PRCNC20221036

REVISIONS

City of Puyallup
Building
ACCEPTED
JMontgomery
08/25/2023
10:40:49 AM

FULL SIZED LEDGIBLE **COLOR** PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITTEE ON SITE FOR ALL INSPECTIONS **(MIN. PLAN SIZE 24" X 36")**

Approval of submitted plans is not an approval of omissions or oversights by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

# STATE PROJECT NO.: 2020-148
# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

**IFC SET**

INTEGRUS PROJECT NO.: 22135.00

**VOLUME 2 OF 2**

**OWNER**
STATE OF WASHINGTON

**CONTRACTING AGENCY**
DEPARTMENT OF ENTERPRISE SERVICES
ENGINEERING & ARCHITECTURAL SERVICES
1500 JEFFERSON STREET S.E.
OLYMPIA, WA

**CLIENT AGENCY**
**PIERCE COLLEGE PUYALLUP**

## PROJECT TEAM

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## SIGNATURES

APPROVED BY: _____ DATE _____
PIERCE COLLEGE PUYALLUP

APPROVED BY: _____ DATE _____
DES/ENGINEERING & ARCHITECTURAL SERVICES

APPROVED BY: _____ DATE _____
DES/ENGINEERING & ARCHITECTURAL SERVICES

ISSUED ON: 10/07/2022

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE: (206)628-3737 FAX: (206)628-3738

STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: BCT
Checked By: JL

Revisions

| # | Date | Description |
|---|---|---|

COVER SHEET

**G000**

PRCNC20221036

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| | |
|---|---|
| 100 | SURVEY |

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| T403 | LEVEL 3 - ENLARGED PLAN - TECHNOLOGY |
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| T701 | DIAGRAMS - TECHNOLOGY |

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TELEPHONE: (206)624-3737 FAX: (206)628-3138

9411 REGISTERED ARCHITECT BRIAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

| # | Date | Description |
|---|---|---|

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**G001**

IFC SET

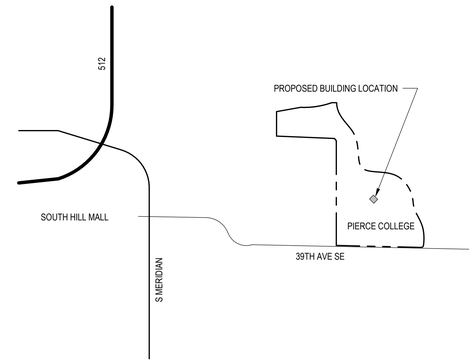
PRCNC20221036

SITE PLAN - TRUE NORTH
SCALE: 1" = 40'-0"

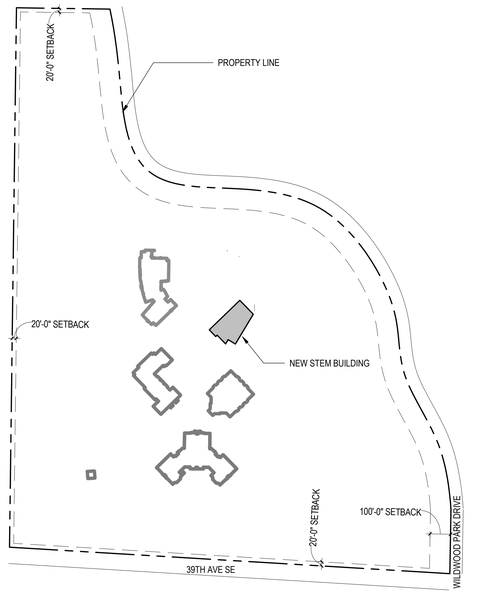
## LEGAL DESCRIPTION

Section 02 Township 19 Range 04 Quarter 33 THAT POR OF W 1/2 OF SW LY SLY & WLY OF WILDWOOD PARK DR (SCHOOL RD E) & LY NLY OF FOLL DESC LI COM AT SW COR OF SW OF SW TH ALG W LI SD SUBD N 00 DEG 55 MIN 34 SEC W 789.74 FT TO POB SD DESC LI TH N 83 DEG 21 MIN 05 SEC E 967.35 FT TO A PT ALG SD W R/W LI WILDWOOD PARK DR & TERMINUS PT SD DESC LI OUT OF 3-009 SEG M-2723 SP EMS EASE OF REC PER ETN 672741 (DC5077ES5-7-87)

PARCEL #: 0419023016




VICINITY MAP
SCALE: 1" = 100'-0"




SETBACK DIAGRAM
SCALE: 1" = 300'-0"

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REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

| # | Date | Description |
|---|---|---|

SITE PLAN, VICINITY MAP, LEGAL DESCRIPTION

**G010**

IFC SET

PRCNC20221036

# PROJECT DATA

- PROJECT NAME: PIERCE COLLEGE PUYALLUP - NEW STEM BUILDING

- PROJECT ADDRESS: 1601 39TH AVE SE PUYALLUP, WA 98374

| CODE TYPE | CODE TITLE | TECHNICAL BASIS |
|---|---|---|
| BUILDING | 2018 INTERNATIONAL BUILDING CODE (IBC) & WASHINGTON STATE AMENDMENTS | WAC 51-50 |
| ACCESSIBILITY | ACCESSIBLE & USABLE BUILDINGS & FACILITIES | ICC A117.1-2009 |
| MECHANICAL | 2018 INTERNATIONAL MECHANICAL CODE (IMC) | WAC 51-52 |
| FIRE | 2018 INTERNATIONAL FIRE CODE (IFC) | WAC 51-54A |
| PLUMBING | 2018 UNIFORM PLUMBING CODE | WAC 51-56 |
| ELECTRICAL | NATIONAL ELECTRICAL CODE (NEC) | NFPA 70 |
| ENERGY | WASHINGTON STATE ENERGY CODE | WAC 51-11C |
| FIRE SPRINKLERS | STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS | NFPA 13 |
| FIRE ALARM | NATIONAL FIRE ALARM AND SIGNALING CODE | NFPA 72 |

# USE AND OCCUPANCY CLASSIFICATION

(SECTIONS 302, 303, 304 & 311)

- GROUPS: GROUP "B" BUSINESS (HIGHER EDUCATION FACILITIES, OFFICES, ALL OTHER AREAS EXCEPT AS NOTED BELOW)
GROUP "A-3" ASSEMBLY (LECTURE HALL)
GROUP "S-1" STORAGE

# OCCUPANCY SEPARATIONS

(SECTION 508)

B BUSINESS - MAIN BUILDING OCCUPANCY
A-3 ASSEMBLY (LECTURE HALL ON LEVEL 1) - UTILIZING ACCESSORY OCCUPANCY 508.2.
A-3 OCCUPANCY=1,479 SF OF AREA ON LEVEL 1
LEVEL 1 =19,538 SF
A-3 IS 8% OF LEVEL 1 FLOOR AREA AND MAY BE CONSIDERED ACCESSORY TO B OCCUPANCY
S-1 STORAGE - IS ACCESSORY TO GROUP B SECTION 311.1.1

# CONTROL AREAS

(SECTION 414.2)

| STORY | PERCENTAGE OF THE MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA | NUMBER OF CONTROL AREAS PER STORY | FIRE RESISTANCE RATING FOR FIRE BARRIERS | FIRE RESISTANCE RATING FOR FLOOR ASSEMBLY AND STRUCTURE SUPPORTING FLOOR |
|---|---|---|---|---|
| 3 | 50% | 2 | 1 HR | 2 HR |

# CONSTRUCTION TYPE

(CHAPTER 6)

- TYPE II-B, FULLY SPRINKLERED.

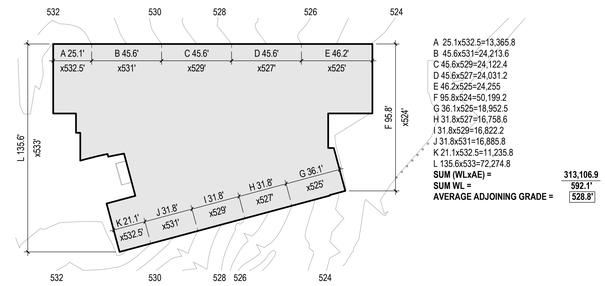
# BUILDING HEIGHTS AND AREAS

(SECTION 504 & 506)

ALLOWABLE VS. ACTUAL BUILDING HEIGHTS & STORIES (TABLES 504.3 & 504.4)

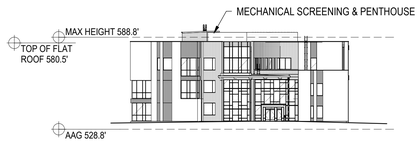
- TYPE OF CONSTRUCTION TO BE TYPE II-B, EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM

| OCCUPANCY | ALLOWABLE BUILDING HEIGHT / FT | ACTUAL BUILDING HEIGHT / FT | ALLOWABLE BUILDING HEIGHT / FLOORS | ACTUAL BUILDING HEIGHT / FLOORS |
|---|---|---|---|---|
| "B" | 75 FT. | 49 FT. | 4 STORY | 3 STORY |




## AVERAGE ADJOINING GRADE

SCALE: 1" = 40'-0"




## BUILDING HEIGHT

ALLOWABLE VS. ACTUAL BUILDING AREAS (TABLE 506.2)

- TOTAL ALLOWABLE BUILDING AREA PER 506.2.4

**CONSTRUCTION TYPE: II-B.**

| | At (ALLOWABLE AREA PER FLOOR) | ACTUAL AREA PER FLOOR |
|---|---|---|
| LEVEL 1 | B (SM) = 69,000 SF | 19,538 SF |
| LEVEL 2 | B (SM) = 69,000 SF | 18,354 SF |
| LEVEL 3 | B (SM) = 69,000 SF | 16,105 SF |
| TOTAL BLDG AREA: 53,997 SF | | |

# FIRE RESISTANCE REQUIREMENTS

(SECTION 602, TABLE 601)

SEE SECTION 707- FIRE BARRIERS FOR RATED WALL/FLOOR ASSEMBLIES, EXITS, INCIDENTAL USE AREAS

| BUILDING ELEMENT | FIRE RESISTANCE FOR CONSTRUCTION TYPE II-B |
|---|---|
| PRIMARY STRUCTURAL FRAME: | 0 HOUR |
| BEARING WALLS- EXTERIOR: | 0 HOUR |
| BEARING WALLS- INTERIOR: | 0 HOUR |
| NONBEARING- EXTERIOR WALLS/PARTITIONS: | 0 HOUR (PER TABLE 602) |
| NONBEARING- INTERIOR WALLS/PARTITIONS: | 0 HOUR |
| OPENINGS IN EXTERIOR WALLS: | NOT REQ'D (PER TABLE 705.8) |
| FLOOR CONSTRUCTION & SECONDARY MEMBERS: | 0 HOUR |
| ROOF CONSTRUCTION & SECONDARY MEMBERS: | 0 HOUR |
| ROOF COVERING | 0 HOUR |

INTERIOR WALLS & CEILING FINISHES, TABLE 803.13 - FULLY SPRINKLERED BUILDING, TYPE IIB

| GROUP | EXIT ENCLOSURES & PASSAGEWAYS | CORRIDORS | ROOMS & ENCLOSED SPACES |
|---|---|---|---|
| BUSINESS "B" | B | C | C |

# MEANS OF EGRESS

- OCCUPANT LOAD (TABLE 1004.5)
15 NET ASSEMBLY - TABLES AND CHAIRS
20 NET CLASSROOMS
50 NET LABS
150 GROSS OFFICES
300 GROSS STORAGE AREAS / MECHANICAL

- COMMON PATH OF TRAVEL (TABLE 1006.2.1):
MAX. 100 FEET FOR GROUP "B" OCCUPANCIES WITH AUTOMATIC SPRINKLERS

- EXIT ACCESS TRAVEL (TABLE 1017.2): WITH AUTOMATIC SPRINKLER
MAX. 300 FEET FOR GROUP "B" OCCUPANCY WITH AUTOMATIC SPRINKLERS

- DEAD ENDS IN CORRIDORS (1020.4):
MAX. 50 FEET FOR GROUP "B" OCCUPANCIES WHERE AUTOMATIC SPRINKLER SYSTEM IS PROVIDED

-CORRIDOR WALLS (TABLE 1020.1 & 1020.2) NOT RATED IN A FULLY SPRINKLERED BUILDING, 44" MIN. EXIT WIDTH REQ'D

-STAIRWAY WIDTH (1011.2) SHALL NOT BE LESS THAN 44"

- REQUIRED EGRESS WIDTH (SECTION 1005.3)
.20" PER OCCUPANT FOR STAIRWAYS
.15" PER OCCUPANT REQUIRED FOR "OTHER" EGRESS COMPONENTS INCLUDING DOORS, CORRIDORS, ETC.

- REQUIRED NUMBER OF EXITS (TABLE 1006.3.2)
OCCUPANT LOAD 1-500 PER STORY 2 EXITS

- EXIT ACCESS DOORWAY CONFIGURATION (SECTION 1007.1.1, EXCEPTION #2)
WHERE A BUILDING IS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2, THE SEPARATION DISTANCE OF THE EXIT DOORS OR EXIT ACCESS DOORWAYS SHALL NOT BE LESS THAN 1/3 OF THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA SERVED

# PLUMBING FIXTURE REQUIREMENTS

WA STATE AMENDMENTS CHAPTER 50-51 WAC, (TABLE 2902.1)
PER 2902.2.2 GENDER INCLUSIVE FACILITIES MAY BE PROVIDED AS LONG AS THERE IS NO REDUCTION TO THE AGGREGATE NUMBER OF FIXTURES REQUIRED BY CODE FOR THE OCCUPANCY TYPE.

| OCCUPANCY | OCCUPANT LOAD | | WC FACTOR (TABLE 2902.1) | # REQ'D WATER CLOSETS | | LAV FACTOR(TABLE 2902.1) | # REQ'D LAVS | | |
|---|---|---|---|---|---|---|---|---|---|
| GROUP B | 844 | M 422 | 1 PER 25 FOR THE FIRST 50 AND 1 PER 50 FOR THE REMAINDER EXCEEDING 50 | M 10 | 20 INCLUSIVE WATER CLOSETS | 1 PER 40 FOR THE FIRST 80 AND 1 PER 80 FOR THE REMAINDER EXCEEDING 80 | M 7 | 14 INCLUSIVE LAVS | |
| | | F 422 | | F 10 | | | F 7 | | |

- DRINKING FOUNTAINS (2903.4):
(1) FOR FIRST 150 OCCUPANTS, ADDITIONAL (1) FOR EACH ADDITIONAL 500 OCCUPANTS = 3 REQUIRED DRINKING FOUNTAINS.

DEFERRED SUBMITTALS

- FIRE SPRINKLER SYSTEMS
- SEISMIC RESTRAINT AND VIBRATION ISOLATION FOR MECHANICAL EQUIPMENT AND PIPING
- FIRE ALARM SYSTEM
- EMERGENCY RESPONDER RADIO SYSTEM
- CONCRETE MIX
- INTERIOR METAL STUD SYSTEMS: WALLS, SOFFITS, AND CEILINGS
- METAL DECK
- FALL RESTRAINT SYSTEM
- TEMPORARY SHORING/BRACING
- MEP ANCHORAGE AND BRACING
- BUCKLING RESTRAINED BRACES AND THEIR
- GUSSET PLATE CONNECTIONS
- PRECAST CONCRETE ELEMENTS
- ROOF CURBS FOR MEP EQUIPMENT
- SEISMIC BRACING FOR ARCHITECTURAL CEILINGS
- PRE FABRICATED PRE ENGINEERED STAIRS AND SHIPS LADDERS

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**STATE PROJECT NO.: 2020-148**
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**NEW STEM BUILDING**
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**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: JL
Checked By: JL

Revisions

| # | Date | Description |
|---|---|---|

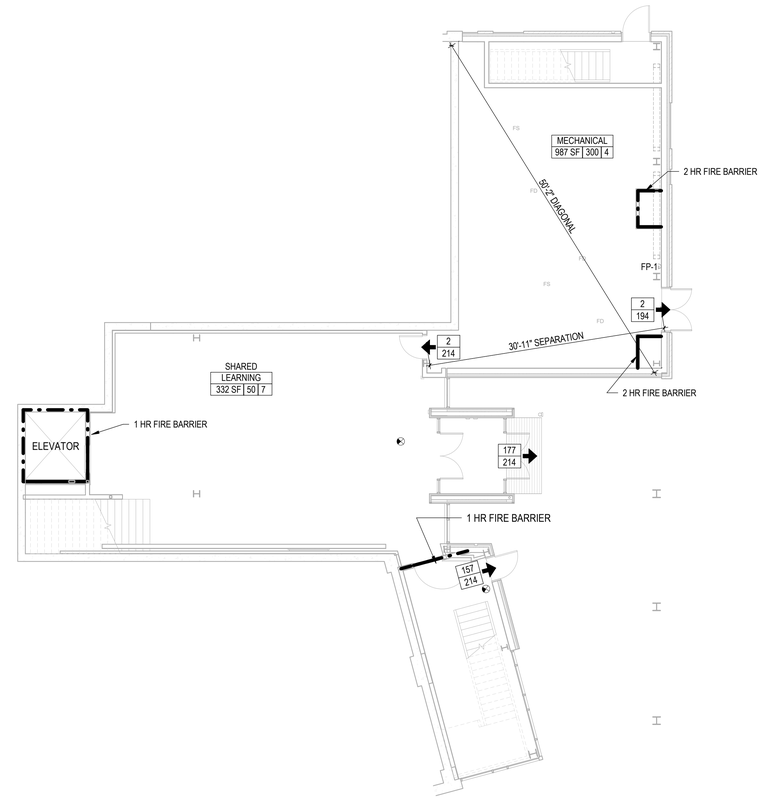
CODE ANALYSIS

**G019**

IFC SET

PRCNC20221036

LEVEL 0 OCCUPANT LOAD = 11




LEVEL 0 - LIFE SAFETY
SCALE: 1/8" = 1'-0"

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| Checked By: | Checker |

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|---|---|---|

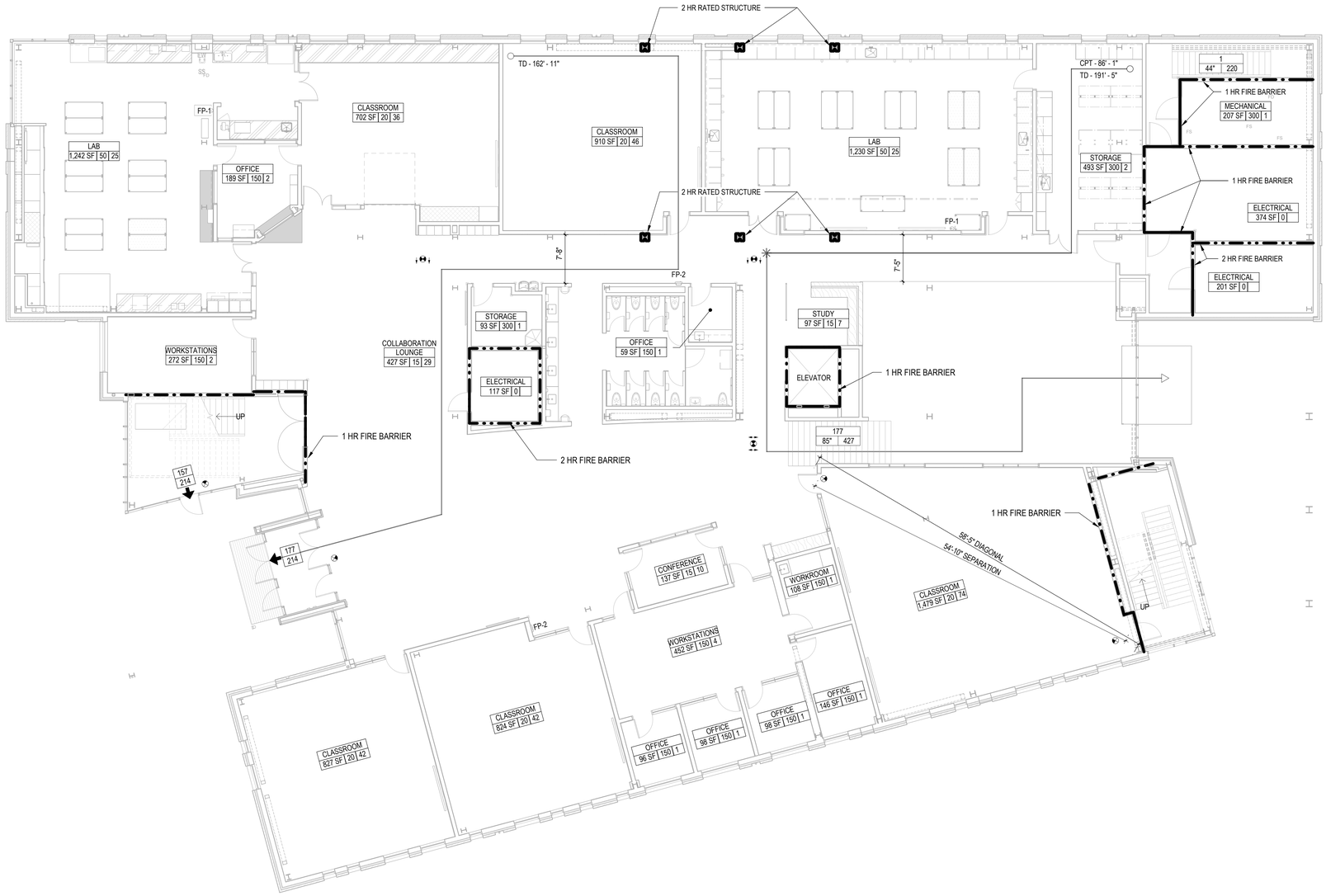
LEVEL 0 - LIFE SAFETY PLAN

**G020**

IFC SET

PRCNC20221036

LEVEL 1 OCCUPANT LOAD = 354

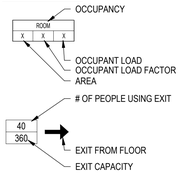



## LEVEL 1 - LIFE SAFETY

SCALE: 1/8" = 1'-0"

## LIFE SAFETY LEGEND

EXIT SYMBOL CODES




FE — BRACKET MOUNTED FIRE EXTINGUISHER

FEC — FIRE EXTINGUISHER CABINET

FHC — FIRE HOSE CABINET

ILLUMINATED EXIT SIGN

REQUIRED FIRE PROTECTION KEY

- 1 HOUR FIRE BARRIER/WALL
- 2 HOUR FIRE BARRIER/WALL
- 3 HOUR FIRE BARRIER/WALL
- CONSTRUCTION CAPABLE OF WITHSTANDING THE PASSAGE OF SMOKE

EGRESS TRAVEL DISTANCES

- TD - EXIST ACCESS TRAVEL DISTANCE
- CPT - COMMON PATH OF TRAVEL
- DE - DEAD END CORRIDOR

GENERAL NOTE:

1. AT ALL LOCATIONS THAT REQUIRE A FIRE PROTECTION RATING PROVIDE IDENTIFICATION WITH 4" TALL LETTERING NOTING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS". LOCATE 2' ABOVE CEILING, WITHIN 15 FEET FROM EACH WALL END AND AT INTERVALS NOT EXCEEDING 30 FEET HORIZONTALLY.

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Revisions

| # | Date | Description |
|---|---|---|

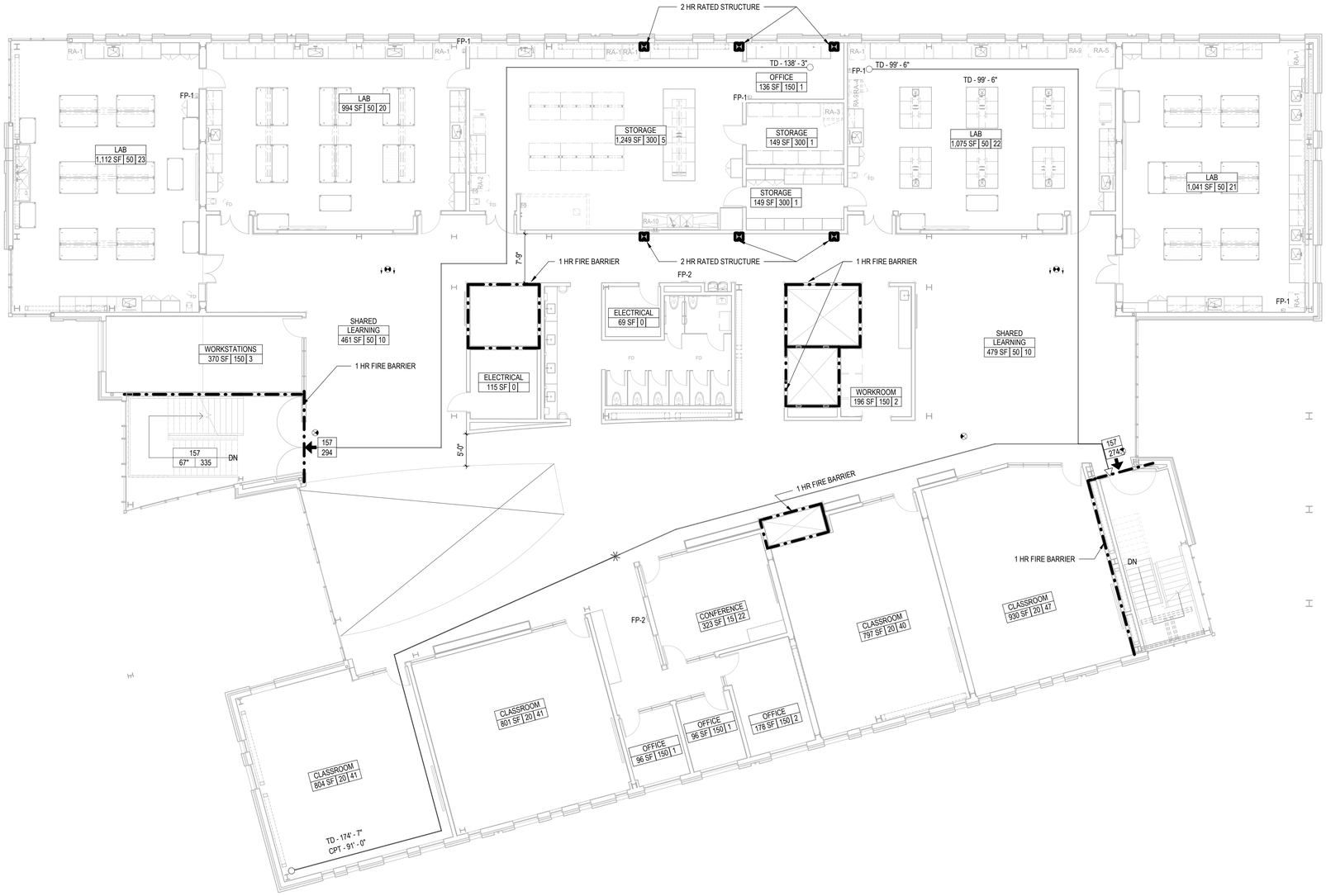
LEVEL 1 - LIFE SAFETY PLAN

**G021**

IFC SET

PRCNC20221036

LEVEL 2 OCCUPANT LOAD = 314




LEVEL 2 - LIFE SAFETY
SCALE: 1/8" = 1'-0"

## LIFE SAFETY LEGEND

EXIT SYMBOL CODES

ROOM | X | X | X — OCCUPANCY; OCCUPANT LOAD; OCCUPANT LOAD FACTOR; AREA

40 | 360 — # OF PEOPLE USING EXIT; EXIT FROM FLOOR; EXIT CAPACITY

40 | 48" | 240 — # OF PEOPLE USING STAIR; STAIR CAPACITY; STAIR WIDTH

FE — BRACKET MOUNTED FIRE EXTINGUISHER

FEC — FIRE EXTINGUISHER CABINET

FHC — FIRE HOSE CABINET

ILLUMINATED EXIT SIGN

REQUIRED FIRE PROTECTION KEY

- 1 HOUR FIRE BARRIER/WALL
- 2 HOUR FIRE BARRIER/WALL
- 3 HOUR FIRE BARRIER/WALL
- CONSTRUCTION CAPABLE OF WITHSTANDING THE PASSAGE OF SMOKE

EGRESS TRAVEL DISTANCES

- TD - EXIST ACCESS TRAVEL DISTANCE
- CPT - COMMON PATH OF TRAVEL
- DE - DEAD END CORRIDOR

GENERAL NOTE:

1. AT ALL LOCATIONS THAT REQUIRE A FIRE PROTECTION RATING PROVIDE IDENTIFICATION WITH 4" TALL LETTERING NOTING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS". LOCATE 2' ABOVE CEILING, WITHIN 15 FEET FROM EACH WALL END AND AT INTERVALS NOT EXCEEDING 30 FEET HORIZONTALLY.

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Revisions

| # | Date | Description |
|---|---|---|

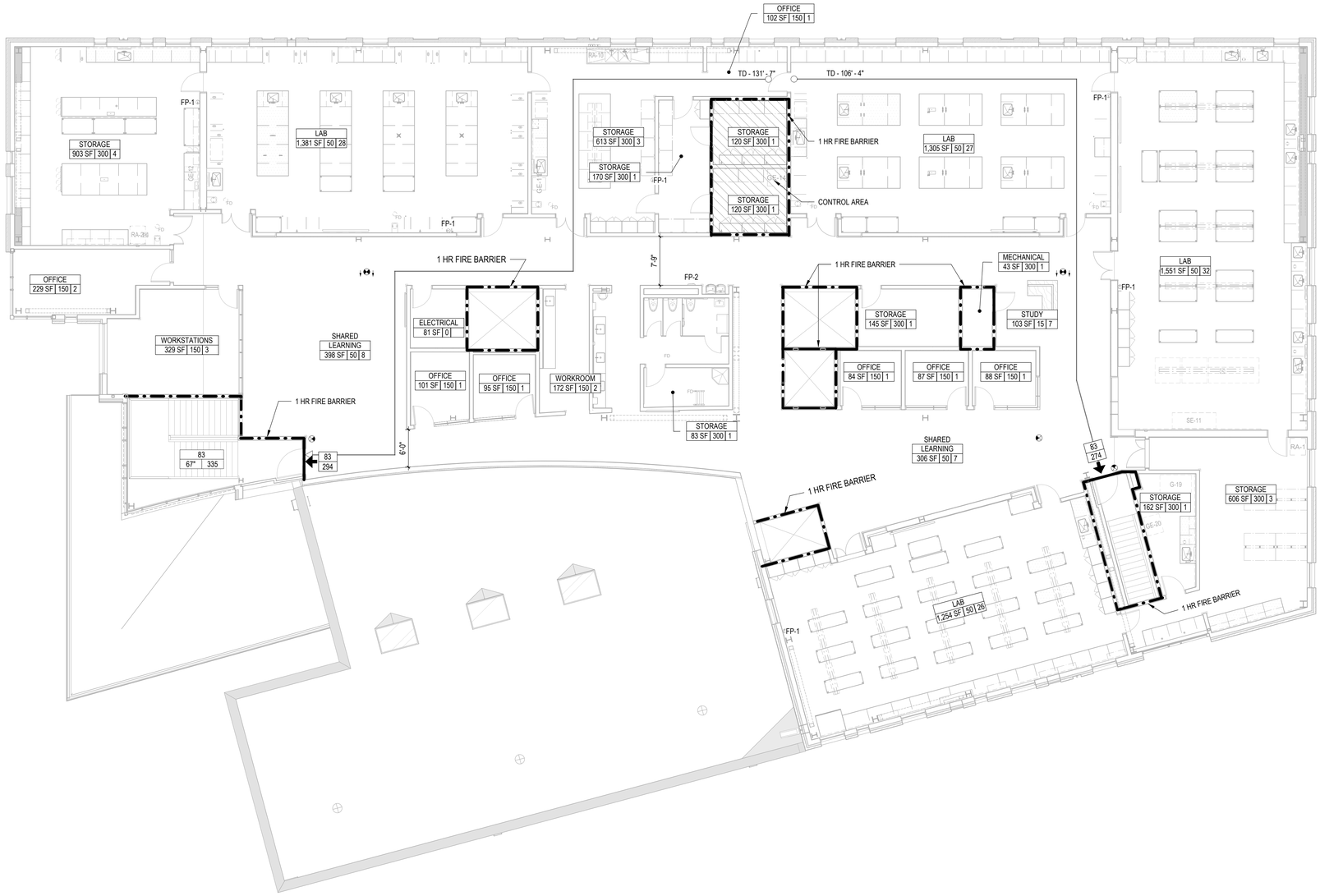
LEVEL 2 - LIFE SAFETY PLAN

**G022**

IFC SET

PRCNC20221036

LEVEL 3 OCCUPANT LOAD = 165

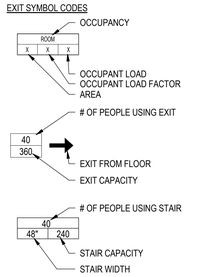



## LEVEL 3 - LIFE SAFETY

SCALE: 1/8" = 1'-0"

## LIFE SAFETY LEGEND

EXIT SYMBOL CODES




| | |
|---|---|
| FE | BRACKET MOUNTED FIRE EXTINGUISHER |
| FEC | FIRE EXTINGUISHER CABINET |
| FHC | FIRE HOSE CABINET |
| | ILLUMINATED EXIT SIGN |

REQUIRED FIRE PROTECTION KEY

- 1 HOUR FIRE BARRIER/WALL
- 2 HOUR FIRE BARRIER/WALL
- 3 HOUR FIRE BARRIER/WALL
- CONSTRUCTION CAPABLE OF WITHSTANDING THE PASSAGE OF SMOKE

EGRESS TRAVEL DISTANCES

- TD - EXIST ACCESS TRAVEL DISTANCE
- CPT - COMMON PATH OF TRAVEL
- DE - DEAD END CORRIDOR

GENERAL NOTE:

1. AT ALL LOCATIONS THAT REQUIRE A FIRE PROTECTION RATING PROVIDE IDENTIFICATION WITH 4" TALL LETTERING NOTING: "FIRE AND/OR SMOKE BARRIER - PROTECT ALL OPENINGS". LOCATE 2' ABOVE CEILING, WITHIN 15 FEET FROM EACH WALL END AND AT INTERVALS NOT EXCEEDING 30 FEET HORIZONTALLY.

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| Building | Planning |
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| Checked By: | JL |

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LEVEL 3 - LIFE SAFETY PLAN

**G023**

IFC SET

PRCNC20221036

# COMPONENT PERFORMANCE ALTERNATIVE RESULTS PER 2018 WSEC_C

**CONDITIONED SPACE:**

PROPOSED TOTAL UA / ALLOWABLE TOTAL UA **5311.72 / 6276.81** = 0.846 = 15.4% REDUCTION

**PROPOSED TOTAL UA** = UA- GLAZ-PROP + US-SKY-PROP + UA-OPAQUE-PROP + FL-SLAB-PROP
**= 5311.72**

**UA-GLAZ-PROP** = (PROPOSED U-VALUE STOREFRONT X PROPOSED STOREFRONT AREA) + (PROPSED U-VALUE GLASS DOOR X PROPOSED GLASS DOOR AREA)
= (U-0.348 X 9315.25 SF) + (U-0.58 X 117.5 SF)
**= 3309.86**

PROPOSED U-VALUE STOREFRONT = U-0.348
ASSUMES GUARDIAN GLASS SNX 62/27 WITH A LOW E COATING AND KAWNEER VG 451T, BACK SET STOREFRONT SYSTEM

PROPOSED U-VALUE GLASS DOOR = U-0.58
ASSUMES KAWNEER 260 INSULCLAD THERMAL ENTRANCES

**UA-SKY-PROP** = (PROPOSED U-VALUE SKYLIGHT X PROPOSED SKYLIGHT AREA)
= (U-0.36 X 168 SF)
**= 60.48**

PROPOSED U-VALUE SKYLIGHT = U-0.36
ASSUMES SUN OPTICS SIGNATURE SERIES DOME 800 MD - DBL GLAZED W/ FLAT INSERT W/W/W

**UA-OPAQUE-PROP** = (PROPOSED U-VALUE EACH WALL ASSEMBLY X PROPOSED EACH WALL ASSEMBLY AREA) + ((PROPOSED U-VALUE OPAQUE DOOR X PROPOSED OPAQUE DOOR AREA ) + (PROPSED U-VALUE EACH ROOF ASSEMBLY X PROPOSED EACH ROOF ASSEMBLY AREA) + (PROPOSED U-VALUE ELEVATED SLAB / EXT SOFFIT X PROPOSED ELEVATED SLAB / EXT SOFFIT AREA)
= ((6S.MP-1 U-0.047 X 270 SF) + (S8.CB U-0.0627 X 482 SF) + (S8.MP-1, S8.MP-2, & S8.MV-1 U-0.0462 X (11539 SF + 15446 SF + 215 SF))+ (DOOR U-0.36 X 121.92 SF) + ((R1 U-0.0104 X 15579.61 SF) + (R2 -0.006 X 4036.72 SF) + (R4 U-0.0206 X 416 SF) + (VEST. ROOF U-0.0242 X 187)) + ((S1 U-0.0479 X 1146.84 SF) + (S2 U-0.0479 X 104.62 SF))
**= 1603.94**

PROPOSED U-VALUE S6.MP-1 = U-0.047
PER SHEET A011 OF THIS SET ( COMPONENTS BELOW)
- 6" STUD AND BLANKET INSULATION (Rs)= R7.35 PER TABLE C402.1.4.1
- SEE S8.MP-1 FOR ALL ELSE

= 1/[Rs + (ER)] PER C402.1.4.1
= 1/[R7.35 + (R12 + R0.67 + R0.68 + R0.056)]
= U-0.047

PROPOSED U-VALUE S8.CB = U-0.0627
PER SHEET A011 OF THIS SET ( COMPONENTS BELOW)
- 1/4" COVERBOARD = R0.28 ASSUMES GEORGIA-PACIFIC DENSELEMENT SHEATHING
- 3" MINERAL WOOL = R12 ASSUMES ROCKWOOL COMFORTBOARD 110
- WRB SHEATHING = R0.67ASSUMES GEORGIA-PACIFIC DENSELEMENT SHEATHING
- 8" STUD AND BLANKET INSULATION (Rs)= R7.75 PER TABLE C402.1.4.1
- VAPOR RETARDER = R0.68 PER TABLE A101.5
- 5/8" GYPSUM WALL BOARD = R0.56 PER TABLE A101.5

= 1/[Rs + (ER)] PER C402.1.4.1
= 1/[R7.75 + (R12 + R0.67 + R0.68 + R0.056)]
= U-0.0627

PROPOSED U-VALUE S8.MP-1 = U-0.0462
SIMILAR WALL TYPES: S8.MP-2 & S8.MV-1
PER SHEET A011 OF THIS SET ( COMPONENTS BELOW)
- 3" MINERAL WOOL = R12 ASSUMES ROCKWOOL COMFORTBOARD 110
- WRB SHEATHING = R0.67 ASSUMES GEORGIA-PACIFIC DENSELEMENT SHEATHING
- 8" STUD AND BLANKET INSULATION (Rs)= R7.75 PER TABLE C402.1.4.1
- VAPOR RETARDER = R0.68 PER TABLE A101.5
- 5/8" GYPSUM WALL BOARD = R0.56 PER TABLE A101.5

= 1/[Rs + (ER)] PER C402.1.4.1
= 1/[R7.75 + (R12 + R0.67 + R0.68 + R0.056)]
= U-0.0462

PROPOSED U-VALUE OPAQUE DR = U-0.36
ASSUMES TRIO-E CURRIES DOOR W/O HEAVY DUTY REINFORCEMENT AT FRAME

PROPOSED U-VALUE ROOF R1 = U-0.0104
PER SHEET A011 OF THIS SET ( COMPONENTS BELOW), R5 SIMILAR
- TPO SINGLE LAYER ROOFING = R0.1 ASSUMES JOHNS MANVILLE TPO
- 5/8" SUBSTRATE SHEATHING BOARD = R0.67 ASSUMES GEORGIA-PACIFIC DENS-DECK PRIME FIREGUARD ROOF GUARD TYPE X
- CONTINUOUS INSULATION = R94.4 (R38 @ R4) ASSUMES 16" (6" @ R4)OF JOHNS MANVILLE FLAT ENERGY 3 POLYISOCYANURATE ROOF INSULATION
- METAL DECK = 0 PER TABLE A101.5

= 1/(R0.1 + R0.67 + R94.4 + R0.67+ R0)
= U-0.0104

PROPOSED U-VALUE ROOF R2 = U-0.006
PER SHEET A011 OF THIS SET ( COMPONENTS BELOW)
- CONTINUOUS INSULATION RMIN = R94 ASSUMES 8" OF JOHNS MANVILLE FLAT ENERGY 3 POLYISOCYANURATE ROOF INSULATION
- CONTINUOUS INSULATION RMAX = R250
- TAPERED INSULATION Reflective = (RMAX - RMIN) / (Ln (RMAX/RMIN)) PER EQUATION d. OF C402.1.4. AND TABLE A102.2.6.1

= 1/(Reflective)
= 1/((250-94) / (Ln(250/94))
= U-0.006

PROPOSED U-VALUE ROOF R4 = U-0.0242
PER SHEET A011 OF THIS SET ( SEE R1 FOR COMPONENTS)

PROPOSED U-VALUE ROOF @ VESTIBULES = U-0.021
PER DETAILS 3 & 8/A361 OF THIS SET ( COMPONENTS BELOW)
- 5/8" SUBSTRATE SHEATHING BOARD = R0.67 ASSUMES GEORGIA-PACIFIC DENS-DECK PRIME FIREGUARD ROOF GUARD TYPE X
- CONTINUOUS INSULATION = R38 ASSUMES 6.66" OF JOHNS MANVILLE FLAT ENERGY 3 POLYISOCYANURATE ROOF INSULATION
- 1/4" SUBSTRATE SHEATHING BOARD = R0.28 ASSUMES GEORGIA-PACIFIC DENS-DECK PRIME FIREGUARD ROOF GUARD TYPE X
- 6" STUD AND BLANKET INSULATION = R7.35 PER TABLE C402.1.4.1
- VAPOR RETARDER = R0.68 PER TABLE A101.5
- 5/8" GYPSUM WALL BOARD = R0.56 PER TABLE A101.5

= 1/(R0.67 + R38 + R0.28 + R7.35+ R.68 + R.56)
= U-0.021

PROPOSED U-VALUE S1 = U-0.0479
SIMILAR WALL TYPE S8.MP-2
PER SHEET A011 OF THIS SET ( COMPONENTS BELOW)
- 3" MINERAL WOOL = R12 ASSUMES ROCKWOOL COMFORTBOARD 110
- 5/8" SUBSTRATE SHEATHING BOARD = R0.67 ASSUMES GEORGIA-PACIFIC DENS-DECK PRIME FIREGUARD ROOF GUARD TYPE X
- 8" STUD AND BLANKET INSULATION = R7.75 PER TABLE C402.1.4.1
- VAPOR RETARDER = R0.68 PER TABLE A101.5

= 1/(R12 + R0.67 + R7.75 + R0.68)
= U-0.0479

**UA-FL-SLAB-PROP** = (PROPOSED F-VALUE FLOORS X PROPOSED FLOOR AREA)
= (F-0.48 X 703 FT)
**= 337.44**

PROPOSED F-VALUE FLOOR = F-0.48
ASSUMES UNHEATED SLAB ON GRADE WITH R10 INSULATION ADDED FOR 4FT ON VERTICAL EXTERIOR SURFACE AT SLAB EDGES PER TABLE A106.1

**ALLOWABLE TOTAL UA** = UA- GLAZ-ALLOW + UA-SKY-ALLOW + UA-OPAQUE-ALLOW + FL-SLAB-ALLOW
**= 6276.81**

**UA-GLAZ-ALLOW** = (CODE MAX U-VALUE STOREFRONT X PROPOSED STOREFRONT AREA) + (CODE MAX U-VALUE GLASS DOOR X PROPOSED GLASS DOOR AREA)
= (U-0.38 X 9315.25 SF) + (U-0.65 X 117.5 SF)
**= 3616.17**

ALLOWABLE U-VALUE STOREFRONT = U-0.38 PER TABLE C402.4

ALLOWABLE U-VALUE GLASS DOOR = U-0.65 PER TABLE C303.1.3(1)

**UA-SKY-ALLOW** = (CODE MAX U-VALUE SKYLIGHT X PROPOSED SKYLIGHT AREA)
= (U-0.5 X 168 SF)
**= 84**

ALLOWABLE U-VALUE SKYLIGHT = U-0.5 PER TABLE C402.4

**UA-OPAQUE-ALLOW** = (CODE MAX U-VALUE WALLS X PROPOSED WALL AREA) + (CODE MAX U-VALUE OPAQUE DOOR X PROPOSED OPAQUE DOOR AREA ) + (CODE MAX U-VALUE ROOF X PROPOSED ROOF AREA) + (CODE MAX U-VALUE ELEVATED SLAB X PROPOSED ELEVATED SLAB AREA) + (CODE MAX LOUVER X PROPOSED LOUVER AREA)

= (WALLS U-0.055 X 26971.78 SF) + (DOOR U-0.037 X 121.92 SF) + (ROOF U-0.027 X 20219.33 SF) + (U-0.055 X 1251.46 SF)
**= 2197.02**

ALLOWABLE U-VALUE WALL = U-0.055 PER TABLE C402.1.4

ALLOWABLE U-VALUE OPAQUE DR = U-0.037 PER TABLE C402.1.4

ALLOWABLE U-VALUE ROOF = U-0.027 PER TABLE C402.1.4

ALLOWABLE U-VALUE ELEV. SLAB = U-0.055 PER TABLE C402.1.4 (SLAB PROTECTED BY EXTERIOR SOFFIT S1)

**UA-FL-SLAB-PROP** = (CODE MAX F-VALUE FLOORS X PROPOSED FLOOR AREA)
= (F-0.54 X 703 FT)
**= 379.62**

PROPOSED F-VALUE FLOOR = F-0.54 PER TABLE C402.1.4

# AIR LEAKAGE TEST NOTES

**AIR BARRIER BOUNDARY AREAS:**

| | |
|---|---|
| 1ST FLOOR | = 19,538 SF |
| EXTERIOR WALLS | = 26,972 SF |
| ROOFS | = 20,219 SF |
| EXTERIOR SOFFITS | = 1,252 SF |
| TOTAL | = 67,981 SF |

**NOTE:**

AIR LEAKAGE TESTING AND BUILDING PERFORMANCE SHALL COMPLY WITH WSEC C402.5.1.2 CRITERIA AS FOLLOWS:

1. Test shall be accomplished using either (1) both pressurization and depressurization or (2) pressurization alone, but not depressurization alone. The test results shall be plotted against the correct P for pressurization in accordance with Section 9.4 of ASTM E779.
2. The test pressure range shall be from 25 PA to 80 Pa per Section 8.10 of ASTM E779, but the upper limit shall not be less than 50 Pa.
3. If the pressure exponent n is less than 0.45 or greater than 0.85 per Section 9.6.4 of ASTM E779, the test shall be rerun with additional readings over a longer time interval.
4. The leakage rate test results shall not exceed 0.17 cfm/ft2 at 0.3 in. wg (75 Pa).
5. Submit building enclosure air leakage test reports to jurisdiction and owner;
   - If initial test result exceeds 0.17 cfm/ft2, indicate that inspection and all practical corrective actions be completed and documented in the air leakage test report;
   - If initial test result exceeds 0.34 cfm/ft2, indicate that corrective actions shall also include re-testing;
   - Corrective measures and retesting must be repeated until the test result is 0.34 cfm/ft2 or less;
   - Air barrier test report to be included in project close out documentation provided to building owner.

# AIR BARRIER NOTES

**Air Barrier system description:**

Connections to Adjacent Materials: Provide connections to prevent air leakage and vapor mitigation at the following locations:

1. Foundations and walls, including penetrations, ties and anchors.
2. Walls, windows, storefronts, louvers, or doors.
3. Different wall assemblies and fixed openings with those assemblies.
4. Wall and roof connections.
5. Walls, floor, and roof across construction, control, and expansion joints.
6. Walls, floors, and roof to utility, pipe, and duct penetrations.
7. Seismic and expansion joints.
8. All other leakage pathways in the building envelope.

**Installation**

1. Install in accordance with Manufacturer's written instructions over WRB sheathing. Seal Joints and penetrations through weather-resistive barrier with specified tape prior to installation of finish material. Air infiltration barrier with specified tape prior to installation of finish material. Air infiltration barrier shall be air tight and free from holes, teas, and punctures. All window and door penetrations are to be flashed and sealed per manufacturer's instructions.
2. Seal WRB sheathing to associated materials at building envelope penetrations as detailed.
3. Adhere WRB sheathing with manufacturer's recommended adhesive to stainless steel masonry flashing.
4. All relief, outside air intake and exhaust openings shall be provided with dampers in accordance with Mechanical Section C403.7.8
   A. Boiler combustion air ducts do not require an isolation damper per 2018 WSEC C403.7.8.1 exception 2.1.
5. All recessed lighting fixtures shall be IC rated and have an air leakage rating not greater than 2 cfm per ASTM E283 test;
   A. All recessed lighting will be fully caulked at building penetrations.

# CONT. INS. PENETRATION CALC

ASSUMPTION:

6" - 20 GA. METAL Z-CLIPS INTERMITTENTLY SPACED @ 32" O.C. HORIZONTAL & 36" VERTICAL

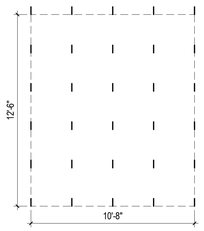
6" - 20 GA. METAL Z-FURRING THICKNESS = .0375"

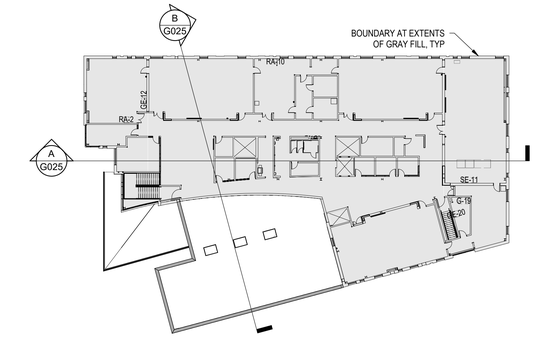
TYPICAL Z-FURRING LAYOUT (SEE DIAGRAM):
AREA = 150" X 128" = 19,200 SQ. IN
# OF Z-FURRING PENETRATIONS = 25

Z-FURRING CROSS SECTIONAL AREA:
(6") x (.0375") = 0.225 SQ. IN / PENETRATION

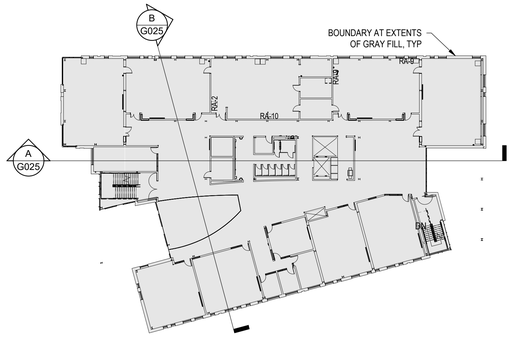
TOTAL PENETRATION AREA PER SAMPLE LAYOUT:
(.225 IN²) X (25) = 5.625 SQ. IN

RATIO OF CROSS SECTIONAL AREA OF METAL PENETRATIONS:
5.625 IN² / 19,200 SQ. IN = .0003

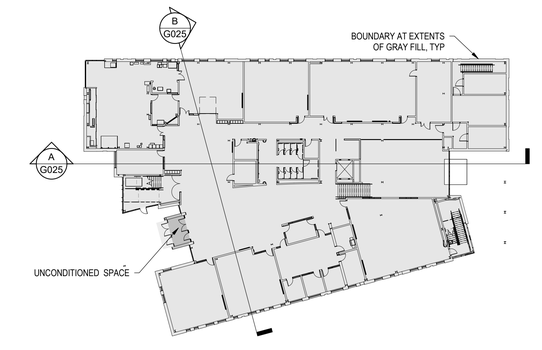


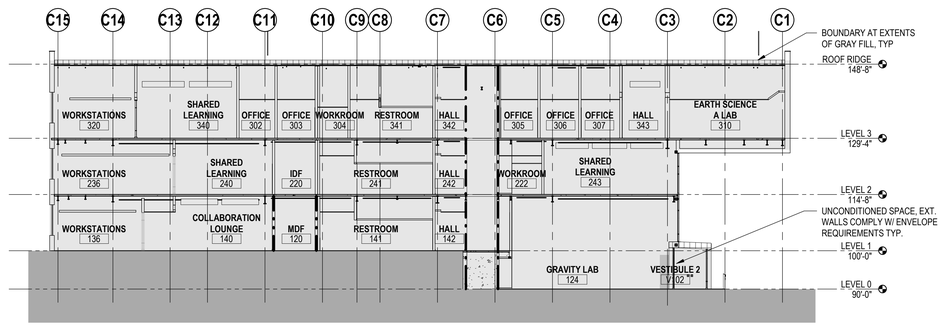

## 3 AIR BARRIER BOUNDARY - LEVEL 3
SCALE: 1" = 30'-0"



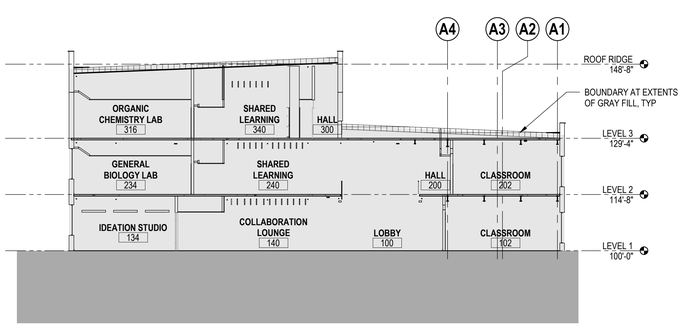

## 2 AIR BARRIER BOUNDARY - LEVEL 2
SCALE: 1" = 30'-0"



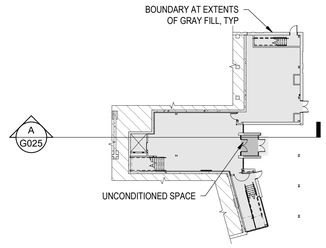

## 1 AIR BARRIER BOUNDARY - LEVEL 1
SCALE: 1" = 30'-0"




## A AIR BARRIER BOUNDARY - SECTION A
SCALE: 1/16" = 1'-0"




## B AIR BARRIER BOUNDARY - SECTION B
SCALE: 1/16" = 1'-0"




## 0 AIR BARRIER BOUNDARY - LEVEL 0
SCALE: 1" = 30'-0"

IFC SET

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE: (206)624-7337 FAX: (206)838-3138

9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

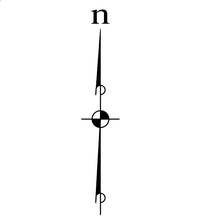
Revisions

| # | Date | Description |
|---|---|---|

ENERGY CODE ANALYSIS

**G025**

PRCNC20221036




LEGEND

- FOUND PK NAIL
- REBAR AND CAP
- FOUND REBAR AND CAP
- HUB AND TACK
- PK NAIL
- SURVEY SPIKE
- WATER FIRE DEPT. CONNECTION
- WATER MAN HOLE
- TELEPHONE MAN HOLE
- LIGHT POLE WITH ARM
- YARD LIGHT
- LIGHT POLE
- POWER POLE
- POWER MAN HOLE
- POWER POLE WITH TRANSFORMER
- POWER JUNCTION BOX
- YARD DRAIN
- STORM CLEAN OUT
- SANITARY SEWER MANHOLE
- STORM MAN HOLE
- SANITARY SEWER CLEAN OUT
- RAIN DRAIN
- CATCH BASIN
- IRRIGATION CONTROL VALVE
- FIRE HYDRANT
- WATER MARKER POST
- WATER METER
- WATER VALVE
- STREET SIGN
- SIGN
- BIKE RACK
- DECIDIOUS TREE
- CEDAR
- COTTONWOOD
- MAPLE
- DOUGLAS FIR
- ALDER
- CULVERT
- STORM LINE
- BOARD FENCE
- EDGE CONCRETE
- EDGE GRAVEL
- WATER LINE
- UNDERGROUND TELEPHONE LINE
- FENCE POST
- OVERHEAD BUILDING LINE
- SEWER LINE
- BUILDING LINE
- EDGE OF VEGETATION
- GAS LINE PAINT MARK
- TREE DRIP LINE
- UNDERGROUND POWER LINE

## BASIS OF HORIZONTAL DATUM:

WASHINGTON COORDINATE SYSTEM (WCS) – SOUTH ZONE (BASED UPON NAD 83/2011) UTILIZING THE WASHINGTON STATE REFERENCE NETWORK (WSRN) IN DECEMBER OF 2021.

## BASIS OF VERTICAL DATUM:

NAVD 88 UTILIZING THE WASHINGTON STATE REFERENCE NETWORK (WSRN) IN DECEMBER OF 2021.

## SURVEY INSTRUMENTATION :

SURVEYING PERFORMED IN CONJUNCTION WITH THIS SURVEY DOCUMENT UTILIZED ALL OR A PORTION OF THE FOLLOWING EQUIPMENT:

FIELD TRAVERSE AND/OR GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS)

ELECTRONIC TOTAL STATIONS, INCLUDING TOPCON PS–103A, LEICA TCRA 1105 PLUS, TRIMBLE S5.

TRIMBLE R8, TOPCON GR–5 GNSS EQUIPMENT.

FARO FOCUS S350 LASER SCANNER.

PROCEDURE USED : FIELD TRAVERSE WORK COMPLIES WITH CURRENT STANDARDS AS OUTLINED IN WAC–332–130–070, –080 AND –090. ALL INSTRUMENTS MAINTAINED TO MANUFACTURER'S SPECIFICATIONS AS REQUIRED BY WAC–332–130–100.

## SURVEY NOTES:

1. FIELD WORK COMPLETED JANUARY 2022.

2. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON THE FOLLOWING SOURCES: SURVEYED LOCATIONS OF VISIBLE SURFACE INDICATIONS OBSERVED IN THE FIELD; UTILITY LOCATIONS PROVIDED BY MT. VIEW LOCATING SERVICES LLC. IN DECEMBER OF 2021. THE LOCATIONS OF BURIED UTILITIES SHOWN HEREON SHOULD BE CONSIDERED APPROXIMATE AND REQUIRE FIELD VERIFICATION PRIOR TO ANY DEMOLITION OR CONSTRUCTION WORK ON OR AROUND THE SITE.

3. PIERCE COUNTY PARCEL LINES SHOWN PER GIS RECORD. MEASUREMENTS HAVE BEEN FIELD VERIFIED BUT DO NOT QUALIFY AS A BOUNDARY SURVEY.

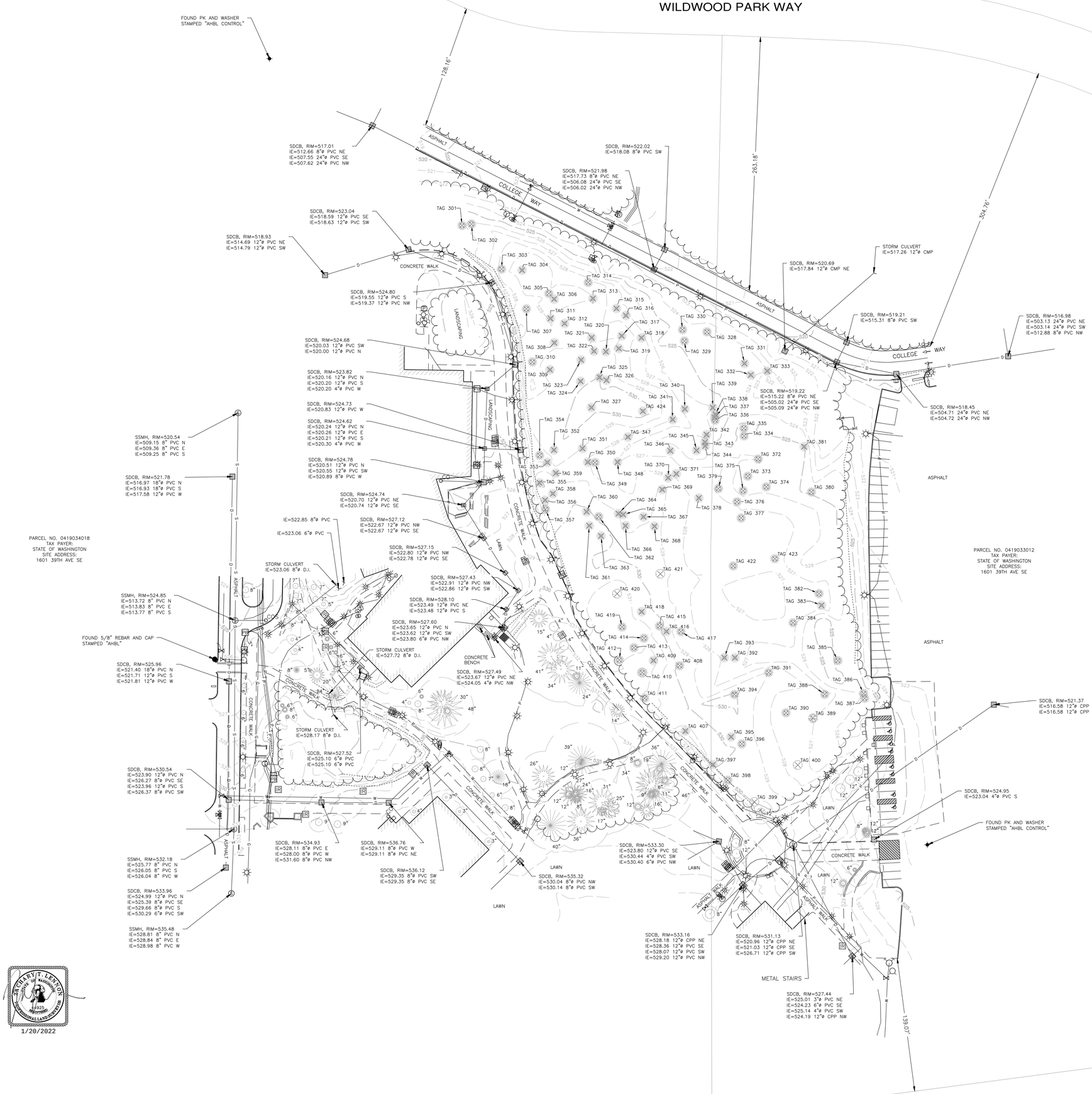
## TREE NOTES:

1. TREES WITH TAG NUMBERS AS SHOWN HEREON WERE PROVIDED IN THE FIELD BY TREE SOLUTIONS, INC AND CORRESPONDS TO THEIR "DRAFT TABLE OF TREES" PREPARED DECEMBER 15, 2021. SEE REPORT FOR TREE INFORMATION.

