



## **Sea-Tac International Airport**

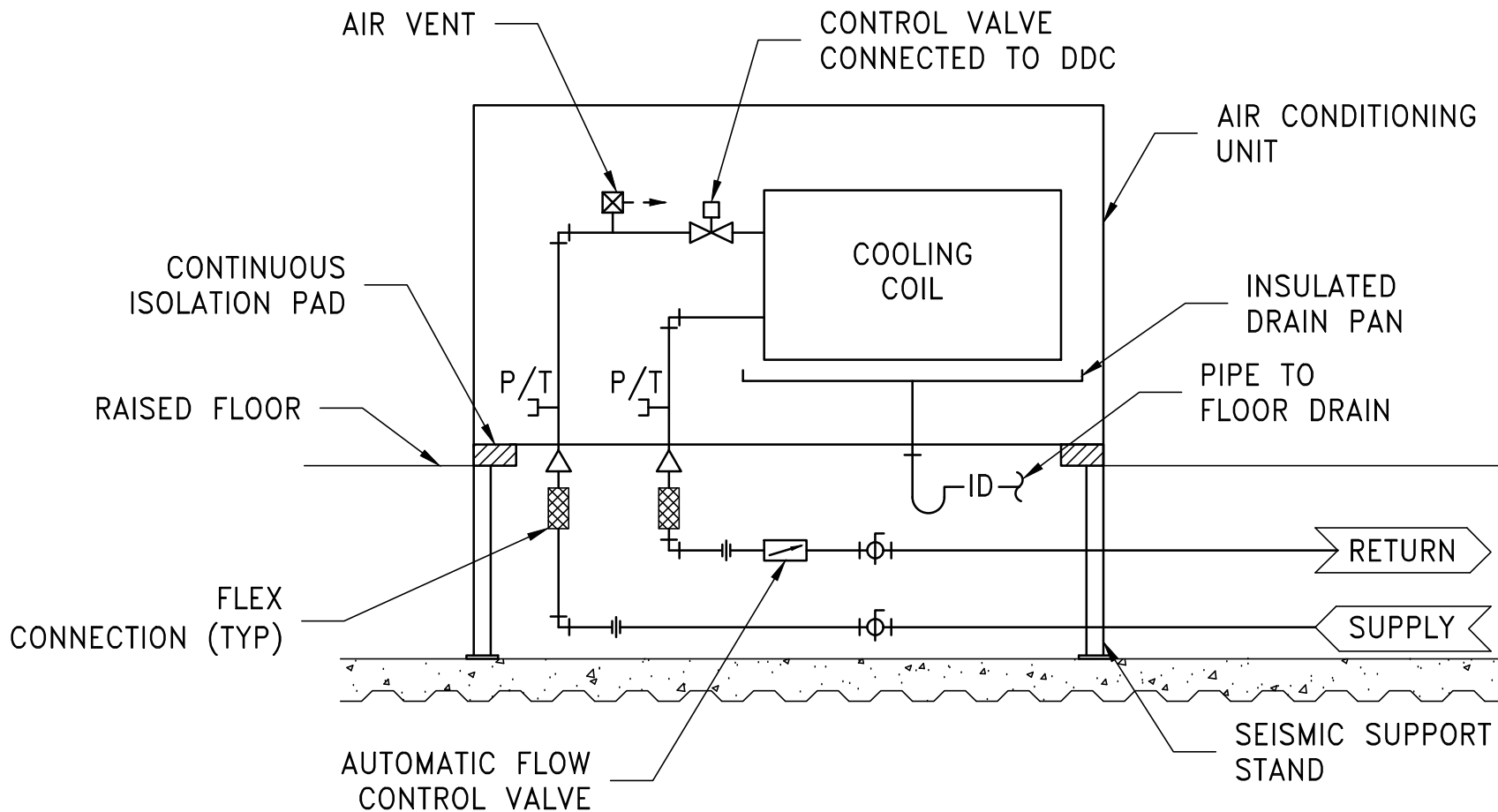
Facilities and Infrastructure System  
Mechanical System Standards

### **APPENDIX E**

Mechanical Diagrams and Details

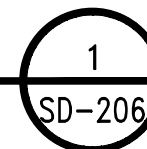
*Revised January 22, 2020*

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## DETAIL

FLOOR MOUNTED UNIT  
WITH RAISED FLOOR SHOWN  
SCALE: NONE



DWG. TITLE:

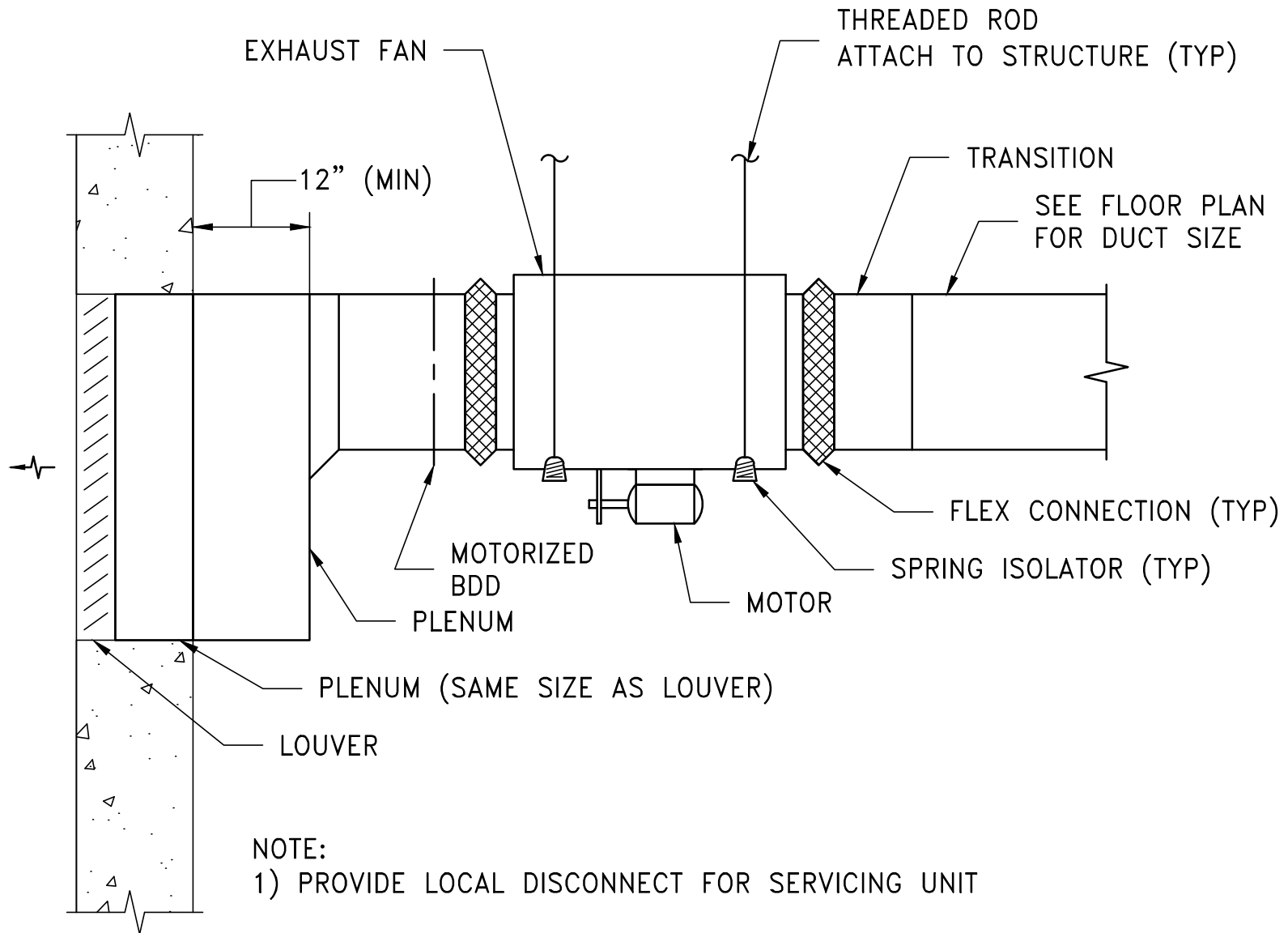
AIR CONDITIONING UNIT

DATE: AUG, 2018

LAST REVISION: 2

DIAG. NO.

SD-206



## DETAIL

IN-LINE FAN  
(EXHAUST FAN SHOWN)  
SCALE: NONE

1  
SD-207

DWG. TITLE:

IN-LINE FAN DETAIL

DATE: AUG, 2018

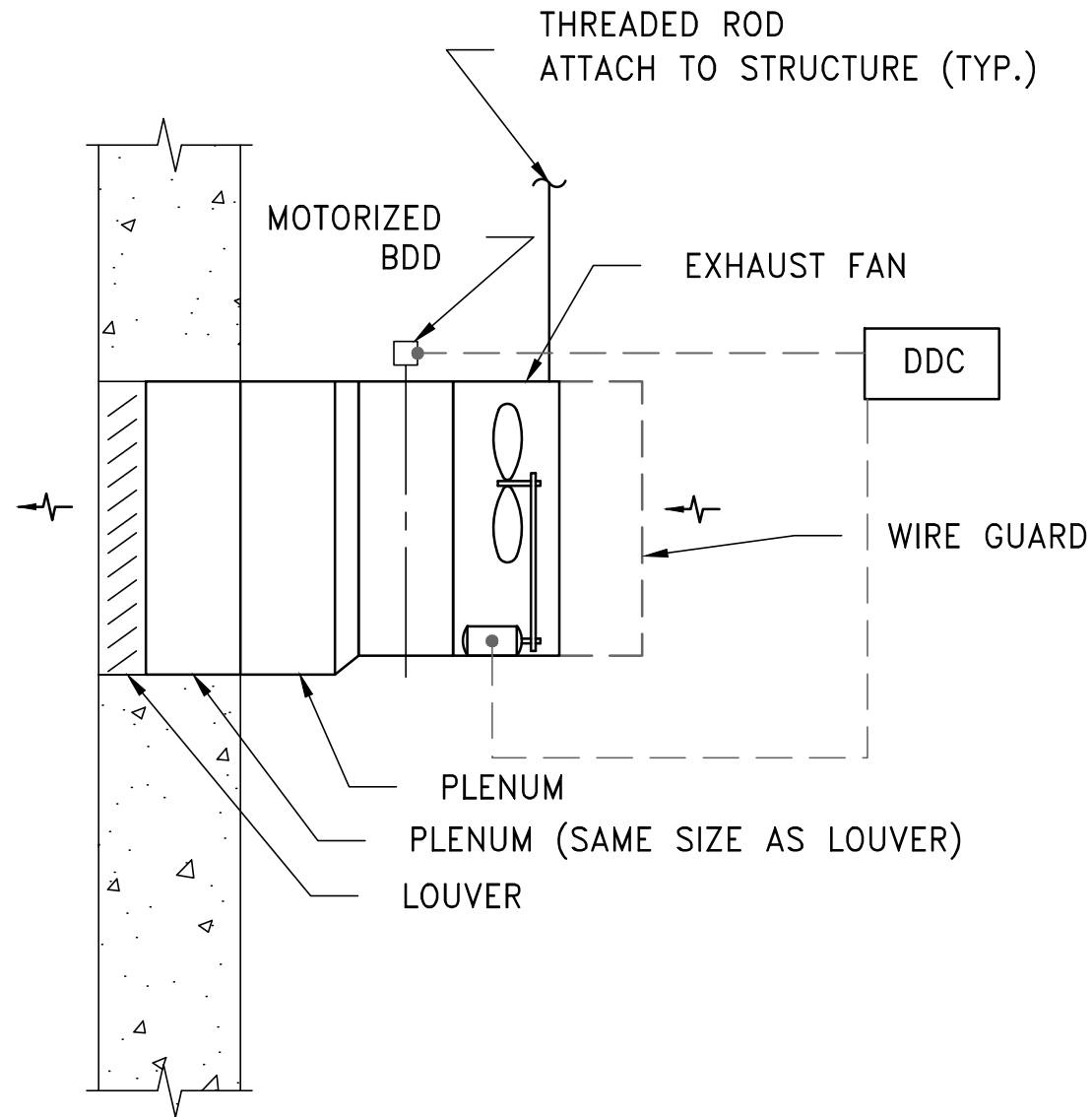
LAST REVISION: 2

\_\_\_: \_\_\_

\_\_\_: \_\_\_

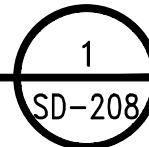
DIAG. NO.

SD-207



## DETAIL

PROPELLER WALL FAN  
(EXHAUST FAN SHOWN)  
SCALE: NONE



DWG. TITLE:

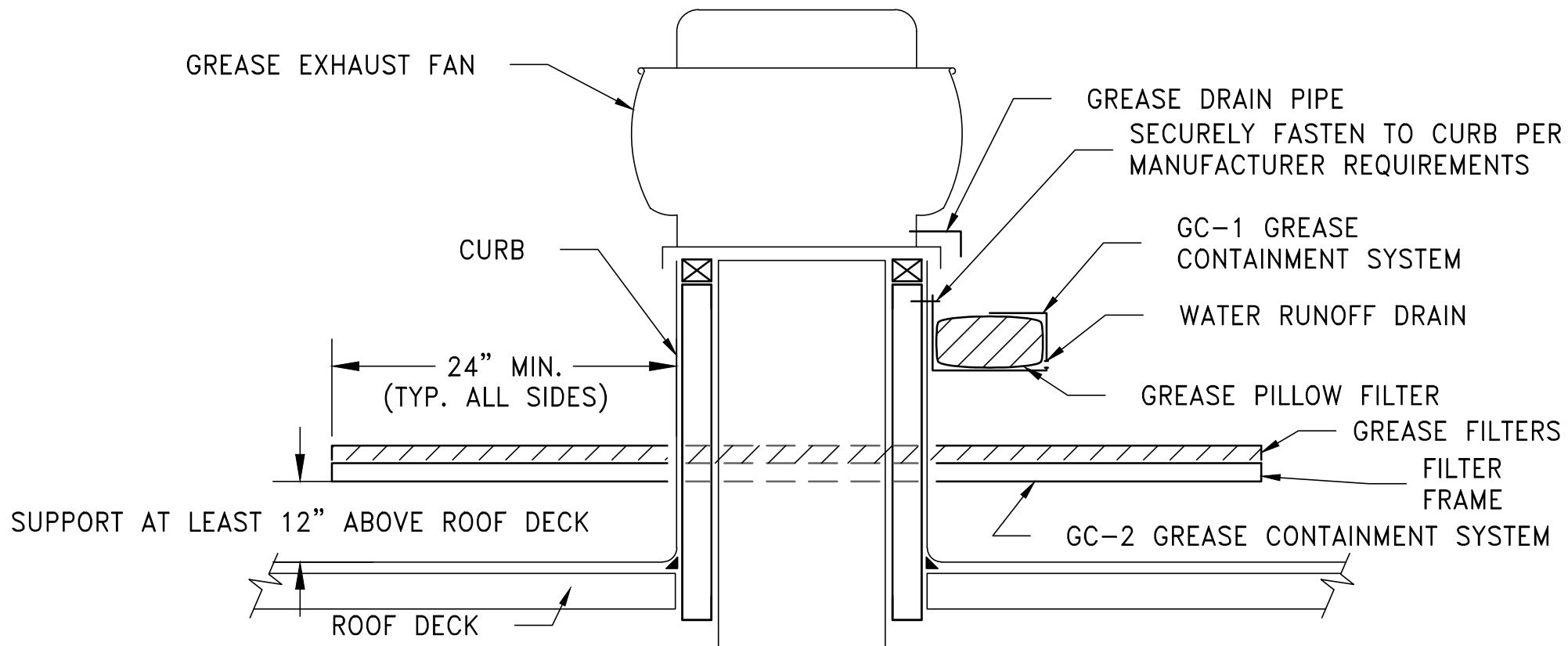
PROPELLER WALL FAN DETAIL

DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

SD-208



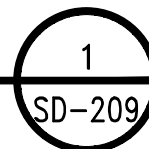
**NOTE:**

1. COORDINATE LOCATION AND ORIENTATION OF GREASE DRAIN AND GREASE CONTAINMENT GC-1 TO PROVIDE MAXIMUM FEASIBLE MAINTENANCE ACCESS.

