Public Schools will be better served.

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO: Greenwich Public Schools

ADDRESS: 290 Greenwich Avenue, Greenwich, CT 06830

SUBMITTED BY: Corporation

NAME Partnership

ADDRESS: Individual

PRINCIPAL OFFICE Other

NAME OF PROJECT: Generator Replacement – Western Middle School

TYPE OF WORK (file separate for each Classification of Work)

\_\_\_\_\_ General Construction \_\_\_\_\_ HVAC

\_\_\_\_\_ Plumbing \_\_\_\_\_ Electrical

\_\_\_\_\_ Other \_\_\_\_\_ Fire Alarm

#### 1.1 ORGANIZATION

A. How many years has your organization been in business as a Contractor?

B. How many years has your organization been in business under its present business name?  
1. Under what other or former names has your organization operated?

C. What is the firm's bonding range?

1. Single

2. Aggregate

D. If your organization is a corporation, answer the following:

1. Date of Incorporation:

2. State of Incorporation:

3. President's name:

4. Vice-president's name(s):

5. Secretary's name:

6. Treasurer's name:

E. If your organization is a partnership, answer the following:

1. Date of organization:

2. Type of partnership (if applicable):

3. Name(s) of general partner(s):

F. If your organization is individually owned, answer the following:

1. Date of organization:

2. Name of owner:

G. If the form of your organization is individually owned, answer the following:

1. If the form of your organization is other than those listed above, describe it and name the principals:

## 1.2 OWNERSHIP, MANAGEMENT, AFFILIATION

A. Identify each person who is or has been within the past five years, an owner of 5.0% or more of the firm's shares, one of the five largest shareholders, a director, an officer, a partner or the proprietor, or a managerial employee.

First Name	MI	Last Name	DOB	% Owned	Director Y or N	Officer Y or N	Title	Partner Y or N

B. Joint Ventures: Provide information for all firms involved. Fill in name, % owned, office held; indicate by Y or N whether director, officer, partner and title.

First Name	MI	Last Name	DOB	% Owned	Director Y or N	Officer Y or N	Title	Partner Y or N

C. Identify any other firms in which now or in the past five years, the firm or any of the individuals listed in questions 1.2.A and 1.2.B above, either owned or owns 5.0% or more of the shares of or was or is one of the five largest shareholders, a director, an officer, a partner or a proprietor of said other firm. \_\_\_\_\_ Yes, list below \_\_\_\_\_ No

D Has the firm or any firm listed in response to questions above defaulted or been terminated and its surety called upon to complete, any contract awarded within the past five years ( ) Yes, (

Federal ID No.	% Owned	Firm/Company Name: Position	Company Address

) No. If yes, give date(s), agency(ies)/owner(s), project(s), contract numbers, and describe including the result:

E. List below any projects performed by the bidder in the past five (5) years on which any of the following events occurred:

- F.
1. Were any extension of time requested by the contractor, and were such requests granted?
  2. Was litigation and/or arbitration commenced by either the Owner or the bidder as a result of the work of the project performed by the bidder?
  3. Were any liens filed on the project by subcontractors or material suppliers of the bidder?
  4. Did the bidder make any claims for extra work on the project, and did said claim result in a change order?

Project	Type of Event	Name/Address of Owner	Name & Phone # of Contact Person at Owner

G. For all contracts within the past five years: (a) List all liens or claims over \$25,000 filed against the firm and remaining undischarged or unsatisfied for more than 90 days; and (b) list and describe all liquidated damages assessed.

### 1.3 FINANCIAL INFORMATION

A. Provide a copy of the firm's most recent annual financial statement.

#### 1.4 OTHER INFORMATION

A. Within the past five years has the firm, any affiliate, any predecessor company or entity or any person identified in questions number 1.1 through 1.2 above been the subject of any of the following: (Respond to each question and describe in detail the circumstances of each affirmative answer: (Attach additional pages if necessary).

- |  |                    |
|--|--------------------|
| 1. A judgment of conviction for any business-related conduct constituting a crime under state or federal law.  | No _____ Yes _____ |
| 2. A criminal investigation or indictment for any business-related conduct constituting a crime under state or federal law?  | No _____ Yes _____ |
| 3. An order of protection filed against an officer or employee prohibiting access to jobsite(s) or prohibiting contact with any staff of any owner?  | No _____ Yes _____ |
| 4. A grant of immunity for any business-related conduct constituting a crime under state and federal law?  | No _____ Yes _____ |
| 5. A federal or state suspension or debarment?   | No _____ Yes _____ |
| 6. A rejection of any bid for lack of qualifications, responsibility or because of the submission or an informal, non-responsive or incomplete bid?  | No _____ Yes _____ |
| 7. A rejection of any proposed subcontract for lack of qualifications, responsibility or because of the submission or an informal, non-responsive or incomplete bid?   | No _____ Yes _____ |
| 8. A denial or revocation of prequalification?   | No _____ Yes _____ |
| 9. A voluntary exclusion from bidding/contracting agreement?   | No _____ Yes _____ |
| 10. Any administrative proceeding or civil action seeking specific performance or restitution in connection with any public works contract except any disputed work proceeding?                                    | No _____ Yes _____ |
| 11. An OSHA Citation and Notification of Penalty containing a violation classified as serious?   | No _____ Yes _____ |
| 12. An OSHA Citation or Notification of Penalty containing a violation classified as willful?  | No _____ Yes _____ |
| 13. A prevailing wage or supplement payment violation?   | No _____ Yes _____ |
| 14. A State Labor Law violation deemed willful?  | No _____ Yes _____ |
| 15. Any other federal or state Citations, Notices, violation orders, pending administrative hearings or proceedings or determinations of a violation of any labor law or regulation?                               | No _____ Yes _____ |
| 16. Any criminal investigation, felony indictment or conviction concerning formation of or any business association with, an allegedly false or fraudulent women's, minority or disadvantaged business enterprise? | No _____ Yes _____ |
| 17. Any denial, decertification, revocation or forfeiture of Women's Business Enterprise, Minority Business Enterprise or Disadvantaged Business Enterprise status?  | No _____ Yes _____ |
| 18. Rejection of a low bid on a State contract for failure to meet statutory affirmative action M/WBE requirements?  | No _____ Yes _____ |
| 19. A consent order with the NYS Department of Environmental Conservation or a federal, state or local government enforcement determination involving a violation of federal or state environmental laws?          | No _____ Yes _____ |
| 20. Any bankruptcy proceeding?   | No _____ Yes _____ |
| 21. Any suspension or revocation of any business or professional license?  | No _____ Yes _____ |
| 22. Any citations, notices, violation orders, pending administrative hearings or proceedings or determinations for violation of:   | No _____ Yes _____ |

No \_\_\_\_\_ Yes \_\_\_\_\_

Federal, state or local health laws, rules or regulations?

Federal, state or local environmental laws, rules and regulations?

No \_\_\_\_\_ Yes \_\_\_\_\_

Unemployment insurance or workers compensation coverage  
or claim requirements?

No \_\_\_\_\_ Yes \_\_\_\_\_

ERISA (Employee Retirement Income Security Act)?

No \_\_\_\_\_ Yes \_\_\_\_\_

Federal, state or local human rights laws?

No \_\_\_\_\_ Yes \_\_\_\_\_

Federal or state security laws?

No \_\_\_\_\_ Yes \_\_\_\_\_

23. Withdrawal or an agreement to withdraw a bid submitted to  
a public owner or a request by a public owner to withdraw a bid?

No \_\_\_\_\_ Yes \_\_\_\_\_

24. During the five year period preceding the submission of this bid, has  
the bidder been named as a part in any lawsuit in an action involving  
a claim for personal injury or wrongful death arising from the  
performance of work related to any project in which it has been  
engaged? If the answer to the question is yes, list all such lawsuits,  
the index number associated with said lawsuit and the status of the  
lawsuit at the time of the submission of this bid.

No \_\_\_\_\_ Yes \_\_\_\_\_

25. During the five year period preceding the submission of this bid, has  
the bidder been the subject of proceedings before the Department of  
Labor for alleged violations of the Labor Law as it related to the  
payment of prevailing wages and/or supplemental payment  
requirements? If the answer to the question is yes, list each such  
instance of the commencement of a Department of Labor  
proceeding, for which project such proceeding was commenced, and  
the status of the proceeding at the time of the submission of this bid.

No \_\_\_\_\_ Yes \_\_\_\_\_

26. During the five year period preceding the submission of this bid, has  
the bidder been the subject of proceedings involving allegations that  
it violated the Worker's Compensation Law including but not limited  
to the failure to provide proof of worker's compensation or disability  
coverage and/or any lapses thereof? If the answer to the question is  
yes, list such instance of violation and the status of the claimed  
violation at the time of disposition of this bid.

No \_\_\_\_\_ Yes \_\_\_\_\_

27. Has the bidder, its officers, directors, owner and/or managerial  
employees been convicted of a crime or been the subject of a  
criminal indictment during the five years preceding the submission of  
this bid? If the answer to the question is yes, list the name of the  
individual convicted or indicted, the charge against the individual and  
the date of disposition of the charge.

No \_\_\_\_\_ Yes \_\_\_\_\_

28. During the five year period preceding the submission of this bid, has  
the bidder been charged with and/or found guilty of any violations of  
federal, state or municipal environmental and/or health laws, codes,  
rules and/or regulations? If the answer to the question is yes, list the  
nature of the charge against the bidder, the date of the charge, and  
the status of the charge at the time of the submission of this bid.

No \_\_\_\_\_ Yes \_\_\_\_\_

29. Has the bidder ever defaulted or had its surety called upon to  
complete any contract awarded within the past five years? If the  
answer to the question is yes, list the projects, the dates and the  
nature of the termination (convenience, suspension, for cause).

No \_\_\_\_\_ Yes \_\_\_\_\_

30. Has any officer or partner of the bidder's organization ever defaulted  
or had its surety called upon to complete any contract awarded within  
the past five years or been an officer or partner of some other  
organization that has been terminated from a project by an owner? If  
yes, state:

No \_\_\_\_\_ Yes \_\_\_\_\_

Name of Individual	Name of Organization	Reason(s)

C. LICENSING

1. List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration of license numbers, if applicable.

2. List jurisdictions in which your organization's partnership or trade name is filed:

3. Has any director, officer, owner or managerial employee had any professional license suspended or revoked? If the answer is yes, list the name of the individual, the professional license he/she formally had, whether the license was revoked or suspended and the date of the revocation or suspension.

No \_\_\_\_\_ Yes \_\_\_\_\_

1.5 EXPERIENCE

A. List the categories of work that your organization will perform with its own forces:

1. Claims and Suits. (If the answer of any of the questions below is yes, please attach details.)

a. Have you or has any director, officer, owner or managerial employee ever failed to complete any work awarded to them?

If yes, list the project(s) the date(s) and the reason(s) for the failure to complete.

No \_\_\_\_\_ Yes \_\_\_\_\_

b. Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

No \_\_\_\_\_ Yes \_\_\_\_\_

c. Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

No \_\_\_\_\_ Yes \_\_\_\_\_

d. Within the past five years, has any officer or principal of your organization ever been an officer or a principal of another organization when it failed to complete a construction contract? If the answer is yes, please attach details.

No \_\_\_\_\_ Yes \_\_\_\_\_

B. On a separate sheet, list **all** similar construction projects your organization has in progress or completed, giving the name of project, owner, engineer, contract amount, percent complete and scheduled completion date.

1. State total worth of work in progress and under contract:

C. On a separate sheet, list **all** projects, not listed above, that your organization has completed or in progress in the past five years, giving the name of the project, owner, engineer, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

1. State average annual amount of construction work performed during the past five years:

D. On a separate sheet, list the construction experience and present commitment of the key individuals of your organization.

1.6 REFERENCES

A. Trade reference:

B. Bank references:

C. Surety:

1. Name of present bonding company:

2. Name and address of agent:
3. Name or previous bonding company:

1.7 CERTIFICATION

A. The undersigned recognizes that this questionnaire is submitted for the purpose of the Greenwich Public Schools (Owner) to award a contract or approve a subcontract; acknowledges that the Owner may in its discretion, by means which it may choose, determine the truth and accuracy of all statements made herein; acknowledge that intentional submission of false or misleading information may constitute a felony, or a misdemeanor, and may also be punishable by a fine or imprisonment; and states that the information submitted in this questionnaire and any attached pages is true, accurate and complete.

B. Dated at this day of \_\_\_\_\_

\_\_\_\_\_  
Name of Organization:

\_\_\_\_\_  
By:

\_\_\_\_\_  
Title:

**SWORN AND SUBSCRIBED TO BEFORE ME, A NOTARY PUBLIC, IN AND FOR**

**THE COUNTY OF \_\_\_\_\_ AND THE STATE OF \_\_\_\_\_**

**THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2019**

\_\_\_\_\_  
NOTARY PUBLIC

MY COMMISSION EXPIRES \_\_\_\_\_

**NON-COLLUSION AFFIDAVIT**

GREENWICH PUBLIC SCHOOLS  
290 GREENWICH AVE

GREENWICH, CONNECTICUT

State of \_\_\_\_\_:

County of \_\_\_\_\_:s.s.

I state that I am the \_\_\_\_\_ of \_\_\_\_\_  
(TITLE) (NAME OF MY FIRM)

and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers.  
I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

(1) The price(s) and amount of this bid have been arrived at independently and without consultation communication or agreement with any other contractor, bidder/proposer or potential bidder/proposer.

(2) Neither the price(s) nor the amount of this bid/rfp, and neither the approximate price(s) nor approximate amount of this bid/rfp, have been disclosed to any other firm or person who is a bidder/proposer or potential bidder/proposer, and they will not be disclosed before bid/rfp opening.

(3) No attempt has been made or will be made to induce any firm or person to refrain from bidding/proposing on this contract, or to submit a bid/proposal higher than this bid/rfp, or to submit any intentionally high or noncompetitive bid/rfp or other form of complementary bid/rfp.

(4) I fully understand that more than one offer from an individual, firm partnership; corporation or association under the same or different name will be rejected. Reasonable grounds for believing that a bidder/proposer is interested in more than one bid/rfp for the work contemplated may cause rejection of all bids/rfps in which the bidder/proposer is interested. Any or all bidders/proposers will be rejected if there is any reason for believing that collusion exists among the bidders/proposers. Participants in such collusion may not be considered in the future offers for the same work. Each bidder/proposer by submitting a bid/proposal certifies that it is not a part to any collusive action.

(5) The bid/rfp of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive bid/proposal.

(6) \_\_\_\_\_ its affiliates, subsidiaries, officers,  
(NAME OF MY FIRM)

directors and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any

jurisdiction, involving conspiracy or collusion with respect to bidding/proposing on any public contract, except as follows:

I state that \_\_\_\_\_ understands and acknowledges that  
(NAME OF MY FIRM)

the above representations are material and important, and will be relied on by Greenwich Public Schools in awarding the bid/proposal for which this is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from Greenwich Public Schools of the true facts relating to the submission of bids/proposals for this contract.

(7) I agree to furnish and deliver all services on the date and time agreed on by  
\_\_\_\_\_ and the Greenwich Board of Education at  
(NAME OF MY FIRM)

The time the purchase order is placed. Furthermore, there will not be any cancellations to the Board of Education. If a bidder/proposer submits a bid/proposer on any item he/she will be responsible for delivering that item at the bid/proposal cost, in accordance with the attached above specifications, which were submitted with this bid/proposal and upon which the bid/proposal was made.

(8) In submitting this bid/proposal, the undersigned declares that this is made without any connection with any persons making another bid/proposal on the same contract; that the bid/proposal is in all respects fair and without collusion, fraud or mental reservation; and that no official of the Town, or any person in the employ of the Town, is directly or indirectly interested in said bid/proposal or in the supplies or work to which it relates, or in any portion of the profits thereof.

(9) In submitting this bid, the undersigned further declares that it has not, and will not, induce or attempt to induce any Town of Greenwich employee or officer to violate the Greenwich Code of Ethics in connection with its offer to provide goods or services under, or otherwise in the performance of such contract.

(10) The undersigned further understands that the above declarations are material representations to the Town of Greenwich made as a condition to the acceptance of the bid/proposal. If found to be false, the Town of Greenwich retains the right to reject said bid/proposal and rescind any resultant contract and/or purchase order and notify the undersigned accordingly, thereby declaring as void said bid/proposal and contract or purchase order.

(11) The Greenwich Code of Ethics can be found at [www.greenwichct.org](http://www.greenwichct.org). Code of Ethics stated as follows:

(2) DEFINITION. (1) Indirect interest, without limiting its generality, shall mean and include the interest of any subcontractor in any prime contract with the Town and the interest of any person or his immediate family in any corporation, firm or partnership which as a direct or indirect interest in any transaction with the Town. (2) Substantial financial interest shall mean any financial interest, direct or indirect, which is more than nominal and which is not common to the interest of other citizens of the Town. (3) Town Officer shall mean and include any official, commission, committee, legislative body or other agency of the Town. (4) Transaction shall mean and include the offer,

sale or furnishing of any real or personal property, material, supplies otherwise, for the use and benefit of the Town for a valuable consideration, excepting the services of any person as a Town Officer.

(3) GIFTS AND FAVORS. No Town Officer or his immediate family shall accept any valuable gift, things, favor, loan or promise which might tend to influence the performance or nonperformance of his official duties.

(4) IMPROPER INFLUENCE. No Town Officer having a substantial financial interest in any transaction with the Town or in any action to be taken by the Town shall use his office to exert his influence or to vote on such transaction or action.

VENDOR INFORMATION. (Please print the following)

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VENDOR NAME

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ADDRESS

---

TELEPHONE

FAX #

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E-MAIL

WEB SITE

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AUTHORIZED SIGNATURE

TITLE

(12) By signing this bid/proposal the bidder/proposer understands and agrees to the attached terms, conditions, and specifications, including Collusion among Bidders/Proposers Employment Discrimination by the Contractor Prohibited.

---

SIGNATURE

SWORN AND SUBSCRIBED TO BEFORE ME, A NOTARY PUBLIC, IN AND FOR THE COUNTY OF

\_\_\_\_\_ AND THE STATE OF

\_\_\_\_\_ THIS \_\_\_\_\_

DAY OF \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_ MY COMMISSION EXPIRES \_\_\_\_\_

NOTARY PUBLIC

Project: Emergency Generator Installation Western Middle School

**Minimum Rates and Classifications  
for Building Construction**

ID# : B 26580

**Connecticut Department of Labor  
Wage and Workplace Standards Division**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: 26580 Project Town: Greenwich  
State# FAP#:

Project: Emergency Generator Installation Western Middle School

<b>CLASSIFICATION</b>	<b>Hourly Rate</b>	<b>Benefits</b>
1a) Asbestos Worker/Insulator (Includes application of insulating materials, protective coverings, coatings, & finishes to all types of mechanical systems; application of firestopping material for wall openings & penetrations in walls, floors, ceilings	38.25	27.96
1a) Asbestos Worker/Insulator (Includes application of insulating materials, protective coverings, coatings, & finishes to all types of mechanical systems; application of firestopping material for wall openings & penetrations in walls, floors, ceilings	38.25	27.96
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 7**		

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1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.\*\*See Laborers Group 7\*\*

1c) Asbestos Worker/Heat and Frost Insulator	40.21	30.99
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1c) Asbestos Worker/Heat and Frost Insulator	40.21	30.99
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2) Boilermaker	38.34	26.01
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2) Boilermaker	38.34	26.01
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3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	34.72	33.58 + a
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3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	34.72	33.58 + a
3b) Tile Setter	34.90	25.87
3b) Tile Setter	34.90	25.87
3c) Terrazzo Mechanics and Marble Setters	31.69	22.35
3c) Terrazzo Mechanics and Marble Setters	31.69	22.35
3d) Tile, Marble & Terrazzo Finishers	26.70	21.75

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3d) Tile, Marble & Terrazzo Finishers	26.70	21.75
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3e) Plasterer	33.48	32.06
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3e) Plasterer	33.48	32.06
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-----LABORERS-----

-----LABORERS-----

4) Group 1: Laborers (common or general), acetylene burners, concrete specialists, wrecking laborers, fire watchers.	30.75	20.84
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4) Group 1: Laborers (common or general), acetylene burners, concrete specialists, wrecking laborers, fire watchers.	30.75	20.84
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	31.00	20.84
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	31.00	20.84
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	31.25	20.84
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	31.25	20.84
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	31.75	20.84

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4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	31.75	20.84
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	31.50	20.84
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	31.50	20.84
4e) Group 6: Blasters, nuclear and toxic waste removal.	33.75	20.84
4e) Group 6: Blasters, nuclear and toxic waste removal.	33.75	20.84
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	31.75	20.84

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4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	31.75	20.84
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4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	29.03	20.84
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4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	29.03	20.84
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4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	28.49	20.84
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4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	28.49	20.84
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4i) Group 10: Traffic Control Signalman	18.00	20.84
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4i) Group 10: Traffic Control Signalman	18.00	20.84
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Vinyl Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	33.53	25.66
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Vinyl Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	33.53	25.66
5a) Millwrights	34.04	26.09
5a) Millwrights	34.04	26.09
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	40.00	36.15

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6) Electrical Worker (including low voltage wiring) (Trade License required: 40.00 E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)		36.15
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	53.37	33.705+a+b
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	53.37	33.705+a+b
-----LINE CONSTRUCTION-----		
-----LINE CONSTRUCTION-----		
Groundman	26.50	6.5% + 9.00

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Groundman	26.50	6.5% + 9.00
Linemen/Cable Splicer	48.19	6.5% + 22.00
Linemen/Cable Splicer	48.19	6.5% + 22.00
8) Glazier (Trade License required: FG-1,2)	38.18	21.80 + a
8) Glazier (Trade License required: FG-1,2)	38.18	21.80 + a
9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	36.67	35.77

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9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	36.67	35.77
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----OPERATORS----

----OPERATORS----

Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over), work boat 26 ft. and over and Tunnel Boring Machines. (Trade License Required)	40.97	24.80 + a
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Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over), work boat 26 ft. and over and Tunnel Boring Machines. (Trade License Required)	40.97	24.80 + a
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Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	40.64	24.80 + a
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Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	40.64	24.80 + a
Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	39.88	24.80 + a
Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	39.88	24.80 + a
Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).	39.48	24.80 + a
Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).	39.48	24.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	38.87	24.80 + a

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Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	38.87	24.80 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.	38.87	24.80 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.	38.87	24.80 + a
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Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	38.55	24.80 + a
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Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	38.55	24.80 + a
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Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrell).	38.20	24.80 + a
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Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under Mandrell).	38.20	24.80 + a
Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	37.79	24.80 + a
Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	37.79	24.80 + a
Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	37.34	24.80 + a
Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	37.34	24.80 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	35.24	24.80 + a

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Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	35.24	24.80 + a
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Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	35.24	24.80 + a
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Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	35.24	24.80 + a
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Group 12: Wellpoint operator.	35.18	24.80 + a
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Group 12: Wellpoint operator.	35.18	24.80 + a
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Group 13: Compressor battery operator.	34.58	24.80 + a
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Project: Emergency Generator Installation Western Middle School

Group 13: Compressor battery operator.	34.58	24.80 + a
Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).	33.41	24.80 + a
Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).	33.41	24.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	32.99	24.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	32.99	24.80 + a
Group 16: Maintenance Engineer/Oiler.	32.32	24.80 + a

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Project: Emergency Generator Installation Western Middle School

Group 16: Maintenance Engineer/Oiler.	32.32	24.80 + a
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Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	36.76	24.80 + a
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Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	36.76	24.80 + a
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Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).	34.26	24.80 + a
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Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).	34.26	24.80 + a
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-----PAINTERS (Including Drywall Finishing)-----

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-----PAINTERS (Including Drywall Finishing)-----

10a) Brush and Roller	34.62	21.80
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10a) Brush and Roller	34.62	21.80
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10b) Taping Only/Drywall Finishing	35.37	21.80
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10b) Taping Only/Drywall Finishing	35.37	21.80
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10c) Paperhanger and Red Label	34.12	21.05
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Project: Emergency Generator Installation Western Middle School

10c) Paperhanger and Red Label	34.12	21.05
10e) Blast and Spray	37.62	21.80
10e) Blast and Spray	37.62	21.80
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	43.62	32.06
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	43.62	32.06
12) Well Digger, Pile Testing Machine	37.26	24.05 + a

***As of: Thursday, September 26, 2019***

Project: Emergency Generator Installation Western Middle School

12) Well Digger, Pile Testing Machine	37.26	24.05 + a
Roofer: Cole Tar Pitch	41.50	17.00 + a
Roofer: Cole Tar Pitch	41.50	17.00 + a
Roofer: Slate, Tile, Composition, Shingles, Singly Ply and Damp/Waterproofing	40.00	17.00 + a
Roofer: Slate, Tile, Composition, Shingles, Singly Ply and Damp/Waterproofing	40.00	17.00 + a
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	44.74	42.48

**As of: Thursday, September 26, 2019**

Project: Emergency Generator Installation Western Middle School

15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	44.74	42.48
16) Pipefitter (Including HVAC work) License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	(Trade	43.62 32.06
16) Pipefitter (Including HVAC work) License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	(Trade	43.62 32.06

-----TRUCK DRIVERS-----

-----TRUCK DRIVERS-----

17a) 2 Axle	29.51	24.52 + a
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Project: Emergency Generator Installation Western Middle School

17a) 2 Axle	29.51	24.52 + a
17b) 3 Axle, 2 Axle Ready Mix	29.62	24.52 + a
17b) 3 Axle, 2 Axle Ready Mix	29.62	24.52 + a
17c) 3 Axle Ready Mix	29.67	24.52 + a
17c) 3 Axle Ready Mix	29.67	24.52 + a
17d) 4 Axle, Heavy Duty Trailer up to 40 tons	29.72	24.52 + a

***As of: Thursday, September 26, 2019***

Project: Emergency Generator Installation Western Middle School

17d) 4 Axle, Heavy Duty Trailer up to 40 tons	29.72	24.52 + a
17e) 4 Axle Ready Mix	29.77	24.52 + a
17e) 4 Axle Ready Mix	29.77	24.52 + a
17f) Heavy Duty Trailer (40 Tons and Over)	29.98	24.52 + a
17f) Heavy Duty Trailer (40 Tons and Over)	29.98	24.52 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	29.77	24.52 + a

***As of: Thursday, September 26, 2019***

Project: Emergency Generator Installation Western Middle School

17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	29.77	24.52 + a
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18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	45.57	24.33 + a
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18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	45.57	24.33 + a
--	-------	-----------

19) Theatrical Stage Journeyman	25.76	7.34
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19) Theatrical Stage Journeyman	25.76	7.34
---------------------------------	-------	------

***As of: Thursday, September 26, 2019***

## Project: Emergency Generator Installation Western Middle School

*Welders: Rate for craft to which welding is incidental.*

*\*Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

*\*\*Note: Hazardous waste premium \$3.00 per hour over classified rate*

***ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:***

***1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)***

***2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson***

***3) Cranes (under 100 ton rated capacity)***

*Crane with 150 ft. boom (including jib) - \$1.50 extra*

*Crane with 200 ft. boom (including jib) - \$2.50 extra*

*Crane with 250 ft. boom (including jib) - \$5.00 extra*

*Crane with 300 ft. boom (including jib) - \$7.00 extra*

*Crane with 400 ft. boom (including jib) - \$10.00 extra*

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

*The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.*

*Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.*

*It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.*

*The annual adjustments will be posted on the Department of Labor's Web page: [www.ct.gov/dol](http://www.ct.gov/dol). For those without internet access, please contact the division listed below.*

*The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.*

*All subsequent annual adjustments will be posted on our Web Site for contractor access.*

*Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.*

**As of: Thursday, September 26, 2019**

Project: Emergency Generator Installation Western Middle School

*Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage*

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

**~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).**

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

**As of: Thursday, September 26, 2019**

### REFERENCES

**List at least five (5) references for similar projects in size, scope, and complexity, within Connecticut and / or New York.**

**THIS PAGE MUST BE COMPLETED AND SUBMITTED WITH YOUR BID.**

1) Client \_\_\_\_\_

Project Address \_\_\_\_\_

Approximate \$ Value \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone # \_\_\_\_\_

2) Client \_\_\_\_\_

Project Address \_\_\_\_\_

Approximate \$ Value \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone # \_\_\_\_\_

3) Client \_\_\_\_\_

Project Address \_\_\_\_\_

Approximate \$ Value \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone # \_\_\_\_\_

4) Client \_\_\_\_\_

Project Address \_\_\_\_\_

Approximate \$ Value \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone # \_\_\_\_\_

5) Client \_\_\_\_\_

Project Address \_\_\_\_\_

Approximate \$ Value \_\_\_\_\_ Date: Started \_\_\_\_\_ Completed \_\_\_\_\_

Contact: Name \_\_\_\_\_ Telephone # \_\_\_\_\_

**FORM OF BID BOND**

TOWN OF GREENWICH, CONNECTICUT  
BID BOND

---

Date Bond Executed

---

Principal

---

Surety

---

Penal Sum of Bond (express in words and figures )

Date of Bid

---

KNOW ALL MEN BY THESE PRESENTS, that we, the principal and surety above named, are held and firmly bound unto the Town of Greenwich, Connecticut, in the penal sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents, THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal has submitted the accompanying bid, dated as shown above for \_\_\_\_\_.  
(name of bid)

---

NOW THEREFORE, if the principal shall not withdraw said bid within the period specified therein after the opening of the same, or if no period be specified, within sixty (60) days after said opening, and shall within the period specified therefor, or if no period specified, within ten (10) days after the prescribed forms are presented to him for signature, execute such further contractual documents, if any, as may be required by the term of the Bid as accepted, and give bonds with good and sufficient surety or sureties as may be required, for the faithful performance and proper fulfillment of the resulting contract, and for the protection of all person supplying labor and material in the prosecution of the work provided for in such contract or in the event of the withdrawal of said bid within the period specified, or the failure to enter into such contract and give such bonds within the time specified, if the principal shall pay the Town of Greenwich, Connecticut, the difference between the amount specified in said bid and the amount for which said Town may procure the required work, supplies, and services, if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF the above bounden parties have executed this instrument under their several seals on the date indicated above. The name and corporate seal (if applicable) of each corporate party being hereto affixed:

Name of Partnership

\_\_\_\_\_(SEAL)

Business Address

\_\_\_\_\_  
Partner- (Hereunto Duly Authorized)

IN THE PRESENCE OF:

WITNESS

INDIVIDUAL PRINCIPAL

1. _____ AS	TO _____ (SEAL)
2. _____ AS	TO _____ (SEAL)
3. _____ AS	TO _____ (SEAL)
4. _____ AS	TO _____ (SEAL)

\_\_\_\_\_  
CORPORATE/ LLC PRINCIPAL

\_\_\_\_\_  
BUSINESS ADDRESS  
CORPORATE  
SEAL

AFFIX

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
BY- (HEREUNTO DULY AUTHORIZED)

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
CORPORATE/ LLC PRINCIPAL

\_\_\_\_\_  
BUSINESS ADDRESS  
CORPORATE  
SEAL

AFFIX

\_\_\_\_\_  
WITNESS

\_\_\_\_\_  
BY- (HEREUNTO DULY AUTHORIZED)

\_\_\_\_\_  
TITLE

**CERTIFICATE AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the  
\_\_\_\_\_ of the corporation named as principal in the within bond;  
that \_\_\_\_\_, who signed said bond on behalf of the principal, was  
then \_\_\_\_\_ of the corporation; that I know his signature, and his signature  
thereto is genuine; and that said bond was duly signed, sealed and attested for and in behalf of  
said corporation by authority of its governing body.