2. TREES NOTED WITH CALIBER (") WERE NOT INCLUDED IN THE ABOVE MENTIONED REPORT. CORRESPONDING DRIP LINES WERE MEASURED IN THE FIELD.

3. TREE ID NUMBERS 401–406 HAVE BEEN OMITTED FROM THIS TABLE. THIS GAP CORRESPONDS TO A GAP IN TREE TAG SERIES.

1/20/2022




integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE (206)628-3730 FAX (206)628-3739

# STATE PROJECT NO.: 2020-148
# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 1/20/2022 |
| Job No.: | 22135.00 |
| Drawn By: | ESM |
| Checked By: | RG/ZL |

Revisions

| # | Date | Description |
|---|---|---|

SURVEY
EXISTING CONDITIONS - OVERALL

100

PRCNC20221036

1 OVERALL SITE PLAN

SCALE: 1" = 30' - 0"

0 15' 30' 60' 90'

TRUE NORTH

integrus ARCHITECTURE
112 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
T: 206.623.1104 | F: 206.623.1157 | WWW.INTEGRUSARCH.COM

STATE OF WASHINGTON
VINITA SIDHU
21049 EXP. 05/27/2024
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

| # | Date | Description |
|---|---|---|
| 2 | 11/14/22 | ASI-002 |

SITE PLAN - OVERALL

**L1.00**

IFC SET

PRCNC20221036

COLLEGE WAY
LIMIT OF WORK
LIMIT OF WORK
LIMIT OF WORK

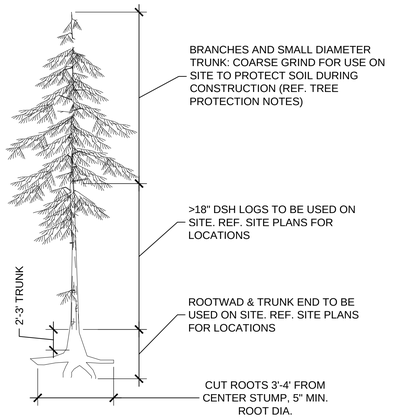
PRCNC20221036

# TREE SALVAGE SCHEDULE

| TREE ID | SCIENTIFIC NAME | COMMON NAME | DSH |
|---|---|---|---|
| 328 | THUJA PLICATA | WESTERN REDCEDAR | 27.9 |
| 332 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 25.0 |
| 334 | THUJA PLICATA | WESTERN REDCEDAR | 23.5 |
| 335 | THUJA PLICATA | WESTERN REDCEDAR | 21.4 |
| 338 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 20.7 |
| 339 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 29.0 |
| 340 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 20.0 |
| 341 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 29.3 |
| 343 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 23.0 |
| 344 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 21.1 |
| 372 | THUJA PLICATA | WESTERN REDCEDAR | 38.0 |
| 373 | THUJA PLICATA | WESTERN REDCEDAR | 19.0 |
| 374 | THUJA PLICATA | WESTERN REDCEDAR | 34.6 |
| 380 | THUJA PLICATA | WESTERN REDCEDAR | 19.0 |
| 381 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 19.3 |
| 382 | THUJA PLICATA | WESTERN REDCEDAR | 42.0 |
| 383 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 38.0 |
| 384 | THUJA PLICATA | WESTERN REDCEDAR | 48.0 |
| 385 | THUJA PLICATA | WESTERN REDCEDAR | 22.0 |
| 386 | THUJA PLICATA | WESTERN REDCEDAR | 41.0 |
| 387 | THUJA PLICATA | WESTERN REDCEDAR | 39.0 |
| 388 | THUJA PLICATA | WESTERN REDCEDAR | 35.5 |
| 390 | THUJA PLICATA | WESTERN REDCEDAR | 28.5 |
| 391 | THUJA PLICATA | WESTERN REDCEDAR | 30.0 |
| 393 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 32.0 |
| 394 | THUJA PLICATA | WESTERN REDCEDAR | 27.0 |
| 395 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 24.2 |
| 396 | THUJA PLICATA | WESTERN REDCEDAR | 38.2 |
| 398 | THUJA PLICATA | WESTERN REDCEDAR | 21.0 |
| 400 | ACER MACROPHYLLUM | BIGLEAF MAPLE | 20.6 |
| 407 | PSEUDOTSUGA MENZIESII | DOUGLAS FIR | 29.8 |
| 408 | THUJA PLICATA | WESTERN REDCEDAR | 52.0 |

NOTES:

1. TREES IN ABOVE SCHEDULE ARE CANDIDATES TO BE USED ON SITE AS NURSE LOGS, STUMPS, AND ROOTWADS AND SHOULD BE PROCESSED PER TREE SALVAGE DETAIL.
2. LANDSCAPE ARCHITECT TO TAG IN FIELD PRIOR TO TREE SALVAGING AND PROVIDE DIRECTION ON FINAL CUT LENGTHS OF LOGS, STUMPS, AND ROOTWADS AND PLACEMENT ON SITE.
3. ALL DEMO-ED TREES NOT INCLUDED IN ABOVE SCHEDULE OR LESS THAN 18" DSH TO BE COURSE GROUND FOR ON SITE TREE PROTECTION. REF. TREE PROTECTION DETAIL.




## 1 TREE SALVAGE

SCALE: NTS

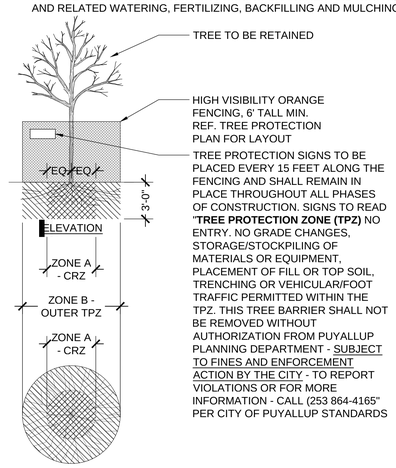
PLANT PROTECTION NOTES

1. PROTECT EXISTING FOREST UNDERSTORY DURING CONSTRUCTION TO THE GREATEST EXTENT POSSIBLE. DO NOT TRAMPLE, OPERATE VEHICLES, STORE OR STOCKPILE MATERIALS OR EQUIPMENT IN EXISTING FOREST AREAS WITHIN TREE PROTECTION FENCING.
2. REF. PLANTING PLANS FOR RESTORATION OF EXISTING LAWN AND PLANTING BED AREAS WITHIN PROJECT LIMIT OF WORK.

TREE PROTECTION NOTES:

NOTE: ALL REQUIRED TREE PROTECTION MEASURES MUST BE INSTALLED AND APPROVED BY ARBORIST PRIOR TO COMMENCEMENT OF DEMOLITION.

1. INSTALL 3" DEPTH OF COARSE WOOD CHIPS OVER ENTIRE TREE PROTECTION ZONE (TPZ) PRIOR TO INSTALLING PERIMETER PROTECTION FENCING. WATER GROUND DEEPLY BEFORE PLACING AND KEEP MULCH MOIST. DO NOT PILE MULCH DIRECTLY AGAINST TRUNK.
2. VEHICULAR MOVEMENT AND HEAVY EQUIPMENT ARE STRICTLY PROHIBITED WITHIN TPZ. PEDESTRIANS ARE TO BE EXCLUDED EXCEPT AS ABSOLUTELY NECESSARY.
3. CONSTRUCTION STORAGE IS PROHIBITED WITHIN ENTIRE TPZ INCLUDING CONSTRUCTION SUPPLIES, EQUIPMENT, MATERIALS, STOCKPILES AND DEBRIS.
4. DISPOSAL OF MATERIALS OR FLUIDS OF ANY KIND IS PROHIBITED WITHIN TPZ.
5. CONTRACTOR MUST RETAIN A CERTIFIED ARBORIST TO INSPECT AND PROVIDE SPECIFIC DIRECTION ON PRUNING BRANCHES AND ROOTS, AND RELATED WATERING, FERTILIZING, BACKFILLING AND MULCHING.




PLAN

DEFINITIONS

TREE PROTECTION ZONE (TPZ): AREA SURROUNDING INDIVIDUAL TREES OR GROUPS OF TREES TO REMAIN DURING CONSTRUCTION, AND DEFINED AS FOLLOWS: RADIAL DISTANCE MEASURED FROM THE TRUNK FACE OF A TREE AT THE RATE OF 1 FOOT OF PROTECTION PER ONE INCH OF CALIPER SIZE MEASURED AT BREAST HEIGHT.

CRITICAL ROOT ZONE (CRZ): INNER HALF OF TPZ EXTENDING RADIALLY FROM TRUNK.

DBH (DIAMETER AT BREAST HEIGHT):TREE DIAMETER MEASURED AT 4.5 FEET ABOVE GROUND.

ZONE A (CRITICAL ROOT ZONE - CRZ)

1. NO DISTURBANCE WHATEVER ALLOWED WITHOUT SITE-SPECIFIC ARBORIST INSPECTION AND APPROVAL OF METHODS TO PREVENT/MINIMIZE ROOT DAMAGE.
2. CUT ROOTS CLEAN. SEVER ROOTS LARGER THAN 2" DIAMETER ONLY AFTER ARBORIST INSPECTS, APPROVES THEN DIRECTS PRUNING. COVER CUT ENDS TO KEEP MOIST UNTIL BACKFILLED.
3. TUNNELING IS REQUIRED TO INSTALL LINES 3'-0" BELOW GRADE OR DEEPER. HIGH PRESSURE WATER EXCAVATION IS PROHIBITED WITHIN TOP 3 FT. OF SOIL WHERE ROOTS ARE CONCENTRATED.

ZONE B (OUTER TPZ)

1. EXCAVATION MUST LEAVE AT LEAST 2/3 OF OUTER TPZ UNDISTURBED.
2. ALL TRENCHING MUST BE DONE BY HAND OR USING AIR EXCAVATION TOOL. SPOILS NOT TO BE PILED IN TPZ; BACKFILL IMMEDIATELY.

## 2 TREE AND PLANT PROTECTION

SCALE: NTS

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NO 949 EXP. 05/27/2024

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
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**City of Puyallup**
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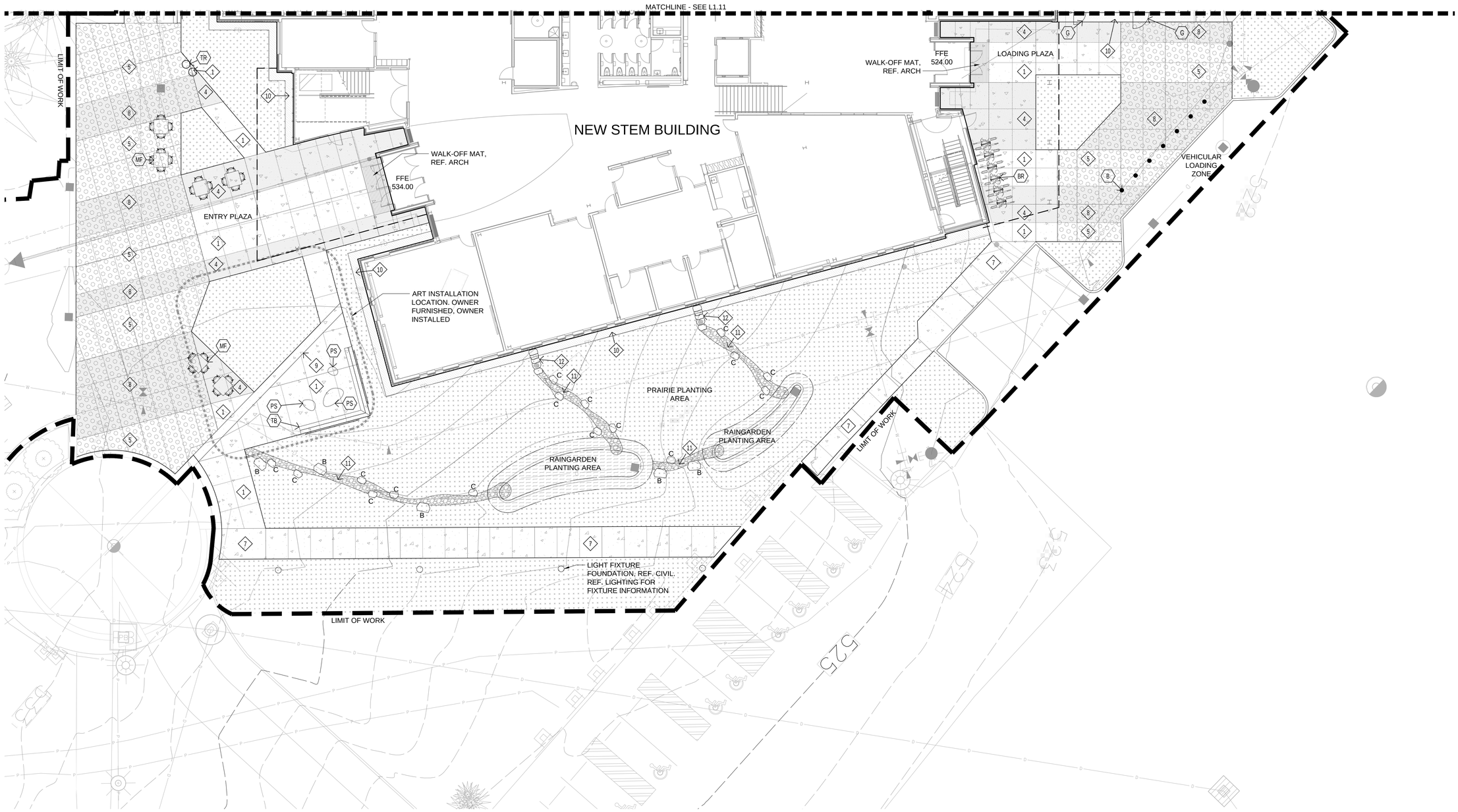
TREE AND PLANT PROTECTION NOTES

**L1.02**

IFC SET

PRCNC20221036




1 SITE PLAN - STEM SOUTH

SCALE: 1" = 10' - 0"

0 5' 10' 20' 30'

TRUE NORTH

## MATERIALS LEGEND

| KEY | SYMBOL | DESCRIPTION | |
|---|---|---|---|
| 1 | | CONCRETE PAVING - SANDBLAST FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 2 | | CRUSHED ROCK SURFACING | 3 L3.20 / 7 L3.20 |
| 3 | | GRASS PAVE - REF. CIVIL | |
| 4 | | CONCRETE PAVING - EXPOSED AGGREGATE FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 5 | | VEHICULAR CONCRETE PAVING - SANDBLAST FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 6 | | FLUSH CURB | 5 L3.20 |
| 7 | | CONCRETE PAVING - BROOM FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 8 | | VEHICULAR CONCRETE PAVING - EXPOSED AGGREGATE FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 9 | | CAST IN PLACE CONCRETE PAVEMENT BAND | 6 L3.20 |
| 10 | | CRUSHED ROCK MAINTENANCE EDGE | 4 L3.20 |
| 11 | | RIVER ROCK SWALE | 11 L3.20 |
| 12 | | STEPPING STONE WATER CHANNEL | 13 L3.20 |
| L-A | | NURSE LOG | 5 L5.20 |
| L-B | | NURSE ROOTWAD | 5 L5.20 |
| L-C | | NURSE STUMP | 5 L5.20 |
| 13 | | LANDSCAPE BOULDERS - REF. BOULDER SCHEDULE | 12 L3.20 |

## FURNISHING LEGEND

| KEY | SYMBOL | DESCRIPTION | |
|---|---|---|---|
| TB | | TIMBER BENCH - COLUMBIA CASCADE TIMBERFORM | 1 L3.21 |
| PS | | PEBBLE STOOL - TOURNESOL | 2 L3.21 |
| MF | | MOVEABLE CAFE TABLES AND CHAIRS - FORMS + SURFACES 'FACTOR' | |
| B | | BOLLARD - TOURNESOL 'B-2', REMOVABLE MOUNTING | 3 L3.21 |
| BS | | BOULDER SEAT - REF. BOULDER SCHEDULE | 12 L3.20 |
| BR | | BICYCLE RACK - SPORT WORKS 'TOFINO' | 4 L3.21 |
| TR | | TRASH RECEPTACLES - LANDSCAPE FORMS 'CHASE PARK' | |
| F | | ARCHITECTURAL FENCE - OMEGA UNIK PERFORATED PANELS | 5 L3.21 |
| G | | GATES - OMEGA UNIK | 6 L3.21 |

## PLANTING LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PLANTING AREA |
| | RAIN GARDEN + BIORETENTION PLANTING AREA |

## BOULDER SCHEDULE

| KEY | APPROX. SIZE (H X W X L) | QTY. | TOTAL TONS |
|---|---|---|---|
| A | 3' X 4.5' X 5' | 2 | 18 |
| B | 2.5' X 4' X 4.5' | 8 | 55 |
| C | 2' X 3' X 4' | 21 | 76 |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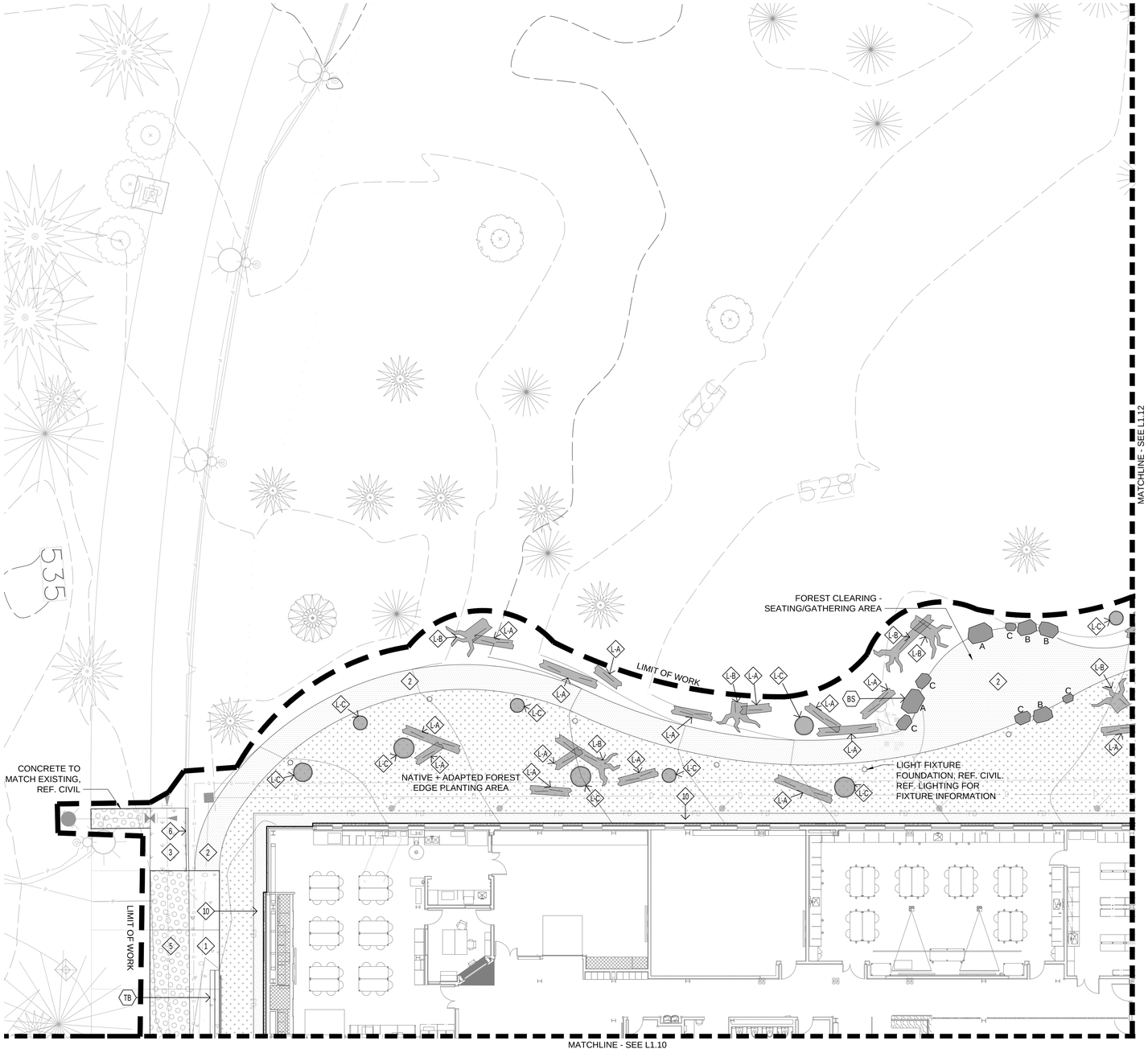
SITE PLAN - STEM SOUTH

**L1.10**

IFC SET

PRCNC20221036




1 SITE PLAN - STEM NORTH

SCALE: 1" = 10' - 0"

0 5' 10' 20' 30'

TRUE NORTH

## MATERIALS LEGEND

| KEY | SYMBOL | DESCRIPTION | |
|---|---|---|---|
| 1 | | CONCRETE PAVING - SANDBLAST FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 2 | | CRUSHED ROCK SURFACING | 3 L3.20 / 7 L3.20 |
| 3 | | GRASS PAVE - REF. CIVIL | |
| 4 | | CONCRETE PAVING - EXPOSED AGGREGATE FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 5 | | VEHICULAR CONCRETE PAVING - SANDBLAST FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 6 | | FLUSH CURB | 5 L3.20 |
| 7 | | CONCRETE PAVING - BROOM FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 8 | | VEHICULAR CONCRETE PAVING - EXPOSED AGGREGATE FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 9 | | CAST IN PLACE CONCRETE PAVEMENT BAND | 6 L3.20 |
| 10 | | CRUSHED ROCK MAINTENANCE EDGE | 4 L3.20 |
| 11 | | RIVER ROCK SWALE | 11 L3.20 |
| 12 | | STEPPING STONE WATER CHANNEL | 13 L3.20 |
| L-A | | NURSE LOG | 5 L5.20 |
| L-B | | NURSE ROOTWAD | 5 L5.20 |
| L-C | | NURSE STUMP | 5 L5.20 |
| 13 | | LANDSCAPE BOULDERS - REF. BOULDER SCHEDULE | 12 L3.20 |

## FURNISHING LEGEND

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|---|---|---|---|
| TB | | TIMBER BENCH - COLUMBIA CASCADE TIMBERFORM | 1 L3.21 |
| PS | | PEBBLE STOOL - TOURNESOL | 2 L3.21 |
| MF | | MOVEABLE CAFE TABLES AND CHAIRS - FORMS + SURFACES 'FACTOR' | |
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| F | | ARCHITECTURAL FENCE - OMEGA UNIK PERFORATED PANELS | 5 L3.21 |
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## BOULDER SCHEDULE

| KEY | APPROX. SIZE (H X W X L) | QTY. | TOTAL TONS |
|---|---|---|---|
| A | 3' X 4.5' X 5' | 2 | 18 |
| B | 2.5' X 4' X 4.5' | 8 | 55 |
| C | 2' X 3' X 4' | 21 | 76 |

## PLANTING LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PLANTING AREA |
| | RAIN GARDEN + BIORETENTION PLANTING AREA |

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| # | Date | Description |
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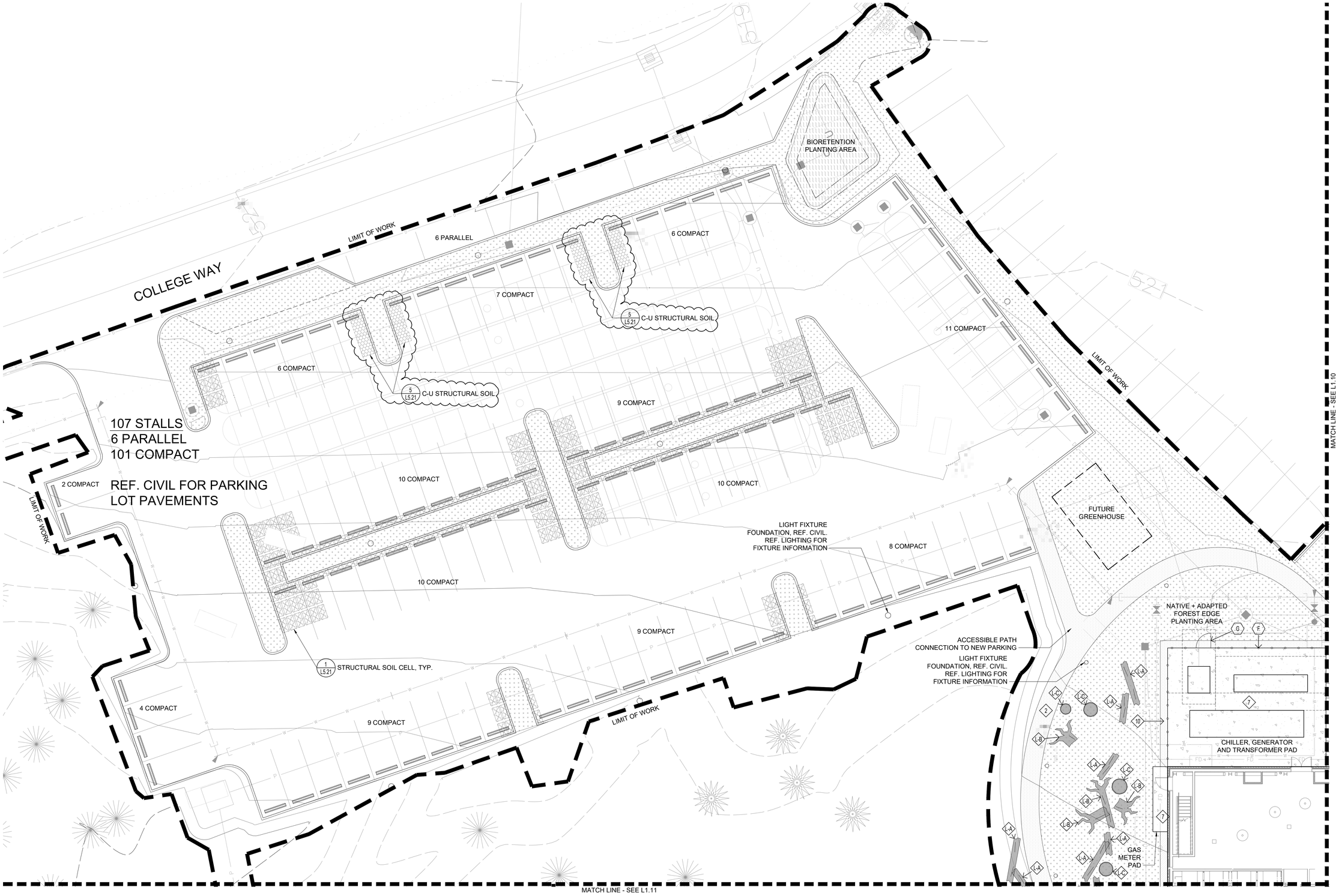
SITE PLAN - STEM NORTH

**L1.11**

IFC SET

PRCNC20221036




## 1 SITE PLAN - PARKING LOT

SCALE: 1" = 10' - 0"

0 5' 10' 20' 30'

TRUE NORTH

### PLANTING LEGEND

| SYMBOL | DESCRIPTION |
|---|---|
| | PLANTING AREA |
| | RAIN GARDEN + BIORETENTION PLANTING AREA |

### MATERIALS LEGEND

| KEY | SYMBOL | DESCRIPTION | |
|---|---|---|---|
| 2 | | CRUSHED ROCK SURFACING | 3 L3.20 ; 7 L3.20 |
| 7 | | CONCRETE PAVING - BROOM FINISH. REF. CIVIL FOR SECTION | 1 L3.20 |
| 10 | | CRUSHED ROCK MAINTENANCE EDGE | 4 L3.20 |

| | | | |
|---|---|---|---|
| L-A | | NURSE LOG | 5 L5.20 |
| L-B | | NURSE ROOTWAD | 5 L5.20 |
| L-C | | NURSE STUMP | 5 L5.20 |

### FURNISHING LEGEND

| KEY | SYMBOL | DESCRIPTION | |
|---|---|---|---|
| F | | ARCHITECTURAL FENCE - OMEGA UNIK PERFORATED PANELS | 5 L3.21 |
| G | | GATES - OMEGA UNIK | 6 L3.21 |

IFC SET

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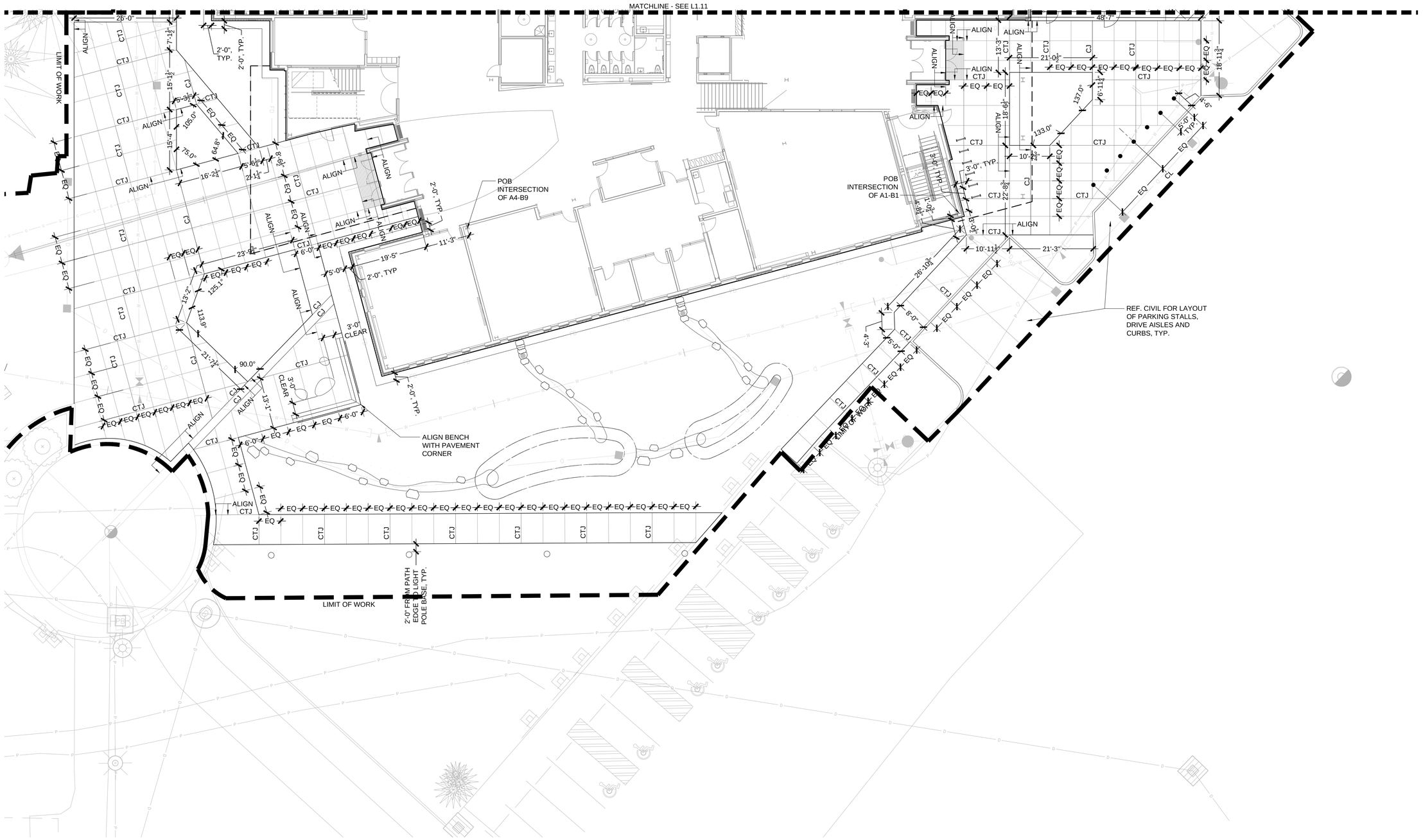
| | 2/21/23 | ASI-025 |

SITE PLAN - PARKING LOT

**L1.12**

PRCNC20221036




1 LAYOUT PLAN - STEM SOUTH

SCALE: 1" = 10' - 0"

0 5' 10' 20' 30'

TRUE NORTH

## LAYOUT LEGEND

| | |
|---|---|
| CJ | CONSTRUCTION JOINT |
| CTJ | CONTROL JOINT |
| SJ | SCORE JOINT |
| —— – —— | CENTERLINE |
| POB | POINT OF BEGINNING |

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LAYOUT PLAN - STEM SOUTH

**L1.20**

IFC SET

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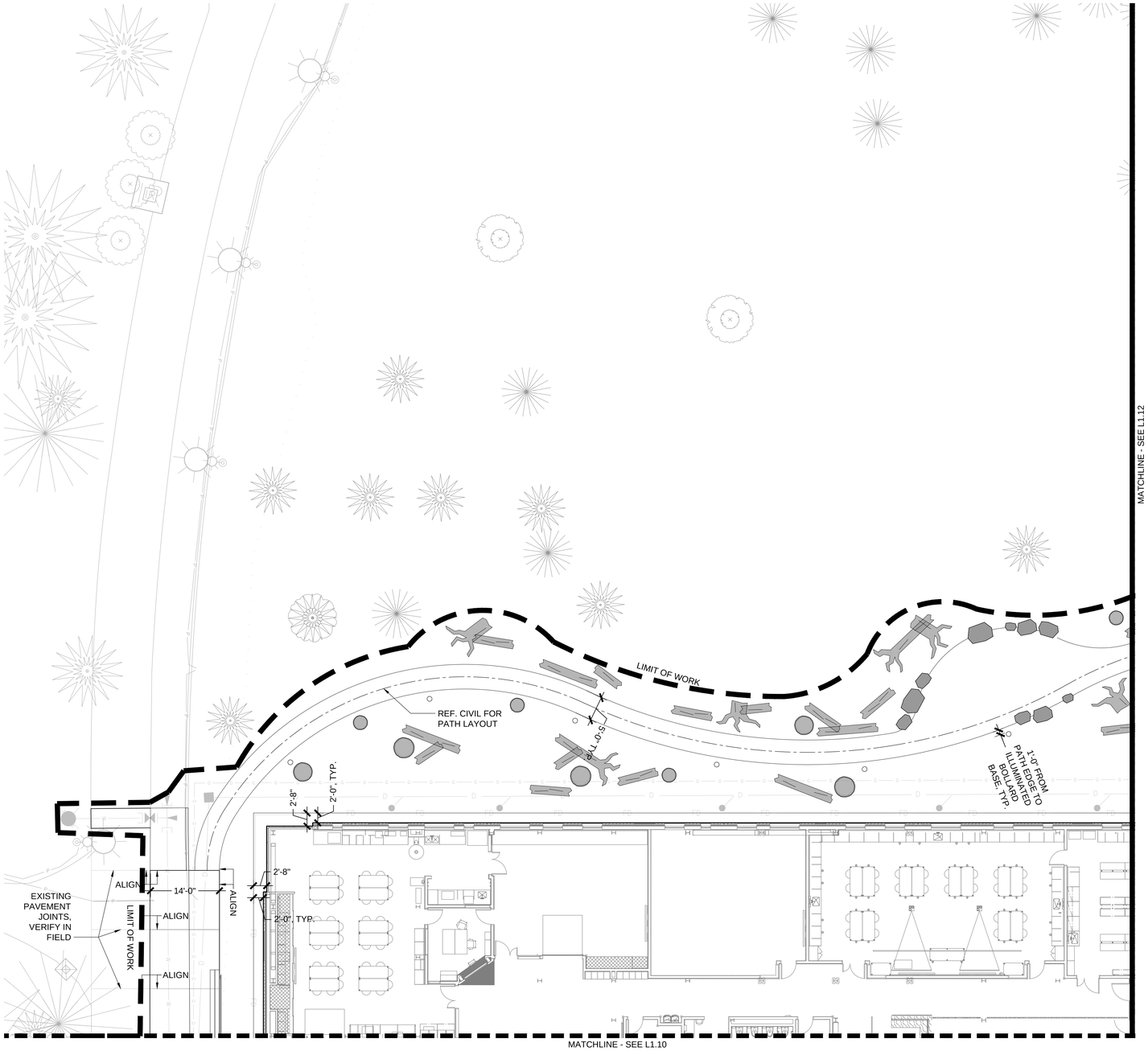


1 LAYOUT PLAN - STEM NORTH

SCALE: 1" = 10' - 0"

0 5' 10' 20' 30'

TRUE NORTH

## LAYOUT LEGEND

| | |
|---|---|
| CJ | CONSTRUCTION JOINT |
| CTJ | CONTROL JOINT |
| SJ | SCORE JOINT |
| —— – —— | CENTERLINE |
| POB | POINT OF BEGINNING |

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| # | Date | Description |
|---|---|---|

LAYOUT PLAN - STEM NORTH

**L1.21**

IFC SET

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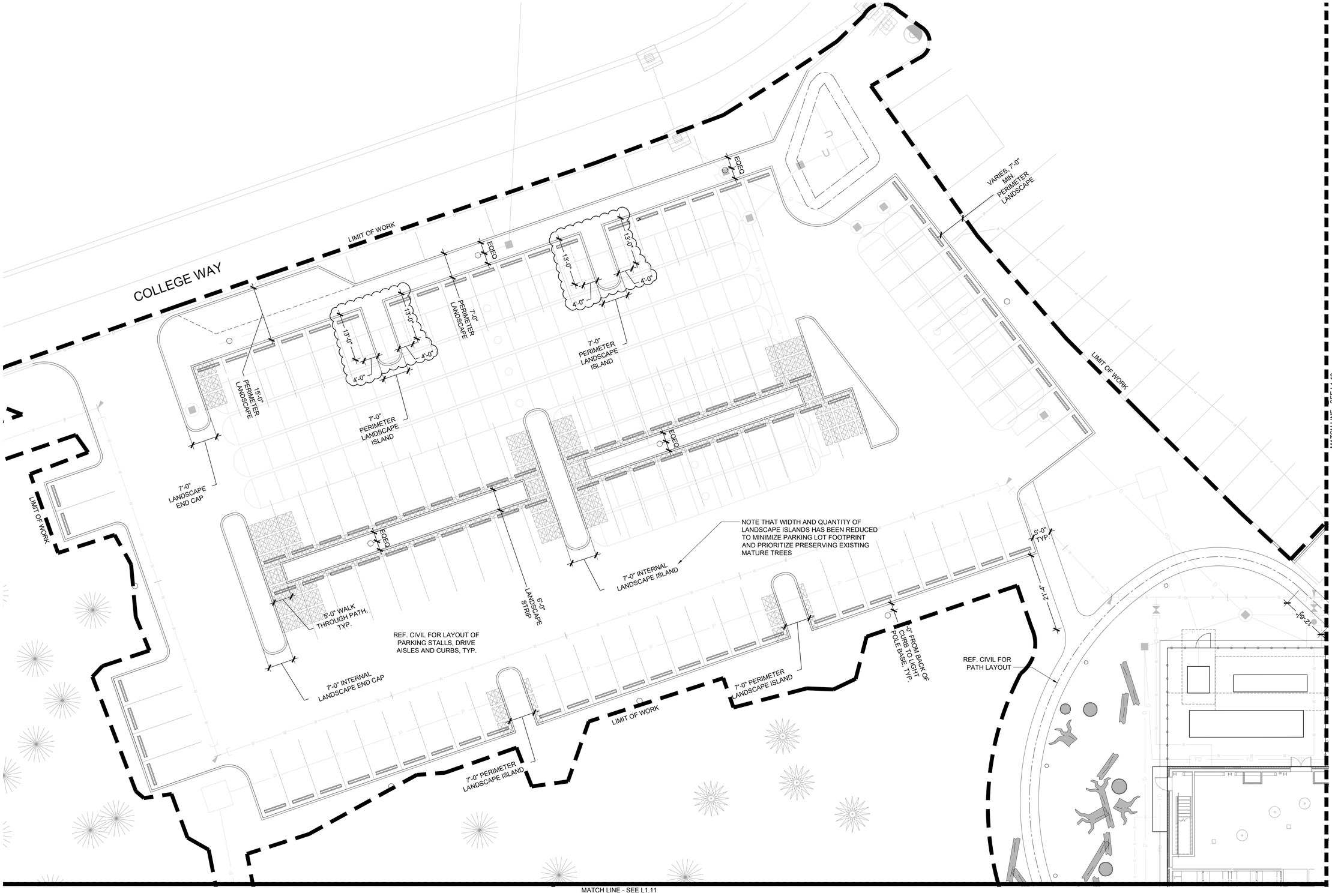


1 LAYOUT PLAN - PARKING LOT

SCALE: 1" = 10' - 0"

0 5' 10' 20' 30'

TRUE NORTH

## LAYOUT LEGEND

| | |
|---|---|
| CJ | CONSTRUCTION JOINT |
| CTJ | CONTROL JOINT |
| SJ | SCORE JOINT |
| —— – —— | CENTERLINE |
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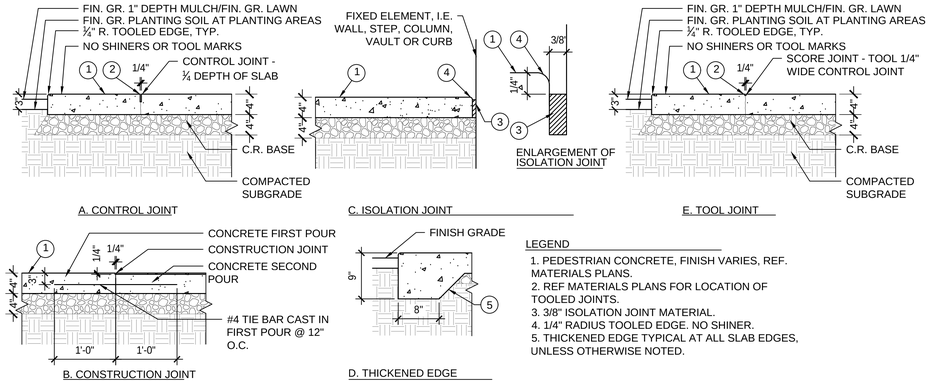
|---|---|---|
| | 2/21/23 | ASI-025 |

LAYOUT PLAN - PARKING LOT

**L1.22**

IFC SET

PRCNC20221036

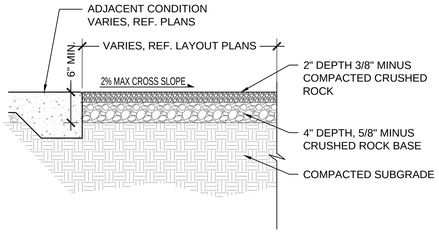



LEGEND

1. PEDESTRIAN CONCRETE, FINISH VARIES, REF. MATERIALS PLANS.
2. REF MATERIALS PLANS FOR LOCATION OF TOOLED JOINTS.
3. 3/8" ISOLATION JOINT MATERIAL.
4. 1/4" RADIUS TOOLED EDGE. NO SHINER.
5. THICKENED EDGE TYPICAL AT ALL SLAB EDGES, UNLESS OTHERWISE NOTED.

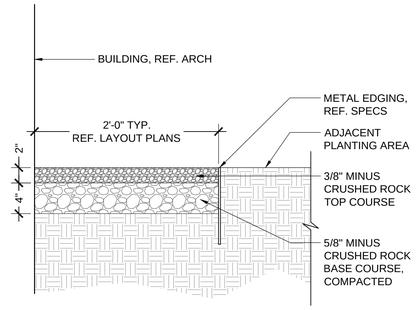
## 1 CAST IN PLACE PEDESTRIAN CONCRETE PAVEMENT

SCALE: 1" = 1'-0"



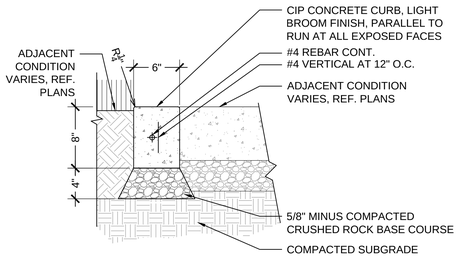

## 3 CRUSHED ROCK SURFACING, TYPICAL

SCALE: 1" = 1'-0"



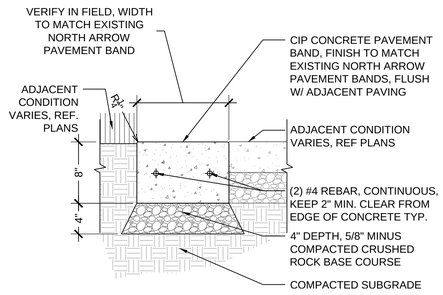

## 4 CRUSHED ROCK MAINTENANCE EDGE

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



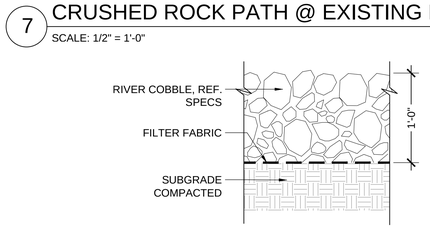

## 5 CAST IN PLACE FLUSH CURB

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



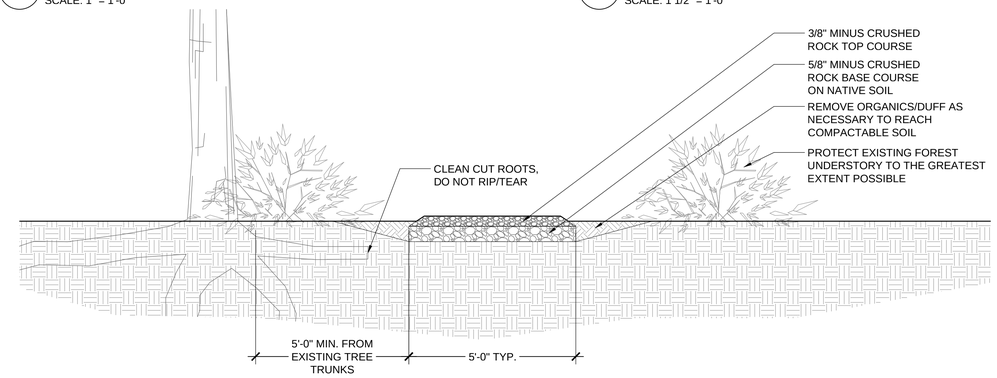

## 6 CAST IN PLACE PAVEMENT BAND

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



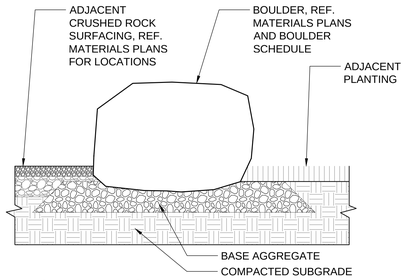

## 7 CRUSHED ROCK PATH @ EXISTING FOREST

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



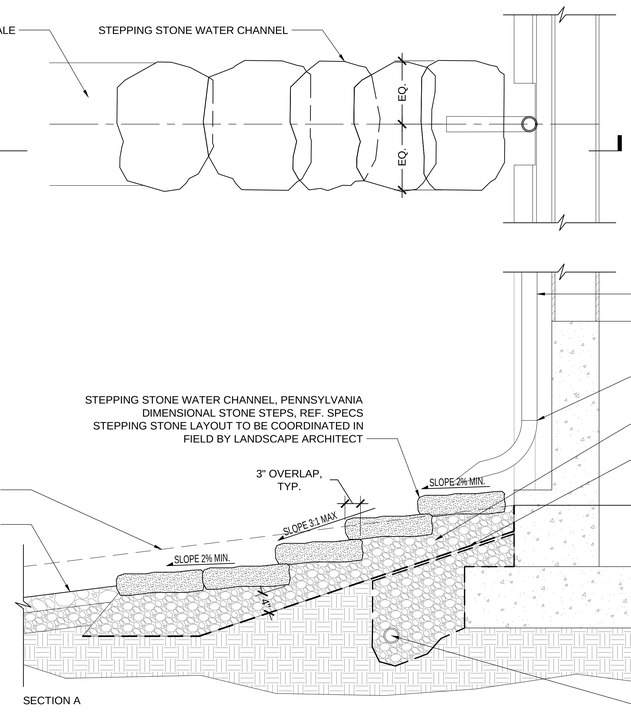

NOTES:

1. BOULDER LOCATIONS TO BE COORDINATED IN FIELD BY LANDSCAPE ARCHITECT.
2. SET BOULDERS PRIOR TO ADJACENT SURFACING.
3. AT CRUSHED ROCK SURFACING, ORIENT FLAT SIDE UP FOR BOULDERS INTENDED AS SEATING.
4. AT CRUSED ROCK SURFACING, ORIENT MOST VERTICAL SIDE TOWARD PAVING SURFACE FOR BOULDERS INTENDED AS SEATING.



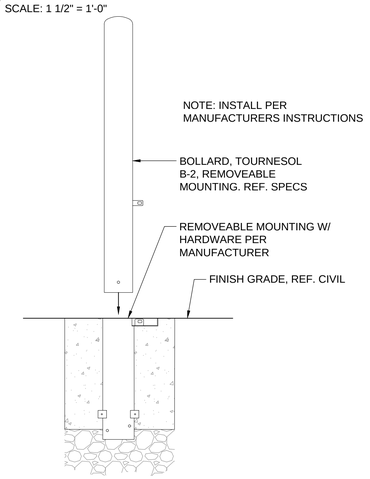

## 12 BOULDER SETTING

SCALE: 1" = 1'-0"




## 13 STEPPING STONE WATER CHANNEL AT DOWNSPOUT

SCALE: 1" = 1'-0"

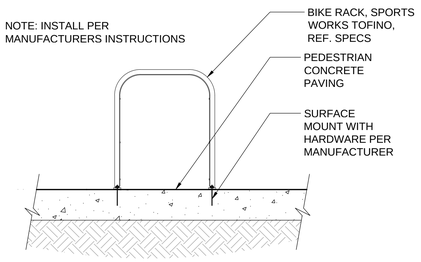



## 11 RIVER COBBLE

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

## 15 REMOVEABLE BOLLARD

SCALE: 1" = 1'-0"




## 16 BIKE RACK

SCALE: 1" = 1'-0"

integrus ARCHITECTURE
112 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
T: 206.623.1104 F: 206.623.5311 WWW.INTEGRUSARCH.COM

STATE OF WASHINGTON
VINITA SIDHU
18009 EXP. 05/27/2024
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

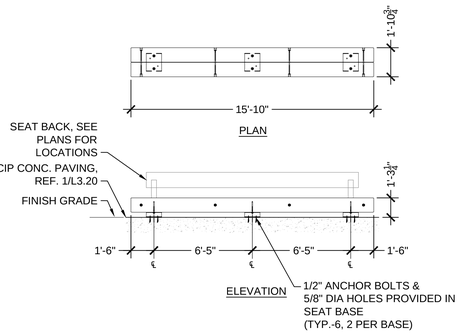
| # | Date | Description |
|---|---|---|

SITE DETAILS

**L3.20**

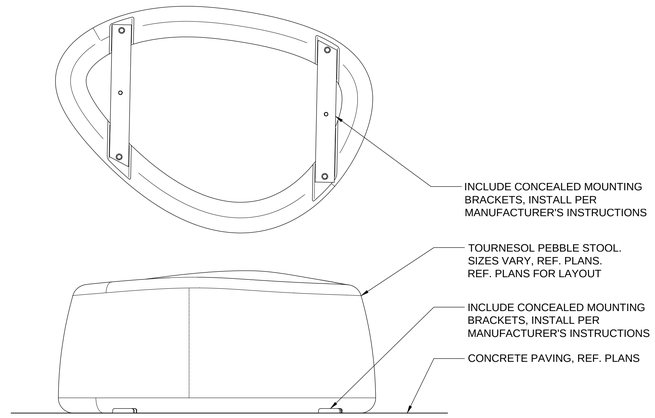
IFC SET

PRCNC20221036



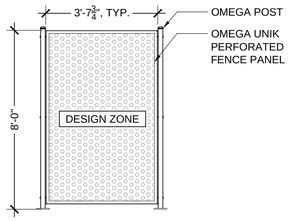

## 1 TIMBER BENCH

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



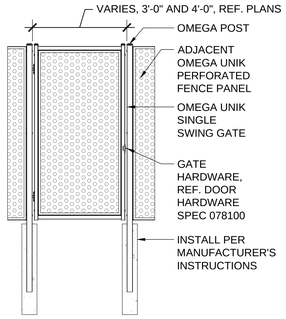

## 2 PEBBLE STOOL

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




## 5 ARCHITECTURAL FENCE

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




## 6 GATES

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

integrus ARCHITECTURE
112 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
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STATE OF WASHINGTON
VINITA SIDHU
21609
EXP. 05/27/2024
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

| # | Date | Description |
|---|---|---|

SITE DETAILS

**L3.21**

IFC SET

PRCNC20221036

1 OVERALL IRRIGATION PLAN
SCALE: 1" = 30' - 0"

0 15' 30' 60' 90'

TRUE NORTH

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 109, SEATTLE, WA. 98104
TELEPHONE: (206)624-3727 FAX: (206)624-3728

STATE OF WASHINGTON
VINIT A SIDHU
No 949 EXP. 05/27/2024
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
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**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
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| | |
|---|---|
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| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

| # | Date | Description |
|---|---|---|

IRRIGATION PLAN - OVERALL

**L4.10**

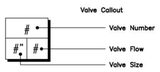
IFC SET

PRCNC20221036

# IRRIGATION SCHEDULE

| SYMBOL | MANUFACTURER/MODEL/DESCRIPTION | QTY | PSI |
|---|---|---|---|
| EST LCS RCS CST SST | RAIN BIRD 1812 15 STRIP SERIES SHRUB SPRAY 12" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. | 69 | 30 |
| SST | RAIN BIRD 1812 15 STRIP SERIES SHRUB SPRAY 12" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. | 28 | 30 |
| 4 6 8 10 12 15 18 | RAIN BIRD 1812 ADJ SHRUB SPRAY 12" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET. | 177 | 30 |
| 14 ADJ 14 F | RAIN BIRD R-VAN14 1812-SAM-P45 SHRUB ROTARY, 8`-14` 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 SHRUB SPRAY BODY ON 12" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET. | 37 | 30 |
| 18 ADJ 18 F | RAIN BIRD R-VAN18 1812-SAM-P45 SHRUB ROTARY, 13`-18` 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 SHRUB SPRAY BODY ON 12" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET. | 19 | 30 |
| 24 ADJ 24 F | RAIN BIRD R-VAN24 1812-SAM-P45 SHRUB ROTARY, 17`-24` 45-270 DEGREES AND 360 DEGREES. HAND ADJUSTABLE MULTI-STREAM ROTARY W/1800 SHRUB SPRAY BODY ON 12" POP-UP, WITH CHECK VALVE AND 45 PSI IN-STEM PRESSURE REGULATOR. 1/2" NPT FEMALE THREADED INLET. | 29 | 30 |
| CST O H F | RAIN BIRD 1806-5 SERIES STREAM STREAM BUBBLER 6.0" POPUP. | 104 | 30 |

| SYMBOL | MANUFACTURER/MODEL/DESCRIPTION | QTY |
|---|---|---|
| | RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION. | 22 |
| | RAIN BIRD 3-RC 3/4" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, THERMOPLASTIC RUBBER COVER, AND 1-PIECE BODY. | 4 |
| C | RAIN BIRD ESP-LXD 50 STATION, 2-WIRE DECODER BASED CONTROLLER. (1) ESP-LXD 50-STATION, INDOOR/OUTDOOR, PLASTIC WALL-MOUNT ENCLOSURE. SYSTEM REQUIREMENTS: RAIN BIRD FD-XXX-TURF FIELD DECODERS, PAIGE ELECTRIC CABLE P7072D & RAIN BIRD WC20 DRY SPLICES ONLY. GROUND SYSTEM W/ (X) LSP-1TURF LINE SURGE PROTECTORS IN RAIN BIRD ROUND VALVE BOXES. INSTALL PER MANUFACTURERS RECOMMENDATIONS. | 1 |
| | IRRIGATION LATERAL LINE: PVC SCHEDULE 40 | 6,546 L.F. |
| | IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 | 1,578 L.F. |
| | PIPE SLEEVE: PVC SCHEDULE 40 | 481.2 L.F. |




# VALVE SCHEDULE

| NUMBER | MODEL | SIZE | TYPE | GPM | HEADS | WIRE | PSI | PSI @ POC | PRECIP |
|---|---|---|---|---|---|---|---|---|---|
| 1 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 18.19 | 16 | 344.8 | 37.7 | | 2.14 in/h |
| 2 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 26.19 | 26 | 335.8 | 34.9 | | 2.79 in/h |
| 3 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 29.53 | 17 | 327.7 | 36.2 | | 1.69 in/h |
| 4 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 19.93 | 14 | 320.6 | 37.3 | | 1.67 in/h |
| 5 | RAIN BIRD PEB | 1-1/2" | BUBBLER | 14 | 14 | 305.1 | 35.3 | | 1.54 in/h |
| 6 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 28.52 | 17 | 201.5 | 35.2 | | 2.15 in/h |
| 7 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 22.6 | 18 | 148.0 | 36.1 | | 1.3 in/h |
| 8 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 28.81 | 12 | 146.7 | 35.6 | | 1.41 in/h |
| 9 | RAIN BIRD PEB | 1-1/2" | BUBBLER | 14 | 14 | 92.5 | 35.2 | | 1.69 in/h |
| 10 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 29.35 | 15 | 183.8 | 36.1 | | 1.51 in/h |
| 11 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 26.02 | 24 | 184.8 | 39.2 | | 1.63 in/h |
| 12 | RAIN BIRD PEB | 1-1/2" | BUBBLER | 28 | 28 | 285.7 | 37.9 | | 1.61 in/h |
| 13 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 27.07 | 35 | 292.4 | 39.1 | | 0.78 in/h |
| 14 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 18.18 | 22 | 305.9 | 36.6 | | 1.48 in/h |
| 15 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 32.14 | 26 | 316.7 | 39.2 | | 1.17 in/h |
| 16 | RAIN BIRD PEB | 1-1/2" | BUBBLER | 30 | 30 | 812.0 | 39.3 | | 1.56 in/h |
| 17 | RAIN BIRD PEB | 1-1/2" | SHRUB ROTARY | 32.24 | 28 | 805.7 | 36.2 | | 0.93 in/h |
| 18 | RAIN BIRD PEB | 1-1/2" | SHRUB ROTARY | 34.18 | 33 | 672.5 | 36.1 | | 0.74 in/h |
| 19 | RAIN BIRD PEB | 1-1/2" | BUBBLER | 18 | 18 | 668.8 | 37.9 | | 1.46 in/h |
| 20 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 24.95 | 19 | 575.8 | 34.6 | | 2.74 in/h |
| 21 | RAIN BIRD PEB | 1-1/2" | SHRUB SPRAY | 26.03 | 21 | 481.7 | 36.2 | | 1.53 in/h |
| 22 | RAIN BIRD PEB | 1-1/2" | SHRUB ROTARY | 18.64 | 16 | 477.3 | 35.5 | | 0.46 in/h |
| | Common Wire | | | | | 1,578 | | | |

# CRITICAL ANALYSIS

| | |
|---|---|
| Generated: | 2022-10-03 12:45 |
| P.O.C. NUMBER: 01 | |
| Water Source Information: | Assumes connecting to existing 4" mainline |
| FLOW AVAILABLE | |
| Point of Connection Size: | 4" |
| Flow Available | 293.82 GPM |
| PRESSURE AVAILABLE | |
| Static Pressure at POC: | 100 PSI |
| Pressure Available: | 100 PSI |
| DESIGN ANALYSIS | |
| Maximum Station Flow: | 34.18 GPM |
| Flow Available at POC: | 293.82 GPM |
| Residual Flow Available: | 259.64 GPM |
| Pressure Req. at Critical Station: | 39.26 PSI |
| Loss for Fittings: | 0.02 PSI |
| Loss for Main Line: | 0.16 PSI |
| Loss for POC to Valve Elevation: | 0 PSI |
| Loss for Backflow: | 0 PSI |
| Critical Station Pressure at POC: | 39.44 PSI |
| Pressure Available: | 100 PSI |
| Residual Pressure Available: | 60.56 PSI |

# IRRIGATION NOTES

1. IRRIGATION PLAN IS DIAGRAMMATIC IN NATURE AND ALL MAINLINES AND LATERALS SHALL BE RUN IN PLANTING BEDS WHERE POSSIBLE. AUTOMATIC IRRIGATION SYSTEMS WILL BE PROVIDED FOR ALL LANDSCAPE AREAS PROPOSED. EACH PLANTING TYPE TO HAVE INDEPENDENT ZONE. ALL PROPOSED TREES TO BE IRRIGATED WITH BUBBLER ROOT WATERING SYSTEM ON SEPARATE ZONES.
2. PLANS ARE BASED ON INFORMATION AVAILABLE AT THE TIME OF DESIGN. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. LAY OUT MAINLINE AND LATERALS WITH 8' OF CLEARANCE FROM NEW TREES AND OUTSIDE CRITICAL ROOT ZONES OF EXISTING TREES WHENEVER POSSIBLE. IF ABSOLUTELY NECESSARY TO TRENCH WITHIN CRITICAL ROOT ZONES, REVIEW WITH PROJECT ARBORIST IN ADVANCE, TRENCH BETWEEN TREES, USE MANUAL EXCAVATION METHODS.
4. INSTALL TWO EXTRA CONTROL WIRES FROM CONTROLLER ALONG ENTIRE LENGTH OF IRRIGATION MAINLINE.
5. INSTALL ALL IRRIGATION BOXES FLUSH WITH GRADE.
6. REFER TO CIVIL AND MECHANICAL FOR WATER CONNECTIONS AND STUB-OUTS.
7. CONTRACTOR SHALL VERIFY PRESSURE AND NOTIFY REPRESENTATIVE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR SLEEVES AND CHASES UNDER PAVING, WALKS, THROUGH WALLS, ETC. UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR INITIAL WINTERIZATION AND SPRING START-UP TO ENSURE SYSTEM IS OPERATING PROPERLY.
10. CONTRACTOR SHALL PROVIDE AS BUILT DRAWINGS WITH AN OPERATING AND MAINTENANCE MANUAL.

integrus ARCHITECTURE
112 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
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STATE OF WASHINGTON
VINITA SIDHU
20 MEMBER
EXP. 05/27/2023
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
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| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