**DETAIL**

ROOFTOP GREASE CONTAINMENT SYSTEM

SCALE: NONE



DWG. TITLE:

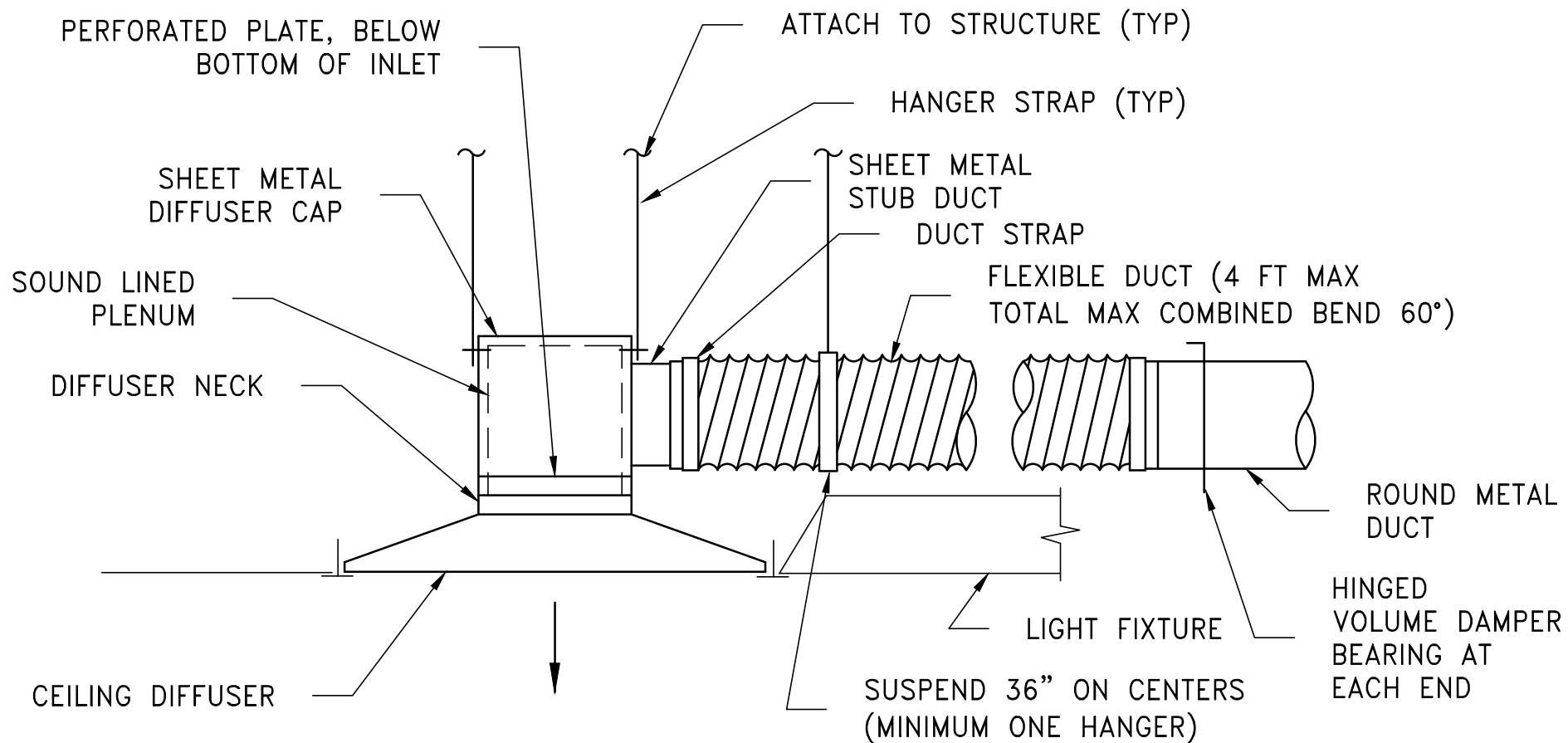
**ROOFTOP GREASE CONTAINMENT**

DATE: **NOV, 2018**

LAST REVISION: **0**

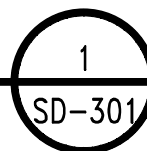
DIAG. NO.

**SD-209**



## DETAIL

CEILING DIFFUSER  
SCALE: NONE



DWG. TITLE:

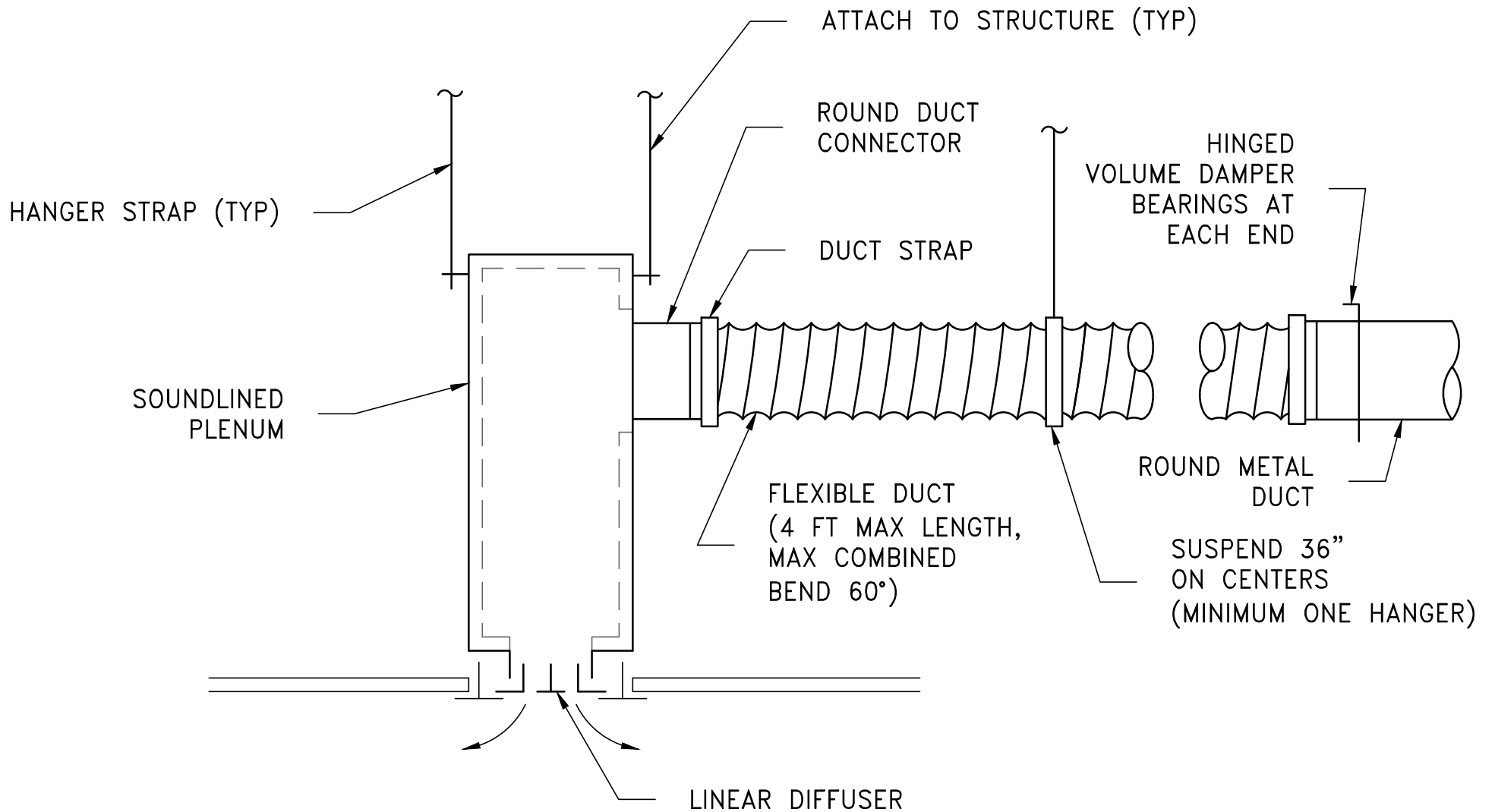
CEILING DIFFUSER DETAIL

DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

SD-301



## DETAIL

LINEAR DIFFUSER  
SCALE: NONE

1

SD-302

DWG. TITLE:

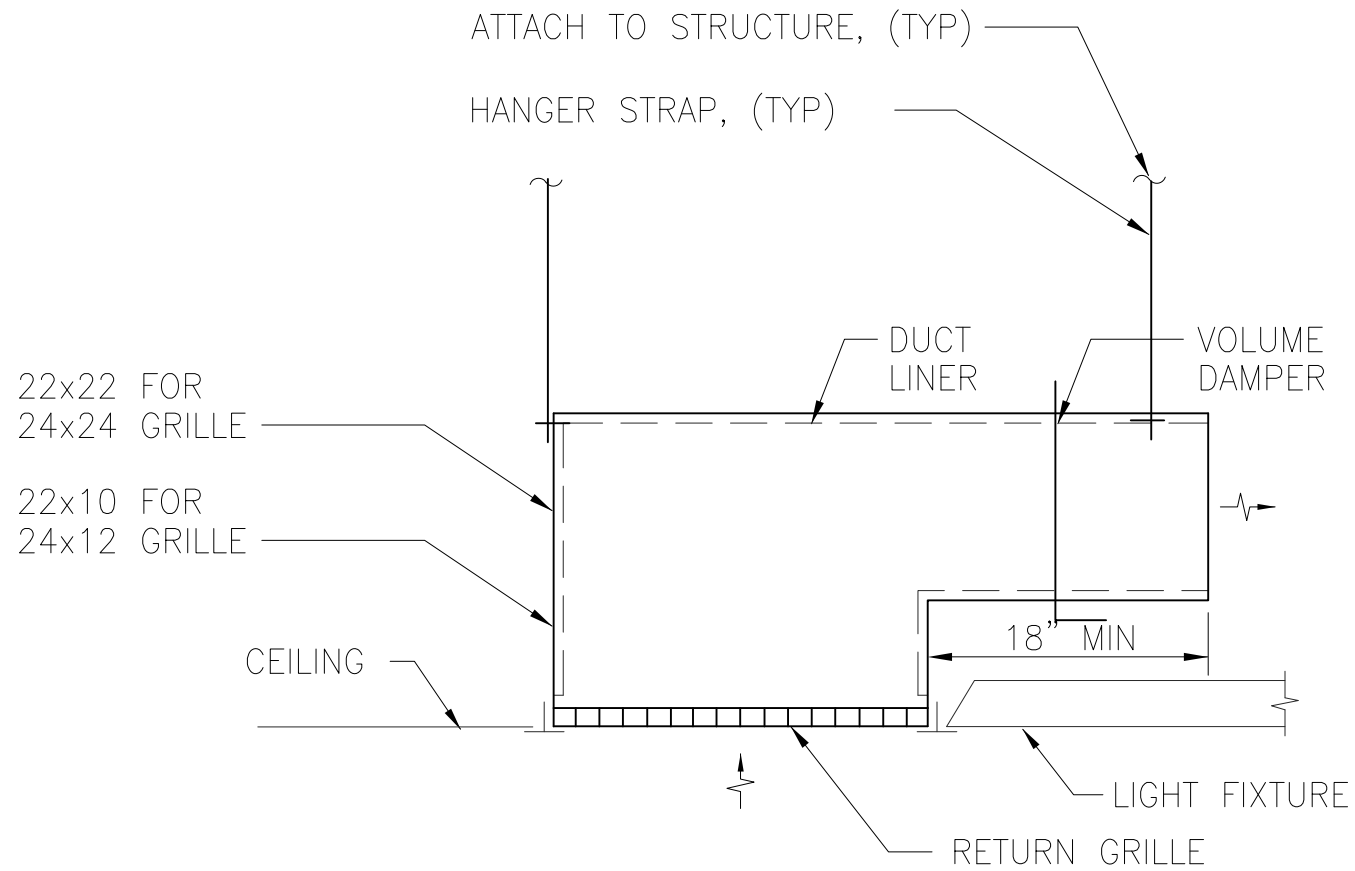
LINEAR DIFFUSER DETAIL

DATE: SEP, 2018

LAST REVISION: 2

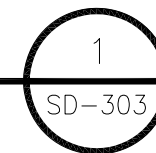
DIAG. NO.

