



TRANE®

Village of Orland Park – Village Hall Boiler System Replacement



Village Hall Boiler System Replacement



14700 Ravinia Ave, Orland Park, IL 60462

Proposal Prepared For:

Village of Orland Park:

- George Koczwara - *Village Manager*
- Joel Van Essen - *Director of Public Works*
- Mike Mazza - *Operations Manager - Natural Resources & Facilities*
- Scott Hiland - *Supervisor - Natural Resources & Facilities*

Date:

June 4th, 2024

Payment Terms:

Net 30

Delivery Terms:

Freight Allowed and Prepaid – F.O.B Factory

Proposal Expiration Date:

30 Days

OMNIA Partners Cooperative Quote Number: R1-192278-24-003

OMNIA Partners Cooperative Contract Number: Trane Racine #3341

Trane® Commercial HVAC, Upper Midwest Region
7100 S. Madison Street Willowbrook, IL 60527 United States Tel (888) 770-6469

TRANE
TECHNOLOGIES



Trane® Turnkey Scope of Work

“Scope of Work” and notations within are based on the existing as-built drawings of the facility and on the multiple site surveys performed by the Trane Turnkey team with the Village of Orland Park staff’s assistance and input.

High Efficiency Boiler System Replacement

Demolition/Removals:

- Mechanical and Electrical disconnects
- Disconnect piping, gas, flue
- Demo/removal/disposal of existing boilers (Qty 2), flues, mixing valve, and air separator
- Test existing hot water flow and hydronic heating water
- Demo boiler control panel
- Demo boiler room exhaust fan and duct
- Demo boiler combustion air duct and cap connection at main duct

Furnish and Install:

- **High Efficiency Condensing Boilers (Quantity 2)**
 - o Riello Array Model, 2000 MBH
 - o Warranty 18 months from shipment, or 12 months from startup
 - o 10-year Heat Exchangers Warranty
- **Variable Frequency Drives (Quantity 2) for existing pumps**
- **Suction diffusers, 3D valves, and trumpet valves**
- **Wessels air/dirt separator**
- **Expansion Tank**
- **Hoisting, cartage, and work-planning for safe removal and installation**
- **Mechanical Installation:**
 - o Set/install new boilers (Qty 2) with new gas regulators and neutralizing basins
 - o Re-pipe (upsized 3” to 4”) hot water piping in mechanical room, excluding pipe drops to pumps
 - o Hot water pipe insulation
 - o Gas piping
 - o Condensate drain line
 - o Cold air intake and Flue
 - o Install replacement bypass/pot feeder
 - o Install new expansion tank
 - o Fill, test, and flush
 - o Chemical treatment
 - o Install side stream filters
 - o Reuse existing secondary hot water pumps and water heater



- **Electrical Installation:**
 - o Power to boilers (Qty 2)
 - o New circuit breakers in existing 208V panel for new boilers
 - o Control wiring to boilers and pumps
 - o Emergency stops
- **Controls/BAS**
 - o New Trane Controls for Boiler Plant system & components
 - o Trane Tracer SC+ Controller
 - o Comm to boiler for setpoint control and alarm monitoring
 - o Hot water setpoint reset
- **Testing & Balancing of hot water system**
- **Start Up**
- **Commissioning**

Trane® Turnkey Inclusions for Village of Orland Park

- **Mechanical & Electrical Engineering**
- **Trane Turnkey Project Manager, Single Point of Contact**
- **All required Installation/Subcontracting for Scope of Work items**
- **Engineered Design Plans provided to Village of Orland Park**
- **Temporary storage of all equipment, delivery to jobsite on day of installation**
- **Trane will assist with document prep required for Permits**
- **Performance and Payment Bond**
- **1-year labor and materials warranty on all Equipment**

General Exclusions:

- Permit costs & fees
- Taxes
- Asbestos abatement
- Premium time
- Upgrading existing non-compliant code issues outside of our Scope of Work
- Temporary services
- Any other services not explicitly outlined within this Proposal



Total Turnkey Proposal Price.....\$419,875

Respectfully submitted,

Tim Reynolds

Account Executive

Trane® Turnkey Contracting

312.771.7436 cell

Timothy.Reynolds@trane.com

Acceptance of Proposal By

Customer: Village of Orland Park

Name

Title

Date

Signature

Purchase Order #: _____

OMNIA Partners Cooperative Quote Number: R1-192278-24-003



COVID-19 NATIONAL EMERGENCY CLAUSE

The parties agree that they are entering into this Agreement while the nation is in the midst of a national emergency due to the Covid-19 pandemic ("Covid-19 Pandemic"). With the continued existence of Covid-19 Pandemic and the evolving guidelines and executive orders, it is difficult to determine the impact of the Covid-19 Pandemic on Trane's performance under this Agreement. Consequently, the parties agree as follows:

1. Each party shall use commercially reasonable efforts to perform its obligations under the Agreement and to meet the schedule and completion dates, subject to provisions below;
2. Each party will abide by any federal, state or local orders, directives, or advisories regarding the Covid-19 Pandemic with respect to its performance of its obligations under this Agreement and each shall have the sole discretion in determining the appropriate and responsible actions such party shall undertake to so abide or to safeguard its employees, subcontractors, agents and suppliers;
3. Each party shall use commercially reasonable efforts to keep the other party informed of pertinent updates or developments regarding its obligations as the Covid-19 Pandemic situation evolves; and
4. If Trane's performance is delayed or suspended as a result of the Covid-19 Pandemic, Trane shall be entitled to an equitable adjustment to the project schedule and/or the contract price.

TERMS AND CONDITIONS – COMMERCIAL INSTALLATION

"Company" shall mean Trane U.S. Inc. for Work performed in the United States or Trane Canada ULC for Work performed in Canada.

1. Acceptance; Agreement. These terms and conditions are an integral part of Company's offer and form the basis of any agreement (the "Agreement") resulting from Company's proposal (the "Proposal") for the commercial goods and/or services described (the "Work"). **COMPANY'S TERMS AND CONDITIONS AND EQUIPMENT PRICES ARE SUBJECT TO PERIODIC CHANGE OR AMENDMENT.** The Proposal is subject to acceptance in writing by the party to whom this offer is made or an authorized agent ("Customer") delivered to Company within 30 days from the date of the Proposal. Prices in the Proposal are subject to change at any time upon notice to Customer. If Customer accepts the Proposal by placing an order, without the addition of any other terms and conditions of sale or any other modification, Customer's order shall be deemed acceptance of the Proposal subject to Company's terms and conditions. If Customer's order is expressly conditioned upon Company's acceptance or assent to terms and/or conditions other than those expressed herein, return of such order by Company with Company's terms and conditions attached or referenced serves as Company's notice of objection to Customer's terms and as Company's counteroffer to provide Work in accordance with the Proposal and the Company terms and conditions. If Customer does not reject or object in writing to Company within 10 days, Company's counteroffer will be deemed accepted. Notwithstanding anything to the contrary herein, Customer's acceptance of the Work by Company will in any event constitute an acceptance by Customer of Company's terms and conditions. This Agreement is subject to credit approval by Company. Upon disapproval of credit, Company may delay or suspend performance or, at its option, renegotiate prices and/or terms and conditions with Customer. If Company and Customer are unable to agree on such revisions, this Agreement shall be cancelled without any liability, other than Customer's obligation to pay for Work rendered by Company to the date of cancellation.

2. Connected Services. In addition to these terms and conditions, the Connected Services Terms of Service ("Connected Services Terms"), available at <https://www.trane.com/TraneConnectedServicesTerms>, as updated from time to time, are incorporated herein by reference and shall apply to the extent that Company provides Customer with Connected Services, as defined in the Connected Services Terms.

3. Title and Risk of Loss. All Equipment sales with destinations to Canada or the U.S. shall be made as follows: FOB Company's U.S. manufacturing facility or warehouse (full freight allowed). Title and risk of loss or damage to Equipment will pass to Customer upon tender of delivery of such to carrier at Company's U.S. manufacturing facility or warehouse.



4. Pricing and Taxes. Unless otherwise noted, the price in the Proposal includes standard ground transportation and, if required by law, all sales, consumer, use and similar taxes legally enacted as of the date hereof for equipment and material installed by Company. Tax exemption is contingent upon

Customer furnishing appropriate certificates evidencing Customer's tax-exempt status. Company shall charge Customer additional costs for bonds agreed to be provided. Equipment sold on an uninstalled basis and any taxable labor/labour do not include sales tax and taxes will be added. Within

thirty (30) days following Customer acceptance of the Proposal without addition of any other terms and conditions of sale or any modification, Customer shall provide notification of release for immediate production at Company's factory. Prices for Work are subject to change at any time prior to shipment to reflect any cost increases related to the manufacture, supply, and shipping of goods. This includes, but is not limited to, cost increases in raw materials, supplier components, labor, utilities, freight, logistics, wages and benefits, regulatory compliance, or any other event beyond Company's control. If such release is not received within 6 months after date of order receipt, Company reserves the right to cancel any order. If shipment is delayed due to Customer's actions, Company may also charge Customer storage fees. Company shall be entitled to equitable adjustments in the contract price to reflect any cost increases as set forth above and will provide notice to Customer prior to the date for which the increased price is to be in effect for the applicable customer contract. In no event will prices be decreased.

5. Exclusions from Work. Company's obligation is limited to the Work as defined and does not include any modifications to the Work site under the Americans With Disabilities Act or any other law or building code(s). In no event shall Company be required to perform work Company reasonably believes is outside of the defined Work without a written change order signed by Customer and Company.

6. Performance. Company shall perform the Work in accordance with industry standards generally applicable in the area under similar circumstances as of the time Company performs the Work. Company may refuse to perform any Work where working conditions could endanger property or put at risk the safety of persons. Unless otherwise agreed to by Customer and Company, at Customer's expense and before the Work begins, Customer will provide any necessary access platforms, catwalks to safely perform the Work in compliance with OSHA or state industrial safety regulations.

