

DEPARTMENT OF BUILDINGS NOTES

SAFETY NOTES:

- GENERAL: ALL WORK TO BE DONE IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE AND REGULATIONS OF ALL OTHER AGENCIES HAVING JURISDICTION.
- STRUCTURAL: NO STRUCTURAL WORK TO BE DONE UNDER THIS APPLICATION.
- MEANS OF EGRESS: ALL EXISTING MEANS OF EGRESS FOR TENANTS OF THE BUILDING TO BE MAINTAINED CLEAR AND FREE OF ALL OBSTRUCTIONS, SUCH AS BUILDING MATERIALS, TOOLS, ETC.
- FIRE SAFETY: ALL BUILDING MATERIALS STORED AT CONSTRUCTION AREA, AND/OR IN ANY AREA OF THE BUILDING ARE TO BE SECURED IN A LOCKED AREA. ACCESS TO SUCH AREAS TO BE CONTROLLED BY OWNER AND/OR GENERAL CONTRACTOR.
- DUST CONTROL: DEBRIS, DIRT, AND DUST TO BE KEPT TO A MINIMUM, AND BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA; AND BE CLEANED UP AND CLEARED FROM BUILDING PERIODICALLY TO AVOID ANY EXCESSIVE ACCUMULATION.
- NOISE AFTER HOURS: CONSTRUCTION OPERATIONS WILL BE CONFINED TO NORMAL WORKING HOURS: 9 A.M. TO 5 P.M., MONDAYS THROUGH FRIDAYS, EXCEPT LEGAL HOLIDAYS, UNLESS AN AFTER-HOURS WORK PERMIT IS SECURED FROM THE DEPARTMENT OF BUILDINGS AND BUILDING OWNER.
- Owner and General Contractor shall provide at least 24 hours notice via email of commencement of work. Dust tents and doors as well as negative air filtration will be installed.
- CONSTRUCTION OPERATIONS WILL NOT INVOLVE INTERRUPTION OF HEATING, COLD AND HOT WATER OR ELECTRICAL SERVICES TO TENANTS OF THE BUILDING WITHOUT PRIOR APPROVAL BY THE BUILDING OWNER. ANY BUILDING SHUT DOWNS MUST BE COORDINATED AND AUTHORIZED BY BUILDING OWNER.
- DISCONTINUATION OF SERVICES: REPAIRS SHALL BE PERFORMED EXPEDITIOUSLY TO MINIMIZE INCONVENIENCE TO OCCUPANTS IN THE BUILDING. IF SERVICE IS TO BE DISCONTINUED FOR A PERIOD LONGER THAN 8 HOURS, TEMPORARY OR ALTERNATE SERVICES SHALL BE PROVIDED UNTIL PERMANENT SERVICE CAN BE RESTORED. ALTERNATE SERVICES INCLUDED BUT ARE NOT LIMITED TO EXTERIOR MOBILE BOILER PLANTS AND GENERATORS. TEMPORARY OR ALTERNATE SERVICES SHALL BE PROVIDED BY CONTRACTOR AS PART OF THIS CONTRACT AT NO ADDITIONAL COST TO BUILDING OWNER.
- WORK PHASING PLAN: BEFORE COMMENCING CONSTRUCTION, CONTRACTOR SHALL PROVIDE A WORK PHASING PLAN IDENTIFYING WHEN CONSTRUCTION WILL TAKE PLACE IN EACH AREA WHERE WORK IS TO OCCUR. CONTRACTOR SHALL COORDINATE CLEARING THE AREAS OF CARS, STORED MATERIALS, OR OTHER OBSTRUCTIONS, WITH OWNER, OWNER'S REPRESENTATIVE, AND BUILDING MAINTENANCE STAFF.

O.S.H.A. SAFETY NOTES

- G.C. MUST ENFORCE OSHA STANDARDS, MAINTAINING SAFE SITE CONDITIONS, PRACTICES & MAINTAINING EQUIPMENT.
- G.C. TO REMOVE ALL DAMAGED DEMO. BINS, LADDERS, CARTS, BAKERS & SCAFFOLDING.
- ALL ELECTRIC LIGHTING, EQUIPMENT & TOOLS MUST BE GROUNDED PROPERLY & UNPLUGGED DURING OFF HOURS.
- ALL TEMP. ELECTRICAL SERVICE FOR CONSTRUCTION TO BE TURNED OFF AT SOURCE AFTER WORKING HOURS. PROVIDE LOCK AT PANEL.

ASBESTOS NOTES

- ALL CONTRACTORS ARE HEREBY ADVISED THAT ALTHOUGH NONE IS SUSPECTED, IF THEY FIND OR SUSPECT ASBESTOS WITHIN THE CONTRACT AREAS. THE HANDLING OF THIS MATERIAL SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS PUBLISHED IN THE FEDERAL REGISTER BY OSHA, EPA & OTHER FEDERAL AUTHORITIES HAVING JURISDICTION & IN ADDITION, ANY SUPPLEMENTAL LAWS, RULES & AUTHORITIES HAVING JURISDICTION & REGULATIONS PROMULGATED BY STATE & LOCAL AUTHORITIES.
- ANY MATERIAL COMPOSITION WHICH IS QUESTIONABLE SHALL BE BROUGHT TO THE ATTENTION OF THE ENVIRONMENTAL CONSULTANT. THE DETERMINATION OF THE MATERIAL CONTENT SHALL BE AT THE SOLE DISCRETION OF THE CONSULTANT. IF NECESSARY THE CONSULTANT SHALL REQUEST LAB TESTING. THE CONTRACTOR SHALL IMMEDIATELY STOP THE WORK & NOTIFY THE ARCHITECT & THE CLIENT.

LEAD NOTES

- THE OWNER, GENERAL CONTRACTOR & DEMOLITION SUBCONTRACTOR ARE ADVISED THAT THERE IS THE POSSIBILITY OF LEAD PAINT HAVING BEEN USED IN THE EXISTING CONSTRUCTION.
- ALL WORK WILL COMPLY WITH APPLICABLE LAWS RELATING TO LEAD PAINT REMOVAL. IF ANY OF THESE MATERIALS ARE DISCOVERED, THE CONTRACTOR SHALL STOP WORK AND NOTIFY THE ARCHITECT IMMEDIATELY.
- THE DEMOLITION PORTION OF THE WORK MUST BE PERFORMED ACCORDING TO SAFE WORK PRACTICES (OSHA) INCLUDING WORKER PROTECTION, PREVENTION OF SPREAD OF LEAD DUST & NOTIFICATION OF THE PUBLIC & GOVERNMENT AGENCIES & PROPER DISPOSAL OF CONTAMINATED REFUSE. AFTER THE DEMO IS PERFORMED & THE SPACE IS CLEANED IT IS NO LONGER A LEAD ABATEMENT JOB. THE OWNER IS OBLIGED TO COMPLY WITH LOCAL CODES.