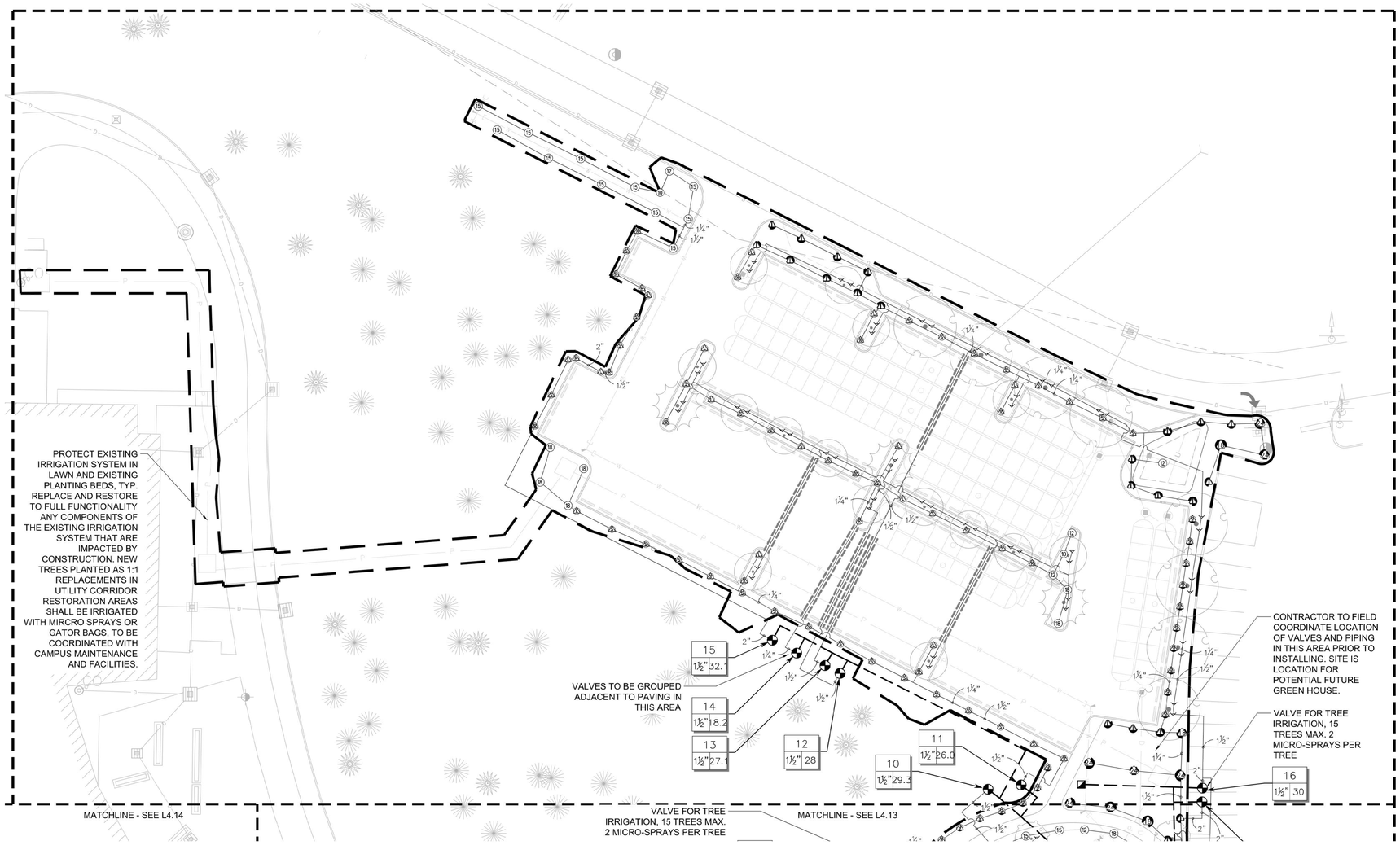
| # | Date | Description |
|---|---|---|

IRRIGATION SCHEDULE AND NOTES

**L4.11**

**IFC SET**

PRCNC20221036




1 IRRIGATION PLAN - NORTH

SCALE: 1" = 20' - 0"

0 10' 20' 40' 60'

TRUE NORTH

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE (206)624-3727 FAX (206)624-3739

STATE OF WASHINGTON VINIT A SIDHU No 949 EXP. 05/27/2024 LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
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City of Puyallup
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|---|---|
| Date: | 10/07/2022 |
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| Drawn By: | SC |
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Revisions

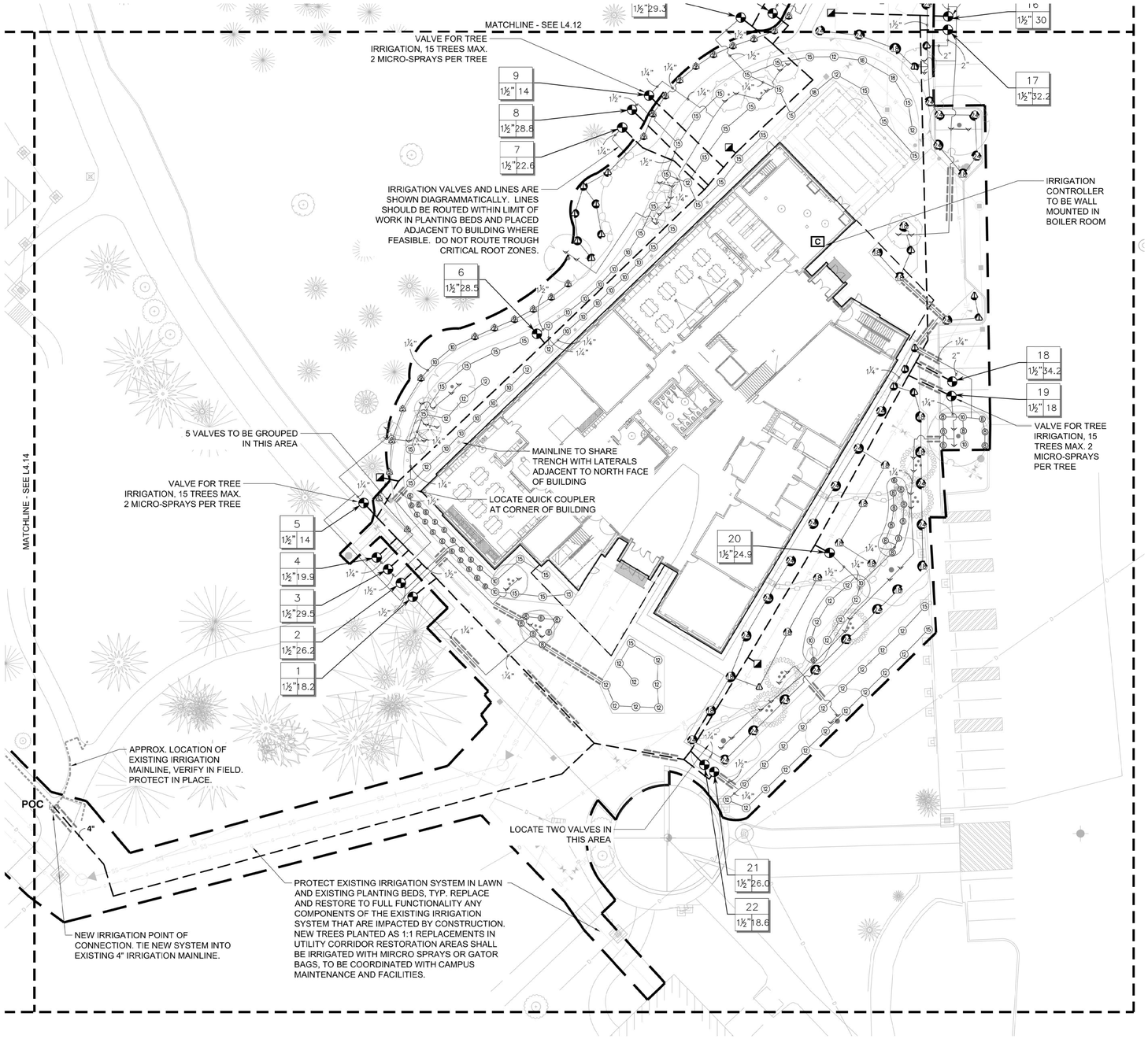
| # | Date | Description |
|---|---|---|

IRRIGATION PLAN - NORTH

**L4.12**

IFC SET

PRCNC20221036




1 IRRIGATION PLAN - SOUTH

SCALE: 1" = 20' - 0"

0 10' 20' 40' 60'

TRUE NORTH

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE (206)624-3727 FAX (206)624-3730

STATE OF WASHINGTON
VINITA SIDHU
No. 949 EXP. 05/27/2024
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
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Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

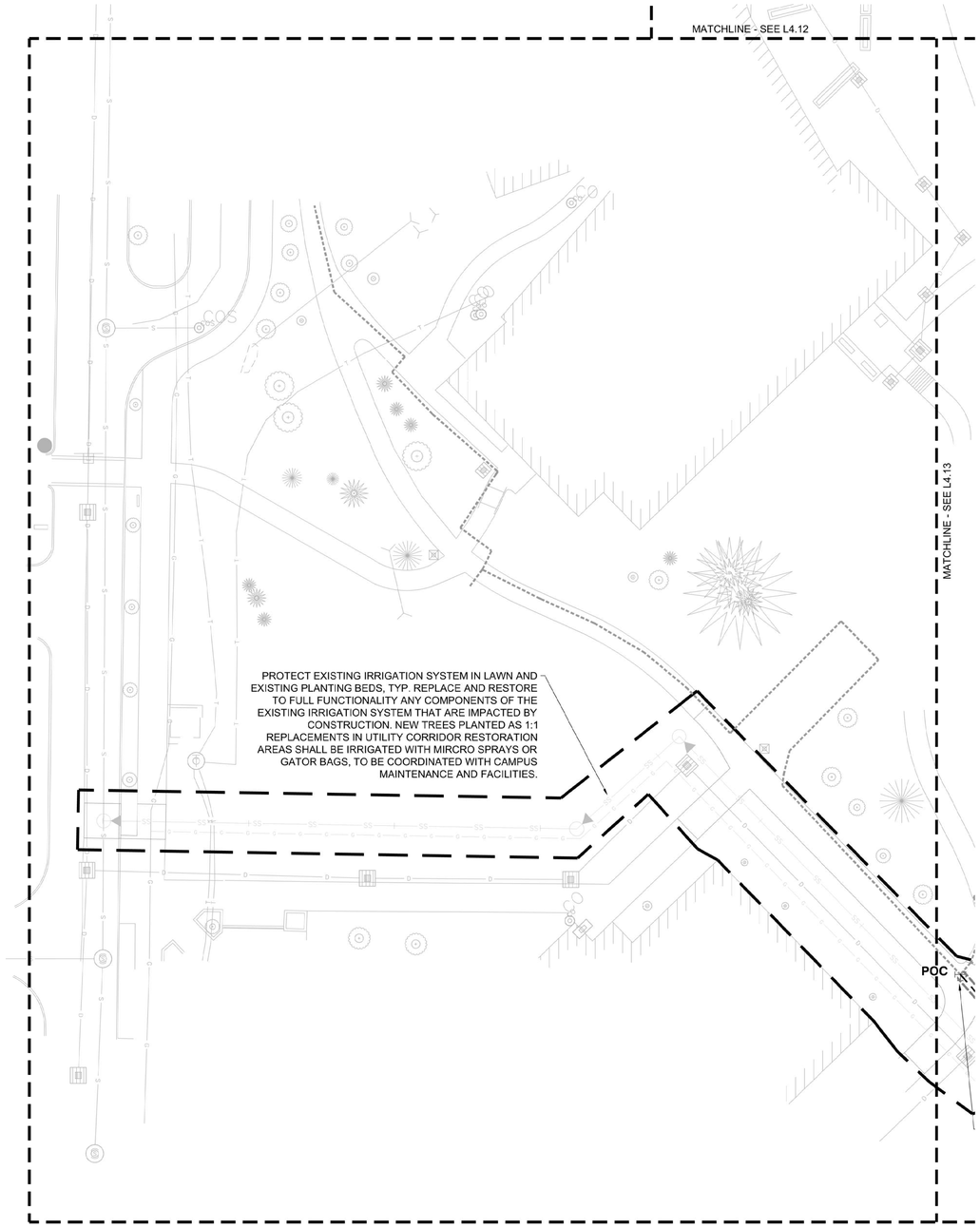
| # | Date | Description |
|---|---|---|

IRRIGATION PLAN - SOUTH

**L4.13**

IFC SET

PRCNC20221036




1 IRRIGATION PLAN - WEST

SCALE: 1" = 20' - 0"

0 10' 20' 40' 60'

TRUE NORTH

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE (206)624-3727 FAX (206)624-3739

STATE OF WASHINGTON
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No 949 EXP. 05/27/2024
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Revisions

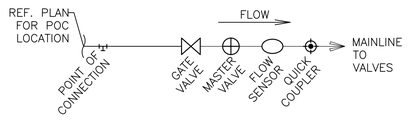
| # | Date | Description |
|---|---|---|

IRRIGATION PLAN - WEST

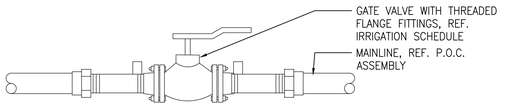
**L4.14**

IFC SET

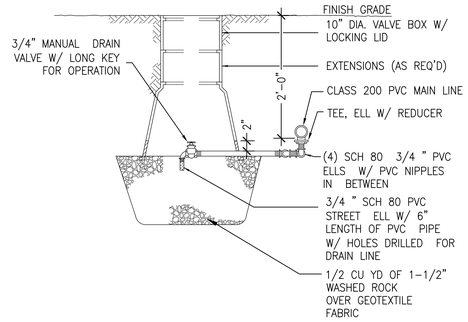
PRCNC20221036



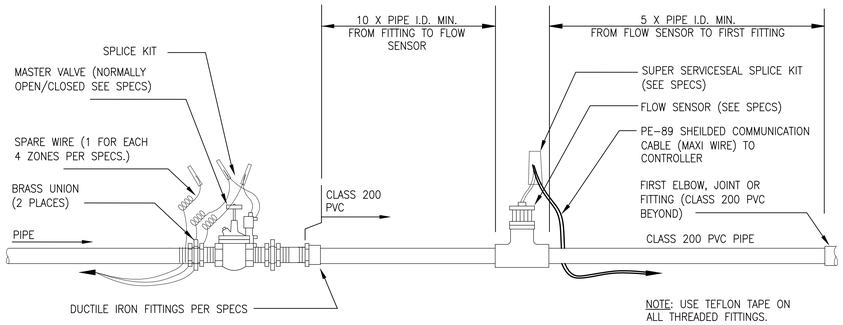

## 1 POINT OF CONNECTION (P.O.C.)
SCALE: NOT TO SCALE



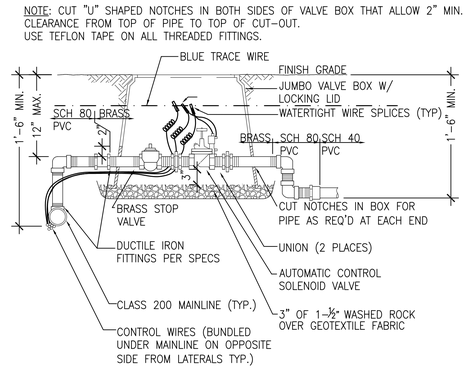

## 3 GATE VALVE
SCALE: NOT TO SCALE



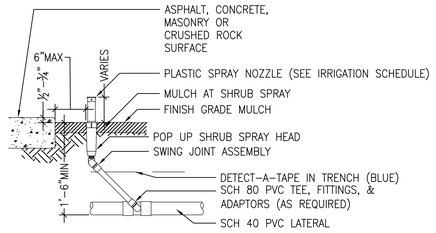

## 4 MANUAL DRAIN VALVE
SCALE: NOT TO SCALE



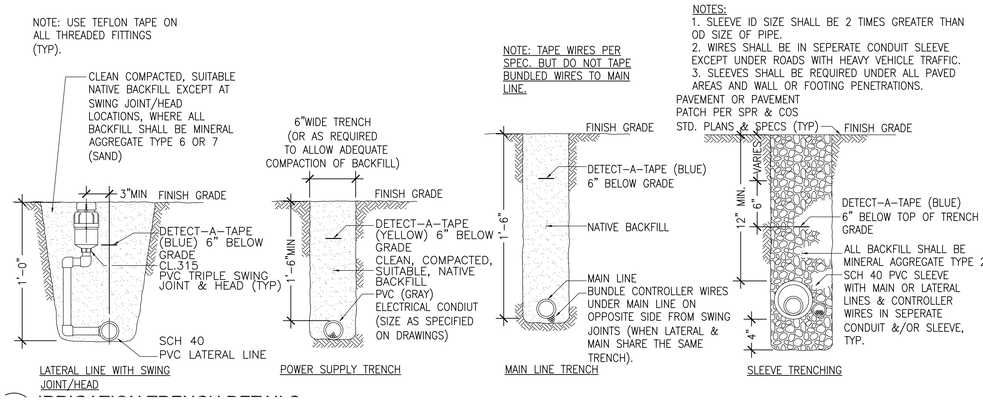

## 5 MASTER VALVE & FLOW SENSOR
SCALE: NOT TO SCALE



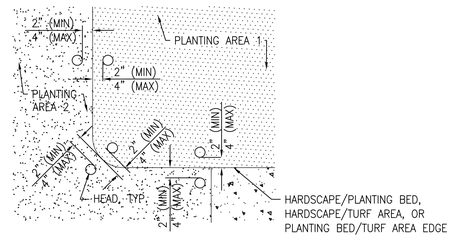

## 6 AUTOMATIC CONTROL VALVE
SCALE: NOT TO SCALE




## 7 SPRAY HEADS
SCALE: NOT TO SCALE




## 8 IRRIGATION TRENCH
SCALE: NOT TO SCALE




## 9 HEAD LAYOUT DIAGRAM
SCALE: NOT TO SCALE

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

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| Engineering | Public Works |
| Fire | Traffic |

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| Checked By: | VS |

Revisions

| # | Date | Description |
|---|---|---|

IRRIGATION DETAILS

**L4.20**

IFC SET

PRCNC20221036

## SOILS LEGEND

| KEY | SYMBOL | DESCRIPTION | |
|---|---|---|---|
| 1 | | IMPORTED TOPSOIL AT PARKING LOT ISLANDS - 18" DEPTH | 1 L5.21 |
| 2 | | IMPORTED TOPSOIL, TYPICAL - 6" DEPTH | 2 L5.21 |
| 3 | | IMPORTED TOPSOIL AT PRAIRIE - 6" DEPTH | 3 L5.21 |
| 4 | | IMPORTED TOPSOIL AT LAWN RESTORATION - 6" DEPTH | 4 L5.21 |
| 5 | | BIORETENTION SOIL - REF. CIVIL | |

1 SOILS PLAN
SCALE: 1" = 30' - 0"

0 15' 30' 60' 90'

TRUE NORTH

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| 2 | 11/14/22 | ASI-002 |

SOILS PLAN

**L5.00**

IFC SET

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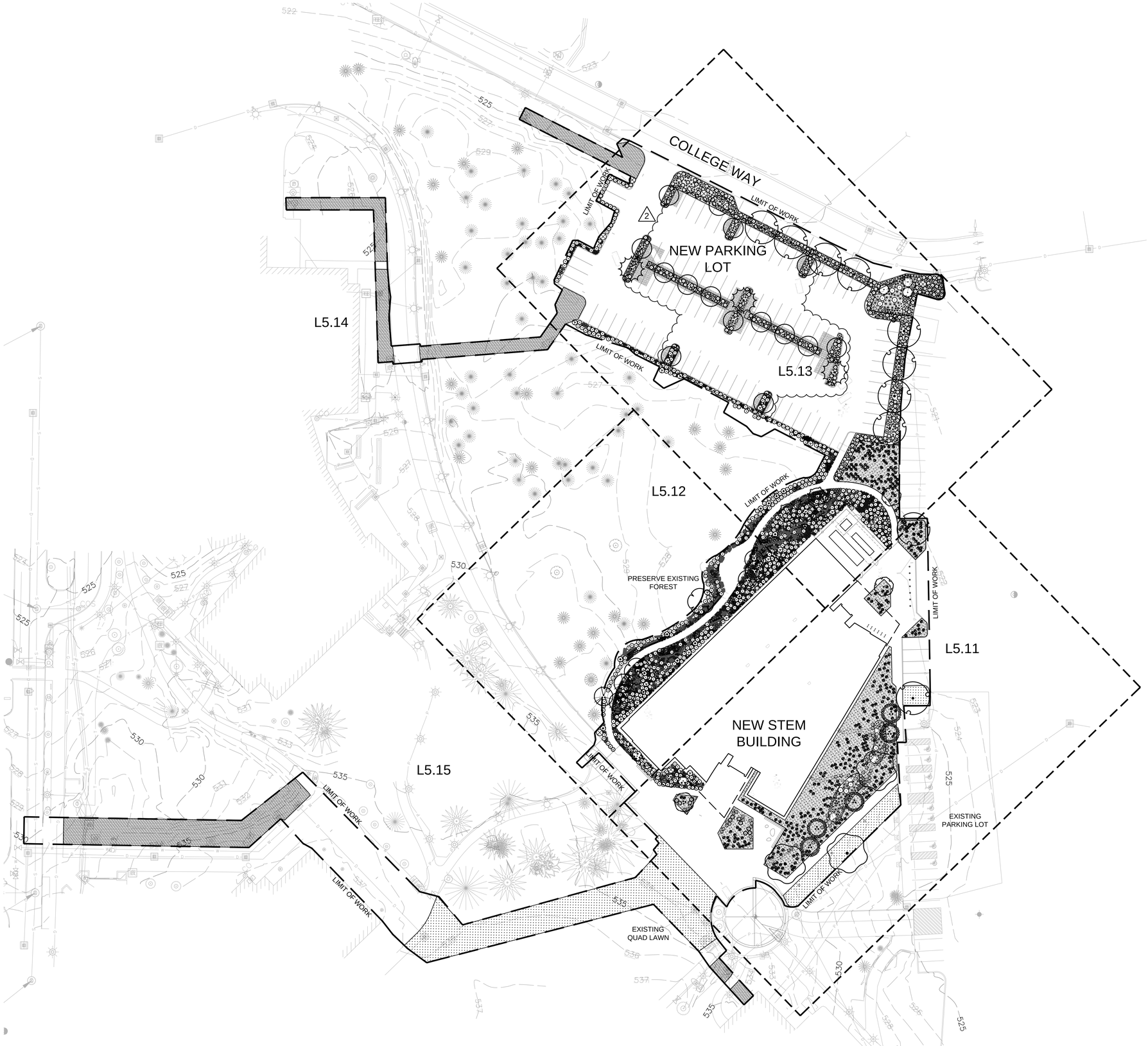


1 OVERALL PLANTING PLAN

SCALE: 1" = 30' - 0"

0 15' 30' 60' 90'

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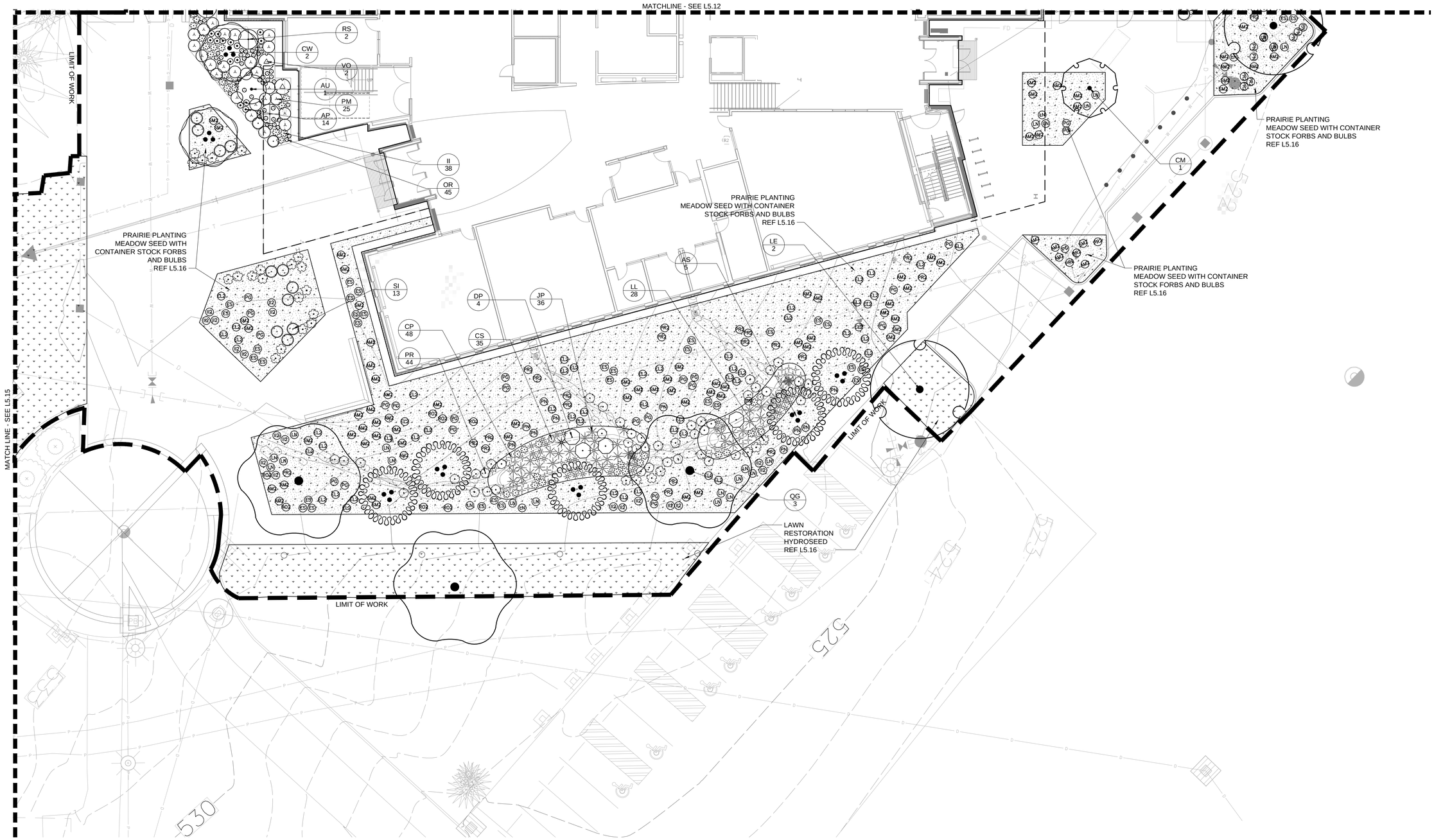
| # | Date | Description |
|---|---|---|
| 2 | 11/14/22 | ASI-002 |

PLANTING PLAN - OVERALL

**L5.10**

IFC SET

PRCNC20221036




1 PLANTING PLAN - STEM SOUTH

SCALE: 1" = 10' - 0"

SEE L5.16 FOR PLANT SCHEDULE

0 5' 10' 20' 30'

TRUE NORTH

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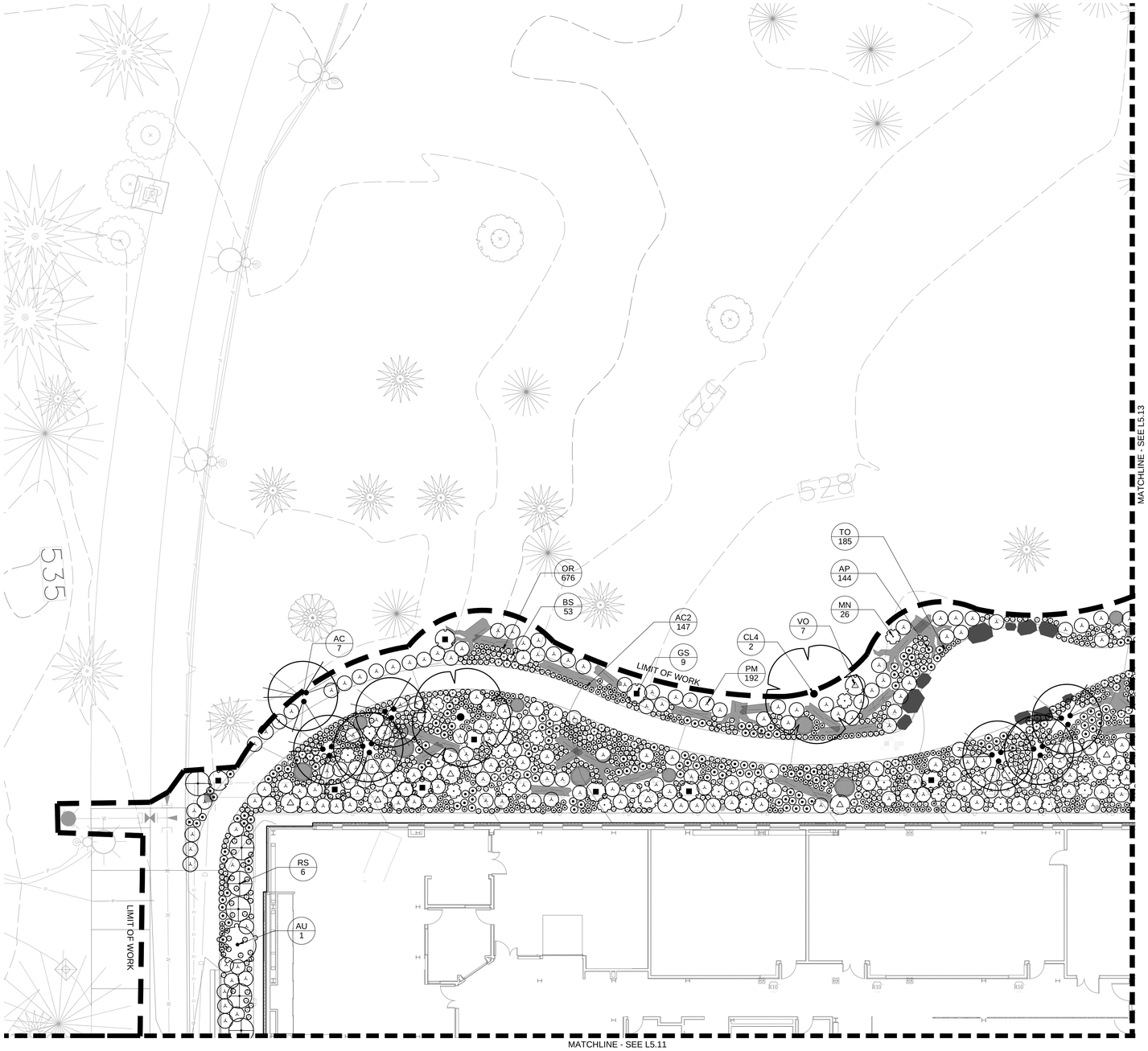
| # | Date | Description |
|---|---|---|

PLANTING PLAN - STEM SOUTH

**L5.11**

IFC SET

PRCNC20221036




1 PLANTING PLAN - STEM NORTH

SCALE: 1" = 10' - 0"

SEE L5.16 FOR PLANT SCHEDULE

0 5' 10' 20' 30'

TRUE NORTH

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Revisions

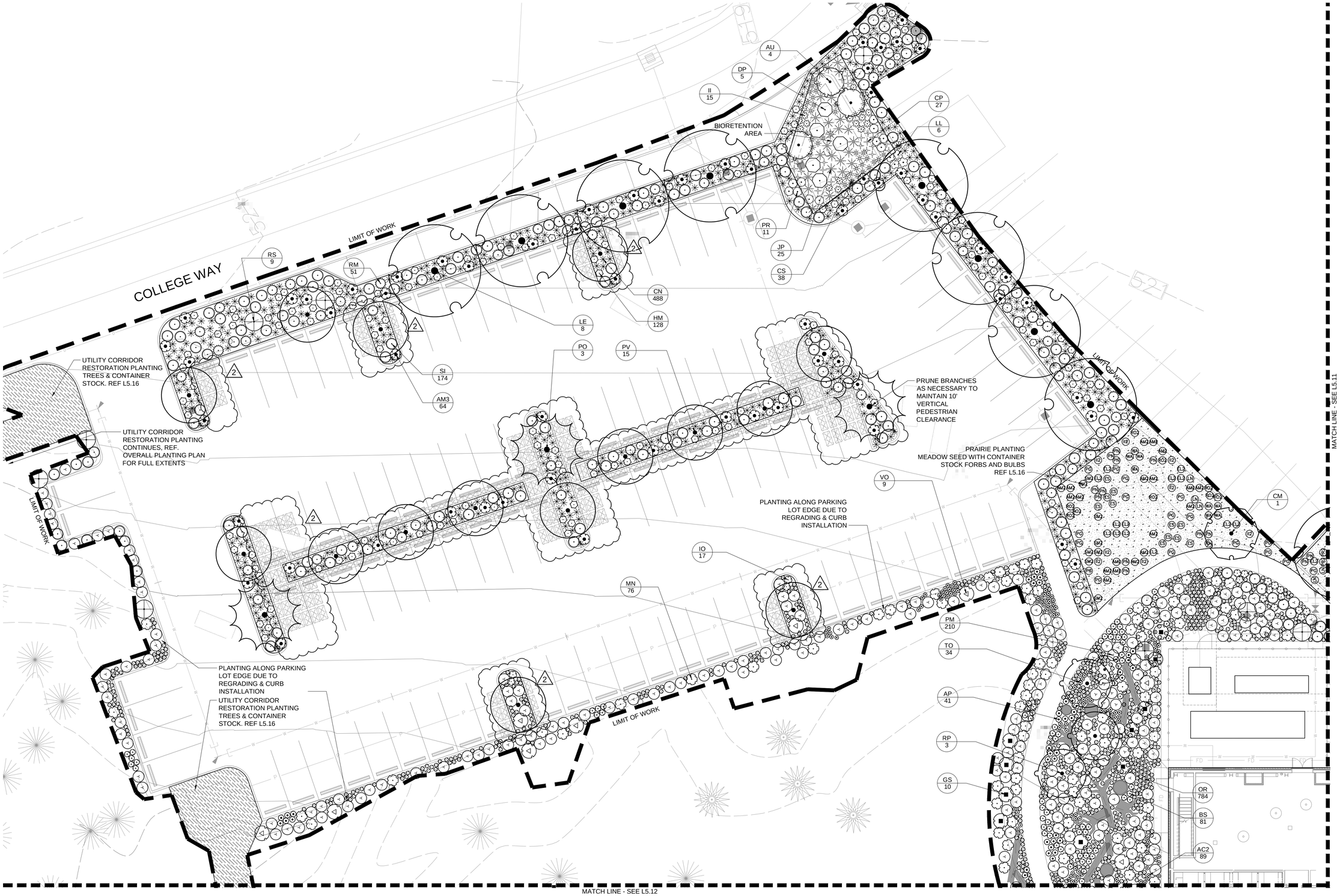
| # | Date | Description |
|---|---|---|

PLANTING PLAN - STEM NORTH

**L5.12**

IFC SET

PRCNC20221036




## 1 PLANTING PLAN - PARKING LOT

SCALE: 1" = 10' - 0"

SEE L5.16 FOR PLANT SCHEDULE

0 5' 10' 20' 30'

TRUE NORTH

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| Fire | Traffic |

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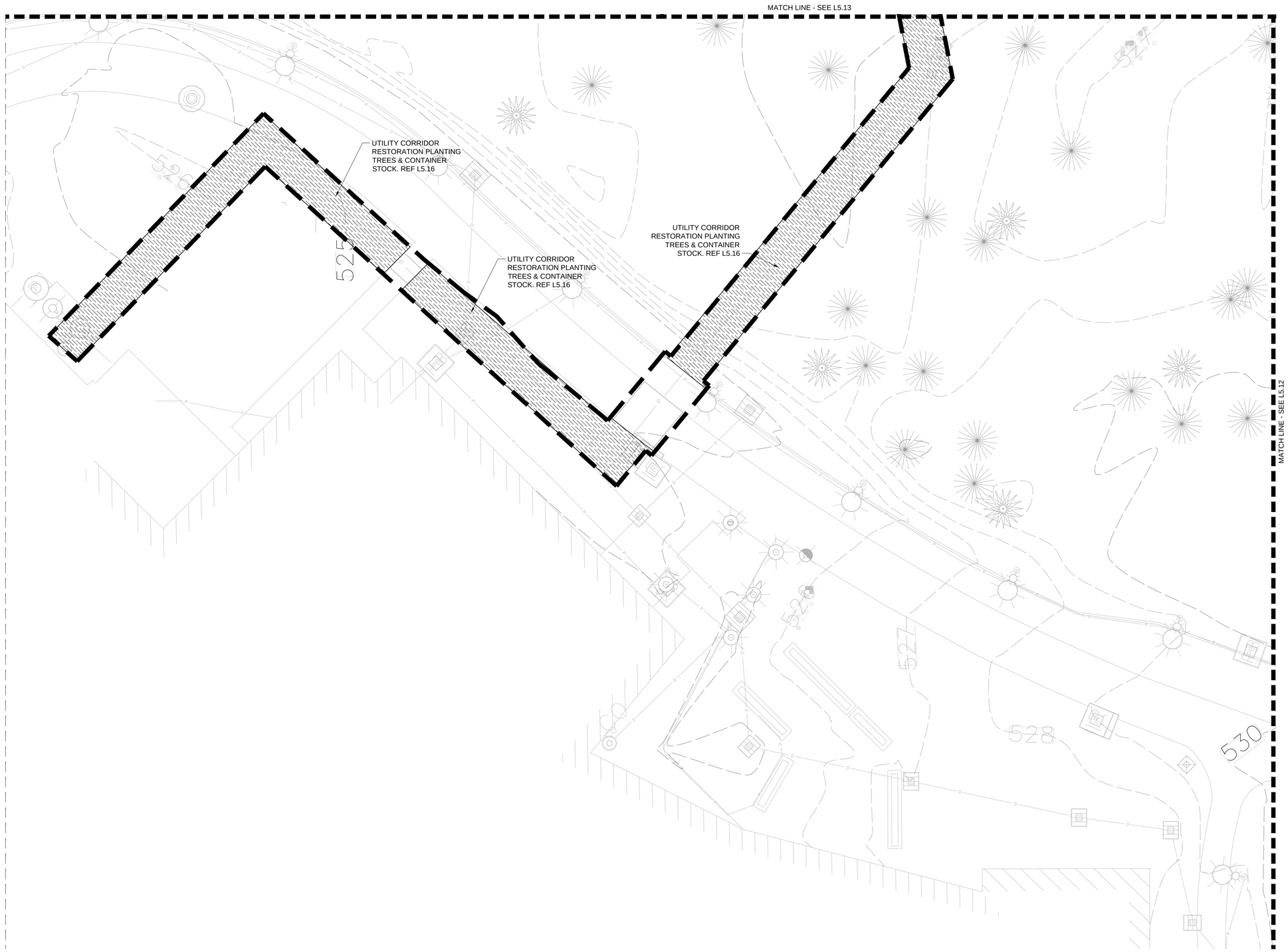
|---|---|---|
| 2 | 11/14/22 | ASI-002 |

PLANTING PLAN - PARKING LOT

**L5.13**

IFC SET

PRCNC20221036




1 PLANTING PLAN - UTILITY CORRIDOR RESTORATION

SCALE: 1" = 10' - 0"

SEE L5.16 FOR PLANT SCHEDULE

0 5' 10' 20' 30'

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PLANTING PLAN - UTILITY CORRIDOR RESTORATION

**L5.14**

IFC SET

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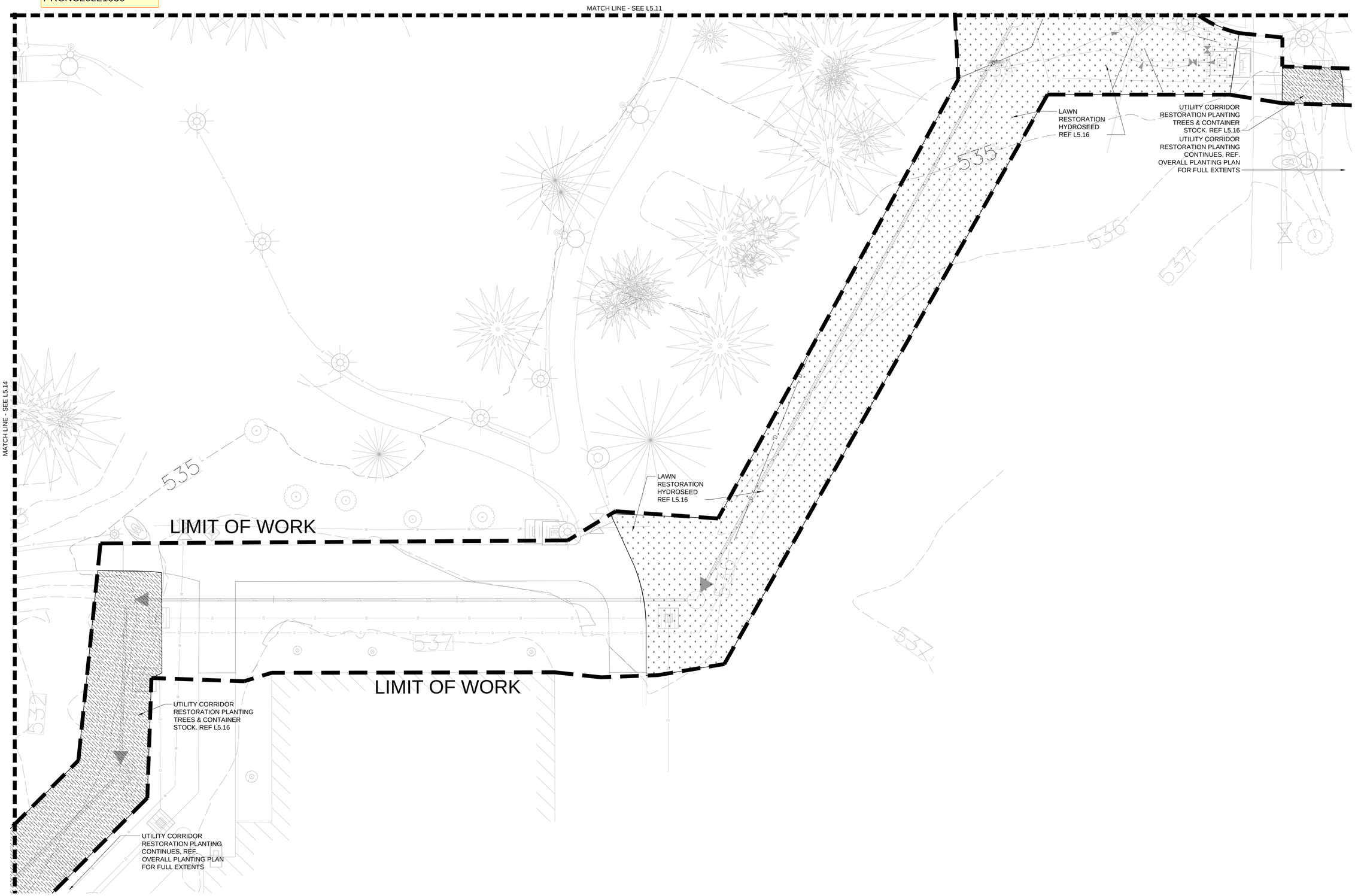


1 PLANTING PLAN - UTILITY CORRIDOR RESTORATION

SCALE: 1" = 10' - 0"

SEE L5.16 FOR PLANT SCHEDULE

0 5' 10' 20' 30'

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| # | Date | Description |
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PLANTING PLAN - UTILITY CORRIDOR RESTORATION

**L5.15**

IFC SET

PRCNC20221036

# PLANT SCHEDULE

| TREES | CODE | QTY | BOTANICAL NAME | COMMON NAME | CONT |
|---|---|---|---|---|---|
| | AC | 7 | ACER CIRCINATUM | VINE MAPLE | MULTI-STEM 9`-10` HT. |
| | AS | 5 | AMELANCHIER ALNIFOLIA | SERVICEBERRY | 1.5" CAL. |
| | CW | 2 | CERCIS OCCIDENTALIS | WESTERN REDBUD MULTI-TRUNK | MULTI-STEM 9`-10` HT. |
| | CL4 | 2 | CORNUS KOUSA X NUTTALLII `KN4-43` | STARLIGHT KOUSA DOGWOOD | 2" CAL. |
| | CM | 2 | CORNUS MAS | CORNELIAN CHERRY | 1.5" CAL. |
| | LE | 10 | LIRIODENDRON TULIPIFERA 'JFS-OZ' TM | EMERALD CITY TULIP POPLAR | 2" CAL. |
| | PV | 15 | PARROTIA PERSICA 'VANESSA' | VANESSA PERSIAN PARROTIA | 2" CAL. |
| | PO | 3 | PICEA OMORIKA | SERBIAN SPRUCE | 6`-8` HT. |
| | QG | 3 | QUERCUS GARRYANA | OREGON WHITE OAK | 3" CAL. |
| | RP | 3 | RHAMNUS PURSHIANA | CASCARA | 2" CAL. |

| | | | | |
|---|---|---|---|---|
| PRAIRIE PLANTING | 9,270 SF | | | |
| MEADOW SEED, REF. SPEC. FOR SPECIES AND APPLICATION RATE. BROADCAST SEED. | | | | |
| LAY OUT PRAIRIE CONTAINER STOCK PER PLAN. | | | | |
| MIX 75 BULBS OF EACH TYPE LISTED BELOW AND SCATTER IN PRAIRIE PLANTING AREAS. | | | | |
| BRODIAEA ELEGANS / HARVEST BRODIAEA | | BULBS | | |
| CAMASSIA LEICHTLINII / GREAT CAMAS | | BULBS | | |
| CAMASSIA QUAMASH / SMALL CAMAS | | BULBS | | |
| DICHELOSTEMMA CONGESTUM / OOKOW | | BULBS | | |
| UTILITY CORRIDOR RESTORATION PLANTING | 8,861 SF | | | |
| ALL AREAS AFFECTED BY UTILITY ROUTING TO BE RESTORED. | | | | |
| ASSUME 1:1 TREE REPLACEMENT FOR TREES REMOVED IN UTILITY CORRIDOR. | | | | |
| ACER CIRCINATUM / VINE MAPLE | | MULTI-STEM 9`-10` HT. | 1:1 REPLACEMENT | |
| MAHONIA AQUIFOLIUM / OREGON GRAPE | 205 | #1 | 20% @ 36" oc | |
| MAHONIA REPENS / CREEPING MAHONIA | 576 | #1 | 25% @ 24" oc | |
| OXALIS OREGANA / REDWOOD SORREL | 819 | 4"POT | 20% @ 18" oc | |
| POLYSTICHUM MUNITUM / WESTERN SWORD FERN | 256 | #1 | 25% @ 36" oc | |
| PSEUDOTSUGA MENZIESII / DOUGLAS FIR | | 6`-8` HT. | 1:1 REPLACEMENT | |
| RIBES SANGUINEUM / RED FLOWERING CURRANT | 13 | #5 | 5% @ 72" oc | |
| VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY | 29 | #5 | 5% @ 48" oc | |
| LAWN RESTORATION | 9,012 SF | | | |
| ALL AREAS AFFECTED BY UTILITY ROUTING AND REGRADING TO BE RESTORED. | | | | |
| HYDROSEED LAWN IN EXISTING LAWN AREAS. | | | | |

| CONTAINER STOCK | CODE | QTY | BOTANICAL NAME | COMMON NAME | CONT |
|---|---|---|---|---|---|
| | AP | 199 | ADIANTUM PEDATUM | NORTHERN MAIDENHAIR FERN | #1 |
| | AU | 6 | ARBUTUS UNEDO | STRAWBERRY TREE SHRUB | #2 |
| | AM3 | 64 | ARCTOSTAPHYLOS X `PACIFIC MIST` | PACIFIC MIST MANZANITA | #1 |
| | AC2 | 236 | ASARUM CAUDATUM | WILD GINGER | #1 |
| | BS | 133 | BLECHNUM SPICANT | DEER FERN | #1 |
| | CN | 488 | CALAMAGROSTIS NUTKAENSIS | PACIFIC REED GRASS | #1 |
| | CP | 75 | CAREX PACHYSTACHYA | CHAMISSO SEDGE | #1 |
| | CS | 73 | CAREX STIPATA | AWL-FRUITED SEDGE | #1 |
| | DP | 9 | DARMERA PELTATA | INDIAN RHUBARB | #2 |
| | GS | 19 | GAULTHERIA SHALLON | SALAL | #2 |
| | HM | 128 | HEUCHERA MAXIMA | ISLAND ALUM ROOT | #1 |
| | II | 53 | IRIS DOUGLASIANA | DOUGLAS IRIS | #1 |
| | IO | 17 | IRIS TENAX | OREGON IRIS | #1 |
| | JP | 61 | JUNCUS PATENS | CALIFORNIA GRAY RUSH | #1 |
| | LL | 34 | LIMONIUM LATIFOLIUM | SEA LAVENDER | #1 |
| | MN | 102 | MAHONIA NERVOSA | OREGON GRAPE | #2 |
| | OR | 1,504 | OXALIS OREGANA | REDWOOD SORREL | 4"POT |
| | PR | 55 | PENSTEMON RYDBERGII | RYDBERG'S PENSTEMON | #1 |
| | PM | 427 | POLYSTICHUM MUNITUM | WESTERN SWORD FERN | #1 |
| | RM | 51 | RHAMNUS CALIFORNICA 'MOUND SAN BRUNO' | MOUND SAN BRUNO COFFEEBERRY | #5 |
| | RS | 17 | RIBES SANGUINEUM | RED FLOWERING CURRANT | #5 |
| | SI | 187 | SPIRAEA BETULIFOLIA LUCIDA | BIRCHLEAF SPIREA | #2 |
| | TO | 219 | TRILLIUM OVATUM | COAST TRILLIUM | #1 |
| | VO | 18 | VACCINIUM OVATUM | EVERGREEN HUCKLEBERRY | #5 |

| CONTAINER STOCK - PRAIRIE | CODE | QTY | BOTANICAL NAME | COMMON NAME | CONT |
|---|---|---|---|---|---|
| AM2 | AM2 | 71 | ACHILLEA MILLEFOLIUM | COMMON YARROW | #1 |
| ES | ES | 43 | ERIGERON SPECIOSUS | SHOWY FLEABANE | #1 |
| EL2 | EL2 | 66 | ERIOPHYLLUM LANATUM | WOOLLY SUNFLOWER | #1 |
| II2 | II2 | 26 | IRIS DOUGLASIANA | DOUGLAS IRIS | #1 |
| LN | LN | 31 | LOMATIUM NUDICAULE | BARESTEM BISCUITROOT | #1 |
| PR2 | PR2 | 31 | PENSTEMON RYDBERGII | RYDBERG'S PENSTEMON | #1 |
| PG | PG | 41 | POTENTILLA GRACILIS | SLENDER CINQUEFOIL | #1 |
| PN | PN | 30 | PRUNELLA VULGARIS LANCEOLATA | LANCE SELF-HEAL | #1 |
| RO2 | RO2 | 16 | RANUNCULUS OCCIDENTALIS | WESTERN BUTTERCUP | #1 |
| SM2 | SM2 | 34 | SIDALCEA MALVIFLORA | CHECKERBLOOM | #1 |
| WA | WA | 8 | WYETHIA ANGUSTIFOLIA | MULE'S EARS | #1 |

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PLANTING SCHEDULE

**L5.16**

IFC SET

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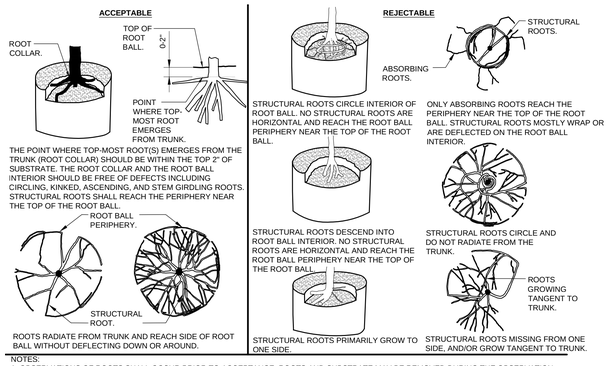


NOTES:
1- OBSERVATIONS OF ROOTS SHALL OCCUR PRIOR TO ACCEPTANCE. ROOTS AND SUBSTRATE MAY BE REMOVED DURING THE OBSERVATION PROCESS; SUBSTRATE/SOIL SHALL BE REPLACED AFTER OBSERVATION HAS BEEN COMPLETED.
2- SMALL ROOTS (¼" OR LESS) THAT GROW AROUND, UP, OR DOWN THE ROOT BALL PERIPHERY ARE CONSIDERED A NORMAL CONDITION IN CONTAINER PRODUCTION AND ARE ACCEPTABLE HOWEVER THEY SHOULD BE ELIMINATED AT THE TIME OF PLANTING. ROOTS ON THE PERIPERHY CAN BE REMOVED AT THE TIME OF PLANTING. (SEE ROOT BALL SHAVING CONTAINER DETAIL).
3- SEE SPECIFICATIONS FOR OBSERVATION PROCESS AND REQUIREMENTS.

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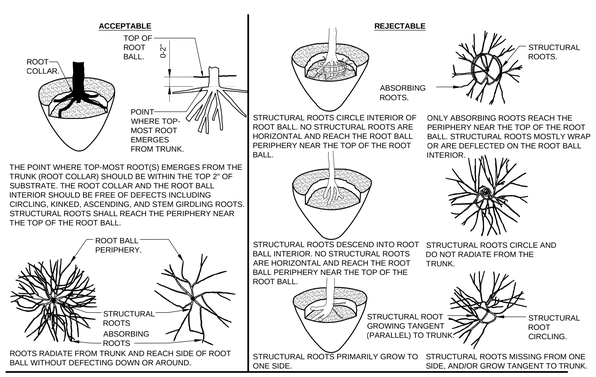
## 1 ROOT OBSERVATION - BALLED & BURLAPPED

SCALE: NOT TO SCALE




NOTES:
1- OBSERVATIONS OF ROOTS SHALL OCCUR PRIOR TO ACCEPTANCE. ROOTS AND SOIL MAY BE REMOVED DURING THE OBSERVATION PROCESS; SUBSTRATE/SOIL SHALL BE REPLACED AFTER THE OBSERVATIONS HAVE BEEN COMPLETED.

2- SEE SPECIFICATIONS FOR OBSERVATION PROCESS AND REQUIREMENTS.

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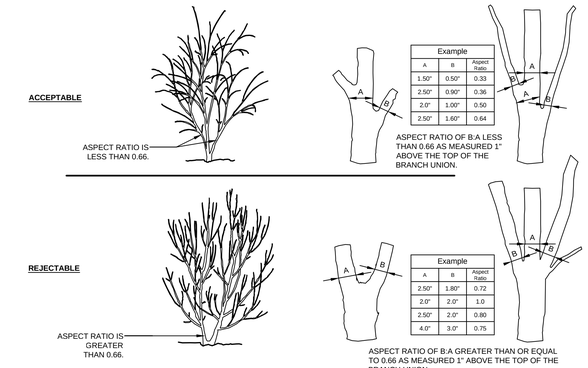
## 2 ROOT OBSERVATION - BALLED & BURLAPPED

SCALE: NOT TO SCALE




NOTES:
1- ASPECT RATIO SHALL BE LESS THAN 0.66 ON ALL BRANCH UNIONS. ASPECT RATIO IS THE DIAMETER OF BRANCH (B) DIVIDED BY THE DIAMETER OF THE TRUNK (A) AS MEASURED 1" ABOVE THE TOP OF THE BRANCH UNION.

2- ANY TREE NOT MEETING THE CROWN OBSERVATIONS DETAIL MAY BE REJECTED.

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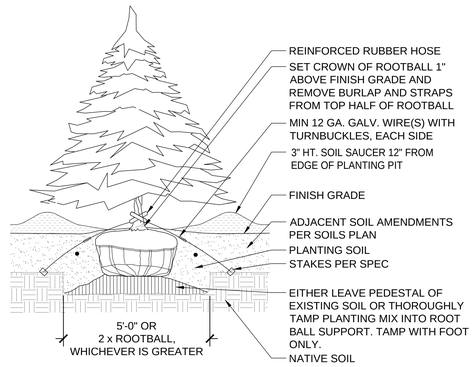
## 3 CROWN OBSERVATION - MULTI STEM

SCALE: NOT TO SCALE




## 4 CONIFER TREE PLANTING

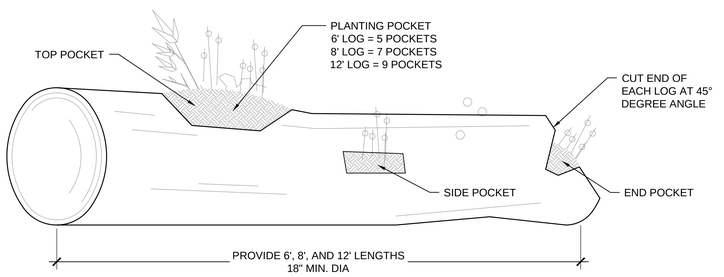
SCALE: NOT TO SCALE

NOTES:
1. PLANTING CAVITIES TO BE MARKED WITH CHALK BY LANDSCAPE ARCHITECT.
2. ALL CAVITIES TO BE IRRIGATED BY ADJUSTMENTS TO NEARBY SPRAY HEADS.
3. ALL STUMPS, LOGS, & ROOTWADS TO RETAIN BARK TO GREATEST EXTENT FEASIBLE.
4. PLANTING POCKETS TO BE MIN. 8"X12"X8", FILLED WITH BIORETENTION SOIL, PROVIDE 1/2" DRAIN HOLES SPACED 6" O.C.





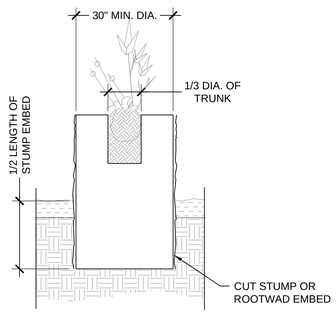





## A. NURSE LOG



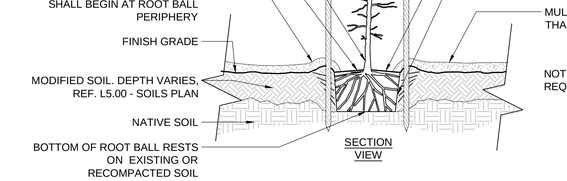

## B. NURSE ROOTWAD




## C. NURSE STUMP

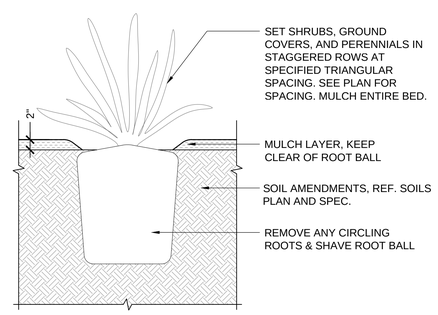
## 5 NURSE WOOD PLANTING

SCALE: NOT TO SCALE



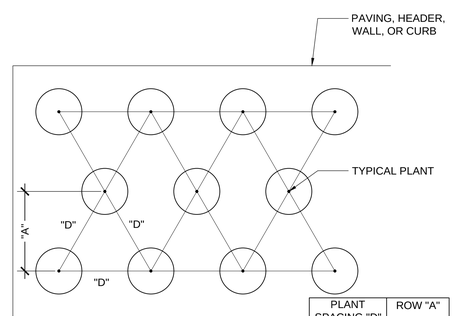

## 6 TREE PLANTING

SCALE: NOT TO SCALE




## 7 CONTAINER STOCK PLANTING

SCALE: NOT TO SCALE




| PLANT SPACING "D" | ROW "A" |
|---|---|
| 18" O.C. | 15" O.C. |
| 24" O.C. | 21" O.C. |
| 36" O.C. | 31" O.C. |

## 8 PLANT SPACING

SCALE: NOT TO SCALE

integrus ARCHITECTURE
112 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
T: 206.624.9449 | F: 206.624.9463 | WWW.INTEGRUSARCH.COM

STATE OF WASHINGTON
VINITA SIDHU
No 949 EXP. 05/27/2024
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

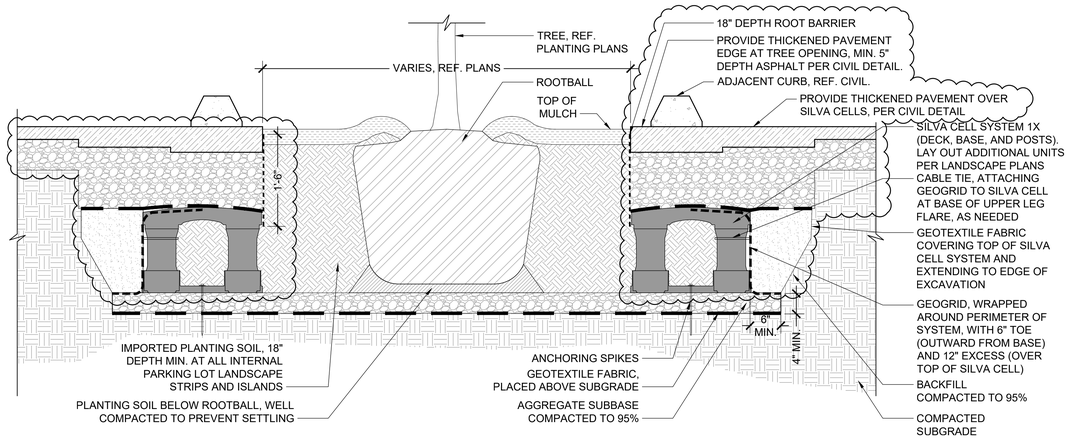
| # | Date | Description |
|---|---|---|

PLANTING DETAILS

**L5.20**

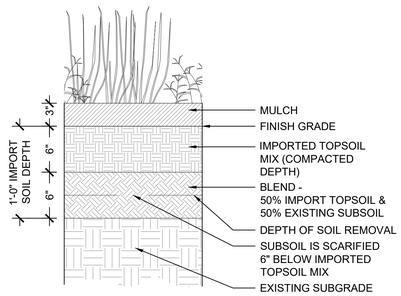
IFC SET

PRCNC20221036



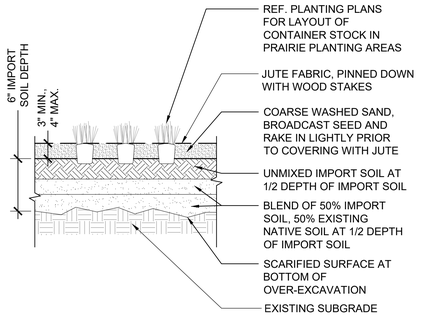

## 1 SILVA CELLS

SCALE: NOT TO SCALE



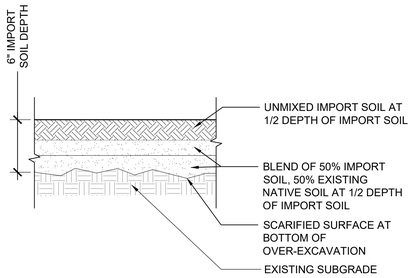

## 2 IMPORTED TOPSOIL

SCALE: NOT TO SCALE



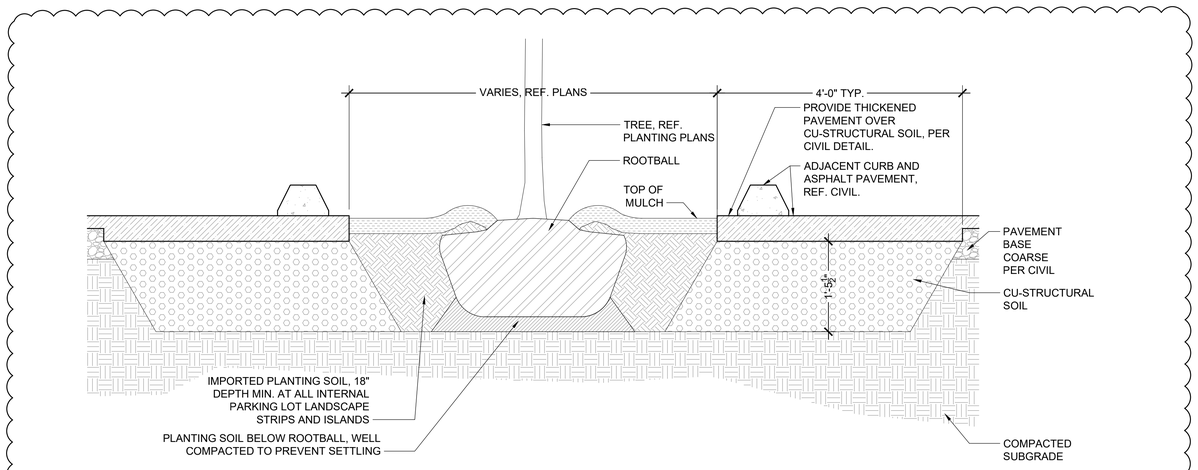

## 3 IMPORTED TOPSOIL @ PRAIRIE

SCALE: NOT TO SCALE




## 4 IMPORTED TOPSOIL @ LAWN RESTORATION

SCALE: NOT TO SCALE




## 5 CU-STRUCTURAL SOIL

SCALE: NOT TO SCALE

integrus ARCHITECTURE
112 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
T: 206.623.1104 | F: 206.623.5124

STATE OF WASHINGTON
VINITA SIDHU
NO. 949 EXP. 05/27/2024
LANDSCAPE ARCHITECT

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SC |
| Checked By: | VS |

Revisions

| | Date | Description |
|---|---|---|
| | 2/21/23 | ASI-025 |

PLANTING DETAILS

**L5.21**

IFC SET

PRCNC20221036

## GENERAL STRUCTURAL NOTES

These notes shall govern unless otherwise noted in the drawings. Refer to written specifications for further requirements and amplification of these notes.

