

TOWN OF GREENBURGH
THEODORE D. YOUNG COMMUNITY CENTER
32 MANHATTAN AVE
WHITE PLAINS, NY 10607
BOILER PLANT REPLACEMENT

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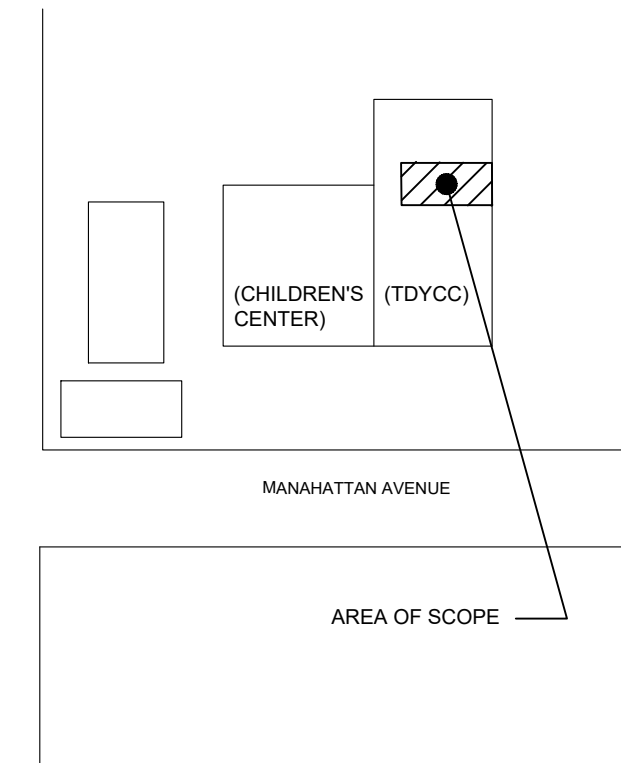
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3	ISSUED FOR BID	7/2/21
2	ISSUE FOR PROGRESS	5/14/21
1	ISSUED FOR PROGRESS	3/26/21
No.	ISSUE OR REVISION	DATE

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DRAWING TITLE
COVER SHEET

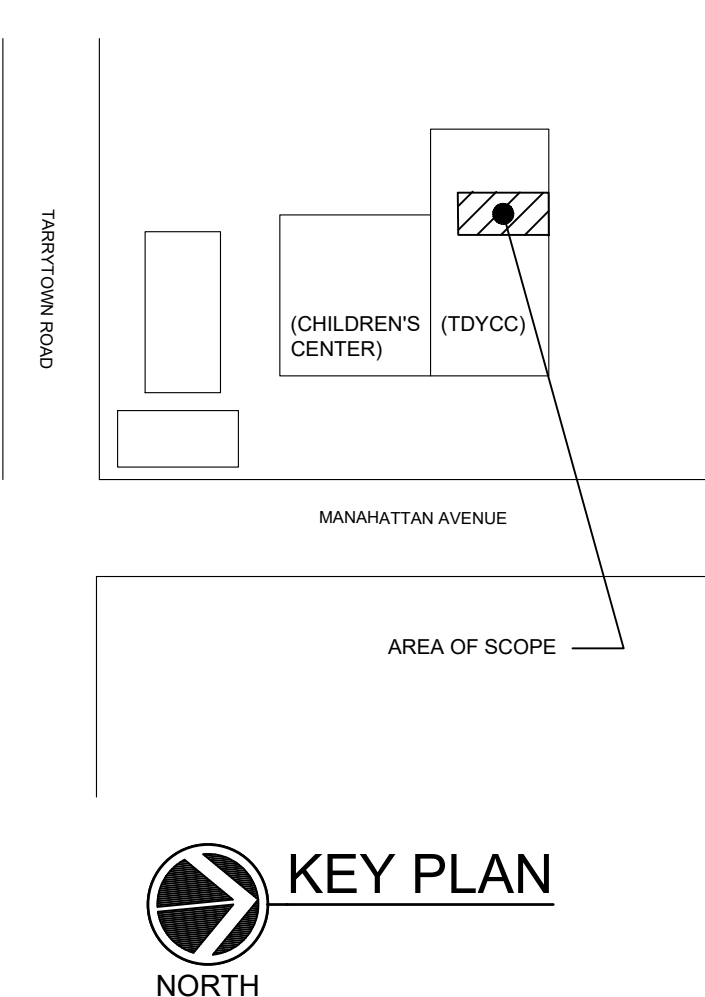
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	DRAWN BY TO / AC	DRAWING NO.
	CHECKED BY JK	T0.1
	DATE 3/26/21	

SYMBOL & ABBREVIATIONS									GENERAL NOTES
SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION	
-	AC-	AIR CONDITIONING UNIT		-	3-WAY VALVE		-	THERMOSTAT	1.) ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED (U.O.N.) EXISTING TO REMAIN (EX.).
-	ACC-	AIR COOLED CONDENSING UNIT		-	FLEXIBLE CONNECTION		-	HUMIDISTAT	2.) THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATIONS AND DETAILS OF THE WORK TO BE INSTALLED.
-	AD	ACCESS DOOR		-	2-WAY VALVE		-	MOTORIZED DAMPER	3.) CONTRACT DRAWINGS AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT AND SHEETMETAL, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO SHEETMETAL AND EQUIPMENT LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST.
-	AFF	ABOVE FINISHED FLOOR		-	PLUG VALVE		-	SMOKE DETECTOR	4.) PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL. PENETRATIONS FOR PIPING SHALL BE MADE BY CORE DRILLING WHENEVER POSSIBLE.
-	AHC	ABOVE HUNG CEILING		-	LOCK SHIELD VALVE		-	DOOR UNDER CUT	5.)ALL MOTOR STARTERS AND DISCONNECT SWITCHES FOR HVAC EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED. DISCONNECT SWITCHES FURNISHED BY THE MECHANICAL CONTRACTOR FOR HVAC EQUIPMENT SHALL BE HEAVY DUTY TYPE.
-	AHU-	AIR HANDLING UNIT		-	GATE VALVE		-	DOOR LOUVER	6.) THIS CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPOSITE SHOP DRAWING, FULLY COORDINATED WITH ALL OTHER TRADES.
-	AP	ACCESS PANEL		-	GLOBE VALVE		-	AIR INTO REGISTER	7.) CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK AND COORDINATE NEW WORK.
-	AS	AIR SEPARATOR		-	TEE DOWN		-	SPEED CONTROLLER	8.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING ALL FEES ASSOCIATED WITH THIS WORK INCLUDING BUT NOT LIMITED TO FILING WITH THE UTILITY COMPANY (AS REQUIRED), OBTAINING WORK PERMITS, EQUIPMENT USE PERMITS, RIGGING PERMITS, FROM THE LOCAL AUTHORITY HAVING JURISDICTION. INCLUDE ALL EXPEDITOR FEES IF REQUIRED.
-	BDD	BACKDRAFT DAMPER		-	ELBOW DOWN		-	POINT OF CONNECTION DISCONNECTION	9.) SCOPE OF WORK NOTED ON DRAWINGS INDICATES GENERAL SUMMARY OF REQUIRED WORK. CONTRACTOR TO INCLUDE ALL MATERIALS , LABOR, ETC AS REQUIRED TO ACHIEVE SCOPE AS INDICATED ON DRAWINGS AND AS PER SPECIFICATIONS.
-	BHP	BRAKE HORSEPOWER		-	TEE UP		P-1	PUMP	10.) ELECTRONIC FILES OF THE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS ARE AVAILABLE TO THE CONTRACTOR VIA COMPACT DISK. THE ENGINEER MAY GRANT THE CONTRACTOR A LIMITED LICENSE TO MAKE A DERIVATIVE WORK OF THE DATABASE FOR THE PURPOSE OF SHOP DRAWINGS, SUBMITTALS AND AS-BUILT DRAWINGS. UPON REQUEST, THE ENGINEER SHALL PROVIDE A RELEASE FORM THAT MUST BE SIGNED AND RETURNED BY THE CONTRACTOR ALONG WITH A LUMP SUM FEE OF TWO HUNDRED AND FIFTY (\$250.00) DOLLARS PRIOR TO RELEASE OF THE ELECTRONIC FILES. THIS FEE IS FOR TIME AND MATERIAL COSTS INCURRED IN PREPARING AND TRANSMITTING THE REQUESTED DATA.
-	BTU	BRITISH THERMAL UNIT		-	ELBOW UP			SECTION CALLOUT	11.) ALL WORK SHALL COMPLY WITH NEW YORK STATE 2020 BUILDING CODE, LOCAL BUILDING CODE, AND 2020 ENERGY CONSERVATION CODE REQUIREMENTS. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
-	CFM	CUBIC FEET PER MINUTE		-	CONCENTRIC REDUCER				12.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY VENTILATION AND EXHAUST AIR WHEN WELDING OR SOLDERING OPERATIONS ARE PERFORMED, AS REQUIRED BY OSHA.
-	CH-	CABINET HEATER		-	ECCENTRIC REDUCER				13.) WHERE BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF MECHANICAL WORK, INCLUDING THE INSTALLATION OF HANGERS FOR PIPING, DUCTWORK, OR EQUIPMENT, SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
-	CL	CENTERLINE		-	OS&Y GATE VALVE		-	AIR CONDITIONING UNIT	
-	CP-	CONDENSATE PUMP		-	PIPE GUIDE		-	AIR COOLED CONDENER(ING) UNIT	
-	DB	DRY BULB TEMPERATURE		-	PIPE ANCHOR		-	AIR HANDLING UNIT	
-	DIA. OR Ø	DIAMETER		-	STRAINER		-	CABINET HEATER	
-	DX	DIRECT EXPANSION		-	BASKET STRAINER		-	CABINET UNIT HEATER	
-	EA	EXHAUST AIR		-	PRESSURE REDUCING		-	CEILING DIFFUSER	
-	EAT	ENTERING AIR TEMPERATURE		-	FLOW ARROW		-	CHILLER	
-	EL	ELEVATION		-	BUTTERFLY		-	CONDENSATE PUMP	
-	ER	EXHAUST REGISTER		-	BALANCING VALVE		-	CONSTANT VOLUME BOX	
-	ESP	EXTERNAL STATIC PRESSURE		-	MANUAL AIR VENT		-	EXHAUST FAN	
-	ET	EXPANSION TANK		-	AUTO AIR VENT		-	EXHAUST REGISTER	
-	EWT	ENTERING WATER TEMPERATURE		-	SOLENOID VALVE		-	FAN COIL UNIT	
-	FPM	FEET PER MINUTE		-	MOTORIZED VALVE		-	FIN TUBE RADIATION	
-	FPS	FEET PER SECOND		-	ANGLE GLOBE VALVE		-	GENERAL EXHAUST FAN	
-	FTR	FINNED TUBE RADIATION		-	ANGLE GATE VALVE		-	HEATING & VENTILATING UNIT	
-	GPM	GALLONS PER MINUTE		-	T&P RELIEF VALVE		-	HEATING VENTILATING & AIR CONDITIONING UNIT	
-	HP	HORSE POWER		-	FILTER DRYER		-	HEAT EXCHANGER	
-	HV-	HEATING AND VENTILATING UNIT		-	FILTER		-	KITCHEN EXHAUST FAN	
-	HVAC-	HEATING, VENTILATING AND AIR CONDITIONING UNIT		-	FLOAT AND THERMOSTATIC TRAP		-	LOUVER	
-	LAT	LEAVING AIR TEMPERATURE		-	FLOAT TRAP		-	PACKAGED TERMINAL AIR CONDITIONING UNIT	(END OF GENERAL NOTES)
-	LF	LINEAR FEET		-	BALL VALVE		-	PUMP	
-	LWT	LEAVING WATER TEMPERATURE		-	PRESSURE GAGE		-	RETURN FAN	
-	MBH			-	THERMOMETER		-	REHEAT COIL	
-	MER	MECHANICAL EQUIPMENT ROOM		-	CHECK VALVE		-	RETURN REGISTER	
-	NC	NORMALLY CLOSED		-	UNION		-	SUPPLY REGISTER	
-	NIC	NOT IN CONTRACT		EX.	EXISTING TO REMAIN		-	TOILET EXHAUST FAN	
-	NO	NORMALLY OPEN		REL.	REMOVE AND RELOCATE		-	TOP REGISTER	
-	OAI	OUTSIDE AIR INTAKE		NEW	NEW WORK		-	UNIT HEATER	
-	PSI	POUNDS PER SQUARE INCH		DEM.	EXISTING TO BE REMOVED		-	UNIT VENTILATOR	
-	RA	RETURN AIR		-	WELL WATER SUPPLY		-	VARIABLE AIR VOLUME BOX	
-	RF-	RETURN FAN		-	WELL WATER RETURN	-	-	-	
-	RPM	REVOLUTIONS PER MINUTE		-	DOMESTIC COLD WATER	-	-	-	
-	SA	SUPPLY AIR		-	HOT WATER SUPPLY	-	-	-	
-	SP	STATIC PRESSURE		-	HOT WATER RETURN	-	-	-	
-	TDH	TOTAL DYNAMIC HEAD		-	NATURAL GAS	-	-	-	
-	TSP	TOTAL STATIC PRESSURE		-	FUTURE	-	-	-	
-	TYP.	TYPICAL		-	CONTROL TUBING	-	-	-	
-	U.O.N.	UNLESS OTHERWISE NOTED		-	GAS REGULATOR	-	-	-	
-	BD	BAROMETRIC DAMPER	-	-	-	-	-	-	
-	CA	COMBUSTION AIR	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	
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			-	-	-	-	-	-	
			-	-	-	-	-	-	(END OF DEFINITION OF TERMS)



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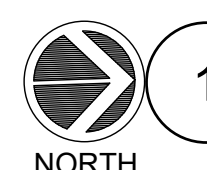
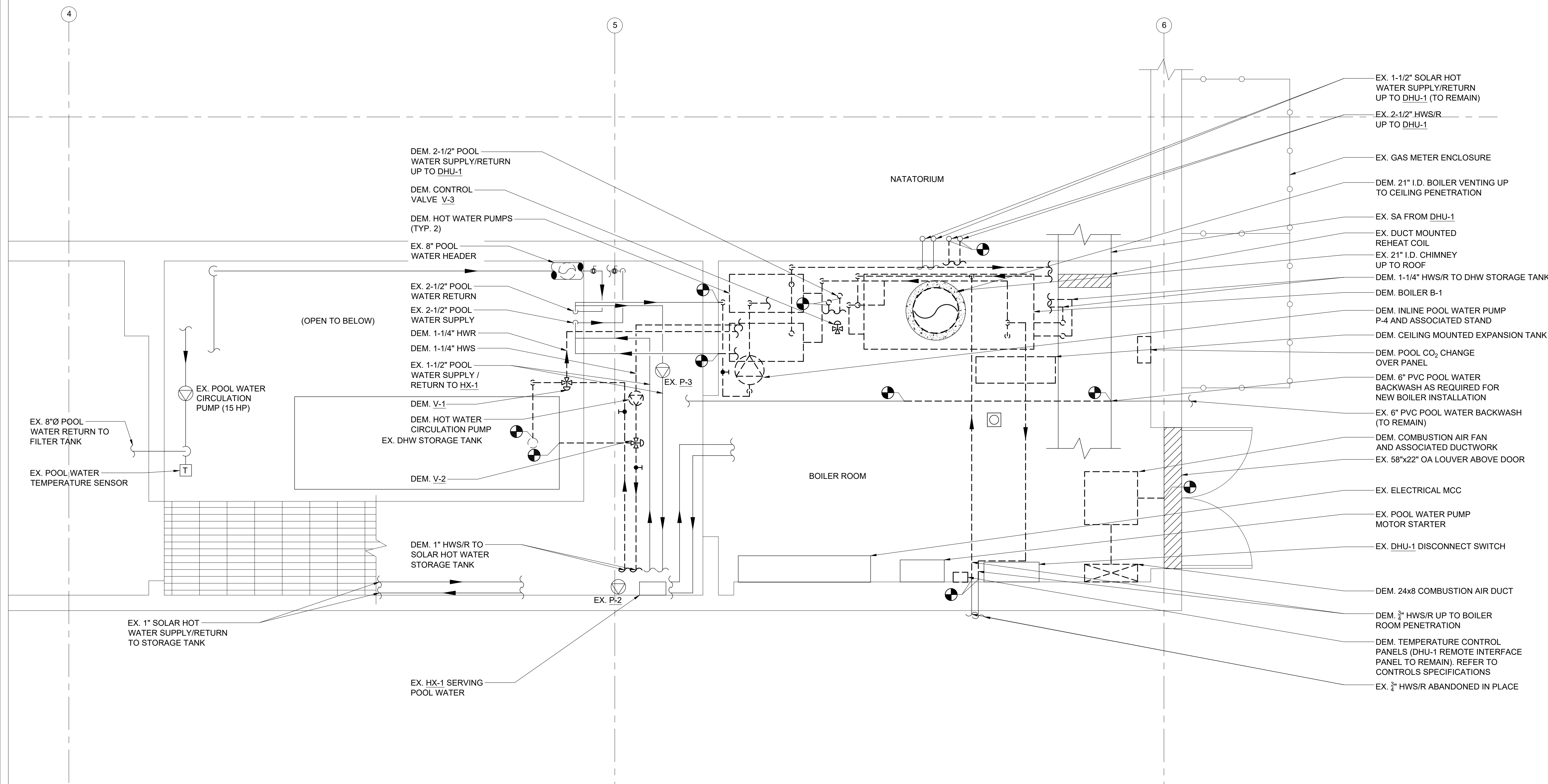
DRAWING TITLE

MECHANICAL
BOILER ROOM DEMOLITION PLAN

SEAL	SCALE	PROJECT NO.
	AS NOTED	NTOG0011.00
	DRAWN BY	DRAWING NO.
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	CHECKED BY	
JK		
	DATE	M1.1
	1/29/21	

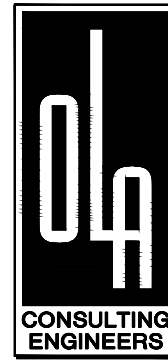
DEMOLITION NOTES:

1. NOT ALL PIPING SHOWN ON THIS DRAWING. REFER TO M5.1 FOR PIPING DEMOLITION SCHEMATIC



MECHANICAL BOILER ROOM DEMOLITION PLAN

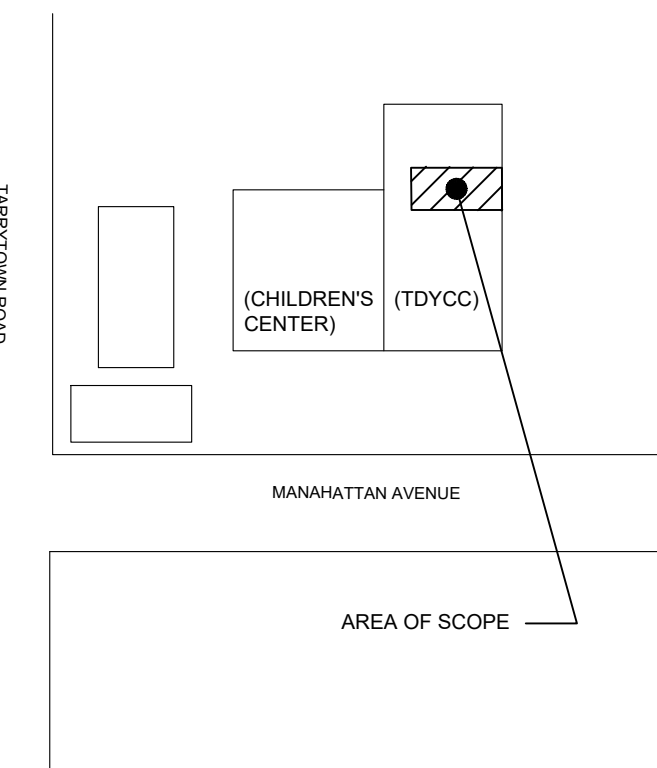
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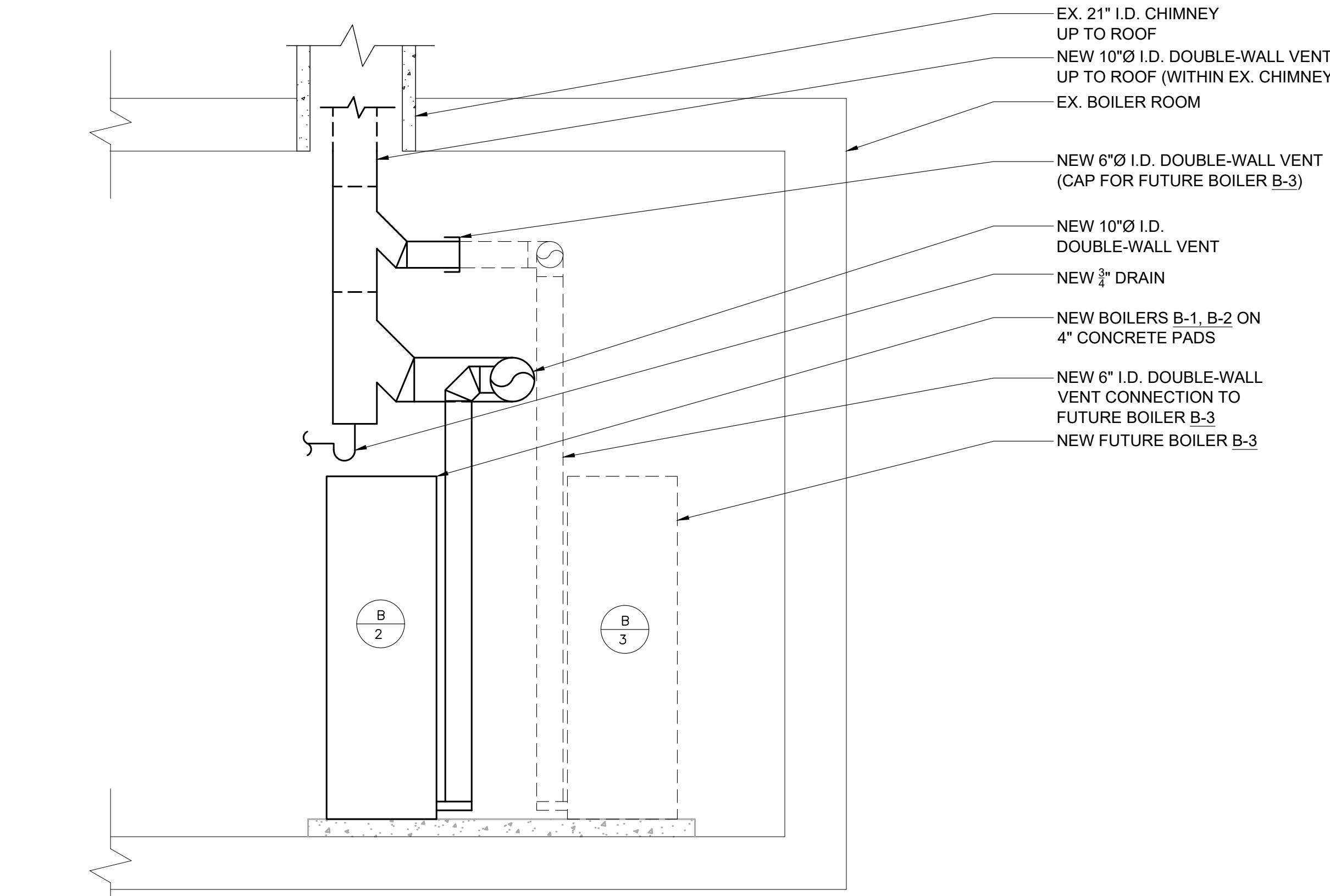
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DRAWING TITLE
**MECHANICAL
BOILER ROOM
NEW WORK DUCTWORK PLAN**