PLAN NOTE

THIS PLAN IS APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

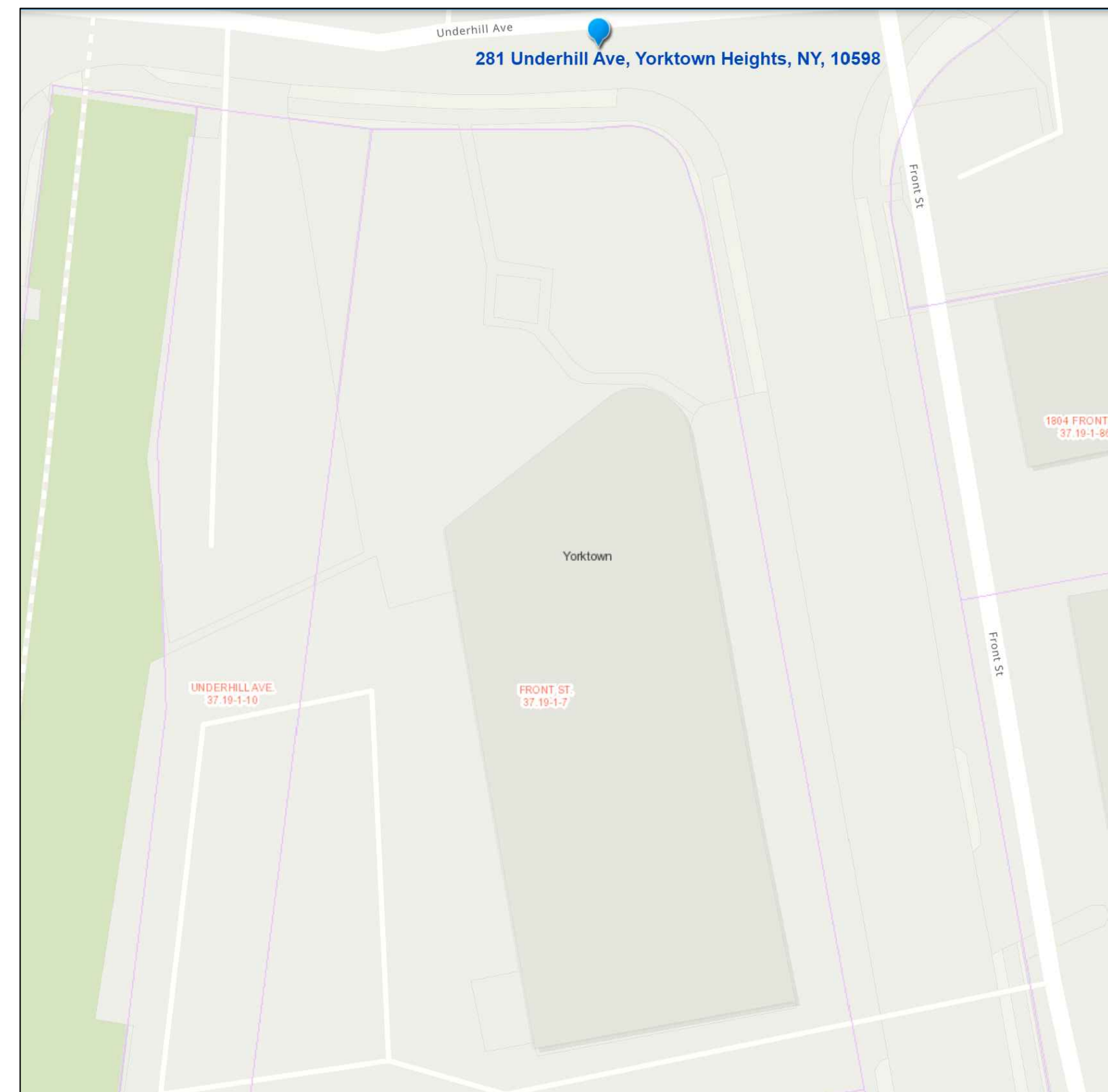
SCOPE OF WORK IS SOLELY FOR THE INSTALLATION OF THE PROPOSED ROOF DECK. ALL OTHER WORK IS NOT TO BE RELIED UPON AS BEING APPROVED AND/OR PERMITTED BY THE BUILDINGS DEPARTMENT.

ECCCNYS COMPLIANCE

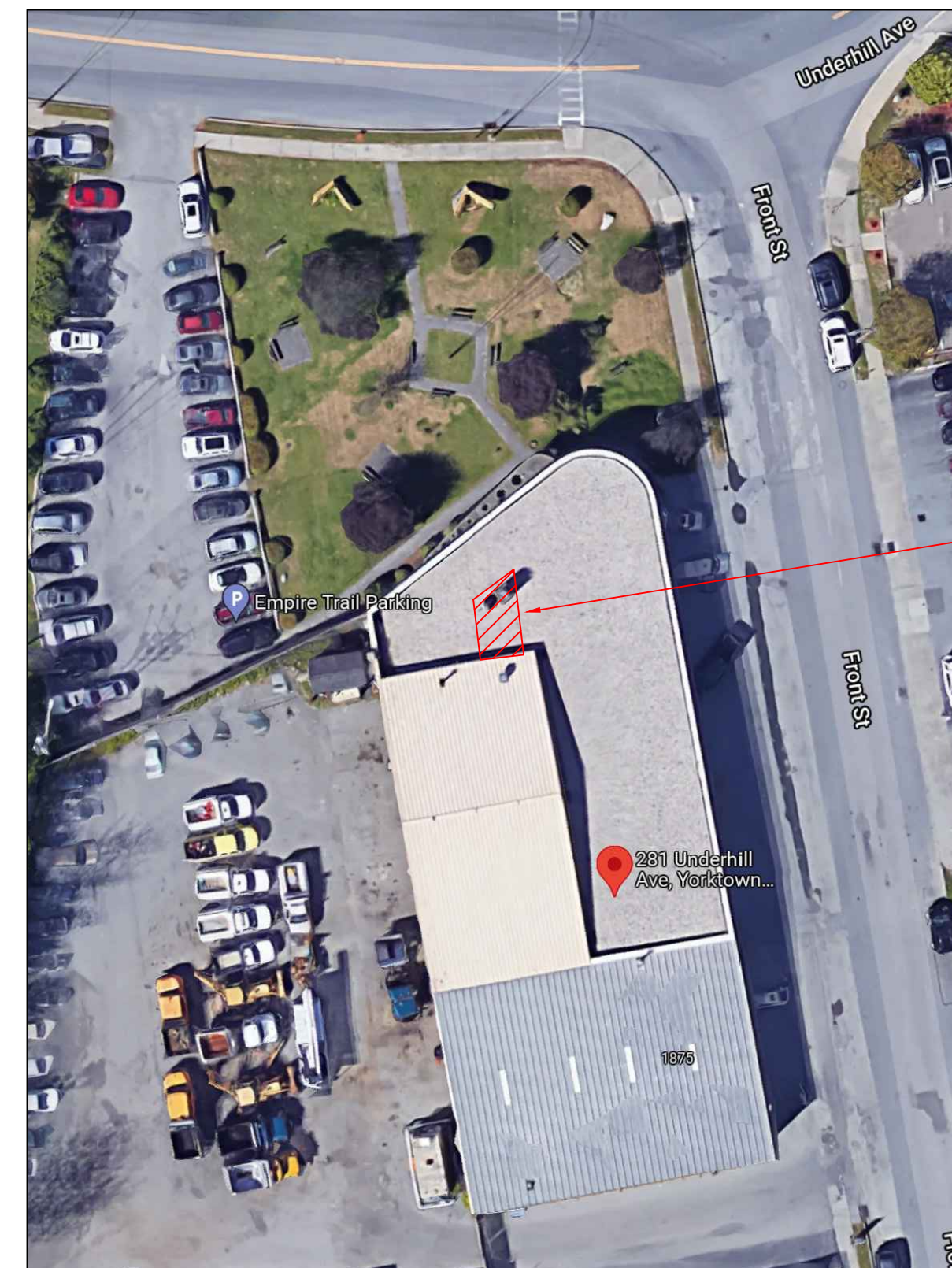
TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THIS APPLICATION IS IN COMPLIANCE WITH THE ECCCNYS.

NOTES:

- INSTALLATION TO COMPLY WITH SECTIONS 302.7, 302.8, & 302.9 OF THE DE THE EXISTING BUILDING CODE OF THE STATE OF NEW YORK
- VENTILATION FOR THE BOILER/BURNER TO COMPLY WITH THE REQUIREMENTS OF CHAPTER 4, 7, 10, AND 13 OF THE MECHANICAL CODE OF NEW YORK STATE
- BOILER INSTALLATION WILL BE ACCORDANCE WITH ASME BOILER AND PRESSURE VESSEL CODE
- GAS PIPING TO COMPLY WITH THE FUEL GAS CODE FGC 401,402, 403, 404, 406, 407, 408, 409, & 410.



TAX MAP



AERIAL IMAGE

NOTES:

- BOILER FINAL ACCEPTANCE TESTING REQUIREMENTS / DOCUMENTATION AS REQUIRED PER NYS DEPARTMENT OF LABOR UNDER SECTION 204 OF LABOR LAW AND 2020 NYSMC 1011.1
- BACKFLOW PREVENTION DEVICES SHALL BE ACCEPTANCE TESTED BY A NYS DEPARTMENT OF HEALTH APPROVED TESTING AGENT. RESULTS MUST BE RECORDED ON THE DOH FORM SIGNED BY THE TESTING AGENT AND DESIGN.
- CO DETECTION REQUIRED WHERE FOSSIL FUEL IS USED FOR COMBUSTION SUCH AS BOILERS, PER 2020 NYSFC SECTION 915.
- THE REQUIRED BOILER EMERGENCY SHUTDOWN SWITCH IN ACCORDANCE WITH 2020 NYSMC 1006.8.. AND ASME 2016 CSD-1 1004.1
- BOILER BLOWDOWNS FOR MAINTENANCE AND PRESSURE RELIEF VALVES ARE REQUIRED TO BE PIPED TO DRAINS, AS PER 2020 NYSMC 1004.6
- PIPE INSULATION SHALL COMPLY WITH THE 2020 NYSMC 1204.1 AND ECCCNYS C403.11.3 CONDITIONS OF PERMIT

FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (inches)					
	Conductivity Btu × in/ft × °F	Mean Rating Temperature, °F	< 1 1/2	1 1/2	2	3	4	6
> 350	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5	1.5
40 - 60	0.20 - 0.26	75	0.5	0.5	1.0	1.0	1.0	1.0
> 40	0.20 - 0.26	75	0.5	1.0	1.0	1.0	1.5	1.5

