



RFB NO. 320027

CONSTRUCTION DOCUMENTS PROJECT MANUAL

DANE COUNTY DEPARTMENT OF
WASTE & RENEWABLES
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713

**REQUEST FOR BIDS NO. 320027
CLEAN SWEEP BOILER
DANE COUNTY LANDFILL SITE NO. 2
7102 US HIGHWAY 12 & 18
MADISON, WISCONSIN**

Due Date / Time: **TUESDAY, FEBRUARY 16, 2021 / 2:00 P.M.**

Location: **WASTE & RENEWABLES OFFICE**

Performance / Payment Bond: **100% OF CONTRACT AMOUNT**

Bid Deposit: **5% OF BID AMOUNT**

FOR INFORMATION ON THIS REQUEST FOR BIDS, PLEASE CONTACT:

ROBERT REGAN, PROJECT MANAGER
TELEPHONE NO.: 608/516-3159
FAX NO.: 608/267-1533
E-MAIL: REGAN@COUNTYOFDANE.COM

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DIVISION 01 - GENERAL REQUIREMENTS

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DRAWINGS

Select drawings from the construction of the Clean Sweep (Household Hazardous Waste) Facility are included for reference purposes only. Plot drawings on 34" x 44" (ANSI E), paper for correct scale or size.

END OF SECTION

LEGAL NOTICE

INVITATION TO BID

Dane County Dept. of Waste & Renewables, 1919 Alliant Energy Center Way, Madison, WI 53713, will receive sealed Bids until:

2:00 P.M., TUESDAY, FEBRUARY 16, 2021

RFB NO. 320027

CLEAN SWEEP BOILER

DANE COUNTY LANDFILL SITE NO. 2

7102 U.S. HIGHWAY 12 & 18

MADISON, WI

Dane County is inviting Bids for construction services for the purchase and installation of a new natural gas boiler system in the Clean Sweep building at Dane County Landfill Site No. 2. Only firms with capabilities, experience & expertise with similar projects should obtain this Request for Bids (RFB) document & submit Bids

RFB document may be obtained after **2:00 p.m. on January 19, 2021** by downloading it from bids-pwht.countyofdane.com. Please call Robert Regan, Project Manager, at 608/516-3159, or our office at 608/266-4018, for any questions or additional information.

All Bidders must be qualified as a Best Value Contractor before Bid Due Date / Time. Complete Pre-qualification Application for Contractors at publicworks.countyofdane.com/bvc or obtain one by calling 608/267-0119.

A pre-bid tour will be held February 2, 2021 at 10:00 a.m. at the Clean Sweep Building starting near the material drop off area. Bidders are strongly encouraged to attend this tour.

PUBLISH: JANUARY 19 & JANUARY 26, 2021 - WISCONSIN STATE JOURNAL
JANUARY 20 & JANUARY 27, 2021 - THE DAILY REPORTER

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

**Clean Sweep Boiler
DANE COUNTY LANDFILL SITE NO. 2
7102 U.S. HIGHWAY 12 & 18
MADISON, WI**

1. SECURING DOCUMENTS

- A. Construction Documents may be obtained at bids-pwht.countyofdane.com.
- B. Bidder is responsible to check above website regularly for Addenda.

2. BID REQUIREMENTS

- A. Bidder shall submit lump sum bid for providing all expertise, labor, equipment, tools and materials necessary to perform all Work described in Construction Documents. Only firms with capabilities, experience and expertise with similar projects should submit Bids.
- B. Envelope containing Bid shall be clearly marked as for this project (note title at top of page). Bids shall be delivered to:

Dane County Department of Waste & Renewables
1919 Alliant Energy Center Way
Madison, Wisconsin 53713

- C. One (1) Bid Form shall be submitted with your Bid. Bid Form is provided with Construction Documents; no other form or letter shall be accepted.
- D. Wisconsin Statute 77.54 (9m) allows building materials that become part of local unit government facilities to be exempt from sales & use tax. Vendors & materials suppliers may not charge Bidders sales & use tax on these purchases. This does not include highways, streets or roads.
- E. Bidders shall not add any conditions, escalator clauses or qualifying statements to Bid Form.
- F. Erasures or other changes to Bid must be explained or noted, and shall be accompanied by initials of bidder.
- G. Legally authorized official of bidder's organization shall sign Bids.
- H. Bidder's organization shall submit completed Fair Labor Practices Certification Form, included in these Construction Documents.
- I. Bid Bond shall be made payable to Dane County in amount of five percent (5%) of bid amount. Bid Bond shall be either certified check or bid bond issued by surety licensed to conduct business in the State of Wisconsin. Successful bidder's Bid Bond shall be retained until Contract is signed and required Performance / Payment Bond is submitted. Bids shall be binding on bidder for sixty (60) calendar days after Bid Due Date. Bid Bond must be submitted with Bid.
- J. Successful bidder shall furnish and pay for Performance / Payment Bond as called for in Conditions of Contract.

3. INQUIRIES

- A. Written inquiries regarding intent of Construction Documents should be directed to:

Robert Regan, Waste & Renewables Project Manager
Dane County Department of Waste & Renewables
1919 Alliant Energy Center Way, Madison, Wisconsin 53713
Email: Regan@countyofdane.com

- B. Bidders shall bring questions, discrepancies, omissions, conflicts or doubt as to meaning of any part of Construction Documents to attention of Department of Waste & Renewables at least ten (10) business days before due date for Bids. Prompt clarification of intent of Construction Documents shall be made available to bidders in form of Addendum. Bidder shall acknowledge all Addenda on Bid Form.
- C. Failure to request clarification of interpretation of Construction Documents shall not relieve bidders of their responsibilities to perform Work.

4. EXAMINATION OF SITE

- A. Coordinate site access activities with Robert Regan, Project Manager, 608/516-3159, regan@countyofdane.com.
- B. A bidders facility tour will be held on February 2, 2021 at 10:00 a.m. at the Clean Sweep Building, 7102 Hwys 12&18, Madison, starting near the material drop off area. This tour will go until approximately 11:00 a.m. Bidders are strongly encouraged to attend this tour, however attendance is optional.

5. ALTERNATES

- A. Not used.

6. WITHDRAWAL OF BIDS

- A. Any bidder may withdraw their Bid any time prior to Bid Due Date. Withdrawn Bids shall be returned unopened.

7. BID DUE DATE

- A. See Legal Notice (advertisement).

8. COMMENCEMENT AND COMPLETION OF WORK

- A. Notice to Proceed is expected to be issued on March 22, 2021. Work shall commence by as soon as practicle after issuance of Notice to Proceed.
- B. Work shall be completed within 3-months of issuance of Notice to Proceed.

9. RESERVATION

- A. Dane County reserves the right to reject any or all Bids, to waive any informalities in the Bid, and to accept any Bid which shall be in the best interest of Dane County.

Name of Bidding Firm: _____

SECTION 00 41 13

BID FORM

BID NO. 320027

**PROJECT: CLEAN SWEEP BOILER
DANE COUNTY LANDFILL SITE NO. 2**

**TO: DANE COUNTY DEPARTMENT OF WASTE & RENEWABLES
ROBERT REGAN, PROJECT MANAGER
1919 ALLIANT ENERGY CENTER WAY
MADISON, WISCONSIN 53713**

NOTE: WISCONSIN STATUTE 77.54 (9M) ALLOWS FOR NO SALES & USE TAX ON THE PURCHASE OF MATERIALS FOR COUNTY PUBLIC WORKS PROJECTS.

BASE BID - LUMP SUM:

Dane County is inviting Bids for construction services for the purchase and installation of a new natural gas boiler system in the Clean Sweep building at Dane County Landfill Site No. 2. The undersigned, having examined the site where the Work is to be executed and having become familiar with local conditions affecting the cost of the Work and having carefully examined the Drawings and Specifications, all other Construction Documents and Addenda thereto prepared by Dane County Department of Waste & Renewables hereby agrees to provide all expertise, labor, materials, equipment and services necessary for the complete and satisfactory execution of the entire Work, as specified in the Construction Documents, for the Base Bid stipulated sum of:

_____ and __/100 Dollars
Written Price

\$ _____
Numeric Price

Receipt of the following addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No(s). _____ through _____

Dated _____

Dane County Department of Waste and Renewables must have this project completed by July 2, 2021. Assuming this Work can be started by March 22, 2021, what dates can you commence and complete this job?

Commencement Date: _____ Completion Date: _____
(final, not substantial)

I hereby certify that all statements herein are made on behalf of:

(Name of Corporation, Partnership or Person submitting Bid)

Select one of the following:

1. A corporation organized and existing under the laws of the State of _____, or
2. A partnership consisting of _____, or
3. A person conducting business as _____;

Of the City, Village, or Town of _____ of the State of _____.

I have examined and carefully prepared this Bid from the associated Construction Documents and have checked the same in detail before submitting this Bid; that I have full authority to make such statements and submit this Bid in (its) (their) (my) behalf; and that the said statements are true and correct. In signing this Bid, we also certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a Bid; that this Bid has been independently arrived at without collusion with any other bidder, competitor, or potential competitor; that this Bid has not been knowingly disclosed prior to the Bids Due Date to another bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned is qualified as a Best Value Contractor or has proven their exemption. Qualification or exemption shall be complete before Bid Due Date / Time.

The undersigned further agrees to honor the Base Bid for sixty (60) calendar days from date of Award of Contract.

SIGNATURE: _____
(Bid is invalid without signature)

Print Name: _____ Date: _____

Title: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Email Address: _____

Contact Person: _____

END OF SECTION

THIS PAGE IS FOR BIDDERS' REFERENCE
DO NOT SUBMIT WITH BID FORM.

BID CHECK LIST:

These items **must** be included with Bid:

Bid Form

Bid Bond

Fair Labor Practices Certification

DANE COUNTY BEST VALUE CONTRACTING QUALIFICATION

General Contractors & all Subcontractors must be qualified as a Best Value Contractor with the Dane County Public Works Engineering Division. Qualification & listing is not permanent & must be renewed every 24 months. Complete a *Best Value Contracting Application* online at:

pwht.countyofdane.com/bvc_application.aspx

DANE COUNTY VENDOR REGISTRATION PROGRAM

All bidders are strongly encouraged to be a registered vendor with Dane County. Registering allows vendors an opportunity to receive notifications for RFBs & RFPs issued by the County and provides the County with up-to-date company contact information. Complete a new form or renewal online at:

danepurchasing.com/Account/Login?

COUNTY OF DANE

WASTE & RENEWABLES CONSTRUCTION CONTRACT

Contract No. _____ Bid No. 320027

Authority: 2020 RES - _____

THIS CONTRACT, made and entered into as of the date by which authorized representatives of both parties have affixed their signatures, by and between the County of Dane (hereafter referred to as "COUNTY") and _____ (hereafter, "CONTRACTOR"), and

WITNESSETH:

WHEREAS, COUNTY, whose address is c/o Waste & Renewables Director, 1919 Alliant Energy Center Way, Madison, WI 53713, desires to have CONTRACTOR provide Clean Sweep Boiler at Dane County Landfill Site No. 2 ("the Project"); and

WHEREAS, CONTRACTOR, whose address is _____ is able and willing to construct the Project, in accordance with the Scope of Work document and site meeting;

NOW, THEREFORE, in consideration of the above premises and the mutual covenants of the parties hereinafter set forth, the receipt and sufficiency of which is acknowledged by each party for itself, COUNTY and CONTRACTOR do agree as follows:

1. CONTRACTOR agrees to construct, for the price of \$_____ the Project and at the CONTRACTOR'S own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence labor, insurance, and other accessories and services necessary to complete the Project in accordance with the conditions and prices stated in the Bid Form, Conditions of Contract, the drawings which include all maps, plats, plans, and other drawings and printed or written explanatory matter thereof, and the specifications therefore as prepared by Dane County Dept of Waste and Renewables (hereinafter referred to as "the Architect / Engineer"), and as enumerated in the Project Manual Table of Contents, all of which are made a part hereof and collectively evidence and constitute the Contract.
2. COUNTY agrees to pay the CONTRACTOR in current funds for the performance of the Contract subject to additions and deductions, as provided in the Conditions of Contract, and to make payments on account thereof as provided in Article entitled, "Payments to Contractor" of the Conditions of Contract.
3. During the term of this Contract, CONTRACTOR agrees to take affirmative action to ensure equal employment opportunities. The CONTRACTOR agrees in accordance with Wisconsin Statute 111.321 and Chapter 19 of the Dane County Code of Ordinances not to discriminate on the basis of age, race, ethnicity, religion, color, gender, disability, marital status, sexual orientation, national origin, cultural differences, ancestry, physical appearance, arrest record or conviction record, military participation or membership in the national guard, state defense force or any other reserve component of the military forces of the United States, or political beliefs. Such equal opportunity shall include, but not be limited to, the following: employment,

upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation. CONTRACTOR agrees to post in conspicuous places, available to all employees and applicants for employment, notices setting forth the provisions of this paragraph.

4. CONTRACTOR shall file an Affirmative Action Plan with the Dane County Contract Compliance Specialist in accord with Chapter 19 of the Dane County Code of Ordinances. CONTRACTOR must file such plan within fifteen (15) business days of the effective date of this Contract. During the term of this Contract CONTRACTOR shall also provide copies of all announcements of employment opportunities to COUNTY'S Office of Equity & Inclusion, and shall report annually the number of persons, by race, ethnicity, gender, and disability status, which apply for employment and, similarly classified, the number hired and number rejected.

5. During the term of this Contract, all solicitations for employment placed on CONTRACTOR'S behalf shall include a statement to the effect that CONTRACTOR is an "Equal Opportunity Employer".

6. CONTRACTOR agrees to furnish all information and reports required by COUNTY'S Contract Compliance Specialist as the same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and the provisions of this Contract.

7. This Contract is intended to be a Contract solely between the parties hereto and for their benefit only. No part of this Contract shall be construed to add to, supplement, amend, abridge or repeal existing rights, benefits or privileges of any third party or parties including, but not limited to, employees of either of the parties.

8. The entire agreement of the parties is contained herein and this Contract supersedes any and all oral agreements and negotiations between the parties relating to the subject matter hereof. The parties expressly agree that the express terms of this Contract shall not be amended in any fashion except in writing, executed by both parties.

9. CONTRACTOR must be qualified as a Best Value Contractor or have proven their exemption with Dane County Public Works Engineering Division before Bid Due Date / Time. All contractors and subcontractors must be qualified as a Best Value Contractor or have proven their exemption to perform any work under this Contract.

IN WITNESS WHEREOF, COUNTY and CONTRACTOR, by their respective authorized agents, have caused this Contract and its Schedules to be executed, effective as of the date by which all parties hereto have affixed their respective signatures, as indicated below.

* * * * *

FOR CONTRACTOR:

Signature Date

Printed or Typed Name and Title

Signature Date

Printed or Typed Name and Title

NOTE: If CONTRACTOR is a corporation, Secretary should attest. In accordance with IRS Regulations, unincorporated entities are required to provide either their Social Security or Employer Number in order to receive payment for services rendered.

* * * * *

This Contract is not valid or effectual for any purpose until approved by the appropriate authority designated below, and no work is authorized until the CONTRACTOR has been given notice to proceed by COUNTY'S Waste & Renewables Director.

FOR COUNTY:

Joseph T. Parisi, County Executive Date

Scott McDonell, County Clerk Date

AIA[®] Document A310[™] – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

BOND AMOUNT:**PROJECT:**

(Name, location or address, and Project number, if any)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this _____ day of _____

_____	(Contractor as Principal)	(Seal)
(Witness)	_____	(Title)
_____	(Surety)	(Seal)
(Witness)	_____	(Title)

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____

(Corporate Seal)

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.



AIA® Document A312™ – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312–2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date:

Amount:

Description:

(Name and location)

BOND

Date:

(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

SURETY

Company: *(Corporate Seal)*

Signature: _____

Name _____
and Title: _____

Signature: _____

Name _____
and Title: _____

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____

(Corporate Seal)

SURETY

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address _____

Signature: _____

Name and Title: _____

Address _____

CAUTION: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will not be obscured.

SECTION 00 72 12

CONDITIONS OF CONTRACT

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1. BIDS AND QUOTATIONS

- A. **Addressing of Bids.** Bids shall be addressed to attention of Waste & Renewables Project Manager and received at Dane County Department of Waste & Renewables, 1919 Alliant Energy Center Way, Madison, WI 53713, on or before local time and date specified herein for Bid Due Date. Seal all bids in envelopes and clearly mark front with bid number and reference to specified contents of bid. All uses of term “County” in Construction Documents shall mean Dane County.
- B. **Only One Copy Required.** Unless otherwise specified, only one copy of bid or quotation on prescribed Bid Form will be required.
- C. **Additional Data with Bid.** Bidder may submit, on firm’s letterhead only, additional data and information deemed advantageous to County. County shall hold optional consideration of such data and information.
- D. **More than One Bid.** Bidders desiring to submit more than one bid may do so provided such additional bid or bids are properly submitted on Dane County Department of Waste & Renewables’ Bid Form. Obtain extra sets of Construction Documents from Dane County Department of Waste & Renewables. All uses of term “Department” in Construction Documents shall mean Department of Waste & Renewables, which is a Dane County government unit.
- E. **Withdrawal or Late Bids.** County will not accept formal bids, amendments thereto, or requests for withdrawal of bid or any part thereof, after time of Bid Due Date.
- F. **Preparation and Submission.** All written bids, unless otherwise provided for, must be submitted on and in accordance with forms provided by County properly signed in ink. Bids not signed by hand are not accepted. Bidders must register in advance with Purchasing Division.
- G. **Products by Name.** Intention of Specifications of products by name is to be descriptive of quality, workmanship, finish, function and approximate characteristics desired; intention is not necessarily restriction. Consideration of products substitution for those named is possible, provided substitute offered is, in opinion of Dane County Waste & Renewables

Project Manager, equal or superior in quality, workmanship, finish, function and approximate characteristics to that specified in Project Manual Specifications listed herein.

- H. **Visitation of Sites.** Bidder shall visit site(s) that will receive intended work or installation, and in so doing, be held responsible for job deemed satisfactory by County after completion of the Work or installation. No additional compensation shall be allowed for any condition of which bidder could have been informed.
- I. **Completeness.** Supply all information required by Construction Documents to constitute regular bid. This shall include:
 - 1. Completed Bid Form.
 - 2. Completed Fair Labor Practices Certification.
 - 3. Completed Bid Bond.
- J. **Bids Binding Sixty (60) Calendar Days.** Unless otherwise specified all formal bids submitted shall be binding for sixty (60) calendar days following Bid Due Date.
- K. **Conditional Bids.** Qualified bids are subject to complete rejection, or partial rejection.
- L. **All or Part.** Bids or quotations may be considered and award made for all or any part of total quantities as specified in Construction Documents.
- M. **Errors.** Unit bid price shall govern when extending total prices has errors. Carelessness in quoting prices or in preparation of bid otherwise, will not relieve bidder. Explain all erasures in bids and include signature of bidder.
- N. **Regulation by State Statutes.** Bidding and letting of contracts are subject to provisions of Wisconsin Statutes 59.52(29) and 66.0901 and all subsequent sections and amendments thereof.
- O. **Bidders Present.** Bid Due Date is time fixed for opening of formal bids. Bids' contents will be made public for information of bidders and others properly interested, who may be present either in person or by representative. Bidders are encouraged to attend all openings, and to offer constructive suggestions for improvements to bid format or ways in which County can realize greater savings.
- P. **Taxes.** Contractor does not need to pay State and local sales & use taxes. See Wisconsin Statute 77.54 (9m).

2. GUARANTEE AND BOND

- A. **Bid Bond / Guarantee.** Bid Bond shall accompany Bids, which shall be either flat sum or percentage figure as shown on Project Manual Cover. This Bid Bond shall serve as warrant that successful bidder will fulfill terms of bid within time limit as indicated in bid after notice of award by Dane County. Bid Bond may be certified bank check (note: uncertified checks will not be acceptable), cashier's check or United State money order payable to Treasurer of Dane County; or on Bid Bond with corporate surety authorized to do business in State of Wisconsin and warranty of attorney to confess judgment thereon attached thereto. County will return negotiable Bid Bonds to unsuccessful bidders after awarding of bid. County shall return check held from Contractor after satisfactory completion of Contract or after receipt by

County of Performance Bond from Contractor, if one is required. Surety Bid Bonds will not be returned unless specifically requested by individual bidders.

- B. **Guarantor Liability.** When guarantee is required, failure of bidder to furnish acceptable Performance Bond (Article 2.C.) within twenty (20) business days after receipt of notice of award shall render guarantor liable to County. Bids covered by certified check or bond such security shall become absolute property of County and shall be deposited with County Treasurer for benefit of County as liquidated damages. County shall forthwith proceed to collect on Bid Bond.
- C. **Performance / Payment Bond.** When required, file guarantee that successful bidder will faithfully perform obligations of bid as accepted. Such guarantee must be bond complying with Wisconsin Statute 779.14 with corporate surety authorized to do business in this State, and that Contractor or subcontractors will be responsible for all claims for injuries to persons or damages to property or premises arising out of or in connection with their operations prior to acceptance of finished work or supplies, and that they will promptly make payments to all persons supplying them with labor or materials in execution of the Work provided for in Contract; guarantee to indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all costs, damages and expenses growing out of or by reason of successful bidder's failure to comply and perform the Work and complete Contract in accordance with Construction Documents; attach thereto a warrant of attorney authorizing confession of judgment thereon for benefit of County.

3. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by Contractor or subcontractor, sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.
- B. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by Contractor to illustrate materials or equipment for some portion of the Work.
- C. Samples are physical examples that illustrate materials, equipment or workmanship and establish standards to compare the Work.
- D. Shop Drawings, Product Data, Samples and similar submittals are not Construction Documents. Purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required how Contractor proposes to conform to information given and design concept expressed in Construction Documents.
- E. Contractor shall review, approve and submit to Waste & Renewables Project Manager Shop Drawings, Product Data, Samples and similar submittals required by Construction Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in activities of County or of separate contractors. Submittals made by Contractor not required by Construction Documents, may be returned without action.
- F. Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples or similar submittals until Waste & Renewables Project Manager has approved respective submittal. Such Work shall be in accordance with approved submittals.

- G. By approving and submitting, Shop Drawings, Product Data, Samples and similar submittals, Contractor represents that Contractor has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated information contained within such submittals with requirements of the Work and of Construction Documents.
- H. Contractor shall not be relieved of responsibility for deviations from requirements of Construction Documents by Waste & Renewables Project Manager's approval of Shop Drawings, Product Data, Samples and similar submittals unless Contractor has specifically informed Waste & Renewables Project Manager in writing of such deviation at time of submittal and Waste & Renewables Project Manager has given written approval to specific deviation. Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Sample or similar submittals by Waste & Renewables Project Manager's approval thereof.
- I. Contractor shall in writing direct specific attention to revised and / or resubmitted Shop Drawings, Product Data, Samples or similar submittals that were not requested by Waste & Renewables Project Manager on previous submittals.
- J. Unless specified otherwise, Contractor shall submit three (3) copies of all Shop Drawings, Product Data, Samples or similar submittals for each submission, until receiving final approval. After final approval, provide five (5) additional copies for distribution and such other copies as may be required.

4. AWARDS

- A. **Lowest Responsible Bidder.** Award will be to lowest responsible bidder conforming to Construction Documents or on most advantageous bid to County.
- B. **Other Considerations.** Quantities involved, time of delivery, purpose for which required, competency of bidder, ability to render satisfactory service and past performance will be considered in determining responsibility.
- C. **Rejection of Bids.** County reserves right to reject any or all bids or quotations in whole or in part and to award by items, parts of items, or by any aggregate group of items specified. County also reserves right to waive technical defects when in its judgment best interests of County thereby will be served.
- D. **Notice of Acceptance.** Sufficient notification of acceptance of bid will be written notice of award to bidder in form of Purchase Order or similar, mailed or delivered to address shown on Bid Form.
- E. **Tie Bids.** If two or more bidders submit identical bids, decision of County to make award to one or more of such bidders shall be final. Cash discount will be taken into consideration in determining award. Also, see Article 7.A. IDENTICAL BIDDING, Antitrust Laws.
- F. **Qualifying Bidders.** Prior to solicitation and / or awarding of bid, County may require submission by bidder of complete financial statement and questionnaire describing bidder's financial ability and experience in performance of similar work. Refer to Instructions to Bidders.

- G. **Disqualification.** Awards will not be made to any person, firm or company in default of Contract with County, or to any bidder having as its sales agent or representative or as member of firm, any individual previously in default or guilty of misrepresentation.
- H. **Bid Results.** Bidders may secure information pertaining to results of bids by visiting Public Works' website, bids-pwht.countyofdane.com/.

5. CONTRACT PROVISIONS

- A. **Acceptance Constitutes Contract.** Written acceptance by Waste & Renewables Project Manager of proposal for services shall constitute Contract, which shall bind bidder to perform the Work as detailed in Construction Documents, for bid amount and in accordance with all conditions of said accepted bid. Formal Contract containing all provisions of Contract signed by both parties shall be used when required by Waste & Renewables Project Manager.
- B. **Local Restrictions and Permits.** All work shall be done according to applicable laws, ordinances and codes. Contractor shall procure and pay for all required permits for permanent or temporary work.
- C. **Payment of Invoices.** Payment may be made only after inspection and acceptance by using agency and approval by Dane County Waste & Renewables Project Manager, and, where required by ordinances, approval by Dane County Board of Supervisors. If materials or equipment were delivered, constructed, erected, installed or tested on site, payment shall be made based on ninety-five percent (95%) of value of all the Work performed up to fifty percent (50%) of scheduled values less total of previous payments. Authorized extra work will be included in progress payments. Payment of balances will be made only after approval and final acceptance by County in consideration and elimination of possibilities of imperfect work, faulty materials or equipment, liens that have been filed, or if evidence indicates possible filing of claims.
- D. **Contract Alterations.** No alterations or variables in terms of contract shall be valid or binding upon County unless made in writing and signed by Purchasing Agent or authorized agent.
- E. **Assignments.** No contract may be assigned, sublet or transferred without written consent of Waste & Renewables Project Manager.
- F. **Cancellations.** Contract may be canceled or voided by Waste & Renewables Project Manager upon non-performance or violation of contract provisions, and award made to next low bidder or articles specified may be purchased on open market. In either event, defaulting contractor (or their surety) shall be liable to Dane County for costs to County in excess of defaulting contractor's contract prices.
- G. **Right of Department to Terminate Contract.**
1. In event that Contractor or any subcontractors violate any provisions of this Contract, County may serve written notice upon Contractor and Surety of its intention to terminate Contract. Such notice to contain reasons for such intention to terminate Contract, and unless within ten (10) business days after serving of such notice upon Contractor, such violation or delay shall cease and satisfactory arrangement or correction be made, Contract shall, upon expiration of said ten (10) business days, cease and terminate.
 2. In event of any such termination, County shall immediately serve notice thereof upon Surety and Contractor, and Surety shall have right to take over and perform Contract

subject to County's approval. However, if Surety does not commence performance thereof within ten (10) business days from date of mailing to such Surety of notice of termination, County may take over the Work and prosecute same to completion by Contract or by force account for account and at expense of Contractor. Contractor and Surety shall be liable to County for any excess cost occasioned County thereby, and in such event County may take possession of and utilize in completing the Work, such equipment, materials and / or supplies as may be on site of the Work and therefore necessary.

- H. **Non-Liability.** Contractor shall not be liable in damages for delay in shipment or failure to deliver when such delay or failure is result of fire, flood, strike, transporting carrier, act of God, act of government, act of alien enemy or by any other circumstances which, in Waste & Renewables Project Manager's opinion, is beyond control of Contractor. Under such circumstances, however, Waste & Renewables Project Manager may in discretion, cancel Contract.
- I. **Quality Assurance.** Inspection of equipment, materials and / or supplies shall be made by or at direction of County or Agency to which goods are delivered, and any articles supplied that are defective, or fails in any way to meet Specifications or other requirements of Contract, will be rejected. Waste & Renewables Project Manager shall direct all required laboratory tests. Decision of Waste & Renewables Project Manager on acceptance shall be final.
- J. **Time for Completion.** Contractor agrees that the Work shall be prosecuted regularly and diligently and complete entire project as stated in Construction Documents.
- K. **Changes in the Work.**
1. Except in cases of emergency, no changes in the Work covered by approved Construction Documents shall be made without having prior written approval of Department. Charges or credits for work covered by approved change shall be determined by one of these methods:
 - a) Unit bid prices previously approved.
 - b) Agreed lump sum based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;
 - 2) Materials entering permanently into the Work;
 - 3) Ownership or rental cost of construction plant and equipment during time of use on extra work;
 - 4) Power and consumable supplies for operation of construction or power equipment;
 - 5) Workmen's Compensation Insurance, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To cost under K.1.b), there shall be added fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of the Work performed with their own labor force; fee shall be compensation to cover cost of supervision, overhead, bond, profit and any other general expense;
 - 8) On that portion of work under K.1.b) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit and any other general expense; and
 - 9) Contractor shall keep and present in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
 - c) Cost-Plus Work, with not-to-exceed dollar limit, based on actual cost of:
 - 1) Labor, including foremen, and all fringe benefits that are associated with their wages;

- 2) Materials entering permanently into the Work;
 - 3) Ownership or rental cost of construction plant and equipment during time of use on extra work. (Rental cost cannot exceed fifty percent (50%) replacement value of rented equipment);
 - 4) Power and consumable supplies for operation of construction or power equipment;
 - 5) Workmen's Compensation, Contractor's Public Liability and Property Damage Insurance, and Comprehensive Automobile Liability Insurance;
 - 6) Social Security, pension and unemployment contributions;
 - 7) To cost under K.1.c) there shall be added fixed fee to be agreed upon, but not to exceed fifteen percent (15%) of actual cost of the Work performed with their own labor force; fee shall be compensation to cover cost of supervision, overhead, bond, profit, and any other general expense;
 - 8) On that portion of work under K.1.c) done under subcontract, Contractor may include not over seven and one-half percent (7½%) for supervision, overhead, bond, profit, and any other general expense; and
 - 9) Contractor shall keep and present in such form as directed, correct amount of cost together with such supporting vouchers as may be required by Department.
2. If Contractor claims that by any instructions given by Waste & Renewables Project Manager, by drawings or otherwise, regarding performance of the Work or furnishing of material under Contract, involves extra cost, Contractor shall give Department written notice thereof within two weeks after receipt of such instructions and in any event before proceeding to execute work, unless delay in executing work would endanger life or property.
 3. No claim for extra work or cost shall be allowed unless same was done in pursuance of written order of Waste & Renewables Project Manager and approved by Department, as previously mentioned, and claim presented with payment request submitted after changed or extra work is completed.
 4. Negotiation of cost for change in the Work shall not be cause for Contractor to delay prosecution of the Work if Contractor has been authorized in writing by Waste & Renewables Project Manager to proceed.