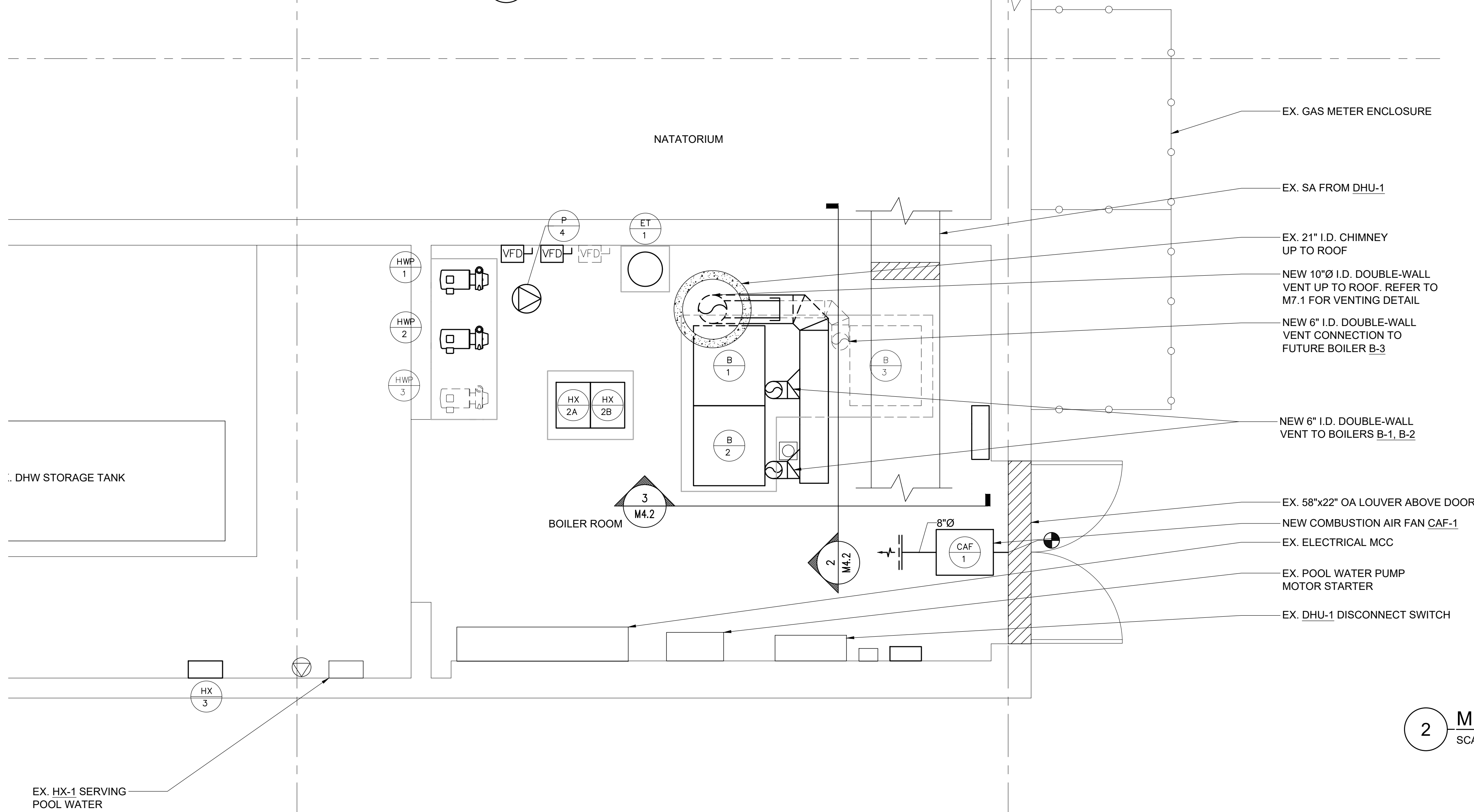
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NEW WORK NOTES:

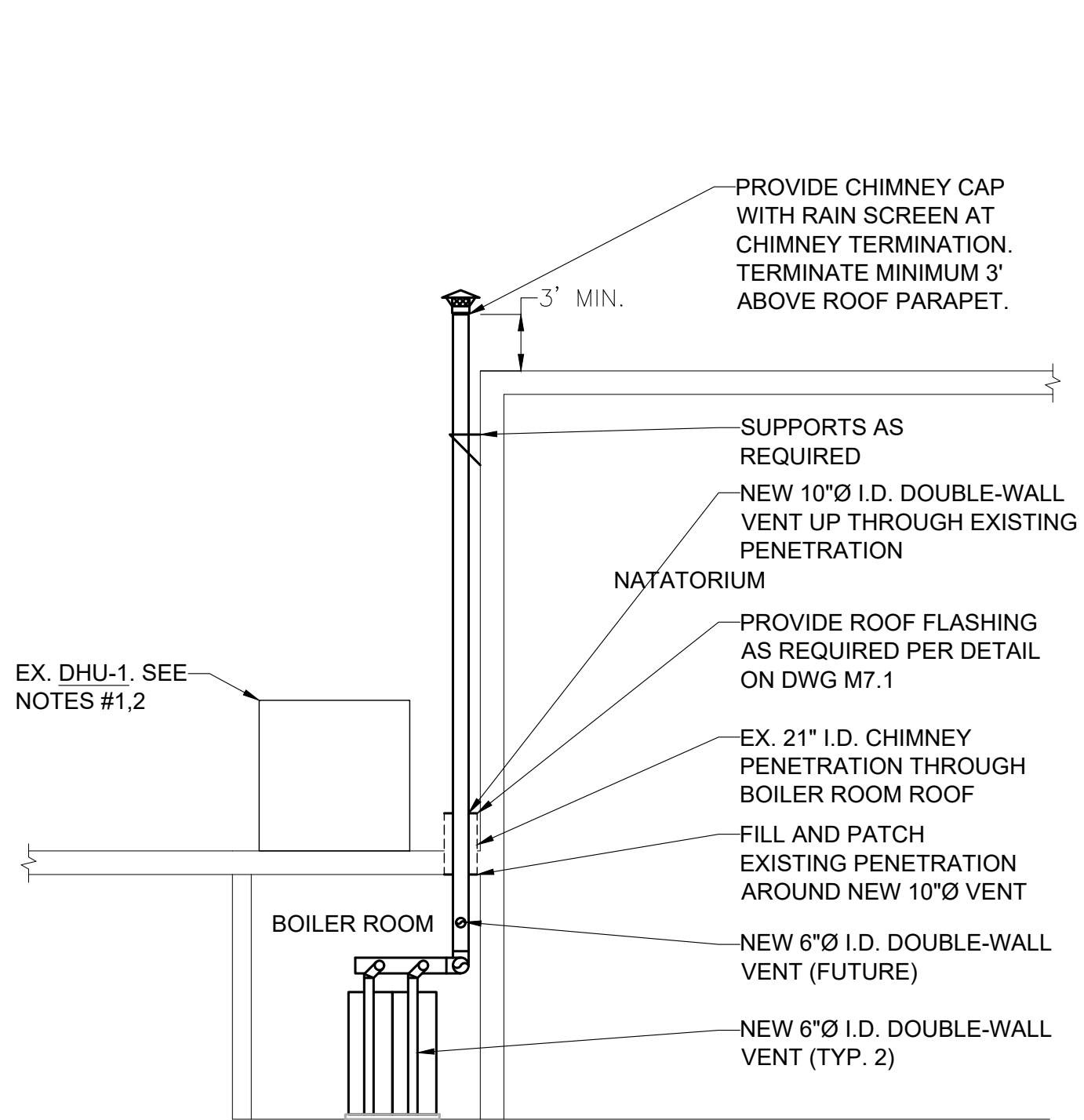
1. PROVIDE NEW $\frac{3}{4}$ " PVC CONDENSATE PIPING FROM DHU-1 DRAIN CONNECTIONS TO EXISTING ROOF DRAINS.
2. REPLACE DETERIORATED SECTIONS OF PIPE INSULATION SERVING EXISTING 2-1/2" POOL WATER AND HOT WATER PIPING FOR DHU-1.



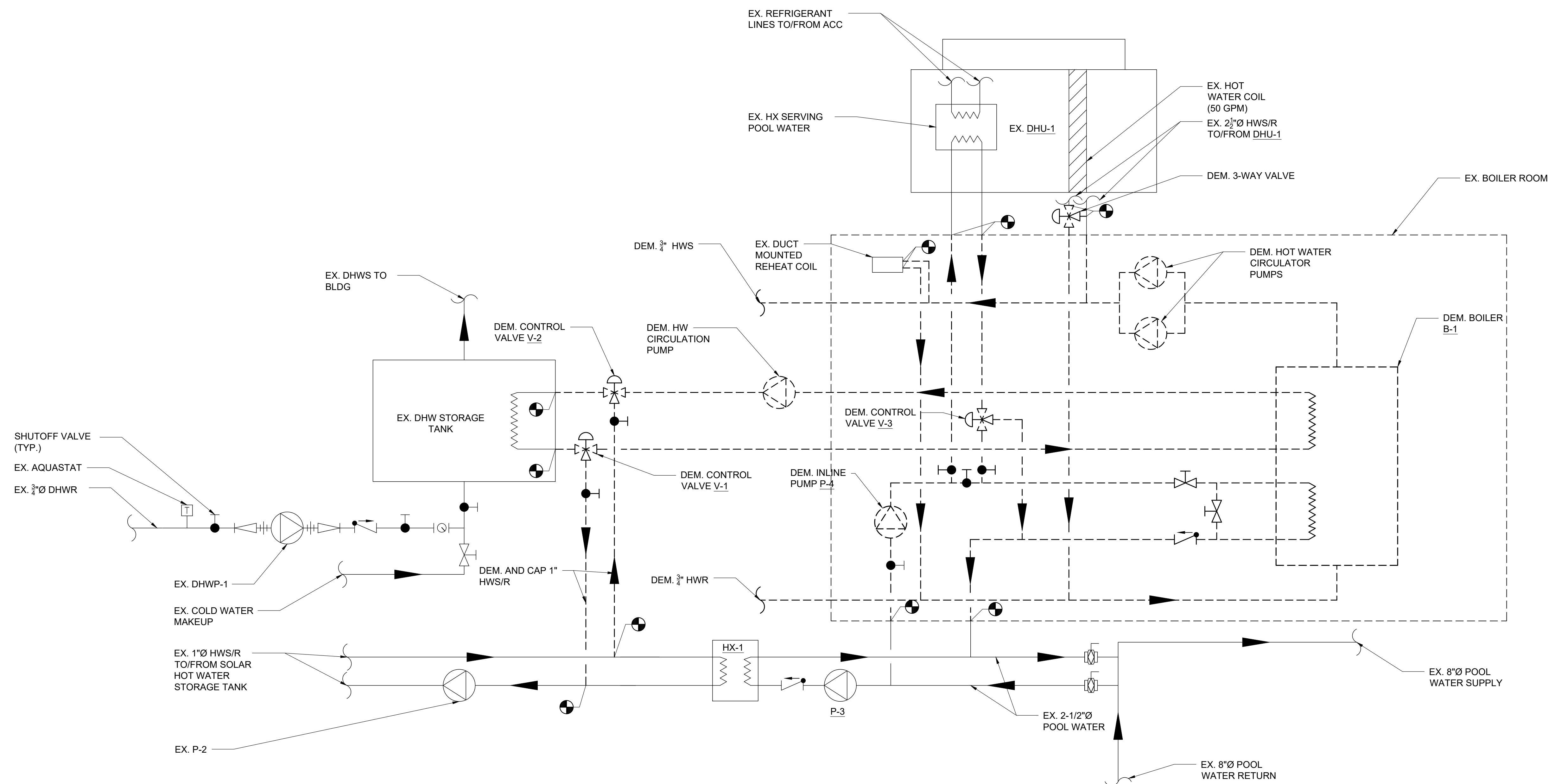
3 MECHANICAL BOILER ROOM NEW WORK VENTING SECTION
SCALE: 1/2" = 1'-0"



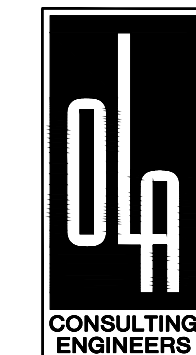
1 MECHANICAL BOILER ROOM NEW WORK DUCTWORK PLAN
SCALE: 1/2" = 1'-0"



2 MECHANICAL BOILER ROOM NEW WORK VENTING SECTION
SCALE: 1/8" = 1'-0"



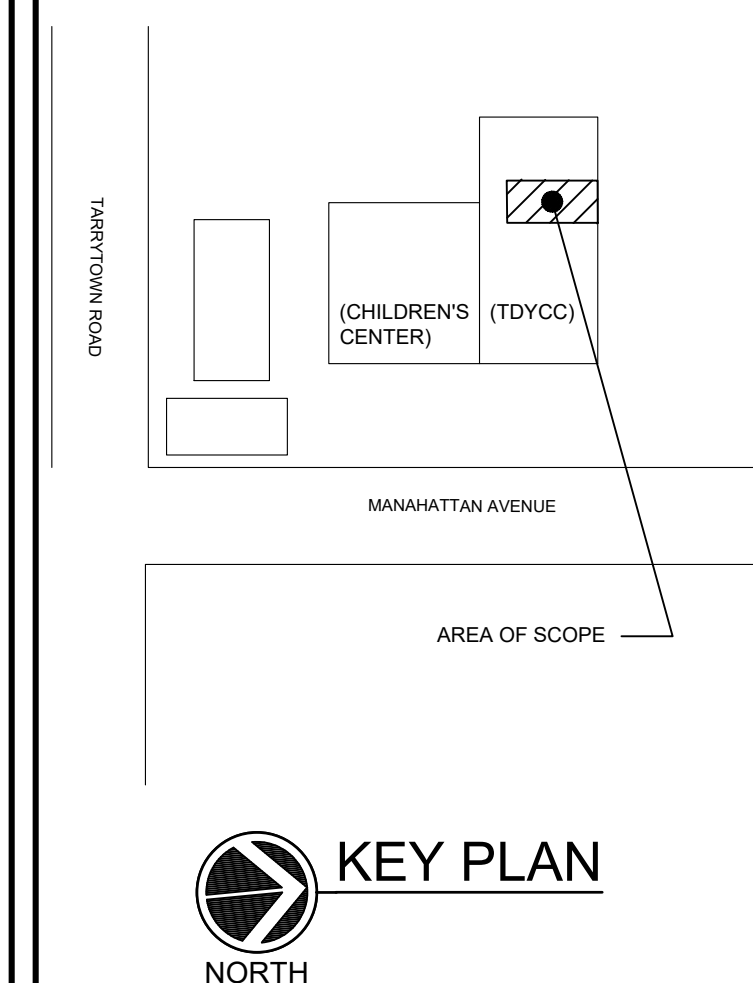
1 MECHANICAL DEMOLITION PIPING SCHEMATIC
SCALE: NONE



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DRAWING TITLE
MECHANICAL
DEMOLITION PIPING
SCHEMATIC

SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
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COMBUSTION AIR FAN SCHEDULE

DESIGNATION	CAF-1
LOCATION	BOILER ROOM
AREA SERVED	BOILER ROOM
MODEL	ISAF12
CFM	1,050
HP	$\frac{1}{2}$
FLA (AMPS)	4.2
RPM	2,200
SP (IN H ₂ O)	0.5"
VOLTS/Ø/Hz	120/1/60
STARTER	-
INTERLOCK	B-1/B-2

NOTES:
1. CAF-1 BASED ON US DRAFT CO.
2. PROVIDE FAN PRESSURE CONTROLLER U.S. DRAFT CO. MODEL V250.
3. PROVIDE INTEGRAL BACK DRAFT DAMPER.

AIR SEPARATOR SCHEDULE

DESIGNATION	AS-1
SERVICE	HW
MODEL	RL-4F
FLANGED TANGENTIAL OPENING (IN)	4"
OPERATING WEIGHT (LB)	263
DIAMETER/HEIGHT (IN)	16
CAPACITY (GAL)	13
MAX. TEMP. (°F)	350
MAX. PRESS. (PSI)	125

NOTES:
1. AIR SEPARATORS SHALL BE BASED ON BELL AND GOSSETT.
2. SHALL HAVE FLANGED TANGENTIAL OPENINGS.
3. THE AIR SEPARATOR SHALL BE DESIGNED, CONSTRUCTED AND STAMPED FOR 125 PSIG AT 350°F IN ACCORDANCE WITH THE ASME BOILER AND PRESSURE VESSEL CODE.

HEAT EXCHANGER SCHEDULE

DESIGNATION	HX-2A, 2B	HX-3
LOCATION	BOILER ROOM	DHW STORAGE TANK ROOM
SERVICE	POOL WATER	DOMESTIC HOT WATER
MODEL	AP14	BPDW415-50
CAPACITY (MBH)	360.0	250.0
COLD SIDE:		
GPM	24.2	5.0
E.W.T./L.W.T. (°F)	75°/104°	40°/140°
WATER P.D. (FT H ₂ O)	19.3	0.55
HOT SIDE:		
GPM	17.7	12.6
E.W.T./L.W.T. (°F)	145°/105°	145°/105°
WATER P.D. (FT. H ₂ O)	10.7	4.0

NOTES:
1. HEAT EXCHANGERS BASED ON BELL & GOSSETT.

PUMP SCHEDULE

DESIGNATION	HWP-1, 2, 3	DHWP-2	DHWP-3	P-4
LOCATION	BOILER ROOM	DHW STORAGE TANK ROOM	POOL FILTER ROOM	BOILER ROOM
SYSTEM SERVED	HOT WATER	DOMESTIC HOT WATER	DOMESTIC HOT WATER	POOL WATER
MODEL	e-1535 1.25AAC	110S	110S	e-90 1.5AB
TYPE	BASE MOUNTED	INLINE	INLINE	INLINE
GPM	70	5	0.5	60
FLUID	WATER	DOMESTIC WATER	DOMESTIC WATER	POOL WATER
FLUID TEMP. (°F)	180°	140°	140°	105°
TOTAL DYNAMIC HEAD (FT H ₂ O)	55	5	5	50
RPM	3,600	1,725	1,725	1,800

MOTOR:
BHP/HP 1.31 / 3 0.08 0.08 1.19 / 2
VOLTAGE/Ø/Hz 208/3/60 120/1/60 120/1/60 208/3/60

STARTER:				
TYPE	VFD	-	-	-
LOCATION	BOILER ROOM	DHW STORAGE TANK ROOM	POOL FILTER ROOM	BOILER ROOM

NOTES:
1. PUMPS BASED ON BELL AND GOSSETT AND TACO.
2. ALL MOTORS SHALL BE PREMIUM EFFICIENCY.

HOT WATER CONDENSING BOILERS

DESIGNATION	B-1, B-2, B-3
LOCATION	BOILER ROOM
QTY	3
MODEL	BMK-1000
INPUT (MBH)	1,000
GROSS OUTPUT (MBH)	960
MIN. GAS PRESSURE (W.C.)	4"
MAX. GAS PRESSURE (W.C.)	14"
MAX. ALLOWED WORKING PRESSURE (PSIG)	160
MIN. FLOW RATE (GPM)	12
WATER CONNECTIONS	3"
EWI/LWT (°F)	140°/180°
DIMENSIONS (L x W x H)	25"x28"x78"

GAS BURNER:
GAS INPUT (MBH) 1,000
THERMAL EFFICIENCY (%) 87%

ELECTRICAL DATA:	
VOLTS/Ø/Hz	120/1/60
FLA	13.0

NOTES:
1. BOILERS BASED ON AERCO.
2. PROVIDE ASME CSD-1 COMPLIANT CONTROLS.
3. PROVIDE BOILERS WITH 80 PSI ASME RELIEF VALVES, 3-1/4" PRESSURE AND TEMPERATURE GAUGES, MANUAL RESET HIGH LIMIT AQUASTAT, LOW WATER CUT OFF.
4. PROVIDE MANUFACTURER'S CONDENSATE NEUTRALIZING KIT.
5. PROVIDE WITH FM COMPLIANT OR FACTORY INSTALLED DBB (IRI). VALVE PROVING SYSTEM GAS TRAIN OPERATION.

EQUIPMENT NOTES

1.) TEMPORARY DHWH-1: AO SMITH MODEL #DSE-10A. 28" HEIGHT, 18" TOTAL DIAMETER, $\frac{3}{8}$ " COLD WATER/HOT WATER PIPING CONNECTIONS. 10 GALLON STORAGE TANK CAPACITY AT 160 PSI WORKING PRESSURE. HEAT RECOVERY: 27 GPH @ 90°F RISE. 6 KW, 208 V, 1 PH, 60HZ. WEIGHT 116LBS.