7. Payment. Customer shall pay Company's invoices within net 30 days of invoice date. Company may invoice Customer for all equipment or material furnished, whether delivered to the installation site or to an off-site storage facility and for all Work performed on-site or off-site. No retention shall be withheld from any payments except as expressly agreed in writing by Company, in which case retention shall be reduced per the contract documents and released no later than the date of substantial completion. Under no circumstances shall any retention be withheld for the equipment portion of the order. If payment is not received as required, Company may suspend performance and the time for completion shall be extended for a reasonable period of time not less than the period of suspension. Customer shall be liable to Company for all reasonable shutdown, standby and start-up costs as a result of the suspension. Company reserves the right to add to any account outstanding for more than 30 days a service charge equal to 1.5% of the principal amount due at the end of each month. Customer shall pay all costs (including attorneys' fees) incurred by Company in attempting to collect amounts due and otherwise enforcing these terms and conditions. If requested, Company will provide appropriate lien waivers upon receipt of payment. Customer agrees that, unless Customer makes payment in advance, Company will have a purchase money security interest in all equipment from Company to secure payment in full of all amounts due Company and its order for the equipment, together with these terms and conditions, form a security agreement. Customer shall keep the equipment free of all taxes and encumbrances, shall not remove the equipment from its original installation point and shall not assign or transfer any interest in the equipment until all payments due Company have been made.

8. Time for Completion. Except to the extent otherwise expressly agreed in writing signed by an authorized representative of Company, all dates provided by Company or its representatives for commencement, progress or completion are estimates only. While Company shall use commercially reasonable efforts to meet such estimated dates, Company shall not be responsible for any damages for its failure to do so. Delivery dates are approximate and not guaranteed. Company will use commercially reasonable efforts to deliver the Equipment on or before the estimated delivery date, will notify Customer if the estimated delivery dates cannot be honored, and will deliver the Equipment and services as soon as practicable thereafter. In no event will Company be liable for any damages or expenses caused by delays in delivery.

9. Access. Company and its subcontractors shall be provided access to the Work site during regular business hours, or such other hours as may be requested by Company and acceptable to the Work site' owner or tenant for the performance of the Work, including sufficient areas for staging, mobilization, and storage. Company's access to correct any emergency condition shall not be restricted. Customer grants to Company the right to remotely connect (via phone modem, internet or other agreed upon means) to Customer's building automation system (BAS) and/or HVAC equipment to view, extract, or otherwise collect and retain data from the BAS, HVAC equipment, or other building systems, and to diagnose and remotely make repairs at Customer's request.



10. Completion. Notwithstanding any other term or condition herein, when Company informs Customer that the Work has been completed, Customer shall inspect the Work in the presence of Company's representative, and Customer shall either (a) accept the Work in its entirety in writing, or (b) accept the Work in part and specifically identify, in writing, any exception items. Customer agrees to re-inspect any and all excepted items as soon as Company informs Customer that all such excepted items have been completed. The initial acceptance inspection shall take place within ten (10) days from the date when Company informs Customer that the Work has been completed. Any subsequent re-inspection of excepted items shall take place within five (5) days from the date when Company informs Customer that the excepted items have been completed. Customer's failure to cooperate and complete any of said inspections within the required time limits shall constitute complete acceptance of the Work as of ten (10) days from date when Company informs Customer that the Work, or the excepted items, if applicable, has/have been completed.

11. Permits and Governmental Fees. Company shall secure (with Customer's assistance) and pay for building and other permits and governmental fees, licenses, and inspections necessary for proper performance and completion of the Work which are legally required when bids from Company's subcontractors are received, negotiations thereon concluded, or the effective date of a relevant Change Order, whichever is later. Customer is responsible for necessary approvals, easements, assessments and charges for construction, use or occupancy of permanent structures or for permanent changes to existing facilities. If the cost of such permits, fees, licenses and inspections are not included in the Proposal, Company will invoice Customer for such costs.

12. Utilities During Construction. Customer shall provide without charge to Company all water, heat, and utilities required for performance of the Work.

13. Concealed or Unknown Conditions. In the performance of the Work, if Company encounters conditions at the Work site that are (i) subsurface or otherwise concealed physical conditions that differ materially from those indicated on drawings expressly incorporated herein or (ii) unknown physical conditions of an unusual nature that differ materially from those conditions ordinarily found to exist and generally recognized as inherent in construction activities of the type and character as the Work, Company shall notify Customer of such conditions promptly, prior to significantly disturbing same. If such conditions differ materially and cause an increase in Company's cost of, or time required for, performance of any part of the Work, Company shall be entitled to, and Customer shall consent by Change Order to, an equitable adjustment in the Contract Price, contract time, or both.

14. Pre-Existing Conditions. Company is not liable for any claims, damages, losses, or expenses, arising from or related to conditions that existed in, on, or upon the Work site before the Commencement Date of this Agreement ("Pre-Existing Conditions"), including, without limitation, damages, losses, or expenses involving Pre-Existing Conditions of building envelope issues, mechanical issues, plumbing issues, and/or indoor air quality issues involving mold/mould and/or fungi. Company also is not liable for any claims, damages, losses, or expenses, arising from or related to work done by or services provided by individuals or entities that are not employed by or hired by Company.

15. Asbestos and Hazardous Materials. Company's Work and other services in connection with this Agreement expressly excludes any identification, abatement, cleanup, control, disposal, removal or other work connected with asbestos, polychlorinated biphenyl ("PCB"), or other hazardous materials (hereinafter, collectively, "Hazardous Materials"). Customer warrants and represents that, except as set forth in a writing signed by Company, there are no Hazardous Materials on the Work site that will in any way affect Company's Work and Customer has disclosed to Company the existence and location of any Hazardous Materials in all areas within which Company will be performing the Work. Should Company become aware of or suspect the presence of Hazardous Materials, Company may immediately stop work in the affected area and shall notify Customer. Customer will be exclusively responsible for taking any and all action necessary to correct the condition in accordance with all applicable laws and regulations. Customer shall be exclusively responsible for and, to the fullest extent permitted by law, shall indemnify and hold harmless Company (including its employees, agents and subcontractors) from and against any loss, claim, liability, fees, penalties, injury (including death) or liability of any nature, and the payment thereof arising out of or relating to any Hazardous Materials on or about the Work site, not brought onto the Work site by Company. Company shall be required to resume performance of the Work in the affected area only in the absence of Hazardous Materials or when the affected area has been rendered harmless. In no event shall Company be obligated to transport or handle Hazardous Materials, provide any notices to any governmental agency, or examine the Work site for the presence of Hazardous Materials.



16. Force Majeure. Company's duty to perform under this Agreement is contingent upon the non-occurrence of an Event of Force Majeure. If Company shall be unable to carry out any material obligation under this Agreement due to an Event of Force Majeure, this Agreement shall at Company's election (i) remain in effect but Company's obligations shall be suspended until the uncontrollable event terminates or (ii) be terminated upon 10 days' notice to Customer, in which event Customer shall pay Company for all parts of the Work furnished to the date of termination. An "Event of Force Majeure" shall mean any cause or event beyond the control of Company. Without limiting the foregoing, "Event of Force Majeure" includes: acts of God; acts of terrorism, war or the public enemy; flood; earthquake; tornado; storm; fire; civil disobedience; pandemic insurrections; riots; labor/labour disputes; labor/labour or material shortages; sabotage; restraint by court order or public authority (whether valid or invalid), and action or non-action by or inability to obtain or keep in force the necessary governmental authorizations, permits, licenses, certificates or approvals if not caused by Company; and the requirements of any applicable government in any manner that diverts either the material or the finished product to the direct or indirect benefit of the government.

17. Customer's Breach. Each of the following events or conditions shall constitute a breach by Customer and shall give Company the right, without an election of remedies, to terminate this Agreement or suspend performance by delivery of written notice: (1) Any failure by Customer to pay amounts when due; or (2) any general assignment by Customer for the benefit of its creditors, or if Customer becomes bankrupt or insolvent or takes the benefit of any statute for bankrupt or insolvent debtors, or makes or proposes to make any proposal or arrangement with creditors, or if any steps are taken for the winding up or other termination of Customer or the liquidation of its assets, or if a trustee, receiver, or similar person is appointed over any of the assets or interests of Customer; (3) Any representation or warranty furnished by Customer in this Agreement is false or misleading in any material respect when made; or (4) Any failure by Customer to perform or comply with any material provision of this Agreement. Customer shall be liable to Company for all Work furnished to date and all damages sustained by Company (including lost profit and overhead)

18. Indemnity. To the fullest extent permitted by law, Company and Customer shall indemnify, defend and hold harmless each other from any and all claims, actions, costs, expenses, damages and liabilities, including reasonable attorneys' fees, resulting from death or bodily injury or damage to real or tangible personal property, to the extent caused by the negligence or misconduct of their respective employees or other authorized agents in connection with their activities within the scope of this Agreement. Neither party shall indemnify the other against claims, damages, expenses or liabilities to the extent attributable to the acts or omissions of the other party. If the parties are both at fault, the obligation to indemnify shall be proportional to their relative fault. The duty to indemnify will continue in full force and effect, notwithstanding the expiration or early termination hereof, with respect to any claims based on facts or conditions that occurred prior to expiration or termination.

19. Limitation of Liability. NOTWITHSTANDING ANYTHING TO THE CONTRARY, IN NO EVENT SHALL COMPANY BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT CONSEQUENTIAL, OR PUNITIVE OR EXEMPLARY DAMAGES (INCLUDING WITHOUT LIMITATION BUSINESS INTERRUPTION, LOST DATA, LOST REVENUE, LOST PROFITS, LOST DOLLAR SAVINGS, OR LOST ENERGY USE SAVINGS, INCLUDING CONTAMINANTS LIABILITIES, EVEN IF A PARTY HAS BEEN ADVISED OF SUCH POSSIBLE DAMAGES OR IF SAME WERE REASONABLY FORESEEABLE AND REGARDLESS OF WHETHER THE CAUSE OF ACTION IS FRAMED IN CONTRACT, NEGLIGENCE, ANY OTHER TORT, WARRANTY, STRICT LIABILITY, OR PRODUCT LIABILITY). In no event will Company's liability in connection with the provision of products or services or otherwise under this Agreement exceed the entire amount paid to Company by Customer under this Agreement.

