HVAC ABBREVIATIONS

AL	ACOUSTIC LINED; ALUMINUM
AC	AIR CONDITIONING
AD	AUTOMATIC DAMPER
AF	AIR FOIL
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BOD	BOTTOM OF DUCT
C	CONDENSATE; COMMON
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CLG	COOLING
CLWR	COOLING WATER RETURN
CLWS	COOLING WATER SUPPLY
COND	CONDENSATE
CT	COOLING TOWER
CV	CONSTANT VOLUME
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
DDC	DIRECT DIGITAL CONTROLS
DMPR	DAMPER
DB	DRY BULB TEMPERATURE(°F)
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EXH	EXHAUST
FA	FACE AREA
FC	FAN COIL; FORWARD CURVED
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FF	FINAL FILTER
FPM	FEET PER MINUTE
FS	FLOW SWITCH
FV	FACE VELOCITY
GALV	GALVANIZED
GH	GRAVITY HOOD
GR	GRILLE
H	HUMIDIFIER, HUMIDISTAT
HC	HEATING COIL
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HTG	HEATING
HV	HEAT AND VENT UNIT
HHWR	HEATING WATER RETURN
HHWS	HEATING WATER SUPPLY
HX	HEAT EXCHANGER
IMC	INTERNATIONAL MECHANICAL CODE
LAT	LEAVING AIR TEMPERATURE
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
MA	MIXED AIR
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
NPSH	NET POSITIVE SUCTION HEAD
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
ODP	OPEN DRIPPROOF
OSA	OUTSIDE AIR
OV	OUTLET VELOCITY
PF	PREFILTER
PHC	PREHEAT COIL
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION (GAS)
RHC	REHEAT COIL
RH	RELATIVE HUMIDITY
RA	RETURN AIR
RF	RETURN FAN
RG	RETURN GRILLE
S	SUPPLY
SFD	SMOKE/FIRE DAMPER
SP	STATIC PRESSURE
SD	SMOKE DAMPER; SUPPLY DIFFUSER
SA	SUPPLY AIR; SOUND ATTENUATOR
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SR	SUPPLY REGISTER
STM	STEAM
T, TSTAT	THERMOSTAT
TEFC	TOTALLY ENCLOSED, FAN COOLED
TG	TRANSFER GRILLE
UMC	UNIFORM MECHANICAL CODE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAV	VARIABLE AIR VOLUME
VSD	VARIABLE SPEED DRIVE
VENT	VENTILATE; VENTILATION
VD	VOLUME DAMPER
WG	WALL GRILLE; WATER GAGE
WSEC	WASHINGTON STATE ENERGY CODE
WSNEC	WASHINGTON STATE NON-RESIDENTIAL ENERGY CODE
WB	WET BULB TEMPERATURE(°F)

PLUMBING ABBREVIATIONS

AW	ACID WASTE
BOP	BOTTOM OF PIPE
C	CONDENSATE
CA	COMPRESSED AIR
CI	CAST IRON
CF	CHEMICAL FEED
CIRC	CIRCULATING
CW	DOMESTIC COLD WATER
CO	CLEAN OUT
DOM	DOMESTIC
DR	DRAIN
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DSN	DOWNSPOUT NOZZLE
ES	EMERGENCY SHOWER
EW	EMERGENCY EYE WASH
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
HB	HOSE BIBB
HW	DOMESTIC HOT WATER
HWC	DOMESTIC HOT WATER CIRCULATING
IW	INDIRECT WASTE
JAN	JANITOR
LV	LAVATORY
NFRH	NON-FREEZE ROOF HYDRANT
NFWH	NON-FREEZE WALL HYDRANT
NG	NATURAL GAS
NPW	NON-POTABLE WATER
ORD	OVERFLOW ROOF DRAIN
ORWL	OVERFLOW RAINWATER LEADER
OW	OILY WASTE
PC	PUMPED CONDENSATE
PLBG	PLUMBING
PNEU	PNEUMATIC
PRV	PRESSURE REDUCING VALVE
RWL	RAIN WATER LEADER
RECIRC	RECIRCULATING
RD	ROOF DRAIN
S	SOIL
SS	SERVICE SINK
SD	STORM DRAIN
UPC	UNIFORM PLUMBING CODE
V	VENT
VA	VALVE
VAC	VACUUM
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
W	WASTE; SANITARY
WC	WATER CLOSET
WFS	WATER FLOW SWITCH
WSEC	WASHINGTON STATE ENERGY CODE
WSFU	WATER SUPPLY FIXTURE UNIT

HVAC DUCTWORK LEGEND

- SUPPLY OR EXHAUST TAKEOFF
- SUPPLY DUCT TURNING TOWARD
- SUPPLY DUCT TURNING AWAY
- EXHAUST DUCT TURNING TOWARD
- EXHAUST DUCT TURNING AWAY
- ROUND DUCT TURNING TOWARD
- ROUND DUCT TURNING AWAY
- TRANSITION
- SMOKE DAMPER (SD)
- MOTORIZED DAMPER (MD)
- VOLUME DAMPER (VD)
- BACKDRAFT DAMPER (BDD)
- FIRE DAMPER (FD)
- FLEXIBLE CONNECTION
- TURNING VANES
- FLEXIBLE DUCT
- SUPPLY DIFFUSER
- RETURN GRILLE
- EXHAUST GRILLE
- THERMOSTAT (T)
- EQUIPMENT TAG (AHU 1i)
- TYPE ONLY EQUIPMENT TAG (AHU)
- DIFFERENTIAL PRESSURE SENSOR (DP)
- CARBON DIOXIDE SENSOR (CO)

PLUMBING LEGEND

- DOMESTIC COLD WATER (CW)
- DOMESTIC HOT WATER (HW)
- DOMESTIC HOT WATER CIRCULATING (HWC)
- SOIL, WASTE (S,W)
- VENT (V)
- PIPING IDENTIFIER, SEE ABBREVIATIONS (XX)
- ELBOW DOWN
- ELBOW UP
- TEE
- TEE DN
- TEE UP
- ISOLATION OR SHUT-OFF VALVE (NO), TYP AS SPECIFIED
- ISOLATION OR SHUT-OFF VALVE (NC), TYP AS SPECIFIED
- BALL VALVE (NO)
- BALL VALVE (NC)
- BUTTERFLY VALVE (NO)
- BUTTERFLY VALVE (NC)
- GLOBE VALVE (NO)
- GLOBE VALVE (NC)
- THROTTLING VALVE, TYP AS SPECIFIED
- METERING BALANCING VALVE
- CHECK VALVE
- CONTROL VALVE
- PLUG VALVE
- PRESSURE REGULATING VALVE
- PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE
- BACKFLOW PREVENTER
- CAP
- BLIND FLANGE
- EXPANSION JOINT
- REDUCER
- PRESSURE GAUGE
- STRAINER
- UNION
- PRESSURE/TEMPERATURE TAP
- TEMPERATURE GAUGE

GENERAL LEGEND

- NORTH ARROW (N)
- DETAIL / DRAWING REFERENCE (1 / M101)
- SECTION REFERENCE (A / M101)
- CONSTRUCTION NOTE (1)
- REVISION SYMBOL (1)
- BOLD LINE WEIGHT INDICATES NEW WORK
- LIGHT LINE WEIGHT INDICATES EXISTING WORK
- SLASHED LINE INDICATES EXISTING WORK TO BE DEMOLISHED

HVAC PIPING LEGEND

- PIPING IDENTIFIER, SEE ABBREVIATIONS (XX)
- ELBOW DOWN
- ELBOW UP
- TEE
- TEE DN
- TEE UP
- ISOLATION OR SHUT-OFF VALVE (NO), TYPE AS SPECIFIED
- ISOLATION OR SHUT-OFF VALVE (NC), TYPE AS SPECIFIED
- CHECK VALVE
- ISOLATION OR SHUT-OFF VALVE (NO), TYPE AS SPECIFIED
- ISOLATION OR SHUT-OFF VALVE (NC), TYPE AS SPECIFIED
- 2-VALVE CONTROL VALVE
- 3-VALVE CONTROL VALVE
- PRESSURE REDUCING VALVE
- CAP
- REDUCER
- BALANCING VALVE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 21731 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LEGENDS AND ABBREVIATIONS

DRAWING No.: M08-MZN001
FACILITY ID: M08
SHEET No.: 1
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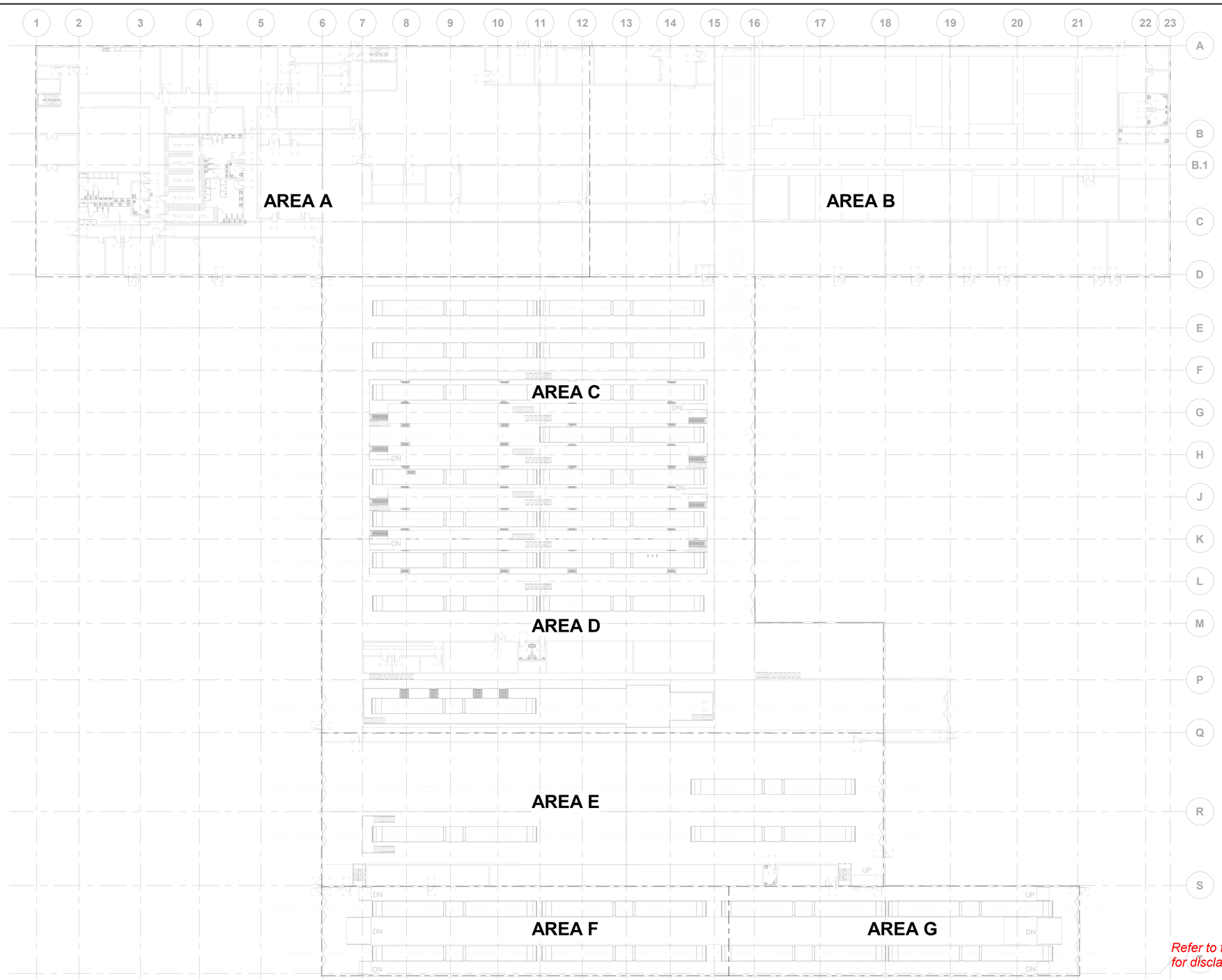
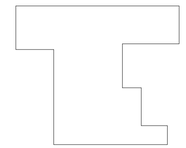


KEY PLAN - M08



N

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SCALE IN FEET

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

NOT FOR CONSTRUCTION

1 MECHANICAL LEVEL 1 FLOOR PLAN - OVERALL
1" = 30'-0"

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHRIS E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1" = 30'-0"ED
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF MECHANICAL LEVEL 1 FLOOR PLAN - OVERALL

DRAWING No.: **M08-MZP101**
FACILITY ID: M08
SHEET No.: 2
REV:

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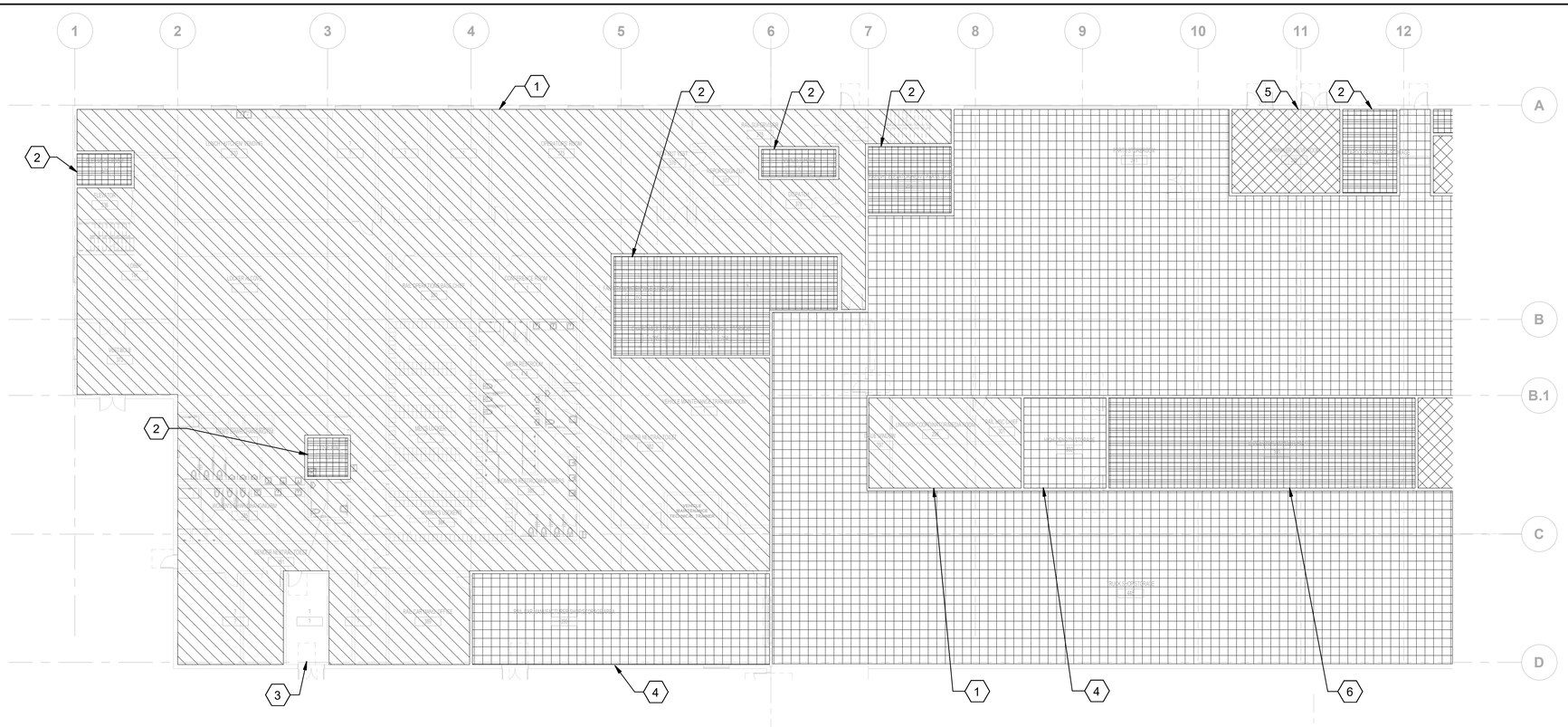
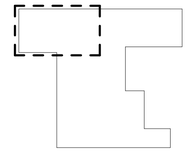


1 FIRE PROTECTION LEVEL 1 FLOOR PLAN - AREA A
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. OFFICE AREAS, RESTROOMS, LOCKER ROOMS, BREAKROOMS, AND CONFERENCE ROOMS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON LIGHT HAZARD OCCUPANCY WITH A MIN DESIGN DENSITY OF 0.10 GPM/SF @ 1500SF.
2. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
3. FIRE SUPPRESSION SYSTEMS SHALL NOT BE PROVIDED IN ELECTRICAL ROOMS, COMMUNICATION ROOMS, DATA / IT ROOMS, MDF, IDF, AND COMPUTER ROOMS.
4. STORAGE AREAS WITH STORAGE 12-FEET OR LESS WILL BE BASED ON CLASS IV ENCAPSULATED COMMODITIES STORED ON RACKS UP TO 12-FEET HIGH, AND SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON MISCELLANEOUS STORAGE, EXTRA HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.30 GPM/SF @ 2500 SF. STORAGE AREAS WITH HIGH RACK STORAGE ABOVE 12-FEET HIGH WILL BE STORED ON RACKS SPACED 8-FEET OR GREATER APART, WITH STORAGE UP TO A MAX HEIGHT OF 20-FEET HIGH.
5. ROOMS THAT WILL STORE OR USE HAZARDOUS MATERIALS SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES (MAQ) FOR EACH HAZARDOUS MATERIAL. IF THE AMOUNT OF HAZARDOUS MATERIALS IN USE OR STORED IS BELOW THE MAQ, THE ROOM SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON EXTRA HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.40 GPM/SF @ 2500 SF. A PAINT BOOTH WITH AN EXHAUST DUCT GREATER THAN 10" SHALL HAVE IN-DUCT SPRINKLERS.
6. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND BELOW ANY OBSTRUCTION THAT IS GREATER THAN 4 FEET, INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950 SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 21731 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: 1/16" = 1'-0"D
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF FIRE PROTECTION LEVEL 1 FLOOR PLAN AREA A

DRAWING No.: M08-MFP101
FACILITY ID: M08
SHEET No.: 3
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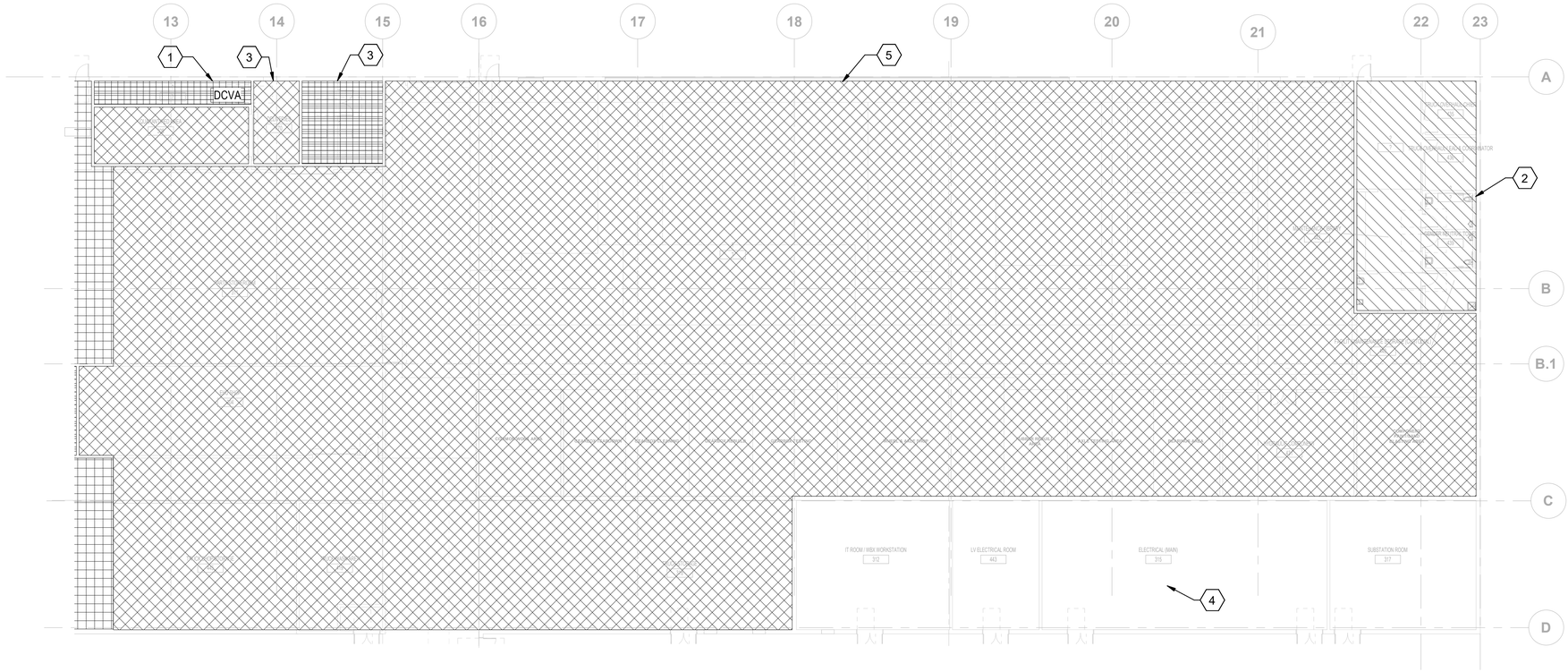
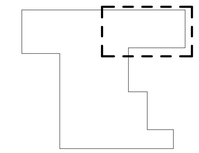


1 FIRE PROTECTION LEVEL 1 FLOOR PLAN - AREA B
1/16" = 1'-0"

KEY PLAN - M08



FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
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N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF FIRE PROTECTION LEVEL 1 FLOOR PLAN AREA B

DRAWING No.: M08-MFP102
FACILITY ID: M08
SHEET No.: 4
REV:

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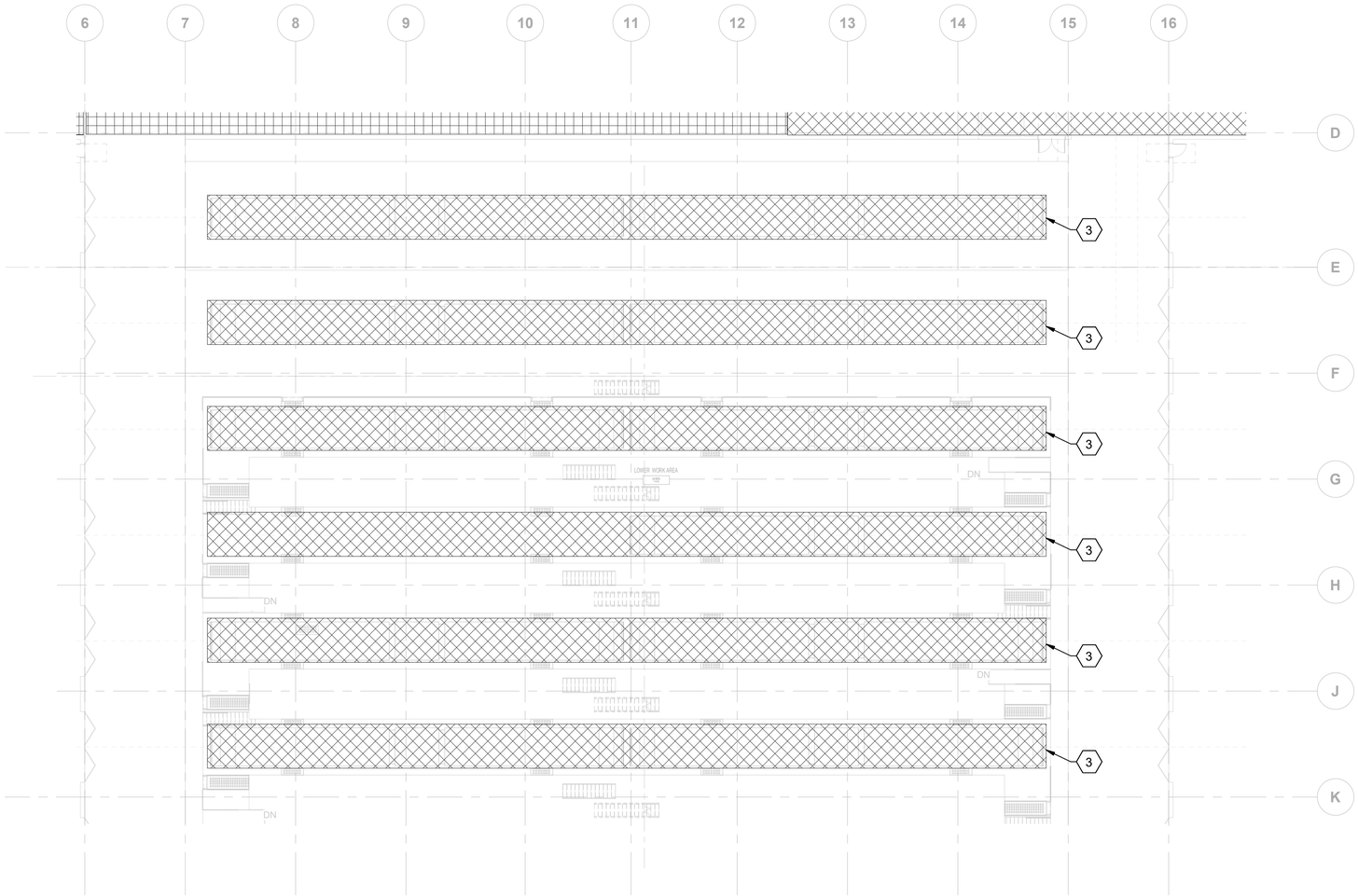
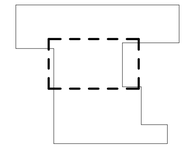


1 FIRE PROTECTION LEVEL 1 FLOOR PLAN - AREA C
1/16" = 1'-0"

KEY PLAN - M08



FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. OFFICE AREAS, RESTROOMS, LOCKER ROOMS, BREAKROOMS, AND CONFERENCE ROOMS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON LIGHT HAZARD OCCUPANCY WITH A MIN DESIGN DENSITY OF 0.10 GPM/SF @ 1500SF.
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N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23172 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF FIRE PROTECTION LEVEL 1 FLOOR PLAN AREA C

DRAWING No.: **M08-MFP103**
FACILITY ID: M08
SHEET No: 5 REV:

2/23/2024 2:06:10 PM
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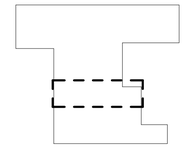
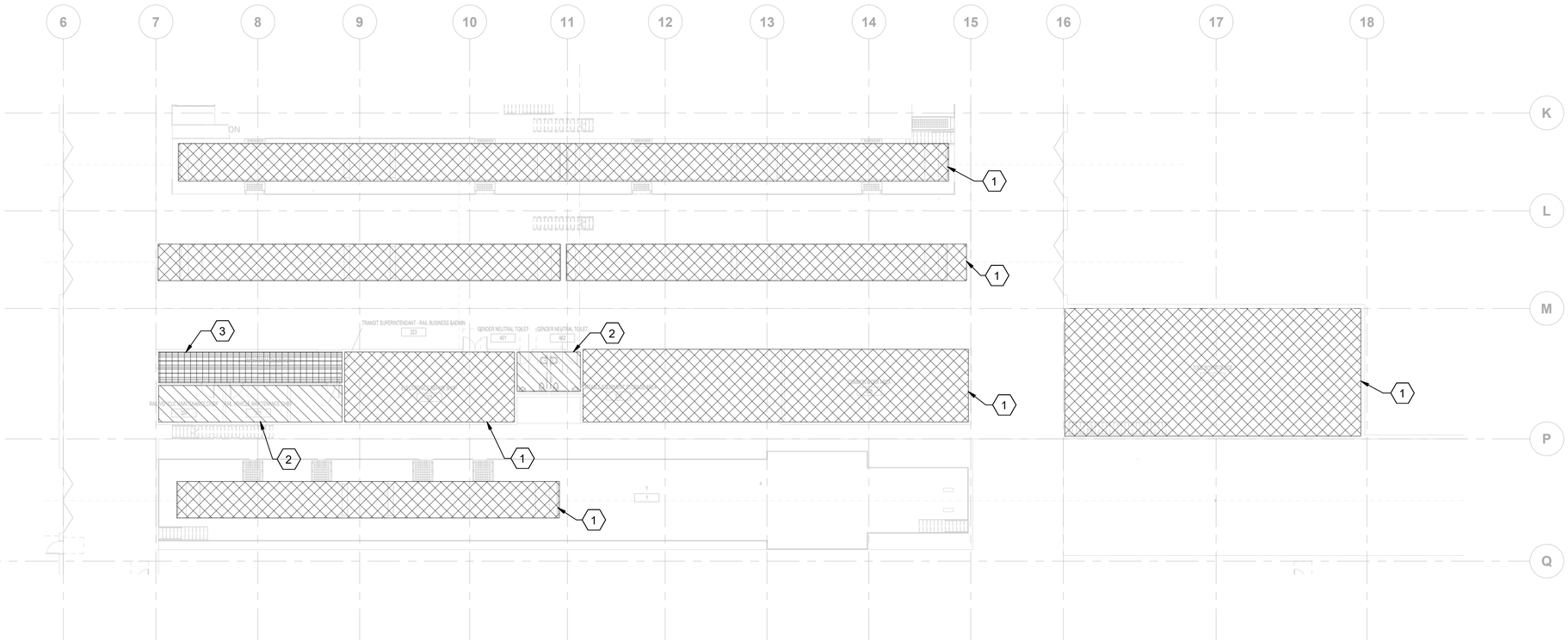
KEY PLAN - M08





1 FIRE PROTECTION LEVEL 1 FLOOR PLAN - AREA D
1/16" = 1'-0"

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND BELOW ANY OBSTRUCTION THAT IS GREATER THAN 4 FEET, INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950 SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.
2. OFFICE AREAS, RESTROOMS, LOCKER ROOMS, BREAKROOMS, AND CONFERENCE ROOMS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON LIGHT HAZARD OCCUPANCY WITH A MIN DESIGN DENSITY OF 0.10 GPM/SF @ 1500SF.
3. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 23739 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SoundTransit
DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF FIRE PROTECTION LEVEL 1 FLOOR PLAN AREA D

DRAWING No.: M08-MFP104
FACILITY ID: M08
SHEET No: 6
REV:

2/23/2024 2:06:13 PM
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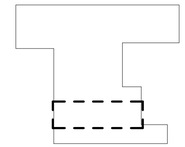
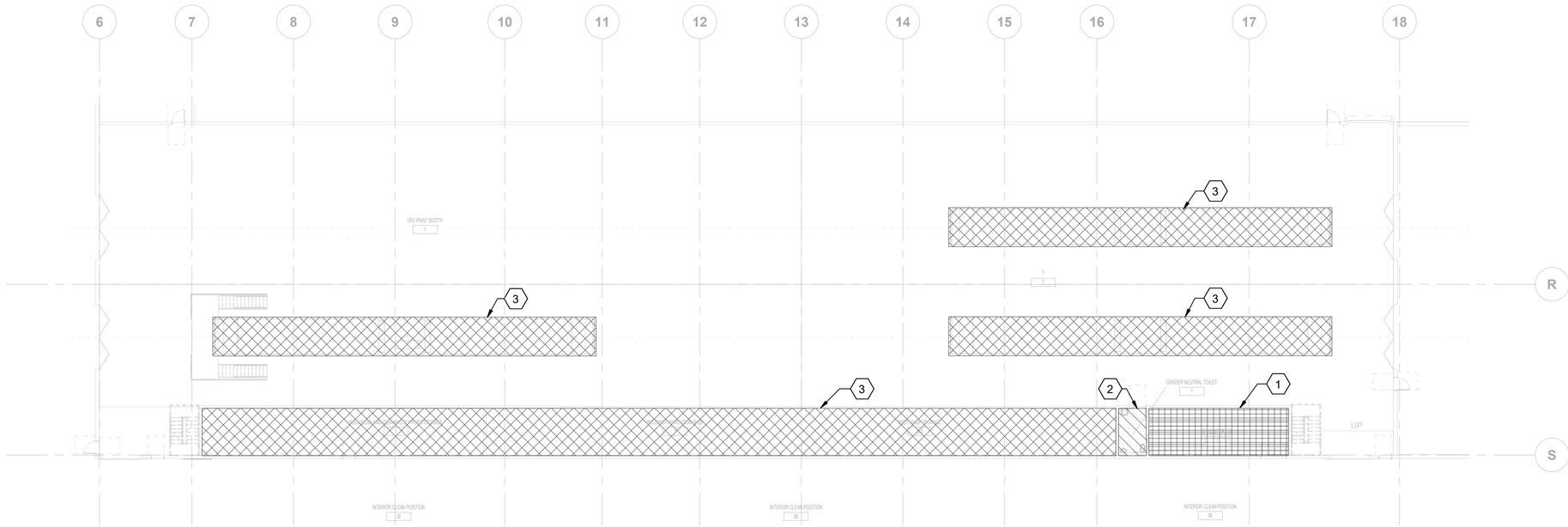
KEY PLAN - M08





1 FIRE PROTECTION LEVEL 1 FLOOR PLAN - AREA E
1/16" = 1'-0"

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
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N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF FIRE PROTECTION LEVEL 1 FLOOR PLAN AREA E

DRAWING No.: M08-MFP105
FACILITY ID: M08
SHEET No.: 7
REV:

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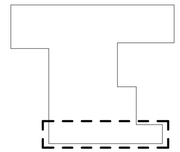
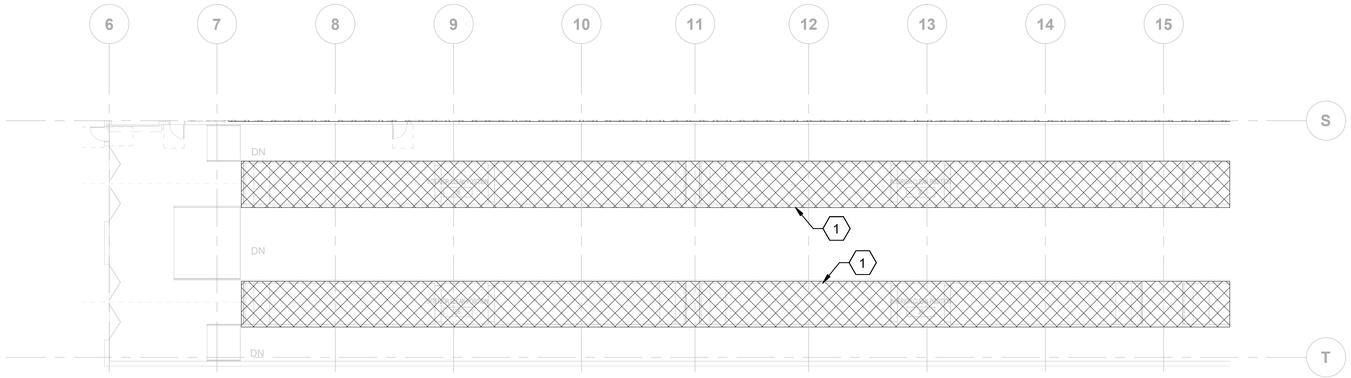
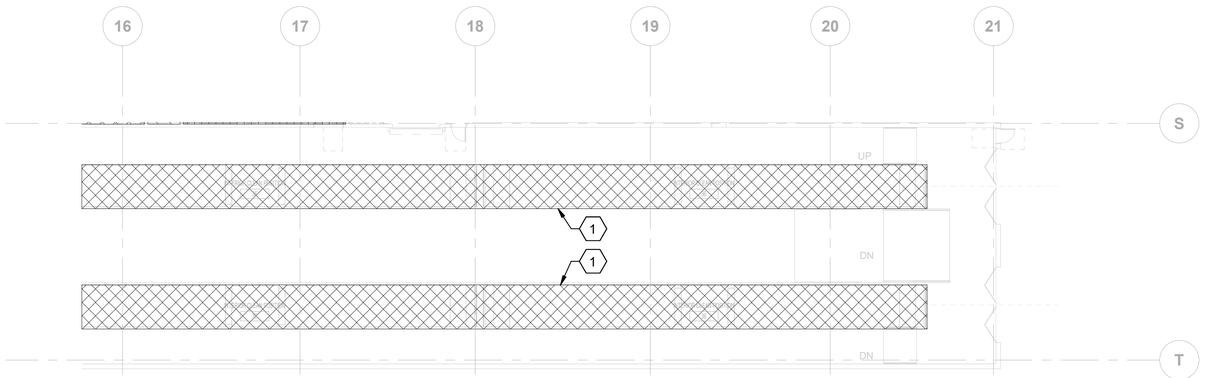
KEY PLAN - M08





1 FIRE PROTECTION LEVEL 1 FLOOR PLAN - AREA F
1/16" = 1'-0"



2 FIRE PROTECTION LEVEL 1 FLOOR PLAN - AREA G
1/16" = 1'-0"

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND BELOW ANY OBSTRUCTION THAT IS GREATER THAN 4 FEET, INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950 SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT — DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF FIRE PROTECTION LEVEL 1 FLOOR PLAN
AREA F & G

DRAWING No.: **M08-MFP106**
FACILITY ID: M08
SHEET No: 8
REV:

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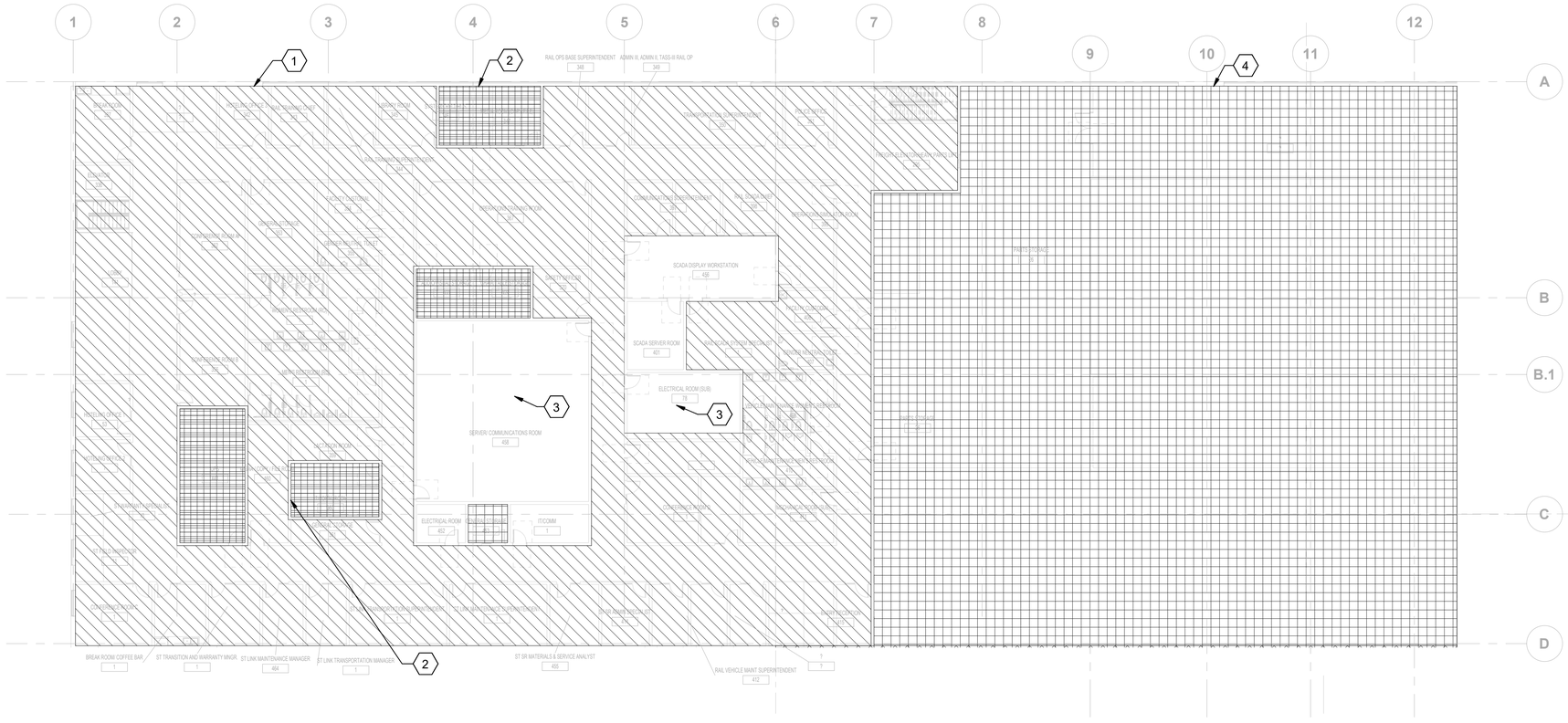
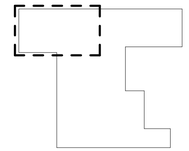


1 FIRE PROTECTION LEVEL 2 FLOOR PLAN - AREA A
1/16" = 1'-0"

KEY PLAN - M08



FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. OFFICE AREAS, RESTROOMS, LOCKER ROOMS, BREAKROOMS, AND CONFERENCE ROOMS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON LIGHT HAZARD OCCUPANCY WITH A MIN DESIGN DENSITY OF 0.10 GPM/SF @ 1500SF.
2. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
3. FIRE SUPPRESSION SYSTEMS SHALL NOT BE PROVIDED IN ELECTRICAL ROOMS, COMMUNICATION ROOMS, DATA / IT ROOMS, MDF, IDF, AND COMPUTER ROOMS.
4. STORAGE AREAS WITH STORAGE 12-FEET OR LESS WILL BE BASED ON CLASS IV ENCAPSULATED COMMODITIES STORED ON RACKS UP TO 12-FEET HIGH, AND SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON MISCELLANEOUS STORAGE, EXTRA HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.30 GPM/SF @ 2500 SF. STORAGE AREAS WITH HIGH RACK STORAGE ABOVE 12-FEET HIGH WILL BE STORED ON RACKS SPACED 8-FEET OR GREATER APART, WITH STORAGE UP TO A MAX HEIGHT OF 20-FEET HIGH.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23739 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT — DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF FIRE PROTECTION LEVEL 2 FLOOR PLAN AREA A

DRAWING No.: M08-MFP201
FACILITY ID: M08
SHEET No: 9 REV:

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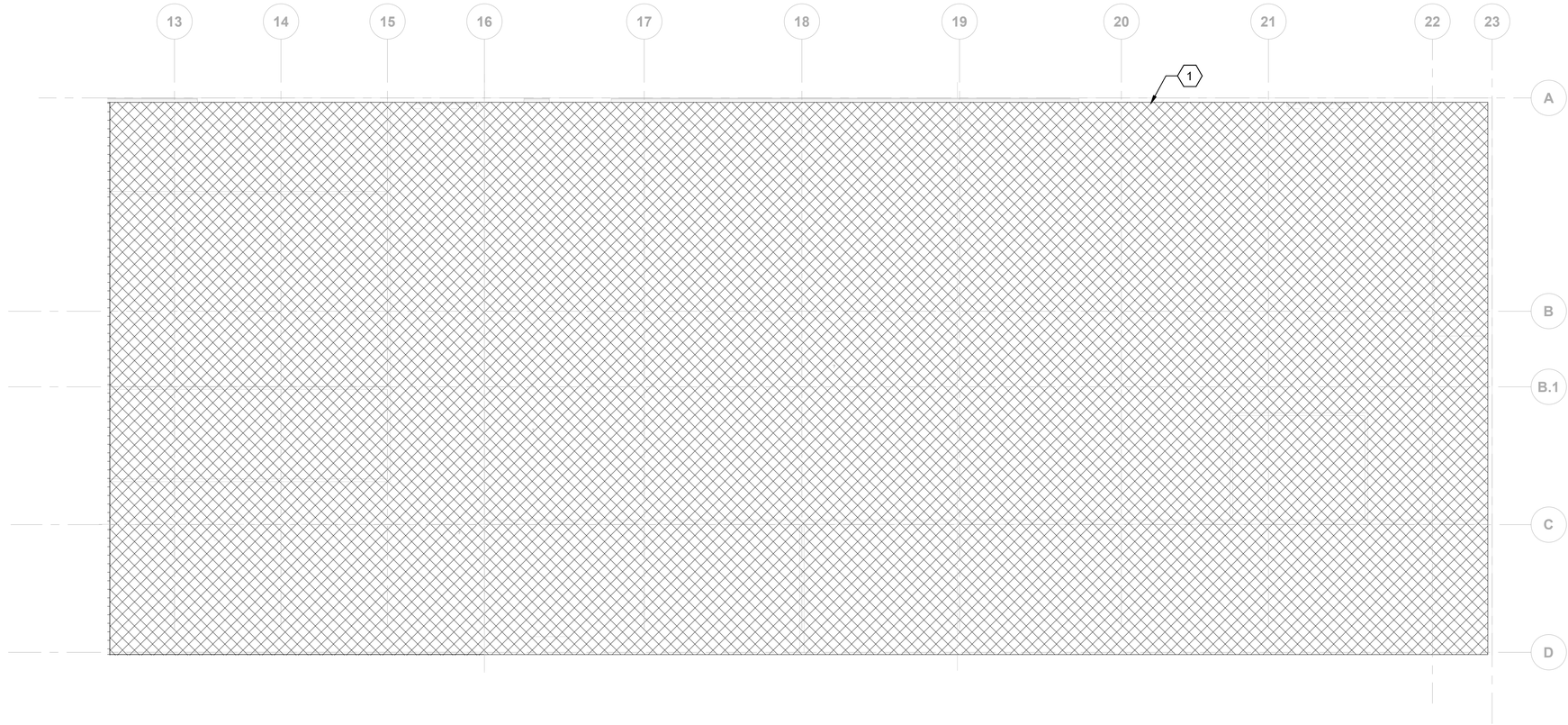
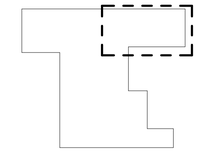


1 FIRE PROTECTION LEVEL 2 FLOOR PLAN - AREA B
1/16" = 1'-0"

KEY PLAN - M08



FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1 VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND BELOW ANY OBSTRUCTION THAT IS GREATER THAN 4 FEET, INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950 SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT
DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF FIRE PROTECTION LEVEL 2 FLOOR PLAN AREA B

DRAWING No.: **M08-MFP202**
FACILITY ID: M08
SHEET No: 10
REV:

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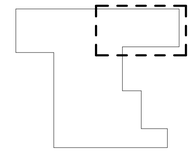
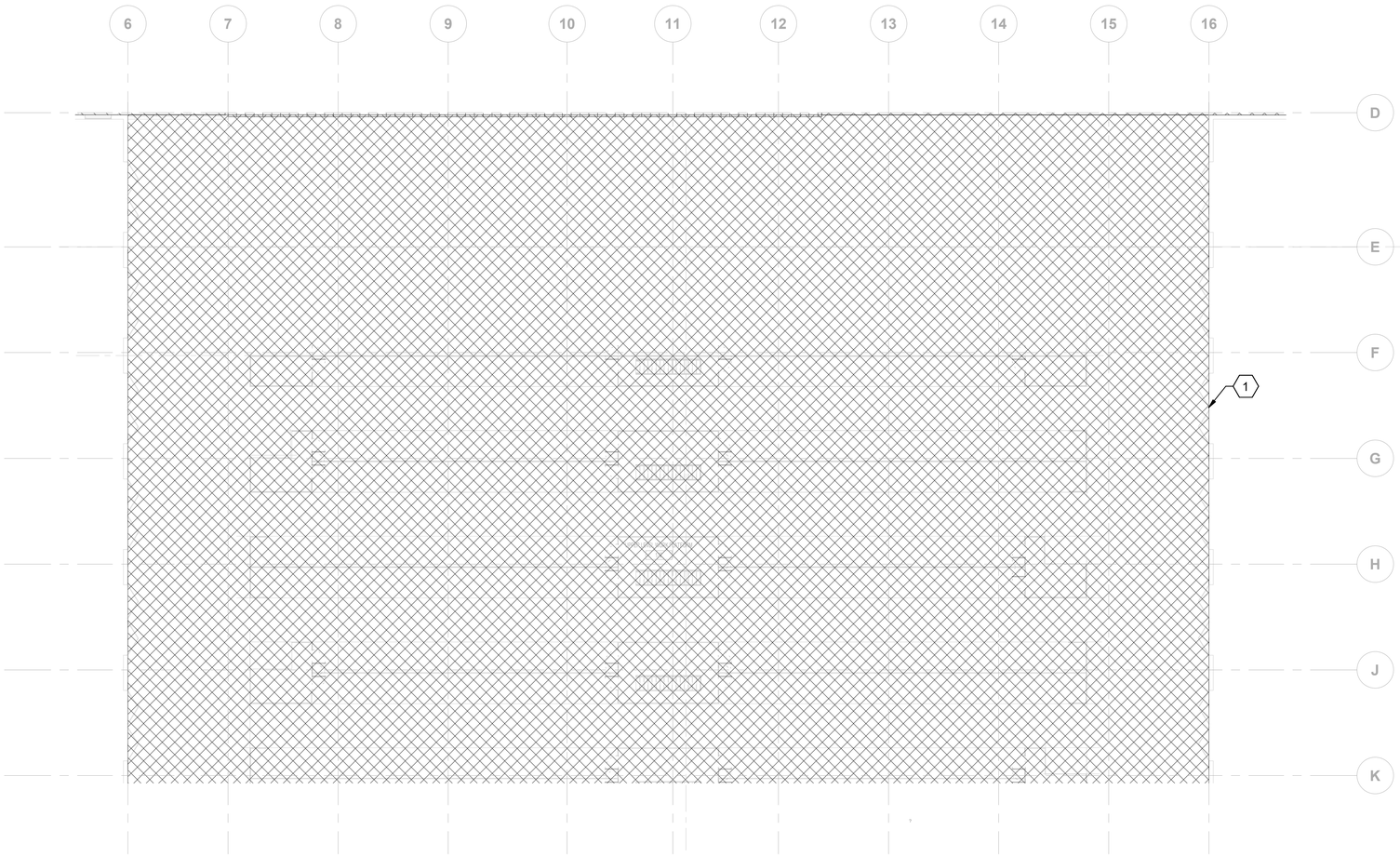
KEY PLAN - M08





1 FIRE PROTECTION LEVEL 2 FLOOR PLAN - AREA C
1/16" = 1'-0"

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND BELOW ANY OBSTRUCTION THAT IS GREATER THAN 4 FEET, INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950 SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT
DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

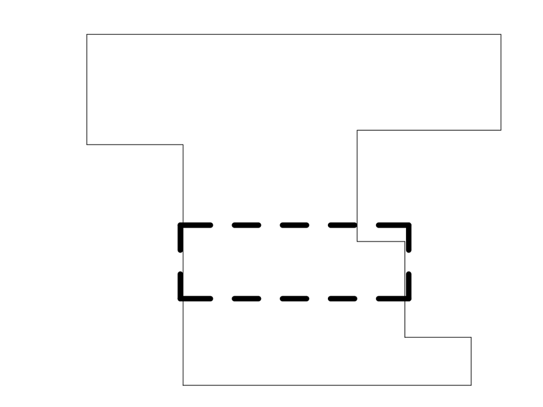
MECHANICAL

OMF FIRE PROTECTION LEVEL 2 FLOOR PLAN AREA C

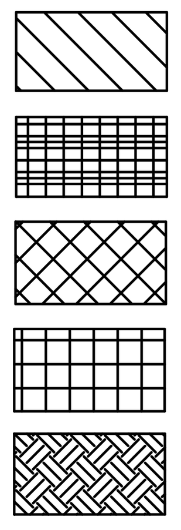
DRAWING No.: **M08-MFP203**
FACILITY ID: M08
SHEET No: 11
REV:

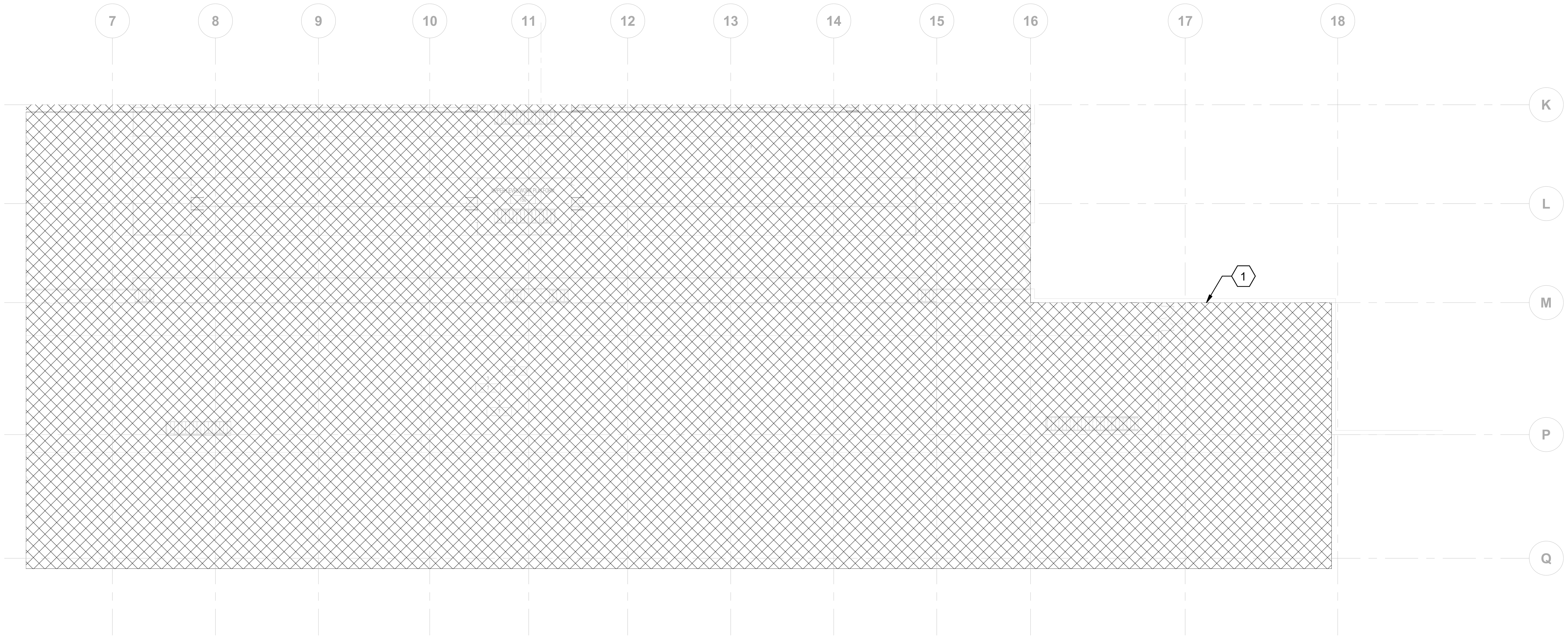
2/23/2024 2:06:25 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

KEY PLAN - M08



FIRE PROTECTION ZONE LEGEND





KEY NOTES

1. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND BELOW ANY OBSTRUCTION THAT IS GREATER THAN 4 FEET, INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950 SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.

(1) FIRE PROTECTION OMF - FLOOR PLAN LEVEL 2 AREA D
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

2/23/2024 2:06:28 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	B. WALKER
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:	1/16" = 1'-0"
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
DATE:	

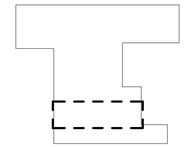
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

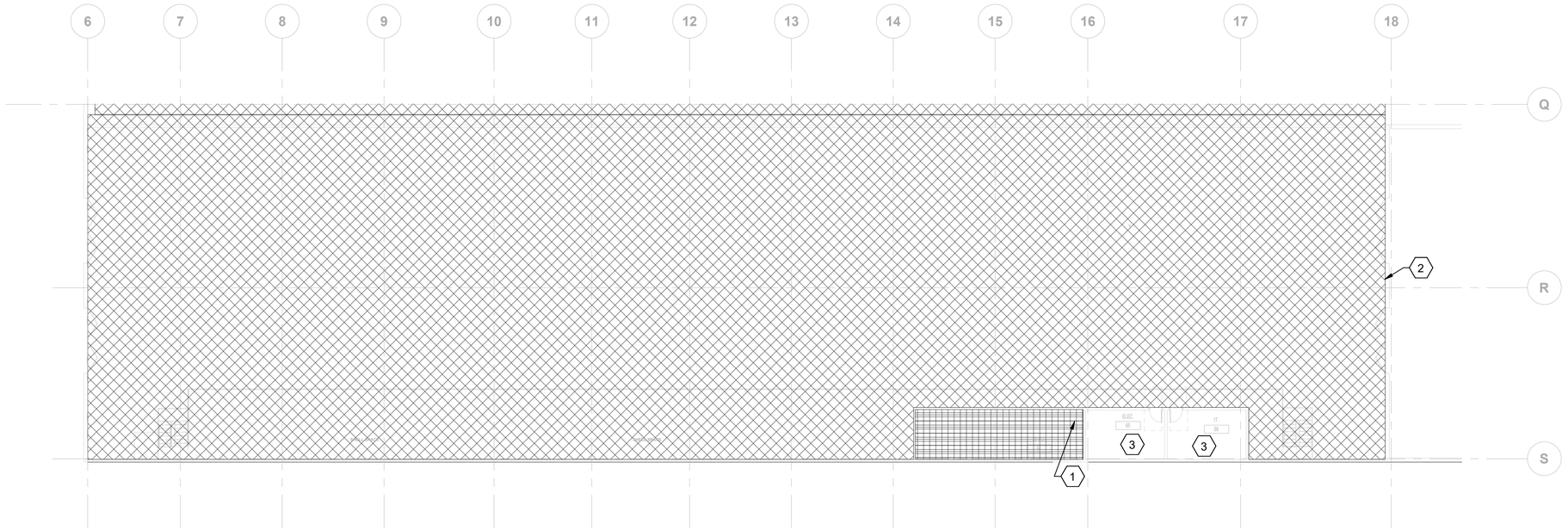
MECHANICAL

OMF FIRE PROTECTION LEVEL 2 FLOOR PLAN AREA D

DRAWING No.: **M08-MFP204**
FACILITY ID: M08
SHEET No: 12
REV:

KEY PLAN - M08





1 FIRE PROTECTION LEVEL 2 FLOOR PLAN - AREA E
1/16" = 1'-0"

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
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3. FIRE SUPPRESSION SYSTEMS SHALL NOT BE PROVIDED IN ELECTRICAL ROOMS, COMMUNICATION ROOMS, DATA / IT ROOMS, MDF, IDF, AND COMPUTER ROOMS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23172 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

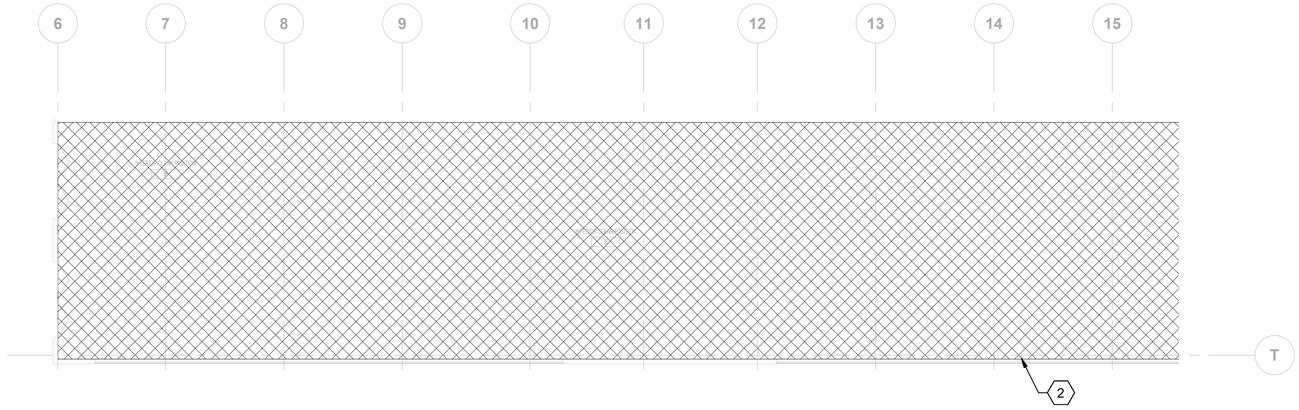
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

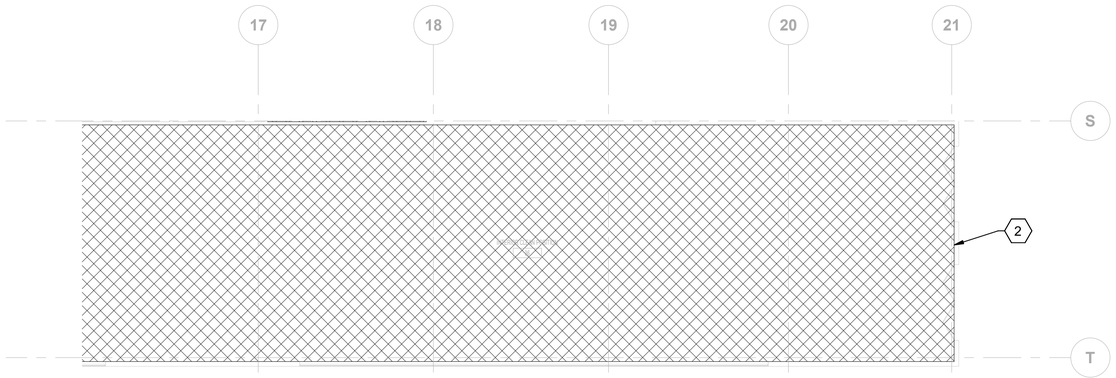
OMF FIRE PROTECTION LEVEL 2 FLOOR PLAN AREA E

DRAWING No.: **M08-MFP205**
FACILITY ID: M08
SHEET No: 13 REV:

2/23/2024 2:06:33 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

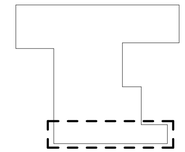


1 FIRE PROTECTION LEVEL 2 FLOOR PLAN - AREA F
1/16" = 1'-0"



2 FIRE PROTECTION LEVEL 2 FLOOR PLAN - AREA G
1/16" = 1'-0"

KEY PLAN - M08



FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

KEY NOTES

1. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
2. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND BELOW ANY OBSTRUCTION THAT IS GREATER THAN 4 FEET, INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950 SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF FIRE PROTECTION LEVEL 2 FLOOR PLAN
AREA F & G

DRAWING No.: **M08-MFP206**
FACILITY ID: M08
SHEET No: 14
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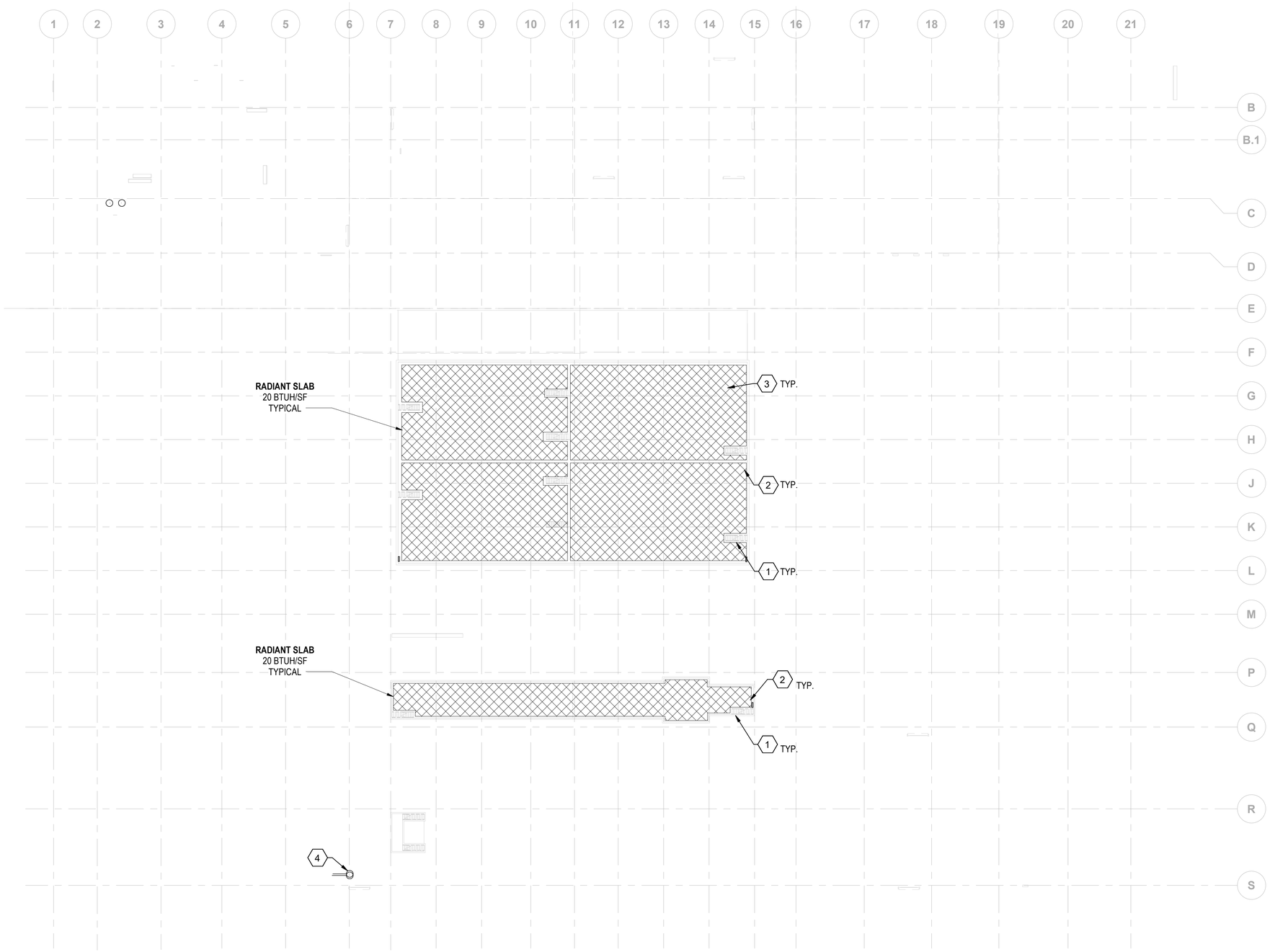
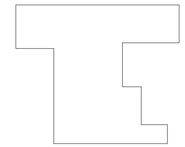


1 HVAC LOWER LEVEL IN-FLOOR HEATING ZONES
1" = 30'-0"

KEY PLAN - M08



KEY NOTES

1. MAINTAIN MINIMUM OF 12" CLEARANCE BETWEEN FOOTPRINT OF CONCRETE MOUNTED EQUIPMENT OR RAILS AND RADIANT SLAB PIPING.
2. PROVIDE RADIANT HEATED SLAB FOR AREA SHOWN IN HATCHING.
3. RADIANT ZONES MAY NOT EXCEED 5000 SF EACH.
4. UNDERSLAB HEATING HOT WATER PIPING ROUTED BETWEEN LRV AND OMF BUILDINGS. FOR HEATING WATER SUPPLY TO LRV.