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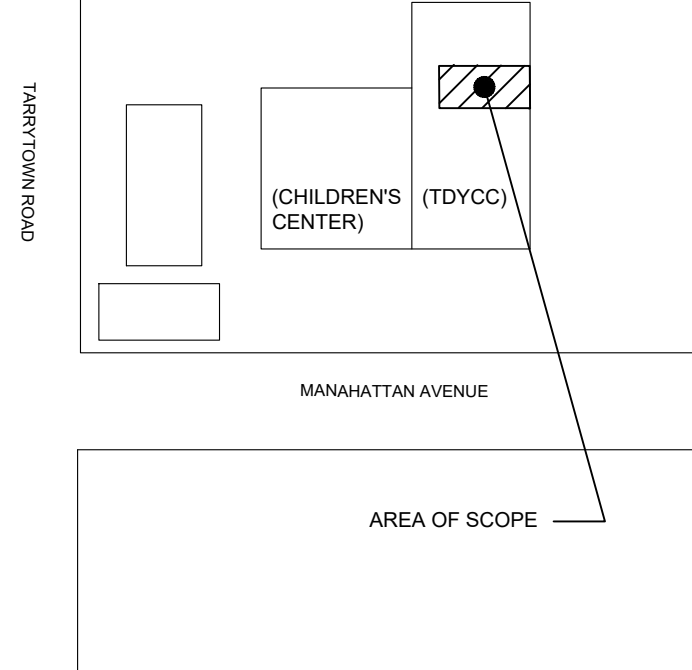
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KEY PLAN

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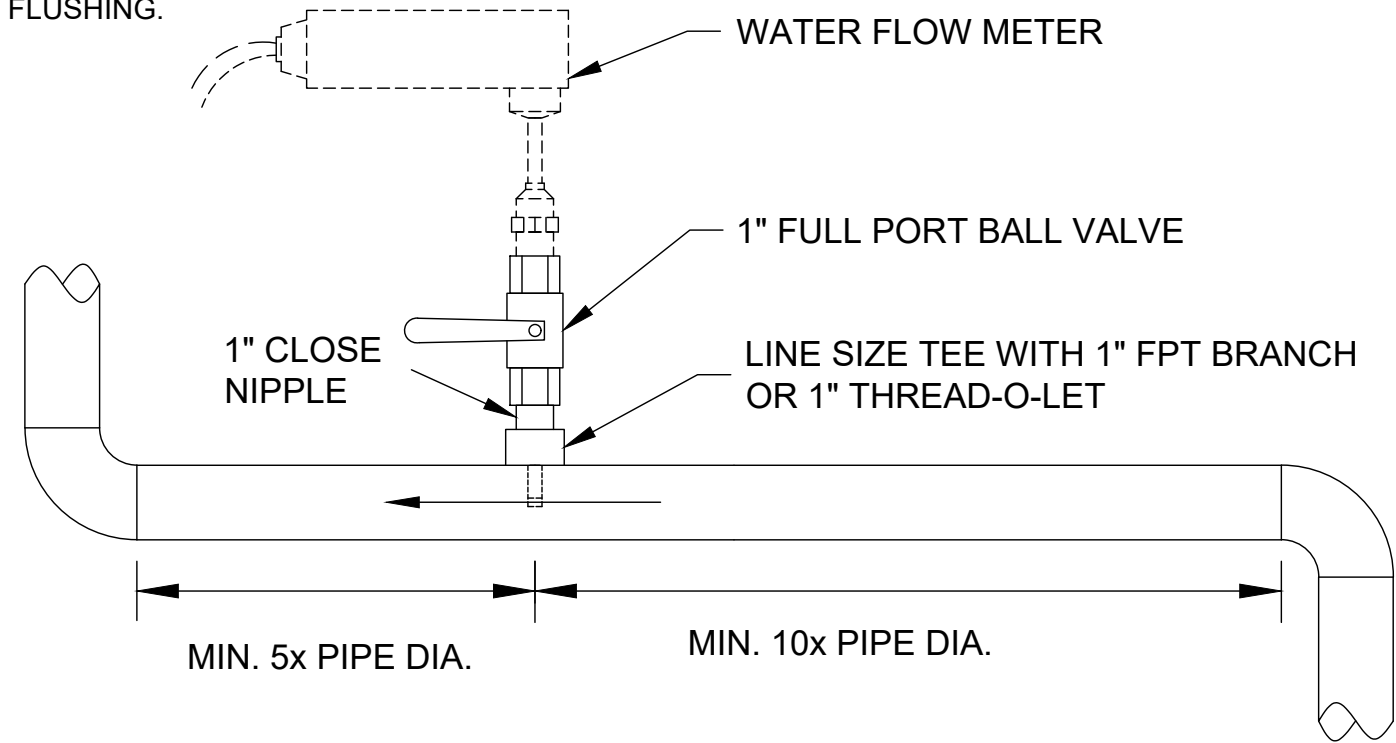
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DRAWING TITLE
MECHANICAL AND PLUMBING
SCHEDULES

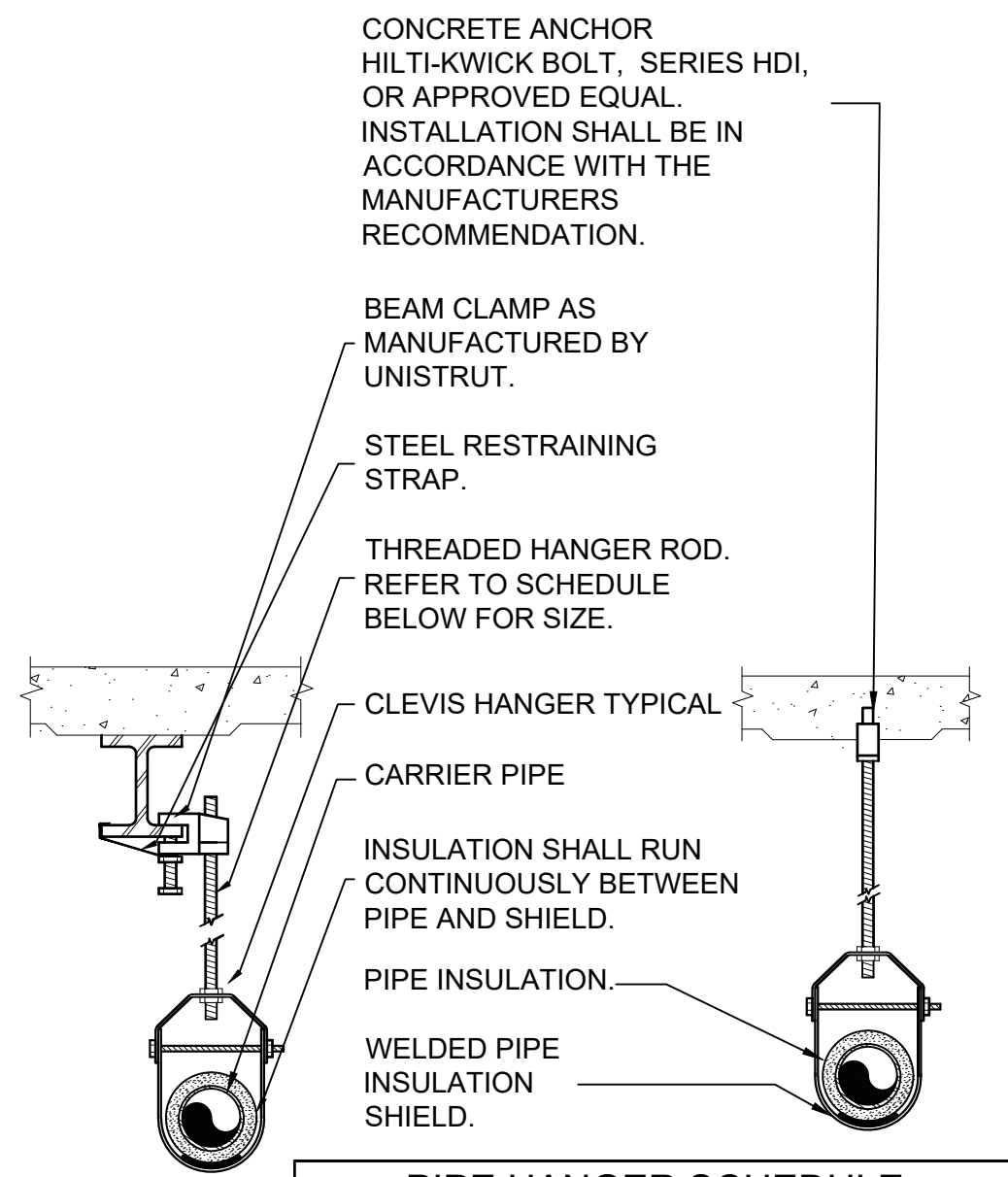
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	3/26/21	

NOTE:
PROBE MUST BE RETRACTED
DURING PIPE FLUSHING.



WATER METER PROBE MUST BE INSTALLED IN UPPER 180° OF PIPE, FOR HORIZONTAL PIPE. ANY CIRCUMFERENTIAL LOCATION IS ACCEPTABLE, FOR VERTICAL PIPE.

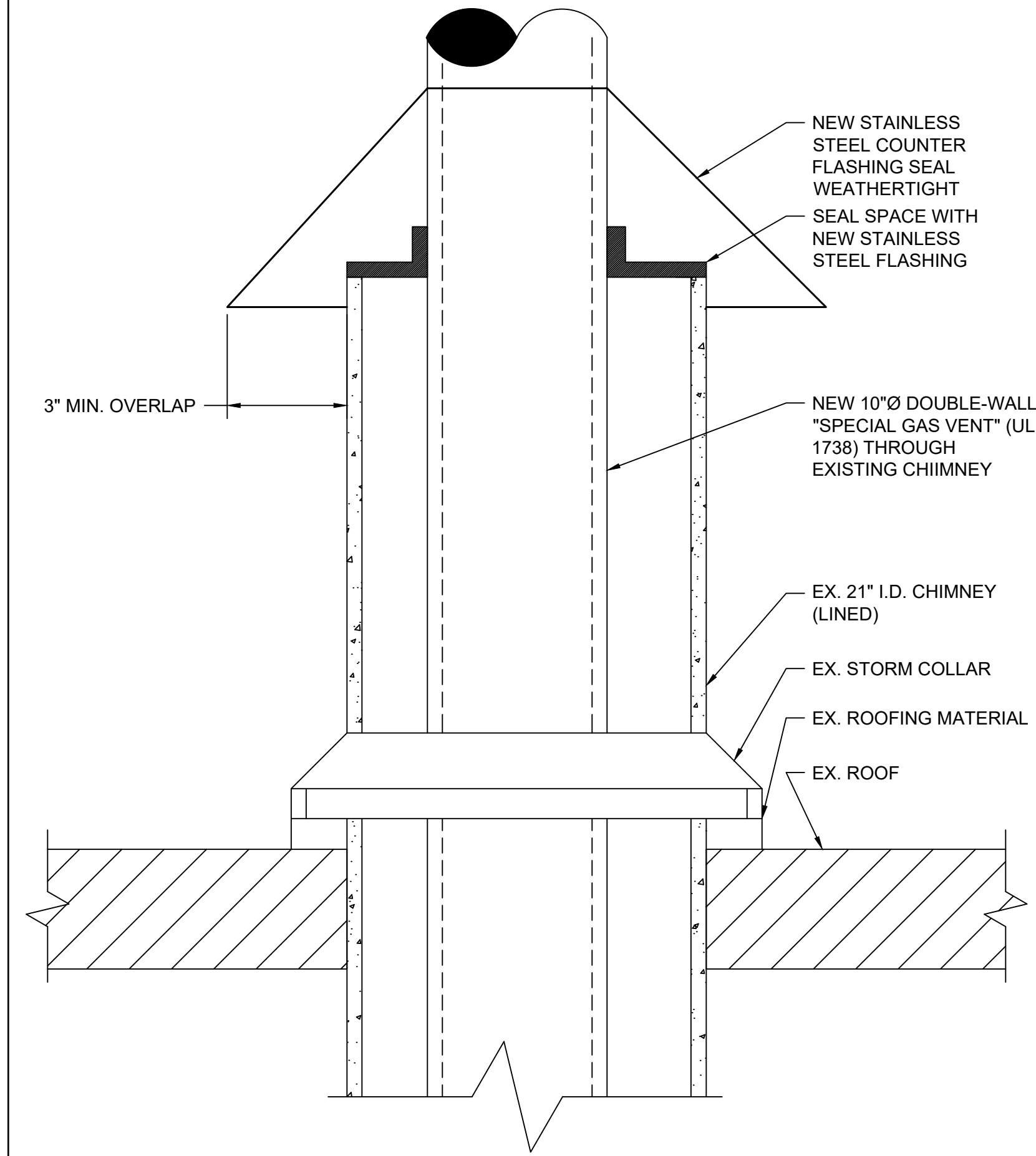
7 WATER FLOW METER HOOK-UP DETAIL
SCALE: NONE



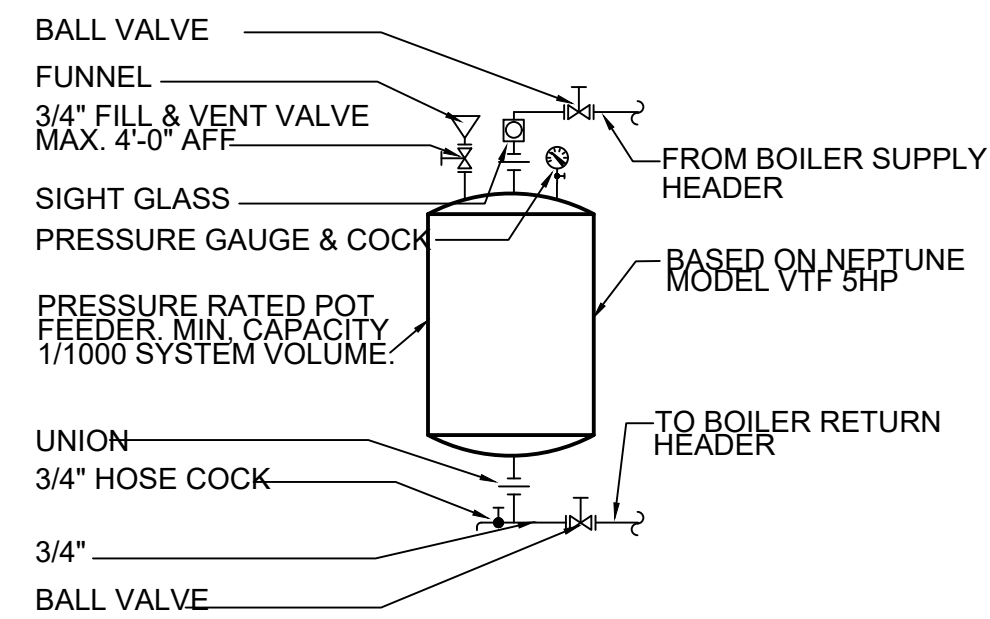
PIPE HANGER SCHEDULE						
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"	
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"	

- NOTES:
1. CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
 2. FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
 3. FOR NONINSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
 4. ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
 5. FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.

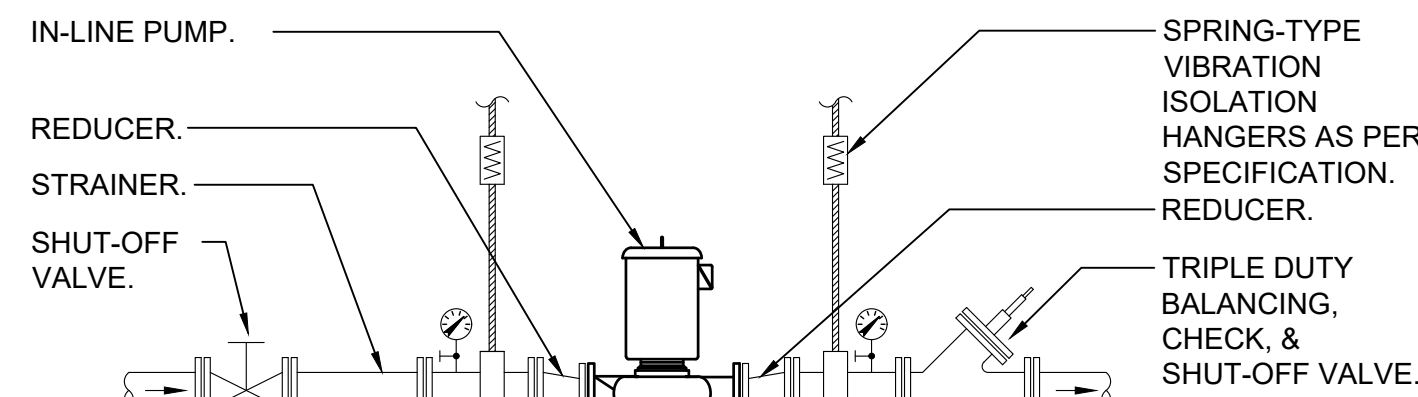
4 PIPE HANGER DETAIL
SCALE: NONE



2 BOILER VENT ROOF PENETRATION DETAIL
SCALE: NONE

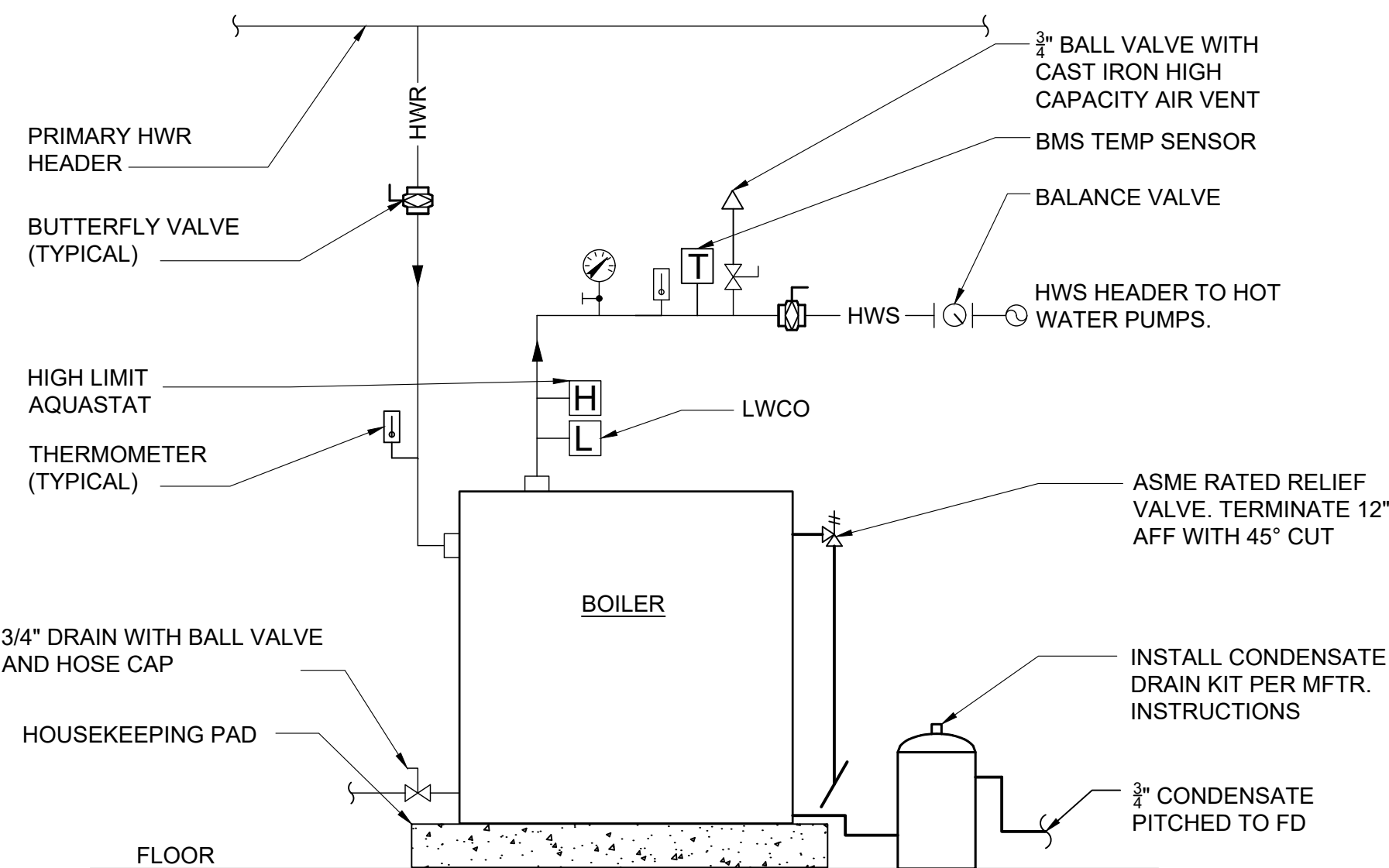


6 CHEMICAL SHOT FEEDER DETAIL
SCALE: NONE

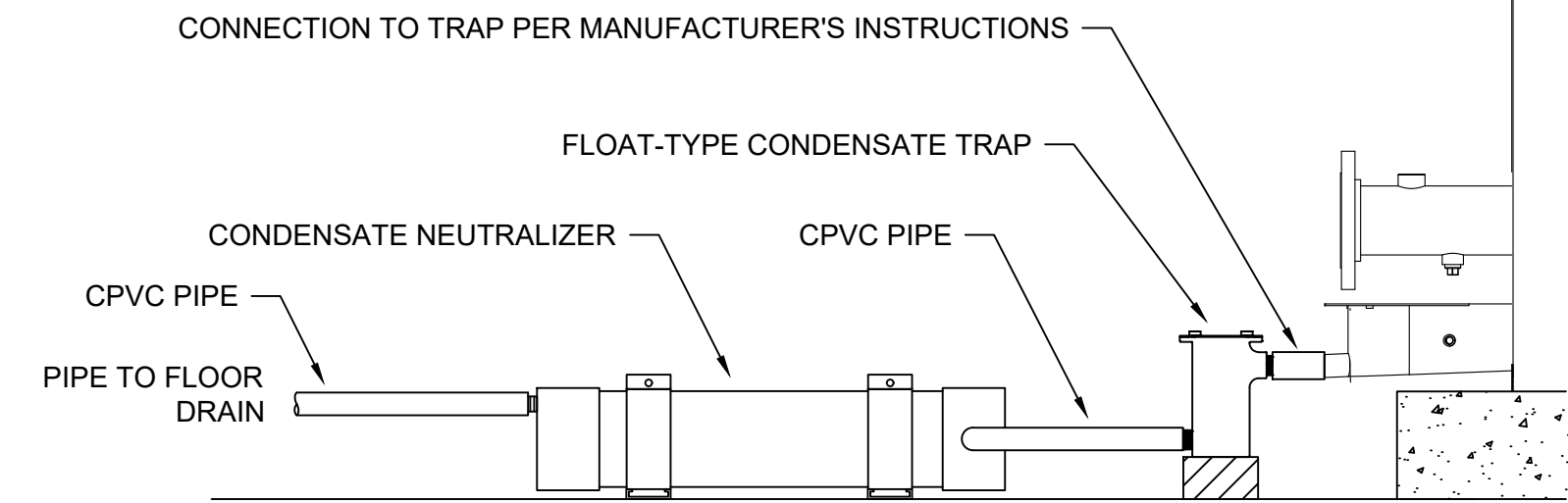


- NOTES:
- 1.) HANG IN-LINE PUMP FROM BUILDING STRUCTURE WITH VIBRATION ISOLATORS.
 - 2.) REFER TO PLANS FOR PIPE SIZES.