20. CONTAMINANTS LIABILITY

The transmission of COVID-19 may occur in a variety of ways and circumstances, many of the aspects of which are currently not known. HVAC systems, products, services and other offerings have not been tested for their effectiveness in reducing the spread of COVID-19, including through the air in closed environments. **IN NO EVENT WILL COMPANY BE LIABLE UNDER THIS AGREEMENT OR OTHERWISE FOR ANY INDEMNIFICATION, ACTION OR CLAIM, WHETHER BASED ON WARRANTY, CONTRACT, TORT OR OTHERWISE, FOR ANY BODILY INJURY (INCLUDING DEATH), DAMAGE TO PROPERTY, OR ANY OTHER LIABILITIES, DAMAGES OR COSTS RELATED TO CONTAMINANTS (INCLUDING THE SPREAD, TRANSMISSION, MITIGATION, ELIMINATION, OR CONTAMINATION THEREOF) (COLLECTIVELY, "CONTAMINANT LIABILITIES") AND CUSTOMER HEREBY EXPRESSLY RELEASES COMPANY FROM ANY SUCH CONTAMINANTS LIABILITIES.**

21. Patent Indemnity. Company shall protect and indemnify Customer from and against all claims, damages, judgments and loss arising from infringement or alleged infringement of any United States patent by any of the goods manufactured by Company and delivered hereunder, provided that in the event of suit or threat of suit for patent infringement, Company shall promptly be notified and given full opportunity to negotiate a settlement. Company does not warrant against infringement by reason of Customer's design of the articles or the use thereof in combination with other materials or in the operation of any process. In the event of litigation, Customer agrees to reasonably cooperate with Company. In connection with any proceeding under the provisions of this Section, all parties concerned shall be entitled to be represented by counsel at their own expense.



22. Limited Warranty. Company warrants for a period of 12 months from the date of substantial completion ("Warranty Period") commercial equipment manufactured and installed by Company against failure due to defects in material and manufacture and that the labor/labour furnished is warranted to have been properly performed (the "Limited Warranty"). Trane equipment sold on an uninstalled basis is warranted in accordance with Company's standard warranty for supplied equipment. **Product manufactured by Company that includes required startup and is sold in North America will not be warranted by Company unless Company performs the product start-up.** Substantial completion shall be the earlier of the date that the Work is sufficiently complete so that the Work can be utilized for its intended use or the date that Customer receives beneficial use of the Work. If such defect is discovered within the Warranty Period, Company will correct the defect or furnish replacement equipment (or, at its option, parts therefor) and, if said equipment was installed pursuant hereto, labor/labour associated with the replacement of parts or equipment not conforming to this Limited Warranty. Defects must be reported to Company within the Warranty Period. Exclusions from this Limited Warranty include damage or failure arising from: wear and tear; corrosion, erosion, deterioration; Customer's failure to follow the Company-provided maintenance plan; refrigerant not supplied by Company; and modifications made by others to Company's equipment. Company shall not be obligated to pay for the cost of lost refrigerant. Notwithstanding the foregoing, all warranties provided herein terminate upon termination or cancellation of this Agreement. No warranty liability whatsoever shall attach to Company until the Work has been paid for in full and then said liability shall be limited to the lesser of Company's cost to correct the defective Work and/or the purchase price of the equipment shown to be defective. Equipment, material and/or parts that are not manufactured by Company ("Third-Party Product(s)") are not warranted by Company and have such warranties as may be extended by the respective manufacturer. **CUSTOMER UNDERSTANDS THAT COMPANY IS NOT THE MANUFACTURER OF ANY THIRD-PARTY PRODUCT(S) AND ANY WARRANTIES, CLAIMS, STATEMENTS, REPRESENTATIONS, OR SPECIFICATIONS ARE THOSE OF THE THIRD-PARTY MANUFACTURER, NOT COMPANY AND CUSTOMER IS NOT RELYING ON ANY WARRANTIES, CLAIMS, STATEMENTS, REPRESENTATIONS, OR SPECIFICATIONS REGARDING THE THIRD-PARTY PRODUCT THAT MAY BE PROVIDED BY COMPANY OR ITS AFFILIATES, WHETHER ORAL OR WRITTEN. THE WARRANTY AND LIABILITY SET FORTH IN THIS AGREEMENT ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHERS ARISING FROM COURSE OF DEALING OR TRADE. COMPANY MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, INCLUDING WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE. ADDITIONALLY, COMPANY MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND REGARDING PREVENTING, ELIMINATING, REDUCING OR INHIBITING ANY MOLD, FUNGUS, BACTERIA, VIRUS, MICROBIAL GROWTH, OR ANY OTHER CONTAMINANTS (INCLUDING COVID-19 OR ANY SIMILAR VIRUS) (COLLECTIVELY, "CONTAMINANTS"), WHETHER INVOLVING OR IN CONNECTION WITH EQUIPMENT, ANY COMPONENT THEREOF, SERVICES OR OTHERWISE. IN NO EVENT SHALL COMPANY HAVE ANY LIABILITY FOR THE PREVENTION, ELIMINATION, REDUCTION OR INHIBITION OF THE GROWTH OR SPREAD OF SUCH CONTAMINANTS INVOLVING OR IN CONNECTION WITH ANY EQUIPMENT, THIRD-PARTY PRODUCT, OR ANY COMPONENT THEREOF, SERVICES OR OTHERWISE AND CUSTOMER HEREBY SPECIFICALLY ACKNOWLEDGES AND AGREES THERETO.**

23. Insurance. Company agrees to maintain the following insurance while the Work is being performed with limits not less than shown below and will, upon request from Customer, provide a Certificate of evidencing the following coverage:

Commercial General Liability	\$2,000,000 per occurrence
Automobile Liability	\$2,000,000 CSL
Workers Compensation	Statutory Limits

If Customer has requested to be named as an additional insured under Company's insurance policy, Company will do so but only subject to Company's manuscript additional insured endorsement under its primary Commercial General Liability policies. In no event does Company waive its right of subrogation.

24. Commencement of Statutory Limitation Period. Except as to warranty claims, as may be applicable, any applicable statutes of limitation for acts or failures to act shall commence to run, and any alleged cause of action stemming therefrom shall be deemed to have accrued, in any and all events not later than the last date that Company or its subcontractors physically performed work on the project site.

25. General. Except as provided below, to the maximum extent provided by law, this Agreement is made and shall be interpreted and enforced in accordance with the laws of the state or province in which the Work is performed, without regard to choice of law principles which might otherwise call for the application of a different state's or province's law. Any dispute arising under or relating to this Agreement that is not disposed of by agreement shall be decided by litigation in a court of competent jurisdiction located in the state or province in which the Work is performed. Any action or suit arising out of or related to this Agreement must be commenced within one year after the cause of action has accrued. To the extent the Work site is owned

Trane® Commercial HVAC, Upper Midwest Region

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and/or operated by any agency of the Federal Government, determination of any substantive issue of law shall be according to the Federal common law of Government contracts as enunciated and applied by Federal judicial bodies and boards of contract appeals of the Federal Government. This Agreement contains all of the agreements, representations and understandings of the parties and supersedes all previous understandings, commitments or agreements, oral or written, related to the subject matter hereof. This Agreement may not be amended, modified or terminated except by a writing signed by the parties hereto. No documents shall be incorporated herein by reference except to the extent Company is a signatory thereon. If any term or condition of this Agreement is invalid, illegal or incapable of being enforced by any rule of law, all other terms and conditions of this Agreement will nevertheless remain in full force and effect as long as the economic or legal substance of the transaction contemplated hereby is not affected in a manner adverse to any party hereto. Customer may not assign, transfer, or convey this Agreement, or any part hereof, or its right, title or interest herein, without the written consent of the Company. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of Customer's permitted successors and assigns. This Agreement may be executed in several counterparts, each of which when executed shall be deemed to be an original, but all together shall constitute but one and the same Agreement. A fully executed facsimile copy hereof or the several counterparts shall suffice as an original.

26. Equal Employment Opportunity/Affirmative Action Clause. Company is a federal contractor that complies fully with Executive Order 11246, as amended, and the applicable regulations contained in 41 C.F.R. Parts 60-1 through 60-60, 29 U.S.C. Section 793 and the applicable regulations contained in 41 C.F.R. Part 60-741; and 38 U.S.C. Section 4212 and the applicable regulations contained in 41 C.F.R. Part 60-250 Executive Order 13496 and Section 29 CFR 471, appendix A to subpart A, regarding the notice of employee rights in the United States and with Canadian Charter of Rights and Freedoms Schedule B to the Canada Act 1982 (U.K.) 1982, c. 11 and applicable Provincial Human Rights Codes and employment law in Canada.

27. U.S. Government Work.

The following provision applies only to direct sales by Company to the US Government. The Parties acknowledge that all items or services ordered and delivered under this Agreement are Commercial Items as defined under Part 12 of the Federal Acquisition Regulation (FAR). In particular, Company agrees to be bound only by those Federal contracting clauses that apply to "commercial" suppliers and that are contained in FAR 52.212-5(e)(1). Company complies with 52.219-8 or 52.219-9 in its service and installation contracting business.

The following provision applies only to indirect sales by Company to the US Government. As a Commercial Item Subcontractor, Company accepts only the following mandatory flow down provisions in effect as of the date of this subcontract: 52.203-19; 52.204-21; 52.204-23; 52.219-8; 52.222-21; 52.222-26; 52.222-35; 52.222-36; 52.222-50; 52.225-26; 52.247-64. If the Work is in connection with a U.S. Government contract, Customer certifies that it has provided and will provide current, accurate, and complete information, representations and certifications to all government officials, including but not limited to the contracting officer and officials of the Small Business Administration, on all matters related to the prime contract, including but not limited to all aspects of its ownership, eligibility, and performance. Anything herein notwithstanding, Company will have no obligations to Customer unless and until Customer provides Company with a true, correct and complete executed copy of the prime contract. Upon request, Customer will provide copies to Company of all requested written communications with any government official related to the prime contract prior to or concurrent with the execution thereof, including but not limited to any communications related to Customer's ownership, eligibility or performance of the prime contract. Customer will obtain written authorization and approval from Company prior to providing any government official any information about Company's performance of the work that is the subject of the Proposal or this Agreement, other than the Proposal or this Agreement.