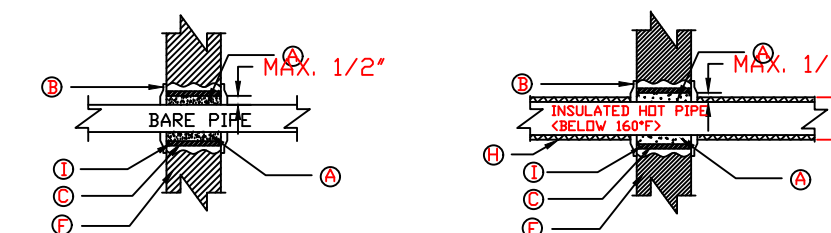
- For piping smaller than 1 1/2 inch (28mm) and located in partitions within conditioned spaces, reduction of these thickness by 1 inch (25mm) shall be permitted (before thickness adjustment required in footnote b) but not to a thickness less than 1 inch (25mm).
- For insulation outside the stated conductivity range, the minimum thickness (t) shall be determined as follows:

$$t = r(1 + t_r/K/k - 1)$$

where:
 r = Actual 1 outside radius of pipe,
 t = Insulation thickness listed in the table for applicable fluid temperature and pipe size,
 K = Conductivity of alternate material at mean rating temperature indicated for the applicable fluid temperature (Btu × in/h × ft² × °F) and
 k = The upper value of the conductivity range listed in the table for the applicable fluid temperature.

- For direct heating and hot water system piping, reduction of these thicknesses by 1-1/2 inches (38 mm) shall be permitted (before thickness adjustment required in footnote b) but not to thicknesses less than 1 inch (25 mm).

C 403.1 PROTECTION OF PIPING INSULATION:
 Piping insulation exposed to weather shall be protected from damage, including that due to sunlight, moisture, equipment maintenance and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesives tap shall not be permitted.



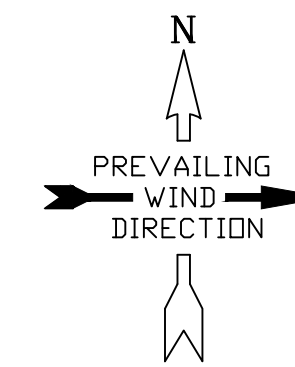
- ALL SPACES PACKED FULL DEPTH WITH MINERAL OR OTHER EQUALLY APPROVED FIRE RESISTIVE MATERIAL (ASBESTOS OR FIBERGLASS SHALL NOT BE USED)
- FIRE RESISTANT FOAM SEAL ANT CHASE FOAM CTC P2-855 (NYC HEARSH-79 MIBEL) MAY BE USED. INSTALLATION AS PER MANUFACTURER.
- ESCUTCHEDN BOTH SIDES
- SLEEVE
- DIAMETER OF INSULATED PIPE
- ANHYDROUS CALCIUM SILICATE INSULATION THRU SLEEVE
- FIRE RATED PARTITION WALL OR FLOOR
- FIBERGLASS INSULATION
- TERMINATE INSULATION AT ESCUTCHEDN
- 1/2" DEPTH FIRE STOP FINISH SEALANT (SEE HVAC SPEC)

FIRESTOP DETAIL

WALLS & CEILINGS TO BE REPAIRED OR FIRE STOPPED TO MATCH REQUIRED RATINGS OF BOILER ROOM.
 AGENCY HAVING JURISDICTION (AHJ) SHALL INSPECT ALL FIRESTOPPING PRIOR TO FINAL SIGN-OFF.

	BOILER MAKE/MODEL	RATED INPUT(BTUH)	RATED OUTPUT(BTUH)	EFFICIENCY
EXISTING	SLANT/FIN GG-399HEC	399,000	327,000	81%
PROPOSED	VISSMAN VITODENS 200-W	352,000	332,640	94.5%

PAGE	SHEET	DESCRIPTION
1	EN-001.00	INDEX, LOT DIAGRAM, NOTES, INSULATION DETAILS, & FIRE STOP DETAILS
2	EN-002.00	EQUIPMENT DETAILS
3	EN-003.00	EQUIPMENT DETAILS
4	DM-001.00	DEMOLITION PLAN
5	M-001.00	NEW EQUIPMENT PLAN
6	M-002.00	NEW EQUIPMENT PLAN
7	P-001.00	PLUMBING DETAILS



EXISTING LEGAL BOILER ROOM

REVISIONS		
NO.	ISSUED FOR	DATE
1	FOR CONCEPTUAL REVIEW	11/30/2021

DESCRIPTION:	
REPLACE (4) EXISTING LOW PRESSURE WATER BOILERS WITH (4) NEW LOW PRESSURE WATER BOILERS.	REPLACE ANCLARY EQUIPMENT ASSOCIATED WITH BOILERS.
REPLACE NEW VENTILATION EQUIPMENT FOR GARAGE SPACE.	NO CHANGE IN MEANS OF EGRESS, USE GROUP, OR OCCUPANCY.

PROJECT LOCATION:	
YORKTOWN HIGHWAY GARAGE	281 UNDERHILL AVE
YORKTOWN HEIGHTS, NY 10598	TOWN OF YORKTOWN
OWNER:	363 UNDERHILL AVE
	YORKTOWN HEIGHTS, NY 10598

REVANS DESIGN, PE PC
 60 SOMERSTON RD
 YORKTOWN, NY 10598
 914-222-0397



DATE :	11-29-2021
PROJECT REF#	RD 21032
DRAWN BY:	P.R.
CHECKED BY:	PR
EN-001.00	
NOTES	
SHEET 1 OF 7	

APPROVAL STAMPS

WARNING - IT IS A VIOLATION OF STATE EDUCATION LAW FOR ANY REASON, UNLESS HE IS ACTING UNDER THE DIRECTION OF LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN ANY WAY ON THESE PLANS.

Vitodens 200-W Cascade Systems

- Vitodens 200-W, B2HA / B2HB gas condensing boiler
- Low-Loss Header
- Vitotronic 300-K, MW2C Cascade Control
- Circulators, check valves
- Distribution manifold

Working with your BMS

The Vitotronic 300-K control also allows seamless integration into Building Management Systems (BMS) without additional gateway (limited access). Use of commercially available LON equipment for further inputs and outputs is optional (coupling via standard LON tools up to three heating circuits).

Specifications

- For two to eight Vitodens 200, B2HA / B2HB boilers in a single cascade
- The distribution manifolds are checked for proper alignment and have a maximum operating pressure of 60 psig
- Vitotronic 300-K control with outdoor reset function and integration with BMS (additional components required)
- All ANSI flange connections

Benefits at a glance

- Outstanding performance with Vitodens 200 and Lambda Pro combustion management system
- Maximum efficiency with high turndown that precisely matches load
- Simplified boiler system layout as manifold and Low-Loss Header provide complete primary loop
- Multiple boilers secure against interruption of heating plant operation
- Boilers easily assembled and hydraulically connected prior to installation with prefabricated manifold
- Flexible installation with multiple manifold configurations: floor standing, corner, or back-to-back
- Right or left-mount Low-Loss Header acts as hydraulic break and helps eliminate air and debris
- Ideal for small or difficult-to-access boiler rooms or facilities with narrow halls and stairwells
- All serviceable components easily accessible from the front
- No pipe or manifold sizing required
- Offered in packaged system
- Common venting up to four boilers*

Technical Information

Technical information subject to change without notice. 9441 03-03 03/2019 Printed in USA

VISSMANN

Viessmann Manufacturing Company (U.S.) Inc. Warwick, RI U.S.A. 1-800-288-0867 viessmann.com

Technical Data

Vitodens 200-W Cascade Systems

Model	B2HB				B2HA			
	160	199	285	311	352	399	530	
Minimum Input (single boiler)*	MBH 32	32	71	71	71	113	113	
Maximum Input (single boiler)*	MBH 160	199	285	311	352	399	530	
Minimum Input (multiple of 8)*	MBH 32	32	71	71	71	113	113	
Maximum Input (multiple of 8)*	MBH 1290	1592	2280	2488	2816	3192	4240	
Weight (single boiler)	lbs 210	210	194	194	194	298	298	

* Input based on natural gas

Energy Verified **AHRI CERTIFIED** **ENERGY STAR**

Technical information subject to change without notice. 9441 03-03 03/2019 Printed in USA

VISSMANN

Viessmann Manufacturing Company Inc. Waterloo, ON Canada 1-800-387-7373 www.viessmann.ca

Technical Data

Vitodens 200-W gas-fired wall-mounted condensing boiler
Multi-boiler installation - 71 to 4240 MBH for models 285 to 530

