


Request for Bids	 <p style="text-align: center;">Marshall University Office of Purchasing One John Marshall Drive Huntington, WV 25755-4100 Direct all inquiries regarding this order to: (304) 696-2822</p>	Bid # R1901405
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Vendor:	Phone: Fax:	For information contact: Purchasing Contact: Harold R. Sanders Email: sanders13@marshall.edu & purchasing@marshall.edu Phone: (304) 696-2822
FEIN/SSN:		

Sealed requests to bid for furnishing the supplies, equipment or services described below will be received by the Institution. TO RECEIVE CONSIDERATION FOR AWARD, UNLESS OTHERWISE NOTED, THE BID WILL BE SUBMITTED ON THIS FORM IN ORIGINAL AND (1) COPY, SIGNED IN FULL IN INK, AND RECEIVED IN THE OFFICE OF PURCHASING TO HAVE A DATE/TIME STAMP AFFIXED, ON OR BEFORE THE DATE AND TIME SHOWN FOR THE BID OPENING. When applicable, prices will be based on units specified; and Bidders will enter the delivery date or time for items contained herein. The Institution reserves the right to accept or reject bids on each item separately or as a whole, to reject any or all bids, to waive informalities or irregularities and to contract as the best interests of the Institution may require. BIDS ARE SUBJECT TO THE GENERAL TERMS AND CONDITIONS AS SET FORTH HEREIN.

DATE 02/05/2019	DELIVERY IS REQUIRED NO LATER THAN February 12, 2019	DEPARTMENT REQUISITION NO. R1901405	BIDS OPEN: 3:00 p.m. on 02/12/19	BIDDER MUST ENTER DELIVERY DATE FOR EACH ITEM BID
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Item #	Quantity	Description	Unit Price	Extended Price
<u>Addendum #2</u>				
<p>Project: School of Medicine Boiler and Chiller Replacement</p> <p>Date: February 12, 2019 Time: 3:00pm</p> <p>The following items are to be incorporated into Addendum No. 2. ITEM 1 Sheet M1, "General Notes, Symbol Legend, Details and Schedules"</p> <p>Receipt of this addendum must be acknowledged in the space provided on this front page, and within the the final Addendum Acknowledgment Page previously enclosed within Addendum 1.</p>				

Total

To the Office of Purchasing,

In compliance with the above, the undersigned offers and agrees, if this offer is accepted within _____ calendar days (30 calendar days unless a different period is inserted by the purchaser) from the bid open date, specified above, to furnish any or all items upon which prices are offered, at the price set opposite each item, delivered at the designated point(s), within the time specified.

Bidder guarantees shipment from _____ within _____ days

Bidder's name Vendor _____
Signed By _____

FOB _____ After receipt of order at address shown

Typed Name _____

Terms _____

Title _____

Street Address _____

City/State/Zip _____

Date _____ Phone _____

MUSOM

Boiler and Chiller Replacement

1340 Hal Greer Boulevard
Huntington, WV 25701

ADDENDUM NO. 2

February 5, 2019

TO ALL BIDDERS:

This Addendum supplements and amends the original Plans and Specifications and shall be taken into account in preparing proposals and shall become a part of the contract documents.

The following items are to be incorporated in to Addendum No. 2.

- ITEM 1 Sheet M1, "General Notes, Symbol Legend, Details and Schedules"
- Refer to attached sheet M1 for re-inclusion of "Chiller Schedule (Water Cooled).

Attachments: Sheet M1

END OF ADDENDUM

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TOWER WATER CROSS CONNECT VALVE SEQUENCING									
SCENARIO	VALVE IDENTIFICATION								
	1	2	3	4	5	6	7	8	9
TWP-1, CH-1, T-1	C	O	-	C	-	O	C	-	O
TWP-1, CH-2, T-1	O	C	O	O	C	O	C	-	O
TWP-1, CH-2, T-2	O	C	O	C	O	-	O	C	O
TWP-2, CH-1, T-2	C	-	O	C	O	-	C	O	-
TWP-2, CH-1, T-1	O	O	C	O	O	C	O	O	-
TWP-2, CH-1, T-1	O	O	C	C	C	-	O	O	C