**Codes**
International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction.
Project Jurisdiction: City of Puyallup, State of Washington.

**Design Loads**
Reference code: ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures.

*Dead Loads*
Refer to Load Maps & Load Diagrams (S-501 and S-502)

| | |
|---|---|
| Floor | |
| Typical Floor | 68 psf |
| Mechanical Floor | 118 psf (or Typical Floor wt + actual wt of equip.) |
| Roof | |
| Typical Metal Deck Roof | 31 psf (Includes 8 psf PV panels, +5 psf above corridor) |
| Typical Composite Deck Roof | 84 psf (Includes 8 psf PV panels) |
| Roof Extension above Front Entry | 13 psf (PV not allowed) |

Mechanical Equipment
- Actual operating weight is by manufacturer.
- Weight indicated on drawings is the maximum design load.
- Notify Architect/Engineer if the manufacturer's operating weight of the equipment provided exceeds the maximum design load, prior to installation of the equipment.

*Live Loads*
(live load reduction is applied as allowed by the reference code)

| | |
|---|---|
| Floor | |
| Typical Floor | 100 psf |
| First Floor Corridors | 100 psf |
| Upper Level Library Corridors | 100 psf; 1000 lb on any 2.5 ft sq |
| Upper Level Office Corridors | 100 psf; 2000 lb on any 2.5 ft sq |
| Upper Level School Corridors | 100 psf |
| Other Upper Floor Corridors | same as occupancies served |
| Stairs and exit ways | 100 psf |
| Storage (light) | 125 psf or max load expected |
| Storage (heavy) (Rock Storage) | 250 psf or max load expected |
| Roof | |
| Typical Roof | 20 psf |
| Handrails/Guardrails | |
| Assembly | 50 psf |
| Intermediate rails/panels | 50# on any 1.0 ft sq, in any direction |
| Grab Bar | 250# at any point, in any direction |
| Snow | |
| Ground snow load | Pg = 18 psf |
| Calculated flat roof snow load | Pf = 22 psf |
| Minimum flat roof snow load | Pf = 25 psf |
| Design uniform snow load | 30 psf |
| Importance factor (snow) | Is = 1.1 |
| Snow exposure factor | Ce = 1.0 |
| Thermal factor | Ct = 1.0 |
| Other Surcharges | per reference code |
| Unbalanced loads | per reference code |
| Wind | |
| Basic wind speed (3 second gust) | V = 104 mph |
| Exposure Category | B |
| Importance factor (wind) | Iw = 1.15 |
| Topographical Factor | Kzt = 1.0 |
| Directional Coefficient | Kd = 0.85 |
| Gust Effect Factor | G = 0.85 |
| Internal pressure coefficient | Gcpi = 0.18 |
| Minimum Net Uplift | 16 psf |
| Seismic | |
| Analysis Procedure | Modal Response Spectrum Analysis |
| Occupancy category | III |
| Importance factor - seismic | Ie = 1.25 |
| Long-period transition period | Tl = 6.0 sec |
| Building period coefficient | Ct = 0.030 |
| Site Class | C |
| Spectral acceleration parameters | Ss = 1.253 |
| Spectral acceleration parameters | S1 = 0.432 |
| Site coefficients | Fa = 1.2 |
| Site coefficients | Fv = 1.0 |
| Spectral response coefficient | Sds = 1.003 |
| Spectral response coefficient | Sd1 = 0.432 |
| Seismic design category | D |
| Lateral system | Steel buckling-restrained braced frames |
| Response modification coefficient | R = 8.0 |
| Seismic response coefficient | Cs = 0.116 |
| Structural wall out-of-plane | Fp = 0.501 x Wp |
| Non-structural components(rigid) | ap = 1.0, Fp = 0.481 x Wp |
| Non-structural components(flexible) | ap = 2.5, Fp = 1.203 x Wp |
| Earth | |
| Loading based on geotechnical report by: GeoEngineers dated: January 21, 2021 | |
| Active pressure (drained) | 35 pcf + 13*H seismic surcharge |
| Active pressure (undrained) | 80 pcf + 13*H seismic surcharge (includes hydrostatic pressures) |
| At-rest pressure (drained) | 55 pcf + 13*H seismic surcharge |
| At-rest pressure (undrained) | 90 pcf + 13*H seismic surcharge (includes hydrostatic pressures) |
| An additional 2 feet of fill shall be added to represent a traffic surcharge of 250 psf if vehicles are within .5*H of the wall | |
| An additional 1 foot of fill shall be added to represent adjacent 100 psf occupant live load at top of wall condition | |
| Passive resistance | 290 pcf |
| Coefficient of friction | 0.40 |

Refer to load maps sheets and drawings for additional loads

## CONSTRUCTION LOADS

1. Reference code: ASCE/SEI 37-14, Design Loads on Structures During Construction
2. The structure represented in these drawings has been designed to resist vertical and lateral loads prescribed by the reference code in its final constructed condition. The sequence of construction is the responsibility of the general contractor. All loads experienced by the structure due to the incomplete nature of the structure are the sole responsibility of the general contractor. The general contractor must design and provide temporary shoring and bracing until the final built condition, as shown in these drawings, is achieved.
3. The structure represented in these drawings has not been designed to resist vertical and lateral loads imparted by construction equipment. All loads experienced by the structure while supporting construction equipment are the sole responsibility of the general contractor. The general contractor must design and provide temporary shoring and bracing where required to support construction equipment.
4. Where temporary shoring or bracing is required, retain the services of a structural engineer registered in the project jurisdiction to design and detail the bracing of that equipment for the gravity and lateral forces prescribed by the reference code. Submit the stamped and signed design documents to the project jurisdiction as a deferred submittal for approval prior to performing the work.

## GENERAL CONDITIONS

**TYPICAL CONDITIONS**
1. Typical details are not referenced at all locations for which they apply and may not be referenced at all. Details located on typical detail sheets represent the method of construction to be used at all locations, unless otherwise indicated in the drawings.

**COORDINATION**
1. The written specifications and the drawings of the architectural, mechanical, electrical and civil/landscape disciplines are to be used in conjunction with the structural drawings for bidding and construction.
2. Dimensions for some secondary elements such as windows, doors, walls and floor edges are located only in the architectural drawings. Shop drawing production for structural elements will require dimensional information contained in both the architectural and structural drawings. All requests for dimensions in shop drawing submittals will be referred to the general contractor.
3. The contractor shall coordinate dimensions and conditions between the drawings (including the architectural, mechanical, electrical and civil/landscape disciplines), the specifications, and the site conditions prior to fabrication and construction. Notify Architect/Engineer in writing of any discrepancies in dimensions or conditions found prior to fabricating and executing work in the area of the discrepancy. Architect/Engineer will respond in writing according to the provisions of the general conditions found in the specifications. Any related work performed by the contractor between the discovery of the discrepancy and receipt of the Architect's/Engineer's written response will be done at the contractor's risk.
4. Where the bracing of mechanical, plumbing, fire-suppression and/or electrical equipment is not specifically detailed in the mechanical, plumbing, fire-protection and/or electrical drawings or specifications, retain the services of a structural engineer registered in the jurisdiction of this project to design and detail the bracing of that equipment for the gravity and lateral forces prescribed by the governing building code. Submit the stamped and signed design documents to the project jurisdiction as a deferred submittal for approval prior to performing the work.
5. Where the bracing of ceilings and other architectural elements is not specifically detailed in the architectural drawings or specifications, retain the services of a structural engineer registered in the jurisdiction of this project to design and detail the bracing of those elements for the gravity and lateral forces prescribed by the governing building code. Submit the stamped and signed design documents to the project jurisdiction as a deferred submittal for approval prior to performing the work.
6. Provide coordination drawings showing all anticipated penetrations through the structural elements shown in these drawings. No penetrations through structural elements shall be allowed unless already indicated in the structural drawings or approved in writing by the structural engineer.

**SUBMITTALS**
1. Construction utilizing any given material shall not occur until the approved submittals for that material are received from the Architect/Engineer.

## LATERAL FORCE AND SEISMIC LOAD RESISTING SYSTEMS

**LATERAL FORCE RESISTING SYSTEM**
1. Lateral-forces are transferred by the roof and floor diaphragms to the vertical lateral-force resisting elements (shearwalls, braced frames). Moments and shears resulting from these lateral-forces are transferred to the foundation system by the vertical lateral-force resisting elements. Lateral-forces are distributed through this load path in proportion to the stiffness of the transferring and resisting elements. Lateral-forces are resisted by the foundation system through passive pressure of the adjacent earth, sliding friction resistance at the soil interface, and overturning resistance of the structure's tributary dead load.
2. Any member designated '(C)' in the drawings is a chord/collector and is a component of the Lateral Force Resisting System.
3. Any weld designated 'DC' in the drawings is participating in the Lateral Force Resisting System and is 'Demand Critical'. See the Welding notes and the Special Inspection notes for requirements specific to Demand Critical welds.
4. Discontinuities created by fabrication or erection operations, such as tack welds, erection aids, air-arc gouging and thermal cutting are not allowed within the Protected Zone.
5. Welded shear studs and decking attachments that penetrate the beam flange shall not be placed on the beam flanges within the Protected Zone.
6. Welded, bolted, screwed or shot-in attachments for perimeter edge angles, exterior facades, partitions, duct work, piping or other construction shall not be placed within the Protected Zone. Refer to the drawings and these notes for definition of the Protected Zones.
7. Where violations of the Protected Zone occur, inform the Architect/Engineer in writing. Repair the discontinuity as required by the engineer of record's written response. All repairs in the Protected Zone will be subject to special inspection by the owner's agent.

**DESIGNATED SEISMIC LOAD RESISTING SYSTEM**
Buckling-Restrained Braced Frames (BRBF)
Buckling Restrained Braced Frames are composed of steel beams spanning between steel columns and buckling restrained braces (steel core encased in grout that is surrounded by a steel casing) spanning between the intersections of those beams and columns with gusset plate connections at the ends of those braces. See sheets S201 and S202 for brace frame elevations.

## FOUNDATION

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction, Chapter 18

Strength
Capacities are based on geotechnical report and Addendum No. 1
by: GeoEngineers
project #: 21342-002-00
dated: January 21, 2021 & June 29, 2022

| | |
|---|---|
| Allowable soil bearing pressure | 3,500 psf |
| Passive equivalent fluid pressure | 290 pcf |
| Coefficient of friction | 0.40 |

Coordination
1. Coordinate grading and excavating requirements with civil/landscape drawings. Foundations are designed to bear on undisturbed native soils or compacted structural fill, as described in the Geotechnical Report, over undisturbed native soils.

Execution
1. Footing excavations should be cleaned of all loose soil, leveled, and protected from water and construction traffic.
2. Refer to geotechnical report and follow recommendations specific to wet weather earthwork.
3. Refer to geotechnical report and follow recommendations specific to temporary cut slopes.

Submittals
1. Suitability of soils for bearing is as described in the geotechnical report. Soil bearing surfaces must be observed and approved by the geotechnical engineer of record prior to pouring foundation concrete. Submit the written field report by the geotechnical engineer of record to the Architect/Engineer for approval.

## REINFORCING

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction
- ACI 318-14, Building Code Requirements for Structural Concrete
- ACI 301-10, Specification for Structural Concrete
- TMS 402/602-16, Building Code Requirements and Specification for Masonry Structure
- AWS D1.4/D1.4M-18, Structural Welding Code - Steel Reinforcing Bars

Strength

| | | |
|---|---|---|
| Deformed Bars (new billet stock) | ASTM A615 | Fy = 60 ksi |
| Weldable Deformed Bars | ASTM A706 | Fy = 60 ksi |
| Epoxy Coated Deformed Bars | ASTM A775 | Fy = 60 ksi |
| Plain Welded Wire Fabric (electrically welded) | ASTM A1064 | Fy = 60 ksi |

Fiber reinforced concrete shall conform to ACI Report 544.1R. Follow manufacturer's recommended mix quantity, but use no less than 1.5#/cu yd.

## CONCRETE

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction, Chapter 19
- ACI 301-10, Specification for Structural Concrete
- ACI SP66 (04), ACI Detailing Manual
- ACI 318-14, Building Code Requirements for Structural Concrete

Strength
Provide concrete mix design in accordance with ACI 301, and meeting the requirements of the CONCRETE MIX DESIGN TABLE.

Coordination
1. Conduits embedded within slabs, walls or beams shall be placed between rebar mats where double mats occur. The outside diameter of the conduit shall be smaller than 1/4 x the member thickness and shall be spaced greater than 4 x the conduit outside diameter.
2. Coordinate reinforcing steel placement details with structural embeds and embeds specified in other disciplines. Utilize templates for placing steel in congested areas.
3. No concrete work shall be penetrated for piping or ducts, unless shown in the drawings or approved by the Engineer in writing.

Execution
1. Provide bar supports as required in the contract documents. Concrete dobies shall be minimum 4000 psi with cast-in double annealed 16 ga iron wires for tying. Wire chairs shall have Class 1 plastic tips.
2. Provide cover as shown in drawings, with a minimum cover as required by the CONCRETE REINFORCING COVER TABLE.
3. Provide rebar splice lengths as shown in the drawings, with a minimum splice as required by the CONCRETE REINFORCING SPLICE TABLE.
4. Camber concrete forms as shown plus deflection due to the weight of wet concrete.
5. One-way slabs shall be cambered 1/1000 of the span, unless noted otherwise on the drawings. Cambers of less than 1/8" may be neglected.
6. Air Content and Slump shall be measured at the truck discharge or at the end of the pump, wherever concrete is pumped. Slump shall be within +1"/-2" of slump specified in the approved mix design submittal.
7. Tie reinforcement into the correct positions using double annealed 16 ga iron wire. Use wire chairs at maximum 36 inch spacing in formed construction and concrete dobies at maximum 24 inch spacing at concrete cast against grade or rigid insulation to elevate the rebar into the designated positions and to maintain the required concrete cover.
8. Cold Bend bars as noted in drawings to radius specified in ACI 315. Bend bars one time only.
9. Trim bars may be omitted when the opening dimensions are less than the rebar spacing, for opening less than 12"x12". Relocate all interrupted rebar along one side of the opening and place an identical bar on the opposite side of the opening. Alternatively, where the interrupted bar is within 3" of opening edge, rebar may be sprung around the opening with no additional rebar required on the opposite side of the opening.
10. Provide 3/4" chamfer at all exposed concrete edges, unless noted otherwise.

Submittals
1. Mix Designs meeting or exceeding the requirements of the CONCRETE MIX DESIGN TABLE must be submitted to and approved by the Engineer prior to use. Provide mix designs which correspond to anticipated placement requirements and finish conditions. Deviation from the specified mix design must be demonstrated to be in accordance with ACI 318, Chapter 26 and must be submitted a minimum of two weeks prior to use for approval by the Engineer, with a written explanation of the reason for deviating from the specified mix design. Approval of deviation from the specified mix design is at the discretion of the Engineer.
2. Provide coordinated shop drawings with 1/4" scale elevations of all walls with all reinforcing, openings, structural embeds, and embedded items from other disciplines, all shown in conjunction and dimensioned relative to a common datum. Before submitting shop drawings for structural review, Mechanical and Electrical contractors must mark size and locations of all required penetrations and embeds on wall elevations.
3. Provide certification to show that all rebar welders hold a current WABO certification and are prequalified according to AWS D1.4 for all weld sizes and positions required.
4. Slab-on-Grade control joints shown in plan are schematic. Contractor shall provide control joint layout submittal to Engineer for approval showing all control joints that will be provided, conforming to the maximum joint spacing allowed.

## MASONRY VENEER

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction, Chapter 21
- TMS 402/602-16, Building Code Requirements and Specification for Masonry Structures

Execution
1. Provide seismic veneer ties, spaced at 16" on center horizontal and 16" on center vertical per typical detail. This applies where support structure is concrete and/or metal studs.
2. Where veneer is not laid in running bond, joint reinforcement is required. See Masonry Veneer specification for requirements.
3. Provide hot dip galvanized steel angles over all openings in masonry veneer per typical detail.

## METAL DECKING

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction, Chapter 22
- AISC 360-16, Specifications for Structural Steel Buildings
- AISC 341-16, Seismic Provisions for Structural Steel Buildings.
- AWS D1.3-08, Structural Welding Code - Sheet Steel

Strength
ASTM A653, Gr A, minimum yield 38 ksi.

Coordination
1. Deck gage shown in plan is the minimum gage required to conform to the structural design of the finished building. Provide a deck gage which meets this minimum requirement, as well as maximum span requirements, design for construction loads, and shoring requirements.
2. Provide acoustic deck where required by structural or architectural drawings. Provide acoustic deck with perforated vertical webs and acoustical insulation in the low flutes.

Execution
1. Layout deck to span continuously over a minimum of four supports, except where framing layout does not permit.
2. Design and provide closure plates at all deck ends, including at floor openings, floor edges, and around columns.
3. Fasten the deck to supporting framing with 3/4" diameter (5/8" effective diameter) puddle welds, one at each flute perpendicular to framing support and at spacing to match flute spacing parallel to framing support, unless noted otherwise. Welded shear studs may serve as substitute for puddle weld in composite deck systems.
4. Fasten sidelaps of untopped deck with interlocking punch at 8" maximum spacing, unless noted otherwise.
5. Fasten sidelaps of concrete topped deck with button punch at 24" maximum spacing, unless noted otherwise.
6. Provide G90 galvanized deck at exterior applications.
7. Provide G60 galvanized deck at interior applications.
8. Factory apply gray acrylic primer over the galvanized coating where deck is to receive paint - refer to architectural drawings for locations.

Submittals
1. Provide design calculations showing that the deck provided is sufficient to resist all construction loads and in-place loads specified in the contract documents. Calculations and shop drawings shall be stamped and signed by an engineer registered in the project jurisdiction. Calculations and shop drawings must be approved by the Engineer and the Building Official prior to installation of the deck.

## STRUCTURAL STEEL

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction, Chapter 22
- AISC 360-16, Specifications for Structural Steel Buildings
- AISC 341-16, Seismic Provisions for Structural Steel Buildings.

Strength

| | | |
|---|---|---|
| W Shapes, WT Shapes | ASTM A992 or A572, Gr 50 | Fy = 50 ksi |
| Angles, Channels | ASTM A36 | Fy = 36 ksi |
| HSS Square Structural Tube | ASTM A500, Gr C | Fy = 50 ksi |
| HSS Rectangular Structural Tube | ASTM A500, Gr C | Fy = 50 ksi |
| HSS Round Structural Tube | ASTM A500, Gr C | Fy = 46 ksi |
| Steel Pipe | ASTM A53, Gr B | Fy = 35 ksi |
| All other Steel Shapes | ASTM A572 or A588 | Fy = 50 ksi |
| All Steel Plate, UNO | ASTM A572 or A588 | Fy = 50 ksi |
| Steel Plate Designated as 36 ksi | ASTM A36 | Fy = 36 ksi |

1. Plates 2" thick and thicker, that are part of the Lateral Force Resisting System, shall have a minimum Charpy V-notch toughness of 20 ft-lb at 70 degrees F, measured at any location permitted by ASTM A673.
2. Hot rolled shapes that are part of the Lateral Force Resisting System shall have a minimum Charpy V-notch toughness of 20 ft-lb at 70 degrees F, tested in the alternate core location as described in ASTM A6.

Coordination
1. Refer to architectural drawings for dimensions required for the location of steel elements including, but not limited to, framing around window and door openings, top of parapet and bottom of soffit elevations, wall locations, and edge of deck dimensions.

Execution
1. The corners of continuity plates and stiffeners placed in the webs of rolled shapes that are part of the Lateral Force Resisting System shall be clipped according to AISC 341 Commentary F3.5b.4, AWS D1.8 Commentary Section 4, and AISC 358 chapter 3.
2. Weld access holes shall comply with the requirements of AISC 360, Section J1.6.
3. Provide N-Bearing 3/4" diameter bolts through horizontal short slotted holes at beam shear connections, unless noted otherwise.
4. Where connection is not accessible to Twist-off Bolt Guns, provide A325 Bolts with load indicator washers.
5. All exterior exposed structural steel shall be hot-dip galvanized, unless noted otherwise.
6. Unless otherwise noted, beams are equally spaced between dimension points.
7. The Contractor shall be responsible for all erection aids and joint preparations.
8. The Contractor shall be responsible for compliance with all current OSHA requirements.
9. Modification to the structural steel, including holes and copes, shall not be made in the field without prior approval of the Engineer.

Submittals
1. Shop drawings shall include the following information relative to the Lateral Force Resisting System:
   a. Designate all members and connections that are part of the Lateral Force Resisting System.
   b. Designate all shop welds that are Demand Critical.
   c. Designate and dimension all protected zones.
   d. Include welding requirements as specified in AWS D1.8.

## COLD-FORMED METAL FRAMING

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction, Chapter 22
- AISI S-100-16, North American Specification for the Design of Cold-Formed Steel Structural Members, including Supplement No. 1 Dated 2018.
- AISI S202-15, Code of Standard Practice for Cold-formed Steel Framing
- AWS D1.3-08, Structural Welding Code - Sheet Steel

Strength

| | |
|---|---|
| Material thickness < 54 mil | ASTM A1003, Gr33, 33 ksi |
| Material thickness 54 mil & greater | ASTM A1003, Gr50, 50 ksi |

Design
1. Where required by the drawings, design cold-formed steel members and connections to resist construction and building loads described in these documents.

Coordination
1. Structural walls are those shown in the structural drawings. Refer to architectural drawings for non-structural walls, partitions and soffits.

Execution
1. Installation of cold-formed metal stud walls shall conform to ASTM C1007.
2. The framing members shall have ends squarely cut by shearing or sawing, be installed plumb, square, true to line and securely fastened per the contract documents or according to the manufacturer's approved engineered connection design
3. Structural "C" members are not permitted to have splices or cut-outs in the flanges, unless shown in the drawings.
4. Fastening of structural members shall be accomplished by screws, power actuated fasteners, welding, or a combination of methods. The type, size, and spacing shall be as required by the documents or according to the manufacturer's approved engineered connection design.
5. Provide members and connectors with minimum protective coating of G-60 galvanized finish.
6. Wherever protective coating is damaged or removed for the purpose of fastening, repair by painting with a zinc rich primer.

Submittals
1. All designs required to be provided by the manufacturer shall include drawings and calculations, stamped and signed by an engineer registered to work in the jurisdiction of this project.

## SHEET LIST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|---|---|
| STRUCTURAL | |
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| S501 | LOAD DIAGRAMS |
| S502 | LOAD MAPS |


**CONCRETE MIX DESIGN TABLE**

| Type | Use | 28 Day Strength (psi) | Max Aggregate Size | Max W/C Ratio | Required Additives* | Exposure Categories & Classes** Freeze-Thaw (F) | Sulfate (S) | Contact w/ Water (W) | Corrosion (C) | % Air Range |
|---|---|---|---|---|---|---|---|---|---|---|
| A | Footings | 4500 | 1" | 0.50 | - | F1 | S0 | W0 | C1 | 2% max |
| B | Exterior Walls & Col's | 4500 | 3/4" | 0.45 | - | F2 | S0 | W0 | C1 | 6% ±1% |
| C | Interior Walls & Col's | 4000 | 3/4" | 0.45 | - | F0 | S0 | W0 | C0 | 2% max |
| D | Interior Slabs & Column Pour-backs | 4000 | 3/4" | 0.43 | Superplasticizer (6"-8" Slump) | F0 | S0 | W0 | C0 | 2% max |
| E | Exterior Slabs | 5000 | 1" | 0.40 | Polyfiber Reinf | F2 | S0 | W1 | C2 | 6% ±1% |
| F | Metal Deck Topping | 4000 | 3/4" | 0.43 | Superplasticizer (6"-8" Slump) Polyfiber Reinf | F0 | S0 | W0 | C0 | 2% max |
| G | Stair Pan Topping | 5000 | 3/8" | 0.43 | Polyfiber Reinf | F0 | S0 | W0 | C0 | 2% max |
| J | Retaining Walls | 5000 | 3/4" | 0.45 | - | F2 | S0 | W0 | C1 | 2% max |
| K | All Others | Consult with EOR on case-by-case basis | | | | | | | | |

Notes:
1. Concrete mixes A-K shall meet the requirements of ACI 318-14 Chapter 19 and Table 19.3.2.1 REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS
2. Air Entrainment shall be 2% max except where a higher range is required by it's exposure class
* All admixtures shall be chloride free otherwise approved by the Engineer
** Where the application applies to more than 1 type, the more stringent design parameters shall be used (e.g. Metal Deck topping would be 5000, 3/4", 6%, 0.40, F2, SO, W1, C2)

**CONCRETE REINFORCING COVER TABLE**

| Location | Size | Cover |
|---|---|---|
| Cast against and permanently exposed to earth | All | 3" |
| Exposed to earth or weather | #5 or smaller | 1 1/2" |
| | #6 or larger | 2" |
| Interior Wall Faces | #11 or smaller | 3/4" |
| | #14 and #18 | 1 1/2" |
| Slab-on-Grade cast against vapor barrier | #11 or smaller | 1" (see note 1) |
| | #14 and #18 | 1 1/2" |
| Elevated Slabs | #11 or smaller | 1" (see note 1) |
| | #14 and #18 | 1 1/2" |
| Interior Frames - Beams and Columns (to Ties, Spirals, or stirrups) | All | 1 1/2" |
| Exterior Frames - Beams and Columns (to Ties, Spirals, or stirrups) | All | 2" (see note 2) |

Notes:
1. Can be 3/4 for 1-hour fire - refer to code plan.
2. Can be 1 1/2 for less than 4-hour fire rating, unless exposed to earth or weather - refer to code plan.

**CONCRETE REINFORCING SPLICE TABLE**

f'c = 4000 psi

| Reinforcing Size | Tension Development Length Ld (inches) | Tension Development Length Top Bars, Ldt (inches) | Tension Lap Splice Ls (inches) | Tension Lap Splice Top Bars, Lst (inches) |
|---|---|---|---|---|
| #3 | 15 | 20 | 20 | 26 |
| #4 | 19 | 25 | 25 | 33 |
| #5 | 24 | 32 | 32 | 42 |
| #6 | 29 | 38 | 38 | 50 |
| #7 | 42 | 55 | 55 | 72 |
| #8 | 48 | 63 | 63 | 82 |
| #9 | 54 | 71 | 71 | 93 |
| #10 | 60 | 78 | 78 | 102 |
| #11 | 66 | 86 | 86 | 112 |

1. Lengths shown are for reinforcing satisfying the following spacing and cover dimensions (multiply lengths shown by 1.5 if these requirements are satisfied):
   a. walls and slabs - clear cover > db & clear spacing > 2db
   b. beams and columns - clear cover > db & clear spacing > db
2. Top bars are horizontal beam reinforcing with more than 12" of concrete below.
3. Tension lap splice lengths shown are for Class B splices (1.3xLd).
4. Multiply lengths by 1.3 for lightweight concrete.
5. For splices of different bar sizes, use max of Ld of larger bar or Ls of smaller bar.
6. Lap sheets of 6x6 Welded Wire Fabric Reinforcing a minimum of 8" each direction.

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Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

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|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM |
| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

STRUCTURAL GENERAL NOTES

S001

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## WELDS

Reference Codes
- AWS D1.1/D1.1M-15, Structural Welding Code - Steel
- AWS D1.3-08, Structural Welding Code - Sheet Steel
- AWS D1.4/D1.4M-18, Structural Welding Code - Steel Reinforcing Bars
- AWS D1.8-/D1.8M-16, Structural Welding Code - Seismic Supplement
- AISC 341-16, Seismic Provisions for Structural Steel Buildings

Strength
Electrodes: Minimum yield strength = 70 ksi for all weld processes

1. Where welds are designated as demand critical, they shall be made with a filler metal capable of providing a minimum Charpy V-notch toughness of 20 ft-lb at -20 degrees F as determined by the appropriate AWS classification test method or manufacturer certification, and a minimum Charpy V-notch toughness of 40 ft-lb at 70 degrees F per AWS D1.8.
2. All other weld used in members and connections in the Lateral Force Resisting System shall be made with a filler metal that can produce welds that have a minimum Charpy V-notch toughness of 20 ft-lb at 0 degrees F, as determined by the appropriate AWS A5 classification test method or manufacturer certification.

Execution
1. Welding shall be performed in accordance with a welding procedure specification (WPS) as required in AWS D1.1. The WPS variables shall be within the parameters established by the filler metal manufacturer.
2. Field welding symbols have not necessarily been indicated on the drawings. Where no field welding symbols are shown, it is the Contractor's responsibility to coordinate the use of shop and field welds.

Submittals
1. All welders shall be AWS or WABO certified. Provide certification that each welder is prequalified per AWS D1.1 for each position and weld type that the welder will perform.
2. Provide written Welding Procedure Specifications adhering to AWS D1.1 for all welds to be performed. Welding Procedure Specifications must be approved by the Owner's testing agency prior to fabrication or erection.
3. Wherever a weld is included in the Lateral Force Resisting System, provide a Welding Procedure Specification which includes all essential variables of AWS D1.1 as well as the following:
   a. Type of power source (constant current or constant voltage)
   b. Manufacturer and trade name of electrodes used in Demand Critical welds
   c. Manufacturer's certification of notch toughness requirements for electrodes used in Demand Critical welds.

## BOLTS/RODS

Reference Codes
- AISC, Specification for Structural Joints Using ASTM A325 or A490 Bolts.

Strength

| | |
|---|---|
| Erection Bolts in Steel | ASTM A307, Snug Tight |
| All other Bolts in Steel | ASTM F1852, Twist-off Tension Control Bolts |
| All Bolts in Wood | ASTM A307, |
| Anchor Rods | ASTM F1554, Grade 55 |
| Anchor Rods at BRB Columns | ASTM F1554, Grade 105 |
| Threaded Rods | ASTM A36 |
| Hardener Steel Washers | ASTM F436 |
| Nuts | ASTM A563, Heavy Hex Nuts |

Execution
1. Place hardened steel washers between nuts and slotted or oversized holes.
2. All high-strength bolts shall be installed, tightened, and inspected in accordance with the AISC Specification for Structural Joints using ASTM A325 Bolts. The criteria for slip critical connections shall apply to all connections, unless noted as snug tight.
3. Use galvanized bolts, rods, nuts and washers wherever used in exterior applications and wherever connecting galvanized steel elements.

Submittals
1. Include anchor rod setting templates with all base plate shop drawings.

## SHEAR CONNECTOR STUDS

Reference Codes
- AWS D1.1/D1.1M-15, Structural Welding Code - Steel
- AISC 360-16, Specifications for Structural Steel Buildings

Execution
1. Shear connectors shall be installed per manufacturer's recommendation, using the manufacturer's specified equipment.
2. Provide shear studs at a maximum spacing of 12" on center at all beams supporting a steel deck with concrete fill or a cast-in-place concrete slab, even if no stud quantity is shown in plan for that beam.

Submittals
1. Provide manufacturer's certification of conformity with AWS D1.1.

## FASTENERS

Execution
1. At repetitive fasteners, place end fasteners no more than 6" from the end of the member.
2. Locate fasteners according to the drawings and with the following minimum edge distance and spacing, unless noted otherwise:

| Fastener | Typical size, UNO | Substrate | Min Edge Dist. | Min Spacing |
|---|---|---|---|---|
| Powder Driven | 0.157Ø x 1 long | Concrete | 3" | 4"oc |
| Powder Driven | 0.157Ø x 1/2 long | Steel | 1 1/2" | 1 1/2"oc |
| Self-Tapping Screw | 1/4Ø x 1 3/4 long | Concrete | 2 1/2" | 3"oc |
| Self-Tapping Screw | 1/4Ø x 1 3/4 long | Steel | 1 1/2" | 1 1/2"oc |

## DEFORMED BAR ANCHORS

Reference Codes
- AWS D1.1/D1.1M-15, Structural Welding Code - Steel
- AISC 360-16, Specifications for Structural Steel Buildings

Strength
ASTM A496 and requirements from Type C studs in accordance with AWS D1.1

Execution
1. Deformed Bar Anchors shall be installed per manufacturer's recommendation, using the manufacturer's specified equipment

Submittals
1. Provide manufacturer's certification of conformity with AWS D1.1.

## WOOD STRUCTURAL PANELS

Reference Codes
- International Building Code (IBC), 2018 edition, as adopted and amended by the project jurisdiction, Chapter 23

Strength
Plywood sheathing shall be grade Structural I.
Exterior glue shall be in conformance with the building code, United States Voluntary Product Standards PS-1 or PS-2.

Execution
1. Stagger panel end joints.
2. Provide approved edge clips at 24 inches on center at unblocked roof and floor sheathing edges.
3. Provide 1/8 inches gap between all abutting panel edges.
4. Provide the following minimum nailing unless noted otherwise on plans:
   a. 8d at 6 inches on center at all supported panel edges.
   b. 8d at 12 inches on center field nailing.

## CONSTRUCTION ADMIN

**Deferred Submittals**
The following items are defined as Deferred Submittal Structural Components:
- Concrete mix
- Interior metal stud systems: walls, soffits, and ceilings
- Metal deck
- Fall restraint system
- Temporary shoring/bracing
- MEP anchorage and bracing
- Buckling restrained braces and their gusset plate connections
- Precast concrete elements
- Roof curbs for MEP equipment
- Vibration isolation system for MEP equipment
- Seismic bracing for architectural ceilings
- Stairs where indicated on plan

1. Deferred Submittal components are intended to be vendor designed and have not been designed by the Architect/Engineer. Refer to the drawings, the specifications, and the material sections of these general notes for design and submittal requirements.
2. Deferred Submittal components have not been permitted under the base building application. The contractor shall submit the approved submittals for the Deferred Submittal components to the building official. Deferred Submittal components shall not be installed until the building official has permitted the Deferred Submittal.
3. When the manufacturer is registered and approved to perform work without special inspection, the Contractor is to submit to the Building Official certificates of compliance from the manufacturers at the completion of manufacture stating that the work was performed in accordance with the approved construction documents.

**Structural Observations**
1. Structural Observation by the Structural Engineer is for the purpose of confirming general conformance of the construction with the design intent of the structure.
2. Structural observations will occur as required to confirm general conformance of the construction with the design intent of the structure.
3. Structural Observation is not intended to review the Contractor's construction procedures or the Contractor's conformance with the contract.
4. Structural Observation is not intended to replace the required Special Inspection program.

**Special Inspection**

Special inspections shall be performed by an agency which:
1. Is employed by the owner;
2. Is qualified to perform special inspection activities in accordance with IBC Section 1704.2;
3. Has been approved by the building official to perform special inspections.

The special inspector shall provide written documentation of qualifications per IBC section 1704.2.1.

The special inspector shall furnish inspection reports and a final report in accordance with IBC Section 1704.2.4.

The construction or work for which special inspection is required shall remain accessible and exposed of special inspection purposes until completion of the required special inspections.

Each contractor responsible for the construction of a main wind- or seismic force-resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspection.

**Fabricators**
The special inspector shall verify fabrication and implementation procedures of the following items per IBC Section 1704.2.5 unless the fabricator is registered and approved by the building official to perform such work without special inspection. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building official stating that the work was performed in accordance with the approved construction documents.
1. Structural Steel - to include the requirements of AISC 360 Chapter N.
2. Ready Mix Concrete
3. Light-gage Steel Studs
4. Light-gage Metal Deck

**SUBMITTALS TO SPECIAL INSPECTOR** CERTIFICATE

| | | |
|---|---|---|
| Welding | Structural Steel | AWS D1.1 Prequalification |
| | Light Gage Steel | AWS D1.3 Prequalification |
| | Reinforcing | AWS D1.4 Prequalification |
| | Welding | WABO Certified (all welders) |
| Bolting | High Strength Bolts | Manufacturer's Letter of Certification |
| CMU Walls | Block Units | Manufacturer's Letter of Certification |
| | Grout | Manufacturer's Letter of Certification |
| | Mortar | Manufacturer's Letter of Certification |
| Adhesive Anchor | Epoxy Adhesive | Manufacturer's Letter of Certification |
| Concrete | All Concrete Material | All trip tickets, including water/cement ratio in truck |
| Slab-on-Grade | Concrete | In place water/cement ratio test results |
| Metal Deck Topping | Concrete | In place water/cement ratio test results |

Inspector to review submittals before installation begins. Inspector must inspect job from approved & stamped design & shop drawings, including all clarifications, both written & in drawing form.

## STATEMENT OF SPECIAL INSPECTIONS

**Seismic Requirements (IBC 1704.3.2)**

Special Inspections for Seismic Resistance (IBC 1705.12)
Seismic Structural Steel and Steel Elements (IBC 1705.12.1, 1705.12.1.2 and AISC 341 Chapter J):
Special inspection for structural steel seismic force-resisting systems (moment frames, braced frames, steel plate shear walls, etc) and structural steel elements (struts, collectors, chords, foundation elements, etc) shall be in accordance with the quality assurance (QA) requirements of AISC 341 and as noted below;
1. The special inspector shall provide written documentation of practices and personnel as required by AISC 341 sections J3 and J4.
2. Inspection of welding shall be in accordance with AISC 341 Section J6 and Tables J6-1, J6-2, and J6-3, inspection tasks prior, during, and after welding.
3. Inspection of high-strength bolting shall be in accordance with AISC 341 Section J7 and Tables J7-1, J7-2, and J7-3, inspection tasks prior, during, and after bolting.
4. Inspection of protected zones and reduced beam section moment frames shall be in accordance with AISC 341 section J8 and table J8-1
5. Inspection of composite structures shall be in accordance with AISC 341 section J9 and table J9-1, J9-2, and J9-3, inspection tasks prior, during and after concrete placement.

Structural Wood Construction (IBC 1705.12.2):
Structural Wood seismic force-resisting systems (shear walls, diaphragms, collectors, drag struts, hold downs, etc) shall be inspected in accordance with IBC Section 1705.12.2.

Structural Cold-Formed Steel Light Frame Construction (IBC 1705.12.3):
Cold-formed steel light frame seismic force-resisting systems (shear walls, braces, diaphragms, collectors, drag struts, hold downs, etc) shall be inspected in accordance with IBC Section 1705.12.3.

Designated Seismic Systems (IBC 1705.12.4):
The special inspector shall examine architectural, mechanical, and electrical components, supports, and attachments indicated in Table 13.2-1 of ASCE 7 and verify that the label, anchorage or mounting conforms to the certificate of compliance required by Sections 13.2.1 and 13.2.2 of ASCE 7.

Architectural Components (IBC 1705.12.5):
Periodic special inspection is required during erection and fastening of exterior cladding, interior and exterior veneer, and interior and exterior non-bearing walls over 30 feet in height above grade or walking surface, and for anchorage of access floors. Inspection and limitations to be per IBC Section 1705.12.5.

Mechanical, Electrical and Plumbing Components (IBC 1705.12.6):
Periodic special inspection is required during the installation and anchorage of the following items:
1. Electrical equipment for emergency or standby power systems.
2. Piping systems designed to carry hazardous materials and their associated mechanical units.
3. Ductwork designed to carry hazardous materials.
4. Vibration isolation systems where a nominal clearance of 1/4 inch (6.4 mm) or less is required between the equipment support frame and restraint.
5. Minimum clearances of Mechanical and electrical equipment, including duct work, piping systems and their structural supports per IBC section 1705.12.6.6 and ASCE 7 Section 13.2.3

Storage Racks (1705.12.7):
Periodic special inspection is required during the anchorage of storage racks 8 feet (2438 mm) or greater in height per IBC Section 1705.12.7.

Seismic Isolation Systems (IBC 1705.12.8)
Periodic special inspection is required during the fabrication and installation of seismic isolation systems in accordance with IBC Section 1705.12.8.

Cold-Formed Steel Special Bolted Moment Frames (IBC 1705.12.9)
Periodic special inspection is required during the installation of cold-formed special bolted moment frames in accordance with IBC Section 1705.12.9.

Testing and Qualification for Seismic Resistance (IBC 1705.13)
Seismic Structural Steel and Steel Elements (IBC 1705.13.1 and AISC 341):
Nondestructive testing for welded joints within the structural steel seismic force-resisting system shall be in accordance with section J6.2 of AISC 341. This includes testing of k-area welds, CJP Groove welds, where base material is greater than 1.5" thick, welded splices, thermally cut surfaces or beam copes and access holes, reduced beam section repairs, and weld tab removals.

Concrete Reinforcement (IBC 1705.12 Item 1 and 1705.12.1):
Certified mill test reports indicating compliance with Section 20.2.2 of ACI 318 shall be provided for each shipment of reinforcement used in those elements designated in the drawings as shear walls, moment frames, and coupling beams.

Seismic Certification of Designated Seismic Systems (IBC 1705.13.3)
Manufacturer's certification of seismic qualification in accordance with Section 13.2.2 of ASCE 7 shall be provided for active mechanical and electrical equipment that must remain operable following the design earthquake ground motion and for components with hazardous substances.

Seismic Certification of Architectural, Mechanical and Electrical Components (IBC 1705.13.2):
Manufacturer's certification of seismic qualification by analysis, testing or experience data in accordance with ASCE 7 Section 13.2 as well as the applicable sections indicated in ASCE 7 Table 13.2-1 shall be provided for architectural, mechanical and electrical components, supports and attachments per IBC Section 1705.13.2.

Wind Requirements (IBC 1705.11)
Special inspections for wind resistance are not required.

## STATEMENT OF SPECIAL INSPECTIONS (cont.)

Steel Construction (IBC 1705.2 and AISC 360 Chapter N)
Special inspection for structural steel shall be in accordance with the quality assurance (QA) requirements of AISC 360.

Inspection of welding shall be in accordance with;
1. AISC 360 sections N4.2 and N5.4
2. AISC 360 Table N5.4-1 - Inspection Tasks Prior to Welding
3. AISC 360 Table N5.4-2 - Inspection Tasks During Welding
4. AISC 360 Table N5.4-3 - Inspection Tasks After Welding
5. Nondestructive testing of welded joints shall be in accordance with AISC 360 sections N4.3 and N5.5

Inspection of high-strength bolting shall be in accordance with;
1. AISC 360 sections N5.6
2. AISC 360 Table N5.6-1 - Inspection Tasks Prior to Bolting
3. AISC 360 Table N5.6-2 - Inspection Tasks During Bolting
4. AISC 360 Table N5.6-3 - Inspection Tasks After Bolting

Other Inspection tasks, including inspection of anchor rods and embedments supporting structural steel shall be in accordance with AISC 360 N5.8.

Inspection of composite construction, including steel deck, headed stud anchors shall be in accordance with;
1. AISC 341 Section J9
2. AISC 341 Tables J9.1 - J9.3 - Inspection of Steel Elements of Composite Construction Prior to Concrete Placement

Quality assurance inspections, testing and report submittal shall be in accordance with AISC 360 sections N5.2 and N7.

Cold-Formed Steel Deck (IBC 1705.2.2)
Special inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC and in accordance with IBC Section 1705.2.2.

Concrete Construction (IBC 1705.3)
Special inspection for concrete construction shall be in accordance with IBC Table 1705.3 - Required Verification and Inspection of Concrete Construction.

Masonry Construction (IBC 1705.4)
Special inspections and tests for masonry construction shall be in accordance with the quality assurance requirements of TMS 402-16 section 1.3 and TMS 602-16 section 1.6.

*(use for risk categories I, II, or III)*
1. Inspection and testing of CMU shall be in accordance with TMS 602-16 Table 3 and Table 4 (Level 2 Quality Assurance)
2. Inspection of Masonry Veneer shall verify compliance with the approved submittals. (Level 1 Quality Assurance)

*(use for risk category IV)*
1. Inspection and testing of CMU shall be in accordance with TMS 602-16 Table 3 and Table 4 (Level 3 Quality Assurance)
2. Inspection and testing of Masonry Veneer shall be in accordance with TMS 602-16 Table 3 and Table 4 (Level 2 Quality Assurance)

Soils (IBC 1705.6)
Special inspection for existing site soil conditions, fill placement and load-bearing requirements shall be in accordance with;
1. IBC 1705.6
2. IBC Table 1705.6 - Required verification and Inspection of Soils

Fabricated Items (IBC 1705.10)
Special inspections of fabricated items shall be in accordance with IBC Section 1705.10.

Sprayed Fire-Resistant Materials (IBC 1705.14)
Special inspection for sprayed fire-resistant materials shall be in accordance with IBC Sections 1705.14.1 though 1705.14.6

Mastic and Intumescent Fire-Resisting Coatings (IBC 1705.15)
Special inspection for mastic and intumescent fire-resistant materials shall be in accordance with IBC Sections 1705.15 and AWCI 12-B

Fire-Resistant Penetrations and Joints (IBC 1705.17)
Special inspection for fire-resistant penetrations and joints shall be in accordance with IBC Sections 1705.17, 1705.17.1, and 1705.17.2

Smoke Control (IBC 1705.18)
Special inspection for smoke control systems shall be in accordance with IBC Sections 1705.18

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City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

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| Date | Description |
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| 1.30.23 | IFC Revisions |

STRUCTURAL GENERAL NOTES

S002

IFC SET

PRCNC20221036

ABBREVIATIONS

| | |
|---|---|
| ***MISC** | |
| " | INCH, INCHES |
| # | NUMBER or POUND |
| % | PERCENT |
| & | AND |
| ' | FOOT, FEET |
| = | EQUAL |
| @ | AT |
| CL | CENTERLINE |
| FL | FLAT PLATE |
| L | ANGLE |
| PL | PLATE |
| SQ/FT | SQUARE FOOT |
| ° | DEGREE |
| ± | PLUS OR MINUS |
| Ø | DIAMETER |
| ≤ | LESS THAN OR EQUAL TO |
| ≥ | MORE THAN OR EQUAL TO |
| ***A*** | |
| AB | ANCHOR BOLT |
| ACI | AMERICAN CONCRETE INSTITUTE |
| ADD | ADDENDUM |
| ADDL | ADDITIONAL |
| ADH | ADHESIVE |
| ADJ | ADJACENT |
| AEC | ARCHITECTURAL, STRUCTURAL and ENGINEERING |
| AESS | ARCHITECTURALLY EXPOSED STRUCTURAL STEEL |
| AFF | ABOVE FINISH FLOOR |
| AHU | AIR HANDLING UNIT |
| AISC | AMERICAN INSTITUTE of STEEL CONSTRUCTION |
| ALT | ALTERNATE |
| ANCH | ANCHOR, ANCHORAGE |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE |
| APPROX | APPROXIMATE |
| AR | ANCHOR ROD |
| ARCH | ARCHITECT, ARCHITECTURAL |
| ASCE | AMERICAN SOCIETY of CIVIL ENGINEERS |
| ASTM | AMERICAN SOCIETY FOR TESTING AND MATERIALS |
| ATR | ALL THREADED REBAR |
| AWS | AMERICAN WELDING INSTITUTE |
| ***B*** | |
| BAL | BALANCE |
| BCX | BOTTOM CHORD EXTENSION |
| BF | BRACED FRAME |
| BLDG | BUILDING |
| BLKG | BLOCKING |
| BM | BEAM |
| BOD | BOTTOM OF DECK |
| BOF | BOTTOM OF FOOTING, FOUNDATION |
| BOS | BOTTOM OF STEEL |
| BOT | BOTTOM |
| BP | BASE PLATE or BUTTON PUNCH |
| BRB | BUCKLING RESTRAINT BRACE |
| BRG | BEARING |
| BS | BOTH SIDES |
| BSMT | BASEMENT |
| BTWN | BETWEEN |
| ***C*** | |
| (c) | COLLECTOR |
| C | CAMBER or CHANNEL |
| C-C | CENTER TO CENTER |
| C-GROUT | COURSE GROUT |
| CANT | CANTILEVER |
| CF | CUBIC FOOT |
| CFP | POLYFIBER REINFORCING (SEE SPECS) |
| CIP | CAST-IN-PLACE |
| CJ | CONTROL JOINT |
| CJP | COMPLETE JOINT PENETRATION |
| CL | CENTERLINE |
| CLR | CLEAR, CLEARANCE |
| CLT | CROSS LAMINATED TIMBER |
| CMU | CONCRETE MASONRY UNIT |
| COL | COLUMN |
| COMP | COMPOSITE or COMPRESSION |
| CONC | CONCRETE |
| CONFIG | CONFIGURATION |
| CONN | CONNECTION |
| CONST | CONSTRUCTION |
| CONT | CONTINUOUS |
| CONTR | CONTRACTOR |
| COORD | COORDINATE |
| CRSI | CONCRETE REINFORCING STEEL INSTITUTE |
| CTR | CENTER, CENTERED |
| CU | CUBIC |
| CW | CURTAIN WALL |
| CY | CUBIC YARD |
| ***D*** | |
| d | PENNY (NAIL) |
| DBA | DEFORMED BAR ANCHOR |
| DBL | DOUBLE |
| DC | DEMAND CRITICAL |
| DEG | DEGREE |
| DEMO | DEMOLISH, DEMOLITION |
| DIA | DIAMETER |
| DIAG | DIAGONAL |
| DIAPH | DIAPHRAGM |
| DIM | DIMENSION |
| DISC | DISCONTINUE, DISCONTINUOUS |
| DL | DEAD LOAD |
| DN | DOWN |
| do. | DITTO |
| DP, D | DEEP, DEPTH |
| DTL | DETAIL |
| DWG, DWGS | DRAWING, DRAWINGS |
| DWL, DWLS | DOWEL, DOWELS |
| ***E*** | |
| EA | EACH |
| EB | EXPANSION BOLT |
| EF | EACH FACE |
| EJ | EXPANSION JOINT |
| EL | ELEVATION |
| ELECT | ELECTRICAL |
| ELEV | ELEVATOR |
| EMBED | EMBEDMENT |
| ENGR | ENGINEER |
| EOD | EDGE OF DECK |
| EOS | EDGE OF SLAB |
| EQ | EQUAL |
| EQP, EQUIP | EQUIPMENT |
| ES | EACH SIDE |
| EW | EACH WAY |
| EXIST, (E) | EXISTING |
| EXP | EXPANSION |
| EXT | EXTERIOR |

ABBREVIATIONS

| | |
|---|---|
| ***F*** | |
| F-GROUT | FINE GROUT |
| FAB | FABRICATE |
| FB | FLAT BAR |
| FCJ | FLOOR CONTROL JOINT |
| FDN, FDTN | FOUNDATION |
| FFE | FINISH FLOOR ELEVATION |
| FIL | FILLET |
| FIN | FINISH |
| FLG | FLANGE |
| FLI | FERRULE LOOP INSERT |
| FLR | FLOOR |
| FOB | FACE OF BRICK |
| FOC | FACE OF CONCRETE |
| FOM | FACE OF MASONRY |
| FOS | FACE OF STUD |
| FOSW | FACE OF STEM WALL |
| FOV | FACE OF VENEER |
| FOW | FACE OF WALL |
| FRC | FLANGE BAR COUPLER |
| FRMG | FRAMING |
| FS | FAR SIDE |
| FT | FOOT, FEET |
| FTG | FOOTING |
| ***G*** | |
| GA | GAUGE, GAGE |
| GALV | GALVANZIED |
| GB | GRADE BEAM |
| GC | GENERAL CONTRACTOR |
| GLB | GLUE LAMINATED BEAM |
| GP | GUSSET PLATE |
| GR | GRADE, GRADING |
| GWB | GYPSUM WALL BOARD |
| ***H*** | |
| HAS | HEADED ANCHOR STUD |
| HCP | HOLLOW CORE PLANK |
| HCS | HOLLOW CORE SLAB |
| HDG | HOT DIPPED GALVANIZED |
| HDR | HEADER |
| HGR | HANGER |
| HORIZ, H | HORIZONTAL |
| HP | HIGH POINT or BEARING PILE |
| HSB | HIGH STRENGTH BOLT |
| HSS | HOLLOW STRUCTURAL SECTION |
| HT | HEIGHT |
| HVAC | HEATING/ VENTILATION/ AIR CONDITIONING |
| ***I*** | |
| IBC | INTERNATIONAL BUILDING CODE |
| ICBO | INTERNATIONAL CONFERENCE of BUILDING OFFICIALS |
| ICC-ES | ICC EVALUATION SERVICE |
| ICMU | INSULATED CONCRETE MASONRY UNIT |
| ID | INSIDE DIAMETER |
| IF | INSIDE FACE |
| IJ | ISOLATION JOINT |
| IN | INCH, INCHES |
| INCL | INCLUDED, INCLUDING |
| INFO | INFORMATION |
| INSUL | INSULATION |
| INT | INTERIOR |
| INV | INVERT |
| ***J*** | |
| JST | JOIST |
| JT, JTS | JOINT, JOINTS |
| ***K*** | |
| k, KIP | KILOPOUND |
| KSF | KIPS PER SQUARE FOOT |
| ksi | KIPS PER SQUARE INCH |
| ***L*** | |
| L | ANGLE or LENGTH |
| LAT | LATERAL |
| LB | LAG BOLT OR POUND |
| LE | LEFT END |
| LF | LINEAR FOOT |
| LFRS | LATERAL FORCE RESISTING SYSTEM |
| LGT, LONG | LONGITUDINAL |
| LIB | LOAD INDICATOR BOLT |
| LIN | LINEAR |
| LIW | LOAD INDICATOR WASHER |
| LL | LIVE LOAD |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| LNDG | LANDING |
| LNTL | LINTEL |
| LOC | LOCATION |
| LP | LOW POINT |
| LSH | LONG SLOTTED HOLE |
| LSL | LAMINATED STUD LUMBER |
| LVL | LAMINATED VENEER LUMBER |
| ***M*** | |
| MAS | MASONRY |
| MATL | MATERIAL |
| MAX | MAXIMUM |
| MB | MACHINE BOLT (A-307) |
| MC | MISCELLANEOUS CHANNEL |
| MCR | MODIFIED CHLOROPRENE RUBBER |
| MECH | MECHANICAL |
| MEP | MECHANICAL, ELECTRICAL, PLUMBING |
| MEZZ | MEZZANINE |
| MF | MOMENT FRAME |
| MFR | MANUFACTURER |
| MID | MIDDLE |
| MIN | MINIMUM |
| MISC | MISCELLANEOUS |
| MLB | MICROLAM BEAM |
| MO | MASONRY OPENING |
| MPT | MAGNETIC-PARTICLE TEST |
| MT | STRUCTURAL TEE CUT FROM 'M' SECTION |
| MTL | METAL |
| ***N*** | |
| N-GROUT | NON-SHRINK GROUT |
| NIC | NOT IN CONTRACT |
| NLB | NON-LOAD BEARING |
| NO | NUMBER |
| NOM | NOMINAL |
| NS | NEAR SIDE |
| NTS | NOT TO SCALE |
| ***O*** | |
| OC | ON CENTER |
| OD | OUTSIDE DIAMETER |
| OF | OUTSIDE FACE |
| OH | OVERSIZED HOLE |
| OPNG | OPENING |
| OPP | OPPOSITE |
| OPP HD | OPPOSITE HAND |
| OPT | OPTIONAL |
| OSB | ORIENTED STRAND BOARD |
| OWJ | OPEN WEB JOIST |

ABBREVIATIONS

| | |
|---|---|
| ***P*** | |
| PAF | POWER ACTUATED FASTENER |
| PC | PRECAST CONCRETE |
| PCF | POUNDS PER CUBIC FOOT |
| PDF | POWER DRIVEN FASTENERS |
| PEN | PENETRATION |
| PERIM | PERIMETER |
| PERP | PERPENDICULAR |
| PHW | PARTIAL HEIGHT WALL |
| PJP | PARTIAL JOINT PENETRATION |
| PL | PLATE |
| PLF | POUNDS PER LINEAL FOOT |
| PLYWD | PLYWOOD |
| PP | PARTIAL PENETRATION |
| PREFAB | PREFABRICATED |
| PRELIM | PRELIMINARY |
| PRSTR | PRESTRESSED |
| PSC | PRESTRESSED CONCRETE |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PSL | PARALLEL STRAND LUMBER |
| PT | POINT |
| PTC | POST-TENSION CONCRETE |
| PTFE | POLYTETRAFLUOROETHYLENE |
| PVC | POLYVINYL CHLORIDE |
| ***Q*** | |
| QTY | QUANTITY |
| ***R*** | |
| R | RADIUS |
| RC | REINFORCED CONCRETE |
| RE | REFER TO |
| REF | REFERENCE |
| REINF | REINFORCE(D), (ING), (MENT) |
| REQD | REQUIRED |
| RETG | RETAINING |
| REV | REVISION, REVISED |
| RFRE | RANDOM FIBER REINFORCED ELASTOMERIC |
| RJ | RUSTICATION JOINT |
| RO | ROUGH OPENING |
| RTU | ROOF TOP UNIT |
| ***S*** | |
| S | AMERICAN STANDARD SHAPE |
| SC | SLIP CRITICAL |
| SCH, SCHED | SCHEDULE |
| SEC | SECURITY |
| SECT | SECTION |
| SF | SQUARE FOOT |
| SHT | SHEET |
| SHTG | SHEATHING |
| SIM | SIMILIAR |
| SOG | SLAB ON GRADE |
| SPA | SPACING |
| SPEC | SPECIFICATION |
| SQ | SQUARE |
| SS | STAINLESS STEEL |
| SSH | SHORT SLOTTED HOLE |
| SSPC | SOCIETY for PROTECTIVE COATINGS |
| ST | STRUCTURAL TEE CUT FROM 'S' SECTION |
| STD | STANDARD |
| STGD | STAGGERED |
| STIFF | STIFFENER |
| STL | STEEL |
| STR | STAIR |
| STRUCT | STRUCTURAL |
| SW | SHEAR WALL |
| SYM | SYMMETRICAL |
| ***T*** | |
| T&B | TOP AND BOTTOM |
| T&G | TONGUE AND GROOVE |
| TCX | TOP CHORD EXTENSION |
| TEMP | TEMPERATURE, TEMPERED, TEMPORARY |
| TENS | TENSION |
| THK | THICK, THICKNESS |
| THRD | THREAD, THREADED |
| TOB | TOP OF BEAM |
| TOC | TOP OF CONCRETE |
| TOCW | TOP OF CONCRETE WALL |
| TOF | TOP OF FOOTING |
| TOP | TOP OF PARAPET |
| TOS | TOP OF STEEL |
| TOSLAB | TOP OF SLAB |
| TOW | TOP OF WALL |
| TPG | TOPPING |
| TRA | THREADED ROD IN ADHESIVE ANCHOR |
| TRANS | TRANSVERSE |
| TSF | THICKENED SLAB FOOTING |
| TYP | TYPICAL |
| ***U*** | |
| UBC | UNIFORM BUILDING CODE |
| UFRC | UPSET END FLANGE REBAR COUPLER |
| UNO | UNLESS NOTED OTHERWISE |
| UT | ULTRASONIC TEST |
| ***V*** | |
| VERT, V | VERTICAL |
| VIF | VERIFY IN FIELD |
| VMS | VERTICAL MOVEMENT SYSTEM |
| VNR | VENEER |
| ***W*** | |
| W | WIDTH or WIDE FLANGE |
| W/ | WITH |
| W/O | WITHOUT |
| WABO | WASHINGTON ASSOCIATION of BUILDING OFFICIALS |
| WCJ | WALL CONTROL JOINT |
| WD | WOOD |
| WF | WIDE FLANGE |
| WP | WORKING POINT |
| WPS | WELDING PROCEDURES SPECIFICATIONS |
| WS | WELD STUD |
| WT | WEIGHT or STRUCTURAL TEE CUT FROM 'W' SECTION |
| WWF | WELDED WIRE FABRIC |
| ***X*** | |
| X-STR | EXTRA STRONG |
| XX-STR | DOUBLE EXTRA STRONG |

## LEGEND

**COLUMNS**

- HSS Column in Plan
- Pipe Column in Plan
- Wide Flange Column in Plan

**MEMBERS**

- 20LH 280/140 — Open Web Steel Designation *[Depth] [Type] [Total Load]/[Live Load]* (PLF) (PLF)
- 16" I-Joist@24, 110/60 — Wood I-Joist Designation *[Depth] I-Joist @ Spacing [Total Load (PLF)]/[Live Load (PLF)]*
- [#] W12x26 [#], C=__ N=__ — [Beam Reaction] Beam Size [Beam Reaction]
- Camber & Number of Weld Studs Designation

**CONNECTIONS**

- Denotes Shear Connection
- Backspan / Cantilever — Denotes Cantilever Moment Connection (Size of Cantilever Beam matches the size of the Backspan Beam, UNO)
- Denotes Thermal Break Connection
- Denotes Braced Frame
- At Bottom Flange — Bottom Flange Bracing

**WALLS**

- Existing Concrete in Plan or Section
- Cast-in-Place Concrete in Plan or Section
- Precast Concrete in Plan or Section
- CMU in Plan or Section
- Structural Stud Wall in Plan
- Full Height Wall below
- NLB — Full Height Non-Load Bearing Wall below
- Lintel Beam in Plan

**SOILS**

- Natural Grade/Earth
- Structural Fill
- Compacted Gravel
- Capillary Break

**LINEWORK**

- Matchline
- Floor Control Joint (FCJ)

**ANNOTATION/SYMBOLS**

- S S S / S S S — Stepped Footing in Plan
- 100'-0" T.O.F. — Top of Footing Elevation
- EL. = 100'-0" — Top of Slab Elevation
- DEPTH — *Depth of Depression*
- Slab Depression
- *Extent of Depression in Plan*
- Direction of Framing Designation
- Extent of Framing Designation
- Hold Down
- Column Mark / Note — Column Size Designation
- CMU Designation
- Structural Stud Shear Wall Designation
- Column/Wall Footing Designation
- Timber Connector Designation

**REFERENCE SYMBOLS**

- Direction of View
- 1 / S101 — Detail/Section Number Designation
- Sheet Detailed on Designation
- 1 / S101 — Detail/Section Number Designation
- Sheet Detailed on Designation
- A — Reference for Portion of Details


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THOMAS H. DANIEL — 38621 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM |
| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

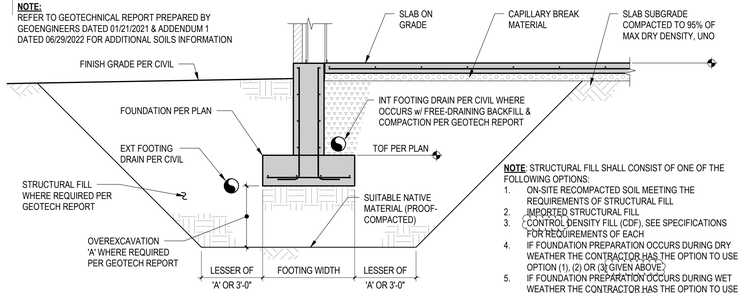
STRUCTURAL GENERAL NOTES

**S003**

**IFC SET**

PRCNC20221036

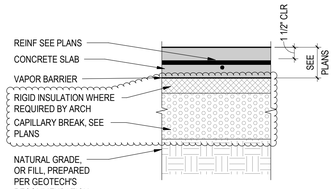
**NOTE:**
REFER TO GEOTECHNICAL REPORT PREPARED BY GEOENGINEERS DATED 01/21/2021 & ADDENDUM 1 DATED 06/29/2022 FOR ADDITIONAL SOILS INFORMATION




**NOTE**: STRUCTURAL FILL SHALL CONSIST OF ONE OF THE FOLLOWING OPTIONS:
1. ON-SITE RECOMPACTED SOIL MEETING THE REQUIREMENTS OF STRUCTURAL FILL
2. IMPORTED STRUCTURAL FILL
3. CONTROL DENSITY FILL (CDF), SEE SPECIFICATIONS FOR REQUIREMENTS OF EACH
4. IF FOUNDATION PREPARATION OCCURS DURING DRY WEATHER THE CONTRACTOR HAS THE OPTION TO USE OPTION (1), (2) OR (3) GIVEN ABOVE.
5. IF FOUNDATION PREPARATION OCCURS DURING WET WEATHER THE CONTRACTOR HAS THE OPTION TO USE OPTION (2) OR (3) GIVEN ABOVE.