Model	B2HA			
	285	311	352	399
Size	285	311	352	399
Rated Input*	MBH 71.285	71.311	71.352	113.399
Efficiency % AFUE	92%	94.5%	94.5%	93.9%
Thermal Efficiency**		94.5%	94.5%	93.9%
Dimension				
Width	in. 19	19	19	23.63
Height	in. 43.5	43.5	43.5	44.5
Depth	in. 21	21	21	27.1
Weight	lbs 194	194	194	298
Boiler water content	USG 3.4	3.4	3.4	4
Boiler max. flow rate	GPM 25	25	25	38
Max. operating pressure (from allowable working pressure) at 210°F (99°C)	psig 60	60	60	80
Boiler water temperature				
Adjustable high limit (AHL) range	°F 68 to 185	68 to 185	68 to 185	68 to 185
space heating slowly cycle	°F 20 to 85	20 to 85	20 to 85	20 to 85
DHW production (see note)	°F 136 (60)	136 (60)	136 (60)	136 (60)
Fixed high limit (FHL)	°F 210 (99)	210 (99)	210 (99)	210 (99)
Boiler connections				
Boiler heating supply and return	NPTM*	1"	1"	2
Pressure relief valve	NPTF**	1/2"	1/2"	1/2"
Drain valve	1/2" thread	1/2"	1/2"	1/2"
Boiler supply/return for indirect-fired DHW storage tank (field supplied)	NPT*	1"	1"	2
Gas valve connection	NPTF**	1"	1"	1"

* Input based on Natural Gas
** ANSI Z21, 13/CSA 4.9

Energy Verified **AHRI CERTIFIED** **ENERGY STAR**

Technical information subject to change without notice. 9441 03-06 / 2021 Printed in Canada

VISSMANN

Viessmann Manufacturing Company (U.S.) Inc. Warwick, RI 02886 (800) 288-0867 viessmann-us.com

VITOCELL 300

Experience Viessmann hot water technology! Comfort, convenience and reliability in one package. Available in vertical and horizontal designs, from 42 to 119 USG. Improve your domestic hot water comfort today.

The benefits at a glance:

- Limited lifetime warranty available for tank and heat exchanger coil in residential applications. Please visit www.viessmann-us.com/warranty for details.
- Convenience - Fast recovery rates ensure abundant supply of domestic hot water all day long.
- Tank coil extends to tank bottom guaranteeing even water temperatures at all times.
- High level of operational reliability and a long service life due to high grade stainless steel construction.
- Extremely efficient indirect hot water production by boiler. Save up to 50% of your operating cost compared to conventional direct-fired hot water production.
- High-performance insulation keeps standby losses and operating cost at a minimum.
- Space-saving options: Vitocell 300-H tanks can be stacked on top of each other (92 and 119 USG sizes). Zero clearance to combustibles for all Vitocell 300 tanks.
- Scale- and corrosion-resistant, ideal for areas with poor water quality. Completely hygienic!
- Easy cleaning - all tanks include a 4" clean out cover for effortless access.
- High-volume hot water - Several Vitocell 300 tanks can be combined into tank batteries.
- All sizes now with NPT connections.

Technical Information

Model	-V (vertical)				-H (horizontal)				-B (dual-coil vertical)	
	EVIB	EVIB	EVIB	EVIB	EHA	EHA	EHA	EHA	EVBB	EVBB
Capacity USG	42	53	79	119	53	92	119	79	79	119
Dimensions (inches)										
Width	26	26	28	35 1/2	25 1/4	32 1/4	35 1/4	28	28	35 1/2
Depth	25	25	26 1/2	32 1/4	49 1/4	62 1/4	65	26 1/2	26 1/2	32 1/4
Height	47	55 1/2	68 1/2	77	25 1/4	31	35	68 1/2	77	77
Weight lbs	126	143	231	197	185	379	421	249	249	220
SR	1"	1"	1"	1"	1"	1 1/4"	1 1/4"	1"	1"	1"
Hot/Cold	3/4"	3/4"	1"	1"	3/4"	1 1/4"	1 1/4"	1"	1"	1 1/4"
Connections (NPT)										
Recirc.	3/4"	3/4"	1"	1"	-	-	-	1"	1"	1"
Temp. & Relief Valves	3/4"	3/4"	1"	1"	1"	1"	1 1/4"	-	-	-
Coils	-	-	-	-	-	-	-	1"	1"	1"

Note: EVIB 119 and EVBB 119 come with soft foam wrap around insulation

Energy Verified **AHRI CERTIFIED**

* Models EVIB, and EVBB are only certified with AHRI according to the Performance of Indirect-Fired Water Heaters Standard. Technical information subject to change without notice. 08/2021 Printed in USA

GRUNDFOS

Submittal Data

PROJECT: Yorktown Hts- Hway UNIT TAG: HWP-1 & 2 QUANTITY: 1 TWIN
Head
REPRESENTATIVE: Venco Sales Inc SUBMITTED BY: S. Lemite DATE: 11-19-21
ENGINEER: APPROVED BY: DATE:
CONTRACTOR: ORDER NO.: DATE:

TPE3 D 80-150 S-A-G-A-BQQE-HBB

Twin-head single-stage in-line pumps with frequency converters, differential pressure sensor and temperature sensor

P/N 99849785

Note: If Pump is Horizontal mounted - Volute Air Vent IS REQUIRED Use Resideo-Braukman EA79 Model

Conditions of Service		Pump Data		Motor Data	
Flow:	140 US gpm	Max pressure at stated temperature:	232 psi / 250 °F	Rated voltage:	3 X 200-240 V
Head:	40 ft	Liquid temperature range:	-13 .. 248 °F	Main frequency:	50 / 60 Hz
Efficiency:	70.2	Maximum ambient temperature:	104 °F	Enclosure class:	IP55
Liquid:	Water	Shaft seal:	BQQE	Insulation class:	F
Temperature:	140 °F	Product number:	99849735	Motor protection:	ELEC
NPSH required:	ft			Motor type:	90C
Specific Gravity:	0.985			Eff. 1/1:	88.9 %

Materials:
Pump housing: Cast iron
Pump housing: ASTM class 35
Impeller: Composite
Material code: A

GRUNDFOS

Submittal Data

Conditions of Service

Flow: 140 US gpm
Head: 40 ft
Efficiency: 70.2
Liquid: Water
Temperature: 140 °F
NPSH required: ft
Specific Gravity: 0.985

Pump Data

Max pressure at stated temperature: 232 psi / 250 °F
Liquid temperature range: -13 .. 248 °F
Maximum ambient temperature: 104 °F
Shaft seal: BQQE
Product number: 99849735

Motor Data

Rated voltage: 3 X 200-240 V
Main frequency: 50 / 60 Hz
Enclosure class: IP55
Insulation class: F
Motor protection: ELEC
Motor type: 90C
Eff. 1/1: 88.9 %

Materials:
Pump housing: Cast iron
Pump housing: ASTM class 35
Impeller: Composite
Material code: A

REVISIONS		
NO	ISSUED FOR	DATE
1	FOR CONCEPTUAL REVIEW	11/30/2021

DESCRIPTION:
REPLACE (5) EXISTING LOW PRESSURE WATER BOILERS WITH (4) NEW LOW PRESSURE WATER BOILERS. REPLACE ANCILLARY EQUIPMENT ASSOCIATED WITH BOILERS. BOILERS TO BE REPLACED WITH NEW VENTILATION EQUIPMENT FOR GARAGE SPACE.
NO CHANGE IN MEANS OF EGRESS, USE GROUP, OR OCCUPANCY.

PROJECT LOCATION:
YORKTOWN HIGHWAY GARAGE
281 UNDERHILL AVE
YORKTOWN HEIGHTS, NY 10598
OWNER:
TOWN OF YORKTOWN
363 UNDERHILL AVE
YORKTOWN HEIGHTS, NY 10598



DATE: 11-29-2021
PROJECT REF# RD 21032
DRAWN BY: P.R.
CHECKED BY: PR
EN-002.00
NOTES
SHEET 2 OF 7

APPROVAL STAMPS

WARNING - IT IS A VIOLATION OF STATE EDUCATION LAW FOR ANY REASON, UNLESS HE IS ACTING UNDER THE DIRECTION OF LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN ANY WAY ON THESE PLANS.

CAR-MON SERIES TSR-S TUBING STORAGE REEL With Spring Operator

NOTE: A & D dimensions are bolt hole centers

SPRING REWIND

TO EXHAUST FAN

CMW/DXI fan length is approximately 20 inches depending on motor. See submittal sheet for CMW fans and DXi fans for complete dimensional information.