\_\_\_\_\_  
(Corporate Seal)

**PERFORMANCE, MAINTENANCE AND PAYMENT BOND**

**BOND NO.** \_\_\_\_\_ **CONTRACT NO.** \_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS. That we \_\_\_\_\_

\_\_\_\_\_, as Principal, and \_\_\_\_\_

a corporation organized under the laws of the State of \_\_\_\_\_ and authorized to do business in the State of Connecticut as Surety, for holden and firmly bound jointly and severally unto the Town of Greenwich, Connecticut, herein referred to as the Town, the territorial corporation located in the County of Fairfield, in the penal sum of

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_),

to be paid to it or its certain attorney, successors or assigns, to which payment well and truly to be made, we the said Obligors do bind ourselves, and each of us, our heirs, executors, administrators, and successors firmly by these presents.

IN WITNESS WHEREOF we have hereunto set for cause to be set our respective hands, names and seals this

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

The condition of this obligation is such, that whereas the above named Principal has entered into a certain written contract with the Town of Greenwich, Connecticut, dated the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

NOW, THEREFORE, if the said Principal shall well and faithfully perform said contract according to its provisions, and fully indemnify and save harmless the Town from all costs and damages which the Town may suffer by reason of failure so to do, and shall pay for all equipment, appurtenances, materials and labor furnished, used or employed in the execution of said contract, and shall indemnify and save harmless the Town from all suits or claims of any nature or description against the Town by reason of any injuries or damages sustained by any person or persons on account of any act or omission of said Principal, his servants or agents, or his subcontractors in the construction of the work or in guarding the work, or on account of the use of faulty or improper materials, or by reason of claims under the Workmen's Compensation Laws or other laws by any employee of the Principal or his subcontractors, or by reason of the use of patented material, machinery, device, equipment, process, method of construction or design in any way involved in the work, and shall indemnify the Town against such defective workmanship, material and equipment as may be discovered within one (1) year after completion and final acceptance of the work, and shall make good in such defective workmanship and material as may be discovered within said period of one (1) year, then the obligation shall be void, otherwise to remain in full force and effect.

The Surety hereby stipulates and agrees that any modifications, omissions or additions in or to the terms of the aforesaid contract, or in or to the plans or specifications therefor, or any extension of time, shall in no wise affect the obligation of the Surety under this bond, the surety hereby waiving any and all right to any notice of any such modifications, omissions, changes, additions or extensions.

Contractor Name: \_\_\_\_\_ By: \_\_\_\_\_

Surety Name: \_\_\_\_\_ By: \_\_\_\_\_

## INSURANCE PROCEDURE

PLEASE NOTE:

THIS PAGE MUST BE RETURNED WITH YOUR BID/RFP. FAILURE TO DO SO MAY RESULT IN YOUR BID/RFP BEING REJECTED.

Please take the insurance requirements of the Contract to your agent/broker immediately upon receipt of the bid documents to determine your existing coverage and any costs for new or additional coverage required for the work noted in this Request for BID/RFP. Any BID/RFP with deficient insurance requirements will be rejected.

STATEMENT OF VENDOR:

I have read the insurance requirements for this work and have taken the documentation to my insurance agent/broker. The BID/RFP cost reflects any additional costs relating to insurance requirements for this work.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

### **Insurance Requirement Sheet**

**Insurance Requirements:** Before starting and until final completion and acceptance of the work called for in the Contract and expiration of the guarantee period provided for in the Contract, the Contractor and its subcontractors, if any, shall procure and maintain insurance of the types and amounts checked in paragraphs A through F below for all Contract operations.

☒ A. General Liability, with minimum coverages for combined bodily injury and property damage liability of \$2,000,000 general aggregate, \$1,000,000 per occurrence including:

☒ 1. Commercial General Liability.

☒ 2. Town as additional insured.

☐ 3. Owners and Contractors Protective Liability(separate policy in the name of the Town).

☒ B. Comprehensive Automobile Liability, with minimum coverages of \$1,000,000 combined single limit for bodily injury and property damage, including, where applicable, coverage for any vehicle, all owned vehicles, scheduled vehicles, hired vehicles, non-owned vehicles and garage liability.

☒ C. Excess Liability, with minimum coverage of \$5,000,000 in umbrella form, or such other form as approved by Town Department Head and Risk Management Director.

☒ D. Workers' Compensation and Employer's Liability, with minimum coverages as provided by Connecticut State Statutes.

☐ E. Professional Liability (for design and other professionals for Errors and Omissions), with minimum coverage of \$5,000,000. If the policy is on a claims-made basis, coverage shall be continually renewed or extended for three (3) years after work is completed under the Contract.

☐ F. Other (Builder's Risk, etc.):\_\_\_\_\_.

☒ G. CERTIFICATE HOLDER: TOWN OF GREENWICH

ATTN: BOARD OF EDUCATION. (Also fill in on ACORD Certificate of Insurance)

290 Greenwich Avenue, Greenwich, CT 06830.

The **Acord certificate of insurance form** must be executed by your insurance agent/broker and returned to this office. Company name and address must conform on all documents including insurance documentation. It is required that the agent/broker note the individual insurance companies providing coverage, rather than the insurance group, on the Acord form. The Contract number (provided to the awarded Contractor), project name and a brief description must be inserted in the "Description of Operations" field. It must be confirmed on the Acord Form that the Town of Greenwich is endorsed as an additional insured by having the appropriate box checked off and stating such in the "Description of Operations" field. **A letter from the awarded vendor's agent/broker certifying**

**that the Town of Greenwich has been endorsed onto the general liability policy as an additional insured is also mandatory.** This letter **must follow exactly the format provided by the Purchasing Department and must be signed by the same individual authorized representative who signed the Acord form.** If the insurance coverage required is provided on more than one Acord certificate of insurance, then additional endorsement letters are also required. Contract development will begin upon receipt of complete, correct insurance documentation.

The Contractor shall be responsible for maintaining the above insurance coverages in force to secure all of the Contractor's obligations under the Contract with an insurance company or companies with an AM Best Rating of B+:VII or better, licensed to write such insurance in Connecticut and acceptable to the Risk Manager, Town of Greenwich. For excess liability only, non-admitted insurers are acceptable, provided they are permitted to do business through Connecticut excess line brokers per listing on the current list of Licensed Insurance Companies, Approved Reinsurers, Surplus Lines Insurers and Risk Retention Groups issued by the State of Connecticut Insurance Department.

**(SAMPLE ENDORSEMENT LETTER)**

**AGENT/BROKER  
(LETTERHEAD)**

(Date)

Eugene H. Watts, Senior Buyer  
Purchasing Department  
Town of Greenwich/Board of Education  
290 Greenwich Avenue – Havemeyer Building  
Greenwich, CT 06830

Re:

Town of Greenwich/Board of Education / **Contract #**

Dear Mr. Watts:

The undersigned hereby certifies as follows:

- (1) I am a duly licensed insurance agent under the laws of the State of **[insert State]** and an authorized representative of all companies affording coverage under the Acord form submitted herewith;
- (2) The Town of Greenwich has been endorsed as an additional insured under the general liability policy no. [insert policy number], issued by **[insert company affording coverage] to [name of insured]**;
- (3) The general liability policy referenced in paragraph (2) above meets or exceeds the coverage in Commercial General Liability ISO form CG 00 01 10 01, including contractual liability;
- (4) The policies listed in the Acord form submitted to the Town of Greenwich in connection with the above-referenced contract have been issued to the insured in the amounts stated and for the periods indicated in the Acord form; and
- (5) The Town of Greenwich shall be given thirty (30) days prior written notice of cancellation, lapse or restrictive amendment (except ten days notice of nonpayment) of the policies listed in the Acord form.

Sincerely,

Authorized Representative for all companies listed in the Acord form

**A.M. BEST KEY RATING GUIDE FORM**

The following insurance companies are licensed in the State of Connecticut per the 2018 edition of the **A.M. Best Key Rating Guide For Property and Casualty**,

1. Company Name: \_\_\_\_\_

a) Page Number: \_\_\_\_\_

b) Rating is: \_\_\_\_\_

2. Company Name: \_\_\_\_\_

a) Page Number: \_\_\_\_\_

b) Rating is: \_\_\_\_\_

3. Company Name: \_\_\_\_\_

a) Page Number: \_\_\_\_\_

b) Rating is: \_\_\_\_\_

4. Company Name: \_\_\_\_\_

a) Page Number: \_\_\_\_\_

b) Rating is: \_\_\_\_\_

5. Company Name: \_\_\_\_\_

a) Page Number: \_\_\_\_\_

b) Rating is: \_\_\_\_\_

6. Company Name: \_\_\_\_\_

a) Page Number: \_\_\_\_\_

b) Rating is: \_\_\_\_\_

## **AFFIRMATIVE ACTION COMPLIANCE AFFIDAVIT**

### **COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES CONTRACT COMPLIANCE REGULATIONS NOTIFICATION TO BIDDERS**

#### **AFFIRMATIVE ACTION COMPLIANCE AFFIDAVIT**

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes. According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to “aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials.” “Minority business enterprise” is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: “(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n.” “Minority” groups are defined in Section 32-9n of the Connecticut General Statutes as “(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4) Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . .” An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder’s qualifications under the contract compliance requirements:

- (a) the bidder’s success in implementing an affirmative action plan;
- (b) the bidder’s success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
- (c) the bidder’s promise to develop and implement a successful affirmative action plan;
- (d) the bidder’s submission of employment statistics contained in the “Employment Information Form”, indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
- (e) the bidder’s promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

**\*INSTRUCTIONS:** Bidders must sign acknowledgement below and return acknowledgement to Awarding Agency along with bid proposal.

The undersigned acknowledges receiving and reading a copy of the “Notification to Bidders” form.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

On behalf of:

---

---

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Greenwich Public Schools  
Western Middle School  
Generator Replacement

## CONSENT OF SURETY

The Undersigned surety, being the surety which issued bonds No. \_\_\_\_\_ for the Town of Greenwich Contract No. \_\_\_\_\_ hereby consents to release of final payment and all retainages to the contractor-principal.

(Name of Surety)

By \_\_\_\_\_  
Its

## ACKNOWLEDGMENT

STATE OF

ss:

COUNTY OF

This is to certify the above signatory who executed this instrument was either known to me or satisfactorily proven to me to be the person whom he purports to be.

\_\_\_\_\_  
Notary Public

**AFFIDAVIT FOR FINAL PAYMENT**

The undersigned, being duly sworn, deposes and says:

1. That he is the \_\_\_\_\_ of the contractor in  
(Title)  
the project hereinafter referred to and is authorized to execute this affidavit on behalf of the contractor;

2. In connection with Contract # \_\_\_\_\_ for \_\_\_\_\_  
(Project Title)  
it is represented that all payrolls, bills for services, materials, supplies, equipment and other indebtedness have been paid or otherwise satisfied and that there are no outstanding claims against the undersigned by any sub-contractor or material supplier, or no outstanding claims or intent to file a claim against the Town of Greenwich;

. This Affidavit is made at the request of the Town of Greenwich for the purpose of inducing final payment and knowing that it will rely upon the truth of the representation herein made.

\_\_\_\_\_  
(Authorized signature)

\_\_\_\_\_  
(Type or print name of authorized person)

Subscribed and sworn to before me, a Notary

Public, in and for the County of \_\_\_\_\_

and State of \_\_\_\_\_, this \_\_\_\_\_ day

of \_\_\_\_\_, 2019

\_\_\_\_\_  
Notary Public

Greenwich Public Schools  
Western Middle School  
Generator Replacement

<b><u>ACORD</u> CERTIFICATE OF LIABILITY INSURANCE</b>					
PRODUCER			THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER, THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.		
			INSUREERS AFFORDING COVERAGE		
INSURED			INSURER A:		
			INSURER B:		
			INSURER C:		
			INSURER D:		
			INSURER E:		
COVERAGES					
THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OF CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.					
INS R	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE(MM/DD/YY)	POLICY EXPIRATION DATE(MM/DD/YY)	LIMITS
	GENERAL LIABILITY COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> <input type="checkbox"/> GENERAL AGGREGATE LIMIT APPLIES POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC				EACH OCCURENCE
	FIRE DAMAGE (Any one fire)				
	MED EXP (Any one person)				
	PERSONAL & ADV INJURY				
	GENERAL AGGRREGATE				
	PRODUCTS-COMP/OP AGG				
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS <input type="checkbox"/> <input type="checkbox"/>				COMBINED SINGLE LIMIT (Ea accident)
	BODILY INJURY (Per person)				
	BODILY INJURY (Per accident)				
	PROPERTY DAMAGE (Per accident)				
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/>				AUTO ONLY-EAACCIDENT
	OTHER THAN AUTO ONLY: EAACC AGG				
	EXCESS LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE  <input type="checkbox"/> DEDUCTIBLE <input type="checkbox"/> RETENTION \$				EACH OCCURRENCE
	AGGREGATE				
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				WC STATU
	OTH- ED				
	E.L. EACH ACCIDENT				
	E.L. DISEASE-EA EMPLOYEE				
	Professional Liability				E.L. DISEASE – POLICY LIMIT

Greenwich Public Schools  
 Western Middle School  
 Generator Replacement

<b>DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS</b> The Town of Greenwich, and Greenwich Public Schools, and Landmark Facilities Group, Inc. are listed as additional insured for contract no.		
<b>CERTIFICATE HOLDER</b>	<input checked="" type="checkbox"/>	<b>ADDITIONAL INSURED; INSURER LETTER: __</b>
<b>Certificate Holder:</b> <b>Town of Greenwich</b> <b>Board of Education</b> <b>290 Greenwich Avenue</b> <b>Greenwich, CT 06830</b>		<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL <u>30</u> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OF REPRESENTATIONS AUTHORIZED REPRESENTATIVE

Greenwich Public Schools  
Western Middle School  
Generator Replacement

<b>SECTION / DRAWING NO.</b>	<b>DESCRIPTION</b>
T-001	COVER SHEET
T-002	PROJECT NOTES & DESCRIPTION
E-100	ELECTRICAL LEGEND, DETAILS, ELEVATIONS, & SCHEDULES
E-101	ELECTRICAL LOWER LEVEL WEST PLAN
E-102	ELECTRICAL LOWER LEVEL EAST PLAN
E-103	ELECTRICAL FIRST FLOOR WEST PLAN
E-104	ELECTRICAL FIRST FLOOR EAST PLAN
E-200	ELECTRICAL SECOND FLOOR EAST PLAN
E-201	ELECTRICAL BOILER ROOM PLAN
E-300	ELECTRICAL GENERATOR PLAN
E-400	ELECTRICAL PANEL SCHEDULES
E-500	ELECTRICAL SPECIFICATIONS
E-501	GENERATOR SPECIFICATIONS
E-502	AUTOMATIC TRANSFER SWITCH SPECIFICATIONS

# Form AU-764

## Deposit by a Person Doing Business With a Nonresident Contractor



**Purpose:** A person doing business with a nonresident contractor uses **Form AU-764** to deposit 5% of the total contract price with the Department of Revenue Services (DRS) for a specific project in the state. The deposit ensures all taxes due to the State of Connecticut from the contractor are paid to DRS. Read the instructions on the reverse side before you complete this form. If you need help, call **860-541-3280**, Monday through Friday, 8:00 a.m. to 5:00 p.m., and choose Option 7.

<b>Part I: Nonresident Contractor Information</b>			
Name		Connecticut Tax Registration No.	
Address (Street or PO Box, City, State, and ZIP Code)			
<b>Part II: Person Doing Business With a Nonresident Contractor Information</b>			
Name		Connecticut Tax Registration No., Federal ID No., or SSN	
Address (Street or PO Box, City, State, and ZIP Code)			
<b>Part III: Project Information</b>			
Physical Location of Project (Street, City or Town)		Name of Project	
Commencement Date	Completion Date for Nonresident Contractor	Total Contract Price or Amount of Change Order <input type="checkbox"/> Check the box if this deposit is for a change order	Amount of Deposit
<p>Conditions of the deposit for the project detailed above:</p> <ul style="list-style-type: none"> <li>The nonresident contractor has entered into a contract related to real property at a Connecticut location.</li> <li>The person doing business with the nonresident contractor is depositing 5% of the total contract price with DRS to ensure all taxes that become due and owing during the period of the contract will be paid.</li> <li>The deposit is made within 30 days of the completion of the project.</li> <li>The deposit will be returned to the nonresident contractor upon written request by the contractor after DRS has examined its records and determined all taxes, interest, and penalties due during the term of the contract have been paid.</li> <li>The person doing business with the nonresident contractor must attach a copy of the final periodic billing to <b>Form AU-764</b>.</li> </ul>			
<p><b>Declaration:</b> I, an authorized agent of the person doing business with a nonresident contractor named above, declare under the penalty of law that I have examined <b>Form AU-764</b> and, to the best of my knowledge and belief it is true, complete, and correct. I understand the penalty for willfully delivering a false document or return to DRS is a fine of not more than \$5,000, or imprisonment for not more than five years, or both.</p>			
Print Name		Title	
Authorized Signature		Date	
<p><b>Receipt of Deposit:</b> DRS acknowledges receipt of \$ _____ from the person named above as doing business with a nonresident contractor related to real property at the Connecticut location noted above.</p>			
Signature of Authorized DRS Representative		Telephone	Date

## General Instructions

A person doing business with a nonresident contractor working in Connecticut must submit **Form AU-764, *Deposit by a Person Doing Business With a Nonresident Contractor***, with a deposit of 5% of the total contract price, including change orders and add-ons, not later than 30 days after the completion of the contract. This applies to all contracts with nonresident contractors, regardless of the nature of the real property affected or the tax-exempt status of the property owner. For more information, see **Special Notice 2003(20), *Legislation Affecting Contracts With Nonresident Contractors***.

A *nonresident contractor* is a contractor who does not maintain a regular place of business in this state. A *regular place of business* means any bona fide office, factory, warehouse, or other space in Connecticut at which a contractor is doing business in its own name in a regular and systematic manner, and which place is continuously maintained, occupied, and used by the contractor in carrying on its business through its employees regularly in attendance to carry on the contractor's business in the contractor's own name. A regular place of business does not include a place of business for a statutory agent for service of process or a temporary office whether or not it is located at the site of construction. A regular place of business also does not include locations used by the contractor only for the duration of the contract, such as short-term leased offices, warehouses, storage facilities, or facilities that do not have full time staff with regular business hours. An office maintained, occupied and used by a person affiliated with a contractor is not a regular place of business of the contractor.

## Specific Instructions

**Part I:** Enter the name and complete address of the nonresident contractor on whose behalf the deposit is being made. Include the nonresident contractor's Connecticut tax registration number.

**Part II:** Enter the name and complete address of the person doing business with the nonresident contractor. If the nonresident contractor is the general contractor, enter the name and address of the owner of the property. If the nonresident contractor is a subcontractor, enter the name and address of the general contractor.

Enter the Connecticut tax registration number of the person doing business with the nonresident contractor. If the person doing business with the nonresident contractor does not have a Connecticut tax registration number, enter that person's Federal Employer Identification Number or Social Security Number.

**Part III:** Enter the name of the project and the complete address, including the street address and the city or town where the project is physically located.

Enter the commencement date of this project. The commencement date is the date the contract is signed or the date the nonresident contractor begins work on the project, but it is never later than the date the nonresident contractor begins work.

Enter the date on which work on this project was completed, which is the date the final periodic billing for the contract was made by the nonresident contractor. Note the final periodic billing may be due before payment of any retainage becomes due. The person making the deposit must attach a copy of the final periodic billing to **Form AU-764**.

If this is a deposit for a change order occurring after the deposit for the initial contract has been remitted to DRS, enter the additional amount being deposited for the change order and check the box. For a change order made after the final periodic billing for the original contract, the change order is deemed complete when it is billed by the nonresident contractor. Attach a copy of the final billing for the change order.

Enter, in words and figures, the total amount paid to the nonresident contractor under the contract or for the change order. Check the box if the deposit is for a change order.

Multiply the total contract price or the amount of the change order by 5% (.05) and enter the result on this line.

**Declaration:** An authorized representative of the person doing business with a nonresident contractor must sign and date the declaration. Return **Form AU-764**, with the copy of the final periodic billing, to:

Department of Revenue Services  
State of Connecticut  
Discovery Unit  
25 Sigourney Street  
Hartford CT 06106

**Receipt:** DRS will acknowledge receipt of the deposit by completing the bottom of Form AU-764 and returning a copy of it to the person making the deposit. Unless indicated otherwise, the person doing business with the nonresident contractor will not be liable for any claim of the nonresident contractor for the amount or for any claim of DRS for any taxes arising from the activities of the nonresident contractor on the project for which the bond deposit was made, once DRS has verified that total deposits represent 5% of the total contract price paid to the nonresident contractor for this project, including any change orders, and that the deposit is made within 30 days of completion of the project.

# Form REG-1

## Business Taxes Registration Application

### 1. Reason for Filing Form REG-1 Check the applicable box:

DRS use only Connecticut Tax Registration Number

- ☐ Opening a new business including but not limited to:
- a. An existing out-of-state business opening a location in Connecticut;
  - b. Selling at a craft show, flea market, fair, or other venue in Connecticut or selling over the Internet; or
  - c. An existing out-of-state business having employees in Connecticut (including nonresident contractors and loan-out companies).
- ☐ Opening a new location. Enter your Connecticut Tax Registration No: \_\_\_\_\_
- ☐ Registering for additional taxes. Enter your Connecticut Tax Registration No: \_\_\_\_\_
- ☐ Reopening a closed business.  
Enter Connecticut Tax Registration No. of the closed business: \_\_\_\_\_
- ☐ Purchasing an ongoing business. The buyer of an existing business may be responsible for tax liabilities of the previous owner. See the Informational Publication on Successor Liability for Sales and Use Taxes, Admissions and Dues Tax, and Connecticut Income Tax Withholding, on the DRS website.  
Enter Connecticut Tax Registration No. of the previous owner: \_\_\_\_\_
- ☐ Forming a business entity under Connecticut law or a non-Connecticut entity required to register with or to obtain a certificate of authority from the Connecticut Secretary of the State before transacting business in Connecticut.
- ☐ Establishing a passive investment company (PIC).
- ☐ Changing organization type. Enter your current Connecticut Tax Registration No: \_\_\_\_\_
- ☐ Hiring household employees and intend to withhold Connecticut income tax.
- ☐ Other (explain); see *Who Needs to Complete REG-1*. \_\_\_\_\_

### 2. Business Information: Type of organization

- ☐ Sole proprietorship ☐ Single member LLC (SMLLC) ☐ Corporation
- ☐ General partnership ☐ Single member LLC taxed as a corporation ☐ S Corporation
- ☐ Limited liability partnership (LLP) ☐ Single member LLC taxed as an S corporation ☐ Qualified subchapter S subsidiary (QSSS)
- ☐ Limited liability company (LLC) taxed as a partnership
- ☐ Limited liability company (LLC) taxed as a corporation
- ☐ Limited partnership (LP) ☐ Limited liability company (LLC) taxed as an S corporation
- ☐ Limited partnership taxed as a corporation ☐ Other (explain): \_\_\_\_\_

### 3. Nature of Business Activity

Check the box(es) that best describe your business:

- ☐ Retailer ☐ Wholesaler ☐ Manufacturer ☐ Service provider ☐ Other (explain): \_\_\_\_\_

### 4. Major Business Activity

Describe your major business activities: \_\_\_\_\_

### 5. Business Name and Address

Organization name: Enter the name of the sole proprietor, partnership, corporation, or LLC.		Federal Employer Identification Number, if applicable
Business trade name		CT Secretary of the State Business ID No., if applicable
Business Location: Enter the physical address of the business. A post office box or rural route number is not acceptable. Home-based businesses and flea market or craft show vendors must enter a home address.		
Address line 1		Address line 2
City	State	ZIP code
Mailing address line 1 (Street or PO Box)		Address line 2
City	State	ZIP code
Business telephone number	Email address	Bank name

**6. List All Owners, Partners, Corporate Officers, or LLC Members** Attach a separate sheet if needed.

Name (last, first, middle initial)			Title
Home address line 1 (street)		Home address line 2	
City	State	ZIP code	Home telephone number
SSN	Date of birth	Bank name	

Name (last, first, middle initial)			Title
Home address line 1 (street)		Home address line 2	
City	State	ZIP code	Home telephone number
SSN	Date of birth	Bank name	

Name (last, first, middle initial)			Title
Home address line 1 (street)		Home address line 2	
City	State	ZIP code	Home telephone number
SSN	Date of birth	Bank name	

Name (last, first, middle initial)			Title
Home address line 1 (street)		Home address line 2	
City	State	ZIP code	Home telephone number
SSN	Date of birth	Bank name	

**7. Income Tax Withholding**

Are you an employer that transacts business or maintains an office in Connecticut and intends to pay wages to resident employees or nonresident employees who work in Connecticut?..... ☐ Yes ☐ No

If you have a Connecticut tax registration number for withholding for another location and intend to file withholding for this new location under that number, enter that number here: \_\_\_\_\_ and skip to Section 8; otherwise continue.

Are you an out-of-state company voluntarily registering to withhold Connecticut income tax for your Connecticut resident employees who work outside of Connecticut?..... ☐ Yes ☐ No

Do you intend to withhold Connecticut income tax from pension plans, annuity plans, retirement distributions, or gambling distributions? ..... ☐ Yes ☐ No

Do you pay nonresident athletes or entertainers for services they render in Connecticut? ..... ☐ Yes ☐ No

Do you only have household employees and wish to withhold Connecticut income tax?..... ☐ Yes ☐ No

Do you only have agricultural employees and wish to withhold Connecticut income tax?..... ☐ Yes ☐ No

If **Yes**, do you file federal Form 943, Employer's Annual Tax Return for Agricultural Employees, and wish to file **Form CT-941, Connecticut Quarterly Reconciliation of Withholding**, annually? .... ☐ Yes ☐ No

If you answered **Yes** to any of the income tax withholding questions, enter the date you will start withholding Connecticut income tax. .... ☐ m ☐ m ☐ d ☐ d ☐ y ☐ y

If you use a payroll service, enter the name of the payroll company: \_\_\_\_\_

**8. Sales and Use Taxes**Do you sell, or will you be selling, goods in Connecticut (either wholesale or retail)? ..... ☐ Yes ☐ NoDo you rent equipment or other tangible personal property to individuals or businesses in Connecticut? ..... ☐ Yes ☐ NoDo you serve meals or beverages in Connecticut? ..... ☐ Yes ☐ NoDo you provide a taxable service in Connecticut? See the Informational Publication, *Getting Started in Business*, and the *Special Notice on Legislative Changes Affecting the Sales and Use Taxes*, on the DRS website, for a list of taxable services..... ☐ Yes ☐ NoIf you answered **Yes** to any of the sales and use taxes questions, enter the date you will start selling or leasing goods or taxable services. .... m m d d y y**8a Prepaid Wireless Service E 9-1-1**Do you sell prepaid wireless service in Connecticut?..... ☐ Yes ☐ NoIf you answered **Yes**, enter the date you will start to sell these in Connecticut. .... m m d d y y**9. Room Occupancy Tax**Do you provide lodging rooms for rent in a hotel, motel, or rooming house in Connecticut for 30 consecutive days or less? ..... ☐ Yes ☐ NoIf you answered **Yes**, enter the date you will start to provide rooms for rent for lodging purposes in Connecticut. .... m m d d y y**10. Business Entity Tax** Do not complete this section if the entity is liable for the corporation business tax.The **business entity tax** applies to all of the following business types formed under Connecticut law and to those non-Connecticut entities required to register with or obtain a certificate of authority from the Connecticut Secretary of the State before transacting business in the state, whether or not the business has registered or filed a certificate of authority, as the case may be, with the Connecticut Secretary of the State.