5 IN-LINE PUMP DETAIL
SCALE: NONE



3 HOT WATER BOILER PIPING DETAIL
SCALE: NONE

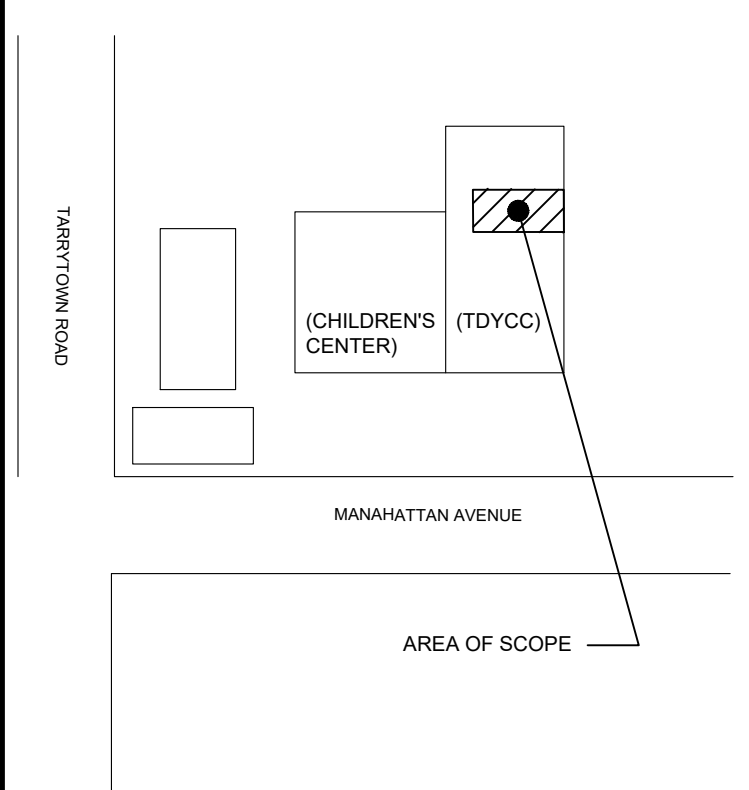


- NOTES:
1. UTILIZE CPVC FOR ALL FIELD PIPING BETWEEN THE CONDENSATE TRAP AND NEUTRALIZER, OR TUBING AS PROVIDED BY THE BOILER MANUFACTURER.
 2. BOILER TO BE INSTALLED ON A MINIMUM 4" HOUSEKEEPING PAD. CONDENSATE TRAP TO BE SUPPORTED AND ACID NEUTRALIZER INSTALLED ON MER FLOOR TO ALLOW CONDENSATE TO DRAIN FREELY, BY GRAVITY, TO A CONVENIENT FLOOR DRAIN.
 3. CONDENSATE NEUTRALIZER TO BE SIZED BY BOILER MANUFACTURER BASED ON MAXIMUM CONDENSATE FLOW OVER A 1 YEAR PERIOD.
 4. A DEDICATED CONDENSATE NEUTRALIZER SHALL BE SUPPLIED FOR ALL COMMON VENTING DRAINS.

1 CONDENSATE NEUTRALIZER DETAIL
SCALE: NONE

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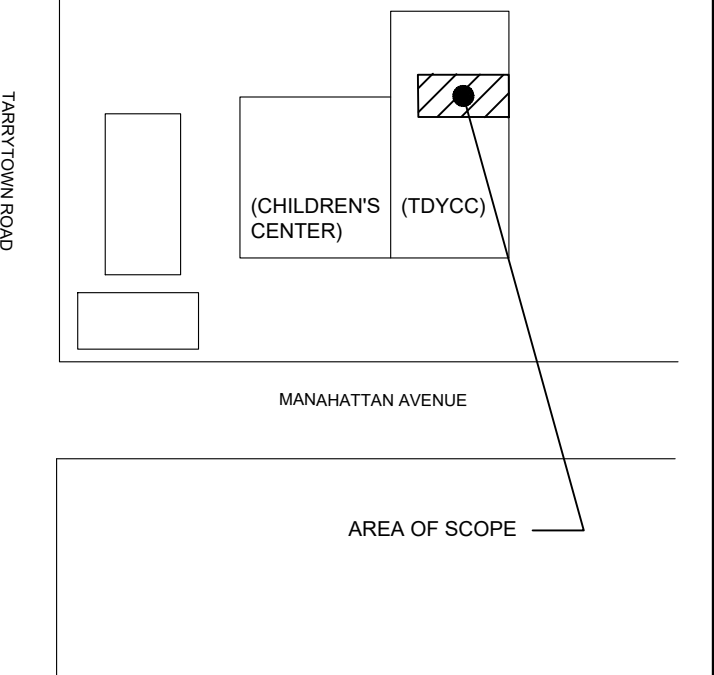
PROJECT TITLE
TOWN OF GREENBURGH
THEODORE D. YOUNG
COMMUNITY CENTER
BOILER PLANT REPLACEMENT
32 MANHATTAN AVENUE
WHITE PLAINS, NY 10607

DRAWING TITLE
MECHANICAL
DETAILS

SCALE	PROJECT NO.
AS NOTED	NTOG0011.00
DRAWN BY	DRAWING NO.
TO / AC	M7.1
CHECKED BY	
JK	
DATE	
3/26/21	

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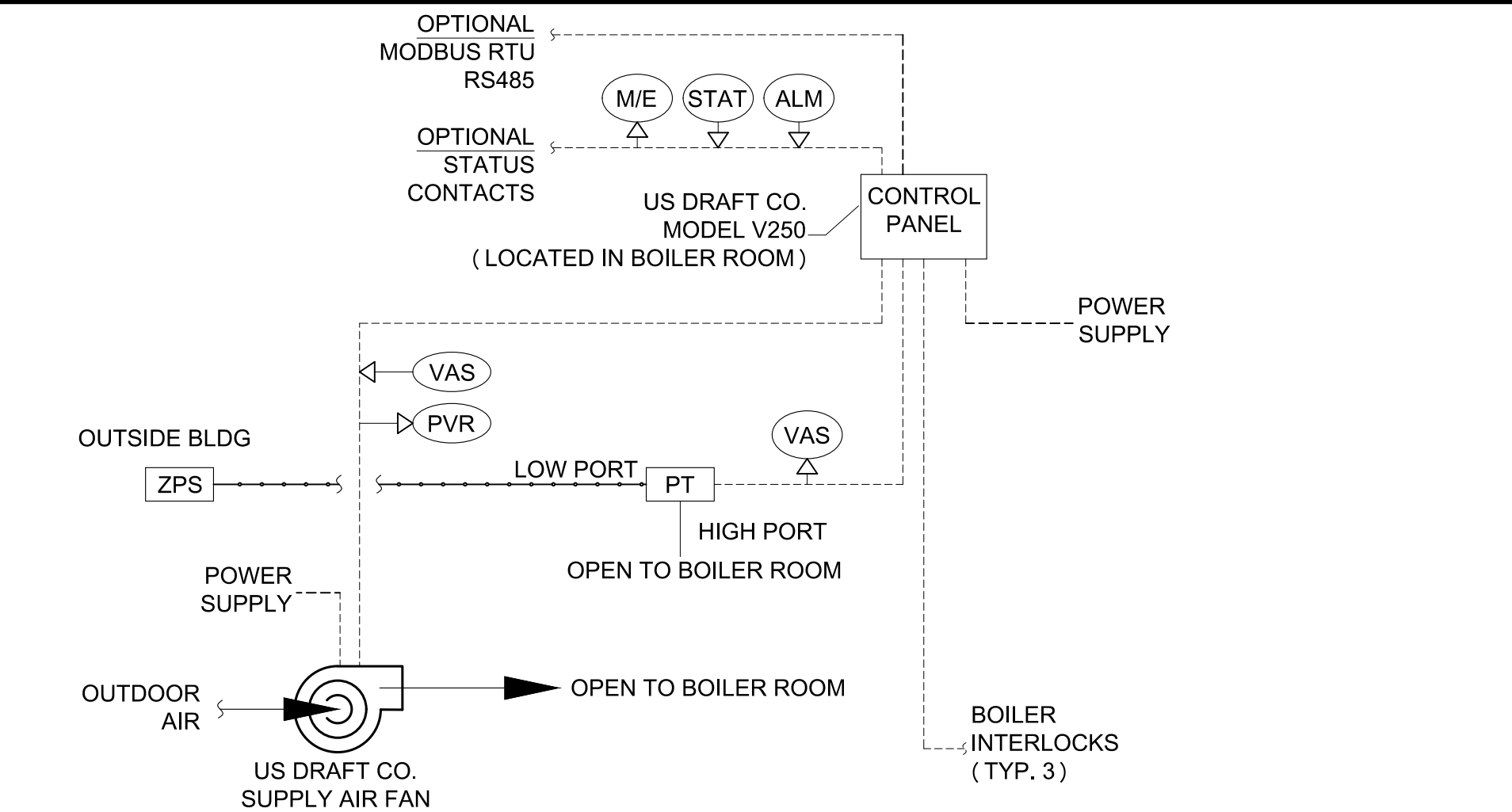
PROJECT TITLE
**TOWN OF GREENBURGH
THEODORE D. YOUNG
COMMUNITY CENTER
BOILER PLANT REPLACEMENT**
32 MANHATTAN AVENUE
WHITE PLAINS, NY 10607

DRAWING TITLE

MECHANICAL
DETAILS

SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
	DRAWN BY TO / AC	DRAWING NO.
	CHECKED BY JK	M7.2
	DATE 3/26/21	

Application: Pressure Air System Diagram			
Control System:	V250-P		
Date:	Version: 1.0	DWG Rev: 0	Page #: 1 of 1
US Draft Co. Phone: (817) 393-4029 www.usdraftco.com			
	Controller Output		Controller Input
----	Field Wiring Refer to specifications for voltage, amperage, and wiring type		
---	Pneumatic Tubing for pressure reference		
---	Vent or Duct		
ALM	Alarm output		
M/E	Master Enable: input of controller		
PT	Pressure Transducer -1 to 1 in. WC		
PVR	Supply Fan Proving Device Output CS75 Current Switch or GFS Differential Pressure Switch		
STAT	System run status		
VAS	Variable Analog Signal 0-10VDC		
ZPS	Outdoor Air Static Pressure Pickup Port		

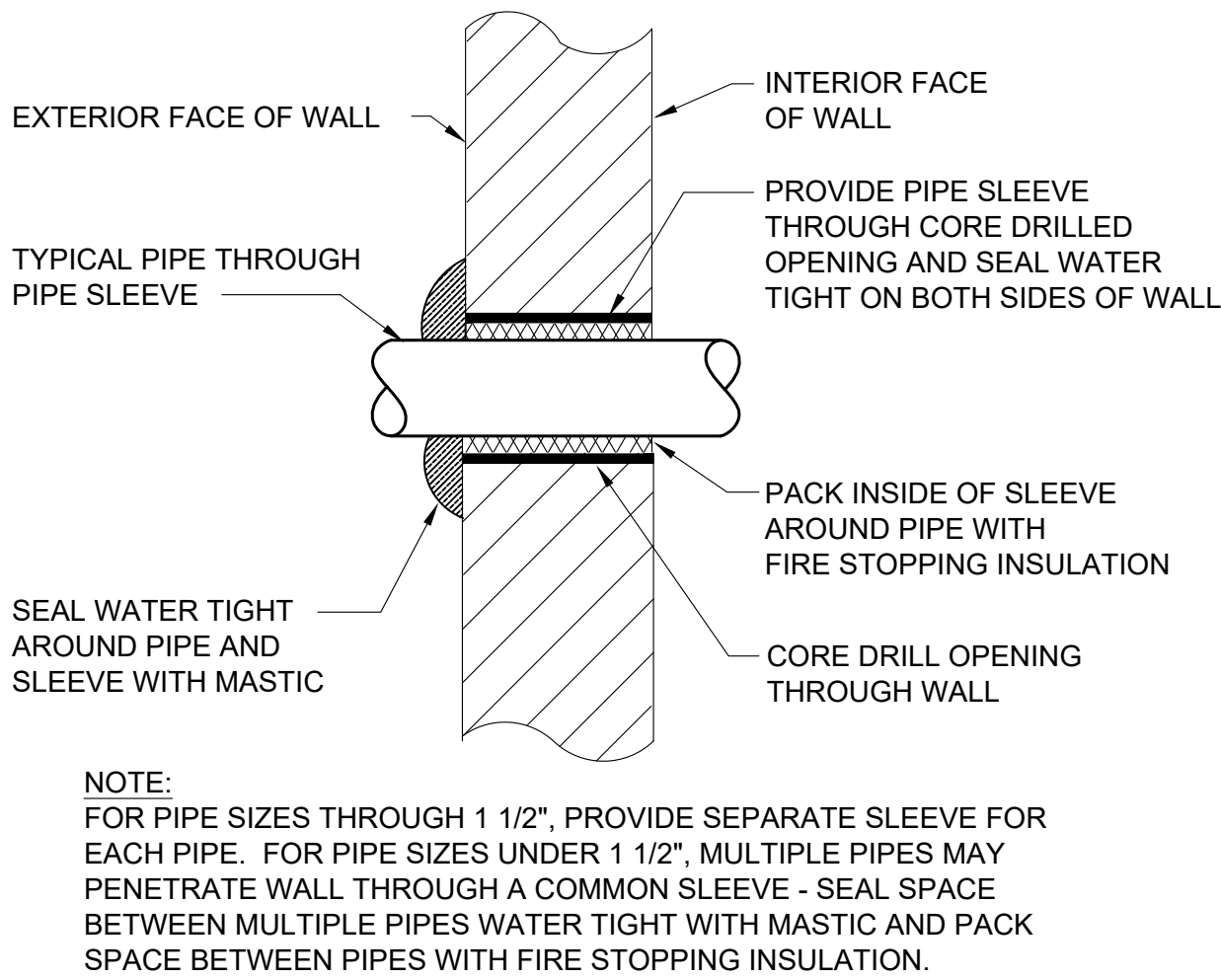


FAN CONTROL SEQUENCE (PAS: PRESSURE AIR SYSTEM)

1. EACH HEATING APPLIANCE SHALL BE INTERLOCKED WITH THE CONTROL PANEL. UPON A CALL FOR HEAT, THE CONTROL PANEL SHALL ACTIVATE THE SUPPLY AIR FAN TO PROVIDE COMBUSTION AIR. THE SUPPLY AIR FAN SHALL START TO ESTABLISH THE REQUIRED PRESSURE IN THE BOILER ROOM. ALL EXTERNAL MECHANICAL LIMITS ARE MONITORED FOR STATUS. ONCE ALL THESE CONDITIONS ARE MET THE CONTROL SYSTEM WILL RELEASE THE FLAME PROGRAMMER OR GAS VALVE OF THE APPLIANCE CALLING FOR HEAT. THE SEQUENCE IS REPEATED EVERY TIME AN INITIAL APPLIANCE CALLS FOR HEAT. EACH ADDITIONAL CALL FOR HEAT THE CONTROL WILL NOT DELAY THE SEQUENCING OF THE ADDITIONAL HEATING APPLIANCES.
2. WHEN APPLIANCES SHUT DOWN THE SUPPLY AIR FAN WILL WILL CONTINUE TO RUN IN POST-PURGE MODE FOR A SET PERIOD OF TIME.
3. ONCE THE POST-PURGE CYCLE IS COMPLETED THE SYSTEM SECURES AND THE CONTROL PANEL ENTERS STAND-BY MODE.
4. IF PROPER COMBUSTION AIR CANNOT BE MAINTAINED BECAUSE OF MECHANICAL OR ELECTRICAL FAILURE, THE CONTROL WILL GO IN ALARM MODE AND THE INTEGRATED MONITORING FUNCTION WILL SHUT DOWN ALL THE APPLIANCES WITHIN 15 SECONDS. WHILE IN ALARM MODE, THE CONTROL CONSTANTLY MONITORS THE SYSTEM CONDITIONS. IF THE FAILURE CORRECTS ITSELF OR IS CORRECTED VIA INTERVENTION, THE SYSTEM WILL RESTART AUTOMATICALLY. IF THE FAILURE IS NOT CORRECTED BEFORE THE ADJUSTABLE SYSTEM RELEASE FAULT TIMER EXPIRES, THE CONTROL WILL DISABLE AND LOCKOUT THE SYSTEM FOR FREEZE PROTECTION.