SD-302



# DETAIL

RETURN AIR GRILLE PLENUM  
RETURN APPLICATION SHOWN  
SCALE: NONE



DWG. TITLE:

RETURN AIR GRILLE DETAIL

DATE: Dec, 2001

\_\_\_\_: \_\_\_\_

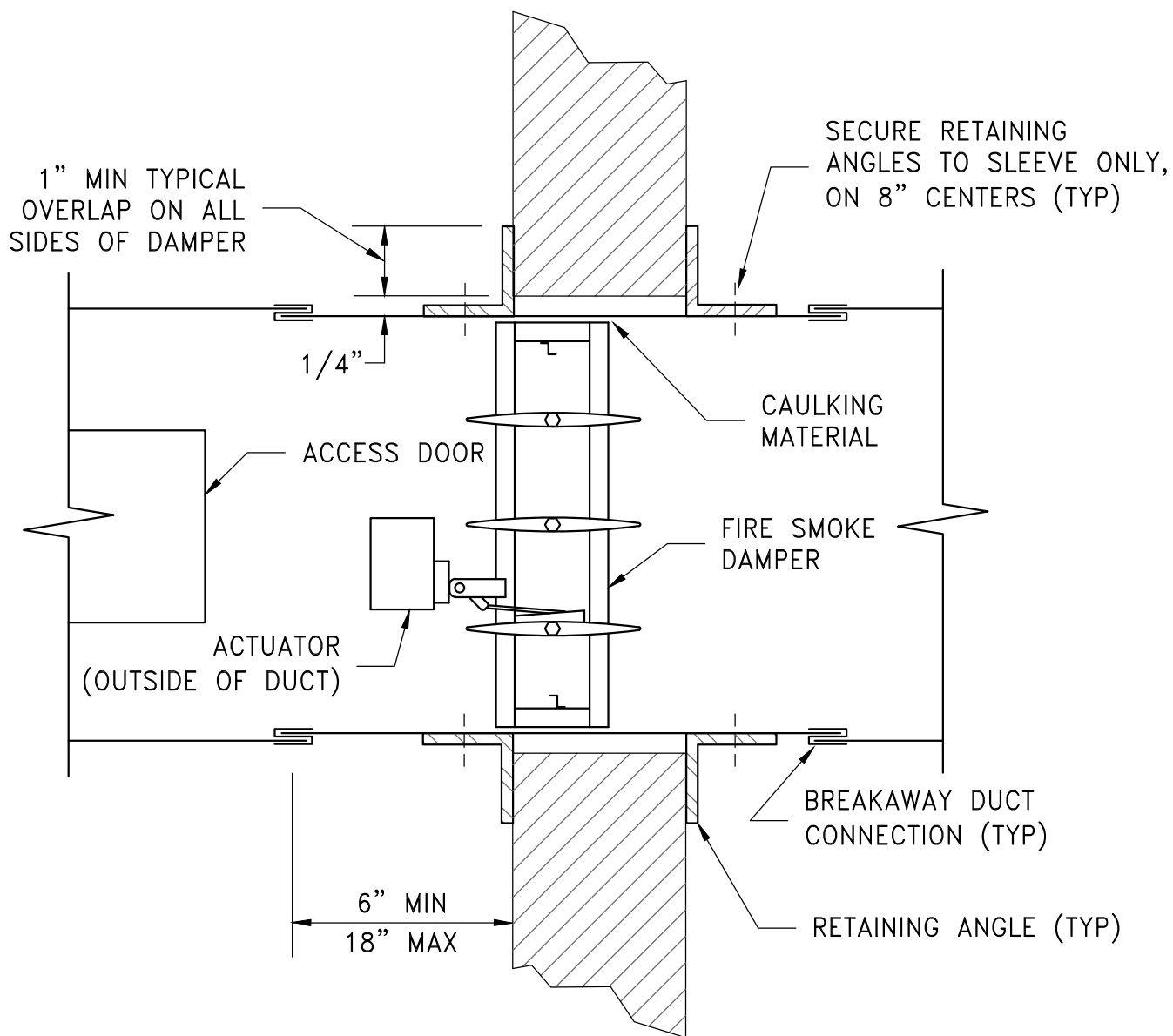
DIAG. NO.

LAST REVISION: 0

\_\_\_\_: \_\_\_\_

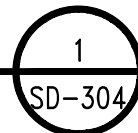
SD-303





## DETAIL

FIRE SMOKE DAMPER  
SCALE: NONE



DWG. TITLE:

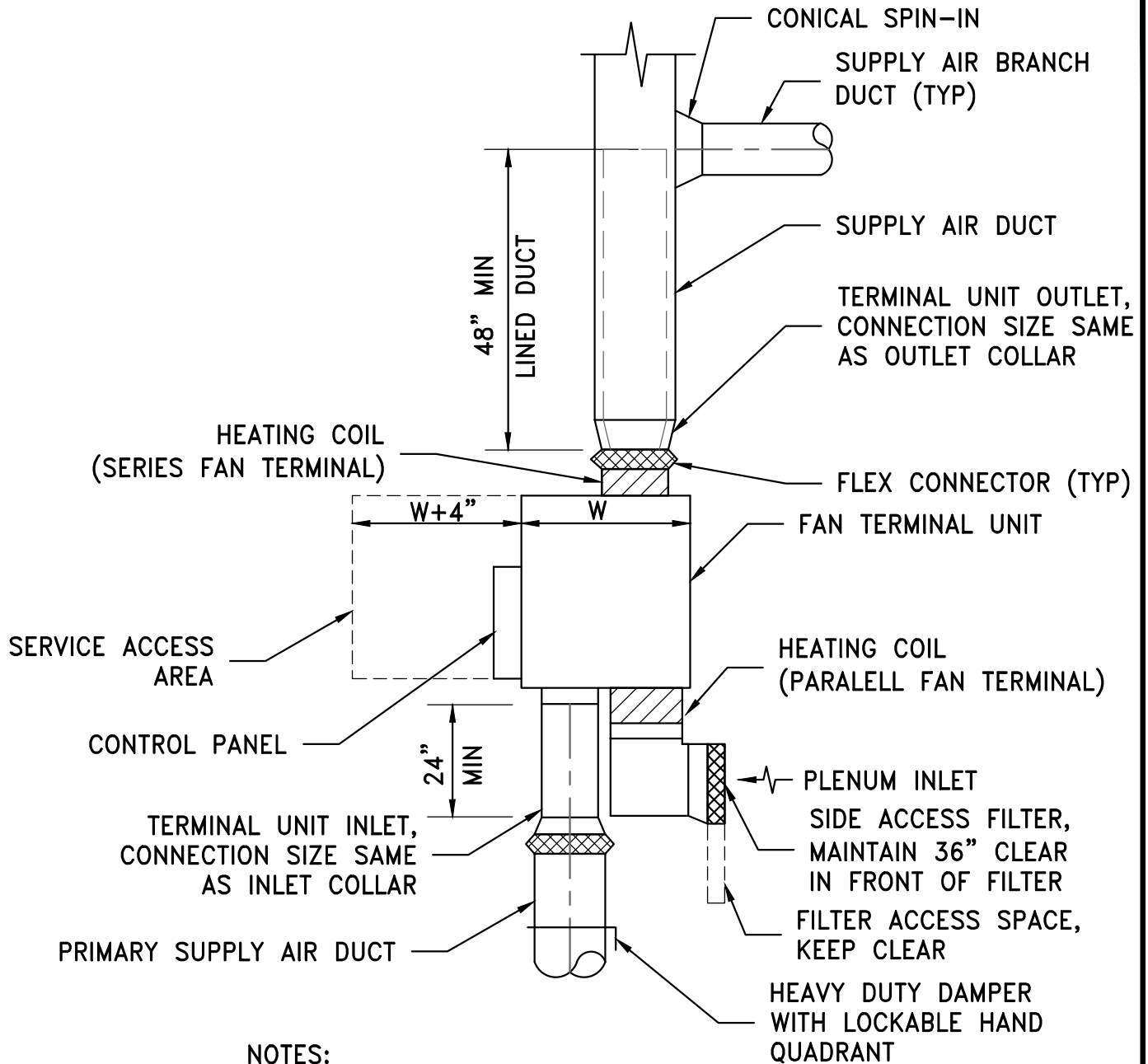
**FIRE/SMOKE DAMPER DETAIL**

DATE: **SEP, 2018**

LAST REVISION: **2**

DIAG. NO.

**SD-304**

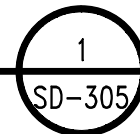


**NOTES:**

1. DDC CONTROLS BY SIEMENS BUILDING TECHNOLOGIES, INC. LANDIS DIVISION.

**DETAIL**

TYPICAL FAN TERMINAL UNIT  
SCALE: NONE



DWG. TITLE:

FAN TERMINAL UNIT DETAIL

DATE: SEP, 2018

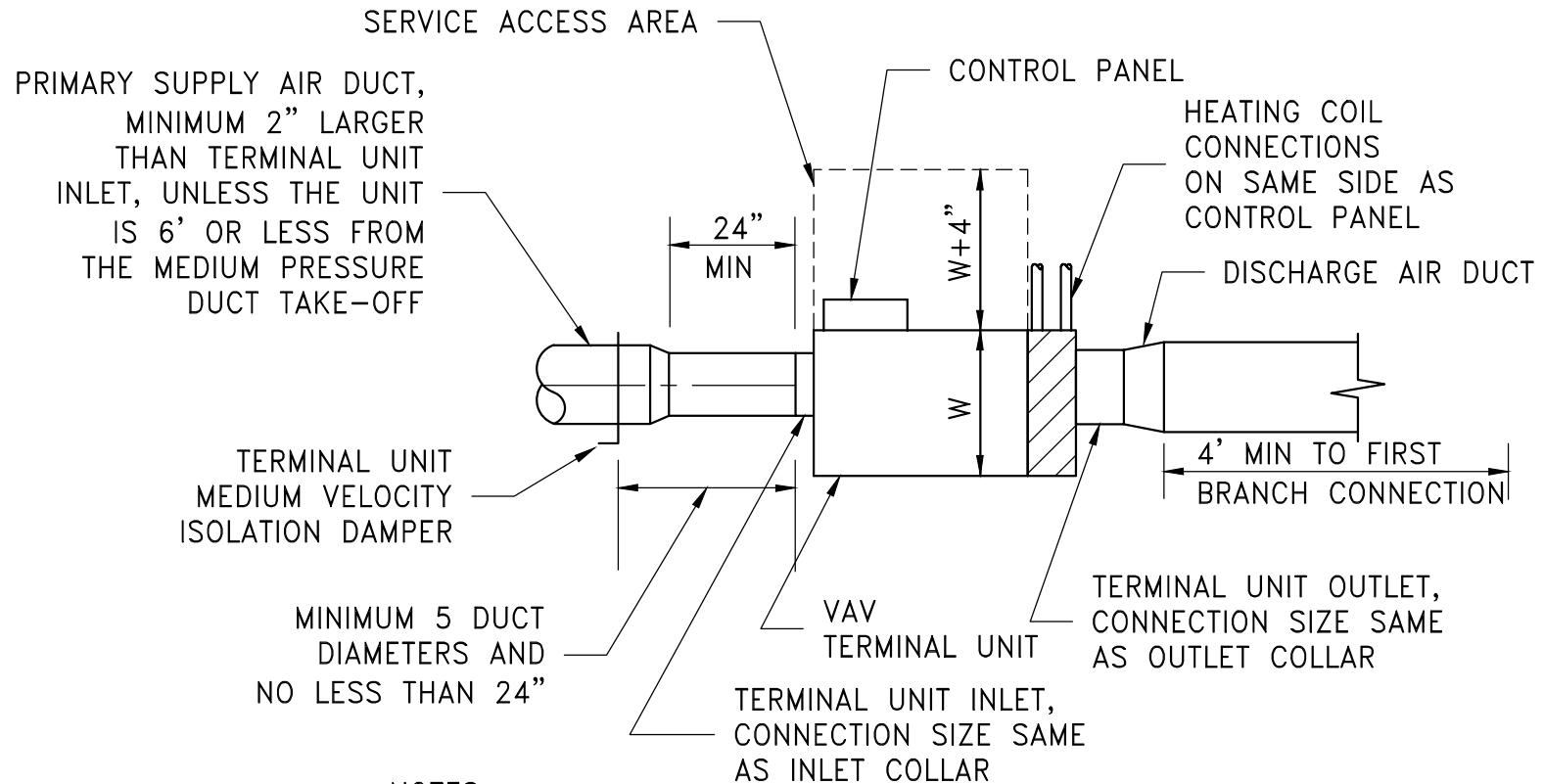
—: —

DIAG. NO.

LAST REVISION: 2

—: —

SD-305

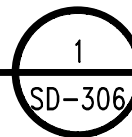


NOTES:

1. DDC CONTROL BY SIEMENS BUILDING TECHNOLOGIES, INC. LANDIS DIVISION.
2. MAINTAIN 36" CLEAR SPACE UNDER VAV BOX FOR MAINTENANCE.

**DETAIL**

VAV TERMINAL UNIT DETAIL  
SCALE: NONE



DWG. TITLE:

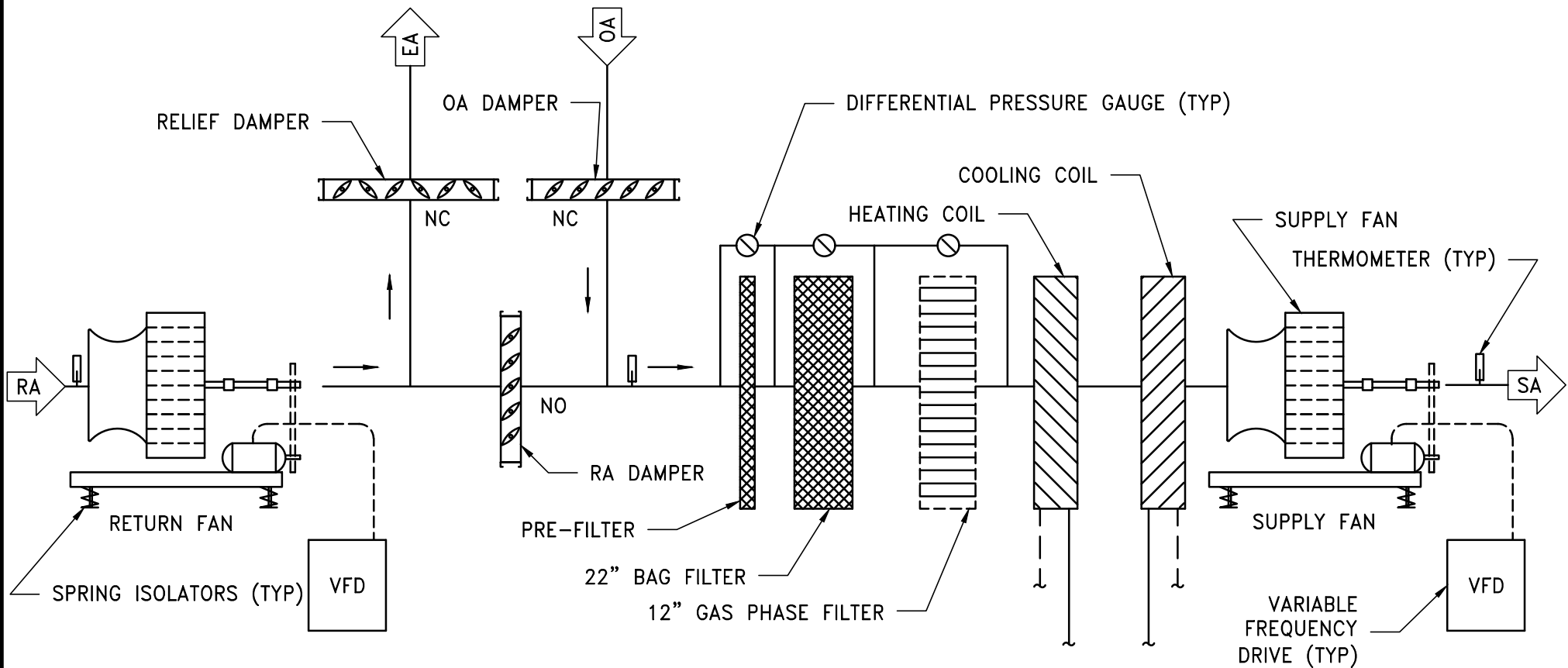
TYPICAL VAV TERMINAL UNIT

DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

SD-306



## DETAIL

TYPICAL AHU CONFIGURATION  
DRAW-THROUGH FAN SYSTEM SHOWN  
SCALE: NONE

1  
SD-308

DWG. TITLE:

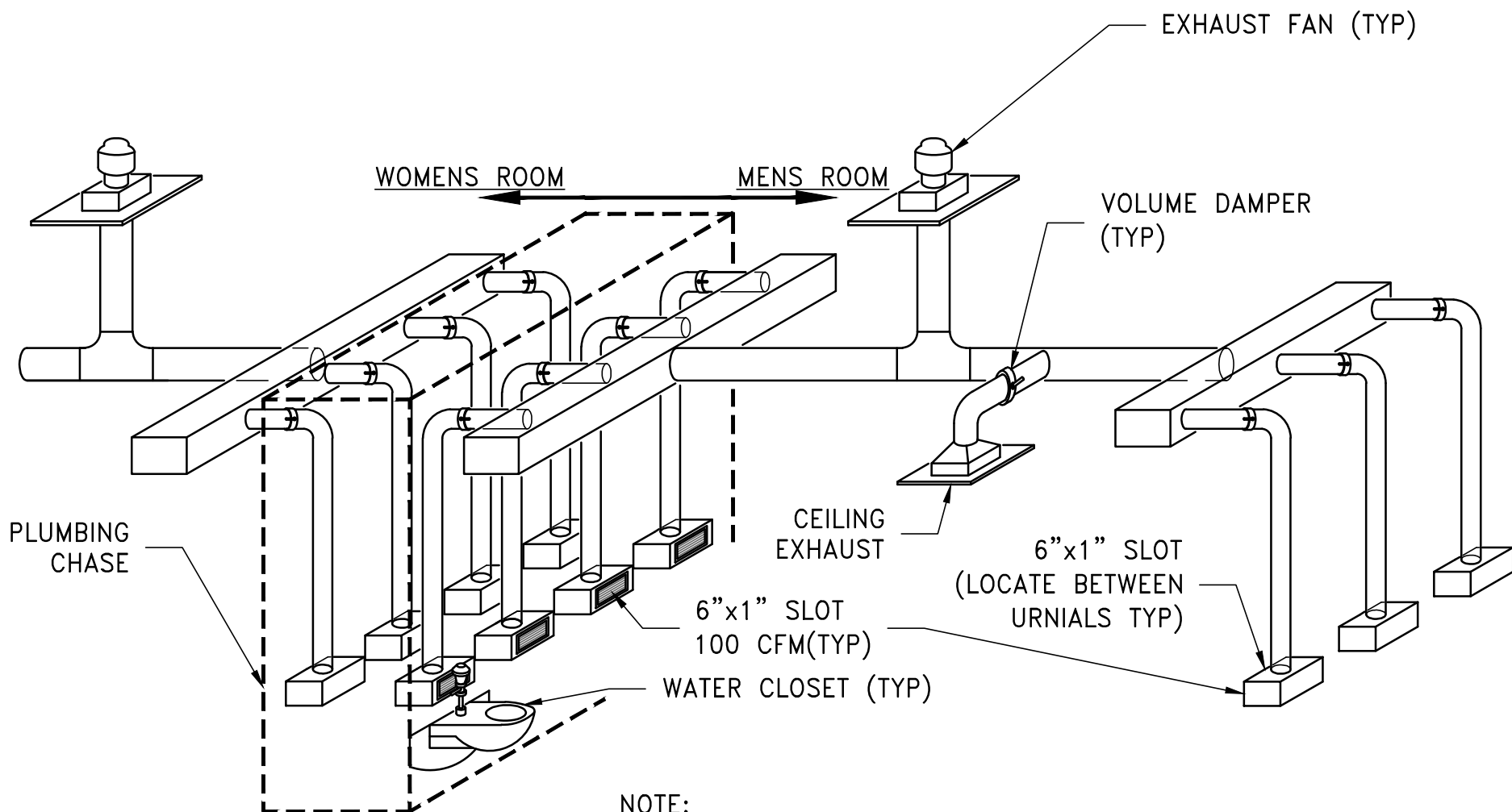
AHU CONFIGURATION DIAGRAM

DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

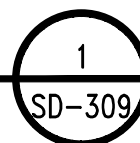
SD-308



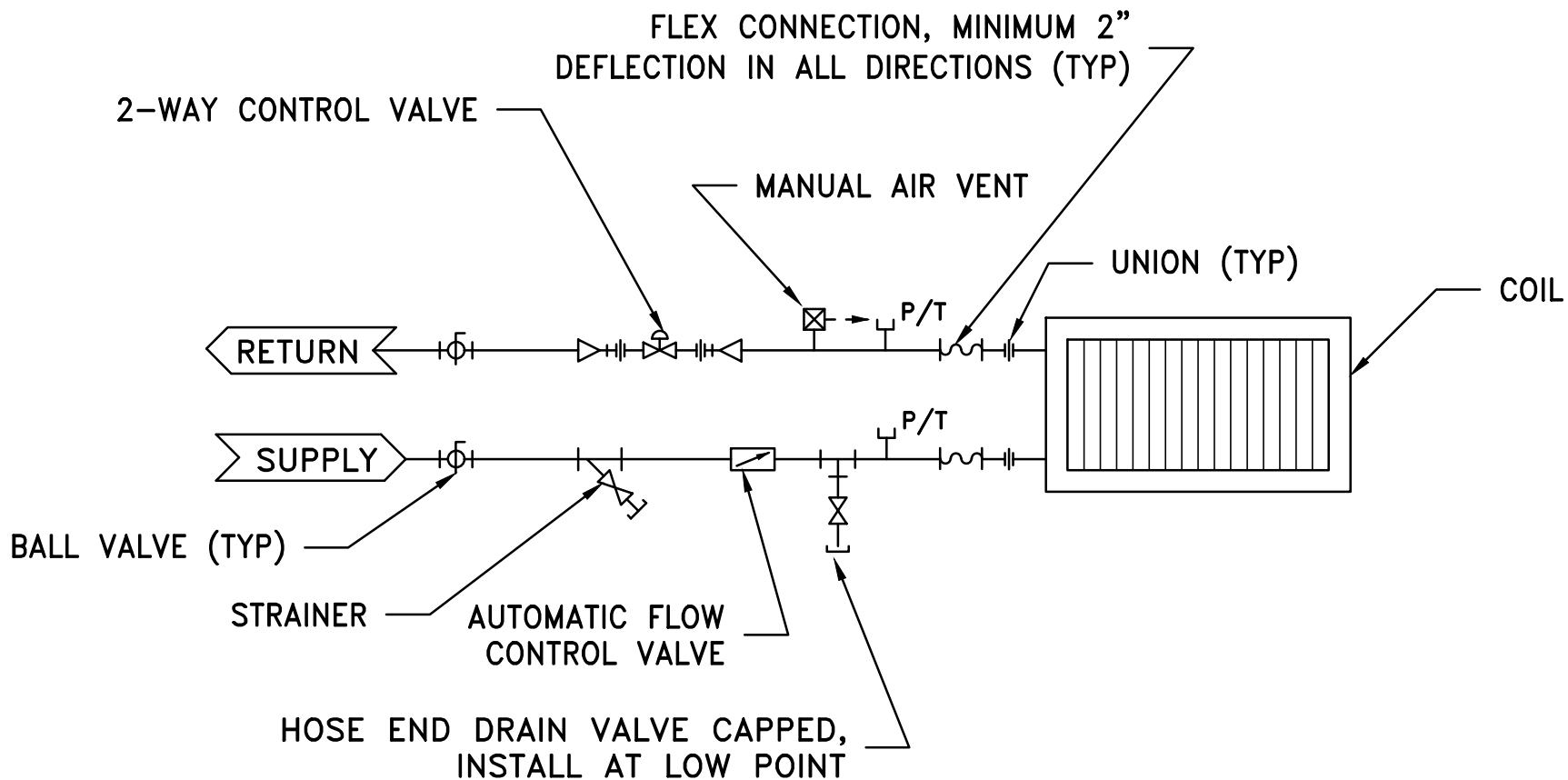
NOTE:  
RESTROOMS SHALL HAVE 20 AIR  
CHANGES PER HOUR EXHAUST RATE.

## DETAIL

RESTROOM EXHAUST LAYOUT  
SCALE: NONE



DWG. TITLE: <b>RESTROOM EXHAUST LAYOUT</b>		
DATE: SEPT 2018	___; ___	DIAG. NO.
LAST REVISION: 1	___; ___	<b>SD-309</b>

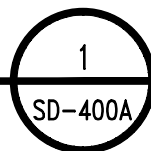


**NOTES:**

1. COORDINATE CONTROL VALVE INSTALLATION WITH SIEMENS.

**DETAIL**

TERMINAL UNITS, VAV  
HEATER COILS  
SCALE: NONE



INDIVIDUAL COIL PIPE SIZE	
COIL GPM	PIPE SIZE
0.5 - 3.5	3/4"
4.0 - 8.0	1"
8.5 - 12.0	1-1/4"

DWG. TITLE:

**TYPICAL VAV COIL CONNECTION**

DATE: JAN, 2019

LAST REVISION: 0

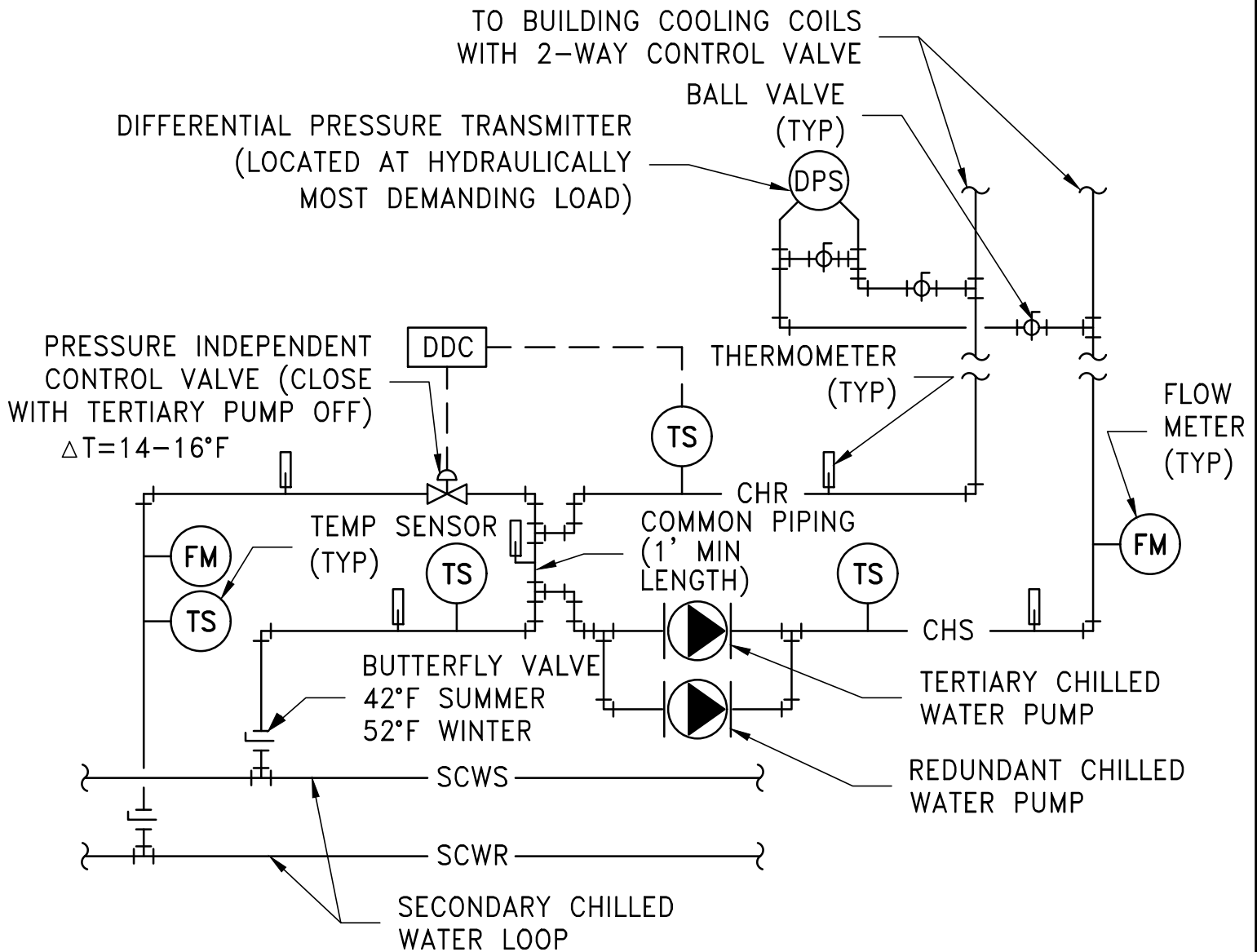
—: —

—: —

DIAG. NO.