- S corporations (Qualified subchapter S subsidiaries (QSSS) are not liable for the business entity tax.);
- Limited liability companies (LLCs or SMLLCs) — any limited liability company that is, for federal income tax purposes, either:
- Treated as a partnership if it has two or more members; or
- Disregarded as an entity separate from its owner if it has a single member;
- Limited liability partnerships (LLPs); and
- Limited partnership (LPs).

Are you a business entity as described above? ☐ Yes ☐ No

Enter state you are organized under: \_\_\_\_\_ Enter date of organization. .... m m d d y y

If not organized in Connecticut, enter the earlier of the date you started business in Connecticut or the date you registered with the Connecticut Secretary of the State. .... m m d d y y

Enter the month your tax year closes: \_\_\_\_\_

**11. Corporation and Unrelated Business Income Taxes****Corporation Business Tax** Do not complete this section if the entity is liable for the business entity tax.Are you a corporation? ..... ☐ Yes ☐ NoAre you an LLC, SMLLC, or other association taxed as a corporation?..... ☐ Yes ☐ NoIs this corporation exempt from federal income tax? ..... ☐ Yes ☐ NoHave you received a determination from the Internal Revenue Services (IRS) that this corporation is exempt from federal income tax? ..... ☐ Yes ☐ NoIf **Yes**, enclose a copy of your IRS letter of determination.

Enter state you are organized under: \_\_\_\_\_ Enter date of organization. .... m m d d y y

If not a Connecticut corporation, enter the earlier of the date you started business in Connecticut or the date you registered with the Connecticut Secretary of the State. .... m m d d y y

Enter the month the corporate year closes: \_\_\_\_\_

**Unrelated Business Income Tax**Are you a federally exempt organization that has unrelated business income attributable to a trade or business in Connecticut?..... ☐ Yes ☐ NoIf you answered **Yes**, enter the date the unrelated business income tax liability started. .... m m d d y y**Passive Investment Company (PIC)**Is this corporation a passive investment company as defined in Conn. Gen. Stat. §12-213(a)(27)? ☐ Yes ☐ No

Enter the date the PIC was organized. .... m m d d y y

Enter Connecticut tax registration number of the PIC's related financial service or insurance company: \_\_\_\_\_

## 12. Business Use Tax

If you are registered for or are registering for sales and use taxes, you do not need to complete this section.

Business use tax is due when a business purchases taxable goods or services including the purchase or lease of assets, consumable goods, and promotional items, for use in Connecticut without paying Connecticut sales tax.

Will you be purchasing taxable goods or services for use in Connecticut without paying Connecticut sales tax? ..... ☐ Yes ☐ No

If you answered **Yes** to the business use tax question, **enter the tax liability start date.** ..... m m d d y y

If you answered **No**, you must complete the *Business Use Tax Declaration* section below.

**Business Use Tax Declaration:** By registering for any of the taxes listed in this application, you have indicated to the Department of Revenue Services (DRS) that you may have a business use tax liability. Therefore, based on your application, you will be automatically registered for the business use tax unless you complete the following declaration.

I, \_\_\_\_\_ (name of taxpayer or authorized representative of taxpayer), acknowledge I have read and understand the information concerning the business use tax and declare I will not be liable for business use tax. Please initial here. \_\_\_\_\_

## 13. Registration Fee Schedule

Enter the registration fee amount indicated. If you are liable for either sales and use taxes or room occupancy tax, or both, as indicated in Sections 8 or 9, you must pay a \$100 registration fee. Enter the appropriate registration fee(s) from Addendum A if you are registering for the cigarette tax. You must include the total registration fee due with Form REG-1 or your registration application **will not be processed** and will be returned.

Make your check payable to: **Commissioner of Revenue Services**. If you register by mail, send Form REG-1 with your payment to: Department of Revenue Services, PO Box 2937, Hartford CT 06104-2937

### Registration Fee

a.	If registering for <b>sales and use taxes</b> or <b>room occupancy tax</b> , enter \$100.* .....	a.	
b.	If registering for <b>cigarette tax</b> , see Addendum A. ....	b.	
c.	<b>Total registration fee due:</b> Add Line a and Line b. ....	c.	

\* No fee is required for room occupancy tax if you are registered or are registering for sales and use taxes.

## 14. All Applicants Must Sign the Following Declaration

I declare under penalty of law that I have examined this application and, to the best of my knowledge and belief, it is true, complete, and correct. I understand the penalty for willfully delivering a false application to DRS is a fine of not more than \$5,000, or imprisonment for not more than five years, or both.

Sign here and keep a copy for your records.	Signature of owner, partner, LLC member, or corporate officer	Date	Telephone number
	Print name of owner, partner, LLC member, or corporate officer	Title	

## Instructions for Form REG-1 Business Taxes Registration Application

### How to Register

#### On-line Registration

Save time and register for a Connecticut tax registration number at your convenience when you file **Form REG-1, Business Taxes Registration Application**, on-line at the Department of Revenue Services (DRS) Web site at [www.ct.gov/DRS](http://www.ct.gov/DRS). You will receive your tax registration number in the mail in about six days. If you owe a registration fee, you must pay the fee electronically by entering the account number and routing number for your checking or savings account.

If you are registering for a tax type that requires you attach Addendum B to the REG-1 or if you are registering as a cigarette retailer (included on Addendum A), you may register on-line. If you are registering for another tax type that requires you attach Addendum A, C, D, or E to the REG-1, you must register by mail or in person at any DRS office.

#### Mail in Registration

Complete Form REG-1 and mail it to DRS at:

Department of Revenue Services  
PO Box 2937  
Hartford CT 06104-2937

If you owe a registration fee, you must include payment by check or money order with the application. You will receive your Connecticut tax registration number in the mail in 5 to 6 weeks.

#### Walk-in Registration

You may file Form REG-1 in person at any DRS office. You will be issued a Connecticut tax registration number immediately. Bring a photo identification, such as a driver's license, and a check or money order if you owe a registration fee. (Cash is accepted at the Hartford location only.)

DRS offices are located in:

<b>Bridgeport</b> 10 Middle St. 203-336-7890	<b>Hamden</b> 3074 Whitney Ave. 203-287-8243	<b>Hartford</b> 25 Sigourney St. 860-297-5962
<b>Norwich</b> 2 Cliff St. 860-889-2669	<b>Waterbury</b> 55 West Main St., Suite 100 203-805-6789	

The application must be signed by the individual owner, partner, officer of the corporation, member of the limited liability company, or another who has written authorization to sign in the form of a Power of Attorney. If anyone other than the owner brings the signed application to the office and wants to obtain the registration number, he or she must have written authorization from the owner to obtain the registration on his or her behalf.

### Purpose of Form REG-1

Use Form REG-1 to obtain a Connecticut tax registration number or to register for additional tax types under your current Connecticut tax registration number.

Use Form REG-1 to register for any of these taxes:

- Business entity tax
- Business use tax
- Corporation business tax (including PIC)
- Income tax withholding
- Room occupancy tax
- Sales and use taxes
- Unrelated business income tax

In addition to Form REG-1, you must complete and attach the appropriate addendum as noted to Form REG-1 to register for any of these taxes. The forms are available on the DRS Web site at [www.ct.gov/DRS](http://www.ct.gov/DRS).

#### REG-1 Addendum A:

- Cigarette taxes
- Tobacco products tax

#### REG-1 Addendum B:

- Admissions and dues taxes
- Dry cleaning surcharge
- Motor vehicle rental surcharge
- Tourism surcharge

#### REG-1 Addendum C:

- Motor fuels tax
- Petroleum products gross earnings tax

#### REG-1 Addendum D:

- Alcoholic beverages tax

#### REG-1 Addendum E:

- Community antenna television system companies tax
- Railroad companies tax
- Satellite companies tax
- Solid waste assessment
- Suppliers of natural gas
- Utility companies tax

### Registering for Other Tax Types

To register for these taxes, use the form listed:

- Authority to Collect Use Tax ..... REG-7
- International Fuel Tax Agreement (IFTA) ..... CT-IFTA-2
- Motor Carrier Road Tax ..... REG-3MC

For more information on registering with the Department of Revenue Services (DRS), visit DRS Web site at [www.ct.gov/DRS](http://www.ct.gov/DRS) or call 1-800-382-6453 (in-state) or 860-297-5962 (toll-free).

## Who Needs to Register with the DRS?

Businesses must register with the Connecticut DRS if they:

- Have people working in Connecticut
- Withhold Connecticut income tax
- Operate a business in Connecticut
- Are required to file an annual report with the Connecticut Secretary of the State and are subject to the business entity tax
- Provide taxable services in Connecticut
- Sell, rent, or lease goods in Connecticut (wholesale or retail)
- Furnish space for storage of tangible personal property
- Have a manufacturing facility in Connecticut
- Serve meals or beverages in Connecticut
- Purchase taxable goods or services for use in Connecticut
- Provide lodgings in Connecticut subject to the room occupancy tax
- Carry on a business as a corporation in Connecticut
- Distribute alcoholic beverages in Connecticut
- Distribute motor fuel used to propel motor vehicles on public highways or roads in Connecticut
- Sell petroleum products in Connecticut
- Operate a place of amusement, entertainment, or recreation in Connecticut
- Operate a social, health, athletic, or sporting club in Connecticut
- Sell or distribute cigarettes or tobacco products in Connecticut
- Own, lease, maintain, operate, manage, or control a community antenna television system in Connecticut
- Provide satellite television services to Connecticut
- Operate a railroad in Connecticut on a for-profit basis
- Are a resources recovery facility in Connecticut
- Market natural gas to an end user in Connecticut
- Provide distribution or transmission services for electricity in Connecticut
- Sell electricity as a municipality to customers in Connecticut
- Manufacture, sell, or distribute gas to be used for light, heat, or power in Connecticut
- Operate a dry cleaning establishment in Connecticut

## Registration Fees

Sales and use taxes .....	\$ 50
Room occupancy tax* .....	\$ 50
Cigarette dealer's license .....	\$ 25
Cigarette distributor's license .....	\$ 1,000
Cigarette distributor chain operator	
5 to 14 retail locations .....	\$ 250
15 to 24 retail locations .....	\$ 500
25 or more retail locations .....	\$1,000
Cigarette manufacturer/importer .....	\$5,000
Distributor of tobacco products .....	\$100

\* No fee is required for room occupancy tax if you are registered or are registering for sales and use taxes.

## Electronic Filing Methods

Once you are registered with DRS, you may file certain tax forms by Internet or telephone using the DRS *Fast-File* program. Look for this logo.



## Getting Started in Business

See Informational Publication 2003(28), *Getting Started in Business*, available on the DRS Web site at [www.ct.gov/DRS](http://www.ct.gov/DRS)

## Other Connecticut Licensing Requirements

For information on other Connecticut licensing requirements, visit [www.ct-cllc.com](http://www.ct-cllc.com).

## How to Register

Visit the DRS Web site at [www.ct.gov/DRS](http://www.ct.gov/DRS) and click on *Businesses*.

Personal assistance is available by telephone or at any DRS office locations, Monday through Friday, during business hours.

CONN-TAX, the DRS telephone information line, is available anytime.

- 1-800-382-9463 (in-state) or
- 860-297-5962 (from anywhere).

TTY, TDD, and Text Telephone users only may transmit inquiry anytime by calling 860-297-4911.

Additional forms and publications are available anytime:

- **Internet:** Visit the DRS Web site at [www.ct.gov/DRS](http://www.ct.gov/DRS)
- **DRS TAX-FAX:** Call 860-297-5698 from the handset attached to your fax machine and select from the menu. Only forms (not publications) are available through TAX-FAX; or
- **Telephone:** Call 1-800-382-9463 (in-state) and select Option 2 from a touch-tone telephone, or 860-297-4753 (from anywhere).

## Application Instructions

Complete the entire application unless the section instructions indicate otherwise. Answering Yes to any question in Sections 7 through 12 means you may have a Connecticut tax liability for that tax. In each section where you answer Yes to any question, you must indicate the date you first incurred a tax liability in Connecticut for that tax type.

### Exceptions:

- Taxpayers with a valid Connecticut tax registration number who wish to register for another tax must complete Sections 1 through 6, Section 14, and the section for the specific tax type(s) for which you wish to register. See the section *Part of Form REG-1* on Page 1 of these instructions to determine if you have to complete an addendum to Form REG-1.
- Household employers who pay wages to and intend to withhold Connecticut income tax for housekeepers, nannies, health aides, caretakers, etc. – complete Sections 1 through 7 and 14 only.

**THE FOLLOWING PAGES ARE A SAMPLE COPY OF THE TOWN OF GREENWICH CONTRACT FOR YOUR REVIEW. YOU MUST BE ABLE TO SIGN THIS CONTRACT AND MEET THE NECESSARY INSURANCE AS REQUIRED BY THE TOWN OF GREENWICH IN ORDER FOR YOUR PROPOSAL TO BE CONSIDERED.**

# AGREEMENT

## CONTRACT NO.

THIS AGREEMENT, executed this \_\_\_\_\_ day of \_\_\_\_\_ in the year Two Thousand Nineteen (herein referred to as the "AGREEMENT"), by and between the Town of Greenwich, Connecticut, acting through \_\_\_\_\_ hereunto duly authorized, "OWNER" and \_\_\_\_\_, acting through \_\_\_\_\_ (insert name of individual and title) duly authorized, "CONTRACTOR".

WITNESSETH, that the parties to these presents, each in consideration of the under-taking, promises and agreements on the part of the other herein contained, have undertaken, promised and agreed to do hereby undertake, promise and agree, the Owner for itself, its successors and assigns, and the Contractor for himself and his heirs, executors, administrators, successors and assigns, as follows:

### 1. DEFINITIONS:

Wherever the words hereinafter defined or pronouns used in their stead occur in the Contract Documents, they shall have the following meaning:

The word "Owner" shall mean the Town of Greenwich and shall include its authorized representative.

The word "Contractor" shall mean the person or organization identified as such in this Agreement and shall include his authorized representative.

The words "Contracting Officer or Agency" shall mean that official of the Town which awards the contract, executes the Agreement and is the Owner's authorized representative.

The Information for Bidders, the Contractor's Bid as accepted by the Owner, the Contract Conditions and Specifications and the General, Technical and Materials Specifications, the Drawings, and all addenda and amendments to any of the foregoing, collectively constitute the Contract Documents, and are sometimes herein referred to as the "Contract".

2. **DESCRIPTION OF WORK:**

**3. PAYMENT:**

The Contractor shall be paid on a monthly basis after presentation of vouchers, and subject to acceptance and approval by the Town of Greenwich.

Such payments will be made by the Town of Greenwich monthly for all services actually rendered, and the acceptance by the Contractor of any such monthly payment shall be a release to the Town of all claims and all liability to the Contractor in connection with the contract, arising during the period for which payment is made. No payment, however, shall operate to release the Contractor or its sureties or insurers from any obligation under the Contract to be entered into or the Performance Bond or any insurance policies issued in connection with said contract.

**4. PERFORMANCE MAINTENANCE AND PAYMENT BOND:**

The Contractor shall, simultaneously with the signing of the Contract, furnish the Town the executed Performance, Maintenance and Payment Bond of a surety company authorized to do business in the State of Connecticut, and acceptable to the Town, in the sum of the full amount of the Contract obligation in the form provided by the Town.

**THE ABOVE IS ONLY REQUIRED FOR CONTRACTS EXCEEDING \$100,000.00.**

**5. GUARANTEE:**

The Contractor guarantees that the Work and services to be performed, furnished, used or installed in the construction of the same, shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, if any, Specifications, and other Contract Documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of completion and acceptance of the Work as stated in the final estimate. The Contractor shall repair, correct or replace as required, promptly and without charge, all work, equipment and material, or parts thereof, which fail to meet the above guarantee or which in any way fail to comply with or fail to be in strict accordance with the terms and provisions and requirements of the Contract during such one-year period, and also shall repair, correct, or replace all damage to the Work resulting from such failure.

**6. DEFECTIVE WORK:**

The inspection of the Work shall not relieve the Contractor of any of his obligations to perform and complete the Work as required by the Contract. Defective work shall be corrected and unsuitable materials, equipment apparatus and other items shall be replaced by the Contractor, notwithstanding that such work, materials, equipment, apparatus and other items may have been previously overlooked or accepted or estimated for payment. If the work or any part thereof shall be found defective at any time before the final acceptance of the work, the

Contractor shall forthwith make good such defect in a manner satisfactory to the Town; if any material, equipment, apparatus or other items brought upon the site for use or incorporation in the work, or selected for the same, is condemned by the Town as unsuitable or not in conformity with the Specifications or any of the other Contract Documents, the Contractor shall forthwith remove such materials, equipment, apparatus and other items from the site of the Work and shall at his own cost and expense make good and replace the same and any material furnished by the Town which shall be damaged or rendered defective by the handling or improper installation by the Contractor, his agents, servants, employees or subcontractors.

**7. COMPLIANCE WITH LAWS:**

The Contractor shall keep himself fully informed of all existing and future federal, state and local laws, ordinances, rules and regulations affecting those engaged or employed on the work, the materials and equipment used in the work or the conduct of the work, and of all orders, decrees and other requirements of bodies or tribunals having any jurisdiction or authority over the same. If any discrepancy or inconsistency is discovered in the Drawings, if any, Specifications or other Contract Documents in relation to any such law, ordinance, rule, regulation, order, decree or other requirement, the Contractor shall forthwith report the same to the Town in writing. The Contractor shall at all times observe and comply with, and cause all his agents, servants, employees and subcontractors to observe and comply with all such existing and future laws, ordinances, rules, regulations, orders, decrees and other requirements, and he shall protect, indemnify and save harmless the Town, its officers, agents, servants and employees from and against any and all claims, demands, suits proceedings, liabilities, judgments, penalties, losses, damages costs and expenses, including attorneys' fees, arising from or based upon any violation or claimed violation of any such law, ordinance, rule, regulation, order, decree or other requirement, whether committed by the Contractor or any of his agents, servants, employees or subcontractors.

**8. INDEMNITY:**

The Contractor shall indemnify and save harmless the Town and its officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, on account of bodily injury, sickness, disease or death sustained by any person or persons or injury or damage to or destruction of any property, directly or indirectly arising out of, relating to or in connection with the Work, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence or fault of the Contractor, his officers, agents, servants or employees, any of his subcontractors, the Town any of his respective officers, agents, servants or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false or fraudulent; and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings; and provided that the Contractor shall not be required to indemnify the Town, its officers, agents, servants or employees against any such damages occasioned solely by acts or omissions of the Town other than supervisory acts or omissions of the Town in connection with the Work.

**INDEMNITY AGAINST SUBCONTRACTORS' CLAIMS:**

If any other contractor or any subcontractor of any such other contractor shall suffer or claim to have suffered loss, damage or delay by reason of the acts or omissions of the Contractor or of any of his subcontractors, the Contractor agrees to assume the defense against any such claim and to reimburse such other contractor or subcontractor for such loss or damage. The Contractor agrees to and does hereby indemnify and save harmless the Town from and against any and all claims by such other contractors or subcontractors, alleging such loss, damage or delay and from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses including attorneys' fees, arising out of, relating to or resulting from such claims.

**9. PATENTS:**

The Contractor shall indemnify and save harmless the Town and all persons acting for or on behalf of the Town from all claims and liability of any nature or kind, and all damages, costs and expenses, including attorneys' fees, arising from or occasioned by an infringement or alleged infringement of any patents or patent rights on any invention, process, materials, equipment, article, or apparatus, or any part hereof, furnished and installed by the Contractor, or arising from or occasioned by the use or manufacture thereof, including their use by the Town.

**10. CHANGES:**

The Town, through its designated Agent, may make changes in the Work and in the Drawings, if any, and Specifications therefor by making alterations therein, additions, thereto or omissions therefrom. All work resulting from such changes shall be performed and furnished under and pursuant to the terms and conditions of the Contract. If such changes result in an increase or decrease in the Work to be done hereunder, or increase or decrease the quantities thereof, adjustment in compensation shall be made therefor. For eliminated or decreased work the Contractor shall allow the Town a reasonable credit as determined by the Parties. Except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order from the Town authorizing the change, and no claim for additional compensation shall be valid unless the change is so ordered.

The Contractor agrees that he shall neither have nor assert any claim for or be entitled to any additional compensation for damages or for loss of anticipated profits on work that is eliminated.

**11. CLAIMS FOR DAMAGES:**

If the Contractor makes claim for any damages alleged to have been sustained by breach of contract or otherwise, he shall, within ten (10) days after occurrence of the alleged breach or within ten (10) days after such damages are alleged to have been sustained whichever date is the earlier, file with the Contracting Officer a written, itemized statement of the details of the alleged breach and the details and amount of the alleged damages. The Contractor agrees that unless such

statement is made and filed as so required, his claim for damages shall be deemed waived, invalid and unenforceable, and that he shall not be entitled to any compensation for any such alleged damages. Within ten (10) days after the timely filing of such statement, the Contracting Officer shall file with the appropriate department of the Town, one copy of the statement, and shall file with the Town and the Contractor his determination thereon. The Contractor shall not be entitled to claim any additional compensation for damages by reason of any direction, instruction, determination or decision of the Town or its agents, nor shall any such claims be considered, unless the Contractor shall have complied in all respects with the provisions of this paragraph.

## **12. ABANDONMENT OF THE WORK OR OTHER DEFAULT:**

If the Work shall be abandoned, or any part thereof shall be sublet without previous written consent of the Town, or the Contract or any moneys payable hereunder shall be assigned otherwise than as herein specified, or if at any time the Contracting Officer shall be of the opinion, and shall so certify in writing, that the conditions herein specified as to rate of progress are not being complied with, or that the Work or any part thereof is being unnecessarily or unreasonably delayed, or that the Contractor has violated or is in default under any of the provisions of the Contract, or if the Contractor becomes bankrupt or insolvent or goes or is put into liquidation or dissolution, either voluntarily or involuntarily, or petitions for an arrangement or reorganization under the Bankruptcy Act, or makes a general assignment for the benefit of creditors or otherwise acknowledges insolvency, the happening of any of which shall be and constitute a default under the Contract, the Town may notify the Contractor in writing, with a copy of such notice mailed to the surety, to discontinue all Work or any part thereof; thereupon the Contractor shall discontinue such Work or such part thereof as the Town may designate; and the Town may, upon giving such notice, by Contract or otherwise as it may determine, complete the Work or such part thereof and charge the entire cost and expense of so completing the work. The Town shall be entitled to reimbursement from the Contractor and the Contractor agrees to pay to the Town any losses, damages, costs and expenses, including attorneys' fees, sustained or incurred by the Town by reason of any of the foregoing causes. For the purpose of such completion the Town may for itself or for any Contractors employed by the Town take possession of and use or cause to be used any and all materials, equipment, plant, machinery, appliances, tools, supplies and such other items of every description that may be found or located at the site of the Work.

All costs, expenses, losses, damages, attorneys' fees, and any and all other charges incurred by the Town under this subsection shall be charged against the Contractor and deducted and/or paid by the Town out of any moneys due and payable or to become due or payable under the Contract to the Contractor; in computing the amounts chargeable to the Contractor, the Town shall not be held to a basis of the lowest prices for which the completion of the Work or any part thereof might have been accomplished, but all sums actually paid or obligated therefor to effect its prompt completion shall be charged to and against the account of the Contractor. In case the costs, expenses, losses, damages, attorneys' fees and other charges together with all payments theretofore made to or for the account of the Contractor are less than the sum which would have been payable under the Contract if the Work had been properly performed and completed by the

Contractor, the Contractor shall be entitled to receive the difference, and, and in case such costs, expenses, losses, damages, attorneys' fees and other charges, together with all payments theretofore made to or for the account of the Contractor, shall exceed the said sum, the Contractor shall pay the amount of the excess to the Town.

**13. LIENS:**

If at any time any notices of lien or other legal process are filed for labor performed or materials or equipment manufactured, furnished, or delivered to or for the Work, the Contractor shall, at its own cost and expense, promptly discharge, remove or otherwise dispose of the same, and until such discharge, removal or disposition, the Town shall have the right to retain from any moneys payable hereunder an amount which, in its sole judgment, it deems necessary to satisfy such liens and pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce the same, or incurred in connection therewith or by reason thereof.

**14. CLAIMS:**

If at any time there be any evidence of any claims for which the Contractor is or may be liable or responsible hereunder, the Contractor shall promptly settle or otherwise dispose of the same, and until such claims are settled or disposed of, the Town may retain from any moneys which would otherwise be payable hereunder so much thereof as, in its sole judgment, it may deem necessary to settle or otherwise dispose of such claims and to pay the costs and expenses, including attorneys' fees, of defending any actions brought to enforce such claims or incurred in connection therewith or by reason thereof.

**15. LIABILITY OF TOWN:**

No person, firm or corporation, other than the Contractor, who signed this Contract as such, shall have any interest herein or rights hereunder. No claim shall be made or be valid either against the Town or any agent of the Town and neither the Town nor any agent of the Town shall be liable for or be held to pay any money, except as herein provided. The acceptance by the Contractor of the payment as fixed in the final estimate shall operate as and shall be a full and complete release of the Town and of every agent of the Town of and from any and all claims, demands, damages and liabilities of, by or to the Contractor for anything done or furnished for or arising out of or relating to or by reason of the Work or for or on account of any act or neglect of the Town or of any agent of the Town or of any other person, arising out of, relating to or by reason of the Work, except the claim against the Town for the unpaid balance, if any there be, of the amounts retained as herein provided.

**16. PROVISIONS REQUIRED BY LAW DEEMED INSERTED:**

Each and every provision of law and clause required by law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall forthwith be physically amended to make such insertion.

**17. PERMITS:**

The Contractor shall, at his own expense, take out and maintain all necessary permits from the State, Town, or other public authorities; shall give all notices required by law; and shall post all bonds and pay all fees and charges incident to the due and lawful prosecution of the Work.

**18. NOT TO SUBLET OR ASSIGN:**

The Contractor shall constantly give his personal attention to the faithful prosecution of the Work, shall keep the same under his personal control, shall not assign the Contract or sublet the Work or any part thereof without the previous written consent of the Town, and shall not assign any of the moneys payable under the Contract, or his claim thereto, unless by and with the like written consent of the Town and the surety on the Contract Bonds. Any assignment or subletting in violation hereof shall be void and unenforceable.

**19. EMPLOY COMPETENT PEOPLE:**

The Contractor shall employ only competent people on the Work and shall not employ people or means which may cause strikes, work stoppages and/or disturbances by workmen employed by the Contractor, any subcontractor, the Town, the Contracting Officer or any other contractor. Whenever the Contracting Officer notifies the Contractor in writing that in his opinion any person on the Work is incompetent, unfaithful, disorderly, or otherwise unsatisfactory or not employed in accordance with the provisions of the Contract, such person shall be discharged from the Work and shall not again be employed on it, except with the written consent of the Contracting Officer.

**20. EMPLOY SUFFICIENT LABOR AND EQUIPMENT:**

If in the sole judgment of the Contracting Officer the Contractor is not employing sufficient labor, plant, equipment or other means to complete the Work within the time specified, the Contracting Officer may, after giving written notice, require the Contractor to employ such additional labor, plant, equipment and other means as the Contracting Officer deems necessary to enable the Work to progress properly.

**21. INTOXICATING LIQUORS:**

The Contractor shall not sell and shall neither permit nor suffer the introduction or use of intoxicating liquors upon or about the Work.

**22. ACCESS TO WORK:**

The Town, the Contracting Officer, and their officers, agents, servants and employees may at any and all times and for any and all purposes, enter upon the Work and the site thereof and the premises used by the Contractor, and the Contractor shall at all times provide safe and proper facilities therefor.

**23. EXAMINATION OF WORK:**

The Contracting Officer shall be furnished by the Contractor with every reason able facility for examining and inspecting the Work and for ascertaining that the Work is being performed in accordance with the requirements and intent of the Contract, even to the extent of requiring the uncovering or taking down portions of finished work by the Contractor.

**24. EXTRA WORK:**

The Contractor shall perform any extra work (work in connection with the Contract but not provided for herein) when and as ordered in writing by the Contracting Officer, at the unit prices stipulated in the Contract for such work or, if none are so stipulated, either (a) at the price agreed upon before such work is commenced and named in the written order for such work, or (b) if the Contracting Officer so elects, for the reasonable cost of such work, as determined by the Contractor and approved by the Contracting Officer, plus a percentage of such cost, as may be agreed upon by Contract and Contracting Officer.

**25. CHANGES NOT TO AFFECT BONDS:**

It is distinctly agreed and understood that any changes made in the work or the Drawings or Specifications therefor (whether such changes increase or decrease the amount thereof or the time required for its performance) or any changes in the manner or time of payments made by the Town to the Contractor, or any other modifications of the Contract, shall in no way annul, release, diminish or affect the liability of the surety on the Contract Bonds given by the Contractor, it being the intent hereof that notwithstanding such changes the liability of the surety on said bonds continue and remain in full force and effect.

**26. PRICES FOR WORK:**

The Town shall pay and the Contractor shall receive the prices stipulated in the Bid made a part hereof as full compensation for everything performed and furnished and for all risks and obligations undertaken by the Contractor under and as required by the Contract.

**27. MONEYS MAY BE RETAINED:**

The Town may at any time retain from any moneys which would otherwise be payable hereunder so much thereof as the Town may deem necessary to complete the Work hereunder and to reimburse it for all costs, expenses, losses, damage and damages chargeable to the Contractor hereunder.

**28. USE OR PARTIAL PAYMENT NOT ACCEPTANCE:**

It is agreed that this is an entire contract for one whole and complete Work or result and that neither the Town's entrance upon or use of the Work or any part thereof nor any partial payments by the Town shall constitute an acceptance of the Work or any part thereof before its entire completion and final acceptance.