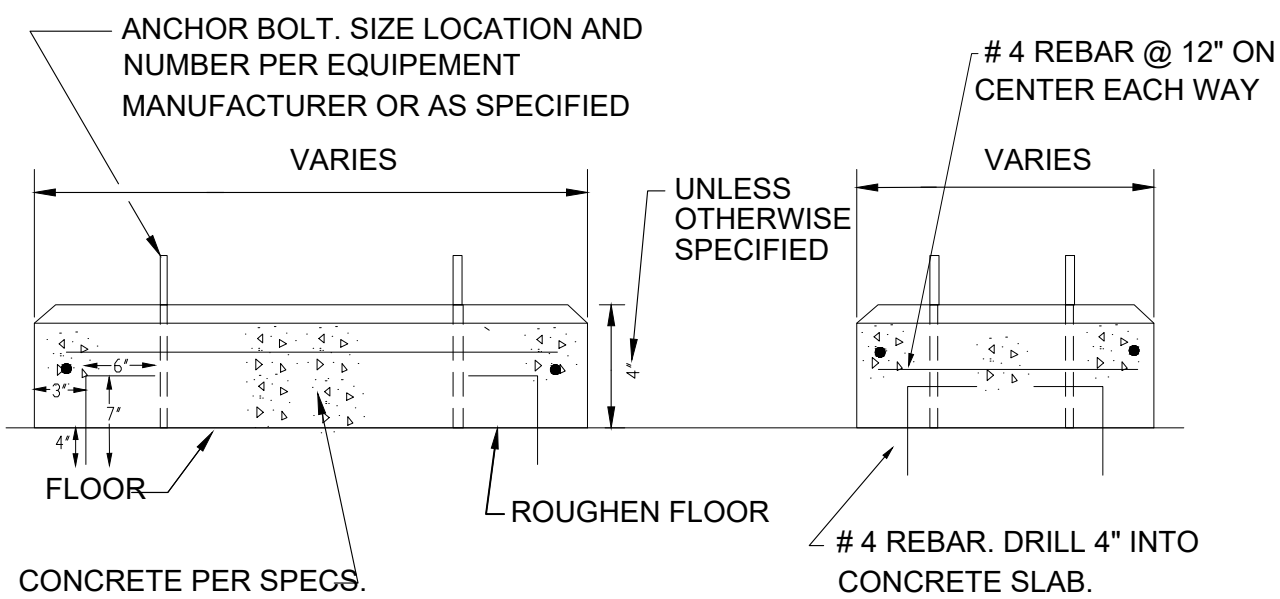
6 COMBUSTION AIR FAN DETAIL

SCALE: NONE



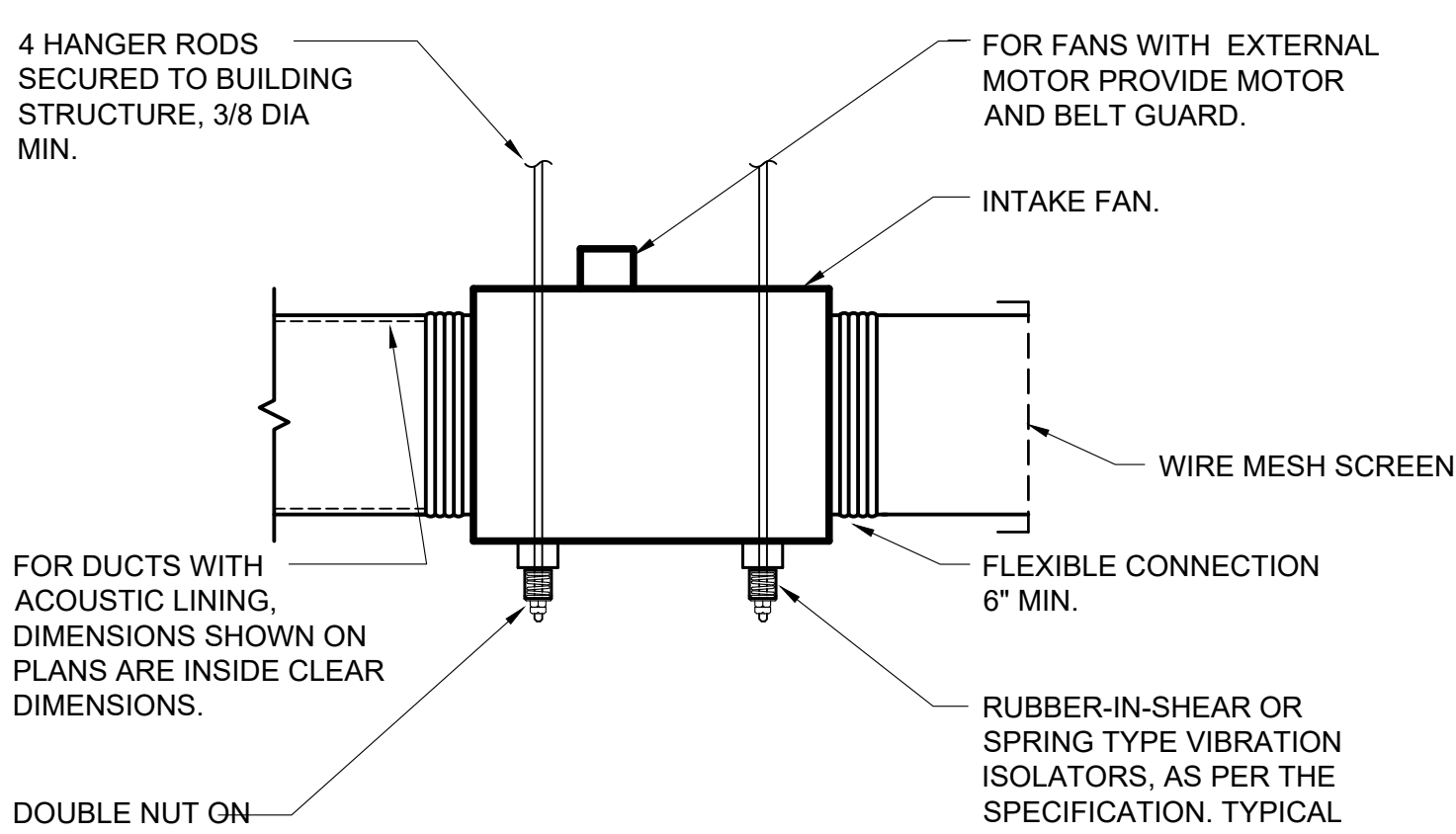
5 WALL PIPE PENETRATION DETAIL

SCALE: NONE



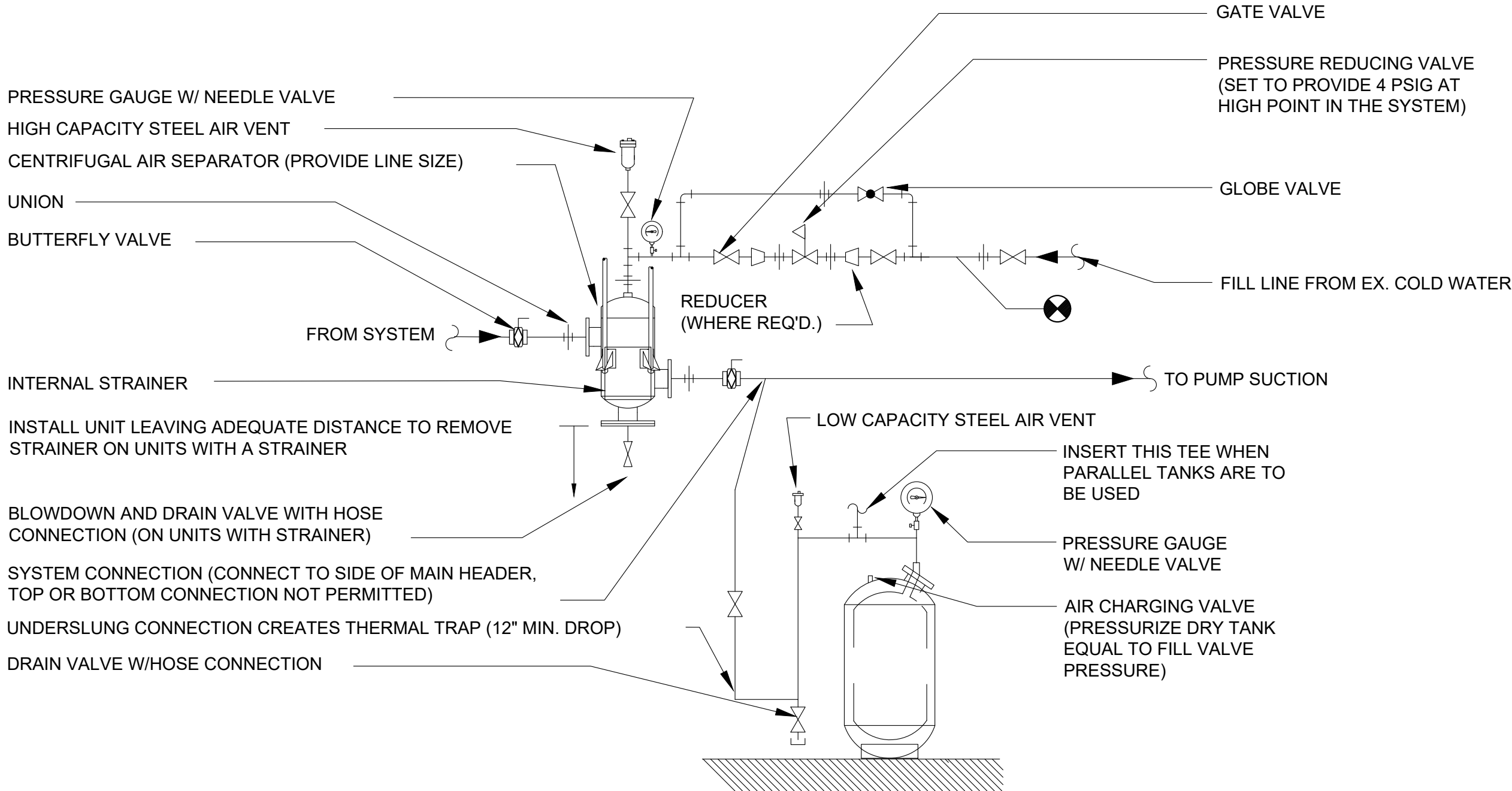
7 CONCRETE PAD DETAIL

SCALE: NONE



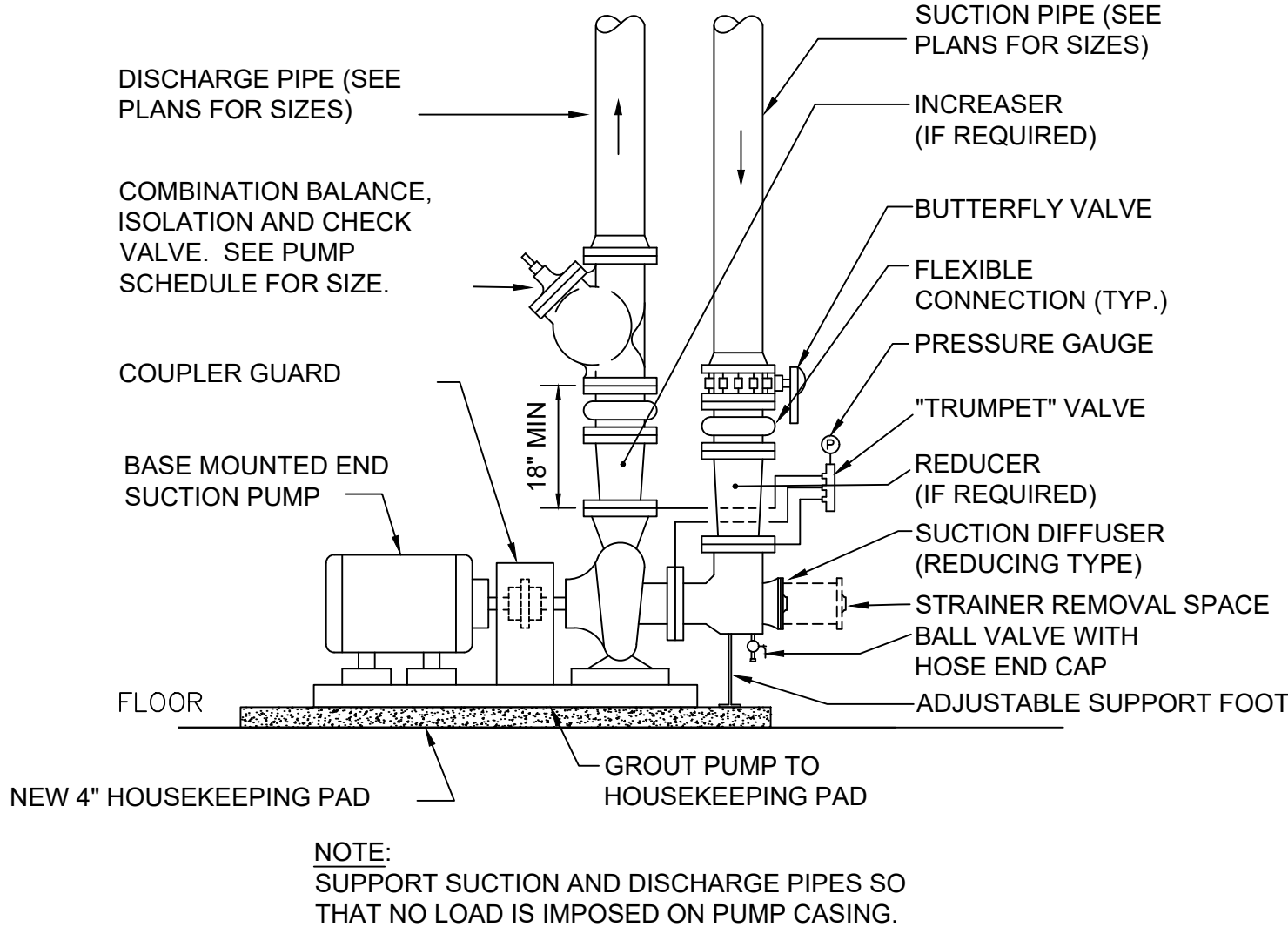
4 INLINE FAN DETAIL

SCALE: NONE



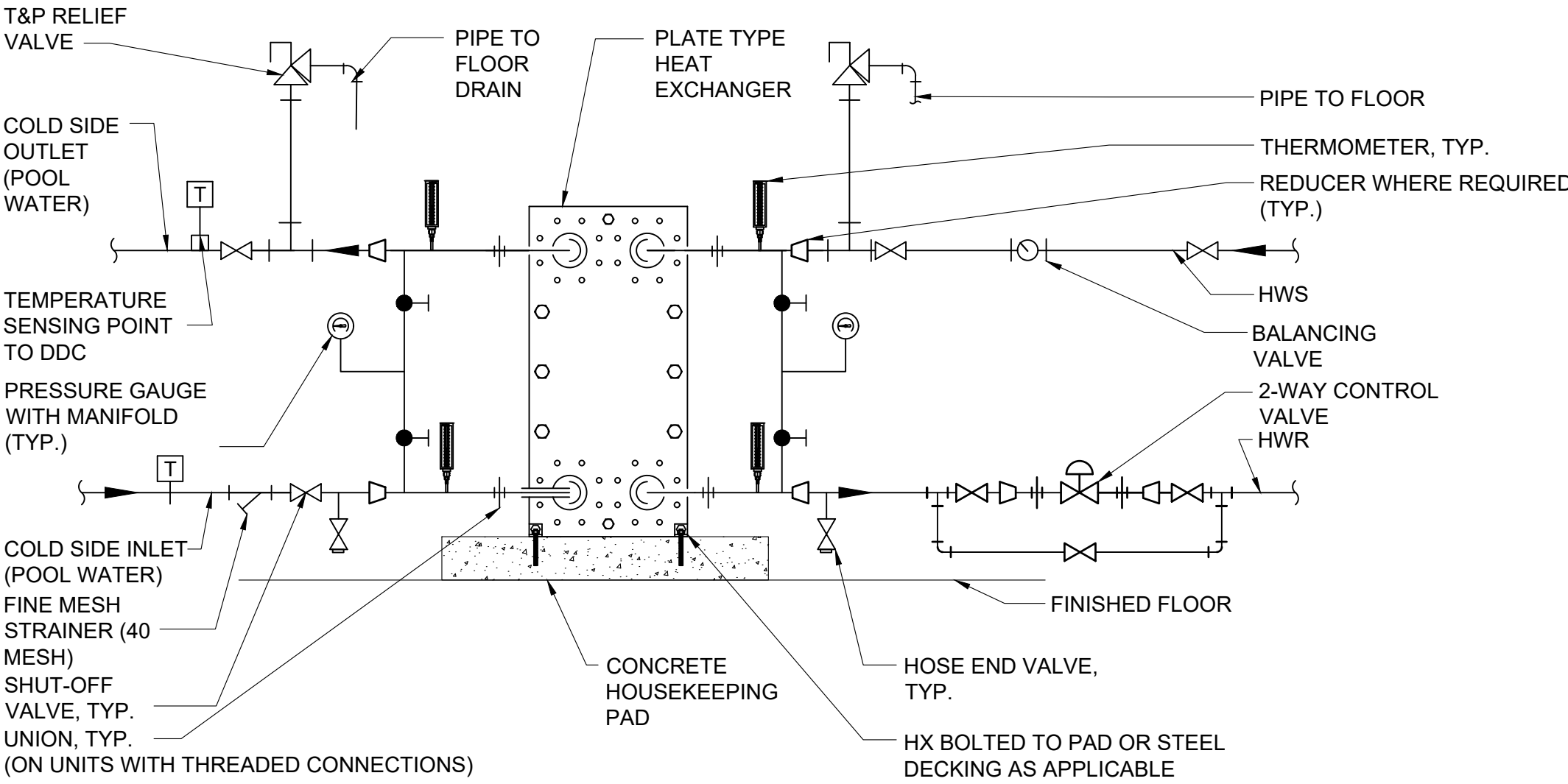
3 AIR SEPARATOR AND EXPANSION TANK DETAIL (VERTICAL FLOOR MOUNTED - REPLACEABLE BLADDER)

SCALE: NTS



2 END SUCTION PUMP PIPING DETAIL SOLID BASE

SCALE: NONE



1 PLATE TYPE HX PIPING DETAIL

SCALE: NONE

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TOWN OF GREENBURGH

(CHILDREN'S
CENTER)

(TDYCC)

MANHATTAN AVENUE

AREA OF SCOPE

KEY PLAN

NORTH

3	ISSUED FOR BID	7/2/21
2	ISSUE FOR PROGRESS	5/14/21
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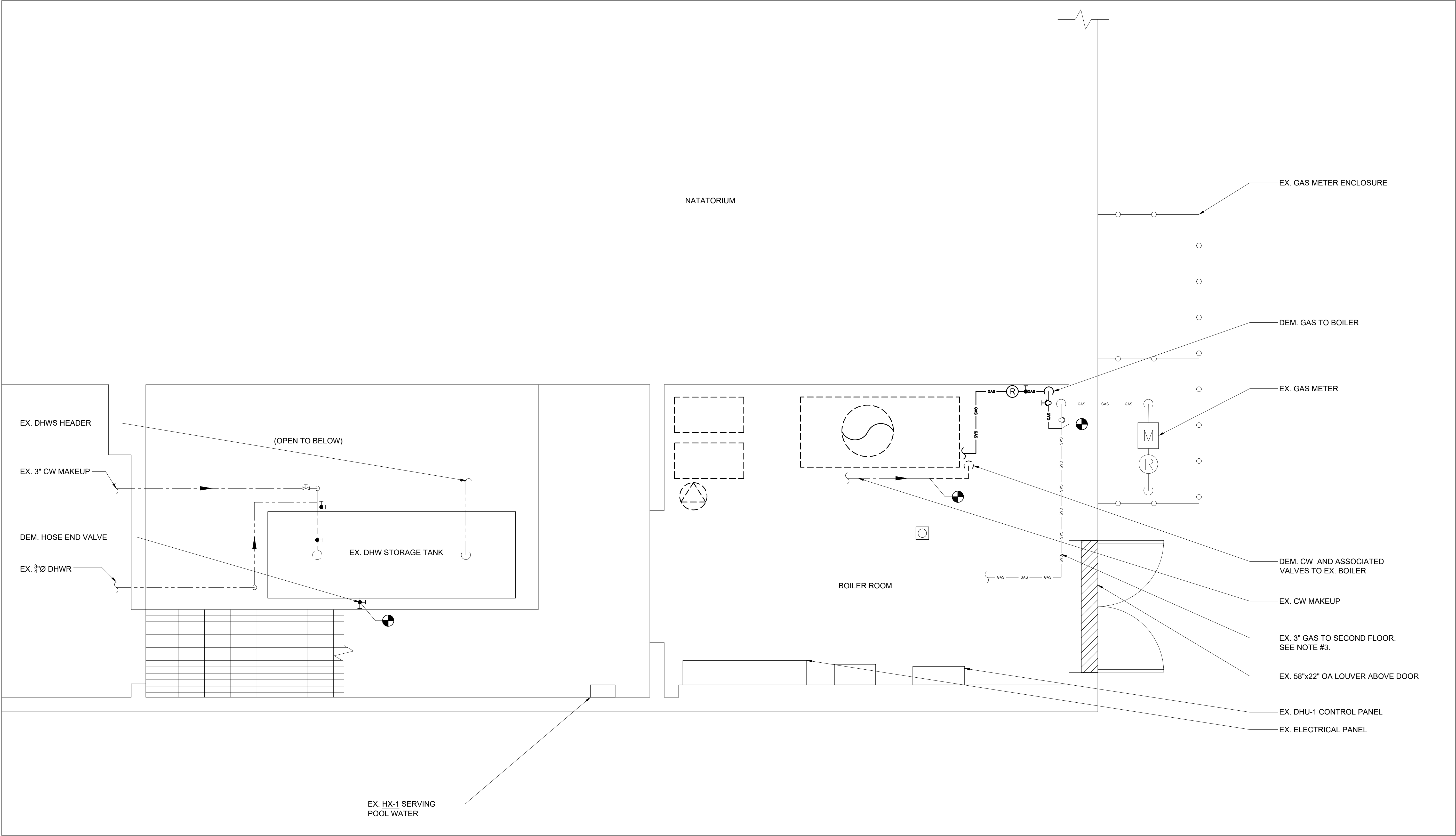
TOWN OF GREENBURGH
THEODORE D. YOUNG
COMMUNITY CENTER
BOILER PLANT REPLACEMENT

32 MANHATTAN AVENUE
WHITE PLAINS, NY 10607

DRAWING TITLE

PLUMBING
BOILER ROOM
DEMOLITION PLAN

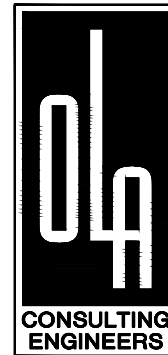
SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
	DRAWN BY TO / AC	DRAWING NO. P1.1
	CHECKED BY JK	
	DATE 1/29/21	



1

PLUMBING BOILER ROOM DEMOLITION PLAN

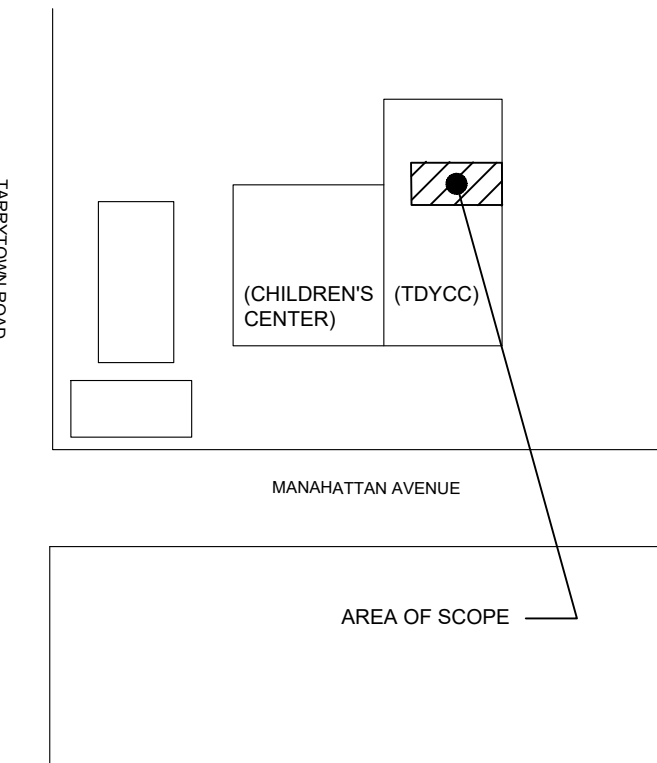
SCALE: 1/2" = 1'-0"



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**TOWN OF GREENBURGH
THEODORE D. YOUNG
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BOILER PLANT REPLACEMENT**
32 MANHATTAN AVENUE
WHITE PLAINS, NY 10607