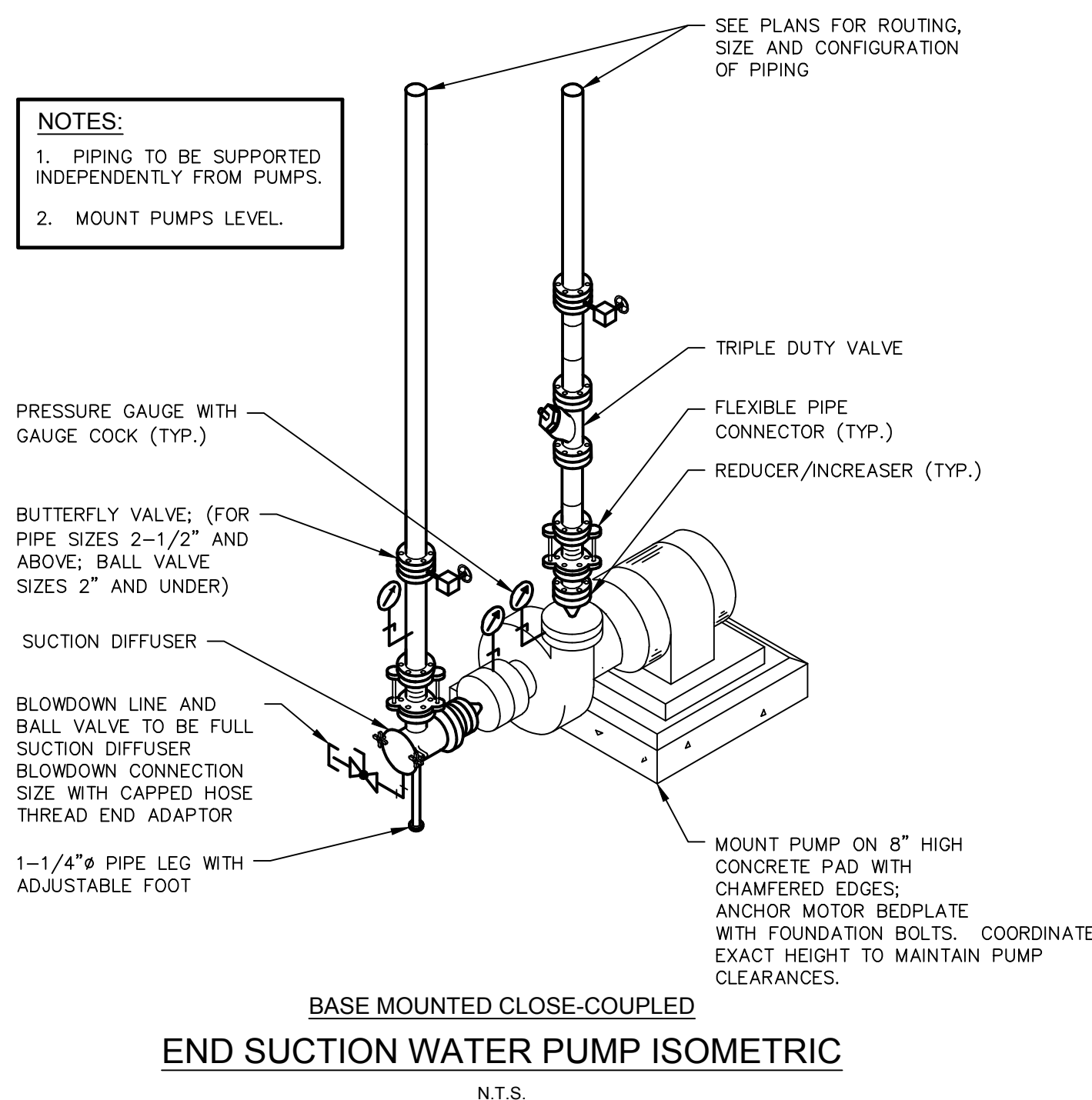
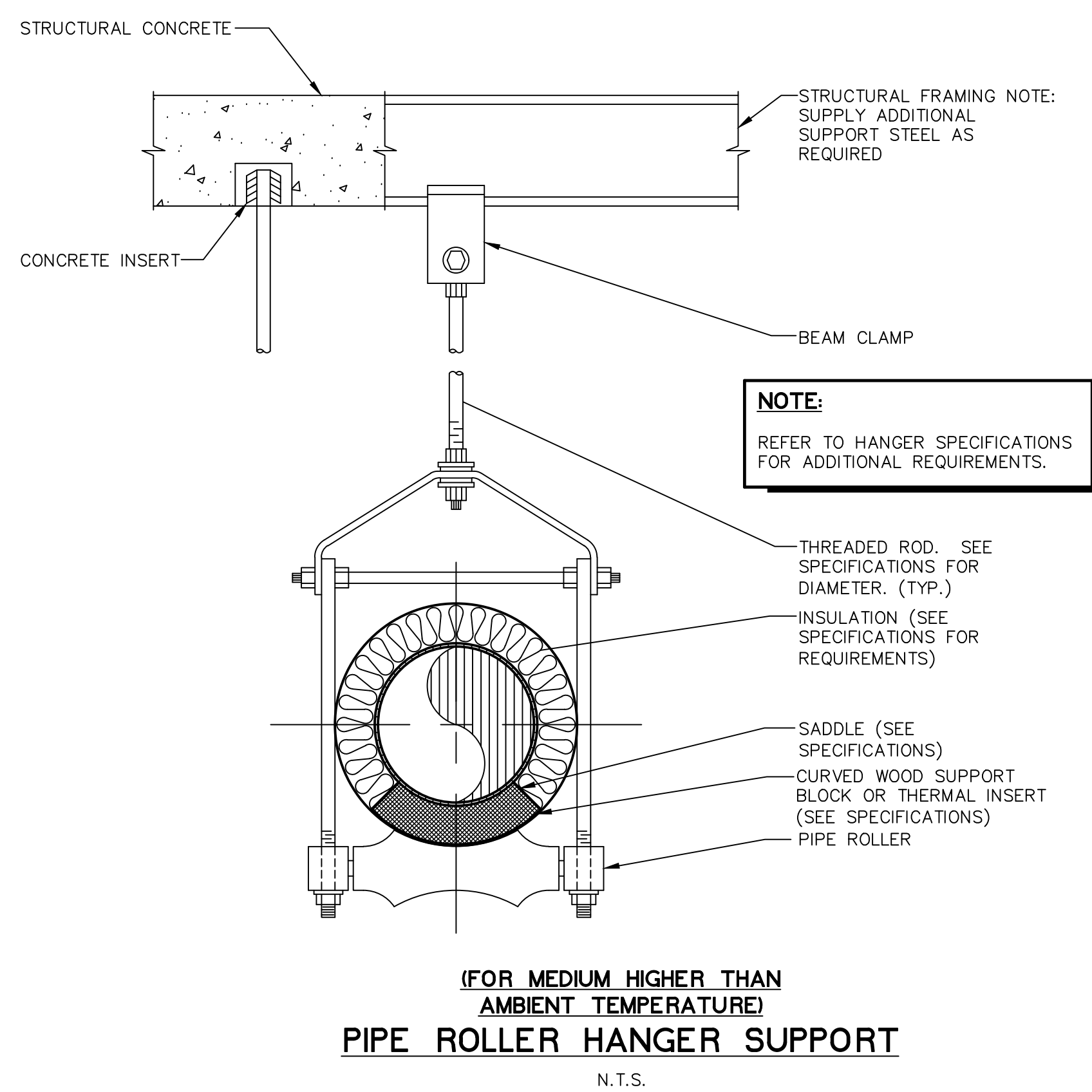
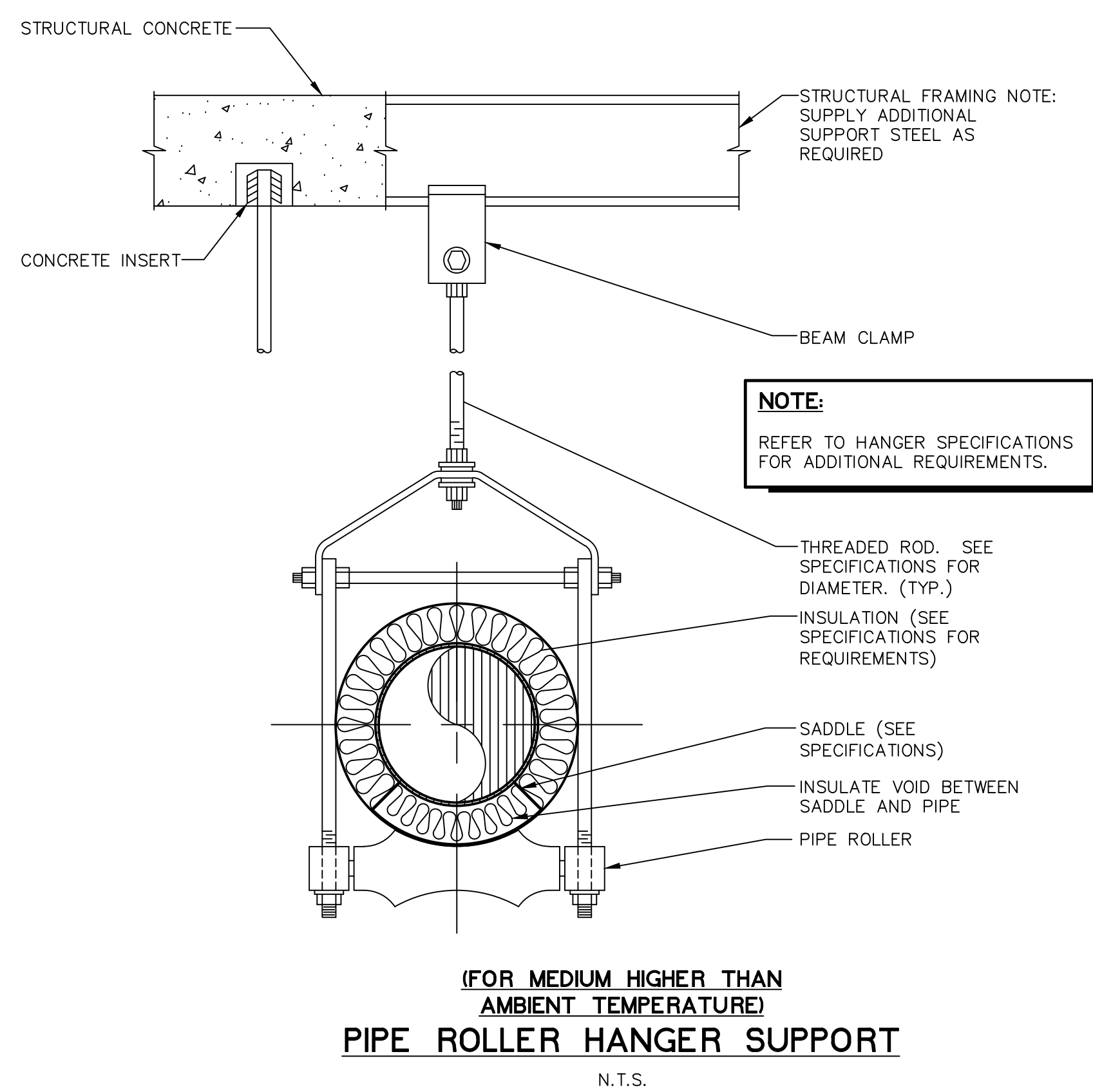
SCENARIO'S LISTED INDICATED EQUIPMENT IN OPERATION
VALVES AT NON-OPERATING PUMP TO BE CLOSED IN CROSS CONNECTING SCENARIO.