TAILPIPE ADAPTER
Other adapters and configurations available

PULL DOWN CABLE AND RING

QTY.	MODEL	HOSE DIA.	HOSE TYPE	HOSE LENGTH	ADAPTER	CMW/DXI FAN	A	B	C	D	E	F	WT.
	TSR-S24	3"					9 3/4	18 7/8	31	26 3/4	37 3/4		150
	TSR-S24	4"					9 3/4	18 7/8	32	26 3/4	37 3/4		150
	TSR-S32	5"					9 3/4	18 7/8	33	34 3/4	45 3/4		185
	TSR-S32	6"					9 3/4	18 7/8	34	34 3/4	45 3/4		185
	TSR-S36	7"					9 3/4	19 7/8	35	38 3/4	49 3/4		210
	TSR-S36	8"					9 3/4	19 7/8	36	38 3/4	49 3/4		210

CAR-MON Series **TSR-S** is a tubing storage reel designed for use with Car-Mon Hose. Its frame is of welded construction using 2x2x1/8 square tubular steel with 12 gauge end plates, and an airtight rotating cylinder with a recessed inlet fitting to which the flange mounted flexible hose will be bolted. The assembly is spring actuated with a ratchet locking device and integral stop. The standard TSR-S will accommodate up to 25' of tubing. Other lengths and diameters are available, consult factory for details. Series CMW or DXi flange mounted direct drive fans are available as an option.

Note: Factory reserves the right to change dimensional data without notice.

CAR-MON PRODUCTS, INC. 1225 Davis Road, Elgin, IL 60123 847/695-9000
www.car-mon.com e-mail: info@car-mon.com **08-R3**

CAR-MON SERIES TSR-P TUBING STORAGE REEL With Power Operator

NOTE: A & D dimensions are bolt hole centers

POWER CONNECTION

POWER OPERATOR MOTOR AND GEAR BOX

TO EXHAUST FAN

CMW/DXI fan length is approximately 20 inches depending on motor. See submittal sheet for CMW fans and DXi fans for complete dimensional information.

TAILPIPE ADAPTER
Other adapters and configurations available

LIMIT SWITCH ADJUSTMENTS

OPTIONAL CONTROLS

WIRING BY OTHERS

Mounted Push Button (Standard)

Hanging Pendant Switch HPS

4 button pendant HP4

4 button station RB4

ELECTRICAL REQUIREMENTS			
VOLTAGE	PHASE	HZ	HP
			1/3

QTY.	MODEL	HOSE DIA.	HOSE TYPE	HOSE LENGTH	ADAPTER	CMW/DXI FAN	OPTIONAL CONTROL	A	B	C	D	E	F	WT.
	TSR-P24	3"						9 3/4	18 7/8	31	26 3/4	42 3/4		150
	TSR-P24	4"						9 3/4	18 7/8	32	26 3/4	42 3/4		150
	TSR-P32	5"						9 3/4	18 7/8	33	34 3/4	50 3/4		160
	TSR-P32	6"						9 3/4	18 7/8	34	34 3/4	50 3/4		160
	TSR-P36	7"						9 3/4	19 7/8	35	38 3/4	54 3/4		170
	TSR-P36	8"						9 3/4	19 7/8	36	38 3/4	54 3/4		170

CAR-MON Series **TSR-P** is a tubing storage reel designed for use with Car-Mon Hose. Its frame is of welded construction using 2x2x1/8 square tubular steel with 12 gauge end plates, and an airtight rotating cylinder with a recessed inlet fitting to which the flange mounted flexible hose will be bolted. The motor operator for the reel consists of a 115/160 reversible gear motor standard and is controlled by an adjustable limit switch and reversing IEC contactor. The reel drive system comprises a direct drive coupling system. A remote mounted push button station for up/down control is included. An optional hanging pendant switch as well as an attached direct drive fan, Series CMW or Series DXi are available as options. The standard TSR-P will accommodate up to 25' of hose. Other lengths and diameters, as well as explosion resistant, and special purpose reels are available, consult factory for details.

Note: Factory reserves the right to change dimensional data without notice.

CAR-MON PRODUCTS, INC. 1225 Davis Road, Elgin, IL 60123 847/695-9000
www.car-mon.com e-mail: info@car-mon.com **13-R2**

CAR-MON BELT DRIVE FANS

All fans on this sheet are rated in accordance with AMCA Standard 210 and bear the AMCA seal. For performance data, refer to fan catalog F1-13.

Standard equipment includes: Belt guards, turned ground and polished fan shafts, variable pitch V-belt motor drives, two groove pulleys with matched belts standard for fan size 122 and larger, adjustable motor bases, and high efficiency, non-overloading, backward inclined wheels of heavy duty construction. All parts in the air stream are coated with a polyester powder coating. Fan housings are fabricated of heavy gauge steel and are continuously welded. All fans are run tested at the factory and checked for compliance with our rigid balance standards. Clockwise rotation wheels and bottom horizontal discharge are standard. Either rotation and any one of 8 different discharge positions may be specified at time of order.

* Dimension A1 for size 40 and 50 size fans is 29 7/8".
NOTE: For fans with motors larger than standard, consult factory for dimensions.

Model CMB	Wheel Dia.	HP	Wt.	Dimensions (Additional dimensional data on back of sheet)															
				A	B	C	D	E	F	G	H	K	L	M	N	P	X		
6	10 5/8	1	130	12 1/4				11 3/4	9	10 3/4	2 1/2	10 5/8	8	9 3/4	8 1/2	18 7/8	5 7/8	9	14
10	10 5/8	1	130	12 1/4				11 3/4	9	10 3/4	2 1/2	10 5/8	8	9 3/4	8 1/2	18 7/8	5 7/8	9	14
14	12 1/4	1 1/2	200	18	12 3/8	13	9 7/8	11	6 1/4	13	10 1/2	12 1/8	11 1/2	24	7	12 3/4	18		
20	13 1/2	2	215	18	13 3/8	14 3/8	10 7/8	11	6 1/4	14 1/4	11 1/2	13 3/8	11 5/8	24 1/2	7 1/2	14 1/8	18		
25	15	3	235	18	14 5/8	15 7/8	12	11	6 1/4	15 7/8	12 7/8	14 7/8	12 3/4	25	8 1/8	15 3/8	18		
30	18 1/4	5	365	22 1/4	17 1/4	19 3/8	14 5/8	14	6 1/4	19 1/4	15 1/2	18	15 1/8	29 3/8	9 1/2	18 1/2	23		
32	20	5	450	22 1/4	19 1/8	21 1/8	16	14	6 1/4	21 1/8	17	19 3/4	16 5/8	30	11 1/4	21	23		
35	22 1/4	7 1/2	500	28 1/4	21 7/8	23 1/2	17 3/4	18	7 1/4	23 1/2	19	22	18 1/2	38 7/8	12 1/8	24	31		
40	27	7 1/2	775	33 7/8	25 3/8	28 5/8	21 1/2	18 1/2	7 1/4	28 1/2	22 7/8	26 5/8	22	38 3/4	14	29	33 5/8		
50	30	10	985	33 7/8	27 5/8	31 3/4	23 7/8	18 1/2	7 1/4	31 5/8	25 1/2	29 5/8	24 1/8	40	14 1/4	32 3/8	33 5/8		

CHECK OPTIONAL EQUIPMENT REQUIRED

Vibration Pads Weather Cover Aluminum Wheel Platform: Suspension or Deck Mount Wall Vibration Rails Back Draft Damper Exp'n Resistant Motor Inlet & Discharge Conn. - See Drwg. 11-F10 Other

Note: Dimensional data subject to change without notice.

Customer _____ Job Name _____

Quantity	Tag Number(s)	Model Number	JOB REQUIREMENTS			Rotation	Discharge	ELECTRICAL			
			CFM	SP	HP			Voltage	Phase	Hz	

CAR-MON PRODUCTS, INC. 1225 Davis Road, Elgin, IL 60123 847/695-9000
www.car-mon.com e-mail: info@car-mon.com **11-F3**

REVISIONS		
NO.	ISSUED FOR	DATE
1	FOR CONCEPTUAL REVIEW	11/30/2021

DESCRIPTION:
 REPLACE (5) EXISTING LOW PRESSURE WATER BOILERS WITH (4) NEW LOW PRESSURE WATER BOILERS.
 REPLACE ANCLLARY EQUIPMENT ASSOCIATED WITH BOILERS.
 REPLACE NEW VENTILATION EQUIPMENT FOR GARAGE SPACE.
 NO CHANGE IN MEANS OF EGRESS, USE GROUP, OR OCCUPANCY.