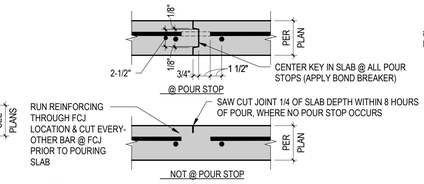
S03F31

## 1 TYPICAL SUB-GRADE PREPARATION DETAIL
SCALE: 1/2" = 1'-0"




S03L02

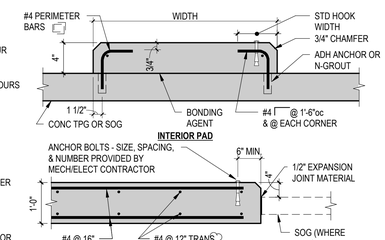
## 3 TYPICAL SLAB-ON-GRADE SECTION
SCALE: 1 1/2" = 1'-0"




**NOTE:**
1. REFER TO ARCH FLOOR PLANS FOR JOINT LAYOUT AT EXPOSED FLOORS. AT ALL OTHER LOCATIONS, LAY OUT JOINTS WITH MAX SPACING TO BE 15'-0"oc. LENGTH/WIDTH OF JOINT SPACING NOT TO EXCEED 1.5:1.
2. RIGID FLOOR FINISHES NOT TO CROSS OVER FCJ'S. COORDINATE FCJ'S W/ FLOORING INSTALLER
3. FC JS SHOWN IN PLAN ARE SCHEMATIC. CONTRACTOR TO SUBMIT JOINT LOCATIONS FOR DESIGN TEAM APPROVAL, WHICH COMPLY WITH CONDITIONS LISTED HERE.

S03L14

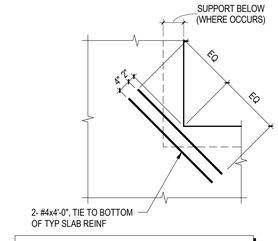
## 4 FLOOR CONTROL JOINTS (FCJ) INTERIOR SLAB-ON-GRADE
SCALE: 1 1/2" = 1'-0"




**NOTE:** SIZE OF PAD TO BE PROVIDED BY EQUIP MFR SEE MECH/ELECT DWGS FOR PAD LOCATIONS

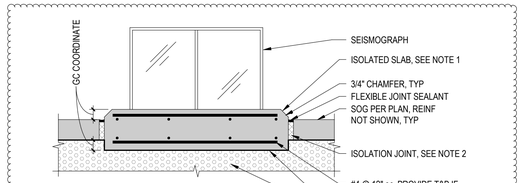
S03L18

## 5 MECH/ELECT EQUIPMENT PAD
SCALE: 1" = 1'-0"




**NOTE:**
USE IN STRUCTURAL SLABS, CONC TOPPING OVER METAL DECK & SLAB-ON-GRADE AT OPENINGS, DEPRESSIONS OR RE-ENTRANT CORNERS

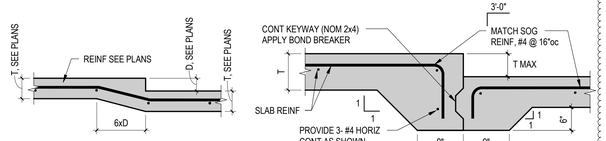
## 6 ADDITIONAL SLAB REINF AT REENTRANT CORNERS
SCALE: 3/4" = 1'-0"




**NOTES:**
1. GC COORDINATE SIZE AND THICKNESS OF PAD PER MANUFACTURER'S REQUIREMENTS.
2. GC COORDINATED SIZE OF ISOLATION JOINT PER MANUFACTURER'S REQUIREMENTS

## 7 ISOLATED SEISMOGRAPH PAD
SCALE: 1" = 1'-0"

**NOTES:**
1. T = SLAB THICKNESS
2. D = SLAB DEPRESSION DEPTH

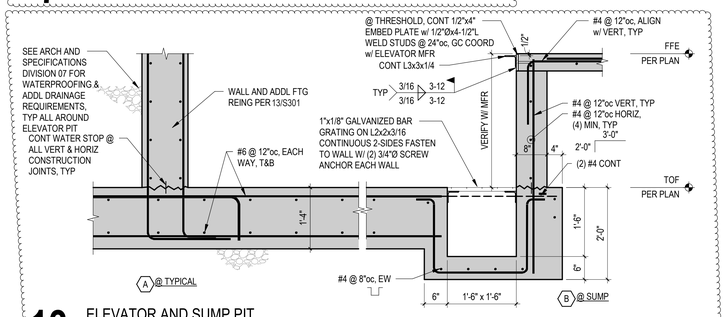



A SLAB DEPRESSION (MAX D=T/2)

B SLAB DEPRESSION (MAX D=T)

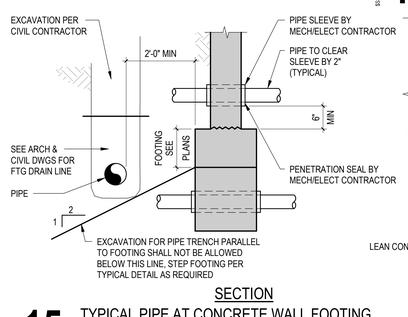
S03L27

## 10 SLAB-ON-GRADE ELEVATION CHANGE
SCALE: 1" = 1'-0"




S03F31

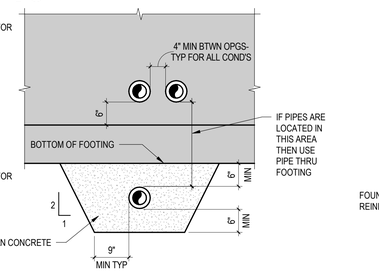
## 13 ELEVATOR AND SUMP PIT
SCALE: 3/4" = 1'-0"



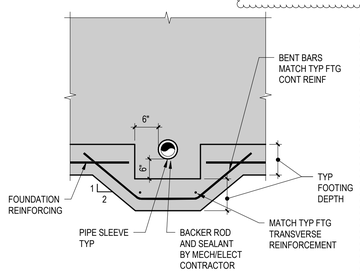

SECTION

S03F18

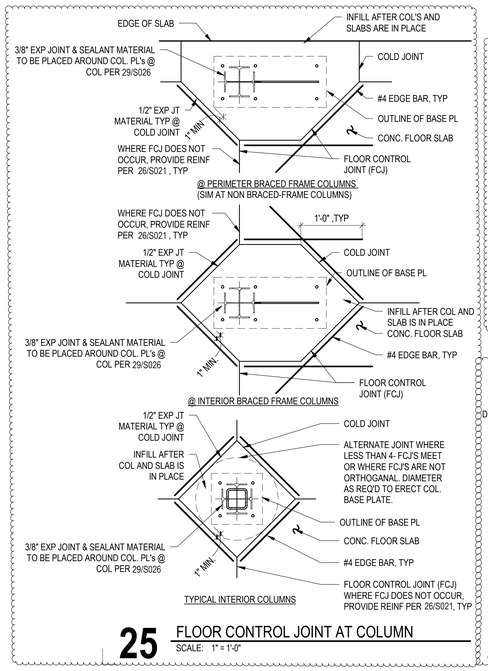
## 15 TYPICAL PIPE AT CONCRETE WALL FOOTING
SCALE: 3/4" = 1'-0"



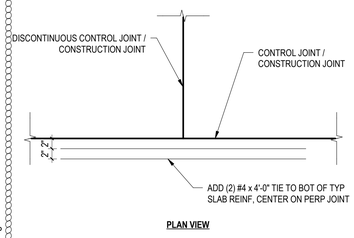

PIPE ABOVE OR BELOW FOOTING




PIPE THRU FOOTING

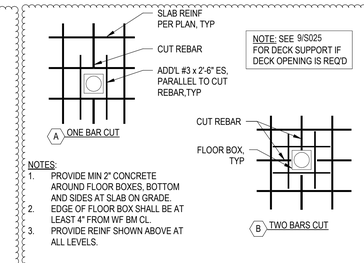



## 25 FLOOR CONTROL JOINT AT COLUMN
SCALE: 1" = 1'-0"




PLAN VIEW

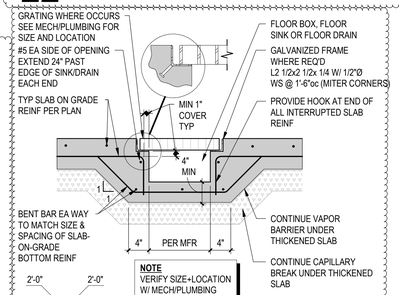
## 26 DISCONTINUOUS CONTROL JOINT
SCALE: 1" = 1'-0"




A ONE BAR CUT

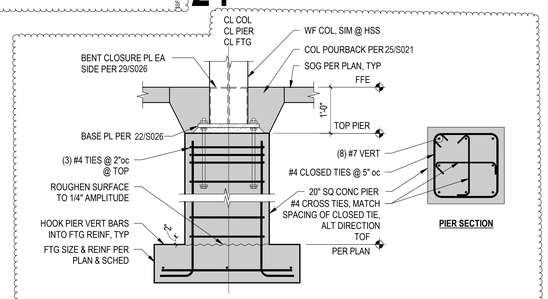
NOTES:
1. PROVIDE MIN 2" CONCRETE AROUND FLOOR BOXES, BOTTOM AND SIDES AT SLAB ON GRADE.
2. EDGE OF FLOOR BOX SHALL BE AT LEAST 4" FROM WF BM CL.
3. PROVIDE REINF SHOWN ABOVE AT ALL LEVELS.

## 27 REINF AT ELECTRICAL FLOOR BOXES
SCALE: 3/4" = 1'-0"



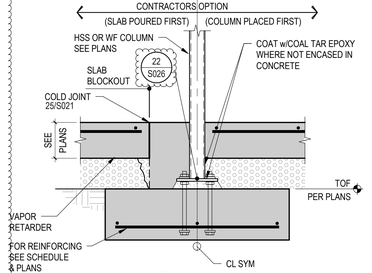

**NOTE**
VERIFY SIZE+LOCATION W/ MECH/PLUMBING

## 28 ELEC BOX/FLOOR SINK
SCALE: 1" = 1'-0"

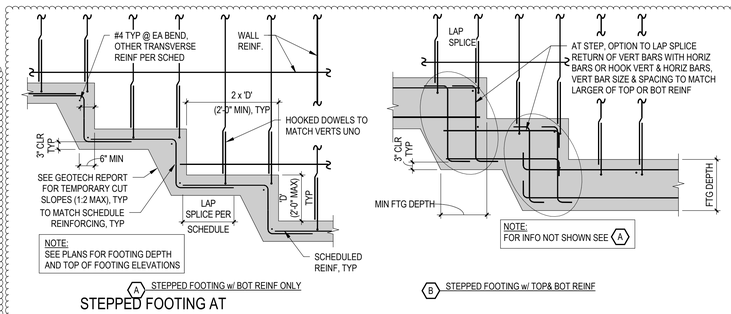



PIER SECTION

## 30 GRAVITY COLUMN PIER DETAIL
SCALE: 3/4" = 1'-0"




## 24 COLUMN BASE ON CONCRETE FOOTING
SCALE: 1" = 1'-0"




A STEPPED FOOTING w/ BOT REINF ONLY

B STEPPED FOOTING w/ TOP& BOT REINF

## 22 STEPPED FOOTING AT CONCRETE WALLS
SCALE: 1/2" = 1'-0"

S03F36

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# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING
1601 39th AVE SE
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City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM/RB |
| Checked by: | TD |

Revisions

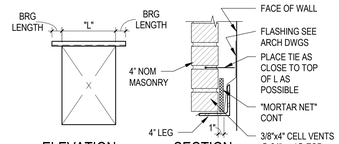
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

TYPICAL FOUNDATION DETAILS

S021

IFC SET

PRCNC20221036




ELEVATION SECTION

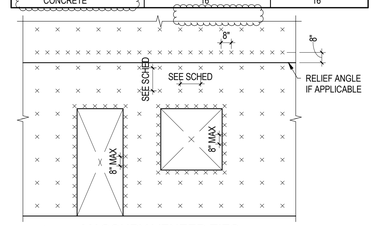
| CLEAR SPAN "L" | LINTEL (LLV) | BRG LENGTH |
|---|---|---|
| UP TO 6'-0" | L4x4x5/16 | 0'-8" |
| 6'-0" TO 9'-0" | L6x4x5/16 | 1'-0" |

**NOTE:**
ALL LINTEL ANGLES ARE TO BE HOT DIP GALVANIZED

## 5 MASONRY VENEER LINTEL SCHEDULE

SCALE: NTS

| VENEER TIE SPACING SCHEDULE | | |
|---|---|---|
| SUBSTRATE | HORIZONTAL SPACING | VERTICAL SPACING |
| METAL STUDS @ 16oc | 16" | 16" |
| CONCRETE | 16" | 16" |




## 6 MASONRY VENEER TIES

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

| ANCHOR | WELD STUDS | SCREW ANCHOR | EXPANSION BOLTS | ADHESIVE ANCHOR | ANCHOR RODS |
|---|---|---|---|---|---|
| TYPE | HEADED | FLUSH | BOLT | INJECTION | HEADED |
| DIAMETER | LENGTH | EMBED | EMBED | EMBED | EMBED |
| 1/4" | 4 1/8" | 1" | 2" | 3" | --- |
| 3/8" | 4 1/8" | 1 1/2" | 3 1/2" | 4" | --- |
| 1/2" | 5 5/16" | 2" | 4" | 4 1/2" | 6" |
| 5/8" | 6 9/16" | 5" | 4 1/2" | 5 1/2" | 7 1/2" |
| 3/4" | 6 3/16" | 6" | 5" | 6 1/2" | 9" |
| 7/8" | 7 3/16" | --- | 5 1/2" | 7 1/2" | 10 1/2" |

NOTES:
1. ALL ANCHORS IN CMU TO BE IN FULLY GROUTED CELLS & ARE NOT ALLOWED IN HEAD JOINTS
2. SCREEN SLEEVES REQUIRED FOR ADHESIVE CONNECTION IN CMU & BRICK
3. EMBEDMENTS INDICATED ARE MINIMUMS. SEE DETAILS FOR LOCATIONS REQUIRING ADDITIONAL EMBEDMENT

## 12 STANDARD ANCHOR EMBEDMENT

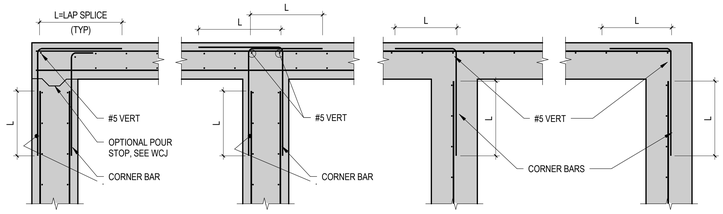
SCALE: 3/4" = 1'-0"




NOTES:
1. FOR LAP SPLICE SEE STRUCTURAL GENERAL NOTES ON S001
2. ALL VERTICAL REINFORCING IN CONCRETE WALLS SHALL BE CONTINUOUS FROM STRUCTURAL FLOOR TO STRUCTURAL FLOOR OR FROM TOP OF FOOTING TO FIRST STRUCTURAL FLOOR ABOVE UNLESS NOTED OR SHOWN OTHERWISE IN SECTION
3. SEE DETAILS AND/OR ELEVATIONS FOR CONCRETE WALL REINFORCING SIZES AND SPACING

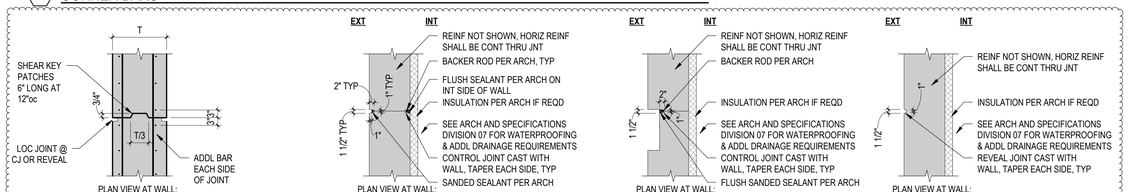
## 25 CONCRETE WALL REINFORCING SCHEDULE AND PLACEMENT GUIDE

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




NOTES:
1. FOR LAP SPLICES SEE STRUCTURAL GENERAL NOTES
2. CORNER BARS SAME SIZE AND SPACING AS HORIZ REINF
3. FOR CORNER BARS INTERRUPTED BY OPENINGS, HOOK AROUND OPENING VERTS w/180° HOOK

### A CORNER BARS




PLAN VIEW AT WALL: VERTICAL CONSTRUCTION JOINT

VERTICAL CONSTRUCTION JOINT NOTES:
1. ALL REINF PERPENDICULAR TO JOINT TO CONTINUE THROUGH JOINT
2. LOCATE JOINT NEAR THE 1/3 POINT OF THE SPAN BUT NOT AT A PLANNED BAR. SPLICE, UNO ON DWGS
3. CLEAN JOINT OF LAITANCE, & PAINT w/BONDING AGENT PRIOR TO SECOND POUR
4. NOT REQUIRED TO EXTEND THROUGH WALL FOOTING

PLAN VIEW AT WALL: CONTROL JOINTS

CONTROL JOINT NOTES:
1. LOCATE PER ARCH AT EXPOSED LOCATIONS
2. AT L0 TO L1 INTERIOR WALLS NOT EXPOSED TO VIEW, LOCATE JOINTS AT 30'-0" MAX, SUBMIT JOINT LAYOUT TO EOR FOR APPROVAL PRIOR TO CONSTRUCTION
3. DO NOT EXTEND JOINT THROPUGH WALL FOOTING

PLAN VIEW AT WALL: CONTROL JOINTS @ DOWNSPOUT RECESS

CONTROL JOINTS @ DOWNSPOUT RECESS NOTES:
1. LOCATE PER ARCH
2. SEE 9/S301 FOR ADDITIONAL INFO
3. DO NOT EXTEND JOINT THROPUGH WALL FOOTING

PLAN VIEW AT WALL: ARCH REVEAL

ARCH REVEAL NOTES:
1. LOCATE PER ARCH
2. DO NOT EXTEND JOINT THRU FOOTING

### B VERTICAL CONSTRUCTION JOINT (CJ)

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117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
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THOMAS H. DANIEL — 38621 — STATE OF WASHINGTON — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
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City of Puyallup
Development & Permitting Services
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Revisions

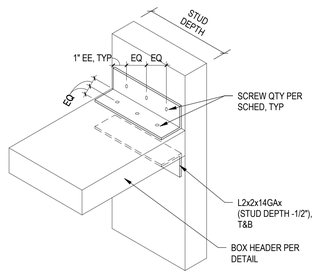
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

TYPICAL CONCRETE AND VENEER DETAILS

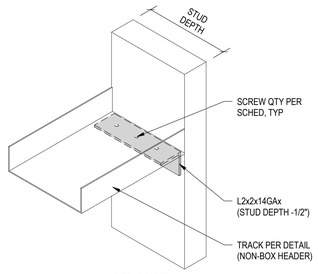
**S022**

IFC SET

PRCNC20221036

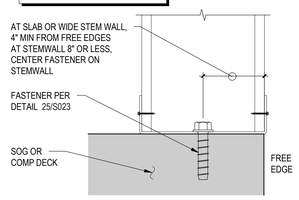


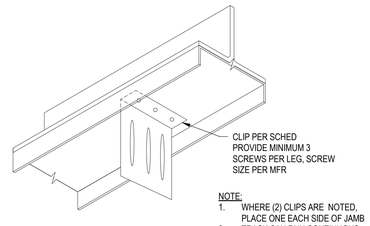

@ BOX HEADER



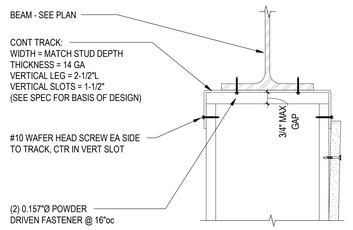

@ TRACK / SILL

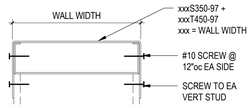
NOTE:
1. FOR INFO NOT SHOWN SEE REFERENCING DETAIL
2. IF NOT AT FREE EDGE, CTR BOLT ON STUD WALL



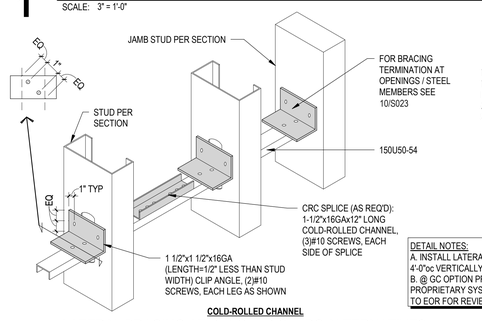

NOTE:
1. WHERE (2) CLIPS ARE NOTED, PLACE ONE EACH SIDE OF JAMB
2. TRACK CAN RUN CONTINUOUS OVER CLIP




## 1 HEADER/SILL AT BOX BEAM

SCALE: 3" = 1'-0"

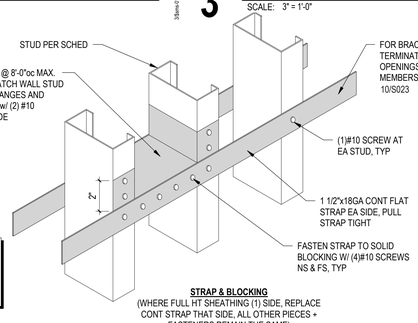



**COLD-ROLLED CHANNEL**

DETAIL NOTES:
A. INSTALL LATERAL BRACING AT 4'-0"oc VERTICALLY
B. @ GC OPTION PROVIDE PROPRIETARY SYSTEM AND SUBMIT TO EOR FOR REVIEW

## 3 TRACK ATTACHMENT DETAIL

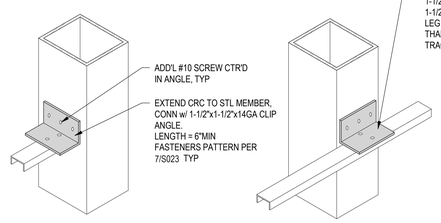
SCALE: 3" = 1'-0"




**STRAP & BLOCKING**
(WHERE FULL HT SHEATHING (1) SIDE, REPLACE CONT STRAP THAT SIDE, ALL OTHER PIECES + FASTENERS REMAIN THE SAME)

## 4 JAMB CONN DETAIL

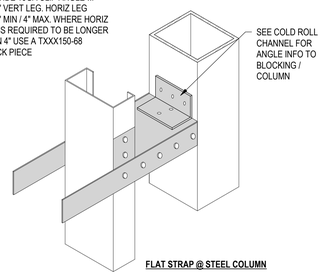
SCALE: 1 1/2" = 1'-0"




**COLD ROLL CHANNEL @ STEEL COLUMN**

## 5 DEFLECTION TRACK AT BOS

SCALE: 3" = 1'-0"

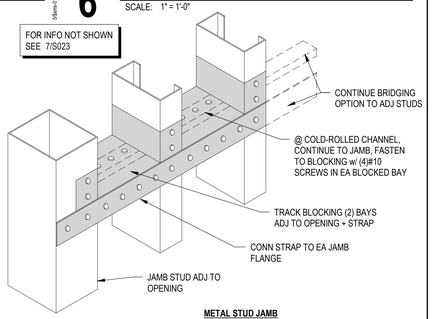



**FLAT STRAP @ STEEL COLUMN**

## 6 SILL DETAIL

SCALE: 1" = 1'-0"

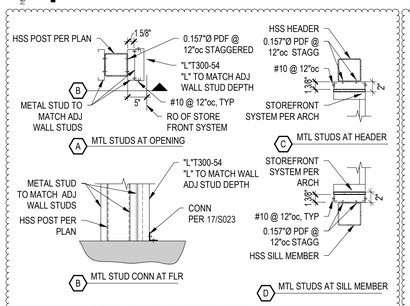
FOR INFO NOT SHOWN SEE 7/S023




**METAL STUD JAMB**

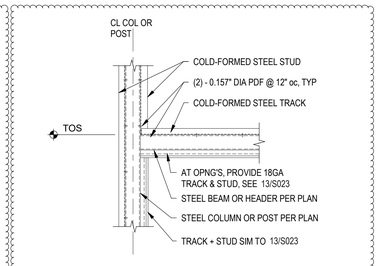
## 7 LATERAL BRACING AT PUNCHED STUDS ALTERNATIVES

SCALE: 3" = 1'-0"




## 13 METAL STUD CONN DETAIL

SCALE: 3/4" = 1'-0"

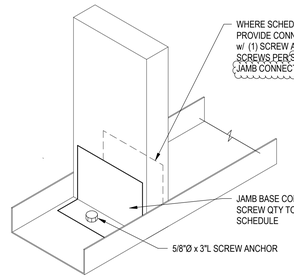



## 14 STEEL/COLD-FORMED STEEL FRAMING CONN

SCALE: 3/4" = 1'-0"

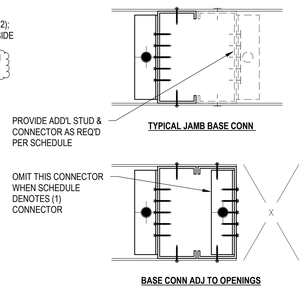
## 10 LATERAL BRACING AT UNPUNCHED STUDS

SCALE: 3" = 1'-0"




## 17 JAMB BASE CONNECTION

SCALE: 3" = 1'-0"




**TYPICAL JAMB BASE CONN**

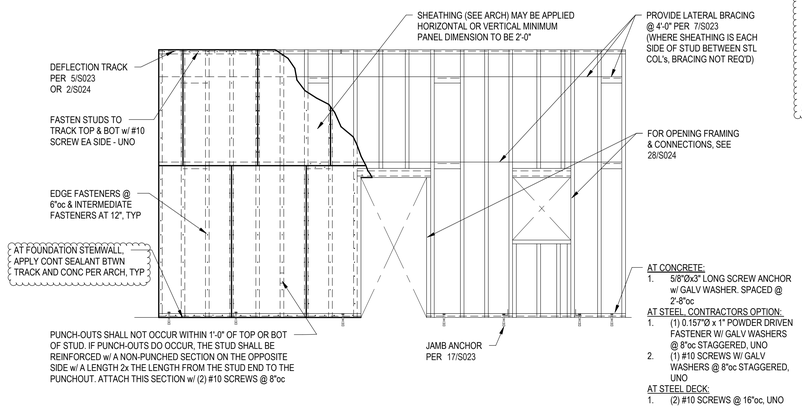
**BASE CONN ADJ TO OPENINGS**

| FRAMING* | MARK | S8 | S6 | S4 |
|---|---|---|---|---|
| | STUD TYPE | 800S162-54 | 600S162-43 | 400S162-43 |
| | SPACING | 16" | 16" | 16" |
| | FINISH | GALV | GALV | GALV |
| | TRACK | 800T125-54 | 600T125-43 | 400T125-43 |

*UNO ON ELEVATIONS

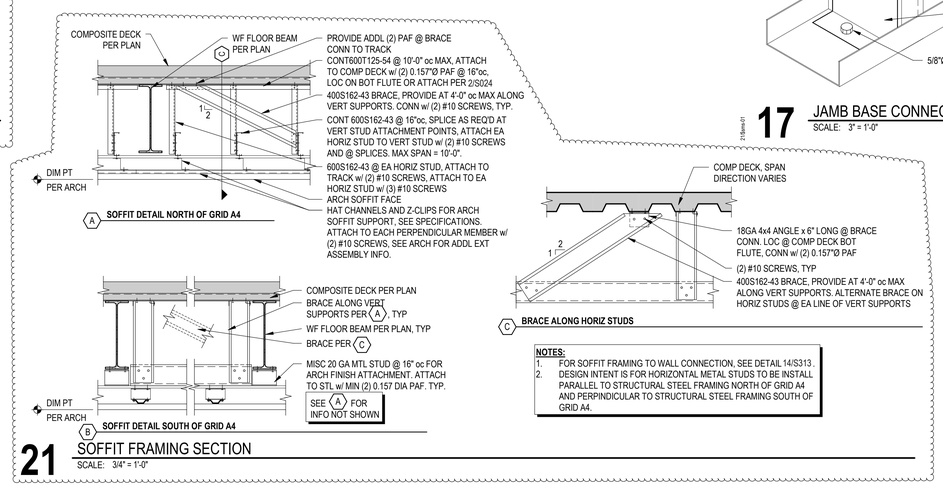
| FASTENERS | TYPE | SIZE | HEAD |
|---|---|---|---|
| | DRY WALL | #6 | BUGLE |
| | FRAMING | #10 | PAN |
| | PLYMETAL | #10 | BUGLE |

NOTE: SCREWS IN EXT. STUDS SHALL BE ZINC COATED.




## 25 EXTERIOR STEEL STUD WALL

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




NOTES:
1. FOR SOFFIT FRAMING TO WALL CONNECTION, SEE DETAIL 14/S313.
2. DESIGN INTENT IS FOR HORIZONTAL METAL STUDS TO BE INSTALL PARALLEL TO STRUCTURAL STEEL FRAMING NORTH OF GRID A4 AND PERPINDICULAR TO STRUCTURAL STEEL FRAMING SOUTH OF GRID A4.

## 21 SOFFIT FRAMING SECTION

SCALE: 3/4" = 1'-0"

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THERESA H. DANIEL
38621
REGISTERED PROFESSIONAL ENGINEER

# PIERCE COLLEGE PUYALLUP NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
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| Date: | 10/07/2022 |
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| Checked by: | TD |

Revisions

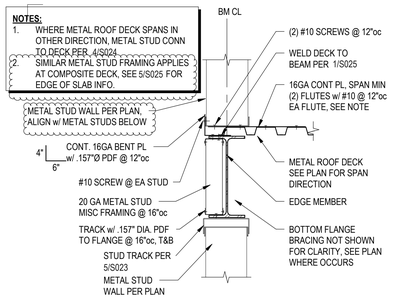
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

TYPICAL METAL STUD DETAILS

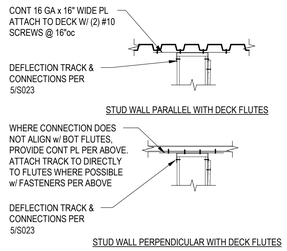
S023

IFC SET

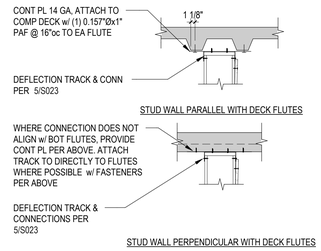
PRCNC20221036

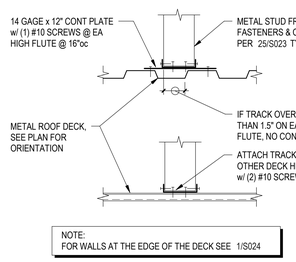



1 EXTERIOR STUD WALL AT ROOF
SCALE: 1" = 1'-0"

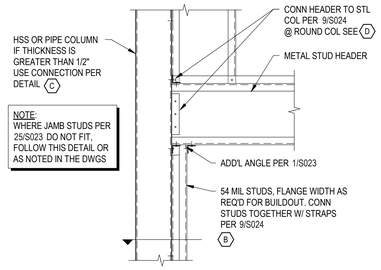



2 EXTERIOR DEFLECTION TRACK AT BOD
SCALE: 3/4" = 1'-0"

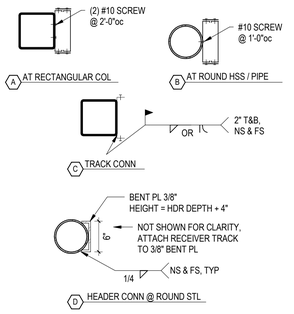


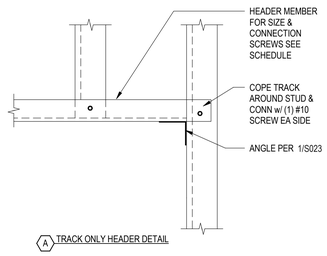



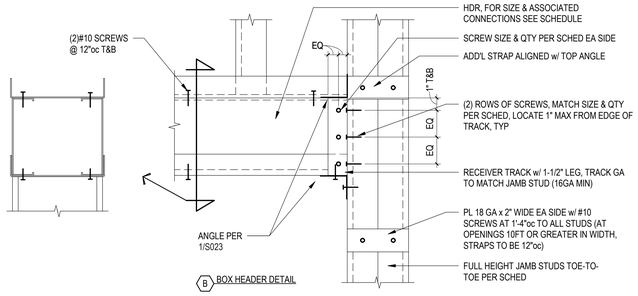

4 EXTERIOR METAL STUD BEARING AT DECK
SCALE: 1" = 1'-0"

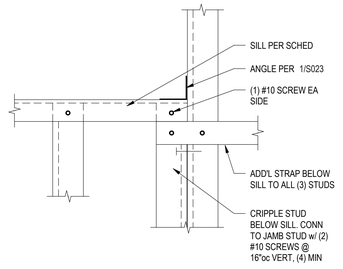



5 TYPICAL MTL STUD HEADER TO COLUMN
SCALE: 1" = 1'-0"

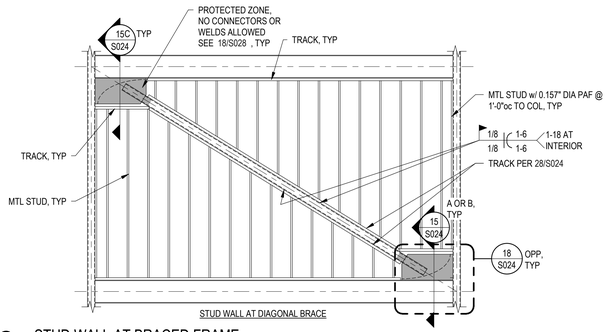


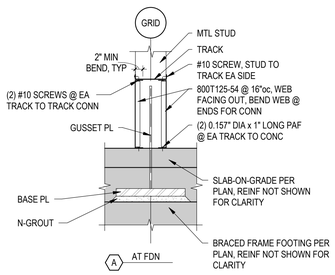



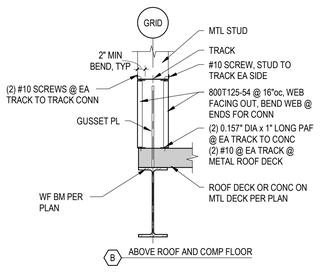



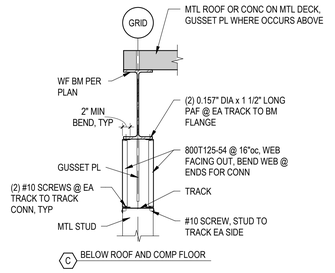

12 SILL CONN DETAIL
SCALE: 3/4" = 1'-0"



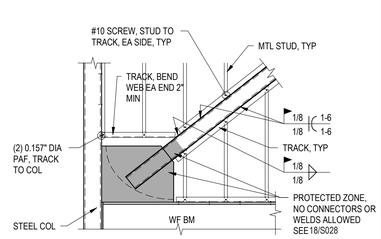

13 STUD WALL AT BRACED FRAME
SCALE: 1/4" = 1'-0"



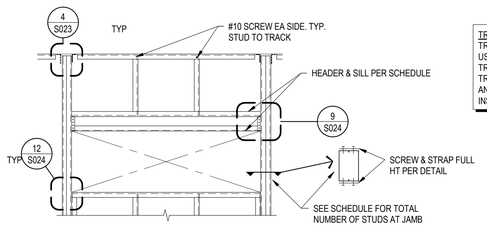




15 STUD WALL AT BRACE GUSSET
SCALE: 3/4" = 1'-0"




18 STUD WALL AT BRACE GUSSET
SCALE: 1/2" = 1'-0"

| HDR SPAN | HDR PER | HDR VERTICAL MEMBERS | HDR HORIZ MEMBERS | SILL | JAMB STUDS | SCREWS FOR RECEIVER TRACK 9/S024 | SCREWS PER ANGLE LEG 1/S023 | JAMB CONN @ HEAD 4/S023 | JAMB CONN @ BASE |
|---|---|---|---|---|---|---|---|---|---|
| 4'-0" MAX | A | - | 800T200-68 | 800T150-54 | (1) 800S300-68 | - | (2) #10 EA. LEG | SCAFCO: (1) ESC OR (1) PLS2 | (1) SCAFCO FA750-68 w/ (3) #10 SCREWS |
| 6'-0" MAX | B | (2) 600S162-54 | (2) 800T150-54 | 800T150-54 | (2) 800S200-54 | (3) #10 EA. SIDE | (2) #10 EA. LEG | SCAFCO: (1) ESC OR (1) PLS2 | (1) SCAFCO FA750-68 w/ (3) #10 SCREWS |
| 8'-0" MAX | B | (2) 600S162-54 | (2) 800T150-54 | 800T150-54 | (2) 800S300-54 | (3) #10 EA. SIDE | (2) #10 EA. LEG | SCAFCO: (1) ESC OR (1) PLS2 | (2) SCAFCO FA750-68 w/ (4) #10 SCREWS |
| 10'-0" MAX | B | (2) 800S200-54 | (2) 800T200-68 | 800T150-97 | (2) 800S350-68 | (4) #10 EA. SIDE | (3) #10 EA. LEG | SCAFCO: (1) ESC OR (1) DPLS2 | (2) SCAFCO FA750-68 w/ (4) #10 SCREWS |
| 12'-0 MAX | B | (2) 800S200-54 | (2) 800T200-68 | 6/S023 | (2) 800S350-68 | (4) #10 EA. SIDE | (3) #10 EA. LEG | SCAFCO: (2) ESC OR (1) PLS2 | (2) SCAFCO FA750-68 w/ (4) #10 SCREWS |
| 14'-0" MAX | B | (2) 1000S250-54 | (2) 800T200-97 | 6/S023 | (2) 800S250-97 | (4) #10 EA. SIDE | (3) #10 EA. LEG | SCAFCO: (2) ESC OR (2) PLS2 | (2) SCAFCO FA750-68 w/ (4) #10 SCREWS |




TRACK SPLICE NOTE:
TRACK SHALL NOT BE SPLICED WHEN USED AT BOX HEADERS OR SILLS. IF TRACK IS REQUIRED TO BE SPLICED, THE TRACK SHALL HAVE A FULL BUTT-WELD AND BE TESTED BY THE SPECIAL INSPECTOR FOR ACCEPTANCE

28 EXTERIOR STEEL STUD WALL OPENING DETAIL
SCALE: 1/2" = 1'-0"

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THERESA H. DANIEL — REGISTERED WASHINGTON — 38621 — ARCHITECTURAL CORPORATION — PROFESSIONAL ENGINEER

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NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM/BO |
| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

TYPICAL METAL STUD DETAILS

S024

IFC SET

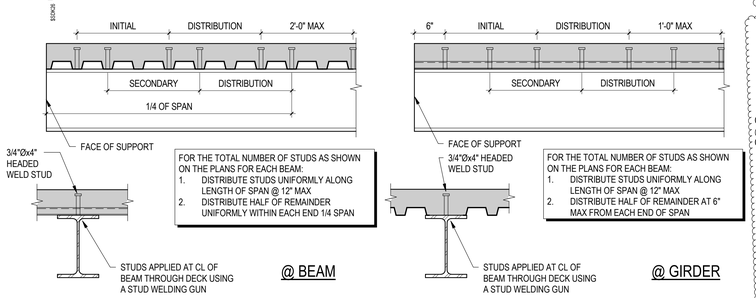
PRCNC20221036

| DECK PROPERTIES | | | | | | FASTENING | | | DECK ELEVATION |
|---|---|---|---|---|---|---|---|---|---|
| DECK TYPE | PAINT OR GALV | GAGE | WIDTH | I ($IN^4$) | ST/SB ($IN^3$) | ATTACHMENT PATTERN | @ SIDE LAP | @ EDGE | (SEE PLANS FOR TOPPING THICKNESS AND REINFORCING) |
| 1 1/2" ROOF, PLB | G[1] | 18 | 36" | .306 | .314 / .331 | 36/7/4 PW | IP @ 8" | PW @ 6" | |
| 2" COMP UN-TOPPED, PLW2 | G[1,2] | 18 | 36" | .565 | .471 / .481 | 36/4 PW | IP @ 24" | PW @ 9" | |
| 2" COMP, PLW2 | G[1] | 18 | 36" | .565 | .471 / .481 | 36/4 PW | IP @ 24" | PW @ 9" | |

**KEY**: PW= TYPICAL WELDS 5/8"Ø PUDDLE WELDS
IP = INTERLOCK PUNCH (BUTTON PUNCH NOT ALLOWED)
G = GALVANIZING (SEE STRUCTURAL NOTES FOR EXT & INT APPLICATIONS)

**KEY**: 1 - SEE ARCHITECTURAL PLANS WHERE DECK IS EXPOSED TO VIEW AND IT IS TO BE PAINTED IN THE FIELD, SHOP PRIME IS REQUIRED
2 - AT EXTERIOR PERMANENTLY EXPOSED LOCATIONS, PROVIDE G90

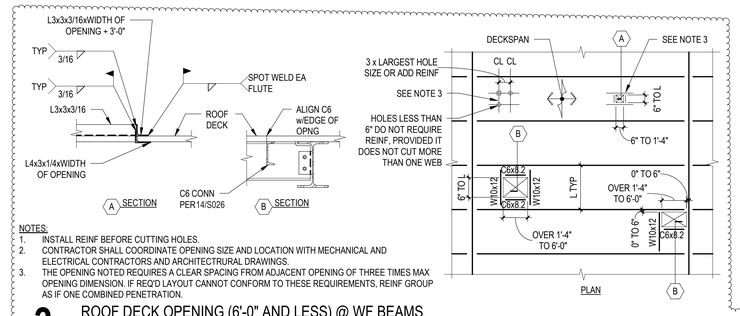
## 1 STEEL ROOF AND COMPOSITE DECK WELDING
SCALE: 3/4" = 1'-0"




FOR THE TOTAL NUMBER OF STUDS AS SHOWN ON THE PLANS FOR EACH BEAM:
1. DISTRIBUTE STUDS UNIFORMLY ALONG LENGTH OF SPAN @ 12" MAX
2. DISTRIBUTE HALF OF REMAINDER UNIFORMLY WITHIN EACH END 1/4 SPAN

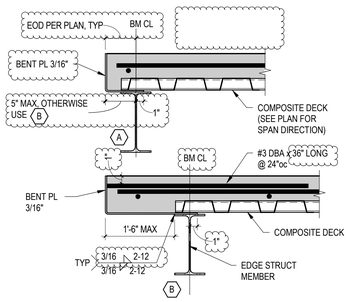
FOR THE TOTAL NUMBER OF STUDS AS SHOWN ON THE PLANS FOR EACH BEAM:
1. DISTRIBUTE STUDS UNIFORMLY ALONG LENGTH OF SPAN @ 12" MAX
2. DISTRIBUTE HALF OF REMAINDER AT 6" MAX FROM EACH END OF SPAN

## 3 ROOF DECK OPENING (6'-0" AND LESS) @ WF BEAMS
SCALE: 3/4" = 1'-0"

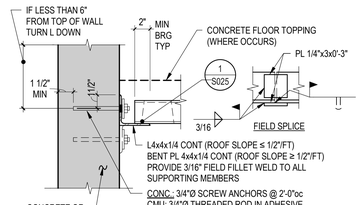



NOTES:
1. INSTALL REINF BEFORE CUTTING HOLES.
2. CONTRACTOR SHALL COORDINATE OPENING SIZE AND LOCATION WITH MECHANICAL AND ELECTRICAL CONTRACTORS AND ARCHITECTRURAL DRAWINGS.
3. THE OPENING NOTED REQUIRES A CLEAR SPACING FROM ADJACENT OPENING OF THREE TIMES MAX OPENING DIMENSION. IF REQ'D LAYOUT CANNOT CONFORM TO THESE REQUIREMENTS, REINF GROUP AS IF ONE COMBINED PENETRATION.

## 5 COMPOSITE DECK EDGE CLOSURE
SCALE: 1 1/2" = 1'-0"

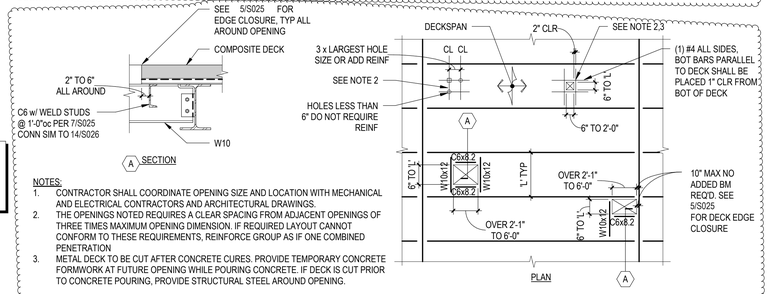



## 6 PERIMETER DECK ANGLE AT CONCRETE OR CMU WALL
SCALE: 1 1/2" = 1'-0"



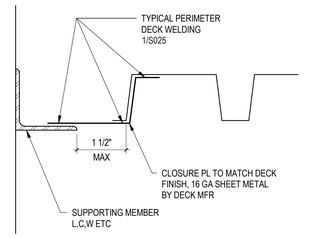

L4x4x1/4 CONT (ROOF SLOPE ≤ 1/2"/FT)
BENT PL 4x4x1/4 CONT (ROOF SLOPE ≥ 1/2"/FT)
PROVIDE 3/16" FIELD FILLET WELD TO ALL SUPPORTING MEMBERS
CONC: 3/4"Ø SCREW ANCHORS @ 2'-0"oc
CMU: 3/4"Ø THREADED ROD IN ADHESIVE ANCHOR @ 2'-0"oc IN BOND BEAM
HOLES IN ANGLE 13/16"Ø TYP

## 9 COMPOSITE DECK OPENINGS (6'-0" AND LESS)
SCALE: 3/4" = 1'-0"




NOTES:
1. CONTRACTOR SHALL COORDINATE OPENING SIZE AND LOCATION WITH MECHANICAL AND ELECTRICAL CONTRACTORS AND ARCHITECTURAL DRAWINGS.
2. THE OPENINGS NOTED REQUIRES A CLEAR SPACING FROM ADJACENT OPENINGS OF THREE TIMES MAXIMUM OPENING DIMENSION. IF REQUIRED LAYOUT CANNOT CONFORM TO THESE REQUIREMENTS, REINFORCE GROUP AS IF ONE COMBINED PENETRATION
3. METAL DECK TO BE CUT AFTER CONCRETE CURES. PROVIDE TEMPORARY CONCRETE FORMWORK AT FUTURE OPENING WHILE POURING CONCRETE. IF DECK IS CUT PRIOR TO CONCRETE POURING, PROVIDE STRUCTURAL STEEL AROUND OPENING.

## 12 DECK CLOSURE STRIP
SCALE: 3" = 1'-0"




## 7 COMPOSITE BEAM AND GIRDER WELD STUDS
SCALE: 1" = 1'-0"




NOTE: DECK RIB SHALL BE CENTERED OVER BEAM WHERE POSSIBLE OR SPLIT DECK FOR FULL LENGTH OF BEAM AND PROVIDE CONCRETE WIDTH AS SHOWN ABOVE.

## 13 DECK AT COMPOSITE GIRDER
SCALE: 1 1/2" = 1'-0"




NOTES:
1. DECK RIB SHALL BE CENTERED OVER BEAM WHERE POSSIBLE OR SPLIT DECK FOR FULL LENGTH OF BEAM AND PROVIDE CONCRETE WIDTH AS SHOWN ABOVE.

## 14 COMPOSITE DECK DIRECTION CHANGE
SCALE: 1 1/2" = 1'-0"



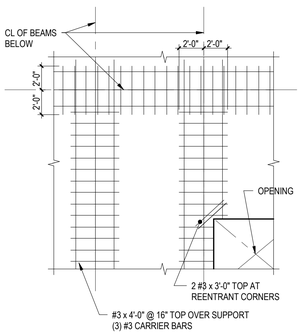

## 15 PIPE PENETRATION AT DECK EDGE
SCALE: 1 1/2" = 1'-0"




**NOTE:** SEE 22/S025 FOR WHEN COLUMN IS NOT CONTINUOUS UP TO NEXT LEVEL.

## 16 COMPOSITE DECK EDGE CLOSURE AT COLUMNS
SCALE: 3/4" = 1'-0"




PLAN (ONLY TOP REINF SHOWN FOR CLARITY)

## 24 COMPOSITE DECK REINFORCING
SCALE: 1/4" = 1'-0"




## 19 METAL ROOF DECK EDGE CLOSURE
SCALE: 3/4" = 1'-0"




**NOTE:** SEE 16/S025 FOR WHEN COLUMN IS CONTINUOUS UP TO NEXT LEVEL.

## 22 COMPOSITE DECK EDGE CLOSURE AT COLUMN TOP
SCALE: 3/4" = 1'-0"




**NOTES:**
1. DETAIL APPLIES TO BOTH EDGE OF SLAB AT COMPOSITE DECK AND EDGE OF DECK AT ROOF.
2. AT CONCRETE TOPPED COMPOSITE DECK EDGE, PLATES TO BE 3/16" THICK. AT UN-TOPPED DECK EDGES, PLATES TO BE 3/8" THICK. UNLESS NOTED OTHERWISE.

## 25 DECK EDGE CLOSURE AT CURVES
SCALE: 1 1/2" = 1'-0"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City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM/RB |
| Checked by: | TD |

Revisions

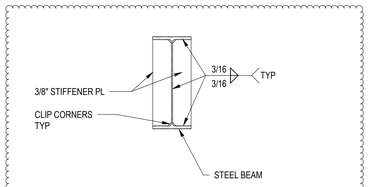
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

TYPICAL STEEL AND METAL DECK DETAILS

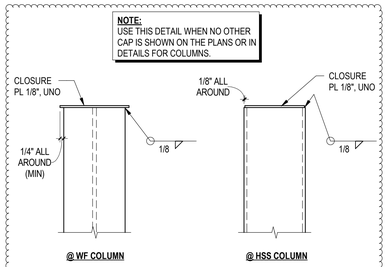
**S025**

IFC SET

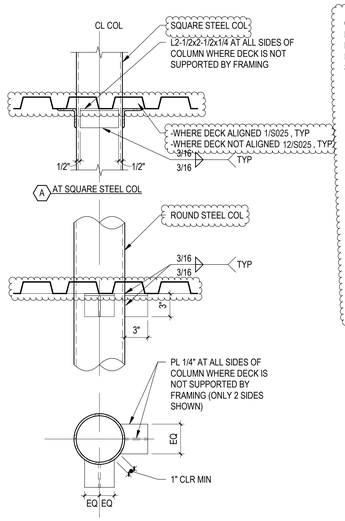
PRCNC20221036




## 1 STIFFENER PLATE AT STEEL BEAM
SCALE: 1" = 1'-0"

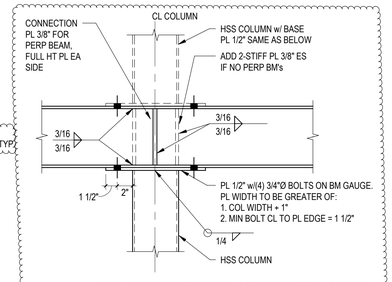



## 2 COLUMN CLOSURE PLATE
SCALE: 1 1/2" = 1'-0"

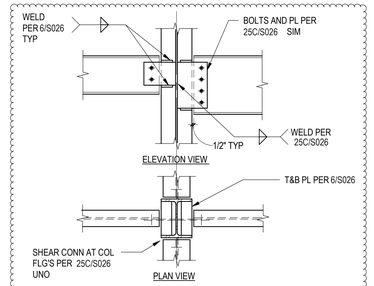



**NOTE:**
THIS DETAIL APPLIES AT BOTH ROOF DECKS AND COMPOSITE FLOOR DECKS

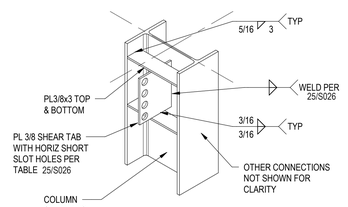
## 3 DECK SUPPORT AT COLUMN
SCALE: 1 1/2" = 1'-0"



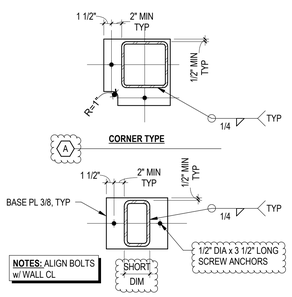

## 4 HSS COL BEARING PLATE @ STEEL BEAM
SCALE: 1 1/2" = 1'-0"



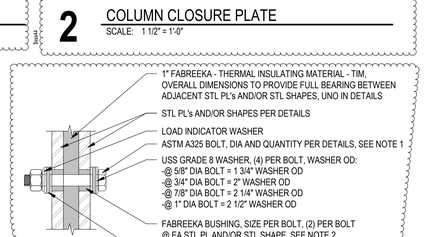

## 5 TYP BM TO WIDE FLANGE COLUMN CONNECTION
SCALE: 3/4" = 1'-0"




## 6 EXTENDED SHEAR TAB
SCALE: 3/4" = 1'-0"

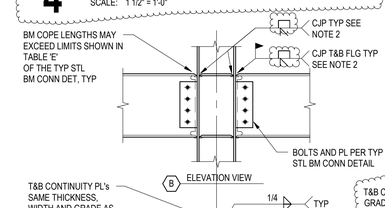



## 13 POST BASE PLATES
SCALE: 1" = 1'-0"

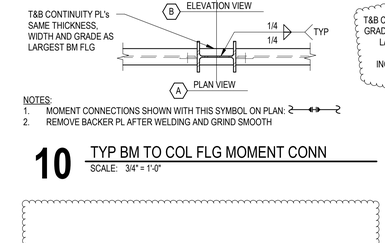



**NOTES:**
1. PROVIDE ASTM A325 BOLTS WITH LOAD INDICATOR WASHERS. LOAD INDICATOR WASHER LOCATION MAY VARY BASED ON CONNECTION CLEARANCES.
2. GC COORDINATE BUSHING DIAMETER WITH FABREEKA AND STEEL SHOP.

## 8 THERMAL BREAK BOLT ASSEMBLY
SCALE: 3" = 1'-0"




NOTES:
1. SEE DETAIL 'B' FOR DIMENSIONS NOT SHOWN.
2. THIS DETAIL SHALL APPLY AT ALL EDGE BM CONDITIONS.
3. THIS DETAIL SHALL APPLY ALONG ALL COLLECTOR BM's, PROVIDE FULL HT PL ON EA SIDE.
4. THIS DETAIL SHALL APPLY ALONG ALL BRACE FRAME BEAM's, PROVIDE FULL HT PL ON EA SIDE.




NOTES:
1. BOLTS SHALL BE ASTM F1852 TWIST-OFF TENSION CONTROL BOLT ASSEMBLIES
2. SHEAR TABS SHALL HAVE HORIZONTAL SHORT SLOTTED HOLES AND BEAMS SHALL HAVE STANDARD ROUND HOLES, UNO
3. COPED BEAMS SHALL MEET THE LIMITS SHOWN IN TABLE 'F' FOR COPE DEPTHS AND LENGTHS. WHEN ACTUAL COPE LENGTH EXCEEDS LIMITS SHOWN IN TABLE, A WEB STIFFENER SHALL BE ADDED PER DETAIL 'E'

## 15 DECK SUPPORT AT COLUMN
SCALE: 1 1/2" = 1'-0"

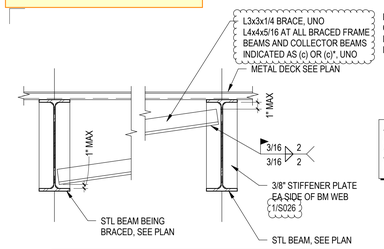



NOTES:
1. SEE DETAIL 'B' FOR DIMENSIONS NOT SHOWN.
2. THIS DETAIL SHALL APPLY AT ALL EDGE BM CONDITIONS.
3. THIS DETAIL SHALL APPLY ALONG ALL COLLECTOR BM's, PROVIDE FULL HT PL ON EA SIDE.
4. THIS DETAIL SHALL APPLY ALONG ALL BRACE FRAME BEAM's, PROVIDE FULL HT PL ON EA SIDE.

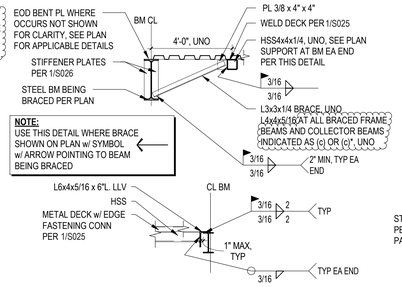



NOTES:
1. BOLTS SHALL BE ASTM F1852 TWIST-OFF TENSION CONTROL BOLT ASSEMBLIES
2. SHEAR TABS SHALL HAVE HORIZONTAL SHORT SLOTTED HOLES AND BEAMS SHALL HAVE STANDARD ROUND HOLES, UNO
3. COPED BEAMS SHALL MEET THE LIMITS SHOWN IN TABLE 'F' FOR COPE DEPTHS AND LENGTHS. WHEN ACTUAL COPE LENGTH EXCEEDS LIMITS SHOWN IN TABLE, A WEB STIFFENER SHALL BE ADDED PER DETAIL 'E'

PRCNC20221036

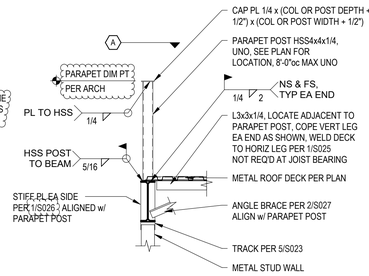



**NOTE:**
USE THIS DETAIL WHERE BRACE SHOWN ON PLAN w/ SYMBOL w/ ARROW POINTING TO BEAM BEING BRACED

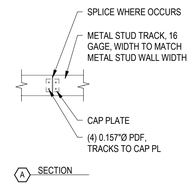


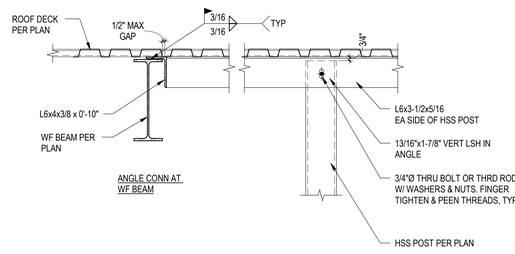

**NOTE:**
USE THIS DETAIL WHERE BRACE SHOWN ON PLAN w/ SYMBOL w/ ARROW POINTING TO BEAM BEING BRACED

**HSS CONN AT BEAM**

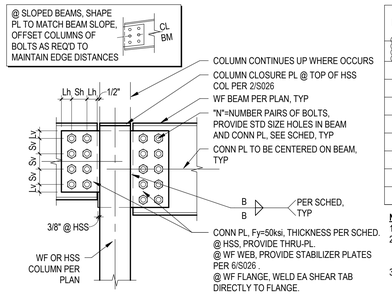



**NOTES:**
1. COLUMNS SHALL BE EXTENDED FOR PARAPET WHERE NOTED ON PLAN.
2. SEE 1/S024 FOR INFO NOT SHOWN.
3. WHERE METAL STUD TRACKS INTERSECT AT CORNERS, COPE LEGS AND ATTACH TRACKS w/ (4) #10 SCREWS.