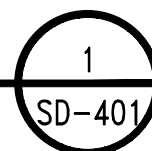
SD-400A

**Chilled Water Tertiary Pumping is site specific. Other configurations have been used in different locations. Contact F&I before using this detail.**



## DETAIL

CHILLED WATER CONNECTION  
SCALE: NONE



DWG. TITLE:

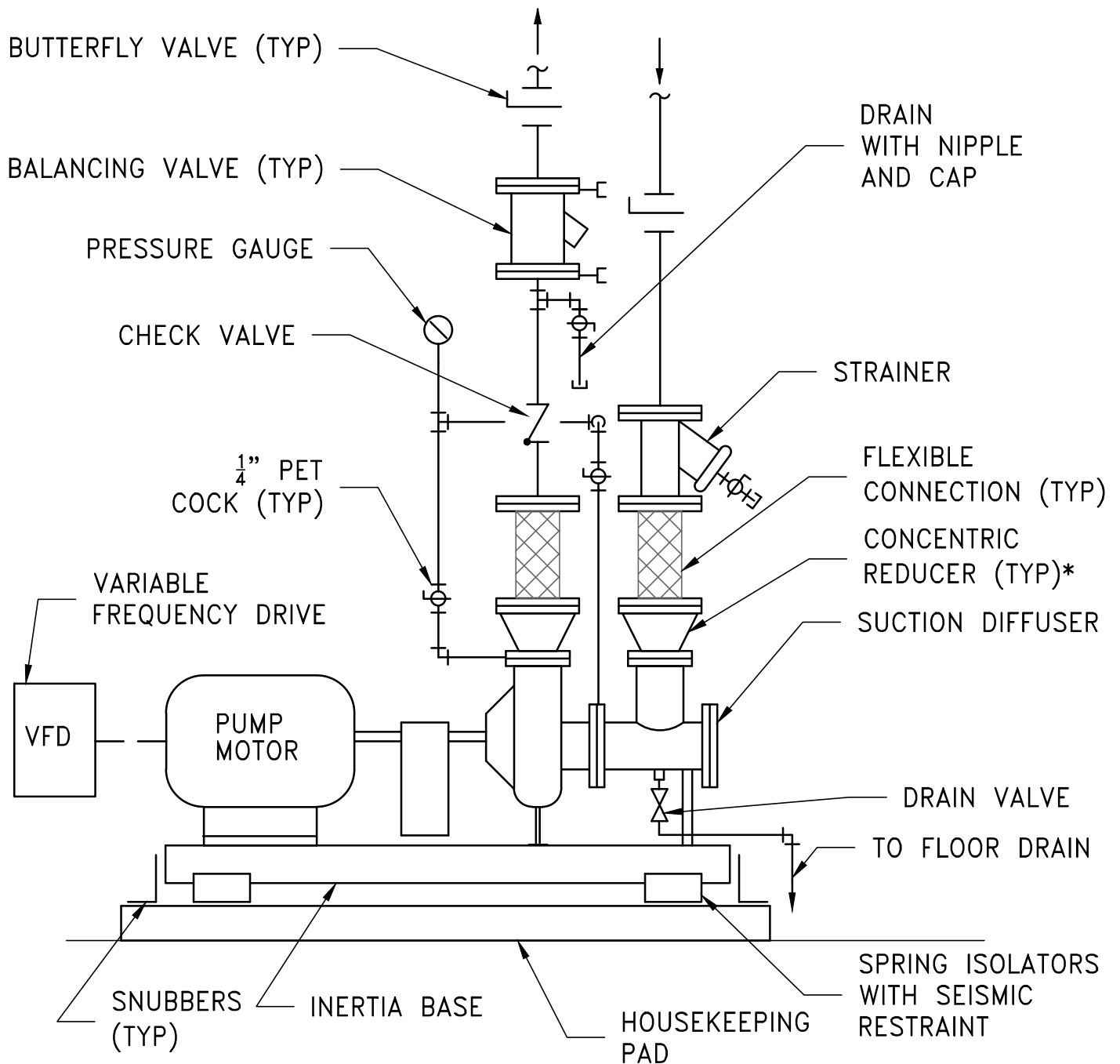
CHILLED WATER CONN. DIAGRAM

DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

SD-401



\*USE ECCENTRIC REDUCER AND FULL RADIUS ELBOW IF NO SUCTION DIFFUSER.

## DETAIL

TYPICAL HVAC PUMP  
HEATING AND CHILLED WATER  
SCALE: NONE

1

SD-407

DWG. TITLE:

TYPICAL HVAC PUMP DETAIL

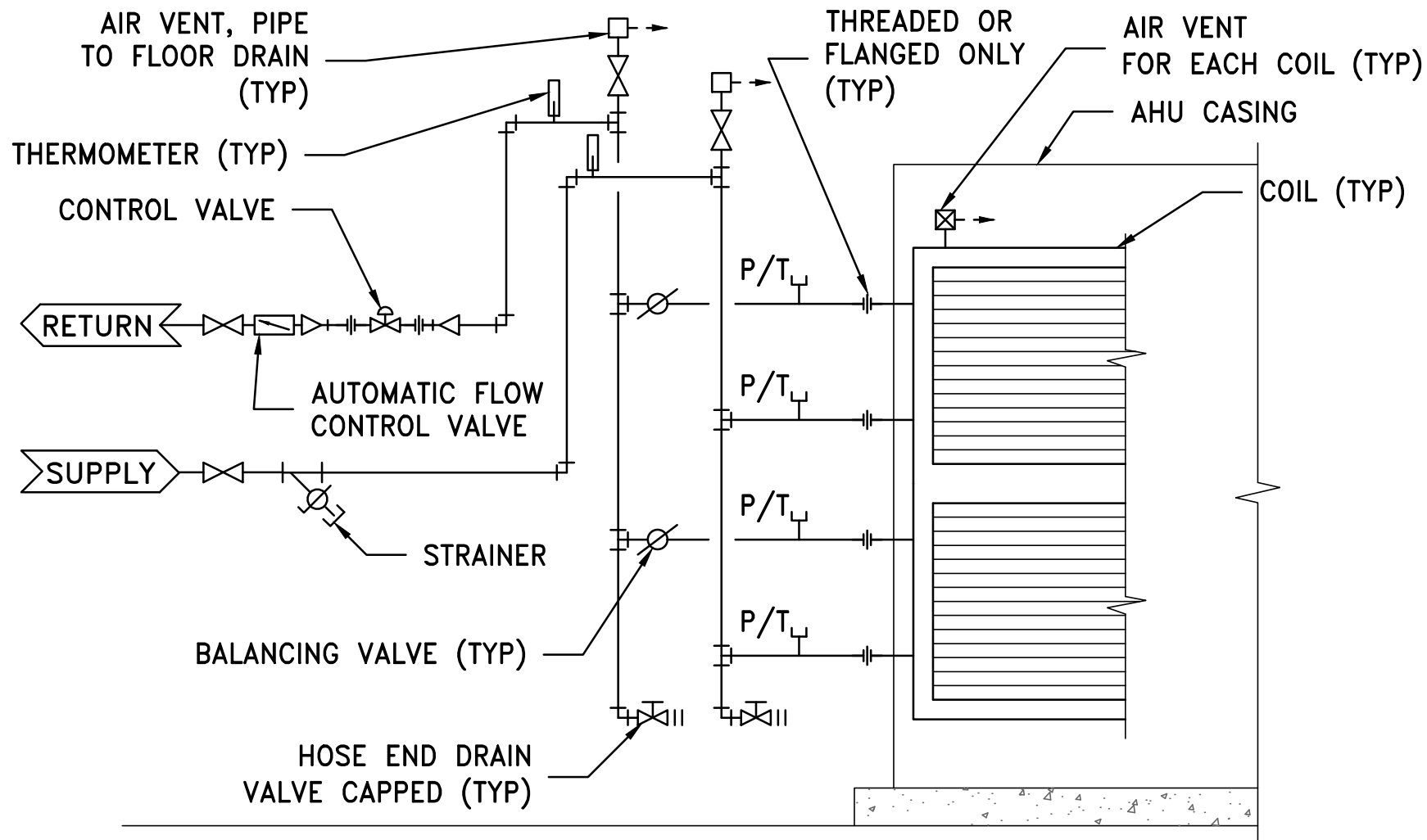
DATE: SEP 2018

LAST REVISION: 2

DIAG. NO.

SD-407



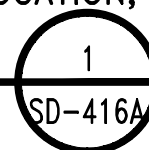


#### NOTES:

1. PROVIDE ACCESSIBLE PLUGGED MANUAL AIR VENT FOR EACH COIL.
2. COORDINATE QUANTITY AND ARRANGEMENT OF COILS WITH UNIT MANUFACTURER.
3. COORDINATE CONTROL VALVE PIPING REQUIREMENTS WITH CONTROLS CONTRACTOR.
4. MAINTAIN COIL PULL SPACE ACCESS REQUIREMENTS.
5. CONTROL VALVES SHALL BE LOCATED AT ACCESSIBLE LOCATION, 3FT-6FT ABOVE FINISHED FLOOR.

## DETAIL

TYPICAL AHU HEATING COIL PIPING  
SCALE: NONE



DWG. TITLE:

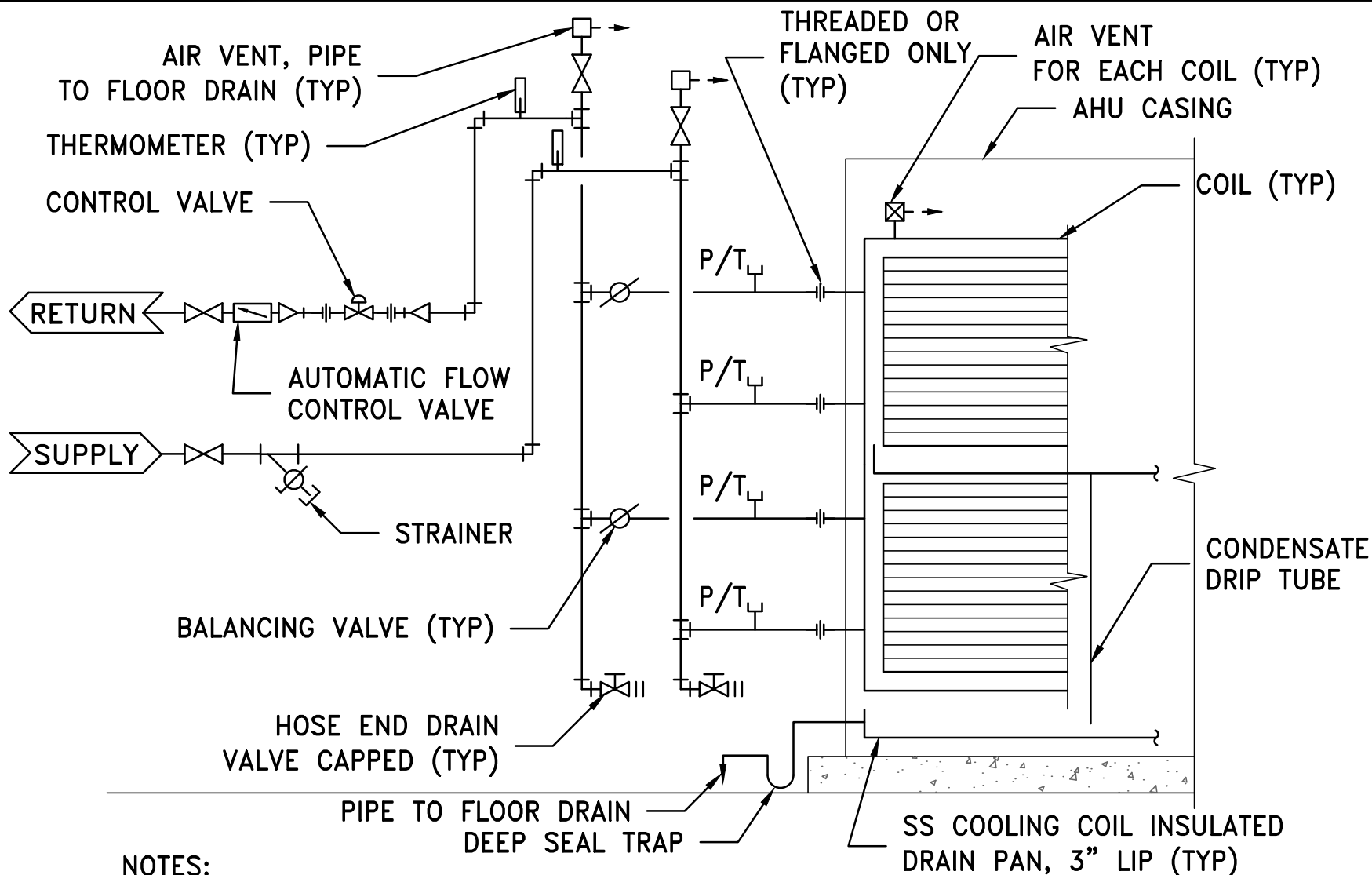
AHU HEATING COIL PIPING

DATE: SEP, 2018

LAST REVISION: 1

DIAG. NO.

SD-416A

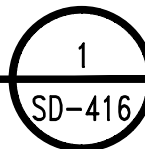


**NOTES:**

1. PROVIDE ACCESSIBLE PLUGGED MANUAL AIR VENT FOR EACH COIL.
2. COORDINATE QUANTITY AND ARRANGEMENT OF COILS W/UNIT MANUFACTURER.
3. COORDINATE CONTROL VALVE PIPING REQUIREMENTS W/ CONTROLS CONTRACTOR.
4. MAINTAIN COIL PULL SPACE ACCESS REQUIREMENTS.
5. CONTROL VALVES SHALL BE LOCATED AT ACCESSIBLE LOCATION, 3' TO 6' ABOVE FINISHED FLOOR.
6. COOLING COILS SHALL BE LOCATED DOWNSTREAM OF HEATING COILS.