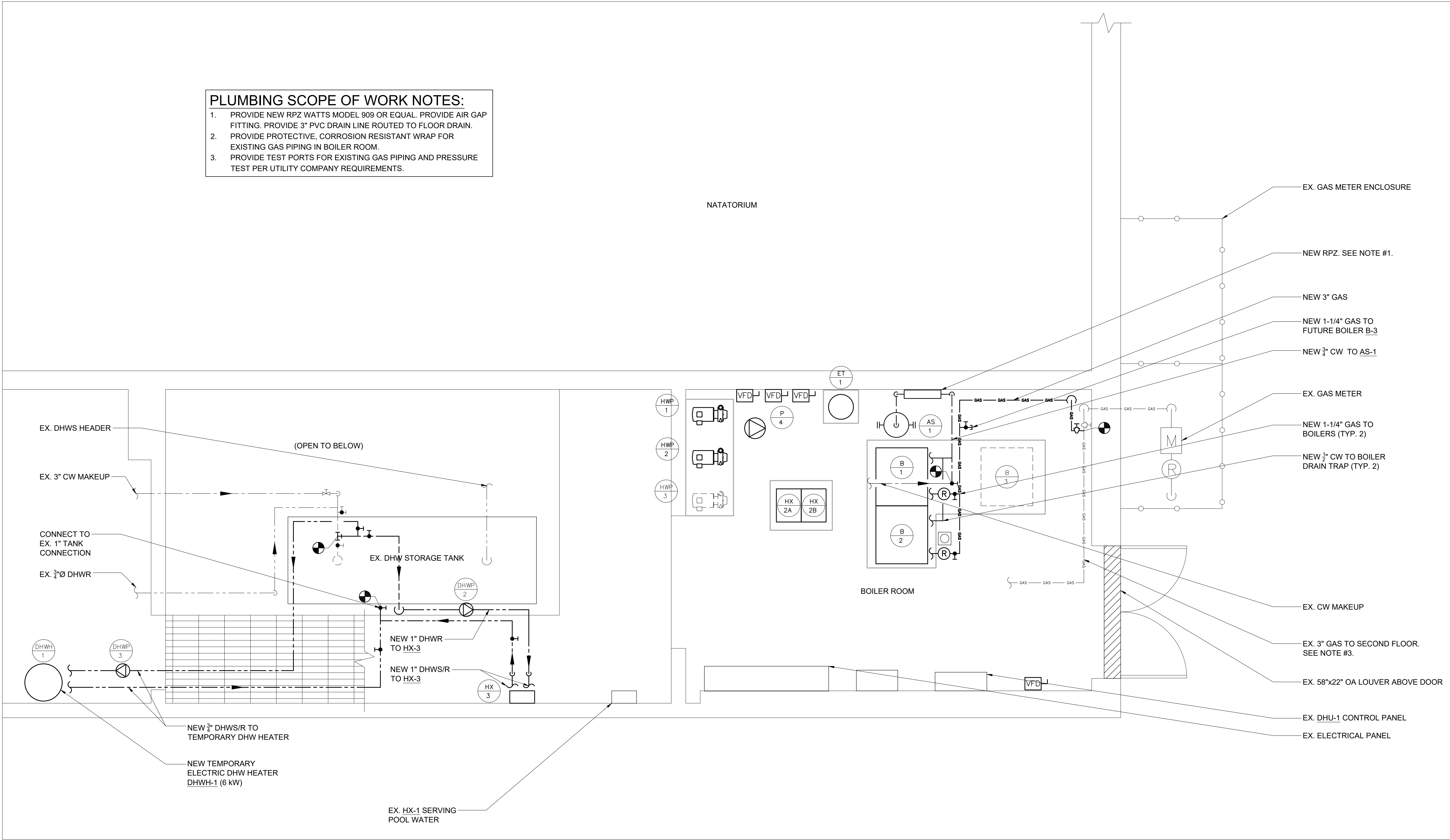
DRAWING TITLE

**PLUMBING
BOILER ROOM
NEW WORK PLAN**

SEAL	SCALE AS NOTED DRAWN BY TO / AC CHECKED BY JK DATE 3/26/21	PROJECT NO. NTOG0011.00 DRAWING NO. P4.1
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PLUMBING SCOPE OF WORK NOTES:

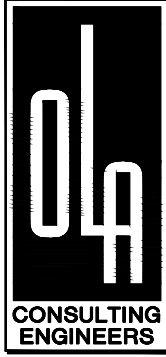
1. PROVIDE NEW RPZ WATTS MODEL 909 OR EQUAL. PROVIDE AIR GAP FITTING. PROVIDE 3" PVC DRAIN LINE ROUTED TO FLOOR DRAIN.
2. PROVIDE PROTECTIVE, CORROSION RESISTANT WRAP FOR EXISTING GAS PIPING IN BOILER ROOM.
3. PROVIDE TEST PORTS FOR EXISTING GAS PIPING AND PRESSURE TEST PER UTILITY COMPANY REQUIREMENTS.



1

PLUMBING BOILER ROOM NEW WORK PLAN

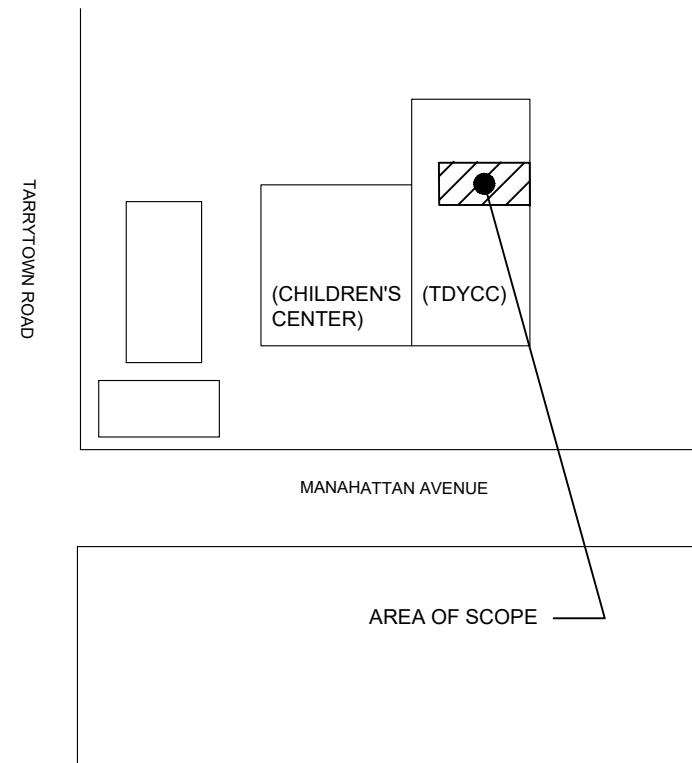
SCALE: 1/2" = 1'-0"



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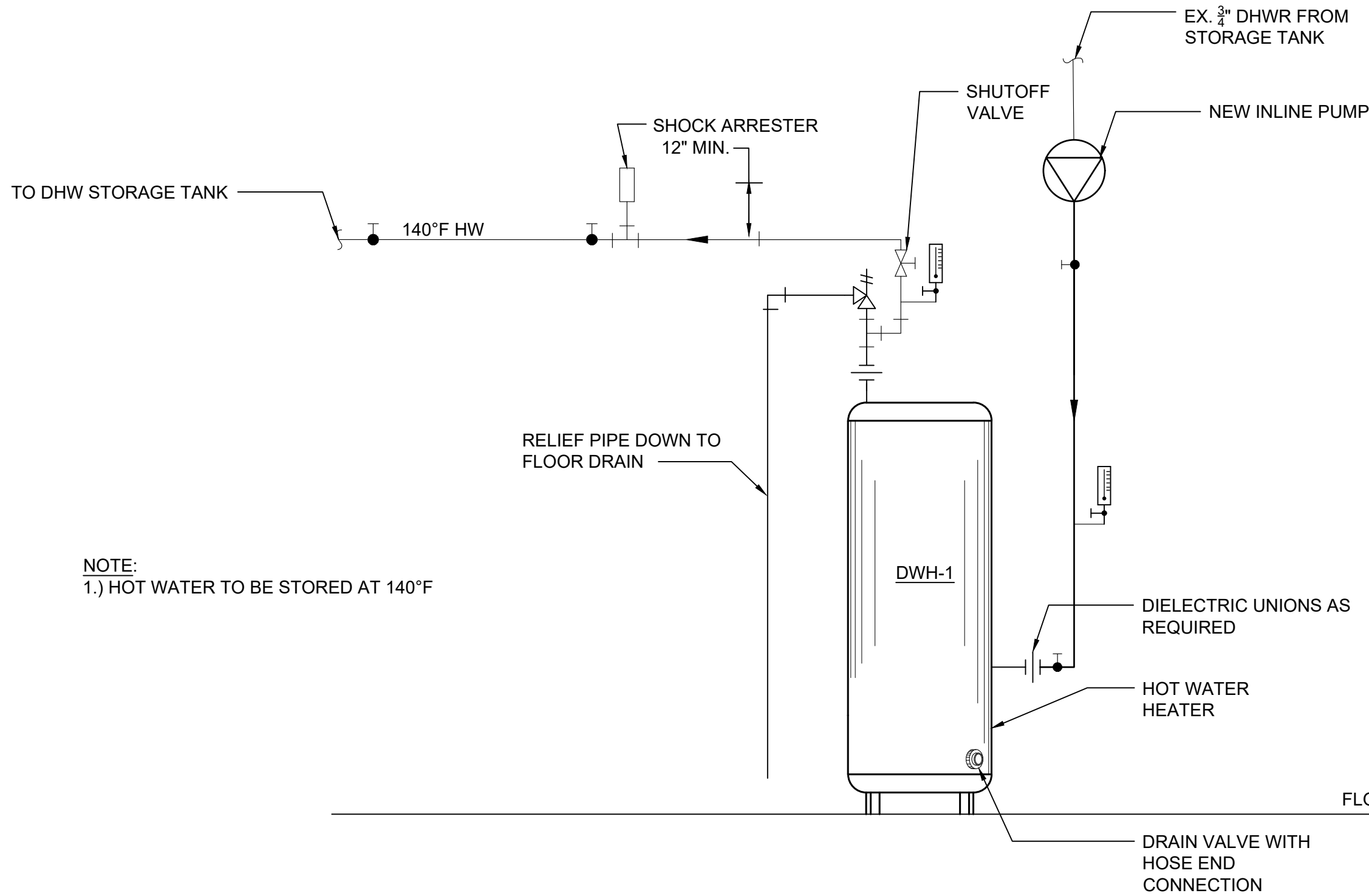
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32 MANHATTAN AVENUE
WHITE PLAINS, NY 10607

DRAWING TITLE

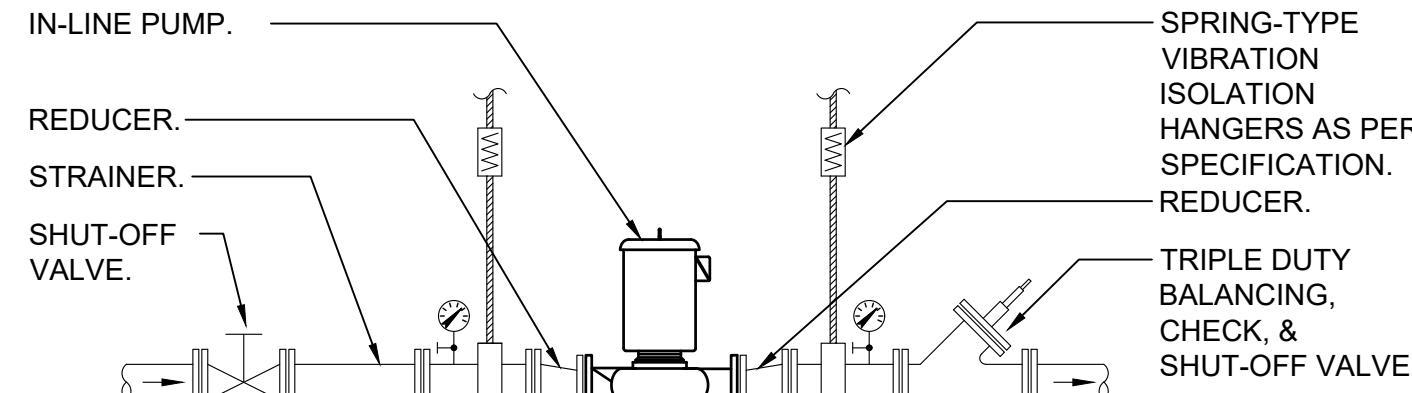
PLUMBING
DETAILS

SEAL	SCALE	PROJECT NO.
	AS NOTED	NTOG0011.00
	DRAWN BY	DRAWING NO.
	TO / AC	
	CHECKED BY	P7.1
	JK	
	DATE	
	3/26/21	



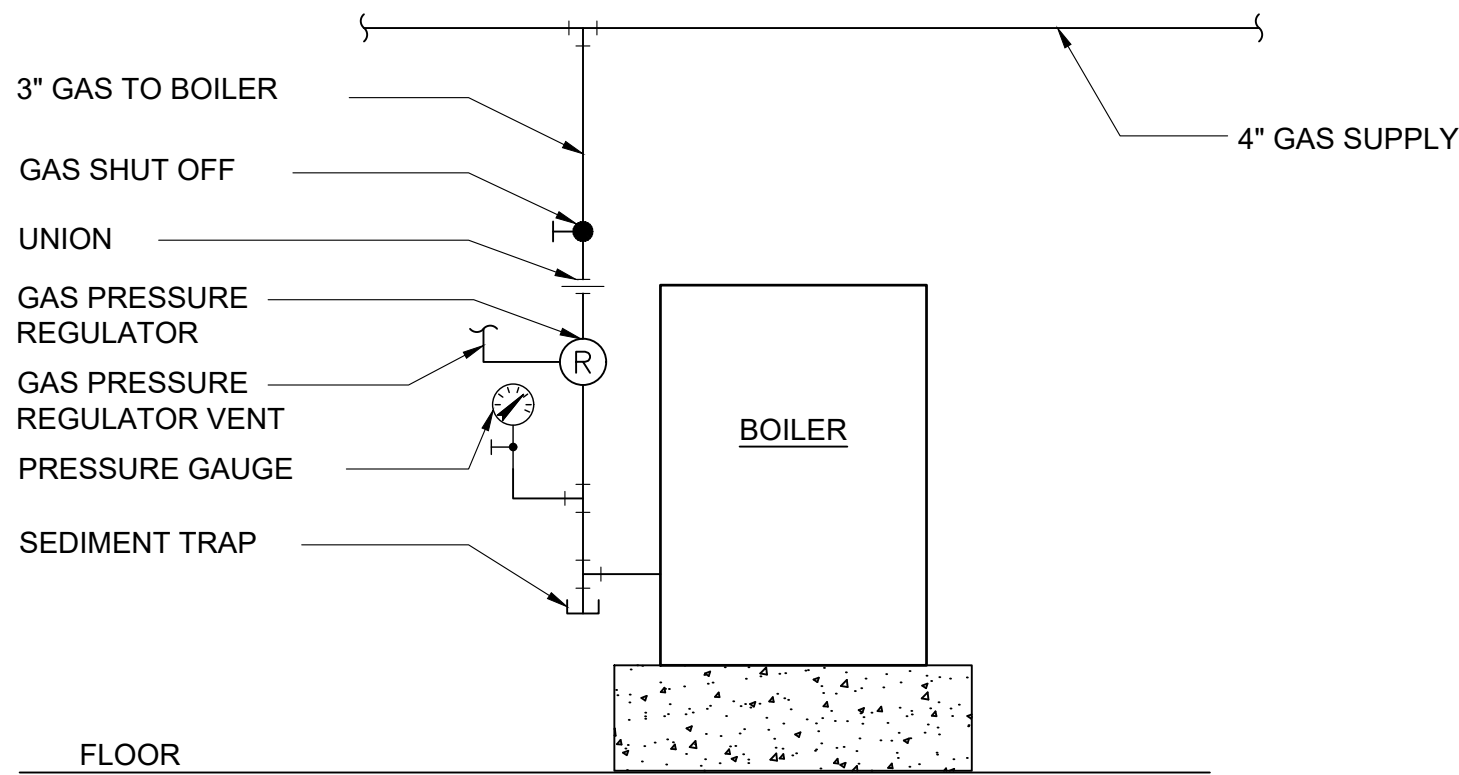
NOTE:
1.) HOT WATER TO BE STORED AT 140°F

4 HOT WATER HEATER DETAIL
SCALE: NONE



NOTES:
1.) HANG IN-LINE PUMP FROM BUILDING STRUCTURE WITH VIBRATION ISOLATORS.
2.) REFER TO PLANS FOR PIPE SIZES.

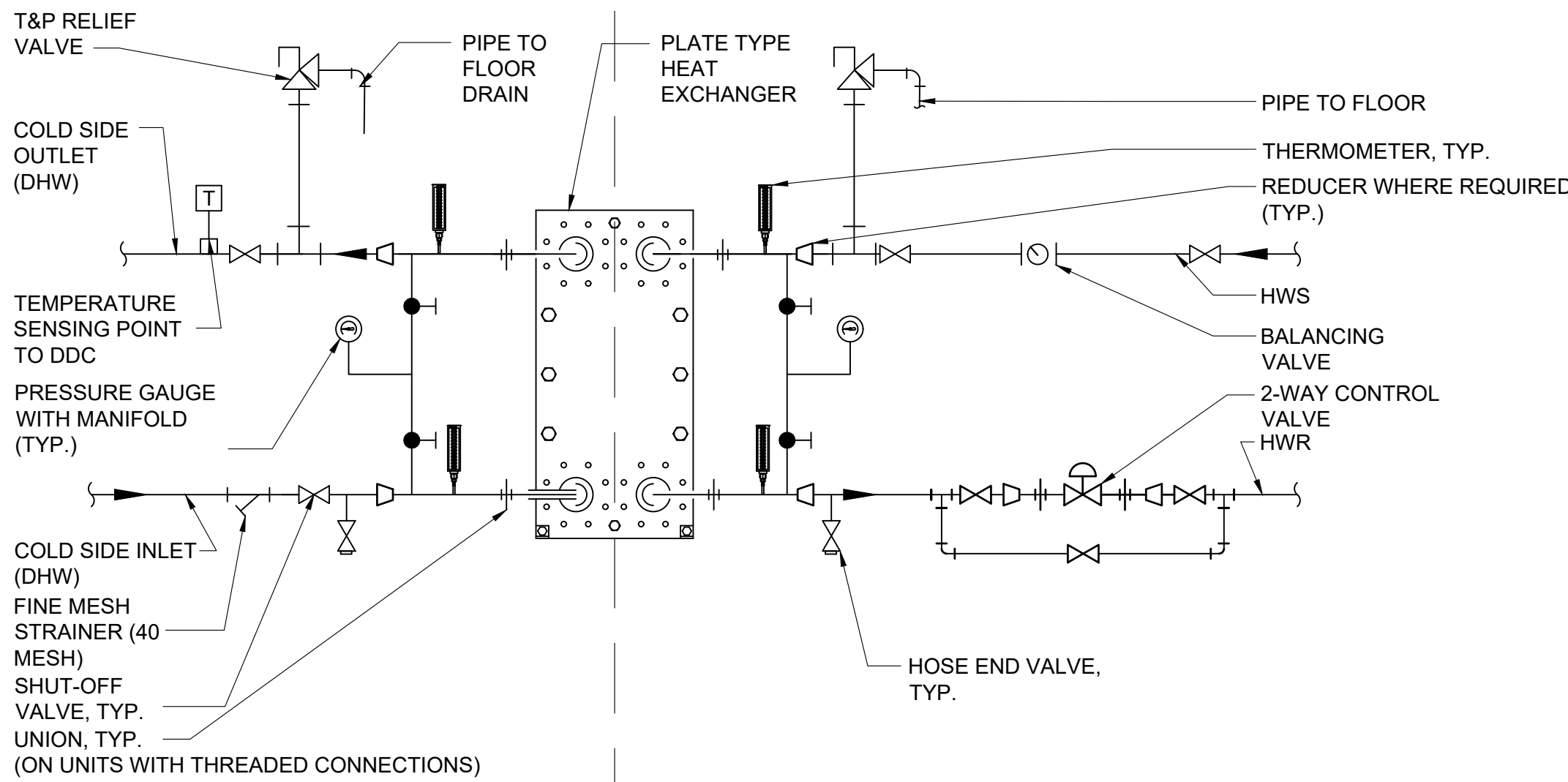
2 IN-LINE PUMP DETAIL
SCALE: NONE



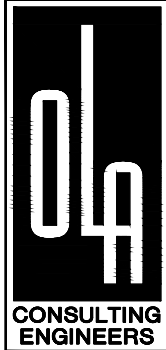
3 BOILER GAS PIPING DETAIL
SCALE: NONE

PLUMBING SCOPE

MECHANICAL SCOPE



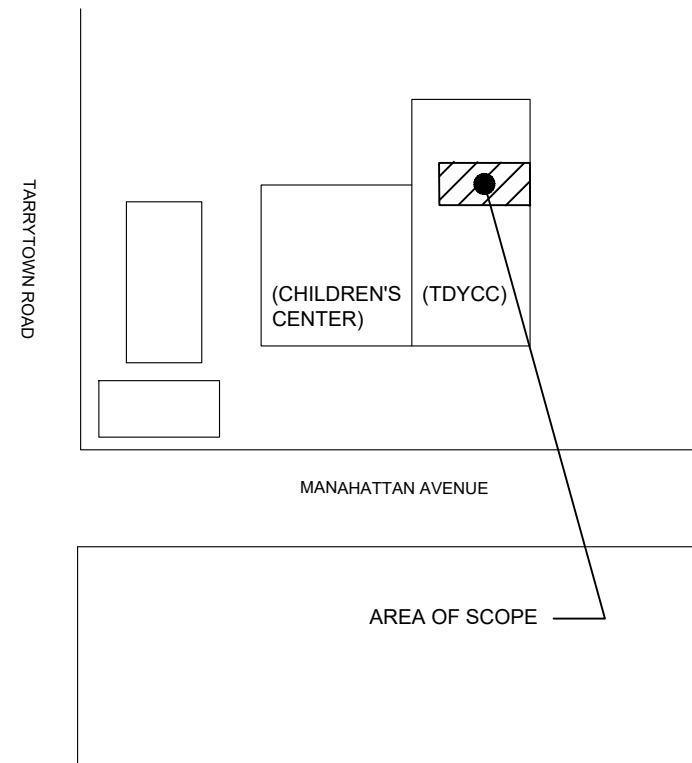
1 PLATE TYPE HX PIPING DETAIL
SCALE: NONE