N

30 15 0 30 60
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 23739 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED — PRELIMINARY

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY:	DATE:	REVIEWED BY:	DATE:	DATE:

SOUND TRANSIT

SCALE:	1" = 30'-0"
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC LOWER LEVEL IN-FLOOR HEATING ZONE PLAN

DRAWING No.:	M08-MHP001
FACILITY ID:	M08
SHEET No:	15
REV:	

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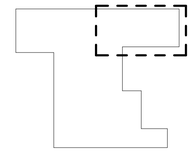
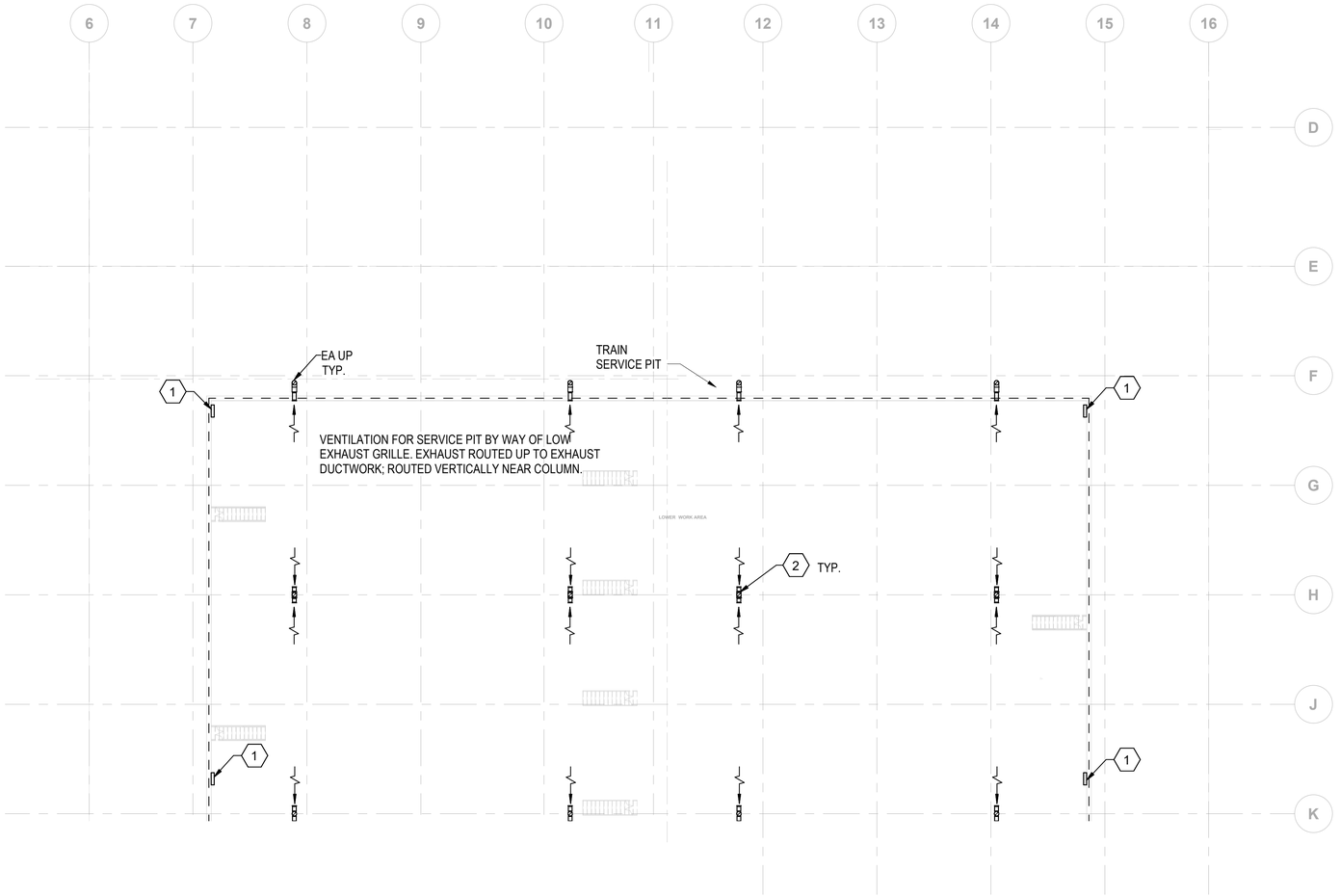
KEY PLAN - M08





1 HVAC LOWER LEVEL PLAN - AREA C
1/16" = 1'-0"

KEY NOTES

1. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
2. SERVICE PIT PROVIDED BY EXHAUST GRILLES TO BE CONTINUOUSLY OPERATED. EXHAUST GRILLES TO WITHIN 12" OF FINISHED FLOOR. EXHAUST DUCT ROUTED TIGHT AND UNOBTRUSIVELY ALONG RAIL EQUIPMENT STRUCTURE AT PIT LEVEL AS NEEDED TO REACH LEVEL VERICALLY NEAR COLUMNS AND HORIZONTALLY FROM PIT TO DUCTWORK; ROUTED VERTICALLY NEAR COLUMN.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY	DRAWN BY: B. BOONE	CHECKED BY: B. CRANE	APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY:	DATE:	REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:	SCALE:	FILENAME: X100-X01-X-v2020	CONTRACT No.: X100	DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

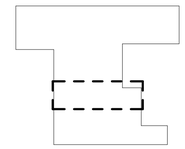
MECHANICAL

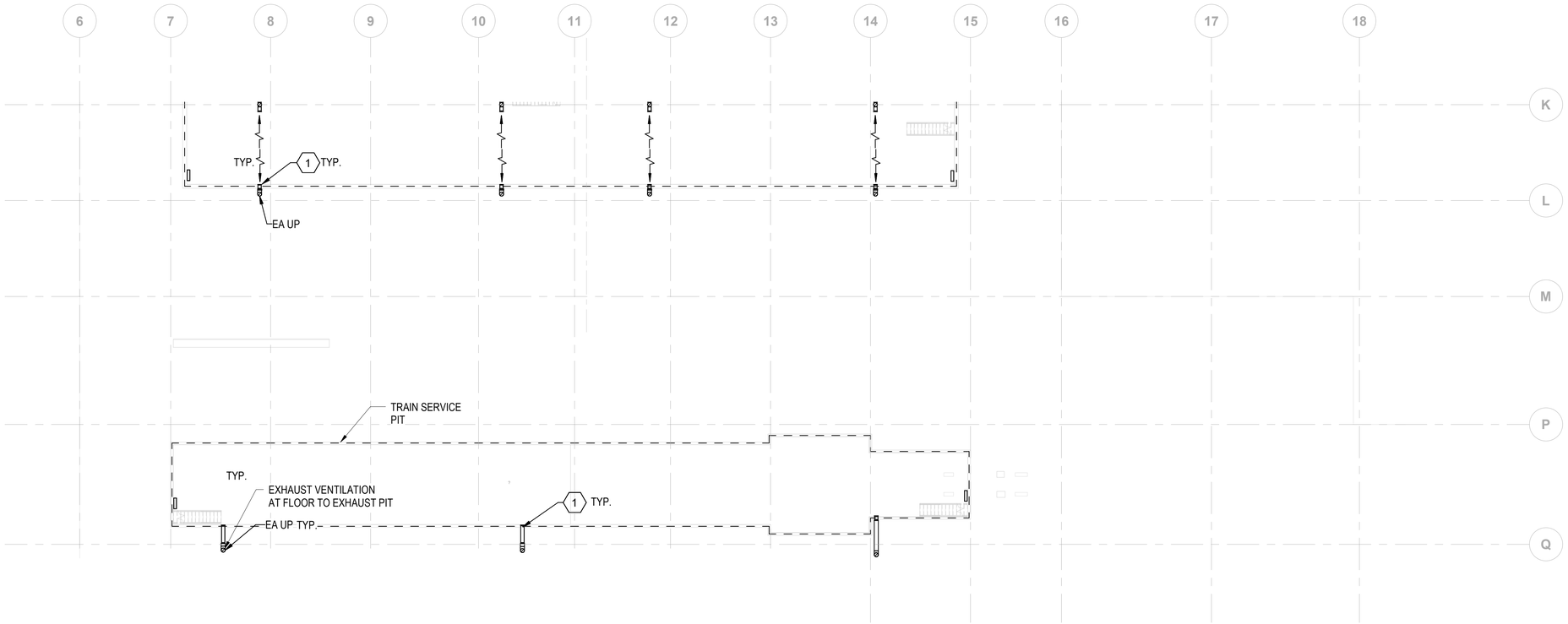
OMF HVAC LOWER LEVEL PLAN - AREA C

DRAWING No.: **M08-MHP002**
FACILITY ID: M08
SHEET No: 16 REV:

2/23/2024 2:09:45 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

KEY PLAN - M08





1 HVAC LOWER LEVEL PLAN - AREA D
1/16" = 1'-0"

KEY NOTES

1 SERVICE PIT PROVIDED BY EXHAUST GRILLES TO BE CONTINUOUSLY OPERATED. EXHAUST GRILLES TO WITHIN 12" OF FINISHED FLOOR. EXHAUST DUCT ROUTED TIGHT AND UNOBTRUSIVELY ALONG RAIL EQUIPMENT STRUCTURE AT PIT LEVEL AS NEEDED TO REACH LEVEL VERICALLY NEAR COLUMNS AND HORIZONTALLY FROM PIT TO DUCTWORK; ROUTED VERTICALLY NEAR COLUMN.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

HDR

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY:	DATE:	REVIEWED BY:
DATE:	SCALE:	
	FILENAME:	X100-X01-X-v2020
	CONTRACT No.:	X100
DATE:		

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LOWER LEVEL PLAN - AREA D

DRAWING No.: **M08-MHP003**
FACILITY ID: M08
SHEET No: 17 REV:

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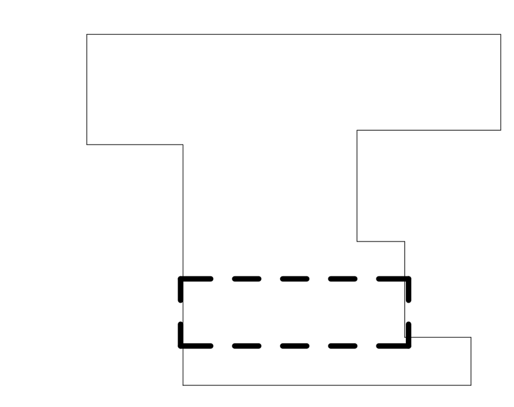
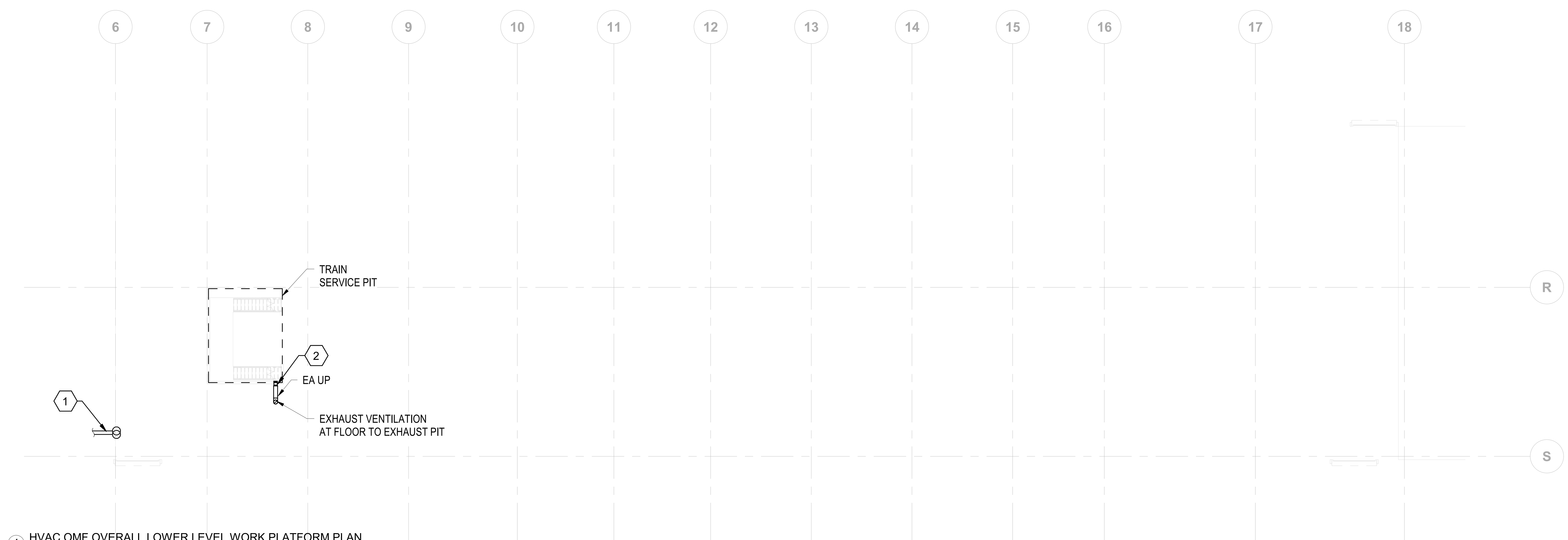
KEY PLAN - M08





1 HVAC OMF OVERALL LOWER LEVEL WORK PLATFORM PLAN
1/16" = 1'-0"

KEY NOTES

1. UNDERSLAB HEATING HOT WATER PIPING ROUTED BETWEEN LRV AND OMF BUILDINGS. FOR HEATING WATER SUPPLY TO LRV.
2. SERVICE PIT PROVIDED BY EXHAUST GRILLES TO BE CONTINUOUSLY OPERATED. EXHAUST GRILLES TO WITHIN 12" OF FINISHED FLOOR. EXHAUST DUCT ROUTED TIGHT AND UNOBTRUSIVELY ALONG RAIL EQUIPMENT STRUCTURE AT PIT LEVEL AS NEEDED TO REACH LEVEL VERICALLY NEAR COLUMNS AND HORIZONTALLY FROM PIT TO DUCTWORK; ROUTED VERTICALLY NEAR COLUMN.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: Designer
DRAWN BY: Author
CHECKED BY: Checker
APPROVED BY: Approver

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE: | DATE:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC LOWER LEVEL PLAN - AREA E

DRAWING No.: M08-MHP004
FACILITY ID: M08
SHEET No: 18
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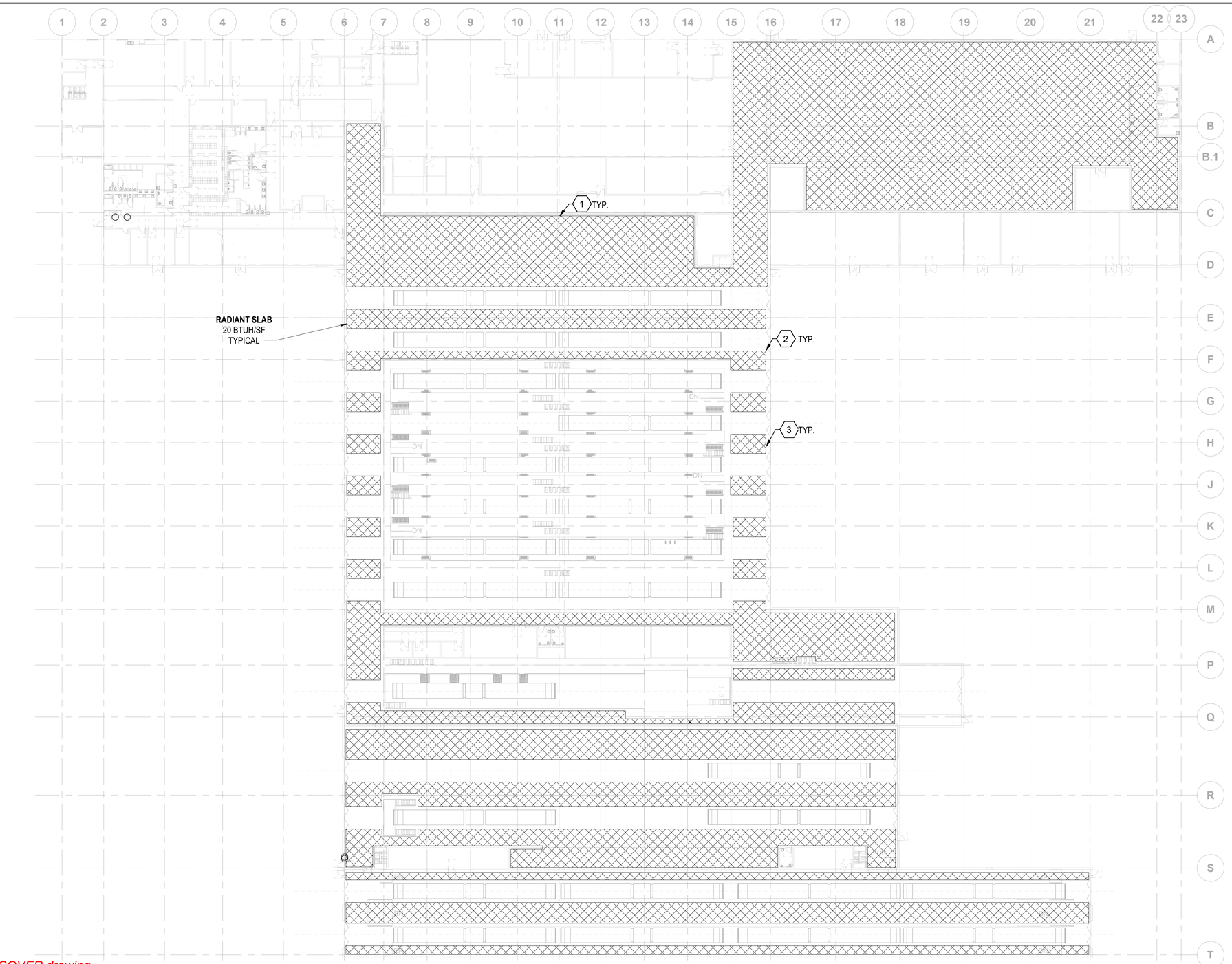
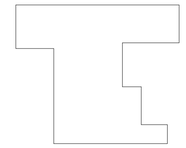


KEY PLAN - M08



KEY NOTES

1. MAINTAIN MINIMUM OF 12" CLEARANCE BETWEEN FOOTPRINT OF CONCRETE MOUNTED EQUIPMENT OR RAILS AND RADIANT SLAB PIPING.
2. PROVIDE RADIANT HEATED SLAB FOR AREA SHOWN IN HATCHING.
3. RADIANT ZONES MAY NOT EXCEED 5000 SF EACH.

N

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SCALE IN FEET

NOT FOR CONSTRUCTION

1 HVAC LEVEL 1 IN-FLOOR HEATING ZONES
1" = 30'-0"

Refer to the plan set COVER drawing for disclaimers regarding this drawing

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23774 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 — SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: 1" = 30'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 1 IN-FLOOR HEATING ZONE PLAN

DRAWING No.: **M08-MHP101**
FACILITY ID: M08
SHEET No: 19 REV:

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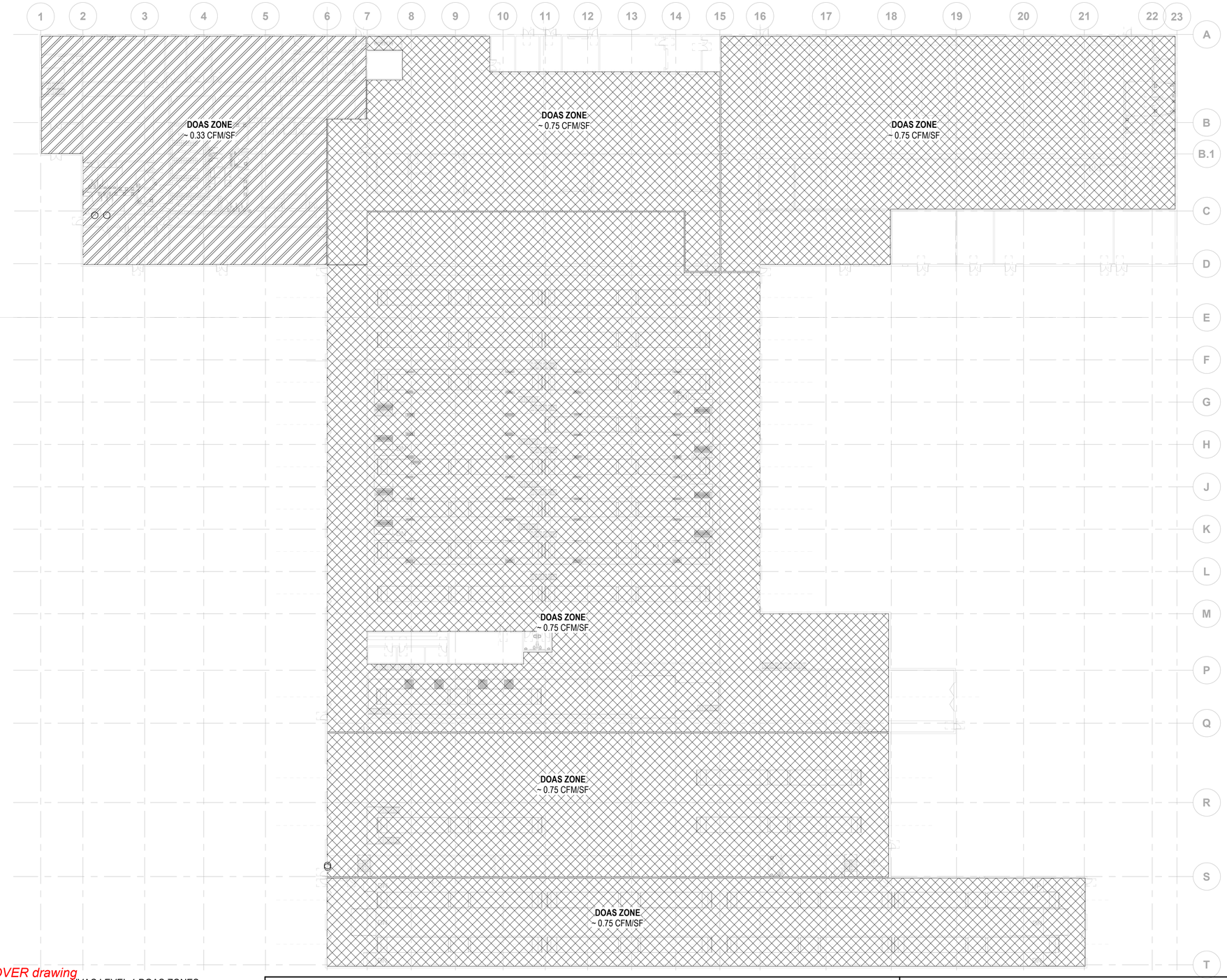
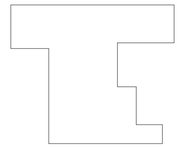


HVAC LEVEL 1 DOAS ZONES
1" = 30'-0"

KEY PLAN - M08



DOAS EQUIPMENT TYPE LEGEND

ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, DX COOLING/HEATING, FILTRATION, DISCHARGE VOLUME, TEMPERATURE AND HUMIDITY CONTROL

ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, DX COOLING/HEATING, FILTRATION, DISCHARGE VOLUME AND TEMPERATURE CONTROL

N

30 15 0 30 60
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: 1" = 30'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 1 DOAS ZONE PLAN

DRAWING No.: **M08-MHP102**
FACILITY ID: M08
SHEET No: 20
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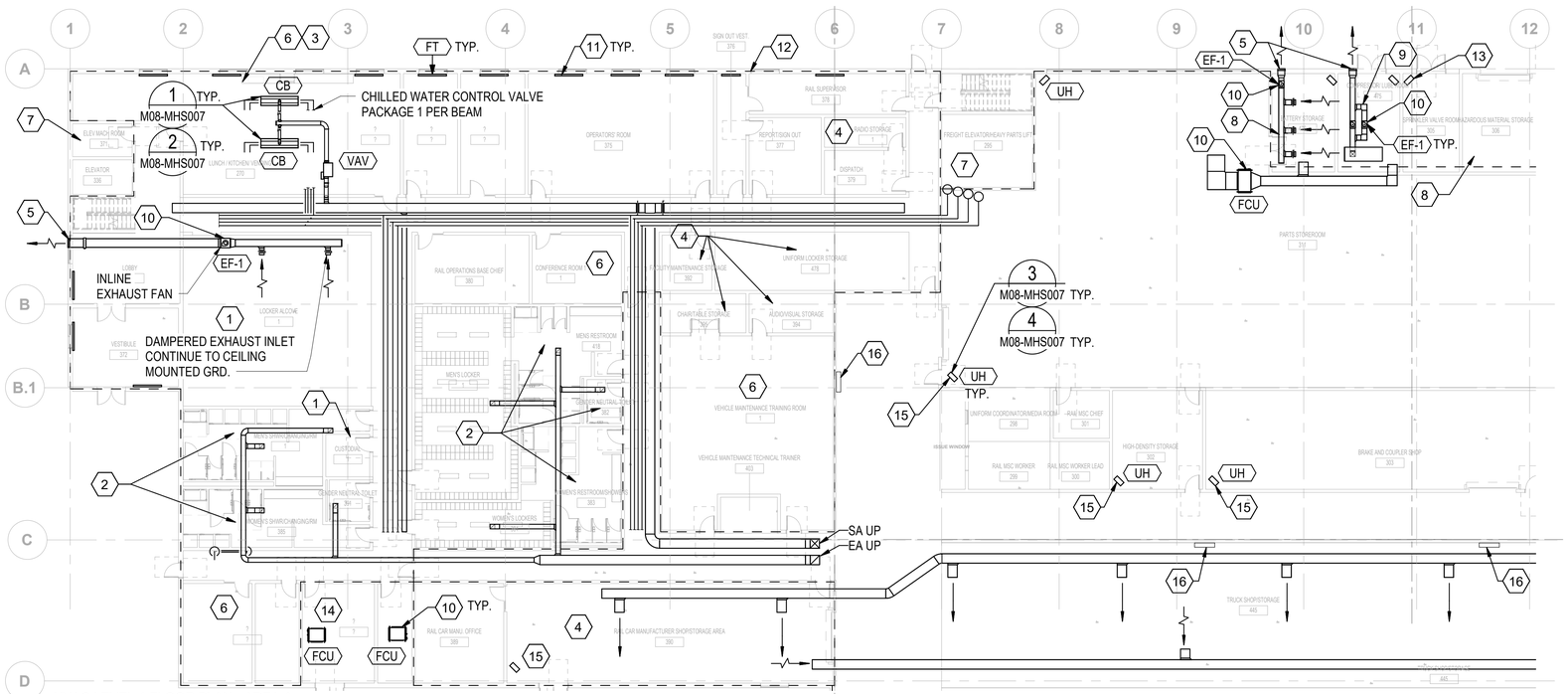
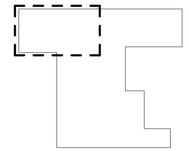


1 HVAC LEVEL 1 FLOOR PLAN - AREA A
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. PROVIDE EXHAUST FOR CUSTODIAL CLOSET. COORDINATE DOOR LOUVER FOR MAKEUP AIR.
2. PROVIDE RESTROOM EXHAUST, BALANCED HEATING HEATING & COOLING FOR RESTROOMS/LOCKER. PROVIDE INSULATED OXIDATION RESISTANT EXHAUST DUCTING (ALUMINIMUM OR STAINLESS STEEL) ON EXHAUST SYSTEMS WHERE MORE THAN 50% OF THE AIR IN DUCT IS FROM SHOWER ROOM.
3. PROVIDE EXHAUST VENTILATION FOR LUNCH ROOM/KITCHEN/BREAKROOM/COFFEE BAR/VENDING AREAS.
4. PROVIDE BALANCED HEATING, COOLING AND VENTILATION SYSTEMS INCLUDING HUMIDITY MANAGEMENT CONTROL FOR FILE AND EQUIPMENT STORAGE SPACES. PROVIDE CO2, OCCUPANCY, TEMPERATURE & HUMIDITY MONITORING.
5. OUTSIDE AIR INTAKES AND EXHAUST/RELIEF OUTLETS SHALL BE INSULATED AND PROTECTED FROM INFILTRATION WITH INSULATED CLASS 1 CONTROLLED DAMPERS. DUCT AND DUCT PLENUMS BETWEEN ENVELOPE PENETRATION AND CONTROLLED DAMPER SHALL BE INSULATED WITH LAYERS POLYISOCYANURATE INSULATION, SEAMS GLUED AND SEALED TO MAINTAIN CONTINUOUS ENVELOPE INSULATION.
6. PROVIDE VENTILATION SETBACK CONTROLS INCLUDING VARIABLE AIR VOLUME CONTROLLER AND OCCUPANCY SENSORS.
7. PROVIDE DEDICATED COOLING UNIT FOR ELEVATOR MACHINE ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
8. PROVIDE DEDICATED EXHAUST SYSTEM FOR MATERIAL STORAGE ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM.
9. PROVIDE FULLY REDUNDANT EXHAUST FANS FOR BATTERY ROOM EXHAUST WITH ALTERNATING LEAD/LAG CONTROLS FOR EQUAL RUN TIME AND PERFORMANCE MONITORING AND ALARM.

KEY NOTES

10. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.
11. PROVIDE DEDICATED HEAT SOURCE FOR PERIMETER ZONES.
12. PROVIDE BALANCED HEATING, COOLING AND VENTILATION SYSTEMS FOR EACH SPACE SHOWN AND INDICATED. PROVIDE CO2, OCCUPANCY, TEMPERATURE & HUMIDITY MONITORING.
13. PROVIDE UNIT HEATER FOR FREEZE PROTECTION IN SPRINKLER ROOM.
14. PROVIDE DEDICATED COOLING UNIT FOR IT/COMM ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
15. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.
16. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23778 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED — PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 1 FLOOR PLAN - AREA A

DRAWING No.: **M08-MHP103**
FACILITY ID: M08
SHEET No: 21 REV:

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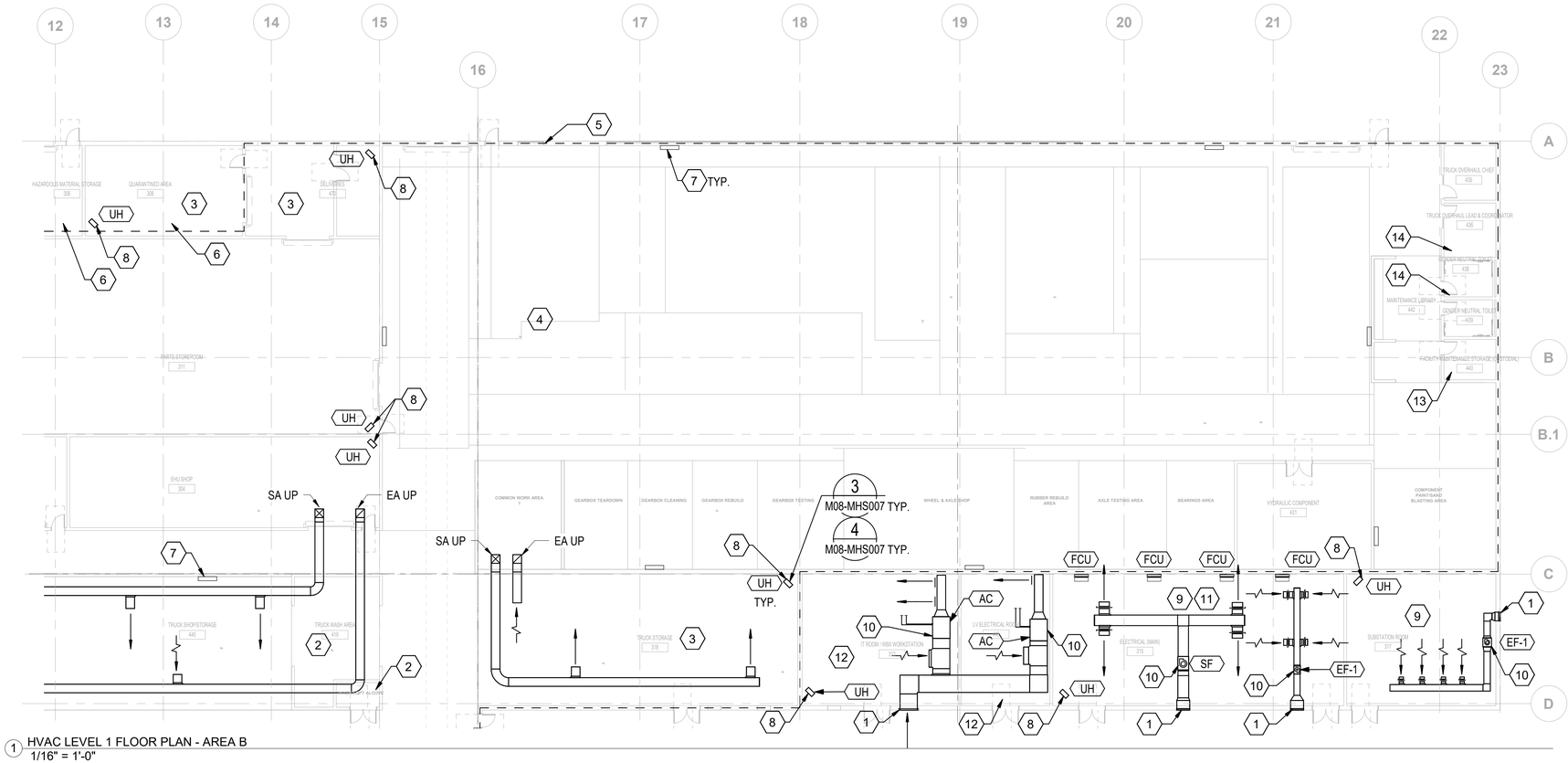
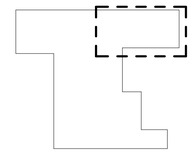
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 HVAC LEVEL 1 FLOOR PLAN - AREA B
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. OUTSIDE AIR INTAKES AND EXHAUST/RELIEF OUTLETS SHALL BE INSULATED AND PROTECTED FROM INFILTRATION WITH INSULATED CLASS 1 CONTROLLED DAMPERS. DUCT AND DUCT PLENUMS BETWEEN ENVELOPE PENETRATION AND CONTROLLED DAMPER SHALL BE INSULATED WITH LAYERS POLYISOCYANURATE INSULATION, SEAMS GLUED AND SEALED TO MAINTAIN CONTINUOUS ENVELOPE INSULATION.
2. PROVIDE DEDICATED EXHAUST SYSTEM FOR TRUCK WASH AND WASH EQUIPMENT ALCOVE. SYSTEM SHALL BE SELECTED AND RATED FOR HUMID ENVIRONMENTS AND DESIGNED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. ALL POWERED COMPONENTS SHALL BE FULLY REDUNDANT WITH HUMIDITY, EQUIPMENT OPERATION, LEAD LAG CONTROLS AND ALARMS ALL MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM.
3. PROVIDE EXHAUST AND FREEZE PROTECTION HEATING IN REMOTE STORAGE AREAS.
4. PROVIDE DEDICATED COOLING UNIT FOR ELEVATOR MACHINE ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
5. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.

KEY NOTES

6. PROVIDE DEDICATED EXHAUST SYSTEM FOR MATERIAL STORAGE ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM.
7. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
8. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.
9. PROVIDE DEDICATED EXHAUST SYSTEM FOR ELECTRICAL ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM. MAKEUP AIR TO BE SOURCED FROM BUILDING EXTERIOR OR TRANSFER AIR FROM ADJACENT SPACE BASED ON COOLING NEEDS OF ELECTRICAL ROOM BY WAY OF ECONOMIZER.
10. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.
11. PROVIDE N+1 REDUNDANCY FOR HVAC SYSTEMS EQUIPMENT.
12. PROVIDE DEDICATED COOLING UNIT FOR IT/COMM ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
13. PROVIDE EXHAUST FOR CUSTODIAL CLOSET. COORDINATE DOOR LOUVER FOR MAKEUP AIR.
14. PROVIDE ELECTRIC WALL MOUNTED UNIT HEATER AND RESTROOM EXHAUST FOR REMOTE RESTROOMS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23774 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED — PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SoundTransit

DATE: | DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 1 FLOOR PLAN - AREA B

DRAWING No.: **M08-MHP104**
FACILITY ID: M08
SHEET No: 22 REV:

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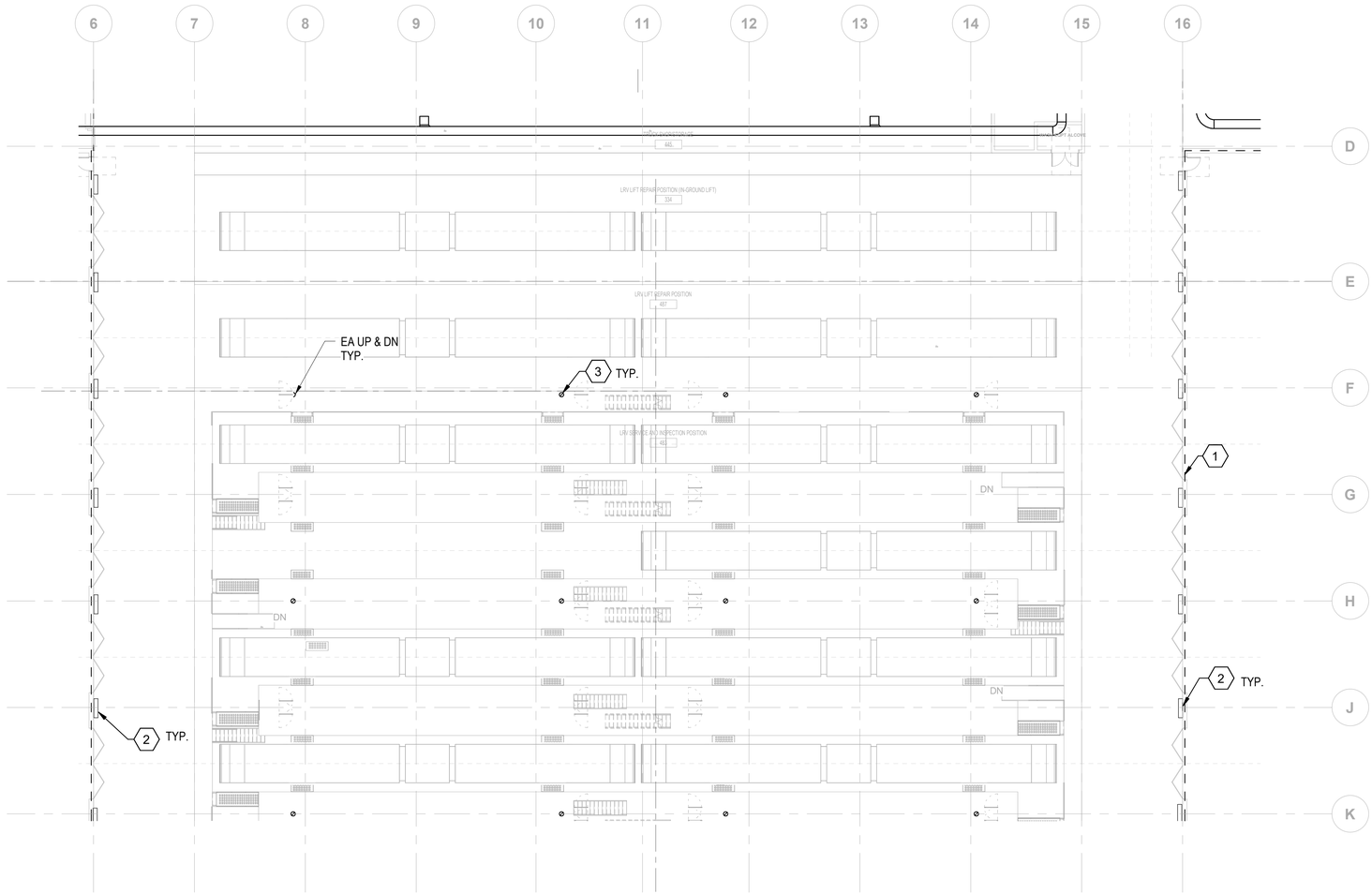
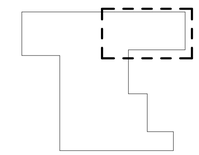


1 HVAC LEVEL 1 FLOOR PLAN - AREA C
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.
2. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
3. EXHAUST DUCT ROUTED DOWN NEAR STRUCTURE AND OTHER UTILITIES. COORDINATE ROUTING WITH ALL DISCIPLINES AND ST SHOPS/OPERATIONS TO MAXIMIZE AVAILABLE FLOOR SPACE AT EACH LEVEL.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY	RICHARD E. HIMMEL, STATE OF WASHINGTON, 23172, REGISTERED PROFESSIONAL ENGINEER, 11/07/2023, SIGNED	HDR	LINE IS 1" AT FULL SCALE	SOUNDTRANSIT	SCALE:
DRAWN BY: B. BOONE	PRELIMINARY				FILENAME: X100-X01-X-v2020
CHECKED BY: B. CRANE					CONTRACT No.: X100
APPROVED BY: R. HIMMEL	SUBMITTED BY:	DATE:	REVIEWED BY:	DATE:	DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

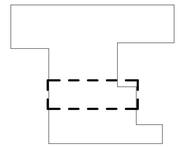
MECHANICAL

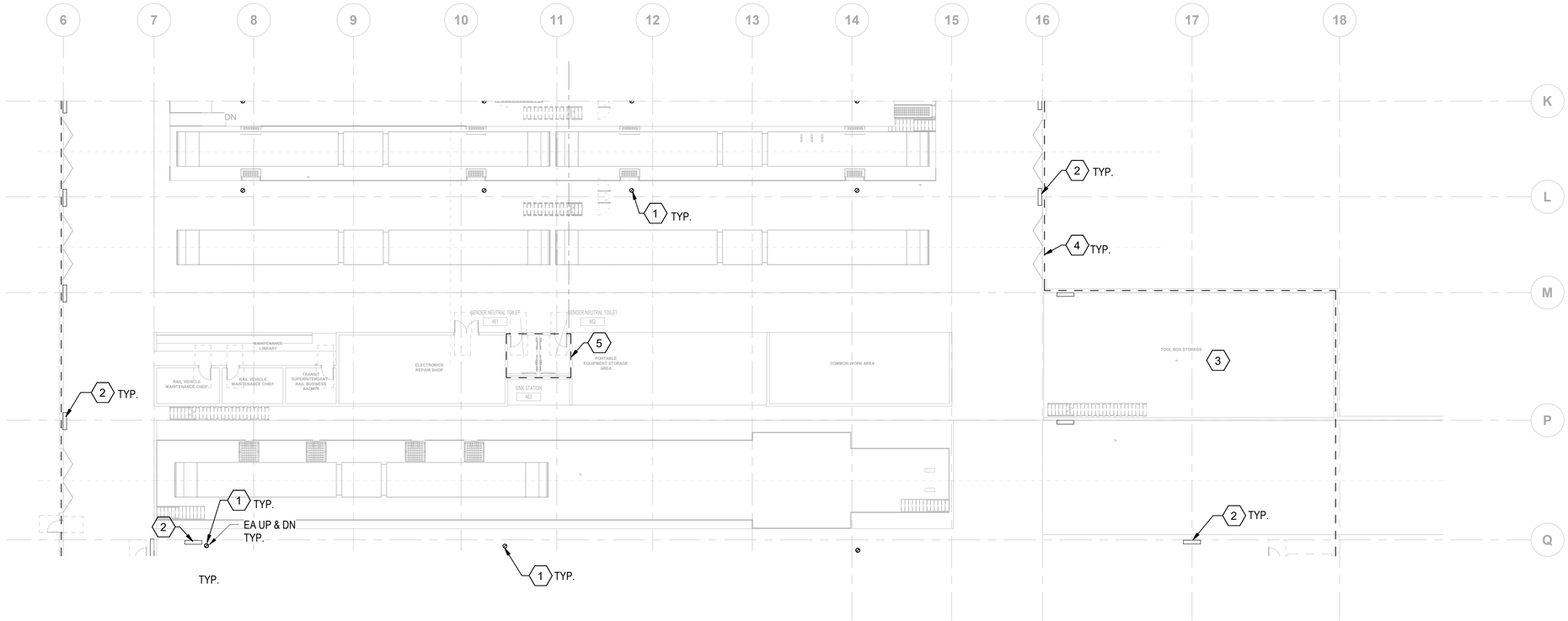
OMF HVAC LEVEL 1 FLOOR PLAN - AREA C

DRAWING No.: **M08-MHP105**
FACILITY ID: M08
SHEET No: 23 REV:

2/23/2024 2:10:34 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-MA-v2022.rvt

KEY PLAN - M08





1 HVAC LEVEL 1 FLOOR PLAN - AREA D
1/16" = 1'-0"

KEY NOTES

1. EXHAUST DUCT ROUTED DOWN NEAR STRUCTURE AND OTHER UTILITIES. COORDINATE ROUTING WITH ALL DISCIPLINES AND ST SHOPS/OPERATIONS TO MAXIMIZE AVAILABLE FLOOR SPACE AT EACH LEVEL.
2. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
3. PROVIDE EXHAUST AND FREEZE PROTECTION HEATING IN REMOTE STORAGE AREAS.
4. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.
5. PROVIDE ELECTRIC WALL MOUNTED UNIT HEATER AND RESTROOM EXHAUST FOR REMOTE RESTROOMS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23172 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE: | DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC LEVEL 1 FLOOR PLAN - AREA D

DRAWING No.: **M08-MHP106**
FACILITY ID: M08
SHEET No: 24 REV:

2/23/2024 2:10:40 PM
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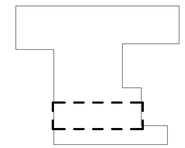
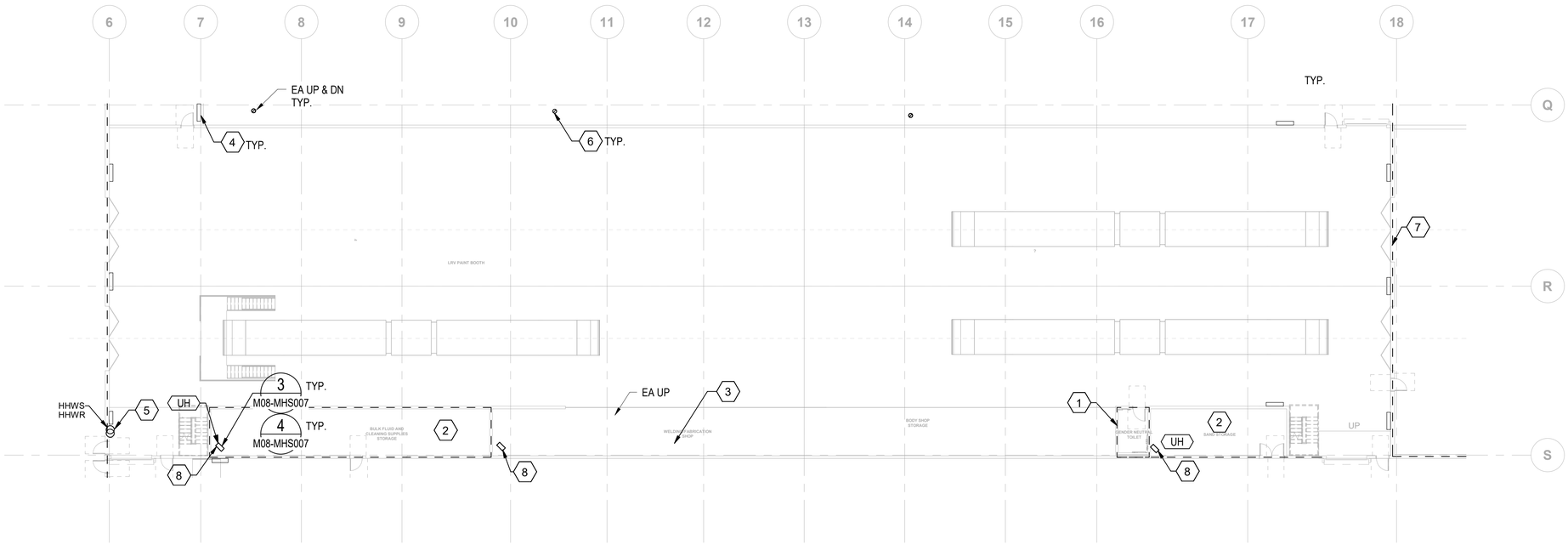
KEY PLAN - M08





1 HVAC LEVEL 1 FLOOR PLAN - AREA E
1/16" = 1'-0"

KEY NOTES

1. PROVIDE ELECTRIC WALL MOUNTED UNIT HEATER AND RESTROOM EXHAUST FOR REMOTE RESTROOMS.
2. PROVIDE EXHAUST AND FREEZE PROTECTION HEATING IN REMOTE STORAGE AREAS.
3. PROVIDE EXHAUST FAN AND EXHAUST DUCT CONNECTIONS FOR WELDING EXHAUST STATIONS. PROVIDE SNORKLE WELDING EXHAUST DUCT ARM FOR OPERATOR'S USE AND PROVIDE USER CONTROLS FOR INTERLOCKED FAN OPERATION. PROVIDE DAMPER CONTROLS INTERLOCKED WITH FAN AND OPERATOR INTERFACE TO ISOLATE DUCT WHEN NOT IN USE.
4. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
5. UNDERSLAB HEATING HOT WATER PIPING ROUTED BETWEEN LRV AND OMF BUILDINGS. FOR HEATING WATER SUPPLY TO LRV.
6. EXHAUST DUCT ROUTED DOWN NEAR STRUCTURE AND OTHER UTILITIES. COORDINATE ROUTING WITH ALL DISCIPLINES AND ST SHOPS/OPERATIONS TO MAXIMIZE AVAILABLE FLOOR SPACE AT EACH LEVEL.
7. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.
8. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SoundTransit

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 1 FLOOR PLAN - AREA E

DRAWING No.: **M08-MHP107**
FACILITY ID: M08
SHEET No: 25 REV:

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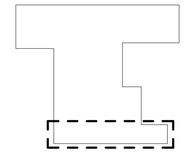
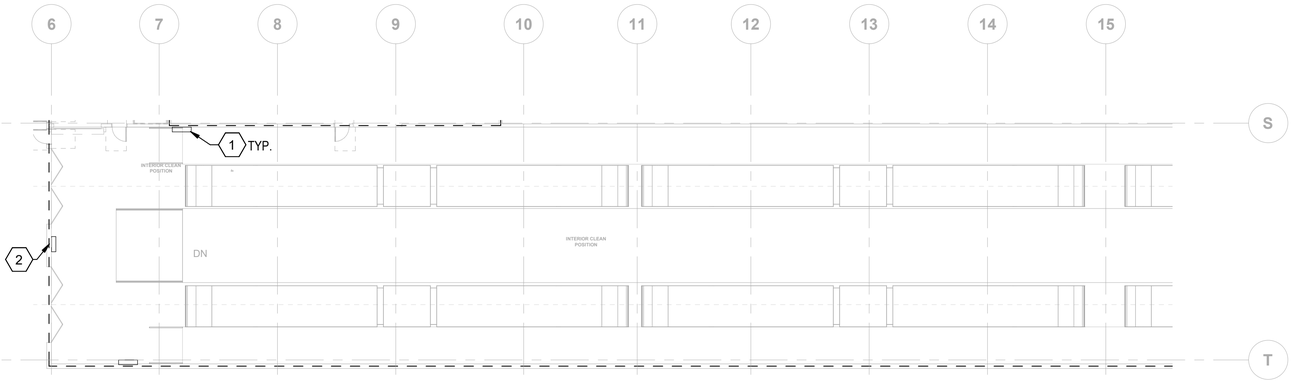
KEY PLAN - M08

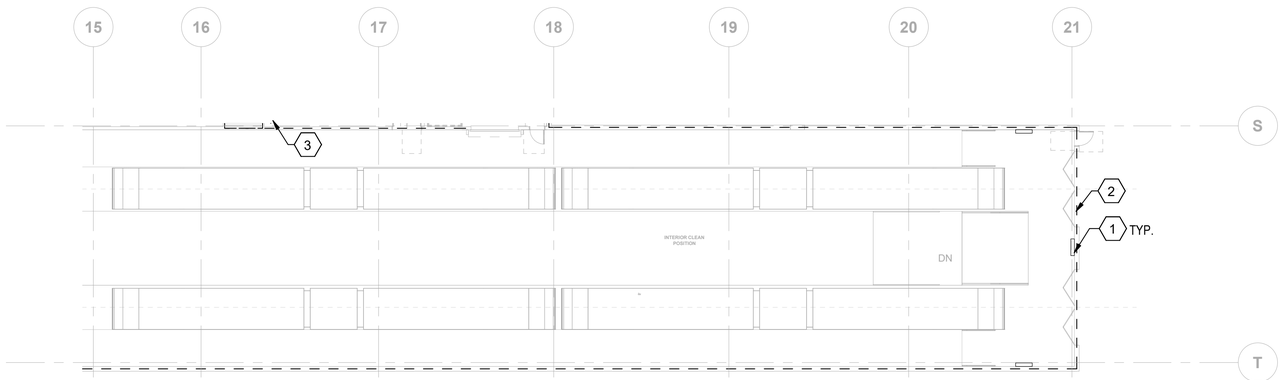




1 HVAC LEVEL 1 FLOOR PLAN - AREA F
1/16" = 1'-0"

KEY NOTES

1. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
2. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.
3. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.



2 HVAC LEVEL 1 FLOOR PLAN - AREA G
1/16" = 1'-0"

N

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SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY	PRELIMINARY	SUBMITTED BY:	DATE:	REVIEWED BY:
DRAWN BY: B. BOONE				
CHECKED BY: B. CRANE				
APPROVED BY: R. HIMMEL				

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:	
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
DATE:	DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 1 FLOOR PLAN - AREA F & G

DRAWING No.:	M08-MHP108
FACILITY ID:	M08
SHEET No:	REV: 26

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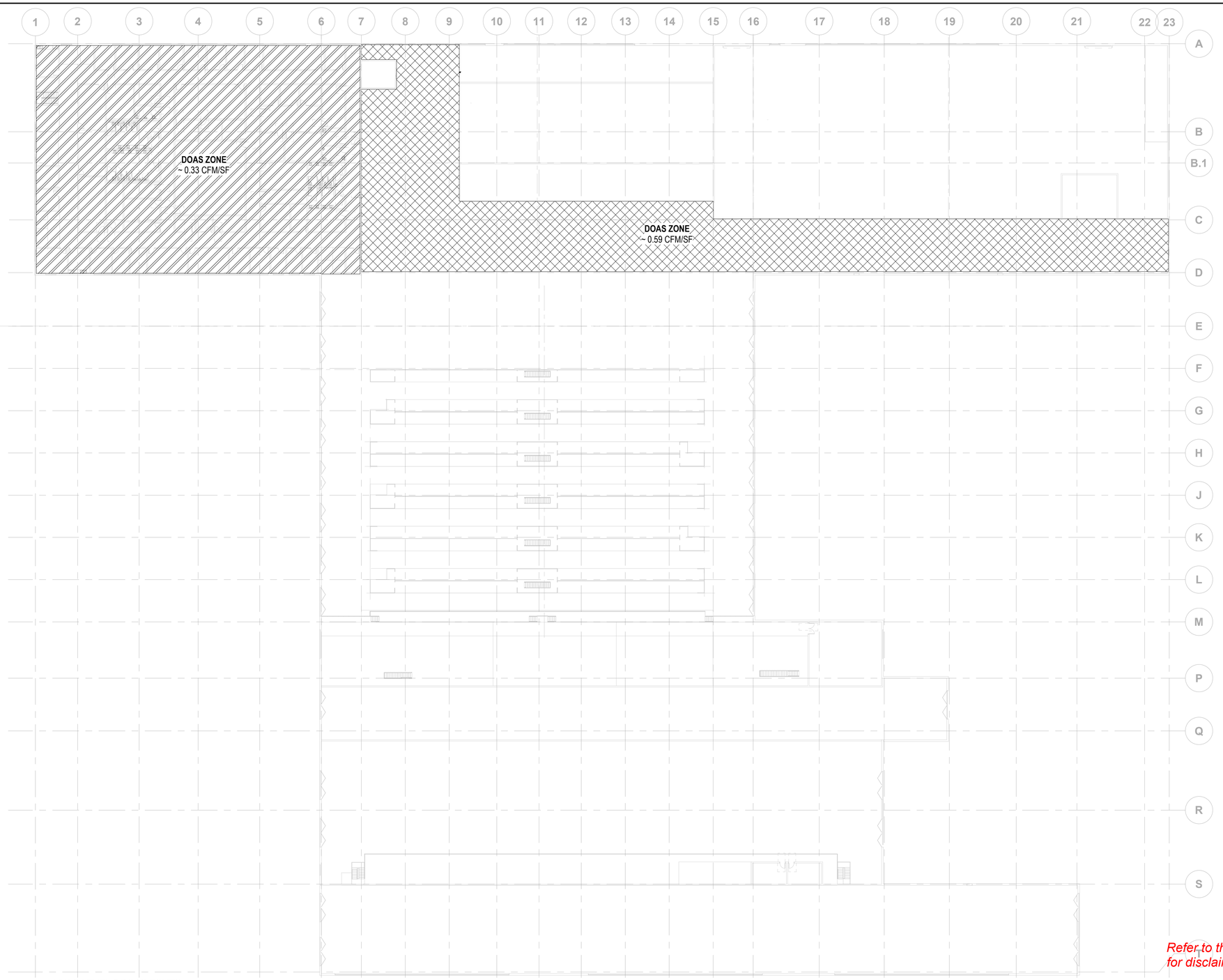
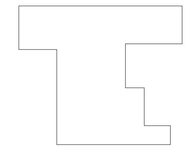


1 HVAC LEVEL 2 DOAS ZONES
1" = 30'-0"

KEY PLAN - M08



DOAS EQUIPMENT TYPE LEGEND

ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, DX COOLING/HEATING, FILTRATION, DISCHARGE VOLUME, TEMPERATURE AND HUMIDITY CONTROL

ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, DX COOLING/HEATING, FILTRATION, DISCHARGE VOLUME AND TEMPERATURE CONTROL

N

30 15 0 30 60
SCALE IN FEET

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

NOT FOR CONSTRUCTION

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: 1" = 30'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 2 DOAS ZONE PLAN

DRAWING No.: **M08-MHP201**
FACILITY ID: M08
SHEET No: 27 REV:

2/23/2024 2:10:56 PM
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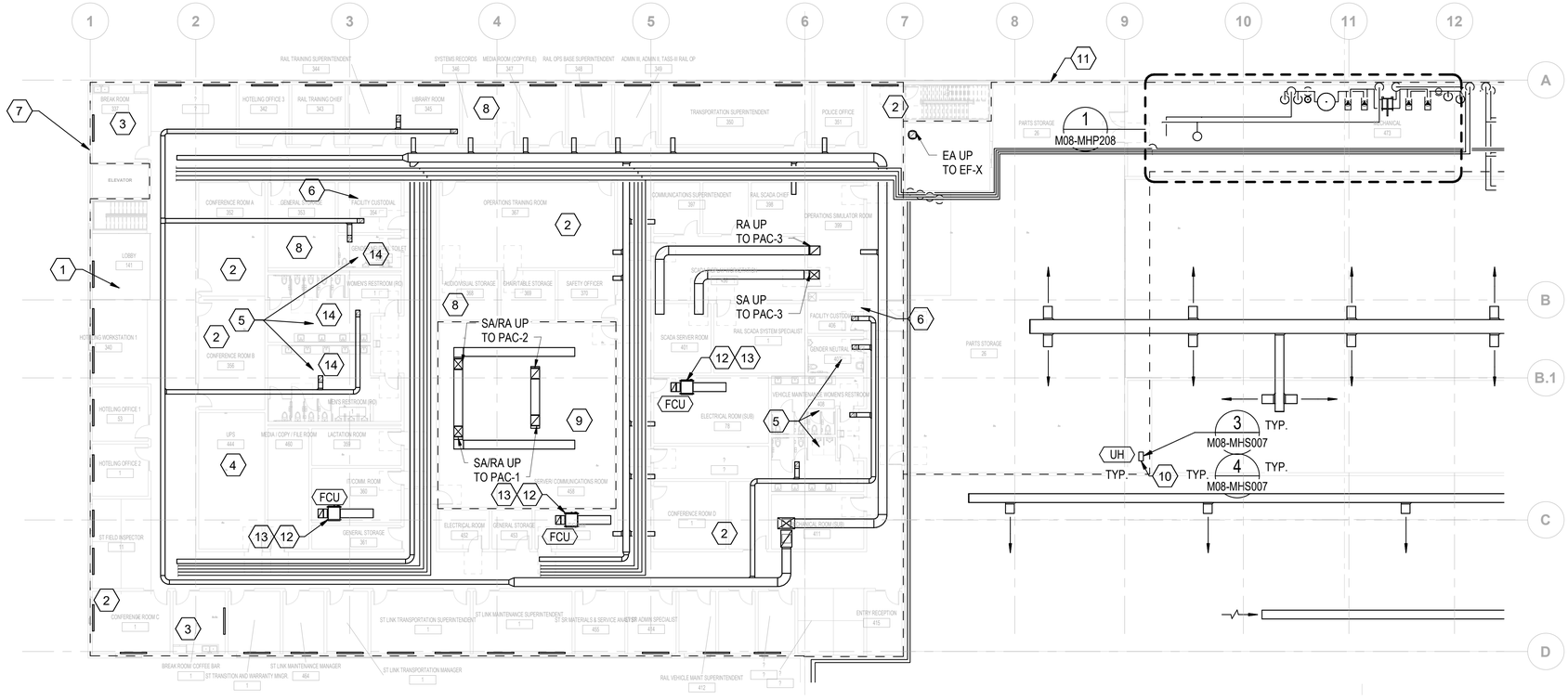
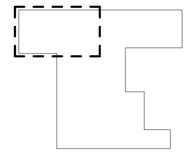


1 HVAC LEVEL 2 FLOOR PLAN - AREA A
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. PROVIDE DEDICATED COOLING UNIT FOR ELEVATOR MACHINE ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
2. PROVIDE VENTILATION SETBACK CONTROLS INCLUDING VARIABLE AIR VOLUME CONTROLLER AND OCCUPANCY SENSORS.
3. PROVIDE EXHAUST VENTILATION FOR LUNCH ROOM/KITCHEN/BREAKROOM/COFFEE BAR/VENDING AREAS.
4. PROVIDE DEDICATED EXHAUST SYSTEM FOR ELECTRICAL ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM. MAKEUP AIR TO BE SOURCED FROM BUILDING EXTERIOR OR TRANSFER AIR FROM ADJACENT SPACE BASED ON COOLING NEEDS OF ELECTRICAL ROOM BY WAY OF ECONOMIZER.
5. PROVIDE EXHAUST FOR RESTROOMS/CUSTODIAL CLOSET WITH RELIEF AIR CONNECTION TO ROOFTOP ERV. COORDINATE LOUVERS IN DOORS FOR TRANSFER/MAKEUP AIR.
6. PROVIDE EXHAUST FOR CUSTODIAL CLOSET. COORDINATE DOOR LOUVER FOR MAKEUP AIR.
7. PROVIDE BALANCED HEATING, COOLING AND VENTILATION SYSTEMS FOR EACH SPACE SHOWN AND INDICATED. PROVIDE CO2, OCCUPANCY, TEMPERATURE & HUMIDITY MONITORING.
8. PROVIDE BALANCED HEATING, COOLING AND VENTILATION SYSTEMS INCLUDING HUMIDITY MANAGEMENT CONTROL FOR FILE AND EQUIPMENT STORAGE SPACES. PROVIDE CO2, OCCUPANCY, TEMPERATURE & HUMIDITY MONITORING.