PROJECT LOCATION:
 YORKTOWN HIGHWAY GARAGE
 281 UNDERHILL AVE
 YORKTOWN HEIGHTS, NY 10598
 OWNER:
 TOWN OF YORKTOWN
 363 UNDERHILL AVE
 YORKTOWN HEIGHTS, NY 10598

REVANS DESIGN, PE PC
 60 SOMERSTON RD
 YORKTOWN, NY 10598
 914-222-0397



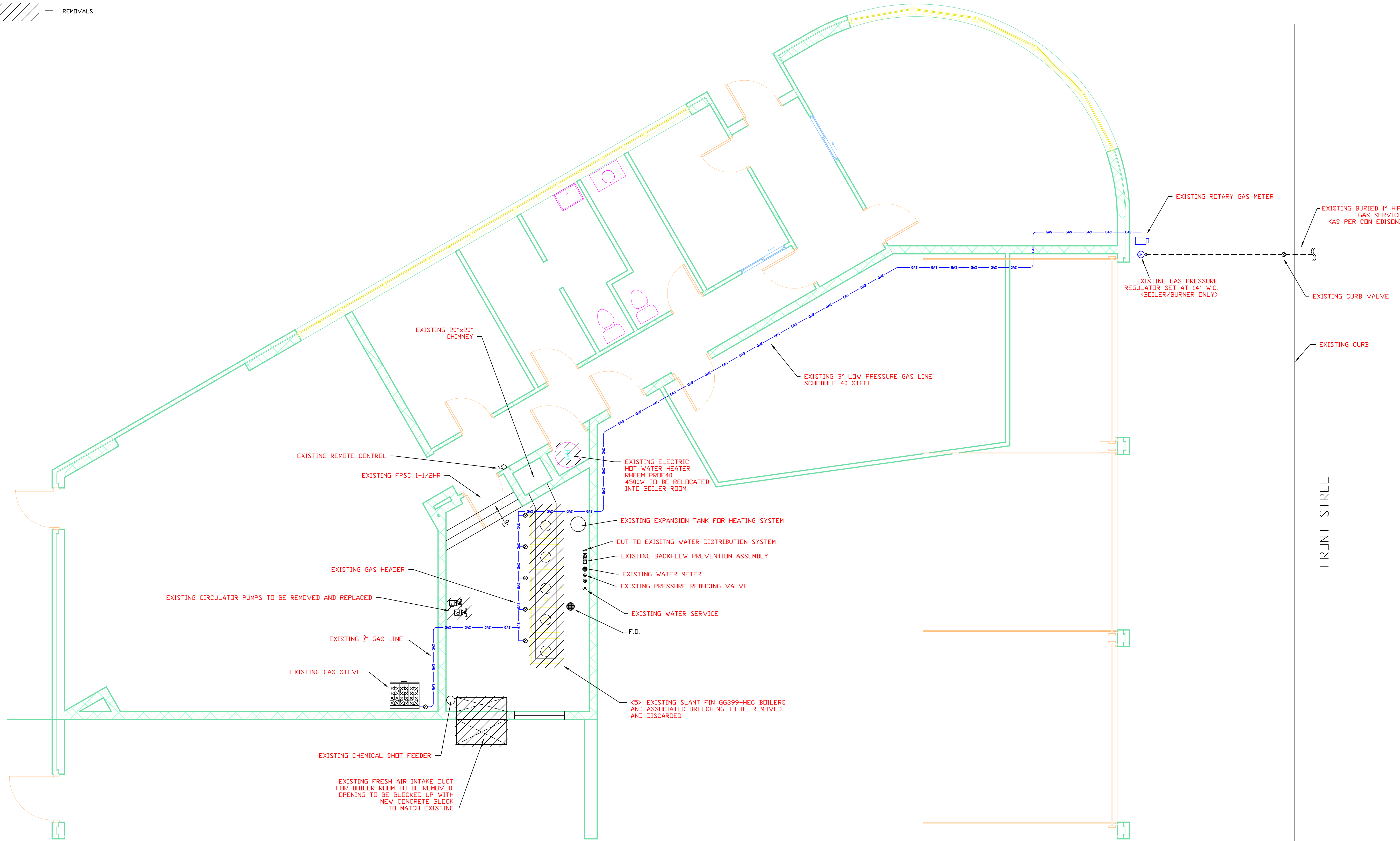
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 PROJECT REF# RD 21032
 DRAWN BY: P.R.
 CHECKED BY: PR
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 NOTES
 SHEET 3 OF 7

APPROVAL STAMPS

WARNING - IT IS A VIOLATION OF STATE EDUCATION LAW FOR ANY REASON, UNLESS HE IS ACTING UNDER THE DIRECTION OF LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN ANY WAY ON THESE PLANS.

LEGEND

- GAS — GAS LINE
- ⊗ — SDV - SHUT OFF VALVE
- ////// — REMOVALS



PARTIAL GARAGE PLAN

REVISIONS		
NO.	ISSUED FOR	DATE
1	FOR CONCEPTUAL REVIEW	11/30/2021

DESCRIPTION:
 REPLACE (5) EXISTING LOW PRESSURE WATER BOILERS WITH (4) NEW LOW PRESSURE WATER BOILERS.
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DOWNER:
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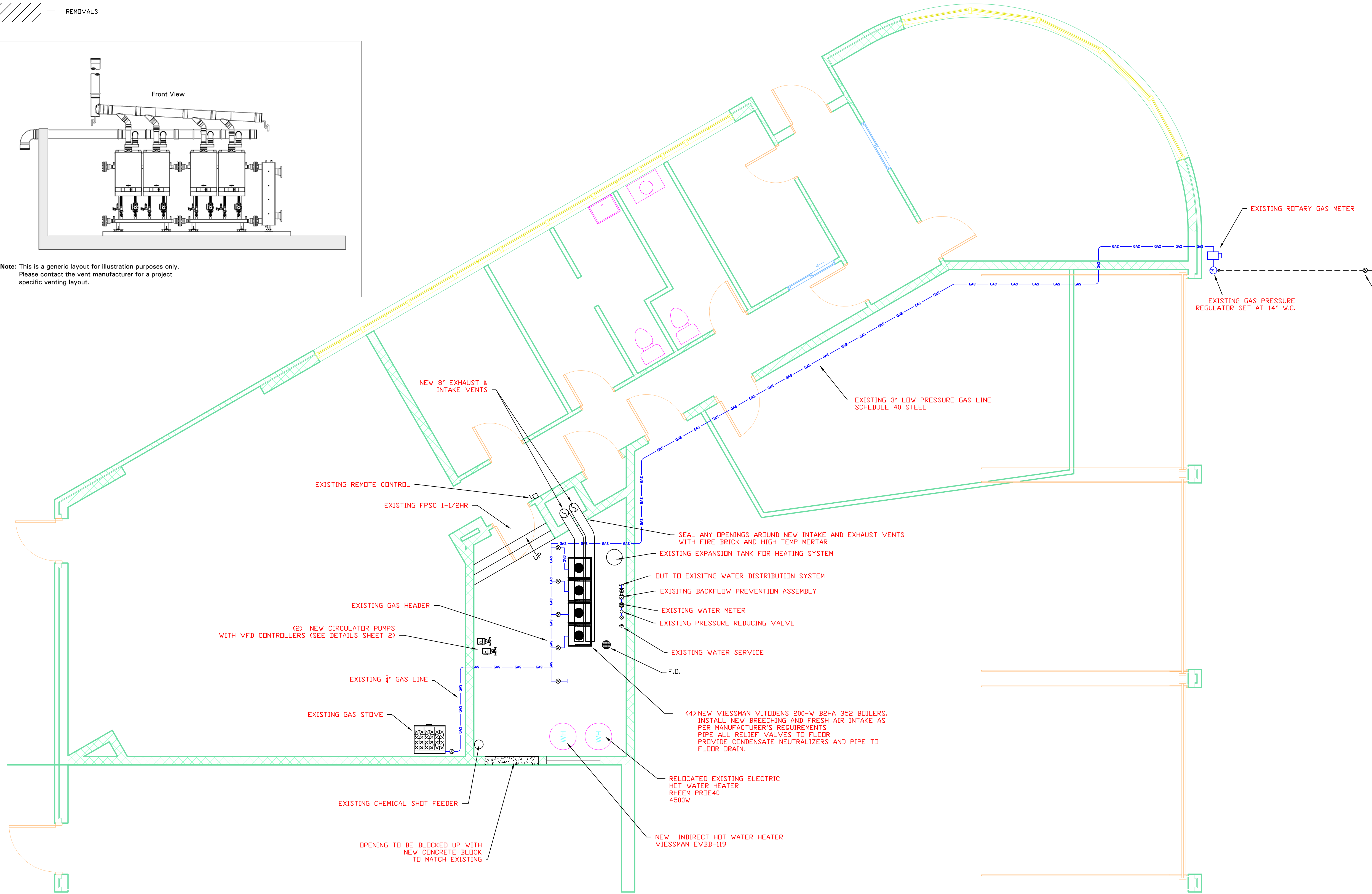
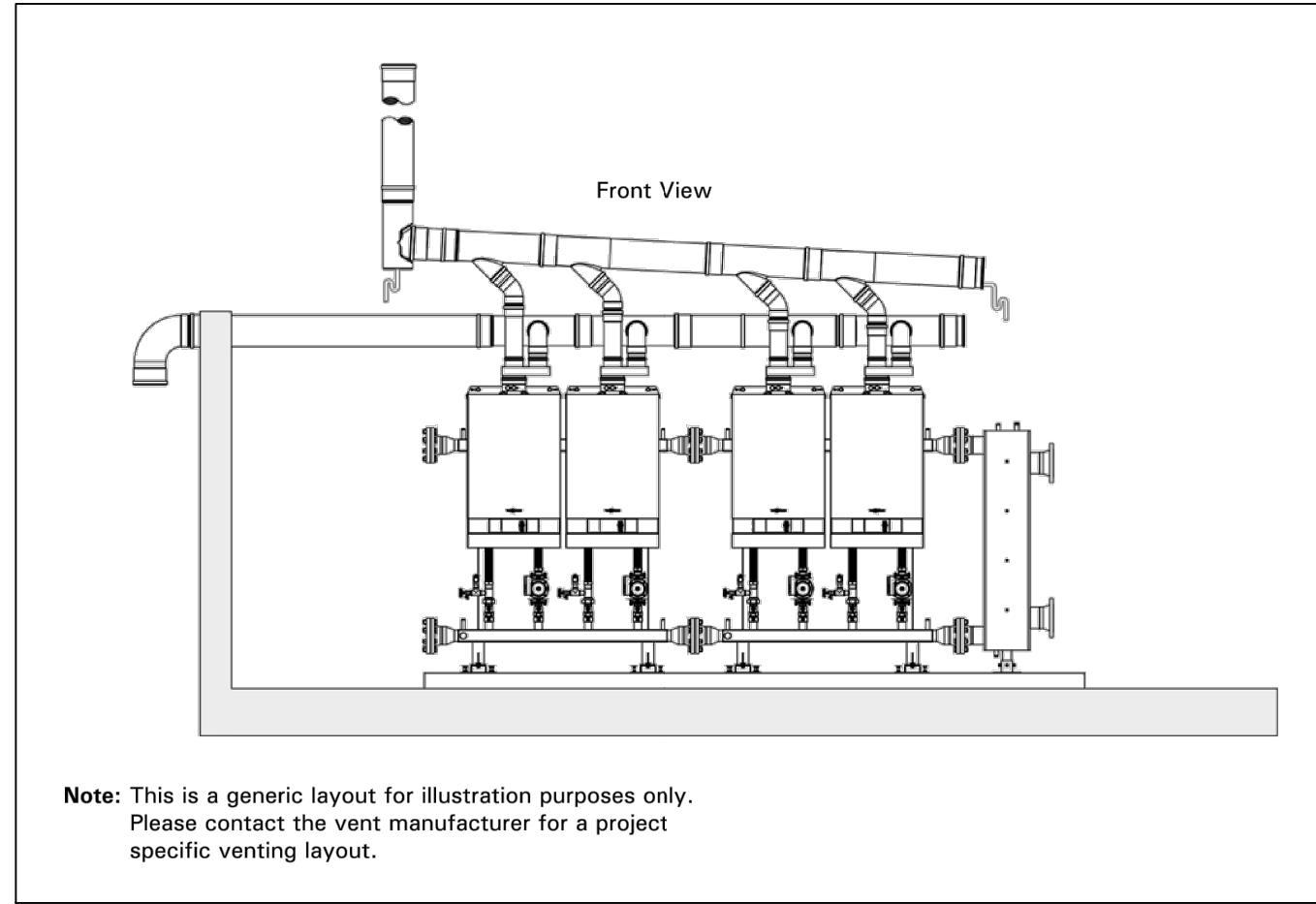
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 PROJECT REF# RD 21032
 DRAWN BY: P.R.
 CHECKED BY: PR
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 SHEET 4 OF 7