**DETAIL**

TYPICAL AHU COOLING COIL PIPING  
SCALE: NONE



DWG. TITLE:

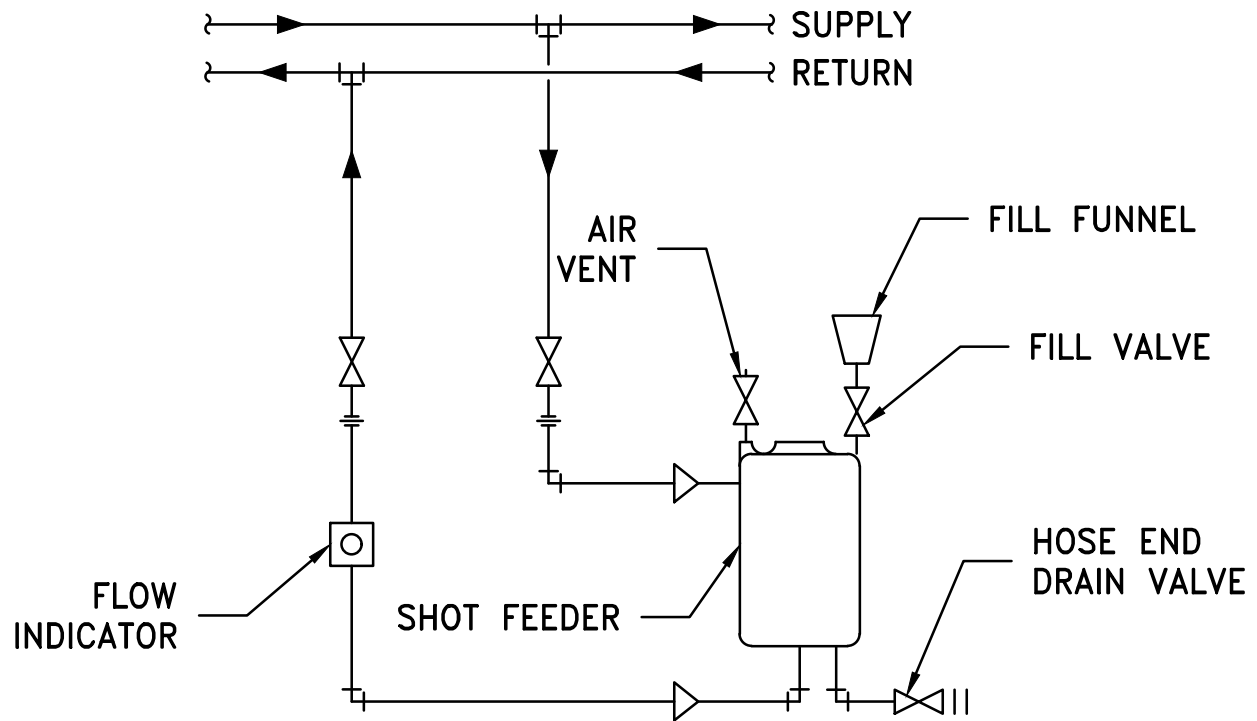
**AHU COOLING COIL PIPING**

DATE: SEP, 2018

LAST REVISION: 1

DIAG. NO.

**SD-416**

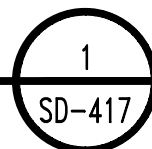


NOTES:

1. FEEDER TO BE CONNECTED ACROSS AND ADJACENT TO PUMPING SYSTEM.

## DETAIL

CHEMICAL FEEDER PIPING  
SCALE: NONE



DWG. TITLE:

CHEMICAL FEEDER PIPING

DATE: SEP, 2018

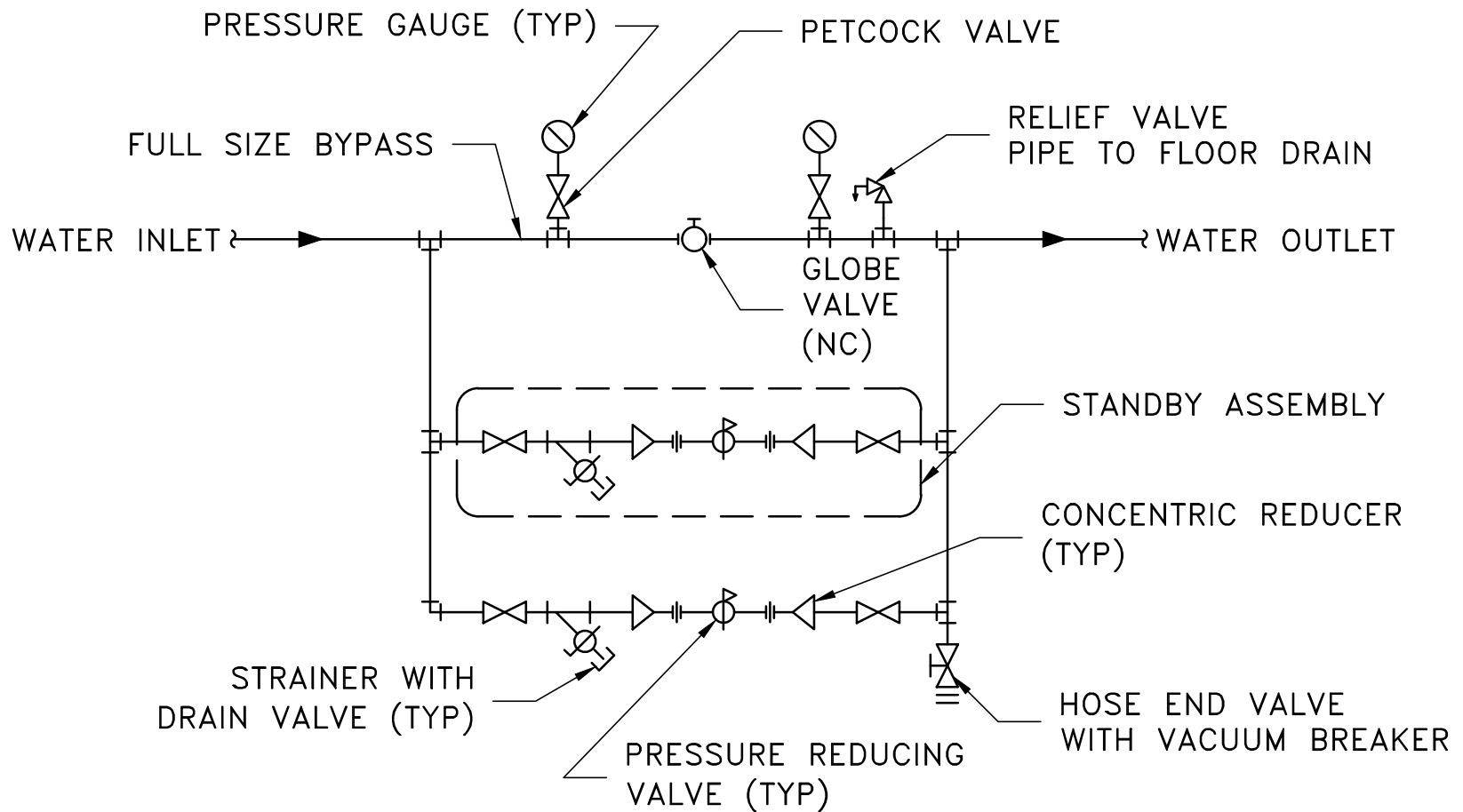
LAST REVISION: 1

\_\_\_: \_\_\_

\_\_\_: \_\_\_

DIAG. NO.

SD-417

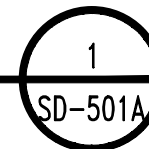


**NOTES:**

1. USE STAGED AND/OR PILOT OPERATED VALVES FOR HIGH FLOWS.

## DETAIL

PRESSURE REDUCING STATION  
WATER-ONE STAGE  
SCALE: NONE



DWG. TITLE:

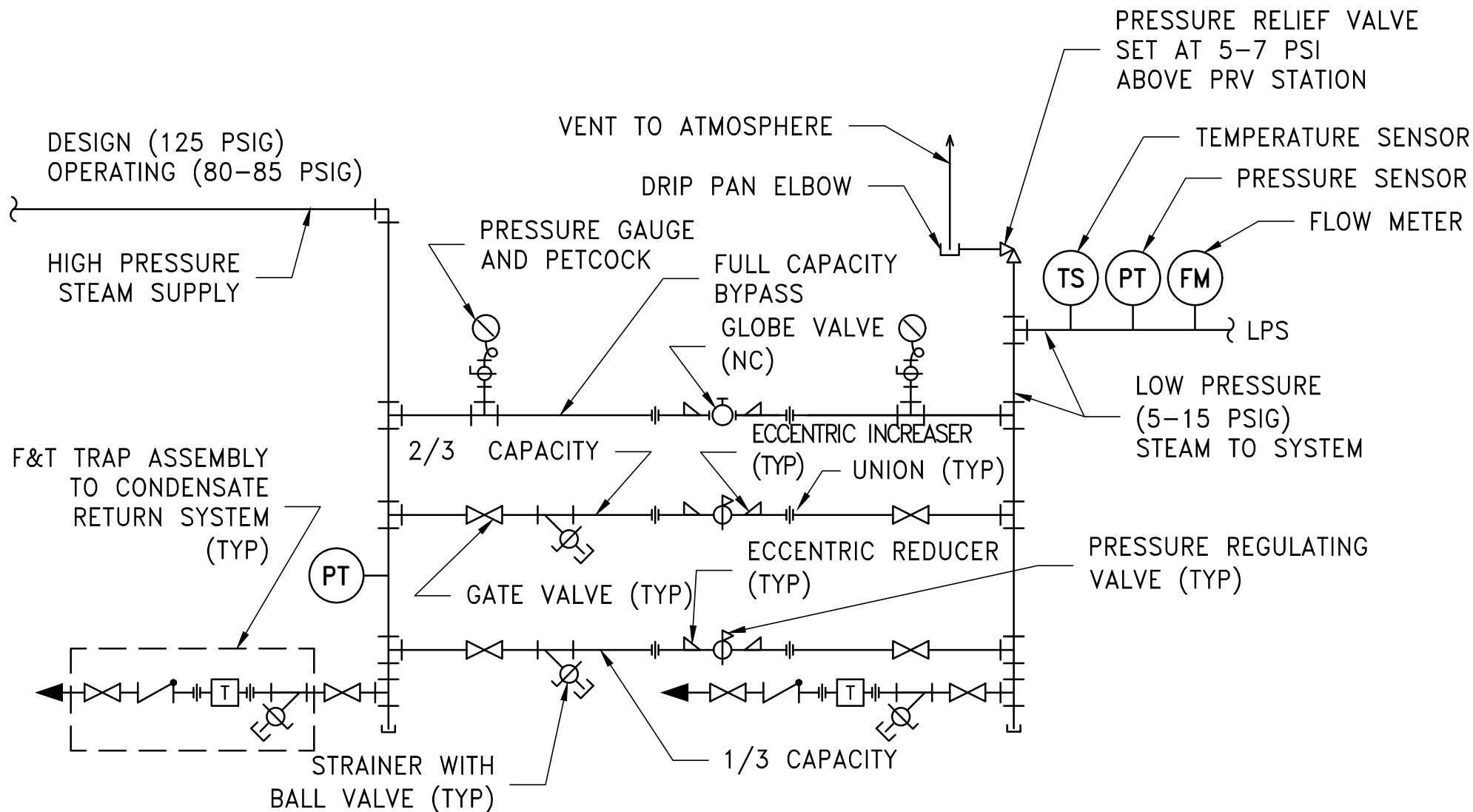
**PRESSURE REDUCING STATION**

DATE: **SEP, 2018**    \_\_: \_\_

DIAG. NO.

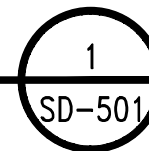
LAST REVISION: **2**    \_\_: \_\_

**SD-501A**



## DETAIL

STEAM PRESSURE REDUCING STATION  
SCALE: NONE



DWG. TITLE:

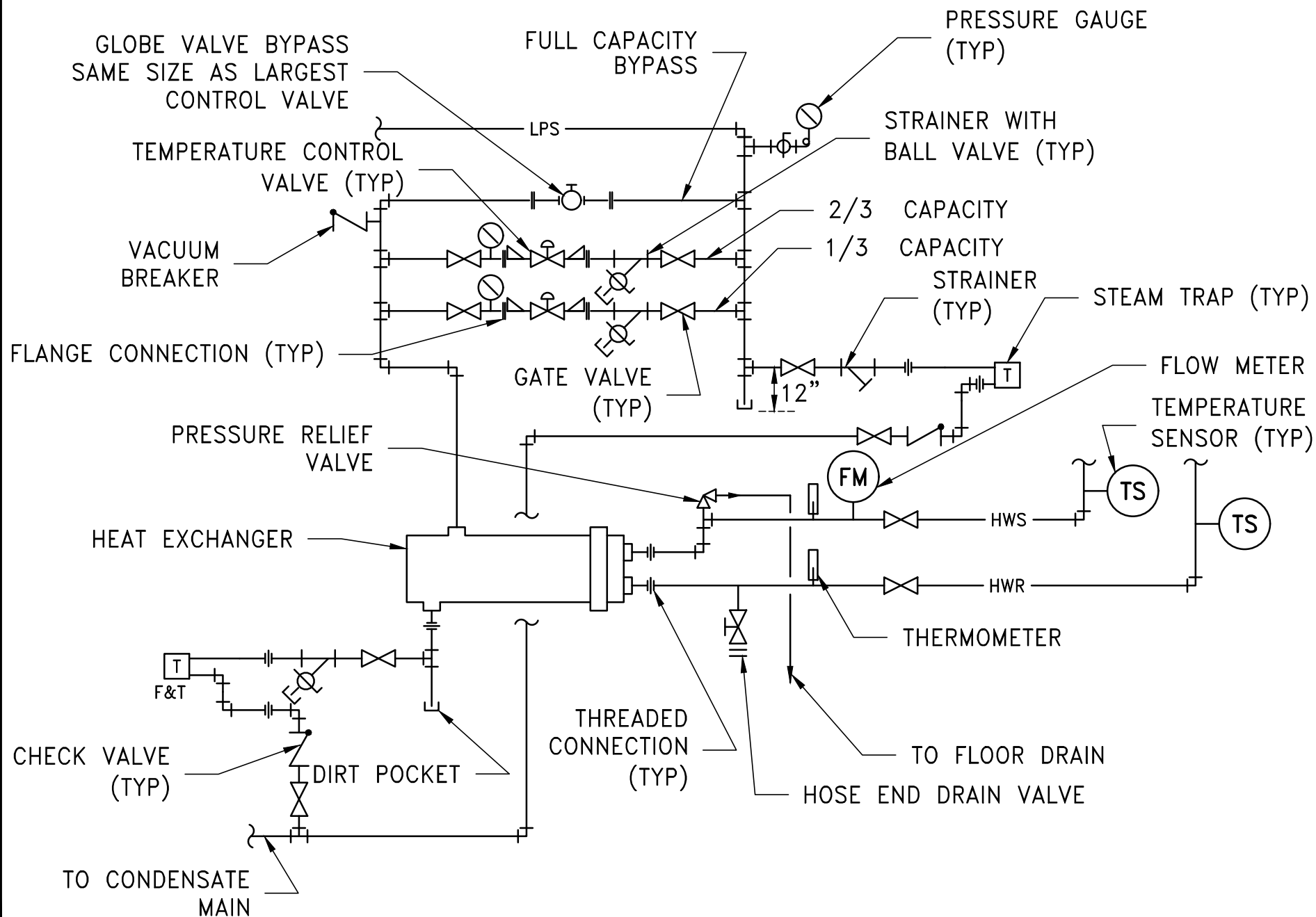
STEAM PRESSURE REDUCING STA

DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

SD-501



## DETAIL

HEAT EXCHANGER SYSTEM DIAGRAM  
 SCALE: NONE

1

SD-502A

DWG. TITLE:

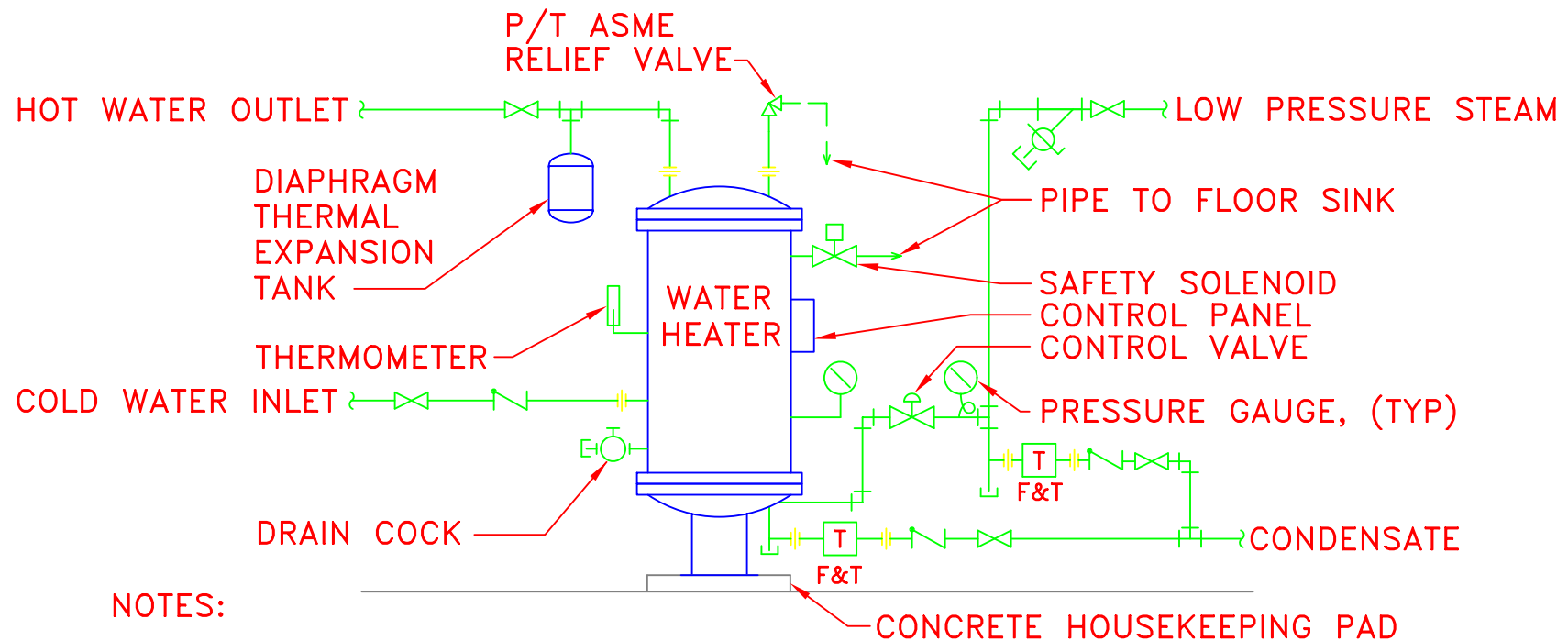
HEAT EXCHANGER

DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

SD-502A

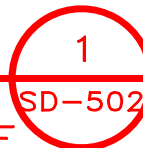


NOTES:

1. PROVIDE ELECTRONIC DDC CONTROLS.
2. PROVIDE SEISMIC SUPPORT.

## DETAIL

TYPICAL SEMI INSTANTANEOUS  
DOMESTIC WATER HEATER DOUBLE  
WALL, STEAM TO HOT WATER  
SCALE: NONE



SD-502

DWG. TITLE:

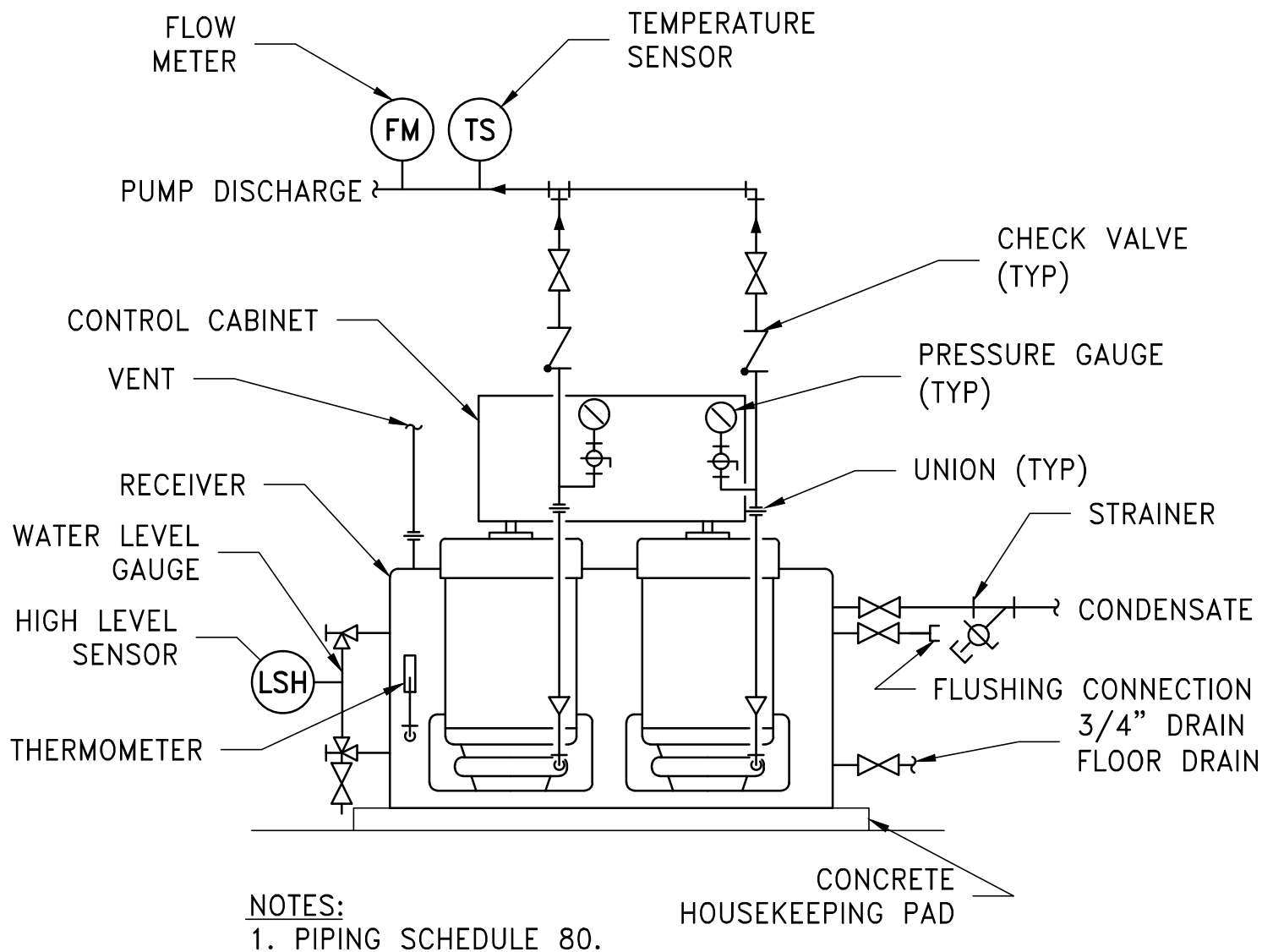
DOMESTIC WATER HEATER

DATE: NOV. 2020

LAST REVISION: 1

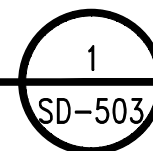
DIAG. NO.

SD-502



## DETAIL

DUPLEX CONDENSATE PUMP  
SCALE: NONE



DWG. TITLE:

DUPLEX CONDENSATE PUMP

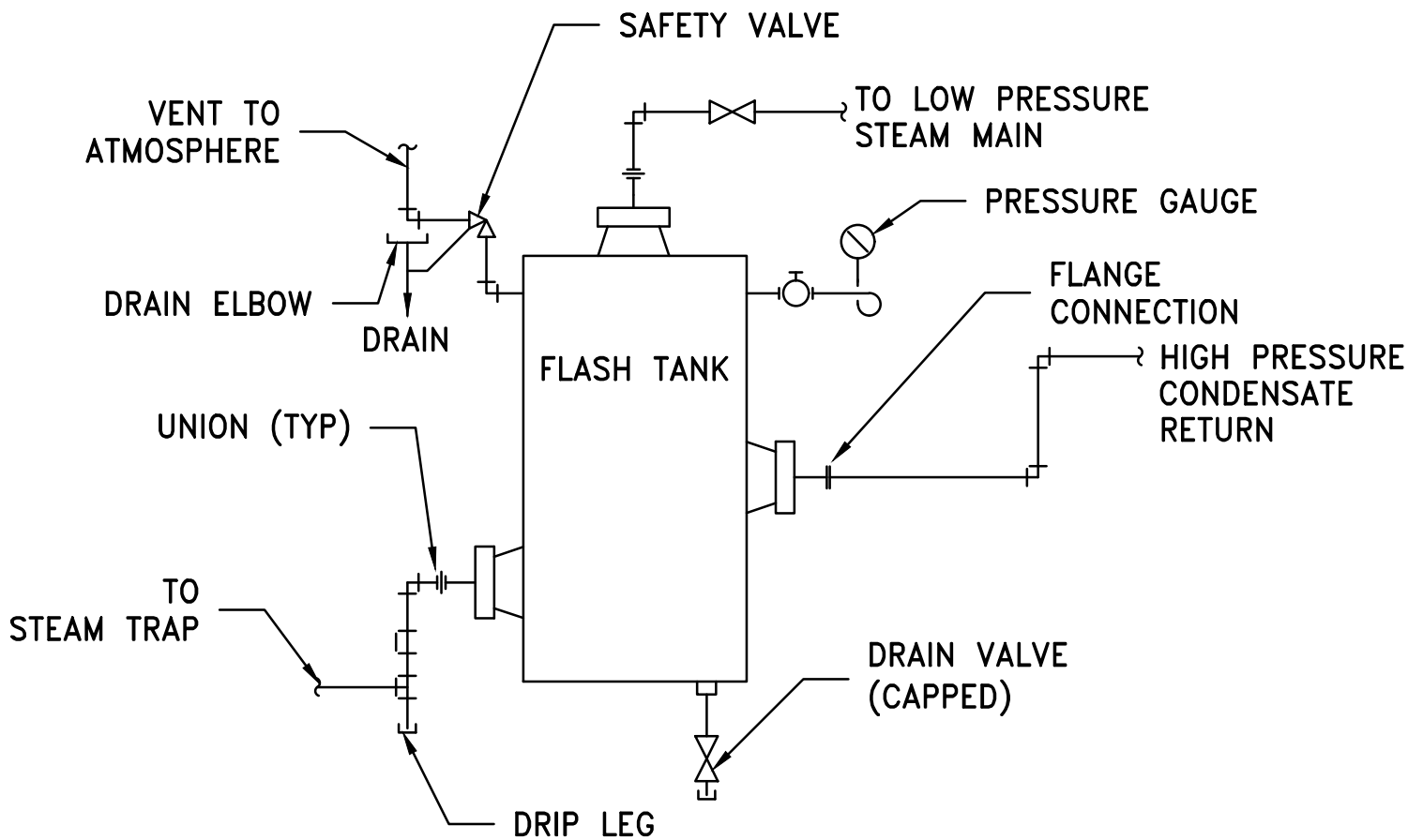
DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

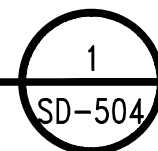
SD-503





## DETAIL

STEAM FLASH TANK  
SCALE: NONE



DWG. TITLE:

FLASH TANK DIAGRAM

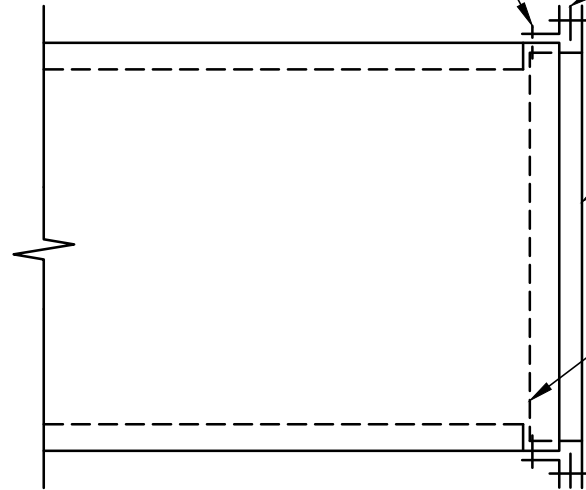
DATE: SEP, 2018

LAST REVISION: 2

DIAG. NO.