L. Payments to Contractor.

1. County will make partial payments to Contractor for value, proportionate to amount of Contract, of all labor and material incorporated in the Work during preceding calendar month upon receipt and approval of Department.
2. Contractor shall submit to Waste & Renewables Project Manager Application and Certificate of Payment. Evidence may be required, and supplied on demand, that supports request and Contractor's right to payment claimed.
3. Request for payment for preparatory work and materials delivered and suitably stored at site to be incorporated into the Work at some future period, will be given due consideration. Requests involving materials stored off site, may be rejected; however, if deemed essential for reasons of job progress, protection, or other sufficient cause, requests will be considered conditional upon submission by Contractor of bills of sale and such other procedures as will adequately protect County's interest such as storage in bonded warehouse with adequate coverage. If there is any error in payment, Contractor is obligated to notify Department immediately, but no longer than ten (10) business days from receipt of payment.

4. Payments by County will be due within forty-five (45) business days after receipt by Department of certified request.
5. Five percent (5%) of each request for certification will be retained until final completion and acceptance of all the Work covered by Contract. However, anytime after fifty percent (50%) of the Work has been furnished and installed at site, remaining payments will be made in full if Waste & Renewables Project Manager finds that progress of the Work corresponds with construction progress schedule. If Waste & Renewables Project Manager find that progress of the Work does not correspond with construction progress schedule, up to ten percent (10%) of each request for payment may be retained for the Work completed.
6. All material and work covered by partial payments made shall become sole property of County. This provision shall not be construed as relieving Contractor from sole responsibility for care and protection of materials and work upon which payments have been made or restoration of any damaged work, or as waiver of right of County to require fulfillment of all of terms of Contract.
7. Final payment will be made within sixty (60) calendar days after final completion of the Work, and will constitute acceptance thereof.
8. On completion and acceptance of each separate division of Contract, on which stated price is separated in Contract, payment may be made in full, including retained percentages thereon, less authorized deductions.
9. Every contractor engaged in performance of any contract for Department of Waste & Renewables shall submit to this Department, as requested and with final application for payment for work under said contract, affidavit(s) as required to prove that all debts and claims against this Work are paid in full or otherwise satisfied, and give final evidence of release of all liens against the Work and County.

M. Withholding of Payments.

1. County, after having served written notice on said Contractor, may either pay directly any unpaid bills of which Department has written notice, or withhold from Contractor's unpaid compensation, sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged. Then payment to Contractor shall be resumed in accordance with terms of this Contract, but in no event shall these provisions be construed to impose any obligations upon County to either Contractor or Contractor's Surety.
2. In paying any unpaid bills of Contractor, County shall be deemed Agent of Contractor, and any payment so made by County, shall be considered as payment made under Contract by County to Contractor and County shall not be liable to Contractor for any such payment made in good faith.
3. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from all claims growing out of lawful demands of subcontractors, laborers, workmen, mechanics, material men, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in performance of this Contract.
4. At Department's request, Contractor shall furnish satisfactory evidence that all obligations of nature designated above have been paid, discharged or waived.

N. Acceptance of Final Payment as Release.

1. Making of final payment shall constitute waiver of all claims by County except those arising from:
 - a) Unsettled lien;
 - b) Faulty or defective work appearing after substantial completion;
 - c) Failure of the Work to comply with requirements of Construction Documents; or
 - d) Terms of any special guarantees required by Construction Documents.
2. Acceptance of final payment shall constitute waiver of all claims by Contractor.

O. Lien Waivers. Contractor warrants that title to all work covered by application for Payment will pass to County no later than time of payment. Contractor further warrants that upon submittal of Application for Payment all work for which Certificates for Payment have been previously issued and payments received from County shall, to best of Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of Contractor, subcontractor, material suppliers, or other persons or entities making claim by reason of having provide labor, materials and equipment related to the Work.

P. Use and Occupancy Prior to Acceptance. Contractor agrees to use and occupancy of portion or unit of project before formal acceptance by Department, provided Department:

1. Secures written consent of Contractor; except when in opinion of Department's Waste & Renewables Project Manager, Contractor is chargeable with unwarranted delay in final cleanup of punch list items or other Contract requirements;
2. Secures endorsement from insurance carrier and consent of Surety permitting occupancy of building or use of project during remaining period of construction, or, secures consent of Surety;
3. Assumes all costs and maintenance of heat, electricity and water; and
4. Accepts all work completed within that portion or unit of project to be occupied, at time of occupancy.

Q. Correction of Work.

1. All work, all materials whether incorporated in the Work or not, and all processes of manufacture shall at all times and places be subject to inspection of Waste & Renewables Project Manager who shall be judge of quality and suitability of work, materials, and processes of manufacture for purposes for which they are used. Should they fail to meet Waste & Renewables Project Manager's approval they shall be reconstructed, made good, replaced or corrected, as case may be, by Contractor at Contractor's expense. Rejected material shall immediately be removed from site.
2. If Contractor defaults or neglects to carry out the Work in accordance with Construction Documents or fails to perform any provision of Contract, Department may, after ten (10) business days written notice to Contractor and without prejudice to any other remedy County may have, make good such deficiencies. In such case, appropriate Change Order shall be issued deducting from payments then or thereafter due Contractor cost of correcting such deficiencies, including cost of additional services made necessary by such default, neglect or failure.

6. GENERAL GUARANTEE

A. Neither final certificate of payment nor any provision in Construction Documents nor partial or entire occupancy of premises by County shall constitute acceptance of work not done in

accordance with Construction Documents or relieve Contractor of liability in respect to any expressed warranties or responsibility for faulty materials or workmanship.

1. In no event shall making of any payment required by Contract constitute or be construed as waiver by County of any breach of covenants of Contract or waiver of any default of Contractor and making of any such payment by County while any such default or breach shall exist shall in no way impair or prejudice right of County with respect to recovery of damages or other remedy as result of such breach or default.
- B. Contractor shall remedy and make good all defective workmanship and materials and pay for any damage to other work resulting therefrom, which appear within period of one year from date of substantial completion, providing such defects are not clearly due to abuse or misuse by County. Department will give notice of observed defects with reasonable promptness.
- C. Guarantee on work executed after certified date of substantial completion will begin on date when such work is inspected and approved by Waste & Renewables Project Manager.
- D. Where guarantees or warranties are required in sections of Construction Documents for periods in excess of one year, such longer terms shall apply; however, Contractor's Performance / Payment Bond shall not apply to any guarantee or warranty period in excess of one year.

7. IDENTICAL BIDDING

- A. **Antitrust Laws.** All identical bids submitted to County because of advertised procurement for materials, supplies, equipment or services exceeding \$1,000,000.00 in total amount shall be reported to Attorney Generals of the United States and State of Wisconsin for possible violation and enforcement of antitrust laws.

8. BINDING CONTRACTS

- A. **Contract Commitment.** Any contracts resulting from this bid shall be binding on successful bidder(s) to its conclusion and on its assigns, heirs, executors, administrators or successors.

9. AFFIRMATIVE ACTION PROVISION AND MINORITY / WOMEN / DISADVANTAGED BUSINESS ENTERPRISES

- A. **Affirmative Action Provisions.** During term of its Contract, Contractor agrees not to discriminate on basis of race, religion, color, sex, handicap, age, sexual preference, marital status, physical appearance, or national origin against any person, whether recipient of services (actual or potential), employee, or applicant for employment. Such equal opportunity shall include, but not be limited to following: employment, upgrading, demotion, transfer, recruitment, advertising, layoff, termination, training, rates of pay, and any other form of compensation or level of service(s). Contractor agrees to post in conspicuous places, available to all employees, service recipients and applicants for this paragraph. Listing of prohibited bases for discrimination shall not be construed to amend in any fashion state or federal law setting forth additional bases and exceptions shall be permitted only to extent allowable in state or federal law.
- B. Contractor is subject to this paragraph only if Contractor has twenty (20) or more employees and receives \$20,000.00 or more in annual aggregate contracts with County. Contractor shall file Affirmative Action Plan with Dane County Contract Compliance Specialist in accord with Chapter 19 of Dane County Code of Ordinances. Contractor must file such plan within

fifteen (15) business days of effective date of this Contract and failure to do so by that date shall constitute grounds for immediate termination of Contract. During term of this Contract, Contractor shall also provide copies of all announcements of employment opportunities to County's Office of Equity & Inclusion, and shall report annually number of persons, by race, sex and handicap status, which apply for employment, and, similarly classified, number hired and number rejected.

- C. Contact Dane County Contract Compliance Specialist at Dane County Office of Equity & Inclusion, 210 Martin Luther King, Jr. Blvd., Room 356, Madison, WI 53703, 608/266-4192.
- D. In all solicitations for employment placed on Contractor's behalf during term of this Contract, Contractor shall include statement to effect that Contractor is "Equal Opportunity Employer."
- E. Contractor agrees to furnish all information and reports required by County's Contract Compliance Specialist as same relate to affirmative action and nondiscrimination, which may include any books, records, or accounts deemed appropriate to determine compliance with Chapter 19, Dane County Code of Ordinances, and provision of this Contract.
- F. **Minority / Women / Disadvantaged / Emerging Small Business Enterprises.** Chapter 19.508 of Dane County Code of Ordinances is official policy of Dane County to utilize Minority Business Enterprises (MBEs), Women Business Enterprises (WBEs), Disadvantaged Business Enterprises (DBEs) and Emerging Small Business Enterprises (ESBEs) fully.

10. COMPLIANCE WITH FAIR LABOR STANDARDS

- A. During term of this Contract, Contractor shall report to County Contract Compliance Specialist, within ten (10) business days, any allegations to, or findings by National Labor Relations Board (NLRB) or Wisconsin Employment Relations Commission (WERC) that Contractor has violated statute or regulation regarding labor standards or relations. If investigation by Contract Compliance Specialist results in final determination that matter adversely affects Contractor's responsibilities under this Contract, and which recommends termination, suspension or cancellation of this Contract, County may take such action.
- B. Contractor may appeal any adverse finding by Contract Compliance Specialist as set forth in Dane County Ordinance 25.015(11)(c) through (e).
- C. Contractor shall post this statement in prominent place visible to employees: "As condition of receiving and maintaining contract with Dane County, this employer shall comply with federal, state and all other applicable laws prohibiting retaliation or union organizing."

11. DOMESTIC PARTNERSHIP BENEFITS

- A. Not Used.

12. INSURANCE REQUIREMENTS

- A. Contractor shall indemnify, hold harmless and defend Dane County, its boards, commissions, agencies, officers, employees and representatives from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from performance of the Work, provided that any such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting there from, and is caused in whole or in

part by any act or omission of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a part indemnified hereunder.

- B. In any and all claims against Dane County, its boards, commissions, agencies, officers, employees and representatives or by any employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, indemnification obligation under this Contract shall not be limited in any way by any limitation on amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker's compensation acts, disability benefits or other employee benefit acts.
- C. Obligations of Contractor under this Contract shall not extend to liability of Department, its agents or employees arising out of (1) preparation or approval of maps, drawings, opinion, reports, surveys, change orders, designs or specifications; or (2) giving of or failure to give directions or instruction by Department, its agents or employees provided such giving or failure to give is primary cause of injury or damage.
- D. County shall not be liable to Contractor for damages or delays resulting from work by third parties or by injunctions or other restraining orders obtained by third parties.
- E. **Contractor Carried Insurance.** In order to protect itself and County, Contractor shall not commence work under this Contract until obtaining all required insurance and County has approved such insurance. Contractor shall not allow any subcontractor to commence work on subcontract until insurance required of subcontractor has been so obtained and approved.
 - 1. **Worker's Compensation Insurance**
Contractor shall procure and shall maintain during life of this Contract, Worker's Compensation Insurance as required by statute for all of its employees engaged in work at site of project under this Contract and, in case of such work sublet, Contractor shall require subcontractor similarly to provide Worker's Compensation Insurance for all of latter's employees to be engaged in such work unless such employees are covered by protection afforded by Contractor's Worker's Compensation Insurance.
 - 2. **Contractor's Public Liability and Property Damage Insurance**
Contractor shall procure and maintain during life of this Contract, Contractor's Public Liability Insurance and Contractor's Property Damage Insurance in amount not less than \$1,000,000.00 per occurrence for bodily injury and death, and Contractor's Property Damage Insurance in amount not less than \$1,000,000.00 and shall be primary with Dane County as "Additional Insured".
 - 3. **Auto Liability Insurance**
Contractor shall procure and maintain during life of this Contract, Comprehensive Automobile Liability Insurance covering owned, non-owned and hired automobiles for limits of not less than \$1,000,000.00 and shall be primary with Dane County as "Additional Insured".
- F. Contractor either (1) shall require each subcontractors to procure and to maintain during life of subcontract, subcontractor's Public Liability Property Damage Insurance, and Comprehensive Automobile Liability Insurance of type and in same amount specified in preceding paragraphs; or (2) insure that activities of subcontractors in their own policy.
- G. Contractor shall furnish County with certificates showing type, amount, class of operations covered, effective dates and dates of expiration of policies. Such certificates shall also

contain substantially this statement: "Insurance covered by this certificate will not be canceled or materially altered, except after ten (10) business days written notice has been received by County."

- H. **Builder's Risk.** County shall provide Builder's Risk insurance coverage for its insurable interests in construction or renovation projects with completed value of \$1,000,000 or less. Therefore, if project completed value is more than \$1,000,000, Contractor shall obtain and maintain in force, at its own expense, Builder's Risk Insurance on all risks for amount equal to full completed value of covered structure or replacement value of alterations or additions. Any deductible shall not exceed \$25,000 for each loss. Policy shall include occupancy clause and list Dane County as loss payee.

END OF SECTION



Department of Public Works, Highway & Transportation
Public Works Engineering Division

608/266-4018

Gerald J. Mandli, P.E.
Commissioner / Director

Joseph T. Parisi
County Executive

Deputy Director
Todd Draper

1919 Alliant Energy Center Way
Madison, Wisconsin 53713
Fax: 608/267-1533
www.countyofdane.com/pwht/public_works.aspx

BEST VALUE CONTRACTING APPLICATION

CONTRACTORS / LICENSURE APPLICANTS

The Dane County Department of Public Works requires contractors & subcontractors to be a Best Value Contractor before being hired. Contractor & subcontractor application documents should be turned in immediately. Contractor approval or exemption must be complete prior to Bid Due Date / Time. All subcontractors must also be approved or prove their exemption before performing any work under a County contract. This document shall be completed, properly executed, along with the necessary attachments and additional information that the County requires for the protection and welfare of the public in the performance of a County contract.

Contractors or subcontractors of any tier who attain qualification status will retain that status for a period of two (2) years from the date of qualification. Contractors shall notify the Dane County Department of Public Works, Highway & Transportation within fifteen (15) days of any changes to its business or operations that are relevant to the application. Failure to do so could result in suspension, revocation of the contractor's qualification, debarment from County contracts for up to three (3) years and / or other sanctions available under the law.

No contracts will be awarded for construction work performed on Dane County projects unless the contractor is currently approved as a Wisconsin Trade Trainer or has applied for approval as an Apprenticeship Trade Trainer to the Wisconsin Department of Workforce Development and agrees to an acceptable apprenticeship program. If you are not currently approved as a Wisconsin Trade Trainer, or have not applied for approval as an Apprenticeship Trade Trainer, please contact the Department of Workforce Development - Bureau of Apprenticeship Standards at 608/266-3133 or visit their web site at: <https://dwd.wisconsin.gov/apprenticeship/>.

EXEMPTIONS

- Contractors who employ less than five (5) apprenticeable trade workers are not required to qualify.
- Contractors performing work that does not apply to an apprenticeable trade, as outlined in Appendix A.
- The contractor / subcontractor provides sufficient documentation to demonstrate one or more of the following:
 - apprentices are not available in a specific geographic area;
 - the applicable apprenticeship program is unsuitable or unavailable; or
 - there is a documented depression of the local construction market which prevents compliance.

SEC.	PROOF OF RESPONSIBILITY	CHECK IF APPLICABLE
1	Does your firm possess all technical qualifications and resources, including equipment, personnel and financial resources, necessary to perform the work required for any project or obtain the same through the use of responsible, qualified subcontractors?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
2	Will your firm possess all valid, effective licenses, registrations or certificates required by federal, state, county, or local law, which are necessary for the type of work to be performed including, but not limited to, those for any type of trade work or specialty work?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
3	Will your firm meet all bonding requirements as required by applicable law or contract specifications?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
4	Will your firm meet all insurance requirements as required by applicable law or specifications, including general liability insurance, workers compensation insurance and unemployment insurance requirements?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
5	Will your firm maintain a substance abuse policy for employees hired for public works contracts that comply with Wis. Stats. Sec. 103.503?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
6	Will your firm fully abide by the equal opportunity and affirmative action requirements of all applicable laws, including County ordinances?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
7	In the past three (3) years, has your firm had control or has another corporation, partnership or other business entity operating in the construction industry controlled it? If so, please attach a statement explaining the nature of the firm relationship?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
8	In the past three (3) years, has your firm had any type of business, contracting or trade license, certification or registration revoked or suspended?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
9	In the past three (3) years, has your firm been debarred by any federal, state or local government agency?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
10	In the past three (3) years, has your firm defaulted or failed to complete any contract?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
11	In the past three (3) years, has your firm committed a willful violation of federal, state or local government safety laws as determined by a final decision of a court or government agency authority.	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
12	In the past three (3) years, has your firm been in violation of any law relating to your contracting business where the penalty for such violation resulted in the imposition of a penalty greater than \$10,000?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach details.
13	Is your firm an active Wisconsin Trade Trainer as determined by the Wisconsin Bureau of Apprenticeship Standards?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
14	Is your firm exempt from being qualified with Dane County?	Yes: <input type="checkbox"/> No: <input type="checkbox"/> If Yes, attach reason for exemption.
15	Does your firm acknowledge that in doing work under any County Public Works Contract, it will be required to use as subcontractors only those contractors that are also qualified with the County or become so within five (5) days after the Bid Due Date?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
16	Contractor has been in business less than one year?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
17	Is your firm a first time Contractor requesting a one time exemption, but, intend to comply on all future contracts and are taking steps typical of a "good faith" effort?	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

SIGNATURE SECTION

Your firm's Officer, or the individual who would sign a bid and / or contract documents must sign this document.

I do hereby certify that all statements herein contained are true and correct to the best of my knowledge:

Signature: _____

(Application is invalid without signature)

Print Name: _____ Date: _____

Title: _____

NAME AND ADDRESS OF CONTRACTOR	
Name of Firm:	
Address:	
City, State, Zip:	
Phone Number:	
Fax Number:	
E-mail Address:	

REMEMBER!

RETURN ALL TO FORMS AND ATTACHMENTS, OR QUESTIONS TO:

**TODD DRAPER
EMAIL: DRAPER@COUNTYOFDANE.COM
OFFICE: (608) 267-0119, FAX: (608) 267-1533**

**DANE COUNTY DEPARTMENT OF PUBLIC WORKS, HIGHWAY & TRANSPORTATION
1919 ALLIANT ENERGY CENTER WAY
MADISON, WI 53713**

APPENDIX A

APPRENTICEABLE TRADES:

- Bricklayer
- Carpenter
- Cement Mason (Concrete Finisher)
- Cement Mason (Heavy Highway)
- Construction Craft Laborer
- Data Communications Installer
- Electrician
- Elevator Mechanic / Technician
- Environmental Systems Technician / HVAC Service Technician / HVAC Install & Service
- Glazier
- Heavy Equipment Operator / Operating Engineer
- Insulation Worker (Heat & Frost)
- Iron Worker (Assembler, Metal Buildings)
- Painter / Decorator
- Plasterer
- Plumber
- Roofer / Waterproofer
- Sheet Metal Worker
- Sprinkler Fitter
- Steamfitter (Service & Refrigeration)
- Taper & Finisher
- Telecommunications (Voice, Data & Video) Installer / Technician
- Tile Setter

END OF SECTION

SECTION 00 73 11

FAIR LABOR PRACTICES CERTIFICATION

The undersigned, for and on behalf of the BIDDER, APPLICANT or PROPOSER named herein, certifies as follows:

A. That he or she is an officer or duly authorized agent of the above-referenced BIDDER, APPLICANT or PROPOSER, which has a submitted a bid, application or proposal for a contract or agreement with the county of Dane.

B. That BIDDER, APPLICANT or PROPOSER has (check one):

_____ not been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

_____ been found by the National Labor Relations Board (“NLRB”) or the Wisconsin Employment Relations Commission (“WERC”) to have violated any statute or regulation regarding labor standards or relations in the seven years prior to the signature date of this Certification.

Officer or Authorized Agent Signature

Date

Printed or Typed Name and Title

Printed or Typed Business Name

NOTE: You can find information regarding the violations described above at: www.nlr.gov and werc.wi.gov.

For reference, Dane County Ordinance 25.09 is as follows:

(1) BIDDER RESPONSIBILITY. (a) Any bid, application or proposal for any contract with the county, including public works contracts regulated under chapter 40, shall include a certification indicating whether the bidder has been found by the National Labor Relations Board (NLRB) or the Wisconsin Employment Relations Committee (WERC) to have violated any statute or regulation regarding labor standards or relations within the last seven years. The Controller shall investigate any such finding and make a recommendation to the committee, which shall determine whether the conduct resulting in the finding affects the bidder’s responsibility to perform the contract.

If you indicated that the NLRB or WERC have found you to have such a violation, you must include copies of any relevant information regarding such violation with your proposal, bid or application.

Include this completed Certification with your bid, application or proposal.

END OF SECTION

SECTION 01 00 00
GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Summary
 2. Summary of the Work
 3. Contractor Use of Premises
 4. Applications for Payment
 5. Change Procedures
 6. Alternates
 7. Coordination
 8. Cutting and Patching
 9. Conferences
 10. Progress Meetings
 11. Submittal Procedures
 12. Proposed Products List
 13. Shop Drawings
 14. Product Data
 15. Samples
 16. Manufacturers' Instructions
 17. Manufacturers' Certificates
 18. Quality Assurance / Quality Control of Installation
 19. References
 20. Interior Enclosures
 21. Protection of Installed Work
 22. Parking
 23. Staging Areas
 24. Occupancy During Construction and Conduct of Work
 25. Protection
 26. Progress Cleaning
 27. Products
 28. Transportation, Handling, Storage and Protection
 29. Product Options
 30. Substitutions
 31. Starting Systems
 32. Demonstration and Instructions
 33. Contract Closeout Procedures
 34. Final Cleaning
 35. Adjusting
 36. Operation and Maintenance Manual
 37. Spare Parts and Maintenance Materials
 38. As-Built and Record Drawings and Specifications

1.2 SUMMARY OF THE WORK

- A. Project Description: Perform the Work as outlined below and specified and detailed in Construction Documents package.
- Provide and Install new LAARS Neo Therm 600 MBH condensing boiler or equivalent approved by Waste & Renewables Project Manager.
 - a. Natural gas fired with modulation down to 20%
 - b. Stainless steel heat exchanger with a minimum 10 year warranty
 - c. Honeywell Sola touch screen programmer.
 - d. Boiler meets FM and UL/CSD-1 Codes.
 - Provide and install 4-inch concrete pad under boiler.
 - Provide and install natural gas piping (tie into existing overhead natural gas lines within mezzanine).
 - Provide and install new vent piping with sidewall termination (west wall, can retrofit existing 8-inch penetration if desired).
 - Provide and install new fresh air piping from inside the building to the boiler (horizontal intake, minimum 8-feet above grade).
 - Provide, install, and insulate new supply and return piping and isolation valves (One isolation valve each on new supply and return piping, one isolation valve on existing supply piping, existing piping overhead from proposed boiler location).
 - Provide and install four temperature probe wells (two temperature probe wells each on new supply and return piping).
 - Provide and install two thermometers (one thermometer each on new supply and return piping).
 - Provide and install new drain piping along with a condensate acid neutralizer kit.
 - Provide and install conduit and electrical wiring, including all terminations (existing circuit on south wall adjacent to boiler install).
 - Provide a full factory startup and commissioning, to include combustion analysis and firing rate adjustments
- B. Work by Owner: Not applicable.
- C. Permits: Prior to commencement of the Work, Contractor to secure any and all necessary permits for completion of the Work and facility occupancy. Provide Waste & Renewables Project Manager with copies of all permits.

1.3 CONTRACTOR USE OF PREMISES

- A. Limit use of premises to allow work by others and work by Owner.
- B. Coordinate utility outages and shutdowns with Owner.
- C. Contractors or Subcontractors shall not visit the site if they are or have recently been ill.

1.4 APPLICATIONS FOR PAYMENT

- A. Submit each Application for Payment on AIA G702™ and G703™ forms or approved contractors invoice form. Contractor shall have these forms notarized and signed.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Payment Period: Monthly.
- D. Submit Applications for Payment to Waste & Renewables Project Manager for approval & processing for payment.

1.5 CHANGE PROCEDURES

- A. Contractor's costs for Products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from contingency allowance.

1.6 ALTERNATES

- A. Alternates quoted on Bid Form shall be reviewed and accepted or rejected at Owner's option.
- B. Coordinate related work and modify surrounding work as required.
- C. Schedule of Alternates: there are no alternates proposed for this project.

1.7 COORDINATION

- A. Coordinate scheduling, submittals, and work of various sections of Specifications to assure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work that are indicated diagrammatically on Drawings.

- D. Contractor shall provide Waste & Renewables Project Manager with work plan that ensures the Work will be completed within required time of completion.
- E. Construct work to accommodate Dane County Clean Sweep operations.
- F. Waste & Renewables Project Manager may choose to photograph or videotape site or workers as the Work progresses.

1.8 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching new work; restore work with new Products.
- B. Submit written request in advance of cutting or altering structural or building enclosure elements.
- C. Fit work tight to adjacent elements. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.
- D. Refinish surfaces to match adjacent finishes.

1.9 CONFERENCES

- A. Project shall have pre-bid conference; see Instructions to Bidders.
- B. Contractor shall submit Construction Schedule at pre-construction meeting.
- C. When required in individual Specification section, convene pre-installation conference at project site prior to commencing work of Section.
- D. Safe distancing & face masks are required for all conference attendees. Please limit number of attending staff & subcontractors.

1.10 PROGRESS MEETINGS

- A. Day & time of progress meetings to be determined at pre-construction meeting.
- B. Owner shall schedule and administer meetings throughout progress of the Work at minimum of one (1) per week.
- C. Owner shall preside at meetings, record minutes, and distribute copies within two (2) business days to those affected by decisions made.
- D. Attendance at progress meetings by General Contractor, subcontractors, or their authorized representative, is mandatory.
- E. Contractors shall give verbal reports of progress on the Work, discuss schedule for upcoming period and present all conflicts, discrepancies or other difficulties for resolution.

- F. In-person meetings shall be limited & shall follow current *Public Health - Madison & Dane County* procedures & recommendations (see publichealthmdc.com/documents/office_space_checklist.pdf and publichealthmdc.com/coronavirus/forward-dane/current-order). Whenever possible, meetings shall be held via teleconference or videoconference, to be hosted by contractor or consultant. Dane County reserves right to mandate safe physical distancing & use of face masks by all personnel while inside any County facility or on any County grounds.

1.11 SUBMITTAL PROCEDURES

- A. Submittal form to identify Project, Contractor, Subcontractor or supplier; and pertinent Construction Documents references.
- B. Apply Contractor's stamp, signed or initialed, certifying that review, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with requirements of the Work and Construction Documents.
- C. Identify variations from Construction Documents and Product or system limitations that may be detrimental to successful performance of completing the Work.
- D. Revise and resubmit submittals as required; identify all changes made since previous submittal.

1.12 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) business days after date of Award of Contract, submit complete list of major Products proposed for use, with name of manufacturer, trade name, and model number of each Product.

1.13 SHOP DRAWINGS

- A. Submit number of copies that Contractor requires, plus three (3) copies that shall be retained by Waste & Renewables Project Manager.

1.14 PRODUCT DATA

- A. Submit number of copies that Contractor requires, plus two (2) copies that shall be retained by Waste & Renewables Project Manager.
- B. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturer's standard data to provide information unique to this Project.

1.15 SAMPLES

- A. Submit samples to illustrate functional and aesthetic characteristics of Product.
- B. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Waste & Renewables Project Manager's selection.

1.16 MANUFACTURERS' INSTRUCTIONS

- A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.