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KEY PLAN

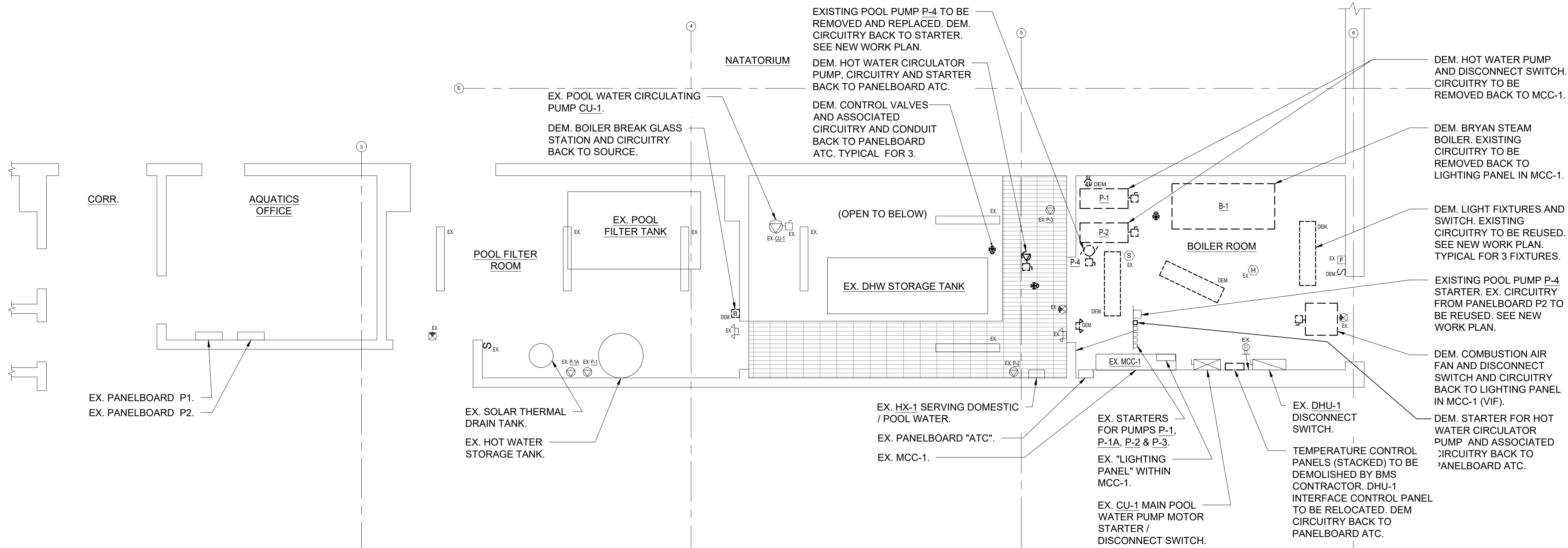
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BOILER PLANT REPLACEMENT**
32 MANHATTAN AVENUE
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DRAWING TITLE
**ELECTRICAL BOILER ROOM
DEMOLITION PLAN**

SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
	DRAWN BY CT	DRAWING NO.
	CHECKED BY DS	E1.1
	DATE 3/26/21	



1

ELECTRICAL BOILER ROOM DEMOLITION PLAN

SCALE: 1/4" = 1'-0"



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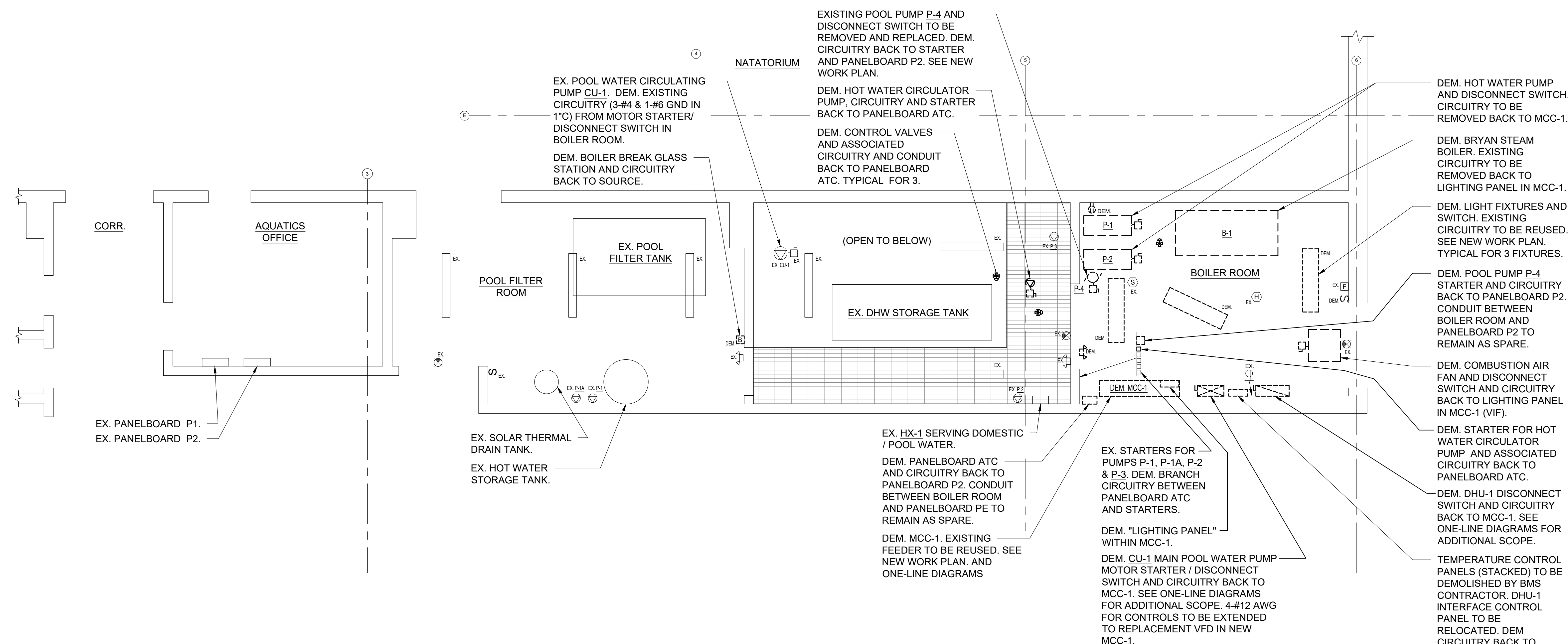
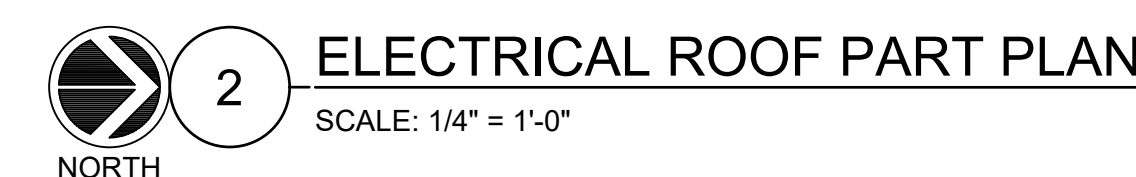
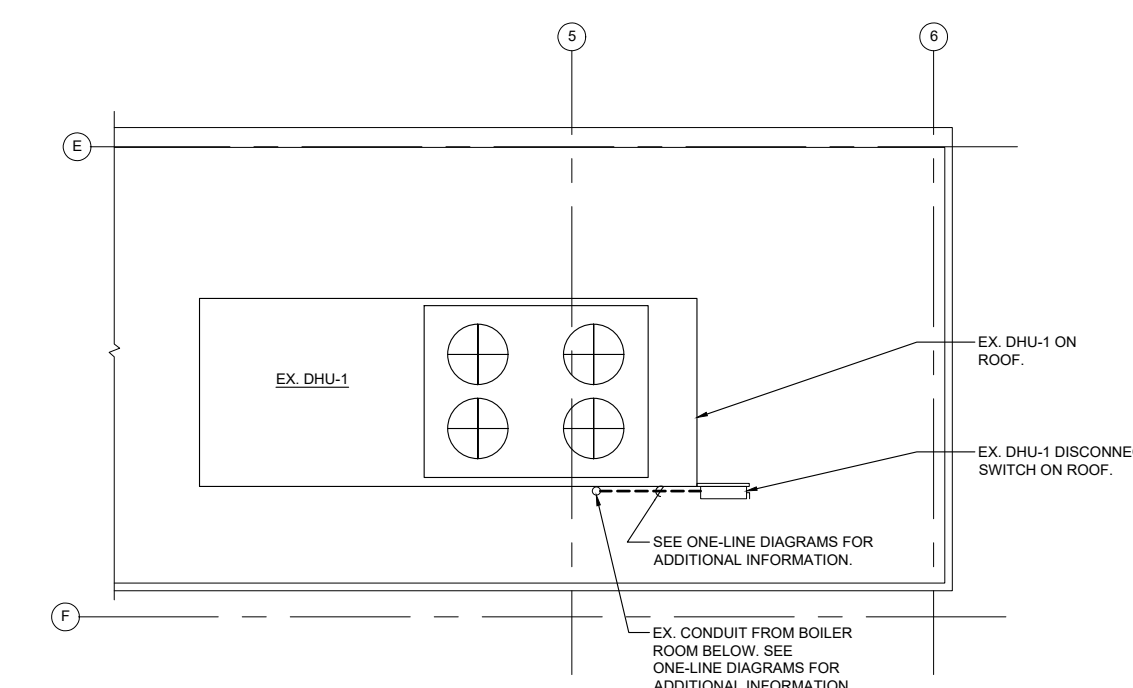
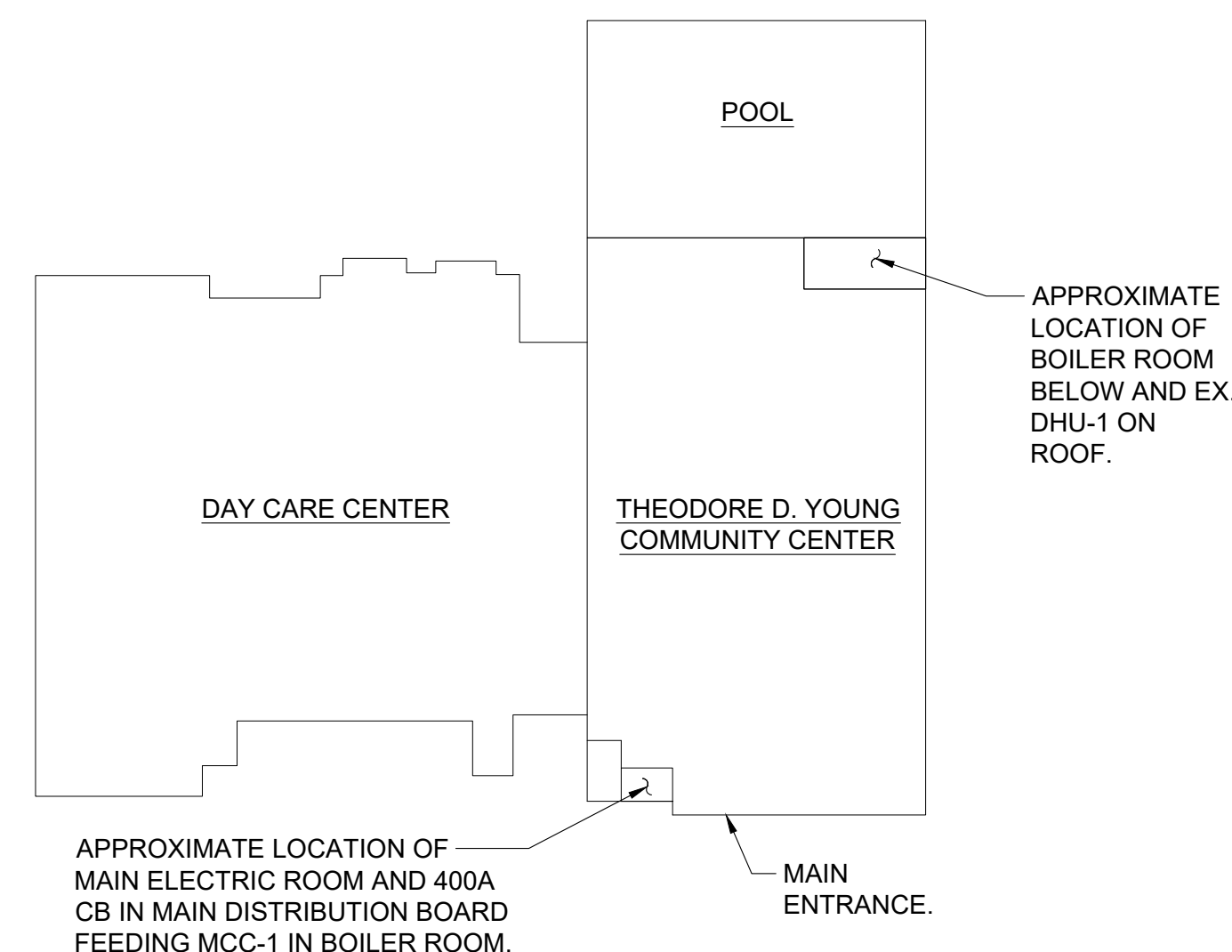
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ELECTRICAL BOILER ROOM
DEMOLITION PLAN
(ADD ALTERNATE #1)

SEAL	SCALE	PROJECT NO.
	AS NOTED	NTOG0011.00
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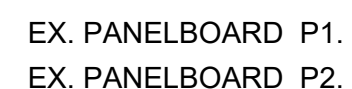
DRAWING TITLE

ELECTRICAL BOILER ROOM
NEW WORK PLANS

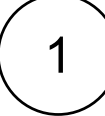
SEAL	SCALE	PROJECT NO.
	AS NOTED	NTOG0011.00
	DRAWN BY	DRAWING NO.
	CT	
	CHECKED BY	
DS		
	DATE	E3.1
	3/26/21	

1.) PANELBOARD DESIGNATION HAS BEEN SHORTENED FOR CLARITY AS FOLLOWS:

2) ALL CABLE BETWEEN THE VFD'S AND MOTORS SHALL BE TYPE TC-ER, VFD CABLE. CABLE SHALL COMPLY WITH NEMA WC70/ICEA S-95-658, UL 1277 AND NFPA 70 FOR TYPE TC-ER CABLE. VFD CABLE SHALL BE: TYPE TC-ER WITH OVERSIZED CROSSLINKED POLYETHYLENE INSULATION, SPIRAL-WRAPPED FOIL PLUS 85 PERCENT COVERAGE BRAIDED SHIELDS AND INSULATED FULL-SIZE GROUND WIRE, AND SUNLIGHT AND OIL-RESISTANT OUTER PVC JACKET.



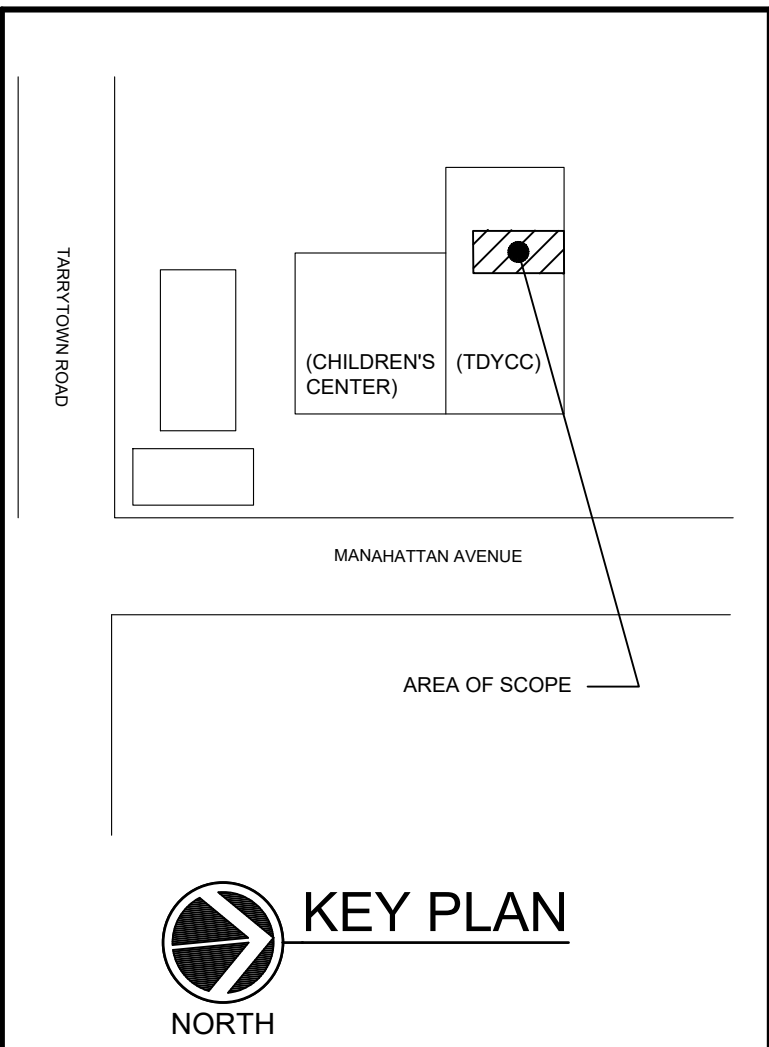
SCALE: 1/4" = 1'-0'



SCALE: 1/4" = 1'-0'

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BOILER PLANT REPLACEMENT
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DRAWING TITLE
ELECTRICAL BOILER ROOM
NEW WORK PLANS
(ADD ALTERNATE #1)

SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
	DRAWN BY CT	DRAWING NO.
	CHECKED BY DS	E3.1A
	DATE 3/26/21	

NOTES:

1.) PANELBOARD DESIGNATION HAS BEEN SHORTENED FOR CLARITY AS FOLLOWS:

PPB = B

2.) ALL CABLE BETWEEN THE VFD'S AND MOTORS SHALL BE TYPE TC-ER, VFD CABLE. CABLE SHALL COMPLY WITH NEMA WC70/IEA S-95-658, UL 1277 AND NFPA 70 FOR TYPE TC-ER CABLE. VFD CABLE SHALL BE: TYPE TC-ER WITH OVERSIZED CROSSLINKED POLYETHYLENE INSULATION, SPIRAL-WRAPPED FOIL PLUS 85 PERCENT COVERAGE BRAIDED SHIELDS AND INSULATED FULL-SIZE GROUND WIRE, AND SUNLIGHT AND OIL-RESISTANT OUTER PVC JACKET.

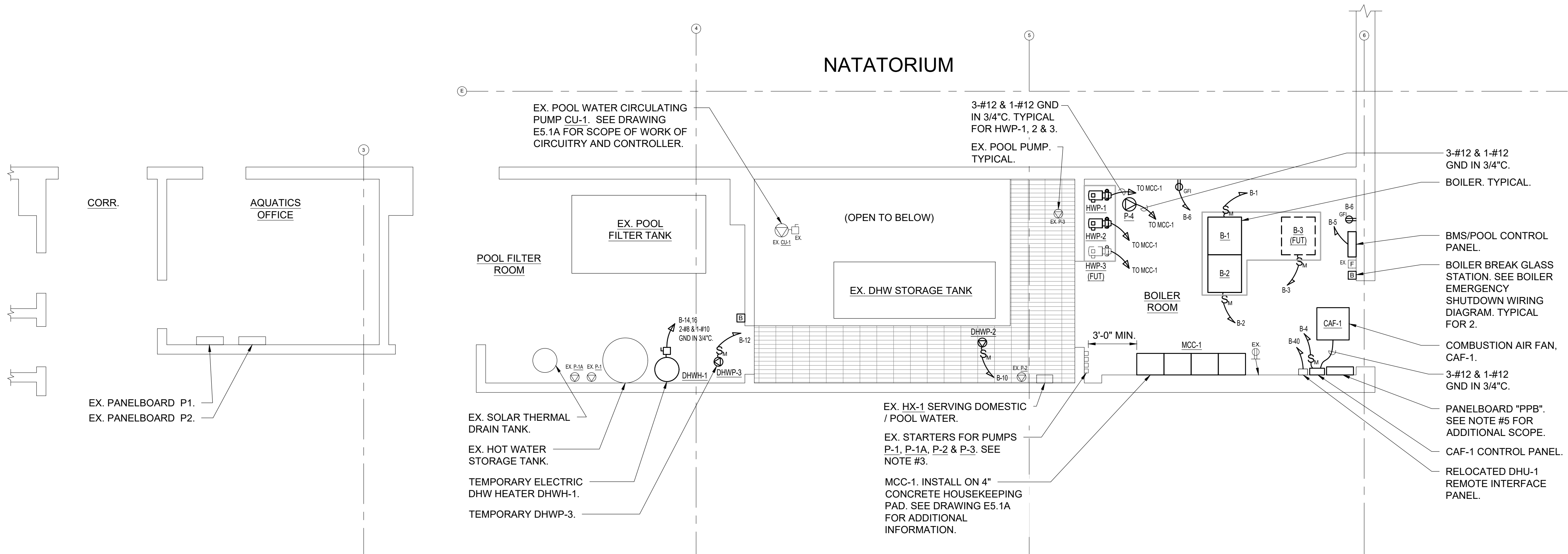
3.) MOTOR STARTERS FOR P-1, P-1A, P-2 & P-3 SHALL BE REDED FROM PANELBOARD "PPB". 2-#12 & 1-#12 GND IN 3/4". SEE PANELBOARD PPB SCHEDULE FOR ADDITIONAL INFORMATION. TYPICAL.

4.) SEE DRAWING E1.1A & E5.1A DOR DHU-1 LOCATION ABD SCOPE OF WORK FOR FEEDER.