28. Limited Waiver of Sovereign Immunity. If Customer is an Indian tribe (in the U.S.) or a First Nation or Band Council (in Canada), Customer, whether acting in its capacity as a government, governmental entity, a duly organized corporate entity or otherwise, for itself and for its agents, successors, and assigns: (1) hereby provides this limited waiver of its sovereign immunity as to any damages, claims, lawsuit, or cause of action (herein "Action") brought against Customer by Company and arising or alleged to arise out of the furnishing by Company of any product or service under this Agreement, whether such Action is based in contract, tort, strict liability, civil liability or any other legal theory; (2) agrees that jurisdiction and venue for any such Action shall be proper and valid (a) if Customer is in the U.S., in any state or United States court located in the state in which Company is performing this Agreement or (b) if Customer is in Canada, in the superior court of the province or territory in which the work was performed; (3) expressly consents to such Action, and waives any objection to jurisdiction or venue; (4) waives any requirement of exhaustion of tribal court or administrative remedies for any Action arising out of or related to this Agreement; and (5) expressly acknowledges and agrees that Company is not subject to the jurisdiction of Customer's tribal court or any similar tribal forum, that Customer will not bring any action against Company in tribal court, and that Customer will not avail itself of any ruling or direction of the tribal court permitting or directing it to suspend its payment or other obligations under this Agreement. The individual signing on behalf of Customer warrants and represents that such individual is duly authorized to provide this waiver and enter into this Agreement and that this Agreement constitutes the valid and legally binding obligation of Customer, enforceable in accordance with its terms.



ORLAND PARK



Village Hall

14700 Ravinia Ave.
Orland Park, IL 60462

Project:
Boiler System
Replacement

TRANE
TRANE TECHNOLOGIES
Trane.com/Chicago
7100 South Madison Street
Willowbrook, IL 60527
P. 630-734-3200
F. 630-323-9040

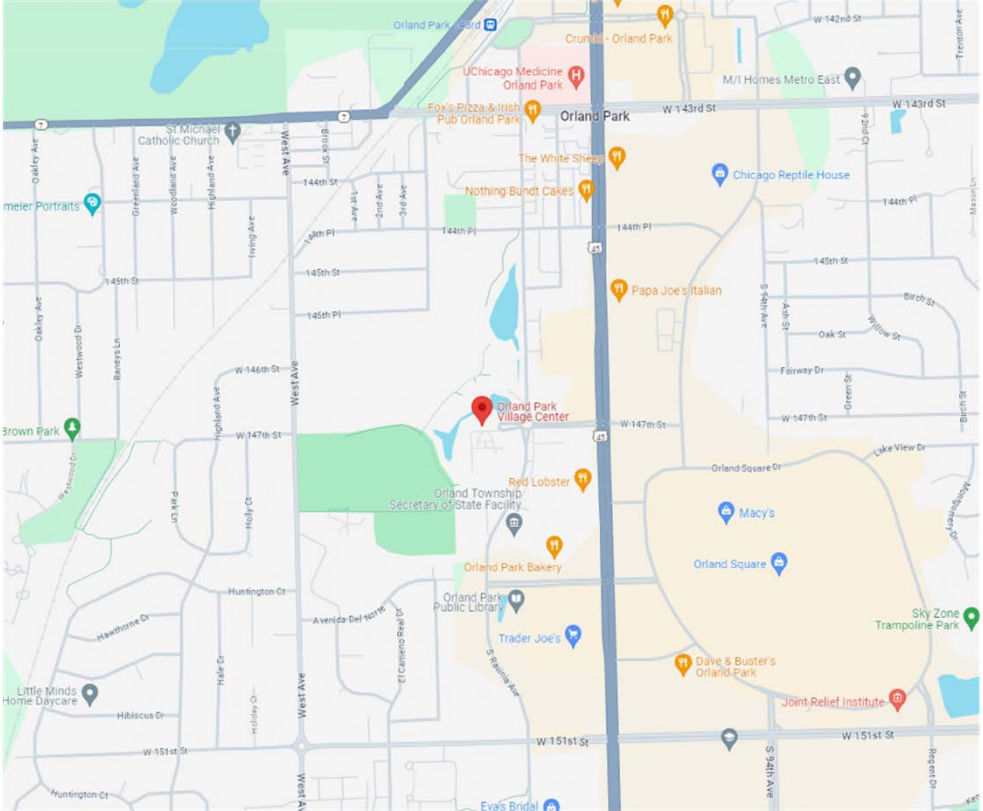
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Orland Park, IL 60462

Village Hall



NEW WORK:
Replace (2) standard boilers with high efficiency, add VFDs to (2) existing HW pumps, & re-pipe boiler system to Primary/Secondary

25'



VICINITY MAP



TABLE OF CONTENTS:

- T-1 TITLE PAGE
- M-1 DEMOLITION PLAN
- M-2 INSTALLATION PLAN
- M-3 EQUIPMENT
- M-4 HOT WATER FLOW DIAGRAM
- M-5 NOTES & DETAILS
- E-1 SINGLE-LINE & BAS

SATELLITE VIEW



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Rev	Date	Description
1	5-22-24	65% Design

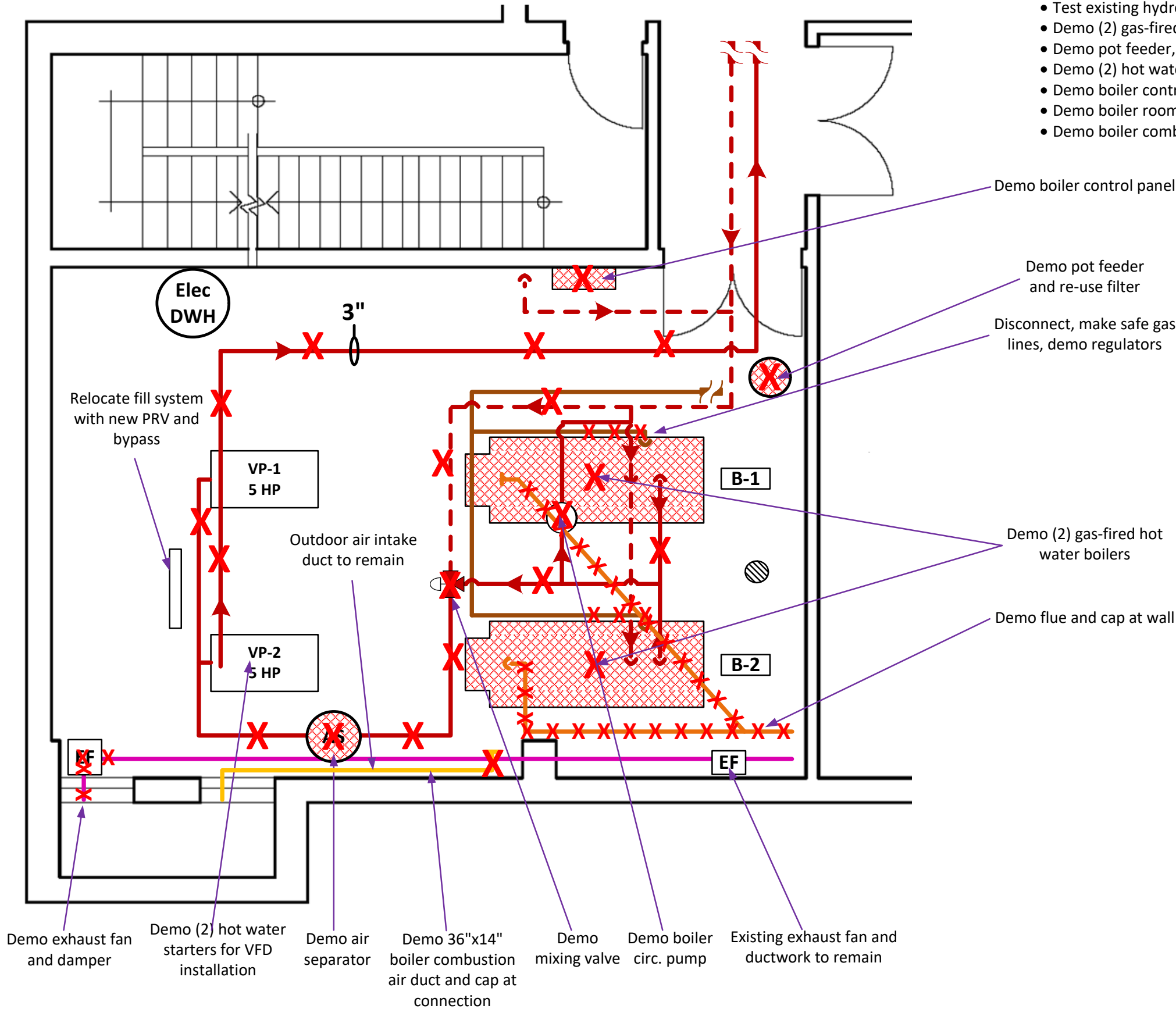
TITLE PAGE

Demolition

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- Demo Notes:**
- Test existing hot water flow and head at each hot water system pump
 - Test existing hydronic heating water and provide report
 - Demo (2) gas-fired HW boilers, flues, mixing valve, & air separator
 - Demo pot feeder, mixing valve, boiler circulation pump, and connecting piping
 - Demo (2) hot water pumps and starters
 - Demo boiler control panel
 - Demo boiler room exhaust fan and duct
 - Demo boiler combustion air duct and cap connection at main duct