1.17 MANUFACTURERS' CERTIFICATES

- A. When specified in individual Specification sections, submit manufacturers' certificate to Waste & Renewables Project Manager for review, in quantities specified for Product Data.
- B. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.18 QUALITY ASSURANCE / QUALITY CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturers' instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.19 REFERENCES

- A. Conform to reference standard by date of issue current as of date for receiving bids.
- B. Should specified reference standard conflict with Construction Documents, request clarification from Waste & Renewables Project Manager before proceeding.

1.20 INTERIOR ENCLOSURES

- A. Provide temporary partitions as required to separate work areas from Owner occupied areas, to prevent distribution of dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.

1.21 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual Specification sections.

1.22 PARKING

- A. Coordinate temporary parking areas with Waste & Renewables Project Manager to accommodate construction personnel.

- B. All contractors and their employees shall cooperate with General Contractor and others in parking of vehicles to avoid interference with normal operations and construction activities.
- C. Do not obstruct existing service drives and parking lots with equipment, materials and / or vehicles. Keep accessible for Owner's use at all times.

1.23 STAGING AREAS

- A. Coordinate staging areas with Waste & Renewables Project Manager prior to starting the Work.
- B. On-site space for use as staging areas and storage of materials is limited and will be apportioned among various Contractors as their needs dictate with due regard for storage requirements of each Contractor. Each Contractor shall be responsible for safety of equipment and materials that are stored on site.

1.24 OCCUPANCY DURING CONSTRUCTION AND CONDUCT OF WORK

- A. Contractors are asked to not work at facility if they are ill with something contagious.
- B. All contractors are expected to leave work areas in conditions; such that area can be occupied immediately upon leaving area.
- C. Smoking is prohibited on Dane County property.
- D. Owner reserves right at any time to dismiss from premises any Contractor or construction personnel that do not uphold requirements of this Section.
- E. Owner shall not be held liable for any lost time, wages, or impacts to construction schedule by any Contractor or construction personnel dismissed for failure to uphold requirements of this Section.
- F. Areas of existing facility will be occupied during period when the Work is in progress. Work may be done during normal business hours (7:00 am to 2:45 pm), but confer with Owner, schedule work and store materials so as to interfere as little as possible with normal use of premises.
- G. Work shall be done and temporary facilities furnished so as not to interfere with access to any occupied area and so as to cause least possible interference with normal operation of facility or any essential service thereof.
- H. Contractor shall, at all times, provide approved, safe walkways and facility entrances for use by Owner, employees and public.
- I. Contractor shall provide adequate protection for all parts of facility, its contents and occupants wherever the Work under this Contract is to be performed.

- J. Each Contractor shall arrange with Owner to make necessary alterations, do new work, make connections to all utilities, etc., and at such times as will not cause interruption of utility services to facility. Contractor doing this work shall protect, cap, cut off and / or replace and relocate existing pipes, electrical work and other active utilities encountered which may interfere with new construction work.
- K. New work in extension of existing work shall correspond in all respects with that to which it connects or similar existing work unless otherwise indicated or specified.
 - 1. Existing work shall be cut, altered, removed or replaced as necessary for performance of Contract obligations.
 - 2. Work remaining in place, damaged or defaced by reason of work done under this Contract shall be restored equal to its condition at time of Award of Contract.
 - 3. If removal of work exposes discolored or unfinished surfaces or work out of alignment, such surfaces shall be refinished or materials replaced as necessary to make continuous work uniform and harmonious.
- L. Contractor is not responsible for providing & maintaining temporary toilet facilities.
- M. Contractor & subcontractors shall follow all current *Public Health - Madison & Dane County* procedures & recommendations (see publichealthmdc.com/documents/office_space_checklist.pdf and publichealthmdc.com/coronavirus/forward-dane/current-order). Dane County reserves right to mandate safe physical distancing & use of face masks by all personnel while inside any County facility or on any County grounds.

1.25 PROTECTION

- A. Contractor shall protect from damage / injury all mechanical, electrical & plumbing equipment and pay for any damage to same resulting from insufficient or improper protection.

1.26 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.

1.27 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components specifically identified for reuse.
- B. Do not use materials and equipment removed from existing premises, except as specifically identified or allowed by Construction Documents.

1.28 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store and protect Products in accordance with manufacturer's instructions.

1.29 PRODUCT OPTIONS

- A. Where definite material is specified, it is not intentional to discriminate against "equal" product made by another manufacturer. Intention is to set definite standard of material quality. Should bidder choose to bid materials other than those specified, bidder shall submit said materials specifications to [Public Works, Waste & Renewables] Project Manager for approval at least seven (7) business days prior to Bid Due Date.
- B. Products and materials that are not specified, but have been approved for use by [Public Works, Waste & Renewables] Project Manager shall be identified in addenda to all bidding contractors.
- C. Requests for material or product substitutions submitted after Bid Due Date shall not be considered. Owner reserves right to approve or reject substitutions based on Specification requirements and intended use.

1.30 SUBSTITUTIONS

- A. Waste & Renewables Project Manager shall consider requests for Substitutions only up to eleven (11) business days prior to date of Bid Due Date.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Construction Documents.
- C. Submit three (3) copies of requests for Substitution for consideration. Limit each request to one (1) proposed Substitution.
- D. Substitutions shall not change contract price established at Bid Due Date.

1.31 STARTING SYSTEMS

- A. Provide written notification prior to start-up of each equipment item or system.
- B. Ensure that each piece of equipment or system is ready for operation.
- C. Execute start-up under supervision of responsible persons in accordance with manufacturers' instructions.
- D. Submit written report that equipment or system has been properly installed and is functioning correctly.

1.32 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's personnel prior to date of final inspection.
- B. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at agreed-upon times, at designated location.
- C. Owner may choose to photograph or videotape demonstration session; demonstration and demonstrator shall be to level of satisfaction of Owner.

1.33 CONTRACT CLOSEOUT PROCEDURES

- A. Submit written certification that Construction Documents have been reviewed, the Work has been inspected, and the Work is complete in accordance with Construction Documents and ready for Waste & Renewables Project Manager's inspection.
- B. Submit final Application for Payment identifying total adjusted Contract Sum / Price, previous payments, and amount remaining due.

1.34 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view.
- C. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.35 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.36 OPERATION AND MAINTENANCE MANUAL

- A. Provide two (2) bound, hard-copy operation and maintenance manuals that include all systems, materials, products, equipment, mechanical and electrical equipment and systems supplied and installed in the Work. Provide electronic version of operation and maintenance manual also.

1.37 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide Products, spare parts, maintenance and extra materials in quantities specified in individual Specification Sections.
- B. Deliver to the Work site and place in location as directed.

1.38 AS-BUILT AND RECORD DRAWINGS AND SPECIFICATIONS

- A. Contractor-produced Drawings and Specifications shall remain property of Contractor whether Project for which they are made is executed or not. Contractor shall furnish Waste & Renewables Project Manager with original marked up redlines of Construction Documents' drawings and specifications that shall include all Addendums, Change Orders, Construction Bulletins, on-site changes, field corrections, etc. These are project As-Built Drawings & Specifications.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT, DISPOSAL & RECYCLING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Summary
 - 2. Waste Management Goals
 - 3. Construction and / or Demolition Waste Management
 - 4. Waste Management Plan
 - 5. Reuse
 - 6. Recycling
 - 7. Materials Sorting and Storage On Site
 - 8. Lists of Recycling Facilities Processors and Haulers
 - 9. Waste Management Plan Form
- B. Related Sections:
 - 1. Section 01 00 00 - General Requirements

1.2 WASTE MANAGEMENT GOALS

- A. Dane County requires that as many waste materials as possible produced as result of this project be salvaged, reused or recycled in order to minimize impact of construction waste on landfills and to minimize expenditure of energy and cost in fabricating new materials. Additional information may be found in Dane County Green Building Policy, Resolution 299, 1999-2000.

1.3 CONSTRUCTION AND / OR DEMOLITION WASTE MANAGEMENT

- A. All construction and demolition waste suitable for recycling must go to Dane County Construction & Demolition Recycling Facility located at 7102 US Hwy 12, Madison, located across from Yahara Hills Golf Course. This facility can receive mixed loads of construction and demolition waste. For complete list of acceptable materials see www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.
- B. Dane County Landfill, also at 7102 US Hwy 12, Madison, must receive all other waste from this project. www.countyofdane.com/pwht/recycle/landfill.aspx.

1.4 WASTE MANAGEMENT PLAN

- A. Contractor shall develop Waste Management Plan (WMP) for this project. Dane County's Special Projects & Materials Manager may be contacted with questions. Outlined in RECYCLING section of this specification are examples of materials that can be recycled or reused as well as recommendations for waste sorting methods.
- B. Contractor shall complete WMP and include cost of recycling / reuse in Bid. WMP will be submitted to Public Works Project Manager within fifteen 15

business days of Bid Due date. Copy of blank WMP form is in this Section. Submittal shall include cover letter and WMP form with:

1. Information on:
 - a. Types of waste materials produced as result of work performed on site;
 - b. Estimated quantities of waste produced;
 - c. Identification of materials with potential to be recycled or reused;
 - d. How materials will be recycled or reused;
 - e. On-site storage and separation requirements (on site containers);
 - f. Transportation methods; and
 - g. Destinations.

1.5 REUSE

- A. Contractors and subcontractors are encouraged to reuse as many waste materials as possible. Salvage should be investigated for materials not reusable on site.

1.6 RECYCLING

- A. These materials must be recycled at Dane County Construction & Demolition Recycling Facility:
 1. Wood.
 2. Wood Pallets.
 3. PVC Plastic (pipe, siding, etc.).
 4. Asphalt & Concrete.
 5. Bricks & Masonry.
 6. Vinyl Siding.
 7. Cardboard.
 8. Metal.
 9. Unpainted Gypsum Drywall.
 10. Shingles.
- B. These materials can be recycled elsewhere in Dane County area:
 1. Fluorescent Lamps.
 2. Foam Insulation & Packaging (extruded and expanded).
 3. Carpet Padding.
 4. Barrels & Drums.
- C. All materials must be recycled at WDNR permitted waste processing facilities that adhere to all State Statutes.

1.7 MATERIALS SORTING AND STORAGE ON SITE

- A. Contractor shall provide separate containers for recyclable materials. Number of containers will be dependent upon project and site conditions.
- B. Contractor shall provide on-site locations for subcontractors supplied recycling containers to help facilitate recycling.
- C. Mixed loads of recycled materials are allowed only per instructions at www.countyofdane.com/pwht/recycle/CD_Recycle.aspx.

1.8 LISTS OF RECYCLING FACILITIES PROCESSORS AND HAULERS

- A. Refer to www.countyofdane.com/pwht/recycle/CD_Recycle.aspx for information on Dane County Construction & Demolition Recycling Facility.
- B. Web site www.countyofdane.com/pwht/recycle/categories.aspx lists current information for Dane County Recycling Markets. Contractors can also contact Allison Rathsack at 608/266-4990, or local city, village, town recycling staff listed at site www.countyofdane.com/pwht/recycle/contacts.aspx. Statewide listings of recycling / reuse markets are available from UW Extension at <https://www.uwgb.edu/shwec/>.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

WASTE MANAGEMENT PLAN FORM



Contractor Name: _____

Address: _____

Phone No.: _____ Recycling Coordinator: _____

MATERIAL	ESTIMATED QUANTITY	DISPOSAL METHOD (CHECK ONE)	RECYCLING / REUSE COMPANY OR DISPOSAL SITE
Salvaged & reused building materials	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Wood	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Wood Pallets	_____ units	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
PVC Plastic	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Asphalt & Concrete	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Bricks & Masonry	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Vinyl Siding	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Cardboard	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Metals	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Unpainted Gypsum / Drywall	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Shingles	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Fluorescent Lamps	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Foam Insulation	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Carpet Padding	_____ cu. ft. _____ lbs.	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Barrels & Drums	_____ units	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____
Glass	_____ cu. yds. _____ tons	____ Recycled ____ Reused ____ Landfilled ____ Other	Name: _____

WASTE MANAGEMENT PLAN FORM

Other	_____	<input type="checkbox"/> Recycled <input type="checkbox"/> Reused <input type="checkbox"/> Landfilled <input type="checkbox"/> Other	Name: _____
Other	_____	<input type="checkbox"/> Recycled <input type="checkbox"/> Reused <input type="checkbox"/> Landfilled <input type="checkbox"/> Other	Name: _____
Other	_____	<input type="checkbox"/> Recycled <input type="checkbox"/> Reused <input type="checkbox"/> Landfilled <input type="checkbox"/> Other	Name: _____
Other	_____	<input type="checkbox"/> Recycled <input type="checkbox"/> Reused <input type="checkbox"/> Landfilled <input type="checkbox"/> Other	Name: _____
Other	_____	<input type="checkbox"/> Recycled <input type="checkbox"/> Reused <input type="checkbox"/> Landfilled <input type="checkbox"/> Other	Name: _____

Drawings for Reference Purposes Only

DANE COUNTY WASTE TRANSFER STATION AND HOUSEHOLD HAZARDOUS WASTE FACILITY RODEFELD LANDFILL 7102 US HIGHWAY 12 & 18 MADISON, WISCONSIN



One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax

www.graef-usa.com

CIVIL

- C200 DEMOLITION AND EROSION CONTROL PLAN
- C300 SITE AND LANDSCAPE PLAN
- C400 GRADING PLAN
- C500 UTILITY PLAN
- C700 JOINTING PLAN
- C900 EROSION CONTROL DETAILS
- C901 PAVING DETAILS
- C902 UTILITY DETAILS
- C903 SITE DETAILS

ARCHITECTURAL

- A101 HHW FIRST FLOOR PLAN / WTS LOWER LEVEL PLAN
- A102 HHW MEZZANINE PLAN / WTS UPPER LEVEL PLAN
- A103 HHW FIRST FLOOR EQUIPMENT PLAN - FOR REFERENCE ONLY
- A121 ROOF PLAN
- A300 BUILDING ELEVATIONS
- A301 BUILDING ELEVATIONS
- A400 BUILDING SECTIONS
- A401 BUILDING SECTIONS
- A501 ENLARGED PARTIAL PLAN AND DETAILS
- A600 DOOR SCHEDULE AND DOOR, WINDOW AND FRAME ELEVATIONS

STRUCTURAL

- S000 GENERAL NOTES
- S100 FOUNDATION PLAN
- S101 STRUCTURAL UPPER LEVEL PLAN
- S500 DETAILS
- S501 DETAILS
- S502 DETAILS

MECHANICAL

- M000 MECHANICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX
- M201 HHW FIRST FLOOR / WTS LOWER LEVEL HVAC PLAN
- M202 HHW MEZZANINE / WTS UPPER LEVEL HVAC PLAN
- M203 GENERATOR BUILDING HVAC PLANS
- M800 MECHANICAL DETAILS
- M801 MECHANICAL DETAILS
- M900 MECHANICAL SCHEDULES

ELECTRICAL

- E000 ELECTRICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX
- E001 SITE ELECTRICAL PLAN, LIGHTING FIXTURE SCHEDULE, AND DETAILS
- E002 SITE PHOTOMETRIC PLAN
- E101 HHW FIRST FLOOR / WTS LOWER LEVEL ELECTRICAL PLAN
- E102 HHW MEZZANINE / WTS UPPER LEVEL ELECTRICAL PLAN
- E103 HHW / WTS GROUNDING SYSTEM ELECTRICAL PLAN
- E201 HHW FIRST FLOOR / WTS LOWER LEVEL SYSTEM PLAN
- E202 HHW MEZZANINE / WTS UPPER LEVEL SYSTEM PLAN
- E401 ELECTRICAL SCHEDULES
- E402 ELECTRICAL SCHEDULES & ONE-LINE DIAGRAMS
- E500 ELECTRICAL DETAILS

PLUMBING

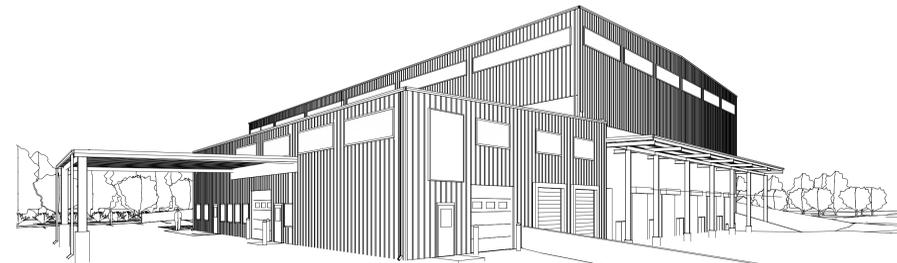
- P000 PLUMBING SYMBOLS, ABBREVIATIONS & SCHEDULES
- P100 HHW FIRST/ WTS LOWER LEVEL BELOW SLAB PLUMBING PLAN
- P101 HHW FIRST/ WTS LOWER LEVEL PLUMBING PLAN
- P102 HHW MEZZANINE / WTS UPPER LEVEL PLUMBING PLAN
- P300 PLUMBING ISOMETRICS
- P500 PLUMBING DETAILS

FIRE PROTECTION

- FP101 HHW FIRST/ WTS LOWER LEVEL FIRE PROTECTION PLAN
- FP102 HHW MEZZANINE/ WTS UPPER LEVEL FIRE PROTECTION PLAN

SUBMITTALS

BID SET 05-11-2010



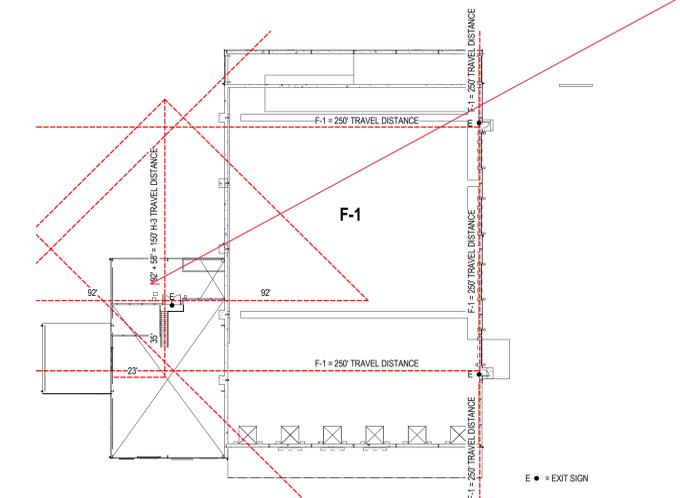
Clean Sweep Boiler to be
Installed in Mezzanine
(Upper) Level of Clean Sweep
(Household Hazardous Waste)
Facility

CONSULTANTS:

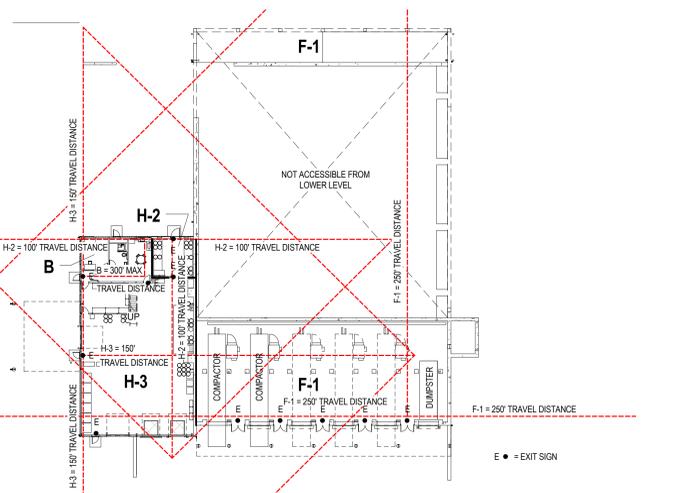
PROJECT TITLE:

DANE COUNTY
WASTE TRANSFER STATION
AND HOUSEHOLD HAZARDOUS
WASTE FACILITY
RODEFELD LANDFILL

ISSUE:



2 Exiting MEZZANINE / UPPER LEVEL EXITING PLAN



1 LOWER LEVEL EXITING PLAN

BUILDING CODE DATA		PER THE IBC 2006 WITH WISCONSIN COMMERCIAL BUILDING CODE MODIFICATIONS	
FLOOR AREA		MAXIMUM EXITING DISTANCE REQUIRED:	
UPPER LEVEL:	19,333 GSF	F-1 EXITING DISTANCE:	250 FEET
LOWER LEVEL:	12,670 GSF	B EXITING DISTANCE:	300 FEET
OCCUPANCY: MIXED USE OCCUPANCY		H-2 EXITING DISTANCE:	100 FEET
F-1: FACTORY INDUSTRIAL		H-3 EXITING DISTANCE:	150 FEET
B: BUSINESS		MAXIMUM EXITING DISTANCE PROVIDED:	
H-2: HAZARDOUS - SOLVENT BULKING		LESS THAN REQUIRED, REFER TO EXITING PLAN VIEWS 1/1000 AND 2/1000	
H-3: HAZARDOUS		AGGREGATE EXIT WIDTH REQUIRED:	
CLASSIFICATION OF CONSTRUCTION:		PROVIDED:	
TYPE II B		F-1 EXIT WIDTH: OCC x 0.15 = 38.9' REQUIRED,	406.0' PROVIDED
SPRINKLER SYSTEM:		B EXIT WIDTH: OCC x 0.15 = 0.9' REQUIRED,	34.0' PROVIDED
BUILDING IS COMPLETELY SPRINKLERED		H-2 EXIT WIDTH: OCC x 0.2 = 0.6' REQUIRED,	46.0' PROVIDED
FIRE RESISTANCE RATING REQUIREMENTS:		H-3 EXIT WIDTH: OCC x 0.2 = 7.2' REQUIRED,	102.0' PROVIDED
FRAME:	0 HOUR	H-3 STAIR WIDTH: OCC x 0.3 = 2.1' REQUIRED,	36.0' PROVIDED
EXTERIOR WALLS:	0 HOUR	AGGREGATE EXIT WIDTH PROVIDED:	
INTERIOR WALLS:	2 HOUR BETWEEN B F-1 AND H2 1 HOUR BETWEEN B F-1 AND H3 2 HOUR BETWEEN B F-1 AND H2 1 HOUR BETWEEN B F-1 AND H3	TOTAL AGGREGATE WIDTH FOR WHOLE BUILDING = 626.0' PROVIDED	
FLOORS:	0 HOUR	SANITARY REQUIREMENTS:	
ROOF:	0 HOUR	PER 2002.2 EXCEPTION #2, SEPARATE FACILITIES SHALL NOT BE REQUIRED IN STRUCTURES OR TENANT SPACES WITH A TOTAL OCCUPANT LOAD, INCLUDING BOTH EMPLOYEES AND CUSTOMERS, OF 15 OR LESS.	
NUMBER OF OCCUPANTS - RELATED TO PROJECT:		SANITARY FIXTURES PROVIDED:	
USE	GROSS AREA	SQ. FT. / OCCUPANT	OCCUPANTS
F-1	27,226	100 GROSS	273
B	681	100 GROSS	7
H-2	389	100 GROSS	4
H-3	3,727	100 GROSS	38
TOTAL OCCUPANTS BY AREA CALCULATION:		MAX: 322	
ACTUAL OCCUPANT TOTAL:		MAX: 15	



LOCATION MAP

PROJECT INFORMATION:

PROJECT NUMBER: 2009-0328.00
DATE: 05-11-2010
DRAWN BY: JMR
CHECKED BY: SEB
APPROVED BY: JHK
SCALE: AS NOTED

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T000

GENERAL NOTES

1. BASE SURVEY WAS PREPARED BY QUAM ENGINEERING, SEPTEMBER 2009. UNDERGROUND UTILITIES HAVE BEEN SHOWN TO A REASONABLE DEGREE OF ACCURACY AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION.

2. ALL DIMENSIONS AND RADII ARE TO EDGE OF PAVEMENT OR FACE OF CURB WHERE CURB IS SHOWN.

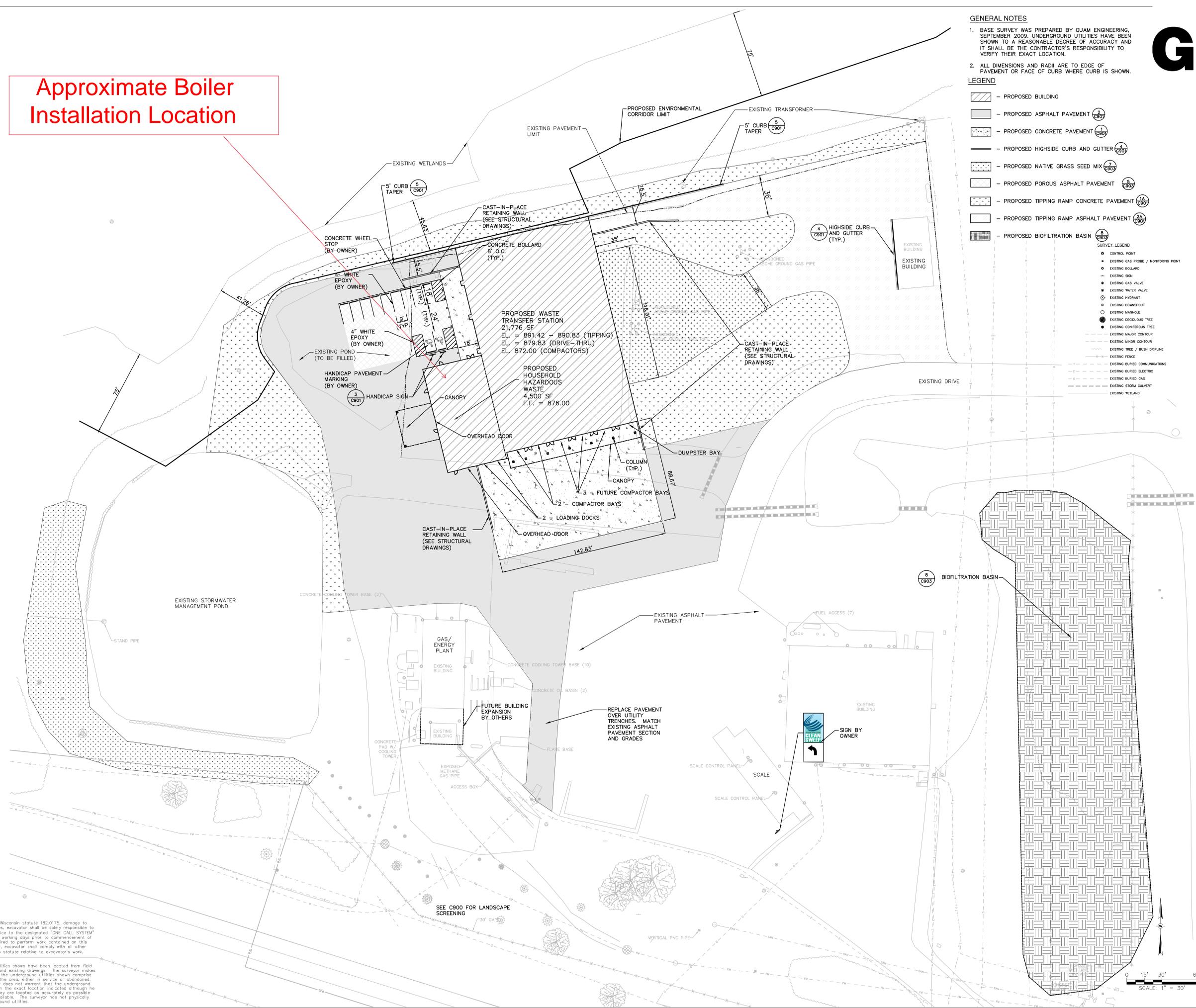
LEGEND

- PROPOSED BUILDING
- PROPOSED ASPHALT PAVEMENT (C907)
- PROPOSED CONCRETE PAVEMENT (C907)
- PROPOSED HIGHSIDE CURB AND GUTTER (C907)
- PROPOSED NATIVE GRASS SEED MIX (C907)
- PROPOSED POROUS ASPHALT PAVEMENT (C907)
- PROPOSED TIPPING RAMP CONCRETE PAVEMENT (1A C907)
- PROPOSED TIPPING RAMP ASPHALT PAVEMENT (2A C907)
- PROPOSED BIOFILTRATION BASIN (C907)

SURVEY LEGEND

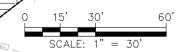
- CONTROL POINT
- EXISTING GAS PROBE / MONITORING POINT
- EXISTING BOLLARD
- EXISTING SIGN
- EXISTING GAS VALVE
- EXISTING WATER VALVE
- EXISTING HYDRANT
- EXISTING DOWNSPOUT
- EXISTING MANHOLE
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING TREE / BUSH DRIFLINE
- EXISTING FENCE
- EXISTING BURIED COMMUNICATIONS
- EXISTING BURIED ELECTRIC
- EXISTING BURIED GAS
- EXISTING STORM CULVERT
- EXISTING WETLAND

Approximate Boiler Installation Location



NOTICE:
In accordance with Wisconsin statute 182.0175, damage to transmission facilities, excavator shall be solely responsible to provide advance notice to the designated "ONE CALL SYSTEM" not less than three working days prior to commencement of any excavation required to perform work contained on this drawing, and further, excavator shall comply with all other requirements of this statute relative to excavator's work.

DISCLAIMER:
The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.



ELECTRICAL SYMBOLS AND ABBREVIATIONS

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN DRAWINGS AND MAY NOT APPLY TO CURRENT PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED ON DRAWINGS.