KEY NOTES

9. PROVIDE DEDICATED AND REDUNDANT AIR HANDLING UNIT FOR SERVER/COMMUNICATIONS ROOM.
10. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.
11. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.
12. PROVIDE DEDICATED COOLING UNIT FOR IT/COMM ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
13. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.
14. PROVIDE RESTROOM EXHAUST, BALANCED HEATING HEATING & COOLING FOR RESTROOMS/LOCKER. PROVIDE INSULATED OXIDATION RESISTANT EXHAUST DUCTING (ALUMINIMUM OR STAINLESS STEEL) ON EXHAUST SYSTEMS WHERE MORE THAN 50% OF THE AIR IN DUCT IS FROM SHOWER ROOM.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 2 FLOOR PLAN - AREA A

DRAWING No.: **M08-MHP202**
FACILITY ID: M08
SHEET No.: 28
REV:

2/23/2024 2:11:05 PM
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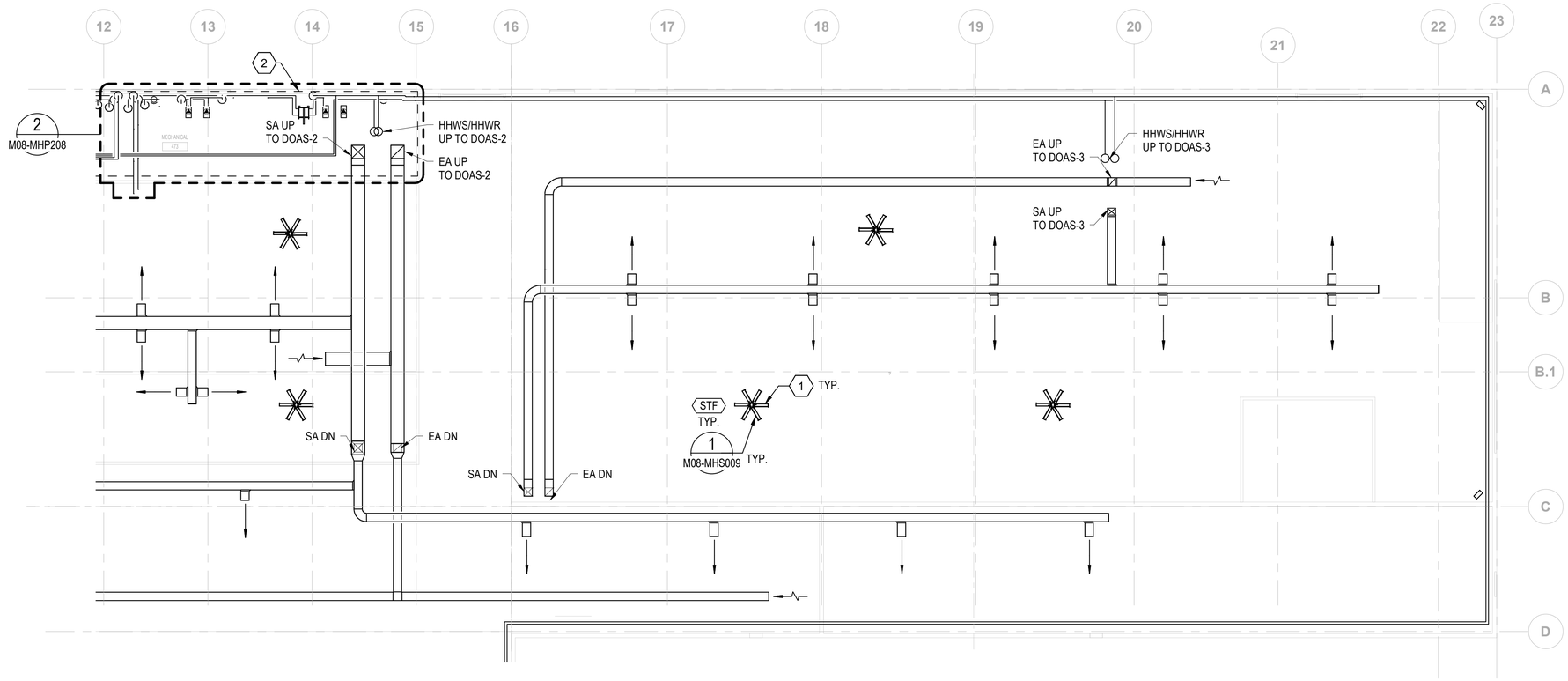
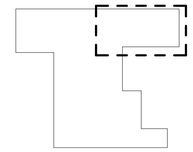


1 HVAC LEVEL 2 FLOOR PLAN - AREA B
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. OVERHEAD HIGH VOLUME LOW SPEED FAN. LOCATED ABOVE ALL OVERHEAD OBSTRUCTIONS (CRANES) EQUIPMENT. PROVIDE SPEED CONTROL WITH FAN SYSTEM WITH LABELING FOR USER OVERRIDE. COORDINATE LOCATION OF CONTROL WITH ST SHOPS AND OPERATION.
2. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT
DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 2 FLOOR PLAN - AREA B

DRAWING No.: **M08-MHP203**
FACILITY ID: M08
SHEET No: 29
REV:

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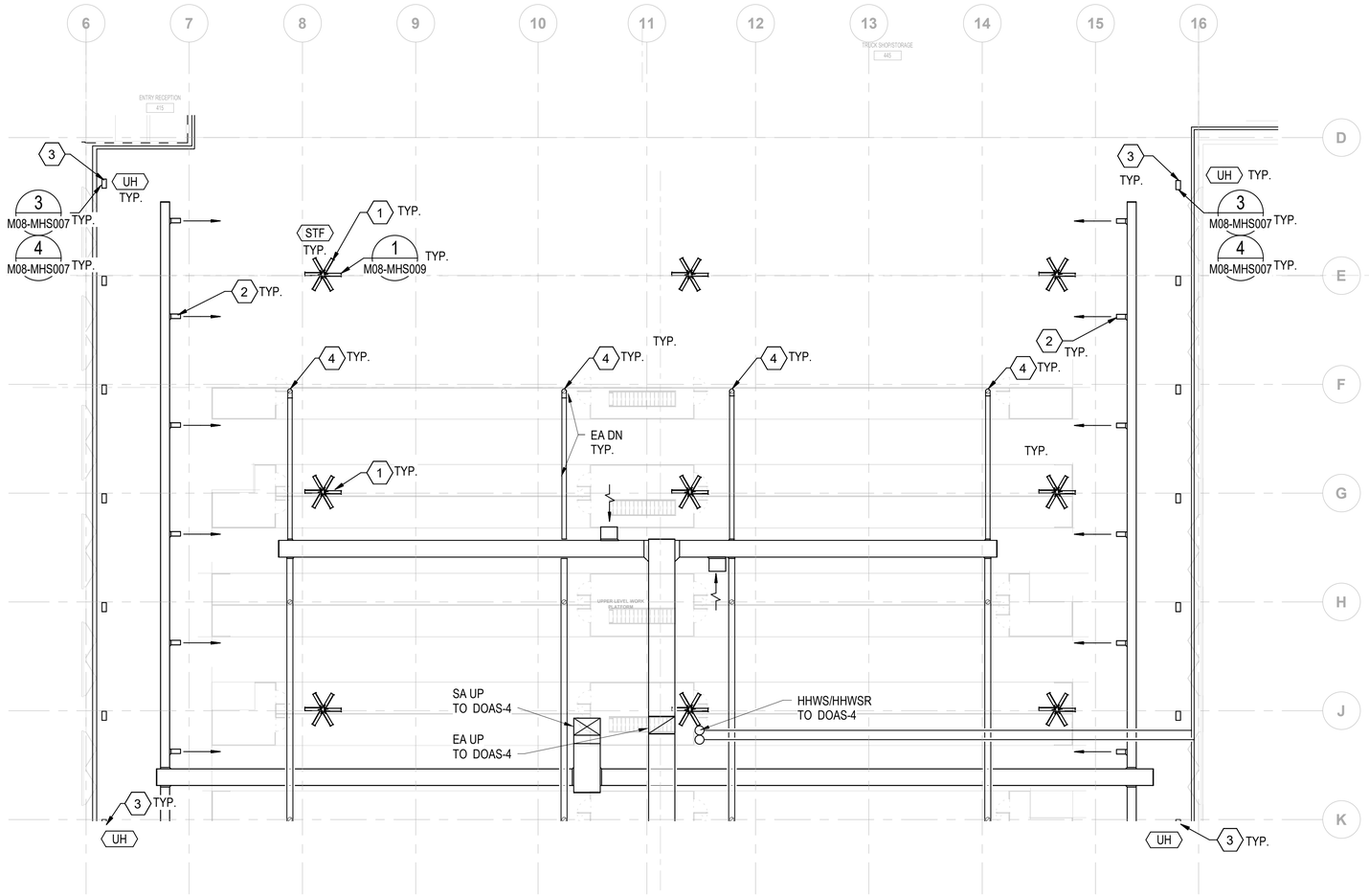
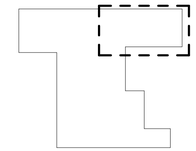


1 HVAC LEVEL 2 FLOOR PLAN - AREA C
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. OVERHEAD HIGH VOLUME LOW SPEED FAN. LOCATED ABOVE ALL OVERHEAD OBSTRUCTIONS (CRANES) EQUIPMENT. PROVIDE SPEED CONTROL WITH FAN SYSTEM WITH LABELING FOR USER OVERRIDE. COORDINATE LOCATION OF CONTROL WITH ST SHOPS AND OPERATION.
2. VENTILATION AIR TO MAINTENANCE SPACE. AIR DIRECTED TOWARDS LEVEL 0 AND LEVEL 1 PLATFORMS.
3. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.
4. EXHAUST DUCT ROUTED DOWN NEAR STRUCTURE AND OTHER UTILITIES. COORDINATE ROUTING WITH ALL DISCIPLINES AND ST SHOPS/OPERATIONS TO MAXIMIZE AVAILABLE FLOOR SPACE AT EACH LEVEL.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23739 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

SOUND TRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 2 FLOOR PLAN - AREA C

DRAWING No.: **M08-MHP204**
FACILITY ID: M08
SHEET No.: 30
REV:

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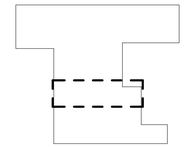
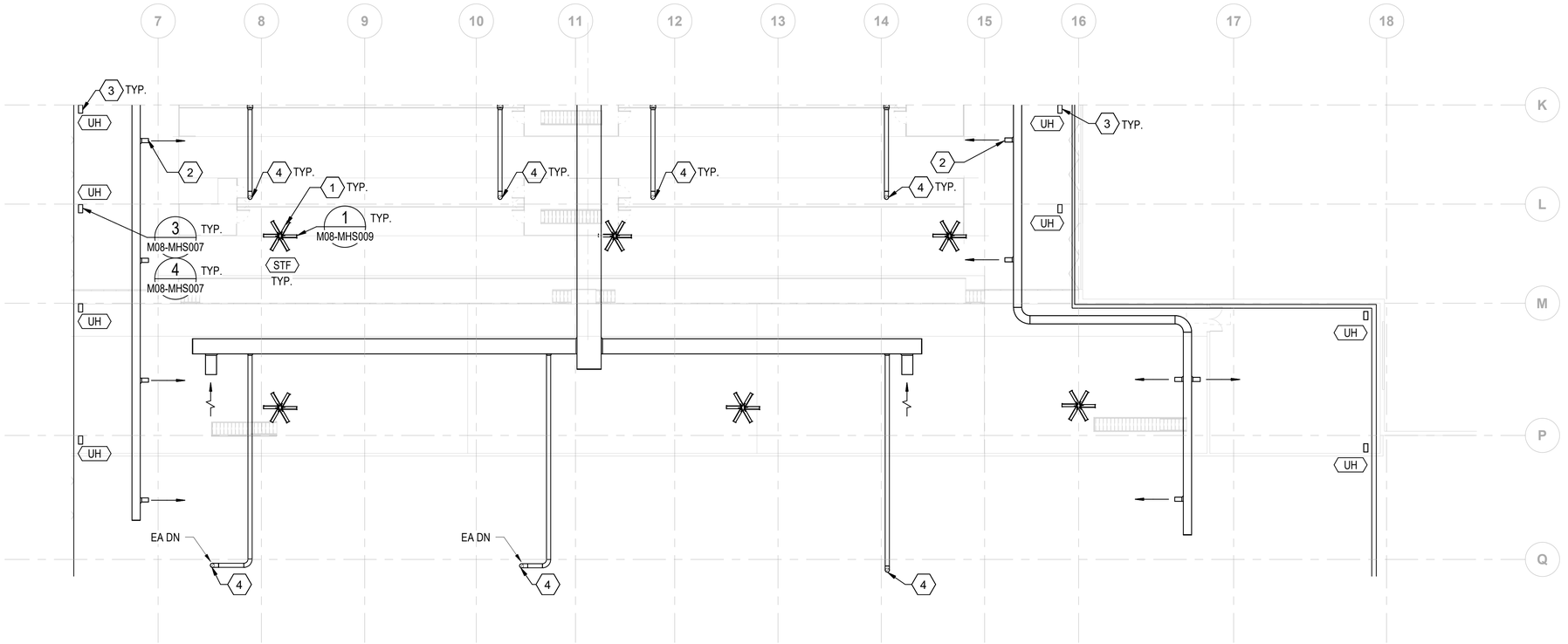
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

KEY PLAN - M08





1 HVAC LEVEL 2 FLOOR PLAN - AREA D
1/16" = 1'-0"

KEY NOTES

1. OVERHEAD HIGH VOLUME LOW SPEED FAN. LOCATED ABOVE ALL OVERHEAD OBSTRUCTIONS (CRANES) EQUIPMENT. PROVIDE SPEED CONTROL WITH FAN SYSTEM WITH LABELING FOR USER OVERRIDE. COORDINATE LOCATION OF CONTROL WITH ST SHOPS AND OPERATION.
2. VENTILATION AIR TO MAINTENANCE SPACE. AIR DIRECTED TOWARDS LEVEL 0 AND LEVEL 1 PLATFORMS.
3. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.
4. EXHAUST DUCT ROUTED DOWN NEAR STRUCTURE AND OTHER UTILITIES. COORDINATE ROUTING WITH ALL DISCIPLINES AND ST SHOPS/OPERATIONS TO MAXIMIZE AVAILABLE FLOOR SPACE AT EACH LEVEL.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHRD E. HIMMEL — STATE OF WASHINGTON — 23736 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY: | DATE: | REVIEWED BY:

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE: | DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

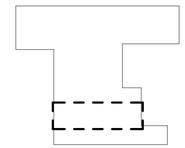
MECHANICAL

OMF HVAC LEVEL 2 FLOOR PLAN - AREA D

DRAWING No.: M08-MHP205
FACILITY ID: M08
SHEET No: 31
REV:

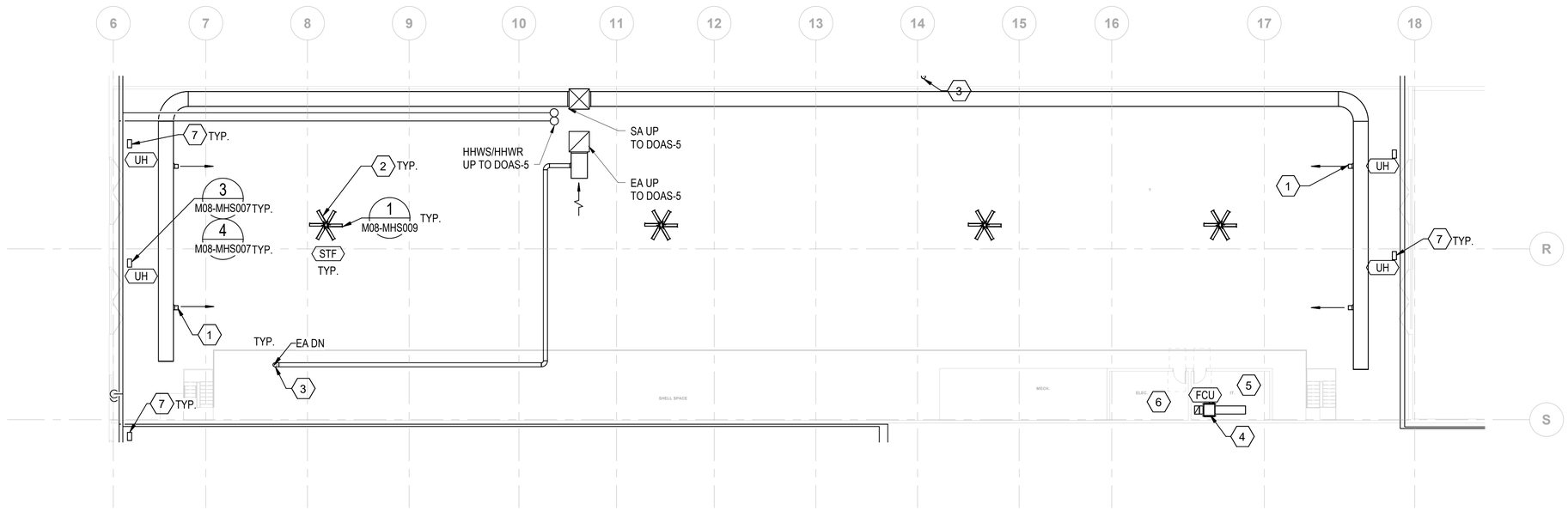
2/23/2024 2:11:23 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

KEY PLAN - M08



KEY NOTES

1. VENTILATION AIR TO MAINTENANCE SPACE. AIR DIRECTED TOWARDS LEVEL 0 AND LEVEL 1 PLATFORMS.
2. OVERHEAD HIGH VOLUME LOW SPEED FAN. LOCATED ABOVE ALL OVERHEAD OBSTRUCTIONS (CRANES) EQUIPMENT. PROVIDE SPEED CONTROL WITH FAN SYSTEM WITH LABELING FOR USER OVERRIDE. COORDINATE LOCATION OF CONTROL WITH ST SHOPS AND OPERATION.
3. EXHAUST DUCT ROUTED DOWN NEAR STRUCTURE AND OTHER UTILITIES. COORDINATE ROUTING WITH ALL DISCIPLINES AND ST SHOPS/OPERATIONS TO MAXIMIZE AVAILABLE FLOOR SPACE AT EACH LEVEL.
4. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.
5. PROVIDE DEDICATED COOLING UNIT FOR IT/COMM ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
6. PROVIDE DEDICATED EXHAUST SYSTEM FOR ELECTRICAL ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM. MAKEUP AIR TO BE SOURCED FROM BUILDING EXTERIOR OR TRANSFER AIR FROM ADJACENT SPACE BASED ON COOLING NEEDS OF ELECTRICAL ROOM BY WAY OF ECONOMIZER.
7. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.



1 HVAC LEVEL 2 FLOOR PLAN - AREA E
1/16" = 1'-0"

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC LEVEL 2 FLOOR PLAN - AREA E

DRAWING No.: **M08-MHP206**
FACILITY ID: M08
SHEET No: 32
REV:

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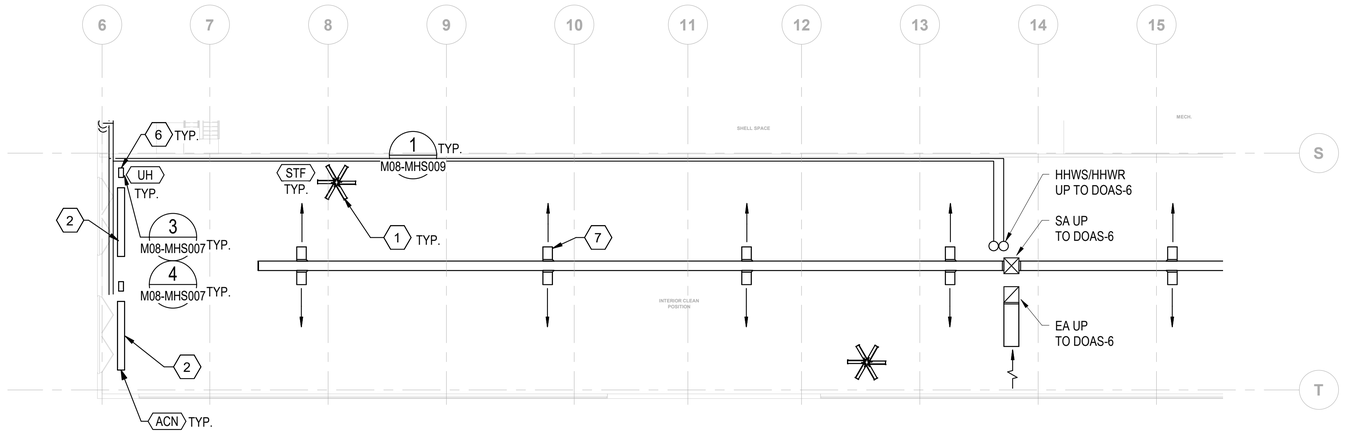
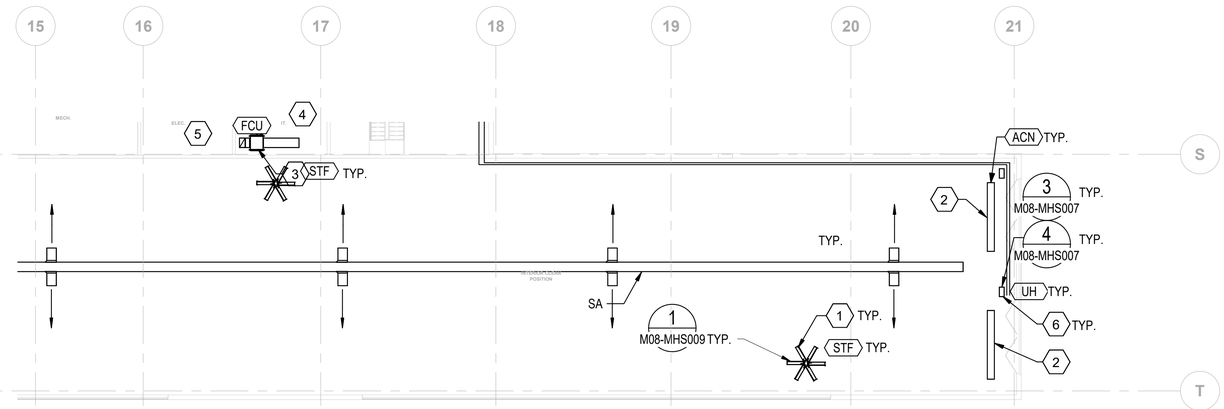
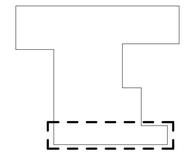


1 HVAC LEVEL 2 FLOOR PLAN - AREA F
1/16" = 1'-0"



2 HVAC LEVEL 2 FLOOR PLAN - AREA G
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. OVERHEAD HIGH VOLUME LOW SPEED FAN. LOCATED ABOVE ALL OVERHEAD OBSTRUCTIONS (CRANES) EQUIPMENT. PROVIDE SPEED CONTROL WITH FAN SYSTEM WITH LABELING FOR USER OVERRIDE. COORDINATE LOCATION OF CONTROL WITH ST SHOPS AND OPERATION.
2. PROVIDE AIR CURTAIN OVER DOOR FOR AIR INFILTRATION MANAGEMENT.
3. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.
4. PROVIDE DEDICATED COOLING UNIT FOR IT/COMM ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
5. PROVIDE DEDICATED EXHAUST SYSTEM FOR ELECTRICAL ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM. MAKEUP AIR TO BE SOURCED FROM BUILDING EXTERIOR OR TRANSFER AIR FROM ADJACENT SPACE BASED ON COOLING NEEDS OF ELECTRICAL ROOM BY WAY OF ECONOMIZER.
6. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.
7. VENTILATION AIR TO MAINTENANCE SPACE. AIR DIRECTED TOWARDS LEVEL 0 AND LEVEL 1 PLATFORMS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 21731 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023 SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC LEVEL 2 FLOOR PLAN - AREA F & G

DRAWING No.: **M08-MHP207**
FACILITY ID: M08
SHEET No: 33
REV:

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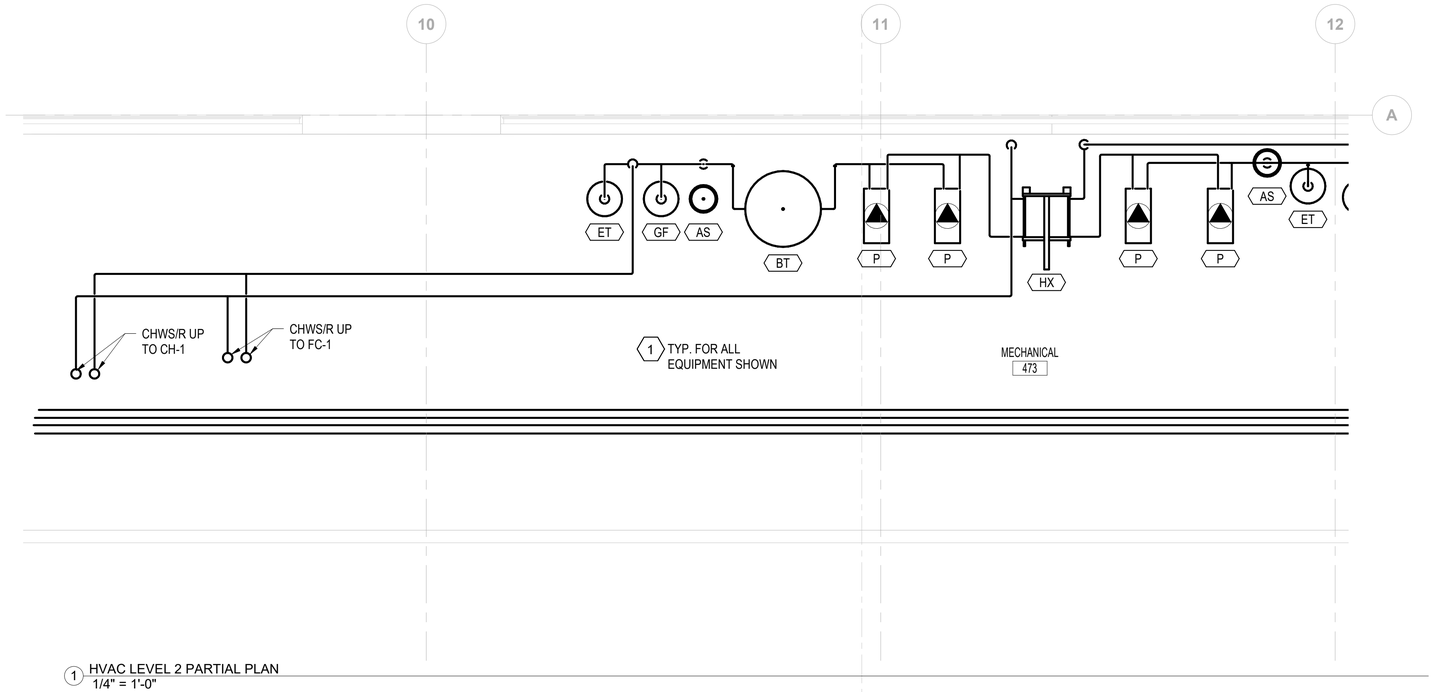
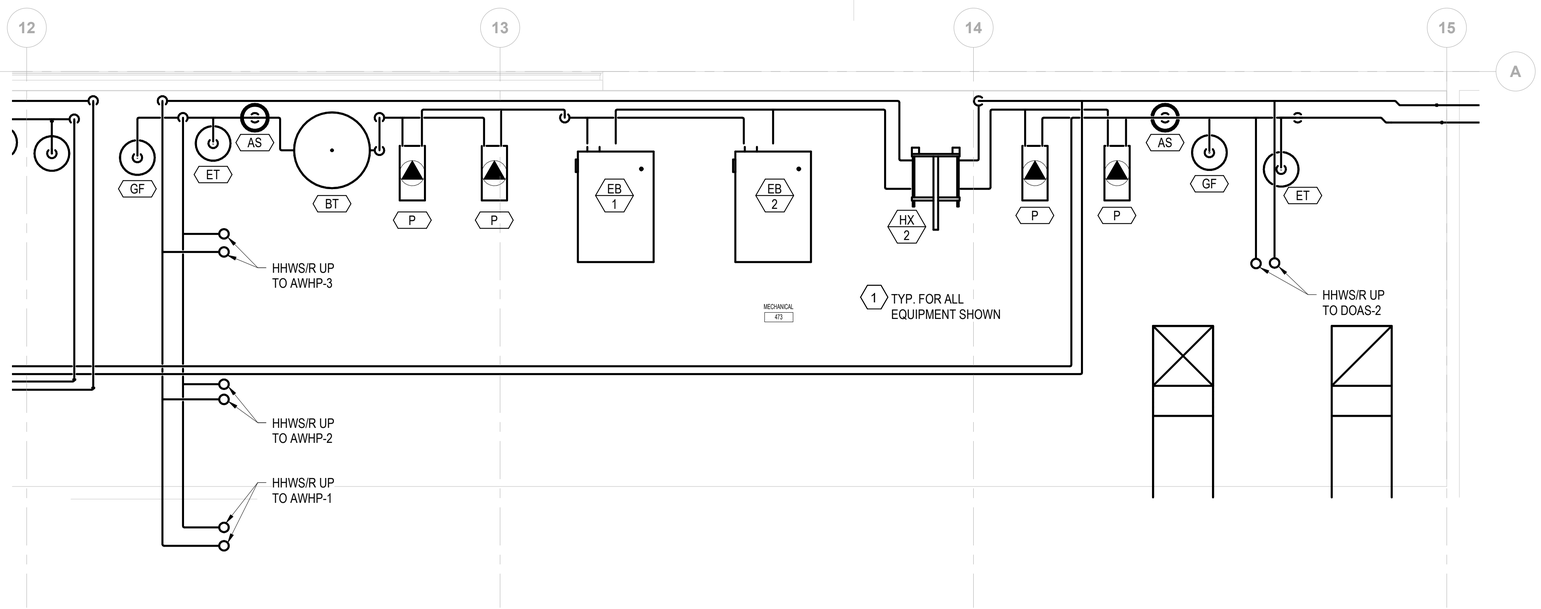
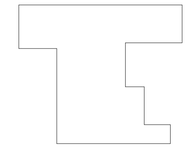


1 HVAC LEVEL 2 PARTIAL PLAN
1/4" = 1'-0"



2 HVAC LEVEL 2 PARTIAL PLAN
1/4" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.

N

4 2 0 4 8
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23739 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC LEVEL 2 ENLARGED PLAN - MECHANICAL ROOM

DRAWING No.: **M08-MHP208**
FACILITY ID: M08
SHEET No.: 34
REV:

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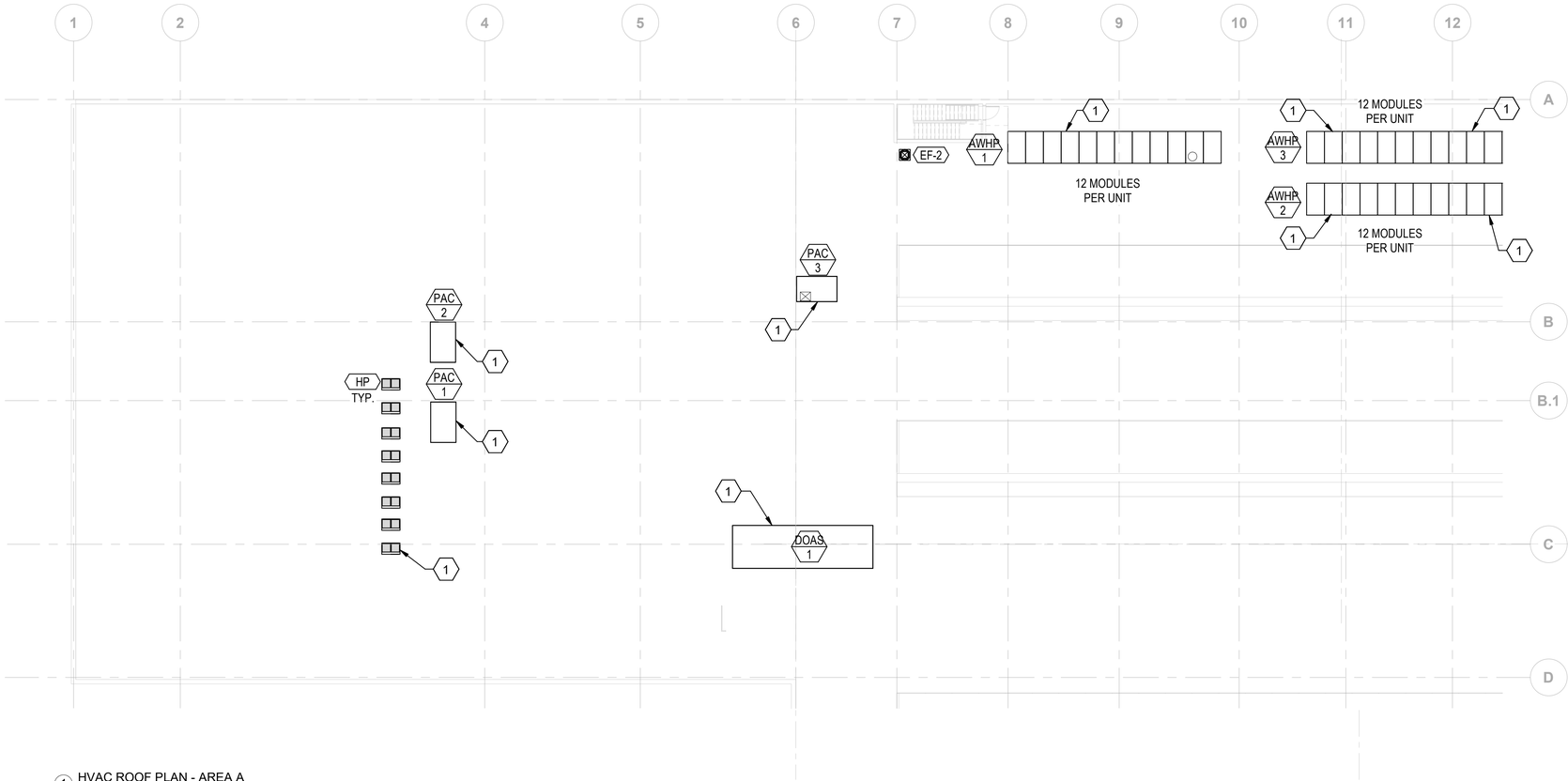
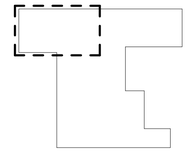
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 HVAC ROOF PLAN - AREA A
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC ROOF PLAN - AREA A

DRAWING No.: **M08-MHP301**
FACILITY ID: M08
SHEET No: 35 REV:

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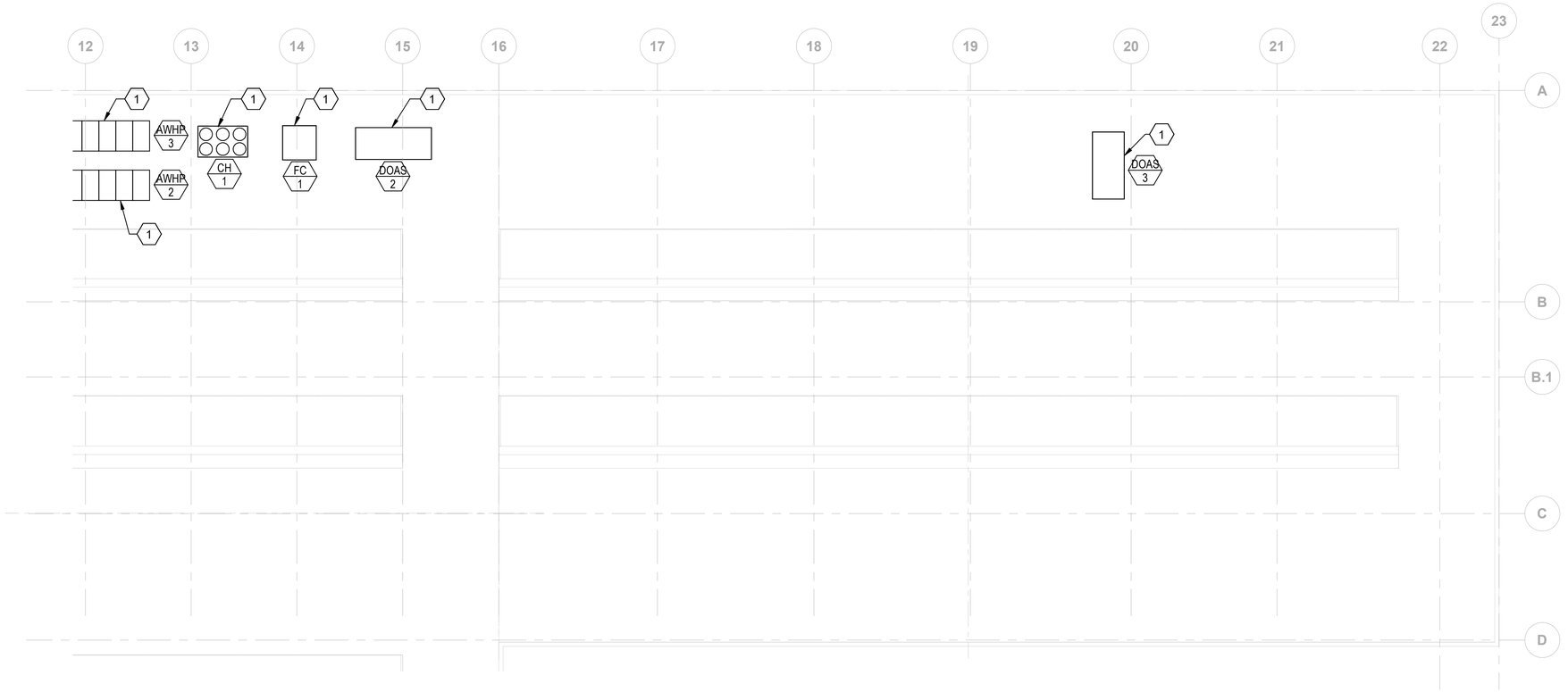
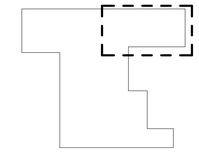


1 HVAC ROOF PLAN - AREA B
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC ROOF PLAN - AREA B

DRAWING No.: **M08-MHP302**
FACILITY ID: M08
SHEET No: 36 REV:

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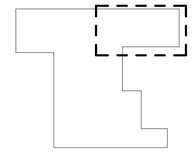
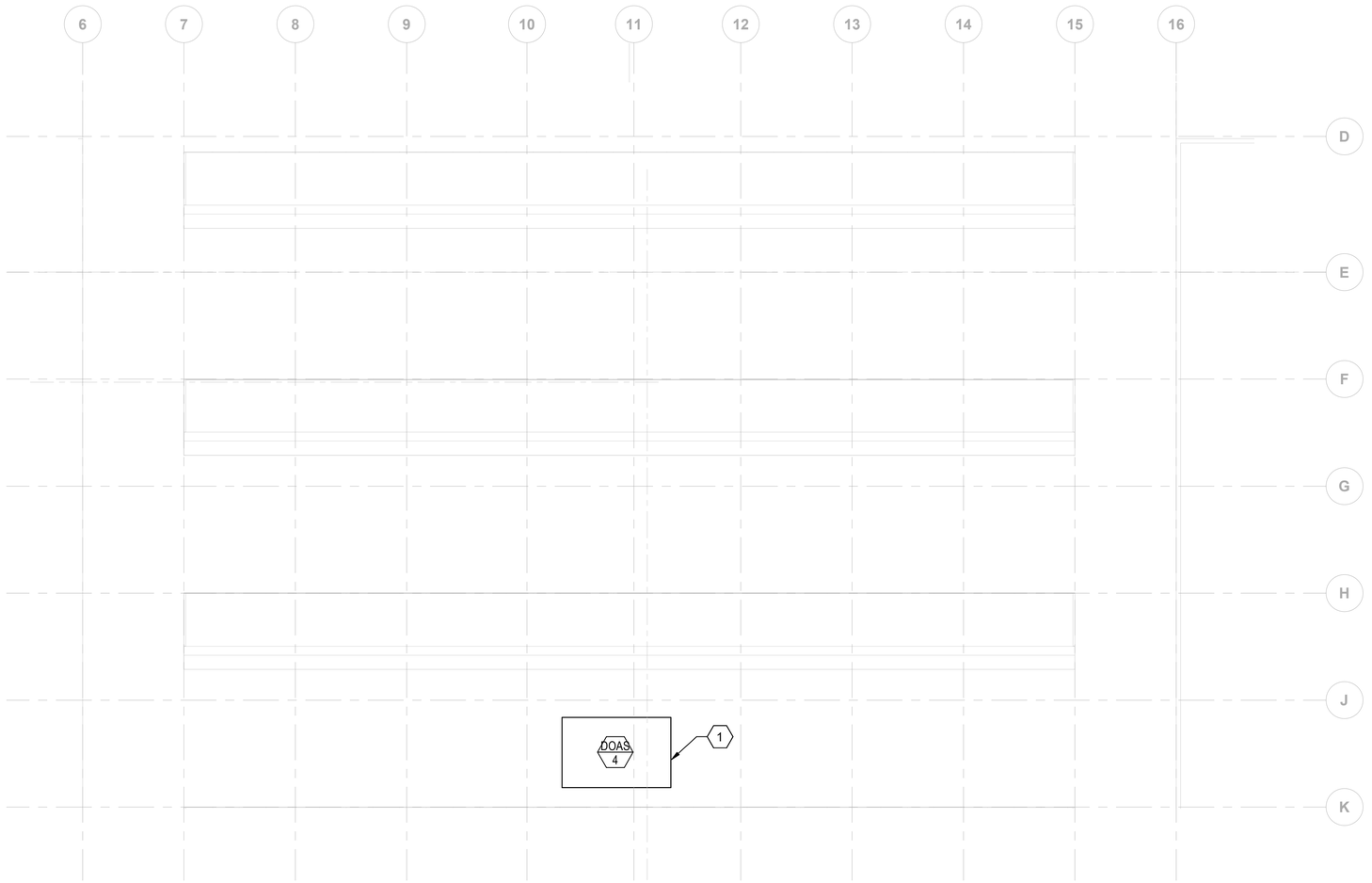
KEY PLAN - M08



KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.



1 HVAC ROOF PLAN - AREA C
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:

FILENAME: X100-X01-X-v2020

CONTRACT No.: X100

DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC ROOF PLAN - AREA C

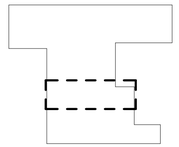
DRAWING No.: **M08-MHP303**

FACILITY ID: M08

SHEET No: 37 REV:

2/23/2024 2:11:51 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

KEY PLAN - M08



KEY NOTES

1 HVAC OMF ROOF PLAN AREA D
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

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DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

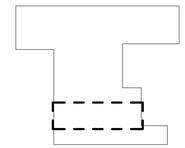
MECHANICAL

OMF HVAC ROOF PLAN - AREA D

DRAWING No.: **M08-MHP304**
FACILITY ID: M08
SHEET No: 38
REV:

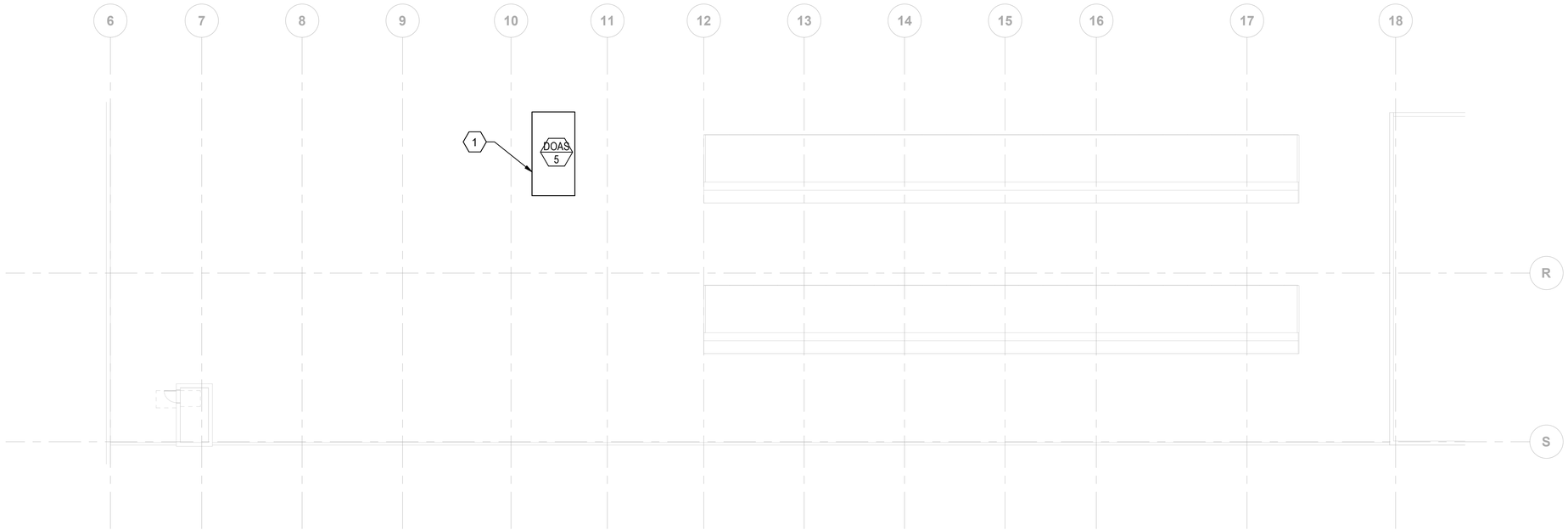
2/23/2024 2:11:56 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

KEY PLAN - M08



KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.



1 HVAC ROOF PLAN - AREA E
1/16" = 1'-0"

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

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FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC ROOF PLAN - AREA E

DRAWING No.: **M08-MHP305**
FACILITY ID: M08
SHEET No: 39
REV:

2/23/2024 2:12:04 PM
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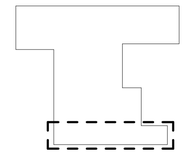
1 HVAC ROOF PLAN - AREA F
1/16" = 1'-0"

2 HVAC ROOF PLAN - AREA G
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

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REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

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LINE IS 1" AT FULL SCALE

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SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC ROOF PLAN - AREA F & G

DRAWING No.: **M08-MHP306**
FACILITY ID: M08
SHEET No: 40 REV:

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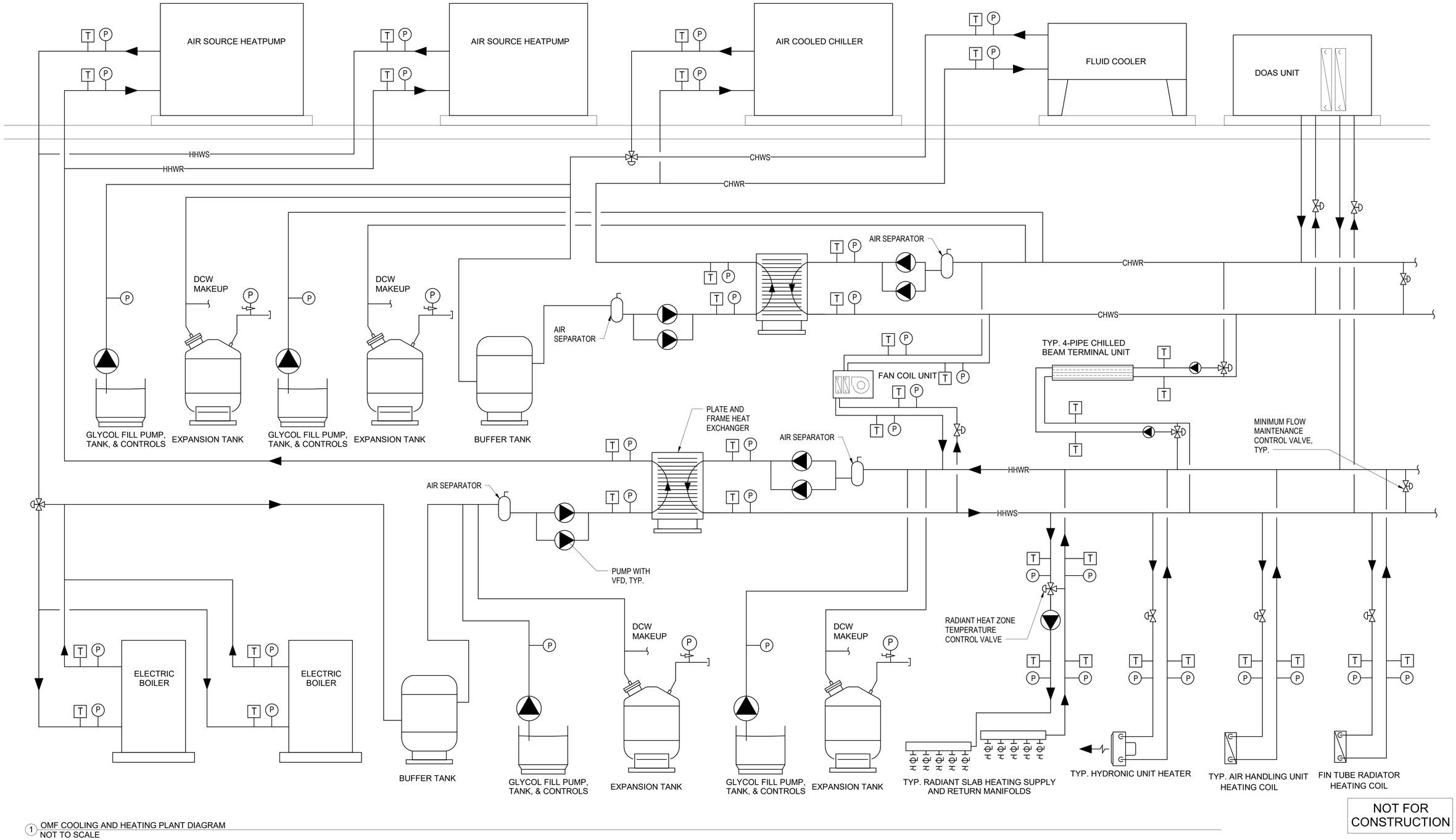

NOT FOR CONSTRUCTION

1 OMF COOLING AND HEATING PLANT DIAGRAM
NOT TO SCALE

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 21734 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

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DATE: | DATE:

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF HVAC COOLING AND HEATING PLANT SCHEMATIC

DRAWING No.: **M08-MHS001**
FACILITY ID: M08
SHEET No: 41 REV:

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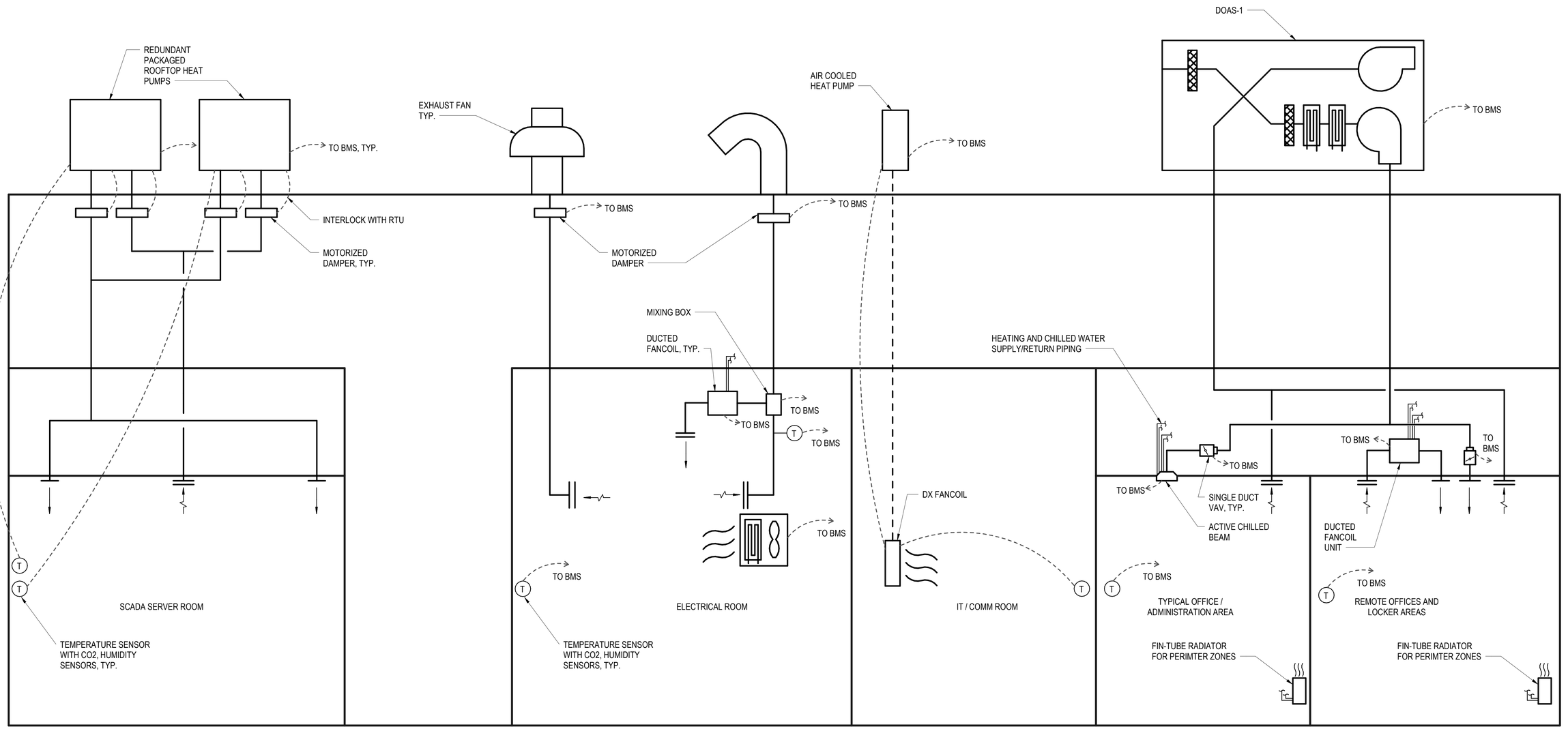
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 HVAC BMS CONTROLS SCHEMATIC - ZONE A & B - OFFICE AND IT ROOM SPACES
12" = 1'-0"

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23776 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

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LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE: | DATE:

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

HVAC BMS CONTROL SCHEMATICS

DRAWING No.: **M08-MHS002**
FACILITY ID: M08
SHEET No: 42 | REV:

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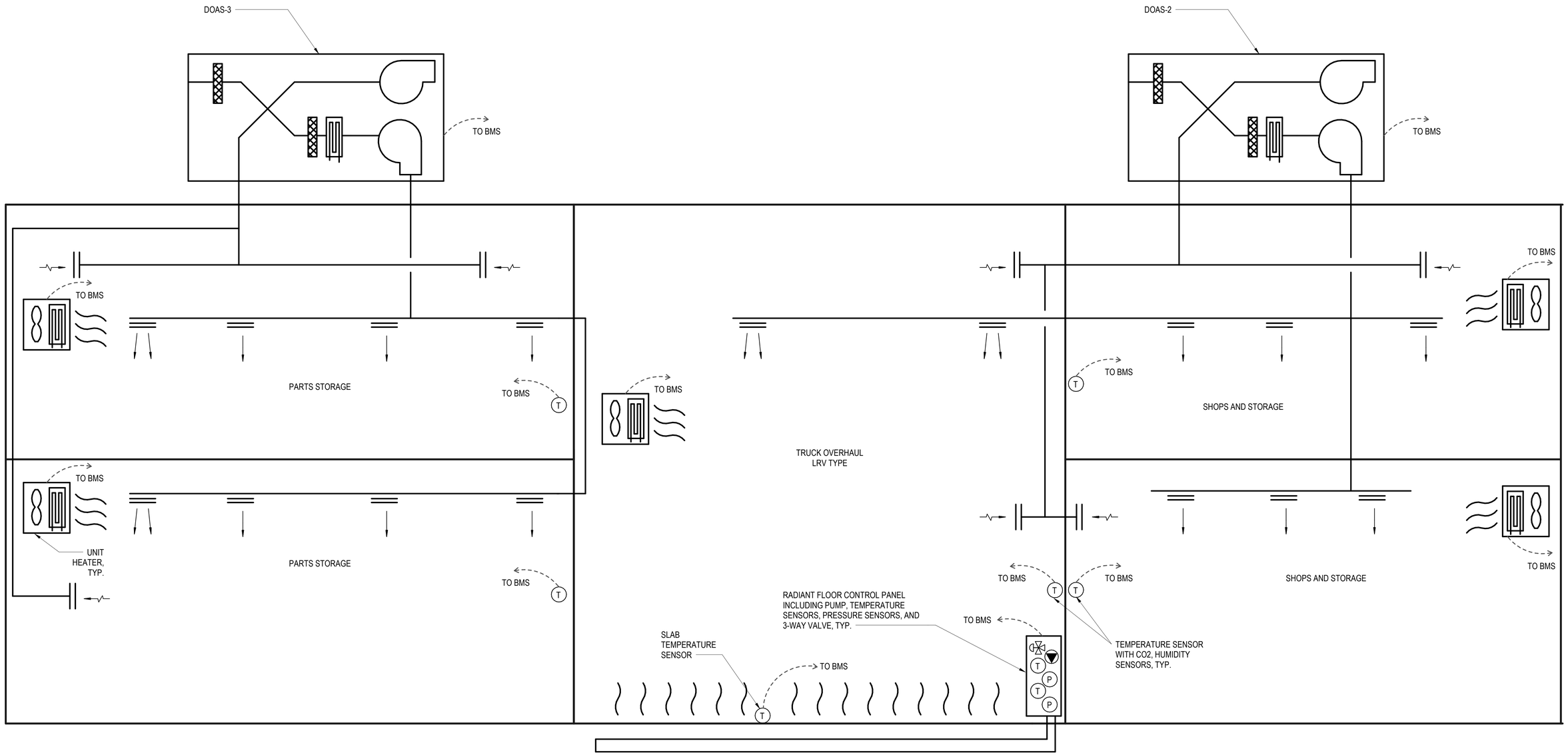
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 HVAC BMS CONTROLS SCHEMATIC - ZONES A & B - STORAGE AND SHOPS
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SoundTransit

DATE:

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
HVAC BMS CONTROL SCHEMATICS

DRAWING No.: **M08-MHS003**
FACILITY ID: M08
SHEET No: 43 REV:

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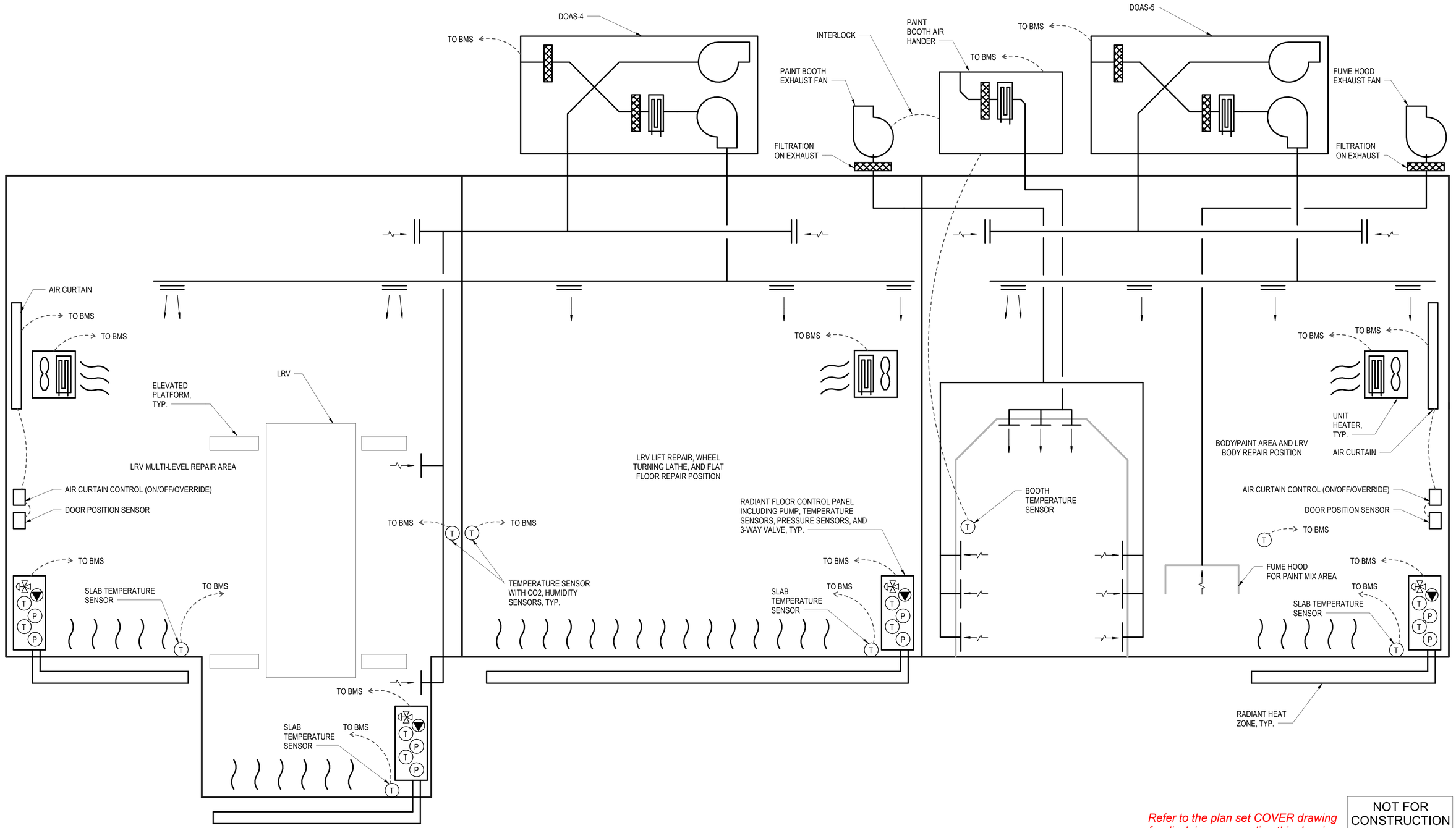

1 HVAC BMS CONTROLS SCHEMATIC - ZONE C,D, & E
NOT TO SCALE

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

NOT FOR CONSTRUCTION

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REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

HDR

SUBMITTED BY:
DATE:
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

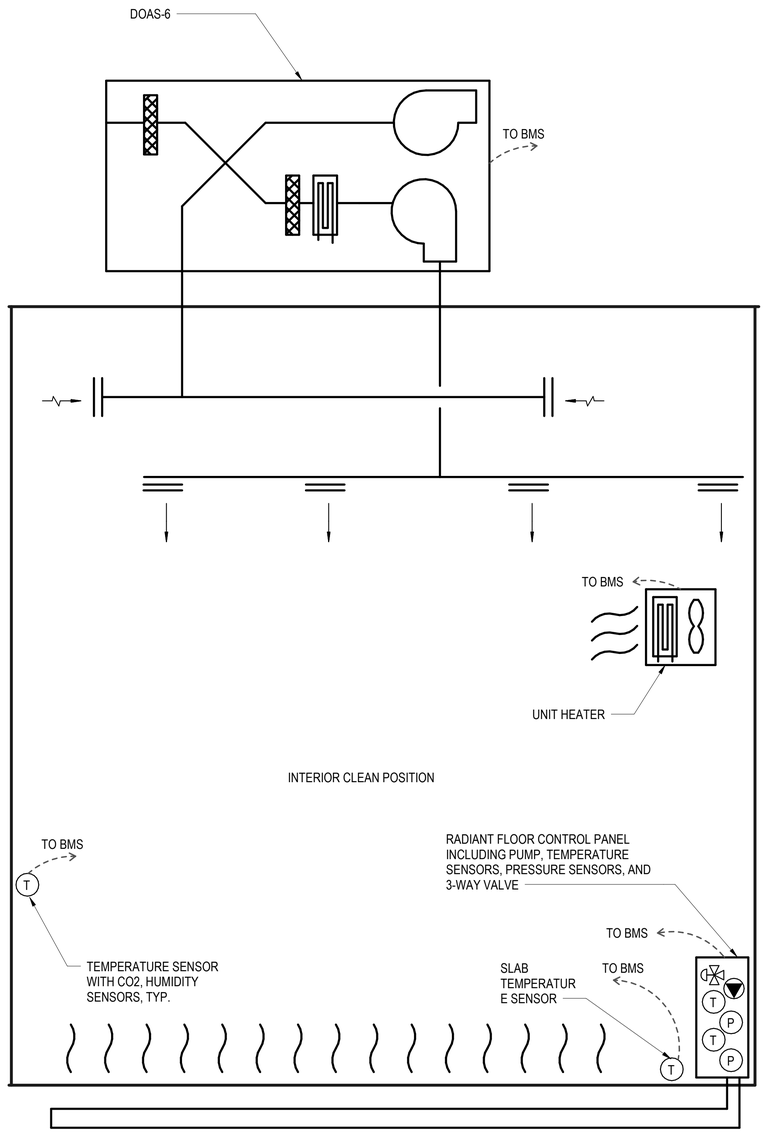
SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

HVAC BMS CONTROL SCHEMATICS

DRAWING No.: **M08-MHS004**
FACILITY ID: M08
SHEET No: 44
REV:



1 HVAC BMS CONTROLS DIAGRAM - SECTION F & G
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

HVAC BMS CONTROL SCHEMATIC

DRAWING No.: **M08-MHS005**
FACILITY ID: M08
SHEET No: 45 REV:

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OMF CONCEPT OF OPERATIONS

OFFICE, ADMINISTRATION, TRAINING, CONFERENCE, SIMULATOR, MEDIA ROOM, QUIET ROOM, SYSTEM RECORDS/LIBRARY ROOM, MAINTENANCE LIBRARY

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING, ZONE LEVEL VARIABLE AIR VOLUME TERMINAL UNIT) FOR VENTILATION
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS
- ZONE LEVEL OCCUPANCY SENSOR UTILIZED TO ENGAGE "OCCUPIED" VENTILATION DAMPER POSITION FOR CONFERENCE ROOMS AND OTHER DENSE OCCUPANCY AREAS AND WHERE AIR VOLUME CONTROL IS PROVIDED ON VENTILATION TO SPACE.