**29. NON-CONNECTICUT CONTRACTORS:**

Pursuant to Connecticut General Statutes §12-430(7), as amended by Connecticut Public Act #11-61, Section 66, a nonresident contractor shall comply with the State of Connecticut's bonding requirements.

**30. PAYMENT TO SUBCONTRACTORS:**

As required by Section 49-41a of the Connecticut General Statutes, within thirty days after payment to the Contractor by the Town for work under this Contract, he shall pay any amounts due any subcontractor, whether for labor performed or materials furnished when such labor or materials has been included in a requisition submitted by such Contractor and paid by the Town.

**31. INSURANCE:**

Insurance coverage required as noted in "Exhibit A" attached.

**32. PREVAILING WAGE RATES; CONSTRUCTION SAFETY AND HEALTH COURSE:**

Except as noted below, the Contractor shall comply with the current provisions of Section 31-53 of the General Statutes of the State of Connecticut, a part of which is quoted as follows:

"The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee or welfare fund, as defined in subsection (h) of section 31-53 of the General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day."

All Contractors and subcontractors shall submit certified weekly payrolls, on forms furnished by the Town, for all contracts meeting the aforementioned monetary limits. The certified payrolls shall be submitted with the Contractor's monthly certificate for payment.

Section 31-55a of the General Statutes of the State of Connecticut provides that the prevailing wage rates applicable to any awarded contract or subcontract are subject to annual adjustments each July 1<sup>st</sup> for the duration of the project.

Each Contractor that is awarded a contract shall pay the annual adjusted prevailing wage rate that is in effect each July 1<sup>st</sup>, as posted by the Department of Labor.

It is the Contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's web site. The annual adjustments will be posted on the Department's of Labor web page: [www.ctdol.state.ct.us](http://www.ctdol.state.ct.us). For those without Internet access, contact the division listed below.

The Contractor shall also furnish proof with the weekly certified payroll for the first week each employee begins work that any person performing the work of a mechanic, laborer or worker has completed a course of at least ten (10) hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration in accordance with Connecticut General Statutes Section 31-53b and regulations adopted by the State of Connecticut Labor Commissioner.

The provisions of this section (32) shall not apply where the total cost of all work to be performed by all Contractors and subcontractors in connection with new construction of any public works project is less than four hundred thousand dollars (\$400,000) or where the total cost of all work to be performed by all contractors and subcontractors in connection with any remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project is less than one hundred thousand dollars (\$100,000).

Questions can be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at 860-263-6790.

**33. GOVERNING LAW:**

The laws of the State of Connecticut shall govern this Contract and any and all litigation related to this Contract. In the event of litigation related to this Contract, the exclusive forum shall be the State of Connecticut and the exclusive venue for such litigation shall be the Judicial District for Stamford/Norwalk at Stamford.

IN WITNESS, WHEREOF, the parties of the AGREEMENT have hereunto set their hand and seals the day first above written.

TOWN OF GREENWICH, CONNECTICUT

BY \_\_\_\_\_

THE CONTRACTOR

BY \_\_\_\_\_

# WESTERN MIDDLE SCHOOL GENERATOR REPLACEMENT

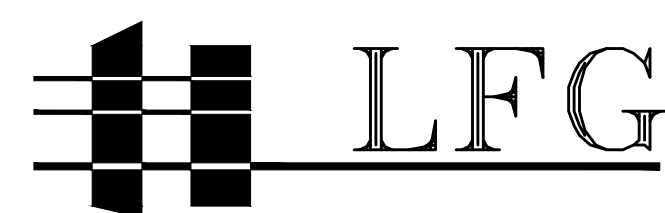
ISSUE: FOR BID

DATE: OCTOBER 16, 2019

BID # 2277-19



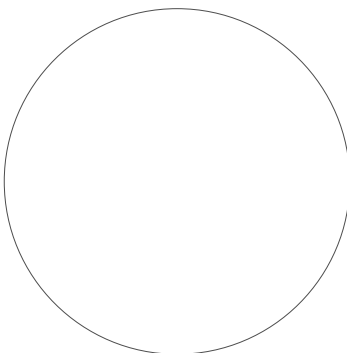
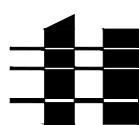
DOCUMENTS PREPARED BY:



252 East Avenue  
Norwalk, CT 06855  
(203) 866-4626 Tel  
(203) 866-8019 Fax

LANDMARK  
FACILITIES  
GROUP, INC.



0	10/16/2019	BID SET
REV	DATE	DESCRIPTION
		
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 40%;"> <p>252 East Avenue Norwalk, CT 06855 (203) 866-4626 Tel (203) 866-8019 Fax</p> </div> <div style="width: 20%; text-align: center;">  </div> <div style="width: 35%; text-align: right;"> <p><b>LFG</b></p> <p>LANDMARK FACILITIES GROUP, INC.</p> </div> </div>		
<p><b>Western Middle School</b> 1 Western Junior Highway Greenwich, CT 06830</p>		
<b>SCALE:</b> AS NOTED	<b>APPROVED BY:</b>  GR	<b>DRAWN BY:</b>  LC
<b>DATE:</b> 10/16/2019		<b>CHECKED BY:</b> RS, EL
<p><b>COVER SHEET</b></p>		
<b>BID NUMBER:</b> 2277.19	<b>LFG JOB NUMBER:</b> 1018/002-WestMidCD	<b>DRAWING NUMBER:</b> T-001

DRAWING INDEX	
T-001	COVER SHEET
T-002	PROJECT NOTES & DESCRIPTION
E-001	ELECTRICAL LEGEND, DETAILS, ELEVATIONS, & SCHEDULES
E-100	ELECTRICAL LOWER LEVEL WEST PLAN
E-101	ELECTRICAL LOWER LEVEL EAST PLAN
E-102	ELECTRICAL FIRST FLOOR WEST PLAN
E-103	ELECTRICAL FIRST FLOOR EAST PLAN
E-104	ELECTRICAL SECOND FLOOR EAST PLAN
E-200	ELECTRICAL BOILER ROOM PLAN
E-201	ELECTRICAL GENERATOR PLAN
E-300	ELECTRICAL PARTIAL ONE LINE DIAGRAM
E-400	ELECTRICAL PANEL SCHEDULES
E-500	ELECTRICAL SPECIFICATIONS
E-501	GENERATOR SPECIFICATIONS
E-502	AUTOMATIC TRANSFER SWITCH SPECIFICATIONS

## PROJECT DESCRIPTION

THE INTENT OF THIS PROJECT IS TO REPLACE THE EXISTING EMERGENCY GENERATOR WITH A NEW EMERGENCY GENERATOR THAT CAN SUPPORT THE EXISTING LIFE SAFETY LOADS AND ADD SUPPORT FOR EXISTING OPTIONAL STAND-BY LOADS. CONTRACTOR SHALL PROVIDE 'TURNKEY' SERVICES WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING SCOPE ITEMS:

- DEMOLITION OF EXISTING GENERATOR
- RIGGING
- INSTALLATION
- FIELD STARTUP AND TESTING WITH FACTORY REP.
- FULL SYSTEM TESTING INCLUDING A LIVE LOAD TEST
- GENERATOR PAD
- FENCE
- BOLLARDS
- IDENTIFICATION
- FUEL FOR ALL TESTING
- FUEL TANK OF FUEL AFTER COMPLETION OF TESTING

ALL OUTAGES SHALL BE OUTSIDE OF NORMAL SCHOOL HOURS  
7AM-4PM, ALL OUTAGES SHALL BE COORDINATED WITH AND  
APPROVED BY OWNER.

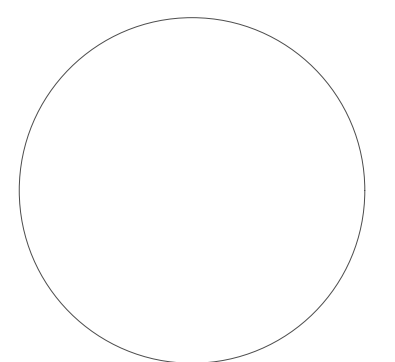
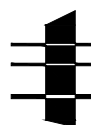
PROJECT NOTES:

1. ALL BIDDERS SHALL VISIT PROJECT SITE TO THOROUGHLY FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS. CLAIMS FOR EXTRA PAYMENTS FOR WORK, WHICH COULD HAVE BEEN IDENTIFIED VIA CAREFUL SITE INSPECTION, WILL NOT BE ACKNOWLEDGED.

2. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL PREPARE EQUIPMENT SUBMITTALS PER SPECIFICATION AND SUBMIT TO DESIGN ENGINEER FOR REVIEW/APPROVAL.

3. UPON COMPLETION OF WORK, CONTRACTOR SHALL SUBMIT AS-BUILTS DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS ON SHEET E-500, E-501, & E-502.

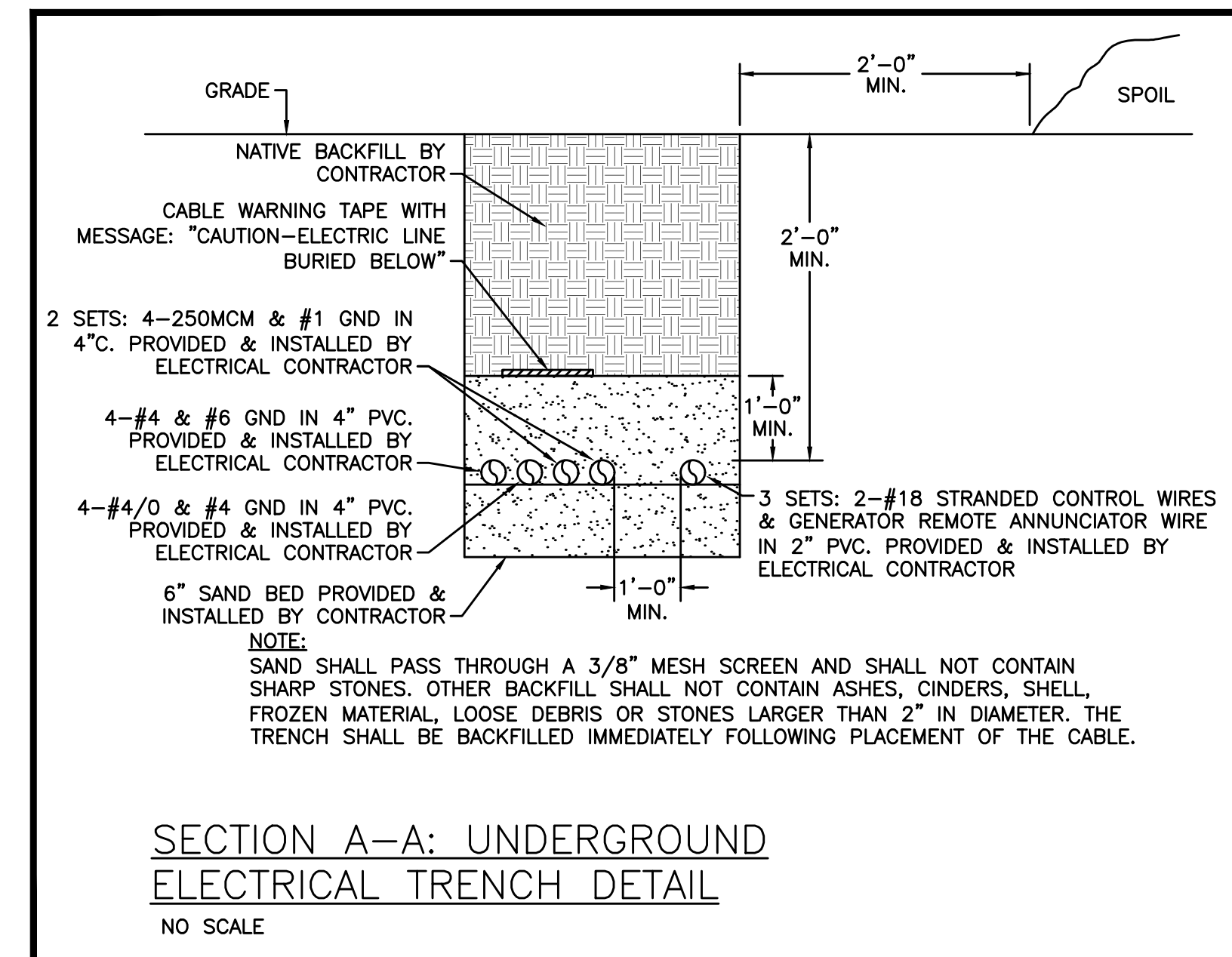
4. PROVIDE NO LESS THAN (2) HARD COPIES OF OPERATION AND MAINTENANCE MANUALS AT PROJECT CLOSEOUT. MANUALS SHALL INCLUDE ALL EQUIPMENT CUT SHEETS, OPERATING INSTRUCTIONS AND WARRANTY INFORMATION. SUBMIT FOR ENGINEER REVIEW PRIOR TO SUBMISSION TO OWNER.

0	10/16/2019	BID SET
REV	DATE	DESCRIPTION
		
252 East Avenue Norwalk, CT 06855 (203) 866-4626 Tel (203) 866-8019 Fax		 <b>LFG</b> LANDMARK FACILITIES GROUP, INC.
<h2>Western Middle School</h2> <p>1 Western Junior Highway Greenwich, CT 06830</p>		
SCALE: AS NOTED	APPROVED BY: GR	DRAWN BY: J.C.
DATE: 10/16/2019		CHECKED BY: RS, CL
<h3>PROJECT NOTES &amp; DESCRIPTION</h3>		
BID NUMBER: 2277-19	LFG JOB NUMBER: 1018.002 WestMidCD	DRAWING NUMBER: T-002

	NEW PANEL
	NEW RECESSED PANEL
	EXISTING PANEL
	EXISTING RECESSED PANEL
	DOUBLE-DUPLEX RECEPTACLE
	JUNCTION BOX
	LOCKABLE DISCONNECT SWITCH WITH RATINGS
LP/XX ← HOMERUN	
WP	WEATHER-PROOF TYPE
(N)	NEW
(E)	EXISTING TO REMAIN
(D)	DEMOLISH EXISTING
————	NEW
————	EXISTING

1. CONTRACTOR SHALL DEMOLISH EXISTING GENERATOR, ATS, ASSOCIATED EQUIPMENT, PIPING, CABLES, CONDUITS, DUCTS, ETC.

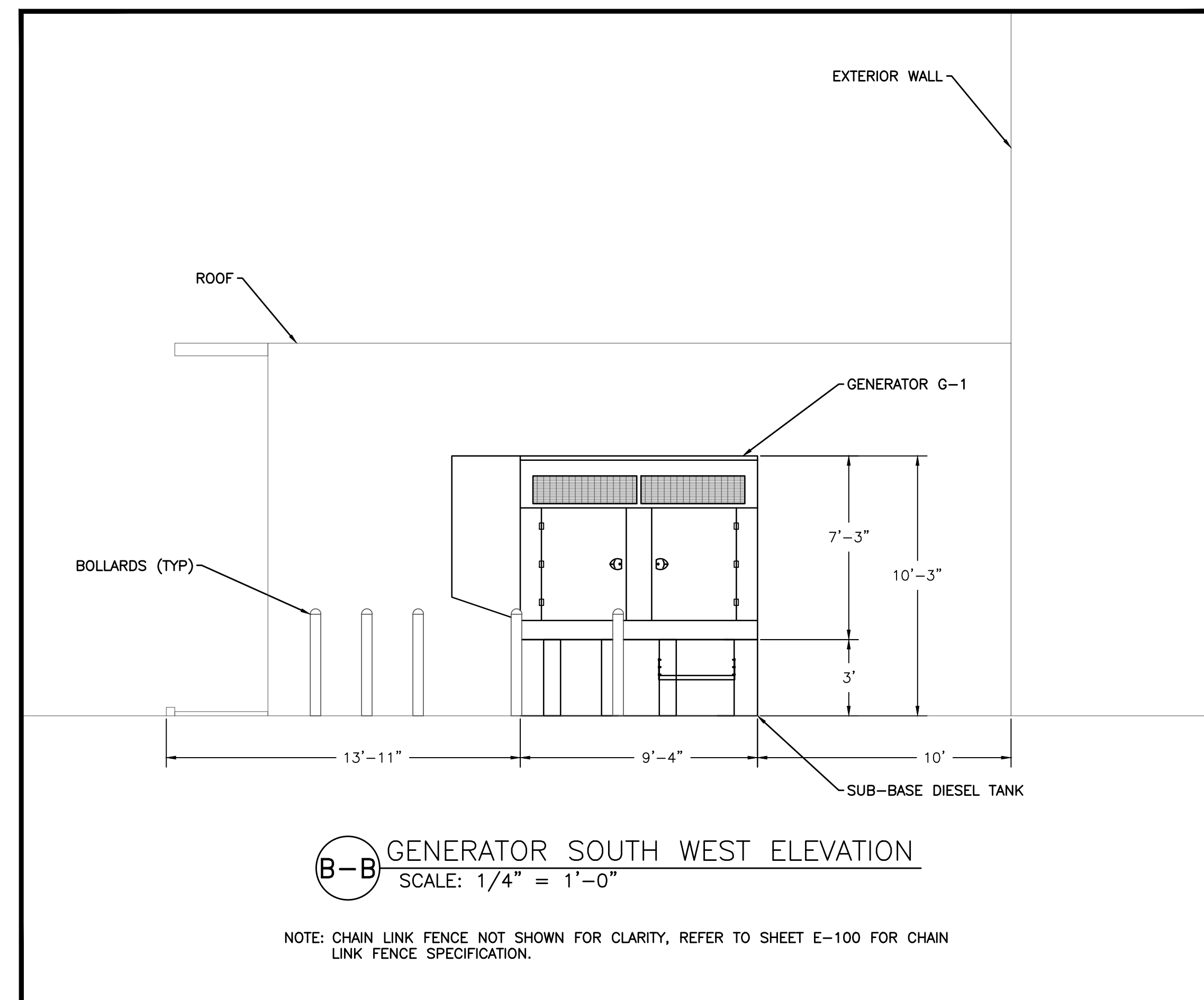
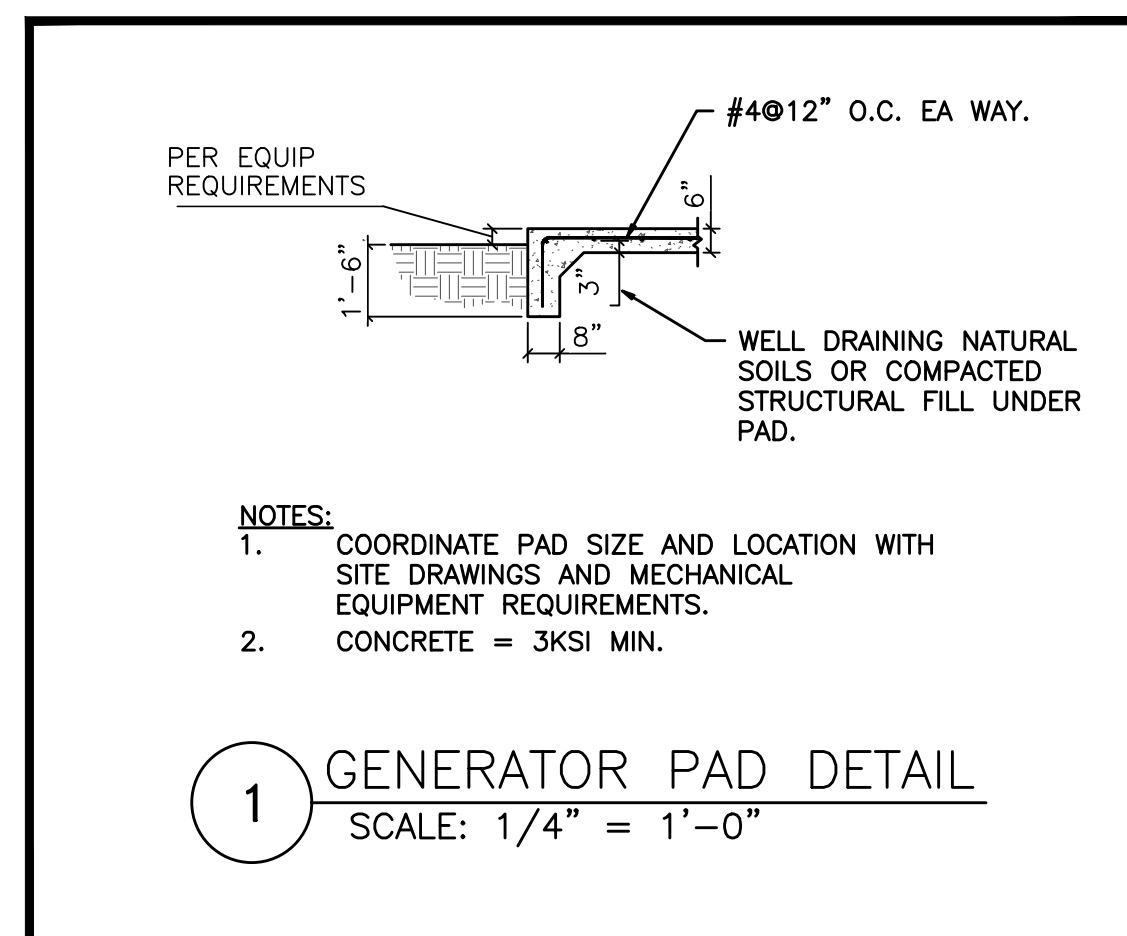
1. THE CONTRACTOR SHALL DISCONNECT THE LOADS IDENTIFIED ON ANY OF THE GENERATOR POWERED PANELS FROM THE PANELS THEY ARE CURRENTLY POWERED FROM, AND REROUTE THE FEEDERS AND EXTEND AS NECESSARY TO THE GENERATOR PANELS. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE BRANCH CIRCUIT AND PANEL POWERING EACH LOAD.
2. CONTRACTOR SHALL DELAY THE START OF EACH LOAD ONCE TRANSFERRED ONTO GENERATOR POWER BY THE AMOUNT LISTED IN THE LOAD STAGING TABLE ON SHEET E-400. CONTRACTOR SHALL PROVIDE NECESSARY EQUIPMENT TO DELAY START AND COORDINATION WITH EQUIPMENT CONTROLS AND BMS.
3. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH THE NEC, AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
4. THIS DRAWING SET WAS DEVELOPED USING SCANNED DRAWINGS CONVERTED INTO AUTOCAD AND SCALED, FIELD VERIFIED WHERE DIMENSIONED. DO NOT SCALE, FIELD VERIFY ALL DIMENSIONS.



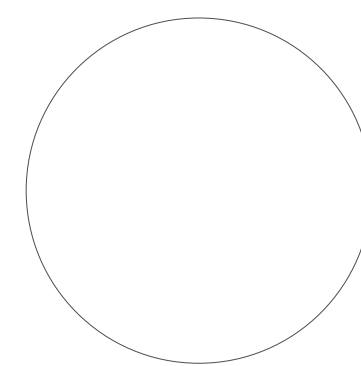
GENERATOR SET SCHEDULE																
TAG	MANUFACTURER	GENERATOR SET MODEL	ALTERNATOR MODEL	TEMP. RISE	ENGINE MODEL	FUEL	kVA	kW	PF	VOLTAGE	PHASE	FREQ.	BREAKER SIZE(S)	TANK SIZE	TANK TYPE	OPTIONS
G-01	MTU-ONSITE ENERGY CORP.	MTU 6R0120 DS150	431PSL6206 w/ PMG	130°C	OM926 60Hz	DIESEL	187.5	150	0.8	208/120VAC	3	60HZ	400A, 200A, 50A	24HR/400GAL.	SUB-BASE	1
COMMENTS: 1. FUEL FILTER: REMOVES WATER AND CONTAMINANTS LARGER THAN 5 MICRONS. 2. FUEL POLISHING KIT																

ATS SCHEDULE							
TAG	MANUFACTURER	MODEL	VOLTAGE	PHASE	FREQ.	AMPACITY	LOAD TYPE
ATS-1	ASCO	SERIES 300 (3ATS)	208/120VAC	3	60HZ	70A	EMERGENCY
ATS-2	ASCO	SERIES 300 (3ATS)	208/120VAC	3	60HZ	400A	STAND-BY
ATS-3	ASCO	SERIES 300 (3ATS)	208/120VAC	3	60HZ	200A	STAND-BY

REMOTE ANNUNCIATOR SCHEDULE			
TAG	MANUFACTURER	MODEL	PART #
RA-1	MTU ONSITE ENERGY	RDP-110	X00A30100046



0	10/16/2019	BID NET
REV	DATE	DESCRIPTION



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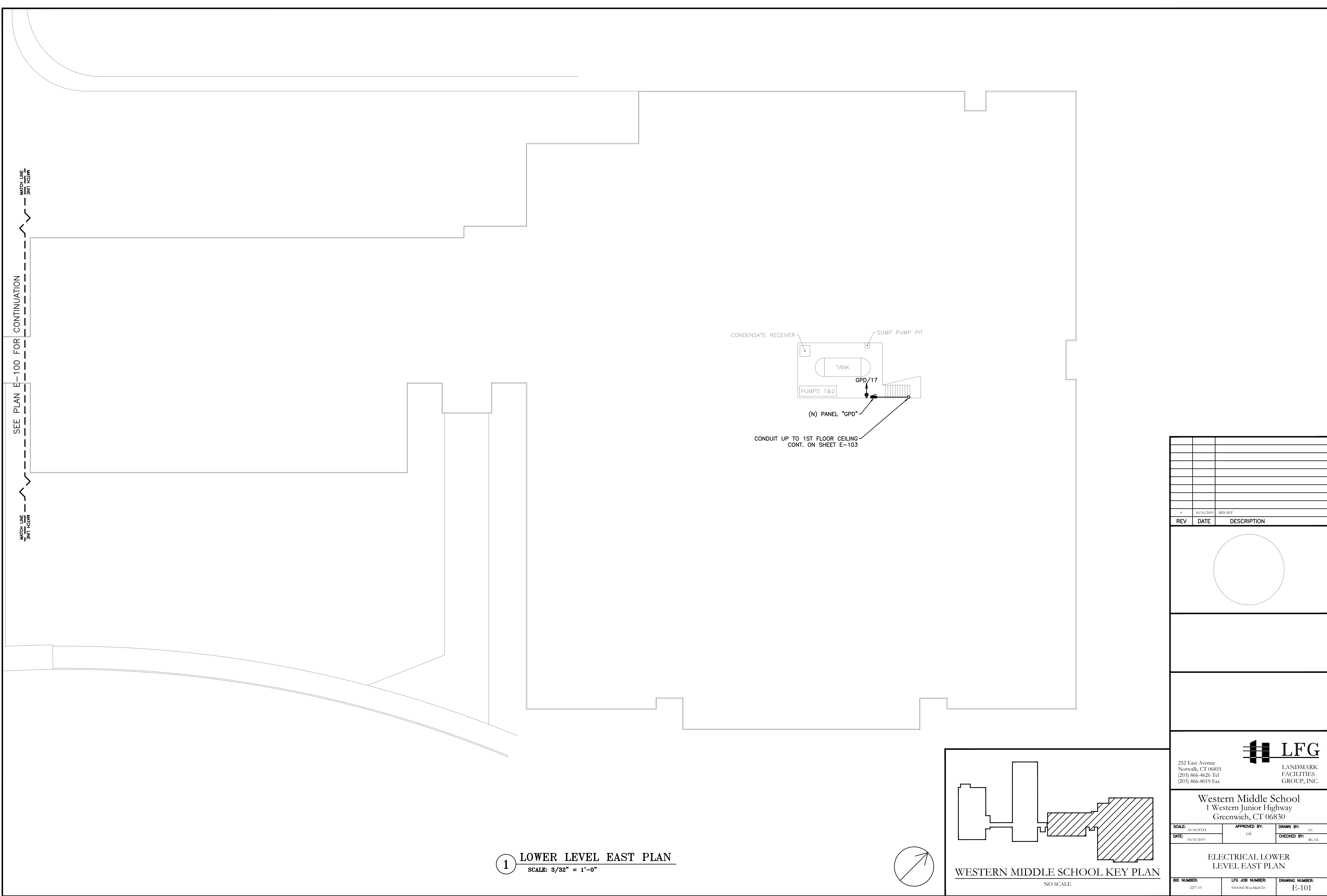
Western Middle School  
1 Western Junior Highway  
Greenwich, CT 06830

<b>SCALE:</b> AS NOTED	<b>APPROVED BY:</b>  GR	<b>DRAWN BY:</b> LC
<b>DATE:</b> 10/16/2019		<b>CHECKED BY:</b> RS EL

ELECTRICAL LEGEND, DETAILS  
ELEVATIONS, & SCHEDULES

<b>BID NUMBER:</b> 2277-19	<b>LFG JOB NUMBER:</b> 1018.002-WestMid:CD	<b>DRAWING NUMBER:</b> E-001
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REV	DATE	DESCRIPTION
0	10/16/2019	BID SET