ELECTRICAL ABBREVIATIONS

1P - ONE POLE	KVAR - KILOVOLT AMPERE REACTIVE
2P - TWO POLE	KW - KILOWATT
3P - THREE POLE	LP - LIGHTING PANEL
4P - FOUR POLE	LS - LIMIT SWITCH
1P,1W - ONE POLE, ONE WIRE	LTG - LIGHTING
1P,2W - ONE POLE, TWO WIRE	LV - LOW VOLTAGE
2P,2W - TWO POLE, TWO WIRE	MC - MECHANICAL CONTRACTOR
2P,3W - TWO POLE, THREE WIRE	MCC - MOTOR CONTROL CENTER
3P,2W - THREE POLE, TWO WIRE	MCP - MAIN DISTRIBUTION PANEL
3P,3W - THREE POLE, THREE WIRE	MISC - MISCELLANEOUS
4P,4W - FOUR POLE, FOUR WIRE	MH - MANHOLE
A - AMPERE	MLO - MAIN LUGS ONLY
AC - ALTERNATING CURRENT	MTD - MOUNTED
AF - AMPERE FRAME	MTG - MOUNTING
AFB - ABOVE FINISHED FLOOR	MTS - MANUAL TRANSFER SWITCH
AFG - ABOVE FINISHED GRADE	N/A - NOT APPLICABLE
AIC - AMPERE INTERRUPTING CAPACITY	NC - NORMALLY CLOSED
AL - ALUMINUM	NEC - NATIONAL ELECTRIC CODE
AS - AMP SWITCH	NIC - NOT IN CONTRACT
AT - AMP TRIP	NO - NORMALLY OPEN
ARCH - ARCHITECT	# - NUMBER
ATS - AUTOMATIC TRANSFER SWITCH	NTS - NOT TO SCALE
A/V - AUDIO VISUAL	P - POLE
B - FEDESTAL MOUNTED ON BENCH TOP	PB - PULL BOX
BF - BELOW FLOOR	PC - PLUMBING CONTRACTOR
BFF - BELOW FINISHED FLOOR	PH - PHASE
BFG - BELOW FINISHED GRADE	PNL - PANEL OR PANELBOARD
BLDG - BUILDING	PP - POWER PANEL
C - CONDUIT	PR - PAIR
CAT - CATALOG	PRI - PRIMARY
CATV - CABLE TELEVISION	PVC - POLYVINYL CHLORIDE
CB - CIRCUIT BREAKER	REC - RECESSED
CKT - CIRCUIT	RSC - RIGID STEEL CONDUIT
CLG - CEILING MOUNTED	SC - SECURITY CONTRACTOR
CT - CURRENT TRANSFORMER	SEC - SECONDARY
CJ - COPPER	SN - SOLID NEUTRAL
CL - CENTERLINE	SS - STAINLESS STEEL
D - DEDICATED DEVICE	ST - SHUNT TRIP
DC - DIRECT CURRENT	STP - SHIELDED TWISTED PAIR
Δ - DELTA	SUSP - SUSPENDED
DISC - DISCONNECT	SW - SWITCH
DWG - DRAWING	SWBD - SWITCHBOARD
E - EMERGENCY	T - TAMPER RESISTANT SAFETY RECEPTACLE
EBU - EMERGENCY BATTERY UNIT	TC - TELEPHONE CABINET
EC - ELECTRICAL CONTRACTOR	TCI - TELECOMMUNICATIONS CABLING INSTALLER
EMT - ELECTRIC METALLIC TUBING	TELE - TELEPHONE
ETR - EXISTING TO REMAIN	TELECOM - TELECOMMUNICATIONS
EWC - ELECTRIC WATER COOLER	TP - TWISTED PAIR
EX - EXISTING	TRYP - TYPICAL
FA - FIRE ALARM	UG - UNDERGROUND
FLA - FULL LOAD AMPS	UTG - UNSHELD TWISTED PAIR
FO - FIBER OPTIC	V - UNLESS OTHERWISE INDICATED
FP - FIRE PROTECTION CONTRACTOR	W - WYE
GC - GENERAL CONTRACTOR	W - WATT
GFCI - GROUND FAULT CIRCUIT INTERRUPTER	WP - WEATHERPROOF
GFPE - GROUND FAULT PROTECTION EQUIPMENT	XFM - TRANSFORMER
GND - GROUND	ZAM - ZONE ADAPTER MODULE
GRC - GALVANIZED RIGID CONDUIT	
HH - HANDHOLE	
HP - HORSEPOWER	
HVAC - HEATING, VENTILATING, AND AIR CONDITIONING	
HZ - HERTZ (CYCLE) PER SECOND	
JB - JUNCTION BOX	
KVA - KILOVOLT AMPERE	

GENERAL SYMBOLS

	DETAIL REFERENCE - TOP DESIGNATES DETAIL NUMBER - BOTTOM DESIGNATES SHEET NUMBER
	EQUIPMENT REFERENCE - TOP DESIGNATES EQUIPMENT TYPE (LP) LIGHTING PANEL (MCP) MAIN DISTRIBUTION PANEL (MSB) MAIN SWITCHBOARD PANEL (PP) POWER PANEL (RC) RELAY CABINET (RFP) RECEPTACLE PANEL (T) TRANSFORMER - BOTTOM DESIGNATES EQUIPMENT ID
	DETAIL COVERAGE AREA
	BUSWAY REFERENCE - TOP DESIGNATES TYPE - BOTTOM DESIGNATES RATING

CONDUCTORS AND WIRING

	OVERHEAD POWER CONDUCTOR		OVERHEAD FIBER OPTIC CABLE
	UNDERGROUND POWER CONDUCTOR OR DUCTBANK		UNDERGROUND FIBER OPTIC CABLE
	OVERHEAD LIGHTING CONDUCTOR		UNDERGROUND OR UNDERFLOOR CONDUIT OR DUCTBANK
	UNDERGROUND LIGHTING CONDUCTOR		SURFACE OR SUSPENDED MOUNTED CONDUIT
	OVERHEAD TELECOMMUNICATIONS CABLE		LIGHTNING PROTECTION / GROUNDING CABLE
	UNDERGROUND TELECOMMUNICATIONS CABLE OR DUCTBANK		

LINETYPE LEGEND

	ITEMS SHOWN ON PLANS AS THIN, SOLID BLACK LINE ARE EXISTING TO REMAIN
	ITEMS SHOWN ON DEMOLITION PLANS AS THICK, SOLID BLACK LINE ARE EXISTING TO BE DEMOLISHED
	ITEMS SHOWN ON PROPOSED PLANS AS THICK, SOLID BLACK LINE ARE NEW
	ITEMS SHOWN ON PLANS AS THICK, DASHED BLACK LINE ARE FUTURE

LIGHTING FIXTURES

	SURFACE MOUNTED		SURFACE MOUNTED ACCENT - CHEVRON INDICATES DIRECTION OF ILLUMINATION
	RECESS MOUNTED		RECESS MOUNTED ACCENT - CHEVRON INDICATES DIRECTION OF ILLUMINATION
	WALL MOUNTED		EMERGENCY BATTERY UNIT - DUAL LIGHTING HEADS
	SUSPENDED, PENDENT, CHAIN, STEM, OR CABLE HUNG		EMERGENCY BATTERY REMOTE - SINGLE LIGHTING HEAD
	POLE MOUNTED WITH ARM		EMERGENCY BATTERY REMOTE - DUAL LIGHTING HEADS
	POST TOP MOUNTED		EXIT LIGHT FIXTURE - CEILING MOUNTED - SHADING INDICATES FACE(S) - ARROWS AND FACE(S) AS INDICATED ON DRAWINGS
	IN-GROUND OR IN-FLOOR MOUNTED		EXIT LIGHT FIXTURE - END MOUNTED - SHADING INDICATES FACE(S) - ARROWS AND FACE(S) AS INDICATED ON DRAWINGS
	SINGLE HEAD SPOT OR FLOOD		EXIT LIGHT FIXTURE - RIGID STEEL CONDUIT - SHADING INDICATES FACE(S) - ARROWS AND FACE(S) AS INDICATED ON DRAWINGS
	DOUBLE HEAD SPOT OR FLOOD		EXIT LIGHT FIXTURE - END MOUNTED - SHADING INDICATES FACE(S) - ARROWS AND FACE(S) AS INDICATED ON DRAWINGS
	STRIP OR UNDER CABINET		EXIT LIGHT FIXTURE - END MOUNTED - SHADING INDICATES FACE(S) - ARROWS AND FACE(S) AS INDICATED ON DRAWINGS
	LIGHTING TRACK - LENGTH AS INDICATED ON DRAWINGS - NUMBER AND DIRECTION OF FIXTURES AS INDICATED ON DRAWINGS AND / OR SCHEDULE		

LIGHTING FIXTURE DESIGNATIONS

	SHADING INDICATES FIXTURE FULLY WIRED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT		CONTRACTOR DESIGNATION (SEE SCHEDULE)
	PARTIAL SHADING INDICATES FIXTURE PARTIALLY WIRED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT		DIMMER CHANNEL CABINET DESIGNATION CONTROLLED VIA ELECTRONIC DIMMING SYSTEM
	LIGHT FIXTURE DESIGNATION - (A) INDICATES FIXTURE TYPE (SEE SCHEDULE) - (1) INDICATES CIRCUIT NUMBER - (2) INDICATES CONTROL DESIGNATION (IF NOT INDICATED, CONTROLLED VIA SWITCH AT ROOM ENTRY)		SPECIFIC DEVICE DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT OCCUPANCY SENSOR CONTROLLED
			RELAY DESIGNATION CONTROLLING CIRCUIT OR PORTION OF CIRCUIT
			LOW VOLTAGE RELAY CONTROLLED VIA RELAY CABINET
			TIME CLOCK DESIGNATION (SEE SCHEDULE) TIME CLOCK CONTROLLED

LIGHTING CONTROL

	SWITCH - MOUNTED 3'-6" AFF. UOI - (A) INDICATES SWITCH DESIGNATION - (B) INDICATES SWITCH TYPE: (1) TWO POLE (2) THREE WAY (3) FOUR WAY (4) DUAL LEVEL SWITCH (5) KEY OPERATED (P) WITH PILOT LIGHT		SWITCH STATION - LOW VOLTAGE - (A) INDICATES STATION IDENTIFIER: (1) FOR (4) OR MORE SWITCHES AT SINGLE LOCATION (SEE SCHEDULE) (2) FOR (3) OR FEWER SWITCHES AT SINGLE LOCATION WITH SINGLE RELAYS OR PARTITIONS OF CIRCUIT BEING CONTROLLED (3) FOR SINGLE SWITCH CONTROLLING SINGLE RELAY (4) FOR SINGLE SWITCH CONTROLLING MULTIPLE CIRCUITS		OCCUPANCY SENSOR - CEILING MOUNTED - (X) INDICATES TYPE (SEE SCHEDULE) - CHEVRONS INDICATE SENSING DIRECTION(S)
	OCCUPANCY SENSOR - WALL MOUNTED 3'-6" AFF. UOI - (X) INDICATES TYPE (SEE SCHEDULE)		PHOTOCELL - (X) INDICATES TYPE (SEE SCHEDULE)		

EQUIPMENT AND PANELBOARDS

	TRANSFORMER - MOUNTED ON 4" CONCRETE PAD, UOI - (X) INDICATES MOUNTING TYPE: (W) WALL (S) SURFACE		CURRENT TRANSFORMER CABINET		POWER POLE - (X) INDICATES CIRCUIT - DEVICES AS INDICATED ON DRAWINGS AND / OR IN SPECIFICATION
	TRANSFORMER - PAD MOUNTED		METER		TELECOMMUNICATIONS / POWER POLE - DEVICES AS INDICATED ON DRAWINGS AND / OR IN SPECIFICATION
			PANELBOARD - RECESSED MOUNTED - (SEE SCHEDULE)		PANELBOARD - SURFACE MOUNTED - (SEE SCHEDULE)

MOTOR STARTERS AND DISCONNECTS

	MOTOR STARTER - MANUAL		DISCONNECT SWITCH - (X) INDICATES MOTOR FED BY SWITCH		EMERGENCY POWER SHUNT TRIP
	MOTOR STARTER - MAGNETIC		DISCONNECT SWITCH - FUSED - (X) INDICATES MOTOR FED BY SWITCH		PUSHBUTTON DISCONNECT
	COMBINATION MOTOR STARTER - (X) INDICATES MOTOR STARTER CONTROLLED (SEE SCHEDULE)				

WIRING DEVICES

	DUPLEX RECEPTACLE - MOUNTED 1'-6" AFF. UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS) - (Y) INDICATES TYPE: (D) DEDICATED (DD) DOUBLE DUPLEX (GFCI) GROUND FAULT CIRCUIT INTERRUPTING (W/P) WEATHERPROOF		DUPLEX RECEPTACLE - TOP HALF SWITCHED - MOUNTED 1'-6" AFF. UOI - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS)		SPECIAL PURPOSE OUTLET - (X) INDICATES DEVICE IDENTIFICATION (SEE SCHEDULE)
	DUPLEX RECEPTACLE - MOUNTED 6" ABOVE COUNTER BACKSPLASH - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS)		DUPLEX RECEPTACLE - MOUNTED FLUSH IN CEILING - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS)		SPECIAL POWER RECEPTACLE - (X) INDICATES NEMA CONFIGURATION AND CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS)
			DUPLEX RECEPTACLE - MOUNTED FLUSH IN CEILING - (X) INDICATES CIRCUIT NUMBER (PANEL BOUNDS AS INDICATED ON DRAWINGS)		MOTOR CONNECTION - (X) INDICATES MOTOR IDENTIFICATION (SEE SCHEDULE)

FIRE ALARM

	ANNUNCIATOR PANEL		SMOKE DETECTOR - PHOTOELECTRIC - INTELLIGENT (E) INDICATES ELEVATOR RECALL OPTION		FIRE ALARM STROBE - WALL MOUNTED 6'-8" AFF OR 8" BELOW CEILING, WHICHEVER IS LOWER - (X) INDICATES STROBE CANDELA RATING
	CONTROL PANEL		HEAT DETECTOR - INTELLIGENT (E) INDICATES ELEVATOR SHUTDOWN OPTION		FIRE ALARM HORN - CEILING MOUNTED - (X) INDICATES STROBE CANDELA RATING
	CONTROL MODULE - ADDRESSABLE		SMOKE DETECTOR - DUCT - PHOTOELECTRIC - INTELLIGENT - LINE INDICATES SENSING DIRECTION		FIRE ALARM HORN / STROBE - WALL MOUNTED 6'-8" AFF OR 8" BELOW CEILING, WHICHEVER IS LOWER - (X) INDICATES HORN DECIBEL RATING
	MONITOR MODULE - ADDRESSABLE		SPRINKLER FLOW SWITCH		FIRE ALARM HORN / STROBE - CEILING MOUNTED - (X) INDICATES HORN DECIBEL RATING
	PULL STATION - MOUNTED 4'-7" AFF		SPRINKLER TAMPER SWITCH		FIRE ALARM HORN / STROBE - CEILING MOUNTED - (X) INDICATES HORN DECIBEL RATING
			SMOKE DAMPER		

TELECOMMUNICATIONS

	TELEPHONE OUTLET - WALL MOUNTED		DATA OUTLET		TELECOMMUNICATIONS POLE - DEVICES AS INDICATED ON DRAWINGS AND / OR SPECIFICATION
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PUBLIC ADDRESS AND MUSIC

	MICROPHONE OUTLET - FLOOR MOUNTED		MASTER INTERCOM AND DIRECTORY UNIT		SPEAKER - CEILING MOUNTED
	MICROPHONE OUTLET - WALL MOUNTED		VOLUME CONTROL		SPEAKER - BIDIRECTIONAL PAGING - WALL MOUNTED
	INTERCOM UNIT - FLUSH MOUNTED		SPEAKER - WALL MOUNTED		SPEAKER - BIDIRECTIONAL PAGING - CEILING MOUNTED

SECURITY AND ACCESS CONTROL

	CCTV CAMERA - STATIONARY - (X) INDICATES TYPE: (WP) WEATHER PROOF (VP) VANDAL PROOF		DOOR BELL		KEY SWITCH STATION
	CCTV CAMERA - PAN-TILT-ZOOM - (X) INDICATES TYPE: (WP) WEATHER PROOF (VP) VANDAL PROOF		DOOR BUZZER		SECURITY CARD READER - (X) INDICATES TYPE: (WP) WEATHER PROOF (VP) VANDAL PROOF
	CCTV CAMERA - COAXIAL CABLE OUTLET		DOOR CHIME		MOTION DETECTOR
	CCTV CAMERA - MONITOR OUTLET		DOOR CONTACT		SECURITY CONTROL PANEL
	DIGITAL VIDEO RECORDER OUTLET		DOOR LOCK - MAGNETIC		
			DOOR OPENER - ELECTRIC		
			DOOR STRIKE - ELECTRIC		

GROUNDING AND LIGHTNING PROTECTION

	AIR TERMINAL - ROOF CENTER		GROUND PLATE ELECTRODE		GROUND CONNECTION TO STRUCTURAL STEEL
	AIR TERMINAL - ROOF PERIMETER		GROUND ROD		EXOTHERMIC CONNECTION - WELD OR BOLTED AS INDICATED ON DRAWINGS
	DOWN CONDUCTOR		GROUND TEST STATION		GROUND CONDUCTOR SPARE COIL

ONE LINE DIAGRAM

	DISCONNECT SWITCH - NON-FUSED - (XA) INDICATES RATING - SIZE AS INDICATED ON DRAWINGS		CIRCUIT BREAKER - (XA) INDICATES TRIP SIZE - (XP) INDICATES NUMBER OF POLES		TRANSFORMER - DRY TYPE UOI - (XXX) INDICATES EQUIPMENT IDENTIFICATION (XXXXA) INDICATES RATING (XXXXV, XPH, XIV PRI) (XXXXY, XXXV, XPH, XIV SEC) (XXXXV, XPH, XIV PRI) (XXXXY, XXXV, XPH, XIV SEC)
	DISCONNECT SWITCH - FUSED - (XAF) INDICATES FRAME SIZE - (XAT) INDICATES TRIP SIZE - SIZE AS INDICATED ON DRAWINGS		MOTOR OPERATOR FOR CIRCUIT BREAKERS OR SWITCHES		GROUND FAULT CIRCUIT INTERRUPTER - PERSONAL PROTECTION
	DISCONNECT SWITCH - (XAF) INDICATES FRAME SIZE - (XAT) INDICATES TRIP SIZE - SIZE AS INDICATED ON DRAWINGS		PANELBOARD - TOP DESIGNATES PANELBOARD TYPE - BOTTOM DESIGNATES PANELBOARD ID		GROUND CONNECTION TO SYSTEM AND / OR EQUIPMENT
	VARIABLE FREQUENCY DRIVE - (X) INDICATES MOTOR CONTROLLED				

ELECTRICAL SHEET INDEX

E000	ELECTRICAL SYMBOLS, ABBREVIATIONS, AND SHEET INDEX
E001	SITE ELECTRICAL PLAN, LIGHTING FIXTURE SCHEDULE, AND DETAILS
E002	SITE PHOTOMETRIC PLAN
E101	HHW FIRST FLOOR / WTS LOWER LEVEL ELECTRICAL PLAN
E102	HHW MEZZANINE / WTS UPPER LEVEL ELECTRICAL PLAN
E103	HHW / WTS GROUNDING SYSTEM PLAN
E201	HHW FIRST FLOOR / WTS LOWER LEVEL SYSTEMS PLAN
E202	HHW MEZZANINE / WTS UPPER LEVEL SYSTEMS PLAN
E401	ELECTRICAL SCHEDULES
E402	ELECTRICAL SCHEDULES & ONE-LINE DIAGRAM
E500	ELECTRICAL DETAILS

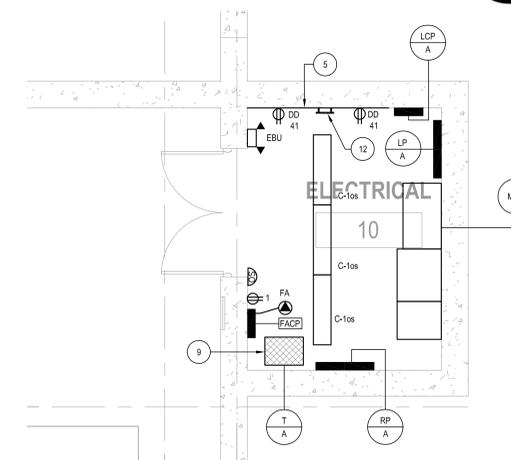
PROJECT INFORMATION:

PROJECT NUMBER:	2009-0328.00
DATE:	05-11-2010
DRAWN BY:	JAH
CHECKED BY:	AAS
APPROVED BY:	JHK
SCALE:	AS NOTED

SHEET TITLE:

ELECTRICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX

SHEET NUMBER:



LARGE SCALE PLAN
ELECTRICAL ROOM

2
E101 1/4"=1'-0"

0 2 4

GENERAL NOTES:

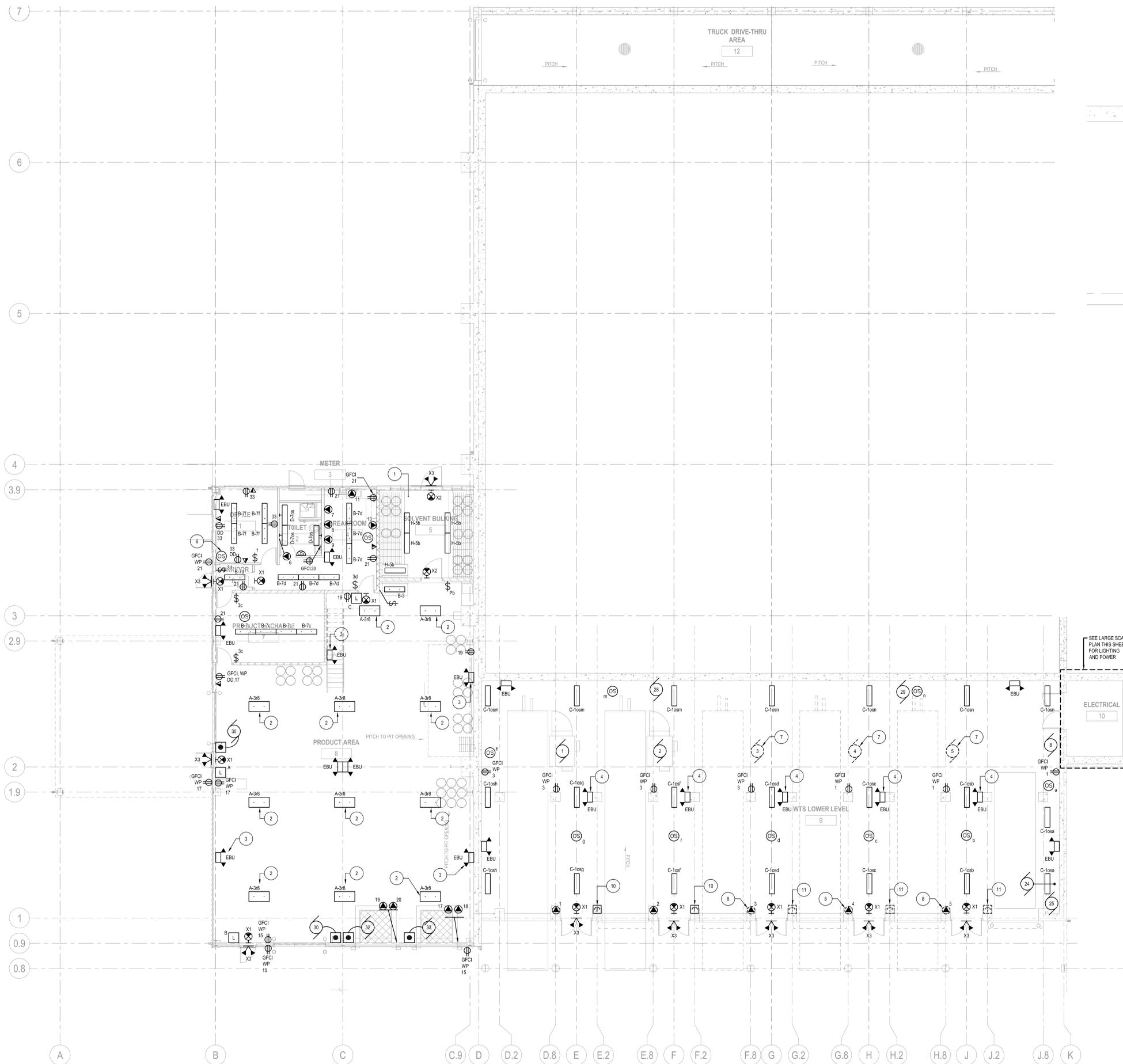
- 1) ALL LIGHTING CIRCUITS TO BE FED FROM LPIA, UOI.
- 2) ALL RECEPTACLE CIRCUITS TO BE FED FROM RPIA, OUI.
- 3) EC TO WIRE EXIT SIGNS AND EMERGENCY BATTERY UNITS TO UNSWITCHED LEG OF CIRCUIT FEEDING LIGHTING IN ROOM.
- 4) FEED REMOTE EMERGENCY LIGHTING UNITS TYPE "X3" FIXTURES FROM NEAREST EXIT SIGN OR EBU.

SHEET NOTES:

- 1) ALL ELECTRICAL DEVICES IN THIS AREA TO BE RATED CLASS 1, DIVISION 1 AND SHALL MEET NEC ARTICLE 511.
- 2) MOUNT LIGHT FIXTURE IN PRODUCT AREA 18'-0" AFF. UOI.
- 3) MOUNT EMERGENCY BATTERY UNIT IN PRODUCT AREA 15'-0" AFF. UOI.
- 4) MOUNT EMERGENCY BATTERY IN WTS AREA UNIT 8'-0" AFF.
- 5) EC TO PROVIDE FIRE RATED TELEPHONE BACKBOARD. SEE DETAIL 9500 FOR FURTHER REQUIREMENTS.
- 6) SEE LIGHTING CONTROL WIRING DIAGRAM DETAIL 1E500, TYPICAL FOR ALL CEILING MOUNTED OCCUPANCY SENSORS.
- 7) FUTURE COMPACTOR MOTOR CONNECTION.
- 8) FUTURE COMPACTOR CONTROL PANEL CONNECTION.
- 9) TRANSFORMER "TK" TO BE MOUNTED ON FLOOR. EC TO PROVIDE CONCRETE PAD.
- 10) EC TO PROVIDE EMERGENCY PUSHBUTTON.
- 11) FUTURE EMERGENCY PUSHBUTTON.
- 12) EC TO PROVIDE GROUND BAR ERICO MODEL: EBG14420 OR APPROVED EQUAL.

SEE LARGE SCALE PLAN THIS SHEET FOR LIGHTING AND POWER

ELECTRICAL 10



1
E101 HHW FIRST FLOOR / WTS LOWER LEVEL ELECTRICAL PLAN
1/8"=1'-0"

0 2 4

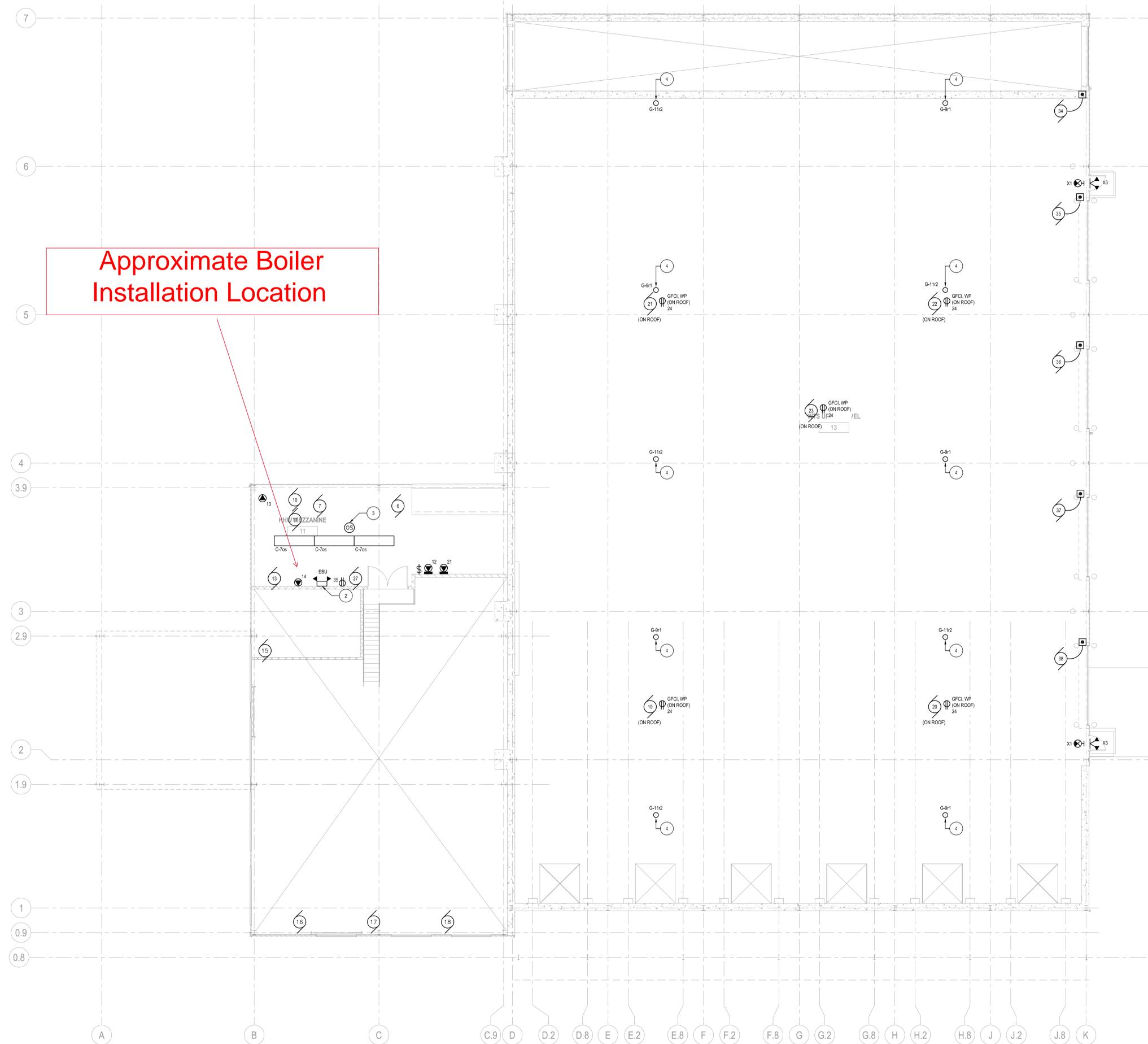
PROJECT INFORMATION:

PROJECT NUMBER: 2009-0328.00
DATE: 05-11-2010
DRAWN BY: TKA
CHECKED BY: AAS
APPROVED BY: JHK
SCALE: AS NOTED

SHEET TITLE:

HHW FIRST FLOOR / WTS LOWER LEVEL ELECTRICAL PLAN

SHEET NUMBER:



Approximate Boiler
Installation Location

GENERAL NOTES:

- 1) ALL LIGHTING CIRCUITS TO BE FED FROM LPA UOI. SEE SHEET E101 FOR PANEL LOCATION.
- 2) ALL RECEPTACLE CIRCUITS TO BE FED FROM RPA. UOI. SEE SHEET E101 FOR PANEL LOCATION.
- 3) EC TO WIRE EXIT SIGNS AND EMERGENCY BATTERY UNITS TO UNSWITCHED LEG OF CIRCUIT FEEDING LIGHTING IN ROOM.
FEED REMOTE EMERGENCY LIGHTING UNITS TYPE 'X3' FIXTURES FROM NEAREST EXIT SIGN OR EBU.