- ### HVAC NEW WORK GENERAL NOTES
- THE GENERAL NOTES LISTED HERE APPLY TO ALL HVAC DRAWINGS IN ADDITION TO ANY ADDITIONAL DRAWING NOTES ON THE INDIVIDUAL DRAWINGS.
 - REFER ALSO TO DUCTWORK MATERIAL SCHEDULE AND NOTES FOR ADDITIONAL GENERAL NOTES APPLICABLE TO DUCTWORK.
 - SEE CODED NOTES ON INDIVIDUAL DRAWING SHEETS FOR SPECIFIC INSTRUCTIONAL NOTES.
 - FIELD VERIFY EXISTING CONDITIONS.
 - COORDINATE WITH GENERAL TRADES WORK, PLUMBING WORK, FIRE PROTECTION WORK, ELECTRICAL WORK AND OTHER WORK.
 - IT IS RECOGNIZED THAT DRAWINGS MAY BE PLOTTED AT DIFFERENT SCALES, SUCH THAT PLOTTED DRAWINGS MAY VARY FROM ACTUAL OR INTENDED DIMENSIONS. THEREFORE, DRAWINGS ARE DIAGRAMMATIC AND ARE NOT TO BE SCALED. SBM TAKES NO RESPONSIBILITY FOR ERRORS REGARDING DISCREPANCIES FROM THE ORIGINAL DRAWINGS DRAWN AT THE PROPER SCALE AND THOSE DRAWINGS THAT HAVE BEEN PLOTTED.
 - THE MECHANICAL DESIGN DRAWINGS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW EXACT LOCATION OF EQUIPMENT, PIPING AND DUCTWORK UNLESS DIMENSIONS ARE GIVEN OR OTHERWISE IMPLIED FOR CLEARANCES, ETC. PIPING, DUCTWORK AND MECHANICAL EQUIPMENT ARE TO BE INSTALLED ALONG THE GENERAL PLANS SHOWN ON THE DRAWINGS, BUT KEEPING IN MIND ACTUAL BUILDING CONDITIONS WHICH MUST BE CONFORMED WITH IN THE ACTUAL WORK. CONTRACTORS IN THEIR BIDS ARE REQUIRED TO INCLUDE ALL LABOR AND MATERIALS AND OTHER RELATED WORK NECESSARY TO PROVIDE MINOR OFFSETS IN MECHANICAL WORK AS REQUIRED TO AVOID CONFLICT WITH OTHER WORK ON THIS PROJECT, OR AS REQUIRED IN ORDER TO OBTAIN MAXIMUM HEAD ROOM OR EQUIPMENT ACCESS IN SPACES.
 - PHASING - SEE DIVISION 1 PROJECT SPECIFICATION PHASING DOCUMENTS FOR SPECIFIC PHASING INSTRUCTIONS. COORDINATE SHUT-DOWN OF ANY UTILITY IN ADVANCE WITH THE OWNER. ACCOMPLISH DRAIN DOWN AND RE-FILL OF PIPING SYSTEMS AS REQUIRED. UNLESS OTHERWISE SPECIFICALLY INDICATED, EXISTING CHILLED WATER SYSTEMS SHALL NOT BE DISRUPTED DURING THE COOLING SEASON, AND HEATING SYSTEMS SHALL NOT BE DISRUPTED WHEN REQUIRED FOR OCCUPANT COMFORT OR BUILDING FREEZE PROTECTION.
 - MAINTAIN REQUIRED RIGGING ACCESS CLEARANCES. COORDINATE CLEARANCE REQUIREMENTS WITH OTHER TRADES.
 - EQUIPMENT CONNECTION ARRANGEMENTS, FLANGES, UNIONS, VALVING, ETC. ARE NOT TYPICALLY SHOWN ON PLAN VIEWS. REFER TO DETAILS AND FLOW DIAGRAMS FOR REQUIREMENTS. INSTALL ALL VALVES AND OTHER ITEMS REQUIRING OR FACILITATING MAINTENANCE IN ACCESSIBLE LOCATIONS, AND SO AS TO NOT OBSTRUCT MAINTENANCE ON EQUIPMENT SERVED.
 - SEE TEMPERATURE CONTROL DRAWINGS AND COORDINATE WITH TEMPERATURE CONTROL CONTRACTORS FOR INSTRUMENTATION DEVICES REQUIRED TO BE INSTALLED IN PIPING AND DUCTWORK, TOGETHER WITH NECESSARY CLEARANCES FOR SAME.