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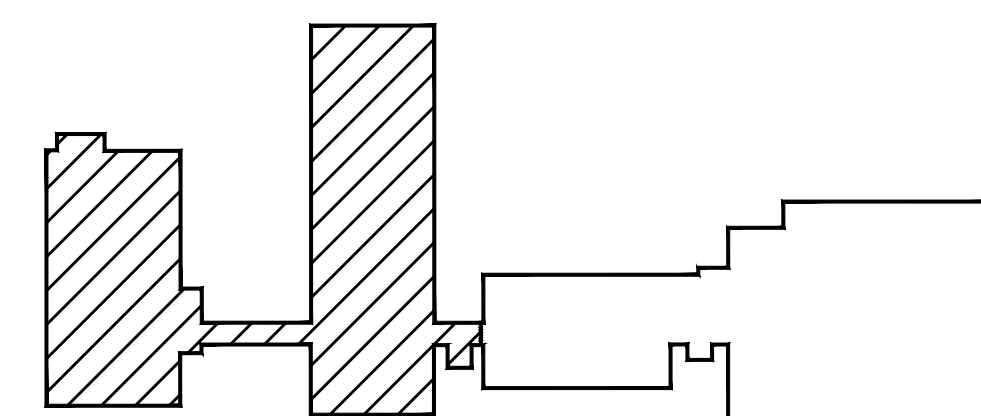
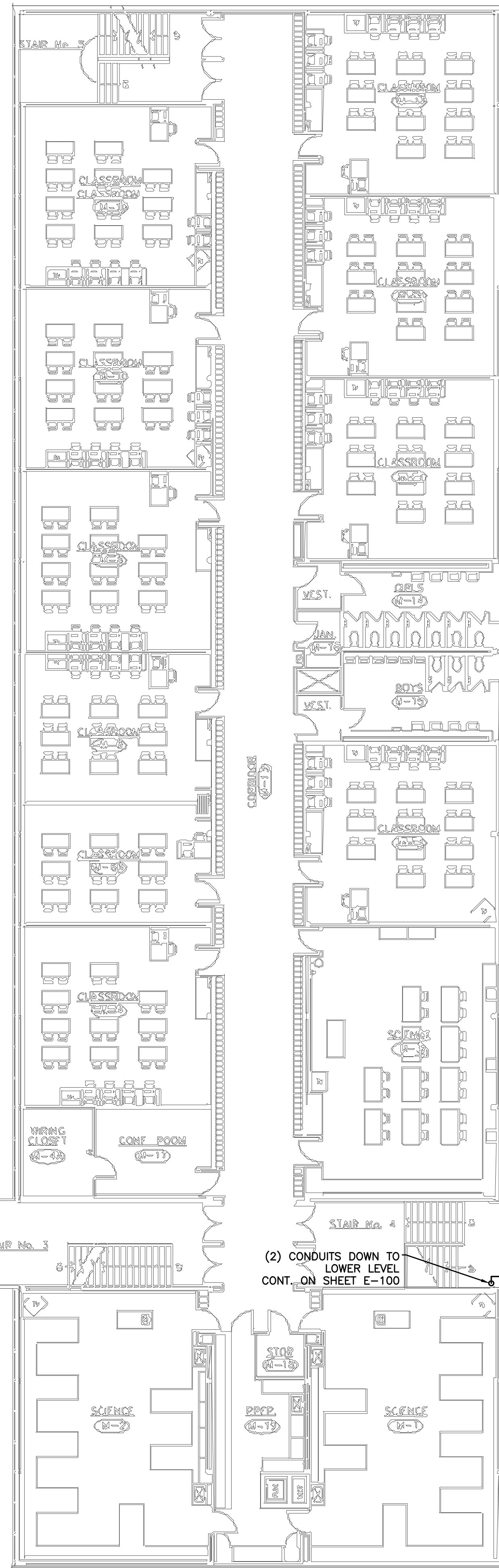
LANDMARK  
FACILITIES  
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Western Middle School  
1 Western Junior Highway  
Greenwich, CT 06830

SCALE: AS NOTED	APPROVED BY: GR	DRAWN BY: LC
DATE: 10/16/2019	CHECKED BY:	RS, EL

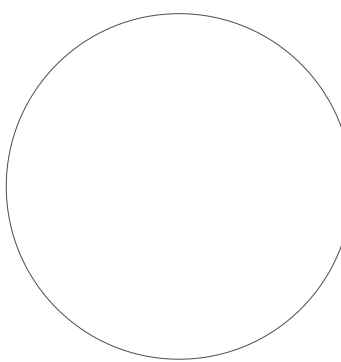
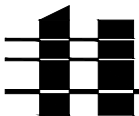
ELECTRICAL LOWER  
LEVEL EAST PLAN

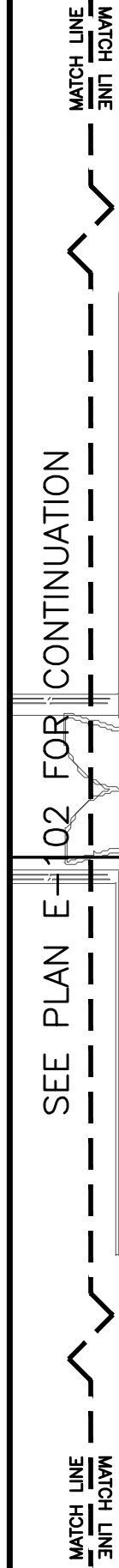
BID NUMBER: 2277-19	LFG JOB NUMBER: 1018.002.WestMidCD	DRAWING NUMBER: E-101
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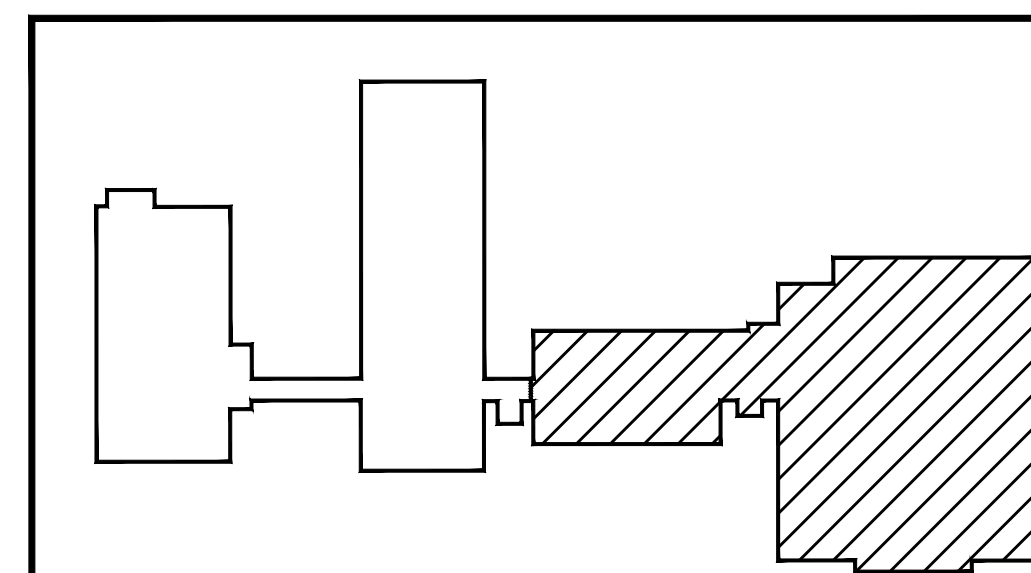
WESTERN MIDDLE SCHOOL KEY PLAN

NO SCALE

0	10/16/2019	BID SET
REV	DATE	DESCRIPTION
		
<div style="display: flex; justify-content: space-between; align-items: center;"> <div> <p>252 East Avenue Norwalk, CT 06855 (203) 866-4626 Tel (203) 866-8019 Fax</p> </div> <div style="text-align: center;">  <p><b>LFG</b></p> </div> <div> <p>LANDMARK FACILITIES GROUP, INC.</p> </div> </div>		
<p><b>Western Middle School</b> 1 Western Junior Highway Greenwich, CT 06830</p>		
SCALE: AS NOTED	APPROVED BY: GR	DRAWN BY: LC
DATE: 10/16/2019		CHECKED BY: RS, EL
<p><b>ELECTRICAL FIRST FLOOR WEST PLAN</b></p>		
BID NUMBER: 2277-19	LFG JOB NUMBER: 1018.002-WestMidCDD	DRAWING NUMBER: E-102



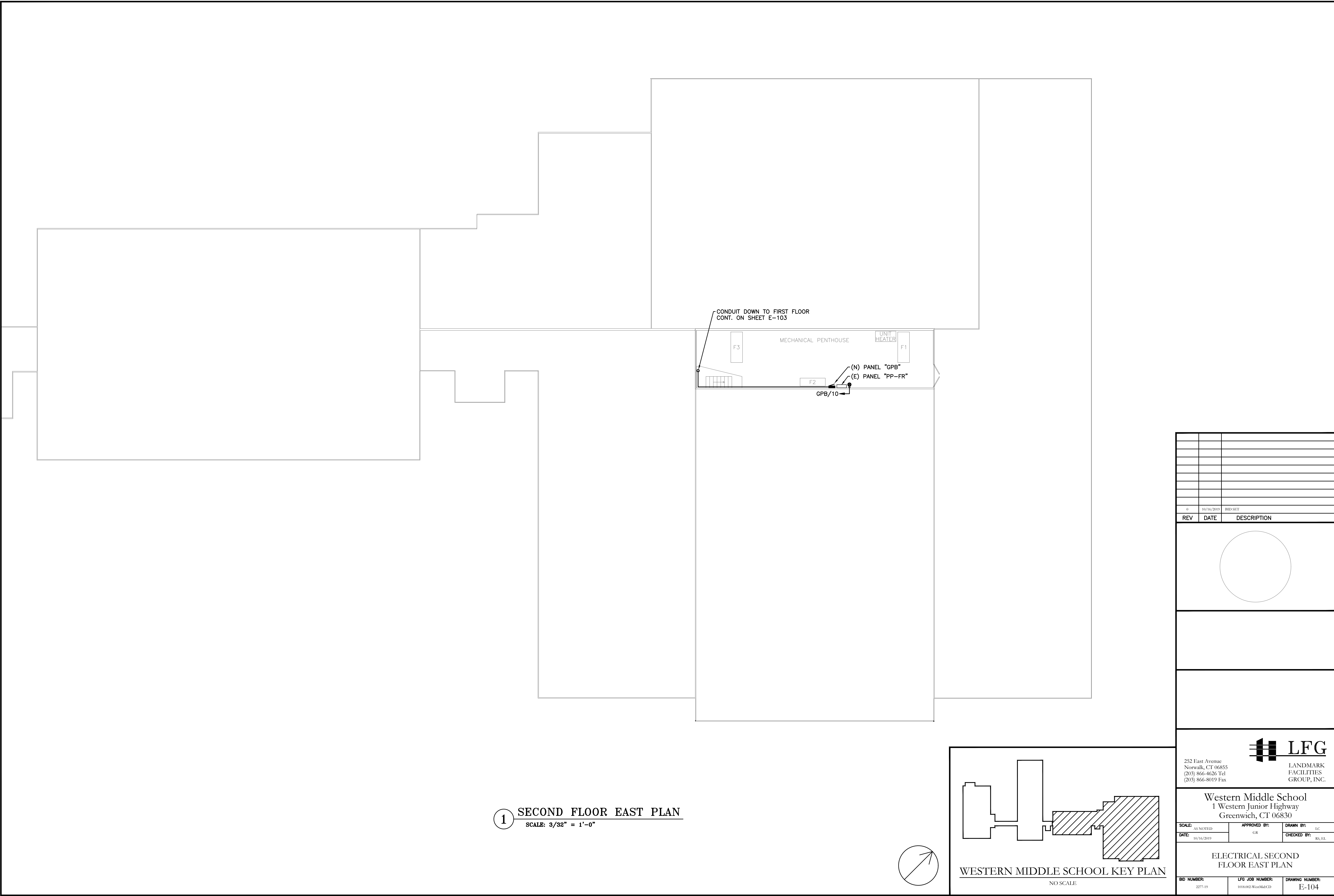
SCALE:  $3/32'' = 1'-0''$



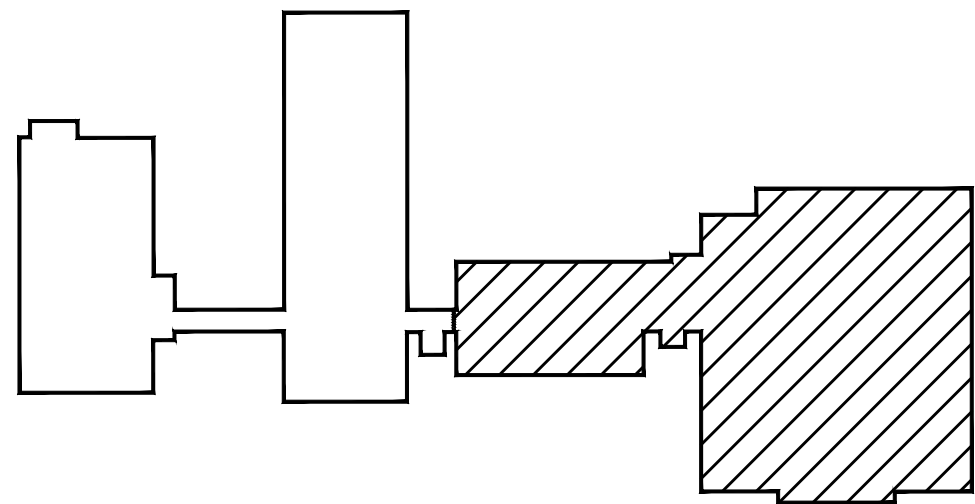
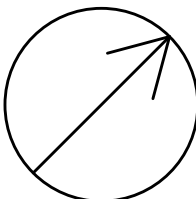
NO SCALE

<b>BID NUMBER:</b> 2277-19	<b>LFG JOB NUMBER:</b> 1018.002-WestMid.CD	<b>DRAWING NUMBER:</b> E-103
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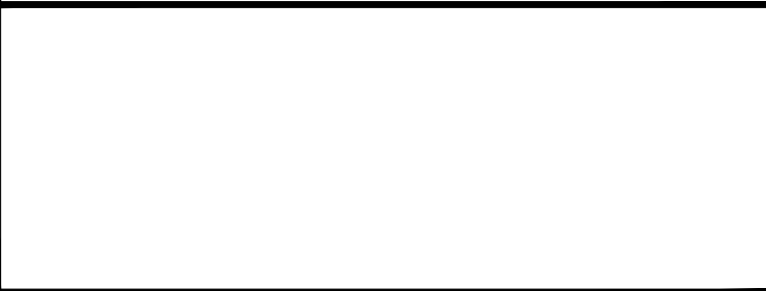
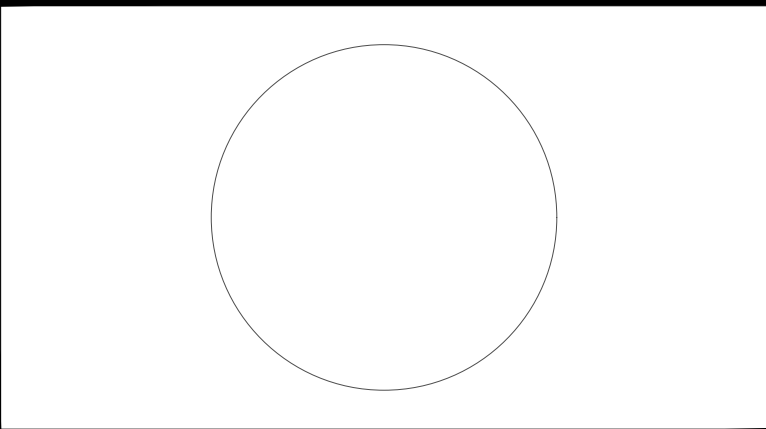


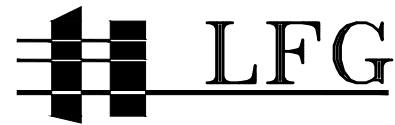
1 SECOND FLOOR EAST PLAN  
SCALE: 3/32" = 1'-0"



WESTERN MIDDLE SCHOOL KEY PLAN  
NO SCALE

0	10/16/2019	BID SET
REV	DATE	DESCRIPTION





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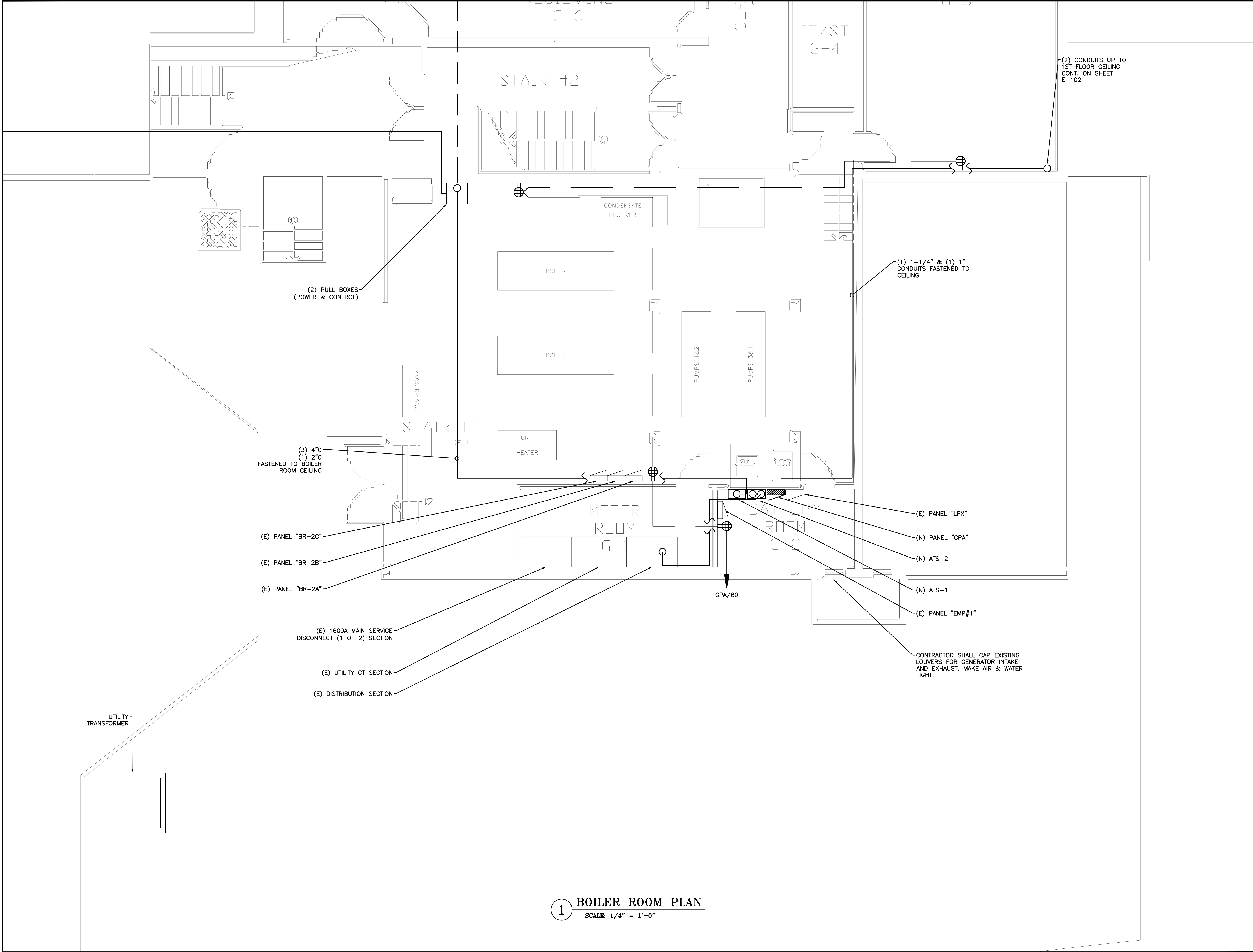
LANDMARK  
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Western Middle School  
1 Western Junior Highway  
Greenwich, CT 06830

SCALE: AS NOTED	APPROVED BY: GR	DRAWN BY: LC
DATE: 10/16/2019	CHECKED BY:	RS, EL

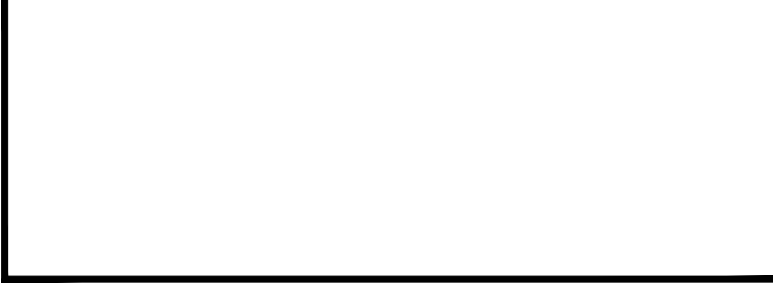
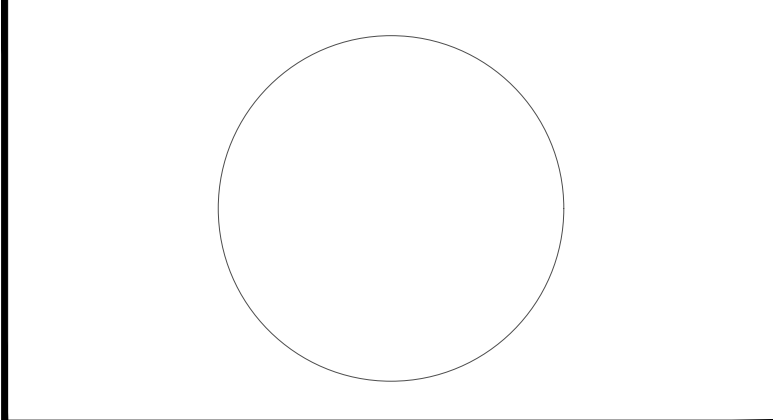
ELECTRICAL SECOND  
FLOOR EAST PLAN


BID NUMBER: 2277-19	LFG JOB NUMBER: 1018.002.WestMidCD	DRAWING NUMBER: E-104
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**1 BOILER ROOM PLAN**  
SCALE: 1/4" = 1'-0"

REV	DATE	DESCRIPTION
0	10/16/2019	BID SET





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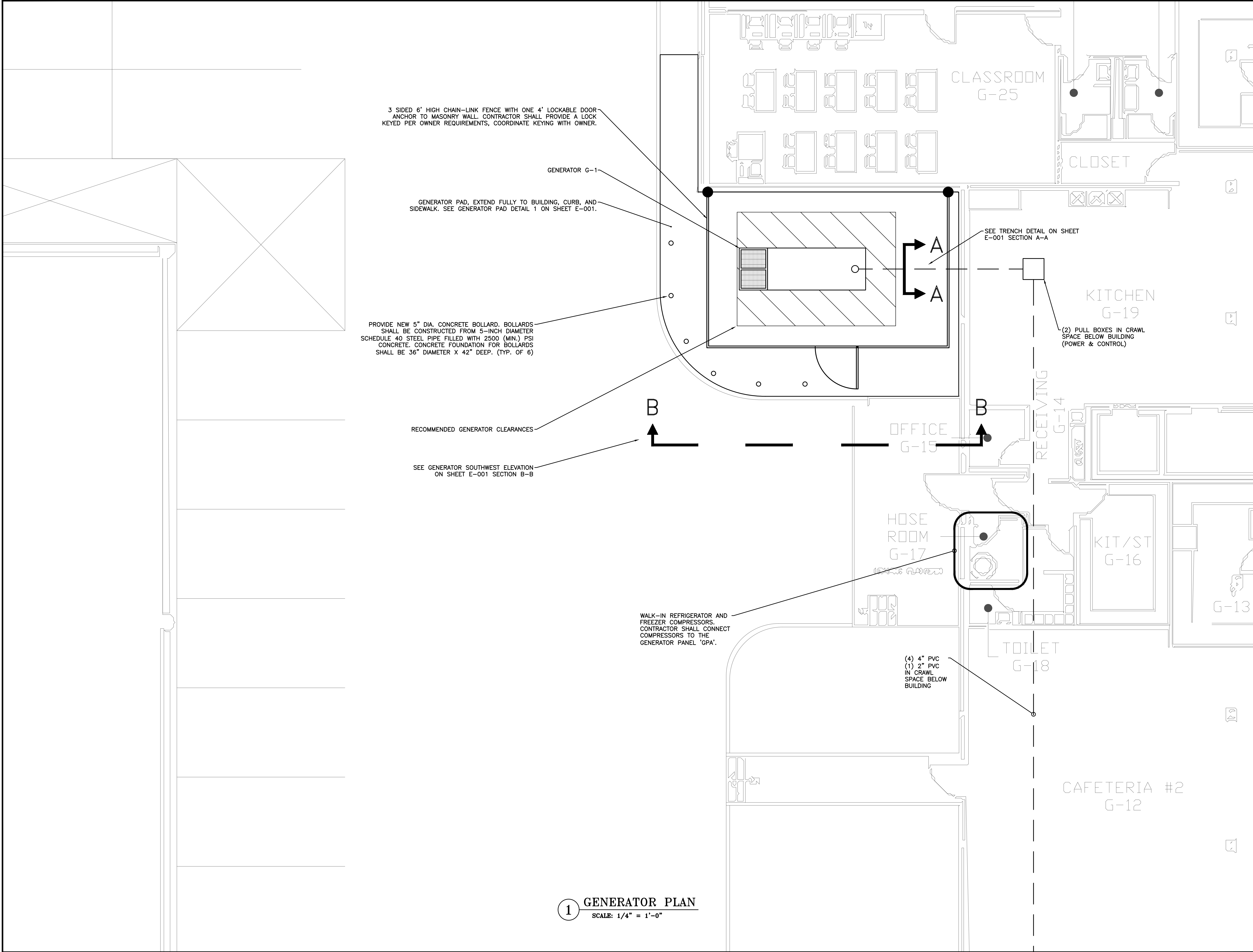
LANDMARK  
FACILITIES  
GROUP, INC.

Western Middle School  
1 Western Junior Highway  
Greenwich, CT 06830

SCALE: AS NOTED	APPROVED BY: GR	DRAWN BY: L.C.
DATE: 10/16/2019	CHECKED BY: RS, EL	

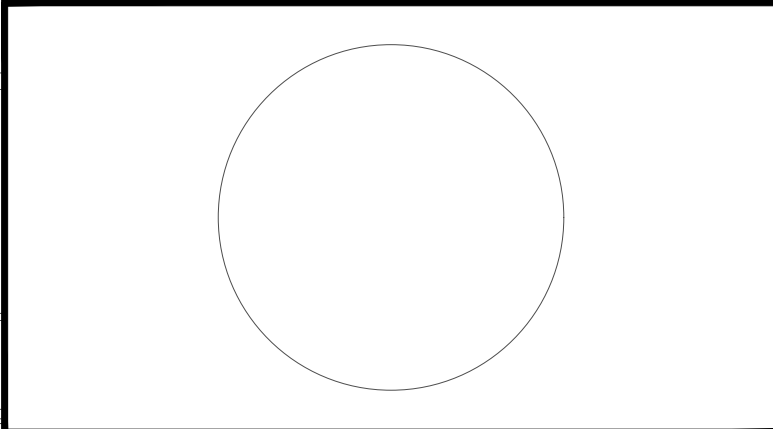
ELECTRICAL BOILER  
ROOM PLAN


BID NUMBER: 2277-19	LFG JOB NUMBER: 1018.002.WestMidCD	DRAWING NUMBER: E-200
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1 GENERATOR PLAN  
SCALE: 1/4" = 1'-0"

REV	DATE	DESCRIPTION
0	10/16/2019	BID SET





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Norwalk, CT 06855  
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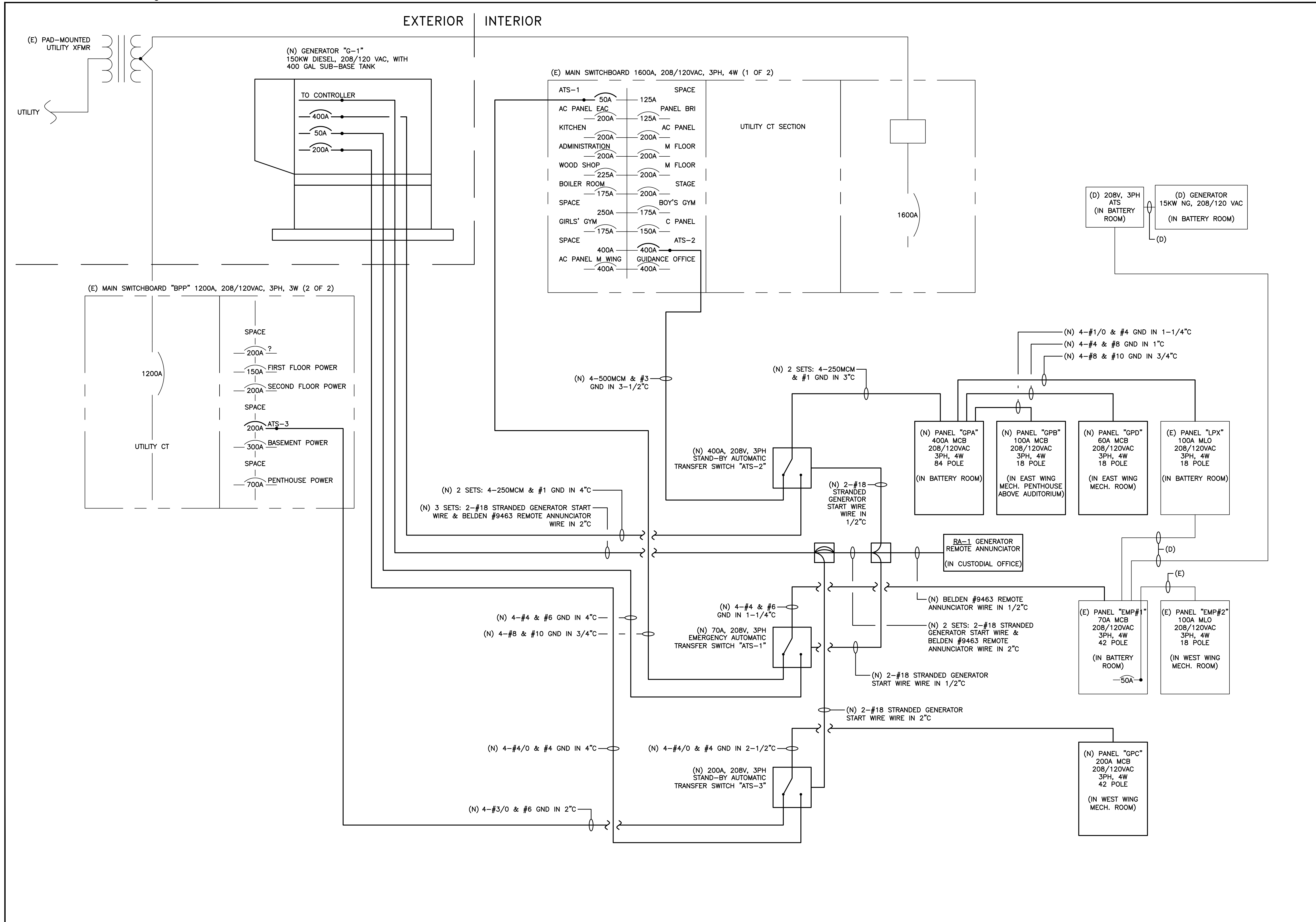
Western Middle School  
1 Western Junior Highway  
Greenwich, CT 06830

SCALE: AS NOTED	APPROVED BY: GR	DRAWN BY: LC
DATE: 10/16/2019	CHECKED BY: RS, EL	

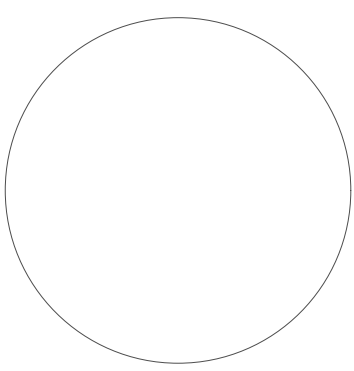
ELECTRICAL  
GENERATOR PLAN

BID NUMBER: 2277-19	LFG JOB NUMBER: 1018.002.WestMidCD	DRAWING NUMBER: E-201
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### Partial One Line Diagram



0	10/16/2019	BID SET
REV	DATE	DESCRIPTION



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 **LFG**

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GROUP, INC.