SHEET NOTES:

- 1) MOUNT LIGHT FIXTURE IN PRODUCT AREA 18'-0" AFF. UOI.
- 2) MOUNT EMERGENCY BATTERY UNIT IN HHW MEZZANINE AREA 8'-0" AFF.
- 3) SEE LIGHTING CONTROL WIRING DIAGRAM DETAIL 1.E500.
- 4) MOUNT FIXTURE IN WTS 30'-0" MIN. FROM FINISHED FLOOR TO BOTTOM OF FIXTURE.

PROJECT INFORMATION:

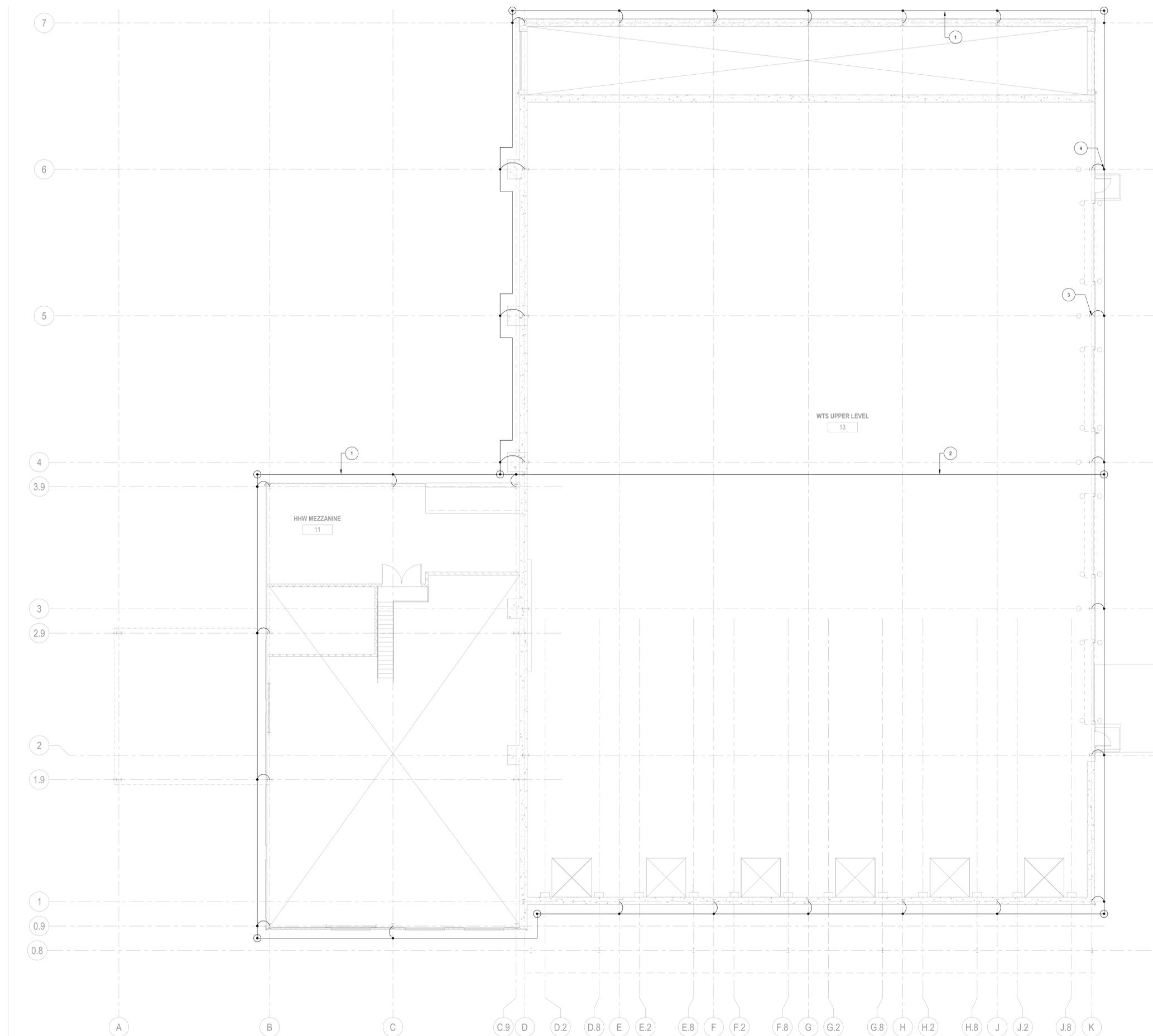
PROJECT NUMBER: 2009-0328.00
 DATE: 05-11-2010
 DRAWN BY: TKA
 CHECKED BY: AAS
 APPROVED BY: JHK
 SCALE: AS NOTED

SHEET TITLE:

HHW MEZZANINE / WTS UPPER
 LEVEL ELECTRICAL PLAN

SHEET NUMBER:

E102



GENERAL NOTES:

- 1) GROUND ELECTRODES SHALL BE INSTALLED AS SHOWN BUT IN NO INSTANCE SHALL THEY BE LESS THAN 1'-0" BELOW GRADE AND 2'-0" FROM FOUNDATION WALL.
- 2) BOUND GROUND RING TO WATER SERVICE AND OTHER PIPING SYSTEMS AS REQUIRED BY CODE.
- 3) ALL GROUND SYSTEM COMPONENTS SHALL BE COPPER.
- 4) CRIMP TYPE CONNECTIONS SHALL NOT BE USED. ALL CONNECTIONS BE VIA EXOTHERMIC WELDS.
- 5) GROUND CONDUCTORS SHALL NOT BE BENT TO FORM AN ANGLE OF LESS THAN 90 DEGREES, OR HAVE AN UNSUPPORTED RADIUS BEND LESS THAN 6 INCHES.

SHEET NOTES:

- 1 MAIN GROUND ELECTRODE RING TO BE #40 BARE COPPER
- 2 #40 BARE COPPER GROUNDING CONDUCTOR BELOW FOUNDATION (TYP.)
- 3 EXOTHERMIC WELD CONNECTION TO STEEL COLUMN (TYP). SEE DETAIL 11E500
- 4 GROUND RING TO COLUMN CONNECTION (TYP.) SEE DETAIL 12E500.

PROJECT INFORMATION:

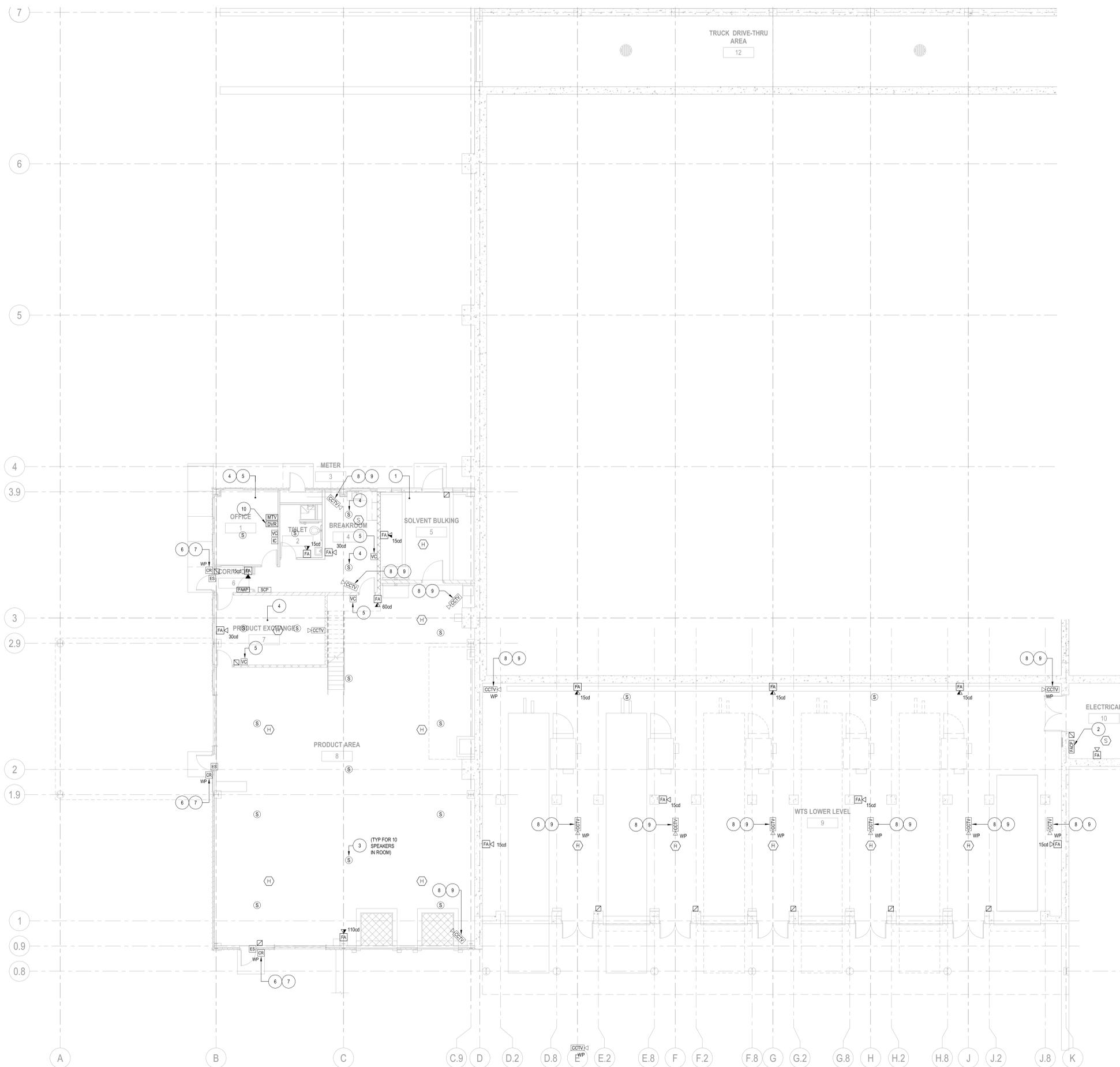
PROJECT NUMBER: 2009-0328.00
 DATE: 05-11-2010
 DRAWN BY: TKA
 CHECKED BY: AAS
 APPROVED BY: JHK
 SCALE: AS NOTED

SHEET TITLE:

HHW / WTS GROUNDING SYSTEM
 ELECTRICAL PLAN

SHEET NUMBER:

E103



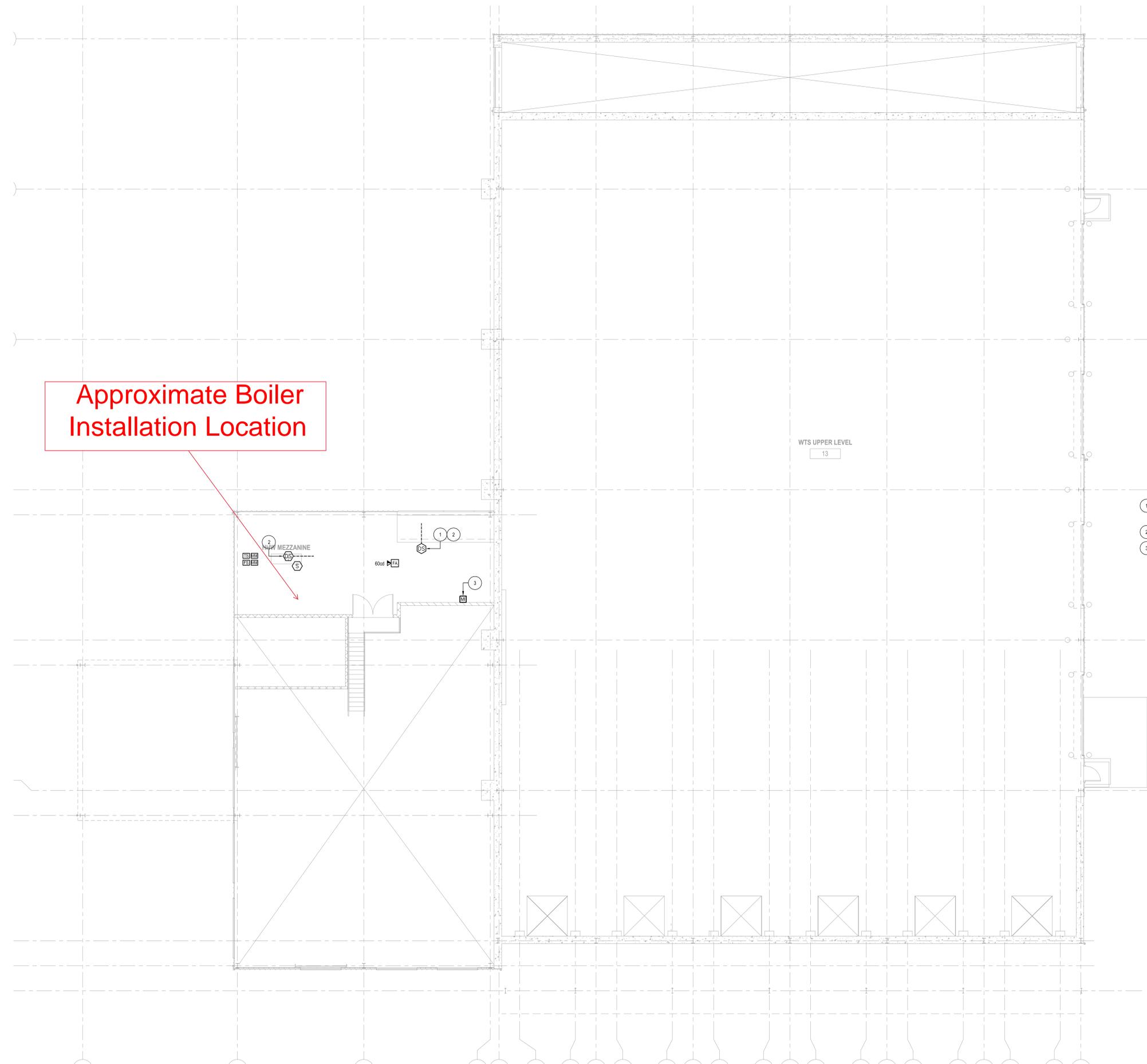
GENERAL NOTES:

- 1) EC TO CONNECT DDC ALARM NOTIFICATION WIRING INTO FIRE ALARM CONTROL PANEL.
- 2) PROVIDE 18 AWG CONDUCTORS FOR PA SPEAKERS.

SHEET NOTES:

- 1 ALL FIRE ALARM DEVICES IN THIS AREA TO BE RATED CLASS I, DIVISION 1 AND SHALL MEET NEC ARTICLE 511. ALL FIRE ALARM DEVICES TO BE INTRINSICALLY SAFE DEVICES.
- 2 SEE FIRE ALARM RISER DIAGRAM DETAIL T/ES00 FOR FURTHER REQUIREMENTS.
- 3 PROVIDE PA SPEAKERS FOR VOICE ANNOUNCEMENTS. PA SPEAKERS TO BE MOUNTED 20'-0" AFF.
- 4 PROVIDE PA SPEAKERS FOR VOICE ANNOUNCEMENTS. PA SPEAKERS TO BE MOUNTED 8'-0" AFF.
- 5 VOLUME CONTROL TO CONTROL SPEAKER OUTPUT FOR ROOM.
- 6 PROVIDE PROXIMITY ACCESS CARD READER TO GRANT ACCESS INTO BUILDING. CARD READER TO BE WEATHERPROOF. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER.
- 7 PROVIDE ELECTRIC DOOR STRIKE AND DOOR RELEASE HARDWARE FOR COMPLETE INSTALLATION.
- 8 PROVIDE COLOR FIXED CCTV CAMERA. CAMERA TO BE IP ADDRESSABLE AND RESOLUTION OF 680x480.
- 9 PROVIDE CAMERA LENS THAT WILL SUPPLY SURVEILLANCE COVERAGE FOR ENTIRE AREA.
- 10 PROVIDE DVR TO RECORD ALL IP-BASED CCTV CAMERAS. DVR TO HAVE CAPACITY TO RECORD 2-WEEKS OF VIDEO FOR ALL CAMERAS AT 15 FRAMES PER SECOND.

1 HHW FIRST FLOOR / WTS LOWER LEVEL SYSTEM PLAN
E101 1/8"=1'-0"



Approximate Boiler
 Installation Location

WTS UPPER LEVEL
 13

GENERAL NOTES:

- 1) EC TO CONNECT DDC ALARM NOTIFICATION WIRING INTO FIRE ALARM CONTROL PANEL.

SHEET NOTES:

- 1) SMOKE DUCT DETECTOR TO BE RATED CLASS I, DIVISION 1 AND SHALL MEET NEC ARTICLE 911. SMOKE DUCT DETECTOR TO BE INTRINSICALLY SAFE.
- 2) SEE BIES00 DETAIL FOR FURTHER REQUIREMENTS.
- 3) PROVIDE PA AMPLIFIER TO POWER SPEAKERS AND INTERCOM SYSTEM.

PROJECT INFORMATION:

PROJECT NUMBER: 2009-0328.00
 DATE: 05-11-2010
 DRAWN BY: TKA
 CHECKED BY: AAS
 APPROVED BY: JHK
 SCALE: AS NOTED

SHEET TITLE:

HHW MEZZANINE / WTS UPPER
 LEVEL SYSTEM PLAN

SHEET NUMBER:

PANELBOARD SCHEDULE: LP/A (TUB-1)												
VOLTAGE: 480/277		MAIN TYPE:		BUS: 225 AMP		MOUNTING:		SERIES RATED				
PHASE WIRE: 3P/4W	<input type="checkbox"/>	A TRIP MAIN CB	<input type="checkbox"/>	COPPER	<input checked="" type="checkbox"/>	FLUSH	<input type="checkbox"/>					
SERVICE ENTRANCE LABEL	<input type="checkbox"/>	CONTACTOR	<input type="checkbox"/>	ALUMINUM	<input type="checkbox"/>	FLUSH ENCLOSURE:	<input type="checkbox"/>					
INTERRUPTING RATING:	35,000	LUGS ONLY	<input checked="" type="checkbox"/>	200% NEUTRAL	<input type="checkbox"/>	ENCLOSURE:	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SUB-FEED (DOUBLE) LUGS	<input type="checkbox"/>	GROUNDING:	<input type="checkbox"/>	STANDARD (NON-INSULATED)	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SHUNT TRIP	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>					

CCT #	LOAD DESCRIPTION	VAPPHASE			TRIP	VAPPHASE			LOAD DESCRIPTION	CCT #	
		A	B	C		A	B	C			
1	LIGHTING	1,500			201			303	MOTOR #6	2	
3	LIGHTING	1,880			201	X				4	
5	LIGHTING		240		201	X				6	
7	LIGHTING	1,280			201	X			MOTOR #7	8	
9	LIGHTING	2,275			201	X				10	
11	LIGHTING		2,275		201	X				12	
13	LIGHTING	218			201	X			MOTOR #10	14	
15	LIGHTING	3,185			201	X				16	
17	LIGHTING		1,820		201	X				18	
19	LIGHTING	2,275			201	X			MOTOR #11	20	
21	SPARE				201	X				22	
23	SPARE				201	X				24	
25	SPARE				201	X			MOTOR #12	26	
27	SPARE				201	X				28	
29	SPARE				201	X				30	
31	SPARE				201	X				32	
33	SPARE				201	X				34	
35	SPARE				201	X				36	
37	SPARE				201	X			MOTOR #14	38	
39	SPARE				201	X				40	
41	SPARE				201	X				42	
TOTAL CONNECTED:											
TOTAL DEMAND:											

PANELBOARD SCHEDULE NOTES:
1. PROVIDE HACR CIRCUIT BREAKERS FOR CIRCUITS 26,28,30 AND 38,40,42.

PANELBOARD SCHEDULE: LP/A (TUB-2)												
VOLTAGE: 480/277		MAIN TYPE:		BUS: 225 AMP		MOUNTING:		SERIES RATED				
PHASE WIRE: 3P/4W	<input type="checkbox"/>	A TRIP MAIN CB	<input type="checkbox"/>	COPPER	<input checked="" type="checkbox"/>	FLUSH	<input type="checkbox"/>					
SERVICE ENTRANCE LABEL	<input type="checkbox"/>	CONTACTOR	<input type="checkbox"/>	ALUMINUM	<input type="checkbox"/>	FLUSH ENCLOSURE:	<input type="checkbox"/>					
INTERRUPTING RATING:	35,000	LUGS ONLY	<input checked="" type="checkbox"/>	200% NEUTRAL	<input type="checkbox"/>	ENCLOSURE:	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SUB-FEED (DOUBLE) LUGS	<input type="checkbox"/>	GROUNDING:	<input type="checkbox"/>	STANDARD (NON-INSULATED)	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SHUNT TRIP	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>					

CCT #	LOAD DESCRIPTION	VAPPHASE			TRIP	VAPPHASE			LOAD DESCRIPTION	CCT #	
		A	B	C		A	B	C			
43	MOTOR #19	443			203	X		1024	SPO #17, 19	44	
45	-	443	X		203	X		1024		46	
47	-	443	X		203	X		1024		48	
49	MOTOR #20	443	X		203	X			SPARE	50	
51	-	443	X		203	X		256	MOTOR #28	52	
53	-	443	X		203	X		256		54	
55	MOTOR #21	443	X		203	X		256		56	
57	-	443	X		203	X		256	MOTOR #29	58	
59	-	443	X		203	X		256		60	
61	MOTOR #22	443	X		203	X		256		62	
63	-	443	X		203	X			SPACE	64	
65	-	443	X		203	X			SPACE	66	
67	MOTOR #24	832	X		203	X			SPACE	68	
69	-	832	X		203	X			SPACE	70	
71	-	832	X		203	X			SPACE	72	
73	MOTOR #25	832	X		203	X			SPACE	74	
75	-	832	X		203	X			SPACE	76	
77	-	832	X		203	X			SPACE	78	
79	SPACE				203	X			SPACE	80	
81	SPACE				203	X			SPACE	82	
83	SPACE				203	X			SPACE	84	
TOTAL CONNECTED:		25,270			27,459			24,354			77,083VA
TOTAL DEMAND:											101,34A

PANELBOARD SCHEDULE NOTES:
1. PROVIDE HACR CIRCUIT BREAKERS FOR CIRCUITS 43 THRU 77.

PANELBOARD SCHEDULE: RP/A (TUB-1)												
VOLTAGE: 208/120		MAIN TYPE:		BUS: 225 AMP		MOUNTING:		SERIES RATED				
PHASE WIRE: 3P/4W	<input type="checkbox"/>	A TRIP MAIN CB	<input type="checkbox"/>	COPPER	<input checked="" type="checkbox"/>	FLUSH	<input type="checkbox"/>					
SERVICE ENTRANCE LABEL	<input type="checkbox"/>	CONTACTOR	<input type="checkbox"/>	ALUMINUM	<input type="checkbox"/>	FLUSH ENCLOSURE:	<input type="checkbox"/>					
INTERRUPTING RATING:	21,000	LUGS ONLY	<input checked="" type="checkbox"/>	200% NEUTRAL	<input type="checkbox"/>	ENCLOSURE:	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SUB-FEED (DOUBLE) LUGS	<input type="checkbox"/>	GROUNDING:	<input type="checkbox"/>	STANDARD (NON-INSULATED)	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SHUNT TRIP	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>					

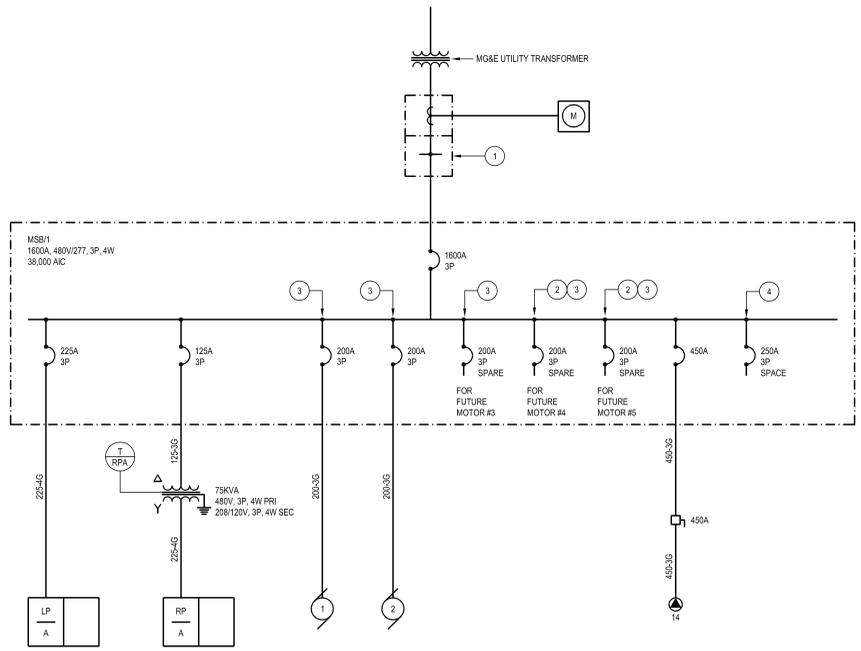
CCT #	LOAD DESCRIPTION	VAPPHASE			TRIP	VAPPHASE			LOAD DESCRIPTION	CCT #	
		A	B	C		A	B	C			
1	RECEPTACLES	720			201			301	MOTOR #8	2	
3	RECEPTACLES		540		201	X		302	MOTOR #9	4	
5	SPO #1			600	201	X		2,288		6	
7	SPO #2		600		201	X		201	MOTOR #15	8	
9	SPO #3		600		201	X		201	MOTOR #16	10	
11	SPO #4			600	201	X		201	MOTOR #17	12	
13	SPO #5		600		201	X		201	MOTOR #18	14	
15	RECEPTACLES		540		201	X		203	SPO #13	16	
17	RECEPTACLES			540	201	X		201	1,500	18	
19	RECEPTACLES			360	201	X		201	1,500	20	
21	RECEPTACLES		900		201	X		201	600	22	
23	SPO #10			1,200	201	X		201		24	
25	SPO #11		1,200		201	X		201	696	26	
27	SPO #7		1,200		201	X		201	1,176	28	
29	SPO #8			1,200	201	X		201	696	30	
31	SPO #9		1,200		201	X		201	130	32	
33	RECEPTACLES		1,080		201	X		201	130	34	
35	RECEPTACLES			180	201	X		201		36	
37	SPO #6		1,500		201	X		201		38	
39	-		1,500		201	X		201		40	
41	SPARE				201	X		201		42	
TOTAL CONNECTED:		20,122			19,604			16,426			56,152VA
TOTAL DEMAND:											155,86A

PANELBOARD SCHEDULE NOTES:
1. PROVIDE HACR CIRCUIT BREAKERS FOR CIRCUITS 4,6,28,30,32,34.