APPROVAL STAMPS

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LEGEND

- GAS LINE
- SDV - SHUT OFF VALVE
- REMOVALS



PARTIAL GARAGE PLAN

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PROJECT LOCATION:
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DWNER:
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 363 UNDERHILL AVE
 YORKTOWN HEIGHTS, NY 10598

REVANS DESIGN, PE PC
 60 SOMERSTON RD
 YORKTOWN, NY 10598
 914-222-0397



DATE : 11-29-2021

PROJECT REF# RD 21032

DRAWN BY: P.R.

CHECKED BY: PR

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NEW EQUIPMENT

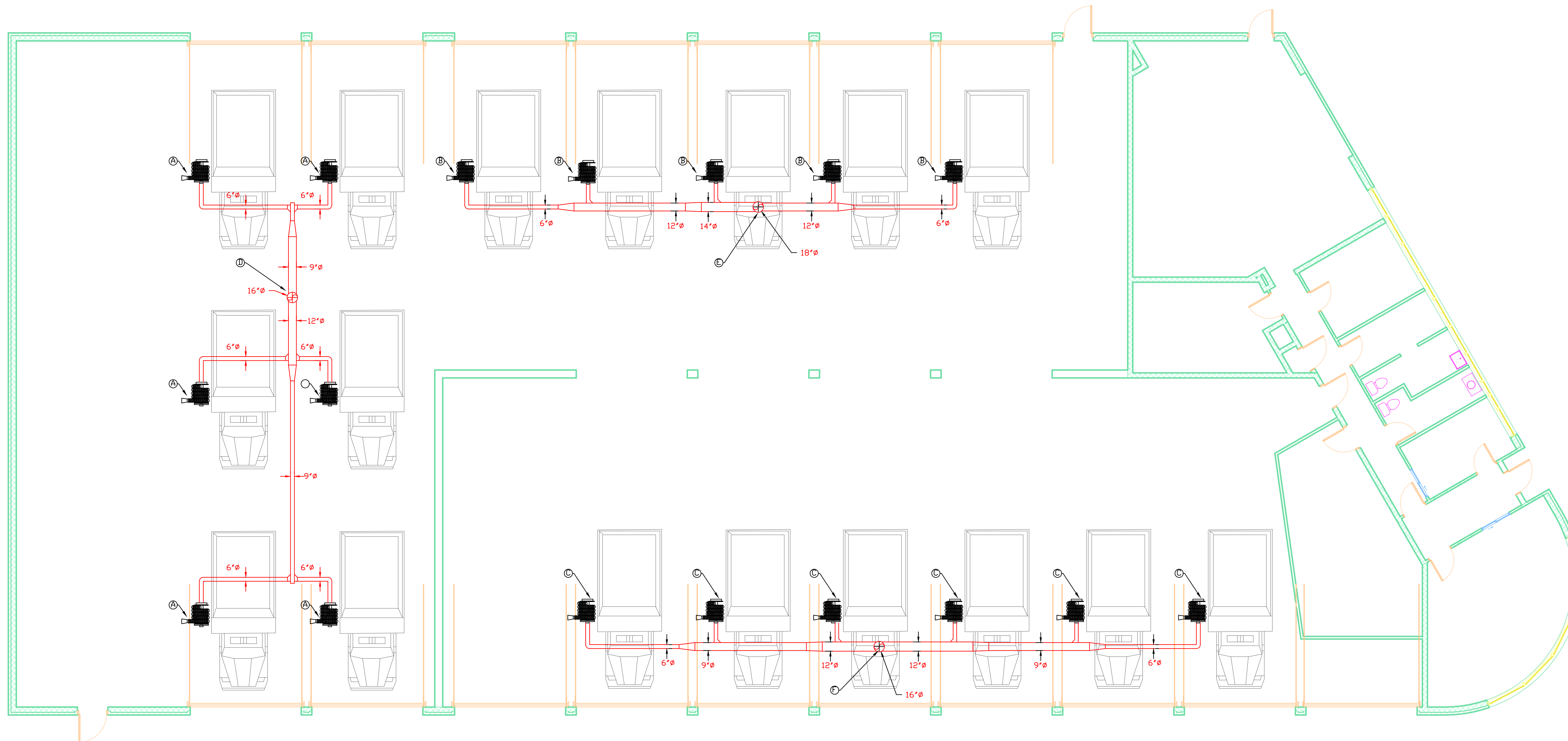
SHEET 5 OF 7

APPROVAL STAMPS

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LEGEND

- GAS — GAS LINE
- ⊗ — SDV — SHUT OFF VALVE
- ////// — REMOVALS



- Ⓐ - CAR-MDN TSR-S32 TUBE STORAGE REEL WITH #6"x25' TYPE NTC FLEX, RDS-6 ADAPTER & FLANGE SET 115 V, 1 PH, 4.4 A
- Ⓑ - CAR-MDN TSR-S36 TUBE STORAGE REEL WITH #7"x25' TYPE HTC FLEX, RDS-7 ADAPTER & FLANGE SET 115 V, 1 PH, 4.4 A
- Ⓒ - CAR-MDN TSR-S32 TUBE STORAGE REEL WITH #6"x25' TYPE NTC FLEX, RDS-6 ADAPTER & FLANGE SET 115 V, 1 PH, 4.4 A
- Ⓓ - CAR-MDN CMB-25 EXHAUST FAN 3,000 CFM @ 4.5 S.P., SHP 208/230 V, 3 PH, 13 A
- Ⓔ - CAR-MDN CMB-30 EXHAUST FAN 4,000 CFM @ 5.5 S.P., SHP 208/230 V, 3 PH, 19 A
- ⓪ - CAR-MDN CMB-25 EXHAUST FAN 3,000 CFM @ 4.5 S.P., SHP 208/230 V, 3 PH, 13 A

- NOTES:
1. CLEANOUTS IN EXHAUST DUCT NOT TO EXCEED 15' MAX INTERVALS
 2. FINAL LOCATION OF EACH STORAGE REEL TO BE COORDINATED WITH THE HIGHWAY SUPERINTENDENT.