## 1 STIFFENER BRACE AT BEAM
SCALE: 1" = 1'-0"




## 2 BOTTOM FLANGE BRACE DETAIL
SCALE: 1/2" = 1'-0"

| MEMBER | PL THICKNESS | BOLT Ø (IN) | "N" | Lh (IN) | Sh (IN) | Lv (IN) | Sv (IN) | WELD SIZE "B" |
|---|---|---|---|---|---|---|---|---|
| C15 | 1/2" | 3/4 | PER DETAIL | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W8, W10 | 1/2" | 3/4 | 2 | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W12 | 1/2" | 3/4 | 3 | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W14 | 1/2" | 3/4 | 3 | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W16 | 1/2" | 3/4 | 4 | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W18 | 1/2" | 3/4 | 5 | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W21-W24 | 1/2" | 3/4 | 6 | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W27 | 1/2" | 3/4 | 7 | 2 | 3 | 1-1/2 | 3 | 5/16 |
| W30 | 3/4" | 1 | 8 | 2 | 3 | 1-1/2 | 3 | 1/2 |

**NOTES:**
1. THIS DETAIL APLLIES TO ALL BEAMS INDICATE AS (c) ON PLAN.
2. WHERE COLLECTOR BEAMS FRAME INTO MULTIPLE SIDES, OR WHERE COLLECTOR BEAMS FRAME IN ONE DIRECTION AND GIRDERS FRAME IN THE PERPENDICULAR DIRECTION. PROVIDE CRUCIFORM SHAPE PER 18/S026 , UNO.
3. AT HSS THRU PL, WHERE THICKNESS & WELD DIFFER DUE TO DIFFERENT BEAM SIZES, USE THE LARGER OF THE TWO.

## 3 PARAPET POST DETAIL
SCALE: 1/2" = 1'-0"

## 5 POST CONN AT ROOF DECK
SCALE: 1" = 1'-0"

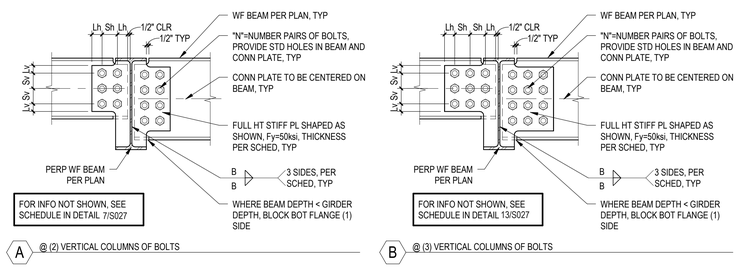
## 7 DRAG CONNECTION AT BEAM/COLUMN
SCALE: 1" = 1'-0"



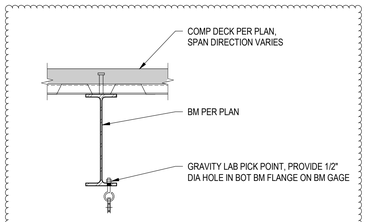

| MEMBER | PL THICKNESS | BOLT Ø (IN) | "N" | Lh (IN) | Sh (IN) | Lv (IN) | Sv (IN) | WELD SIZE "B" | BM WEB DOUBLER PL |
|---|---|---|---|---|---|---|---|---|---|
| W12x40 (c)* | 1" | 1 | 3 | 2 | 3 | 1-1/2 | 3 | 5/8 | YES |
| W14 | 1" | 1 | 3 | 2 | 3 | 1-1/2 | 3 | 3/8 | NO |
| W16 | 1" | 1 | 4 | 2 | 3 | 1-1/2 | 3 | 3/8 | NO |
| W18 | 1" | 1 | 5 | 2 | 3 | 1-1/2 | 3 | 3/8 | NO |
| W18x50 (c)* | 1" | 7/8 | 5 | 2 | 3 | 1-1/2 | 3 | 3/8 | NO |
| W18x55 (c)* ALONG GRIDS B7 & C7 @ RF | 1" | 1 | 5 | 4 | 3 | 1-1/2 | 3 | 5/8 | NO |
| W18x55 (c)* | 1" | 1 | 5 | 3 | 3 | 1-1/2 | 3 | 5/8 | NO |
| W21-W24 | 1" | 1 | 6 NOTE 4 | 2 | 3 | 1-1/2 | 3 | 5/8 | NO |

**NOTES:**
1. THIS DETAIL APLLIES TO ALL BEAMS INDICATE AS (c)* ON PLAN.
2. WHERE COLLECTOR BEAMS FRAME INTO MULTIPLE SIDES, OR WHERE COLLECTOR BEAMS FRAME IN ONE DIRECTION AND GIRDERS FRAME IN THE PERPENDICULAR DIRECTION, PROVIDE CRUCIFORM SHAPE PER 18/S026 , UNO.
3. AT THRU PL's, WHERE THICKNESS & WELD DIFFER DUE TO DIFFERENT BEAM SIZES, USE THE LARGER OF THE TWO.
4. WHERE (C)* BEAM FRAME INTO PERPENDICULAR BEAM WITH LESS DEPTH, NUMBER OF ROWS OF BOLTS TO BE BASED ON PERPENDICULAR BEAM SIZE. BOLT GROUP SHALL BE CENTERED ON PERPENDICULAR BEAM.

## 13 DRAG CONNECTION AT BEAM/COLUMN
SCALE: 1" = 1'-0"

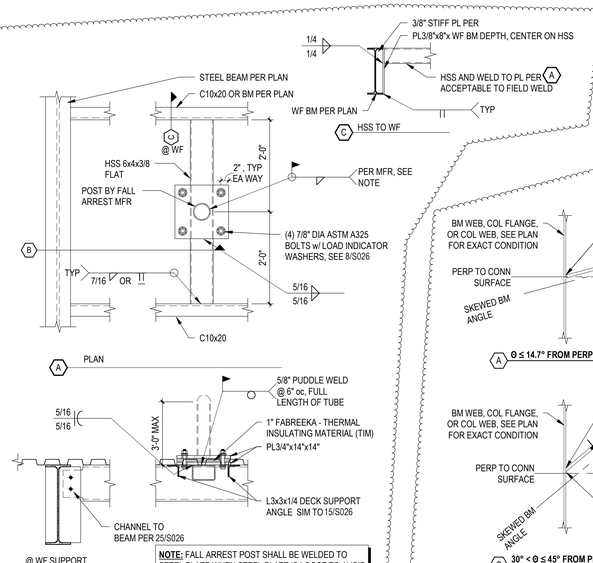



## 19 DRAG CONN AT BEAM/BEAM
SCALE: 1" = 1'-0"

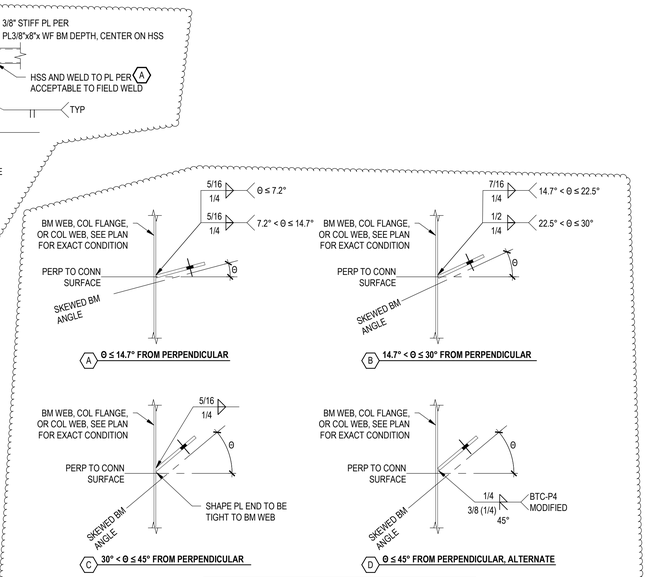



NOTES:
1. THIS APPLIES AT APPROXIMATELY SIX LOCATIONS ABOVE THE GRAVITY LAB. GC COORDINATE PICK POINT LOCATIONS.
2. PICK POINT HARDWARE DESIGNED BY OTHERS.

## 25 GRAVITY LAB PICK POINTS
SCALE: 1" = 1'-0"

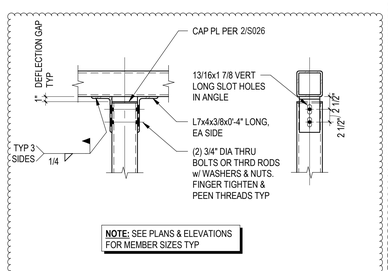



## 16 FALL PROTECTION PIER
SCALE: 3/4" = 1'-0"



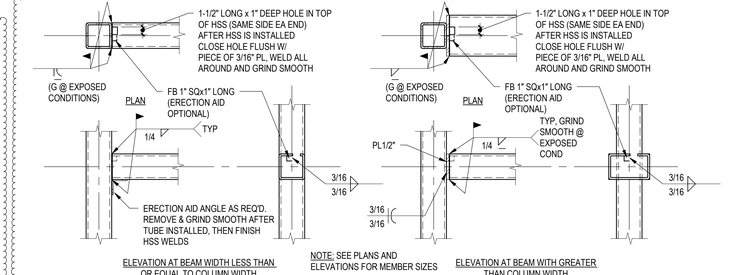

NOTE: SEE DETAIL 25/S026 FOR TYPICAL BEAM BOLTED CONNECTION.

## 17 TYPICAL SKEWED BEAM CONNECTION
SCALE: 1 1/2" = 1'-0"



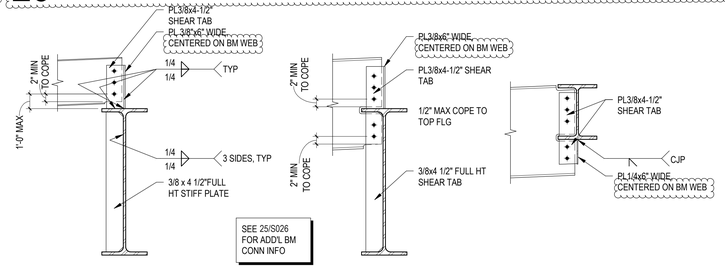

NOTE: SEE PLANS & ELEVATIONS FOR MEMBER SIZES TYP

## 22 HSS POST TO STRUCTURE SLIP CONN
SCALE: 1" = 1'-0"




NOTE: SEE PLANS AND ELEVATIONS FOR MEMBER SIZES

## 23 HSS BM TO HSS COL/POST
SCALE: 1" = 1'-0"




A BEAM ENTIRELY ABOVE GIRDER TOP FLG
B BEAM PARTIALLY ABOVE GIRDER TOP FLG
C BEAM PARTIALLY BELOW GIRDER BOTTOM FLG

## 29 BEAM TO BEAM WITH VARIOUS HEIGHTS & DEPTHS
SCALE: 3/4" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE: (206)576-1797 FAX: (206)576-1798

THERESA H. DANIEL
38621
REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
PROFESSIONAL ENGINEER

# PIERCE COLLEGE PUYALLUP NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM |
| Checked by: | TD |

Revisions

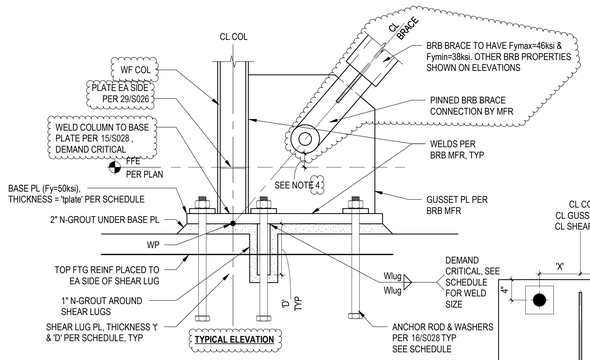
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

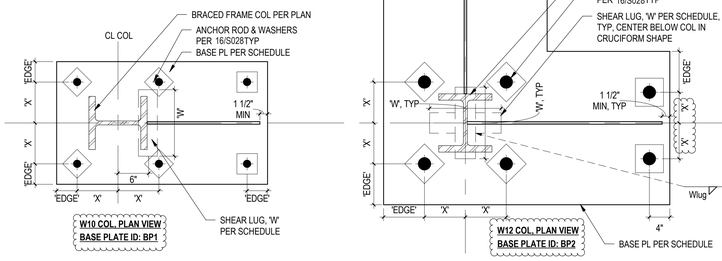
TYPICAL STEEL DETAILS

**S027**

IFC SET

PRCNC20221036

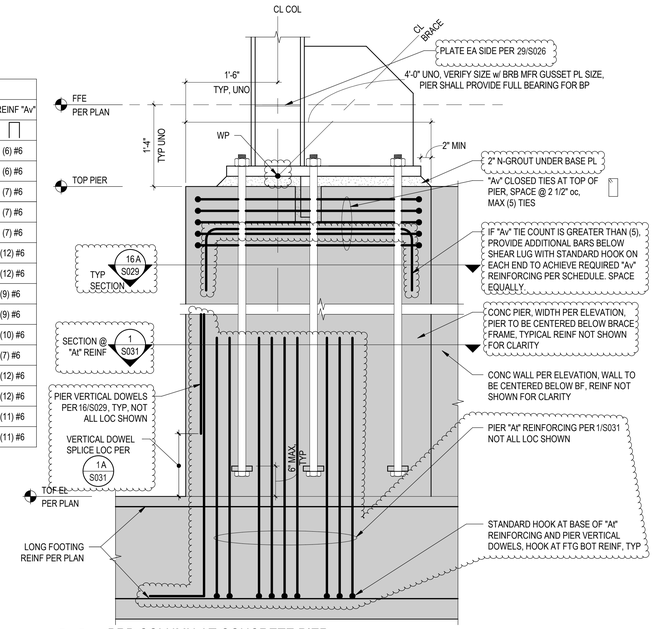


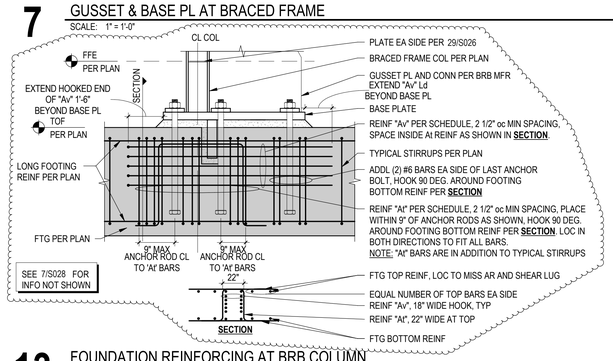

**BASE PLATE SCHEDULE**

| BASE PLATE | | | | | | ANCHOR RODS, NOTE 1 | | | | SHEAR LUG | | | | REINF "At" | REINF "Av" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRACE FRAME | BF COL | BASE PLATE ID | 'tplate' | 'EDGE' | 'X' | DIAMETER | EMBED | EMBED PL WASHER | FTG CONN | 't' | 'D' | 'W' | Wlug | | |
| BF1 | A4 | BP1 | 2" | 3" | 7" | 1" | 20" | PL1"x4"x4" | 13/S028 | 3" | 8" | 11" | 1" | (8) #5 | (6) #6 |
| | A1 | BP1 | 2" | 3" | 7" | 1" | 20" | PL1"x4"x4" | 13/S028 | 3" | 8" | 11" | 1" | (8) #5 | (6) #6 |
| BF2 | C16 | BP1 | 2 1/2" | 3" | 7" | 1 1/2" | 20" | PL1"x4"x4" | 13/S028 | 3 1/2" | 8" | 11" | 1 1/8" | (15) #5 | (7) #6 |
| BF3 | D1 | BP1 | 2 1/4" | 3" | 7" | 1 1/2" | 20" | PL1"x4"x4" | 13/S028 | 3 1/2" | 8" | 11" | 1 1/8" | (13) #5 | (7) #6 |
| | D3 | BP1 | 2 1/4" | 3" | 7" | 1 1/2" | 20" | PL1"x4"x4" | 13/S028 | 3 1/2" | 8" | 11" | 1 1/8" | (13) #5 | (7) #6 |
| BF4 | C7 | BP1 | 3" | 4" | 7 1/2" | 2" | NOTE 5 | PL1"x5"x5" | 11/S028 | 4 1/2" | 9" | 11" | 1 1/2" | 1/S031 | (12) #6 |
| | C10 | BP1 | 3" | 4" | 7 1/2" | 2" | NOTE 5 | PL1"x5"x5" | 11/S028 | 4 1/2" | 9" | 11" | 1 1/2" | 1/S031 | (12) #6 |
| BF5 | D3 | BP1 | 2 3/4" | 3" | 7" | 1 1/2" | NOTE 5 | PL1"x4"x4" | 11/S028 | 4" | 8" | 11" | 1 1/4" | 1/S031 | (9) #6 |
| | D1 | BP1 | 2 3/4" | 3" | 7" | 1 1/2" | NOTE 5 | PL1"x4"x4" | 11/S028 | 4" | 8" | 11" | 1 1/4" | 1/S031 | (9) #6 |
| BF7 | B4 | BP1 | 2 3/4" | 4" | 7 1/2" | 1" | NOTE 5 | PL1"x5"x5" | 11/S028 | 4" | 8" | 11" | 1 1/2" | 1/S031 | (10) #6 |
| BF8 | A1 | BP1 | 2 1/2" | 3" | 7" | 1 1/2" | NOTE 5 | PL1"x4"x4" | 11/S028 | 3 1/2" | 8" | 11" | 1" | 1/S031 | (7) #6 |
| BF9 | C9 | BP1 | 4" | 4" | 8" | 2 1/2" | NOTE 5 | PL1 1/2"x7 1/2"x7 1/2" | 11/S028 | 4 1/2" | 9" | 11" | 1 9/16" | 1/S031 | (12) #6 |
| | C7 | BP2 | 4" | 8" | 8" | 3" | NOTE 5 | PL2"x9"x9" | 11/S028, SIM | 4" | 8" | 14" | 1 1/4" | 1/S031 | (12) #6 |
| BF10 | D4 | BP1 | 4" | 4" | 8" | 2 1/2" | NOTE 5 | PL1 1/2"x7 1/2"x7 1/2" | 11/S028 | 4 1/2" | 9" | 11" | 1 9/16" | 1/S031 | (11) #6 |
| | D6 | BP2 | 4" | 8" | 8" | 3" | NOTE 5 | PL2"x9"x9" | 11/S028, SIM | 4" | 8" | 14" | 1 1/4" | 1/S031 | (11) #6 |

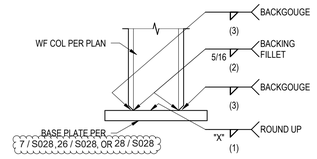
**NOTES:**
1. FOR ADDITIONAL ANCHOR ROD INFO, SEE 16/S028
2. ALL DEMAND CRITICAL WELDS REQUIRE 100% SPECIAL INSPECTION
3. FOR ADDITIONAL FOOTING REINF SEE 11/S028 OR 13/S028
4. MAINTAIN 1" CLEAR BETWEEN BRACE AND SLAB. SEE DETAIL 17/S028
5. SEE DETAIL 11/S028 FOR ANCHOR ROD EMBEDMENT INTO CONCRETE PIER.




## 7 GUSSET & BASE PL AT BRACED FRAME
SCALE: 1" = 1'-0"

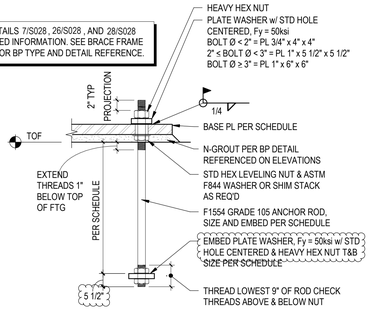



## 13 FOUNDATION REINFORCING AT BRB COLUMN
SCALE: 3/4" = 1'-0"

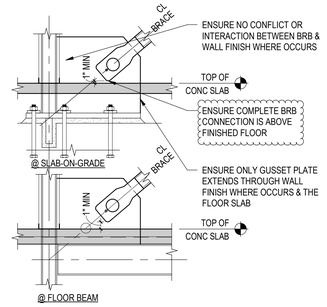



WELD PROCEDURE PER AISC DESIGN GUIDE #4
- PREPARE THE FLANGES WITH A 45 DEGREE, FULL DEPTH BEVEL
-FIT UP END-PLATE WITH A MINIMUM ROOT OPENING
-PREHEAT THE SPECIMENS AS REQ'D BY AWS SPEC
-PREPARE SURFACES FOR WELDING AS REQ'D BY AWS SPEC
-PLACE WEB WELD (1), SIZED "X" = WF WEB THICKNESS/2 + 1/8", ROUND SIZE UP TO NEAREST 1/16"
-PLACE 5/16" BACKING FILLET WELD ON BEAM WEB SIDE OF THE BEAM FLANGES (2)
-BACKGOUGE THE ROOT OF THE BEVEL TO REMOVE ANY CONTAMINANTS FROM THE 5/16" BACKER FILLET WELDS (3)
-PLACE THE FLANGE GROOVE WELDS (AWS TC-U4b-GF)
**NOTE FOR INSPECTION, FLANGE GROOVE WELD IS CJP & DEMAND CRITICAL**

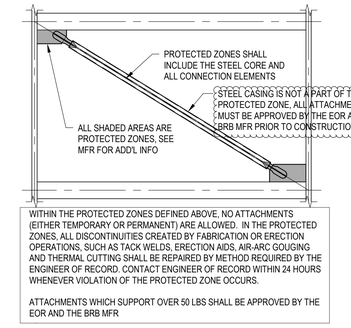
## 15 BRBF WF COLUMN WELD TO BASE PLATE
SCALE: 1" = 1'-0"



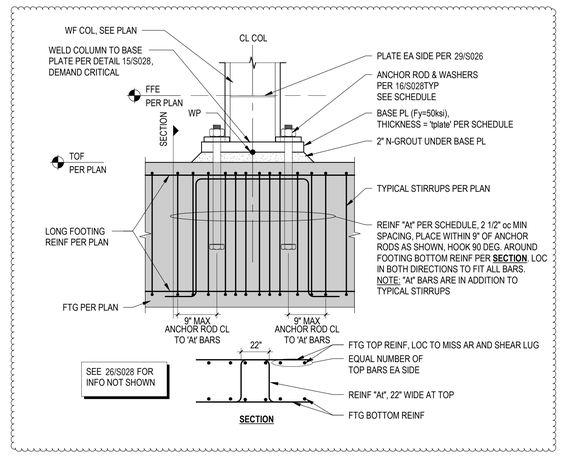

## 16 ANCHOR ROD AT BRACED FRAME
SCALE: 1" = 1'-0"



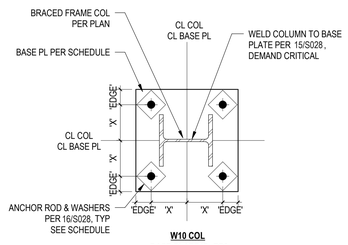

## 17 BRB CONN ABOVE CONCRETE DETAIL
SCALE: 1/2" = 1'-0"




## 18 PROTECTED ZONE DEFINITION REQUIREMENTS @ BRACED FRAMES
SCALE: 3/16" = 1'-0"




## 25 FOUNDATION REINFORCING AT BRB COLUMN WITH NO GUSSET PLATE
SCALE: 1" = 1'-0"

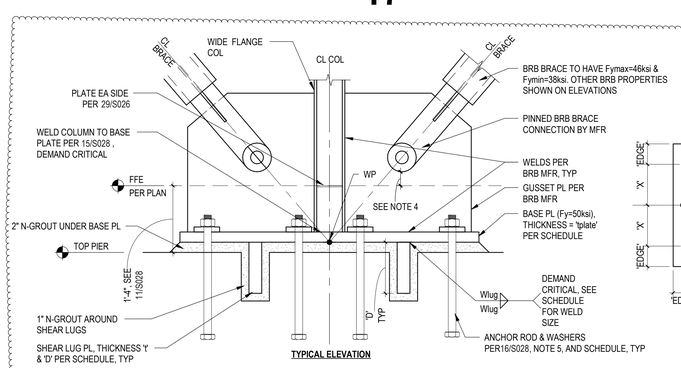



**NOTES:**
1. FOR ADDITIONAL ANCHOR ROD INFO, SEE 16/S028
2. ALL DEMAND CRITICAL WELDS REQUIRE 100% SPECIAL INSPECTION
3. NO "Av" REINFORCING OR SHEAR LUGS IN THIS DETAIL.
4. SEE DETAIL 11/S028 FOR ANCHOR ROD EMBEDMENT INTO CONCRETE PIER.

**BASE PLATE SCHEDULE**

| BASE PLATE | | | | | | ANCHOR RODS, NOTE 1 | | | | REINF "At" |
|---|---|---|---|---|---|---|---|---|---|---|
| BRACE FRAME | BF COL | BASE PLATE ID | 'tplate' | 'EDGE' | 'X' | DIAMETER | EMBED | EMBED PL WASHER | FTG CONN | |
| BF2 | C15 | BP3 | 3" | 3" | 7" | 1 1/2" | 20" | PL1"x4"x4" | 25/S028 | (18) #5 |
| BF3 | D2 | BP3 | 1" | 3" | 7" | 1" | 20" | PL1"x4"x4" | 25/S028 | (6) #5 |
| BF4 | C8 | BP3 | 1" | 3" | 7" | 1" | 20" | PL1"x4"x4" | 11/S028, SIM | 1/S031 |
| BF5 | D2 | BP3 | 1" | 3" | 7" | 1" | NOTE 4 | PL1"x4"x4" | 11/S028, SIM | 1/S031 |
| BF6 | A1 | BP3 | 2 1/2" | 3" | 7" | 1 1/2" | NOTE 4 | PL1"x5"x5" | 11/S028, SIM | 1/S031 |
| | A4 | BP3 | 2 1/2" | 3" | 7" | 1 1/2" | NOTE 4 | PL1"x5"x5" | 11/S028, SIM | 1/S031 |
| BF7 | B6 | BP3 | 3" | 4" | 7 1/2" | 2" | NOTE 4 | PL1"x5"x5" | 11/S028, SIM | 1/S031 |
| BF8 | A3 | BP3 | 2 1/4" | 3" | 7" | 1 1/2" | NOTE 4 | PL1"x4"x4" | 11/S028, SIM | 1/S031 |

## 26 BRB COLUMN BASELATE WITH NO GUSSET PLATE
SCALE: 1" = 1'-0"




**BASE PLATE SCHEDULE**

| BASE PLATE | | | | | | ANCHOR RODS, NOTE 1 | | | | SHEAR LUG | | | | | | REINF "At" | REINF "Av" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRACE FRAME | BF COL | BASE PLATE ID | 'tplate' | 'EDGE' | 'X' | DIAMETER | EMBED | EMBED PL WASHER | FTG CONN | 't' | 'D' | 'W' | Wlug | Quantity | 'CC' | | |
| BF6 | A2 | BP4 | 2" | 3" | 7" | 1 1/2" | NOTE 5 | PL1"x4"x4" | 11/S028, SIM | 3 1/2" | 8" | 18" | 5/8" | 2 | 19" | 1/S031 | (11) #6 |

**NOTES:**
1. FOR ADDITIONAL ANCHOR ROD INFO, SEE 16/S028
2. ALL DEMAND CRITICAL WELDS REQUIRE 100% SPECIAL INSPECTION
3. FOR ADDITIONAL FOOTING REINF SEE 11/S028
4. MAINTAIN 1" CLEAR BETWEEN BRACE AND SLAB. SEE DETAIL 17/S028
5. SEE DETAIL 11/S028 FOR ANCHOR ROD EMBEDMENT INTO CONCRETE PIER.

## 28 CENTER GUSSET & BASE PL AT BRACED FRAME
SCALE: 1" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 105, SEATTLE, WA 98104
TELEPHONE: (206)623-1570 FAX: (206)623-1698

THOMAS H. DANIEL — 38621 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

**PIERCE COLLEGE PUYALLUP LLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM |
| Checked by: | TD |

Revisions

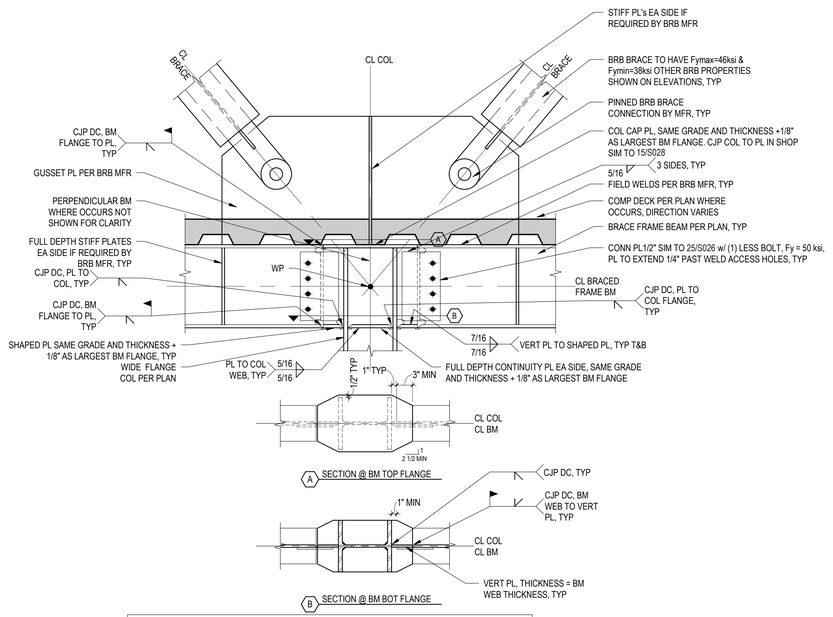
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

TYPICAL BUCKLING-RESTRAINED BRACED FRAME DETAILS

**S028**

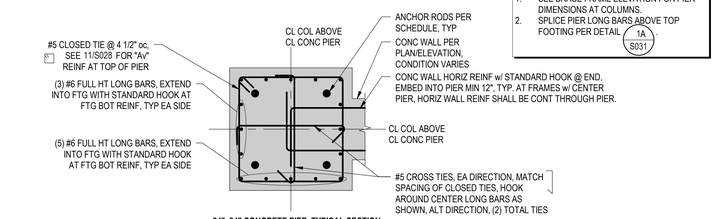
IFC SET

PRCNC20221036

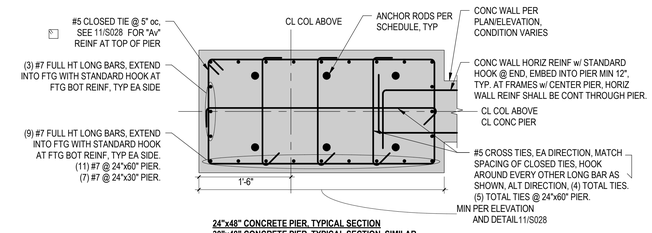



NOTES:
1. CONTINUITY CLIPS SHALL COMPLY WITH AISC 341 AND AISC 358.
2. AFTER COMPLETING CJP WELDING WITH BACKER PLATES, BACKER PLATES SHALL BE REMOVED. BACK GOUGE & DRESS WITH 5/16" FILLET, TYPICAL.
3. ALL DEMAND CRITICAL (DC) WELDS REQUIRE 100% SPECIAL INSPECTION.
4. WELD ACCESS HOLES SIZE AND QUALITY SHALL MEET THE REQUIREMENTS OF AWS D1.8/D1.8M.
5. SEE DETAIL 17/S028 FOR MINIMUM BRACE CONNECTION CLEARANCE.

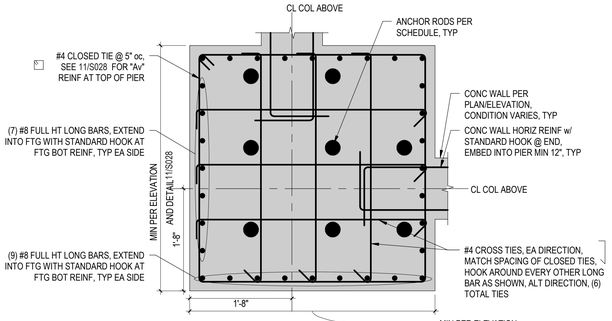
**7** BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL
SCALE: 1" = 1'-0"




**24"x24" CONCRETE PIER, TYPICAL SECTION**



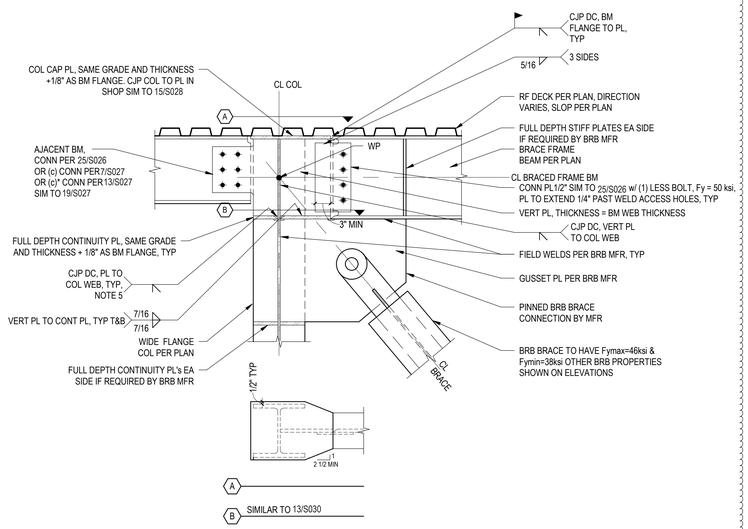

**24"x48" CONCRETE PIER, TYPICAL SECTION**
**30"x48" CONCRETE PIER, TYPICAL SECTION, SIMILAR**
**24"x48" CONCRETE PIER, TYPICAL SECTION, SIMILAR**
**24"x36" CONCRETE PIER, TYPICAL SECTION, SIMILAR**
**24"x52" CONCRETE PIER, TYPICAL SECTION, SIMILAR**
**24"x60" CONCRETE PIER, TYPICAL SECTION, SIMILAR**




**48"x48" CONCRETE PIER, TYPICAL SECTION**

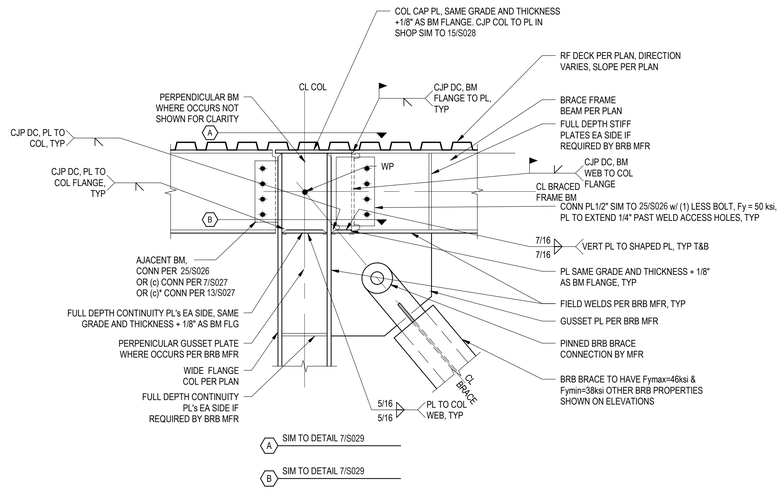
A **TYPICAL CONCRETE PIER SECTION**

**16** BRACED FRAME COLUMN CONCRETE PIER REINFORCING
SCALE: 1" = 1'-0"




NOTES:
1. CONTINUITY CLIPS SHALL COMPLY WITH AISC 341 AND AISC 358.
2. AFTER COMPLETING CJP WELDING WITH BACKER PLATES, BACKER PLATES SHALL BE REMOVED. BACK GOUGE & DRESS WITH 5/16" FILLET, TYPICAL.
3. ALL DEMAND CRITICAL (DC) WELDS REQUIRE 100% SPECIAL INSPECTION.
4. WELD ACCESS HOLE SIZE AND QUALITY SHALL MEET THE REQUIREMENTS OF AWS D1.8/D1.8M.
5. CONTINUITY PLATE WELDING ORDER:
   A. CJP WELD CONTINUITY PLATE TO COLUMN WEB ON ONE SIDE. LET WELD COOL.
   B. ON OTHER SIDE OF COLUMN WEB, CJP WELD CONTINUITY PLATE TO COLUMN WEB. LET WELD COOL.
   C. CJP WELD CONTINUITY PLATES TO COLUMN FLANGE.

**25** BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL
SCALE: 1" = 1'-0"




NOTES:
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**28** BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL
SCALE: 1" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 105, SEATTLE, WA. 98104
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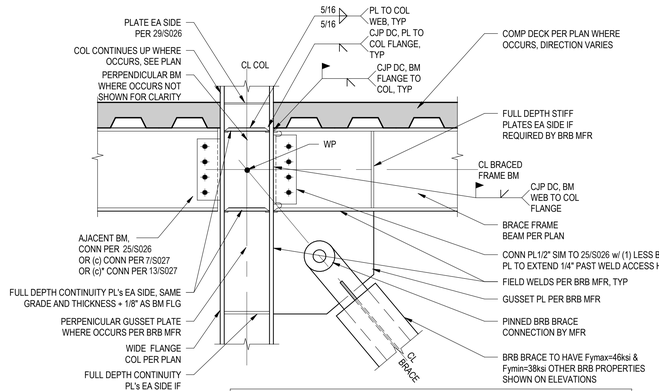
| 1.30.23 | IFC Revisions |

TYPICAL BUCKLING-RESTRAINED BRACED FRAME DETAILS

**S029**

IFC SET

PRCNC20221036




NOTES:
1. CONTINUITY CLIPS SHALL COMPLY WITH AISC 341 AND AISC 358.
2. AFTER COMPLETING CJP WELDING WITH BACKER PLATES, BACKER PLATES SHALL BE REMOVED. BACK GOUGE & DRESS WITH 5/16" FILLET, TYPICAL.
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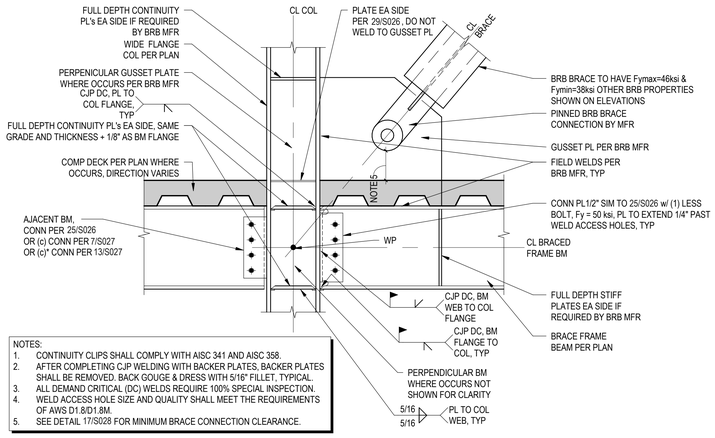
## 7 BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL

SCALE: 1" = 1'-0"




NOTES:
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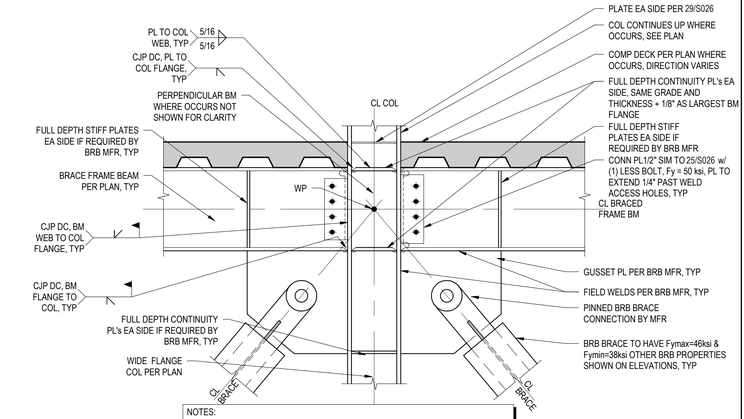
4. WELD ACCESS HOLE SIZE AND QUALITY SHALL MEET THE REQUIREMENTS OF AWS D1.8/D1.8M.
5. SEE DETAIL 17/S028 FOR MINIMUM BRACE CONNECTION CLEARANCE.

## 9 BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL

SCALE: 1" = 1'-0"




NOTES:
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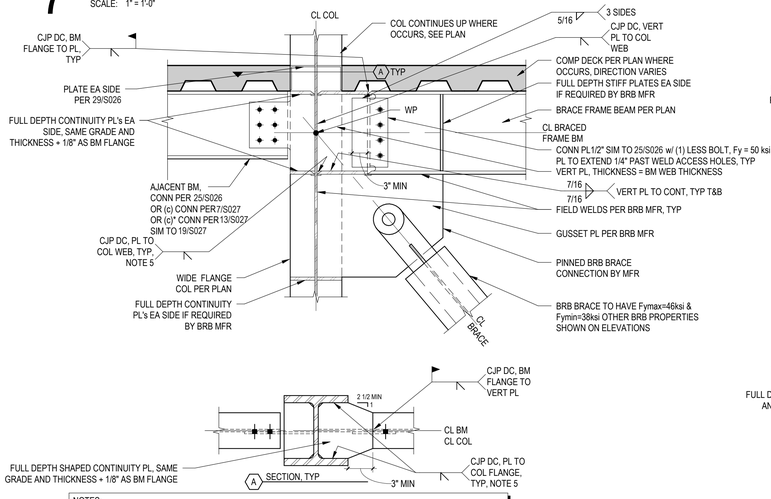
2. AFTER COMPLETING CJP WELDING WITH BACKER PLATES, BACKER PLATES SHALL BE REMOVED. BACK GOUGE & DRESS WITH 5/16" FILLET, TYPICAL.
3. ALL DEMAND CRITICAL (DC) WELDS REQUIRE 100% SPECIAL INSPECTION.
4. WELD ACCESS HOLE SIZE AND QUALITY SHALL MEET THE REQUIREMENTS OF AWS D1.8/D1.8M.

## 11 BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL

SCALE: 1" = 1'-0"

NOTES:
1. CONTINUITY CLIPS SHALL COMPLY WITH AISC 341 AND AISC 358.
2. AFTER COMPLETING CJP WELDING WITH BACKER PLATES, BACKER PLATES SHALL BE REMOVED. BACK GOUGE & DRESS WITH 5/16" FILLET, TYPICAL.
3. ALL DEMAND CRITICAL (DC) WELDS REQUIRE 100% SPECIAL INSPECTION
4. WELD ACCESS HOLE SIZE AND QUALITY SHALL MEET THE REQUIREMENTS OF AWS D1.8/D1.8M.
5. SEE DETAIL 17/S028 FOR MINIMUM BRACE CONNECTION CLEARANCE.




NOTES:
1. CONTINUITY CLIPS SHALL COMPLY WITH AISC 341 AND AISC 358.
2. AFTER COMPLETING CJP WELDING WITH BACKER PLATES, BACKER PLATES SHALL BE REMOVED. BACK GOUGE & DRESS WITH 5/16" FILLET, TYPICAL.
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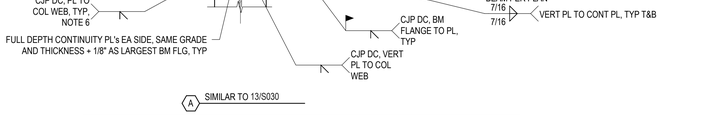
   B. ON OTHER SIDE OF COLUMN WEB, CJP WELD CONTINUITY PLATE TO COLUMN WEB. LET WELD COOL.
   C. CJP WELD CONTINUITY PLATES TO COLUMN FLANGE.

## 13 BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL

SCALE: 1" = 1'-0"




A SIMILAR TO 13/S030

NOTES:
1. CONTINUITY CLIPS SHALL COMPLY WITH AISC 341 AND AISC 358.
2. AFTER COMPLETING CJP WELDING WITH BACKER PLATES, BACKER PLATES SHALL BE REMOVED. BACK GOUGE & DRESS WITH 5/16" FILLET, TYPICAL.
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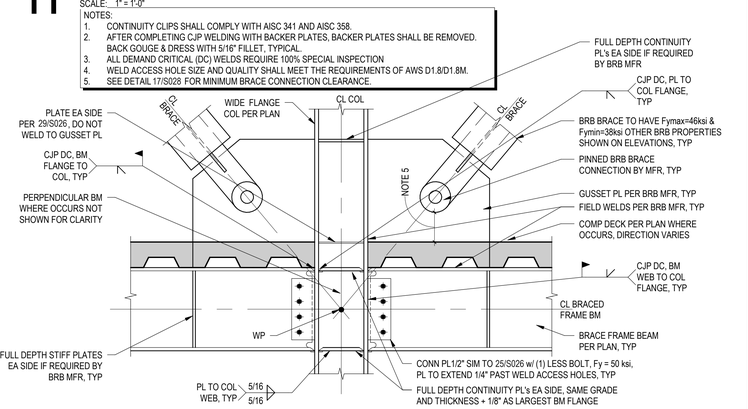
5. SEE DETAIL 17/S028 FOR MINIMUM BRACE CONNECTION CLEARANCE.
6. CONTINUITY PLATE WELDING ORDER:
   A. CJP WELD CONTINUITY PLATE TO COLUMN WEB ON ONE SIDE. LET WELD COOL.
   B. ON OTHER SIDE OF COLUMNWEB, CJP WELD CONTINUITY PLATE TO COLUMN WEB. LET WELD COOL.
   C. CJP WELD CONTINUITY PLATES TO COLUMN FLANGE.

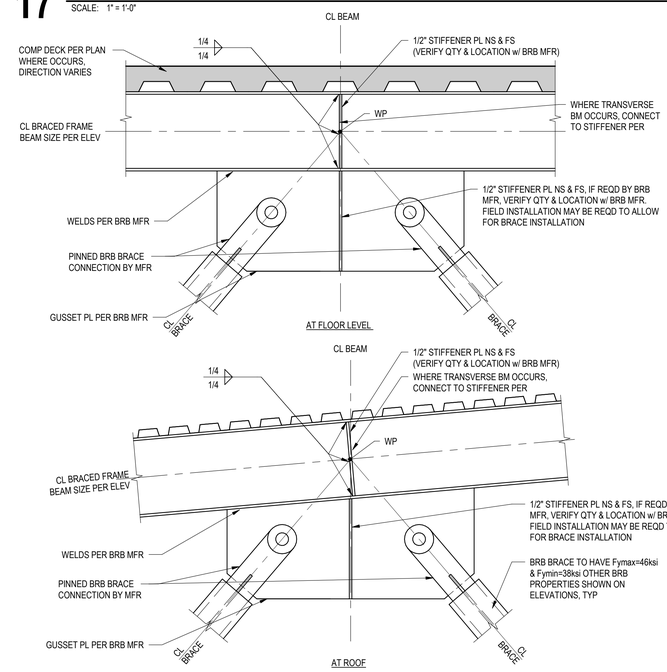
## 15 BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL

SCALE: 1" = 1'-0"




## 17 BRACED FRAME BEAM-COLUMN-BRACE CONNECTION DETAIL

SCALE: 1" = 1'-0"




## 29 V-BRACE BEAM CONNECTION DETAIL

SCALE: 1" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE: (206)623-3173 FAX (206)623-3174

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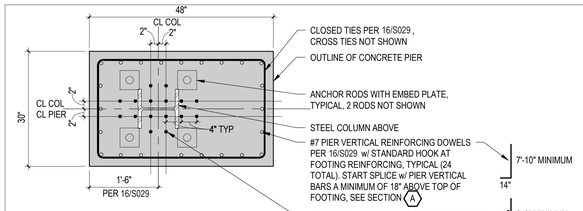
TYPICAL BUCKLING-RESTRAINED BRACED FRAME DETAILS

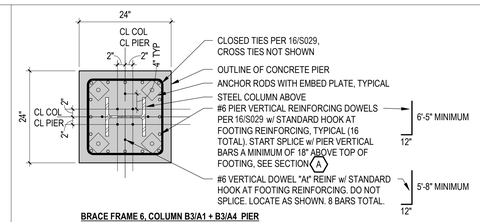
S030

IFC SET

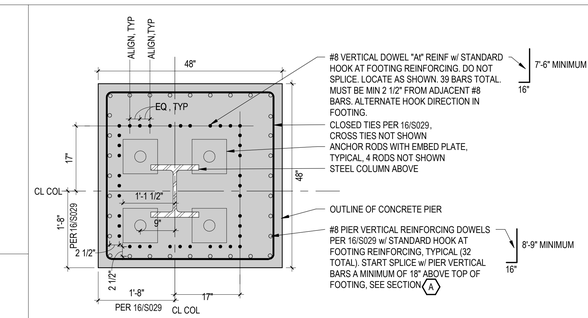
PRCNC20221036



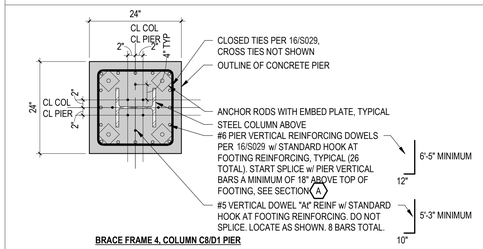

**BRACE FRAME 4, COLUMN C10/D1 + C7/D1 PIER**



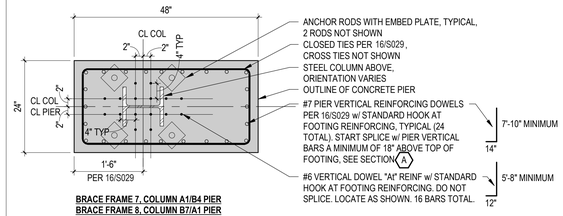

**BRACE FRAME 6, COLUMN B3/A1 + B3/A4 PIER**
**BRACE FRAME 8, COLUMN B7/A3 PIER**



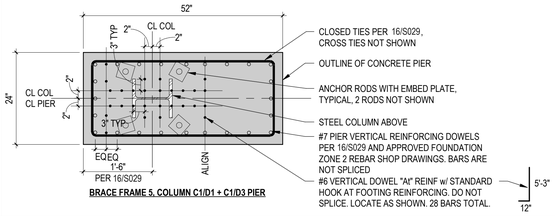

**BRACE FRAME 9 + 10, COLUMN C7/D6 PIER**



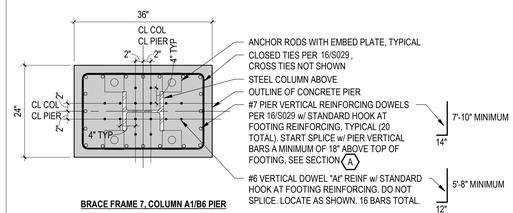

**BRACE FRAME 4, COLUMN C8/D1 PIER**



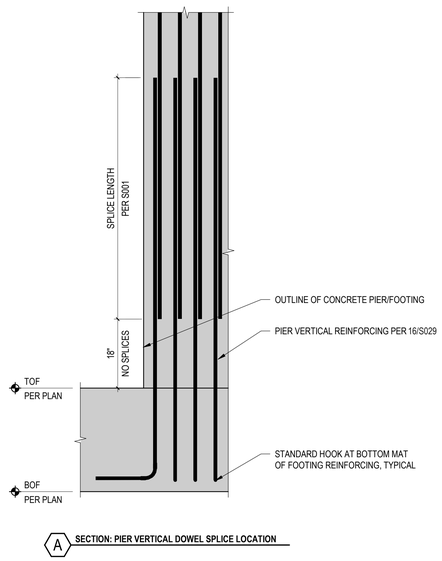

**BRACE FRAME 7, COLUMN A1/B4 PIER**
**BRACE FRAME 8, COLUMN B7/A1 PIER**



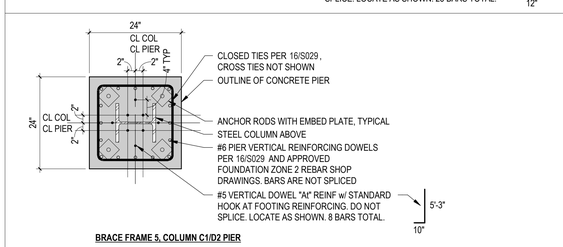

**BRACE FRAME 5, COLUMN C1/D1 + C1/D3 PIER**



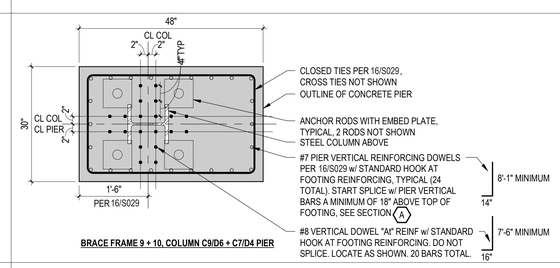

**BRACE FRAME 7, COLUMN A1/B6 PIER**



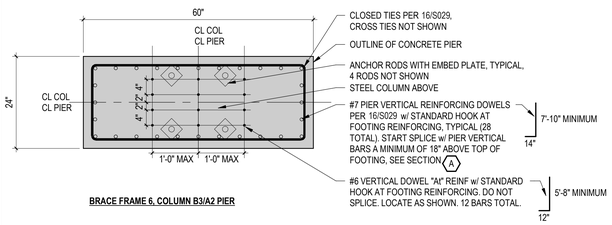

A SECTION: PIER VERTICAL DOWEL SPLICE LOCATION




**BRACE FRAME 5, COLUMN C1/D2 PIER**




**BRACE FRAME 9 + 10, COLUMN C9/D6 + C7/D4 PIER**




**BRACE FRAME 6, COLUMN B3/A2 PIER**

## 1 BRACED FRAME COLUMN CONCRETE PIER REINFORCING

SCALE: 3/4" = 1'-0"

integrus ARCHITECTURE

117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE: (206)623-1570 FAX: (206)623-5938

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# NEW STEM BUILDING

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|---|---|
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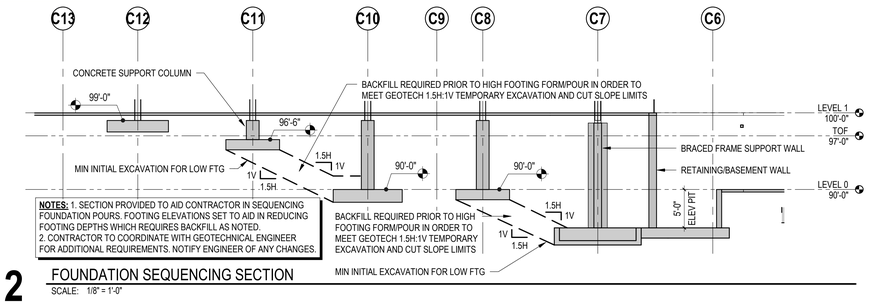
TYPICAL BUCKLING-RESTRAINED BRACED FRAME DETAILS

S031

IFC SET

PRCNC20221036




## 2 FOUNDATION SEQUENCING SECTION

SCALE: 1/8" = 1'-0"

**KEY FOUNDATION/FIRST FLOOR NOTES**

- INDICATES FOOTING MARK NUMBER. SEE SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCEMENT
- INDICATES EXTENTS AND DEPTH OF RECESSED SLAB-ON-GRADE. CONFIRM DEPTH OF RECESS INDICATED WITH ARCHITECTURAL AND FLOOR FINISH MANUFACTURER WHERE NOT INDICATED ON PLAN. FLOOR FINISHES WITHIN REGION OF RECESS SHALL FLUSH WITH FINISHES ON ADJACENT SLAB SURFACES. SEE DETAIL 10/S021 .
- INDICATES MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT. PROVIDE HOUSEKEEPING PAD PER DETAIL 5/S021 IF REQUIRED BY EQUIPMENT MANUFACTURER. SEE MECHANICAL, ELECTRICAL, AND/OR PLUMBING FOR EXACT SIZE, QUANTITY, AND LOCATION OF PADS.
- S — S INDICATES FOOTING STEP LOCATION. SEE DETAIL 22/S021.
- INDICATES APPROXIMATE LOCATION OF PIPE OR CONDUIT THROUGH FOUNDATION WALL, THROUGH FOOTING, AND/OR BELOW FOOTING. SEE DETAIL 15/S021 . NOT ALL LOCATIONS ARE INDICATED. COORDINATE WITH MEP DRAWINGS FOR QUANTITIES, SIZES AND LOCATIONS.
- INDICATES FLOOR DRAIN. SLOPE 1/4" . 12" TOWARD CENTER OF FLOOR DRAIN OVER AN 18" RADIUS. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING.
- INDICATES FLOOR SINK WITH DRAIN. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING. SEE 28/S021 AT SLAB-ON-GRADE, SEE 27/S021 AT ELEVATED SLABS.
- INDICATES ELECTRICAL FLOOR BOX. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH, ELECTRICAL, AND LAB. SEE 27/S021 .

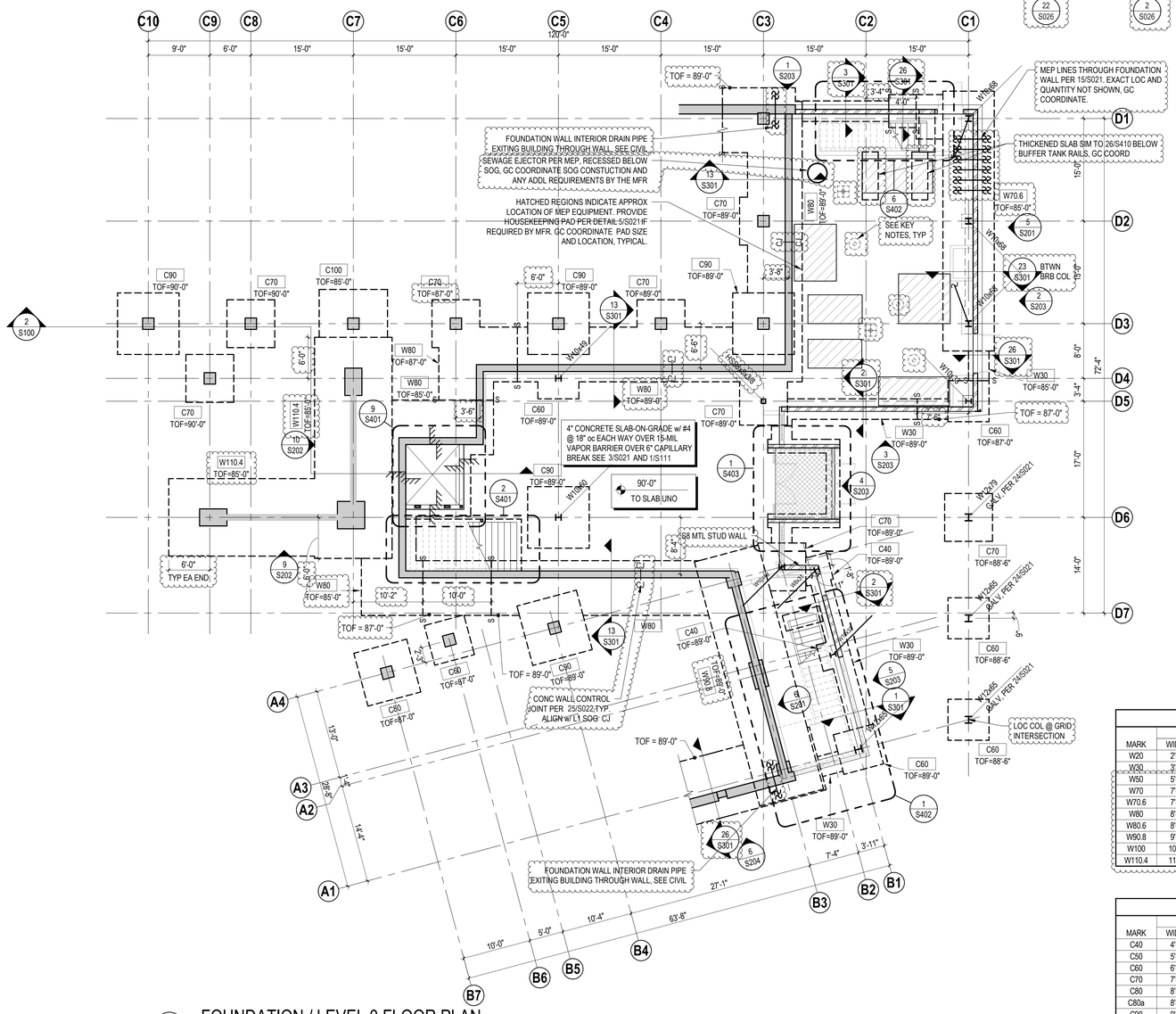
**FOUNDATION/FIRST FLOOR PLAN NOTES**

1. REFER TO SHEETS S001, S002 AND S003 FOR GENERAL STRUCTURAL AND SPECIAL INSPECTION NOTES
2. REFER TO SHEETS S021 THROUGH S030 FOR TYPICAL DETAILS
3. PROJECT ELEVATION 100'-0" = DATUM ELEVATION 534.0' PER CIVIL DRAWINGS.
4. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS
5. REFER TO DETAILS 3/S021 AND EARTHWORK SPECIFICATION FOR SOIL PREPARATION AT SLABS-ON-GRADE
6. REFER TO DETAIL 10/S021 FOR RECESSED SLAB-ON-GRADE. FLOOR FINISHES WITHIN REGION OF RECESS SHALL FLUSH WITH FINISHES ON ADJACENT SLAB SURFACES.
7. REFER TO DETAIL 5/S021 FOR EQUIPMENT PADS. SEE MECH, ELEC, CIVIL FOR PAD QUANTITIES AND LOCATIONS. PAD SIZES TO BE PROVIDED BY EQUIPMENT MFRS
8. LOCALIZED SLOPE TO DRAIN. PROVIDE MAXIMUM 1/4". 12" SLOPE TO DRAIN WITHIN 18" RADIUS AROUND DRAIN.
9. CONTINUE ALL WALL FOOTING REINFORCING, INCLUDING WALL VERTICAL DOWELS, THROUGH COLUMN FOOTINGS WHEREVER THEY INTERSECT. CONTINUE WALL VERTICAL DOWELS THROUGH BRACE FRAME FOOTINGS WHEREVER THEY INTERSECT.
10. EXTEND LONGITUDINAL FOOTING REINFORCING INTO ADJACENT FOOTING WITH EXTENSION LENGTH EQUAL TO THE TYPICAL HORIZONTAL SPLICE LENGTH REQUIRED BY THE CONC REINF SPLICE TABLE ON SHEET S001.
11. APPLY COAL TAR EPOXY TO ALL STRUCTURAL STEEL SURFACES, INCLUDING ANCHOR BOLTS, EXPOSED TO SOIL IN THE FINISHED CONDITION.
12. BRACED FRAMES AND FOOTINGS ARE CENTERED ON GRID LINES, UNLESS NOTED OTHERWISE.
13. BRACED FRAME FOOTINGS SHALL EXTEND 4'-0" BEYOND CENTERLINE OF BRACED FRAME COLUMNS, TYPICAL UNLESS NOTED OTHERWISE IN PLAN.
14. SEE 1/S111 FOR SLAB-ON-GRADE CONTROL JOINT PLAN. REFERENCE DETAIL 4/S021.