SD-504

1x1 CONTINUOUS GALVANIZED  
SHEET METAL ANGLE AROUND DUCT;  
SECURE TO DUCT AND SEAL CLASS A



1/8"x3/4" WIDE NEOPRENE  
GASKET SECURED TO FLANGE  
(GLUE OR SELF-ADHESIVE)

REMOVABLE GALVANIZED SHEET METAL END  
CAP WITH ROUNDED AND SMOOTH EDGES;  
CROSS-BREAK CAP AND SECURE  
TO ANGLE AT 6" OC

1" DUCT LINING SHOWN, PROVIDE LINED  
CAP ON LINED DUCT ONLY, INSULATE CAP  
AND FLANGE ON INSULATED DUCT

## DETAIL

DUCT CAP  
SCALE: NONE

1

SD-505

DWG. TITLE:

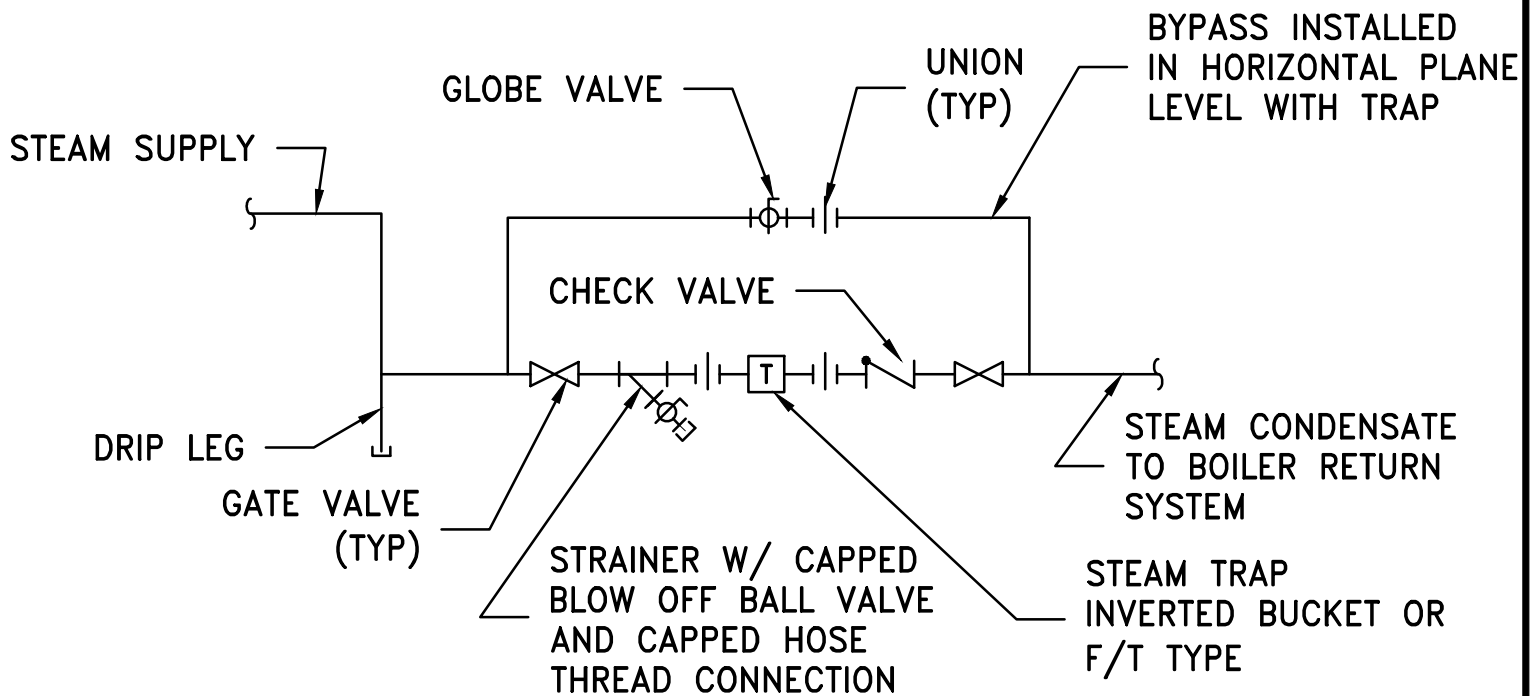
DUCT CAP DETAIL

DATE: SEP, 2018

LAST REVISION: 1

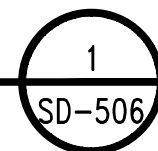
DIAG. NO.

SD-505



## DETAIL

STEAM TRAP DIAGRAM  
SCALE: NONE



DWG. TITLE:

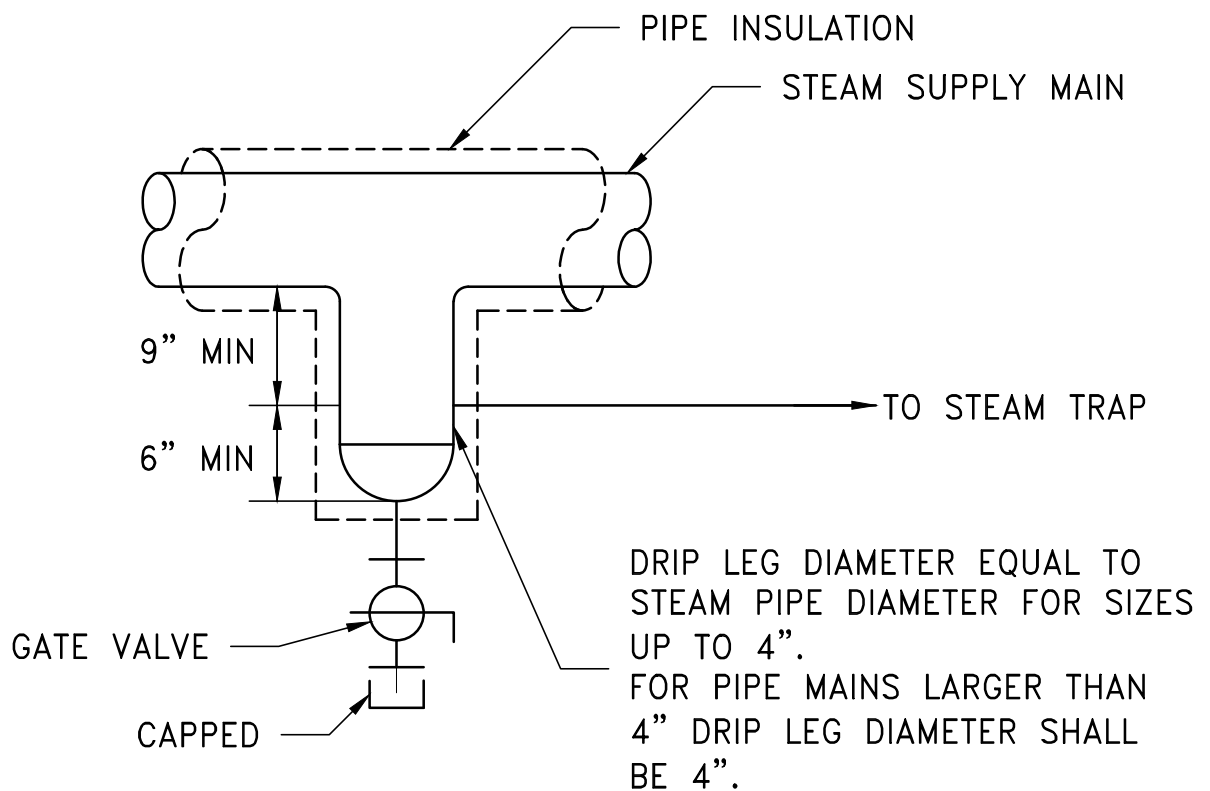
STEAM TRAP PIPING DIAGRAM

DATE: SEP, 2018

LAST REVISION: 2

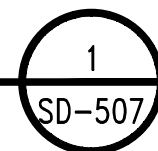
DIAG. NO.

SD-506



## DETAIL

STEAM TRAP DRIP LEG DETAIL  
SCALE: NONE



DWG. TITLE:

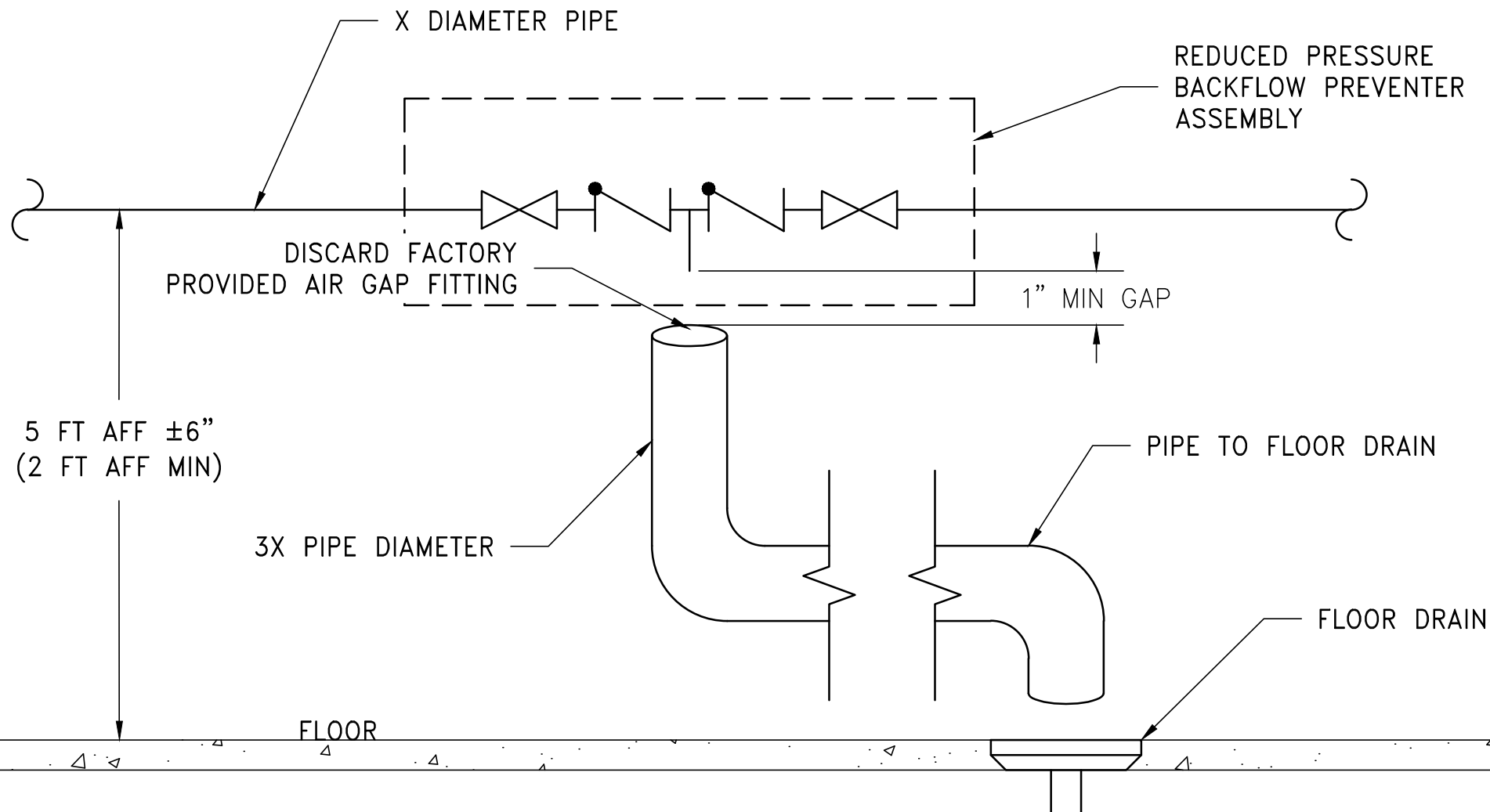
DRIP LEG DIAGRAM

DATE: SEP, 2018

LAST REVISION: 2

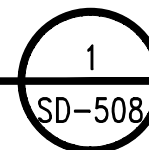
DIAG. NO.

SD-507



## DETAIL

TYPICAL REDUCED PRESSURE BACKFLOW PREVENTER  
SCALE: NONE



DWG. TITLE:

RPBP DIAGRAM

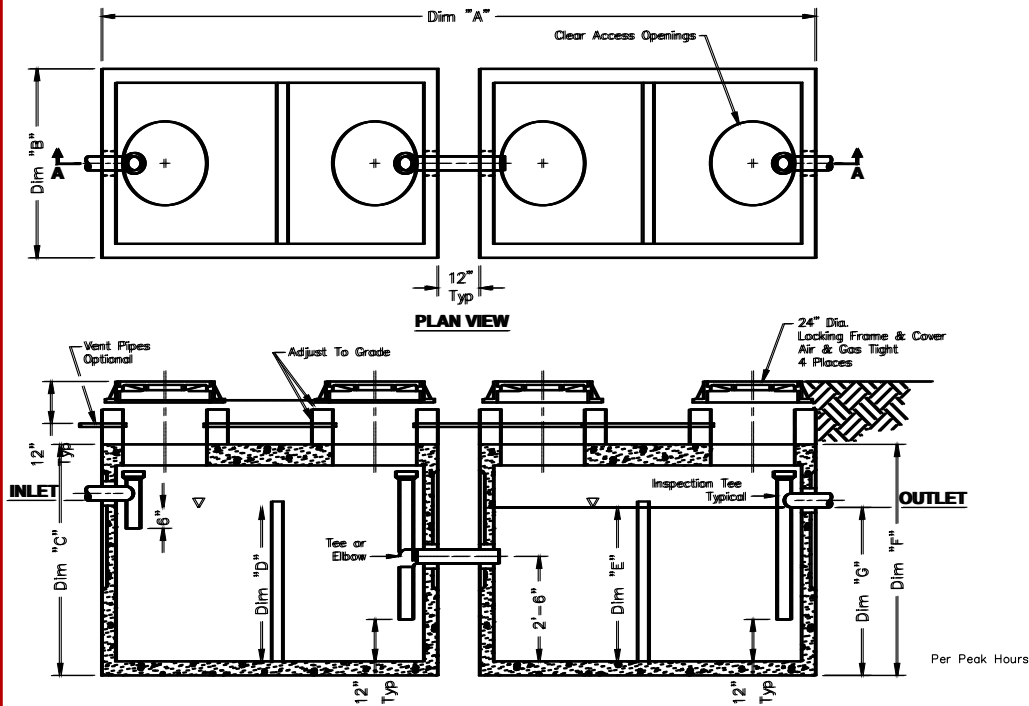
DATE: OCT, 2018

LAST REVISION: 0

DIAG. NO.

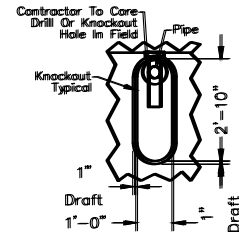
SD-508

# GREASE INTERCEPTOR DOUBLE VAULT SYSTEM 9000 GALLON SYSTEM



**SECTION VIEW AA**

Gallon Capacity			9000
UV Co. Model No.			9000-GAS
Dim "A"			32'-2"
Dim "B"			9'-7"
Dim "C"			8'-6 1/2"
Water Depth Dim "D"			5'-3"
Water Depth Dim "E"			5'-3"
Dim "F"			8'-6 1/2"
Dim "G"			6'-6 1/2"



**DETAIL 1**

**Design Criteria:**

$$\frac{\text{Number Of Meals}}{\text{Per Peak Hours}} \times \frac{\text{Waste Flow Rate}}{\text{Plumbing Code -- Appendix H}} \times \frac{\text{Retention Time}}{\text{Rate}} \times \frac{\text{Storage Factor}}{\text{Time}} = \text{Capacity In Gallons}$$

**Notes:**

1. Concrete: 28 Day Compressive Strength  $f'_c = 7000$  psi
2. Rebar: ASTM A-615 Grade 60
3. Mesh: ASTM A-185 Grade 65
4. Design: ACI-318-02 Building Code  
ASTM C-857 "Minimum Structural Design Loading For Underground Precast Concrete Utility Structures"
5. Loads: H-20 Truck Wheel w/ 30% Impact Per AASHTO
6. Fill w/ Clean Water Prior To Start-Up Of System
7. Contractor To Supply & Install All Piping & Sampling Tees
8. Gray Water Only, Black Water Shall Be Carried By

## DETAIL

GREASE INTERCEPTOR  
SCALE: NONE

1

SD-509

DWG. TITLE:

GREASE INTERCEPTOR

DATE: JAN 2020

LAST REVISION: 0

DIAG. NO.

SD-509