- ### HVAC DEMOLITION GENERAL NOTES
- THE GENERAL NOTES LISTED HERE APPLY TO ALL HVAC DEMOLITION DRAWINGS IN ADDITION TO ANY ADDITIONAL DEMOLITION DRAWING NOTES ON THE INDIVIDUAL DEMOLITION DRAWINGS.
 - SEE CODED NOTES ON INDIVIDUAL DRAWING SHEETS FOR SPECIFIC INSTRUCTIONAL NOTES.
 - FIELD VERIFY EXISTING CONDITIONS.
 - COORDINATE WITH GENERAL TRADES WORK, PLUMBING WORK, FIRE PROTECTION WORK, ELECTRICAL WORK AND OTHER WORK.
 - IT IS RECOGNIZED THAT DRAWINGS MAY BE PLOTTED AT DIFFERENT SCALES, SUCH THAT PLOTTED DRAWINGS MAY VARY FROM ACTUAL OR INTENDED DIMENSIONS. THEREFORE, DRAWINGS ARE DIAGRAMMATIC AND ARE NOT TO BE SCALED. SBM TAKES NO RESPONSIBILITY FOR ERRORS REGARDING DISCREPANCIES FROM THE ORIGINAL DRAWINGS DRAWN AT THE PROPER SCALE AND THOSE DRAWINGS THAT HAVE BEEN PLOTTED.
 - PHASING - SEE DIVISION 1 PROJECT SPECIFICATION PHASING DOCUMENTS FOR SPECIFIC PHASING INSTRUCTIONS. COORDINATE SHUT-DOWN OF ANY UTILITY IN ADVANCE WITH THE OWNER. ACCOMPLISH DRAIN DOWN AND RE-FILL OF PIPING SYSTEMS AS REQUIRED. UNLESS OTHERWISE SPECIFICALLY INDICATED, EXISTING CHILLED WATER SYSTEMS SHALL NOT BE DISRUPTED DURING THE COOLING SEASON, AND HEATING SYSTEMS SHALL NOT BE DISRUPTED WHEN REQUIRED FOR OCCUPANT COMFORT OR BUILDING FREEZE PROTECTION.
 - DARK, DASHED LINES INDICATE PIPING, DUCTWORK AND EQUIPMENT TO BE REMOVED.
 - SEE SPECIFICATIONS FOR GENERAL CUTTING AND PATCHING REQUIREMENTS REQUIRED UNDER DEMOLITION. ALSO SEE DRAWINGS FOR MORE SPECIFIC REQUIREMENTS.
 - SEE SPECIFICATIONS FOR SALVAGE RIGHTS TO ANY EQUIPMENT OR MATERIALS BEING REMOVED.
 - REMOVE ALL HANGERS AND SUPPORTS SERVING PIPING, DUCTWORK AND EQUIPMENT BEING DEMOLISHED. PROVIDE AND/OR ADJUST EXISTING HANGERS TO SUPPORT ANY REMAINING PIPING, DUCTWORK, OR EQUIPMENT ADJACENT TO DEMOLISHED.
 - CAP ALL REMAINING ACTIVE PIPING WITH SIMILAR MATERIALS TO MATCH EXISTING WATER TIGHT. PIPE ENDS INDICATED TO BE CAPPED ARE NOT TO BE CRIMPED. INSULATED PIPING SHALL BE INSULATED AT CAP WITH MATERIALS SPECIFIED FOR NEW WORK.
 - CAP ALL REMAINING ACTIVE DUCTWORK WITH SIMILAR MATERIALS TO MATCH EXISTING AND SEALED AIR TIGHT. INSULATED DUCTWORK SHALL BE INSULATED AT CAP WITH MATERIALS SPECIFIED FOR NEW WORK.
 - SEE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS FOR DEMOLITION OF REFRIGERANT CONTAINING MATERIALS OR EQUIPMENT.
 - REMOVE ALL THERMOSTATS, TEMPERATURE CONTROL WIRING AND PIPING FROM DEMOLISHED EQUIPMENT BACK TO (MAIN SOURCE/WALL) AND CAP CONTROL AIR PIPING AIR TIGHT. CRIMPING SHALL NOT BE CONSIDERED ADEQUATE.