**STEEL COLUMNS AND POSTS**

1. ALL COLUMNS BEAR AT TOP OF FOOTING OR TOP OF PIER. VERTICAL STEEL ELEMENTS SHOWN IN PLAN ARE 'COLUMNS', UNLESS NOTED OTHERWISE.
2. COLUMNS ARE CENTERED AT GRIDLINE INTERSECTIONS, UNLESS NOTED OTHERWISE.
3. ALL POST BEAR AT TOP OF SLAB OR STEM WALL. VERTICAL STEEL ELEMENTS ARE ONLY POSTS IF LABELED 'POST' IN PLAN.
4. SEE THE FOLLOWING DETAILS FOR ADDITIONAL INFORMATION:

COLUMN BASEPLATE: 22/S026 — TYPICAL COLUMN CAP PLATE: 2/S026 — TYPICAL INTERIOR STEEL COLUMN FOOTING, UNO: 24/S021 — POST BASEPLATE, UNO: 13/S026




## FOUNDATION / LEVEL 0 FLOOR PLAN

SCALE: 1/8" = 1'-0"

**FOOTING SCHEDULE - WALL**

| MARK | SIZE WIDTH | SIZE DEPTH | REINFORCING |
|---|---|---|---|
| W20 | 2'-0" | 12" | (3) #4 LONG |
| W30 | 3'-0" | 12" | (4) #5 LONG w/ #5 TRANS @ 12" oc |
| W50 | 5'-0" | 24" | (6) #6 LONG w/ #5 STIRRUPS @ 12" oc |
| W70 | 7'-0" | 36" | (7) #6 LONG T&B w/ #5 STIRRUPS @ 6" oc |
| W70.6 | 7'-6" | 24" | (7) #7 w/ #5 STIRRUPS @ 6" oc |
| W80 | 8'-0" | 16" | PER 13/S301 |
| W80.6 | 8'-6" | 24" | (8) #7 LONG T&B, SEE DETAIL FOR TRANSVERSE REINF |
| W90.8 | 9'-8" | 24" | (10) #7 LONG T&B, SEE DETAIL FOR TRANSVERSE REINF |
| W100 | 10'-0" | 24" | (10) #7 LONG T&B, SEE DETAIL FOR TRANSVERSE REINF |
| W110.4 | 11'-4" | 27" | (17) #8 LONG T&B w/ #5 STIRRUPS @ 6" oc |

**FOOTING SCHEDULE - COLUMN**

| MARK | SIZE WIDTH | SIZE LENGTH | SIZE DEPTH | REINFORCING (BOTTOM UNO) |
|---|---|---|---|---|
| C40 | 4'-0" | 4'-0" | 12" | (4) #5 EA WAY |
| C50 | 5'-0" | 5'-0" | 12" | (5) #5 EA WAY |
| C60 | 6'-0" | 6'-0" | 16" | (6) #6 EA WAY |
| C70 | 7'-0" | 7'-0" | 16" | (7) #6 EA WAY |
| C80 | 8'-0" | 8'-0" | 18" | (9) #6 EA WAY |
| C80a | 8'-0" | 8'-0" | 24" | (9) #6 T&B, EA WAY |
| C90 | 9'-0" | 9'-0" | 20" | (11) #6 T&B, EA WAY |
| C100 | 10'-0" | 10'-0" | 20" | (13) #6 T&B, EA WAY |

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**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | RB/AM |
| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

FOUNDATION/ LEVEL 0 FLOOR PLAN

**S100**

**IFC SET**

PRCNC20221036

**BEAM END CONNECTIONS**

1. BEAMS MARKED WITH (c) AND (c)* ARE SEISMIC COLLECTORS. THESE BEAMS ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.

TYPICAL BEAM/GIRDER TO COLUMN: 5/S026 | TYPICAL BEAM/GIRDER BOLTED CONNECTION: 25/S026 | TYPICAL (c) CONNECTION AT COLUMNS: 7/S027 | TYPICAL (c)* CONNECTION AT COLUMNS: 13/S027

TYPICAL (c) AND (c)* CONNECTION TO BEAM/GIRDER: 19/S027

TYPICAL SKEWED BEAM/GIRDER CONNECTION: 17/S027 | TYPICAL COLUMN CAP PLATE, UNO: 2/S026

**FLOOR FRAMING PLAN NOTES**

1. REFER TO SHEETS S001, S002 AND S003 FOR GENERAL STRUCTURAL AND SPECIAL INSPECTION NOTES.
2. REFER TO SHEETS S021 THROUGH S030 FOR TYPICAL DETAILS.
3. PROJECT ELEVATION 100'-0" = DATUM ELEVATION 534.0' PER CIVIL DRAWINGS.
4. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION AND CONSTRUCTION.
5. 3" CONCRETE TOPPING OVER 2" COMPOSITE 18 GAGE METAL DECK w/ 6x6 W2.9xW2.9 WELDED WIRE FABRIC REINFORCING, UNLESS NOTED OTHERWISE. SEE DETAILS 1/S025 AND 24/S025.
6. AT ALL COMPOSITE DECK, INSTALL HEADED STUDS AT 12" ON CENTER AT ALL SUPPORTS UNLESS NOTED OTHERWISE. SEE DETAIL 7/S025 .
7. REPETITIVE FRAMING IS SPACED EQUALLY BETWEEN DIMENSIONED ELEMENTS, WITH THE NUMBER OF EQUAL SPACES GRAPHICALLY INDICATED IN PLAN, UNLESS NOTED OTHERWISE.
8. BEAMS FRAMING INTO WALL ENDS AND COLUMNS ARE ALIGNED CENTERLINE TO CENTERLINE WITH THEIR SUPPORTS, UNLESS NOTED OTHERWISE.
9. COORDINATE SIZES AND LOCATIONS OF FLOOR AND ROOF OPENINGS WITH ARCHITECTURAL AND MEP DRAWINGS. NOT ALL REQUIRED OPENINGS ARE INDICATED IN THE STRUCTURAL DRAWINGS. REFER TO DETAIL 9/S025 FOR OPENINGS IN COMPOSITE FLOOR DECK. REFER TO DETAIL 3/S025 FOR OPENINGS IN ROOF DECK.
10. STRUCTURAL STEEL SHOP TAGS, ERECTION AIDS AND MILL MARKINGS EXPOSED TO VIEW SHALL BE REMOVED AFTER FIELD ASSEMBLY, PATCH, TOUCH UP AND GRIND SMOOTH.
11. HOT DIP GALVANIZE ALL STEEL, CONNECTIONS, AND BOLTS EXPOSED TO WEATHER. PAINT EXPOSED FIELD WELDS WITH ZINC RICH PAINT AFTER COMPLETION.
12. STEEL MEMBERS DESIGNATED AS (c) OR (c)* ARE CHORDS/COLLECTORS AND PART OF OF THE LATERAL FORCE RESISTING SYSTEM.
13. AT (c) REINFORCING BARS SHOWN IN COMPOSITE FLOOR/ROOF DECK, STAGGER BAR SPLICES.
14. AT ALL EXTERIOR BEAMS, BEAMS FRAMING INTO (c) OR (c)*, AND BEAMS FRAMING INTO BRACE FRAME BEAMS, PROVIDE FULL HEIGHT SHEAR TABS AS INDICATED IN DETAIL 25/S026.
15. AT CANTILEVERS DESIGNATED AS "CANT" ON PLAN, CANTILEVER MEMBER SIZE SHALL MATCH BACKSPAN MEMBER SIZE UNLESS NOTED OTHERWISE.
16. LOCALIZED SLOPE TO DRAIN. PROVIDE MAXIMUM 1/4" : 12" SLOPE TO DRAIN WITHIN 18" RADIUS AROUND DRAIN
17. REFER TO SHEET S501 FOR LOAD MAPS.
18. COLUMNS NOT CONTINUOUS TO LEVEL ABOVE SHALL TERMANITE AT BOTTOM OF SLAB. PROVIDE COLUMN CAP PLATE PER DETAIL 2/S026 UNLESS NOTED OTHERWISE.

**KEY FOUNDATION/FIRST FLOOR NOTES**

- INDICATES FOOTING MARK NUMBER. SEE SCHEDULE ON THIS SHEET FOR SIZE AND REINFORCEMENT
- INDICATES EXTENTS AND DEPTH OF RECESSED SLAB-ON-GRADE. CONFIRM DEPTH OF RECESS INDICATED WITH ARCHITECTURAL AND FLOOR FINISH MANUFACTURER WHERE NOT INDICATED ON PLAN. FLOOR FINISHES WITHIN REGION OF RECESS SHALL FLUSH WITH FINISHES ON ADJACENT SLAB SURFACES. SEE DETAIL 10/S021 .
- INDICATES MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT. PROVIDE HOUSEKEEPING PAD PER DETAIL 5/S021 IF REQUIRED BY EQUIPMENT MANUFACTURER. SEE MECHANICAL, ELECTRICAL, AND/OR PLUMBING FOR EXACT SIZE, QUANTITY, AND LOCATION OF PADS.
- S — S — INDICATES FOOTING STEP LOCATION. SEE DETAIL 22/S021.
- INDICATES APPROXIMATE LOCATION OF PIPE OR CONDUIT THROUGH FOUNDATION WALL, THROUGH FOOTING, AND/OR BELOW FOOTING. SEE DETAIL 15/S021 . NOT ALL LOCATIONS ARE INDICATED. COORDINATE WITH MEP DRAWINGS FOR QUANTITIES, SIZES AND LOCATIONS.
- INDICATES FLOOR DRAIN. SLOPE 1/4" : 12" TOWARD CENTER OF FLOOR DRAIN OVER AN 18" RADIUS. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING.
- INDICATES FLOOR SINK WITH DRAIN. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING. SEE 28/S021 AT SLAB-ON-GRADE, SEE 27/S021 AT ELEVATED SLABS.
- INDICATES ELECTRICAL FLOOR BOX. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH, ELECTRICAL, AND LAB. SEE 27/S021 .

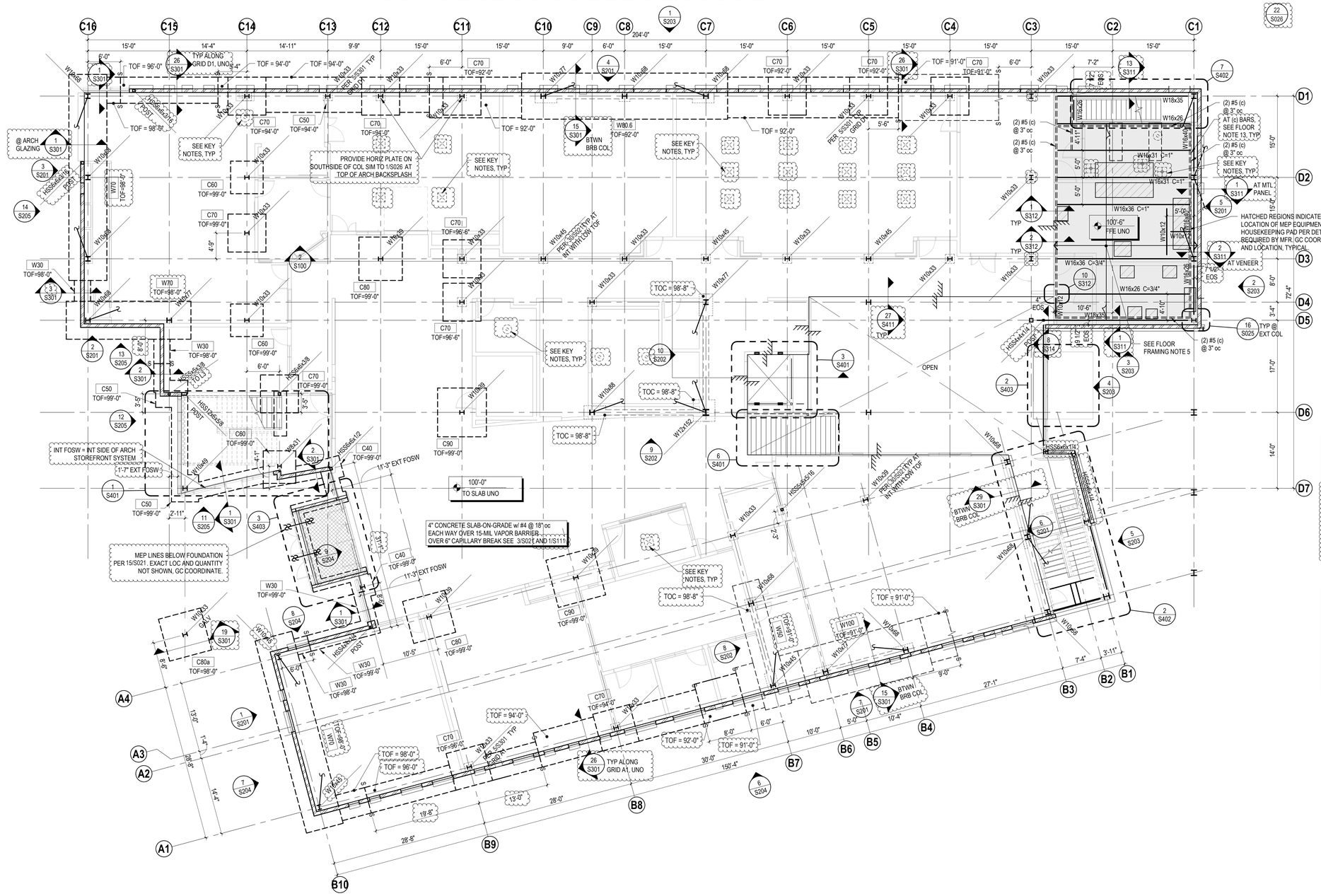
**FOUNDATION/FIRST FLOOR PLAN NOTES**

1. REFER TO SHEETS S001, S002 AND S003 FOR GENERAL STRUCTURAL AND SPECIAL INSPECTION NOTES
2. REFER TO SHEETS S021 THROUGH S030 FOR TYPICAL DETAILS
3. PROJECT ELEVATION 100'-0" = DATUM ELEVATION 534.0' PER CIVIL DRAWINGS.
4. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS
5. REFER TO DETAILS 3/S021 AND EARTHWORK SPECIFICATION FOR SOIL PREPARATION AT SLABS-ON-GRADE.
6. REFER TO DETAIL 10/S021 FOR RECESSED SLAB-ON-GRADE. FLOOR FINISHES WITHIN REGION OF RECESS SHALL FLUSH WITH FINISHES ON ADJACENT SLAB SURFACES.
7. REFER TO DETAIL 5/S021 FOR EQUIPMENT PADS. SEE MECH, ELEC, CIVIL FOR PAD QUANTITIES AND LOCATIONS. PAD SIZES TO BE PROVIDED BY EQUIPMENT MFRS
8. LOCALIZED SLOPE TO DRAIN. PROVIDE MAXIMUM 1/4": 12" SLOPE TO DRAIN WITHIN 18" RADIUS AROUND DRAIN.
9. CONTINUE ALL WALL FOOTING REINFORCING, INCLUDING WALL VERTICAL DOWELS, THROUGH COLUMN FOOTINGS WHEREVER THEY INTERSECT. CONTINUE WALL VERTICAL DOWELS THROUGH BRACE FRAME FOOTINGS WHEREVER THEY INTERSECT.
10. EXTEND LONGITUDINAL FOOTING REINFORCING INTO ADJACENT FOOTING WITH EXTENSION LENGTH EQUAL TO THE TYPICAL HORIZONTAL SPLICE LENGTH REQUIRED BY THE CONC REINF SPLICE TABLE ON SHEET S001.
11. APPLY COAL TAR EPOXY TO ALL STRUCTURAL STEEL SURFACES, INCLUDING ANCHOR BOLTS, EXPOSED TO SOIL IN THE FINISHED CONDITION.
12. BRACED FRAMES AND FOOTINGS ARE CENTERED ON GRID LINES, UNLESS NOTED OTHERWISE.
13. BRACED FRAME FOOTINGS SHALL EXTEND 4'-0" BEYOND CENTERLINE OF BRACED FRAME COLUMNS, TYPICAL UNLESS NOTED OTHERWISE IN PLAN.
14. SEE 1/S111 FOR SLAB-ON-GRADE CONTROL JOINT PLAN. REFERENCE DETAIL 4/S021.

**STEEL COLUMNS AND POSTS**

1. ALL COLUMNS BEAR AT TOP OF FOOTING OR TOP OF PIER. VERTICAL STEEL ELEMENTS SHOWN IN PLAN ARE 'COLUMNS', UNLESS NOTED OTHERWISE.
2. COLUMNS ARE CENTERED AT GRIDLINE INTERSECTIONS, UNLESS NOTED OTHERWISE.
3. ALL POST BEAR AT TOP OF SLAB OR STEM WALL. VERTICAL STEEL ELEMENTS ARE ONLY POSTS IF LABELED 'POST' IN PLAN.
4. SEE THE FOLLOWING DETAILS FOR ADDITIONAL INFORMATION:

COLUMN BASEPLATE: 22/S026 | TYPICAL COLUMN CAP PLATE: 2/S026 | TYPICAL INTERIOR STEEL COLUMN FOOTING, UNO: 24/S021 | POST BASEPLATE, UNO: 13/S026




## FOUNDATION / LEVEL 1 FLOOR PLAN

SCALE: 1/8" = 1'-0"

**FOOTING SCHEDULE - WALL**

| MARK | SIZE WIDTH | SIZE DEPTH | REINFORCING |
|---|---|---|---|
| W20 | 2'-0" | 12" | (3) #4 LONG |
| W30 | 3'-0" | 12" | (4) #5 LONG w/ #5 TRANS @ 12" oc |
| W50 | 5'-0" | 24" | (6) #6 LONG w/ #5 STIRRUPS @ 12" oc |
| W70 | 7'-0" | 36" | (7) #6 LONG T&B w/ #5 STIRRUPS @ 6" oc |
| W70.6 | 7'-6" | 24" | (7) #7 w/ #5 STIRRUPS @ 6" oc |
| W80 | 8'-0" | 16" | PER 13/S301 |
| W80.6 | 8'-6" | 24" | (6) #7 LONG T&B, SEE DETAIL FOR TRANSVERSE REINF |
| W90.8 | 9'-8" | 24" | (10) #7 LONG T&B, SEE DETAIL FOR TRANSVERSE REINF |
| W100 | 10'-0" | 24" | (10) #7 LONG T&B, SEE DETAIL FOR TRANSVERSE REINF |
| W110.4 | 11'-4" | 27" | (17) #8 LONG T&B w/ #5 STIRRUPS @ 6" oc |

**FOOTING SCHEDULE - COLUMN**

| MARK | SIZE WIDTH | SIZE LENGTH | DEPTH | REINFORCING (BOTTOM UNO) |
|---|---|---|---|---|
| C40 | 4'-0" | 4'-0" | 12" | (4) #5 EA WAY |
| C50 | 5'-0" | 5'-0" | 12" | (5) #5 EA WAY |
| C60 | 6'-0" | 6'-0" | 16" | (6) #6 EA WAY |
| C70 | 7'-0" | 7'-0" | 16" | (7) #6 EA WAY |
| C80 | 8'-0" | 8'-0" | 18" | (9) #6 EA WAY |
| C80a | 8'-0" | 8'-0" | 24" | (9) #6 T&B, EA WAY |
| C90 | 9'-0" | 9'-0" | 20" | (11) #6 T&B, EA WAY |
| C100 | 10'-0" | 10'-0" | 20" | (13) #6 T&B, EA WAY |

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THERESA H. DANIEL — 38621 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM/BLO |
| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

FOUNDATION/ LEVEL 1 FLOOR PLAN

**S101**

IFC SET

PRCNC20221036

**BEAM END CONNECTIONS**

1. BEAMS MARKED WITH (c) AND (c)* ARE SEISMIC COLLECTORS. THESE BEAMS ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.

TYPICAL BEAM/GIRDER TO COLUMN: 5/S026

TYPICAL BEAM/GIRDER BOLTED CONNECTION: 25/S026

TYPICAL (c) CONNECTION AT COLUMNS: 7/S027

TYPICAL (c)* CONNECTION AT COLUMNS: 13/S027

TYPICAL (c) AND (c)* CONNECTION TO BEAM/GIRDER: 19/S027

TYPICAL SKEWED BEAM/GIRDER CONNECTION: 17/S027

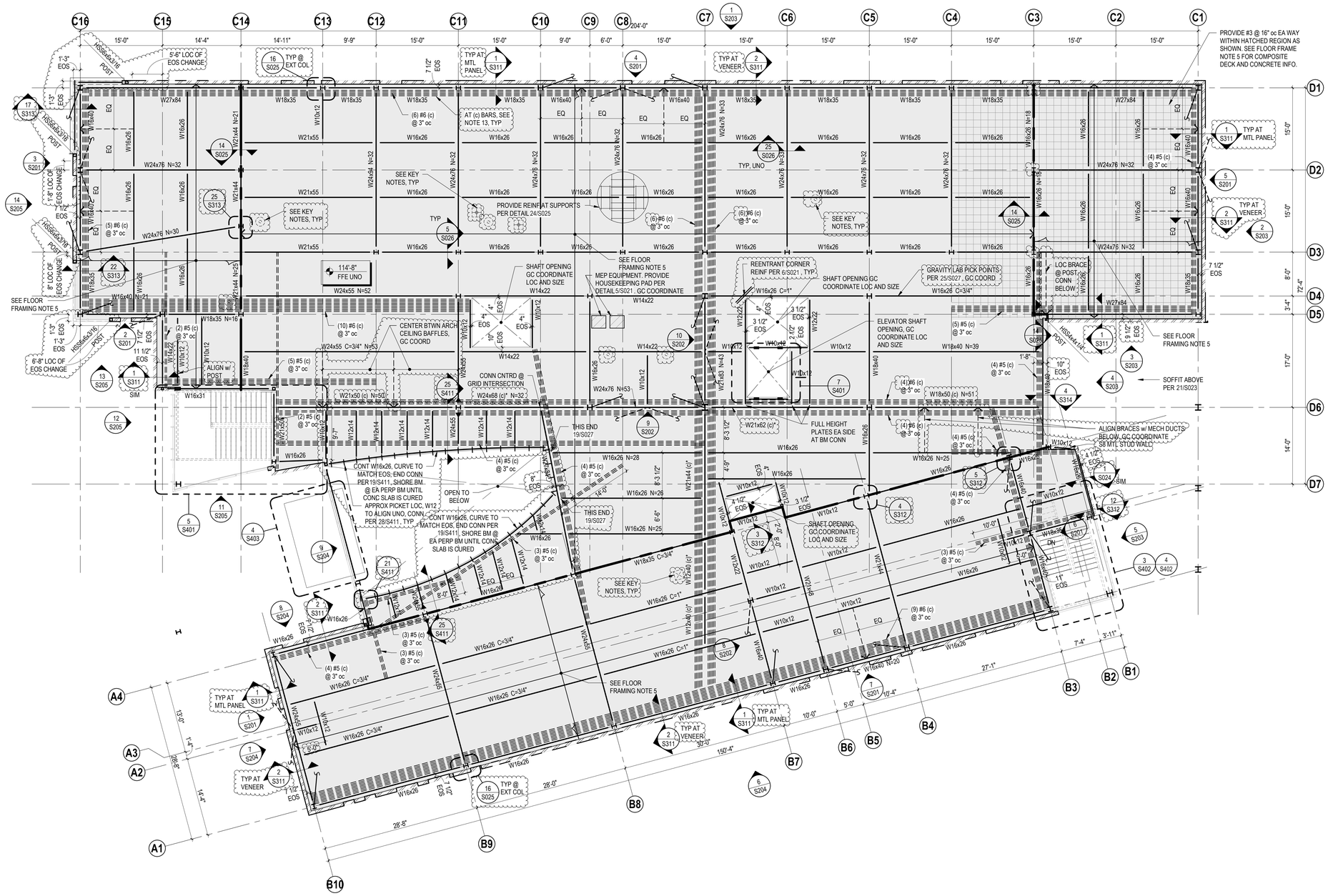
TYPICAL COLUMN CAP PLATE, UNO: 2/S026

**KEY FRAMING NOTES**

- INDICATES EXTENTS AND DEPTH OF RECESSED SLAB-ON-GRADE. CONFIRM DEPTH OF RECESS INDICATED WITH ARCHITECTURAL AND FLOOR FINISH MANUFACTURER WHERE NOT INDICATED ON PLAN. FLOOR FINISHES WITHIN REGION OF RECESS SHALL FLUSH WITH FINISHES ON ADJACENT SLAB SURFACES. SEE DETAIL 10/S021 .
- INDICATES MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT. PROVIDE HOUSEKEEPING PAD PER DETAIL 5/S021 IF REQUIRED BY EQUIPMENT MANUFACTURER. SEE MECHANICAL, ELECTRICAL, AND/OR PLUMBING FOR EXACT SIZE, QUANTITY, AND LOCATION OF PANS.
- INDICATES FLOOR DRAIN. SLOPE 1/4" : 12" TOWARD CENTER OF FLOOR DRAIN OVER AN 18" RADIUS. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING.
- INDICATES FLOOR SINK WITH DRAIN. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING. SEE 27/S021 .
- INDICATES ELECTRICAL FLOOR BOX. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH, ELECTRICAL, AND LAB. SEE 27/S021 .
- DESIGNATES CHANGE IN FLOOR OR ROOF DECK DIRECTION, SEE PLAN FOR SPAN DIRECTION
- DENOTES BOTTOM FLANGE BRACING. REFERENCE DETAILS 1/S027 , OR 2/S027 .

**FLOOR FRAMING PLAN NOTES**

1. REFER TO SHEETS S001, S002 AND S003 FOR GENERAL STRUCTURAL AND SPECIAL INSPECTION NOTES.
2. REFER TO SHEETS S021 THROUGH S030 FOR TYPICAL DETAILS.
3. PROJECT ELEVATION 100'-0" = DATUM ELEVATION 534.0' PER CIVIL DRAWINGS.
4. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION AND CONSTRUCTION.
5. 3" CONCRETE TOPPING OVER 2" COMPOSITE 18 GAGE METAL DECK w/ 6x6 W2.9xW2.9 WELDED WIRE FABRIC REINFORCING, UNLESS NOTED OTHERWISE. SEE DETAILS 1/S025 AND 24/S025.
6. AT ALL COMPOSITE DECK, INSTALL HEADED STUDS AT 12" ON CENTER AT ALL SUPPORTS UNLESS NOTED OTHERWISE. SEE DETAIL 7/S025 .
7. REPETITIVE FRAMING IS SPACED EQUALLY BETWEEN DIMENSIONED ELEMENTS, WITH THE NUMBER OF EQUAL SPACES GRAPHICALLY INDICATED IN PLAN, UNLESS NOTED OTHERWISE.
8. BEAMS FRAMING INTO WALL ENDS AND COLUMNS ARE ALIGNED CENTERLINE TO CENTERLINE WITH THEIR SUPPORTS, UNLESS NOTED OTHERWISE.
9. COORDINATE SIZES AND LOCATIONS OF FLOOR AND ROOF OPENINGS WITH ARCHITECTURAL AND MEP DRAWINGS. NOT ALL REQUIRED OPENINGS ARE INDICATED IN THE STRUCTURAL DRAWINGS. REFER TO DETAIL 9/S025 FOR OPENINGS IN COMPOSITE FLOOR DECK. REFER TO DETAIL 3/S025 FOR OPENINGS IN ROOF DECK.
10. STRUCTURAL STEEL SHOP TAGS, ERECTION AIDS AND MILL MARKINGS EXPOSED TO VIEW SHALL BE REMOVED AFTER FIELD ASSEMBLY. PATCH, TOUCH UP AND GRIND SMOOTH.
11. HOT DIP GALVANIZE ALL STEEL, CONNECTIONS, AND BOLTS EXPOSED TO WEATHER. PAINT EXPOSED FIELD WELDS WITH ZINC RICH PAINT AFTER COMPLETION.
12. STEEL MEMBERS DESIGNATED AS (c) OR (c)* ARE CHORDS/COLLECTORS AND PART OF OF THE LATERAL FORCE RESISTING SYSTEM.
13. AT (c) REINFORCING BARS SHOWN IN COMPOSITE FLOOR/ROOF DECK, STAGGER BAR SPLICES.
14. AT ALL EXTERIOR BEAMS, BEAMS FRAMING INTO (c) OR (c)*, AND BEAMS FRAMING INTO BRACE FRAME BEAMS, PROVIDE FULL HEIGHT SHEAR TABS AS INDICATED IN DETAIL 25/S026.
15. AT CANTILEVERS DESIGNATED AS "CANT" ON PLAN, CANTILEVER MEMBER SIZE SHALL MATCH BACKSPAN MEMBER SIZE UNLESS NOTED OTHERWISE.
16. LOCALIZED SLOPE TO DRAIN. PROVIDE MAXIMUM 1/4" : 12" SLOPE TO DRAIN WITHIN 18" RADIUS AROUND DRAIN
17. REFER TO SHEET S501 FOR LOAD MAPS.
18. COLUMNS NOT CONTINUOUS TO LEVEL ABOVE SHALL TERMANITE AT BOTTOM OF SLAB. PROVIDE COLUMN CAP PLATE PER DETAIL 2/S026 UNLESS NOTED OTHERWISE.




LEVEL 2 - FRAMING PLAN
SCALE: 1/8" = 1'-0"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THERESA H. DANIEL — 38621 — REGISTERED STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER — STATE OF WASHINGTON

# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM |
| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

LEVEL 2 FRAMING PLAN

**S102**

IFC SET

PRCNC20221036

**BEAM END CONNECTIONS**

1. BEAMS MARKED WITH (c) AND (c)* ARE SEISMIC COLLECTORS. THESE BEAMS ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.

TYPICAL BEAM/GIRDER TO COLUMN: 5 S026

TYPICAL BEAM/GIRDER BOLTED CONNECTION: 25 S026

TYPICAL (c) CONNECTION AT COLUMNS: 7 S027

TYPICAL (c)* CONNECTION AT COLUMNS: 13 S027

TYPICAL (c) AND (c)* CONNECTION TO BEAM/GIRDER: 19 S027

TYPICAL SKEWED BEAM/GIRDER CONNECTION: 17 S027

TYPICAL COLUMN CAP PLATE, UNO: 2 S026

**KEY FRAMING NOTES**

INDICATES EXTENTS AND DEPTH OF RECESSED SLAB-ON-GRADE. CONFIRM DEPTH OF RECESS INDICATED WITH ARCHITECTURAL AND FLOOR FINISH MANUFACTURER WHERE NOT INDICATED ON PLAN. FLOOR FINISHES WITHIN REGION OF RECESS SHALL FLUSH WITH FINISHES ON ADJACENT SLAB SURFACES. SEE DETAIL 10/S021 .

INDICATES MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT. PROVIDE HOUSEKEEPING PAD PER DETAIL 5/S021 IF REQUIRED BY EQUIPMENT MANUFACTURER. SEE MECHANICAL, ELECTRICAL, AND/OR PLUMBING FOR EXACT SIZE, QUANTITY, AND LOCATION OF PANS.

INDICATES FLOOR DRAIN. SLOPE 1/4" : 12" TOWARD CENTER OF FLOOR DRAIN OVER AN 18" RADIUS. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING.

INDICATES FLOOR SINK WITH DRAIN. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING. SEE 27/S021 .

INDICATES ELECTRICAL FLOOR BOX. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH, ELECTRICAL, AND LAB. SEE 27/S021 .

DESIGNATES CHANGE IN FLOOR OR ROOF DECK DIRECTION, SEE PLAN FOR SPAN DIRECTION

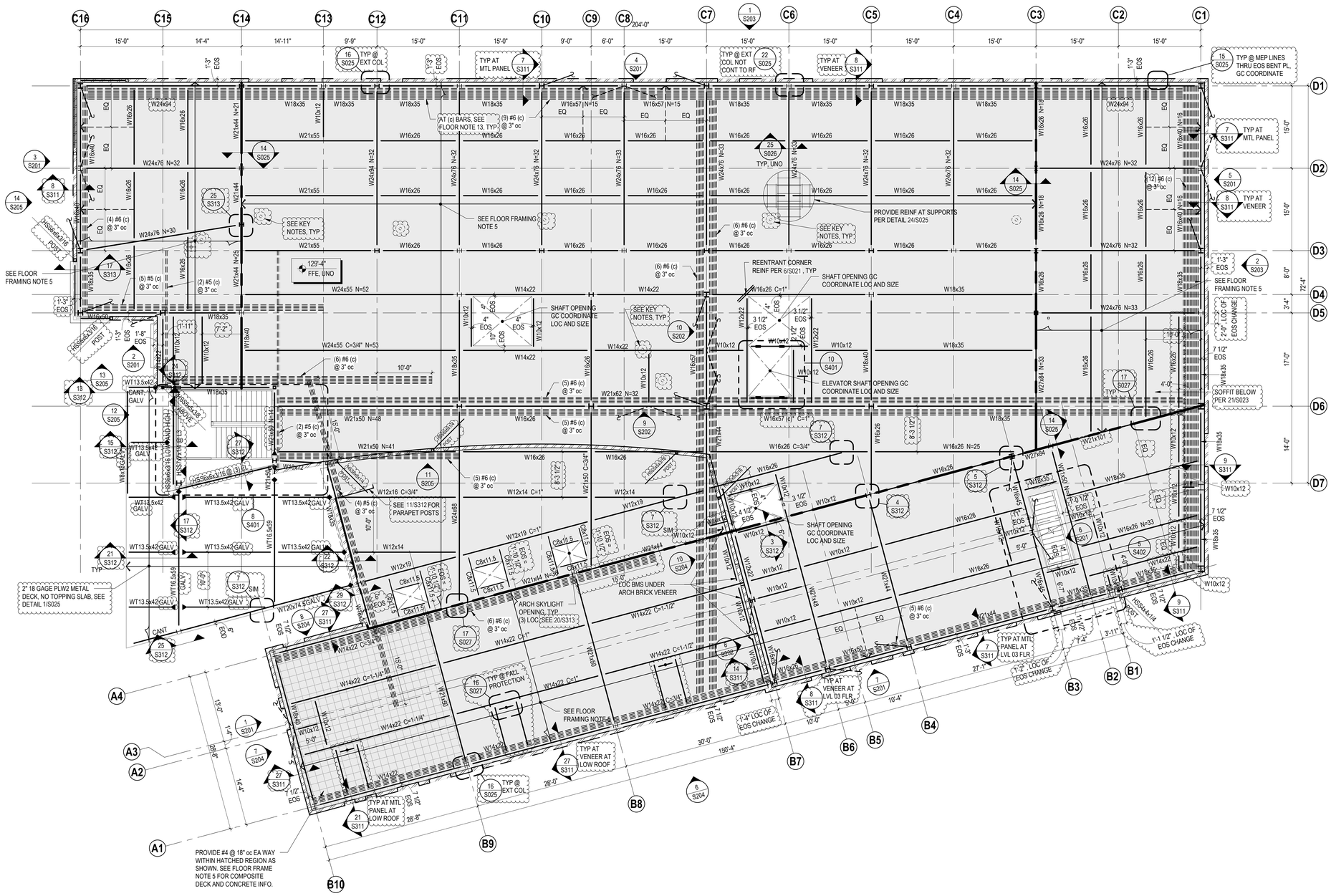
DENOTES BOTTOM FLANGE BRACING. REFERENCE DETAILS 1/S027 , OR 2/S027 .

**FLOOR FRAMING PLAN NOTES**

1. REFER TO SHEETS S001, S002 AND S003 FOR GENERAL STRUCTURAL AND SPECIAL INSPECTION NOTES.
2. REFER TO SHEETS S021 THROUGH S030 FOR TYPICAL DETAILS.
3. PROJECT ELEVATION 100'-0" = DATUM ELEVATION 534.0' PER CIVIL DRAWINGS.
4. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION AND CONSTRUCTION.
5. 3" CONCRETE TOPPING OVER 2" COMPOSITE 18 GAGE METAL DECK w/ 6x6 W2.9xW2.9 WELDED WIRE FABRIC REINFORCING, UNLESS NOTED OTHERWISE. SEE DETAILS 1/S025 AND 24/S025.
6. AT ALL COMPOSITE DECK, INSTALL HEADED STUDS AT 12" ON CENTER AT ALL SUPPORTS UNLESS NOTED OTHERWISE. SEE DETAIL 7/S025 .
7. REPETITIVE FRAMING IS SPACED EQUALLY BETWEEN DIMENSIONED ELEMENTS, WITH THE NUMBER OF EQUAL SPACES GRAPHICALLY INDICATED IN PLAN, UNLESS NOTED OTHERWISE.
8. BEAMS FRAMING INTO WALL ENDS AND COLUMNS ARE ALIGNED CENTERLINE TO CENTERLINE WITH THEIR SUPPORTS, UNLESS NOTED OTHERWISE.
9. COORDINATE SIZES AND LOCATIONS OF FLOOR AND ROOF OPENINGS WITH ARCHITECTURAL AND MEP DRAWINGS. NOT ALL REQUIRED OPENINGS ARE INDICATED IN THE STRUCTURAL DRAWINGS. REFER TO DETAIL 9/S025 FOR OPENINGS IN COMPOSITE FLOOR DECK. REFER TO DETAIL 3/S025 FOR OPENINGS IN ROOF DECK.
10. STRUCTURAL STEEL SHOP TAGS, ERECTION AIDS AND MILL MARKINGS EXPOSED TO VIEW SHALL BE REMOVED AFTER FIELD ASSEMBLY. PATCH, TOUCH UP AND GRIND SMOOTH.
11. HOT DIP GALVANIZE ALL STEEL, CONNECTIONS, AND BOLTS EXPOSED TO WEATHER. PAINT EXPOSED FIELD WELDS WITH ZINC RICH PAINT AFTER COMPLETION.
12. STEEL MEMBERS DESIGNATED AS (c) OR (c)* ARE CHORDS/COLLECTORS AND PART OF OF THE LATERAL FORCE RESISTING SYSTEM.
13. AT (c) REINFORCING BARS SHOWN IN COMPOSITE FLOOR/ROOF DECK, STAGGER BAR SPLICES.
14. AT ALL EXTERIOR BEAMS, BEAMS FRAMING INTO (c) OR (c)*, AND BEAMS FRAMING INTO BRACE FRAME BEAMS, PROVIDE FULL HEIGHT SHEAR TABS AS INDICATED IN DETAIL 25/S026.
15. AT CANTILEVERS DESIGNATED AS "CANT" ON PLAN, CANTILEVER MEMBER SIZE SHALL MATCH BACKSPAN MEMBER SIZE UNLESS NOTED OTHERWISE.
16. LOCALIZED SLOPE TO DRAIN. PROVIDE MAXIMUM 1/4" : 12" SLOPE TO DRAIN WITHIN 18" RADIUS AROUND DRAIN
17. REFER TO SHEET S501 FOR LOAD MAPS.
18. COLUMNS NOT CONTINUOUS TO LEVEL ABOVE SHALL TERMANITE AT BOTTOM OF SLAB. PROVIDE COLUMN CAP PLATE PER DETAIL 2/S026 UNLESS NOTED OTHERWISE.

**ROOF FRAMING PLAN NOTES**

1. REFER TO SHEETS S001, S002 AND S003 FOR GENERAL STRUCTURAL AND SPECIAL INSPECTION NOTES.
2. REFER TO SHEETS S021 THROUGH S030 FOR TYPICAL DETAILS.
3. PROJECT ELEVATION 100'-0" = DATUM ELEVATION 534.0' PER CIVIL DRAWINGS.
4. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION AND CONSTRUCTION.
5. AT ALL COMPOSITE DECK, INSTALL HEADED STUDS AT 12" ON CENTER AT ALL SUPPORTS UNLESS NOTED OTHERWISE. SEE DETAIL 7/S025 .
6. REPETITIVE FRAMING IS SPACED EQUALLY BETWEEN DIMENSIONED ELEMENTS, WITH THE NUMBER OF EQUAL SPACES GRAPHICALLY INDICATED IN PLAN, UNLESS NOTED OTHERWISE.
7. BEAMS FRAMING INTO WALL ENDS AND COLUMNS ARE ALIGNED CENTERLINE TO CENTERLINE WITH THEIR SUPPORTS, UNLESS NOTED OTHERWISE.
8. COORDINATE SIZES AND LOCATIONS OF ROOF OPENINGS WITH ARCHITECTURAL AND MEP DRAWINGS. NOT ALL REQUIRED OPENINGS ARE INDICATED IN THE STRUCTURAL DRAWINGS. REFER TO DETAIL 3/S025 FOR OPENINGS IN ROOF DECK.
9. STRUCTURAL STEEL SHOP TAGS, ERECTION AIDS AND MILL MARKINGS EXPOSED TO VIEW SHALL BE REMOVED AFTER FIELD ASSEMBLY. PATCH, TOUCH UP AND GRIND SMOOTH.
10. HOT DIP GALVANIZE ALL STEEL, CONNECTIONS, AND BOLTS EXPOSED TO WEATHER. PAINT EXPOSED FIELD WELDS WITH ZINC RICH PAINT AFTER COMPLETION.
11. SEE DETAIL 1/S025 FOR ROOF DECK ATTACHMENT TO SUPPORTS.
12. BOTTOM OF DECK (BOD) SHALL BE AS SHOWN ON PLAN. TOP OF STRUCTURAL STEEL = BOTTOM OF DECK, UNLESS NOTED OTHERWISE. TOP OF COLUMN = BOD, UNLESS NOTED OTHERWISE.
13. STEEL MEMBERS DESIGNATED AS (c) OR (c)* ARE CHORDS/COLLECTORS AND ARE PART OF THE LATERAL FORCE RESISTING SYSTEM. ROOF DECK SHALL BE ATTACHED WITH EDGE SPACING PER 1/S025 .
14. AT ALL EXTERIOR BEAMS, BEAMS FRAMING INTO (c) OR (c)*, AND BEAMS FRAMING INTO BRACE FRAME BEAMS, PROVIDE FULL HEIGHT SHEAR TABS AS INDICATED IN DETAIL 25/S026.
15. AT CANTILEVERS DESIGNATED AS "CANT" ON PLAN, CANTILEVER MEMBER SIZE SHALL MATCH BACKSPAN MEMBER SIZE UNLESS NOTED OTHERWISE.
16. EQUIPMENT SHALL NOT BE SUPPORTED FROM ROOF DECK. EQUIPMENT CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUPPLEMENTAL SUPPORT SPANNING BETWEEN PRIMARY STRUCTURAL MEMBERS FOR SUPPORT OF EQUIPMENT.
17. REFER TO SHEET S501 FOR LOAD MAPS.




LEVEL 3 - FRAMING PLAN / LOW ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

integrus ARCHITECTURE
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THERESA H. DANIEL — 38621 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
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LEVEL 3 FRAMING PLAN / LOW ROOF FRAMING PLAN

**S103**

IFC SET

PRCNC20221036

**BEAM END CONNECTIONS**

1. BEAMS MARKED WITH (c) AND (c)* ARE SEISMIC COLLECTORS. THESE BEAMS ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.

TYPICAL BEAM/GIRDER TO COLUMN: 5 S026

TYPICAL BEAM/GIRDER BOLTED CONNECTION: 25 S026

TYPICAL (c) CONNECTION AT COLUMNS: 7 S027

TYPICAL (c)* CONNECTION AT COLUMNS: 13 S027

TYPICAL (c) AND (c)* CONNECTION TO BEAM/GIRDER: 19 S027

TYPICAL SKEWED BEAM/GIRDER CONNECTION: 17 S027

TYPICAL COLUMN CAP PLATE, UNO: 2 S026

**KEY FRAMING NOTES**

- INDICATES EXTENTS AND DEPTH OF RECESSED SLAB-ON-GRADE. CONFIRM DEPTH OF RECESS INDICATED WITH ARCHITECTURAL AND FLOOR FINISH MANUFACTURER WHERE NOT INDICATED ON PLAN. FLOOR FINISHES WITHIN REGION OF RECESS SHALL FLUSH WITH FINISHES ON ADJACENT SLAB SURFACES. SEE DETAIL 10/S021 .
- INDICATES MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT. PROVIDE HOUSEKEEPING PAD PER DETAIL 5/S021 IF REQUIRED BY EQUIPMENT MANUFACTURER. SEE MECHANICAL, ELECTRICAL, AND/OR PLUMBING FOR EXACT SIZE, QUANTITY, AND LOCATION OF PANS.
- INDICATES FLOOR DRAIN. SLOPE 1/4" : 12" TOWARD CENTER OF FLOOR DRAIN OVER AN 18" RADIUS. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING.
- INDICATES FLOOR SINK WITH DRAIN. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH AND PLUMBING. SEE 27/S021 .
- INDICATES ELECTRICAL FLOOR BOX. VERIFY SIZE, QUANTITY, AND LOCATION WITH ARCH, ELECTRICAL, AND LAB. SEE 27/S021 .
- DESIGNATES CHANGE IN FLOOR OR ROOF DECK DIRECTION, SEE PLAN FOR SPAN DIRECTION
- DENOTES BOTTOM FLANGE BRACING. REFERENCE DETAILS 1/S027, OR 2/S027 .

**ROOF FRAMING PLAN NOTES**

1. REFER TO SHEETS S001, S002 AND S003 FOR GENERAL STRUCTURAL AND SPECIAL INSPECTION NOTES.
2. REFER TO SHEETS S021 THROUGH S030 FOR TYPICAL DETAILS.
3. PROJECT ELEVATION 100'-0" = DATUM ELEVATION 534.0' PER CIVIL DRAWINGS.
4. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION AND CONSTRUCTION.
5. AT ALL COMPOSITE DECK, INSTALL HEADED STUDS AT 12" ON CENTER AT ALL SUPPORTS UNLESS NOTED OTHERWISE. SEE DETAIL 7/S025 .
6. REPETITIVE FRAMING IS SPACED EQUALLY BETWEEN DIMENSIONED ELEMENTS, WITH THE NUMBER OF EQUAL SPACES GRAPHICALLY INDICATED IN PLAN, UNLESS NOTED OTHERWISE.
7. BEAMS FRAMING INTO WALL ENDS AND COLUMNS ARE ALIGNED CENTERLINE TO CENTERLINE WITH THEIR SUPPORTS, UNLESS NOTED OTHERWISE.
8. COORDINATE SIZES AND LOCATIONS OF ROOF OPENINGS WITH ARCHITECTURAL AND MEP DRAWINGS. NOT ALL REQUIRED OPENINGS ARE INDICATED IN THE STRUCTURAL DRAWINGS. REFER TO DETAIL 3/S025 FOR OPENINGS IN ROOF DECK.
9. STRUCTURAL STEEL SHOP TAGS, ERECTION AIDS AND MILL MARKINGS EXPOSED TO VIEW SHALL BE REMOVED AFTER FIELD ASSEMBLY. PATCH, TOUCH UP AND GRIND SMOOTH.
10. HOT DIP GALVANIZE ALL STEEL, CONNECTIONS, AND BOLTS EXPOSED TO WEATHER. PAINT EXPOSED FIELD WELDS WITH ZINC RICH PAINT AFTER COMPLETION.
11. SEE DETAIL 1/S025 FOR ROOF DECK ATTACHMENT TO SUPPORTS.
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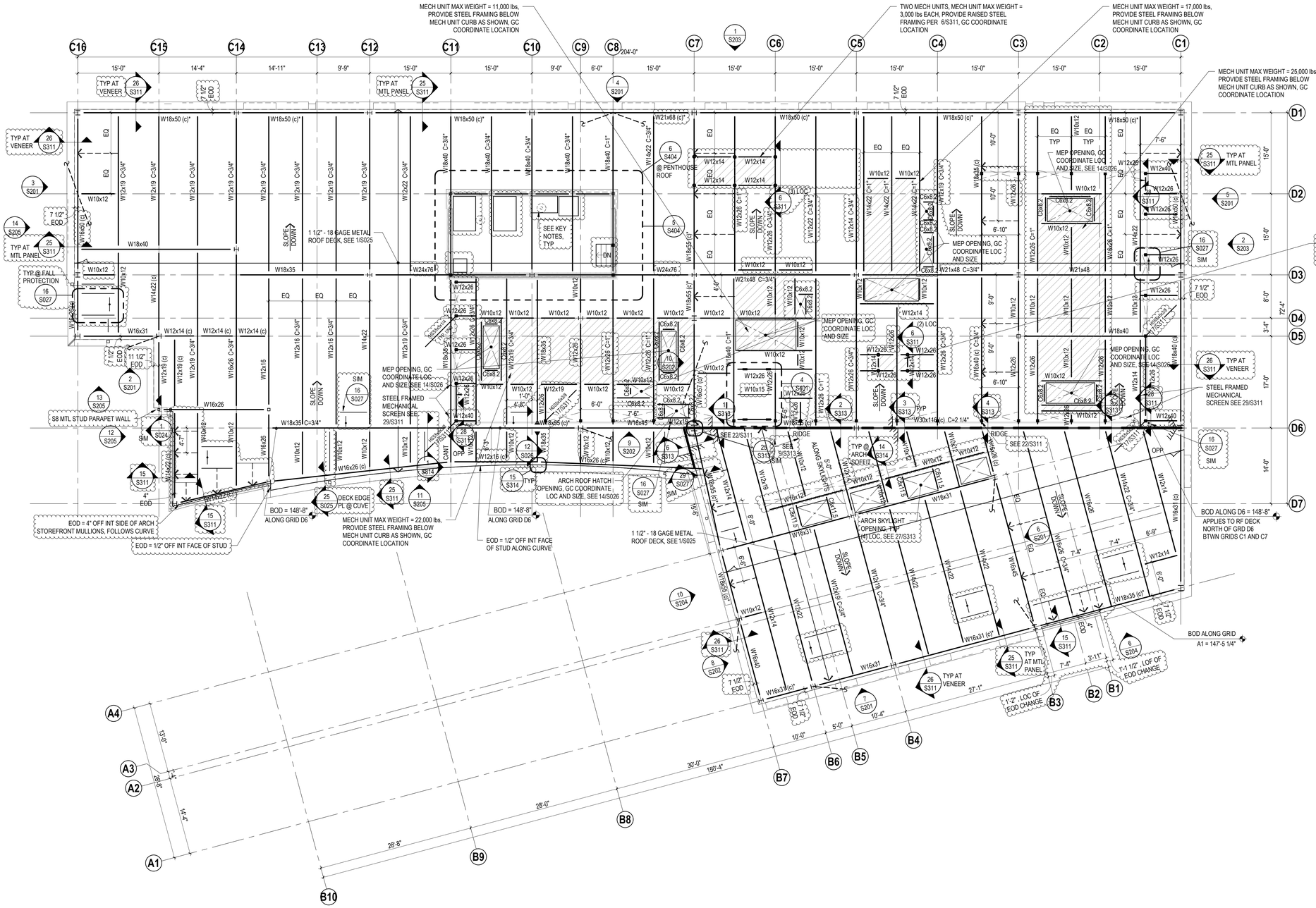
14. AT ALL EXTERIOR BEAMS, BEAMS FRAMING INTO (c) OR (c)*, AND BEAMS FRAMING INTO BRACE FRAME BEAMS, PROVIDE FULL HEIGHT SHEAR TABS AS INDICATED IN DETAIL 25/S026 .
15. AT CANTILEVERS DESIGNATED AS "CANT" ON PLAN, CANTILEVER MEMBER SIZE SHALL MATCH BACKSPAN MEMBER SIZE UNLESS NOTED OTHERWISE.
16. EQUIPMENT SHALL NOT BE SUPPORTED FROM ROOF DECK. EQUIPMENT CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUPPLEMENTAL SUPPORT SPANNING BETWEEN PRIMARY STRUCTURAL MEMBERS FOR SUPPORT OF EQUIPMENT.
17. REFER TO SHEET S501 FOR LOAD MAPS.




## ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"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THOMAS H. DANIELS — 38621 — STATE OF WASHINGTON — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

# PIERCE COLLEGE PUYALLUP NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

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| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

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| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM |
| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

ROOF FRAMING PLAN

**S104**

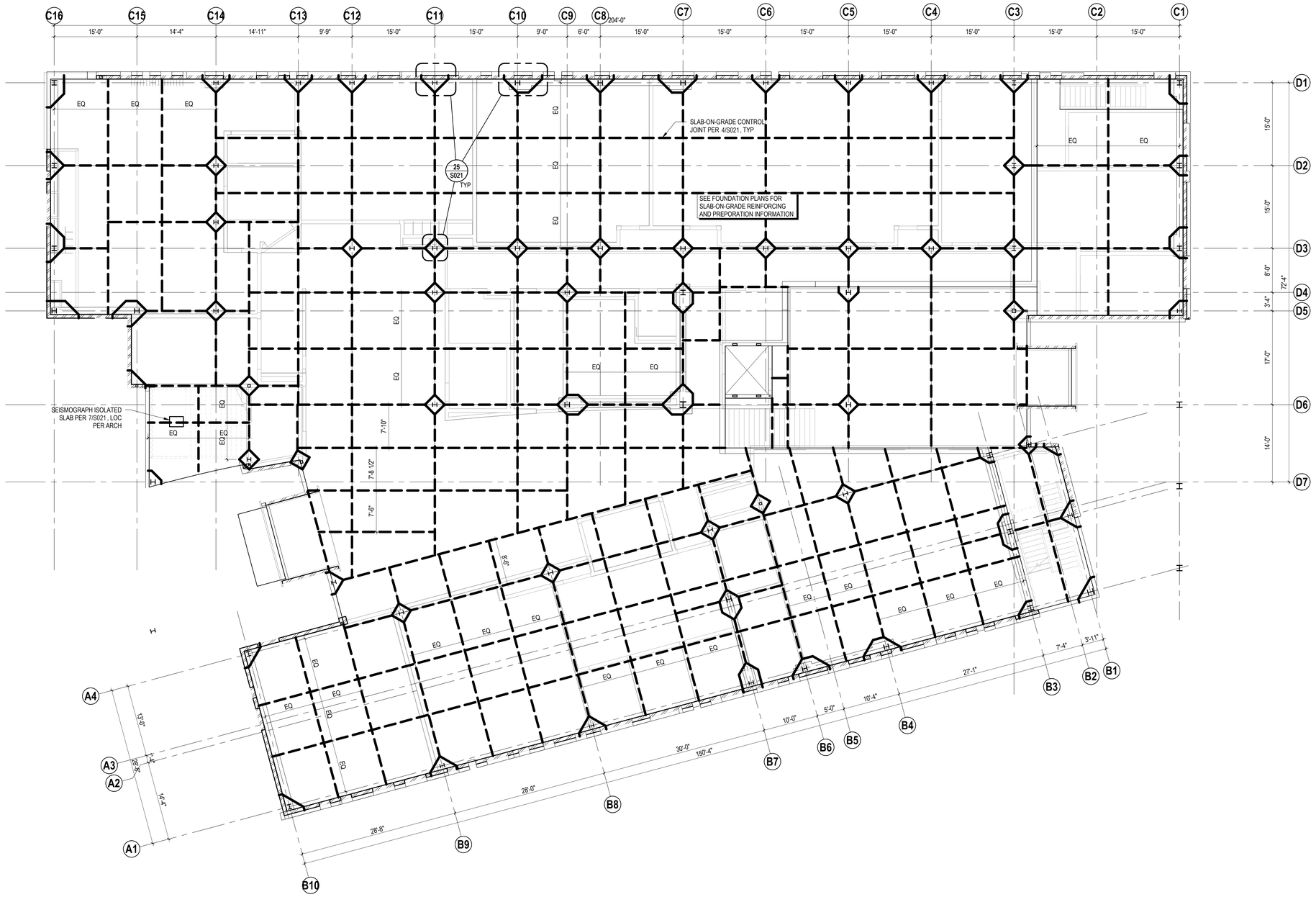
IFC SET

PRCNC20221036

**SLAB-ON-GRADE CONTROL JOINT NOTES:**

1. CONTRACTOR TO SUBMIT CONTROL JOINT LAYOUT TO DESIGN TEAM FOR APPROVAL PRIOR TO POURING SLAB-ON-GRADE CONCRETE.
2. SEE PLAN FOR TYPICAL SLAB-GRADE REINFORING.
3. SEE DETAIL 4/S021 FOR CONTROL JOINT CONSTRUCTION.

SUBMIT APPROVAL FROM DESIGN TEAM TO BUILDING INSPECTOR PRIOR TO POUR FOR INSPECTION.