ADMINISTRATIVE FILE STORAGE, AUDIO/VIDEO & CHAIR/TABLE STORAGE,

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- PROVIDE HUMIDITY MONITORING AND MANAGEMENT
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE. SPECIFICALLY, DDC SYSTEM SHALL MONITOR HUMIDITY AND ADJUST FANSPEED AND COOLING CONTROL VALVE TO MANAGE HUMIDITY MAXIMUM LIMIT IN ROOM.

LUNCH ROOM, BREAK ROOM, COFFEE BAR, VENDING, KITCHEN

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE FOOD ODORS

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS
- DIRECT EXHAUST/RELIEF AIR CONNECTION TO ROOM AT OR NEAR POINT SOURCE OF NOXIOUS SMELLS.

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS

FITNESS ROOM.

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL VARIABLE AIR VOLUME TERMINAL UNIT) FOR VENTILATION
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS
- ZONE LEVEL OCCUPANCY SENSOR UTILIZED TO ENGAGE "OCCUPIED" VENTILATION DAMPER POSITION FOR FITNESS AREA TO RESPOND TO CO^2 LEVELS WHEN OCCUPIED.

LACTATION ROOM

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING.
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL THERMOSTAT WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS.

SCADA DISPLAY WORKSTATION & SCADA SERVER ROOM

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- PROTECT SCADA EQUIPMENT BY PROVIDING CONSISTENT INDOOR AIR CLIMATE

B. COMPONENTS INCLUDED:
- DEDICATED COOLING/HEATING/VENTILATION UNIT WITH ECONOMIZER, AND HIGH EFFECTIVENESS FILTRATION.
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR AIR TEMPERATURE.

RAIL OPERATIONS

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING, ZONE LEVEL VARIABLE AIR VOLUME TERMINAL UNIT) FOR VENTILATION
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- DIRECT EXHAUST/RELIEF AIR CONNECTION TO ROOM AT OR NEAR POINT SOURCE OF NOXIOUS SMELLS.

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS
- ZONE LEVEL OCCUPANCY SENSOR UTILIZED TO ENGAGE "OCCUPIED" VENTILATION DAMPER POSITION FOR CONFERENCE ROOMS AND OTHER DENSE OCCUPANCY AREAS AND WHERE AIR VOLUME CONTROL IS PROVIDED ON VENTILATION TO SPACE.

LOCKER ROOM, LOCKER ALCOVE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- DIRECT EXHAUST/RELIEF AIR CONNECTION TO ROOM AT OR NEAR POINT SOURCE OF NOXIOUS SMELLS.

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS.

RESTROOM AND SHOWER ROOMS

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

VEHICLE MAINTENANCE, SERVICE AND INSPECTION, LIFT REPAIR POSITION, SERVICE AND INSPECTION POSITION, WHEEL TRUING POSITION, REPAIR, AND OVERHAUL POSITION, TRUCK SHOP, STORAGE, AND WASH, TRUCK OVERHAUL, HVAC PREP/REPAIR SHOP/STORAGE, PANTOGRAPH PREP/REPAIR SHOP/STORAGE, BRAKE AND COUPLER SHOP, WELDING/FABRICATION SHOP, TOOL STORAGE, COMMON WORK AREA, PORTABLE EQUIPMENT STORAGE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS, DUST, AIR INDOOR AIR QUALITY

B. COMPONENTS INCLUDED:
- UNIT HEATERS (FANS, HEATING WATER CONTROL VALVES)
- ROOF MOUNTED ENERGY RECOVERY VENTILATOR
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- DESTRATIFICATIONS FANS
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS
- AREA TEMPERATURE SENSORS
- DESTRATIFICATION FAN SPEED CONTROLLER

C. CONTROL STRATEGY:
- ZONE LEVEL AND GENERAL ROOM TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- VENTILATION SUPPLY AND EXHAUST POSITIONED TO VENTILATE EACH SPACE WITH CONSIDERATION FOR VEHICLE MAINTENANCE AND ACCESS STRUCTURE INCLUDING STAIRS, PLATFORMS, PITS AND TOOL STORAGE.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.
- OPERATORS OVERRIDE FOR DESTRATIFICATION FAN SPEED CONTROL.

PAINT PREP, PAINT MIXING AND BODY POSITION

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS, DUST, AIR INDOOR AIR QUALITY

B. COMPONENTS INCLUDED:
- UNIT HEATERS (FANS, HEATING WATER CONTROL VALVES)
- ROOF MOUNTED ENERGY RECOVERY VENTILATOR WITH BOTH OUTSIDE AND RETURN/EXHAUST AIR FILTRATION
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- DESTRATIFICATIONS FANS
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS
- AREA TEMPERATURE SENSORS
- DESTRATIFICATION FAN SPEED CONTROLLER

C. CONTROL STRATEGY:
- ZONE LEVEL AND GENERAL ROOM TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- VENTILATION SUPPLY AND EXHAUST POSITIONED AND BALANCED TO PREVENT MIGRATION OF ODORS AWAY FROM PAINT AREA.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.
- OPERATORS OVERRIDE FOR DESTRATIFICATION FAN SPEED CONTROL.

ELECTRONICS REPAIR SHOP, INVERTER SHOP/STORAGE, ACCELERATED PROCESSING UNIT (APU) SHOP/STORAGE, HIGH SPEED CIRCUIT BREAKER (HSCB) & BATTERY SHOP/STORAGE, RAIL CAR MANUFACTURER OFFICE/SHOP/STORAGE AREA, BODY SHOP STORAGE, TOOLBOX STORAGE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMINAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

LUBE ROOM/COMPRESSOR ROOM

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR EQUIPMENT.
- MANAGED ENERGY USE DURING ALL HOURS.
- PROTECT EQUIPMENT FROM OVER HEATING.
- MANAGE ODORS, DUST AND AEROSOLIZED LUBRICANT.

B. COMPONENTS INCLUDED:
- EXHAUST FAN AND FILTERED MAKEUP AIR FROM ADJACENT SPACE
- UNIT HEATER (CONTROL VALVE AND FAN)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR TEMPERATURE
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHRIS E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

SOUNDTRANSIT

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

HVAC BMS CONCEPT OF OPERATIONS

DRAWING No.: **M08-MHS006**
FACILITY ID: M08
SHEET No: 46 REV:

2/23/2024 2:12:26 PM
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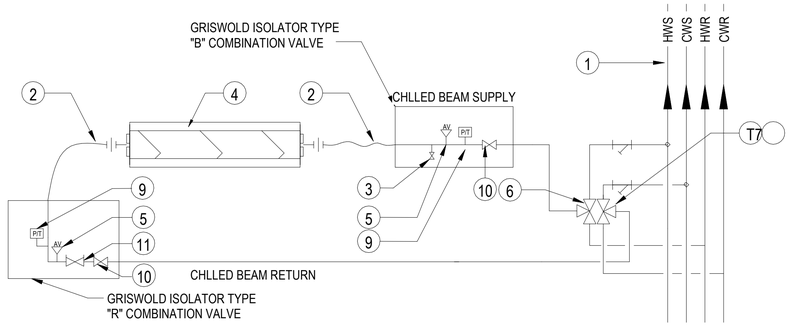
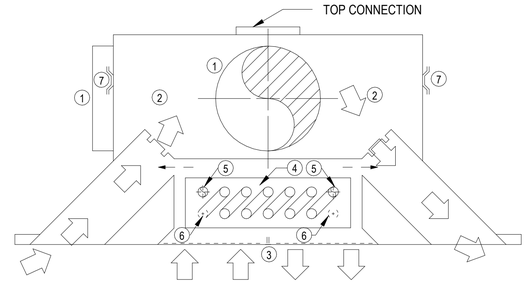


NOTE:
PROVIDE ONE STRAINER UPSTREAM OF THE 6-WAY VALVE FOR HEATING WATER AND CHILLED WATER.

1. SUPPLY/RETURN MAINS IN REVERSE-RETURN CONFIGURATION.
2. FLEXIBLE STAINLESS STEEL LINES TO BEAM SUPPLY/RETURN CONNECTIONS, 18"LENGTH. TYPICAL.
3. VALVED DRAIN CONNECTIONS. TYPICAL.
4. TYPICAL ACTIVE CHILLED BEAM.
5. MANUAL AIR VENT
6. TYPICAL 6-WAY CONTROL VALVE.
7. ZONE THERMOSTAT.
8. CIRCUIT BALANCING VALVE.
9. PRESSURE/TEMPERATURE TEST VALVE
10. ISOLATION VALVE
11. AUTO FLOW CONTROL VALVE

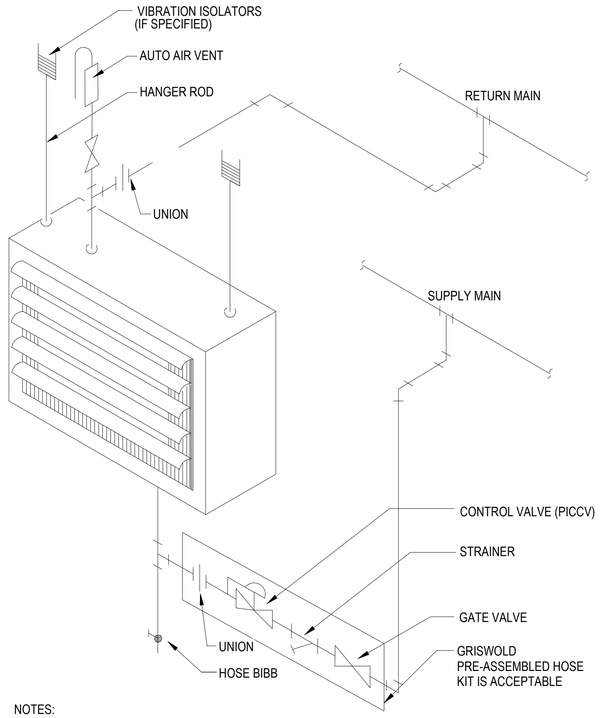
1 4-PIPES ACTIVE CHILLED BEAM DETAIL
NOT TO SCALE



1. 1" DUCT COLLAR @ SIDE OR END (CUSTOM)
2. PRIMARY AIR PLENUM
3. INDUCTION AIR GRILLE
4. FOUR PIPE COIL
5. HEATING SUPPLY&RETURN
6. COOLING SUPPLY&RETURN
7. ADJUSTABLE MOUNTING BRACKETS

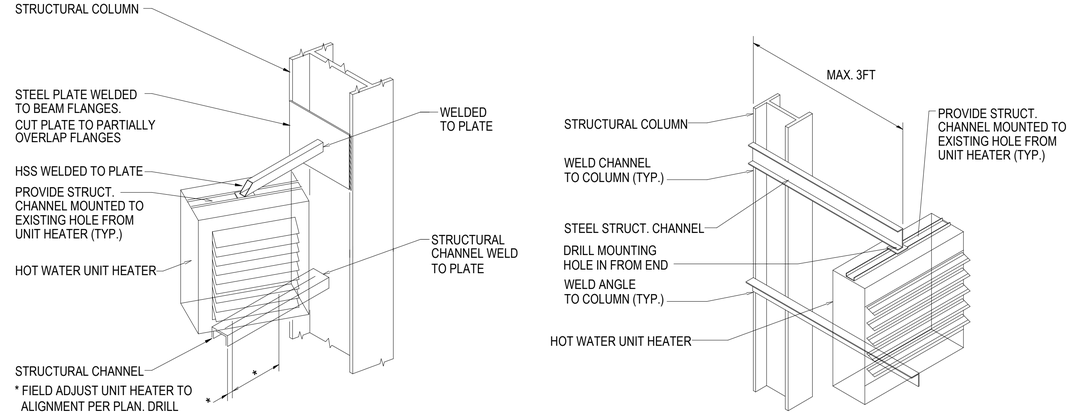
* COIL CONNECTIONS AT SAME END ON ALL EXPOSED TYPE BEAMS WITH ENCLOSURE PANEL.

2 CHILLED BEAM DETAIL
NOT TO SCALE



NOTES:
1. IF THE MAINS ARE BELOW THE HEATER THE AUTO AIR VENT IS REQUIRED.
2. IF THE MAINS ARE ABOVE THE HEATER, DELETE THE AUTO AIR VENT.

3 PIPING CONNECTIONS TO UNIT HEATER WITH 2-WAY VALVE CONTROL
NOT TO SCALE



* FIELD ADJUST UNIT HEATER TO ALIGNMENT PER PLAN. DRILL CHANNEL TO ALLOW 2 SELF-TAPPING SCREWS, FILED VERIFY LOCATAION OF SCREWS. (FOR SEISMIC BRACING)

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. FABRICATE SINGLE POINT MOUNTING CONNECTION WITH METAL FRAMING SYSTEM IF REQUIRED.
3. HWS AND HWR CONNECTIONS NOT SHOWN FOR CLARITY.
4. PROVIDE SEISMIC BRACING AS REQUIRED.

4 UNIT HEATER MOUNTING DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23172 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED
PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SOUNDTRANSIT

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC DETAILS

DRAWING No.: **M08-MHS007**
FACILITY ID: M08
SHEET No: 47 REV:

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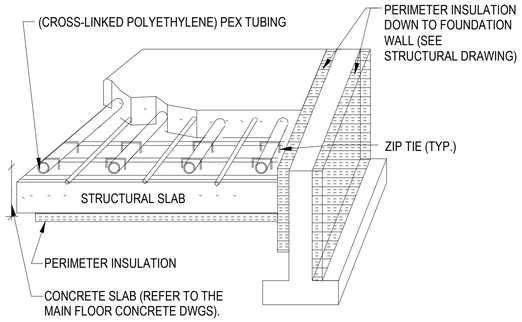
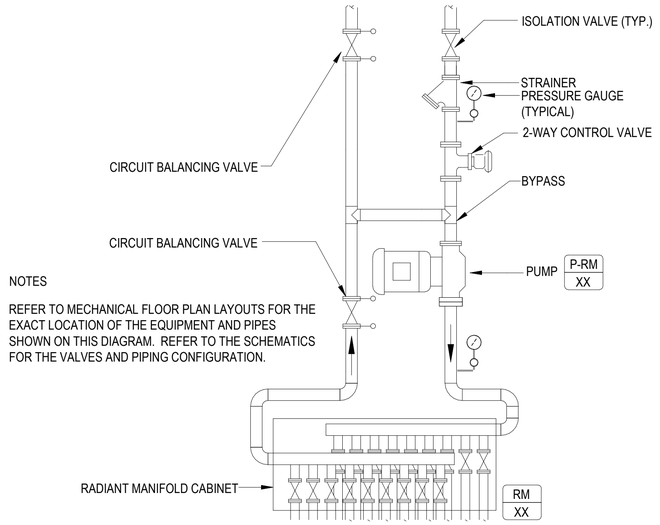
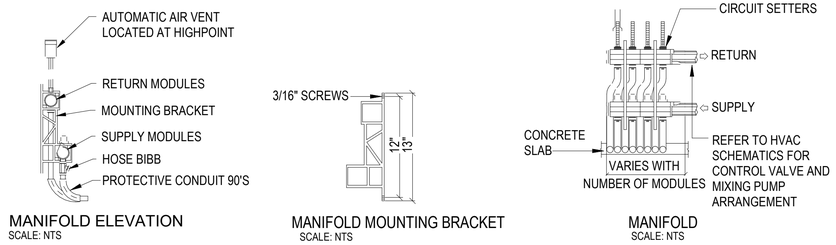


1 INSLAB HYDRONIC INSTALLATION DETAIL
NOT TO SCALE

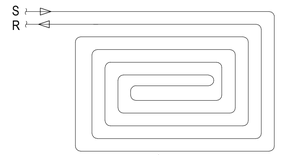


3 RADIANT MANIFOLD PIPING CONNECTION DETAIL
NOT TO SCALE



2 RADIANT FLOOR PIPING SYSTEM DETAIL
NOT TO SCALE

TYPICAL RADIANT LOOP LAYOUTS (INSIDE THE BUILDING)



TYPICAL RADIANT IN-SLAB ZONE HEATING LOOPS, HDPE TUBING, C/W NECESSARY CONDUIT ELBOWS, EXPANSION STRAPS & FASTENINGS. ALL HEATING LOOPS TO BE INSTALLED C/W GUIDE SUPPORTS AND SPACER ELEMENTS AS PER THE MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES:

1. INSTALL TUBING AT 12"Ø O.C.
2. DUE TO HIGHER HEAT LOSS AT OUTSIDE WALLS, RADIANT TUBING MUST BE INSTALLED WITH A MAXIMUM OF 6" CENTERS ON OUTSIDE WALLS. SUPPLY PIPING MUST GO FROM MANIFOLD TO OUTSIDE WALL FIRST WHERE FEASIBLE.

4 RADIANT SLAB HEATING PIPING CONFIGURATION DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED — PRELIMINARY

HDR

SUBMITTED BY:	DATE:	REVIEWED BY:	DATE:	DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:	NTS
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC DETAILS

DRAWING No.:	M08-MHS008
FACILITY ID:	M08
SHEET No:	REV:
48	

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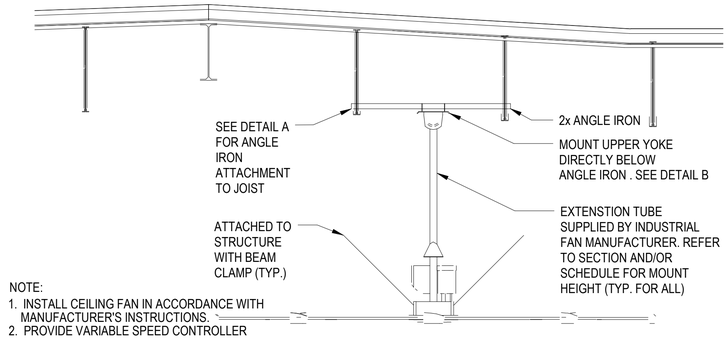
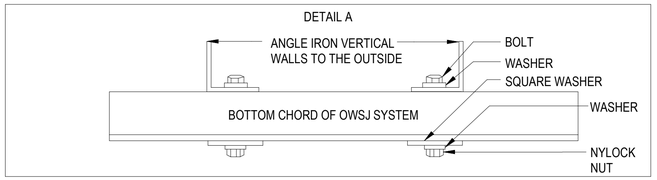
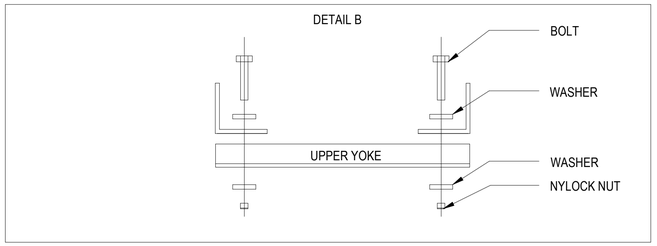
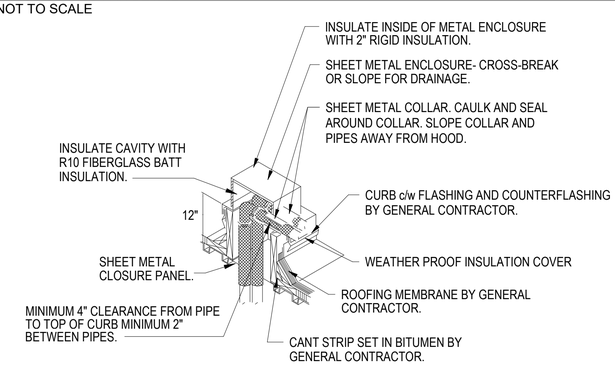


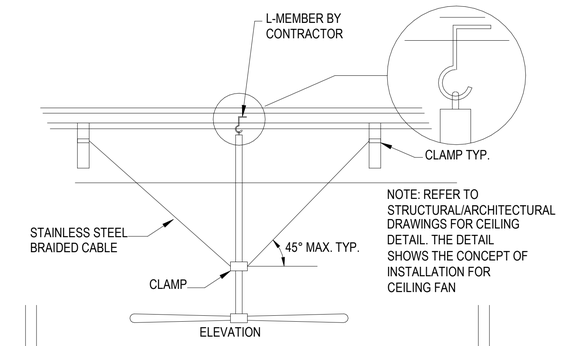




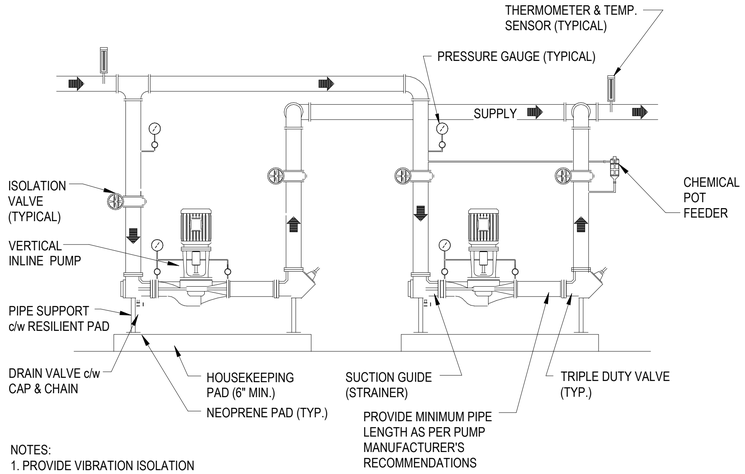
1 LARGE CEILING FAN DETAIL
NOT TO SCALE



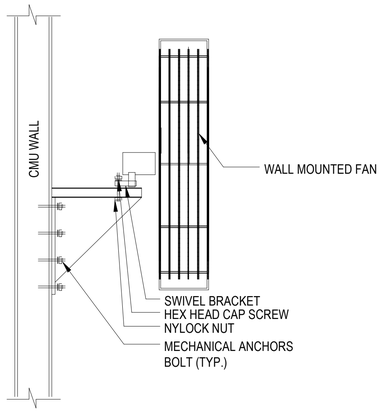
4 PIPE PENETRATIONS THROUGH ROOF DETAIL
NOT TO SCALE



2 SMALL CEILING FAN DETAIL
NOT TO SCALE



5 PUMP PIPING ARRANGEMENT DETAIL
NOT TO SCALE



1. INSTALL CEILING FAN IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. PROVIDE SAFETY CABLE FOR WALL MOUNTED FAN.

3 WALL-MOUNT CEILING FAN DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC DETAILS

DRAWING No.: **M08-MHS009**
FACILITY ID: M08
SHEET No: 49
REV:

ELECTRIC BOILER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
EB	1	AWHP BACK-UP HEAT SOURCE FOR HOT WATER LOOP	ELECTRIC BOILER
EB	2	AWHP BACK-UP HEAT SOURCE FOR HOT WATER LOOP	ELECTRIC BOILER

HEAT EXCHANGER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
HX	2	HOT WATER LOOP	WATER TO WATER HEAT EXCHANGER
HX	223	HOT WATER LOOP	WATER TO WATER HEAT EXCHANGER

PUMP SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
P	CHILLED WATER AND HOT WATER LOOPS SERVING CHILLED AND HOT WATER TO CHILLED BEAMS AND DOAS-1 AND ONLY HOT WATER TO ALL DOAS UNITS, RADIANT SLABS, AND UNIT HEATERS	BASE MOUNTED END SUCTION PUMP WITH GROUTED BASE AND VIBRATION ISOLATION OR INLINE END SUCTION PUMPS MOUNTED TO SUPPORTS EMBEDDED IN CONCRETE BASE.

UNIT HEATER SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
UH	UNIT HEATERS SERVING SERVICE BAY AREAS, STORAGE AREAS, PROTECT FROM FREEZE SPACES, SHOPS, AND ALL SPACES THAT NEED UNIT HEATERS	HOT WATER UNIT HEATERS

EXPANSION TANK SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
ET	CHILL AND HEATING WATER LOOPS	EXPANSION TANK

VAV SCHEDULE

CALLOUT	SERVICE	DESCIRPTION
TYPE		
VAV	CHILLED BEAM SYSTEM	SINGLE DUCT VARIABLE AIR VOLUME TERMINAL UNIT WITH AIRFLOW RING AND CONTROLLED DAMPER TO MANAGE OUTSIDE AIR VOLUME TO EACH SPACE/CHILLED BEAM NETWORK.

FAN SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
EF-1	ALL SPACES REQUIRING LOCAL EXHAUST	INLINE EXHAUST FAN
EF-1	ALL SPACES REQUIRING LOCAL EXHAUST	INLINE EXHAUST FAN
EF-2	FREIGHT ELEVATOR	ROOF MOUNTED EXHAUST FAN
SF	ELECTRICAL ROOM	INLINE SUPPLY FAN

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
AC	LARGER I.T. ROOMS	SPLIT SYSTEM INDOOR DUCTED UNITS WITH ECONOMIZER CAPABILITIES INCLUDED AND HUMIDIFICATIONAS NEEDED FOR CRITICAL SPACES WITH HIGH COOLING LOAD

PACKAGED AIR CONDITIONING UNIT SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
PAC	1	SERVER ROOM	REDUNDANT PACKAGED AIR CONDITIONING UNITS
PAC	2	SERVER ROOM	REDUNDANT PACKAGED AIR CONDITIONING UNITS
PAC	3	SCADA ROOM	PACKAGED AIR CONDITIONING UNIT

HEAT PUMP SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
HP	ONLY COOLING TO A/C UNITS AND HEATING AND COOLING TO FAN COIL UNITS	SPLIT SYSTEM OUTDOOR HEAT PUMP

AIR TO WATER HEAT PUMP SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
AWHP	1	HOT WATER LOOP SERVING CHILLED BEAMS, ALL DOAS UNITS, RADIANT SLABS, AND UNIT HEATERS	HIGH LIFT AIR TO WATER HEAT PUMP
AWHP	2	HOT WATER LOOP SERVING CHILLED BEAMS, ALL DOAS UNITS, RADIANT SLABS, AND UNIT HEATERS	HIGH LIFT AIR TO WATER HEAT PUMP
AWHP	3	HOT WATER LOOP SERVING CHILLED BEAMS, ALL DOAS UNITS, RADIANT SLABS, AND UNIT HEATERS	HIGH LIFT AIR TO WATER HEAT PUMP

CHILLER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
CH	1	CHILLED WATER LOOP SERVING CHILLED BEAMS, FANCOIL UNITS, DOAS AND UNIT	HERMETIC SCROLL CHILLER W/ FLUID COOLER FOR EFFICIENT COOLING

DOAS UNIT SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
DOAS	1	OFFICE AND ADMINISTRATIVE AREAS	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	2	TRUCK OVERHAUL	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	3	PARTS STORAGE	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	4	LRV REPAIR	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	5	PAINT AND BODY REPAIR	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	6	INTERIOR CLEAN	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS

FLUID COOLER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
FC	1	CHILLER AND CHILLED WATER LOOP WHEN OUTSIDE AIR TEMP IS BELOW 50 F	FLUID COOLER

CHILLED BEAM SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
CB	OFFICE AND ADMINISTRATIVE AREAS	4 PIPE ACTIVE CHILLED BEAMS

FAN COIL UNIT SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
FCU	SPECIAL OFFICE SPACES	FAN COIL UNIT

AIR CURTAIN SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
ACN	INTERIOR CLEAN POSITION	AIR CURTAIN

CEILING FAN SCHEDULE

CALLOUT	SERVICE	DESCIRPTION
TYPE		
STF	SERVICE BAY AREAS	HIGH VELOCITY DESTRATIFICATION FANS

GLYCOL FEEDER SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
GF	CHILLED WATER LOOP	GLYCOL FEEDER

AIR SEPERATOR SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
AS	CHILLED AND HEATING WATER LOOPS	AIR SEPERATOR

BUFFER TANK SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
BT	CHILLED AND HEATING WATER LOOPS	EXPANSION TANK

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23174 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 — SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE: | DATE:

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF HVAC SCHEDULES

DRAWING No.: M08-MHS010
FACILITY ID: M08
SHEET No: 50 | REV:

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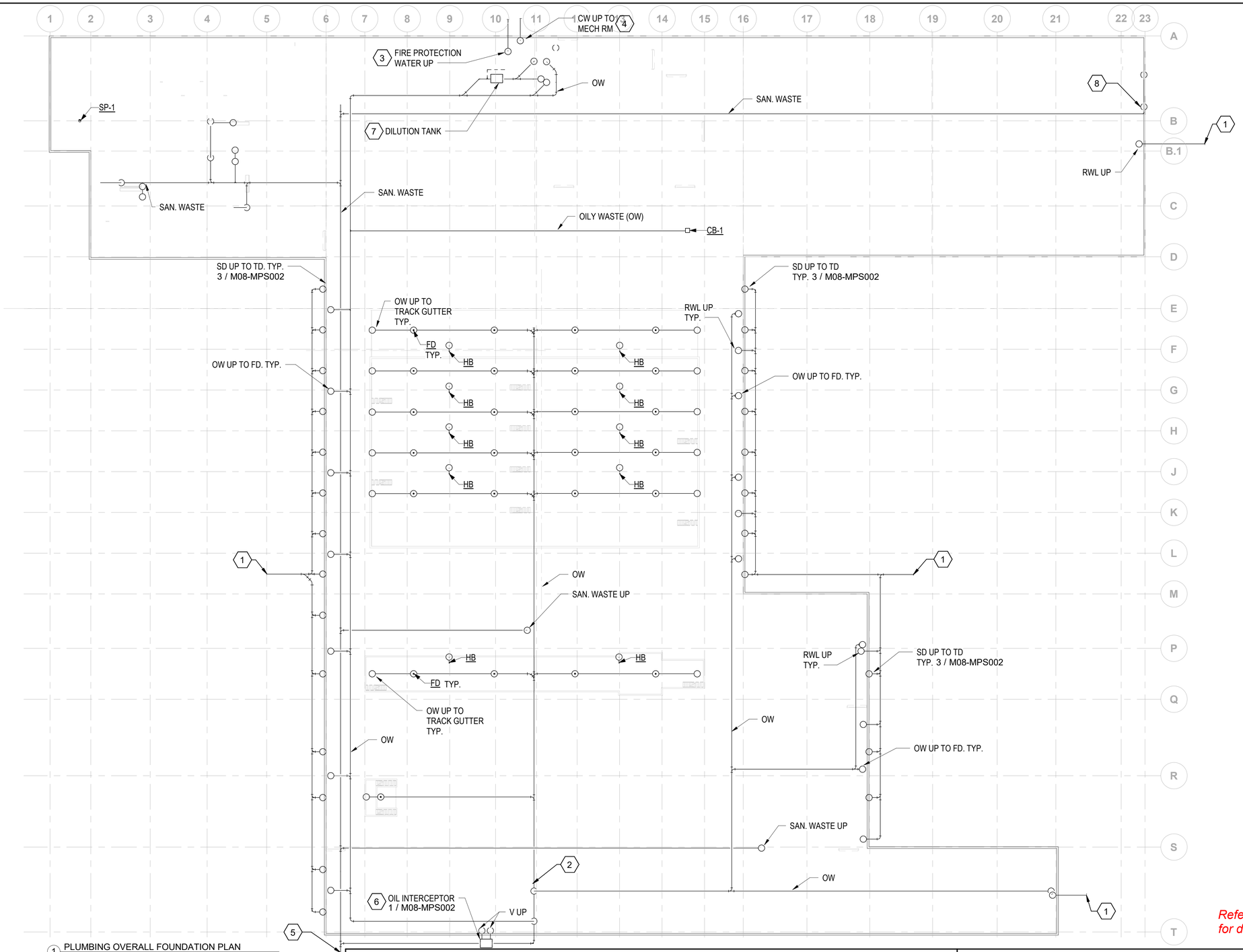
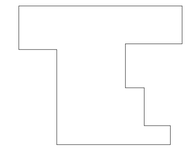


1 PLUMBING OVERALL FOUNDATION PLAN
1" = 30'-0"

KEY PLAN - M08



KEY NOTES

1. POINT OF CONNECTION TO STORM SEWER. SEE CIVIL PLANS FOR CONTINUATION.
2. PROVIDE OILY WASTE WATER PIPING. ROUTE TO OIL INTERCEPTOR.
3. POINT OF CONNECTION TO FIRE PROTECTION WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
4. DOMESTIC WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
5. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.
6. PROVIDE OIL INTERCEPTOR FOR SHOP OILY WASTE WATER. VENT OUTLET AND ROUTE TO SANITARY SYSTEM. VENT SEPARATELY THROUGH ROOF.
7. ACID WASTE NEUTRALIZING TANK FOR BATTERY ROOM AND EMERGENCY SHOWER WASTE WATER. VENT SEPARATELY THROUGH ROOF.
8. PROVIDE SANITARY WASTE AND VENT PIPING FOR PLUMBING FIXTURES.

N

30 15 0 30 60
SCALE IN FEET

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

NOT FOR CONSTRUCTION

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Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

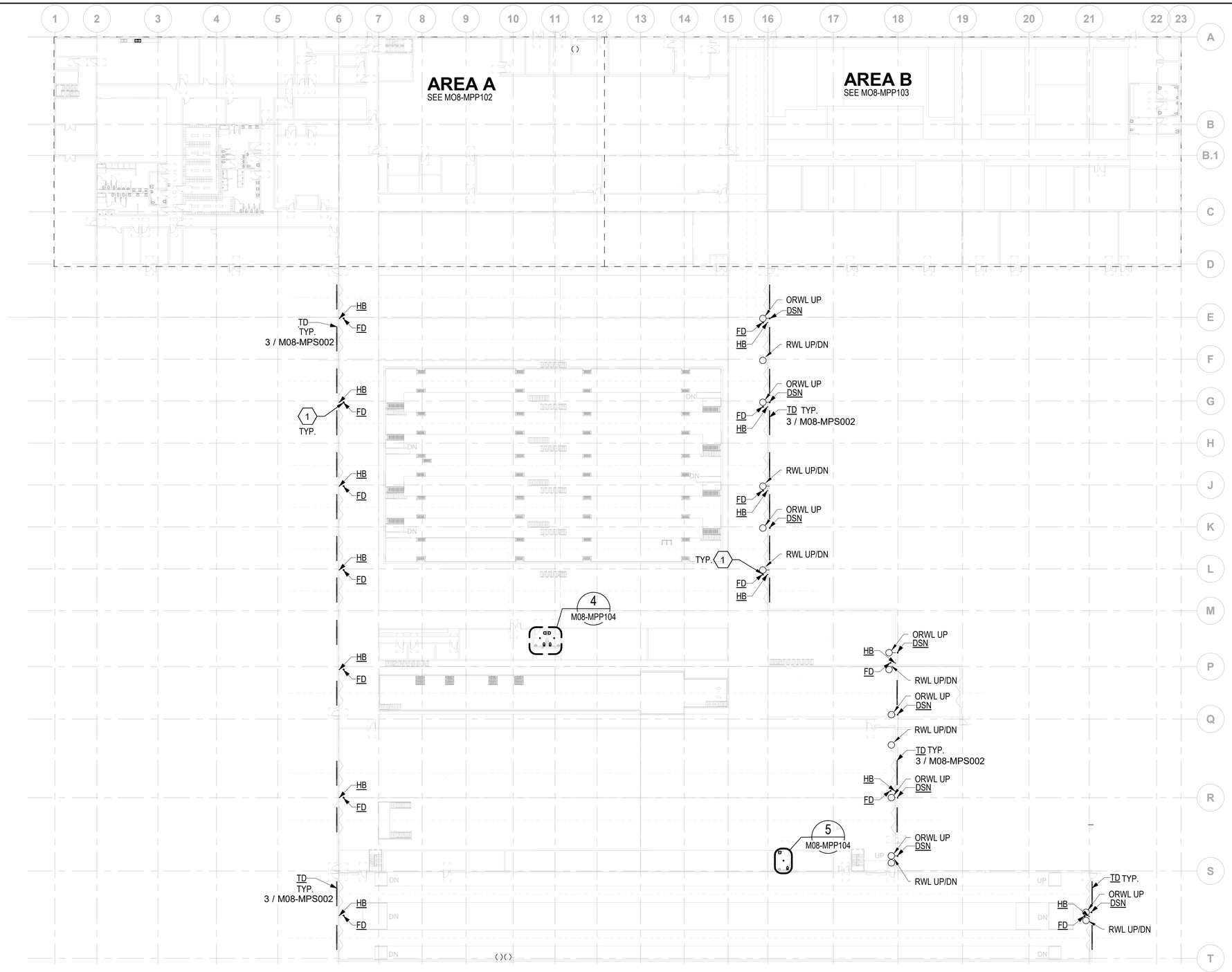
SCALE: 1" = 30'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

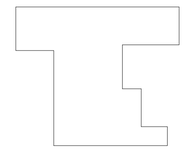
MECHANICAL

OMF PLUMBING FOUNDATION PLAN - OVERALL

DRAWING No.: **M08-MPP001**
FACILITY ID: M08
SHEET No: 51
REV:



KEY PLAN - M08



KEY NOTES

1. FLOOR DRAIN FOR SHOP WASTE WATER. ROUTE TO OILY WASTE WATER SYSTEM.

N

30 15 0 30 60
SCALE IN FEET

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

NOT FOR CONSTRUCTION

1 PLUMBING OVERALL LEVEL 1 PLAN
1" = 30'-0"

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 21714 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE: | DATE:

SCALE: 1" = 30'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

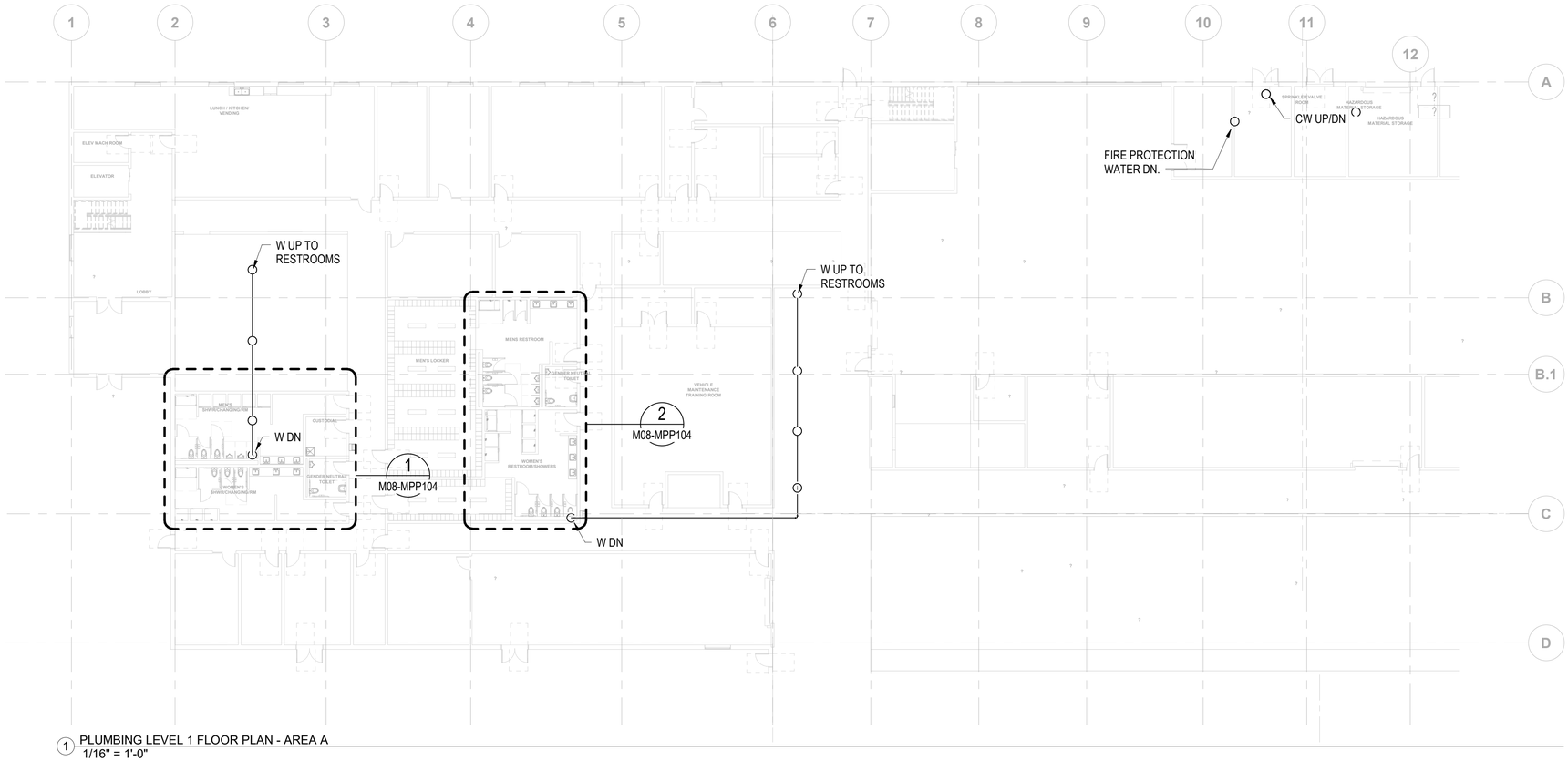
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF PLUMBING OVERALL OVERALL LEVEL 1 PLAN

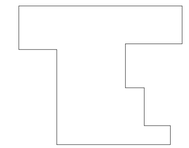
DRAWING No.: **M08-MPP101**
FACILITY ID: M08
SHEET No: 52 REV:

2/23/2024 2:32:37 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 PLUMBING LEVEL 1 FLOOR PLAN - AREA A
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

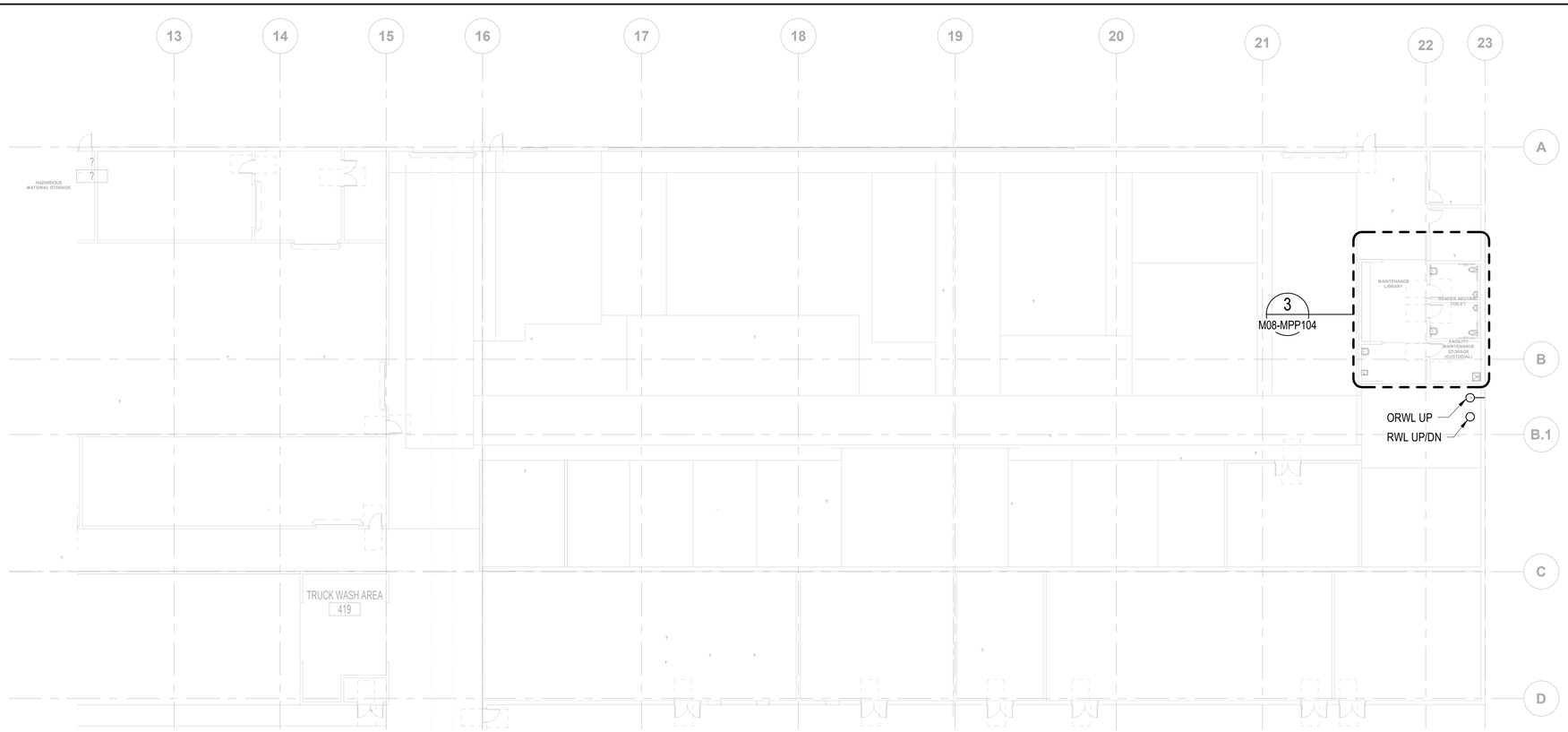
SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
OMF PLUMBING LEVEL 1 FLOOR PLAN AREA A

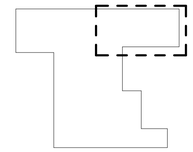
DRAWING No.: **M08-MPP102**
FACILITY ID: M08
SHEET No: 53 REV:

2/23/2024 2:32:40 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 PLUMBING LEVEL 1 FLOOR PLAN - AREA B
1/16" = 1'-0"

KEY PLAN - M08



KEY NOTES

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

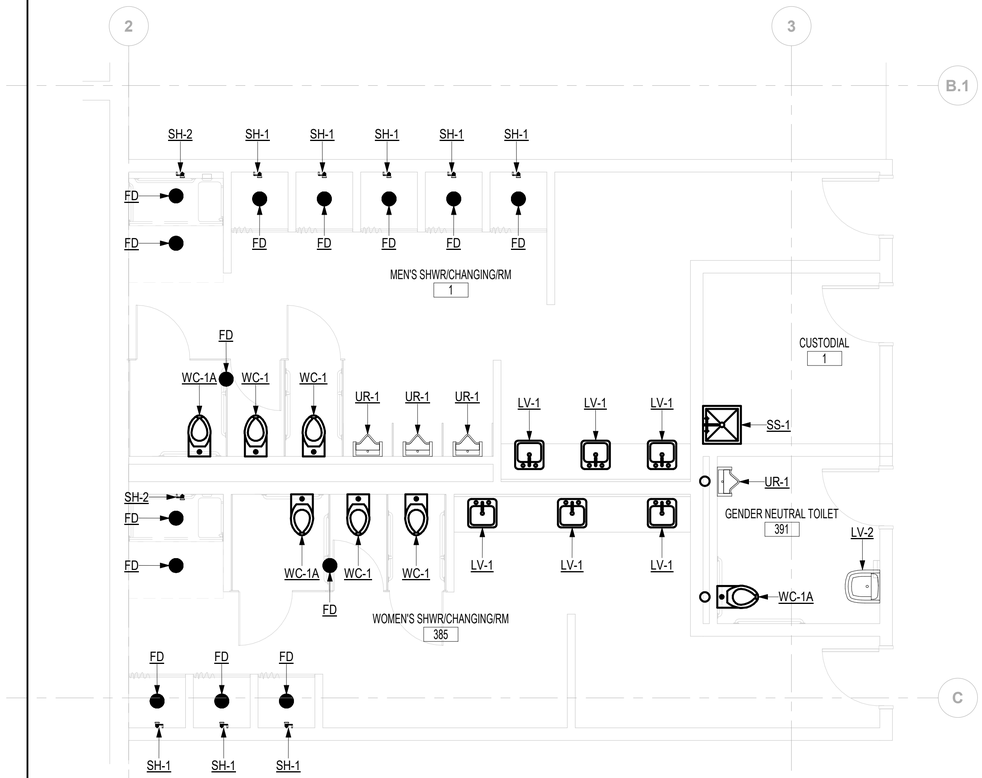
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

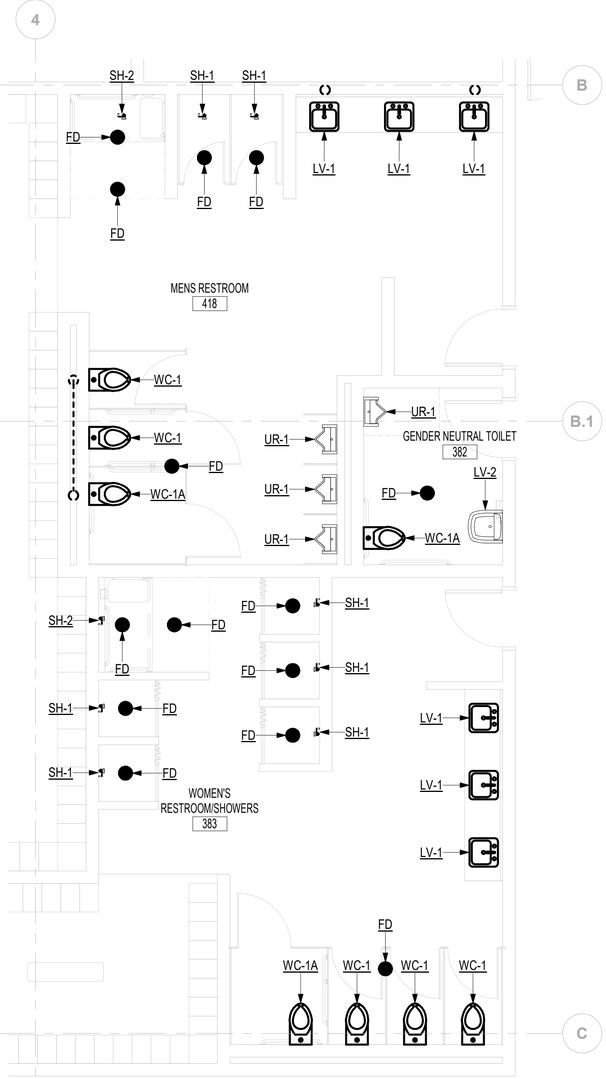
OMF PLUMBING LEVEL 1 FLOOR PLAN AREA B

DRAWING No.: **M08-MPP103**
FACILITY ID: M08
SHEET No: 54 REV:

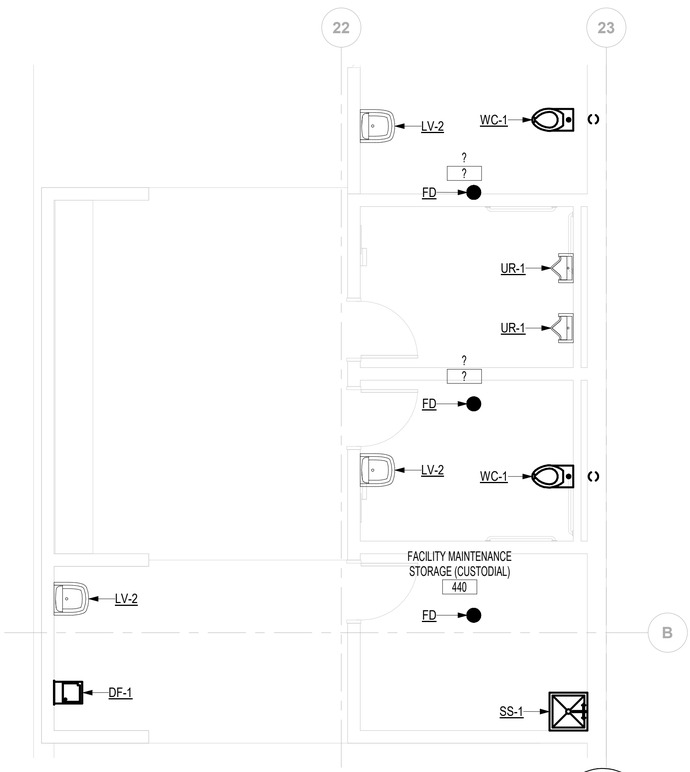
2/23/2024 2:32:42 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



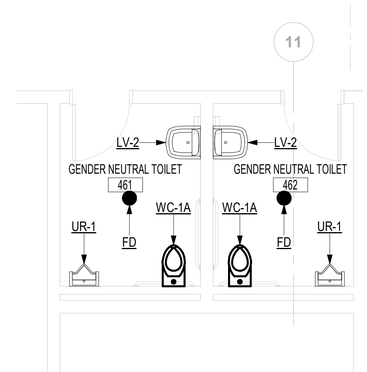
1 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



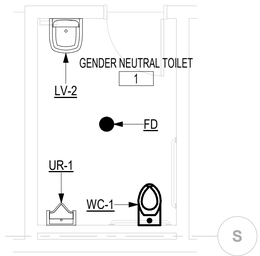
2 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



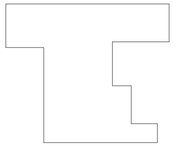
3 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



4 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



5 PARTIAL PLUMBING PLAN
1/4" = 1'-0"



KEY PLAN - M08

4 2 0 4 8
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARLES E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 — SIGNED

PRELIMINARY

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

SOUNDTRANSIT

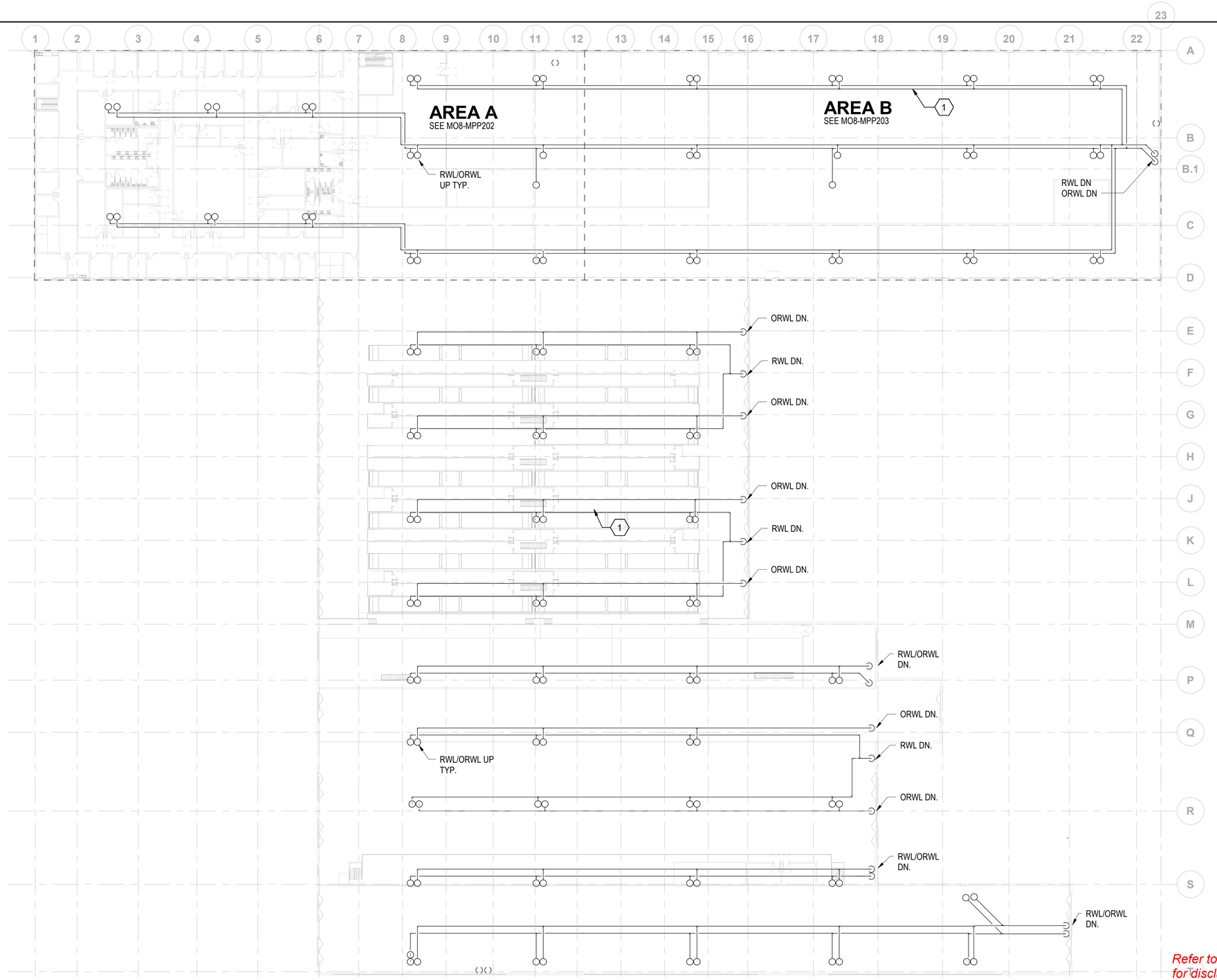
SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

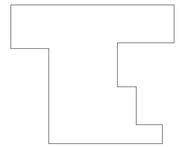
OMF PLUMBING LEVEL 1 PARTIAL PLANS

DRAWING No.: M08-MPP104
FACILITY ID: M08
SHEET No.: 55
REV:



1 PLUMBING OVERALL LEVEL 2 PLAN
1" = 30'-0"

KEY PLAN - M08



KEY NOTES

1 PROVIDE ROOF DRAINS AND OVERFLOW ROOF DRAINS. ALIGN DRAINS BETWEEN ROOF MONITORS.

30 15 0 30 60
SCALE IN FEET

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

NOT FOR CONSTRUCTION

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 21731 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

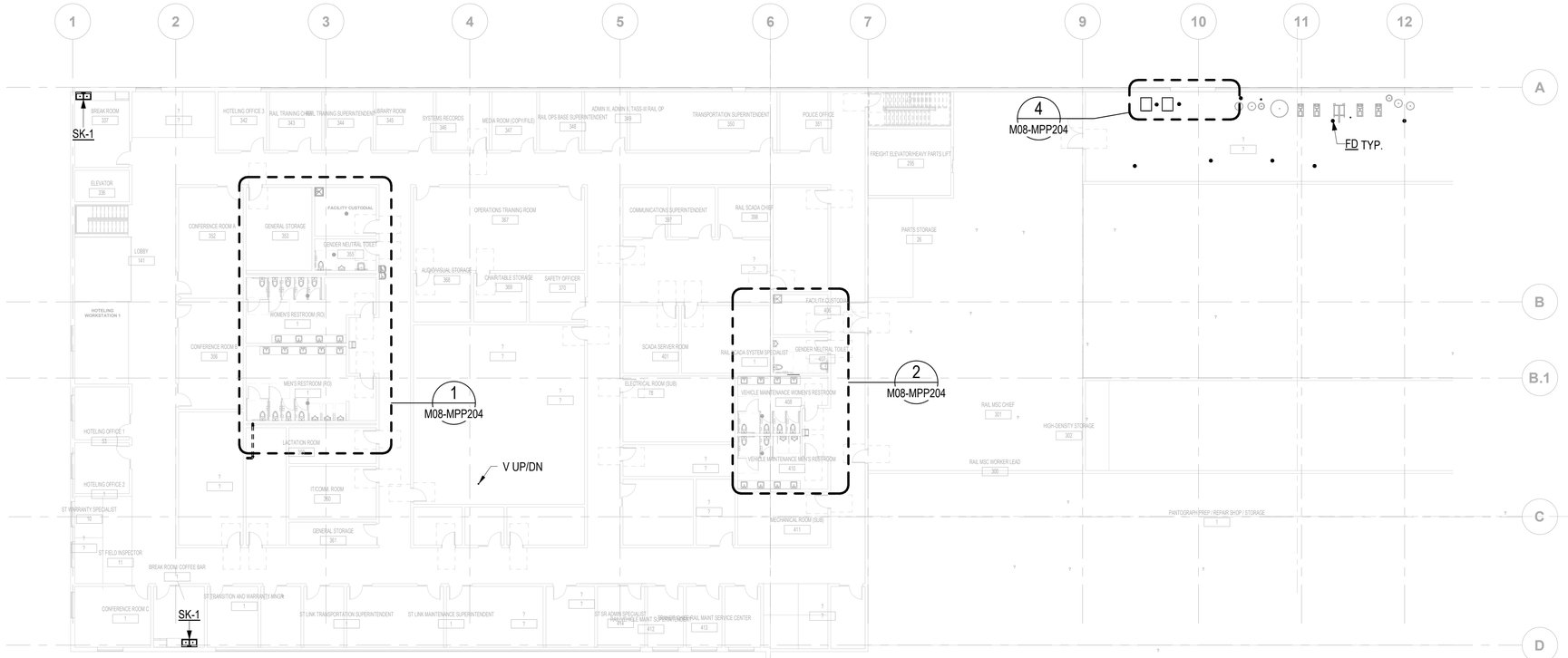
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF PLUMBING OVERALL LEVEL 2 PLAN