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DEMOLITION PLAN

Installation

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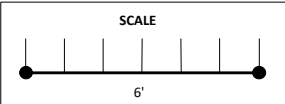
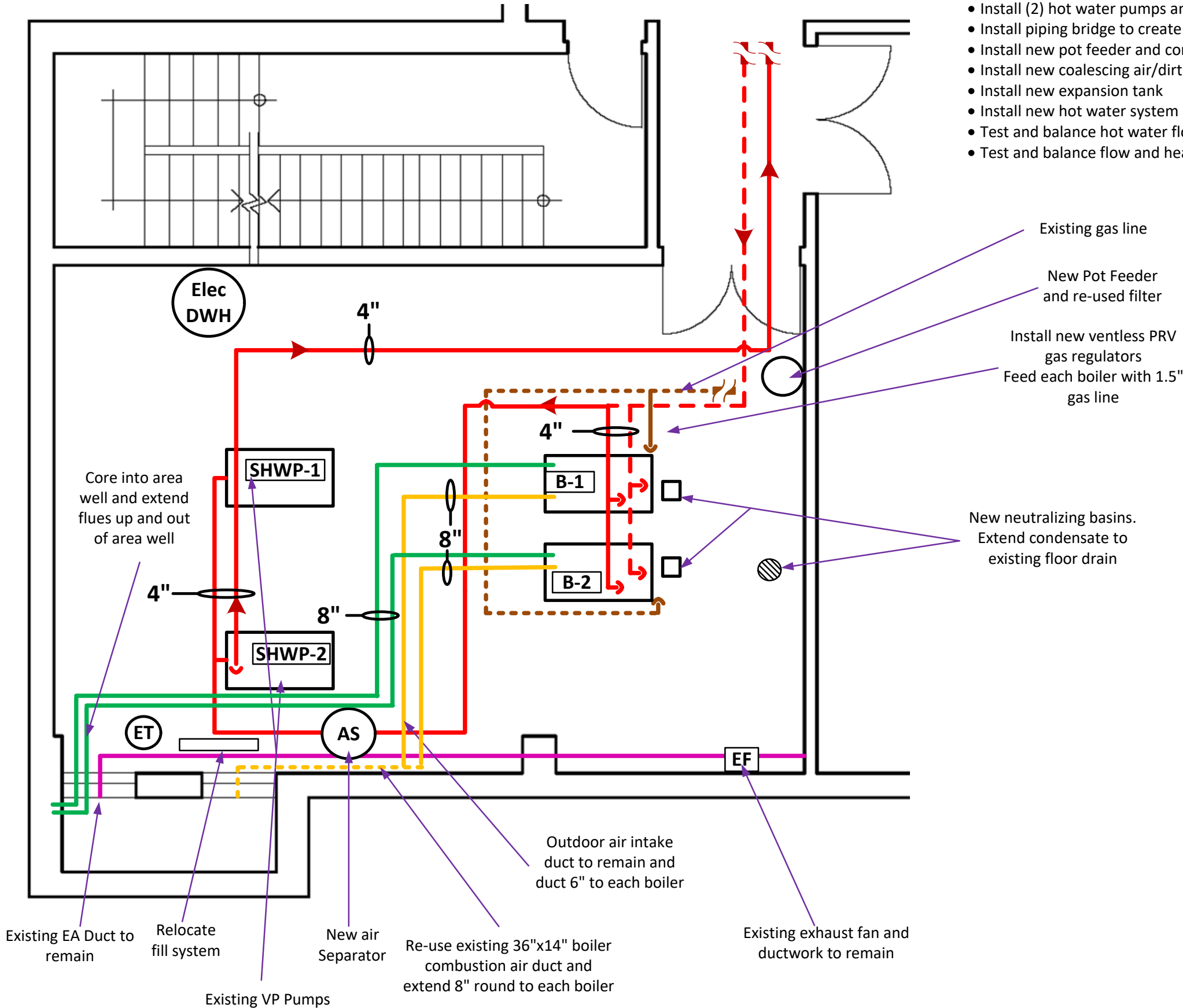
Rev	Date	Description
1	5-22-24	65% Design

INSTALLATION PLAN

M-2

Install Notes:

- Install (2) gas-fired, sealed combustion HW boilers with new gas regulators and neutralizing basins
- Install (2) hot water pumps and VFDs
- Install piping bridge to create primary/secondary hydronic separation
- Install new pot feeder and connect to existing piping
- Install new coalescing air/dirt separator and connect to existing piping
- Install new expansion tank
- Install new hot water system control panel
- Test and balance hot water flow and head at each hot water system pump
- Test and balance flow and head at each boiler

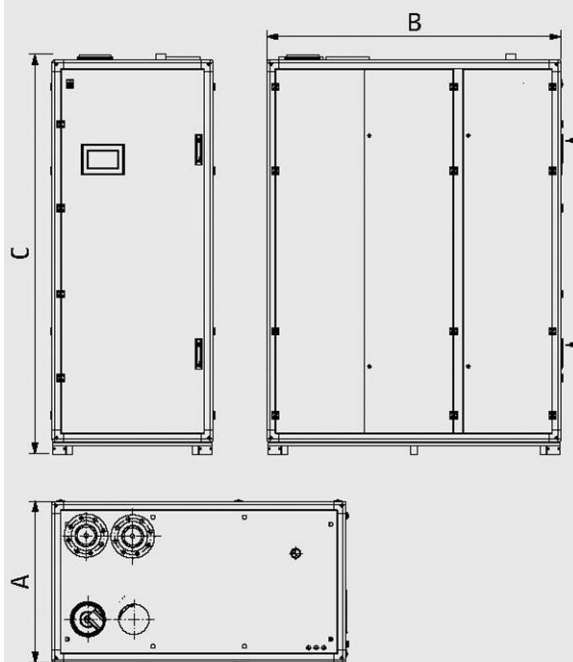


High Efficiency Condensing Boiler 800-4000 MBH

A large, industrial-grade metal safe with its door open, revealing four stacked drawers inside. The door has a digital display and a handle.

Description	AR 2000	
A - Width	inch	33.3
	mm	846
B- Length	inch	60.8
	mm	1544
C - Height (*)	inch	83
	mm	2108

ARRAY 2000



Model	Unit	AR 2000
Boiler Category	V	
Type of Gas	LPG or Natural Gas	
Max Input rate	BTU/hr (kW)	2,000,000 (586)
Min Input rate	BTU/hr (kW)	100,000 (29)
Turndown	Rate	20:1
Gas Connections (NPT)	Ø Inch	1 ½"
Max. NG Pressure	Inch W.C (mbar)	20 (50)
Min. NG Pressure	Inch W.C (mbar)	4.0 (10.0)
Max. LPG Pressure	Inch W.C (mbar)	20 (50)
Min. LPG Pressure	Inch W.C (mbar)	8 (19.9)
Water Connections	Ø Inch	4"
Max. Allowable Working Pressure (MAWP)	PSI (bar)	80 (5.5)
Water Volume	Gallon (liter)	24 (92)
Vent (slip-on) / Air Inlet Connections	Ø Inch (Ø mm)	8"/8" (200/200)
Venting Materials	CPVC, PP, Stainless Steel	AL29-4C
Max operating temperature	°F (°C)	194 (90)
Max HE allowable temperature	°F (°C)	210 (98.9)
Storage temperature	°F (°C)	5 to 158 (-15 to 70)
Ambient Room Temperature Operating Range	°F (°C)	32 to 120 (0 to 49)
Total Heating Surface Area	SQFT (m²)	172 (16)
Standard Listings & Approvals	and SCAQMD	
Single-Point Electrical Connection	V/Ph/Hz	240/1/60(***)
Electrical – FLA (**)	Amps	15.5A
Weight (Dry)	lbs (kg)	1676 (760)
Dimensions WxHxD (****)	In ch (mm)	33.3x83x60.8 846x1707x1544

Bell & Gossett
a xylem brand

Submit

Job/Project:
ESP-Systemize: WIZE #9897025 **Created On:** 05/26/2024
Location/Tag:
Engineer:
Contractor:

Representative: Baromet, Inc.
Phone: (773) 774-2800
Email: sales@baromet.com
Submitted By:
Approved By:

Date:
Date:

Expansion Tanks: Pre-Charged Diaphragm

Bell & Gossett Series: HFT Non-AirME

The Series HFT Tank is designed to subvert the force of thermal expansion of heating water and to maintain proper pre-charge level in a closed hydronic system. The heavy duty diaphragm separates system water from the air in the tank preventing water logging problems.

Designed for closed hydronic heating and cooling systems

Tank Details

Not For Public Water System

- Residential and Light Commercial Applications
- Helps Prevent/Excess Pressures in Heating Systems
- Increases System Performance
- Reduces Oxygen Corrosion
- Prevents Waterlogging
- In-line and Floor Mount Installation
- Maximum Operating Temperature 300°F
- Maximum Working Pressure of 100 PSI

HFT-60

Operating Data

Max Design Temperature	300°F
Max Working Pressure	100 psi g
Shipping Weight	14 (6.4)

Performance Curve Data

Materials of Construction

Shell	Carbon Steel
Diaphragm	Heavy Duty Butyl Rubber

**HFT-15 THROUGH
HFT-90**

**HFT-30V THROUGH
HFT-160V**

Dimensions are subject to change. Not to be used for construction purposes unless so certified.

Part Number	A	B	System
18N328	Height 17-1/4 (438)	Diameter 11 (279)	1/2" NPTM

**CRS**

Coalescing medium style air & sediment separator with removable head

**DESCRIPTION**

DESCRIPTION
The Bell & Gossett CRS is a combination air & sediment separator that utilizes a coalescing medium to remove impurities from HVAC systems. It features a stainless steel coalescing medium with 58% open area, removable end cover for coalescing medium access, and connections for an air vent, blow down valve, and skim valve. The product is designed, constructed, inspected and stamped per ASME Section VIII, Division 1.