HVAC SYMBOL LEGEND

ABBREVIATION	SYMBOL	DESCRIPTION
HWS		HEATING WATER SUPPLY
HWR		HEATING WATER RETURN
CWS		CHILLED WATER SUPPLY
CWR		CHILLED WATER RETURN
TWS		TOWER WATER SUPPLY (TOWER TO CHILLER)
TWR		TOWER WATER RETURN (CHILLER TO TOWER)
MU		MAKE-UP WATER
V		STEAM EQUIPMENT ATMOSPHERIC VENT
		GLOBE VALVE
		BALL VALVE
		BALANCE VALVE (SEE SPECIFICATIONS)
		CHECK VALVE (SWING)
PRV		HYDRONIC PRESSURE REDUCING VALVE
		BUTTERFLY VALVE
RV		RELIEF OR SAFETY VALVE
		SOLENOID VALVE
		TWO WAY CONTROL VALVE
		THREE WAY CONTROL VALVE
		CONCENTRIC REDUCER/INCRASER
		STRAINER WITH BLOWDOWN
		UNION
		FLANGED UNION
		VIBRATION CONNECTION (SEE SPECIFICATIONS)
		FLOW METER FITTING
		PET'S TEST PLUG
		MANUAL AIR VENT
		AUTOMATIC AIR VENT WITH BALL VALVE
		WATER METER
		THERMOSTAT
		THERMOMETER/TEMPERATURE GAUGE
		PRESSURE GAUGE WITH GAUGE COCK (WATER)
		PRESSURE GAUGE WITH BALL VALVE (WATER)
		CODED NOTE (SEE SCHEDULE)
ME		MECHANICAL EQUIPMENT (SEE SCHEDULE)
E.C.		ELECTRICAL CONTRACTOR
F.P.C.		FIRE PROTECTION CONTRACTOR
G.C.		GENERAL CONTRACTOR
H.C.		HVAC CONTRACTOR
P.C.		PLUMBING CONTRACTOR
T.C.C.		TEMPERATURE CONTROL SUB-CONTRACTOR
MFR.		MANUFACTURER
N.O.		NORMALLY OPEN
N.C.		NORMALLY CLOSED
TYP.		TYPICAL
E.A.		EXHAUST AIR
		FLOW DIRECTION INDICATOR (LIQUID)
		MANUAL BALANCING DAMPER
		AUTOMATIC CONTROL DAMPER
		INDICATES TIE INTO EXISTING
		INDICATES REMOVE TO POINT FOR RECONNECTION
		INDICATES REMOVE TO POINT AND CAP



CHILLER SCHEDULE (WATER COOLED)