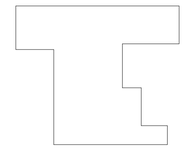
DRAWING No.: M08-MPP201
FACILITY ID: M08
SHEET No.: 56
REV:

2/23/2024 2:32:49 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 PLUMBING LEVEL 2 FLOOR PLAN - AREA A
1/16" = 1'-0"

KEY PLAN - M08



16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

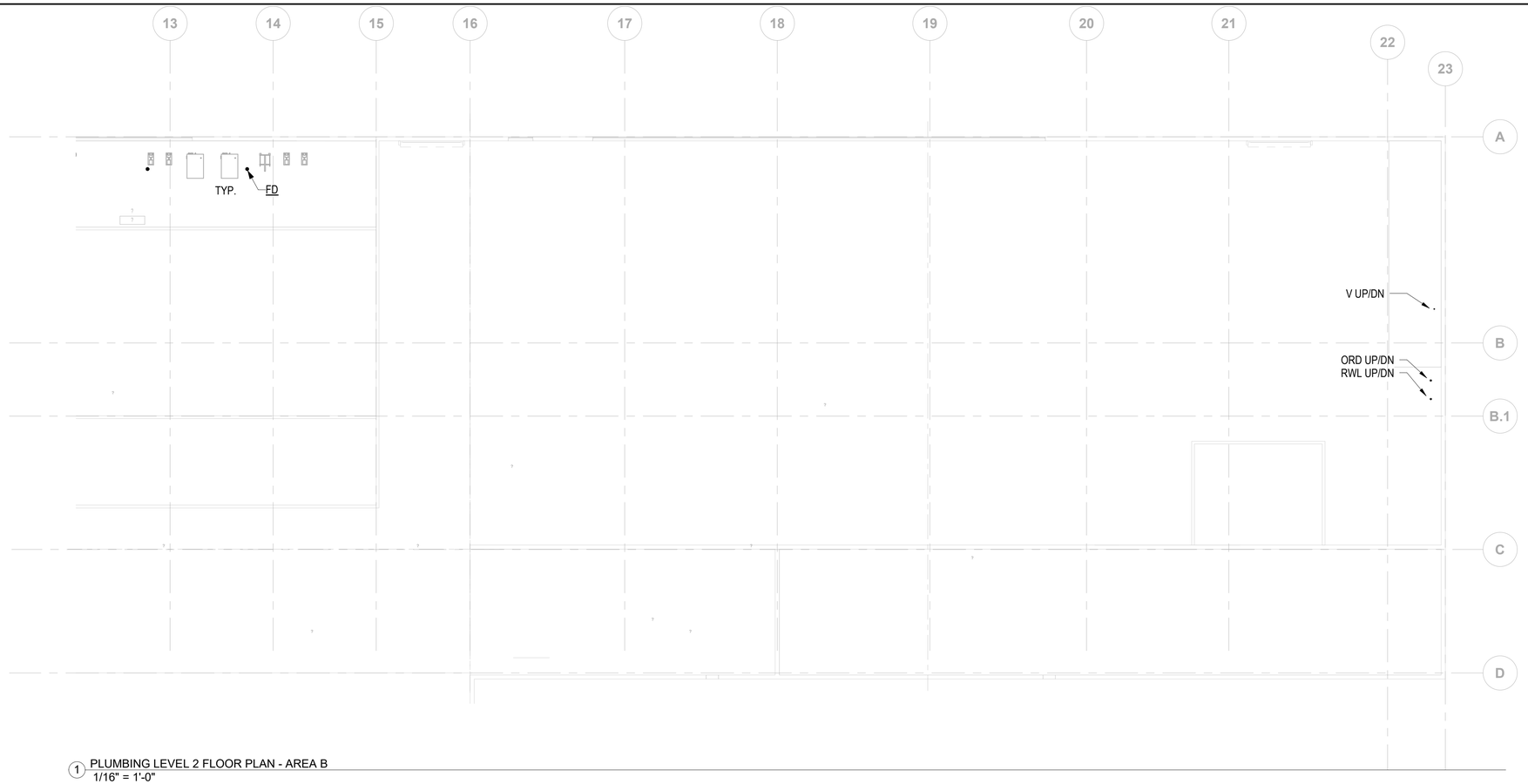
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF PLUMBING LEVEL 2 FLOOR PLAN AREA A

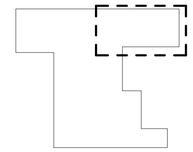
DRAWING No.: **M08-MPP202**
FACILITY ID: M08
SHEET No: 57 REV:

2/23/2024 2:32:52 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 PLUMBING LEVEL 2 FLOOR PLAN - AREA B
1/16" = 1'-0"

KEY PLAN - M08



N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

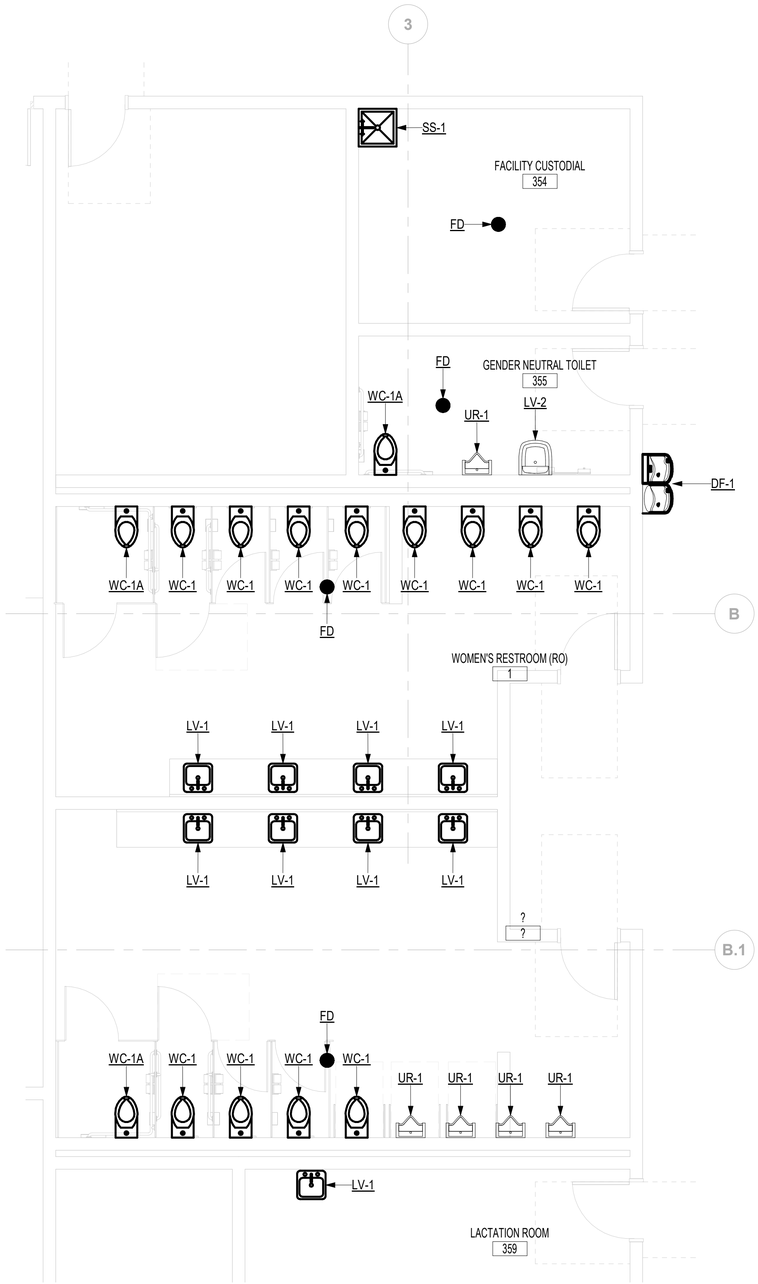
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

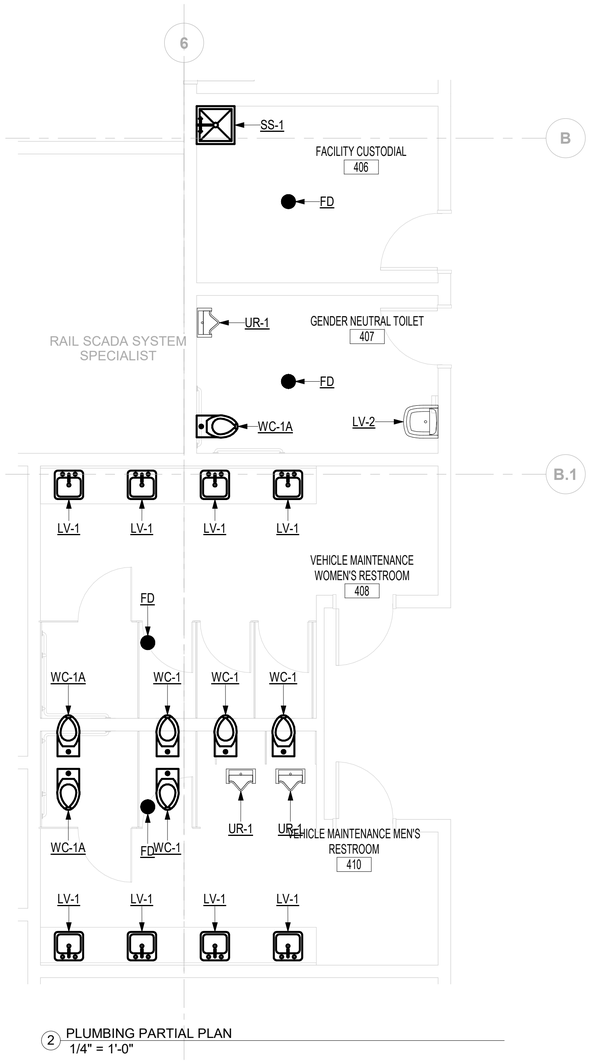
OMF PLUMBING LEVEL 2 FLOOR PLAN AREA B

DRAWING No.: **M08-MPP203**
FACILITY ID: M08
SHEET No: 58 REV:

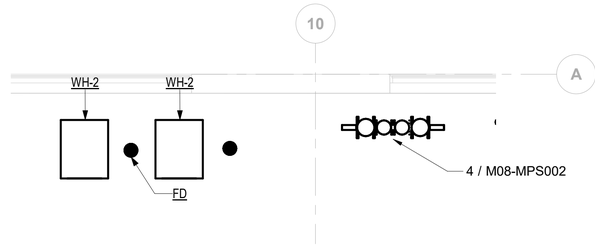
2/23/2024 2:32:55 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



2 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



4 PLUMBING PARTIAL PLAN
1/4" = 1'-0"

N

4 2 0 4 8
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY: | DATE: | REVIEWED BY:

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE: | DATE:

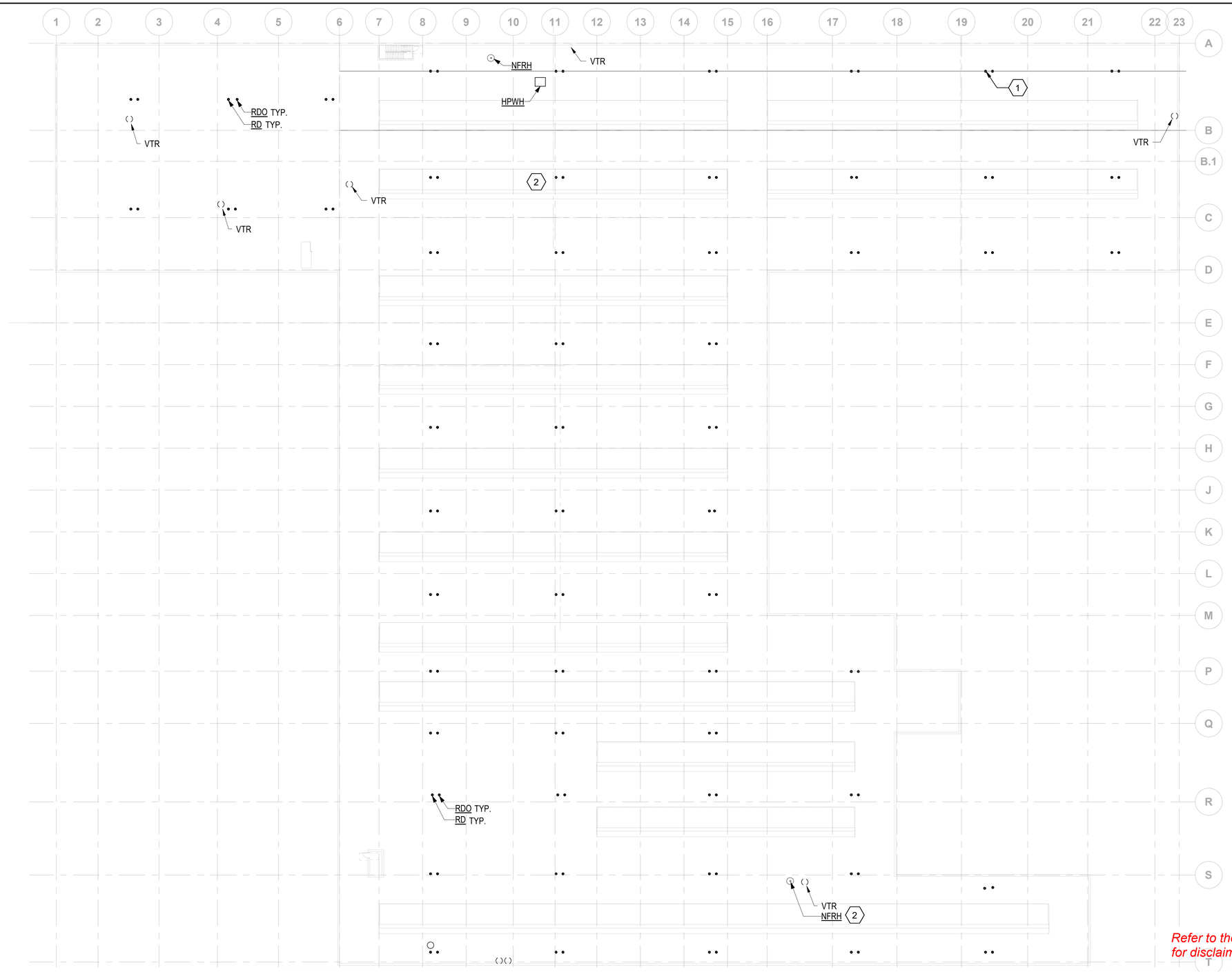
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF PLUMBING LEVEL 2 PARTIAL PLANS

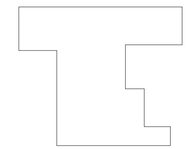
DRAWING No.: M08-MPP204
FACILITY ID: M08
SHEET No.: 59 REV:

2/23/2024 2:32:58 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



1 PLUMBING ROOF PLAN
1" = 30'-0"

KEY PLAN - M08



KEY NOTES

1. PROVIDE ROOF DRAINS AND OVERFLOW ROOF DRAINS. ALIGN DRAINS BETWEEN ROOF MONITORS.
2. PROVIDE ROOF HYDRANTS FOR MECHANICAL EQUIPMENT MAINTENANCE.

N

30 15 0 30 60
SCALE IN FEET

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

NOT FOR CONSTRUCTION

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	D. REAMES
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

HDR

SUBMITTED BY:	DATE:	REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:	1" = 30'-0"
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
DATE:	

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

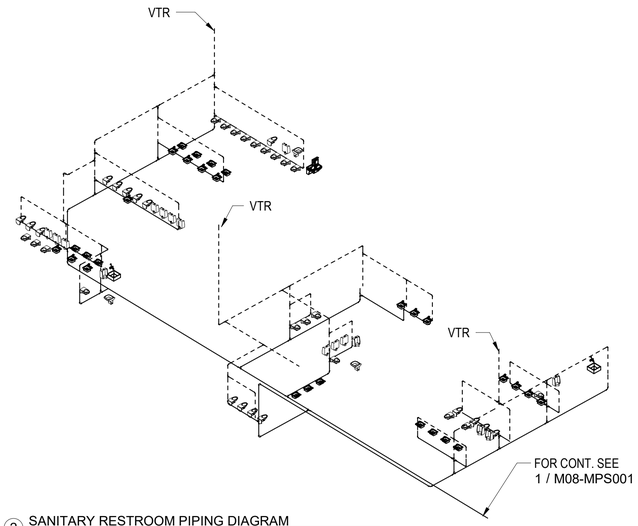
OMF PLUMBING ROOF PLAN - OVERALL

DRAWING No.:	M08-MPP301
FACILITY ID:	M08
SHEET No:	60
REV:	

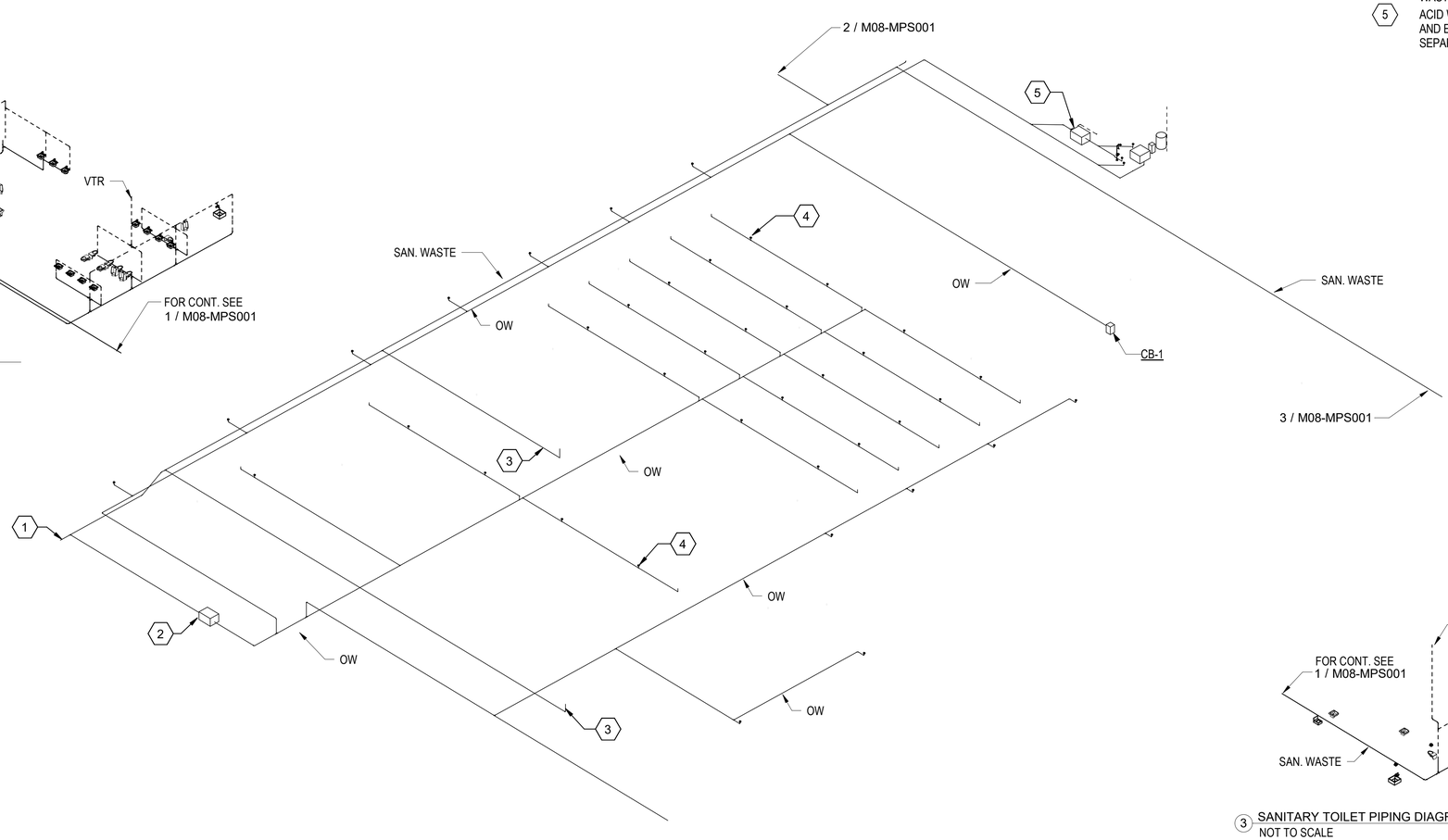
2/23/2024 2:33:05 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt

KEY NOTES

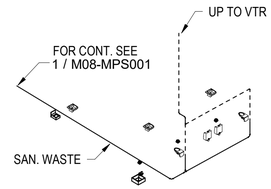
1. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.
2. PROVIDE OIL INTERCEPTOR FOR SHOP OILY WASTE WATER. VENT OUTLET AND ROUTE TO SANITARY SYSTEM. VENT SEPARATELY THROUGH ROOF.
3. PROVIDE SANITARY WASTE AND VENT PIPING FOR PLUMBING FIXTURES.
4. FLOOR DRAIN FOR SHOP WASTE WATER. ROUTE TO OILY WASTE WATER SYSTEM.
5. ACID WASTE NEUTRALIZING TANK FOR BATTERY ROOM AND EMERGENCY SHOWER WASTE WATER. VENT SEPARATELY THROUGH ROOF.



2 SANITARY RESTROOM PIPING DIAGRAM
NOT TO SCALE



1 SANITARY AND OILY WASTE PIPING DIAGRAM
NOT TO SCALE



3 SANITARY TOILET PIPING DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	D. REAMES
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25778 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 — SIGNED — PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:	NTS
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
DATE:	

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
PLUMBING PIPING DIAGRAMS

DRAWING No.:	M08-MPS001
FACILITY ID:	M08
SHEET No:	61
REV:	

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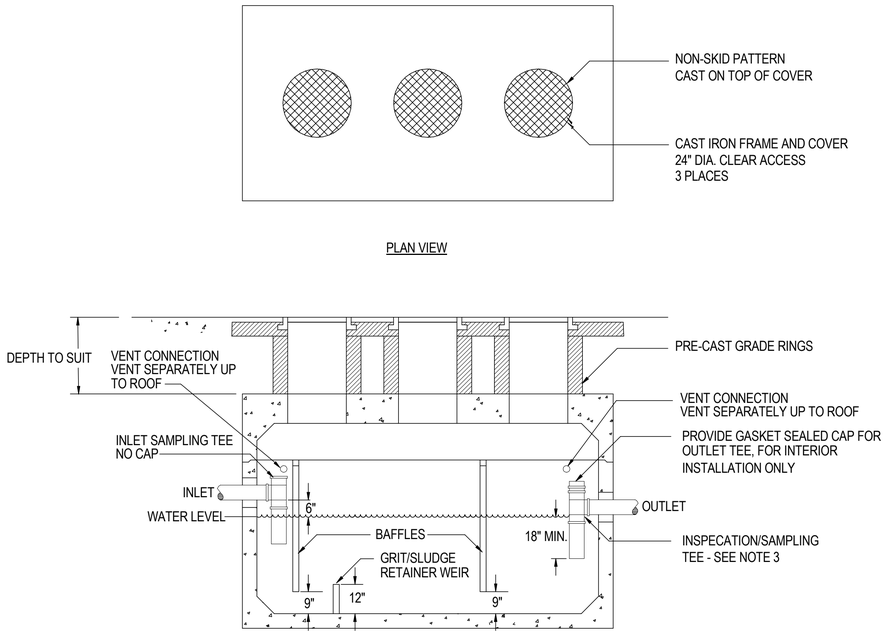
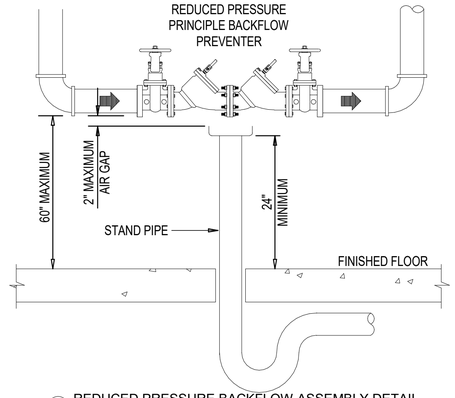
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08-M-v2022.rvt



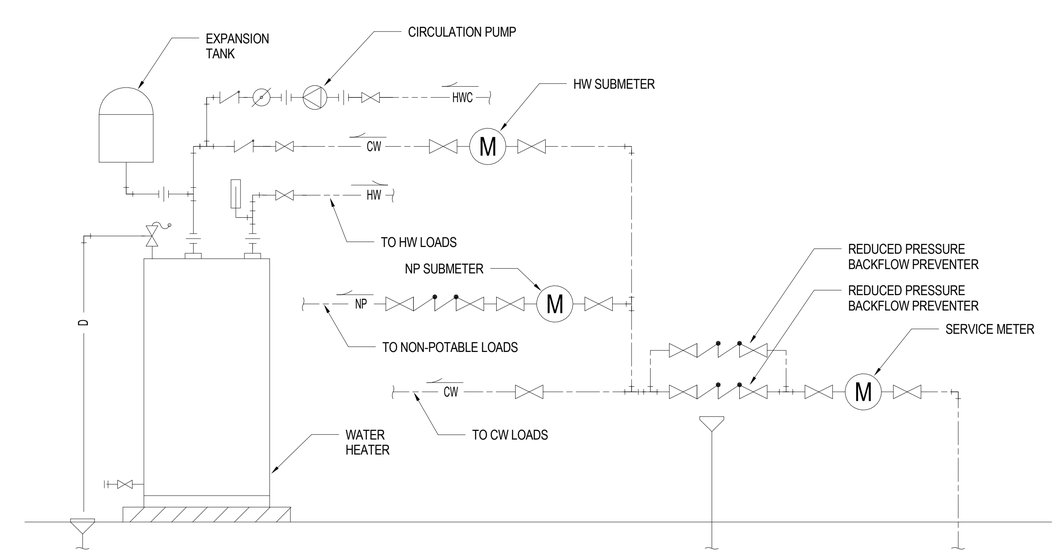
1 OIL INTERCEPTOR DETAIL
NOT TO SCALE

NOTES:

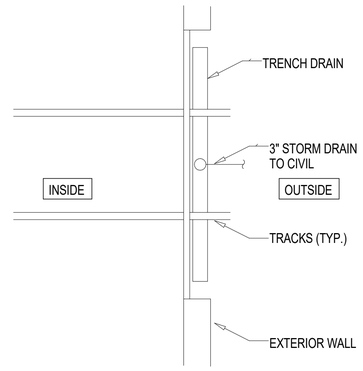
1. PRECAST VAULT SHALL HAVE KNOCKOUTS AT ALL PIPE OPENINGS. IF KNOCKOUTS ARE NOT PRESENT, THEN PIPE OPENINGS SHALL BE CORE-DRILLED. PIPE OPENINGS TO BE 2" LARGER THAN THE PIPE DIAMETER.
2. LOCATE VAULT WITHIN 20' OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLES.
3. PVC SAMPLING TEE SHALL BE THE SAME SIZE AT THE OUTLET PIPE FOR 6" OUTLET OR GREATER. USE 6" PVC TEE WHERE OUTLET PIPE SIZE IS LESS THAN 6".
4. FILLWITH CLEAN WATER PRIOR TO START-UP OF THE SYSTEM.
5. GRAY AND BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER.
6. PIPE CONNECTION TO VAULT: KOR-N-SEAL OR EQUAL FOR CORE -DRILLED OPENINGS, OR SAND COLLAR FOR KNOCKOUT OPENING. SEAL ALL PIPE CONNECTIONS WITH NONSHRINK GROUT.
7. INTERIOR OIL/WATER SEPARATORS SHALL HAVE VENTING PER UNIFORM PLUMBING CODE.
8. PRIOR STARTUP, OIL/WATER SEPARATOR SHALL PASS LEAK TEST PER THE UNIFORM PLUMBING CODE.



2 REDUCED PRESSURE BACKFLOW ASSEMBLY DETAIL
NOT TO SCALE



4 WATER SERVICE DETAIL
NOT TO SCALE



3 TRENCH DRAIN AT OVERHEAD DOOR
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHRIS E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE: | DATE:

LINE IS 1" AT FULL SCALE

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
PLUMBING DETAILS

DRAWING No.: **M08-MPS002**
FACILITY ID: M08
SHEET No: 62 REV:

2/23/2024 2:33:11 PM
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PLUMBING FIXTURE SCHEDULE		
TYPE MARK	TYPE COMMENTS	DESCRIPTION
DF-1	DRINKING FOUNTAIN	WALL HUNG, DUAL LEVEL, BOTTLE FILLER, REFRIGERATED
ES-1	EMERGENCY SHOWER	SAFETY STATION WITH EYEWASH, PLASTIC SHOWER HEAD, AND BOWL
LV-1	LAVATORY	UNDER-COUNTER MOUNT, VITREOUS CHINA, SENSOR FAUCET, 0.5 GPM, ASSE 1070
LV-2	LAVATORY	WALL MOUNT, VITREOUS CHINA, SENSOR FAUCET, 0.5 GPM, ASSE 1070
SH-1	SHOWER, ADA	PRESSURE-BALANCED SHOWER VALVE, ASSE 1016, ADA HAND-HELD SHOWER
SH-2	SHOWER	PRESSURE-BALANCED SHOWER VALVE, ASSE 1016, WALL MOUNT SHOWER
SK-1	SINK	DOUBLE BOWL, DROP-IN, STAINLESS STEEL, MIXING FAUCET, GOOSE-NECK SPOUT
SS-1	SERVICE SINK	FLOOR MOUNT RECTANGULAR, WALL MOUNT MIXING FAUCET
UR-1	URINAL	WALL HUNG, VITREOUS CHINA, SENSOR FLUSH VALVE, 0.125 GPF
WC-1	WATER CLOSET	WALL HUNG, SENSOR OPERATED FLUSH VALVE, 1.28 GPF
WC-1A	WATER CLOSET, ADA	WALL HUNG, ADA HEIGHT, SENSOR FLUSH VALVE, 1.28 GPF

PLUMBING SPECIALTIES SCHEDULE		
TYPE MARK	TYPE COMMENTS	DESCRIPTION
DSN	DOWNSPOUT NOZZLE	CAST BRONZE NOZZLE AND WALL FLANGE
FD	FLOOR DRAIN	6" ROUND NICKEL-BRONZE STRAINER
HB	HOSE BIB	COLD WATER HOSE BIB, WHEEL HANDLE
NFRH	NON-FREEZE ROOF HYDARNT	SANITARY YARD HYDRANT, EXPOSED HEAD, NON-FREEZE
RD	ROOF DRAIN	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME
RDO	ROOF DRAIN, OVERFLOW	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME, 2-INCH WATER DAM
TD	TRENCH DRAIN	6-INCH WIDE GRATE, FIBER REINFORCED POLYMER BODY

PLUMBING EQUIPMMENT SCHEDULE		
TYPE MARK	TYPE COMMENTS	DESCRIPTION
AC-1	AIR COMPRESSOR	SKID-MOUNT, DUPLEX PACKAGE, SCROLL COMPRESSORS
AD-1	AIR DRYER	COMPRESSED AIR DRYER
AR-1	AIR RECEIVER TANK	VERTICAL STEEL TANK, ASME
HPWH	HEAT PUMP WATER HEATER	AIR-TO-WATER HEAT PUMP WATER HEATER
SP-1	SUMP PUMP, ELEVATOR	SUBMERISIBLE SUMP PUMP, OIL SENSING CONTROLS
WH-2	WATER HEATER	VERTICAL HIGH-VOLUME COMMERCIAL SPLIT SYSTEM HEATPUMP/ELECTRIC WATER HEATER

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23778 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE: NTS
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

OMF PLUMBING EQUIPMENT SCHEDULES

DRAWING No.: **M08-MPS003**
FACILITY ID: M08
SHEET No: 63 REV:

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FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

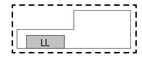
KEY NOTES

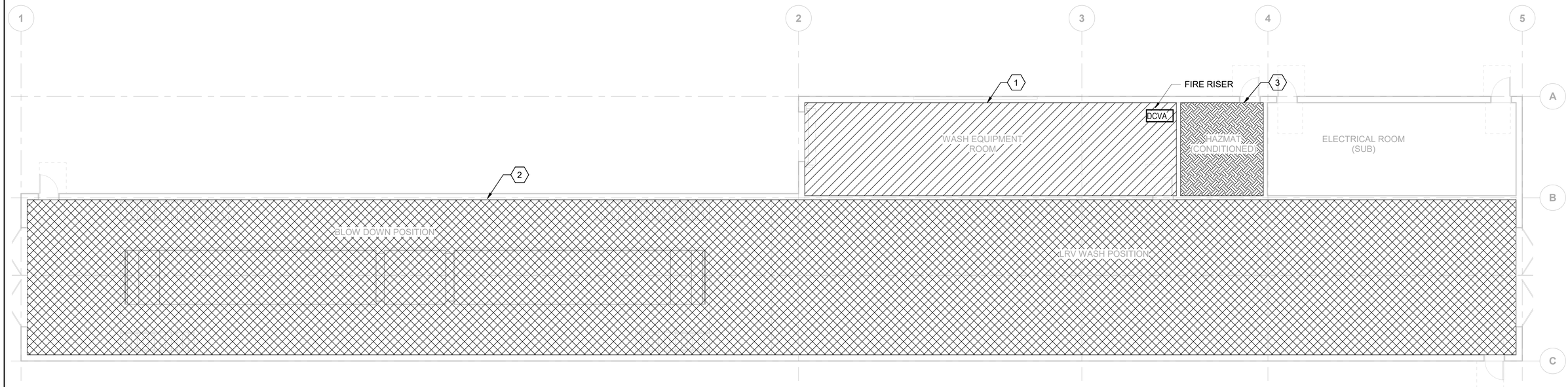
1. MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
2. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM BOTH AT THE ROOF LEVEL AND IN THE BELOW GRADE PIT FOR ANY OBSTRUCTION GREATER THAN 4', INCLUDING TEMPORARY OBSTRUCTIONS LIKE VEHICLES, IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950SF. ANY PARTS CLEANING TANK, OR OTHER HAZARDOUS MATERIALS IN USE OR STORAGE SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES.

KEY NOTES

3. ROOMS THAT WILL STORE OR USE HAZARDOUS MATERIALS SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES (MAQ) FOR EACH HAZARDOUS MATERIAL. IF THE AMOUNT OF HAZARDOUS MATERIALS IN USE OR STORED IS BELOW THE MAQ, THE ROOM SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON EXTRA HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.40 GPM/SF @ 2500 SF. A PAINT BOOTH WITH AN EXHAUST DUCT GREATER THAN 10" SHALL HAVE IN-DUCT SPRINKLERS.

KEY PLAN - M08W





1 FIRE PROTECTION FLOOR PLAN
1/8" = 1'-0"

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

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DATE: | DATE:

SCALE: 1/8" = 1'-0"ted
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LRV WASH FIRE PROTECTION FLOOR PLAN

DRAWING No.: **M08W-MFP101**
FACILITY ID: ID#
SHEET No: | REV:

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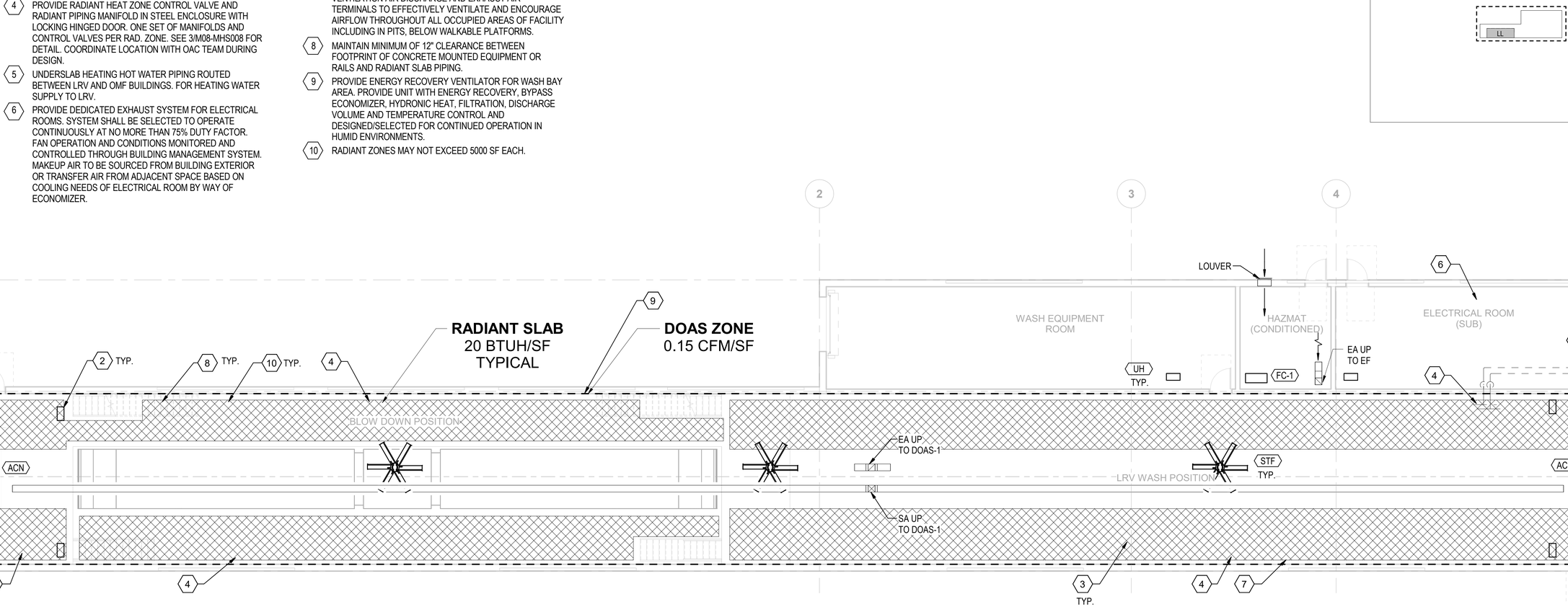
KEY NOTES

1. PROVIDE AIR CURTAIN OVER DOOR FOR AIR INFILTRATION MANAGEMENT.
2. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.
3. PROVIDE RADIANT HEATED SLAB FOR AREA SHOWN IN HATCHING.
4. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
5. UNDERSLAB HEATING HOT WATER PIPING ROUTED BETWEEN LRV AND OMF BUILDINGS. FOR HEATING WATER SUPPLY TO LRV.
6. PROVIDE DEDICATED EXHAUST SYSTEM FOR ELECTRICAL ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM. MAKEUP AIR TO BE SOURCED FROM BUILDING EXTERIOR OR TRANSFER AIR FROM ADJACENT SPACE BASED ON COOLING NEEDS OF ELECTRICAL ROOM BY WAY OF ECONOMIZER.

KEY NOTES

7. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.
8. MAINTAIN MINIMUM OF 12" CLEARANCE BETWEEN FOOTPRINT OF CONCRETE MOUNTED EQUIPMENT OR RAILS AND RADIANT SLAB PIPING.
9. PROVIDE ENERGY RECOVERY VENTILATOR FOR WASH BAY AREA. PROVIDE UNIT WITH ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, FILTRATION, DISCHARGE VOLUME AND TEMPERATURE CONTROL AND DESIGNED/SELECTED FOR CONTINUED OPERATION IN HUMID ENVIRONMENTS.
10. RADIANT ZONES MAY NOT EXCEED 5000 SF EACH.

KEY PLAN - M08W



1 HVAC FLOOR PLAN
1/8" = 1'-0"

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23778 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED — PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE: | DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
LRV WASH HVAC FLOOR PLAN

DRAWING No.: M08W-MHP101
FACILITY ID: ID#
SHEET No: REV:

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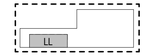
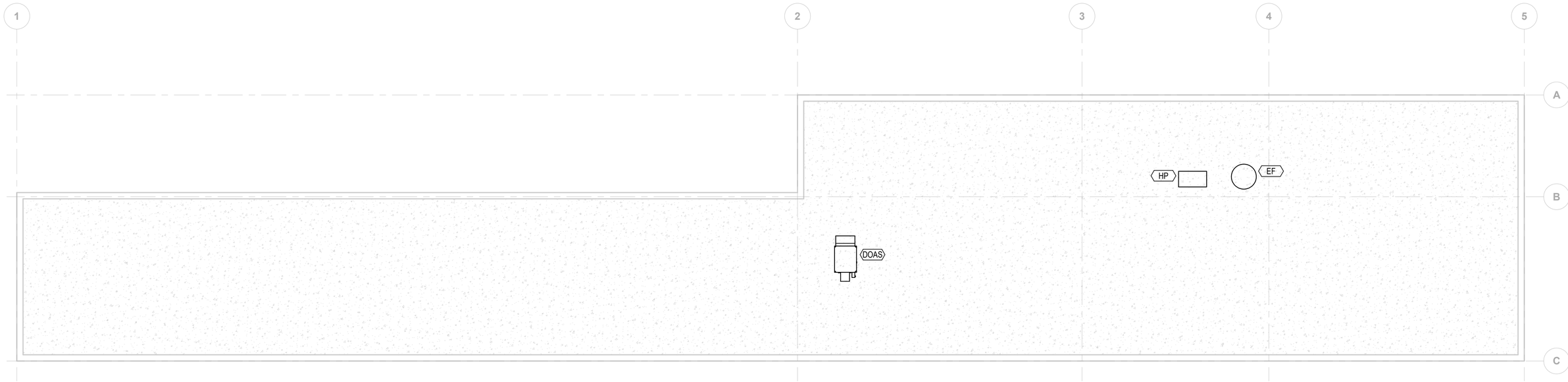
KEY NOTES

KEY PLAN - M08W





1 HVAC ROOF PLAN
1/8" = 1'-0"

SCALE IN FEET

NOT FOR CONSTRUCTION

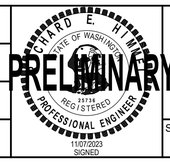
Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL



SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
LRV WASH HVAC ROOF PLAN

DRAWING No.: **M08W-MHP201**
FACILITY ID: ID#
SHEET No: REV:

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CONCEPT OF OPERATIONS

INTERIOR CLEAN POSITION/SAND STORAGE/SAND SILO,

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE MANAGE ODORS, DUST, AIR INDOOR AIR QUALITY

B. COMPONENTS INCLUDED:
- UNIT HEATERS (FANS, HEATING WATER CONTROL VALVES)
- ROOF MOUNTED ENERGY RECOVERY VENTILATOR
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- DESTRATIFICATIONS FANS
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS
- AREA TEMPERATURE SENSORS
- DESTRATIFICATION FAN SPEED CONTROLLER

C. CONTROL STRATEGY:
- ZONE LEVEL AND GENERAL ROOM TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- VENTILATION SUPPLY AND EXHAUST POSITIONED TO VENTILATE EACH SPACE WITH CONSIDERATION FOR VEHICLE MAINTENANCE AND ACCESS STRUCTURE INCLUDING STAIRS, PLATFORMS, PITS AND TOOL STORAGE.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.
- OPERATORS OVERRIDE FOR DESTRATIFICATION FAN SPEED CONTROL.

BULK FLUID & CLEANING SUPPLIES STORAGE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR EQUIPMENT.
- MANAGED ENERGY USE DURING ALL HOURS.
- MANAGE ODORS, DUST AND AEROSOLIZED LUBRICANT.

B. COMPONENTS INCLUDED:
- EXHAUST FAN AND FILTERED MAKEUP AIR FROM ADJACENT SPACE
- UNIT HEATER (CONTROL VALVE AND FAN)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR TEMPERATURE
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT — DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LRV WASH HVAC BMS CONCEPT OF OPERATIONS

DRAWING No.: **M08W-MHS001**
FACILITY ID: ID#
SHEET No: REV:

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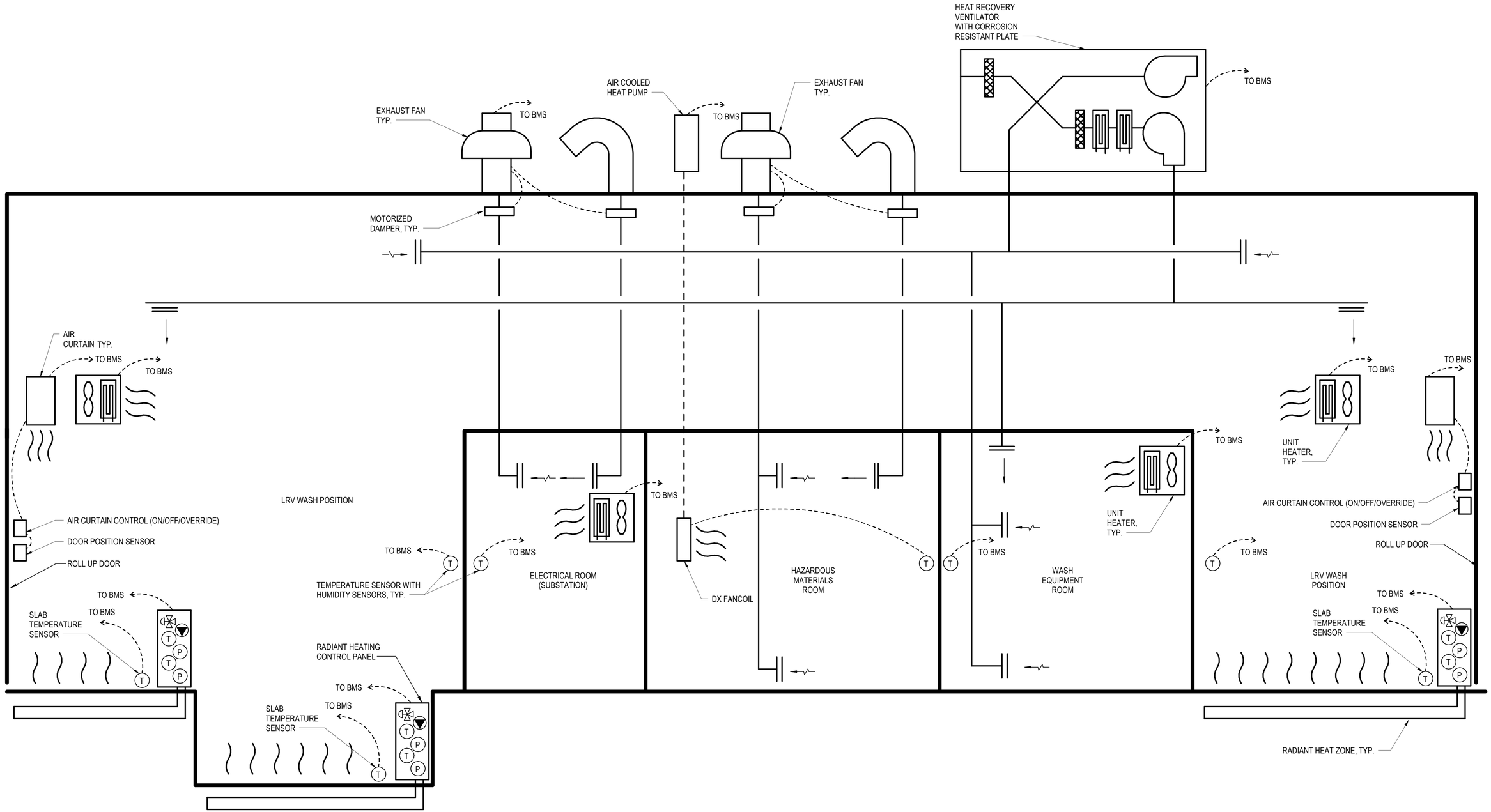

1 LRV HVAC BMS CONTROLS DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY	PRELIMINARY	SUBMITTED BY:	DATE:
DRAWN BY: B. BOONE	RICHARD E. HIMMEL, STATE OF WASHINGTON, 23178, REGISTERED PROFESSIONAL ENGINEER, 11/07/2023, SIGNED	REVIEWED BY:	DATE:
CHECKED BY: B. CRANE			
APPROVED BY: R. HIMMEL			

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:	
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LRV WASH HVAC BMS CONTROL SCHEMATICS

DRAWING No.:	M08W-MHS002
FACILITY ID:	ID#
SHEET No:	REV:

2/23/2024 1:42:27 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08W-M-v2022.rvt

UNIT HEATER SCHEDULE		
CALLOUT / TYPE	SERVICE	DESCRIPTION
UH	LRV WASH BAY AND ASSOCIATED SPACES	WALL MOUNTED UNIT HEATER

HEAT PUMP SCHEDULE		
CALLOUT / TYPE	SERVICE	DESCRIPTION
FC-1	LRV HAZMAT ROOM	HEAT PUMP FAN COIL UNIT PROVIDING COOLING AND HEATING FOR THE HAZARDOUS MATERIALS ROOM
HP	FC-1	HEAT PUMP CONDENSING UNIT PROVIDING COOLING AND HEATING FOR THE HAZARDOUS MATERIALS ROOM

DOAS UNIT SCHEDULE		
CALLOUT / TYPE	SERVICE	DESCRIPTION
DOAS	LRV WASH STATION	SUPPLYS VENTILATION AT THE PERIMETER OPENINGS AND EXHAUSTS FROM CENTER OF THE WASH BAY

AIR CURTAIN SCHEDULE		
CALLOUT / TYPE	SERVICE	DESCRIPTION
ACN	LRV WASH BAY	AIR CURTAIN

EXHAUST FAN SCHEDULE		
CALLOUT / TYPE	SERVICE	DESCIRPTION
EF	HAZARDOUS MATERIALS STORAGE	ROOF MOUNTED CENTRIFUGAL EXHAUST FAN

CEILING FAN SCHEDULE		
CALLOUT / TYPE	SERVICE	DESCIRPTION
STF	LRV WASH POSTITION	HIGH VELOCITY DESTRATIFICATION FANS

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23739 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LRV WASH HVAC EQUIPMENT SCHEDULES

DRAWING No.: M08W-MHS003
FACILITY ID: ID#
SHEET No: REV:

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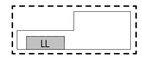
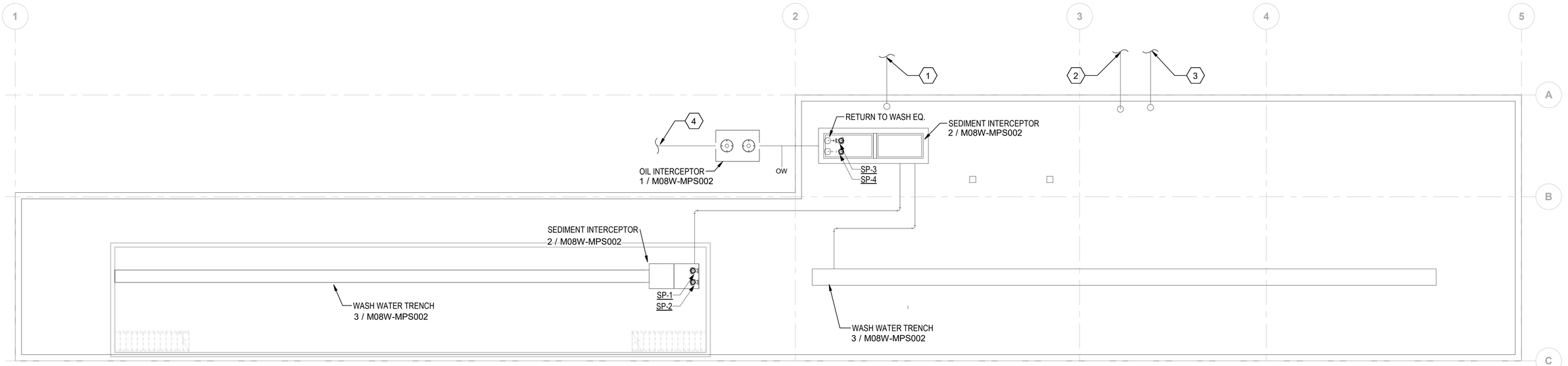
KEY PLAN - M08W



KEY NOTES

1. POINT OF CONNECTION TO STORM SEWER. SEE CIVIL PLANS FOR CONTINUATION.
2. POINT OF CONNECTION TO DOMESTIC WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
3. POINT OF CONNECTION TO FIRE PROTECTION WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
4. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.



1 PLUMBING FOUNDATION PLAN
1/8" = 1'-0"

SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 — SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE: | DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

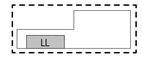
MECHANICAL

LRV WASH PLUMBING FOUNDATION PLAN

DRAWING No.: **M08W-MPP001**
FACILITY ID: ID#
SHEET No: 10 REV:

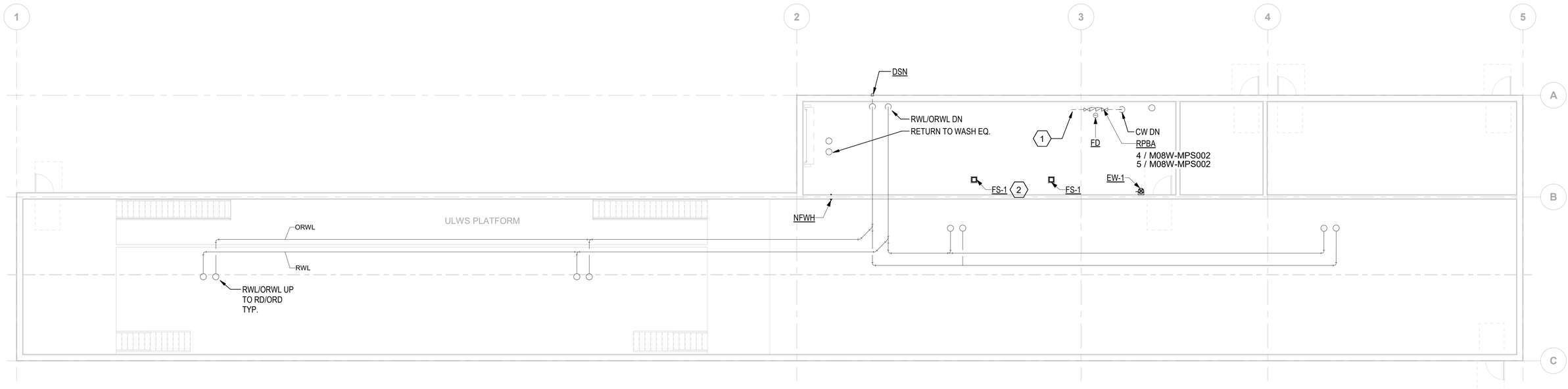
2/23/2024 1:42:28 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08W-M-v2022.rvt

KEY PLAN - M08W



KEY NOTES

1. CONNECT NON-POTABLE WATER SUPPLY TO WASH WATER EQUIPMENT.
2. FLOOR SINKS FOR WASH WATER EQUIPMENT OVERFLOW.



1 PLUMBING FLOOR PLAN
1/8" = 1'-0"

SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SCALE: 1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

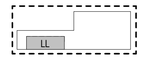
MECHANICAL

LRV WASH PLUMBING FLOOR PLAN

DRAWING No.: **M08W-MPP101**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:42:29 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08W-MA-v2022.rvt

KEY PLAN - M08W



KEY NOTES

1. PROVIDE ROOF HYDRANTS FOR MECHANICAL EQUIPMENT MAINTENANCE.
2. PROVIDE PRIMARY AND OVERFLOW ROOF DRAINS. COORDINATE WITH ROOF SLOPE.

1 PLUMBING ROOF PLAN
1/8" = 1'-0"

SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

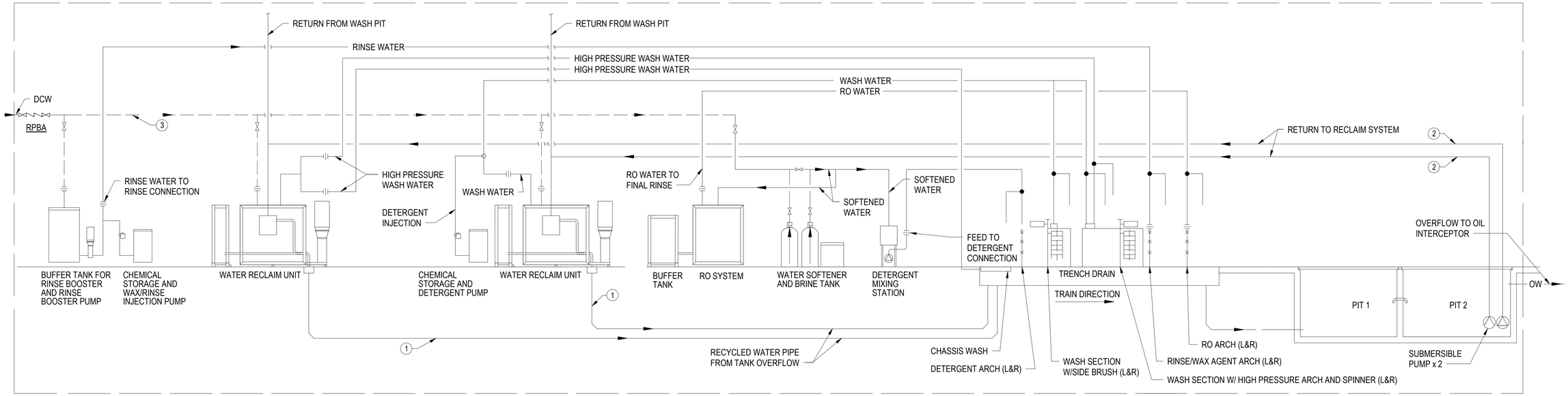
MECHANICAL

LRV WASH PLUMBING ROOF PLAN

DRAWING No.: **M08W-MPP201**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:42:30 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08W-M-v2022.rvt

LRV WASH PIT SECTION



LRV WASH EQUIPMENT SCHEMATIC
(FOR REFERENCE ONLY, SUPPLIED UNDER DIVISION 11)

NOTE:
THESE SCHEMATICS INDICATE GENERAL SYSTEM ARRANGEMENTS ONLY. THE SYSTEM OR EQUIPMENT SHALL PROVIDE ALL DETAILED BILL OF MATERIALS AND INSTALLATION REQUIREMENTS FOR A FULLY FUNCTIONAL SYSTEM.

1 LRV WASH WATER EQUIPMENT DIAGRAM
NTS

KEYNOTES:

1. RECYCLED WATER SYSTEM SHALL BE MARKED WITH THE WORDS: "CAUTION: NONPOTABLE RECYCLED WATER, DO NOT DRINK" WITH PURPLE BACKGROUND AND BLACK UPPERCASE LETTERING IN ACCORDANCE WITH UPC 601.3.3(2).
2. RECLAIMED WATER SYSTEM SHALL BE MARKED WITH THE WORDS: "CAUTION: NONPOTABLE RECLAIMED WATER, DO NOT DRINK" WITH PURPLE BACKGROUND AND BLACK UPPERCASE LETTERING IN ACCORDANCE WITH UPC 601.3.3(2).
3. NON-POTABLE WATER SYSTEM SHALL BE MARKED WITH THE WORDS: 'CAUTION: NON-POTABLE WATER, DO NOT DRINK' WITH YELLOW BACKGROUND AND BLACK UPPERCASE LETTERING IN ACCORDANCE WITH UPC 601.3.2.
4. POTABLE AND NON-POTABLE LINES WATER LINES AND OUTLETS SHALL BE INSTALLED WITH LABELLING IN ACCORDANCE WITH UPC SECTION 601.3.1 THROUGH 601.3.5.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

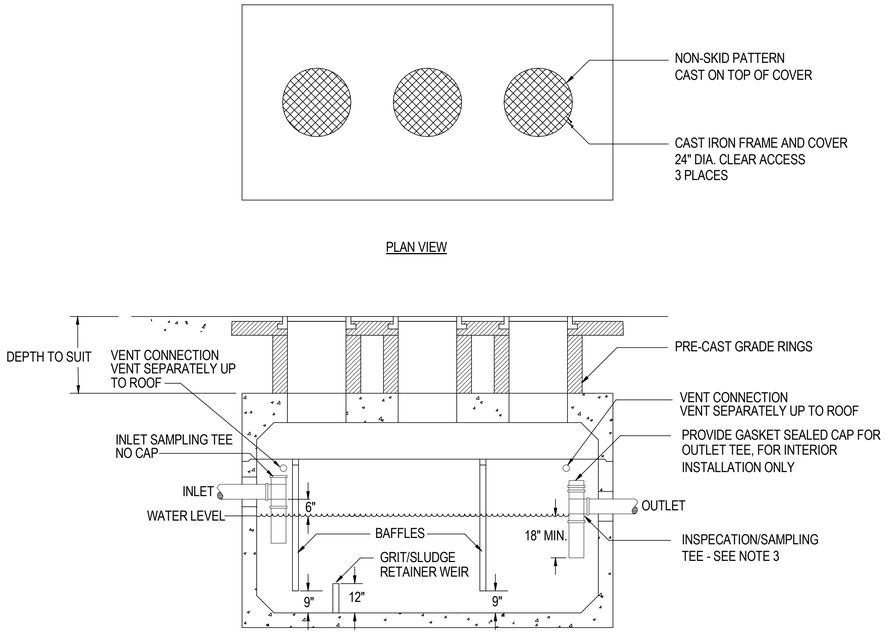
AHJ:

PACKAGE #

DESIGNED BY: D. REAMES	PRELIMINARY — RICHARD E. HIMMEL, STATE OF WASHINGTON, 23778, REGISTERED PROFESSIONAL ENGINEER, 11/07/2023, SIGNED	HDR	SCALE:	SOUND TRANSIT OPERATIONS & MAINTENANCE FACILITY SOUTH CONCEPTUAL ENGINEERING MECHANICAL LRV WASH PLUMBING WASH WATER DIAGRAM
DRAWN BY: B. BOONE			FILENAME: X100-X01-X-v2020	DRAWING No.: M08W-MPS001
CHECKED BY: B. CRANE			CONTRACT No.: X100	FACILITY ID: ID#
APPROVED BY: R. HIMMEL	SUBMITTED BY:	DATE:	REVIEWED BY:	SHEET No: 10 REV:
			DATE:	DATE:

LINE IS 1" AT FULL SCALE

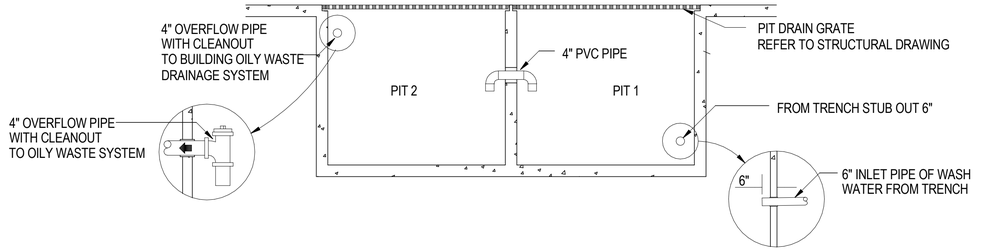
2/23/2024 1:42:30 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08W-M-v2022.rvt



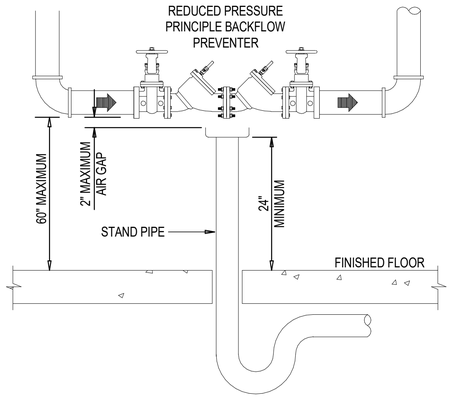
1 LRV OIL INTERCEPTOR DETAIL
NTS

NOTES:

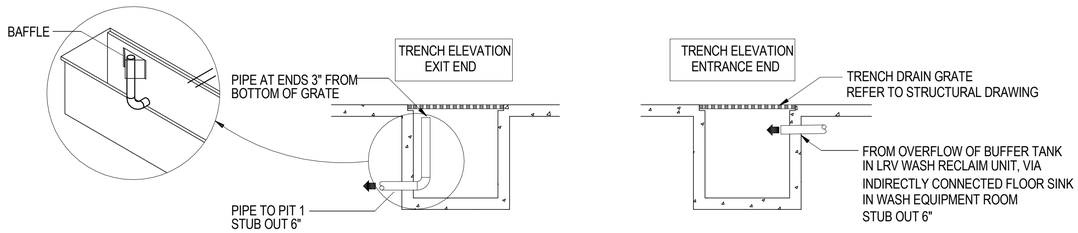
1. PRECAST VAULT SHALL HAVE KNOCKOUTS AT ALL PIPE OPENINGS. IF KNOCKOUTS ARE NOT PRESENT, THEN PIPE OPENINGS SHALL BE CORE-DRILLED. PIPE OPENINGS TO BE 2" LARGER THAN THE PIPE DIAMETER.
2. LOCATE VAULT WITHIN 20' OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLES.
3. PVC SAMPLING TEE SHALL BE THE SAME SIZE AT THE OUTLET PIPE FOR 6" OUTLET OR GREATER. USE 6" PVC TEE WHERE OUTLET PIPE SIZE IS LESS THAN 6".
4. FILLWITH CLEAN WATER PRIOR TO START-UP OF THE SYSTEM.
5. GRAY AND BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER.
6. PIPE CONNECTION TO VAULT: KOR-N-SEAL OR EQUAL FOR CORE -DRILLED OPENINGS, OR SAND COLLAR FOR KNOCKOUT OPENING. SEAL ALL PIPE CONNECTIONS WITH NONSHRINK GROUT.
7. INTERIOR OIL/WATER SEPARATORS SHALL HAVE VENTING PER UNIFORM PLUMBING CODE.
8. PRIOR STARTUP, OIL/WATER SEPARATOR SHALL PASS LEAK TEST PER THE UNIFORM PLUMBING CODE.