GARAGE PLAN

REVISIONS		
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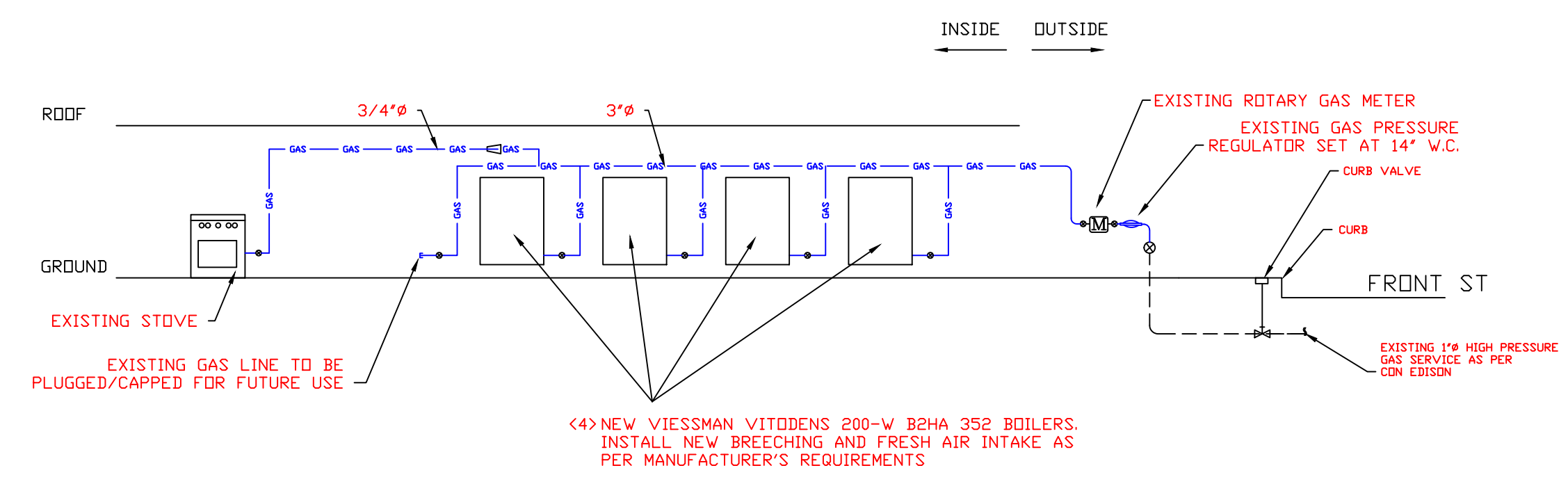
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 NEW EQUIPMENT
 SHEET 6 OF 7

APPROVAL STAMPS

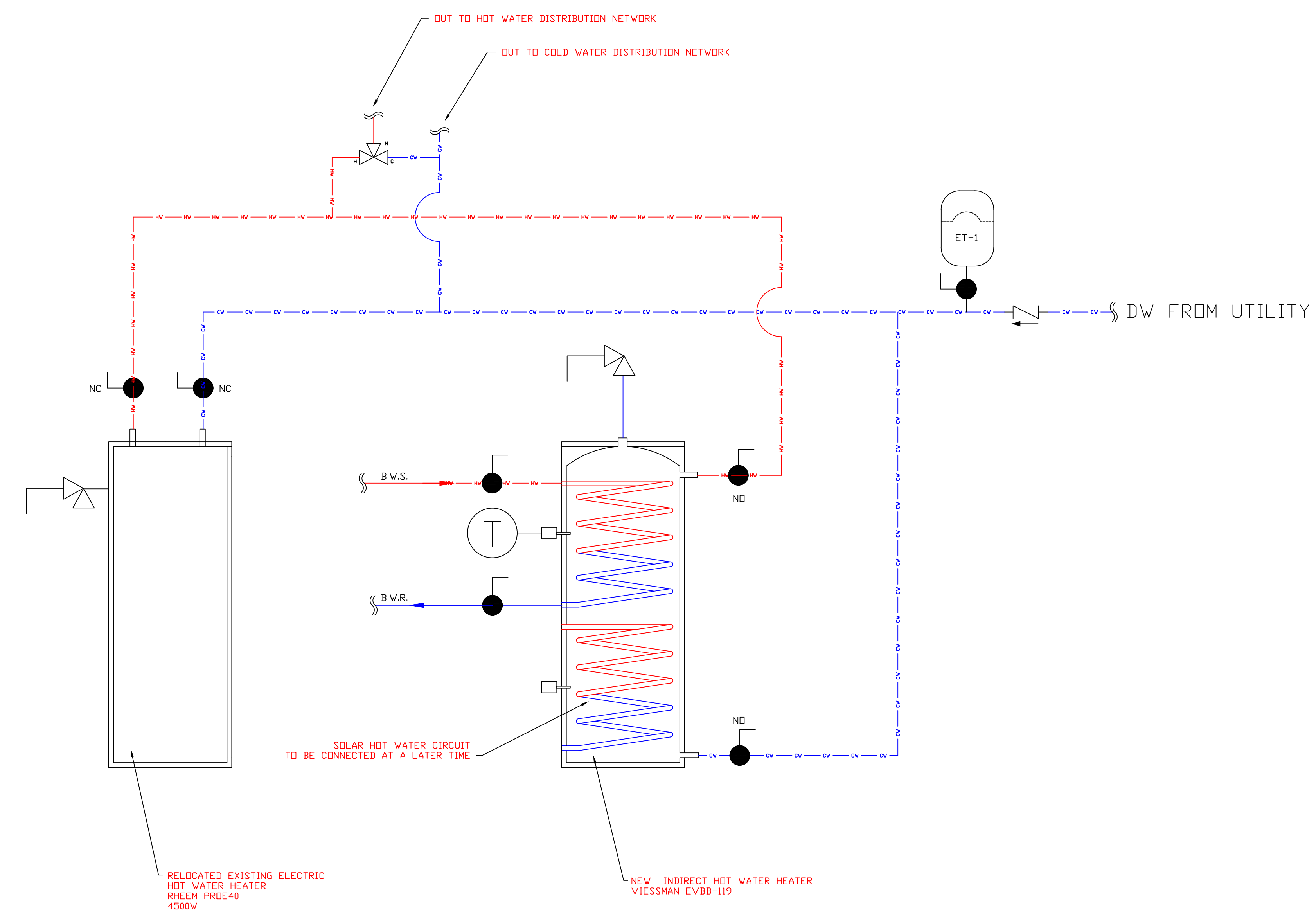
WARNING - IT IS A VIOLATION OF STATE EDUCATION LAW FOR ANY REASON, UNLESS HE IS ACTING UNDER THE DIRECTION OF LICENSED PROFESSIONAL ENGINEER, TO ALTER ANY ITEM IN ANY WAY ON THESE PLANS.

LEGEND

- SPRING CHECK
- 1/4 TURN BALL VALVE
- TEMPERATURE GAGE
- PRESSURE GAGE
- EXPANSION TANK
- 3 WAY TEMPERING VALVE
- RELIEF VALVE
- COLD WATER
- HOT WATER
- GAS PIPING
- NO - NORMALLY OPENED
- NC - NORMALLY CLOSED



GAS RISER DIAGRAM



DOMESTIC WATER PIPING SCHEMATIC

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DATE : 11-29-2021

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DRAWN BY: P.R.

CHECKED BY: PR

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PIPING DETAILS
 SHEET 7 OF 7

APPROVAL STAMPS

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