CONSTRUCTION MATERIALS

CONSTRUCTION MATERIALS
Shell: Carbon Steel
Coalescing Medium: Stainless Steel

OPERATING DATA*

OPERATING DATA*
Max Working Pressure: 150 psig (1,034 kPa)

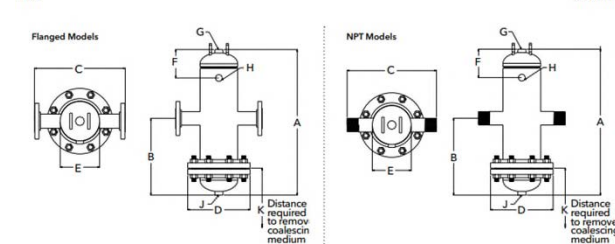
Min Temperature: -20°F (-29°C)

* Consult factory for higher working pressures or temperatures

SCHEDULE

PART NUMBER	MODEL NUMBER	INLET/OUTLET CONNECTION	RECOMMENDED CAPACITY IN GPM (M3/H)	TAGGING INFORMATION	QUANTITY
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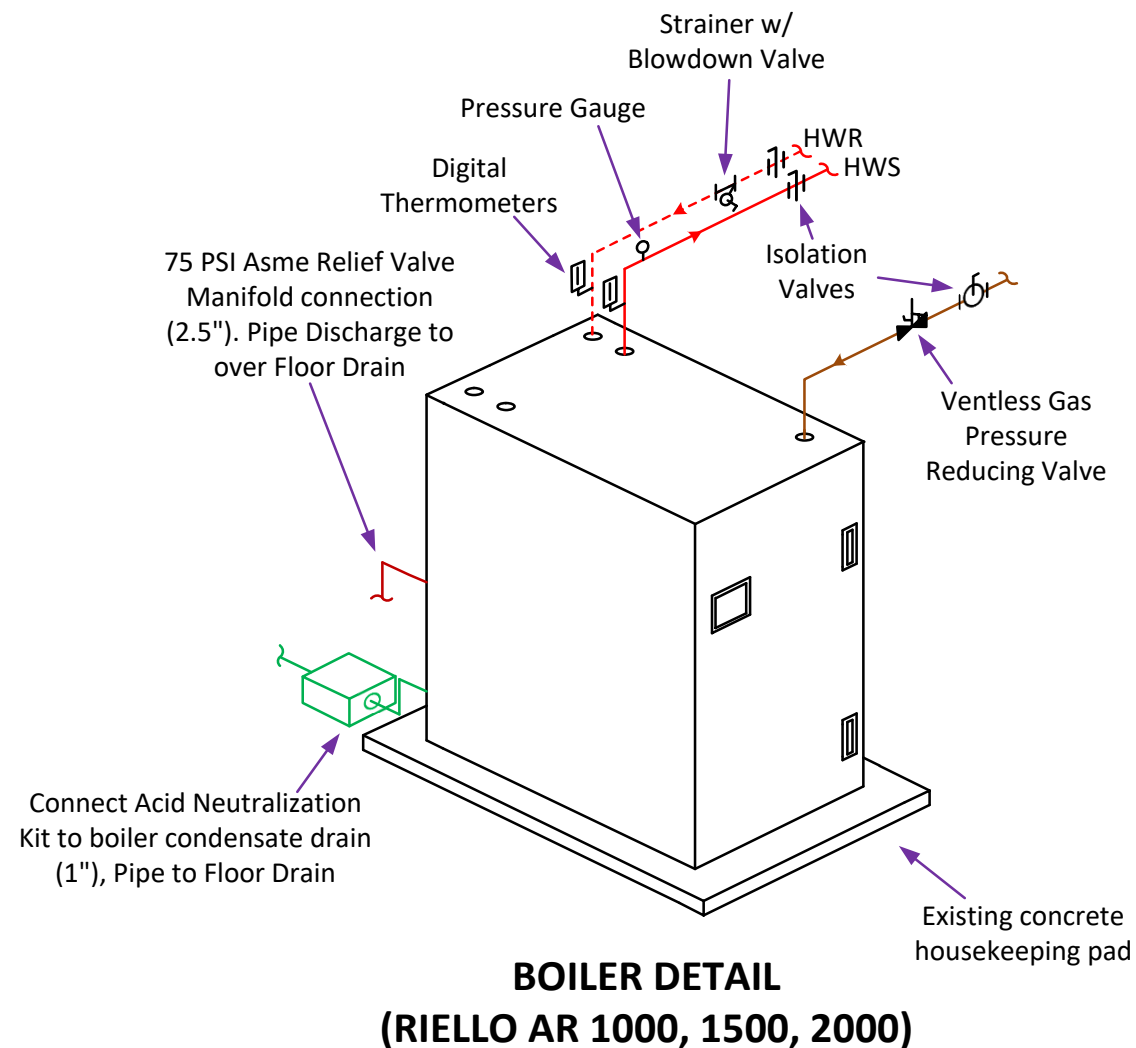
CRS



A-326-11E

DIMENSIONS AND WEIGHTS

MODEL NUMBER	DIMENSIONS - INCHES (mm)										SHIPPING WEIGHT LBS (KG)	FLOODED WEIGHT LBS (KG)	CV
	A	B	C	D	E	F	G	H	J	K			
CRS-4F	29.00 (737)	15.25 (387)	20.63 (524)	13.50 (343)	8.63 (219)	5.38 (137)	3/4" NPT	1/2" NPT	1" NPT	15.00 (381)	149 (68)	209 (95)	350



TRANE TECHNOLOGIES
Trane.com/Chicago

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Willowbrook, IL 60527
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Orland Park, IL 60462

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EQUIPMENT

M-3

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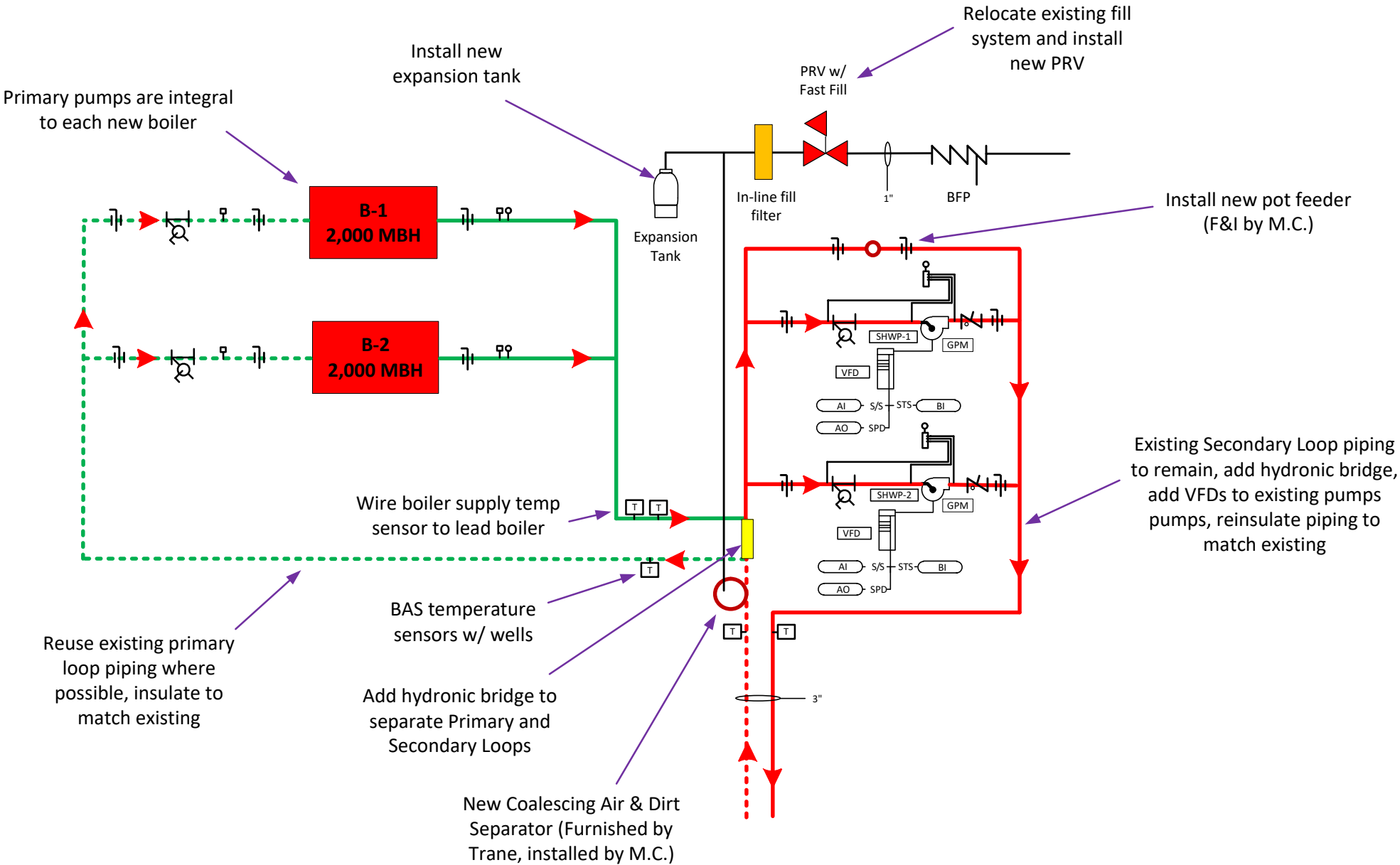
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Rev	Date	Description
1	5-22-24	65% Design

HOT WATER FLOW
DIAGRAM

M-4



Piping Legend	
Secondary Hot Water Supply	—
Secondary Hot Water Return	- - -
Primary Hot Water Supply	—
Primary Hot Water Return	- - -
Gas pipe	—
Concentric Reducer	△
Eccentric Reducer	△
2-way CHW Control Valve	⊕
3-way CHW Control Valve	⊕
2-way HW Control Valve	⊕
3-way HW Control Valve	⊕
Ball Valve	⊕
Butterfly valve	⊕
Union	⊕
Flex connector	⊕
Digital Thermometer	⊕
Pressure Gauge	⊕
3DS Valve	⊕
Trumpet Valve	⊕
Gas Shut Off Valve	⊕
Pressure Reducing Valve	⊕
In-line Strainer	⊕
Pete's Plug	⊕

GENERAL NOTES:

WORK SHALL BE IN COMPLETE ACCORDANCE WITH ALL CODES, RULES, OR ORDINANCES AND REGULATIONS OF ALL AUTHORITIES, BODIES, ASSOCIATIONS, GOVERNMENTS, ETC. HAVING PROPER AND/OR LEGAL JURISDICTION.

DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING AND DUCT SYSTEMS.

ALL SUBS AS PART OF CONTRACT TO VERIFY FIELD CONDITIONS PRIOR TO COMMENCING WORK.

ALL SUBS TO CONDUCT TESTS AND INSPECTIONS AS REQUIRED TO ASSURE PROPER INSTALLATION AND OPERATION OF SYSTEMS.

INSTALL SYSTEMS ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.

INSTALL PIPING AND DUCTWORK TO ALLOW APPLICATION OF INSULATION AND SERVICING OF VALVES AND EQUIPMENT.

PENETRATIONS THROUGH FLOOR, WALL AND ROOF STRUCTURE SHALL BE WATERTIGHT AND WITH AN APPROVED FIRE STOPPING MATERIAL.

ALL EQUIPMENT TO HAVE U.L. OR ETL LISTING.

SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PIPING GENERAL NOTES:

INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.

INSTALL PIPING FREE OF SAGS AND BENDS.