PANELBOARD SCHEDULE: RP/A (TUB-2)												
VOLTAGE: 208/120		MAIN TYPE:		BUS: 225 AMP		MOUNTING:		SERIES RATED				
PHASE WIRE: 3P/4W	<input type="checkbox"/>	A TRIP MAIN CB	<input type="checkbox"/>	COPPER	<input checked="" type="checkbox"/>	FLUSH	<input type="checkbox"/>					
SERVICE ENTRANCE LABEL	<input type="checkbox"/>	CONTACTOR	<input type="checkbox"/>	ALUMINUM	<input type="checkbox"/>	FLUSH ENCLOSURE:	<input type="checkbox"/>					
INTERRUPTING RATING:	21,000	LUGS ONLY	<input checked="" type="checkbox"/>	200% NEUTRAL	<input type="checkbox"/>	ENCLOSURE:	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SUB-FEED (DOUBLE) LUGS	<input type="checkbox"/>	GROUNDING:	<input type="checkbox"/>	STANDARD (NON-INSULATED)	<input type="checkbox"/>					
AMPS SYMMETRICAL	<input type="checkbox"/>	SHUNT TRIP	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>	ISOLATED (INSULATED)	<input type="checkbox"/>					

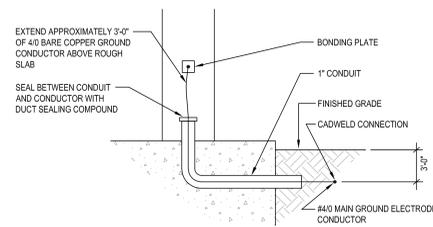
CCT #	LOAD DESCRIPTION	VAPPHASE			TRIP	VAPPHASE			LOAD DESCRIPTION	CCT #	
		A	B	C		A	B	C			
43	SPO #15				502			201	SPO #FA	44	
45	-				X			201	SPO #18, 20	46	
47	SPO #16				502				SPACE	48	
49	-				X				SPACE	50	
51	MOTOR #30		576		201	X			SPACE	52	
53	MOTOR #31			576	201	X			SPACE	54	
55	MOTOR #32		576		201	X			SPACE	56	
57	MOTOR #33		576		201	X			SPACE	58	
59	MOTOR #34			936	201	X			SPACE	60	
61	MOTOR #35		936		201	X			SPACE	62	
63	MOTOR #36		936		201	X			SPACE	64	
65	MOTOR #37			936	201	X			SPACE	66	
67	MOTOR #38		936		201	X			SPACE	68	
69	SPACE								SPACE	70	
71	SPACE								SPACE	72	
73	SPACE								SPACE	74	
75	SPACE								SPACE	76	
77	SPACE								SPACE	78	
79	SPACE								SPACE	80	
81	SPACE								SPACE	82	
83	SPACE								SPACE	84	
TOTAL CONNECTED:		20,122			19,604			16,426			56,152VA
TOTAL DEMAND:											155,86A

PANELBOARD SCHEDULE NOTES:



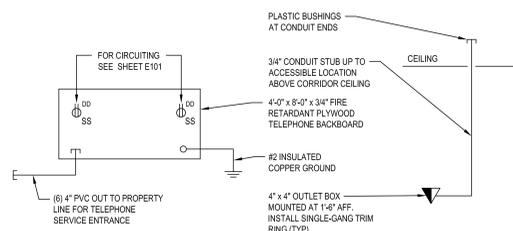
ONE LINE DIAGRAM NOTES:
 1. EC TO PROVIDE 1800A, 480VOLT, 3-PHASE, 4-WIRE TRANSOCKET WITH METER SOCKET. EC TO COORDINATE WITH UTILITY FOR ACCEPTABLE MANUFACTURES FOR EXACT REQUIREMENTS.
 2. EC TO PROVIDE 200A, 3-POLE, SPACE CIRCUIT BREAKERS FOR FUTURE COMPACTORS.
 3. EC TO PROVIDE INVERSE TIME BREAKER FOR COMPACTORS.
 4. EC TO PROVIDE SPACES FOR (5) ADDITIONAL 250A 3P BREAKERS

FEEDER AMPACITY	CONDUCTOR SIZE (Kcmil)		CONDUIT SIZE	
	PH AND N	GRD	(3) AND (3G)	(4) AND (4G)
50	#8	#10	3/4"	1"
70	#4	#6	1-1/4"	1-1/4



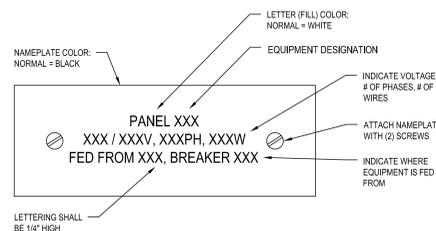
METAL BUILDING GROUND CONNECTION DETAIL

12
E500 NOT TO SCALE



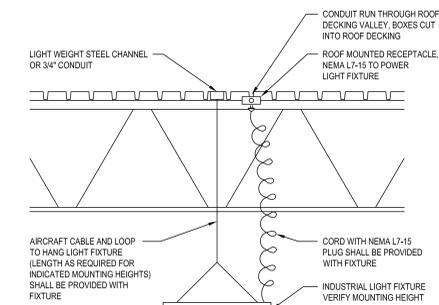
TELEPHONE SERVICE RISER DIAGRAM

9
E500 NOT TO SCALE



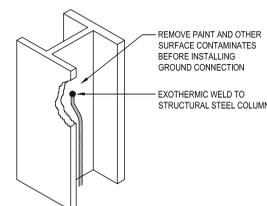
PANELBOARD NAMEPLATE DETAIL

6
E500 NOT TO SCALE



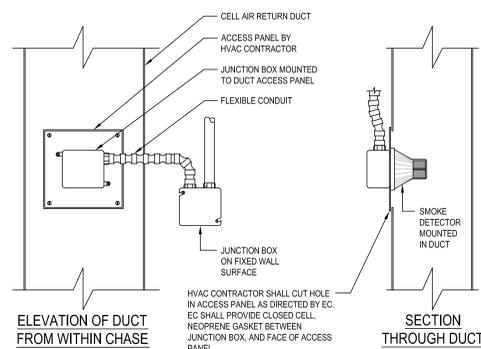
FIXTURE TYPE 'A' MOUNTING DETAIL

3
E500 NOT TO SCALE



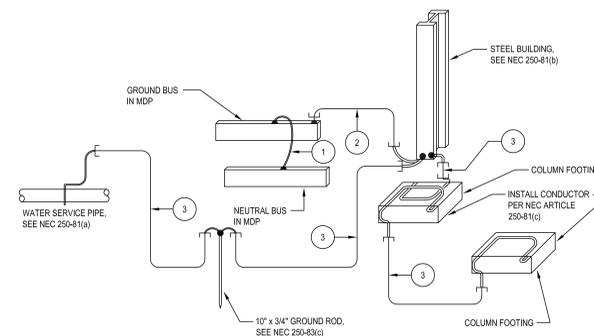
GROUND CONNECTION DETAIL

11
E500 NOT TO SCALE



DUCT MOUNTED SMOKE DETECTOR DETAIL

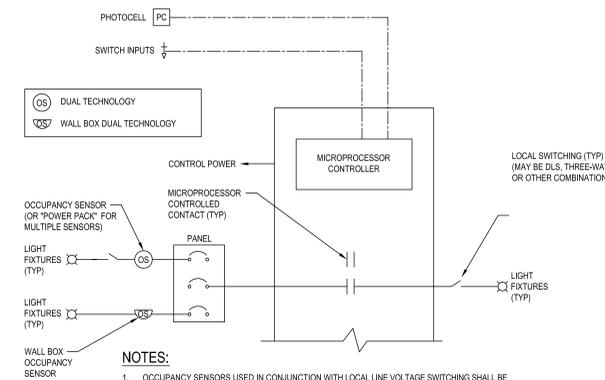
8
E500 NOT TO SCALE



- KEYED NOTES:**
- 1 BARE COPPER MAIN BONDING JUMPER PER NEC 250-43(b).
 - 2 BARE COPPER GROUNDING ELECTRODE CONDUCTOR PER NEC 250-23(a).
 - 3 BARE COPPER GROUNDING ELECTRODE BONDING JUMPER PER NEC 250-41.
- DETAIL NOTES:**
1. INSTALL CONDUCTORS IN CONDUITS, CONDUIT TYPE SHALL BE HW PVC PER SPECIFICATIONS.
 2. SIZE ALL GROUND CONDUCTORS IN ACCORDANCE WITH NEC.
 3. EC SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF NEC ARTICLE 250.

ELECTRICAL SERVICE GROUNDING DIAGRAM

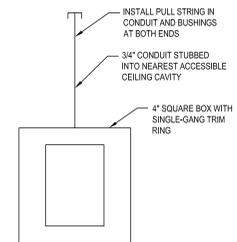
5
E500 NOT TO SCALE



- NOTES:**
1. OCCUPANCY SENSORS USED IN CONJUNCTION WITH LOCAL LINE VOLTAGE SWITCHING SHALL BE ELECTRICALLY LOCATED ON PANEL SIDE OF SWITCH, AS INDICATED IN ABOVE DIAGRAM, UOI.
 2. BOTH SENSORS CONTROL SAME LIGHT FIXTURES VIA COMMON "POWER PACK" IN ROOMS SHOWN WITH (2) OR MORE OCCUPANCY SENSORS, UOI.
 3. WHENEVER FEASIBLE, POWER PACKS SHALL BE LOCATED IN CEILING SPACE DIRECTLY ABOVE LOCAL WALL SWITCH.
 4. USE OF OCCUPANCY SENSOR SYMBOL IN ROOM INDICATES TYPE OF SENSOR TO BE USED TO CONTROL ALL LIGHTS IN SPACE. EXACT LOCATION, MOUNTING, AND CONFIGURATION OF SENSOR SHALL BE DETERMINED IN FIELD, BASED UPON MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES.
 5. SPECIFIC MODEL OF OCCUPANCY SENSOR SHALL BE COORDINATED WITH ROOM SIZE, LAYOUT, CEILING HEIGHT, AND MOUNTING REQUIREMENTS. SENSOR MANUFACTURER, AND CONTRACTOR, VERIFY DEVICE COLOR WITH ARCHITECT PRIOR TO ORDERING.
 6. OCCUPANCY SENSOR MANUFACTURER SHALL PROVIDE HARD COPIES AND ELECTRONIC AUTOCAD DRAWINGS FILES OF LOCATION AND MODEL NUMBERS OF ALL ASSOCIATED EQUIPMENT.

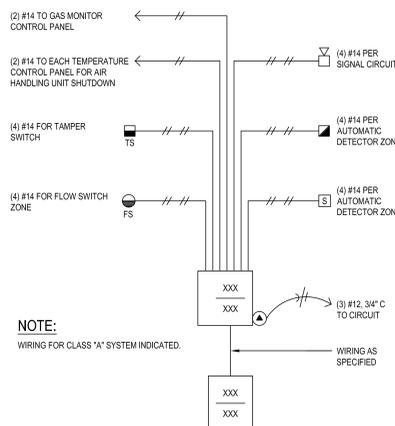
LIGHTING CONTROL SCHEMATIC DIAGRAM

2
E500 NOT TO SCALE



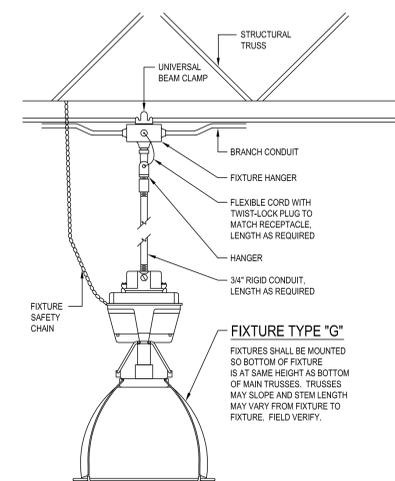
TELEPHONE / DATA OUTLET DETAIL

10
E500 NOT TO SCALE



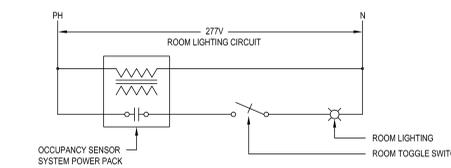
FIRE ALARM RISER DIAGRAM

7
E500 NOT TO SCALE



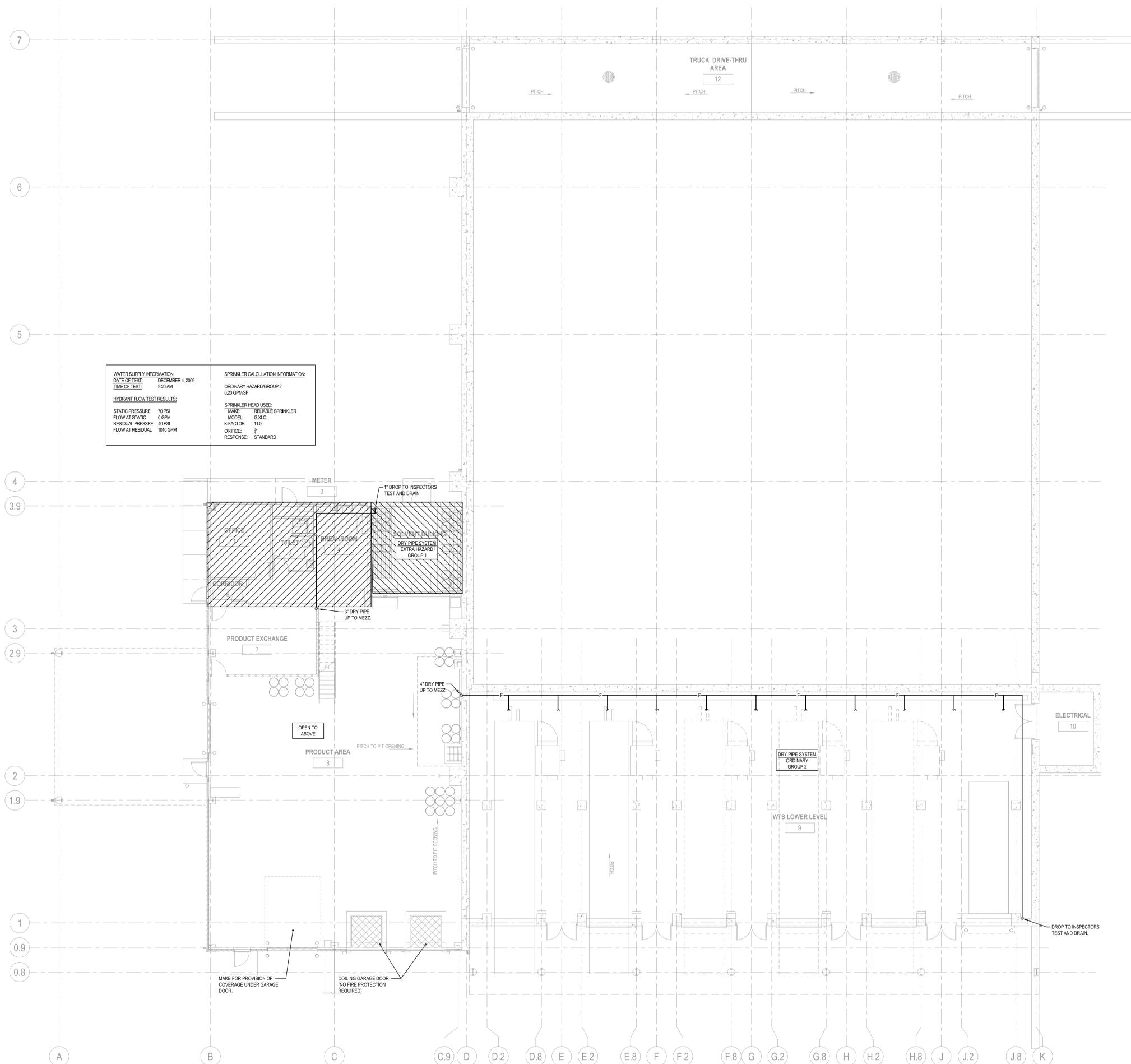
FIXTURE TYPE 'G' MOUNTING DETAIL

4
E500 NOT TO SCALE



LIGHTING CONTROL WIRING DIAGRAM

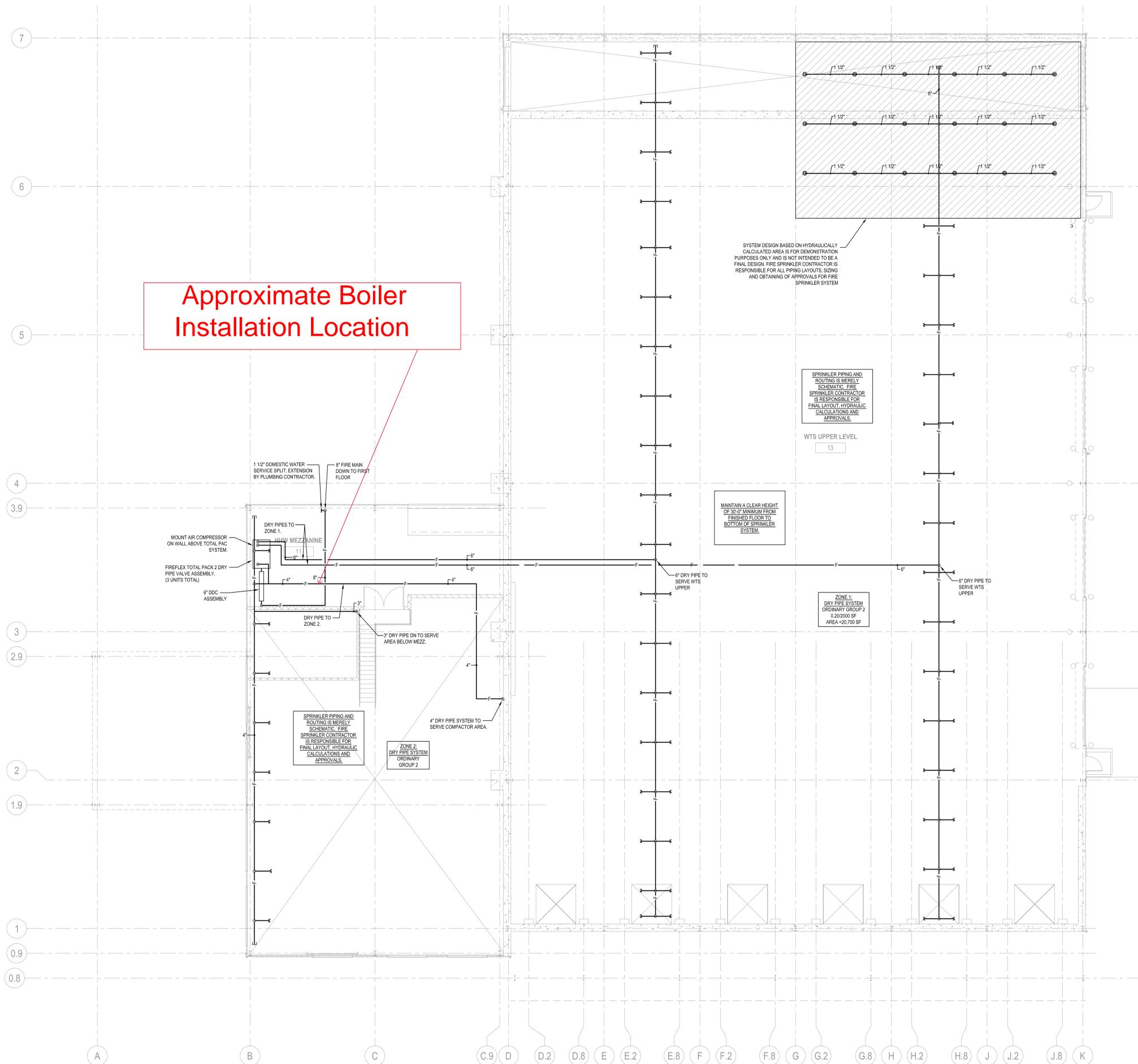
1
E500 NOT TO SCALE



WATER SUPPLY INFORMATION		SPRINKLER CALCULATION INFORMATION	
DATE OF TEST:	DECEMBER 4, 2009	ORDINARY HAZARD GROUP	2
TIME OF TEST:	9:20 AM	DESIGN DENSITY	0.20 GPM/SF
HYDRANT FLOW TEST RESULTS:			
STATIC PRESSURE	70 PSI	SPRINKLER HEAD USED	RELIABLE SPRINKLER
FLOW AT STATIC	0 GPM	MAKE:	G XLO
RESIDUAL PRESSURE	40 PSI	MODEL:	11.0
FLOW AT RESIDUAL	1010 GPM	K-FACTOR:	2"
		ORIFICE:	STANDARD
		RESPONSE:	

HHW FIRST/WTS LOWER LEVEL FIRE PROTECTION PLAN





Approximate Boiler
Installation Location

SYSTEM DESIGN BASED ON HYDRAULICALLY
CALCULATED AREA IS FOR DEMONSTRATION
PURPOSES ONLY AND IS NOT INTENDED TO BE A
FINAL DESIGN. FIRE SPRINKLER CONTRACTOR IS
RESPONSIBLE FOR ALL PIPING LAYOUTS, SIZING
AND OBTAINING OF APPROVALS FOR FIRE
SPRINKLER SYSTEM

SPRINKLER PIPING AND
ROUTING IS MERELY
SCHEMATIC. FIRE
SPRINKLER CONTRACTOR
IS RESPONSIBLE FOR
FINAL LAYOUT, HYDRAULIC
CALCULATIONS AND
APPROVALS.

WTS UPPER LEVEL
13

MAINTAIN A CLEAR HEIGHT
OF 3'-0" MINIMUM FROM
FINISHED FLOOR TO
BOTTOM OF SPRINKLER
SYSTEM.

ZONE 1:
DRY PIPE SYSTEM
ORDINARY GROUP 2
0.202000 SF
AREA = 20,790 SF

SPRINKLER PIPING AND
ROUTING IS MERELY
SCHEMATIC. FIRE
SPRINKLER CONTRACTOR
IS RESPONSIBLE FOR
FINAL LAYOUT, HYDRAULIC
CALCULATIONS AND
APPROVALS.

ZONE 2:
DRY PIPE SYSTEM
ORDINARY
GROUP 2

1
FP102
HHW MEZZANINE/ WTS UPPER LEVEL
FIRE PROTECTION PLAN
1/8" = 1'-0"
0 4' 8"

MECHANICAL SYMBOLS AND ABBREVIATIONS

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN THE DRAWINGS AND MAY NOT APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED IN THE DRAWINGS.

MECHANICAL ABBREVIATIONS

ADJ - ADJUSTABLE	MAX - MAXIMUM
AFF - ABOVE FINISHED FLOOR	MBH - THOUSANDS OF BTU PER HOUR
AL - ALUMINUM	MC - MECHANICAL CONTRACTOR
ALT - ALTERNATE	MCA - MINIMUM CIRCUIT AMPACITY
AP - ACCESS PANEL	MCC - MOTOR CONTROL CENTER
APD - AIR PRESSURE DROP	MEP - MECHANICAL ELECTRICAL AND PLUMBING
APPROX - APPROXIMATE	MES - MECHANICAL EQUIPMENT ROOM
ARCH - ARCHITECTURAL	MEZZ - MEZZANINE
AVG - AVERAGE	MFR - MANUFACTURER
BAS - BUILDING AUTOMATION SYSTEM	MIN - MINIMUM
BOS - BOTTOM OF BEAM	MISC - MISCELLANEOUS
BOD - BOTTOM OF DUCT	NA - NOT APPLICABLE
BOP - BOTTOM OF PIPE	NC - NORMALLY CLOSED
BTU - BRITISH THERMAL UNITS	NC - NOT IN CONTACT
BTUH - BRITISH THERMAL UNITS PER HOUR	NO - NORMALLY OPEN
CAV - CONSTANT AIR VOLUME	NPS - NOMINAL PIPE SIZE
CFH - CUBIC FEET PER HOUR	NPSH - NET POSITIVE SUCTION HEAD
CFM - CUBIC FEET PER MINUTE	NPT - NATIONAL PIPE THREAD
CL - CENTERLINE	NR - NEAR
CLG - CEILING	NTS - NOT TO SCALE
COND - CONDENSATE	OA - OUTSIDE AIR
CONTR - CONTRACTOR	OC - ON CENTER
COP - COEFFICIENT OF PERFORMANCE	OD - OPEN END DUCT
CU - COPPER	OLP - OVERLOAD PROTECTION
DAP - DUCT ACCESS PANEL	OV - OUTLET VELOCITY
DB - DRY BULB	PC - PLUMBING CONTRACTOR
DDC - DIRECT DIGITAL CONTROL	PCF - POUNDS PER CUBIC FOOT
DEG - DEGREES	PD - PRESSURE DROP
DA - DIAMETER	PH - PHASE
DM - DIMENSION	PLBG - PLUMBING
DN - DOWN	POC - POINT OF CONNECTION
DWG - DRAWING	PPH - POUNDS PER HOUR
DX - DIRECT EXPANSION	PRV - PRESSURE RELIEF VALVE
EA - EXHAUST AIR	PSF - POUNDS PER SQUARE FOOT
EAT - ENTERING AIR TEMPERATURE	PSI - POUNDS PER SQUARE INCH
EC - ELECTRICAL CONTRACTOR	PSIA - POUNDS PER SQUARE INCH ABSOLUTE
EQR - EQUIVALENT DIRECT RADIATION	PSIG - POUNDS PER SQUARE INCH GAUGE
EFF - EFFICIENCY	PVC - POLYVINYL CHLORIDE
ELEC - ELECTRICAL	RA - RETURN AIR
ELEV - ELEVATION	RECD - RECURVED
EM - EMERGENCY	RF - ROOF
ESP - EXTERNAL STATIC PRESSURE	RH - RELATIVE HUMIDITY
ETR - EXISTING TO REMAIN	RR - REVOLUTIONS PER MINUTE
EWT - ENTERING WATER TEMPERATURE	SA - SUPPLY AIR
EXH - EXHAUST	SCH - SCHEDULE
EXP - EXPANSION	SHT - SHEET
EXIST - EXISTING	SP - STATIC PRESSURE
F - FAHRENHEIT	SPEC - SPECIFICATION
FC - FORWARD CURVED	SG - SQUARE
FLA - FULL LOAD AMPS	SS - STAINLESS STEEL
FLR - FLOOR	STD - STANDARD
FMI - FACTORY MUTUAL	STRUCT - STRUCTURAL
FPD - FLUID PRESSURE DROP	T&P - TEMPERATURE AND PRESSURE
FPI - FINS PER INCH	TA - TRANSFER AIR
FRM - FEET PER MINUTE	TBR - TO BE REMOVED
FPS - FEET PER SECOND	TC - TEMPERATURE CONTROL
F&T - FLOAT AND THERMOSTATIC	TEMP - TEMPERATURE
FT - FEET	TOB - TOP OF BEAM
FTG - FOOTING	TOP - TOP OF DUCT
GA - GAUGE	TOP - TOP OF PIPE
GAL - GALLON	TOS - TOP OF SLAB
GALV - GALVANIZED	TSP - TOTAL STATIC PRESSURE
GBD - GRAVITY BACKDRAFT DAMPER	TSTAT - THERMOSTAT
GC - GENERAL CONTRACTOR	TYP - TYPICAL
GPM - GALLONS PER MINUTE	UC - UNDERCUT DOOR
GPH - GALLONS PER HOUR	1" (BY GENERAL CONTRACTOR) UNLESS OTHERWISE NOTED
HP - HORSEPOWER	UNO - UNLESS OTHERWISE NOTED
ID - INSIDE DIAMETER	V - VOLTS
IE - INVERT ELEVATION	VA - VALVE
IN - INCHES	VAV - VARIABLE AIR VOLUME
LAT - LEAVING AIR TEMPERATURE	VEL - VELOCITY
LBRH - POUNDS PER HOUR	VP - VELOCITY PRESSURE
LF - LINEAR FEET	VTR - VENT THRU ROOF
LGT - LIGHTING	W - WITH
LWT - LEAVING WATER TEMPERATURE	WO - WITHOUT
	WB - WET BULB
	WC - WATER COLUMN
	WG - WATER GAUGE
	X - EXISTING

MECHANICAL EQUIPMENT ABBREVIATIONS

AC - AIR CONDITIONING UNIT/AIR COMPRESSOR	GF - GAS FURNACE
ACC - AIR COOLED CONDENSER	GV - GRAVITY VENTILATOR
ACCU - AIR COOLED CONDENSING UNIT	H - HUMIDIFIER
ACU - AIR CONDITIONING UNIT	HC - HEATING COIL
AHU - AIR HANDLING UNIT	HP - HEAT PUMP
AMD - AIR MIXING DEVICE	HRC - HEAT RECOVERY COIL
ARU - AIR ROTATION UNIT	HRD - HEAT RECLAIM DEVICE
AS - AIR SEPARATOR	HX - HEAT EXCHANGER
AT - AIR TERMINAL DEVICE	IAH - INTAKE AIR HOOD
B - BOILER	IF - INLINE FAN
BBS - BOILER BLOWDOWN SEPARATOR	IFH - INFRARED HEATER
BC - BOOSTER COIL	LP - LOUVERED PENTHOUSE
BFS - BOILER FEEDWATER SYSTEM	MAU - MAKE-UP AIR UNIT
C - CONNECTOR	MCC - MOTOR CONTROL CENTER
CC - COOLING COIL	P - PUMP
CH - CHILLER	RAHU - ROOFTOP AIR HANDLING UNIT
CP - CONDENSATE PUMP	RCP - RADIANT CEILING PANEL
CRU - CONDENSATE RETURN UNIT	REF - ROOF EXHAUST FAN
CT - COOLING TOWER	RF - RETURN FAN
CUH - CABINET UNIT HEATER	RH - RELIEF HOOD
CV - CONNECTOR	RTU - ROOFTOP UNIT
DC - DUST COLLECTOR	RV - ROOF VENTILATOR
DH - DEHUMIDIFIER	SA - SOUND ATTENUATOR
EBB - ELECTRIC BASEBOARD	SF - SUPPLY FAN
EF - EXHAUST FAN	T - TANK
EH - EXHAUST HOOD	TXV - THERMAL EXPANSION VALVE
EJ - EXPANSION JOINT	UH - UNIT HEATER
ET - EXPANSION TANK	UST - UNDERGROUND STORAGE TANK
EUH - ELECTRIC UNIT HEATER	UV - UNIT VENTILATOR
F - FILTER	V - VALVE
FCU - FAN COIL UNIT	VFD - VARIABLE FREQUENCY DRIVE
FD - FLOOR DRAIN	VP - VACUUM PUMP
FOP - FUEL OIL PUMP	
FOT - FUEL OIL TANK	
FTR - FIN TUBE RADIATION	