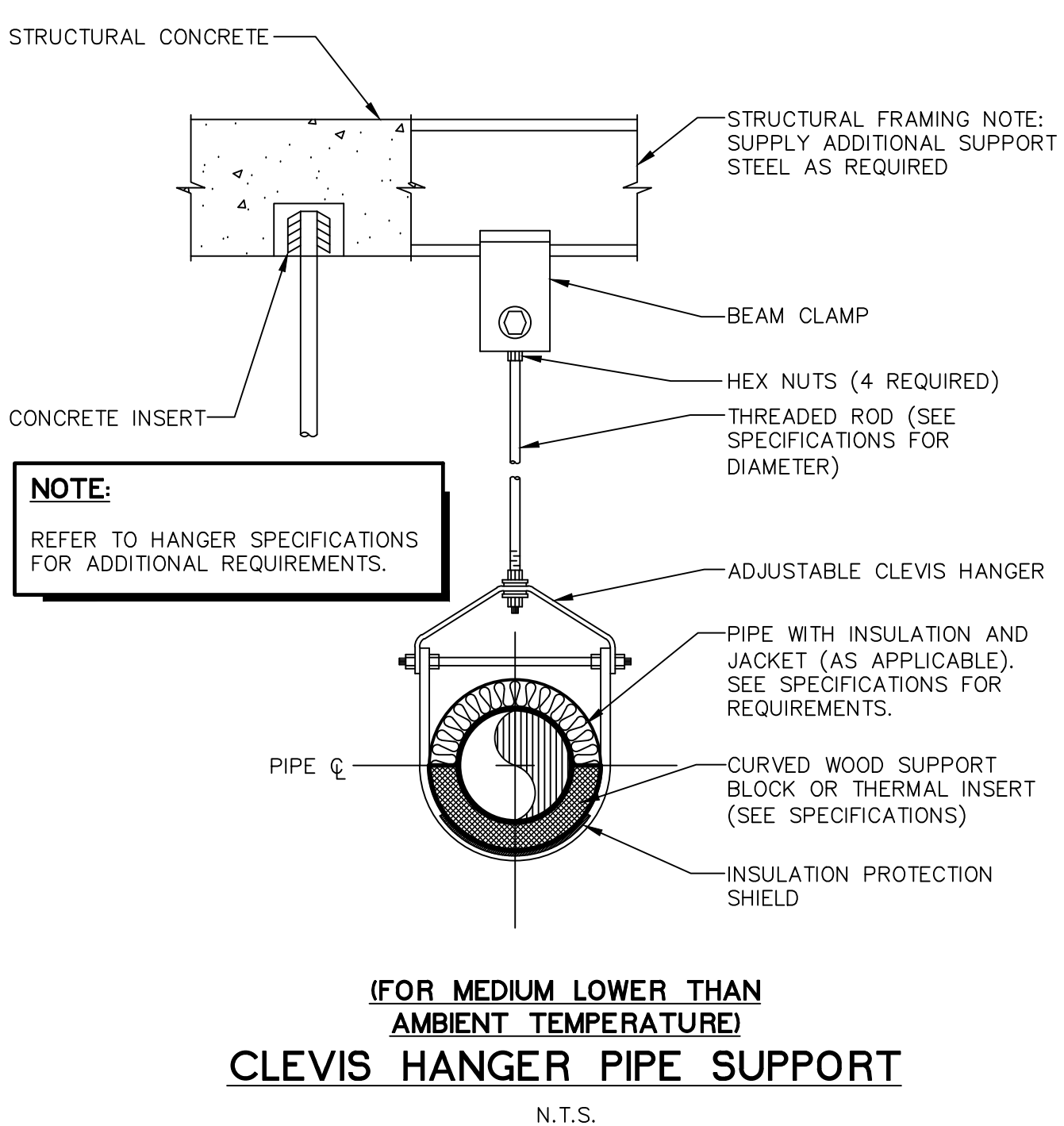
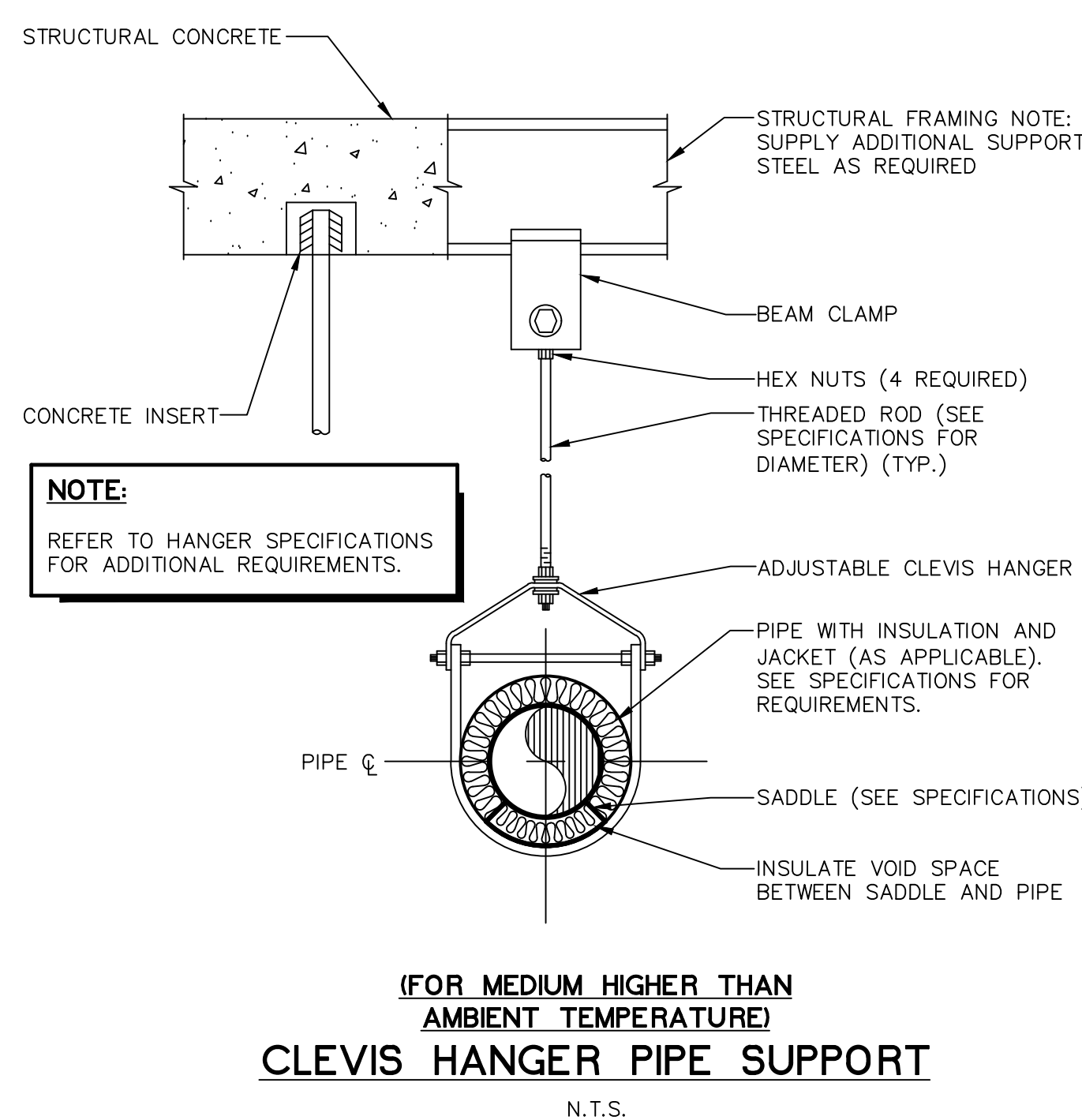
NO.	MAKE	MODEL	COMP TYPE	TONS OUTPUT	MAX. KW @ TONS	MIN. NO. CIRCUITS	MIN. STEPS UNLOADING	VOLTS/PHASE	EVAPORATOR					CONDENSER					REFRIG	REMARKS		
									NO. PASS	GPM	EWI DEG. F	LWT DEG. F	MAX. WPD FT. H2O	FOULING FACTOR	NO. PASS	GPM	EWI DEG. F	LWT DEG. F			MAX. WPD FT. H2O	FOULING FACTOR
CH-1	DAIKIN	WMC0600D	CENTRIFUGAL	320	211.8	-	-	460/3	2	640	54	42	-	0.0001	2	994	85	94.3	-	0.00025	R134A	MAGNETIC BEARING
CH-1A	DAIKIN	WSC079L	CENTRIFUGAL	320	195.5	-	-	460/3	2	640	54	42	-	0.0001	2	954	85	94.3	-	0.00025	R134A	W/VFD (ALTERNATE #1)