INSTALL DRAINS, CONSISTING OF 3/4" BALL VALVE, HOSE ADAPTER AND CAP, AT LOW POINTS IN PIPING SYSTEM MAINS AND ELSEWHERE AS REQUIRED FOR SYSTEM DRAINAGE.

INSTALL VENTS, CONSISTING OF 3/4" BALL VALVE, HOSE ADAPTER AND CAP, AT HIGH POINTS IN PIPING SYSTEM AND ELSEWHERE AS REQUIRED FOR PROPER SYSTEM AIR VENTING.

SUBJECT PIPING SYSTEM TO HYDROSTATIC TEST PRESSURE THAT IS NOT LESS THAN 1.5 TIMES THE SYSTEM'S WORKING PRESSURE. TEST PRESSURE SHALL NOT EXCEED MAXIMUM PRESSURE FOR ANY VESSEL, PUMP, VALVE, OR OTHER COMPONENT IN SYSTEM UNDER TEST.

INSTALL ISOLATION VALVES AT ANY PIPING SYSTEM PRIOR TO LEAVING THE MECHANICAL ROOM.

PROVIDE A DIELECTRIC CONNECTION WHEN JOINING TWO DISSIMILAR METALS.

PIPE & FITTINGS SCHEDULE					
SERVICE	SIZE	PIPE	FITTINGS	BRANCH CONNECTIONS	VALVES (EQUAL TO...)
NATURAL GAS	2" & SMALLER	SCH 40 BLACK STEEL	BLACK, CLASS 150, MALLEABLE IRON THREADED	REDUCING TEES, OKAY TO BUSH ONE SIZE REDUCTION	MAINS & BRANCH SHUT OFF = APOLLO 80-100 SERIES; APPLIANCES = PRO CHANNEL VGV-2LH-B3PA
	2-1/2" & LARGER		STANDARD WEIGHT CARBON STEEL WELD FITTINGS	TOL/WOL UP TO TWO PIPE BELOW MAIN PIPE DIAMETER. REDUCING TEES FOR ONE OR TWO PIPE SIZE REDUCTIONS	SHUT OFF = RESUN FIG R 1431 200 PSI WOG, FLANGED END, LUBRICATED PLUG VALVE WITH LEVEL HANDLE
HOT WATER	2-1/2" & LARGER	SCH 40 BLACK STEEL	STANDARD WEIGHT CARBON STEEL WELD FITTINGS	TOL/WOL UP TO TWO PIPE BELOW MAIN PIPE DIAMETER. REDUCING TEES FOR ONE OR TWO PIPE SIZE REDUCTIONS	NIBCO LD-3010, LUG TYPE, 250 PSIG DUCTILE IRON BUTTERFLY VALVE W/ EDPM DISC COATING & 10 POSITION LOCKING LEVER, GEAR OPERATOR ON 8" & ABOVE; RETURN BRANCH VALVE = B&G OR TACO 300 PSI CIRCUIT SETTER; TERMINAL UNIT BALANCING VALVE = AUTOMATIC FLOW CONTROL VALVE
			GROOVED FITTINGS W/ STANDARD COUPLINGS	TOL/WOL UP TO TWO PIPE BELOW MAIN PIPE DIAMETER. REDUCING TEES FOR ONE OR TWO PIPE SIZE REDUCTIONS	NIBCO GD-4765, LUG TYPE, 300 PSIG DUCTILE IRON BUTTERFLY VALVE W/ EDPM DISC COATING & 10 POSITION LOCKING LEVER, GEAR OPERATOR ON 8" & ABOVE; RETURN BRANCH VALVE = B&G OR TACO 300 PSI CIRCUIT SETTER; TERMINAL UNIT BALANCING VALVE = AUTOMATIC FLOW CONTROL VALVE
CONDENSATE	ALL	PVC SCH 40 *		REDUCING TEES	

PIPE INSULATION SCHEDULE				
SERVICE	LOCATION	SIZE	MATERIAL	THICKNESS
HOT WATER	INDOOR	1/2" TO 1-1/2"	ASJ FIBERGLASS	1-1/2"
		2" TO 8"	ASJ FIBERGLASS	2"
		LARGER THAN 8"	ASJ FIBERGLASS	2-1/2"

DUCTWORK NOTES:

ALL DUCTWORK TO BE GALVANIZED SHEET METAL.

SHEET METAL FABRICATION AND INSTALLATION SHALL MEET OR EXCEED THE STANDARDS SET IN THE DUCT MANUAL FOR VENTILATING AND AIR CONDITIONING SYSTEMS AS PUBLISHED BY SMACNA.

FLEXIBLE DUCT SHALL NOT EXCEED 5 FEET IN LENGTH AND SHALL BE THERMAFLEX TYPE MKE R6 INSULATED OR TYPE SLD UN-INSULATED.

ALL DUCT COVERING AND LINING SHALL HAVE A FLAME SPREAD RATING NOT TO EXCEED TWENTY-FIVE (25) AND A SMOKE SPREAD RATING NOT MORE THAN FIFTY (50).

DUCT SIZES SHOWN ARE FINISHED METAL SIZES.

OUTSIDE AIR INTAKES SHALL BE INSTALLED A MINIMUM OF 10'-0" AWAY FROM ALL FLUES, VENTS, TOILET EXHAUST AND ALL OTHER SOURCES OF CONTAMINATION.

ALL FLUES TO EXTEND 3'-0" ABOVE ROOF.

INSTALL ACCESS DOORS AS SHOWN ON DRAWINGS; 12"X12" OR 12" ROUND UNLESS NOTED OTHERWISE.

DUCT CONSTRUCTION SCHEDULE				
DESCRIPTION	PRESSURE CLASS	SEAL CLASS	SEAM TYPE	CONNECTION TYPE
LOW PRESSURE RECTANGULAR EXHAUST, RETURN AND OUTSIDE AIR	+/-2"	A	DUCT = SNAPLOCK/PITTSBURGH FITTINGS = PITTSBURGH	PER SMACNA
LOW PRESSURE ROUND EXHAUST, RETURN AND OUTSIDE AIR	+/-2"	A	DUCT = SNAPLOCK FITTINGS = PITTSBURGH	PER SMACNA
MEDIUM PRESSURE RECTANGULAR SUPPLY	+4"	A	DUCT = SNAPLOCK/PITTSBURGH FITTINGS = PITTSBURGH	PER SMACNA
MEDIUM PRESSURE ROUND SUPPLY	+4"	A	SPIRAL	PER SMACNA
RECTANGULAR SUPPLY (DOWNSTREAM OF VAV BOXES)	+2"	A	DUCT = SNAPLOCK/PITTSBURGH FITTINGS = PITTSBURGH	PER SMACNA
ROUND SUPPLY (DOWNSTREAM OF VAV BOXES)	+1"	A	DUCT = SNAPLOCK FITTINGS = PITTSBURGH	PER SMACNA

DUCT INSULATION SCHEDULE	
DESCRIPTION	INSULATION TYPE
WHEN LOCATED INDOORS IN AN UNCONDITIONED SPACE SUPPLY, RETURN, OUTSIDE AIR	2" X 1 LB FIBERGLASS DUCT WRAP
WHEN LOCATED INDOORS IN AN UNCONDITIONED SPACE SUPPLY, RETURN, OUTSIDE AIR	1-1/2" X 3 LB MINERAL FIBER INSULATION BOARD
WHEN LOCATED INDOORS IN AN UNCONDITIONED SPACE EXHAUST	UNINSULATED
WHEN LOCATED INDOORS IN AN INDIRECTLY CONDITIONED SPACE (i.e., A RA PLENUM) RETURN AND EXHAUST AIR	UNINSULATED
WHEN EXPOSED IN A CONDITIONED SPACE SUPPLY, RETURN AND EXHAUST AIR	UNINSULATED

ELECTRICAL GENERAL NOTES:

THE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO INCLUDE EVERY DETAIL OF REQUIRED CONSTRUCTION, EQUIPMENT, & MATERIALS. PROVIDE ALL MATERIALS AND WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS BUT WHICH ARE NECESSARY TO FULLY COMPLETE THE WORK.

REVIEW THE CONTRACT DOCUMENTS OF OTHER DIVISIONS & COORDINATE ELECTRICAL DIVISION WORK WITH THE WORK OF OTHER DISCIPLINES TO AVOID CONFLICTS & INTERFERENCE.

UPON COMPLETION OF THE WORK REQUIRED UNDER THIS CONTRACT, PROVIDE TYPED UPDATED DIRECTORY WITHIN DOOR OF EACH AFFECTED PANELBOARD. LEAVE "SPARE" BREAKERS IN "OFF" POSITION.

PROVIDE LIGHTING FIXTURES COMPATIBLE WITH CEILING CONSTRUCTION. COORDINATE WITH ARCHITECTURAL ROOM FINISH SCHEDULES & COMPLY WITH SPECIFICATIONS.

IN AREAS HAVING FINISHED CEILINGS, LOCATE CEILING-MOUNTED ELECTRICAL DEVICES & FIXTURES ACCORDING TO ARCHITECTURAL REFLECTED CEILING PLAN. DO NOT INSTALL CEILING-MOUNTED SMOKE DETECTORS WITHIN 4 FEET OF HVAC SUPPLY DIFFUSERS.

IN ELECTRICAL & MECHANICAL EQUIPMENT SPACES, COORDINATE EXACT LOCATIONS OF LIGHTING FIXTURES WITH CONDUIT BANKS, DUCTWORK, PIPING, STRUCTURE, SUPPORTS, & OTHER OBSTRUCTIONS. LOCATE FIXTURES SUCH THAT DIALS, GAUGES, METERS, ETC. ARE PROPERLY ILLUMINATED.

ALL WIRING METHODS IN THIS PROJECT WILL BE AT MINIMUM PER THE NEC EDITION ACCEPTABLE TO THE AHJ.