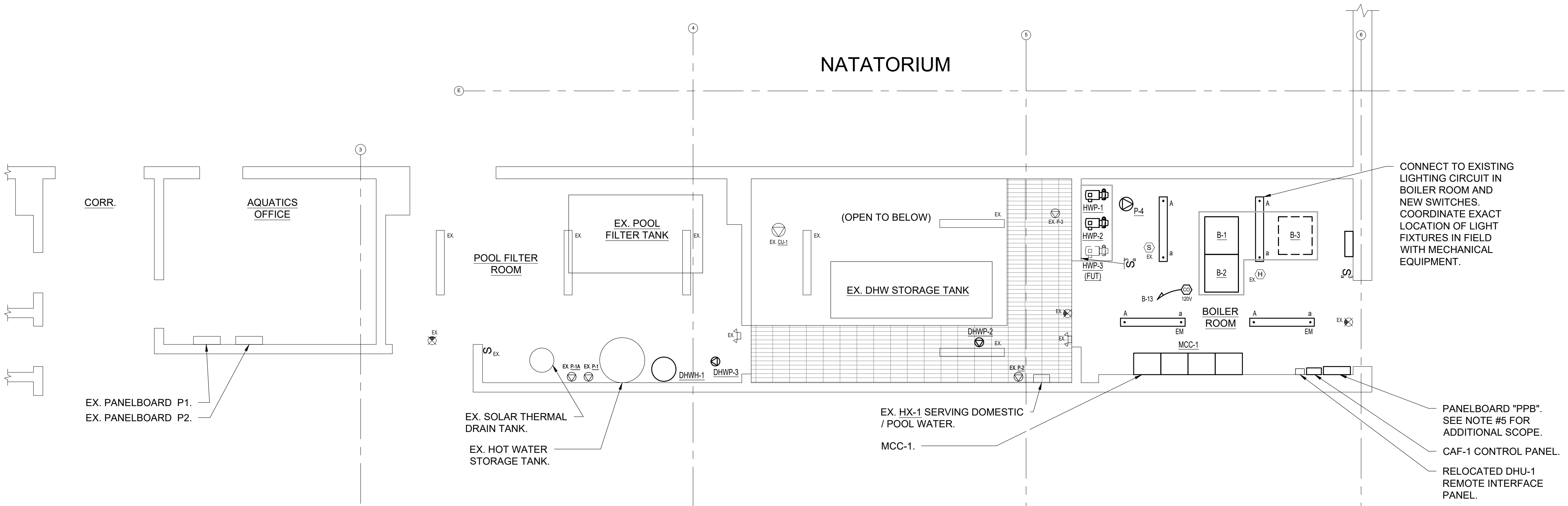
5.) EXISTING CIRCUITS TO BE EXTENDED FROM DEMOLISHED "LIGHTING PANEL" WITHIN MCC. DEMOLISHED PANELBOARD "ATC" AND DEMOLISHED MCC TO PANELBOARD "PPB" ARE AS FOLLOWS:

46-#12 AWG
2-#6 AWG
1-#10 AWG

VERIFY QUANTITIES AND SIZES IN FIELD. PROVIDE JUNCTION BOXES AS REQUIRED.



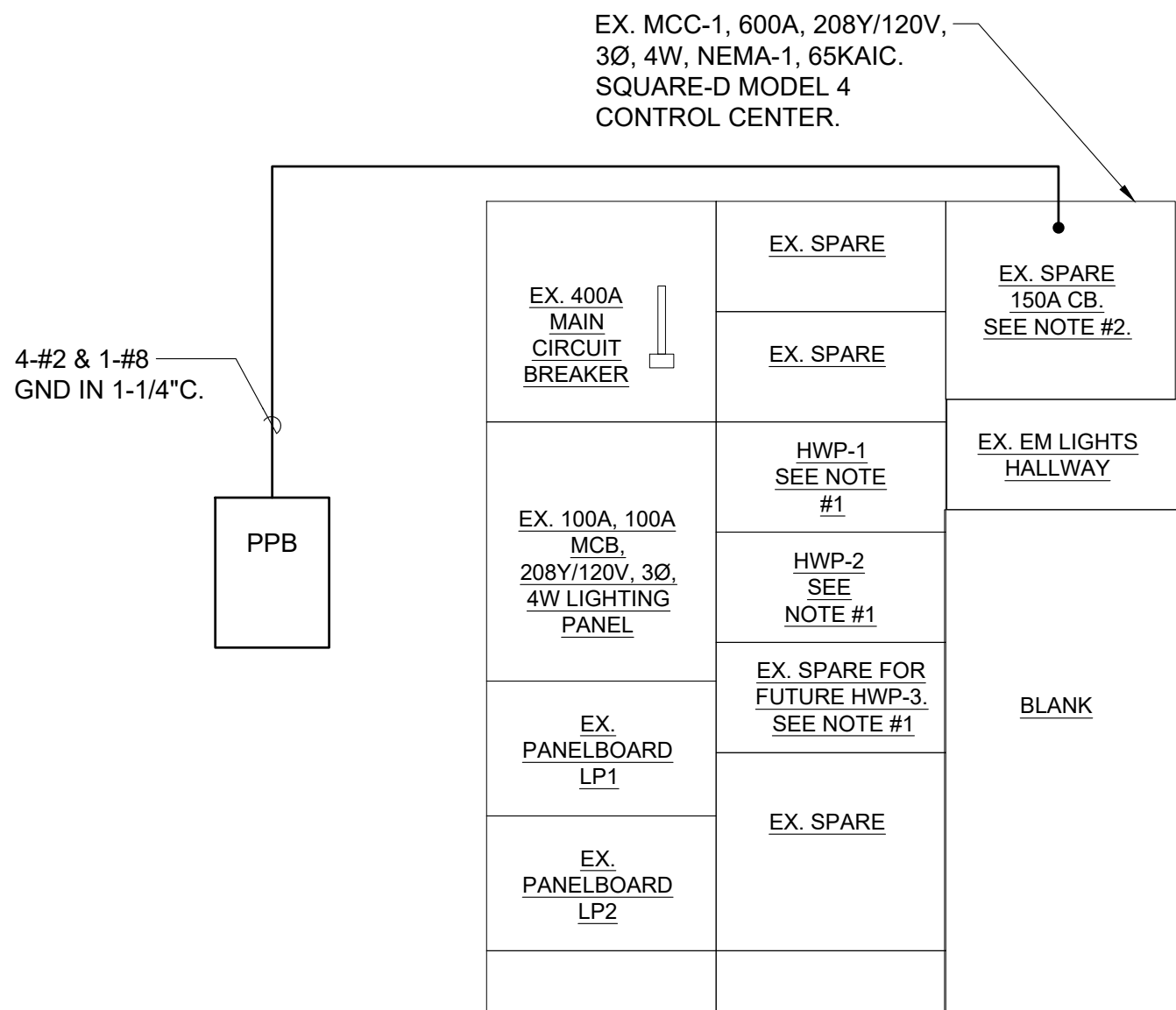
2 ELECTRICAL BOILER ROOM POWER PLAN
SCALE: 1/4" = 1'-0"
NORTH



1 ELECTRICAL BOILER ROOM LIGHTING PLAN
SCALE: 1/4" = 1'-0"
NORTH

LIGHTING FIXTURE SCHEDULE						
FIXTURE DESIGNATION	MANUFACTURER	CATALOG NUMBER	LAMPS	VOLTS	MOUNTING	REMARKS
<div><div></div>A</div>	LITHONIA LIGHTING	FEM L48 4000LM LPPCL MD MVOLT GZ10 35K 80CRI E10WMCP	(1) 23.8W LED	120V	PENDANT	4FT PENDANT MOUNTED LOW PROFILE VAPOR TIGHT GASKETED LED LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS. PROVIDE MOUNTING HARDWARE AS REQUIRED.
NOTES: 1.) VERIFY ALL FIXTURE CATALOG NUMBERS FOR INTENDED APPLICATIONS WITH REQUIRED ACCESSORIES. 2.) LIGHT FIXTURES INDICATED AS EMERGENCY (EM) ON DRAWINGS SHALL CONTAIN AN EMERGENCY BACK-UP BATTERY WHERE POSSIBLE THE SHALL BE INTERNAL TO FIXTURE WITH A VISUAL INDICATING CHARGE LAMP AND TEST SWITCH. IF IT IS NOT POSSIBLE TO INSTALL THE EMERGENCY BATTERY IN THE FIXTURE, THE CONTRACTOR SHALL FURNISH & INSTALL A REMOTE EMERGENCY BATTERY. EACH BATTERY PACK SHALL BE CONNECTED SO THAT THE FIXTURE CAN BE SWITCHED UNDER NORMAL CONDITIONS AND IN THE EVENT OF A POWER OUTAGE, THE FIXTURE SHALL AUTOMATICALLY ILLUMINATE FOR 90 MINUTES WITH A 1200 LUMEN OUTPUT (TOTAL FROM FIXTURE), MINIMUM. 3.) IN THE EVENT THE CONTRACTOR CHOOSES TO SUBSTITUTE LIGHT FIXTURES FOR THOSE THAT ARE SPECIFIED ON THE LIGHT FIXTURE SCHEDULE, THE CONTRACTOR SHALL SUBMIT POINT-TO-POINT PHOTOMETRIC CALCULATIONS FOR ALL AREAS WHERE THE SUBSTITUTED FIXTURES ARE INDICATED TO BE INSTALLED ON THE DRAWINGS. THESE CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE LIGHT FIXTURE SHOP DRAWINGS.						

PPB PANEL SCHEDULE							
MAIN RATING: 125A		MAIN C.B.: MLO		KAIC RATING: 22KAIC			
VOLTAGE: 208Y/120V		PHASE: 3		WIRE: 4	MOUNTING: SURFACE		
CIRC. NO.	LOAD DESCRIPTION	BKR. AMPS	NO. OF POLES	NO. OF POLES	BKR. AMPS	LOAD DESCRIPTION	CIRC. NO.
1	B-1	20	1	1	20	B-2	2
3	B-3 (FUTURE)	20	1	1	25	CAF-1	4
5	BMS/POOL CONTROL PANEL	20	1	1	20	GFI RECP	6
7	BMS/POOL CONTROL PANEL	20	1	1	15	BOILER BREAKGLASS STATIONS	8
9	DHU-1 REMORE INTERFACE PANEL	20	1	1	15	DHWP-2	10
11	-	-	-	1	15	TEMPORARY DHWP-3	12
13	120V CARBON MONOXIDE ALARM	15	1	2	40	TEMPORARY DHWH-1	14
15	-	-	-				16
17	-	-	-	-	-	-	18
19	-	-	-	-	-	-	20
21	-	-	-	-	-	-	22
23	-	-	-	-	-	-	24
25	-	-	-	-	-	-	26
27	-	-	-	-	-	-	28
29	-	-	-	-	-	-	30
31	-	-	-	-	-	-	32
33	-	-	-	-	-	-	34
35	SPARE	20	1	1	20	SPARE	36
37	SPARE	20	1	1	20	SPARE	38
39	SPARE	20	1	1	20	SPARE	40
41	SPARE	20	1	1	20	SPARE	42
LK - PROVIDE LOCKING TABS ON C.B.; GF - GFI TYPE C.B.; GP - GFP TYPE C.B.							
NOTES:							



- NOTES:
- 1.) EXISTING STARTER COMPARTMENT TO BE REMOVED AND REPLACED WITH POWER DISTRIBUTION COMPARTMENT WITH 3P-30A CB FOR REPLACEMENT HOT WATER PUMPS.
- 2.) REPLACE EXISTING 3P-150A CB IN SPARE POWER DISTRIBUTION COMPARTMENT WITH A 3P-100A CB.

1

ELECTRICAL PARTIAL ONE-LINE DIAGRAM / MCC ELEVATION

SCALE: NONE

OLA Consulting Engineers

OLA

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CLIENT

TOWN OF GREENBURGH

177 HILLSIDE AVE
GREENBURGH, NY 10607

MANHATTAN AVENUE

AREA OF SCOPE

THEODORE D. YOUNG COMMUNITY CENTER

(TDYCC)

KEY PLAN

NORTH

3	ISSUED FOR BID	7/2/21
2	ISSUE FOR PROGRESS	5/14/21
1	ISSUED FOR PROGRESS	3/26/21
No.	ISSUE OR REVISION	DATE

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PROJECT TITLE

TOWN OF GREENBURGH
THEODORE D. YOUNG
COMMUNITY CENTER
BOILER PLANT REPLACEMENT
32 MANHATTAN AVENUE
WHITE PLAINS, NY 10607


DRAWING TITLE

ELECTRICAL PARTIAL
ONE-LINE DIAGRAM
AND SCHEDULES

SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
	DRAWN BY CT	DRAWING NO.
	CHECKED BY DS	E5.1
	DATE 3/26/21	

MCC-1 MOTOR CONTROL CENTER SCHEDULE										
NAME: <u>MCC-1</u>				LOCATION: <u>BOILER ROOM</u>			KAIC RATING: <u>22KAIC</u>		WIRE: <u>4</u>	
MAIN RATING: <u>600A</u>				MAIN CB: <u>400A</u>			VOLTAGE: <u>208Y/120V</u>		PHASE: <u>3</u>	
COMPARTMENT	DESIGNATION	HP	FLA	NEMA RATING	CB SIZE/ POLE(S)	STARTER TYPE	FEEDER			REMARKS
							WIRE	GROUND	CONDUIT	
1	MAIN SWITCH	N/A	N/A	N/A	3P-400A	N/A	-	-	-	REUTILIZE EX. FEED FROM MAIN ELECTRIC RM. 2 SETS 4-#3/0 IN (2) 2" C.
2	PANELBOARD PPB	N/A	N/A	N/A	3P-100A	N/A	4-#2	1-#8	1-1/4" C	-
3	PANELBOARD LP1	N/A	N/A	N/A	3P-100A	N/A	4-#2	1-#8	1-1/4" C	EXISTING LOAD. EXTEND FEEDERS AS REQUIRED.
4	PANELBOARD LP2	N/A	N/A	N/A	3P-100A	N/A	4-#2	1-#8	1-1/4" C	EXISTING LOAD. EXTEND FEEDERS AS REQUIRED.
5	HWP-1	3	10.6A	N/A	3P-30A	VFD	3-#12	1-#12	VFD CABLE	3 CONTACTOR BY-PASS WITH MANUAL SELECTOR SWITCH OR DIGITAL TOUCH PAD, FULL VOLTAGE BYPASS CONTACTORS.
6	HWP-2	3	10.6A	N/A	3P-30A	VFD	3-#12	1-#12		
7	HWP-3 (FOR FUTURE PUMP)	3	10.6A	N/A	3P-30A	VFD	3-#12	1-#12		
8	P-4	2	7.5A	NEMA-1	3P-20A	FULL VOLTAGE, NONREVERSING	3-#12	1-#12	3/4" C	-
9	CU-1 (POOL PUMP STARTER)	15	46.2A	NEMA-3	3P-110A	FULL VOLTAGE, NONREVERSING	3-#4	1-#6	1" C	-
10	DHU-1 (RTU DISC. SW)	N/A	N/A	N/A	3P-400A	N/A	3-#250MCM	1-#4	2-1/2" C	-



LIGHTING FIXTURE SCHEDULE						
FIXTURE DESIGNATION	MANUFACTURER	CATALOG NUMBER	LAMPS	VOLTS	MOUNTING	REMARKS
 A	LITHONIA LIGHTING	FEM L48 4000LM LPCL MD MVOLT G210 35K CRI E10WMCP	(1) 23.8W LED	120V	PENDANT	4FT PENDANT MOUNTED LOW PROFILE VAPOR TIGHT GASKETED LED LIGHT FIXTURE. PROVIDE EM OPTION FOR 90 MINUTES OF BATTERY BACKUP TIME, WHERE INDICATED ON PLANS. PROVIDE MOUNTING HARDWARE AS REQUIRED.

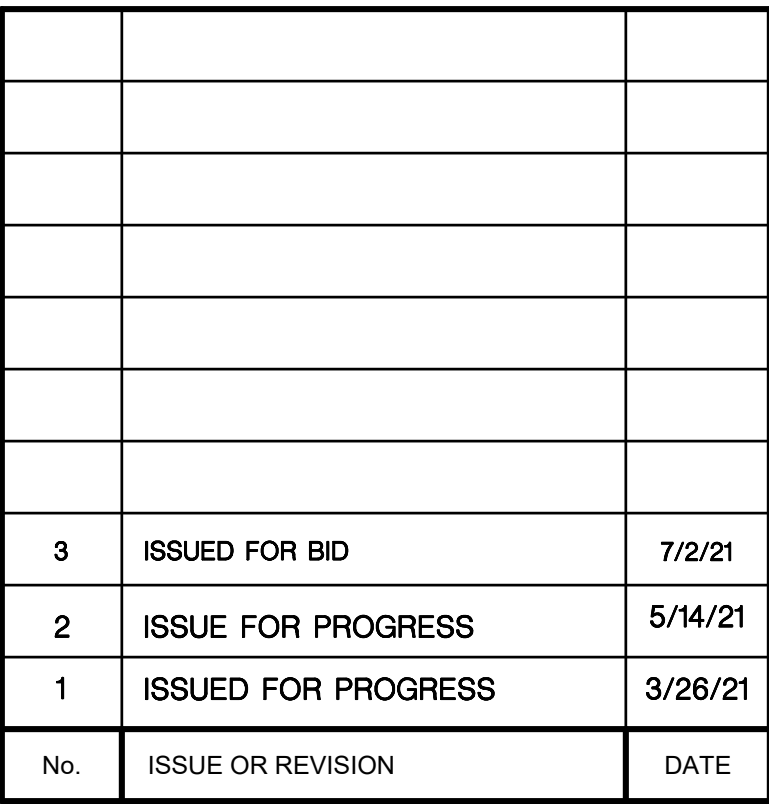
NOTES:

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WIRING/CONDUIT LEGEND:

- ① DEM. 3-#4 & 1-#6 GND IN 1" C.
- ② DEM. 3-#4 & 1-#6 GND IN EX. 1" C. EX. 1" C TO BE REUSED.
- ③ EXISTING CONDUIT AND WIRE.
- ④ DEM. 3-#250MCM & 1-#4 GND IN 2-1/2" C.
- ⑤ DEM. 3-#250MCM & 1-#4 GND IN EX. 2-1/2" C. EX. 2-1/2" C TO BE REUSED.
- ⑥ NEW CONDUIT AND CONDUCTORS.
- ⑦ NEW CONDUCTORS IN EX. CONDUITS.

- 1.) ALL EQUIPMENT IS 3-POLE, UON.
- 2.) SEE MCC-1 SCHEDULE FOR ADDITIONAL INFORMATION



PROJECT TITLE

TOWN OF GREENBURGH
THEODORE D. YOUNG
COMMUNITY CENTER
BOILER PLANT REPLACEMENT
32 MANHATTAN AVENUE
WHITE PLAINS, NY 10607

SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
	DRAWN BY CT	DRAWING NO. E5.1A
	CHECKED BY DS	
	DATE 3/26/21	



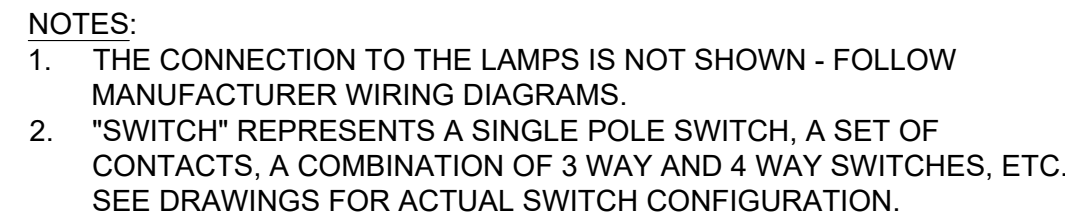
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GREENBURGH, NY 10607



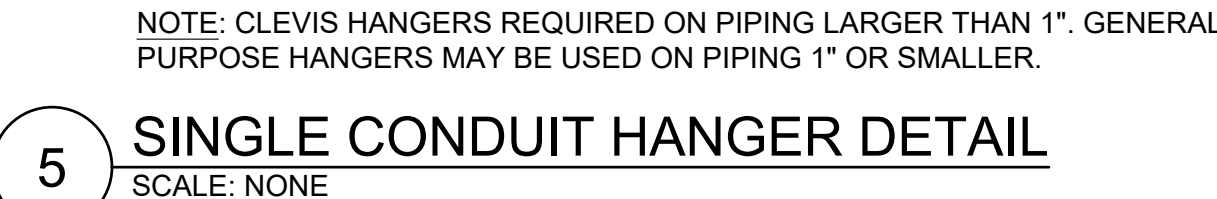
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DRAWING TITLE

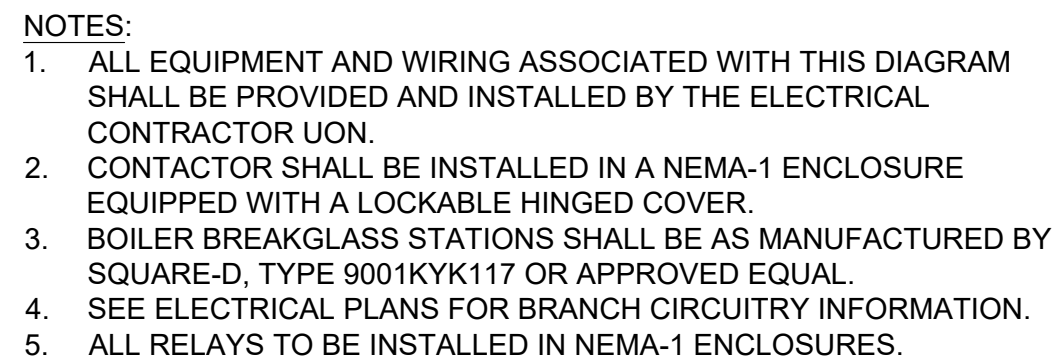
SEAL	SCALE AS NOTED	PROJECT NO. NTOG0011.00
	DRAWN BY CT	DRAWING NO. E7.1
	CHECKED BY DS	
	DATE 1/29/21	



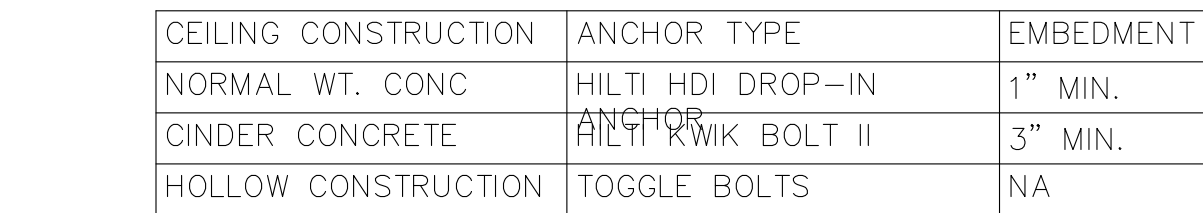
(8



5 SINGLE CONDUIT HANGER DETAIL
SCALE: NONE



7 WIRING DIAGRAM
SCALE: NONE



4 TRAPEZE SUPPORT DETAIL
SCALE: NONE