NOTES:
1. SEE SPECIFICATIONS FOR REQUIRED ACCESSORIES.
2. FOULING FACTOR BASED ON ARI STANDARD 550-88.

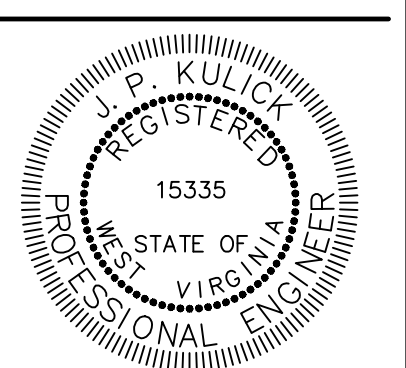
HOT WATER BOILER SCHEDULE

NO.	MAKE	MODEL	TYPE	FUEL	BURNER TYPE	BURNER HP	VOLTS/PH	MBH IN	MBH OUT	LWT DEG. F	GPM	MAX. WPD FT. H2O	RELIEF PSIG	REMARKS
B-2	BRYAN	HE-RV550	FORCED DRAFT	NAT. GAS	POWER	140	460/3	5,500	4,675	180	311	5	125	ALTERNATE #2

NOTES:
1. SEE SPECIFICATIONS FOR REQUIRED ACCESSORIES.



SCHAEFER BUCKLEY MAYFIELD
1540 CORPORATE WOODS PARKWAY
UNIONTOWN, OHIO 44685
PHONE: 330-526-2700
SBMCE.COM



Signature: J.P. Kulczyński
Date: 01/24/19

MUSOM BOILER AND CHILLER REPLACEMENT

REVISIONS:
1. ADDENDUM #1
2. ADDENDUM #2

DATE: 01/24/19
DRAWN BY: JMB
CHECKED BY: JK
JOB NO.: 18111

GENERAL NOTES, SYMBOL LEGEND, DETAIL AND SCHEDULES

M1