MAINTAIN INTEGRITY OF VERTICAL FIRE RESISTIVE ASSEMBLIES CLASSIFIED AS SMOKE & FIRE/SMOKE PARTITIONS WITHOUT AFFECTING RATING PROVIDED THAT 1) SUCH OPENINGS OCCUR ON ONLY ONE SIDE IN EACH FRAMING SPACE, 2) AREA OF OPENINGS DOES NOT EXCEED 16 SQUARE INCHES, & 3) BOXES ON OPPOSITE FACES OF PARTITION ARE SEPARATED HORIZONTALLY BY NOT LESS THAN 23 INCHES. COMPLETELY FILL WITH APPROVED FIRE RESISTIVE COMPOUND ALL CLEARANCES BETWEEN OUTLET BOXES & DRYWALL. BUILD WALL AROUND BOXES HAVING AREA GREATER THAN 16 SQUARE INCHES.

DO NOT INSTALL OUTLET BOXES BACK-TO-BACK IN NON-RATED PARTITIONS. OFFSET & SEAL SIMILAR TO REQUIREMENTS FOR RATED PARTITIONS TO MINIMIZE SOUND TRANSMISSION.

COORDINATE ROUTING OF ALL LARGE CONDUITS (2" DIA. AND LARGER) AND PULL BOX LOCATION WITH MECHANICAL PIPING AND DUCTWORK PRIOR TO INSTALLATION TO AVOID CONFLICTS AND TO GUARANTEE REQUIRED CLEARANCE AND ACCESSIBILITY OF ELECTRICAL AND MECHANICAL SYSTEMS.

DO NOT ATTACH DISCONNECTS AND STARTERS NOT PROVIDED WITH EQUIPMENT DIRECTLY TO THE EQUIPMENT. MOUNT AND SUPPORT SEPARATELY. COORDINATE REQUIRED LOCATION WITH OTHER TRADES PRIOR TO INSTALLATION.

PROVIDE APPROPRIATE PULL WIRE IN EACH EMPTY SYSTEMS CONDUIT INCLUDED IN THIS PROJECT

INCLUDE GREEN-INSULATED GROUNDING CONDUCTOR SIZED PER 2020-NEC TABLE 250-122 WITH ALL BRANCH CIRCUIT CONDUCTORS SERVING LIGHTING FIXTURES, RECEPTACLES, MECHANICAL, OR OTHER DEVICES INSTALLED AT OR BELOW 8'-0"

MATCH A.I.C. RATINGS AND OTHER CHARACTERISTICS OF EXISTING DEVICES IN PANELBOARD WHEN ADDING BREAKERS TO EXISTING PANELBOARDS.

FURNISH AND INSTALL NEW NEMA 3R JUNCTION BOX ABOVE ROOF LINE FOR EACH NEW RTU WHERE NECESSARY

FURNISH AND INSTALL NEW DISCONNECT ON EACH NEW BOILER

FURNISH AND INSTALL NEW CONDUIT TO MATCH EXISTING PIPE AND WIRING SIZING FROM NEW

JUNCTION BOX TO NEW DISCONNECT AND FINAL CONNECTIONS TO EQUIPMENT

RECONNECT ANY AND ALL LIFE SAFETY SYSTEMS TO NEW BOILERS

TESTING, ADJUSTING AND BALANCING - BALANCING THE SYSTEMS:

TEST, ADJUST AND BALANCE ALL WATER SYSTEMS TO THE DESIGN GPM VALUES AS INDICATED ON PLANS WITH COMPARISON WITH THE ACTUAL GPM VALUES TESTED.

RECORD PUMP SIZE, TYPE, RPM MOTOR, IMPELLER SIZE, BRAKE HORSEPOWER, FULL LOAD CURRENT AND VOLTAGE

TEST AND BALANCE REPORT: UPON COMPLETION OF THE WORK, ALL INFORMATION SHALL BE INSERTED ON A SHEET LISTING ALL ITEMS REQUIRED BY THESE SPECIFICATIONS AND BE INCLUDED IN A COMPLETE TEST AND BALANCE REPORT. ALL SHEETS SHALL BE NEATLY TYPED.

Responsibility Matrix

- Trane to provide the following equipment
 - B-1 & 2 with neutralizing basins
 - Suction diffusers, 3D Valves, & Trumpet Valves
 - VFD's for SHWP-1 & 2
 - Trane SC+ Controller
 - Wessels air/dirt Separator
 - Expansion Tank
 - Equipment to be delivered to Bulldog for local release to jobsite

- Trane to subcontract the following disciplines
 - Mechanical
 - Electrical
 - Demolition
 - Test and Balance

- Mechanical Sub Scope of Work
 - Demolition of Mech room equipment and components
 - Install new Trane provided equipment
 - Installation of all required HW piping with matching insulation
 - All required pipe labeling with flow indication
 - Install new condensate drain line from neutralizing basins to FD
 - Coring of Mech Room wall for flues
 - FTF of existing system
 - F&I pot feeder with chemical treatment
 - All required CAI & flues

- Electrical Sub Scope of Work
 - Demo make safe all demolish equipment
 - Provide for transformer for new Boilers
 - Re-feed power wire to new Boilers
 - Re-connect/new power to SHWP-1 & 2 and install new VFD's
 - Provide BAS Wiring to Boilers, Pumps and Misc

- Demolition Sub Scope of Work
 - Provide dumpster for misc waste removal
 - Haul away service for demolished equipment

- Test & Balance Sub Scope of Work
 - Pretest of Hot water flows within Mech Rm
 - Pre testing of VAV Box supply air flows
 - Post testing of Hot water flows within Mech Rm



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Orland Park, IL 60462

Village Hall

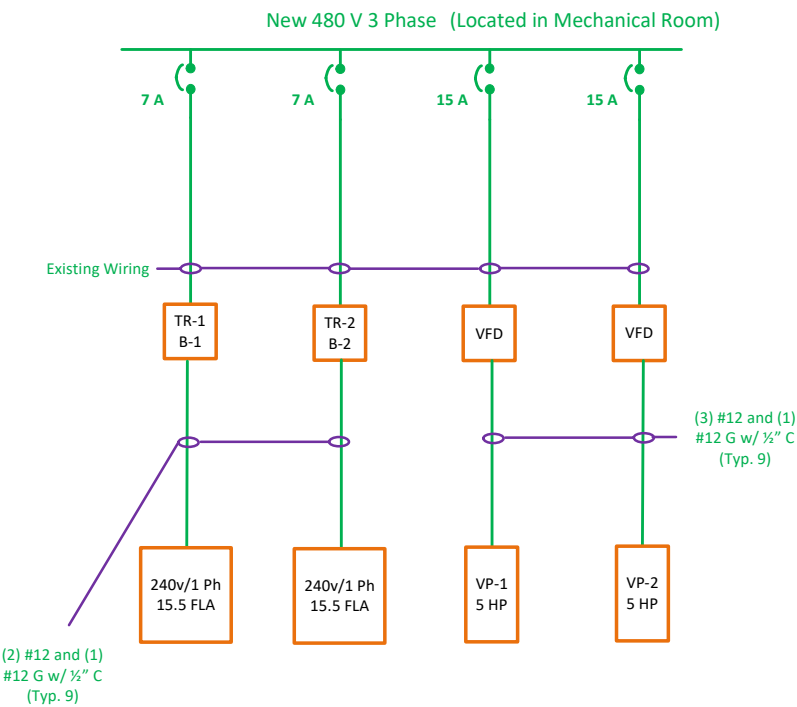
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Rev	Date	Description
1	5-22-24	65% Design

NOTES & DETAILS

Single Line Electrical Diagram

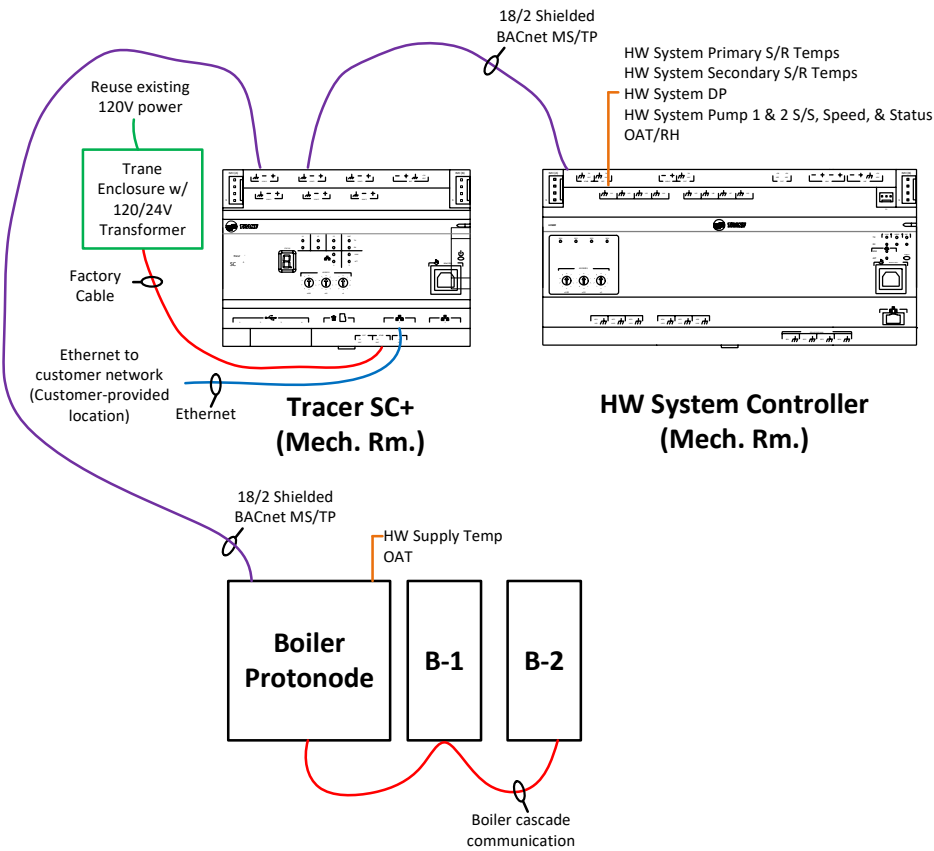
WIRE COLOR KEY
GREEN = NEW WORK
BLACK = EXISTING



Installation

- Electrical Notes:
- Electrical to install new VFDs for VP-1 & 2
 - Electrical to provide new transformers for boilers from 460/3 ph down to 240v/1 ph for a 20 amp circuit
 - Electrical to provide all required BAS Wiring

Building Automation System



****BAS Controls submittal to be provided separately from Trane Controls Engineering****

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Village Hall

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SINGLE-LINE & BAS