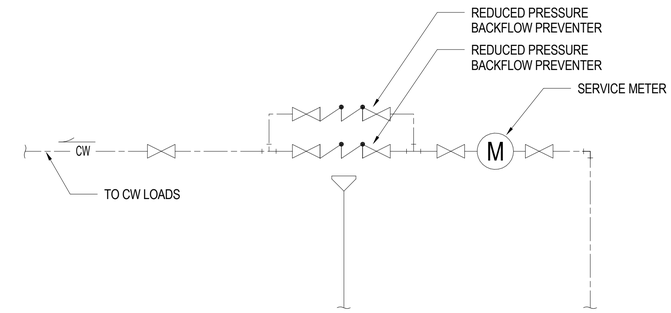
2 LRV SEDIMENT INTERCEPTOR DETAIL
NTS



4 RPBA DETAIL
NTS



3 LRV WASH TRENCH PIPE CONNECTION DETAIL
NTS



5 WATER SERVICE DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 — SIGNED — PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LRV WASH PLUMBING DETAILS

DRAWING No.: M08W-MPS002
FACILITY ID: ID#
SHEET No: 10
REV:

2/23/2024 1:42:31 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08W-M-v2022.rvt

PLUMBING SPECIALTIES SCHEDULE		
TYPE MARK	COMMENTS	DESCRIPTION
EW-1	EMERGENCY EYE/FACE WASH	WALL HUNG, STAINLESS STEEL EYE/FACE WASH
FD	FLOOR DRAIN	CAST IRON BODY, FLASHING COLLAR, ADJUSTABLE STRAINER HEAD
FS-1	FLOOR SINK	ENAMELED CAST IRON FLOOR SINK, NICKEL BRONZE RIM, FIXED GRATE
NFWH	NON-FREEZE WALL HYDRANT	BRONZE NICKEL PLATED, QUARTER TURN, 3/4-INCH HOSE CONNECTION, INTEGRAL VACUUM BREAKER, LOOSE KEY HANDLE
RD	ROOF DRAIN	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME
RDO	ROOF DRAIN, OVERFLOW	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME, 2-INCH WATER DAM
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY	STAINLESS STEEL BODY, SLEEVE, AND TORSION SPRING CHECK VALVES, 175 PSIG MAX.

PLUMBING EQUIPMENT SCHEDULE		
TYPE MARK	COMMENTS	DESCRIPTION
SP-1	SUMP PUMP	SUBMERIBLE CENTRIFUGAL EFFLUENT PUMP
SP-2	SUMP PUMP	SUBMERIBLE CENTRIFUGAL EFFLUENT PUMP
SP-3	SUMP PUMP	SUBMERIBLE CENTRIFUGAL EFFLUENT PUMP
SP-4	SUMP PUMP	SUBMERIBLE CENTRIFUGAL EFFLUENT PUMP

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LRV WASH PLUMBING EQUIPMENT SCHEDULES

DRAWING No.: **M08W-MPS003**
FACILITY ID: ID#
SHEET No: 10 REV:

2/23/2024 1:42:31 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M08W-M-v2022.rvt

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1
- EXTRA HAZARD GROUP 2

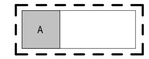
KEY NOTES

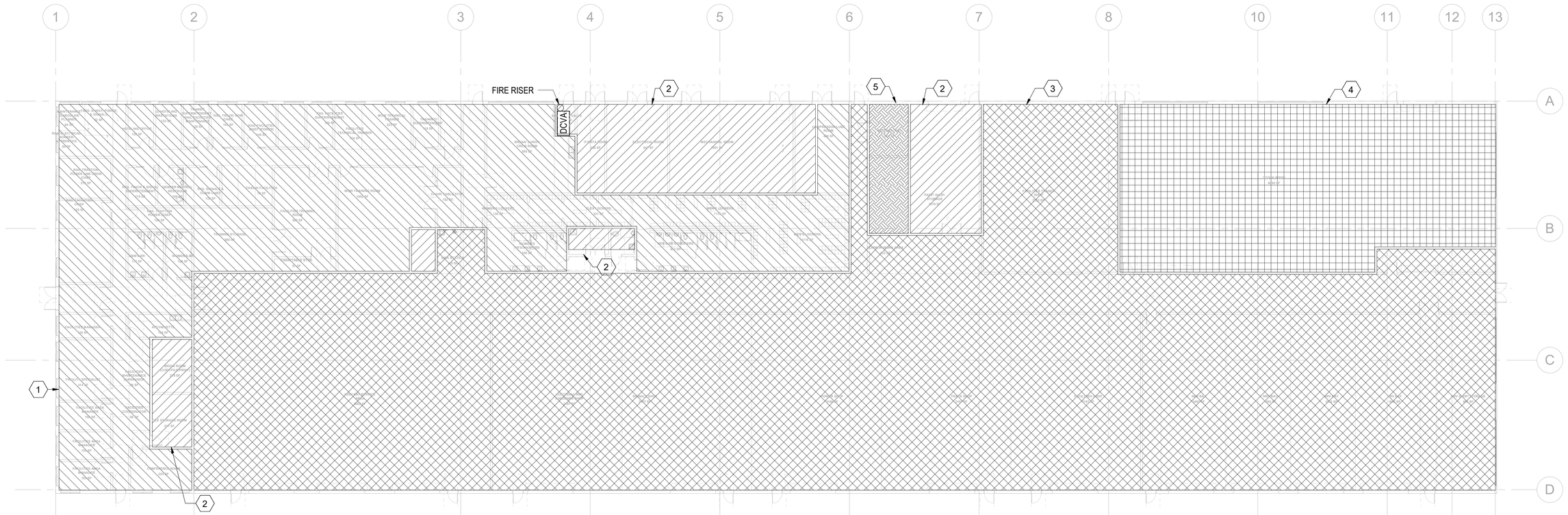
1. OFFICE AREAS, RESTROOMS, LOCKER ROOMS, BREAKROOMS, AND CONFERENCE ROOMS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON LIGHT HAZARD OCCUPANCY WITH A MIN DESIGN DENSITY OF 0.10 GPM/SF @ 1500SF.
2. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
3. VEHICLE MAINTENANCE SHOPS AND SERVICE AREAS SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1550SF.

KEY NOTES

4. STORAGE AREAS WITH STORAGE 12-FEET OR LESS WILL BE BASED ON CLASS IV ENCAPSULATED COMMODITIES STORED ON RACKS UP TO 12-FEET HIGH, AND SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON MISCELLANEOUS STORAGE, EXTRA HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.30 GPM/SF @ 2500 SF. STORAGE AREAS WITH HIGH RACK STORAGE ABOVE 12-FEET HIGH WILL BE STORED ON RACKS SPACED 8-FEET OR GREATER APART, WITH STORAGE UP TO A MAX HEIGHT OF 20-FEET HIGH.
5. PAINTING ROOMS AND BATTERY TEST ROOMS THAT WILL STORE OR USE HAZARDOUS MATERIALS SHALL FOLLOW IFC CHAPTER 50 FOR THE MAXIMUM ALLOWABLE QUANTITIES (MAQ) FOR EACH HAZARDOUS MATERIAL. IF THE AMOUNT OF HAZARDOUS MATERIALS IN USE OR STORED IS BELOW THE MAQ, THE ROOM SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON EXTRA HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.40 GPM/SF @ 2500 SF. ANY PAINT BOOTH WITH AN EXHAUST DUCT GREATER THAN 10" SHALL HAVE IN-DUCT SPRINKLERS.

KEY PLAN - M09





1 FIRE PROTECTION FLOOR PLAN
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	B. WALKER
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23778 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED — PRELIMINARY

HDR

SUBMITTED BY:	DATE:	REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:	
SCALE:	1/16" = 1'-0"
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
SUBMITTAL DATE:	

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

MOW FIRE PROTECTION FLOOR PLAN

DRAWING No.:	M09-MFP101
FACILITY ID:	ID#
SHEET No:	REV:

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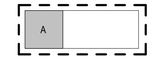
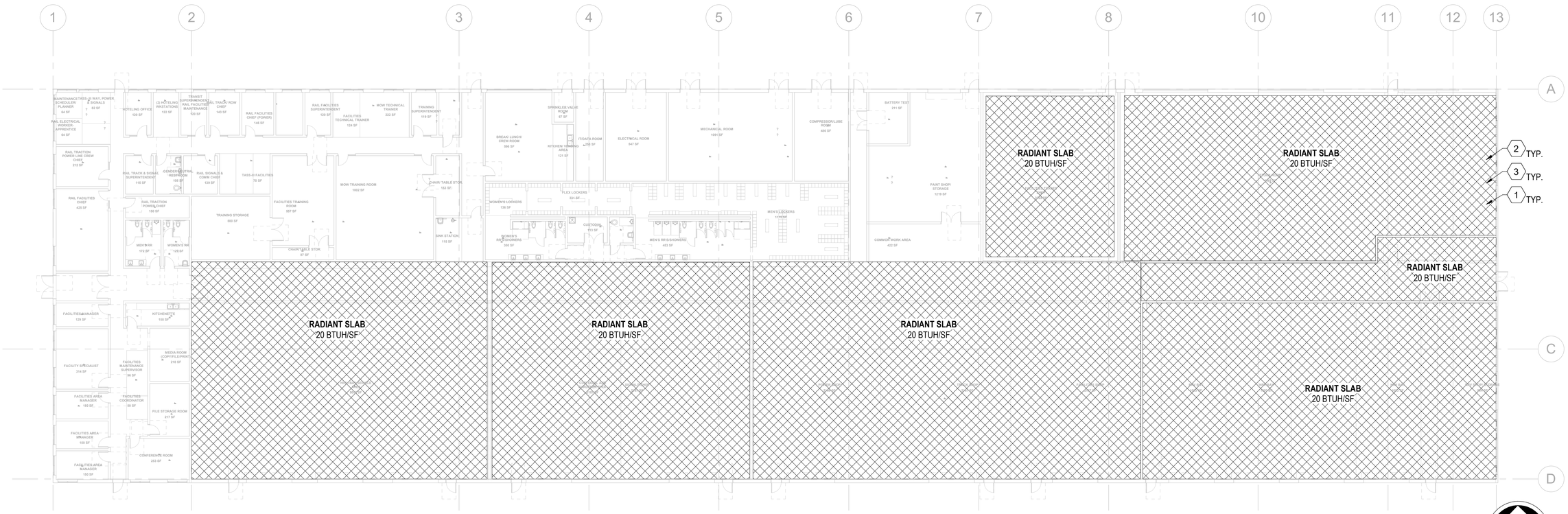
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-MA-v2022.rvt

KEY NOTES

1. MAINTAIN MINIMUM OF 12" CLEARANCE BETWEEN FOOTPRINT OF CONCRETE MOUNTED EQUIPMENT OR RAILS AND RADIANT SLAB PIPING.
2. PROVIDE RADIANT HEATED SLAB FOR AREA SHOWN IN HATCHING.
3. RADIANT ZONES MAY NOT EXCEED 5000 SF EACH.

KEY PLAN - M09





1 HVAC IN-FLOOR HEATING ZONE PLAN
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 29734 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY:
DATE:
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW HVAC IN-FLOOR HEATING ZONE PLAN

DRAWING No.: **M09-MHP101**
FACILITY ID: ID#
SHEET No: REV:

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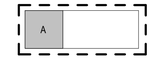
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

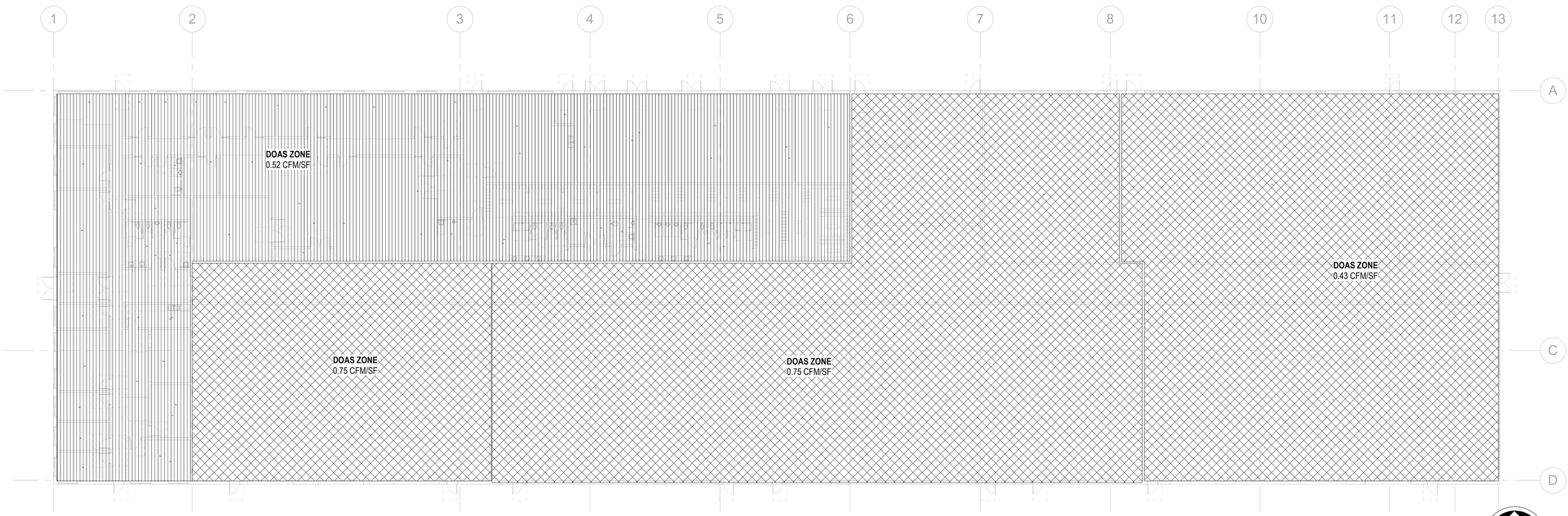
DOAS EQUIPMENT TYPE LEGEND

ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, DX COOLING/HEATING, FILTRATION, DISCHARGE VOLUME, TEMPERATURE AND HUMIDITY CONTROL

ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, DX COOLING/HEATING, FILTRATION, DISCHARGE VOLUME AND TEMPERATURE CONTROL

KEY PLAN - M09





1 HVAC DOAS ZONE PLAN
1/16" = 1'-0"

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23778 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY:
DATE:
REVIEWED BY:
DATE:
SUBMITTAL DATE:

LINE IS 1" AT FULL SCALE

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW HVAC DOAS ZONE PLAN

DRAWING No.: **M09-MHP102**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:37:53 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

KEY NOTES

1. OVERHEAD HIGH VOLUME LOW SPEED FAN. LOCATED ABOVE ALL OVERHEAD OBSTRUCTIONS (CRANES) EQUIPMENT. PROVIDE SPEED CONTROL WITH FAN SYSTEM WITH LABELING FOR USER OVERRIDE. COORDINATE LOCATION OF CONTROL WITH ST SHOPS AND OPERATION.
2. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.
3. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.

KEY NOTES

4. PROVIDE BALANCED HEATING, COOLING AND VENTILATION SYSTEMS FOR EACH SPACE SHOWN AND INDICATED. PROVIDE CO2, OCCUPANCY, TEMPERATURE & HUMIDITY MONITORING.
5. PROVIDE EXHAUST FAN AND EXHAUST DUCT CONNECTIONS FOR WELDING EXHAUST STATIONS. PROVIDE SNORKLE WELDING EXHAUST DUCT ARM FOR OPERATOR'S USE AND PROVIDE USER CONTROLS FOR INTERLOCKED FAN OPERATION. PROVIDE DAMPER CONTROLS INTERLOCKED WITH FAN AND OPERATOR INTERFACE TO ISOLATE DUCT WHEN NOT IN USE.
6. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.

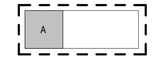
KEY NOTES

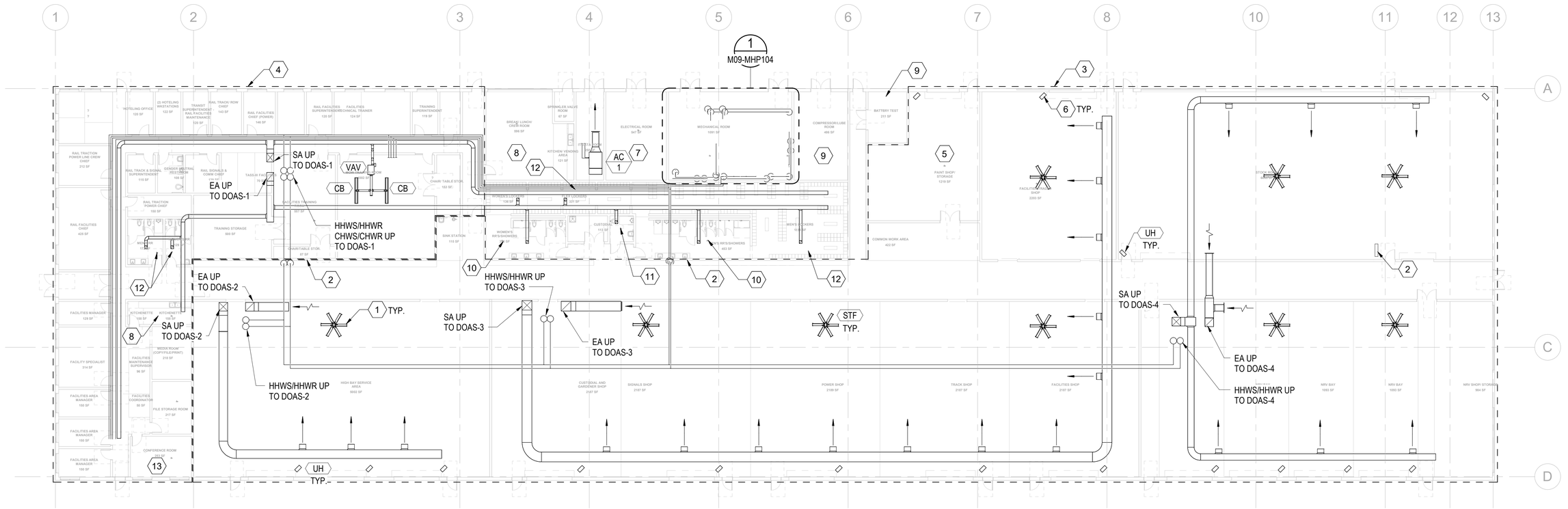
7. PROVIDE DEDICATED EXHAUST SYSTEM FOR ELECTRICAL ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM. MAKEUP AIR TO BE SOURCED FROM BUILDING EXTERIOR OR TRANSFER AIR FROM ADJACENT SPACE BASED ON COOLING NEEDS OF ELECTRICAL ROOM BY WAY OF ECONOMIZER.
8. PROVIDE EXHAUST VENTILATION FOR LUNCH ROOM/KITCHEN/BREAKROOM/COFFEE BAR/VENDING AREAS.
9. PROVIDE DEDICATED EXHAUST SYSTEM FOR MATERIAL STORAGE ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM.
10. PROVIDE EXHAUST FOR RESTROOMS/CUSTODIAL CLOSET WITH RELIEF AIR CONNECTION TO ROOFTOP ERV. COORDINATE LOUVERS IN DOORS FOR TRANSFER/MAKEUP AIR.

KEY NOTES

11. PROVIDE EXHAUST FOR CUSTODIAL CLOSET. COORDINATE DOOR LOUVER FOR MAKEUP AIR.
12. PROVIDE RESTROOM EXHAUST, BALANCED HEATING HEATING & COOLING FOR RESTROOMS/LOCKER. PROVIDE INSULATED OXIDATION RESISTANT EXHAUST DUCTING (ALUMINIMUM OR STAINLESS STEEL) ON EXHAUST SYSTEMS WHERE MORE THAN 50% OF THE AIR IN DUCT IS FROM SHOWER ROOM.
13. PROVIDE VENTILATION SETBACK CONTROLS INCLUDING VARIABLE AIR VOLUME CONTROLLER AND OCCUPANCY SENSORS.

KEY PLAN - M09





1 HVAC FLOOR PLAN
1/16" = 1'-0"

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY:
DATE:
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW HVAC FLOOR PLAN

DRAWING No.: **M09-MHP103**
FACILITY ID: ID#
SHEET No: REV:

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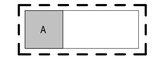
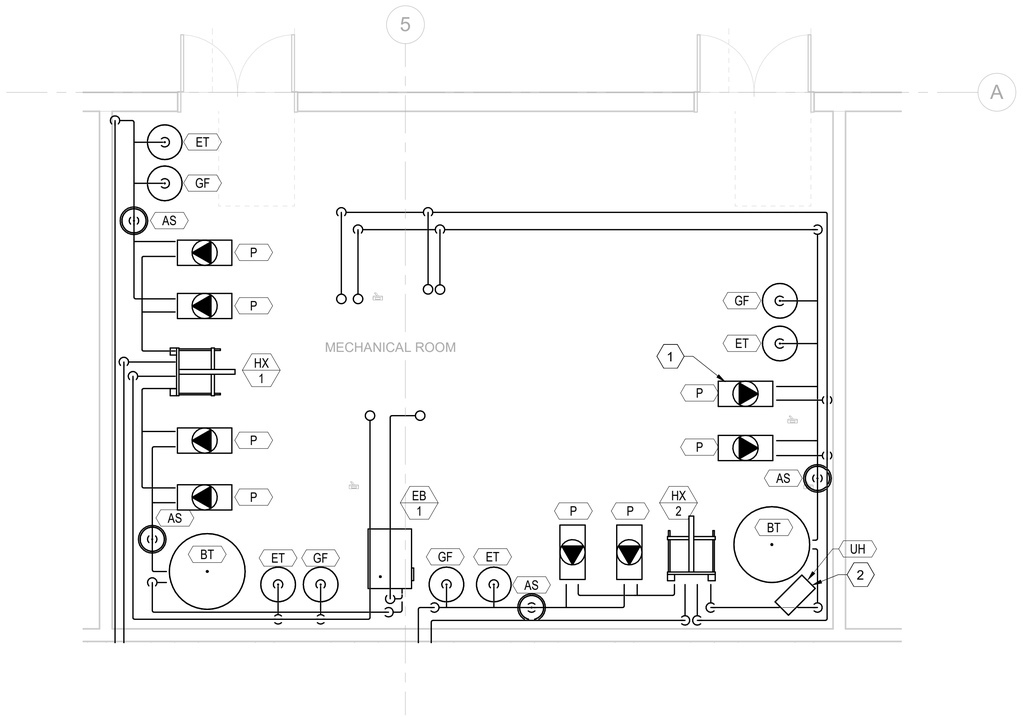
KEY PLAN - M09



KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.
2. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.



1 HVAC PARTIAL PLAN
1/4" = 1'-0"

N

4 2 0 4 8
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

SUBMITTED BY:	DATE:	REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:	
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
SUBMITTAL DATE:	

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

MOW MECHANICAL ROOM PLAN

DRAWING No.:	M09-MHP104
FACILITY ID:	ID#
SHEET No:	10
REV:	

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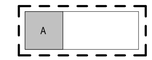
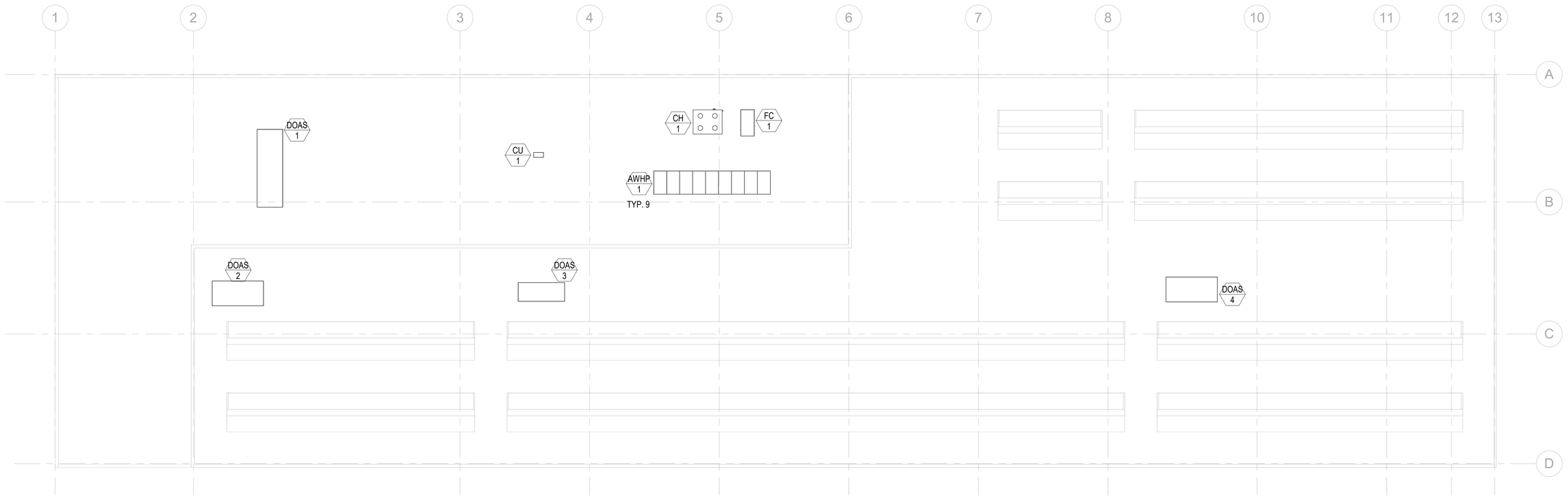
KEY PLAN - M09





1 HVAC ROOF PLAN
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
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RICHARD E. HIMMEL — STATE OF WASHINGTON — 29734 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY:
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW HVAC ROOF PLAN

DRAWING No.: M09-MHP201
FACILITY ID: ID#
SHEET No: REV:

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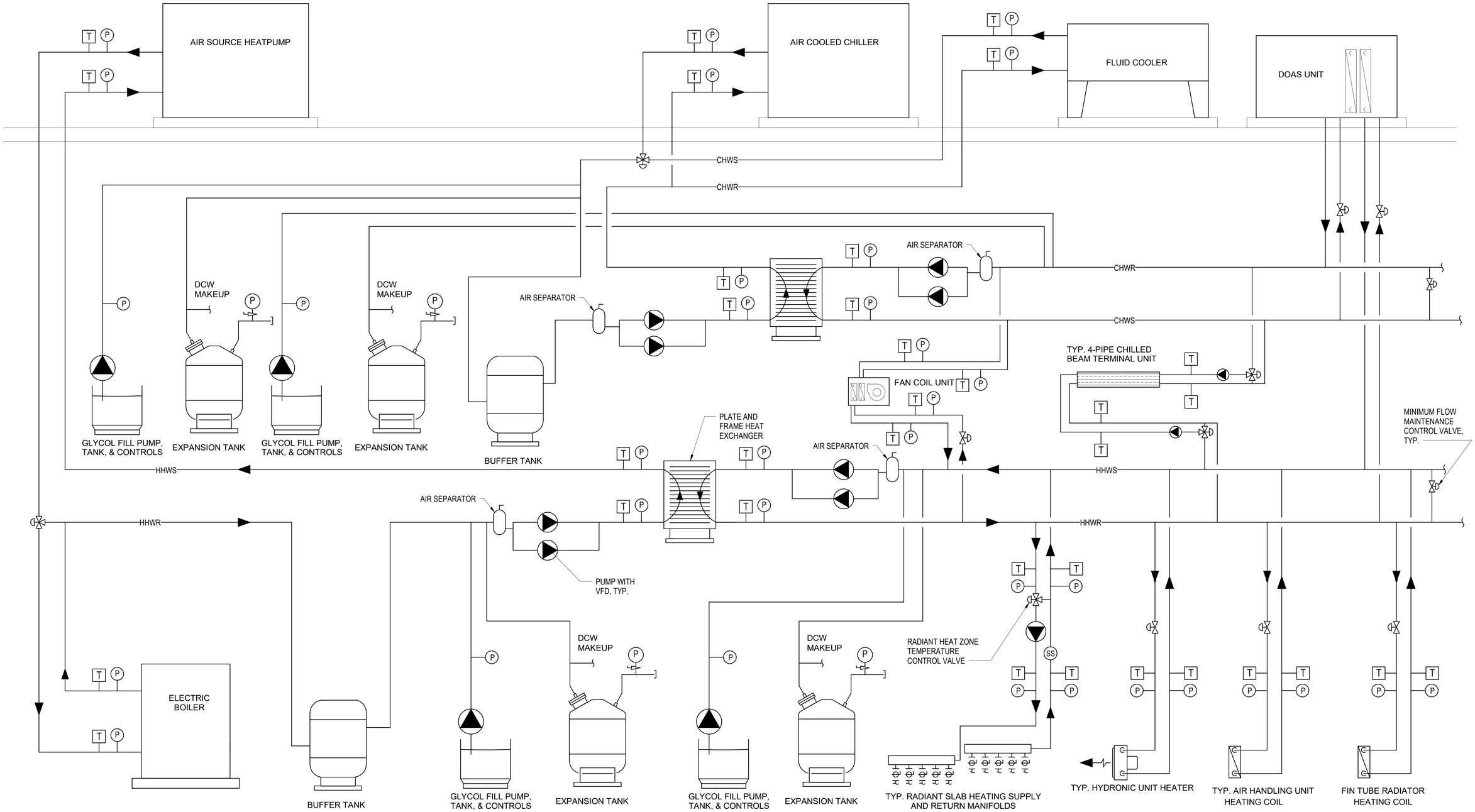

1 OMF COOLING AND HEATING PLANT DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23778 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SCALE:

FILENAME: X100-X01-X-v2020

CONTRACT No.: X100

SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

MOW HVAC COOLING AND HEATING PLANT SCHEMATIC

DRAWING No.: **M09-MHS001**

FACILITY ID: ID#

SHEET No: REV:

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CONCEPT OF OPERATIONS

OFFICE, ADMINISTRATION, TRAINING, CONFERENCE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING, ZONE LEVEL VARIABLE AIR VOLUME TERMINAL UNIT) FOR VENTILATION
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS
- ZONE LEVEL OCCUPANCY SENSOR UTILIZED TO ENGAGE "OCCUPIED" VENTILATION DAMPER POSITION FOR CONFERENCE ROOMS AND OTHER DENSE OCCUPANCY AREAS AND WHERE AIR VOLUME CONTROL IS PROVIDED ON VENTILATION TO SPACE.

ADMINISTRATIVE FILE STORAGE, AUDIO/VIDEO & CHAIR/TABLE STORAGE,

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- PROVIDE HUMIDITY MONITORING AND MANAGEMENT
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE. SPECIFICALLY, DDC SYSTEM SHALL MONITOR HUMIDITY AND ADJUST FANSPEED AND COOLING CONTROL VALVE TO MANAGE HUMIDITY MAXIMUM LIMIT IN ROOM.

LUNCH ROOM, BREAK ROOM, COFFEE BAR, VENDING, KITCHENETTE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE FOOD ODORS

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS
- DIRECT EXHAUST/RELIEF AIR CONNECTION TO ROOM AT OR NEAR POINT SOURCE OF NOXIOUS SMELLS.

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS

LOCKER ROOM, LOCKER STORAGE AREA

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- DIRECT EXHAUST/RELIEF AIR CONNECTION TO ROOM AT OR NEAR POINT SOURCE OF NOXIOUS SMELLS.

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS.

SCADA DISPLAY WORKSTATION & SCADA SERVER ROOM

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- PROTECT SCADA EQUIPMENT BY PROVIDING CONSISTENT INDOOR AIR CLIMATE

B. COMPONENTS INCLUDED:
- DEDICATED COOLING/HEATING/VENTILATION UNIT WITH ECONOMIZER, AND HIGH EFFECTIVENESS FILTRATION.
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR AIR TEMPERATURE.

RAIL OPERATIONS

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- ACTIVE CHILLED BEAMS (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING, ZONE LEVEL VARIABLE AIR VOLUME TERMINAL UNIT) FOR VENTILATION
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- DIRECT EXHAUST/RELIEF AIR CONNECTION TO ROOM AT OR NEAR POINT SOURCE OF NOXIOUS SMELLS.

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES, DAMPERS AND ADJUSTS OPERATIONAL SETPOINTS TO MANAGE INDOOR CLIMATE CONDITIONS.
  1. PRIMARY CONTROLLED DEVICES INCLUDE CONTROL VALVES ON OVERHEAD ACTIVE CHILLED BEAMS
- ZONE LEVEL OCCUPANCY SENSOR UTILIZED TO ENGAGE "OCCUPIED" VENTILATION DAMPER POSITION FOR CONFERENCE ROOMS AND OTHER DENSE OCCUPANCY AREAS AND WHERE AIR VOLUME CONTROL IS PROVIDED ON VENTILATION TO SPACE.

RESTROOM AND SHOWER ROOMS

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE..

VEHICLE MAINTENANCE, SERVICE AND INSPECTION, LIFT REPAIR POSITION, SERVICE AND INSPECTION POSITION, WHEEL TRUING POSITION, REPAIR, AND OVERHAUL POSITION, TRUCK SHOP, STORAGE, AND WASH, TRUCK OVERHAUL, HVAC PREP/REPAIR SHOP/STORAGE, PANTOGRAPH PREP/REPAIR SHOP/STORAGE, BRAKE AND COUPLER SHOP, WELDING/FABRICATION SHOP, TOOL STORAGE, COMMON WORK AREA, PORTABLE EQUIPMENT STORAGE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE MANAGE ODORS, DUST, AIR INDOOR AIR QUALITY

B. COMPONENTS INCLUDED:
- UNIT HEATERS (FANS, HEATING WATER CONTROL VALVES)
- ROOF MOUNTED ENERGY RECOVERY VENTILATOR
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- DESTRATIFICATIONS FANS
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS
- AREA TEMPERATURE SENSORS
- DESTRATIFICATION FAN SPEED CONTROLLER

C. CONTROL STRATEGY:
- ZONE LEVEL AND GENERAL ROOM TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- VENTILATION SUPPLY AND EXHAUST POSITIONED TO VENTILATE EACH SPACE WITH CONSIDERATION FOR VEHICLE MAINTENANCE AND ACCESS STRUCTURE INCLUDING STAIRS, PLATFORMS, PITS AND TOOL STORAGE.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.
- OPERATORS OVERRIDE FOR DESTRATIFICATION FAN SPEED CONTROL.

PAINT PREP, PAINT MIXING AND BODY POSITION

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE MANAGE ODORS, DUST, AIR INDOOR AIR QUALITY

B. COMPONENTS INCLUDED:
- UNIT HEATERS (FANS, HEATING WATER CONTROL VALVES)
- ROOF MOUNTED ENERGY RECOVERY VENTILATOR WITH BOTH OUTISIDE AND RETURN/EXHAUST AIR FILTRATION
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- DESTRATIFICATIONS FANS
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS
- AREA TEMPERATURE SENSORS
- DESTRATIFICATION FAN SPEED CONTROLLER

C. CONTROL STRATEGY:
- ZONE LEVEL AND GENERAL ROOM TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- VENTILATION SUPPLY AND EXHAUST POSITIONED AND BALANCED TO PREVENT MIGRATION OF ODORS AWAY FROM PAINT AREA.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.
- OPERATORS OVERRIDE FOR DESTRATIFICATION FAN SPEED CONTROL.

ELECTRONICS REPAIR SHOP, INVERTER SHOP/STORAGE, ACCELERATED PROCESSING UNIT (APU) SHOP/STORAGE, HIGH SPEED CIRCUIT BREAKER (HSCB) & BATTERY SHOP/STORAGE, RAIL CAR MANUFACTURER OFFICE/SHOP/STORAGE AREA, BODY SHOP STORAGE, TOOLBOX STORAGE,

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

LUBE ROOM/COMPRESSOR ROOM

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR EQUIPMENT.
- MANAGED ENERGY USE DURING ALL HOURS.
- PROTECT EQUIPMENT FROM OVER HEATING.
- MANAGE ODORS, DUST AND AEROSOLIZED LUBRICANT.

B. COMPONENTS INCLUDED:
- EXHAUST FAN AND FILTERED MAKEUP AIR FROM ADJACENT SPACE
- UNIT HEATER (CONTROL VALVE AND FAN)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO^2 SENSORS MONITOR INDOOR AIR TEMPERATURE
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 23738 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE: | SCALE: | FILENAME: X100-X01-X-v2020 | CONTRACT No.: X100 | SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

MOW HVAC BMS CONCEPT OF OPERATIONS

DRAWING No.: **M09-MHS002**
FACILITY ID: ID#
SHEET No: | REV:

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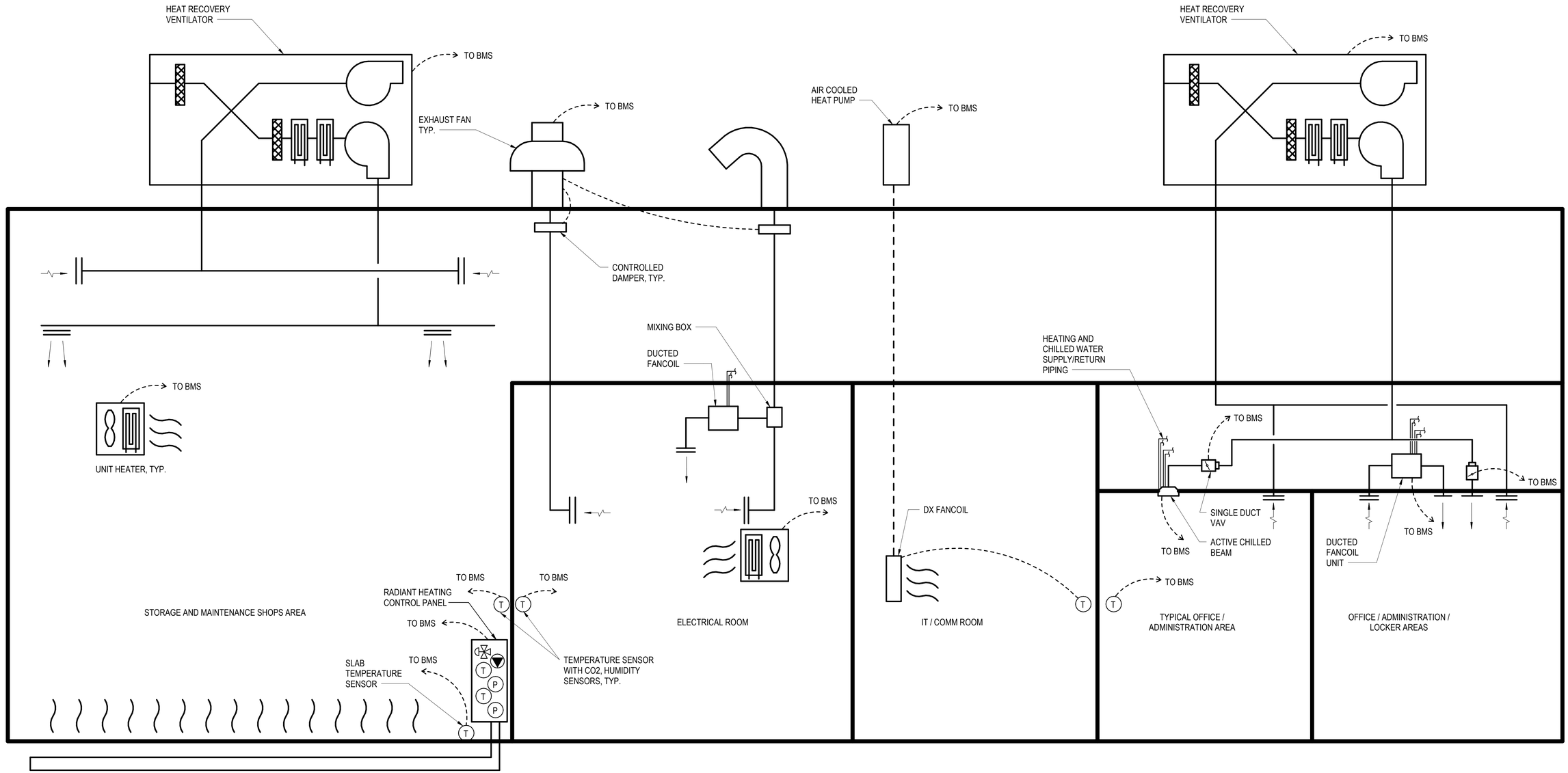


1 HVAC BMS CONTROL SCHEMATIC
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

SUBMITTED BY:	DATE:	REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:	
SCALE:	
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
SUBMITTAL DATE:	

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

MOW HVAC BMS CONTROL SCHEMATICS

DRAWING No.:	M09-MHS003
FACILITY ID:	ID#
SHEET No:	REV:

2/23/2024 1:37:59 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

BOILER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
EB	1	AWHP BACK-UP HEAT SOURCE FOR HOT WATER LOOP	ELECTRIC BOILER

CHILLER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
CH	1	CHILLED WATER LOOP SERVING CHILLED BEAMS, FANCOIL UNITS, DOAS AND UNIT	HERMETIC SCROLL CHILLER W/ FLUID COOLER FOR EFFICIENT COOLING

EXPANSION TANK SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
ET	COOLING AND HEATING WATER LOOP	EXPANSION TANK
ET	COOLING AND HEATING WATER LOOP	EXPANSION TANK
ET	COOLING AND HEATING WATER LOOP	EXPANSION TANK
ET	COOLING AND HEATING WATER LOOP	EXPANSION TANK

HEAT EXCHANGER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
HX	1	HOT WATER LOOP	PLATE AND FRAME HEAT EXCHANGER
HX	2	HOT WATER LOOP	PLATE AND FRAME HEAT EXCHANGER

PUMP SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
P	CHILLED WATER AND HOT WATER LOOPS SERVING CHILLED AND HOT WATER TO CHILLED BEAMS AND DOAS-1 AND ONLY HOT WATER TO ALL DOAS UNITS, RADIANT SLABS, AND UNIT HEATERS	BASE MOUNTED END SUCTION PUMP WITH GROUTED BASE AND VIBRATION ISOLATION

DOAS UNIT SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
DOAS	1	OFFICE AND ADMINISTRATION AREA	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	2	MAINTENANCE SHOP AREA	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	3	MAINTENANCE SHOP AREA	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	4	MAINTENANCE SHOP AREA	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS

FAN SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
STF	MAINTENANCE AND STORAGE BAYS	HIGH VOLUME LOW SPEED DESTRATIFICATION FAN

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
AC	1	IT / COMM ROOM COOLING	DUCTED FANCOIL COOLING UNIT WITH ECONOMIZER DAMPER AND FILTER
CU	1	AC-1	DX CONDENSING UNIT

AIR TO WATER HEAT PUMP SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
AWHP	1	HOT WATER LOOP SERVING CHILLED BEAMS, ALL DOAS UNITS, RADIANT SLABS, AND UNIT HEATERS	HIGH LIFT AIR TO WATER HEAT PUMP

UNIT HEATER SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
UH	UNIT HEATERS SERVING SERVICE BAY AREAS, STORAGE AREAS, PROTECT FROM FREEZE SPACES, SHOPS, AND ALL SPACES THAT NEED UNIT HEATERS	HOT WATER UNIT HEATERS

VAV SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
VAV	CHILLED BEAM SYSTEM	SINGLE DUCT VARIABLE AIR VOLUME TERMINAL UNIT WITH AIRFLOW RING AND CONTROLLED DAMPER TO MANAGE OUTSIDE AIR VOLUME TO EACH SPACE/CHILLED BEAM NETWORK.

CHILLED BEAM SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
CB	OFFICE AND ADMINISTRATION SPACES	4 PIPE CHILLED BEAM

FLUID COOLER SCHEDULE

CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
FC	1	CHILLER AND CHILLED WATER LOOP WHEN OUTSIDE AIR TEMP IS BELOW 50 F	FLUID COOLER

GLYCOL FEEDER SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
GF	COOLING AND HEATING WATER LOOPS	GLYCOL FEEDER
GF	COOLING AND HEATING WATER LOOPS	GLYCOL FEEDER
GF	COOLING AND HEATING WATER LOOPS	GLYCOL FEEDER
GF	COOLING AND HEATING WATER LOOPS	GLYCOL FEEDER

AIR SEPERATOR SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
AS	CHILLED AND HOT WATER SYSTEM	AIR SEPERATOR
AS	CHILLED AND HOT WATER SYSTEM	AIR SEPERATOR
AS	CHILLED AND HOT WATER SYSTEM	AIR SEPERATOR
AS	CHILLED AND HOT WATER SYSTEM	AIR SEPERATOR

BUFFER TANK SCHEDULE

CALLOUT	SERVICE	DESCRIPTION
TYPE		
BT	CHILL AND HEATING WATER LOOPS	EXPANSION TANK
BT	CHILL AND HEATING WATER LOOPS	EXPANSION TANK

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW HVAC EQUIPMENT SCHEDULES

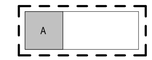
DRAWING No.: M09-MHS004
FACILITY ID: ID#
SHEET No: REV:

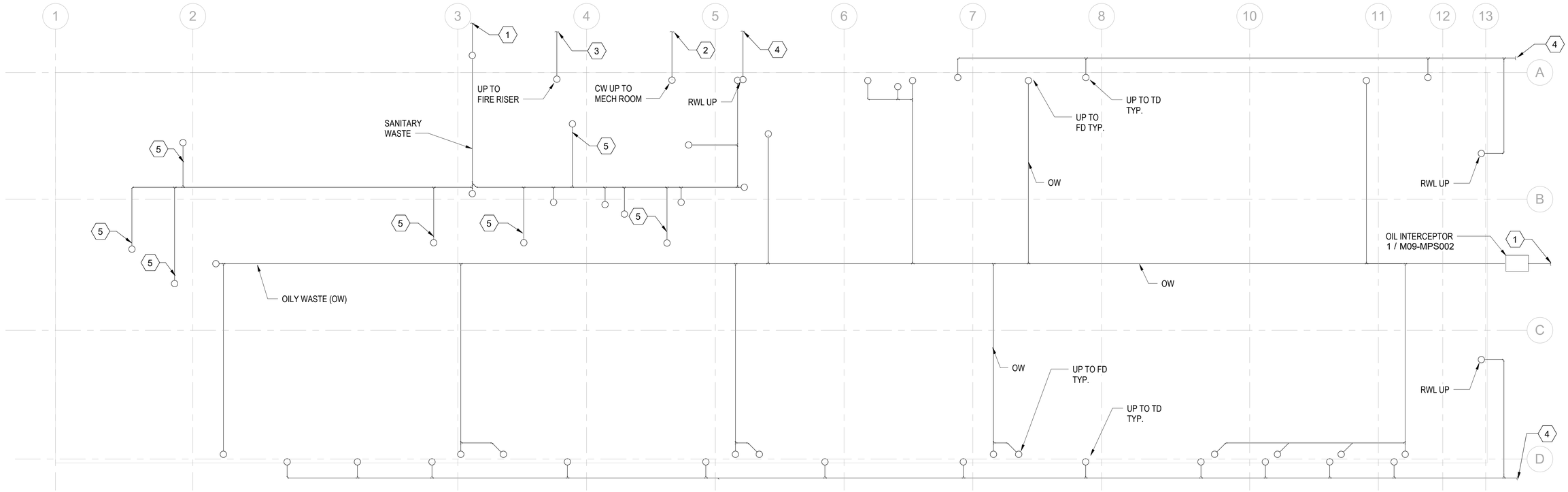
2/23/2024 1:38:03 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

KEY NOTES

1. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.
2. POINT OF CONNECTION TO DOMESTIC WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
3. POINT OF CONNECTION TO FIRE PROTECTION WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
4. POINT OF CONNECTION TO STORM SEWER. SEE CIVIL PLANS FOR CONTINUATION.
5. PROVIDE SANITARY WASTE AND VENT PIPING FOR PLUMBING FIXTURES.

KEY PLAN - M09





1 PLUMBING FOUNDATION PLAN
1/16" = 1'-0"

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 21731 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW PLUMBING FOUNDATION PLAN

DRAWING No.: **M09-MPP001**
FACILITY ID: ID#
SHEET No: REV:

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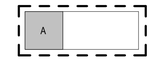
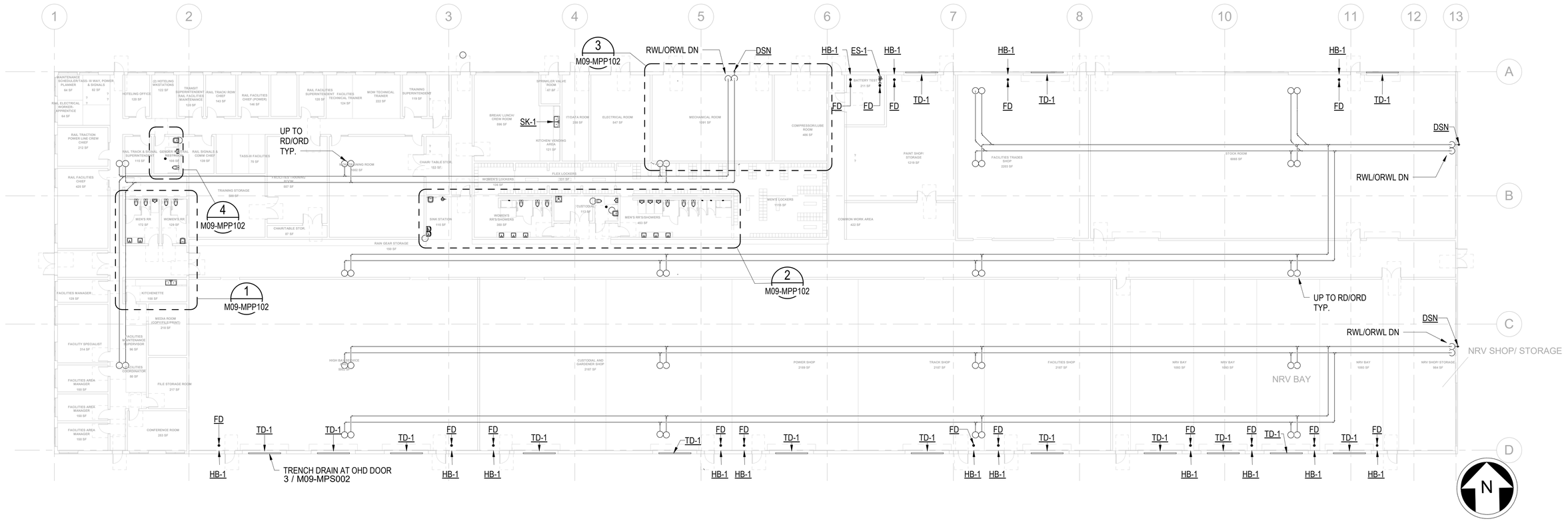
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

KEY PLAN - M09





1 PLUMBING FLOOR PLAN
1/16" = 1'-0"

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES	RICHARD E. HIMMEL, STATE OF WASHINGTON, 23178, REGISTERED PROFESSIONAL ENGINEER, 11/07/2023, SIGNED	PRELIMINARY	LINE IS 1" AT FULL SCALE	SCALE:	SOUND TRANSIT OPERATIONS & MAINTENANCE FACILITY SOUTH CONCEPTUAL ENGINEERING
DRAWN BY: B. BOONE				FILENAME: X100-X01-X-v2020	
CHECKED BY: B. CRANE				CONTRACT No.: X100	MECHANICAL MOW PLUMBING FLOOR PLAN
APPROVED BY: R. HIMMEL	SUBMITTED BY:	DATE:	REVIEWED BY:	DATE:	SUBMITTAL DATE:

DRAWING No.: **M09-MPP101**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:38:56 PM
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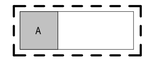
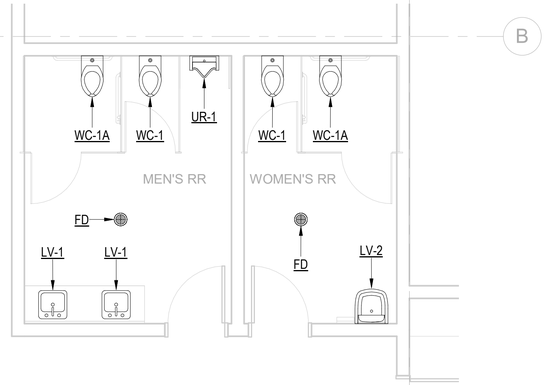
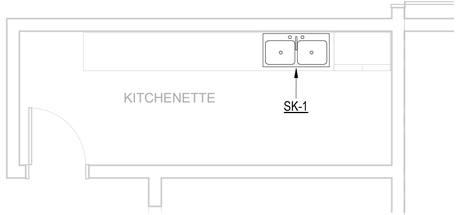
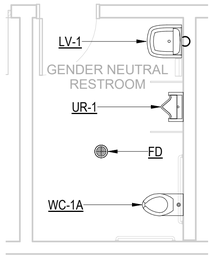
KEY PLAN - M09



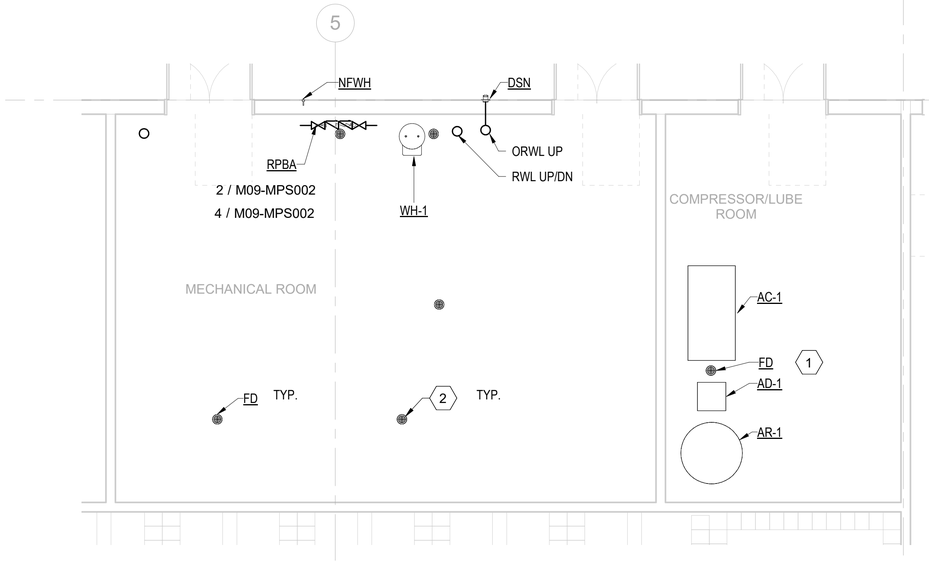




① PLUMBING PARTIAL PLAN
1/4" = 1'-0"



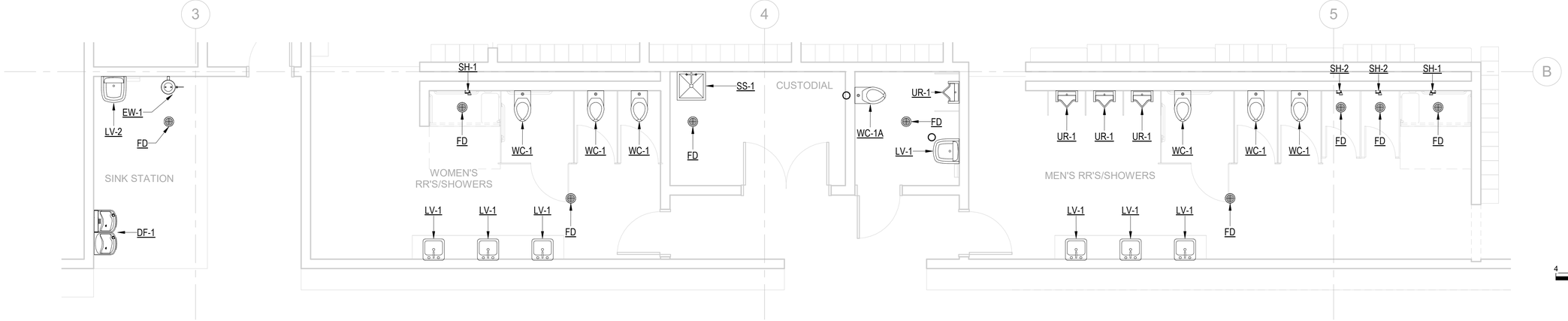
④ PLUMBING PARTIAL PLAN
1/4" = 1'-0"



③ PLUMBING PARTIAL PLAN
3/16" = 1'-0"

KEY NOTES

1. FLOOR DRAIN FOR SHOP WASTE WATER. ROUTE TO OILY WASTE WATER SYSTEM.
2. FLOOR DRAIN WITH TRAP, VENT, AND PRIMER. ROUTE TO SANITARY SYSTEM.



② PLUMBING PARTIAL PLAN
1/4" = 1'-0"

N

4 2 0 4 8
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE: AS NOTED
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW PLUMBING PARTIAL PLANS

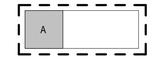
DRAWING No.: **M09-MPP102**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:38:58 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

KEY NOTES

1. PROVIDE ROOF DRAINS AND OVERFLOW ROOF DRAINS. ALIGN DRAINS BETWEEN ROOF MONITORS.
2. PROVIDE ROOF HYDRANTS FOR MECHANICAL EQUIPMENT MAINTENANCE.

KEY PLAN - M09



1 PLUMBING ROOF PLAN
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY:
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:
SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

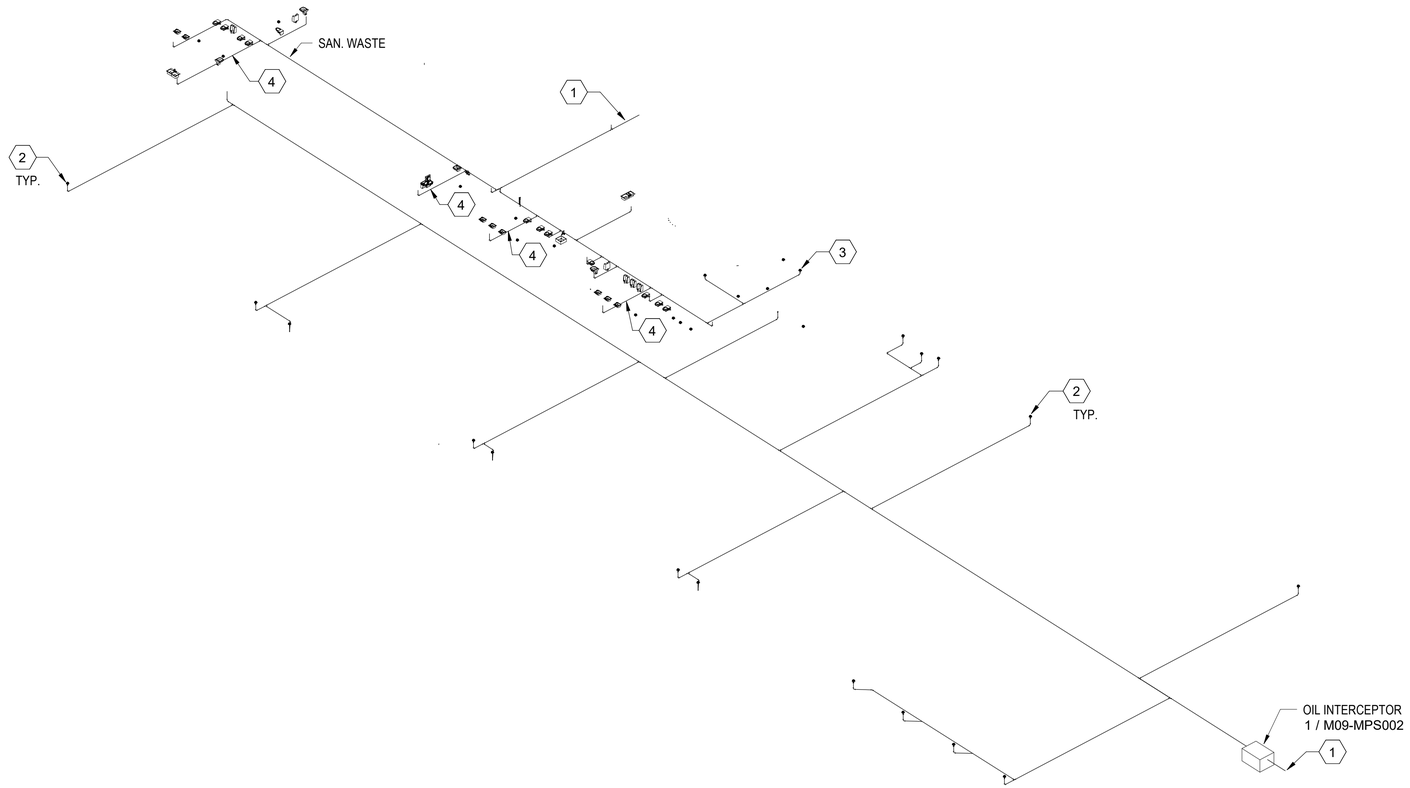
MECHANICAL
MOW PLUMBING ROOF PLAN

DRAWING No.: **M09-MPP201**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:39:00 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

KEY NOTES

1. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.
2. FLOOR DRAIN FOR SHOP WASTE WATER. ROUTE TO OILY WASTE WATER SYSTEM.
3. FLOOR DRAIN WITH TRAP, VENT, AND PRIMER. ROUTE TO SANITARY SYSTEM.
4. PROVIDE SANITARY WASTE AND VENT PIPING FOR PLUMBING FIXTURES.