PIPING SYSTEMS AND FITTINGS

—BBD— BOILER BLOW DOWN	—FL— FLANGE
—BF— BOILER FEED	—UN— UNION
—BWA— BREATHABLE AIR	—AN— ANCHOR
—CWS— CHILLED WATER SUPPLY	—PG— PIPE GUIDE
—CWR— CHILLED WATER RETURN	—ER— ECCENTRIC REDUCER
—CA— COMPRESSED AIR	—CR— CONCENTRIC REDUCER
—CWS— CONDENSER WATER SUPPLY	—LC— LINE CONTINUATION BREAK
—CWR— CONDENSER WATER RETURN	—PS— PIPELINE STRAINER
—DL— DRAIN LINE	—ED— ELBOW DOWN
—FOF— FUEL OIL FILL	—ELU— ELBOW UP
—FOS— FUEL OIL SUPPLY	—TD— TEE DOWN
—FOR— FUEL OIL RETURN	—TU— TEE UP
—FV— FUEL OIL VENT	—V— VALVE IN VERTICAL
—GWS— GLYCOL CHILLED WATER SUPPLY	
—GWR— GLYCOL CHILLED WATER RETURN	
—HPS— HEAT PUMP WATER SUPPLY	
—HPR— HEAT PUMP WATER RETURN	
—HPS— HIGH PRESSURE STEAM	
—HPC— HIGH PRESSURE CONDENSATE	
—HWS— HOT WATER SUPPLY	
—HWR— HOT WATER RETURN	
—HUM— HUMIDIFICATION	
—LPG— LIQUEFIED PETROLEUM GAS	
—L— MAKE-UP WATER	
—MPS— MEDIUM PRESSURE STEAM	
—MPC— MEDIUM PRESSURE CONDENSATE	
—NG— NATURAL GAS	
—N— NITROGEN	
—V— VENT LINE	
—PC— PUMPED CONDENSATE	
—RHG— REFRIGERANT HOT GAS	
—RL— REFRIGERANT LIQUID	
—RS— REFRIGERANT SUCTION	
—RV— REFRIGERANT VENT	
—VAC— VACUUM (AIR)	

NOTE:
(X) PRIOR TO SYSTEM TYPE DENOTES EXISTING PIPING
(i.e. XHWS - EXISTING HOT WATER SUPPLY)
(XX) = SYSTEM PRESSURE IN PSIG
(i.e. (S) PSIG)

PIPE VALVES AND SPECIALTIES

—AV— ANGLE VALVE	—AV— AUTOMATIC AIR VENT
—B— BALANCING VALVE (CIRCUIT SETTER)	—MAV— MANUAL AIR VENT
—BV— BALL VALVE	—BJ— BALL JOINT
—BV— BUTTERFLY VALVE	—EJ— EXPANSION JOINT
—BV— BUTTERFLY VALVE WITH ACTUATOR	—FC— FLEXIBLE CONNECTION
—CV— CHECK VALVE (ARROW INDICATES FLOW DIRECTION)	—FS— FLOW SWITCH
—DV— DIAPHRAGM VALVE	—FM— FLOW METER
—DVO— DRAIN VALVE WITH CAPPED OUTLET	—PP— PETE'S PLUG
—FOV— FLOAT OPERATED VALVE	—PG— PRESSURE GAUGE
—GV— GLOBE VALVE	—PS— PRESSURE SWITCH
—PV— PLUG VALVE	—ST— STEAM TRAP (INDICATE TYPE: T - THERMOSTATIC TRAP F&T - FLOAT AND THERMOSTATIC TRAP IB - INVERTED BUCKET TRAP)
—PRV— PRESSURE REDUCING VALVE	—TM— THERMOMETER
—PRV— PRESSURE RELIEF VALVE	—DF— DIRECTION OF FLOW
—SV— SHUTOFF VALVE (SEE SPECIFICATION FOR TYPE)	—R— DIRECTION OF PITCH (RISE (R) OR DROP (D))
—SV— SOLENOID VALVE	
—TEV— THERMAL EXPANSION VALVE	
—TV— TRIPLE DUTY VALVE	
—CV— 2-WAY CONTROL VALVE	
—CV— 3-WAY CONTROL VALVE	

DUCTWORK FITTINGS

—S— SINGLE LINE DUCTWORK	—D— DOUBLE LINE DUCTWORK
—R— RECTANGULAR/Round BRANCH TAKE OFF (SA, RA AND EA)	—1/4 D BUT NOT LESS 6"
—T— TEE (FOR LOW PRESSURE SUPPLY AIR DUCTWORK ONLY)	—1/4 W BUT NOT LESS 6"
—T— TEE FOR LOW PRESSURE SUPPLY AIR DUCTWORK ONLY	—15' MAX. FOR DIVERGING TRANSITION, 25' MAX. FOR CONVERGING TRANSITION - ECCENTRIC
—T— TEE FOR LOW PRESSURE SUPPLY AIR DUCTWORK ONLY	—15' MAX. FOR DIVERGING TRANSITION, 25' MAX. FOR CONVERGING TRANSITION - CONCENTRIC
—A— DUCT WITH FLOW DIRECTION ARROW	
—L— LINE CONTINUATION BREAK (RECTANGULAR, ROUND)	
—S— SUPPLY AIR (SA) OR OUTDOOR AIR (OA) DUCT UP	
—S— SUPPLY AIR (SA) OR OUTDOOR AIR (OA) DUCT DOWN	
—R— RETURN AIR (RA), RELIEF AIR OR TRANSFER AIR (TA) DUCT UP	
—R— RETURN AIR (RA), RELIEF AIR OR TRANSFER AIR (TA) DUCT DOWN	
—E— EXHAUST AIR (EA) DUCT UP	
—E— EXHAUST AIR (EA) DUCT DOWN	
—E— DUCT RISE/DROP W/ 90° ELBOWS (SUPPLY RECTANGULAR DUCT SHOWN)	
—E— EITHER RADIUS OR SQUARE ELBOW (REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS)	
—E— SQUARE ELBOW WITH TURNING VANES	
—E— DUCT RISE (R) OR DROP (D) W/ 30° ELBOWS (RECTANGULAR DUCTS)	
—E— THIS DUCT RUNS UNDERNEATH	

DIFFUSER, GRILLE, AND REGISTER NOTATION

DUCT SIZE IN INCHES (NET INSIDE DIMENSIONS) FIRST FIGURE: SIDE SHOWN SECOND FIGURE: SIDE NOT SHOWN	(SEE SCHEDULE FOR NECK SIZE FOR CDS)
SUPPLY AIR DUCT (SA) EXHAUST AIR DUCT (EA) RETURN AIR DUCT (RA) TRANSFER AIR DUCT (TA)	CEILING DIFFUSER (CD) RETURN GRILLE (RG) SUPPLY REGISTER (SR) LINEAR DIFFUSER (LD) TRANSFER GRILLE (TG) EXHAUST GRILLE (EG)
DIFFUSER AIR PATTERN 1 ARROW: 1 WAY 2 ARROWS: 2 WAY 3 ARROWS: 3 WAY NO ARROWS: 4 WAY	AIR QUANTITY (CFM)
12"9 INDICATES ROUND DUCTWORK 12x120 INDICATES OVAL DUCTWORK	
—S— SQUARE/RECTANGULAR SUPPLY DIFFUSER, GRILLE OR REGISTER	—S— SUPPLY REGISTER OR GRILLE (VERTICAL MOUNT)
—R— ROUND DIFFUSER	—R— EXHAUST OR RETURN REGISTER OR GRILLE (VERTICAL MOUNT)
—R— RETURN REGISTER OR GRILLE (HORIZONTAL MOUNT)	—R— DOOR TRANSFER GRILLE
—R— EXHAUST REGISTER OR GRILLE (HORIZONTAL MOUNT)	—R— UNDERCUT DOOR
—S— SIDEWALL REGISTER OR GRILLE (DUCT MOUNT)	

DAMPERS AND CONTROLS

—VD— MANUAL VOLUME DAMPER	—ST— SPACE THERMOSTAT
—FD— FIRE DAMPER	—SH— SPACE HUMIDISTAT
—SD— SMOKE DAMPER	—NCT— NIGHT CYCLE CONTROL THERMOSTAT
—FSD— COMBINATION FIRE/SMOKE DAMPER	—TS— TEMPERATURE SENSOR
—BD— BACKDRAFT DAMPER	—HS— HUMIDITY SENSOR
—M— MOTORIZED DAMPER	—PS— PRESSURE SENSOR
	—DS— DUCT SMOKE DETECTOR
	—S— STARTER
	—SW— SPEED SWITCH

DUCTWORK SPECIALTIES

—DC— DUCT REHEAT COIL	—F— FLEXIBLE DUCT
—TH— TEST HOLE	—PC— POINT OF CHANGE IN DUCT CONSTRUCTION BY PRESSURE CLASS
—AD— ACCESS DOOR	—L— LINED DUCTWORK
—N— NEW TO EXISTING DUCT CONNECTION	
—X— REMOVE EXISTING DUCTWORK	

GENERAL SYMBOLS

—Y— DETAIL REFERENCE (TOP DESIGNATES DETAIL NUMBER, BOTTOM DESIGNATES SHEET NUMBER)	—VAL-1— EQUIPMENT NAME AND NUMBER
—Y— SECTION REFERENCE (TOP DESIGNATES SECTION NUMBER, BOTTOM DESIGNATES SHEET NUMBER)	—K— PLAN KEYED NOTE NUMBER
—E— ELEVATION SYMBOL	—R— REVISION NUMBER
—X— EXISTING PIPING, DUCTWORK, EQUIPMENT, DEVICES, ETC. TO BE DEMOLISHED	—C— POINT OF CONNECTION (NEW TO EXISTING)
—X— EXISTING PIPING, DUCTWORK OR EQUIPMENT TO REMAIN	—X— POINT OF DISCONNECTION
—X— NEW PIPING, DUCTWORK OR EQUIPMENT	

MECHANICAL SHEET INDEX

M000 - MECHANICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX
M201 - HHW FIRST FLOOR / WTS LOWER LEVEL HVAC PLAN
M202 - HHW MEZZANINE / WTS UPPER LEVEL HVAC PLAN
M800 - MECHANICAL DETAILS
M801 - MECHANICAL DETAILS
M800 - MECHANICAL SCHEDULES

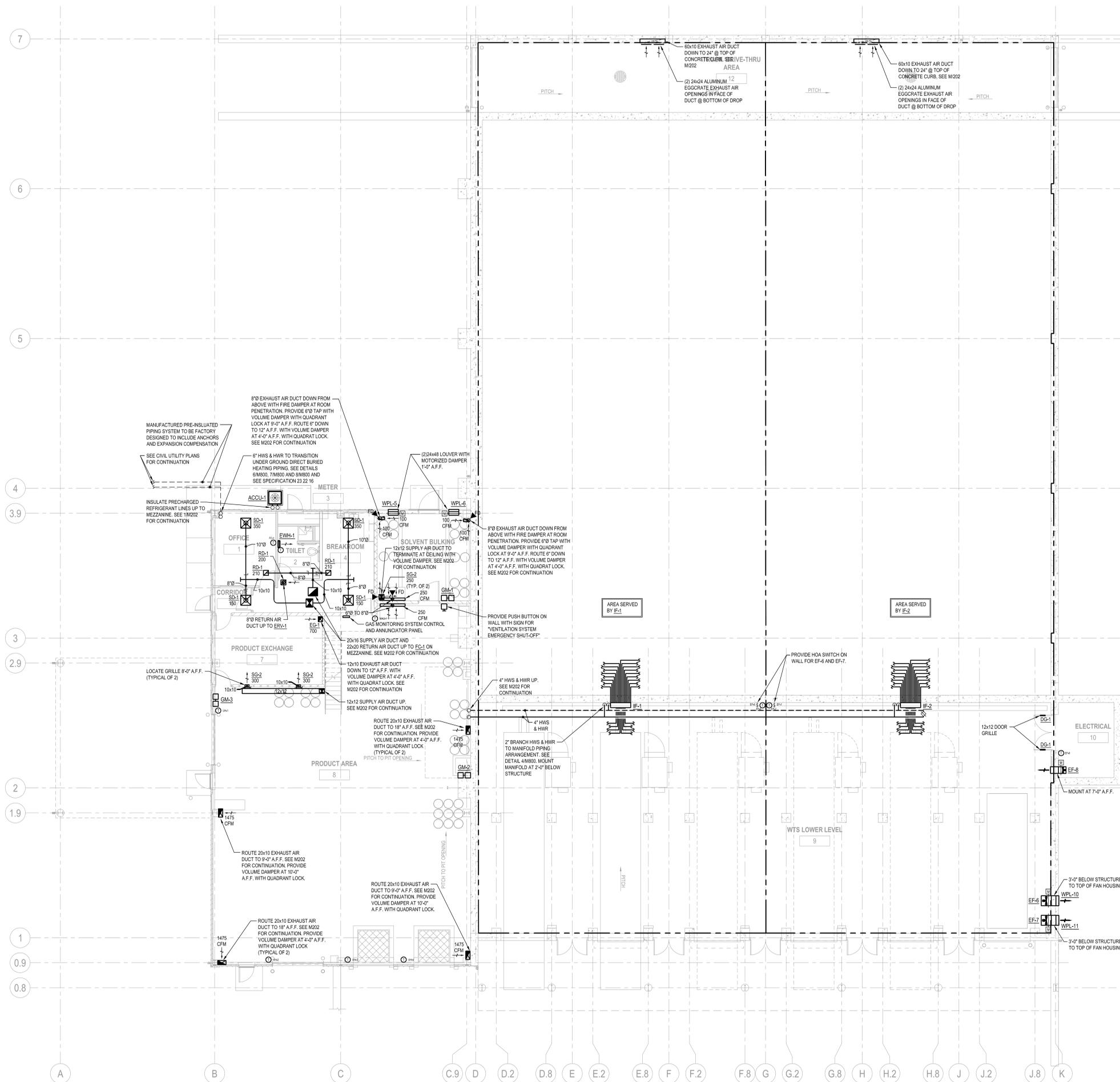
PROJECT INFORMATION:

PROJECT NUMBER:	2009-0328.00
DATE:	05-11-2010
DRAWN BY:	MHS
CHECKED BY:	MEL
APPROVED BY:	PDZ
SCALE:	AS NOTED

SHEET TITLE:

MECHANICAL SYMBOLS, ABBREVIATIONS AND SHEET INDEX

SHEET NUMBER:



PROJECT INFORMATION:

PROJECT NUMBER: 2009-0328.00
DATE: 05-11-2010
DRAWN BY: MHS
CHECKED BY: MEL
APPROVED BY: PDZ
SCALE: AS NOTED

SHEET TITLE:

HHW FIRST FLOOR/WTS LOWER LEVEL
HVAC PLAN

SHEET NUMBER:

1 HHW FIRST FLOOR/WTS LOWER LEVEL HVAC PLAN
M201 SCALE: 1/8"=1'-0"



One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1469
414 / 259 1500
414 / 259 0037 fax

www.graef-usa.com

CONSULTANTS:

PROJECT TITLE:

DANE COUNTY
WASTE TRANSFER STATION
AND HOUSEHOLD HAZARDOUS
WASTE FACILITY
RODFELD LANDFILL

ISSUE:

PROJECT INFORMATION:

PROJECT NUMBER: 2009-0328.00

DATE: 05-11-2010

DRAWN BY: MHS

CHECKED BY: MEL

APPROVED BY: PDZ

SCALE: AS NOTED

SHEET TITLE:

MECHANICAL SCHEDULES

SHEET NUMBER:

M900

MAKE-UP AIR UNIT WITH ENERGY RECOVERY (MAU)

UNIT NO.	SERVES	SUPPLY AIR SIDE															EXHAUST AIR SIDE															CONTROLS	MANUFACTURER	MODEL	REMARKS								
		WINTER PERFORMANCE															ENERGY RECOVERY SECTION - WINTER																										
		ENERGY RECOVERY COIL SECTION							HOT WATER COIL SECTION								ENERGY RECOVERY SECTION - WINTER																										
TOTAL CFM	ESP (IN. WC)	FAN		M O T O R			FILTER SECTION		EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	MBH	APD	GPM	GLYCOL (%)	EAT (°F)	LAT (°F)	GPM	WPD	GLYCOL (%)	TOTAL CFM	ESP (IN. WC)	FAN		M O T O R			FILTER SECTION		EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	MBH	APD	GPM	GLYCOL (%)					
TYPE	DRIVE	BHP	HP	VOLTS/PH	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY	TYPE	EFFICIENCY							
MAU-1	PRODUCT AREAS	7,800	1.25	PLENUM	BELT	6.31	10	480/3	PLEATED	MERV 8	-15	-16	9.06	6.02	202.6	0.02	30	40% P.G.	-15	90	75	2.9	30% P.G.	7,800	1.25	PLENUM	BELT	10	480/3	PLEATED	MERV 8	59	45.4	34.4	32.3	208.3	0.01	30	40% P.G.	VFD, DAT	JOHNSON CONTROLS	SOLUTION 51668	1, 2, 3

- NOTES: VFD - PROVIDE SEPARATE VARIABLE FREQUENCY DRIVE FOR SUPPLY AND EXHAUST FAN SECTIONS. PROVIDE AIR FLOW METERS IN DUCT TO ALLOW FANS TO MATCH VOLUME FLOW RATES. CONTROL MODULATING HOT WATER FROM DISCHARGE AIR TEMPERATURE CONTROLLER TO PROVIDE A SUPPLY AIR TEMPERATURE OF 75° F (FIELD ADJUSTABLE).
- PROVIDE UNIT WITH MANUFACTURER PROVIDED VFDs.
 - PROVIDE UNIT WITH DDC UNIT CONTROLLER WITH BACNET IP INTERFACE FOR BAS CONNECTION. CONTROLLER SHALL BE ACCESSIBLE FROM EXTERIOR OF UNIT VIA ACCESS DOOR OPENING.
 - PROVIDE UNIT WITH FOLLOWING FACTORY MOUNTED OPTIONS:
 - MOTOR OPERATED OUTDOOR AIR AND EXHAUST AIR LOW LEAKAGE DAMPERS.
 - EXHAUST FAN SHALL BE EXPLOSION PROOF MOTOR AND ALUMINUM WHEEL AND HOUSING.

RADIANT FLOOR PERFORMANCE SCHEDULE											
UNIT NO.	AREA (SQ. FT.)	HEAT (BTU/SQ. FT.)	HYDRONICS				LOOPS				
			EMIT (°F)	LWT (°F)	GPM	GLYCOL (%)	CONTROL VALVE	NUMBER OF LOOPS	SPACING (IN.)	SIZE (IN.)	HEAD (FT. HD)
IF-1	13,000	38.5	140	120	46	30 PG	3-WAY MIXING	19	18" O.C.	3/4" PEX	23
IF-2	13,000	38.5	140	120	46	30 PG	3-WAY MIXING	19	18" O.C.	3/4" PEX	23

- NOTES:
- OUTDOOR AIR RESET.
 - SLAB TEMPERATURE SENSORS AVERAGED (4).
 - ROTH RADIANT SYSTEMS USED AS BASIS OF DESIGN. AS REPRESENTED BY FLUID HANDLING INCORPORATED (414) 358-2646.

GAS MONITORING DEVICE SCHEDULE (GM)

UNIT NO.	GAS MONITOR SENSOR INFORMATION			DISPLAY CONFIGURATION	OUTPUTS	POWER SUPPLY (VOLT / PHASE)	MANUFACTURER	MODEL
	CONSTRUCTION	SENSOR TYPE(S)	ALARM POINT(S)					
GM-1	EXPLOSION PROOF CL 1, DIV 1	COMBUSTIBLE GAS - SOLVENTS	25% LEL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA XE
GM-2	EXPLOSION PROOF CL 1, DIV 2	COMBUSTIBLE GAS - SOLVENTS	25% LEL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
		COMBUSTIBLE GAS - PETRO VAPORS	25% LFL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
GM-3	EXPLOSION PROOF CL 1, DIV 2	COMBUSTIBLE GAS - SOLVENTS	25% LEL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
		COMBUSTIBLE GAS - PETRO VAPORS	25% LFL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
GM-4	EXPLOSION PROOF CL 1, DIV 2	CARBON MONOXIDE (CO)	35 PPM	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
		METHANE (CH4)	25% LEL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
GM-5	EXPLOSION PROOF CL 1, DIV 2	CARBON MONOXIDE (CO)	35 PPM	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
		METHANE (CH4)	25% LEL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
GM-6	EXPLOSION PROOF CL 1, DIV 2	CARBON MONOXIDE (CO)	35 PPM	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
		METHANE (CH4)	25% LEL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
GM-7	EXPLOSION PROOF CL 1, DIV 2	CARBON MONOXIDE (CO)	35 PPM	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3
		METHANE (CH4)	25% LEL	3.5" LCD GREEN LED RED LED	4-20 mA 1 RELAY	115 / 1	MSA	ULTIMA X3

- NOTES:
- INTERLOCK GAS MONITORS WITH WITH ANNUNCIATOR PANEL, CONTROL PANEL, AND BUILDING AUTOMATION SYSTEM TO INTERLOCK ASSOCIATED VENTILATION SYSTEM TO HIGHEST VENTILATION MODE UPON SENSING AN ALARM CONDITION.
 - PROVIDE DISPLAY PANEL INDICATION OF ALARM CONDITION AS WELL AS ALARM SIGNAL IN BAS.
 - PROVIDE PUSH BUTTON FOR EACH MONITOR TO ALLOW ALARM ACKNOWLEDGEMENT AND MENU ACCESS.
 - POWER SUPPLY WIRING SHALL BE THE RESPONSIBILITY OF THE TEMPERATURE CONTROLS CONTRACTOR.
 - MOUNTING HEIGHTS OF SENSORS SHALL BE AS DICTATED BY AHJ AND ACCEPTABLE PRACTICE FOR GAS BEING DETECTED.

HEAT EXCHANGER WATER TO WATER (HX)

UNIT NO.	SERVICE	LOCATION	ENGINE JACKET WATER			PROCESS WATER			MBH	CONTROL VALVE	MANUFACTURER	MODEL		
			GPM	EMT (°F)	LWT (°F)	WPD (PSI)	GPM	EMT (°F)					LWT (°F)	WPD (PSI)
HX-1	ENGINE 1	COGEN BUILDING	370	230	213	4.76	310	160	180	3.12	2,952	ELECTRONIC PID	SONDEX	S22-IG10-45-TK-LIQUID
HX-2	ENGINE 2	COGEN BUILDING	370	230	213	4.76	310	160	180	3.12	2,952	ELECTRONIC PID	SONDEX	S22-IG10-45-TK-LIQUID
HX-3	ENGINE 3	COGEN BUILDING	370	230	213	4.76	310	160	180	3.12	2,952	ELECTRONIC PID	SONDEX	S22-IG10-45-TK-LIQUID

- NOTES:
- CONTACT MIKE KIME AT E.D. NEWELL CO. 1-262-857-8871.
 - CONTRACTOR SHALL RE-BALANCE ENGINE JACKET WATER CIRCUIT TO PROVIDE PROPER WATER FLUID FLOW THROUGH ENGINE.

WEATHERPROOF LOUVERS (WPL)

UNIT NO.	LOCATION	SERVES	DESIGN (CFM)	SIZE (IN)			MAX. APD (IN. WC)	MAX. VEL. (FPM)	FREE AREA (SQ. FT.)	BLADE ANGLE	BLADE TYPE	CONSTRUCTION	FINISH	SCREEN	MANUFACTURER	MODEL
				L	H	D										
WPL-1-4	TIPPING FLOOR	EP-1, -2, -3, -4	3,250	36	36	6	0.08	690	4.71	37.5	DRAINABLE	ALUMINUM	ANODIZED	BIRD	RUSKIN	ELF6375DX
WPL-5-8	SOLVENT BULKING	EXP. CNTL.	400	24	48	6	0.05	100	4.0	37.5	DRAINABLE	ALUMINUM	ANODIZED	BIRD	RUSKIN	ELF6375DX
WPL-9	MEZZANINE	MAU-1	7,500	48	54	6	0.10	745	10.06	37.5	DRAINABLE	ALUMINUM	ANODIZED	BIRD	RUSKIN	ELF6375DX
WPL-10-11	COMPACTOR	EF-6, -7	10,125	42	42	6	0.25	1510	6.74	37.5	DRAINABLE	ALUMINUM	ANODIZED	BIRD	RUSKIN	ELF6375DX

- NOTES:
- WPL-5-8 SHALL BE PROVIDED WITH THERMALLY BROKEN, INSULATED BLADE DAMPER SIMILAR TO TAMCO 9000 SERIES. DAMPER SHALL BE WIRED SO THAT IN THE EVENT OF LOSS OF POWER, DAMPER SHALL SPRING RETURN OPEN.
 - WPL-6-8 ACTUATOR TO BE MOUNTED IN EXPLOSION PROOF ENCLOSURE. USE LOW VOLTAGE ACTUATOR. MOUNT ACTUATOR ON WALL SYSTEM AND USE JACK SHAFT TO LOUVER IN EXPLOSION RELIEF PANEL.

PUMPS AND CIRCULATORS (P)

UNIT NO.	SERVICE	SIZE	LOCATION	GPM	HEAD (FT. HD)	OPER. TEMP. (°F)	RPM	M O T O R			TYPE	MIN. EFF. %	MANUFACTURER	MODEL	GLYCOL (%)
								HP	VOLTS	PH					
PP-1	PROCESS LOOP	3	MEZZANINE	300	45	180	1,750	7.5	460	3	BASE MOUNT	70	TACO	3007	30 PG
PP-2	PROCESS LOOP	3	MEZZANINE	300	45	180	1,750	7.5	460	3	BASE MOUNT	70	TACO	3007	30 PG
CP-1	MAU COIL	2	MAU-1	75	15	180	1,750	34	460	3	INLINE	60	TACO	1935	30 PG
CP-2	HEAT RECOVERY	1-1/4	MAU-1	36	15	25	1,750	1/2	120	1	INLINE	55	TACO	1911	40 PG
CP-3	BOILER	2	B-1	102	15	180	1,750	34	460	3	INLINE	55	TACO	1935	30 PG
IFP-1	MANIFOLD 1	1-1/2	IF-1	45	25	140	1,750	34	460	3	INLINE	55	TACO	1915	30 PG
IFP-2	MANIFOLD 2	1-1/2	IF-2	45	25	140	1,750	34	460	3	INLINE	55	TACO	1915	30 PG

BOILERS (B)

UNIT NO.	TYPE	KW	OUTPUT MBH	ELECTRICAL				MANUFACTURER	MODEL	
				AMPS	VOLTS	PH	ELEMENTS			STEPS
B-1	ELECTRIC RESISTANCE	300	1,024	361	460	3	30	8	HYDRO STEAM INDUSTRIES	HWR2438

- NOTES:
- PROVIDE LOAD LIMITER DEVICE TO CONTROL DEMAND RESPONSE.
 - PROVIDE DOOR INTERLOCK TO DISABLE OPERATION.
 - PROVIDE PROPORTIONAL STEP CONTROLLER WITH PROGRESSIVE SEQUENCE.

SIDEWALL EXHAUSTER (SE)

UNIT NO.	SERVICE	CFM	TOTAL S.P. (IN. WC)	FAN SPEED (RPM)	OPERATING POWER (BHP)	DRIVE	M O T O R				MOTOR TYPE	WALL OPENING (IN. X IN.)	MANUFACTURER	MODEL
							HP	VOLTS	PH	SPEED CONTROL				
EF-6	COMPACTOR	10,125	0.25	1,160	1.3	DIRECT	1-1/2	460	3	N/A	TEFC	38-34 x 39-34	GREENHECK	SCES30-420
EF-7	COMPACTOR	10,125	0.25	1,160	1.3	DIRECT	1-1/2	460	3	N/A	TEFC	38-34 x 39-34	GREENHECK	SCES30-420
EF-8	ELECTRICAL	2,476	0.25	1,160	0.27	DIRECT	1/4	120	1	N/A	TEFC	27-14 x 27-14	GREENHECK	SCES20-617

- NOTES:
- PROVIDE WITH WALL HOUSING, MOTOR OPERATED DAMPER AND FAN GUARDS.

ROOF EXHAUSTERS (RE)

UNIT NO.	SERVICE	CFM	TOTAL S.P. (IN. WC)	HIGH SPEED (RPM)	OPERATING POWER (BHP)	DRIVE	M O T O R				MOTOR TYPE	PRE-FAB CURB		MANUFACTURER	MODEL
							HP	VOLTS	PHASE	SPEED CONTROL		STD.	ATTEN.		
EF-1	TIPPING FLOOR	3,250	0.60	833	0.65	BELT	3/4	460	3	N/A	EXP	12"	N/A	GREENHECK	GB-200
EF-2	TIPPING FLOOR	3,250	0.60	833	0.65	BELT	3/4	460	3	N/A	EXP	12"	N/A	GREENHECK	GB-200
EF-3	TIPPING FLOOR	3,250	0.60	833	0.65	BELT	3/4	460	3	N/A	EXP	12"	N/A	GREENHECK	GB-200
EF-4	TIPPING FLOOR	3,250	0.60	833	0.65	BELT	3/4	460	3	N/A	EXP	12"	N/A	GREENHECK	GB-200
EF-5	TIPPING FLOOR	1,300	0.60	1,210	0.15	BELT	1/4	120	1	N/A	EXP	12"	N/A	GREENHECK	GB-121

- NOTES:
- SS - SOLID STATE SPEED CONTROL DEVICE.
 - EXP - EXPLOSION PROOF MOTOR.
 - ALUMINUM HOUSING, WHEEL AND RUB RING.