Western Middle School  
1 Western Junior Highway  
Greenwich, CT 06830

SCALE: AS NOTED	APPROVED BY:  GR	DRAWN BY: LC
DATE: 10/16/2019		CHECKED BY: RS, EL

ELECTRICAL PARTIAL  
ONE LINE DIAGRAM

<b>BID NUMBER:</b> 2277-19	<b>LFG JOB NUMBER:</b> 1018.002-WestMid.CD	<b>DRAWING NUMBER:</b> E-300
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PANEL SCHEDULE "GPA"																			
PANEL	"GPA"	BUS 400 AMP MAIN CIRCUIT BREAKER										VOLTAGE 120/208V, 3PH, 4 WIRE							
LOAD	—	POLES 84																	
MOUNTING	SURFACE	SPEC —										A/C SYMM 10,000							
DESCRIPTION		WIRE	GRD.	COND.	TRIP	CKT.	A PHASE	B PHASE	C PHASE	CKT.	TRIP	COND.	GRD.	WIRE	DESCRIPTION				
PANEL "GPB"		3		1-1/4"	100A	1	8377			2	20A	1/2"	12	12	COMBUSTION AIR FAN CF-1	②			
						3		8782		4									
PANEL "LPX"		8	10	3/4"	50A	7	—	3322		8	60A	1"	10	6	PANEL "GPD"				
						9			—	10									
CIRC. PUMP #1	①	12	12	1/2"	15A	13	901	901		14	15A	1/2"	12	12	CIRC. PUMP #2	①			
						15			901	16									
CIRC. PUMP #3	③	12	12	1/2"	15A	19	1273	1273		20	15A	1/2"	12	12	CIRC. PUMP #4	③			
						21			1273	22									
CONDENSATE RECEIVER #1	⑤	12	12	1/2"	15A	25	793	793		26	15A	1/2"	12	12	CONDENSATE RECEIVER #2	⑤			
						27			793	28									
COMPRESSOR	⑤	12	12	1/2"	20A	31	1585	2005		32	25A	1/2"	10	10	LL G-3 FAN	⑤			
						33			1585	34									
BOILER PUMP #1	③	12	12	1/2"	15A	37	180	180		38	15A	1/2"	12	12	BOILER PUMP #2	③			
						39			180	40									
BOILER BURNER MOTOR #1	④	12	12	1/2"	15A	43	3963	3963		44	15A	1/2"	12	12	BOILER BURNER MOTOR #2	④			
						47			3963	48									
WALK-IN REFRIGERATOR	⑩	10	10	1/2"	30A	49	2005	2005		50	30A	1/2"	10	10	WALK-IN FREEZER	⑩			
						51			2005	52									
BOILER #1	①	10	10	1/2"	25A	55	2181	2181		56	25A	1/2"	10	10	BOILER #2	①			
BOILER CONTROLS #1	①	12	12	1/2"	15A	57			732	58	15A	1/2"	12	12	BOILER CONTROLS #2	①			
FAN FP-1	③	12	12	1/2"	15A	59			720	60	20A	1/2"	12	12	RCPT-MECH. MAINTENANCE	③			
SPARE					20A	61	—	—		62	20A				SPARE				
SPARE					20A	63			—	64	20A				SPARE				
SPARE					20A	65			—	66	20A				SPARE				
SPARE						67	—	—		68					SPARE				
SPARE						69			—	70					SPARE				
SPARE						71			—	72					SPARE				
SPARE						73	—	—		74					SPARE				
SPARE						75			—	76					SPARE				
SPARE						77			—	78					SPARE				
SPARE						79	—	—		80					SPARE				
SPARE						81			—	82					SPARE				
SPARE						83			—	84					SPARE				
		SUBTOTAL					37881	35388	33213	(XXX KVA / 208V * √3) = AMPERES									
		TOTAL CONNECTED LOAD					106482	va	295	amps									
		TOTAL DESIGN LOAD					106482	va	295	amps									
		125% TOTAL LOAD					133.1	kva	369	amps									

LOAD STAGING TABLE

STAGE	TAG	TAG
1	①	< 10s
2	②	START-UP + 4s
3	③	START-UP + 8s
4	④	START-UP + 12s
5	⑤	START-UP + 16s
6	⑥	START-UP + 20s
7	⑦	START-UP + 24s
8	⑧	START-UP + 28s
9	⑨	START-UP + 32s
10	⑩	START-UP + 36s
11	⑪	START-UP + 40s
SEE SHEET E-001 GENERAL NOTE 2		

PANEL SCHEDULE "GPB"																			
PANEL	"GPB"	BUS 100 AMP MAIN CIRCUIT BREAKER										VOLTAGE 120/208V, 3PH, 4 WIRE							
LOAD	—	POLES 18																	
MOUNTING	SURFACE	SPEC —										A/C SYMM 10,000							
DESCRIPTION		WIRE	GRD.	COND.	TRIP	CKT.	A PHASE	B PHASE	C PHASE	CKT.	TRIP	COND.	GRD.	WIRE	DESCRIPTION				
F1	②	12	12	1/2"	15A	1	1237	2906		2	30A	1/2"	10	10	F2	⑥			
						3			1237	2906									
F3	⑤	10	10	1/2"	30A	7	2906	252		8	15A	1/2"	12	12	UNIT HEATER	①			
						9			2906	360		10	20A	1/2"	12	12	RCPT-MECH. MAINTENANCE	①	
CHAIR LIFT	③	10	10	1/2"	30A	11	1373	—		12	20A				SPACE				
						13			1373	—		14			SPACE				
SPACE						15				16					SPACE				
						17				18					SPACE				
		SUBTOTAL					8377	8782	7049	(XXX KVA / 208V * √3) = AMPERES									
		TOTAL CONNECTED LOAD					24208	va	67	amps									
		TOTAL DESIGN LOAD					24208	va	67	amps									
		125% TOTAL LOAD					30.3	kva	84	amps									

PANEL SCHEDULE "GPC"																			
PANEL	"GPC"	BUS 200 AMP MAIN CIRCUIT BREAKER										VOLTAGE 120/208V, 3PH, 4 WIRE							
LOAD	—	POLES 42																	
MOUNTING	SURFACE	SPEC —										A/C SYMM 10,000							
DESCRIPTION		WIRE	GRD.	COND.	TRIP	CKT.	A PHASE	B PHASE	C PHASE	CKT.	TRIP	COND.	GRD.	WIRE	DESCRIPTION				
INLINE PUMP #1	②	12	12	1/2"	15A	1	576	576		2	15A	1/2"	12	12	COMPRESSOR	①			
						3			576	576		4							
INLINE PUMP #2	②	12	12	1/2"	15A	7	576	1273		8	15A	1/2"	12	12	PUMP-2	②			
						9			576	1273		10							
INLINE PUMP #3	②	12	12	1/2"	15A	13	793	3699		14	40A	1/2"	12	12	AIR HANDLER #1	⑥			
						15			793	3699		16							
PUMP-1	②	12	12	1/2"	20A	19	1920	1273		20	15A	1/2"	12	12	AIR HANDLER #2	②			
UNIT HEATER	①	12	12	1/2"	15A	21			252	1273		22							
RCPT-MECH MAINTENANCE	①	12	12	1/2"	20A	23			360	1273		24							
ELEVATOR CAB LIGHTING	①	12	12	1/2"	20A	25	200	7133		26	90A	1-1/4"	3	8	ELEVATOR	②			
ELEVATOR CONTROLS	①	12	12	1/2"	20A	27			200	7133		28							
ELEVATOR DAMPERS	①	12	12	1/2"	20A	29			200	7133		30							
SPARE					20A	31	—	—		32	20A				SPARE				
SPARE					20A	33			—	34	20A				SPARE				
SPARE					20A	35				36	20A				SPARE				
SPACE						37				38					SPACE				
SPACE						39				40					SPACE				
SPACE						41				42					SPACE				
		SUBTOTAL					18019	16351	16459	(XXX KVA / 208V * √3) = AMPERES									
		TOTAL CONNECTED LOAD					50829	va	141	amps									
		TOTAL DESIGN LOAD					50829	va	141	amps									
		125% TOTAL LOAD					63.5	kva	176	amps									

PANEL SCHEDULE "GPD"
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NOTES:

1. THE WORK OF THIS DIVISION SHALL INCLUDE ALL LABOR, MATERIALS AND APPARATUS NECESSARY FOR THE COMPLETION OF ALL ELECTRICAL WORK AS SHOWN ON THE DRAWINGS AND AS HEREINAFTER SPECIFIED, LEFT READY FOR SATISFACTORY OPERATION.
2. ANY APPLIANCE, MATERIALS OR LABOR THAT ARE OBVIOUSLY A PART OF THE ELECTRICAL WORK NECESSARY TO ITS PROPER PERFORMANCE, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL WITHOUT ADDITIONAL COST.
3. WITHOUT INTENDING TO LIMIT AND/OR RESTRICT THE VOLUME OF WORK REQUIRED AND SOLELY FOR THE CONVENIENCE OF THE CONTRACTOR, THE WORK OF THIS DIVISION SHALL, IN GENERAL COMPRISE THE FOLLOWING:
- A. FURNISHING AND INSTALLATION OF NEW LIGHTING FIXTURES INCLUDING LAMPS AND ASSOCIATED BRANCH CIRCUITRY
- B. FURNISHING AND INSTALLATION OF RECEPTACLES AND ASSOCIATED BRANCH CIRCUITRY WIRING.
- C. FURNISHING AND INSTALLATION OF NEW PANELS.
- D. CONNECTION (WIRING) OF HVAC UNITS.
- E. EMPTY CONDUIT RACEWAYS FOR TELEPHONE AND DATA WIRING.
- F. CONFORMING TO ALL EXISTING CONDITIONS AT THE SITE.
- G. TEMPORARY FACILITIES (LIGHTING AND POWER).

SHOP DRAWINGS:

- SUBMIT TO ENGINEER COMPLETE SHOP DRAWINGS, CATALOG CUTS, WIRING DIAGRAMS AND ASSOCIATED DATA, FOR ALL MAJOR ELEMENTS OF THE ELECTRICAL WORK FOR REVIEW, CHECKING AND APPROVAL. NO EQUIPMENT SHALL BE FABRICATED, DELIVERED, ERECTED OR RECONNECTED OTHER THAN FROM DRAWINGS APPROVED BY THE ENGINEER. SHOP DRAWINGS IN THE NUMBER DIRECTED SHALL BE SUBMITTED FOR NOT LESS THAN THE FOLLOWING:
1. NEW PANELS.
2. TRANSFORMER
3. LIGHTING FIXTURES.
4. WIRING DEVICES.
- IT SHALL BE UNDERSTOOD THAT APPROVAL OF DRAWINGS WILL NOT BIND THE ENGINEER OR THE OWNER TO THE FINAL ACCEPTANCE OF SUCH EQUIPMENT AS THE COMPLETED INSTALLATION AND TEST OF EQUIPMENT AS A WHOLE MUST BE PROVIDED AND GUARANTEED HEREIN AS SPECIFIED.

MATERIALS:

1. GENERAL
- A. ELECTRIC RACEWAY AND SUPPORTING SYSTEMS SHALL BE FURNISHED AND INSTALLED COMPLETE, WITH ALL MATERIALS, FITTINGS, CONNECTIONS AND ACCESSORIES NECESSARY TO PROVIDE IN EACH INSTANCE, A COMPLETE OPERATING INSTALLATION, AS DESCRIBED HEREIN, AND INDICATED ON THE DRAWINGS.
- B. THE DRAWINGS ARE DIAGRAMMATIC AND GENERALLY INDICATIVE OF THE WORK TO BE INSTALLED, BUT DO NOT SHOW ALL BENDS, FITTINGS, AND BOXES WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISH CONDITIONS AFFECTING ALL HIS WORK AND ARRANGE SAME ACCORDINGLY, FURNISHING SUCH FITTINGS, BOXES AND SIMILAR ITEMS AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
2. WIRING:
- A. ALL WIRE AND CABLE, AS INDICATED, SPECIFIED OR REQUIRED, SHALL BE INSTALLED COMPLETE, INCLUDING ALL NECESSARY SPLICES AND CONNECTIONS TO EQUIPMENT DEVICES.
- B. ALL WIRE NO. 8 WIRE AND LARGER SHALL BE SINGLE CONDUCTOR STRANDED COPPER OF NOT LESS THAN 98% CONDUCTIVITY, WITH 600 VOLT WITH THHN INSULATION (THWN FOR DAMP LOCATIONS). WIRE NO. 10 AWG AND SMALLER SHALL BE SOLID COPPER.
- C. WIRE AND CABLE SHALL BE NO. 12 AWG MINIMUM, UNLESS, U.O.N
- D. 15A AND 20A BRANCH CIRCUITS SHALL UTILIZE #12 L & N CONDUCTORS, U.O.N
- E. 25A AND 30A BRANCH CIRCUITS SHALL UTILIZE #10 L & N CONDUCTORS, U.O.N
- F. 35A THROUGH 50A BRANCH CIRCUITS SHALL UTILIZE #8 L & N CONDUCTORS, U.O.N
- G. ALL BRANCH CIRCUITS SHALL HAVE GROUND CONDUCTORS IN ACCORDANCE WITH TABLE 250.110 OF THE NEC.
- H. SUB FEEDERS AND BRANCH CIRCUITS IN EXCESS OF 100LF AND LESS THAN 200LF SHALL UTILIZE THE NEXT LARGER SIZE CONDUCTOR, U.O.N.
- I. BRANCH CIRCUIT NUMBERS INDICATED ON THE DRAWINGS ARE FOR IDENTIFICATION PURPOSES ONLY AND DO NOT NECESSARILY REFER TO PANELBOARD CIRCUIT NUMBERS. BRANCH CIRCUITS SHALL BE CONNECTED TO CIRCUITS ON PANELBOARDS SO AS TO SECURE A REASONABLE BALANCE ON THE THREE PHASES. WHERE MORE THAN ONE CIRCUIT, WITH A COMMON NEUTRAL IS INSTALLED IN THE SAME CONDUIT, EACH PHASE WIRE SHALL BE CONNECTED TO A DIFFERENT LEG OF THE SYSTEM.
- J. ALL CONDUCTORS SHALL BE COLOR CODED THROUGHOUT AND NUMBERED AND TAGGED AT EACH JUNCTION BOX, PULL BOX, PANEL AND DEVICE WITH SUITABLE FIREPROOF TAGS OR ADHESIVE IDENTIFICATION BANDS.
3. CONDUIT:
- A. EXCEPT AS OTHERWISE INDICATED OR SPECIFIED, ALL WIRING INSIDE AND BEYOND CONFINES OF ELECTRIC CLOSET SHALL BE INSTALLED IN EMT (ELECTROGALVANIZED STEEL ELECTRICAL METALLIC TUBING).
- B. RGS SHALL BE UTILIZED FOR EXTERIOR INSTALLATIONS WHERE EXPOSED
- C. PVC MAY BE USED FOR INSTALLATION WHERE BURIED BELOW GRADE AND WHERE EMBEDDED IN A COVER OF AT LEAST 2" OF CONCRETE LIQUIDTIGHT FLEXIBLE, GALVANIZED STEEL CONDUIT, WITH CONTINUOUS COPPER BONDING CONDUCTOR, SHALL BE USED FOR CONNECTIONS, NOT EXCEEDING 18" IN LENGTH, TO MOTORS AND AT OTHER LOCATIONS WHERE VIBRATION, OR MOVEMENT ARE ENCOUNTERED.
- E. UNLESS OTHERWISE INDICATED OR SPECIFIED, ALL WIRING SHALL BE INSTALLED CONCEALED IN CEILINGS, WALLS, SLABS, PIPE CHASES AND FURRED SPACES WHENEVER POSSIBLE.
- F. CONDUIT AND FITTINGS SHALL CONFORM TO LATEST ACCEPTABLE CODE
- G. CONDUIT SHALL BE 1/2" TRADE SIZE MINIMUM, U.O.N
- H. ALL CONDUITS WHICH ARE TO REMAIN EMPTY FOR FUTURE INTRODUCTION OF CONDUCTORS SHALL BE PROVIDED WITH A #12 NYLON DRAG WIRE WITH IDENTIFICATION TAG AT BOTH ENDS.
- I. METAL CLAD CABLE (MC) CAN BE USED FOR FINAL CONNECTION OF LIGHTING.
- J. CONDUIT FITTINGS SHALL BE APPROPRIATE FOR USE WITH THE CONDUIT TYPE AND LOCATION -- COMPRESSION OR TWO SCREW FITTINGS FOR EMT, THREADED FITTINGS FOR RGS, SOCKET FITTINGS FOR PVC, ETC...

4. JUNCTION BOXES:
- A. JUNCTION BOXES AND PULL BOXES SHALL BE PROVIDED WHERE INDICATED OR SPECIFIED, WHERE REQUIRED BY CODE AND WHERE NECESSARY TO FACILITATE THE INSTALLATION OF EQUIPMENT OR WIRING
- B. THEY SHALL BE NEMA 3R FOR EXTERIOR LOCATIONS
- C. THEY SHALL BE APPROPRIATE FOR USE WITH THE CONDUIT TYPE AND LOCATION -- PLASTIC FOR PVC, SHEET METAL FOR EMT AND CAST STL OR DUCTIL IRON FOR RGS, ETC...
5. OUTLET BOXES:
- A. EACH OUTLET FOR LIGHTING FIXTURE, WALL SWITCH, WALL RECEPTACLE, TELEPHONE OR OTHER USE SHALL BE PROVIDED WITH AN OUTLET BOX SUITABLE FOR THE USE FOR WHICH THE OUTLET IS TO BE INSTALLED AND TO THE LOCATION IN WHICH IT OCCURS, SECURED FIRMLY IN PLACE AND SET TRUE AND SQUARE WITH THE FINISHED SURFACE IN EXCESS OF 200HS OR LOADS IN SHEAR IN COMMON MULTI GANG PLATES
- B. THEY SHALL BE NEMA 3R FOR EXTERIOR LOCATIONS
- C. THEY SHALL BE APPROPRIATE FOR USE WITH THE CONDUIT TYPE AND LOCATION -- SHEET METAL FOR EMT AND CAST STL OR DUCTIL IRON FOR RGS, ETC...
6. FASTENINGS, SUPPORTS AND HANGERS:
- A. ALL PARTS OF THE ELECTRICAL INSTALLATION SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING CONSTRUCTION USING APPROVED CLAMP SCREWS WITH INSERTS OR EXPANSION ANCHORS, EXPANSION BOLTS AND TOGGLE BOLTS "IN NO CASE SHALL THE HUNG CEILING MEMBERS OR WIRES BE USED TO SUPPORT CONDUIT".
- B. ALL FASTENINGS, SUPPORTS, CLAMPS, ANCHORS, AND SIMILAR ITEMS SHALL BE OF TYPE SUITABLE FOR THE PURPOSE -- IF SUPPORTING LOADS IN TENSION IN EXCESS OF 200HS OR LOADS IN SHEAR IN EXCESS OF 400HS THE CONTRACTOR SHALL PROVIDE A REPORT CERTIFIED BY AN ENGINEER ATTESTING TO THE VORACITY OF HIS SELECTION
7. WIRING DEVICES:
- A. ALL DEVICES SHALL BE SPECIFICATION GRADE, U.L. APPROVED.
- B. DUPLEX RECEPTACLE 20 AMP, 2 POLE, 3 WIRE, 125 V, GRD. TYPE HUBBELL #5362 WHI, OR APP. EQUAL
- C. SINGLE RECEPTACLE 20 AMP, 2 POLE, 3 WIRE, 125 V, GRD. TYPE HUBBELL #5361 WHI, OR APP. EQUAL
- D. SINGLE POLE SWITCH 20 AMP, 125 V, GRD. TYPE, HUBBELL #1221 WHI, OR APP. EQUAL
- E. THREE WAY SWITCH 20 AMP, 125 V, GRD. TYPE, HUBBELL #1223 WHI, OR APP. EQUAL
- F. PLATE FOR SINGLE SWITCH -- SMOOTH NYLON WHITE, HUBBELL #PIW, OR APP. EQUAL
- G. PLATE FOR DUPLEX RECEPTACLE -- SMOOTH NYLON WHITE, HUBBELL #PBW, PR APP. EQUAL
- H. PLATE FOR SINGLE RECEPTACLE -- SMOOTH NYLON WHITE, HUBBELL #PTW, OR APP.
- I. WHERE MORE THAN ONE SWITCH OR RECEPTACLE ARE PLACED IN THE SAME LOCATION CONTRACTOR SHALL GANG DEVICES AND USE COMMON MULTI GANG PLATES
- J. ALL SWITCHES SHALL BE QUIET TYPE
- K. ALL DEVICES AND PLATES SHALL BE FURNISHED AS INDICATED BY THE ARCHITECT
8. PANELBOARD AND CABINETS
- A. GENERAL: FIN PLATED COPPER BUSSES, BOLTED BUS BREAKER CONNECTIONS.
- B. SOLDERLESS LUGS, DISTRIBUTIVE PHASING, SEPARATE EQUIPMENT GROUNDING BAR, NEUTRAL BAR.
- C. CABINETS: GALVANIZED BOXES, BONDERIZED ENAMELED TRIMS AND DOORS, INDICATING
- D. TRIM CLAMPS. HINGED DOORS WITH LOCKS AND LATCHES, ALL KEYS ALIKE. PROVIDE
- E. ALL NECESSARY STRUCTURAL SUPPORTS FOR MOUNTING PANELBOARDS. GALVANIZED
- F. UNISTRUCT OR EQUAL CHANNEL IS RECOMMENDED. NEMA 1 ENCLOSURE FOR INTERIOR
- G. NEMA 3R ENCLOSURE FOR EXTERIOR.
- H. POWER, LIGHTING AND MISCELLANEOUS: BUS STRUCTURE AND MAIN LUGS OR MAIN BREAKER WITH CURRENT RATINGS (INCLUDING CAPACITY) AS INDICATED ON PANELBOARD SCHEDULE. PROVIDE BOLT ON, THERMAL MAGNETIC QUICK--MAKE AND CIRCUIT BREAKERS TYPE, COMMON TRIP WHEN MULTIPOLE, ARRANGED IN TWO VERTICAL ROWS, ODD NUMBERS ON LEFT, EVEN NUMBERS ON RIGHT, WITH PERMANENT NUMBER TABS. WESTINGHOUSE TYPE NBO OR EQUAL BY G.E., ITE, SQUARE D, OR APPROVED EQUAL, USING QUICKLAG "B" CIRCUIT BREAKERS. BREAKERS MUST OCCUPY POSITION AND NUMBER ASSOCIATED ON PANELBOARD SCHEDULE.
9. PANELBOARD SCHEDULES
- A. PROVIDE A TYPED PANELBOARD SCHEDULE ENCLOSED IN A PLASTIC ENVELOPE ON THE INSIDE OF THE PANEL DOOR, INDICATING CIRCUIT NUMBERS AND CORRESPONDING LOADS AS SHOWN ON THE PANELBOARD SCHEDULE. APPLIES TO NEW AND EXISTING PANELS.
10. SELECTION OF OVERCURRENT PROTECTION AND SWITCHING DEVICES FOR LIGHT AND POWER DISTRIBUTION
- A. DEVICES SHALL HAVE VOLTAGE RATINGS SUITABLE FOR THE SUPPLY CHARACTERISTICS TO WHICH THEY ARE APPLIED.
- B. SHORT CIRCUIT CURRENT RATINGS, AND THE MANUFACTURER'S LABELS ATTESTING TO THESE RATINGS (BASED ON U.L. LISTINGS), SHALL BE REQUIRED FOR OVERCURRENT PROTECTION AND SWITCHING DEVICES, WHERE THEY ARE INDIVIDUALLY MOUNTED (AS FUSED SWITCHES OR AS FUSED SWITCH BUS DUCT PLUG-IN DEVICES). AND FOR THE EQUIPMENT ASSEMBLIES WHEN THEY ARE INCORPORATED IN PANELS, SWITCHBOARDS, ETC. SUCH RATINGS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:--
1. IN ORDER TO INSURE THAT THEY ARE AT LEAST EQUAL TO THE AVAILABLE FAULT CURRENT, MINIMUM RATINGS HAVE BEEN SPECIFIED HEREIN FOR THE INDIVIDUAL OVERCURRENT DEVICE TYPES, AND OTHER ASSEMBLIES OF DEVICES. "SERIES CONNECTED RATINGS" WILL BE ACCEPTABLE FOR CIRCUIT BREAKER TYPE PANELBOARDS, THESE MINIMUM RATINGS ARE BASED ON THE USE OF UPSTREAM FUSES WHICH SHALL BE SPECIFICALLY TESTED WITH THE EC'S SELECTED CIRCUIT BREAKERS, AND SHALL BE U.L. LISTED ACCORDINGLY, PROVIDE THE ENGINEER ALL PERTINENT U.L. DOCUMENTATION AND ARRANGE TO REPLACE EXISTING SERVICE SWITCH FUSES AS REQUIRED TO OBTAIN REQUIRED SERIES RATING.

## ELECTRICAL SPECIFICATIONS

2. WHERE SUCH FUSE--CIRCUIT BREAKER SERIES RATINGS ARE NOT AVAILABLE FROM A PARTICULAR MANUFACTURER, A CURRENT LIMITING CIRCUIT BREAKER MAY BE UTILIZED AS THE UPSTREAM DEVICE IN ORDER TO OBTAIN THE REQUIRED SERIES RATED. SUCH CURRENT LIMITING BREAKERS SHALL BE INCORPORATED AS MAIN DEVICES IN THE PANELBOARDS, AS PART OF UPSTREAM PANELBOARDS, METERING ASSEMBLIES, OR AS INDIVIDUALLY MOUNTED DEVICES OR BUS DUCT PLUG--IN--DEVICES, AS THE CASE MAY BE. WHERE THE REQUIRED RATINGS CAN BE MET WITH MAIN OR UPSTREAM NON--CURRENT LIMITING BREAKERS HAVING APPROPRIATE INTERRUPTING CAPACITIES AS APPROVED BY U.L., SUCH ARRANGEMENTS WILL ALSO BE CONSIDERED ACCEPTABLE
- A. IN ADVANCE OF, OR IN CONJUNCTION WITH, THE SUBMISSION OF SHOP DRAWINGS FOR APPROVAL, PROVIDE DATA DEFINING IN DETAIL HOW THE REQUIRED SHORT CIRCUIT CURRENT RATINGS WILL BE ACHIEVED WITH THE EQUIPMENT BEING FURNISHED. THE DATA SHALL, IN NARRATIVE OR GRAPHIC FASHION, FULLY DEFINE HOW THE VARIOUS DEVICES, INDIVIDUALLY, OR IN COMBINATION WITH THE "FULLY RATED" OR "SERIES CONNECTED" SHORT CIRCUIT REQUIREMENTS, INCLUDE SPECIFICATIONS FROM MANUFACTURER AS TO THE U.L. APPROVALS FOR THESE RATINGS FOR ALL PROPOSED EQUIPMENT. ALL OVERCURRENT PROTECTION AND SWITCHING DEVICES SHALL BE U.L. LISTED AS SUITABLE FOR THE TERMINATION OF 75°C CONDUCTORS, SIZED IN ACCORDANCE WITH THEIR 75°C AMPACITY RATINGS. DEVICES SHALL BE SPECIFICALLY IDENTIFIED ACCORDINGLY AND SHALL BEAR THE DESIGNATION "60"/75°C" OR "75°C", REGARDLESS OF WHETHER INCORPORATED IN PANELBOARDS, SWITCHBOARDS, OR OTHER ASSEMBLIES OR WHETHER INDIVIDUALLY MOUNTED.