1 SAN & OILY WASTE PIPING DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 21731 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

SOUNDTRANSIT

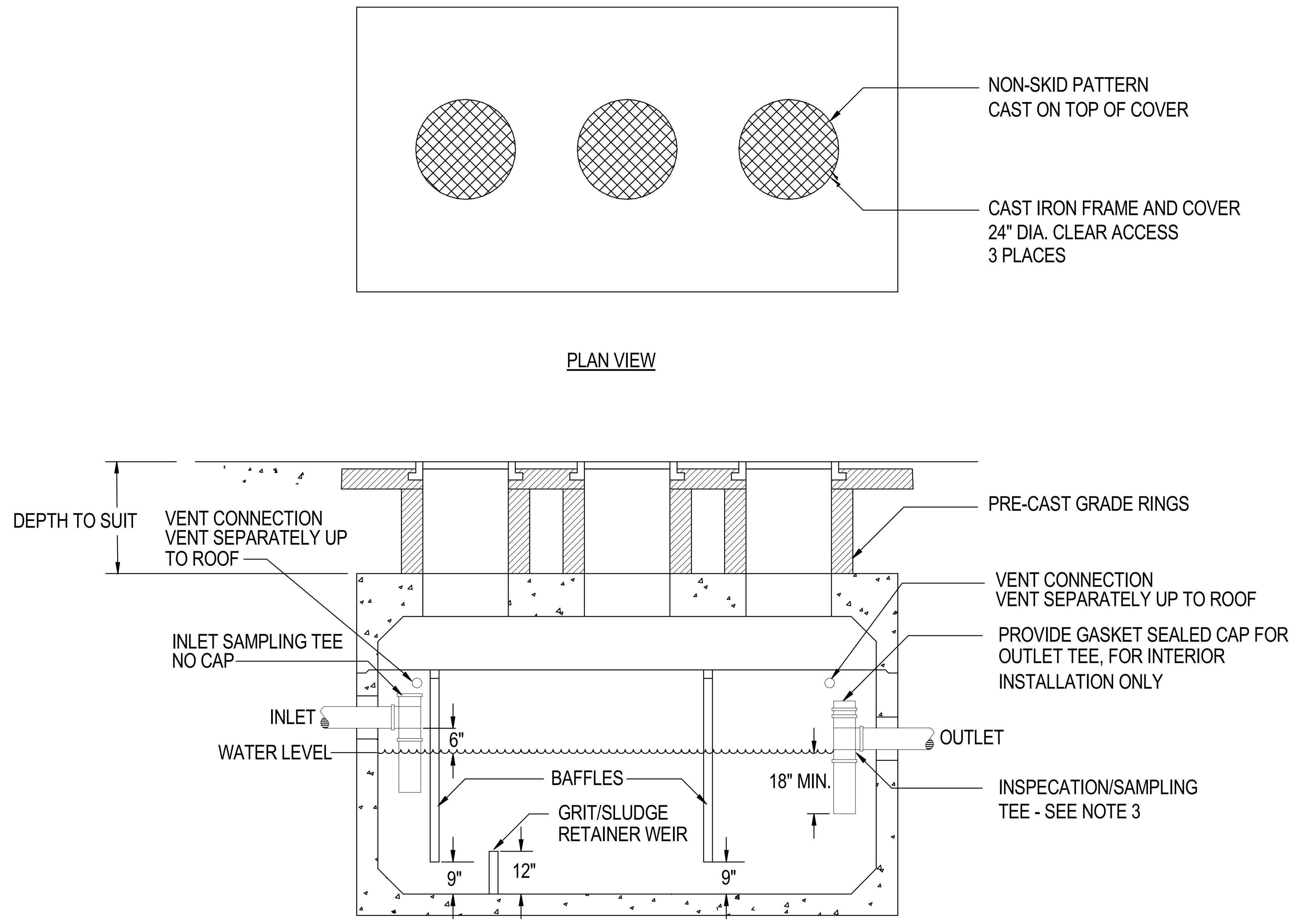
SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

MOW PLUMBING PIPING DIAGRAMS

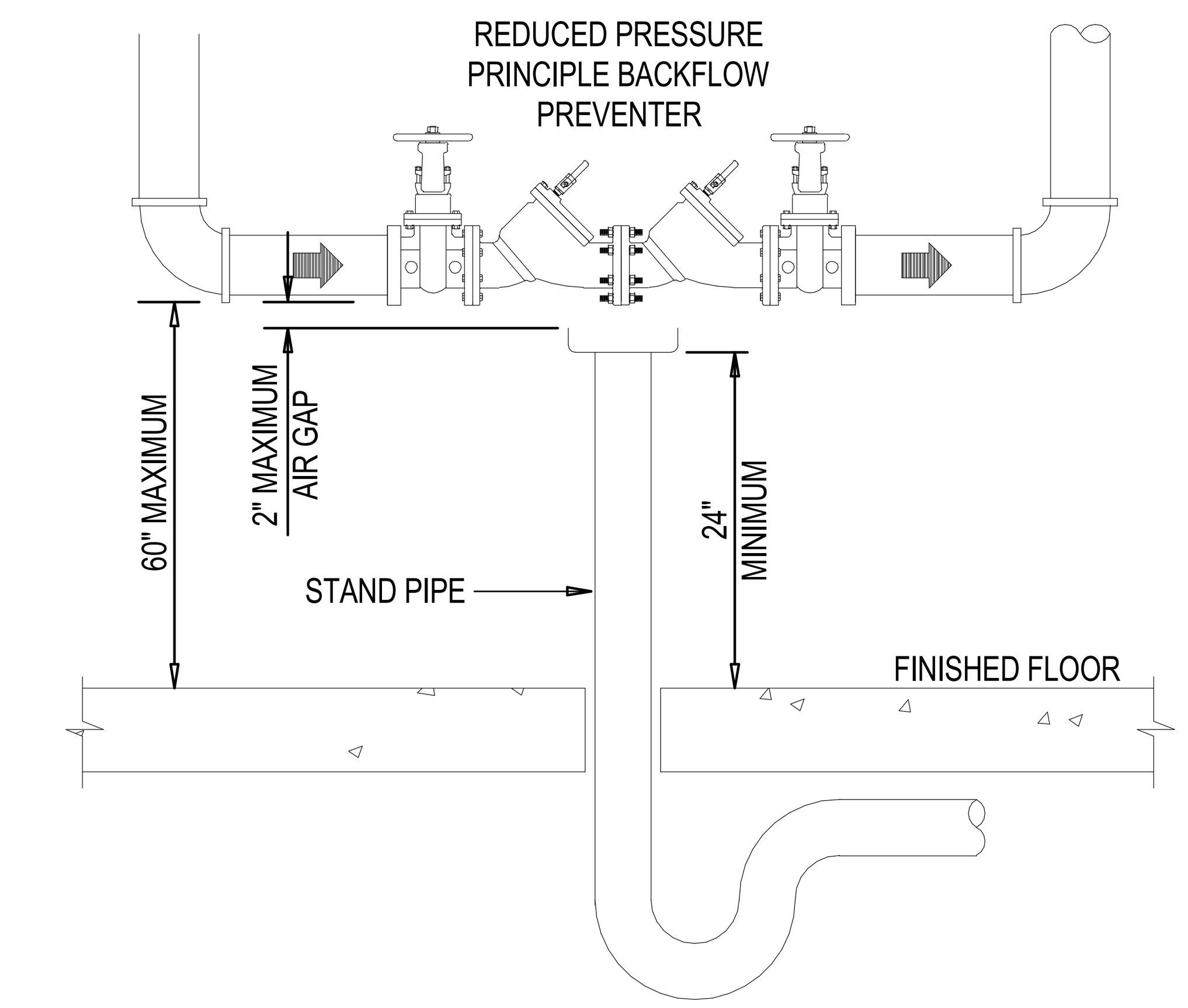
DRAWING No.: **M09-MPS001**
FACILITY ID: ID#
SHEET No: REV:



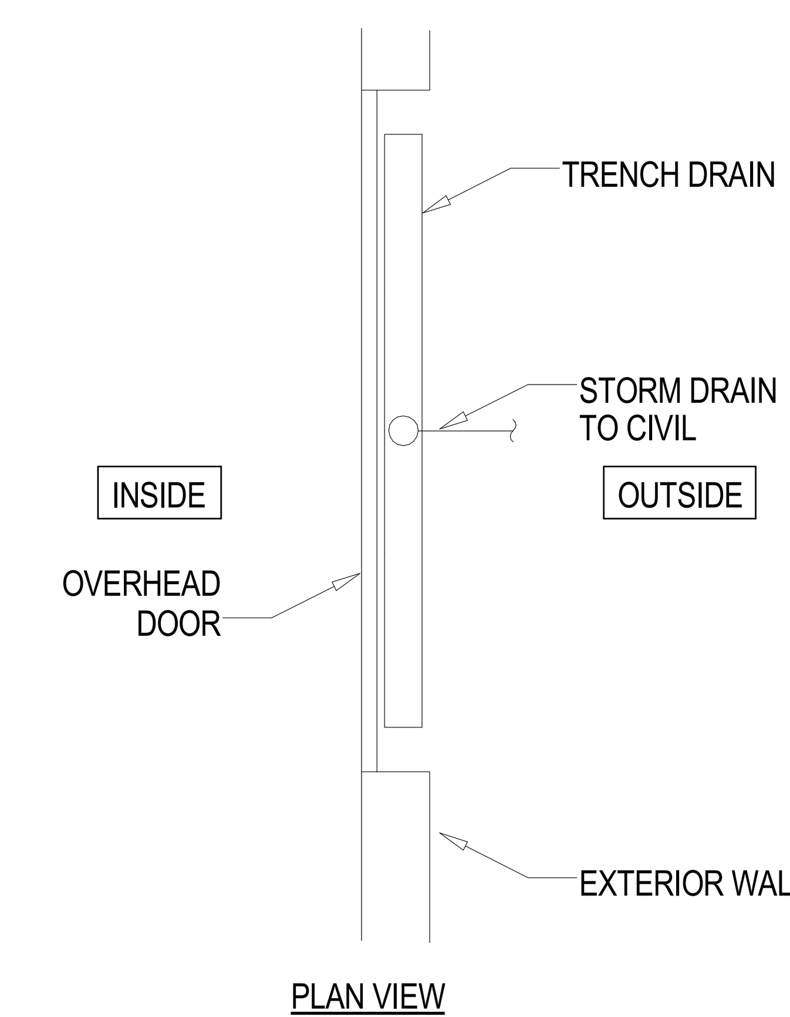
1 OIL INTERCEPTOR DETAIL
NOT TO SCALE

NOTES:

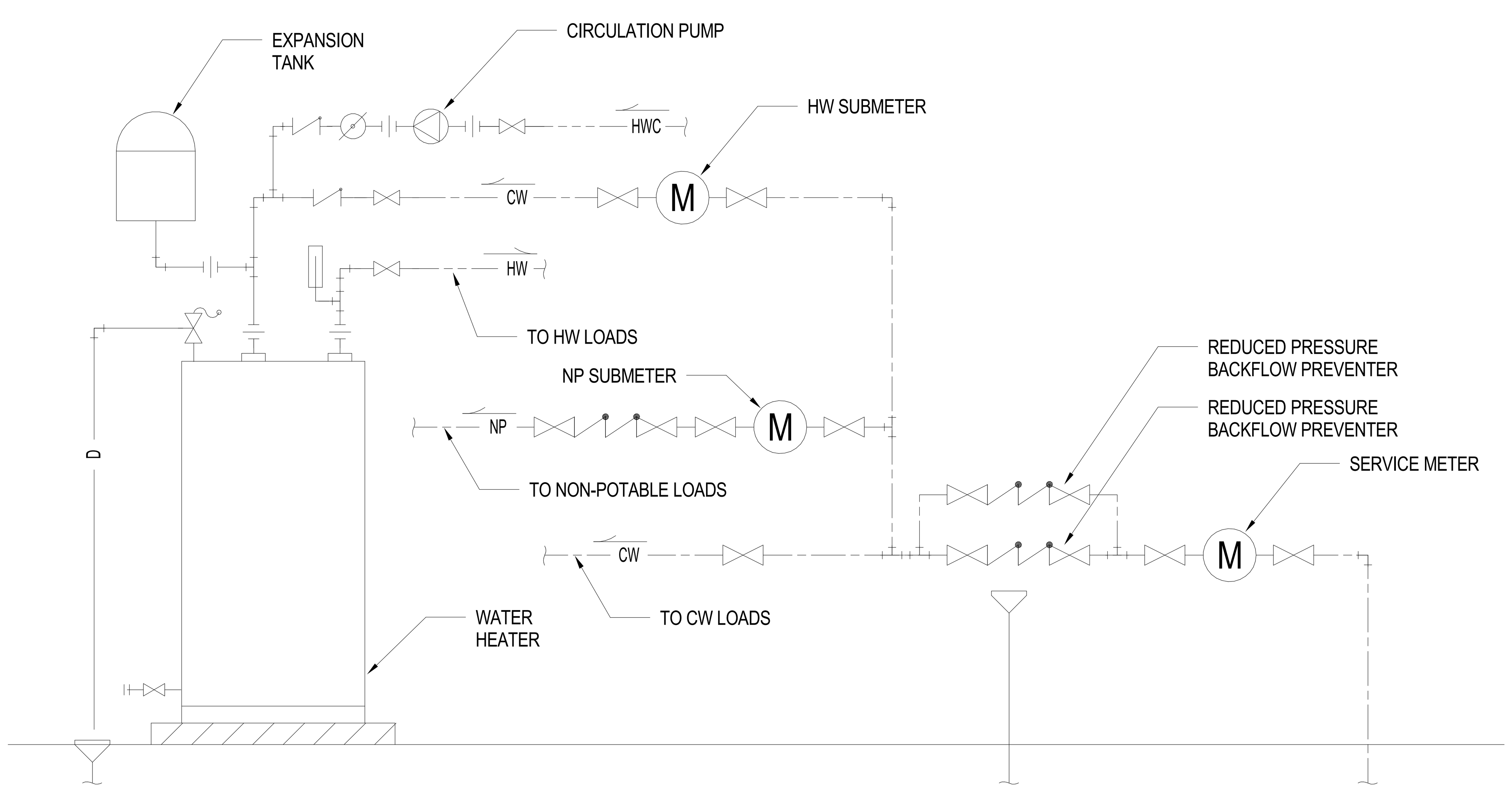
1. PRECAST VAULT SHALL HAVE KNOCKOUTS AT ALL PIPE OPENINGS. IF KNOCKOUTS ARE NOT PRESENT, THEN PIPE OPENINGS SHALL BE CORE-DRILLED. PIPE OPENINGS TO BE 2" LARGER THAN THE PIPE DIAMETER.
2. LOCATE VAULT WITHIN 20' OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLES.
3. PVC SAMPLING TEE SHALL BE THE SAME SIZE AT THE OUTLET PIPE FOR 6" OUTLET OR GREATER. USE 6" PVC TEE WHERE OUTLET PIPE SIZE IS LESS THAN 6".
4. FILLWITH CLEAN WATER PRIOR TO START-UP OF THE SYSTEM.
5. GRAY AND BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER.
6. PIPE CONNECTION TO VAULT: KOR-N-SEAL OR EQUAL FOR CORE -DRILLED OPENINGS, OR SAND COLLAR FOR KNOCKOUT OPENING. SEAL ALL PIPE CONNECTIONS WITH NONSHRINK GROUT.
7. INTERIOR OIL/WATER SEPARATORS SHALL HAVE VENTING PER UNIFORM PLUMBING CODE.
8. PRIOR STARTUP, OIL/WATER SEPARATOR SHALL PASS LEAK TEST PER THE UNIFORM PLUMBING CODE.



2 RPBA DETAIL
NOT TO SCALE



3 TRENCH DRAIN AT OVERHEAD DOOR
NOT TO SCALE



4 WATER SERVICE DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
MOW PLUMBING DETAILS

DRAWING No.: M09-MPS002
FACILITY ID: ID#
SHEET No:
REV:

2/23/2024 1:39:02 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09-M-v2022.rvt

PLUMBING FIXTURE SCHEDULE		
MARK	COMMENTS	DESCRIPTION
DF-1	DRINKING FOUNTAIN, ADA	DUAL LEVEL ELECTRIC WATER COOLER, BOTTLE FILLER
ES-1	EMERGENCY SHOWER	SAFETY STATION WITH EYEWASH, PLASTIC SHOWER HEAD AND BOWL
EW-1	EYE WASH	WALL MOUNT, STAINLESS STEEL BOWL
LV-1	LAVATORY	UNDER-COUNTER MOUNT, VITREOUS CHINA, SENSOR FAUCET 0.5 GPM, ASSE 1070
LV-2	LAVATORY	WALL HUNG, VITREOUS CHINA, SENSOR FAUCET, 0.5 GPM, ASSE 1070
SH-1	SHOWER, ADA	PRESSURE BALANCED SHOWER VALVE, ASSE 1016, ADA HAND-HELD SHOWER
SH-2	SHOWER	PRESSURE BALANCED SHOWER VALVE, ASSE 1016, WALL-MOUNT SHOWER
SK-1	SINK, KITCHENETTE	DOUBLE BOWL, DROP-IN, STAINLESS STEEL, MIXING FAUCET, 1.5 GPM, GOOSE-NECK SPOUT
SS-1	SERVICE SINK	FLOOR MOUNT, TERRAZZO, WALL MOUNT MIXING FAUCET
TD-1	TRENCH DRAIN	6-INCH WIDE GRATE, FIBER REINFORCED POLYMER BODY
UR-1	URINAL	WALL HUNG, VITREOUS CHINA, FLUSH VALVE, 0.125 GPF
WC-1	WATER CLOSET	WALL HUNG, VITREOUS CHINA, FLUSH VALVE, 1.28 GPF
WC-1A	WATER CLOSET, ADA	WALL HUNG, ADA HEIGHT, VITREOUS CHINA, FLUSH VALVE, 1.28 GPF

PLUMBING SPECIALTIES SCHEDULE		
MARK	COMMENTS	DESCRIPTION
DSN	DOWNSPOUT NOZZLE	CAST BRONZE NOZZLE AND WALL FLANGE
FD	FLOOR DRAIN	6" ROUND NICKEL-BRONZE STAINER
NFRH	NON-FREEZE ROOF HYDARNT	SANITARY YARD HYDRANT, EXPOSED HEAD, NON-FREEZE
NFWH	NON-FREEZE WALL HYDRANT	NICKEL PLATED BRONZE, QUARTER TURN, 3/4-INCH HOSE CONNECTION, INTEGRAL VACUUM BREAKER, LOOSE KEY HANDLE
RD	ROOF DRAIN	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME
RDO	ROOF DRAIN, OVERFLOW	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME, 2-INCH WATER DAM
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY	STAINLESS STEEL BODY, SLEEVE, AND TROSION SPRING CHECK VALVES, MAX. 175 PSIG

PLUMBING EQUIPMENT SCHEDULE		
MARK	COMMENTS	DESCRIPTION
AC-1	AIR COMPRESSOR	SKID-MOUNT DUPLEX PACKAGE, SCROLL COMPRESSORS
AD-1	AIR DRYER	COMPRESSED AIR DRYER
AR-1	AIR RECEIVER TANK	VERTICAL STEEL TANK, ASME
WH-1	WATER HEATER	VERTICAL TANK ELECTRIC WATER HEATER

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 — SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

MOW PLUMBING EQUIPMENT SCHEDULES

DRAWING No.: **M09-MPS003**
FACILITY ID: ID#
SHEET No: REV:

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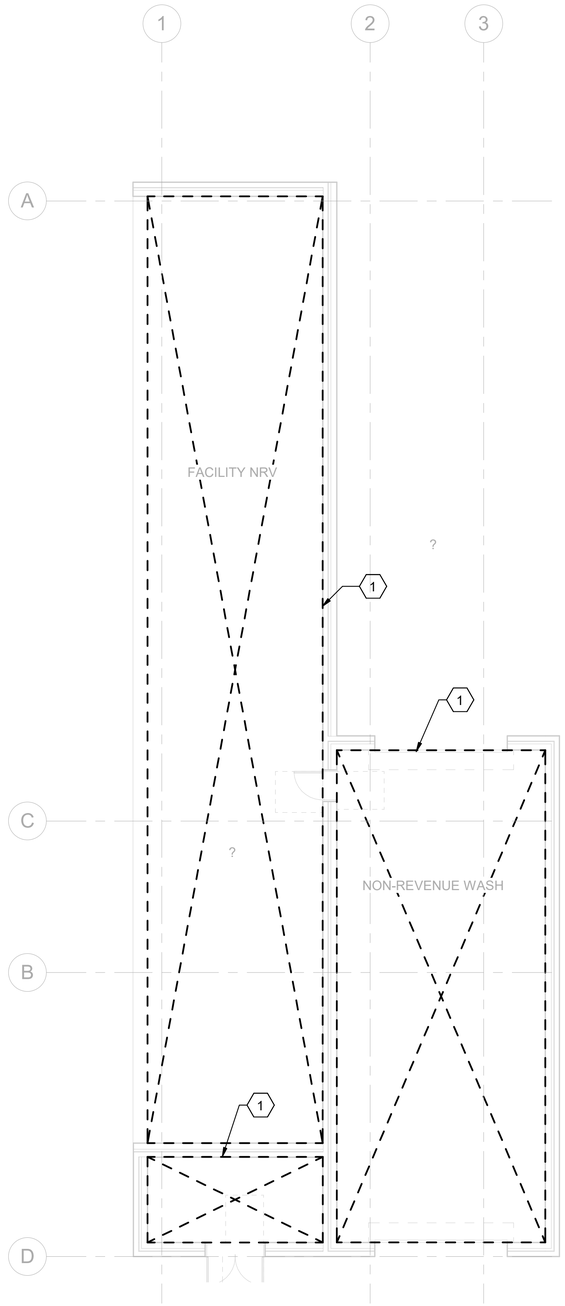

1 FIRE PROTECTION FLOOR PLAN
1/8" = 1'-0"

KEY PLAN - M09W

KEY NOTES

1. THIS BUILDING IS AN OCCUPANCY CLASS F-1 WITH LESS THAN 12,000 SQUARE FEET AND IS ONLY ONE STORY ABOVE GRADE, THEREFORE IT DOES NOT REQUIRE AN AUTOMATIC SPRINKLER SYSTEM PER IFC 903.2.4

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE: | SUBMITTAL DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
NRV FIRE PROTECTION FLOOR PLAN

DRAWING No.: **M09W-MFP101**
FACILITY ID: ID#
SHEET No: | REV:

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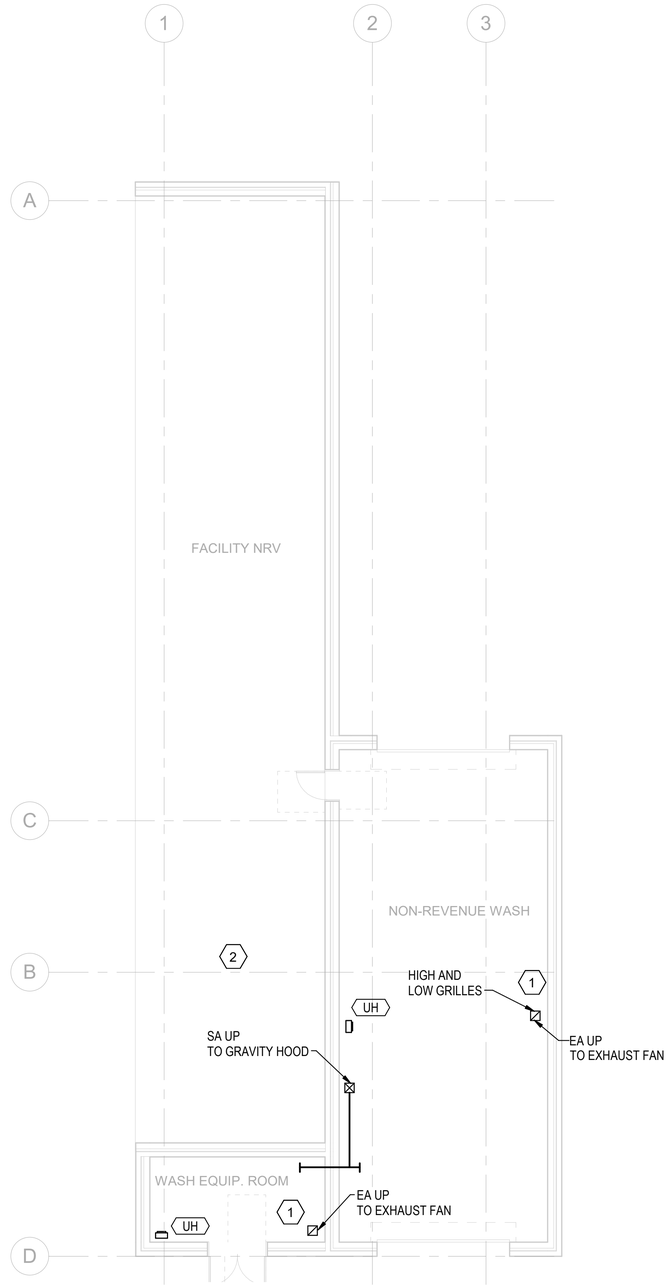

1 HVAC FLOOR PLAN
1/8" = 1'-0"

KEY PLAN - M09W

KEY NOTES

1. PROVIDE EXHAUST DRIVEN VENTILATION TO MANAGE HUMIDITY IN SPACE. PROVIDE ELECTRIC HEATER CONSTRUCTED OF CORROSION AND MOISTURE RESISTANT MATERIALS. SELECT ALL EQUIPMENT AND SYSTEMS IN THIS AREA HUMID AND WET ENVIRONMENT.
2. NO HVAC SYSTEMS FOR OUTDOOR PORTION OF FACILITY NRV STORAGE AREA.

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

HDR

LINE IS 1" AT FULL SCALE

SUBMITTED BY: | DATE: | REVIEWED BY:

SOUNDTRANSIT

DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

NRV HVAC FLOOR PLAN

DRAWING No.: **M09W-MHP101**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:24:49 PM
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KEY PLAN - M09W

1 HVAC ROOF PLAN
1/8" = 1'-0"

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

NRV HVAC ROOF PLAN

DRAWING No.: **M09W-MHP201**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:24:49 PM
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CONCEPT OF OF OPERATIONS

NRV WASH BAY

A. INTENT OF SYSTEM:
- PROVIDE FREEZE PROTECTION AND BALANCED VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.
- MANAGE HUMIDITY.

B. COMPONENTS INCLUDED:
- ELECTRIC HEATER UNIT (TERMININAL FAN, ELECTRIC HEATING COIL).
- EXHAUST FAN AND MAKEUP AIR (CONTROL DAMPERS AND FAN ASSEMBLY)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

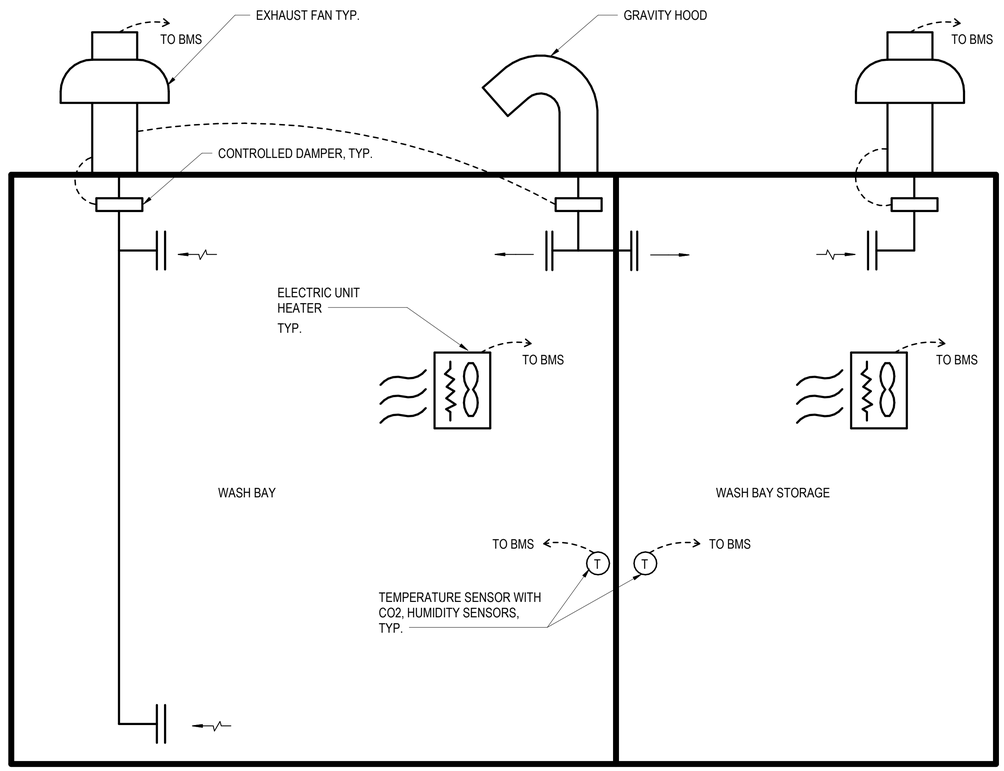
C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES EXHAUST FAN, CONTROLLED DAMPERS, AND ELECTRIC HEATING COIL TO MANAGE INDOOR CLIMATE.

NRV WASH WASH EQUIPMENT ROOM

A. INTENT OF SYSTEM:
- PROVIDE FREEZE PROTECTION AND BALANCED VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.
- MANAGE HUMIDITY AND HIGH TEMPERATURE.

B. COMPONENTS INCLUDED:
- ELECTRIC HEATER UNIT (TERMININAL FAN, ELECTRIC HEATING COIL).
- EXHAUST FAN AND MAKEUP AIR (CONTROL DAMPERS AND FAN ASSEMBLY)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES EXHAUST FAN, CONTROLLED DAMPERS, AND ELECTRIC HEATING COIL TO MANAGE INDOOR CLIMATE.



1 NRV HVAC BMS CONTROLS DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER, STATE OF WASHINGTON, 29116, REGISTERED PROFESSIONAL ENGINEER, 11/07/2023, SIGNED

PRELIMINARY

HDR

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SUBMITTED BY: | DATE: | REVIEWED BY:

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
NRV HVAC BMS CONCEPT OF OPERATIONS AND BMS CONTROL SCHEMATICS

DRAWING No.: **M09W-MHS001**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 1:24:50 PM
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UNIT HEATER SCHEDULE		
CALLOUT TYPE	SERVICE	DESCRIPTION
UH	FREEZE PROTECTION	WASH DOWN ELECTRIC UNIT HEATER

EXHAUST FAN SCHEDULE		
CALLOUT TYPE	SERVICE	DESCRIPTION
EF	WASH BAY / STORAGE AREA	DOWNBLAST SPUN CENTRIFUGAL ROOFTOP EXHAUST FAN

GRAVITY HOOD SCHEDULE		
CALLOUT TYPE	SERVICE	DESCRIPTION
GH	WASH EQUIPMENT ROOM	GRAVITY HOOD

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER, STATE OF WASHINGTON, 29116, REGISTERED PROFESSIONAL ENGINEER, 11/07/2023, SIGNED

PRELIMINARY

HDR

SUBMITTED BY:
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

NRV HVAC EQUIPMENT SCHEDULES

DRAWING No.: **M09W-MHS002**
FACILITY ID: ID#
SHEET No: REV:

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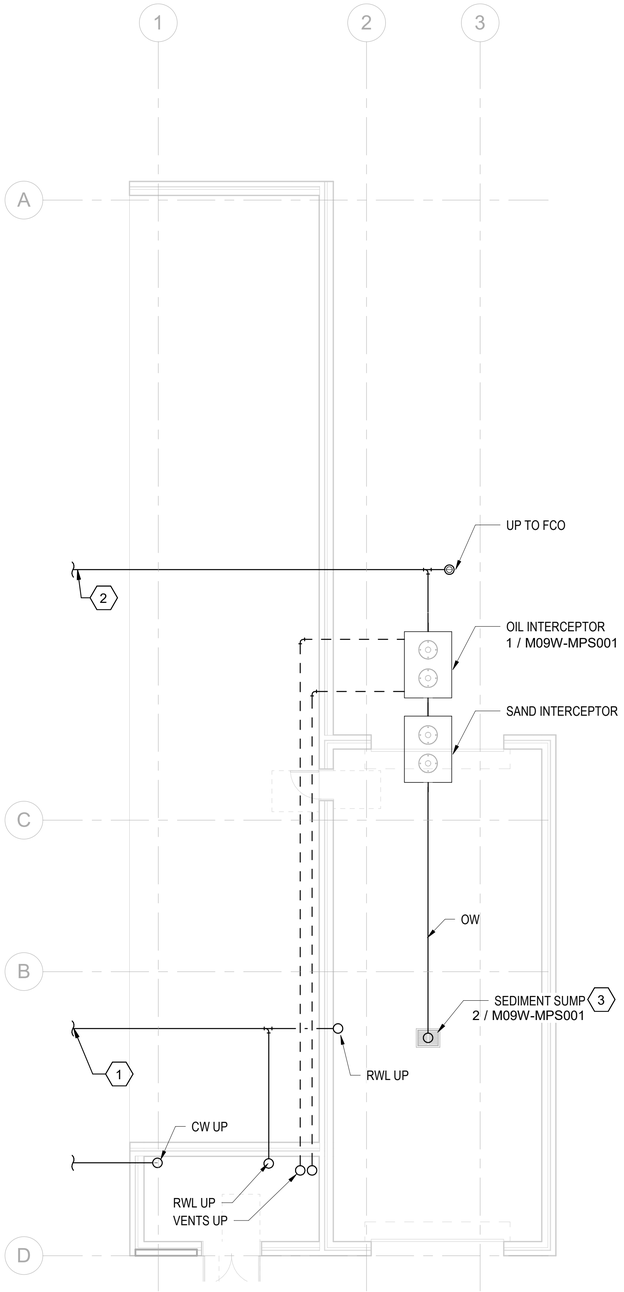

1 PLUMBING FOUNDATION PLAN
1/8" = 1'-0"

KEY PLAN - M09W

KEY NOTES

1. POINT OF CONNECTION TO STORM SEWER. SEE CIVIL PLANS FOR CONTINUATION.
2. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.
3. DRAIN FOR WASH WATER. ROUTE TO OILY WASTE WATER SYSTEM.
4.

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHRIS E. HIMMEL — STATE OF WASHINGTON — 25734 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE: /1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

NRV PLUMBING FOUNDATION PLAN

DRAWING No.: **M09W-MPP001**
FACILITY ID: ID#
SHEET No: 10
REV:

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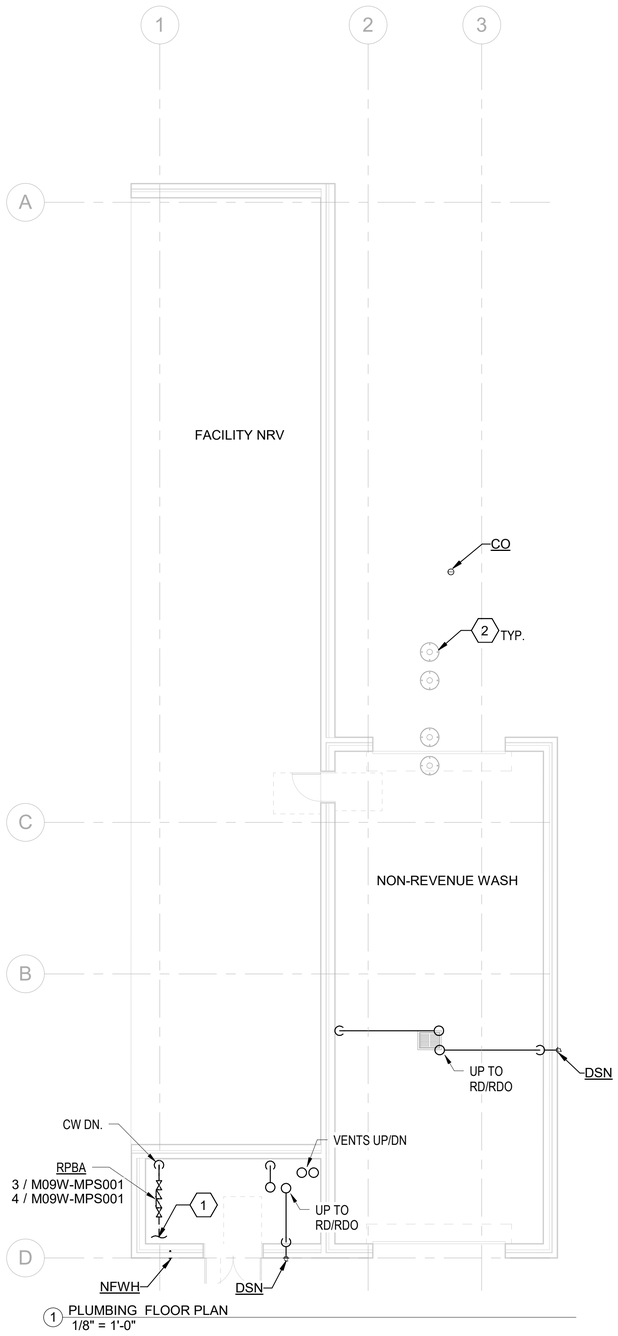

1 PLUMBING FLOOR PLAN
1/8" = 1'-0"

KEY PLAN - M09W

KEY NOTES

1. CONNECT NON-POTABLE WATER SUPPLY TO WASH WATER EQUIPMENT.
2. PROVIDE ACCESS COVERS FOR INTERCEPTOR SERVICE OPENINGS.

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23716 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE: | SUBMITTAL DATE:

SCALE: 1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
NRV PLUMBING FLOOR PLAN

DRAWING No.: **M09W-MPP101**
FACILITY ID: ID#
SHEET No: | REV:

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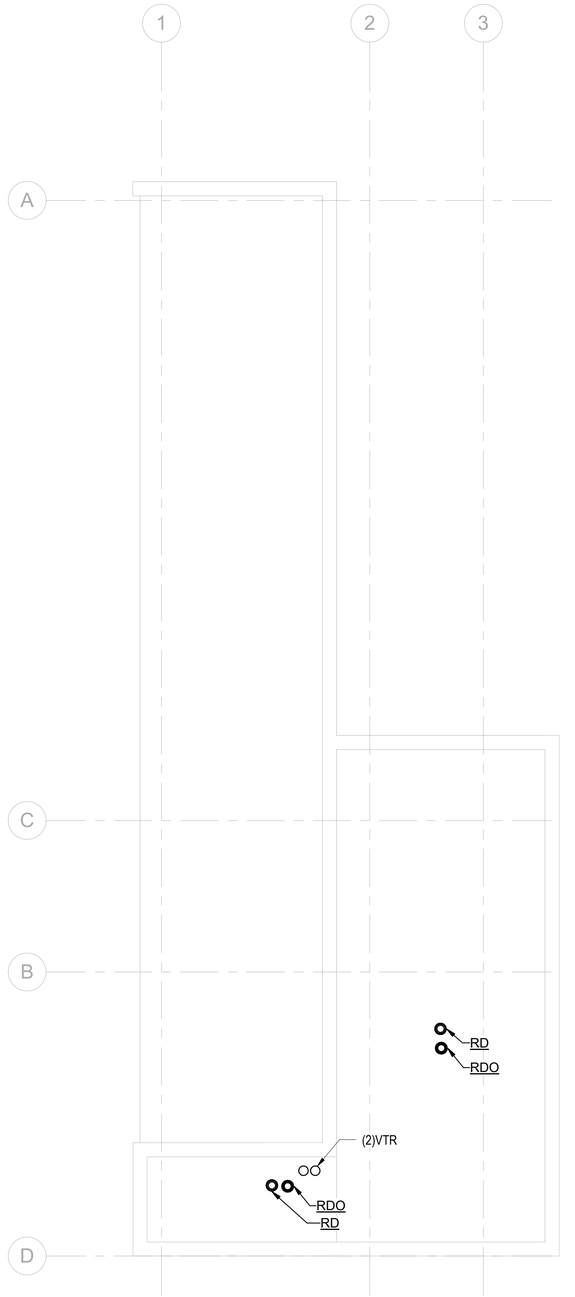

1 PLUMBING ROOF PLAN
1/8" = 1'-0"

KEY PLAN - M09W

KEY NOTES

N

8 4 0 8 16
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE: 1/8" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

NRV PLUMBING ROOF PLAN

DRAWING No.: **M09W-MPP201**
FACILITY ID: ID#
SHEET No: REV:

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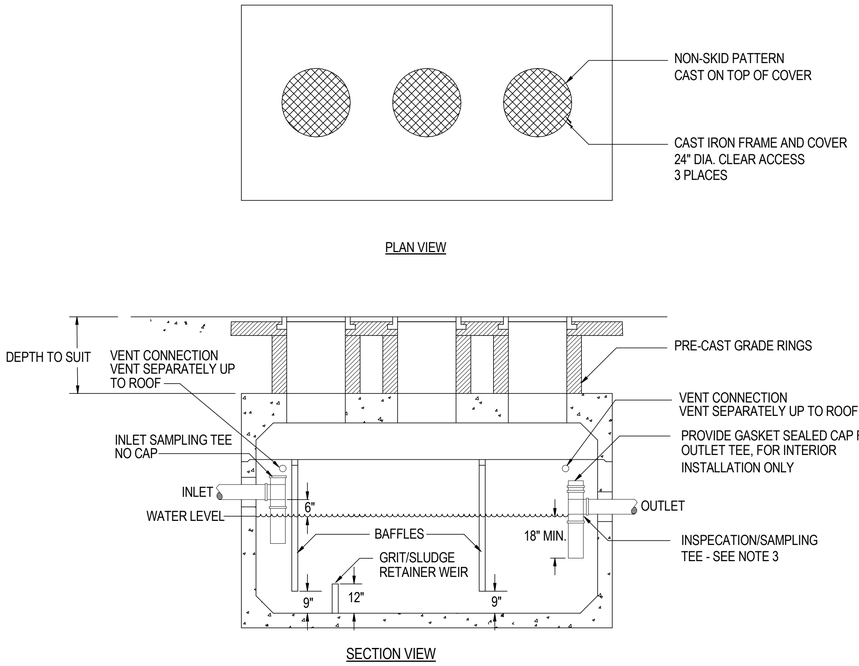
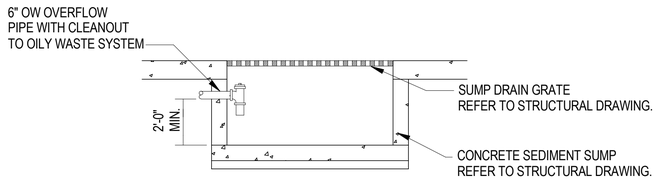


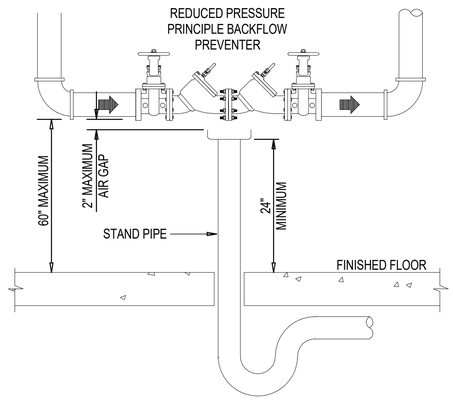
1 OIL INTERCEPTOR DETAIL
NOT TO SCALE

NOTES:

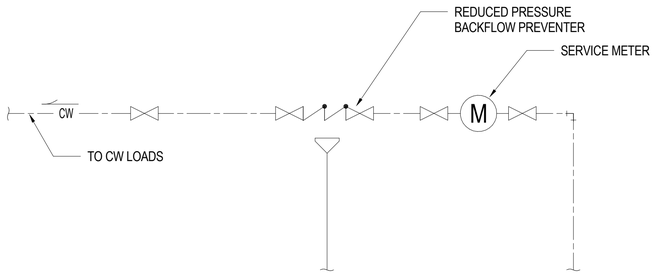
1. PRECAST VAULT SHALL HAVE KNOCKOUTS AT ALL PIPE OPENINGS. IF KNOCKOUTS ARE NOT PRESENT, THEN PIPE OPENINGS SHALL BE CORE-DRILLED. PIPE OPENINGS TO BE 2" LARGER THAN THE PIPE DIAMETER.
2. LOCATE VAULT WITHIN 20' OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLES.
3. PVC SAMPLING TEE SHALL BE THE SAME SIZE AT THE OUTLET PIPE FOR 6" OUTLET OR GREATER. USE 6" PVC TEE WHERE OUTLET PIPE SIZE IS LESS THAN 6".
4. FILLWITH CLEAN WATER PRIOR TO START-UP OF THE SYSTEM.
5. GRAY AND BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER.
6. PIPE CONNECTION TO VAULT: KOR-N-SEAL OR EQUAL FOR CORE -DRILLED OPENINGS, OR SAND COLLAR FOR KNOCKOUT OPENING. SEAL ALL PIPE CONNECTIONS WITH NONSHRINK GROUT.
7. INTERIOR OIL/WATER SEPARATORS SHALL HAVE VENTING PER UNIFORM PLUMBING CODE.
8. PRIOR STARTUP, OIL/WATER SEPARATOR SHALL PASS LEAK TEST PER THE UNIFORM PLUMBING CODE.



2 SEDIMENT SUMP DETAIL
NOT TO SCALE



3 RPBA DETAIL
NOT TO SCALE



4 WATER SERVICE DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
NRV PLUMBING DETAILS

DRAWING No.: M09W-MPS001
FACILITY ID: ID#
SHEET No: 10
REV:

2/23/2024 1:24:52 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09W-M-v2022.rvt

PLUMBING SPECIALTIES SCHEDULE		
MARK	COMMENTS	DESCRIPTION
CO	CLEANOUT	CAST IRON BODY, NICKEL BRONZE TOP, TAPERED BRONZE PLUG
DSN	DOWNSPOUT NOZZLE	CAST BRONZE NOZZLE AND WALL FLANGE
NFWH	NON-FREEZE WALL HYDRANT	BRONZE NICKEL PLATED, QUARTER TURN, 3/4-INCH HOSE CONNECTION, INTEGRAL VACUUM BREAKER, LOOSE KEY HANDLE
RD	ROOF DRAIN	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME
RDO	ROOF DRAIN, OVERFLOW	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME, 2-INCH WATER DAM
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY	STAINLESS STEEL BODY, SLEEVE, AND TORSION SPRING CHECK VALVES, MAX. 175 PSIG

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER, STATE OF WASHINGTON, 29116, REGISTERED PROFESSIONAL ENGINEER, 11/07/2023, SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

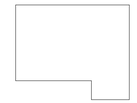
MECHANICAL

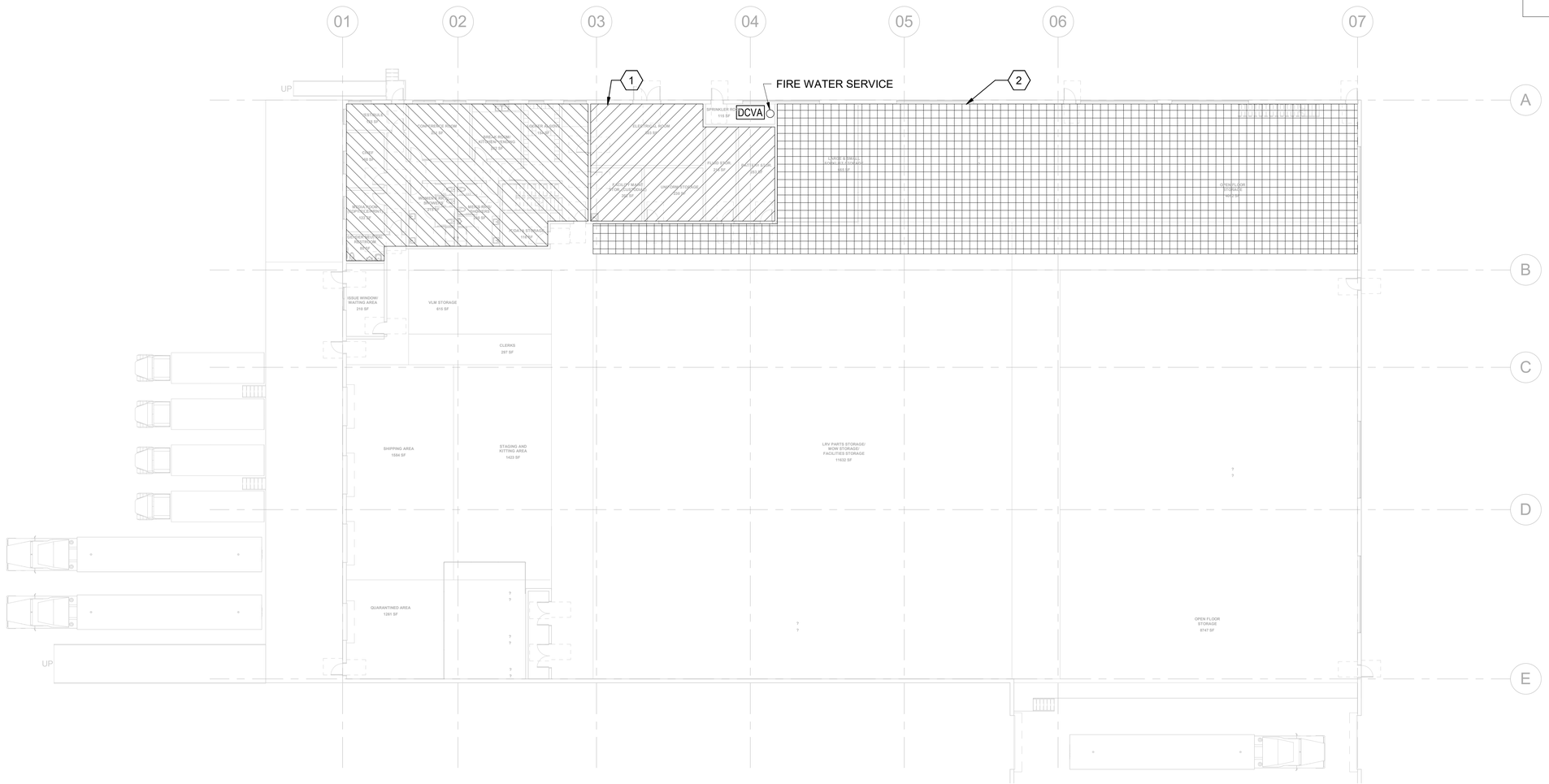
NRV PLUMBING EQUIPMENT SCHEDULES

DRAWING No.: **M09W-MPS002**
FACILITY ID: ID#
SHEET No: 10 REV:

2/23/2024 1:24:53 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M09W-M-v2022.rvt

KEY PLAN - M09W





1 FIRE PROTECTION FLOOR PLAN
1/16" = 1'-0"

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- DRY ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1

KEY NOTES

1. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
2. STORAGE AREAS WITH STORAGE 12-FEET OR LESS WILL BE BASED ON CLASS IV ENCAPSULATED COMMODITIES STORED ON RACKS UP TO 12-FEET HIGH, AND SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON MISCELLANEOUS STORAGE, EXTRA HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.30 GPM/SF @ 2500 SF. STORAGE AREAS WITH HIGH RACK STORAGE ABOVE 12-FEET HIGH WILL BE STORED ON RACKS SPACED 8-FEET OR GREATER APART, WITH STORAGE UP TO A MAX HEIGHT OF 20-FEET HIGH.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: B. WALKER
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23172 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE: 1/16" = 1'-0"
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

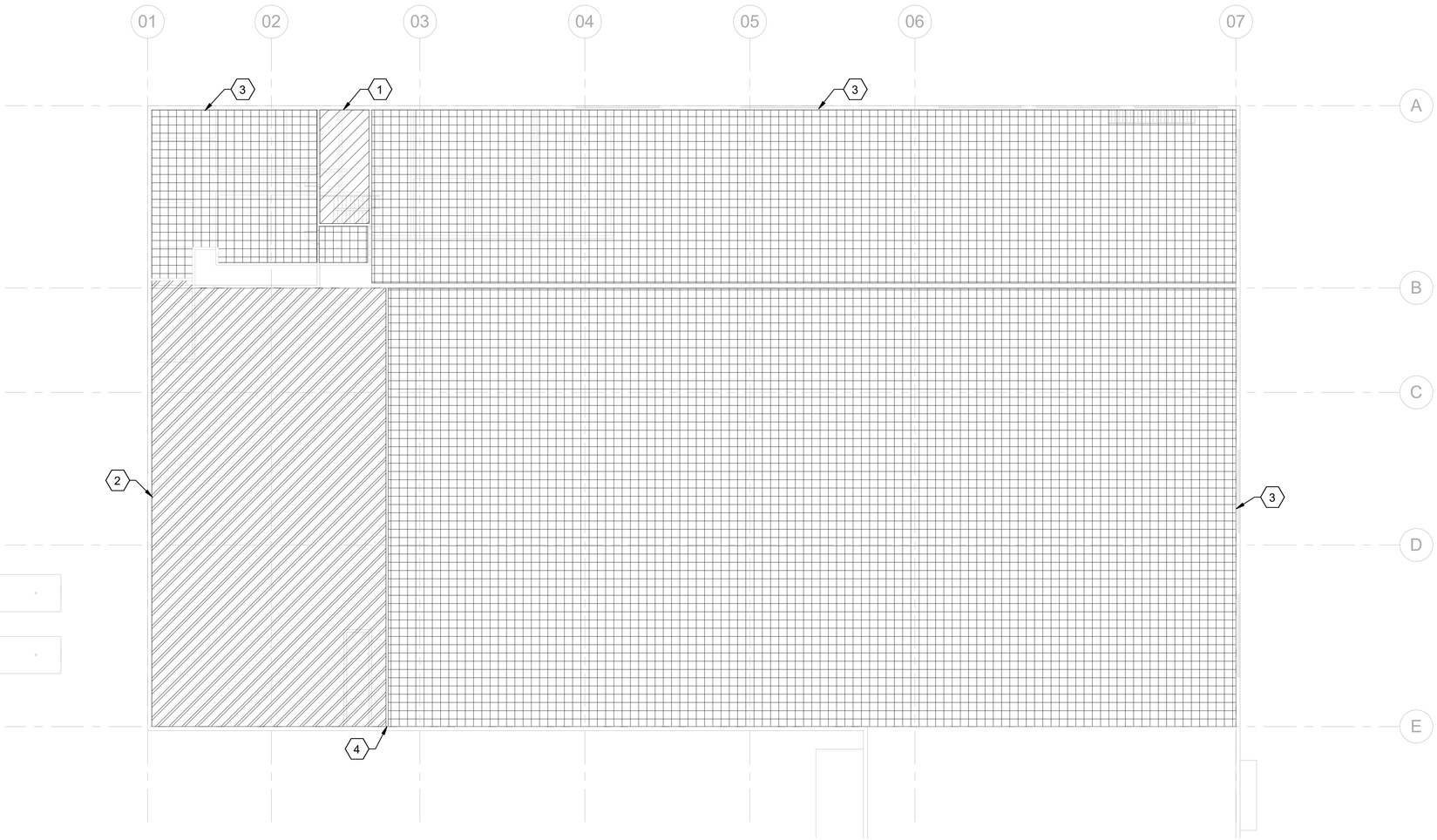
MECHANICAL

LSWS FIRE PROTECTION FLOOR PLAN

DRAWING No.: **M10-MFP101**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 12:58:53 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt

KEY PLAN - M09W



1 FIRE PROTECTION FLOOR PLAN
1/16" = 1'-0"

FIRE PROTECTION ZONE LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD GROUP 1
- DRY ORDINARY HAZARD GROUP 2
- EXTRA HAZARD GROUP 1

KEY NOTES

1. OFFICE STORAGE ROOMS, CUSTODIAL ROOMS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND NON-VEHICLE MAINTENANCE SHOPS SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.15 GPM/SF @ 1500SF.
2. LOADING DOCKS AND BUILDING CANOPIES WITH STORAGE OR VEHICLES PARKED BENEATH SHALL BE PROVIDED WITH AN AUTOMATIC DRY SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON ORDINARY HAZARD GROUP 2 WITH A MINIMUM DESIGN DENSITY OF 0.20 GPM/SF @ 1950SF.
3. STORAGE AREAS WITH STORAGE 12-FEET OR LESS WILL BE BASED ON CLASS IV ENCAPSULATED COMMODITIES STORED ON RACKS UP TO 12-FEET HIGH, AND SHALL BE PROVIDED WITH AN AUTOMATIC WET SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13 BASED ON MISCELLANEOUS STORAGE, EXTRA HAZARD GROUP 1 WITH A MINIMUM DESIGN DENSITY OF 0.30 GPM/SF @ 2500 SF. STORAGE AREAS WITH HIGH RACK STORAGE ABOVE 12-FEET HIGH WILL BE STORED ON RACKS SPACED 8-FEET OR GREATER APART, WITH STORAGE UP TO A MAX HEIGHT OF 20-FEET HIGH.
4. PROVIDE 24" DRAFT CURTAIN BETWEEN ANY SPRINKLER AREAS WITH DIFFERENT DENSITIES THAT ARE NOT SEPARATED BY A WALL.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

HDR

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SUBMITTED BY:	DATE:	REVIEWED BY:	DATE:

SCALE:	1/16" = 1'-0"D
FILENAME:	X100-X01-X-v2020
CONTRACT No.:	X100
SUBMITTAL DATE:	

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

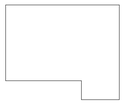
MECHANICAL

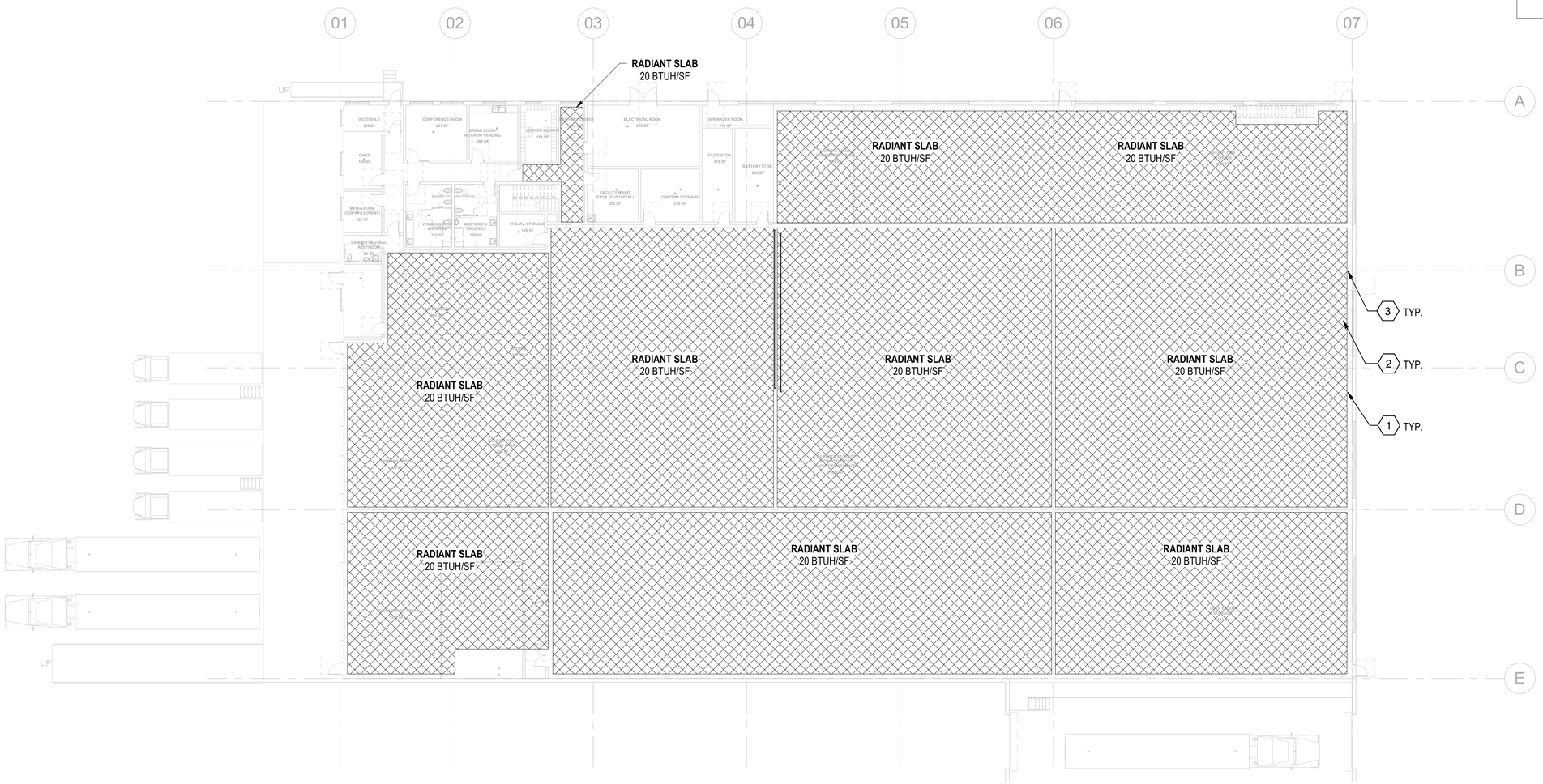
LSWS FIRE PROTECTION MEZZANINE PLAN

DRAWING No.:	M10-MFP201
FACILITY ID:	ID#
SHEET No:	REV:

2/23/2024 12:58:54 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt

KEY PLAN - M09W





KEY NOTES

1. MAINTAIN MINIMUM OF 12" CLEARANCE BETWEEN FOOTPRINT OF CONCRETE MOUNTED EQUIPMENT OR RAILS AND RADIANT SLAB PIPING.
2. PROVIDE RADIANT HEATED SLAB FOR AREA SHOWN IN HATCHING.
3. RADIANT ZONES MAY NOT EXCEED 5000 SF EACH.

N

16 8 0 16 32
SCALE IN FEET

1 HVAC IN-FLOOR HEATING ZONE PLAN
1/16" = 1'-0"

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23172 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

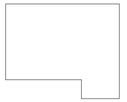
MECHANICAL

LSWS HVAC IN-FLOOR HEATING ZONE PLAN

DRAWING No.: **M10-MHP101**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 12:58:56 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt

KEY PLAN - M09W



KEY NOTES

1 HVAC DOAS ZONE PLAN
1/16" = 1'-0"

DOAS EQUIPMENT TYPE LEGEND

ENERGY RECOVERY, HYDRONIC OR ELECTRIC HEAT, FILTRATION, DISCHARGE VOLUME CONTROL

ENERGY RECOVERY, BYPASS ECONOMIZER, HYDRONIC HEAT, DX COOLING/HEATING, FILTRATION, DISCHARGE VOLUME AND TEMPERATURE CONTROL

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23172 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE: | SUBMITTAL DATE:

SCALE: 1/16" = 1'-0"D
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS HVAC DOAS ZONE PLAN

DRAWING No.: **M10-MHP102**
FACILITY ID: ID#
SHEET No: | REV:

2/23/2024 12:58:57 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt

KEY NOTES

1. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH ELECTRIC TEMPERING HEATER ON ERV DISGHARGE. PROVIDE DUCTED HEATING AND COOLING SYSTEM CONNECTED TO PACKAGED ROOFTOP HEAT PUMP WITH MINIMUM TWO STAGES OF DX HEATING & COOLING AND BACKUP ELECTRIC HEAT.
2. PROVIDE EXHAUST AND FREEZE PROTECTION HEATING IN REMOTE STORAGE AREAS.
3. PROVIDE DEDICATED COOLING UNIT FOR IT/COMM ROOM BY WAY OF SPLIT SYSTEM DX COOLING UNIT.
4. PROVIDE RESTROOM EXHAUST, BALANCED HEATING HEATING & COOLING FOR RESTROOMS/LOCKER. PROVIDE INSULATED OXIDATION RESISTANT EXHAUST DUCTING (ALUMINIMUM OR STAINLESS STEEL) ON EXHAUST SYSTEMS WHERE MORE THAN 50% OF THE AIR IN DUCT IS FROM SHOWER ROOM.