HOT WATER HEATING COIL (HC)

UNIT NO.	SERVES	CFM	MBH	SIZE (IN)		FACE AREA (SQ. FT.)	FACE VELOCITY (FPM)	NUMBER OF ROWS	MAX. APD (IN. WC)	EAT (°F)	LAT (°F)	GPM	EWT (°F)	LWT (°F)	MAX. WPD (FT. HD)	MANUFACTURER	MODEL
				L	W												
HC-1	FC-1	1,000	70	18.5	22	2.75	365	2	0.09	35	95	7	180	160	6.2	CARRIER	HC20X021020

- NOTES:
- CASED, HORIZONTAL COIL SHALL BE MATCHED WITH FAN COIL (FC-1).
 - UNIT CONFIGURATION IS DOWN FLOW WITH COIL ON DISCHARGE OF FAN COIL.

FAN COIL UNIT (FC)

UNIT NO.	SERVICE	UNIT ARRANGEMENT	TOTAL CFM	O.A. CFM	EXT. SP. W/C	FILTER	VOLTS/PH	EAT (°F)		LAT (°F)		TOTAL MBH	SENS. MBH	REFRIGERANT	MANUFACTURER	MODEL
								DB	WB	DB	WB					
FC-1	OFFICE / BREAK	VERTICAL DOWNFLOW	1,000	200	0.50	2" PLEAT	208 / 1	81.1	70.2	55.3	53.7	34.4	17.9	410-A	CARRIER	FY4ANF08

UNIT NO.	SERVICE	COMPRESSOR						CONDENSING FANS				ELECTRICAL		MANUFACTURER	MODEL			
		MBH	TONS	REFRIGERANT TYPE	SUCT. TEMPERATURE (°F)	UNLOADING	H.G. BYPASS	SEER	OUTSIDE AIR TEMPERATURE (°F)	TOTAL CFM	NO.	HP EACH	MOCP			MCA	VOLTS / PHASE	
ACCU-1	FC-1	36	3	410-A	109	1	STAGE	NO	14	95	3800	1	1/5	35	22	208 / 1	CARRIER	24AC436

PLUMBING SYMBOLS, ABBREVIATIONS & SCHEDULES

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED HERE ARE USED IN THE DRAWINGS AND MAY NOT APPLY TO THIS PROJECT. ADDITIONAL SYMBOLS MAY BE INDICATED IN THE DRAWINGS.

PLUMBING ABBREVIATIONS

A	AIR	L	LAVATORY
AFF	ABOVE FINISHED FLOOR	LBS.	POUNDS
ALT	ALTERNATE	LBHR	POUNDS PER HOUR
AP	ACCESS PANEL	MAX	MAXIMUM
APPROX.	APPROXIMATELY	MB	MOP BASIN
ARCH	ARCHITECTURAL	MBH	THOUSANDS OF BTU PER HOUR
AV	ACID VENT	MC	MECHANICAL CONTRACTOR
AVG	AVERAGE	MEP	MECHANICAL, ELECTRICAL AND PLUMBING
AW	ACID WASTE	MER	MECHANICAL EQUIPMENT ROOM
BFF	BELOW FINISHED FLOOR	MEZZ	MEZZANINE
BLDG	BUILDING	MFR	MANUFACTURER
BOT	BOTTOM	MH	MANHOLE
BOP	BOTTOM OF PIPE	MIN	MINIMUM
BT	BATHTUB	MISC	MISCELLANEOUS
BTU	BRITISH THERMAL UNITS	MTD	MOUNTED
BTUH	BRITISH THERMAL UNITS PER HOUR	MTG	MOUNTING
BV	BALANCING VALVE	NA	NOT APPLICABLE
CAP	CEILING ACCESS PANEL	NC	NOT IN CONTRACT
CC	CAPPED CONNECTION	NO	NUMBER
CFH	CUBIC FEET PER MINUTE	NPS	NOMINAL PIPE SIZE
CFM	CUBIC FEET PER HOUR	NTS	NOT TO SCALE
CL	CENTERLINE	OC	ON CENTER
CLG	CEILING	OD	OUTSIDE DIAMETER
CLV	CLEAR WATER VENT	OPI	OWNER FURNISHED, CONTRACTOR INSTALLED
CLW	CLEAR WATER WASTE	OFOI	OWNER FURNISHED, OWNER INSTALLED
CO	CLEANOUT	P	PUMP
COND	CONDUCTOR	PC	PLUMBING CONTRACTOR
CONT	CONTRACTOR	PCF	POUNDS PER CUBIC FOOT
CTR	CENTER	PD	PRESSURE DROP
CU	COPPER	PH	PHASE
CV	CHECK VALVE	PLBG	PLUMBING
CW	COLD WATER	POC	POINT OF CONNECTION
CWFU	COLD WATER FIXTURE UNITS	PP	POLYPROPYLENE
CWS	COLD WATER SOFT	PPH	POUNDS PER HOUR
DD	DRAIN DECK	PRV	PRESSURE RELIEF VALVE
DET	DETAIL	PSF	POUNDS PER SQUARE FOOT
DFU	DRAINAGE FIXTURE UNITS	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	PSIA	POUNDS PER SQUARE INCH ABSOLUTE
DM	DIMENSION	PSIG	POUNDS PER SQUARE INCH GAUGE
DN	DOWN	PVC	POLYVINYL CHLORIDE
DS	DOWNSPOUT	RD	ROOF DRAIN
DT	DRAIN TILE	REC	RECESSED
DTR	DRAIN TILE RECEIVER	RF	ROOF
DWG.	DRAWING	RI	ROUGH-IN
DW	DISH WASHER	RIZ	REDUCED PRESSURE ZONE VALVE
E	EXISTING	RV	RELIEF VALVE
EEW	EMERGENCY EYEWASH	S	SLOPE
ELEV	ELEVATION	SCH	SCHEDULE
EM	EMERGENCY	SH	SHOWER
EQUIP	EQUIPMENT	SHT	SHEET
ES	EMERGENCY SHOWER	SOG	SLAB ON GRADE
ET	EXPANSION TANK	SPEC	SPECIFICATION
ETR	EXISTING TO REMAIN	SQ	SQUARE
EW	ELECTRIC WATER COOLER	SS	STAINLESS STEEL
EWV	ELECTRIC WATER HEATER	SIS	STAINLESS STEEL
EXST	EXISTING	STD	STANDARD
F	FUTURE	T&P	TEMPERATURE AND PRESSURE
FCO	FLOOR CLEANOUT	TBR	TO BE REMOVED
FD	FLOOR DRAIN	TD	TRENCH DRAIN
FE	FINISHED FLOOR ELEVATION	TDU	TOTAL DRAIN FIXTURE UNITS
FLR	FLOOR	TEMP	TEMPERATURE
FP	FIREPROOF	TOP	TOP OF PIPE
FPM	FEET PER MINUTE	TOS	TOP OF SLAB
FPS	FEET PER SECOND	T STAT	THERMOSTAT
FS	FLOOR SINK	TWPU	TOTAL WATER FIXTURE UNITS
F&T	FLOAT AND THERMOSTATIC	TYP	TYPICAL
FT	FEET	UND	UNLESS OTHERWISE NOTED
FTG	FOOTING	V	VENT
FU	FIXTURE UNITS	VB	VACUUM BREAKER
G	GAS	VB	VALVE IN BOX
GAL	GALLON	VTR	VENT THRU ROOF
GC	GENERAL CONTRACTOR	W	WASTE
GPM	GALLONS PER MINUTE	WI	WITH
GPH	GALLONS PER HOUR	WO	WITHOUT
HB	HOSE BIBB	WHA	WATER HAMMER ARRESTOR
HD	HUB DRAIN	WCD	WALL CLEANOUT
HP	HORSE POWER	WC	WATER CLOSET
HVAC	HEATING, VENTILATING & AIR CONDITIONING	WF	WASH FOUNTAIN
HW	HOT WATER	WH	WATER HEATER
HWFU	HOT WATER FIXTURE UNITS	WM	WASHING MACHINE
HWV	HOT WATER RETURN	WSFU	WATER SUPPLY FIXTURE UNITS
ID	INSIDE DIAMETER	WG	WATER GAUGE
IE	INVERT ELEVATION	YCO	YARD CLEAN OUT
IN	INCHES		
KO	KNOCK-OUT		

PIPE FITTINGS

	FLANGE		ELBOW DOWN
	UNION		ELBOW UP
	ANCHOR		TEE DOWN
	PIPE GUIDE		TEE UP
	TEE BRANCH		PIPE CAP
	LINE CONTINUATION BREAK		VALVE IN VERTICAL
	PLUMBING FIXTURE STOPS		DOUBLE WYE
	PIPELINE STRAINER		WYE
			WYE WITH VENT UP

DRAINS AND CLEANOUTS

	FLOOR DRAIN		FIXTURE WASTE TRAP
	FLOOR SINK		CLEANOUT
	ROOF DRAIN		FLOOR CLEANOUT
	HUB DRAIN		

PIPING SYSTEM LABELS

WATER PIPING SYSTEMS:

---	COLD WATER
---	HOT WATER
---	HOT WATER RETURN
---	FIRE PROTECTION
---	TEMPERED WATER

SITE PIPING SYSTEMS:

---	SAN	SANITARY SEWER
---	ST	STORM SEWER
---	W	WATER LINE

WASTE AND VENT SYSTEMS:

---	CWV	CLEARWATER VENT
---	CWVW	CLEARWATER WASTE
---	OD	OVERFLOW DRAIN LINE
---	ST	STORM
---	SSD	SUBSOIL DRAIN LINE
---		UNDERFLOOR FOR WASTE OR SOIL, SUBSOIL
---		STORM & FORCE MAIN
---		SANITARY VENT
---	SAN	WASTE OR SOIL LINE

NOTE:
(E) PRIOR TO SYSTEM TYPE DENOTES EXISTING PIPING
(F) PRIOR TO SYSTEM TYPE DENOTES FUTURE PIPING

PIPE VALVES AND SPECIALTIES

	ANGLE VALVE		BACKFLOW PREVENTER
	BALANCING VALVE		PRESSURE GAUGE
	BALL VALVE		THERMOMETER
	BUTTERFLY VALVE		HOSE BIBB AND WALL HYDRANT
	CHECK VALVE		WATER HAMMER ARRESTOR
	DRAIN VALVE		PRESSURE RELIEF VALVE
	GAS SHUTOFF VALVE		
	GATE VALVE		

REFERENCE SYMBOLS

	DETAIL REFERENCE TOP DESIGNATES DETAIL NUMBER BOTTOM DESIGNATES SHEET NUMBER		EQUIPMENT NAME AND NUMBER
	SECTION REFERENCE TOP DESIGNATES SECTION NUMBER BOTTOM DESIGNATES SHEET NUMBER		PLAN NOTE NUMBER
	ELEVATION SYMBOL		REVISION NUMBER
			POINT OF CONNECTION
			POINT OF DISCONNECTION

WATER SUPPLY CALCULATION

USING THE FORMULA, FIND THE PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100' OF PIPE)

$$A = \frac{84.8 \times H \times 100}{L \times Q^2}$$

WHERE:

A. 10.4 PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100' OF PIPE)

B. 80.0 AVAILABLE PRESSURE AT THE CONTROLLING VALVE.

C. 25.0 PRESSURE NEEDED AT CONTROLLING FIXTURE.

D. 5.2 DIFFERENCE IN ELEVATION BETWEEN WATER METER AND CONTROLLING FIXTURE IN FEET \times .434 PSI/FT

E. 12.0 PRESSURE LOSS DUE TO WATER SOFTENERS, WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS, AND BACKFLOW PREVENTORS. CONVENTIONAL WATER HEATERS USUALLY DO NOT HAVE A PRESSURE LOSS. (EXISTING POOL FILL EQUIP.)

F. 25 DEVELOPED LENGTH FROM WATER METER TO CONTROLLING FIXTURE IN FEET \times 1.5.

WITH PRESSURE AVAILABLE FOR UNIFORM LOSS, GO TO APPLICABLE TABLE FOR DISTRIBUTION SIZING.

PLUMBING EQUIPMENT SCHEDULE

TAG	MANUFACTURER	MODEL NO.	REMARKS
WH-1	A.O. SMITH	DEH46	ELECTRIC WATER HEATER, 66 GALLON STORAGE CAPACITY, 70 DEGREE TEMPERATURE RISE (120 DEGREE DISCHARGE TEMP), 4500W/4500W DUAL ELEMENT, 29 GPM RECOVERY CAPACITY. INCLUDE INSULATION, METAL PROTECTIVE JACKET, T&P RELIEF VALVE, DRAIN VALVE.
EXP-1	AMTROL	ST-5	STEEL EXPANSION TANK, 40 PSIG FACTORY PRE-CHARGED, EPDM DIAPHRAGM, POLYPROPYLENE LINER, 2 GALLON CAPACITY.
CP-1	BELL & GOSSETT	SERIES 100	3/4" 1/2 HP, 120 VOLT, 1 PHASE, ALL BRONZE CIRCULATING PUMP.
TMV-1	LAWLER	911EF	ALL BRONZE THERMOSTATIC MIXING VALVE W/OUTLET TEMPERATURE AT FACTORY SET POINT. NOTE: HOT WATER RETURN TEMPERATURE MUST HAVE MINIMUM 10° TEMPERATURE DECREASE FROM OUTLET TEMPERATURE.
RPBP-1	WATTS	009	3/4" REDUCED PRESSURE ZONE BACKFLOW PREVENTOR, BRONZE BODY CONSTRUCTION, DUAL CHECK VALVE ASSEMBLY.
HB-1	WOODFORD	MODEL 24	WALL HYDRANT WITH INTEGRAL VACUUM BREAKER, 3/4" HOSE THREAD NOZZLE AND LOOSE TEE KEY.

PLUMBING FIXTURE SCHEDULE

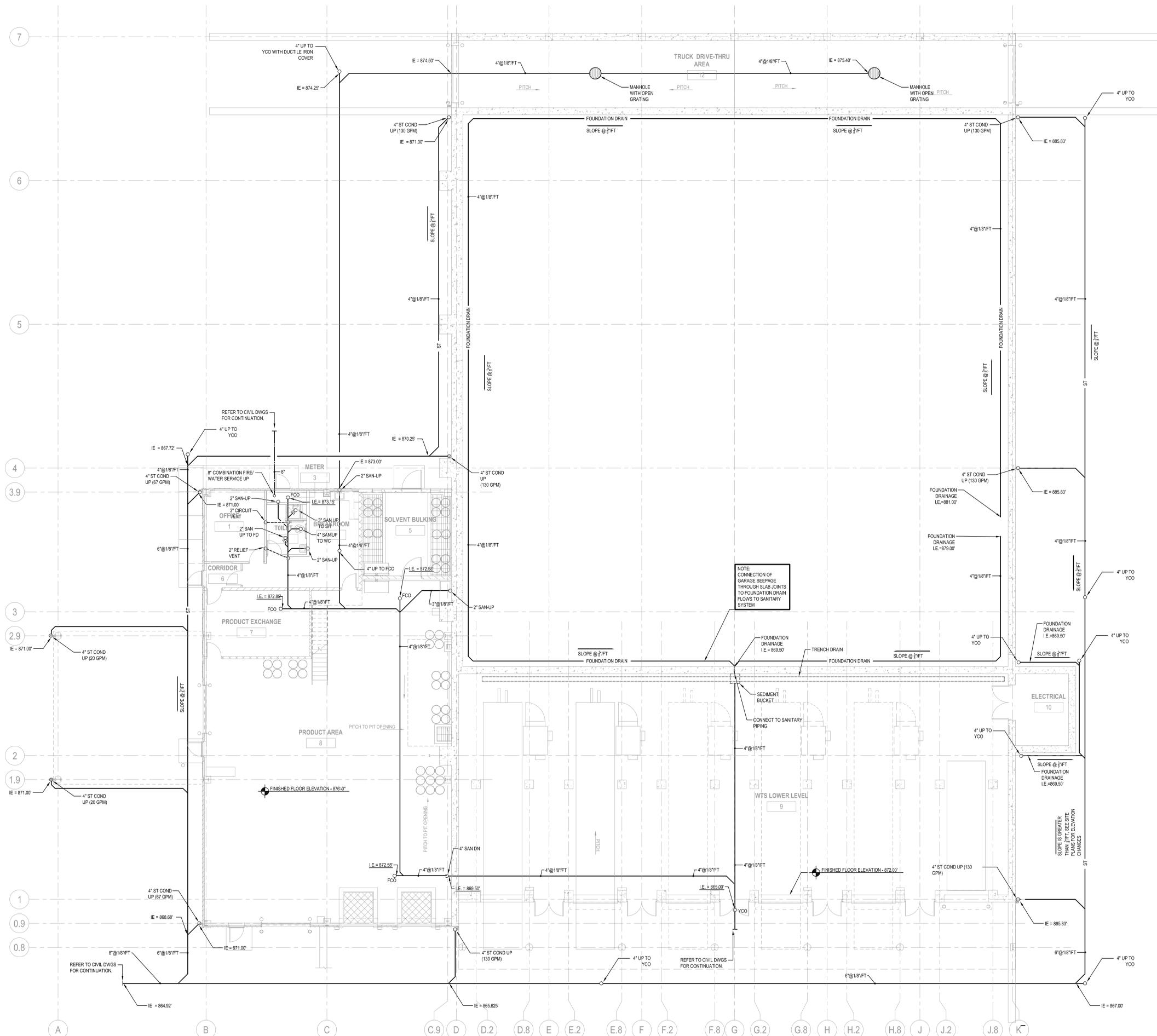
TAG	MANUFACTURER	MODEL NO.	REMARKS
WC-1	KOHLER	WELLCOMME K4349	VITREOUS CHINA, FLOOR OUTLET, 1.6 GALLON MANUAL OPERATED FLUSH VALVE.
	BEMIS	1955-SSC	ENLONGATED OPEN FRONT SEAT, LESS COVER, WITH STAINLESS STEEL SELF-SUSTAINING CHECK HINGE.
	SLOAN	"ROYAL" 111	CHROME PLATED TOP SPUD, 1.6 GALLON MANUAL OPERATED FLUSH VALVE.
L-1	KOHLER	GREENWICH K2032	VITREOUS CHINA, 20" X 18" WALL HUNG, 4" FAUCET CENTERS, ADA COMPLIANT, COLOR WHITE.
	CHICAGO	2200-4E2805CP	MANUAL, SINGLE CONTROL FAUCET, POLISHED CHROME, WITH GRID STRAINER, CERAMIC CARTRIDGES.
	MCGUIRE	PWV8902	1-1/4" x 1-1/2" P-TRAP, BRASS, 17 GAUGE WITH CLEAN-OUT.
		216SCC	ANGLE STOPS AND SUPPLIES.
		PW2000	INSULATION KIT.
		-	PROVIDE COMMERCIAL GRADE CONCEALED ARM LAVATORY CARRIER.
SH-1	SYMMONS	SAFETYMIX 1-100	SAFETYMIX SHOWER SYSTEM WITH PRESSURE-BALANCING MIXING VALVE, LEVER HANDLE, ADJUSTABLE STOP SCREW, BRONZE BODY VALVE, INTEGRAL SERVICE STOPS & ESCUTOCHOC COVER, SHOWER HEAD TO BE CHROME PLATED MOUNTED AT 6'-0" ABOVE FLOOR WITH 2.0 GPM FLOW RESTRICTOR.
S-1	KOHLER	BANNON K4719	CAST IRON, 24" X 20.23" WALL HUNG SERVICE SINK, SINGLE COMPARTMENT, BLANK BACK, ACD RESISTANT FINISH & STAINLESS STEEL RIM GUARD.
	CHICAGO	897-RCF	POLISHED CHROME PLATED WALL MOUNTED SERVICE SINK FAUCET WITH INTEGRAL STOPS.
	KOHLER	K4673	SPOUT OUTLET VACUUM BREAKER
EWISH-1	ACORN	S1310	PEDESTAL MOUNTED COMBINATION SHOWER/EYEWASH STATION, PLASTIC BOWL, STAY-OPEN 1/2" BALL VALVE WITH PUSH HANDLE, PLASTIC SHOWERHEAD AND 1" STAY-OPEN BALL VALVE WITH PULL ROD, 20 GPM SHOWERHEAD.

PLUMBING DRAIN AND CLEANOUT SCHEDULE

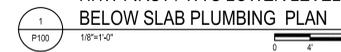
TAG	MANUFACTURER	MODEL NO.	REMARKS
FD-1	ZURN	Z415-B	CAST IRON BODY, ADJUSTABLE STRAINER HEAD, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH NICKEL BRONZE TOP.
TD-1	ABT DRAINS, INC.	TF-14 TRENCH DRAIN FORMING SYSTEM	CAST-IN-PLACE TRENCH DRAIN AND CATCH BASIN, PRE-ANUFACTURED FORMING INSERTS WITH TRENCH DRAIN RAILS AND TF-14 SLOTTED DUCTILE IRON GRATE (HEAVY DUTY).
HD-1	ZURN	Z-326-DB	CAST IRON BODY, 9" INDIRECT WASTE FUNNEL WITH DOME BOTTOM STRAINER.
HD-2	ZURN	Z-415-E	CAST IRON BODY, ADJUSTABLE STRAINER HEAD, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH NICKEL BRONZE TOP WITH 4" DIA FUNNEL.
FCO	ZURN	Z1400-BP	CAST IRON BODY, ADJUSTABLE FLOOR CLEANOUT WITH NICKEL BRONZE TOP AND GAS AND WATERTIGHT ABS TAPERED BRONZE PLUG (USE IN FINISHED AREAS).
		Z1474	CAST IRON BODY, HEAVY DUTY CLEANOUT HOUSING, WITH NICKEL BROZE TOP AND INTERNAL CLEANOUT (USE IN UNFINISHED AREAS, MECHANICAL ROOMS, JANITOR CLOSETS, ETC.).
YCO	ZURN	Z1440-BP	CAST IRON BODY FERRULE WITH BRONZE PLUG. PROVIDE WITH FROST SLEEVE AND HEAVY DUTY WATER TIGHT TOP.
WCO	ZURN	Z1468	ROUND STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW, BRONZE RAISED HEX HEAD PLUG.
CO	ZURN	Z1440-BP	CAST IRON BODY FERRULE WITH BRONZE PLUG.

SHEET INDEX

P000 - PLUMBING SYMBOLS, ABBREVIATIONS & SCHEDULES
P100 - HHW FIRST/WTS LOWER LEVEL BELOW SLAB PLUMBING PLAN
P101 - HHW FIRST/WTS LOWER LEVEL PLUMBING PLAN
P102 - HHW MEZZANINE/WTS UPPER LEVEL PLUMBING PLAN
P300 - PLUMBING ISOMETRICS
P500 - PLUMBING DETAILS
FP101 - HHW FIRST/WTS LOWER LEVEL FIRE PROTECTION PLAN
FP102 - HHW MEZZANINE/WTS UPPER LEVEL FIRE PROTECTION PLAN



HHW FIRST / WTS LOWER LEVEL
BELOW SLAB PLUMBING PLAN





HHW FIRST / WTS LOWER LEVEL
 PLUMBING PLAN



PROJECT INFORMATION:

PROJECT NUMBER: 2009-0328.00
 DATE: 05-11-2010
 DRAWN BY: BEJ
 CHECKED BY: RAK
 APPROVED BY: PDZ
 SCALE: AS NOTED

SHEET TITLE:

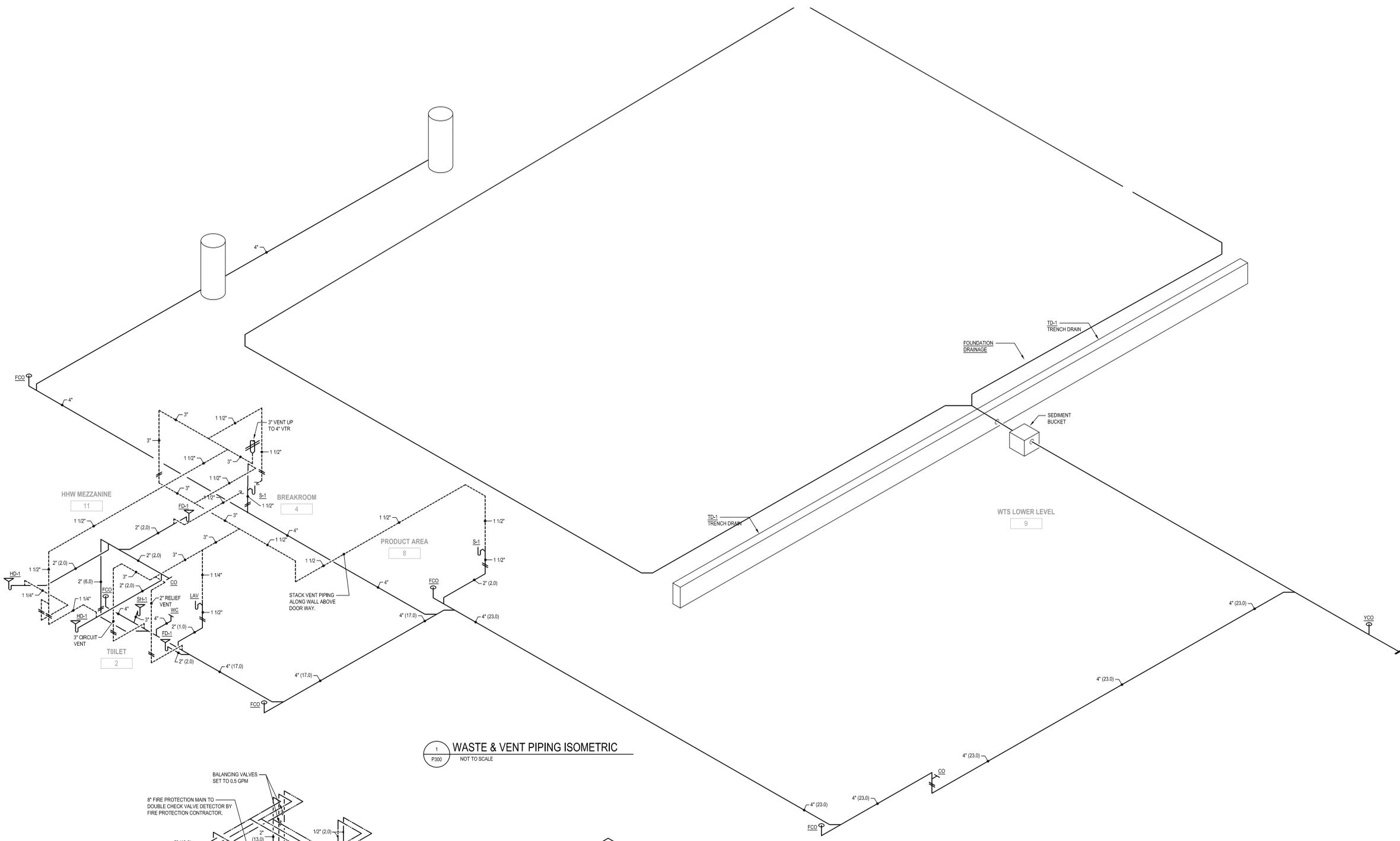
HHW FIRST/WTS LOWER LEVEL
 PLUMBING PLAN

SHEET NUMBER:

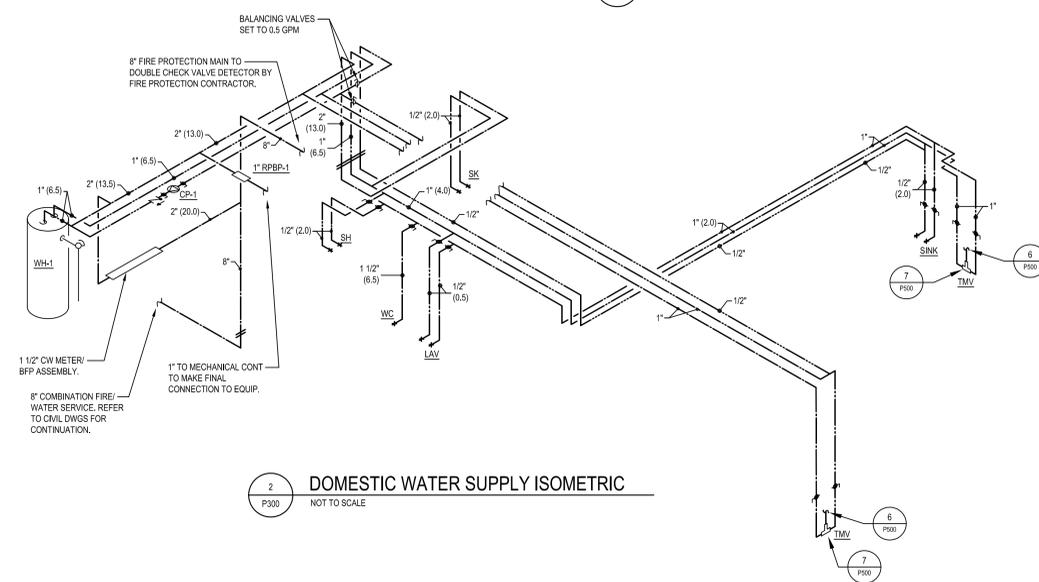


Approximate Boiler
Installation Location

1
P102
HHW MEZZANINE / WTS UPPER
LEVEL PLUMBING PLAN
1/8"=1'-0"
0 4' 8"



1 WASTE & VENT PIPING ISOMETRIC
 P300 NOT TO SCALE



2 DOMESTIC WATER SUPPLY ISOMETRIC
 P300 NOT TO SCALE