- D. SELECT OVERCURRENT PROTECTION AND SWITCHING DEVICES AS FOLLOWS:

CATEGORY OF APPLICATION	ACCEPTABLE DEVICE TYPES (SEE LEGEND BELOW)
-------------------------	--

MAIN OR BRANCH UNIT IN DISTRIBUTION PANEL OR POWER PANEL

SW--QMGB/CF EXCEPT, CLCB IF NEEDED IN ORDER TO MEET THE SPECIFIED SERIES CONNECTED RATING OF DOWNSTREAM LIGHTING OR PLIANCE PANEL.

MAIN UNIT IN LIGHTING OR APPLIANCE PANEL

CB--SMC, EXCEPT CLCB OF NEEDED IN ORDER TO MEET SPECIFIED SERIES CONNECTED RATING OF THE PANEL.

BRANCH UNIT IN LIGHTING OR APPLIANCE PANEL

CB--SMC

- E. EXPLANATION OF ABBREVIATIONS USED ABOVE IS AS FOLLOWS:

ABBREVIATION	DESCRIPTION
SW--BP	DISTRIBUTION SWITCH;BOLTED PRESSURE TYPE.
SW--QMGB	DISTRIBUTION SWITCH; QUICK--MAKE, QUICK--BREAK TYPE. /FUSIBLE--FUSED WITH CURRENT LIMITING CIRCUIT BREAKER; MOLDED CASE TYPE.
CLCB--MC	

- G. SELECT QUICK--MAKE, QUICK--BREAK TYPE DISTRIBUTION SWITCHES IN ACCORDANCE WITH THE FOLLOWING:

1. THEY SHALL EQUAL OR EXCEED THE PERFORMANCE REQUIRED FOR NEMA TYPE H.D HORSEPOWER RATED SWITCHES.

2. THEY SHALL HAVE ARC QUENCHERS AND CIRCUIT BREAKER TYPE PRESSURE CONTACTS.

3. WHERE INTENDED FOR PANELBOARDS OR SWITCHBOARD MOUNTING, THEY SHALL BE OF THE "BOLTED--IN" TYPE.

4. WHERE OF THE FUSIBLE TYPE, THEY SHALL BE DESIGNED FOR USE ONLY WITH CLASS "J" FUSES UP TO 600 AMPS, AND CLASS "L" FUSES ABOVE 600 AMPS, AND SHALL INCORPORATE FACTORY INSTALLED CLIPS DESIGNED TO INSURE THE USE OF PROPER FUSES. COORDINATE TO INSURE THAT FUSES SUPPLIED FOR THE PROJECT MATCH THESE FUSE GAPS.

- H. SELECT CARTRIDGE FUSES IN ACCORDANCE WITH THE FOLLOWING:

1. REGARDLESS OF THE ACTUAL AVAILABLE FAULT CURRENT THEY SHALL, AT FULL RECOVERY VOLTAGE, BE CAPABLE OF SAFELY INTERRUPTING FAULT CURRENTS OF 200,000 AMPERES RMS SYMMETRICAL
2. DELIVERABLE AT THE LINE SIDE OF THE FUSE.
3. EXCEPT AS NOTED HEREINAFTER, IN SIZES OVER 600 AMPS, THEY SHALL BE OF THE CURRENT LIMITING TYPE, U.L. LISTED AS "CLASS L".
4. THEY SHALL BE SUITABLE FOR APPLICATION TO FUSE GAPS WHICH REJECT OTHER TYPES OF FUSING. COORDINATE WITH SUPPLIER(S) OF ALL FUSIBLE SWITCH UNITS (IN PANELS, SWITCHBOARDS, ETC.) FOR THE PROJECT TO INSURE THAT FUSE GAPS MATCH THE SPECIFIED FUSE TYPES.

- I. SELECT STANDARD, MOLDED CASE TYPE CIRCUIT BREAKERS IN ACCORDANCE WITH THE FOLLOWING:

1. THEY SHALL CONSIST OF MANUALLY OPERATED QUICK--MAKE, QUICK--BREAK MECHANICALLY TRIP FREE OPERATING MECHANISMS FOR SIMULTANEOUS OPERATION OF ALL POLES, WITH CONTACTS, ARC INTERRUPTERS AND TRIP ELEMENTS FOR EACH POLE, ALL ENCLOSED IN MOLDED PHENOLIC PLASTIC CASES.
2. THEIR TRIPPING UNITS SHALL BE OF THE "THERMAL MAGNETIC" TYPE HAVING BIMETALLIC ELEMENTS FOR TIME DELAY OVERLOAD PROTECTION, AND MAGNETIC ELEMENTS FOR SHORT CIRCUIT PROTECTION
3. THEY SHALL BE MANUALLY OPERABLE BY MEANS OF TOGGLE TYPE OPERATING HANDLES HAVING "TRIPPED" POSITIONS MIDWAY BETWEEN THE "ON--OFF" POSITION.
4. THEY SHALL EACH BE CONTAINED IN AN INDIVIDUAL CASE ENCLOSING ONLY THE NUMBER OF POLES REQUIRED FOR THE PARTICULAR BREAKER.
5. WHERE NO FRAME SIZES ARE INDICATED, THEIR INTERRUPTING CAPACITIES (IN RMS SYMMETRICAL AMPERES) SHALL BE NOT LESS THAN THE FOLLOWING:

WHERE INSTALLED	INTERRUPTING CAPACITY
120/208V LIGHTING OR APPLIANCE PANEL	22,000A

6. WHERE FRAME SIZES ARE INDICATED, THE INTERRUPTING CAPACITIES SHALL BE NO LESS THAN THE FOLLOWING:

WHERE INDICATED FRAME SIZE	MINIMUM ACCEPTABLE SYMMETRICAL AMPERES INTERRUPTING RATING IN
100	22,000
225	22,000
400	42,000
600	42,000
800	42,000

7. THE MINIMUM INTERRUPTING CAPACITY IN SYMMETRICAL RMS AMPERES OF THE CIRCUIT BREAKERS INTENDED FOR USE IN PANELBOARDS SHALL BE AS NOTED ABOVE. WHERE NECESSARY IN ORDER TO PROVIDE THE U.L. APPROVED "SERIES CONNECTED" SHORT CIRCUIT PANEL RATINGS SPECIFIED ELSEWHERE, BREAKERS WITH HIGHER INTERRUPTING CAPACITIES SHALL BE PROVIDED AS REQUIRED.

8. WHERE NECESSARY TO ACCOMMODATE OTHER REQUIREMENTS (E.G., PANELBOARDS TO BE CONVERTIBLE TYPE), THEIR FRAME SIZES SHALL BE INCREASED TO CONFORM TO SUCH REQUIREMENTS, FRAME SIZES BEING INDICATED ONLY AS A REFERENCE TO THE MINIMUM ACCEPTABLE INTERRUPTING RATING NOTED ABOVE.

9. THEY SHALL HAVE INTERCHANGEABLE TRIPS IN ALL SIZES FOR WHICH SUCH TRIPS ARE MANUFACTURED AS STANDARD.

10. THEY SHALL BE EQUIPPED WITH AMBIENT TEMPERATURE COMPENSATING FEATURES EXTENDED TO 40°C

11. THEY SHALL BE EQUIPPED WITH 5 MLI AMP SENSITIVITY GROUND FAULT INTERRUPTING FEATURES WHERE SO INDICATED, AND/ OR WHERE THEY SUPPLY STANDARD CONVENIENCE RECEPTACLES IN BATHROOMS AND OTHER SUCH CODE MANDATORY LOCATIONS.
12. WHERE SINGLE POLE IN TRIP SIZES 20 AMPS OR LESS, THEY SHALL BE RATED FOR SWITCH DUTY.

- J. IF REQUIRED TO PROVIDE "SERIES CONNECTED" RATINGS (AS SPECIFIED ELSEWHERE) WHERE FUSE--BREAKER RATINGS HAVE NOT BEEN LISTED BY U.L., SELECTED MOLDED CASE TYPE CURRENT LIMITING CIRCUIT BREAKERS IN ACCORDANCE WITH THE FOLLOWING:

1. IN FRAME SIZES UP TO 400 AMPS, THEY SHALL EACH BE OF THE FUSE--BREAK TYPE AND HAVE AN INTERRUPTING CAPACITY OF 200,000 AMPS--SYMMETRICAL AT 120/208 (240) VOLTS.

2. IN FRAME SIZES LARGER THAN 400 AMPS, THEY SHALL EACH CONSISTING OF A MOLDED CASE CIRCUIT BREAKER WITH A CURRENT LIMITING FUSE CONNECTED IN EACH POLE, AS NOTED BELOW:

- a. THEIR FUSES SHALL BE EQUIPPED WITH RELEASE BUTTONS ARRANGED TO TRIP OPEN THE LATCHES OF THEIR CIRCUIT BREAKER ELEMENTS.
- b. SIZING OF THE FUSES SHALL BE AS DIRECTED.
- c. EACH SHALL HAVE ITS FUSES AND BREAKER ELEMENTS INTEGRALLY MOUNTED IN A SINGLE OVERALL MOLDED PHENOLIC PLASTIC CASE.

3. THEIR BREAKER ELEMENTS SHALL CONSIST OF MANUALLY OPERATED, QUICK--MAKE, QUICK--BREAK, MECHANICALLY TRIP FREE OPERATING MECHANISMS FOR SIMULTANEOUS OPERATION OF ALL POLES, WITH CONTACTS, ARC INTERRUPTERS AND TRIP ELEMENTS FOR EACH POLE.

4. THEIR BREAKER TRIPPING UNITS SHALL BE OF THE "THERMALMAGNETIC" TYPE HAVING BIMETALLIC ELEMENTS FOR TIME DELAY OVERLOAD PROTECTION, AND MAGNETIC ELEMENTS FOR SHORT CIRCUIT PROTECTION.

5. THEY SHALL BE MANUALLY OPERABLE BY MEANS OF TOGGLE TYPE OPERATING HANDLES HAVING "TRIPPED" POSITIONS MIDWAY BETWEEN THE "ON--OFF" POSITION.

6. THEY SHALL BE OF THE "BOLTED--IN" TYPE.

7. THEY SHALL HAVE INTERCHANGEABLE TRIPS.

8. THEY SHALL BE EQUIPPED WITH AMBIENT TEMPERATURE COMPENSATING FEATURES EXTENDED TO 40°C.

- K. THE FUSE TO BE USED IN CURRENT LIMITING CIRCUIT BREAKER SHALL, REGARDLESS OF ACTUAL AVAILABLE FAULT CURRENT, AT FULL RECOVERY VOLTAGE, BE CAPABLE OF SAFELY INTERRUPTING FAULT CURRENTS IN THE ORDER OF 200,000 AMPERE RMS SYMMETRICAL OF 280,000 AMPERES RMS ASYMMETRICAL. THE CURRENT LIMITING FUSES SHALL COORDINATE WITH AND BACK UP THE CIRCUIT BREAKERS THEY ARE ASSOCIATED WITH SO THAT ALL FAULT OVERLOAD CURRENTS ACCRUING WITHIN THE SAFE CAPABILITY OF THE BREAKERS SHALL CAUSE THE BREAKERS TO OPEN, AND ALL CURRENTS OCCURRING BEYOND THE SAFE CAPABILITY OF THE BREAKERS SHALL CAUSE THE FUSES TO OPEN; THE OPENING OF THE FUSES BE SUCH AS TO PREVENT DAMAGE TO ANY CIRCUIT BREAKER COMPONENT PARTS. WHERE DIRECTED, FUSES SHALL BE REDUCED IN SIZE SO AS TO PROVIDE BACKUP PROTECTION FOR DOWNSTREAM OVERCURRENT DEVICES.

- L. ALL APPLICATIONS OF FUSES SHALL BE ON A "SINGLE FUSE PER PHASE LEG" (I.E., EXCLUDE FUSES IN MULTIPLE).

- M. FUSES SHALL BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.

- N. WHERE THE SIZE OF THE OVERCURRENT PROTECTION AND SWITCHING DEVICES ARE INDICATED BY MEANS OF SINGLE NUMBER, AMPERAGES, IT SHALL BE UNDERSTOOD THAT THESE AMPERAGES REPRESENT AS APPLICABLE THE SIZE OF THE TRIPS OF FUSES SUPPLIED IN THE SMALLEST CIRCUIT BREAKER FRAMES OR SWITCHES THAT WILL HOLD THEM.

- O. FURNISHED AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:

1. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60 AMPERES, USED FOR INITIAL FUSING.

2. TEN PERCENT SPARES FOR EACH TYPE AND SIZE, UP TO AND INCLUDING 60 AMPERES, USED FOR INITIAL FUSING. (IN NO CASE SHALL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED).

- P. WHERE FUSES ARE REQUIRED TO BE INSTALLED IN FUSE GAPS WHICH ARE TOO LARGE OR ARE OTHERWISE NOT MATCHED TO THE FUSES, UTILIZE SINGLE STEP REDUCERS OR ADAPTORS TO ACCOMMODATE THE MOUNTING. IN ADDITION, PROVIDE CLIP CLAMPS TO ANCHOR THE REDUCERS OR ADAPTORS INTO THE FUSE GAPS.

- Q. DISTRIBUTION SWITCHES OF THE QUICK--MAKE, QUICK--BREAK TYPE SHALL BE MANUFACTURED BY SIEMENS, GENERAL ELECTRIC, WESTINGHOUSE, OR SQUARE D OR OTHER APPROVED.

- R. CIRCUIT BREAKERS SHALL BE MANUFACTURED BY WESTINGHOUSE, GENERAL ELECTRIC, SIEMENS, OR SQUARE D OR OTHER APPROVED.

- S. FUSES SHALL BE MANUFACTURED BY BUSSMAN, OR GOULD--SHAWMUTT OR OTHER APPROVED.

11. SAFETY SWITCHES
- A. SAFETY SWITCHES SHALL BE OF SIZE NOTED ON THE DRAWINGS, OR AS REQUIRED, FUSIBLE OR NON FUSIBLE AND EACH CONTAINED IN A GENERAL PURPOSE NEMA 1 ENCLOSURE WHEN INSTALLED INDOORS AND NEMA 3R ENCLOSURE FOR OUTDOOR INSTALLATION. ALL SWITCHES SHALL BE HEAVY DUTY TYPE AND SHALL HAVE QUICK MAKE QUICK BREAK MECHANISM
- B. ALL SWITCHES SHALL BE OF PROPER HORSEPOWER RATING AS APPLICABLE AND HAVE DUAL INTERLOCKS DESIGNED TO INTERLOCK THE SWITCH BOX DOOR WITH THE SWITCH OPERATING MECHANISM.

12. GROUNDING
- A. ALL ELECTRICAL WORK SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250

- B. PROVIDE BOTH SYSTEM AND EQUIPMENT GROUNDING IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL INSPECTION AUTHORITIES: USE COPPER STRAPS, WIRES, AND CABLES BRAZED OR BOLTED TO CLAMPS, BUSHINGS, LUGS OR FITTINGS APPROVED FOR THE PURPOSE.

- C. ALL ENCLOSURES AND OTHER NON CURRENT CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS AND EQUIPMENT GROUND BUSES SHALL BE EFFECTIVELY GROUNDED TO THE BUILDING GROUNDING SYSTEMS THROUGH THE SYSTEM GROUND CONDUCTORS, METALLIC CONDUITS AND OTHER RACEWAYS AND ENCLOSURES FOR CONDUCTORS SHALL BE METALLICALLY JOINED TOGETHER INTO A CONTINUOUS ELECTRICAL CONDUCTOR, AS TO PROVIDE EFFECTIVE ELECTRICAL CONTINUITY.

- D. EQUIPMENT LOCATED REMOTELY FROM THE GROUND CONDUCTORS SHALL BE GROUNDED TO THE NEAREST AVAILABLE COLD WATER PIPING, MOTOR FRAMES SHALL BE GROUNDED THROUGH THEIR CONDUITS.

13. LIGHTING FIXTURES

- A. ALL LIGHTING FIXTURES SHALL BE APPROVED FOR USE BY THE AUTHORITY HAVING JURISDICTION

- B. ALL LIGHTING FIXTURES SHALL BE APPROVED PRIOR TO INSTALLATION

- C. ALL LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED COMPLETE, WITH NECESSARY COMPONENTS, ACCESSORIES AND LAMPS OF CORRECT TYPE AND RATING, AS INDICATED ON ARCHITECT DRAWINGS.

- D. FIXTURES SHALL BE CAREFULLY SUPPORTED AND ALIGNED WITH NECESSARY HANGERS, SUPPORTING MEMBERS AND PLASTER FRAMES FOR PROPER INSTALLATION.

- E. ALL FIXTURES SHALL BE PROPERLY WIRED AND CONNECTED TO BRANCH CIRCUITS, TESTED AND LEFT READY FOR OPERATION.

- F. FIXTURES AND/OR FIXTURE OUTLET BOXES SHALL BE PROVIDED WITH HANGERS TO ADEQUATELY SUPPORT THE COMPLETE WEIGHT OF THE FIXTURE

GENERAL:

- A. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH THE NEC, AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION

- B. CONNECTION OF NEW PANELS SHALL BE AT A TIME CONVENIENT TO THE BUILDING OWNER AFTER SUFFICIENT TIME HAS BEEN GIVEN AND HIS APPROVAL OBTAINED

- C. CONTRACTOR SHALL CHECK ALL EXISTING CONDITIONS IN THE FIELD. RELOCATE ALL EXISTING WIRING WHICH INTERFERES WITH NEW INSTALLATION AND MUST BE MAINTAINED.

- D. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ADDITIONAL CONDUITS, CABLES AND PULL BOXES AS REQUIRED FOR ROUTING OF CONDUITS AND PULLING OF CABLES.

- E. ELECTRICAL CONTRACTOR SHALL FIVE AND OBTAIN AN APPROVED ELECTRICAL CERTIFICATE FROM THE BUILDING DEPT.

- F. LOCATION OF ALL ELECTRICAL EQUIPMENT IS APPROXIMATE, EXACT LOCATION TO BE VERIFIED IN THE FIELD.

- G. STUDY OTHER SECTIONS OF THE SPECIFICATIONS AND DRAWINGS COOPERATE WITH OTHER TRADES. COORDINATE WORK TO AVOID INTERFERENCES. WHEN IN DOUBT, CONSULT ENGINEER BEFORE PERFORMANCE.

- H. PERFORM ALL NECESSARY CUTTING AND PATCHING. LEAVE PREMISES IN CONDITION SATISFACTORY TO THE ENGINEER/ARCHITECT.

- I. OBTAIN PERMISSION OF ARCHITECT BEFORE CUTTING STRUCTURAL MEMBERS.

- J. NOTIFY ENGINEER OF CONFLICTS BETWEEN DRAWINGS AND SPECIFICATIONS BEFORE BIDDING. THE ENGINEER'S DECISION WILL GOVERN EITHER BEFORE OR AFTER BIDDING.

- K. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC EXCEPT WHERE DIMENSIONED. DO NOT SCALE. FOLLOW ARCHITECTURAL, STRUCTURAL AND MANUFACTURER'S SHOP DRAWINGS FOR GREATER ACCURACY. CONSULT ENGINEER IN CASE OF DOUBT OR CONFLICT. UNLESS NOTED, FIXED DIMENSIONS ARE BASED ON THE PRODUCT OF ONE MANUFACTURER, VERIFY DIMENSIONS WITH THE PRODUCT OF THE SHOP DRAWINGS OF THE MATERIALS. ACTUALLY APPROVED OR PURCHASED. THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL COST AND DELAYS IN THE WORK RESULTING FROM SUBSTITUTION UNDER THIS DIVISION; INCLUDING, BUT NOT LIMITED TO, ANY CHANGES IN DECISION, INSTALLATION.

- L. EQUIPMENT, SUCH AS PANELS, JUNCTION BOXES, SAFETY SWITCHES, MOTOR STARTERS, CIRCUIT BREAKERS, AND SIMILAR ITEMS SHALL BE IDENTIFIED BY NAME, WITH ENGRAVED LAMINATED PHENOLIC NAMEPLATES NOT SMALLER TAN 1" X 3" WITH CHARACTERS NOT LESS THAN 1/2" AND FASTENED WITH COUNTER OVAL HEAD BRASS MACHINE SCREWS OR RIVETS. 18. TELEPHONE & SIGNAL REQUIREMENTS

- EMPTY CONDUIT SHALL BE OF SIZE INDICATED AND STUB UP 6" ABOVE HUNG CEILING FROM OUTLET BOX.

- N. CONDUIT SHALL BE 1/2" MIN. UNLESS OTHERWISE NOTED.

- O. COLOR, FINISH AND TYPE OF PLATES SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PURCHASE.

- P. ALL CUTTING PATCHING AND FIRE--STOPPINGREQUIRED FOR WORK OF THIS DIVISION IS INCLUDED HEREIN. COORDINATION WITH GENERAL CONTRACTOR AND OTHER TRADES IS IMPERATIVE. CONTRACTOR SHALL BEAR THE RESPONSIBILITY FOR AND THE ADDED EXPENSE OF ADJUSTING FOR IMPROPER HOLES, SUPPORTS, ETC.

- Q. SINGLE GANG BOXES SHALL BE PROVIDED WHERE TELEPHONE OUTLETS ARE INDICATED.

- R. AS--BUILT (DRAWINGS) UPON COMPLETION OF THE ELECTRICAL INSTALLATION, THE CONTRACTOR SHALL FURNISH THE ENGINEER TWO SETS OF AS BUILT DRAWINGS IN HARD COPY AND ACAD 2016 FOR REVIEW AND APPROVAL. AFTER THE ENGINEERS APPROVAL OF THE DRAWINGS, THE CONTRACTOR SHALL FURNISH THE OWNER WITH ACAD 2016 AND REPRODUCIBLE SETS OF THE SAME FOR HIS RECORDS. THE AS--BUILT DRAWINGS SHALL SHOW THE FOLLOWING INFORMATION:

1. LOCATION OF ALL RECEPTACLES, SWITCHES AND LIGHTING FIXTURES.

2. LOCATION OF JUNCTION BOXES, PULL BOXES AND PANELS.

3. LOCATION (ROUTING) OF ALL BRANCH CIRCUITS AND PANELS.

4. DESIGNATION OF ALL BRANCH CIRCUITS.

5. WIRE SIZES WHERE WIRE LARGER THAN #12 AWG IS USED.

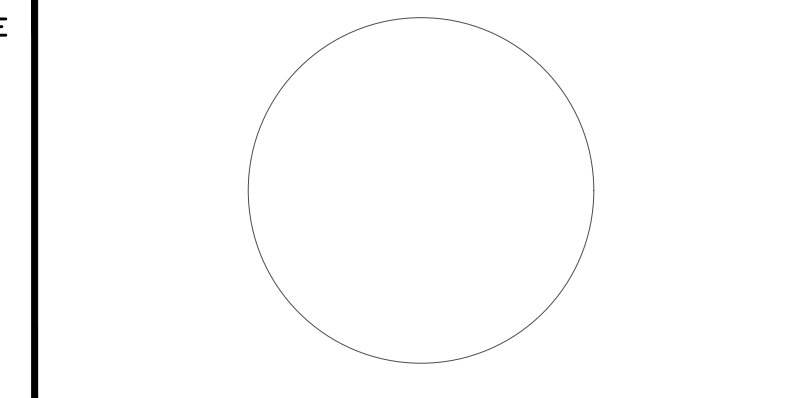
6. CONDUIT SIZE


7. LOCATION OF ALL FIRE ALARM DEVICES.

8. FIELD ANNOTATED (CORRECTED) CONTRACT DRAWINGS ARE NOT ACCEPTABLE AS "AS--BUILT" OR "SHOP DRAWINGS".

- T. IN THE EVENT OF A CONFLICT BETWEEN INFORMATION ON THE DRAWINGS AND INFORMATION ON THE SPECS, THE MOST COSTLY ALTERNATIVE WILL GOVERN.

0	10/16/2019	BID SET
REV	DATE	DESCRIPTION




	LANDMARK FACILITIES GROUP, INC.
252 East Avenue Norwalk, CT 06855 (203) 866-1614 (203) 866-8019 Fax	

Western Middle School 1 Western Junior Highway Greenwich, CT 06830		
SCALE: AS NOTED	APPROVED BY: GR	DRAWN BY: LC
DATE: 10/16/2019		CHECKED BY: RS, EL
ELECTRICAL SPECIFICATIONS		
BID NUMBER: 2277-19	LFG JOB NUMBER: 1018.092.WestMidCtD	DRAWING NUMBER: E-500

WESTERN MIDDLE ELEMENTARY SCHOOL, GREENWICH, CT

DIESEL EMERGENCY ENGINE GENERATORS263213.13 – SECTION 263213.13 – DIESEL EMERGENCY ENGINE GENERATORS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

A. SECTION INCLUDES PACKAGED DIESEL ENGINE GENERATORS FOR EMERGENCY USE WITH THE FOLLOWING FEATURES:

1. DIESEL ENGINE.
2. ALTERNATOR.
3. UNIT-MOUNTED RADIATOR.
4. DIESEL FUEL-OIL SYSTEM.
5. CONTROL AND MONITORING.
6. GENERATOR OVERCURRENT AND FAULT PROTECTION.
7. GENERATOR, EXCITER, AND VOLTAGE REGULATOR.
8. OUTDOOR ENGINE GENERATOR ENCLOSURE.
9. VIBRATION ISOLATION DEVICES.
- 10.FINISHES.

B. RELATED REQUIREMENTS:

1. SECTION 263600, "TRANSFER SWITCHES" FOR TRANSFER SWITCHES, INCLUDING SENSORS AND RELAYS TO INITIATE AUTOMATIC STARTING AND STOPPING SIGNALS FOR ENGINE GENERATORS.

C. EPSS: EMERGENCY POWER SUPPLY SYSTEM.

D. OPERATIONAL BANDWIDTH: THE TOTAL VARIATION, FROM THE LOWEST TO HIGHEST VALUE OF A PARAMETER OVER THE RANGE OF CONDITIONS INDICATED, EXPRESSED AS A PERCENTAGE OF THE NOMINAL VALUE OF THE PARAMETER.

E. PMG: PERMANENT MAGNET GENERATOR. VOLTAGE SUPPORT FOR THE AVR COMES FROM AN INDEPENDENT AUXILIARY PERMANENT MAGNET GENERATOR WHICH IS MOUNTED ON THE SHAFT EXTENSION OF THE ALTERNATOR.

1.3 ACTION SUBMITTALS

A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.

1. INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, AND FURNISHED SPECIALTIES AND ACCESSORIES.
2. INCLUDE THERMAL DAMAGE CURVE FOR GENERATOR.
3. INCLUDE TIME-CURRENT CHARACTERISTIC CURVES FOR GENERATOR PROTECTIVE DEVICE.
4. INCLUDE FUEL CONSUMPTION IN GALLONS PER HOUR AT 0.8 POWER FACTOR AT 0.5, 0.75, AND 1.0 TIMES GENERATOR CAPACITY.
5. INCLUDE AIRFLOW REQUIREMENTS FOR COOLING AND COMBUSTION AIR IN CUBIC FEET PER MINUTE AT 0.8 POWER FACTOR, AND REFERENCE AIR SUPPLY TEMPERATURE. PROVIDE DRAWINGS INDICATING REQUIREMENTS AND LIMITATIONS FOR LOCATION OF AIR INTAKE AND EXHAUSTS.
6. INCLUDE GENERATOR CHARACTERISTICS, INCLUDING, BUT NOT LIMITED TO, KILOWATT RATING, EFFICIENCY, REACTANCES, AND SHORT-CIRCUIT CURRENT CAPABILITY.

B. SHOP DRAWINGS:

1. INCLUDE PLANS AND ELEVATIONS FOR ENGINE GENERATOR AND OTHER COMPONENTS SPECIFIED. INDICATE ATTACHMENT REQUIREMENTS AFFECTED BY HEIGHT OF SUBBASE FUEL TANK.
2. INCLUDE DETAILS OF EQUIPMENT ASSEMBLIES. INDICATE DIMENSIONS, WEIGHTS, LOADS, REQUIRED CLEARANCES, AND LOCATION AND SIZE OF EACH FIELD CONNECTION.
3. IDENTIFY FLUID DRAIN PORTS AND CLEARANCE REQUIREMENTS FOR FLUID DRAIN.
4. VIBRATION ISOLATION BASE DETAILS: DETAIL FABRICATION, INCLUDING ANCHORAGES AND ATTACHMENTS TO STRUCTURE AND SUPPORTED EQUIPMENT. INCLUDE BASE WEIGHTS.
5. INCLUDE DIAGRAMS FOR POWER, SIGNAL, AND CONTROL WIRING, COMPLETE SCHEMATIC WIRING, AND INTERCONNECTION DIAGRAMS SHOWING TERMINAL MARKINGS AND FUNCTIONS. SHOW THE RELATIONSHIP BETWEEN ALL ELECTRICAL COMPONENTS.

1.4 INFORMATIONAL SUBMITTALS

A. QUALIFICATION DATA: FOR MANUFACTURER.

1. DIMENSIONED OUTLINE DRAWINGS OF EQUIPMENT UNIT: WITH ENGINE AND GENERATOR MOUNTED ON RAILS, IDENTIFY CENTER OF GRAVITY AND TOTAL WEIGHT, SUPPLIED ENCLOSURE, INTERNAL SILENCER, SUBBASE-MOUNTED FUEL TANK, AND EACH PIECE OF EQUIPMENT NOT INTEGRAL TO THE ENGINE GENERATOR, AND IDENTIFY, DESCRIBE MOUNTING AND ANCHORAGE PROVISIONS.
2. DETAILED DESCRIPTION OF EQUIPMENT ANCHORAGE DEVICES ON WHICH THE CERTIFICATION IS BASED AND THEIR INSTALLATION REQUIREMENTS.