KEY NOTES

5. FOR SPACES SHOWN: PROVIDE DIRECT OUTSIDE AIR VENTILATION SYSTEM CONNECTED TO A ROOFTOP ENERGY RECOVERY VENTILATOR WITH DX HEATING/COOLING AND HEAT RECOVERY AND ELECTRIC BACKUP HEAT. RADIANT IN-FLOOR HEAT WITH PERIMETER UNIT HEATERS AT DOORS AND ALONG ENVELOPE. LOCATE VENTILATION AIR DISCHARGE AND EXHAUST AIR TERMINALS TO EFFECTIVELY VENTILATE AND ENCOURAGE AIRFLOW THROUGHOUT ALL OCCUPIED AREAS OF FACILITY INCLUDING IN PITS, BELOW WALKABLE PLATFORMS.
6. PROVIDE DEDICATED EXHAUST SYSTEM FOR ELECTRICAL ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM. MAKEUP AIR TO BE SOURCED FROM BUILDING EXTERIOR OR TRANSFER AIR FROM ADJACENT SPACE BASED ON COOLING NEEDS OF ELECTRICAL ROOM BY WAY OF ECONOMIZER.

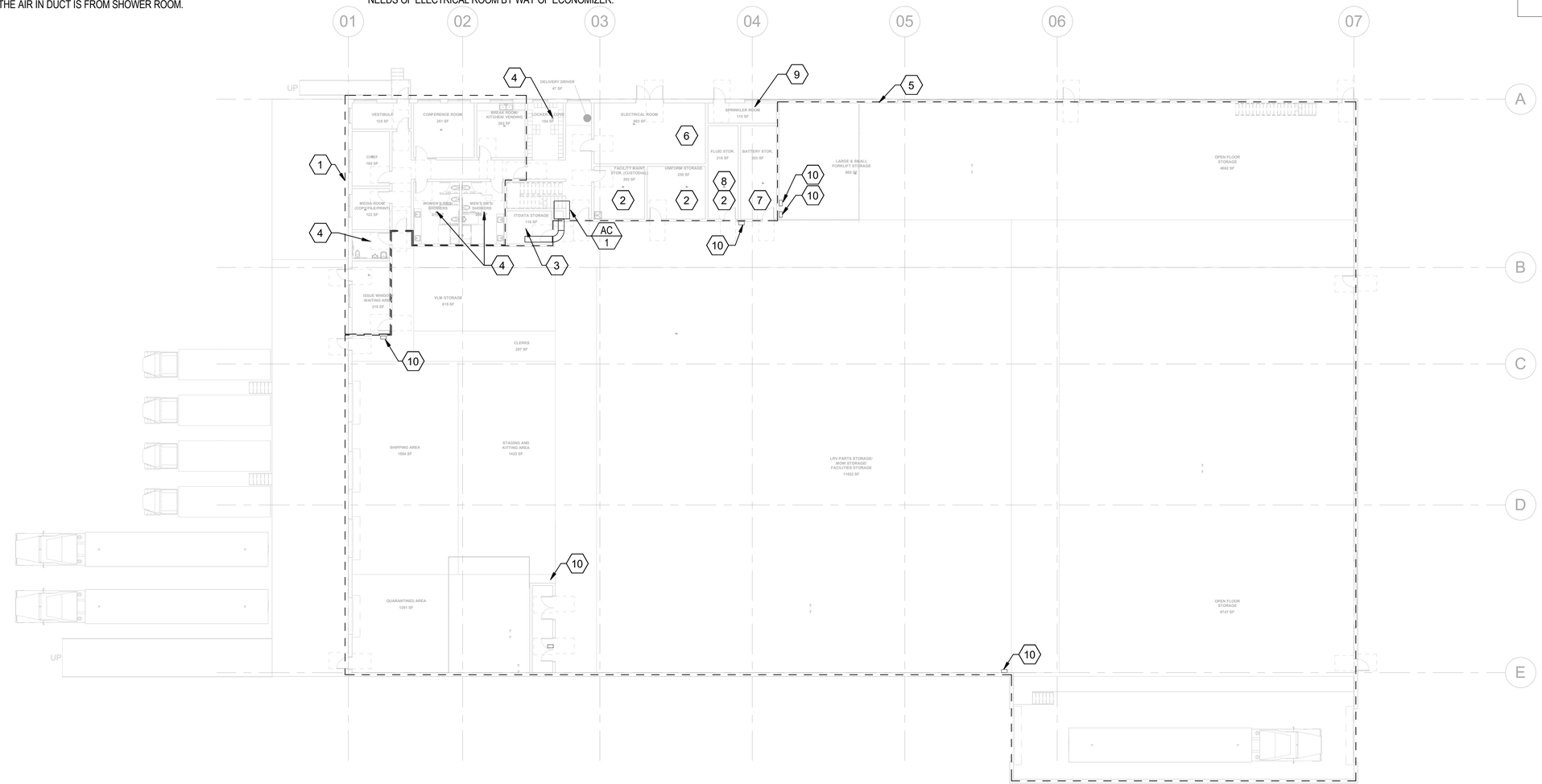
KEY NOTES

7. PROVIDE FULLY REDUNDANT EXHAUST FANS FOR BATTERY ROOM EXHAUST WITH ALTERNATING LEAD/LAG CONTROLS FOR EQUAL RUN TIME AND PERFORMANCE MONITORING AND ALARM.
8. PROVIDE DEDICATED EXHAUST SYSTEM FOR MATERIAL STORAGE ROOMS. SYSTEM SHALL BE SELECTED TO OPERATE CONTINUOUSLY AT NO MORE THAN 75% DUTY FACTOR. FAN OPERATION AND CONDITIONS MONITORED AND CONTROLLED THROUGH BUILDING MANAGEMENT SYSTEM.
9. PROVIDE UNIT HEATER FOR FREEZE PROTECTION IN SPRINKLER ROOM.

KEY NOTES

10. PROVIDE RADIANT HEAT ZONE CONTROL VALVE AND RADIANT PIPING MANIFOLD IN STEEL ENCLOSURE WITH LOCKING HINGED DOOR. ONE SET OF MANIFOLDS AND CONTROL VALVES PER RAD. ZONE. SEE 3/M08-MHS008 FOR DETAIL. COORDINATE LOCATION WITH OAC TEAM DURING DESIGN.

KEY PLAN - M09W



1 HVAC FLOOR PLAN
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
DATE: | SUBMITTAL DATE:

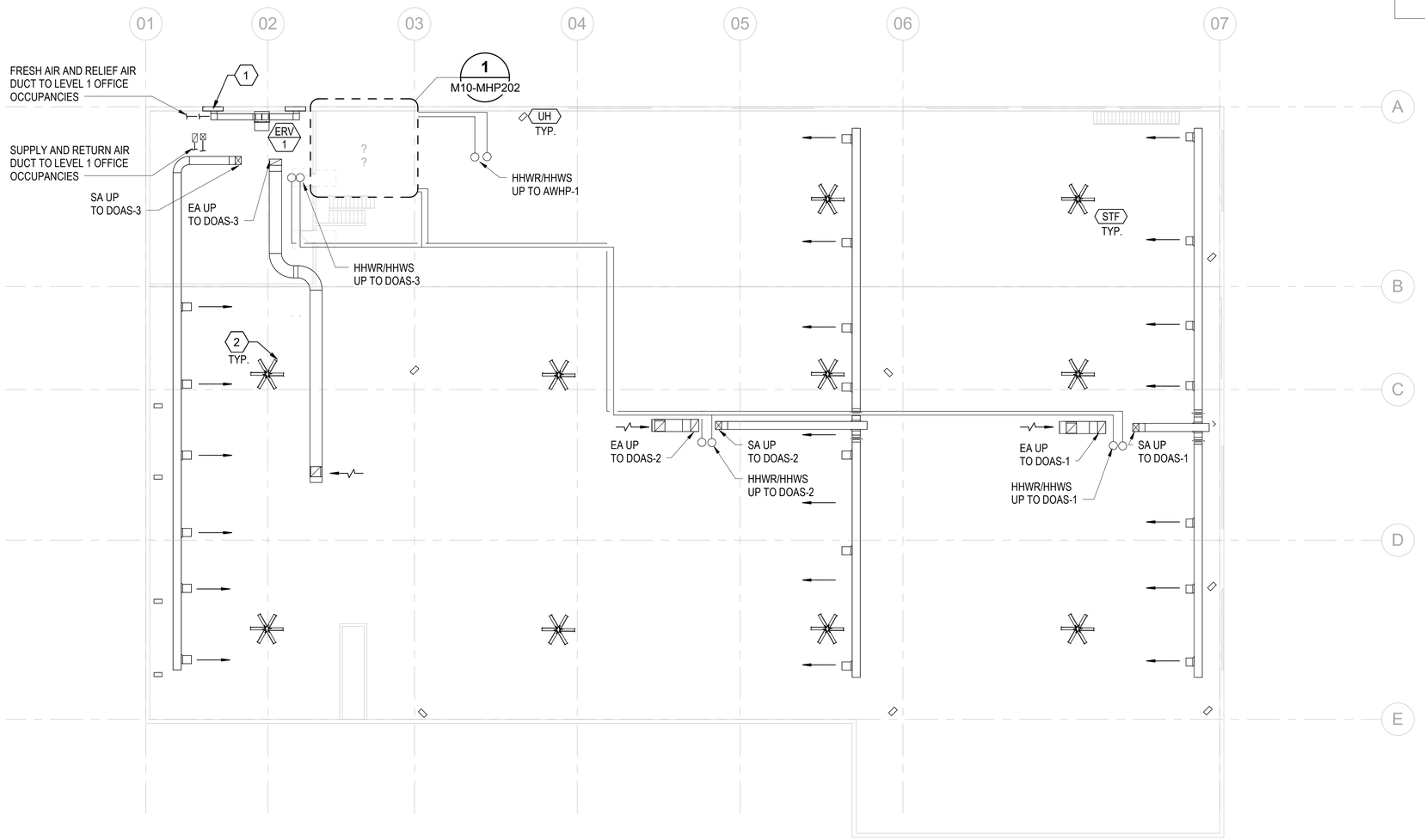
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
LSWS HVAC FLOOR PLAN

DRAWING No.: M10-MHP103
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 12:58:58 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt

KEY PLAN - M09W



KEY NOTES

1. OUTSIDE AIR INTAKES AND EXHAUST/RELIEF OUTLETS SHALL BE INSULATED AND PROTECTED FROM INFILTRATION WITH INSULATED CLASS 1 CONTROLLED DAMPERS. DUCT AND DUCT PLENUMS BETWEEN ENVELOPE PENETRATION AND CONTROLLED DAMPER SHALL BE INSULATED WITH LAYERS POLYISOCYANURATE INSULATION, SEAMS GLUED AND SEALED TO MAINTAIN CONTINUOUS ENVELOPE INSULATION.
2. OVERHEAD HIGH VOLUME LOW SPEED FAN. LOCATED ABOVE ALL OVERHEAD OBSTRUCTIONS (CRANES) EQUIPMENT. PROVIDE SPEED CONTROL WITH FAN SYSTEM WITH LABELING FOR USER OVERRIDE. COORDINATE LOCATION OF CONTROL WITH ST SHOPS AND OPERATION.

N

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SCALE IN FEET

NOT FOR CONSTRUCTION

1 HVAC FLOOR PLAN
1/16" = 1'-0"

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY	RICHARD E. HIMMEL STATE OF WASHINGTON 23778 REGISTERED PROFESSIONAL ENGINEER 11/07/2023 SIGNED PRELIMINARY	HDR	LINE IS 1" AT FULL SCALE	SCALE:	SOUND TRANSIT
DRAWN BY: B. BOONE				FILENAME: X100-X01-X-v2020	
CHECKED BY: B. CRANE				CONTRACT No.: X100	
APPROVED BY: R. HIMMEL	SUBMITTED BY:	DATE:	REVIEWED BY:	DATE:	SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS HVAC MEZZANINE PLAN

DRAWING No.: **M10-MHP201**
FACILITY ID: ID#
SHEET No: REV:

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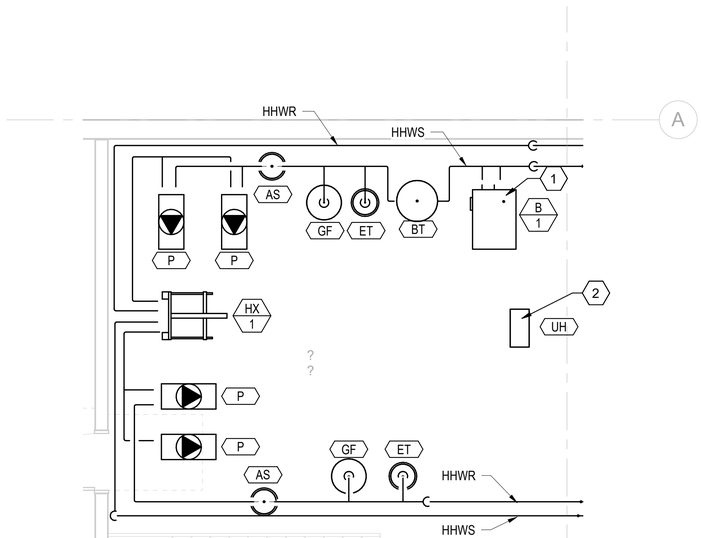
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-MA-v2022.rvt

KEY PLAN - M09W

KEY NOTES

1. PROVIDE GREATER OF 18" CLEAR OR MANUFACTURER'S MINIMUM CLEARANCE + 6" AROUND UNIT AS MINIMUM SERVICE CLEARANCE AROUND MECHANICAL COMPONENTS.
2. PROVIDE FAN POWERED OVERHEAD HYDRONIC UNIT HEATER.



1 MEZZANINE LEVEL ENLARGE MECHANICAL PLAN
1/4" = 1'-0"

4 2 0 4 8
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHARD E. HIMMEL — STATE OF WASHINGTON — 21731 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE: | SUBMITTAL DATE:

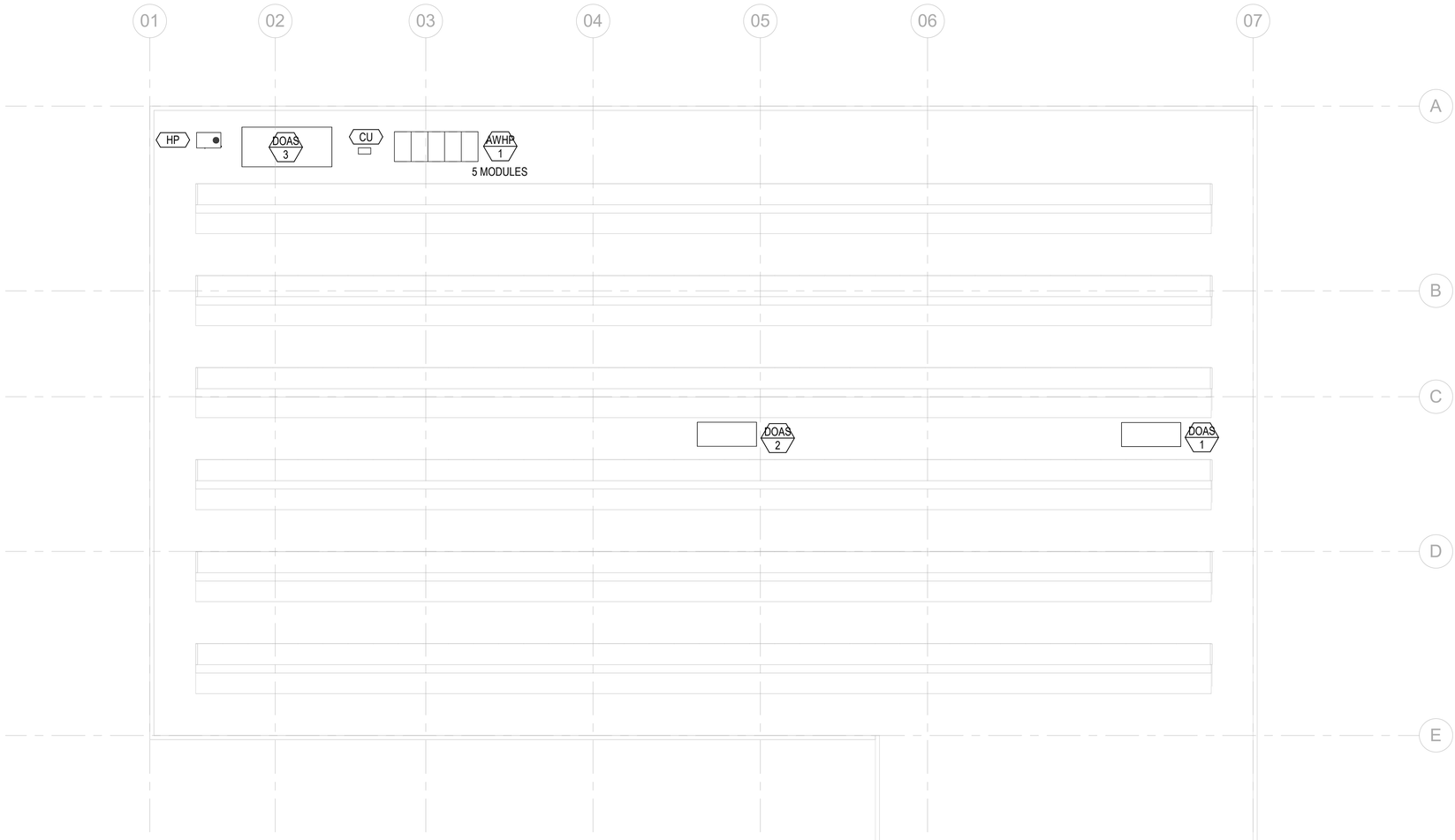
SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
LSWS MECHANICAL ROOM PLAN

DRAWING No.: **M10-MHP202**
FACILITY ID: ID#
SHEET No: | REV:

2/23/2024 12:59:00 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt



1 HVAC ROOF PLAN
1/16" = 1'-0"

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25716 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE:

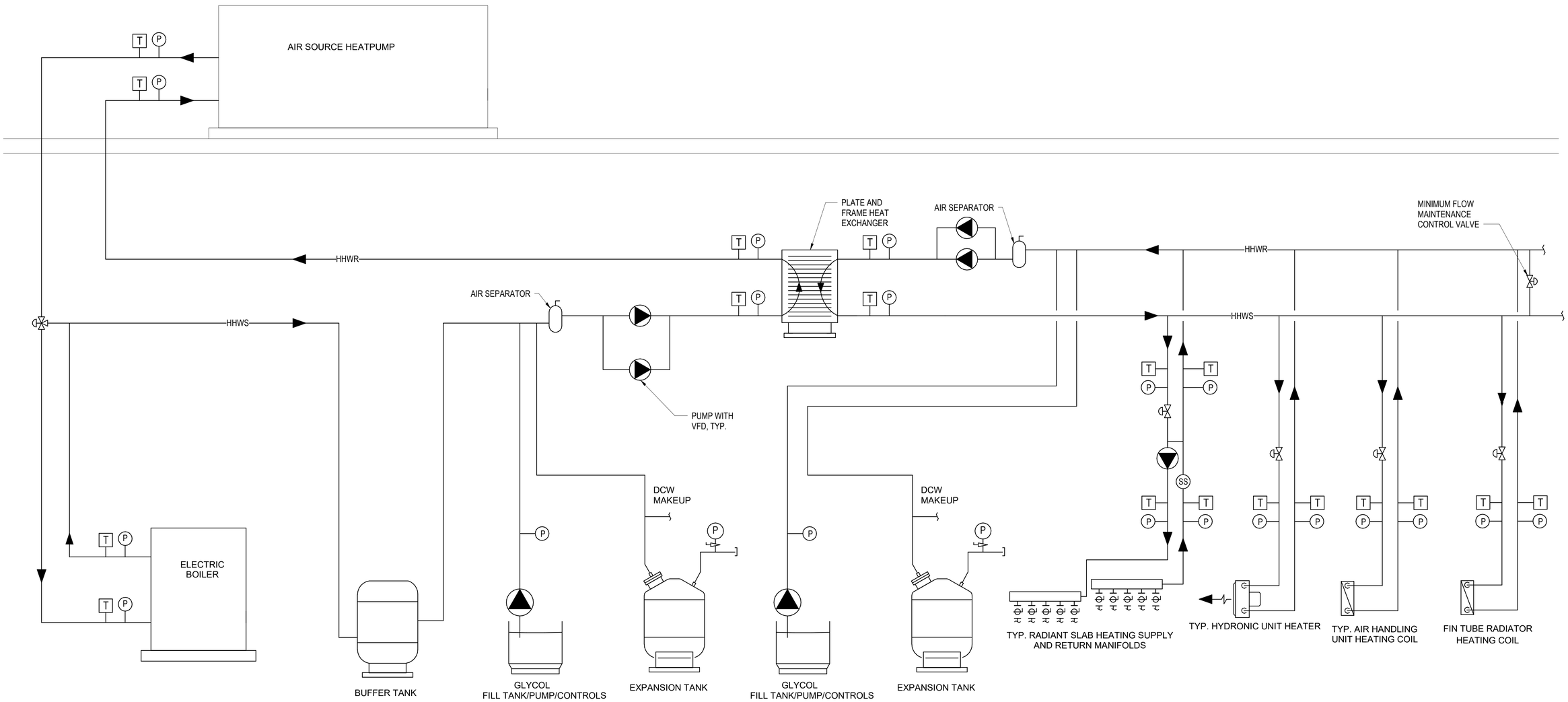
SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
LSWS HVAC ROOF PLAN

DRAWING No.: **M10-MHP301**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 12:59:01 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-MA-v2022.rvt



1 LSS HEATING WATER PIPING DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS HVAC COOLING AND HEATING PLANT SCHEMATIC

DRAWING No.: **M10-MHS001**
FACILITY ID: ID#
SHEET No: REV:

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VESTIBULE, CONFERENCE, BREAK ROOM KITCHEN/VENDING, CHIEF, MEDIA ROOM (COPY/FILE/PRINT), ISSUE WINDOW/WAITING AREA

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.

B. COMPONENTS INCLUDED:
- PACKAGED ROOFTOP HEAT PUMP WITH ELECTRIC BACKUP HEAT (FAN, DX HEATING AND COOLING, FILTERS, ELECTRIC HEATING COIL).
- ROOF MOUNTED ENERGY RECOVERY VENTILATOR
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER STARTS AND STOPS ROOFTOP ENERGY RECOVERY VENTILATOR AND STARTS/STOPS AND MODULATES COOLING/HEATING SYSTEMS IN PACKAGED ROOFTOP UNIT TO MANAGE INDOOR CLIMATE.

IT/DATA STORAGE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- PROVIDE HUMIDITY MONITORING AND MANAGEMENT
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (DX TERMININAL FAN COIL UNIT FOR HEATING AND COOLING)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES ASSOCIATED DX HEAT PUMP.

LUNCH ROOM/BREAK ROOM/VENDING/KITCHEN

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE FOOD ODORS

B. COMPONENTS INCLUDED:
- SEE BREAK ROOM SYSTEMS ABOVE
- DIRECT EXHAUST/RELIEF AIR CONNECTION TO ROOM AT OR NEAR POINT SOURCE OF NOXIOUS SMELLS.

C. CONTROL STRATEGY:
PASSIVE VENTILATION STRATEGY TO MAINTAIN NEGATIVE AIR PRESSURE IN BREAK ROOM TO MINIMIZE RECIRCULATION OF NOXIOUS SMELLS.

RESTROOM AND SHOWER ROOMS

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING & COOLING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE ODORS

B. COMPONENTS INCLUDED:
- FAN COIL UNIT (TERMININAL FAN, CONTROL VALVES FOR HEATING AND COOLING).
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE..

PARTS STORAGE AREA

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS AND OCCUPANCIES.
- MANAGE MANAGE ODORS, DUST, AIR INDOOR AIR QUALITY

B. COMPONENTS INCLUDED:
- UNIT HEATERS (FANS, HEATING WATER CONTROL VALVES)
- ROOF MOUNTED ENERGY RECOVERY VENTILATOR
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- DESTRATIFICATIONS FANS
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO^2 SENSORS
- AREA TEMPERATURE SENSORS
- DESTRATIFICATION FAN SPEED CONTROLLER

C. CONTROL STRATEGY:
- ZONE LEVEL AND GENERAL ROOM TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS.
- VENTILATION SUPPLY AND EXHAUST POSITIONED TO VENTILATE EACH SPACE WITH CONSIDERATION FOR VEHICLE MAINTENANCE AND ACCESS STRUCTURE INCLUDING STAIRS, PLATFORMS, PITS AND TOOL STORAGE.
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.
- OPERATORS OVERRIDE FOR DESTRATIFICATION FAN SPEED CONTROL.

BATTERY SHOP/STORAGE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE.
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR OCCUPANTS.
- MANAGED ENERGY USE DURING ALL HOURS.

B. COMPONENTS INCLUDED:
- UNIT HEATERS (FANS, HEATING WATER CONTROL VALVES)
- DOAS VENTILATION SYSTEM (FRESH AIR & RELIEF/EXHAUST AIR)
- RADIANT SLAB SYSTEM (CONTROL VALVE)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR CONDITIONS
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

FLUID STORAGE

A. INTENT OF SYSTEM:
- PROVIDE BALANCED HEATING AND VENTILATION TO SPACE
- MAINTAIN ACCEPTABLE INDOOR AIR CLIMATE FOR EQUIPMENT.
- MANAGED ENERGY USE DURING ALL HOURS.
- PROTECT EQUIPMENT FROM OVER HEATING.
- MANAGE ODORS, DUST AND AEROSOLIZED LUBRICANT.

B. COMPONENTS INCLUDED:
- EXHAUST FAN AND FILTERED MAKEUP AIR FROM ADJACENT SPACE
- UNIT HEATER (CONTROL VALVE AND FAN)
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR TEMPERATURE
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.
- ZONE LEVEL TEMPERATURE SENSOR WITH HUMIDITY AND CO_2 SENSORS

C. CONTROL STRATEGY:
- ZONE LEVEL TEMPERATURE SENSORS WITH HUMIDITY AND CO_2 SENSORS MONITOR INDOOR AIR TEMPERATURE
- DDC CONTROLLER MODULATES CONTROL VALVES AND FAN SPEEDS SETPOINTS TO MANAGE INDOOR CLIMATE.

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

HVAC BMS CONCEPT OF OPERATION

DRAWING No.: **M10-MHS002**
FACILITY ID: ID#
SHEET No: REV:

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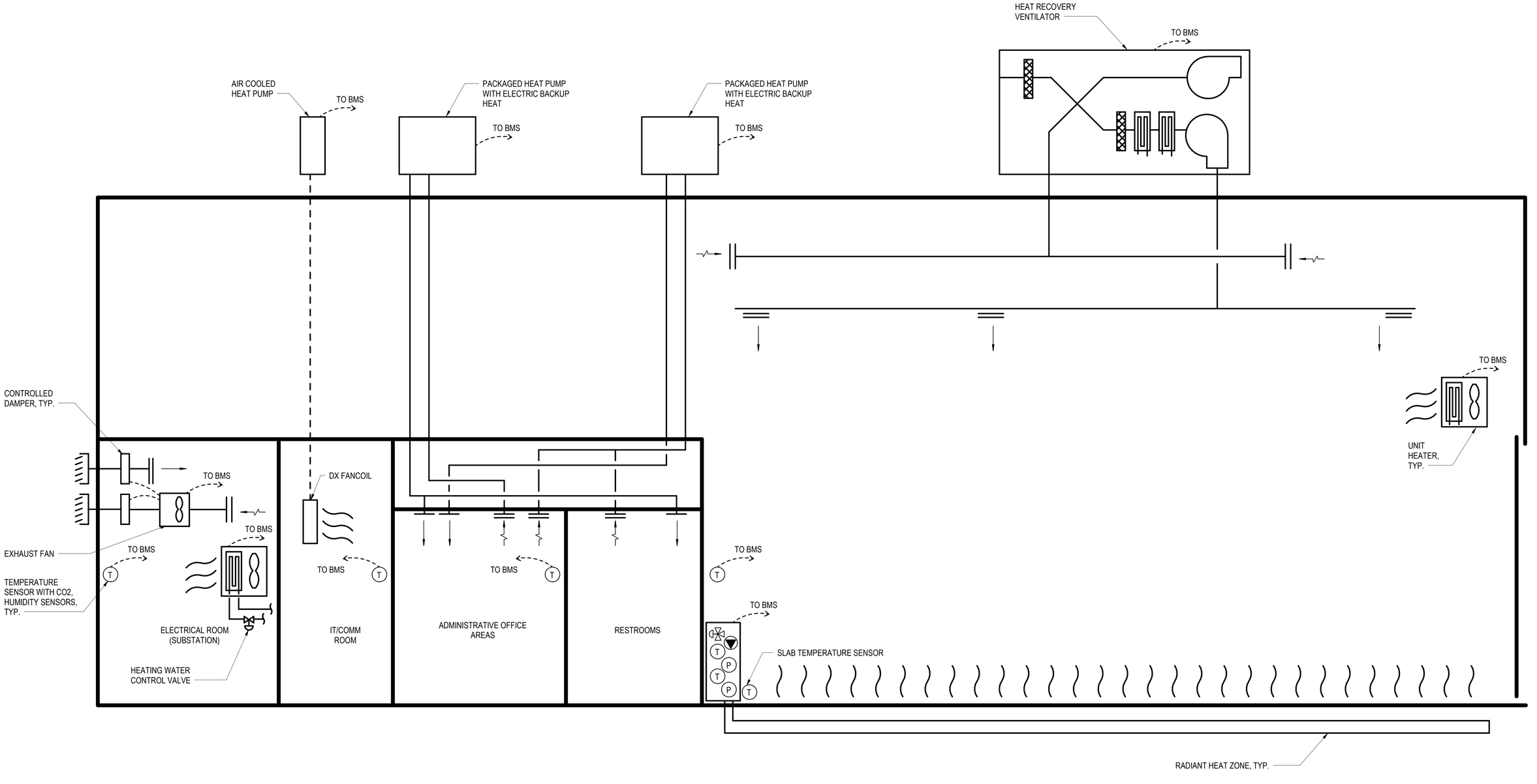

1 LSS HVAC BMS CONTROLS DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY:	R. KELLY
DRAWN BY:	B. BOONE
CHECKED BY:	B. CRANE
APPROVED BY:	R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

SOUNDTRANSIT

DATE: | SUBMITTAL DATE:

SCALE:

FILENAME: X100-X01-X-v2020

CONTRACT No.: X100

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

HVAC BMS CONTROL SCHEMATICS

DRAWING No.: **M10-MHS003**

FACILITY ID: ID#

SHEET No: | REV:

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BOILER SCHEDULE			
CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
B	1	AWHP BACK-UP HEAT SOURCE FOR HOT WATER LOOP	ELECTRIC BOILER

HEAT EXCHANGER SCHEDULE			
CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
HX	1	HEATING WATER LOOP	PLATE AND FRAME HEAT EXCHANGER

EXPANSION TANK SCHEDULE		
CALLOUT	SERVICE	DESCRIPTION
TYPE		
ET	HEATING WATER LOOP	FULL ACCEPTANCE CAPTIVE AIR BLADDER EXPANSION TANK
ET	HEATING WATER LOOP	AIR SEPERATOR

PUMP SCHEDULE		
CALLOUT	SERVICE	DESCRIPTION
TYPE		
P	HYDRONIC HEATING CIRCULATION PUMP	BASE MOUNTED END SUCTION PUMP WITH GROUTED BASE AND VIBRATION ISOLATION

GLYCOL FEEDER SCHEDULE		
CALLOUT	SERVICE	DESCRIPTION
TYPE		
GF	HEATING WATER LOOP	GLYCOL FEEDER
GF	HEATING WATER LOOP	GLYCOL FEEDER

AIR SEPERATOR SCHEDULE		
CALLOUT	SERVICE	DESCRIPTION
TYPE		
AS	HEATING WATER LOOP	AIR SEPERATOR
AS	HEATING WATER LOOP	FULL ACCEPTANCE CAPTIVE AIR BLADDER EXPANSION TANK

BUFFER TANK SCHEDULE		
CALLOUT	SERVICE	DESCRIPTION
TYPE		
BT		BUFFER TANK

HEAT PUMP SCHEDULE			
CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
HP	1	HEATING AND COOLING FOR OFFICE AND ADMINISTRATIVE AREAS	PACKAGED ROOFTOP HEATPUMP WITH STAGED DX HEATING/COOLING, ECONOMIZER AND ELECTRIC BACKUP HEAT

SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE			
CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
AC	1	IT/COMM ROOM COOLING	DUCTED FANCOIL COOLING UNIT WITH ECONOMIZER AND FILTER
CU	1	AC-1	DX CONDENSING UNIT

FAN SCHEDULE		
CALLOUT	SERVICE	DESCRIPTION
TYPE		
STF	RECEIVING AND STORAGE AREAS	HIGH VOLUME LOW SPEED DE-STRATIFICATIONS FANS

AIR TO WATER HEAT PUMP SCHEDULE			
CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
AWHP	1	HEATING WATER PLANT LOOP	HIGH LIFT AIR TO WATER HEAT PUMP

DOAS UNIT SCHEDULE			
CALLOUT		SERVICE	DESCRIPTION
TYPE	MARK		
DOAS	1	STORAGE AREA	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING, FILTRATION AND BYPASS DAMPERS
DOAS	2	STORAGE AREA	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING,
DOAS	3	RECIEVING AREA	ROOF MOUNTED DOAS UNIT WITH HEAT RECOVERY, DX HEATING AND COOLING, HYDRONIC BACKUP HEATING,
ERV	1	OFFICE AND ADMINISTRATIVE AREAS	INDOOR ENERGY RECOVERY VENTILATOR WITH FILTRATION AND ELECTRIC HEAT

UNIT HEATER SCHEDULE		
CALLOUT	SERVICE	DESCRIPTION
TYPE		
UH	RECEIVING AND STORAGE AREAS	HYDRONIC FORCED AIR UNIT HEATERS

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: R. KELLY
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY:
DATE:
REVIEWED BY:
DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS HVAC EQUIPMENT SCHEDULES

DRAWING No.: M10-MHS004
FACILITY ID: ID#
SHEET No: REV:

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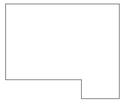
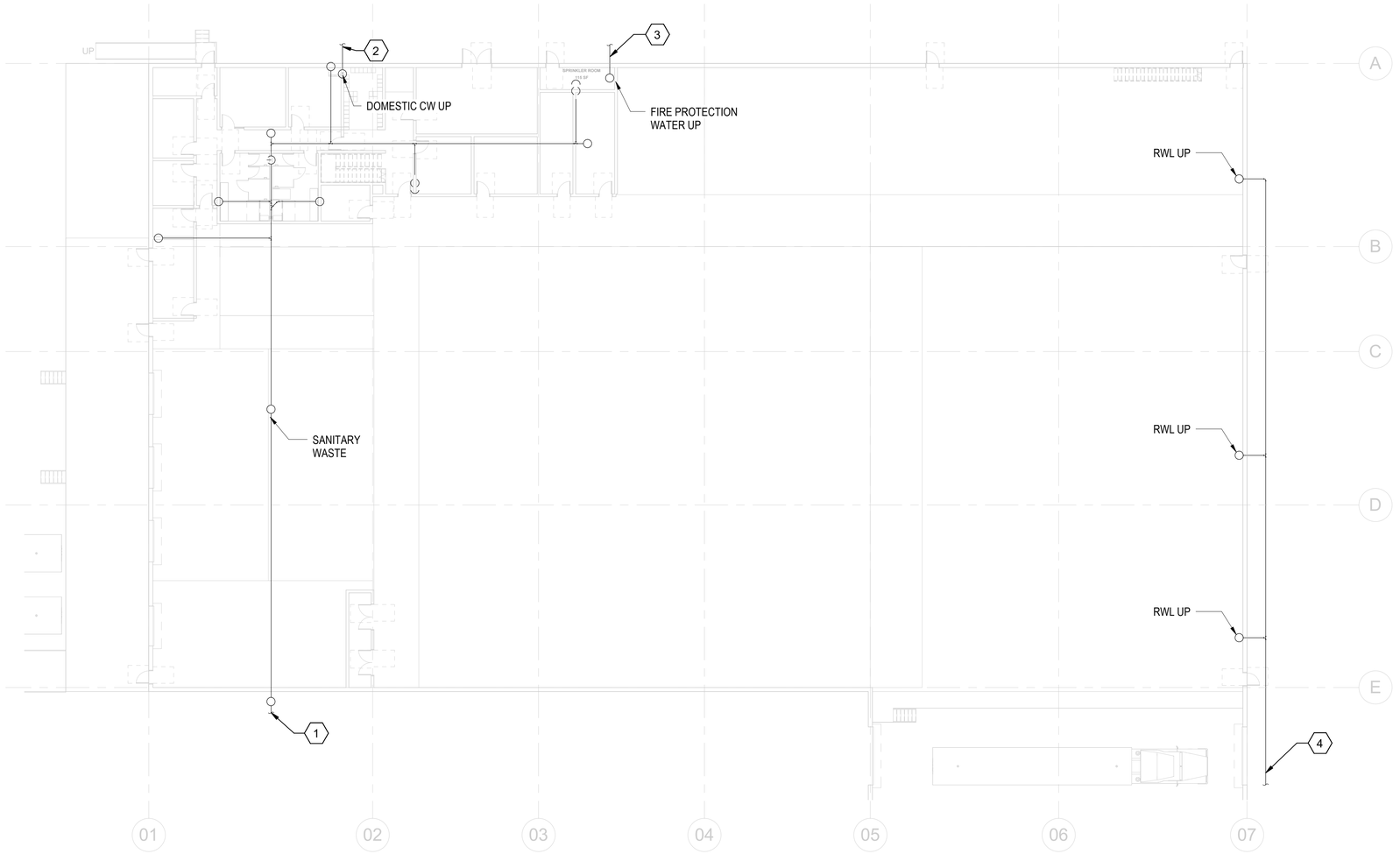
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt

KEY PLAN - M09W





1 PLUMBING FOUNDATION PLAN
1/16" = 1'-0"

KEY NOTES

1. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.
2. POINT OF CONNECTION TO DOMESTIC WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
3. POINT OF CONNECTION TO FIRE PROTECTION WATER SERVICE. SEE CIVIL PLANS FOR CONTINUATION.
4. POINT OF CONNECTION TO STORM SEWER. SEE CIVIL PLANS FOR CONTINUATION.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23178 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

HDR

SUBMITTED BY: | DATE: | REVIEWED BY: | DATE:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS PLUMBING FOUNDATION PLAN

DRAWING No.: **M10-MPP001**
FACILITY ID: ID#
SHEET No: REV:

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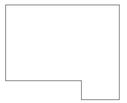
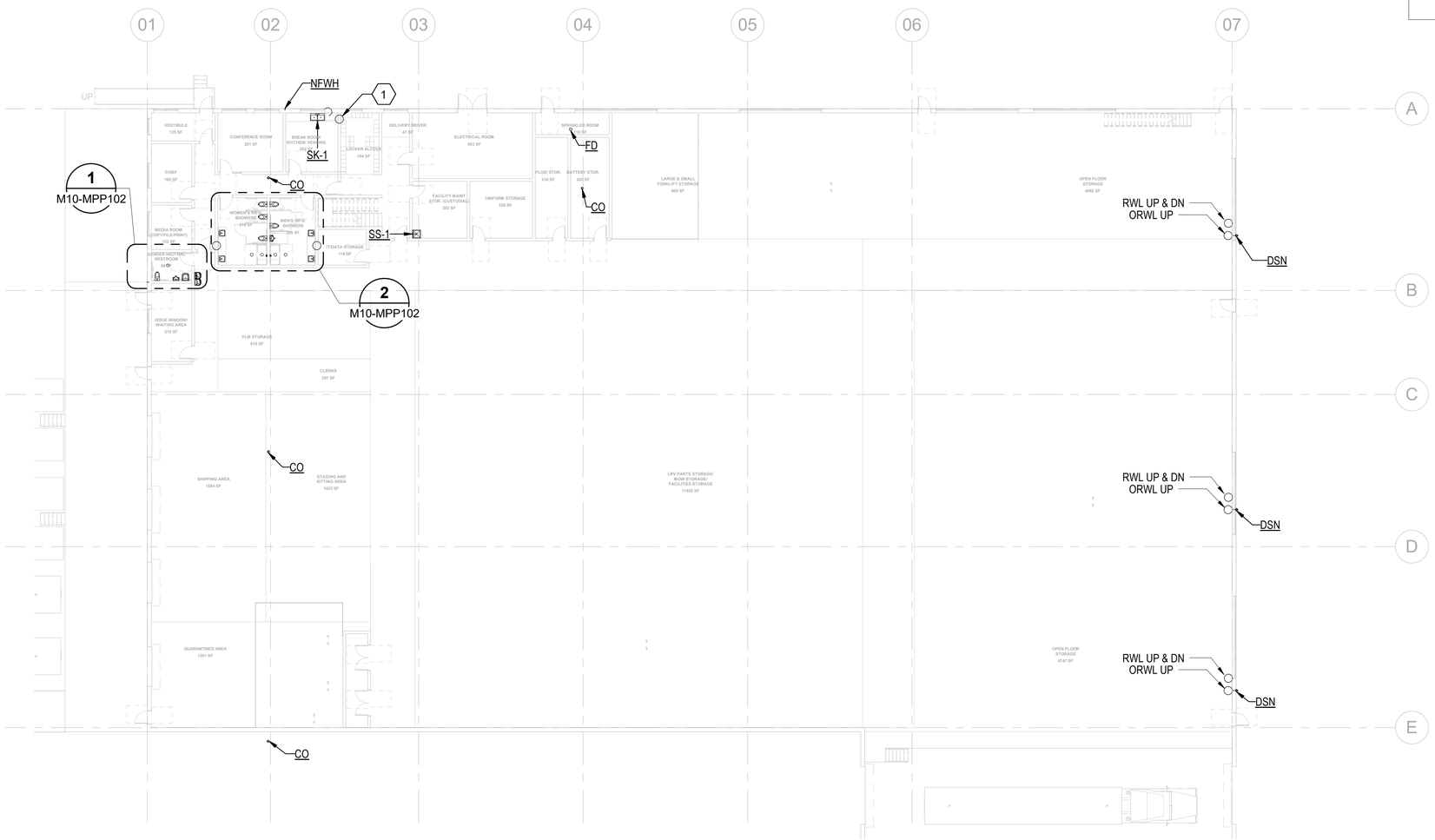
KEY PLAN - M09W





KEY NOTES

1 DOMESTIC WATER SERVICE UP TO MECHANICAL ROOM.

1 PLUMBING FLOOR PLAN
1/16" = 1'-0"

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER, STATE OF WASHINGTON, 29116, REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS PLUMBING FLOOR PLAN

DRAWING No.: **M10-MPP101**
FACILITY ID: ID#
SHEET No: 10 REV:

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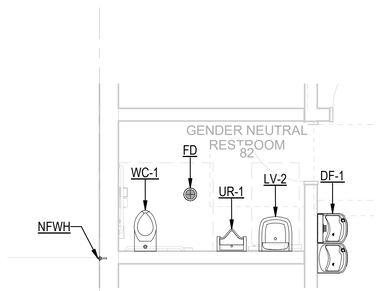
KEY PLAN - M09W

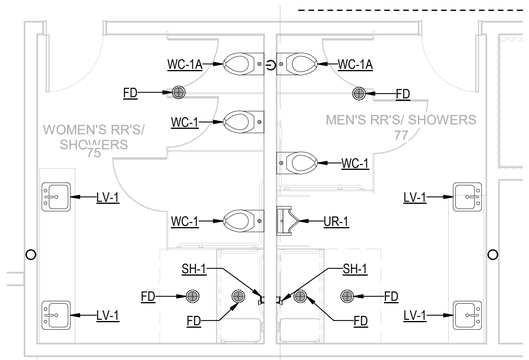
KEY NOTES

1. FLOOR DRAIN WITH TRAP, VENT, AND PRIMER. ROUTE TO SANITARY SYSTEM.



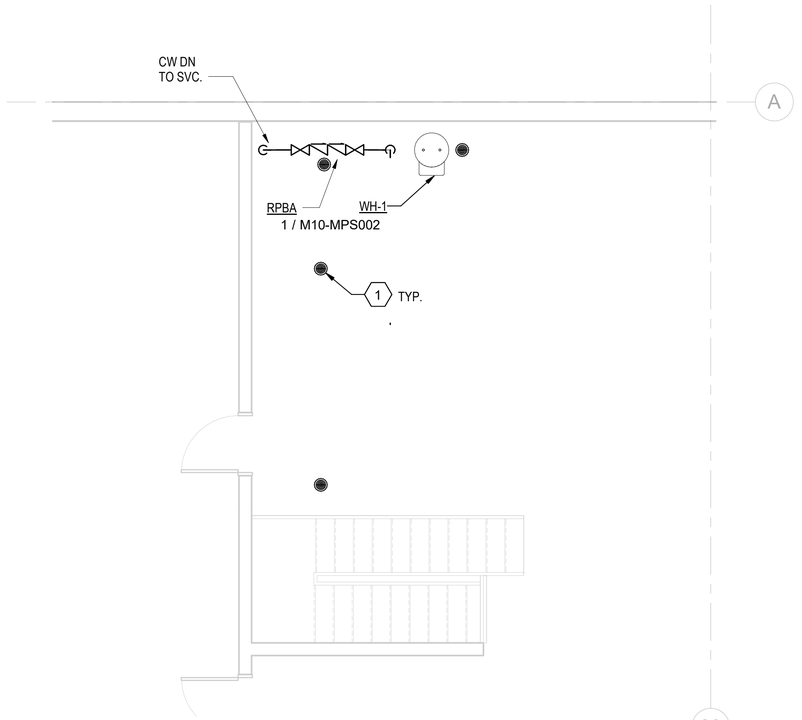
01

1 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



02

2 PLUMBING PARTIAL PLAN
1/4" = 1'-0"



03

3 PLUMBING MEZZANINE PARTIAL PLAN
1/4" = 1'-0"

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY
11/07/2023
SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS PLUMBING PARTIAL FLOOR PLANS

DRAWING No.: **M10-MPP102**
FACILITY ID: ID#
SHEET No: 10 REV:

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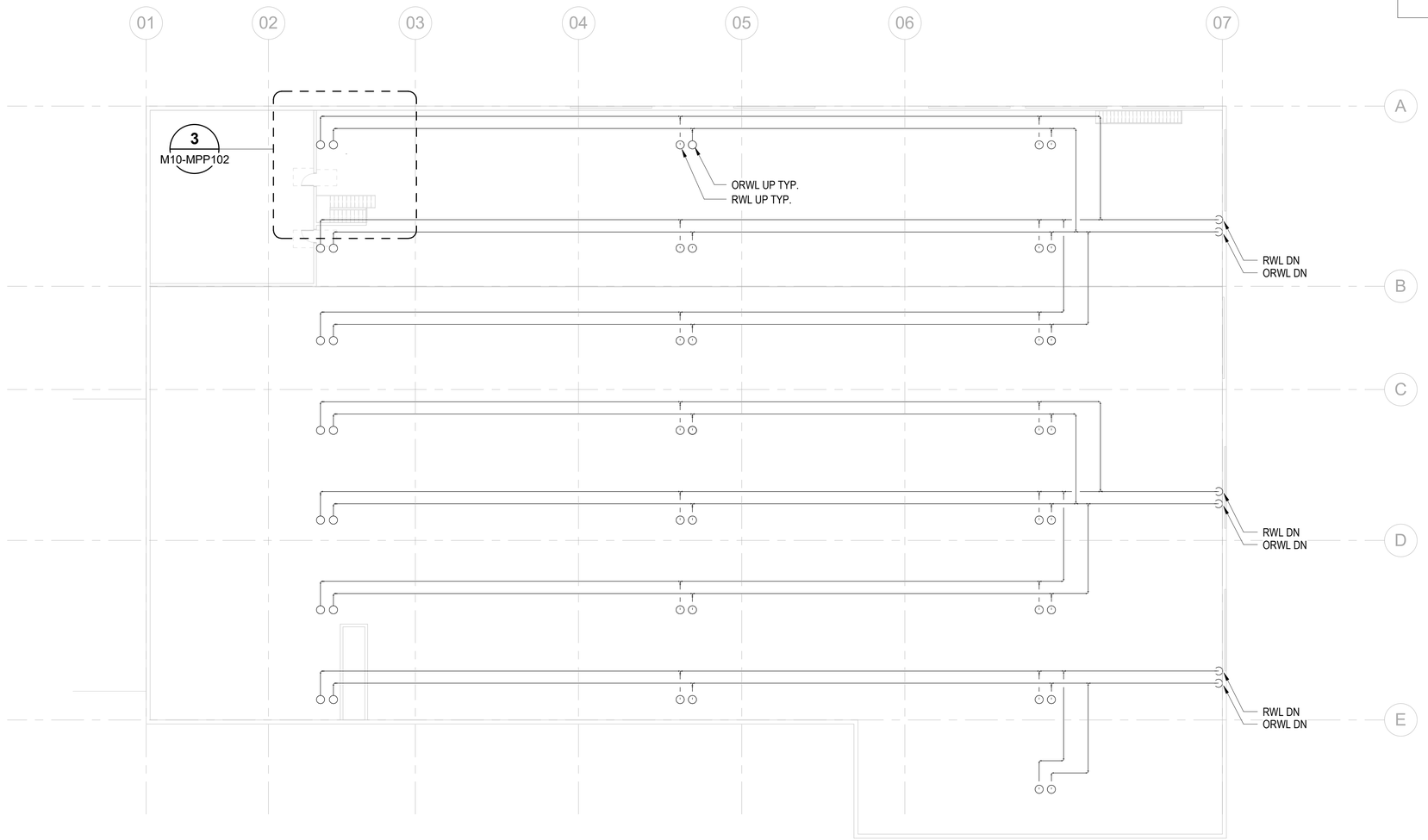
KEY PLAN - M09W



N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

1 LSWS PLUMBING MEZZANINE PLAN
1/16" = 1'-0"

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 23734 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 — SIGNED

PRELIMINARY

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS PLUMBING MEZZANINE PLAN

DRAWING No.: **M10-MPP201**
FACILITY ID: ID#
SHEET No: REV:

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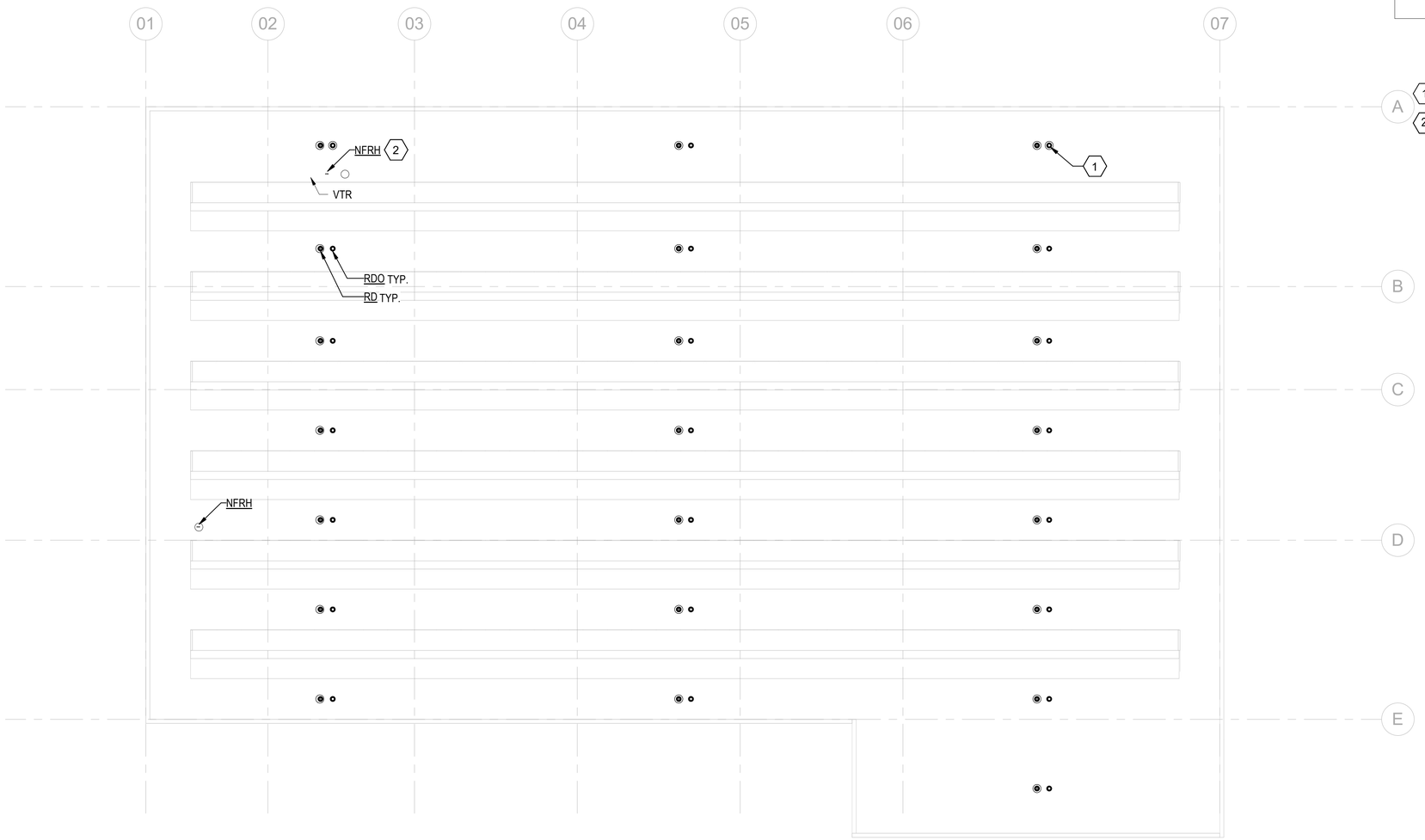
KEY PLAN - M09W



1 PLUMBING ROOF PLAN
1/16" = 1'-0"

KEY NOTES

1. PROVIDE ROOF DRAINS AND OVERFLOW ROOF DRAINS. ALIGN DRAINS BETWEEN ROOF MONITORS.
2. PROVIDE ROOF HYDRANTS FOR MECHANICAL EQUIPMENT MAINTENANCE.

N

16 8 0 16 32
SCALE IN FEET

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25716 — REGISTERED PROFESSIONAL ENGINEER — 11/07/2023 SIGNED

PRELIMINARY

HDR

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL
LSWS PLUMBING ROOF PLAN

DRAWING No.: **M10-MPP301**
FACILITY ID: ID#
SHEET No: REV:

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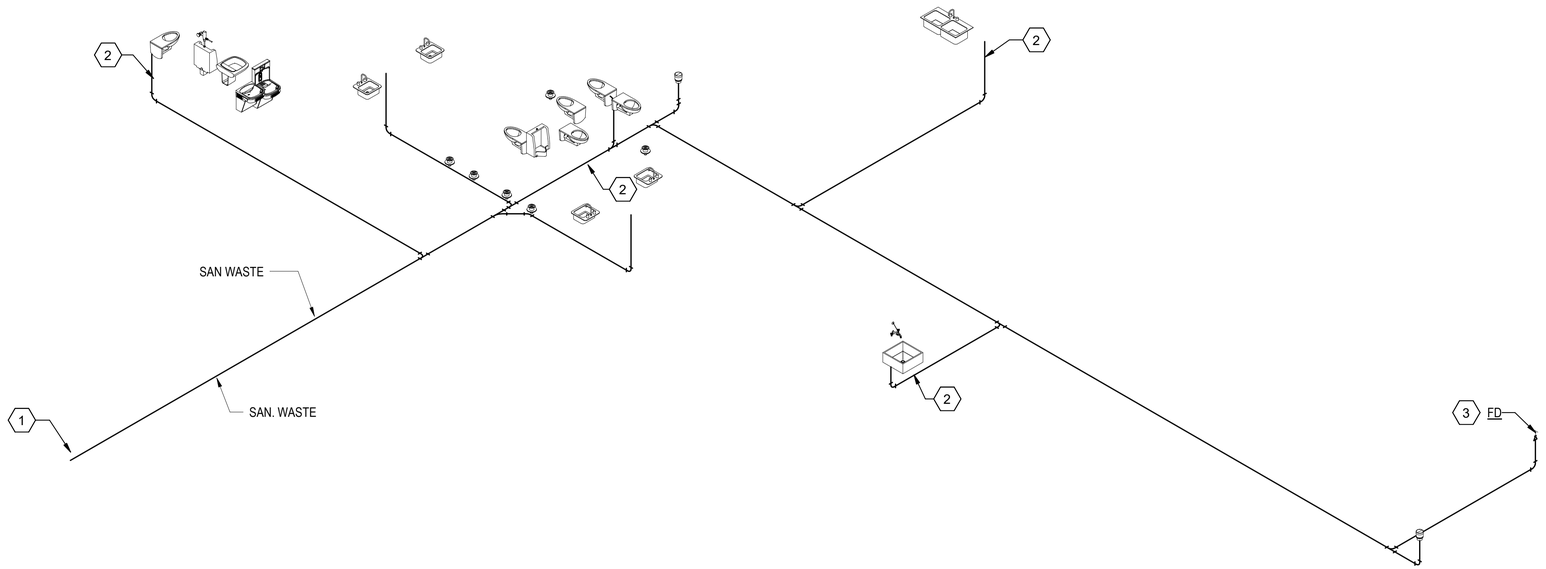
KEY NOTES

1. POINT OF CONNECTION TO SANITARY SEWER SEE CIVIL PLANS FOR CONTINUATION.
2. PROVIDE SANITARY WASTE AND VENT PIPING FOR PLUMBING FIXTURES.
3. FLOOR DRAIN WITH TRAP, VENT, AND PRIMER. ROUTE TO SANITARY SYSTEM.



1 SANITARY WASTE PIPING DIAGRAM
NOT TO SCALE

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

RICHARD E. HIMMEL — STATE OF WASHINGTON — 25736 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY — 11/07/2023 SIGNED

SUBMITTED BY: | DATE: | REVIEWED BY:

LINE IS 1" AT FULL SCALE

PACKAGE #

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

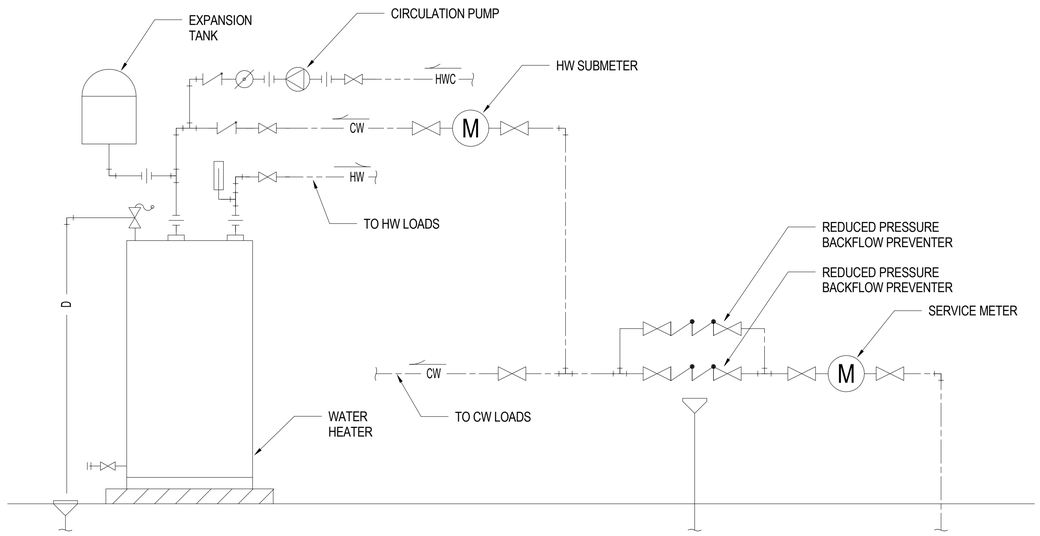
SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS PLUMBING PIPING DIAGRAMS

DRAWING No.: **M10-MPS001**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 12:59:13 PM
Autodesk Docs://10339152_TDLE - OMFS Phase III_2021/OMFS-M10-M-v2022.rvt



1 WATER SERVICE DETAIL
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE		
MARK	COMMENTS	DESCRIPTION
DF-1	WATER COOLER, ADA	DUAL LEVEL ELECTRIC WATER COOLER, BOTTLE FILLER
LV-1	LAVATORY	UNDER-COUNTER MOUNT, VITREOUS CHINA, SENSOR FAUCET, 0.5 GPM, ASSE 1070
LV-2	LAVATORY	WALL HUNG, VITEROUS CHINA, SENSOR FAUCET, 0.5 GPM, ASSE 1070
SH-1	SHOWER	PRESSURE BALANCED SHOWER VALVE, ASSE 1016, ADA HAND-HELD SHOWER
SK-1	SINK	DOUBLE BOWL, DROP-IN, STAINLESS STEEL, MIXING FAUCET, GOOSE-NECK SPOUT
SS-1	SERVICE SINK	FLOOR MOUNT, TERRAZZO, WALL MOUNT MIXING FAUCET
UR-1	URINAL	WALL HUNG, VITREOUS CHINA, SENSOR FLUSH VALVE, 0.125 GPF
WC-1	WATER CLOSET	WALL HUNG, SENSOR FLUSH VALVE, 1.28 GPF
WC-1A	WATER CLOSET, ADA	WALL HUNG, ADA HEIGHT, SENSOR FLUSH VALVE, 1.28 GPF

PLUMBING SPECIALTIES SCHEDULE		
MARK	COMMENTS	DESCRIPTION
CO	CLEAN OUT	CAST IRON BODY, NICKEL BRONZE TOP, TAPERED BRONZE PLUG
DSN	DOWNSPOUT NOZZLE	CAST BRONZE NOZZLE AND WALL FLANGE
FD	FLOOR DRAIN	CAST IRON BODY, FLASHING COLLAR, ADJUSTABLE STRAINER HEAD
NFRH	NON-FREEZE ROOF HYDARNT	SANITARY YARD HYDRANT, EXPOSED HEAD, NON-FREEZE
NFWH	NON-FREEZE WALL HYDRANT	NICKEL PLATED BRONZE, QUARTER TURN, 3/4-INCH HOSE CONNECTION, INTEGRAL VACUUM BREAKER, LOOSE KEY HANDLE
RD	ROOF DRAIN	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME
RDO	ROOF DRAIN, OVERFLOW	CAST IRON BODY, FLASHING CLAMP, GRAVEL STOP, POLYETHYLENE DOME, 2-INCH WATER DAM
RPBA	REDUCED PRESSURE BACKFLOW ASSEMBLY	STAINLESS STEEL BODY, SLEEVE, AND TORSION SPRING CHECK VALVES, MAX. 175 PSIG

PLUMBING EQUIPMENT SCHEDULE		
MARK	COMMENTS	DESCRIPTION
WH-1	WATER HEATER	VERTICAL TANK HYBRID HEATPUMP/ELECTRIC WATER HEATER

NOT FOR CONSTRUCTION

Refer to the plan set COVER drawing for disclaimers regarding this drawing.

REFERENCE CONCEPT DRAWINGS

No.	DATE	DSN	CHK	APP	REVISION

AHJ:

PACKAGE #

DESIGNED BY: D. REAMES
DRAWN BY: B. BOONE
CHECKED BY: B. CRANE
APPROVED BY: R. HIMMEL

CHAD E. RITMILLER — STATE OF WASHINGTON — 29116 — REGISTERED PROFESSIONAL ENGINEER
11/07/2023
SIGNED

PRELIMINARY

SUBMITTED BY:
DATE:
REVIEWED BY:

LINE IS 1" AT FULL SCALE

SOUNDTRANSIT

DATE:

SCALE:
FILENAME: X100-X01-X-v2020
CONTRACT No.: X100
SUBMITTAL DATE:

SOUND TRANSIT
OPERATIONS & MAINTENANCE FACILITY SOUTH
CONCEPTUAL ENGINEERING

MECHANICAL

LSWS PLUMBING EQUIPMENT SCHEDULES

DRAWING No.: **M10-MPS002**
FACILITY ID: ID#
SHEET No: REV:

2/23/2024 12:59:14 PM
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