B. SOURCE QUALITY-CONTROL REPORTS: INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. CERTIFIED SUMMARY OF PROTOTYPE UNIT TEST REPORT.

2. CERTIFIED TEST REPORTS: FOR COMPONENTS AND ACCESSORIES THAT ARE EQUIVALENT, BUT NOT IDENTICAL, TO THOSE TESTED ON PROTOTYPE UNIT.
3. CERTIFIED SUMMARY OF PERFORMANCE TESTS: CERTIFY COMPLIANCE WITH SPECIFIED REQUIREMENT TO MEET PERFORMANCE CRITERIA FOR SENSITIVE LOADS.

4. REPORT OF FACTORY TEST ON UNITS TO BE SHIPPED FOR THIS PROJECT, PROVIDING EVIDENCE OF COMPLIANCE WITH SPECIFIED REQUIREMENTS.

5. REPORT OF SOUND GENERATION ON OCTAVE BANDS IN ACCORDANCE WITH ISO 8528-10.

6. REPORT OF EXHAUST EMISSIONS SHOWING COMPLIANCE WITH APPLICABLE REGULATIONS.
7. CERTIFIED TORSIONAL VIBRATION COMPATIBILITY: COMPLY WITH NFPA 110.

C. FIELD QUALITY-CONTROL REPORTS.

D. WARRANTY: FOR SPECIAL WARRANTY.

1.5 CLOSEOUT SUBMITTALS

A. OPERATION AND MAINTENANCE DATA: FOR ENGINE GENERATORS TO INCLUDE IN EMERGENCY, OPERATION, AND MAINTENANCE MANUALS.

1. IN ADDITION TO ITEMS SPECIFIED IN SECTION 017823 "OPERATION AND MAINTENANCE DATA," INCLUDE THE FOLLOWING:
  - a. LIST OF TOOLS AND REPLACEMENT ITEMS RECOMMENDED TO BE STORED AT PROJECT FOR READY ACCESS. INCLUDE PART ID DRAWING NUMBERS, CURRENT UNIT PRICES, AND SOURCE OF SUPPLY.

b. OPERATING INSTRUCTIONS MOUNTED ADJACENT TO GENERATOR LOCATION.

c. TRAINING PLAN.

1.6 WARRANTY

A. MANUFACTURER'S WARRANTY: MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF PACKAGED ENGINE GENERATORS AND ASSOCIATED AUXILIARY COMPONENTS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN

SPECIFIED WARRANTY PERIOD.

1. WARRANTY PERIOD: TWO YEARS FROM DATE OF GENERATOR COMMISSIONING.

2. PRODUCTS

1.7 MANUFACTURERS

A. BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE MTU ON SITE ENERGY CORPORATION; MODEL #MTUG6120DS150, OR A COMPARABLE PRODUCT BY ONE OF THE FOLLOWING: CONTACT MICHAEL WYNN AT ATLANTIC DIESEL ALLISON FOR YOUR MTU ON SITE ENERGY INFORMATION TEL. #860-913-4256, M.WYNN@SSSS.COM

1. CUMMINS.

2. KOHLER

B. SOURCE LIMITATIONS:

1. OBTAIN PACKAGED ENGINE GENERATORS AND ENGINES FROM A SINGLE MANUFACTURER.
2. OBTAIN PACKAGED ENGINE GENERATORS AND AUXILIARY COMPONENTS FROM A SINGLE MANUFACTURER.

1.8 PERFORMANCE REQUIREMENTS

A. NFPA COMPLIANCE:

1. COMPLY WITH NFPA 37.
2. COMPLY WITH NFPA 70.
3. COMPLY WITH NFPA 99.
4. COMPLY WITH NFPA 110 REQUIREMENTS FOR LEVEL 1 EQUIPMENT.

B. I COMPLIANCE: COMPLY WITH UL 2200.

C. ENGINE EXHAUST EMISSIONS: COMPLY WITH EPA NSPS REQUIREMENTS FOR EMERGENCY GENERATORS AND APPLICABLE STATE AND LOCAL GOVERNMENT REQUIREMENTS.

D. NOISE EMISSION: COMPLY WITH APPLICABLE STATE AND LOCAL GOVERNMENT REQUIREMENTS FOR MAXIMUM NOISE LEVEL AT PROPERTY LINE DUE TO SOUND EMITTED BY ENGINE GENERATOR, INCLUDING ENGINE, ENGINE EXHAUST, ENGINE COOLING-AIR INTAKE AND DISCHARGE, AND OTHER COMPONENTS OF INSTALLATION. COMPLY WITH ISO 8528-10 FOR SOUND MEASUREMENTS AT 23.0 FEET (7' M).

E. ENVIRONMENTAL CONDITIONS: ENGINE GENERATOR SYSTEM WITHSTAND THE FOLLOWING ENVIRONMENTAL CONDITIONS WITHOUT MECHANICAL OR ELECTRICAL DAMAGE OR DEGRADATION OF PERFORMANCE CAPABILITY:

1. BIENT TEMPERATURE: 122 DEG F (50 DEG C).
2. RELATIVE HUMIDITY: ZERO TO 100 PERCENT.
3. ALTITUDE: SEA LEVEL TO 1000 FEET.

1.9 ENGINE GENERATOR ASSEMBLY DESCRIPTION

A. FACTORY-ASSEMBLED AND -TESTED, WATER-COOLED ENGINE, WITH BRUSHLESS GENERATOR AND ACCESSORIES.

B. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A GENERATOR MANUFACTURER, AND MARKED FOR INTENDED LOCATION AND APPLICATION.

C. EPSS CLASS: ENGINE GENERATOR SHALL BE CLASSIFIED AS A CLASS 96 ACCORDING TO NFPA 110.

D. SERVICE LOAD: 187.5 KVA.

E. POWER FACTOR: 0.8.

F. FREQUENCY: 60 HZ.

G. VOLTAGE: 120/208V AC.

H. PHASE: THREE-PHASE, TWELVE-WIRE WYE.

I. SPEED: ADJUSTABLE ISOCRONOUS, WITH SPEED SENSING.

J. MOUNTING FRAME: STRUCTURAL STEEL FRAMEWORK TO MAINTAIN ALIGNMENT OF MOUNTED COMPONENTS WITHOUT DEPENDENT ON CONCRETE FOUNDATION. PROVIDE LIFTING ATTACHMENTS AND SPACERS TO PREVENT DEFLECTION OF BASE DURING LIFTING AND MOVING.

K. RIGGING DIAGRAM: INSCRIBED ON METAL PLATE PERMANENTLY ATTACHED TO MOUNTING FRAME TO INDICATE LOCATION AND LIFTING CAPACITY. EACH LIFTING ATTACHMENT AND ENGINE GENERATOR CENTER OF GRAVITY.

L. CAPACITIES AND CHARACTERISTICS:

1. POWER OUTPUT RATINGS: NOMINAL RATINGS AS INDICATED AT 0.8 POWER FACTOR. EXCESSIVE POWER REQUIRED FOR THE CONTINUED AND REPEATED OPERATION OF THE UNIT AND AUXILIARIES.
2. NAMEPLATES: FOR EACH MAJOR SYSTEM COMPONENT TO IDENTIFY MANUFACTURER'S NAME, MODEL, AND SERIAL NUMBER, OF COMPONENT.

M. ENGINE GENERATOR PERFORMANCE:

1. STEADY-STATE VOLTAGE OPERATIONAL BANDWIDTH: 0.25 PERCENT OF RATED OUTPUT VOLTAGE, FROM NO LOAD TO FULL LOAD AND NO ONE-PERCENT FOR NON-PMG ALTERNATORS.
2. LOAD FACTOR: 85-PERCENT LOAD FACTOR ACCORDING TO ISO 8528-1.
  - a. IF BELOW, SUPPLIER SHALL PROVIDE UPDATED DOCUMENTS FOR PERFORMANCE MODIFICATION TO 85-PERCENT LOAD FACTOR IN REGARDS TO TIME BEFORE OVERHAUL (TBO) AND THE RESPECTIVE MAINTENANCE SCHEDULE.
3. WHEN FACILITY LOADS ARE PROVIDED, A GENERATOR SHALL PROVIDE REPORT FROM THE MANUFACTURER SHALL BE PROVIDED, DETAILING EACH LOAD, AND THE PERFORMANCE FOR EACH STEP.
4. TRANSIENT VOLTAGE PERFORMANCE: NOT MORE THAN 20 PERCENT VARIATION FOR 10 PERCENT STEP-LOAD INCREASE OR DECREASE. VOLTAGE SHALL RECOVER AND REMAIN WITHIN THE STEADY-STATE OPERATING BAND WITHIN 3.5 SECONDS.
5. STEADY-STATE FREQUENCY OPERATIONAL BANDWIDTH: 0.25 PERCENT OF RATED FREQUENCY FROM NO LOAD TO FULL LOAD AND 0.5 PERCENT FOR MECHANICAL GOVERNED ENGINES.
6. STEADY-STATE FREQUENCY STABILITY: WHEN SYSTEM IS OPERATING AT ANY CONSTANT LOAD WITHIN THE RATED LOAD, THERE SHALL BE NO RANDOM SPEED VARIATIONS OUTSIDE THE STEADY-STATE OPERATIONAL BAND AND NO HUNTING OR SURGING OF SPEED.
7. TRANSIENT FREQUENCY PERFORMANCE: LESS THAN 5 PERCENT VARIATION FOR 50 PERCENT STEP-LOAD INCREASE OR DECREASE. FREQUENCY SHALL RECOVER AND REMAIN WITHIN THE STEADY-STATE OPERATING BAND WITHIN FIVE SECONDS.
8. OUTPUT WAVEFORM: AT NO LOAD, HARMONIC CONTENT MEASURED LINE TO LINE OR LINE TO NEUTRAL SHALL NOT EXCEED 5 PERCENT TOTAL AND 3 PERCENT FOR SINGLE HARMONIC INFLUENCE FACTOR DETERMINED ACCORDING TO NEMA MG 1, SHALL NOT EXCEED 50 PERCENT.
9. SUSTAINED SHORT-CIRCUIT CURRENT: FOR A THREE-PHASE ROLLED SHORT-CIRCUIT SYSTEM OUTPUT TERMINALS, SYSTEM SHALL SUPPLY A MINIMUM OF 300 PERCENT OF RATED FULL-LOAD CURRENT FOR NOT LESS THAN 10 SECONDS, AND THEN CLEAR THE FAULT AUTOMATICALLY WITH FIDUCIARY WITHOUT DAMAGE TO GENERATOR SYSTEM COMPONENTS.
10. UNIT SHALL BE CAPABLE OF ACCEPTING 100 PERCENT LOAD IN ONE STEP PER NFPA 110 REQUIREMENTS.

M. ENGINE GENERATOR PERFORMANCE FOR SENSITIVE LOADS:

1. OVERSIZING GENERATOR COMPARED WITH THE RATED POWER OUTPUT OF THE ENGINE IS PERMISSIBLE TO MEET SPECIFIED PERFORMANCE.
  - a. NAMEPLATE DATA FOR OVERSIZED GENERATOR: SHOW RATINGS REQUIRED BY THE CONTRACT DOCUMENTS RATHER THAN RATINGS THAT WOULD NORMALLY BE APPLIED TO GENERATOR SIZE INSTALLED.
2. SUSTAINED SHORT-CIRCUIT CURRENT: FOR A THREE-PHASE ROLLED SHORT-CIRCUIT SYSTEM OUTPUT TERMINALS, SYSTEM SHALL SUPPLY A

MINIMUM OF 300 PERCENT OF RATED FULL-LOAD CURRENT FOR NOT LESS THAN 10 SECONDS AND THEN CLEAR THE FAULT AUTOMATICALLY WITHOUT DAMAGE TO WINDING INSULATION OR OTHER GENERATOR SYSTEM COMPONENTS.

3. EXCITATION SYSTEM: PERFORMANCE SHALL BE UNAFFECTED BY VOLTAGE DISTORTION CAUSED BY NONLINEAR LOAD.

- a. PROVIDE PERMANENT MAGNET EXCITATION FOR POWER SOURCE TO VOLTAGE REGULATOR.

4. START TIME: COMPLY WITH NFPA 70 ARTICLES 701. COMPLY WITH NFPA 110, TYPE 10, SYSTEM REQUIREMENTS.

1.10 DIESEL ENGINE

A. FUEL: ASTM D 975 DIESEL FUEL OIL, GRADE 2-D S15.

B. RATED ENGINE SPEED: 1800 RPM.

C. LUBRICATION SYSTEM: ENGINE OR SKID MOUNTED.

1. FILTER AND STRAINER: SELECT ACCORDING TO ENGINE MANUFACTURER'S REQUIREMENTS FOR PARTICLE REMOVAL.

2. THERMOSTATIC CONTROL VALVE: CONTROL FLOW IN SYSTEM TO MAINTAIN OPTIMUM OF TEMPERATURE. UNIT SHALL BE CAPABLE OF FULL FLOW AND IS DESIGNED TO BE FAIL-SAFE.

3. WASTE-WATER: ARRANGED FOR COMPLETE GRAVITY DRAINAGE TO AN EASILY REMOVABLE CONTAINER WITH NO DISASSEMBLY AND WITHOUT USE OF PUMPS, SIPHONS, SPECIAL TOOLS, OR APPLIANCES.

D. JACKET COOLANT: HEATER, ELECTRIC, IMMERSION TYPE, FACTORY INSTALLED IN COOLANT SYSTEM. COMPLY WITH NFPA 110 REQUIREMENTS FOR LEVEL 1 EQUIPMENT FOR HEATER CAPACITY AND WITH UL 499.

E. RADIATING SYSTEM: COOLANT ON ENGINE COOLED WITH MOUNTING FRAME AND INTEGRAL ENGINE-DRIVEN COOLANT PUMP.

1. COOLANT: GLYCOL-BASED ANTIFREEZE AND WATER MIXTURE FOR FREEZE PROTECTION TO MINUS 30 DEG F WITH ANTICORROSION ADDITIVES AS RECOMMENDED BY ENGINE MANUFACTURER.

2. SIZE OF RADIATOR: DEQUATE TO CONTAIN EXPANSION OF TOTAL SYSTEM COOLANT FROM COLD START TO 100 PERCENT LOAD CONDITION.

3. EXPANSION TANK: RATED TO WITHSTAND MAXIMUM CLOSED-LOOP COOLANT SYSTEM PRESSURE FOR ENGINE USED. EQUIP WITH GAGE GLASS AND PETCOCK. REPLACE GAGE GLASS WITH A PRESSURE SENSOR WHEN HEATER IS LOCATED MORE THAN 8 FEET FROM THE FLOOR.

4. TEMPERATURE CONTROL: SELF-CONTAINED. THERMOSTATIC-CONTROL VALVE MODULATES COOLANT FLOW AUTOMATICALLY TO MAINTAIN OPTIMUM COOLANT TEMPERATURE AS RECOMMENDED BY ENGINE MANUFACTURER.

5. COOLANT HOSE: FLEXIBLE ASSEMBLY WITH INSIDE SURFACE OF NONCRACKING RUBBER AND OUTER COVERING OF AGING-, UV-, AND ABRASION-RESISTANT FABRIC.

a. RATING: 50-PSIG MAXIMUM WORKING PRESSURE WITH 1000 PSI MINIMUM BURST PRESSURE. NONCOLLAPSIBLE UNDER VACUUM.

b. END FITTINGS: FLANGES OR STEEL PIPE NIPPLES WITH CLAMPS TO SUIT PIPING AND EQUIPMENT CONNECTIONS.

F. CRITICAL TYPE MUFFLER/SILENCER: DESIGNED TO MEET SOUND ATTENUATION LEVELS AS SPECIFIED HEREIN.

G. AIR-INTAKE FILTER: SINGLE-STAGE ENGINE-MOUNTED AIR CLEANER WITH REPLACEABLE DRY-FILTER ELEMENT AND "BLOCKED FILTER" INDICATOR.

H. STARTING SYSTEM: MATCH ENGINE ECU AND GENSET CONTROL VOLTAGE REQUIREMENTS.

1. COMPONENTS: SIZED SO THEY ARE NOT DAMAGED DURING A FULL ENGINE-CRANKING CYCLE, WITH AMBIENT TEMPERATURE AT MAXIMUM SPECIFIED IN "PERFORMANCE REQUIREMENTS" ARTICLE.

2. CRANKING MOTOR: HEAVY-DUTY UNIT THAT AUTOMATICALLY ENGAGES AND RELEASES FROM ENGINE FLYWHEEL WITHOUT BINDING.

3. CRANKING CYCLE: AS REQUIRED BY NFPA 110 FOR SYSTEM LEVEL SPECIFIED 60 SECONDS.

4. BATTERY: LEAD-ACID, WITH CAPACITY WITHIN AMBIENT TEMPERATURE RANGE SPECIFIED IN "PERFORMANCE REQUIREMENTS" ARTICLE TO PROVIDE NFPA 110 SPECIFIED CHARGING CYCLE WITHOUT RECHARGING.

5. BATTERY CABLE: SIZE AS RECOMMENDED BY ENGINE MANUFACTURER FOR CABLE LENGTH. CABLES SHALL INCLUDE REQUIRED INTERCONNECTING CONDUCTORS AND CONNECTION ACCESSORIES.

6. BATTERY RACK: FACTORY FABRICATED OF METAL WITH ACID-RESISTANT LINING. BATTERIES SHALL BE REQUIRED TO SUPPORT AND FASTEN BATTERIES IN PLACE.

7. BATTERY-CHARGING ALTERNATOR: FACTORY MOUNTED ON ENGINE WITH AUTO-STATE VOLTAGE REGULATION.

8. BATTERY CHARGER: CURRENT-LIMITING, AUTOMATIC-EQUALIZING, AND FLOAT-CHARGING TYPE DESIGNED FOR LEAD-ACID BATTERIES. UNIT SHALL COMPLY WITH UL 1236 AND INCLUDE THE FOLLOWING FEATURES:

- a. OPERATION: EQUALIZING-CHARGING RATE OF 10 A SHALL BE INITIATED AUTOMATICALLY AFTER BATTERY HAS LOST CHARGE. CHARGE RATE IS ADJUSTABLE. EQUALIZING VOLTAGE IS ACHIEVED AT BATTERY TERMINALS. UNIT SHALL THEN BE AUTOMATICALLY SWITCHED TO FLOAT-CHARGING MODE. CHARGE RATE AND SHALL CONTINUE TO OPERATE IN THAT MODE UNTIL BATTERY IS DISCHARGED AGAIN.
- b. AMPETER AND VOLT-METER: FLUSH MOUNTED IN DOOR. METERS SHALL INDICATE CHARGING RATES.
- c. SAFETY FUNCTIONS: SENSE ABNORMALLY LOW BATTERY VOLTAGE AND CLOSE CONTACTS PROVIDING LOW BATTERY VOLTAGE INDICATION ON CONTROL AND MONITORING PANEL. SENSE HIGH BATTERY VOLTAGE AND LOSS OF AC INPUT OR DC OUTPUT TO FUEL LOAD, AND CLOSE CONTACTS PROVIDING LOW BATTERY VOLTAGE INDICATION ON CONTROL AND MONITORING PANEL.
- d. ENCLOSURE AND MOUNTING: NEMA 250, TYPE 1 WALL-MOUNTED CABINET.

1.11 DIESEL FUEL-OIL SYSTEM

A. COMPLY WITH NFPA 30.

B. PIPING: FUEL-OIL PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPING WITH COMPLIANT WITH COULNMENT SECTION 2311.3 FACILITY FUEL-OIL PIPING. CAST IRON, ALUMINUM, COPPER, AND GALVANIZED STEEL SHALL NOT BE USED IN THE FUEL-OIL SYSTEM.

C. PRIMARY FUEL PUMPS: MOUNTED ON ENGINE TO PROVIDE FUEL TO FUEL-OIL TANK. STARTING AND LOAD CONDITIONS.

D. FUEL FILTERING: REMOVE WATER AND CONTAMINANTS FROM FUEL. FILTERS, OR AS RECOMMENDED BY THE ENGINE MANUFACTURER.

E. RELIEF-BYPASS VALVE: AUTOMATICALLY REGULATES PRESSURE IN FUEL LINE AND RETURNS EXCESS FUEL TO SOURCE.

F. SUBBASE-MOUNTED, DOUBLE-WALL FUEL-OIL TANK: FACTORY INSTALLED AND PIPED COMPLYING WITH UL 142 FUEL-OIL TANK. FEATURES INCLUDE THE FOLLOWING:

1. TANK LEVEL INDICATOR.
2. FUEL-TANK CAPACITY: 24 HOURS @ FULL NAME PLATE LOAD LEAK DETECTION IN INTERSTITIAL SPACE.
3. VANDAL-RESISTANT FILL CAP.

4. CONTAINMENT PROVISIONS: COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

1.12 CONTROL AND MONITORING

A. AUTOMATIC-STARTING SYSTEM SEQUENCE OF OPERATION: WHEN MODE-SELECTOR SWITCH ON THE CONTROL AND MONITORING PANEL AND CONTROL SIGNALS ON ENGINE OR REMOTE-CONTROL CONTACTS IN ONE OR MORE SEPARATE

AUTOMATIC TRANSFER SWITCHES, INITIATE STARTING AND STOPPING OF ENGINE GENERATOR. WHEN MODE-SELECTOR SWITCH IS INITIATED TO THE ON POSITION, ENGINE GENERATOR STARTS. THE OFF POSITION OF SAME SWITCH INITIATES ENGINE GENERATOR SHUTDOWN WHEN ENGINE GENERATOR IS RUNNING.

2. SPECIFIED SYSTEM OR EQUIPMENT FAILURES OR DERANGEMENTS AUTOMATICALLY SHUT DOWN ENGINE GENERATOR AND INITIATE ALARM.

B. PROVIDE MINIMUM RUN TIME CONTROL SET FOR 15 MINUTES, WITH OVERRIDE ONLY BY OPERATION OF A REMOTE EMERGENCY-STOP SWITCH.

C. COMPLY WITH UL 2200 FOR STATIONARY ENGINE GENERATOR ASSEMBLY. PROVIDE LOCAL OR AUXILIARY CONTROLS, SUCH AS MASTER CONTROL PANEL MOUNTED OFF THE GENERATOR SET.

D. CONFIGURATION: OPERATING AND SAFETY INDICATIONS, PROTECTIVE DEVICES, BASIC SYSTEM CONTROLS, AND ENGINE GAGES SHALL BE GROUPED IN A COMMON CONTROL AND MONITORING PANEL MOUNTED ON THE ENGINE GENERATOR. MOUNTING METHOD SHALL ISOLATE THE CONTROL PANEL FROM ENGINE GENERATOR VIBRATION. PANEL SHALL BE POWERED FROM THE ENGINE GENERATOR BATTERY.

1. WALL-MOUNTING CABINET CONSTRUCTION: RIGID, SELF-SUPPORTING STEEL UNIT COMPLYING WITH NEMA ICS 6 AND NEMA 250.

2. ENVIRONMENTAL OPERATING CONDITIONS: 185 DEG F

3. CONTROLLER COMPLIANCE: COMPLY WITH UL, NFPA, CSA, AND CE.

4. SOFTWARE: PROVIDE PC SOFTWARE AT NO CHARGE, NO ACTIVATION FEE, AND WITHOUT OTHER FEES.

E. CONTROL AND MONITORING PANEL:

1. DIGITAL CONTROLLER WITH INTEGRATED LCD DISPLAY, CONTROLS, AND MICROPROCESSOR, CAPABLE OF LOCAL AND REMOTE CONTROL, MONITORING, AND PROGRAMMING, WITH BATTERY BACKUP.

a. PLC LOGIC INCORPORATING DRAG AND DROP LADDER LOGIC AVAILABLE FOR THE OWNER/USER. LOGIC SHALL BE DESIGNED SUCH THAT ALL PARAMETERS WITHIN THE GENERATOR SET CONTROLLER CAN BE USED IN ADDITION TO ADDITIONAL PARAMETERS.

2. INSTRUMENTS: LOCATED ON THE CONTROL AND MONITORING PANEL AND VIEWABLE DURING OPERATION.

a. ENGINE LUBRICATING-OIL PRESSURE GAGE.

b. ENGINE-COOLANT TEMPERATURE GAGE.

c. DC VOLTMETER (ALTERNATOR BATTERY CHARGING).

d. RUNNING-TIME METER.

e. AC VOLTMETER, CONNECTED TO A PHASE SELECTOR SWITCH.

f. AC AMMETER, CONNECTED TO A PHASE SELECTOR SWITCH.

g. AC FREQUENCY METER.

h. DIGITAL GENERATOR-VOLTAGE-ADJUSTING FEATURE TO ALLOW PLUS OR MINUS 5 PERCENT ADJUSTMENT.

3. CONTROLS AND PROTECTIVE DEVICES: CONTROLS, INCLUDING START, STOP, AND CONTROL VISUAL ALARM AND PRE-ALARM INDICATION AS REQUIRED BY NFPA 110 FOR LEVEL 1 [2] SYSTEM, INCLUDING THE FOLLOWING:

- a. CRANKING CONTROL EQUIPMENT.
- b. RUN-OFF-AUTO SWITCH.
- c. CONTROL SWITCH NOT IN AUTOMATIC POSITION ALARM.

d. OVERCRANK ALARM.

e. OVERCRANK SHUTDOWN DEVICE.

f. LOW WATER TEMPERATURE ALARM.

g. HIGH ENGINE TEMPERATURE PRE-ALARM.

h. HIGH ENGINE TEMPERATURE.

i. HIGH ENGINE TEMPERATURE SHUTDOWN DEVICE.

j. ENGINE EXHAUST TEMPERATURE.

k. HIGH ENGINE EXHAUST TEMPERATURE ALARM.

l. OVERSPEED ALARM.

m. OVERSPEED SHUTDOWN DEVICE.

1) LOW-FUEL-LEVEL ALARM SHALL BE INITIATED WHEN THE LEVEL FALLS BELOW THAT REQUIRED FOR OPERATION. THE DURATION REQUIRED FOR THE INDICATOR EPSS CLASS 96.

n. COOLANT LOW-LEVEL ALARM.

o. COOLANT LOW-LEVEL SHUTDOWN DEVICE.

p. COOLANT HIGH-TEMPERATURE PREALARM.

q. COOLANT HIGH-TEMPERATURE ALARM.

r. COOLANT LOW-TEMPERATURE ALARM.

s. COOLANT HIGH-TEMPERATURE SHUTDOWN DEVICE.

t. EPS LOAD INDICATOR.

u. BATTERY HIGH-VOLTAGE ALARM.

v. LOW-CRANKING VOLTAGE ALARM.

w. BATTERY-CHARGER MALFUNCTION ALARM.

x. BATTERY LOW-VOLTAGE ALARM.

y. LOW-STARTING HYDRAULIC PRESSURE ALARM.

z. REMOTE MANUAL-STOP SHUTDOWN DEVICE.

aa. GENERATOR OVERCURRENT-PROTECTIVE-DEVICE NOT-CLOSED ALARM.

bb. GENERATOR OVERSPEED.

cc. GENERATOR OVER AND UNDER VOLTAGE.

F. COMMON REMOTE PANEL WITH COMMON AUDIBLE ALARM: COMPLY WITH NFPA 110 REQUIREMENTS FOR LEVEL SYSTEMS. INCLUDE NECESSARY CONTACTS AND TERMINALS IN CONTROL AND MONITORING PANEL. REMOTE PANEL SHALL BE POWERED FROM THE ENGINE GENERATOR BATTERY.

G. REMOTE DISPLAY PANEL: COMPLY WITH NFPA 99. AN LED INDICATOR LIGHT LABELED WITH PROPER ALARM CONDITIONS SHALL IDENTIFY EACH ALARM EVENT, AND A COMMON AUDIBLE SIGNAL SHALL SOUND FOR EACH ALARM CONDITION. SIGNALS SHALL BE PROVIDED FOR EACH ALARM CONDITION. SIGNALS SHALL NOT ALTERING VISUAL INDICATION. CONNECT SWITCH INITIATING ALARM IS RELEASED. CLEARING EQUIVALENT OF CLEARING MODE. REACTIVATE ALARM UNTIL SILENCING SWITCH IS RESET.

H. ALARM AND EXHAUST: FIRE, OVERSPEED, OR FUEL MOUNTING TYPE TO SUIT MOUNTING CONDITIONS INDICATED.

1. OVERCRANK ALARM.

2. COOLANT LOW-TEMPERATURE ALARM.

3. HIGH ENGINE TEMPERATURE PREALARM.

4. HIGH ENGINE TEMPERATURE ALARM.

5. LOW LOW OIL PRESSURE ALARM.

6. OVERSPEED ALARM.

7. LOW-FUEL MAIN TANK ALARM.

8. LOW COOLANT LEVEL ALARM.

9. LOW-CRANKING VOLTAGE ALARM.

10. CONTACTS FOR LOCAL AND REMOTE COMMON ALARM.

11. AUDIBLE-ALARM SILENCING SWITCH.

12. RUN-OFF-AUTO SWITCH.

13. CONTROL SWITCH NOT IN AUTOMATIC POSITION ALARM.

14. FUEL TANK DERANGEMENT ALARM.

15. LAMP TEST.

16. LOW-CRANKING VOLTAGE ALARM.

H. SUPPORTING ITEMS: INCLUDE SENSORS, TRANSDUCERS, TERMINALS, RELAYS, AND OTHER DEVICES AND INCLUDE WIRING REQUIRED TO SUPPORT SPECIFIED ITEMS. LOCATE SENSORS, PANELS, AND OTHER DEVICES ON ENGINE OR GENERATOR UNLESS OTHERWISE INDICATED.