1 SLAB CONTROL JOINT PLAN - SLAB-ON-GRADE
SCALE: 1/8" = 1'-0"

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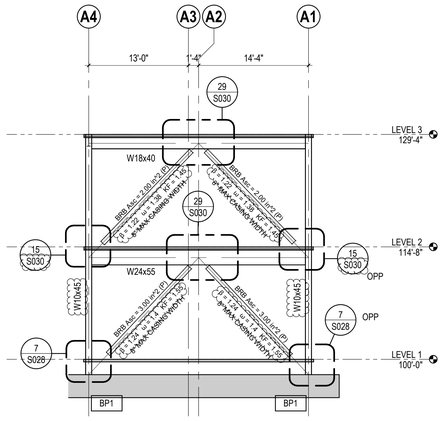
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

SLAB ON GRADE CONTROL JOINT PLAN

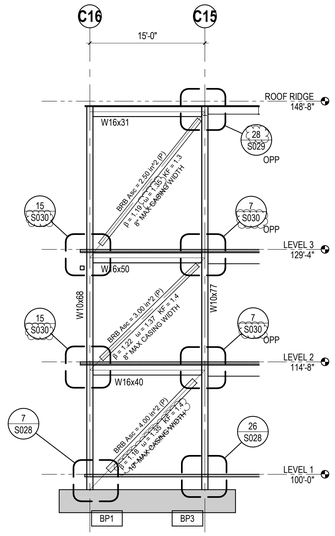
S111

IFC SET

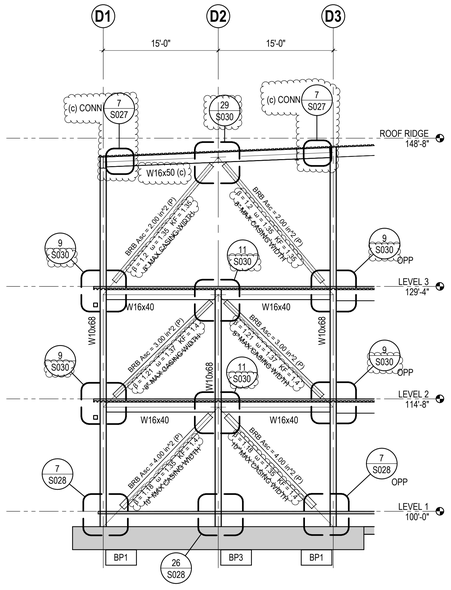
PRCNC20221036



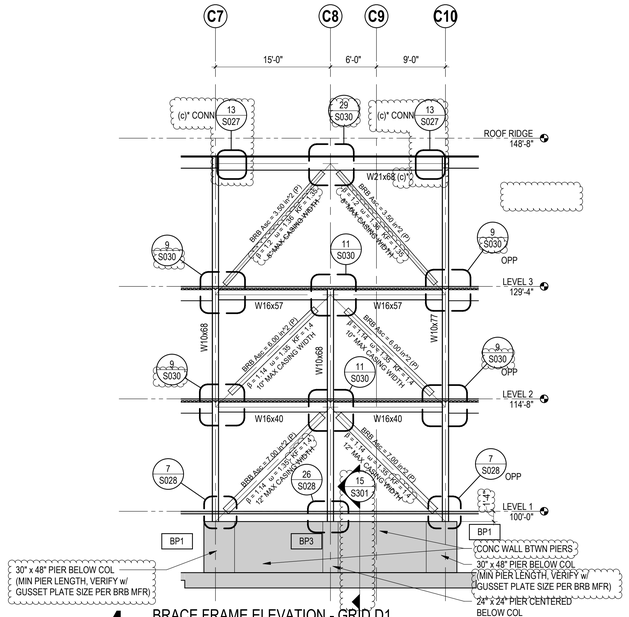

1 BRACE FRAME ELEVATION - GRID B10
SCALE: 1/8" = 1'-0"




2 BRACE FRAME ELEVATION - GRID D5
SCALE: 1/8" = 1'-0"




3 BRACE FRAME ELEVATION - GRID C16
SCALE: 1/8" = 1'-0"

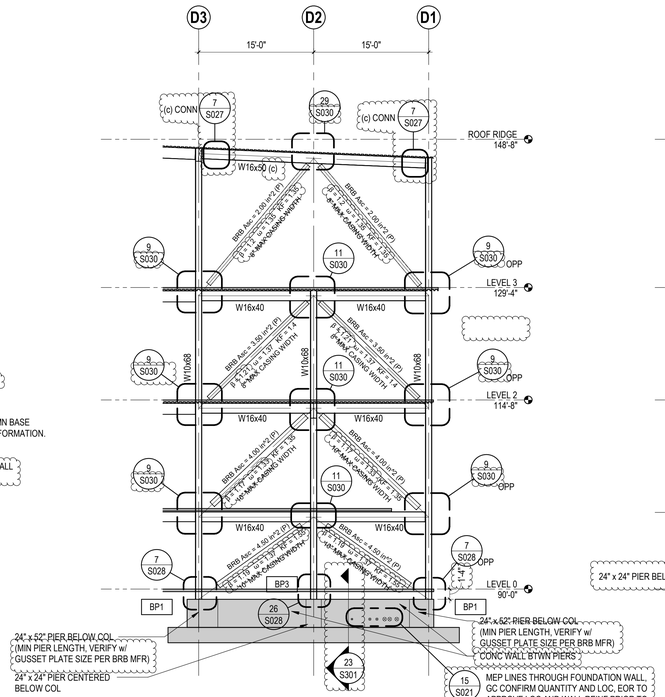



4 BRACE FRAME ELEVATION - GRID D1
SCALE: 1/8" = 1'-0"

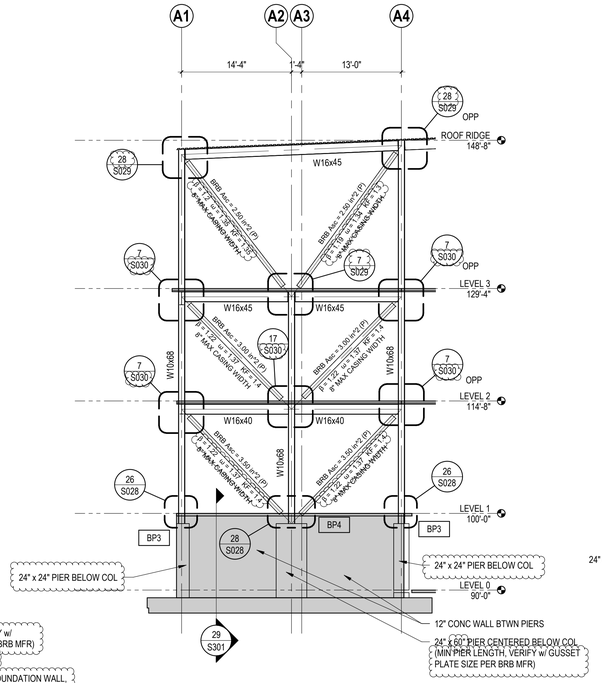
**BUCKLING-RESTRAINED BRACED FRAME NOTES**

1. Fy_min FOR ALL BUCKLING-RESTRAINED BRACES = 38 ksi
2. Fy_max FOR ALL BUCKLING-RESTRAINED BRACES = 46 ksi
3. Asc = STEEL CORE AREA
   (P) = PINNED BRACE END CONNECTIONS

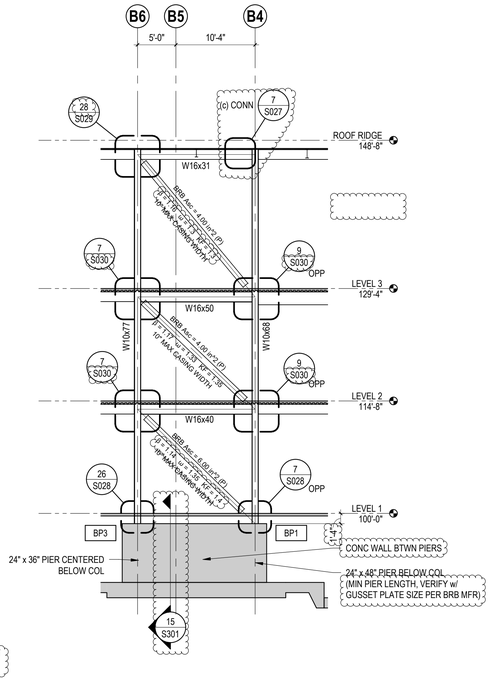
5. BPx CALLED OUT ON BUCKLING-RESTRAINED BRACE FRAME ELEVATIONS INDICATES A COLUMN BASE PLATE ID. SEE DETAILS 7/S028, 26/S028 , AND 28/S028 FOR BASE PLATE SCHEDULE AND ADDITIONAL INFORMATION.
7. SEE 18/S028 FOR BRACED FRAME PROTECTED ZONE INFORMATION.
8. SEE SHEETS S028,S031 FOR TYPICAL BRB DETAILS.
9. EXTERIOR STEMWALLS ARE NOT SHOWN FOR CLARITY. REFERENCE DETAILS ON PLAN FOR STEMWALL INFORMATION.




5 BRACE FRAME ELEVATION - GRID C1
SCALE: 1/8" = 1'-0"




6 BRACE FRAME ELEVATION - GRID B3
SCALE: 1/8" = 1'-0"




7 BRACE FRAME ELEVATION - GRID A1
SCALE: 1/8" = 1'-0"

IFC SET

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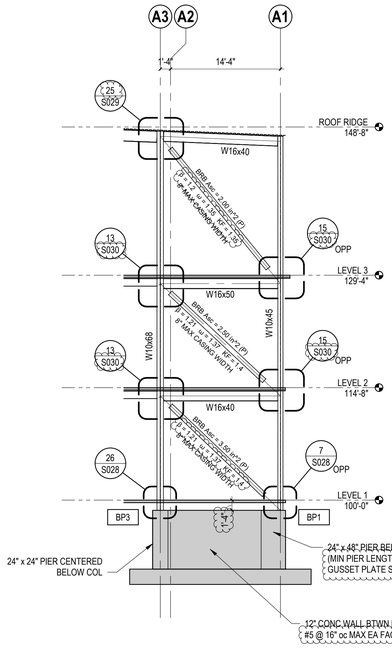
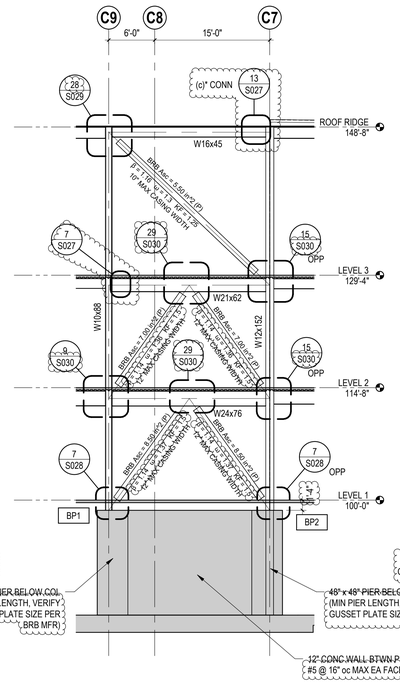
BRACE FRAME ELEVATIONS

S201

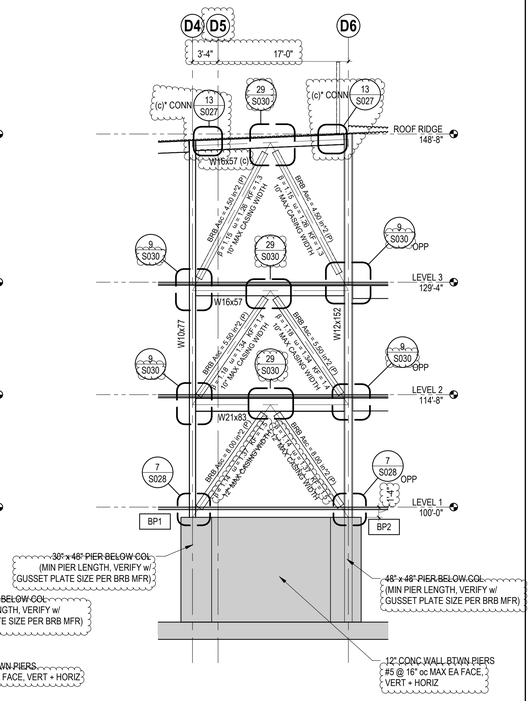
PRCNC20221036




**8** BRACE FRAME ELEVATION - GRID B7
SCALE: 1/8" = 1'-0"




**9** BRACE FRAME ELEVATION - GRID D6
SCALE: 1/8" = 1'-0"




**10** BRACE FRAME ELEVATION - GRID C7
SCALE: 1/8" = 1'-0"

**BUCKLING-RESTRAINED BRACED FRAME NOTES**

1. Fy_min FOR ALL BUCKLING-RESTRAINED BRACES = 38 ksi
2. Fy_max FOR ALL BUCKLING-RESTRAINED BRACES = 46 ksi
3. Asc = STEEL CORE AREA
   (P) = PINNED BRACE END CONNECTIONS

5. BPx CALLED OUT ON BUCKLING-RESTRAINED BRACE FRAME ELEVATIONS INDICATES A COLUMN BASE PLATE ID. SEE DETAILS 7/S028,25/S029, AND 26/S028 FOR BASE PLATE SCHEDULE AND ADDITIONAL INFORMATION.
7. SEE 18/S028 FOR BRACED FRAME PROTECTED ZONE INFORMATION.
8. SEE SHEETS S028/S031 FOR TYPICAL BRB DETAILS.
9. EXTERIOR STEMWALLS ARE NOT SHOWN FOR CLARITY. REFERENCE DETAILS ON PLAN FOR STEMWALL INFORMATION.

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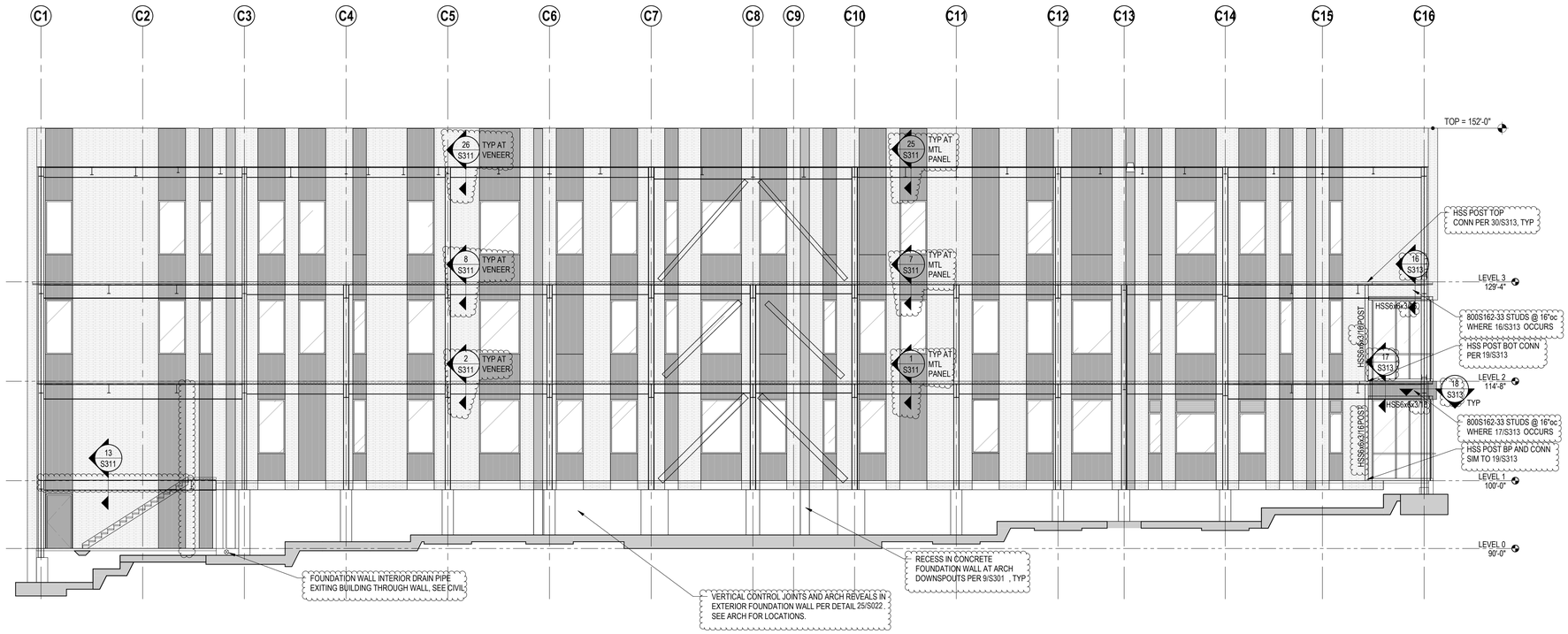
BRACE FRAME ELEVATIONS

**S202**

IFC SET

PRCNC20221036

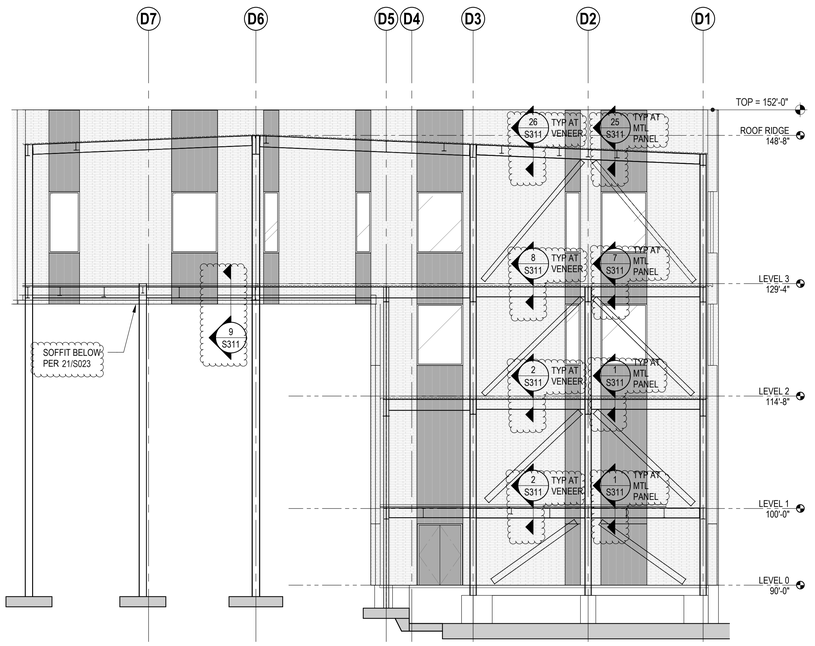



1 EXTERIOR WALL ELEVATION GRID D1

SCALE: 1/8" = 1'-0"

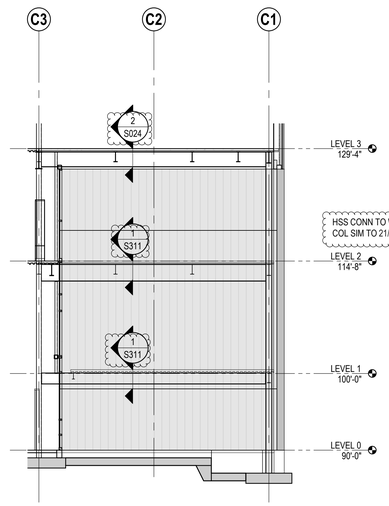
**EXTERIOR METAL STUD WALL NOTES:**

1. FOR TYPICAL METAL STUD DETAILS SEE SHEETS S023 & S024
2. WALL STUDS ARE 800S162-54 @ 16"oc, UNO
3. FOR TYPICAL MASONRY VENEER DETAILS SEE SHEET S022
4. PROVIDE LOOSE STEEL LINTEL ANGLES PER 5/S022 WHERE REQUIRED
5. SEE GENERAL NOTES FOR ADDITIONAL METAL STUD REQUIREMENTS
6. VERIFY ALL OPENING SIZES & LOCATIONS WITH ARCHITECTURAL DRAWINGS AND MEP SUBCONTRACTORS PRIOR TO CONSTRUCTION
7. TOP OF PARAPET (TOP) IS TOP OF METAL STUD FRAMING



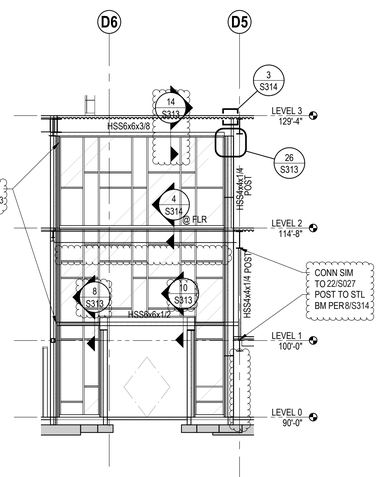

2 EXTERIOR WALL ELEVATION GRID C1

SCALE: 1/8" = 1'-0"



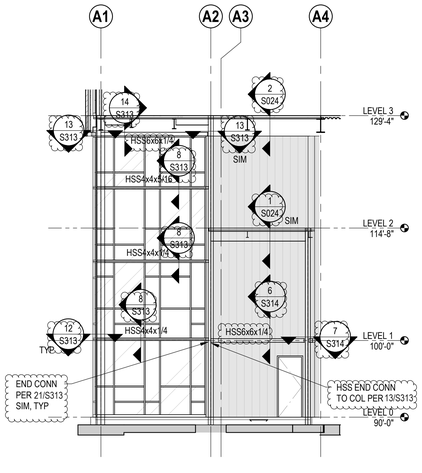

3 EXTERIOR WALL ELEVATION GRID D5

SCALE: 1/8" = 1'-0"




4 EXTERIOR WALL ELEVATION NEAR GRID C3

SCALE: 1/8" = 1'-0"




5 EXTERIOR WALL ELEVATION GRID B1

SCALE: 1/8" = 1'-0"

integrus ARCHITECTURE
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THOMAS H. DANIEL
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38621
REGISTERED
PROFESSIONAL ENGINEER

**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | RB/AM |
| Checked by: | TD |

Revisions

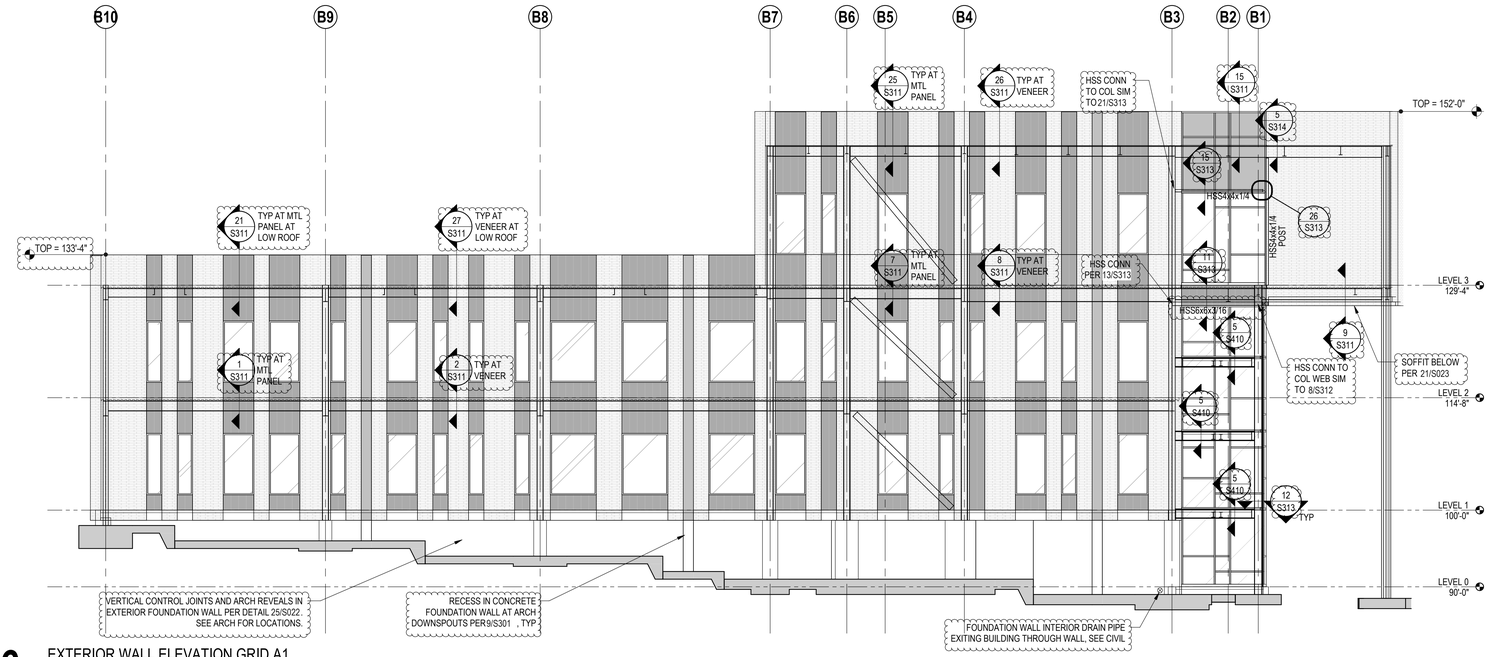
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

EXTERIOR WALL ELEVATIONS

**S203**

IFC SET

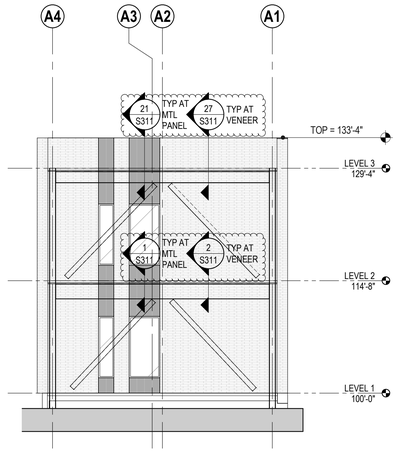
PRCNC20221036



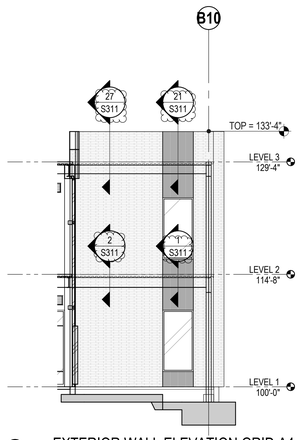

**6** EXTERIOR WALL ELEVATION GRID A1
SCALE: 1/8" = 1'-0"

**EXTERIOR METAL STUD WALL NOTES:**

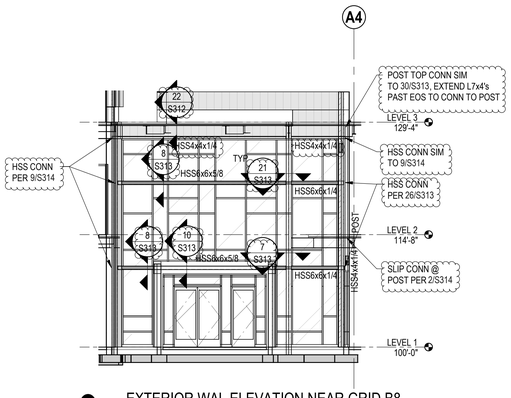
1. FOR TYPICAL METAL STUD DETAILS SEE SHEETS S023 & S024
2. WALL STUDS ARE 800S162-54 @ 16"oc, UNO
3. FOR TYPICAL MASONRY VENEER DETAILS SEE SHEET S022
4. PROVIDE LOOSE STEEL LINTEL ANGLES PER 5/S022 WHERE REQUIRED
5. SEE GENERAL NOTES FOR ADDITIONAL METAL STUD REQUIREMENTS
6. VERIFY ALL OPENING SIZES & LOCATIONS WITH ARCHITECTURAL DRAWINGS AND MEP SUBCONTRACTORS PRIOR TO CONSTRUCTION
7. TOP OF PARAPET (TOP) IS TOP OF METAL STUD FRAMING



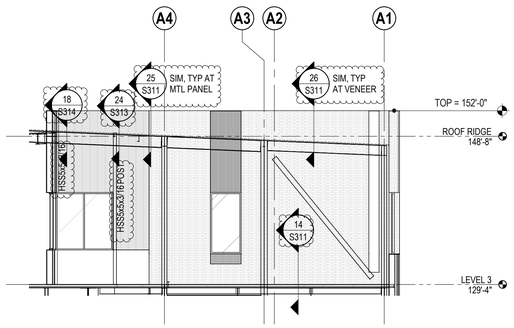

**7** EXTERIOR WALL ELEVATION GRID B9
SCALE: 1/8" = 1'-0"




**8** EXTERIOR WALL ELEVATION GRID A4
SCALE: 1/8" = 1'-0"




**9** EXTERIOR WAL ELEVATION NEAR GRID B8
SCALE: 1/8" = 1'-0"




**10** EXTERIOR WALL ELEVATION GRID B7
SCALE: 1/8" = 1'-0"

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# NEW STEM BUILDING

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City of Puyallup
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| | |
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| Building | Planning |
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| Checked by: | TD |

Revisions

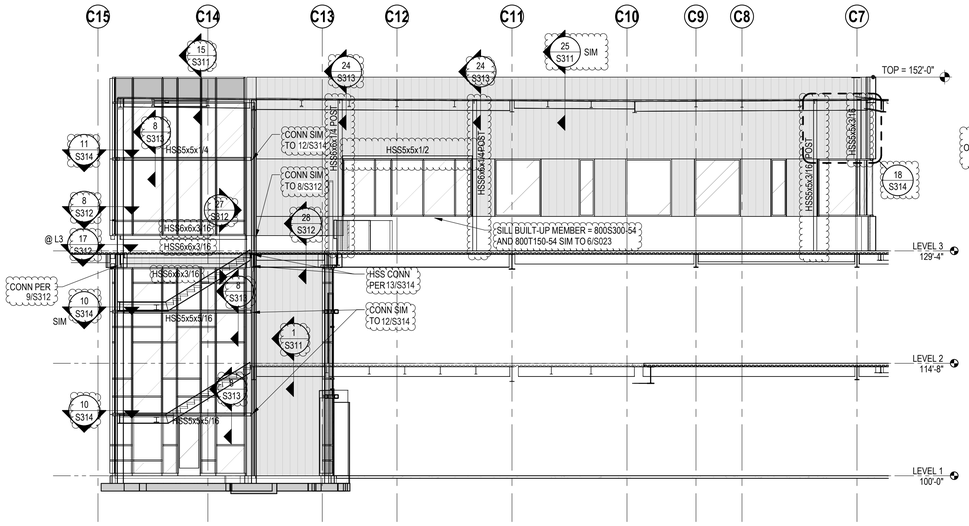
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

EXTERIOR WALL ELEVATIONS

**S204**

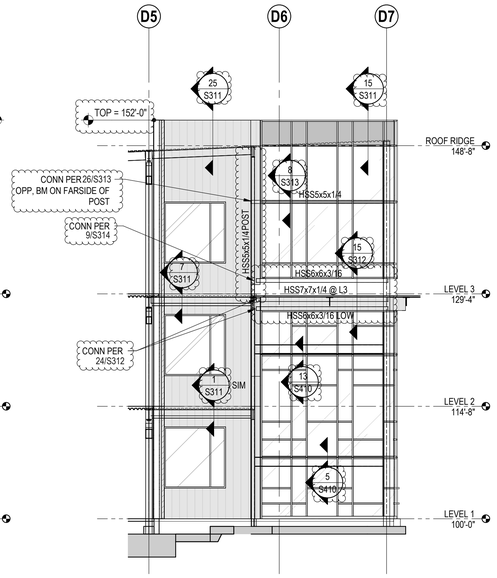
IFC SET

PRCNC20221036



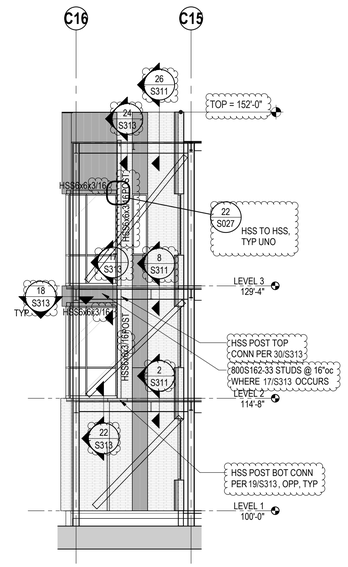

11 EXTERIOR WALL ELEVATION NEAR GRID D7

SCALE: 1/8" = 1'-0"




12 EXTERIOR WALL ELEVATION GRID C15

SCALE: 1/8" = 1'-0"




13 EXTERIOR WALL ELEVATION GRID D5

SCALE: 1/8" = 1'-0"

**EXTERIOR METAL STUD WALL NOTES:**

1. FOR TYPICAL METAL STUD DETAILS SEE SHEETS S023 & S024
2. WALL STUDS ARE 800S162-54 @ 16"oc, UNO
3. FOR TYPICAL MASONRY VENEER DETAILS SEE SHEET S022
4. PROVIDE LOOSE STEEL LINTEL ANGLES PER 5/S022 WHERE REQUIRED
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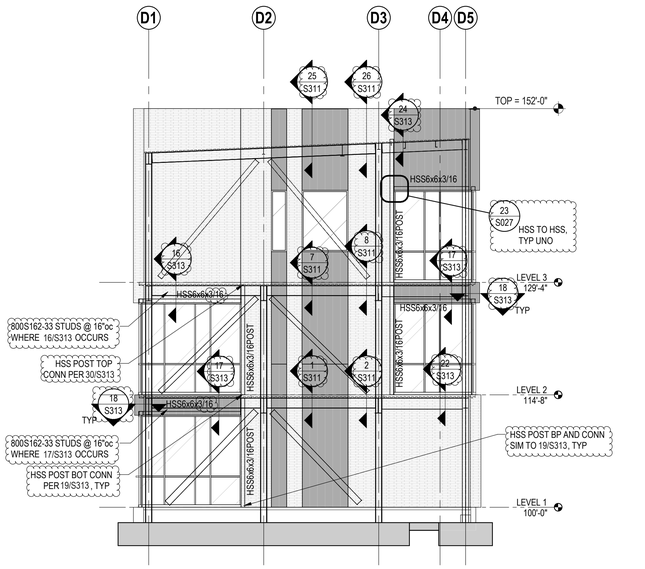


14 EXTERIOR WALL ELEVATION GRID C16

SCALE: 1/8" = 1'-0"

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Revisions

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|---|---|
| 1.30.23 | IFC Revisions |

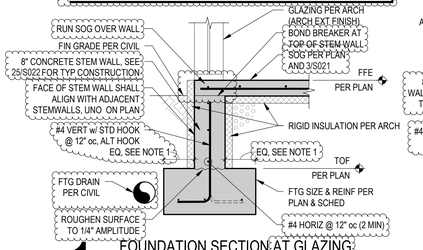
EXTERIOR WALL ELEVATIONS

S205

IFC SET

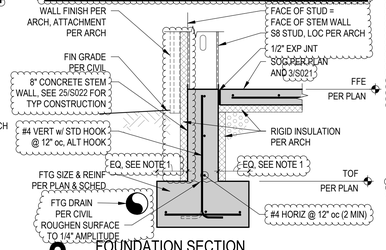
PRCNC20221036

**NOTES:**
1. WHERE ARCH EXT WALL FINISH ALTERNATES BETWEEN VENEER AND OTHER FINISHES, LOCATION OF FOOTING IN RELATION TO STEM WALL SHALL BE DETERMINED BY DETAIL 3/S301 , EDGES OF FOOTINGS SHALL ALIGN.
2. ACCEPTABLE TO DRILL + EPOXY VERT DOWELS AT COLUMN POURBACKS TO AVOID CONFLICTS WITH COLUMN BASEPLATES.



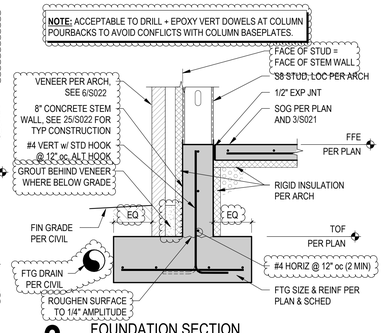

**1** FOUNDATION SECTION AT GLAZING
SCALE: 3/4" = 1'-0"

**NOTES:**
1. WHERE ARCH EXT WALL FINISH ALTERNATES BETWEEN VENEER AND OTHER FINISHES, LOCATION OF FOOTING IN RELATION TO STEM WALL SHALL BE DETERMINED BY DETAIL 3/S301 , EDGES OF FOOTINGS SHALL ALIGN.
2. ACCEPTABLE TO DRILL + EPOXY VERT DOWELS AT COLUMN POURBACKS TO AVOID CONFLICTS WITH COLUMN BASEPLATES.

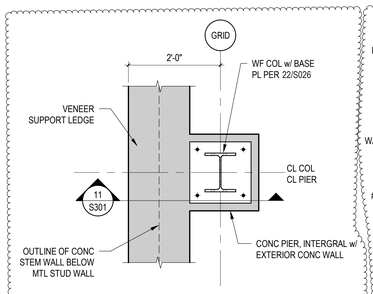



**2** FOUNDATION SECTION
SCALE: 3/4" = 1'-0"

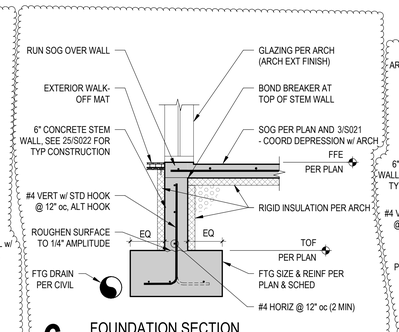
**NOTE:** ACCEPTABLE TO DRILL + EPOXY VERT DOWELS AT COLUMN POURBACKS TO AVOID CONFLICTS WITH COLUMN BASEPLATES.



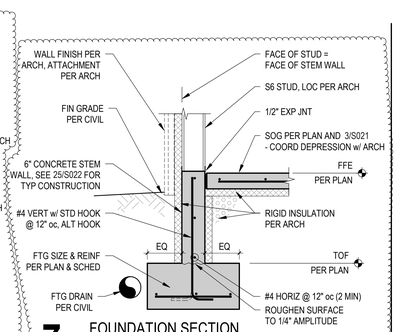

**3** FOUNDATION SECTION
SCALE: 3/4" = 1'-0"



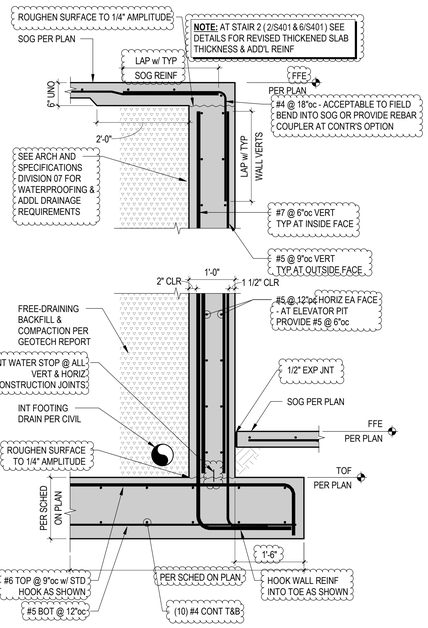

**5** FOUNDATION DETAIL
SCALE: 3/4" = 1'-0"




**6** FOUNDATION SECTION
SCALE: 3/4" = 1'-0"



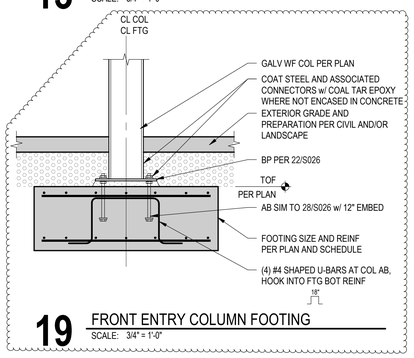

**7** FOUNDATION SECTION
SCALE: 3/4" = 1'-0"




**NOTE:** AT STAIR 2 ( 2/S401 & 6/S401 ) SEE DETAILS FOR REVISED THICKENED SLAB THICKNESS & ADD'L REINF

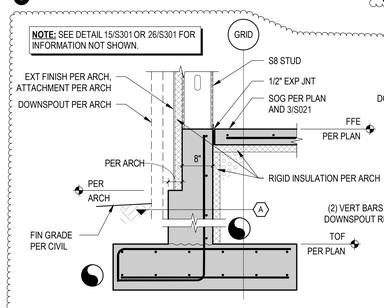


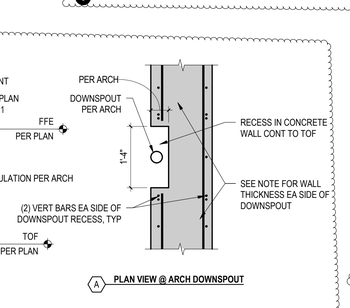

**13** FOUNDATION SECTION
SCALE: 3/4" = 1'-0"



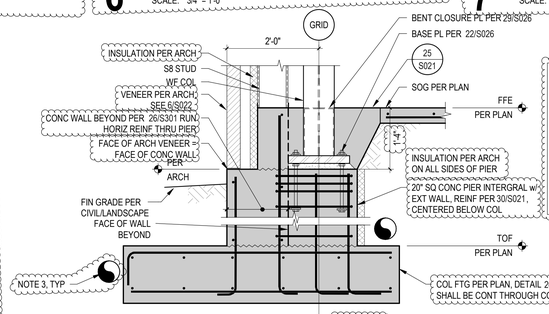

**19** FRONT ENTRY COLUMN FOOTING
SCALE: 3/4" = 1'-0"

**NOTE:** SEE DETAIL 15/S301 OR 26/S301 FOR INFORMATION NOT SHOWN.



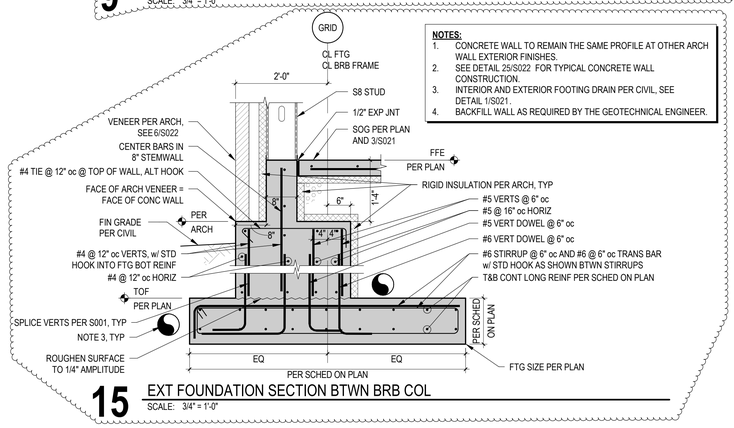




**9** DOWNSPOUT WALL RECESS
SCALE: 3/4" = 1'-0"



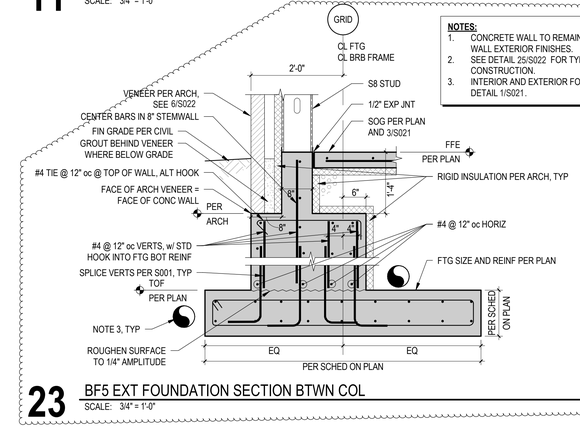

**11** EXT FOUNDATION SECTION AT PIER
SCALE: 3/4" = 1'-0"

**NOTES:**
1. CONCRETE WALL TO REMAIN THE SAME PROFILE AT OTHER ARCH WALL EXTERIOR FINISHES.
2. SEE DETAIL 25/S022 FOR TYPICAL CONCRETE WALL CONSTRUCTION.
3. INTERIOR AND EXTERIOR FOOTING DRAIN PER CIVIL, SEE DETAIL 1/S021.
4. BACKFILL WALL AS REQUIRED BY THE GEOTECHNICAL ENGINEER.
5. PIERS AT BRB COLUMNS TO BE INTERGRAL WITH WALL SIMILAR TO THIS DETAIL. SEE DETAIL 15/S301 FOR CONCRETE WALL INFO BETWEEN BRB COLUMN PIERS.




**15** EXT FOUNDATION SECTION BTWN BRB COL
SCALE: 3/4" = 1'-0"

**NOTES:**
1. CONCRETE WALL TO REMAIN THE SAME PROFILE AT OTHER ARCH WALL EXTERIOR FINISHES.
2. SEE DETAIL 25/S022 FOR TYPICAL CONCRETE WALL CONSTRUCTION.
3. INTERIOR AND EXTERIOR FOOTING DRAIN PER CIVIL, SEE DETAIL 1/S021.
4. BACKFILL WALL AS REQUIRED BY THE GEOTECHNICAL ENGINEER.

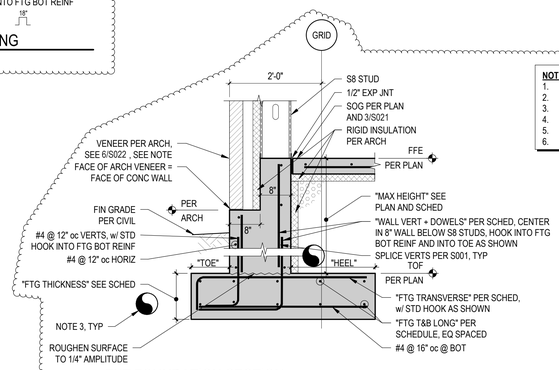



**23** BF5 EXT FOUNDATION SECTION BTWN COL
SCALE: 3/4" = 1'-0"

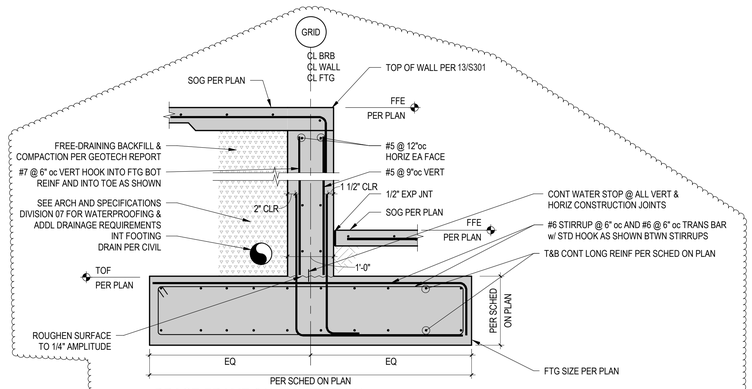
**NOTES:**
1. CONCRETE WALL TO REMAIN THE SAME PROFILE AT OTHER ARCH WALL EXTERIOR FINISHES.
2. SEE DETAIL 25/S022 FOR TYPICAL CONCRETE WALL CONSTRUCTION.
3. INTERIOR AND EXTERIOR FOOTING DRAIN PER CIVIL, SEE DETAIL 1/S021.
4. BACKFILL WALL AS REQUIRED BY THE GEOTECHNICAL ENGINEER.
5. AT COLUMNS, SEE DETAIL 11/S301.
6. WALL BETWEEN BRB COLUMNS PER 15/S301 .

**BUILDING EXTERIOR RETAINING WALL SCHEDULE**

| MAX HEIGHT | TOE | HEEL | FTG THICKNESS | WALL VERT + DOWELS | FTG TRANSVERSE | FTG T&B LONG |
|---|---|---|---|---|---|---|
| UP TO 4'-0" | 1'-6" | 2'-0" | 1'-0" | #5 @ 6" oc | #6 @ 12" oc | (5) #4 CONT T&B |
| UP TO 6'-0" | 1'-6" | 3'-8" | 1'-0" | #5 @ 6" oc | #6 @ 12" oc | (7) #4 CONT T&B |
| UP TO 8'-0" | 1'-6" | 4'-8" | 1'-0" | #5 @ 6" oc | #6 @ 12" oc | (8) #4 CONT T&B |
| UP TO 9'-0" | 1'-6" | 5'-8" | 1'-4" | #6 @ 6" oc | #6 @ 9" oc | (9) #4 CONT T&B |
| UP TO 11'-0" | 2'-6" | 5'-8" | 1'-4" | #7 @ 6" oc | #6 @ 9" oc | (10) #4 CONT T&B |




**26** EXT FOUNDATION SECTION
SCALE: 3/4" = 1'-0"




**29** BRACE FRAME 6 WALL SECTION
SCALE: 3/4" = 1'-0"

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THERESA H. DANIEL — 38621 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

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| Checked by: | TD |

Revisions

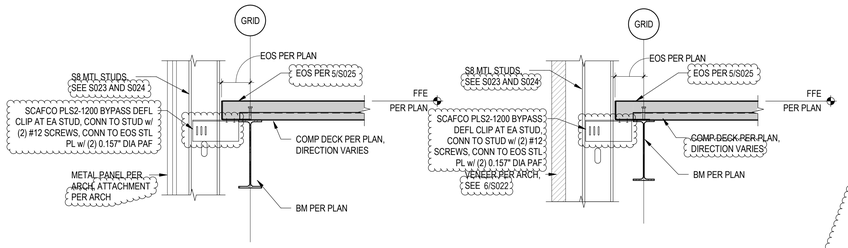
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

FOUNDATION DETAILS & SECTIONS

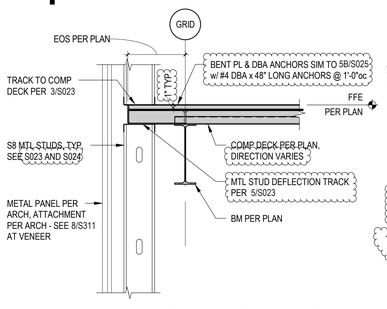
**S301**

IFC SET

PRCNC20221036

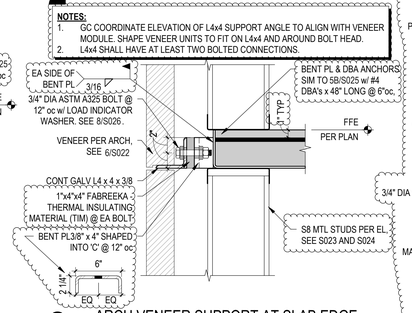


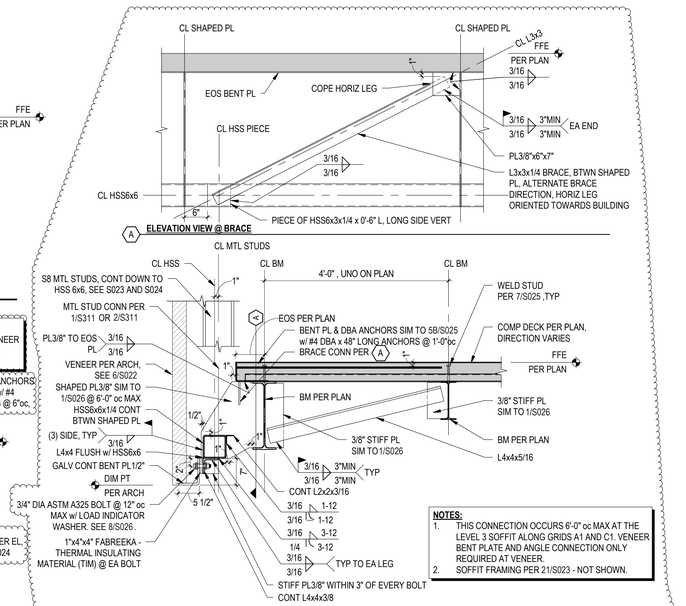

## 1 EDGE OF SLAB FRAMING DETAIL
SCALE: 3/4" = 1'-0"



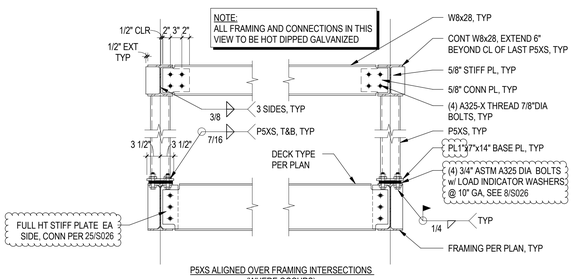

## 2 EDGE OF SLAB FRAMING DETAIL
SCALE: 3/4" = 1'-0"

**NOTES:**
1. GC COORDINATE ELEVATION OF L4x4 SUPPORT ANGLE TO ALIGN WITH VENEER MODULE. SHAPE VENEER UNITS TO FIT ON L4x4 AND AROUND BOLT HEAD.
2. L4x4 SHALL HAVE AT LEAST TWO BOLTED CONNECTIONS.



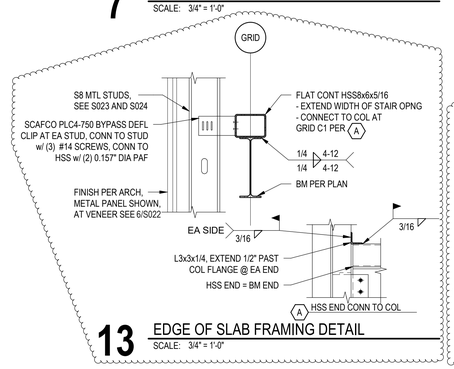




**NOTES:**
1. THIS CONNECTION OCCURS 6'-0" oc MAX AT THE LEVEL 3 SOFFIT ALONG GRIDS A1 AND C1. VENEER BENT PLATE AND ANGLE CONNECTION ONLY REQUIRED AT VENEER.
2. SOFFIT FRAMING PER 21/S023 - NOT SHOWN.

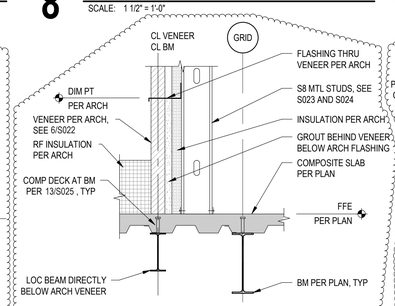



## 6 LAB EXHAUST SUPPORT FRAMING
SCALE: 3/4" = 1'-0"

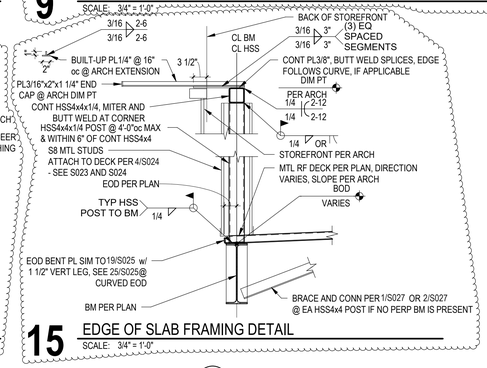
## 7 METAL STUDS AT COMPOSITE SLAB
SCALE: 3/4" = 1'-0"

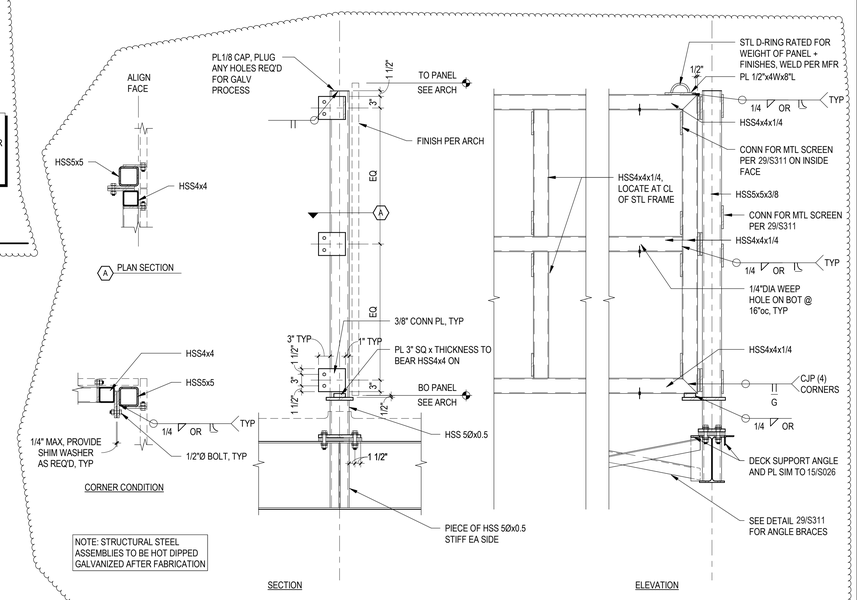



## 8 ARCH VENEER SUPPORT AT SLAB EDGE
SCALE: 1 1/2" = 1'-0"

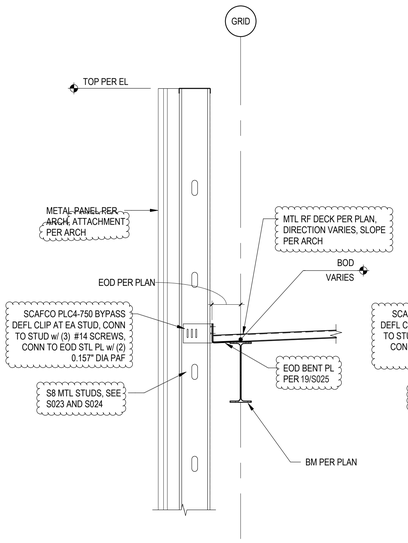



## 9 LEVEL 3 VENEER SUPPORT AT SOFFIT
SCALE: 3/4" = 1'-0"

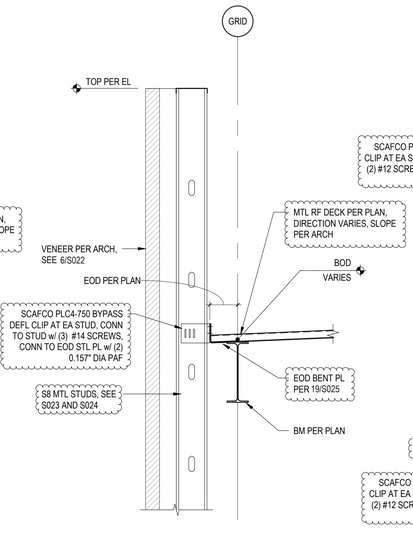


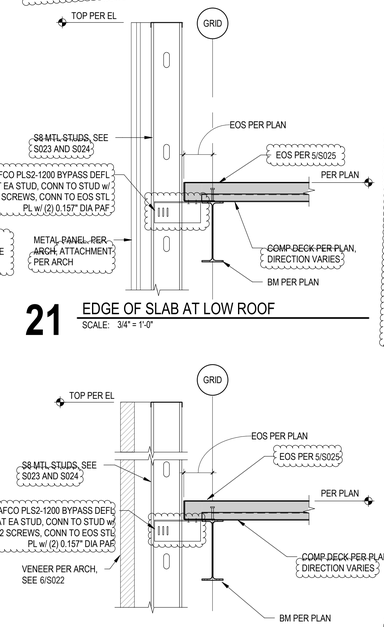

## 17 SCREENWALL DETAIL
SCALE: 3/4" = 1'-0"




## 25 EDGE OF ROOF DECK FRAMING DETAIL
SCALE: 3/4" = 1'-0"



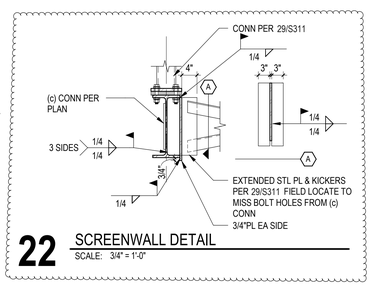

## 26 EDGE OF ROOF DECK FRAMING DETAIL
SCALE: 3/4" = 1'-0"



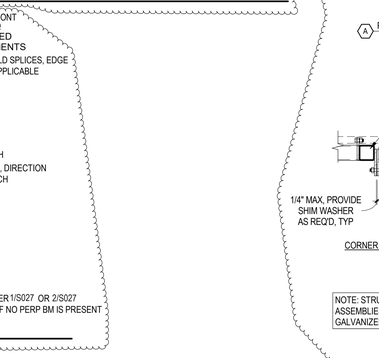

## 21 EDGE OF SLAB AT LOW ROOF
SCALE: 3/4" = 1'-0"



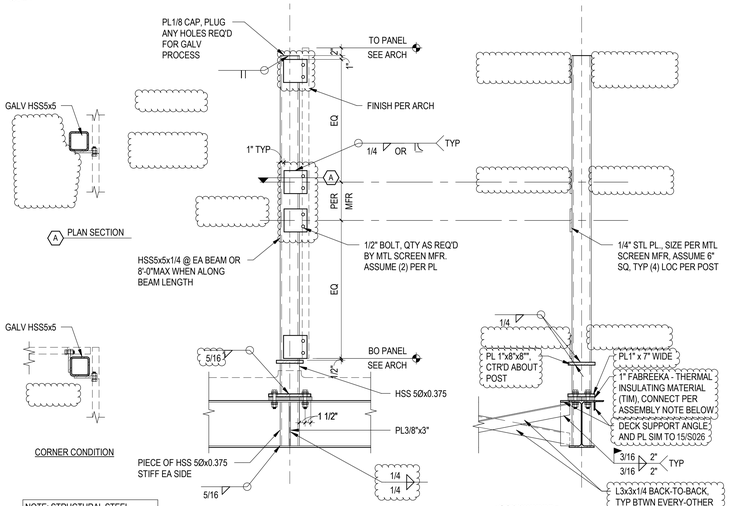

## 27 EDGE OF SLAB AT LOW ROOF
SCALE: 3/4" = 1'-0"




## 22 SCREENWALL DETAIL
SCALE: 3/4" = 1'-0"




## 28 SCREENWALL DETAIL
SCALE: 3/4" = 1'-0"




## 29 SCREENWALL DETAIL
SCALE: 3/4" = 1'-0"

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**NEW STEM BUILDING**
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Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM/BLO/RB/MW |
| Checked by: | TD |

Revisions

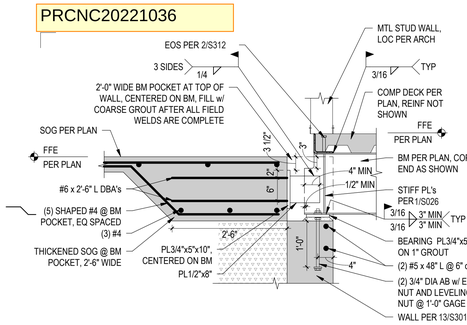
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

FRAMING DETAILS & SECTIONS

**S311**

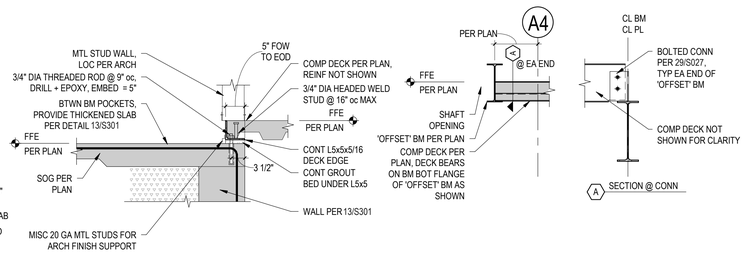
IFC SET

PRCNC20221036




## 1 MEZZANINE BEAM BEARING DETAIL

SCALE: 3/4" = 1'-0"



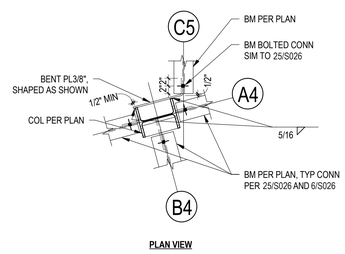

## 2 MEZZANINE TRANSITION DETAIL

SCALE: 3/4" = 1'-0"




## 3 MEP SHAFT FRAMING DETAIL

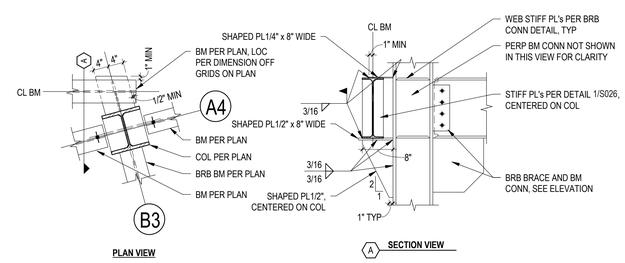
SCALE: 3/4" = 1'-0"




PLAN VIEW

## 4 FRAMING DETAIL

SCALE: 3/4" = 1'-0"

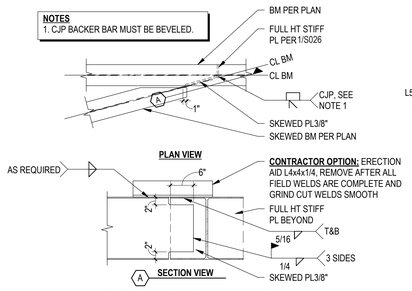



PLAN VIEW

A SECTION VIEW

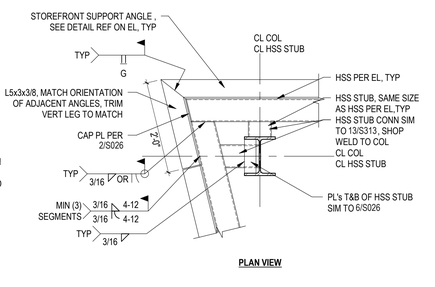
## 5 FRAMING DETAIL

SCALE: 3/4" = 1'-0"




## 7 MEP SHAFT FRAMING DETAIL

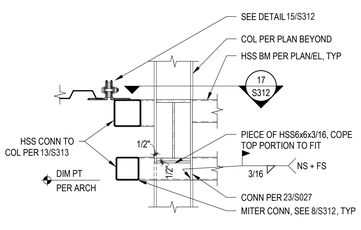
SCALE: 3/4" = 1'-0"




PLAN VIEW

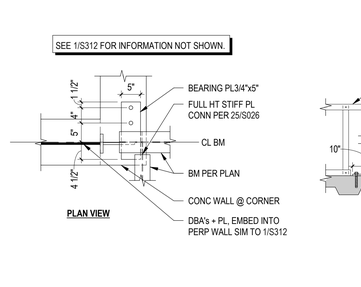
## 8 STOREFRONT SUPPORT DETAIL

SCALE: 3/4" = 1'-0"




## 9 STOREFRONT SUPPORT DETAIL

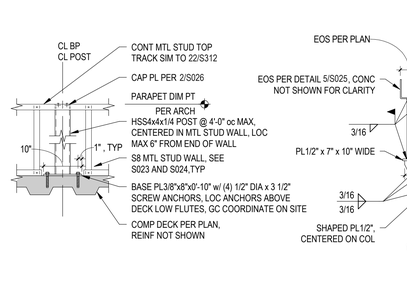
SCALE: 3/4" = 1'-0"




PLAN VIEW

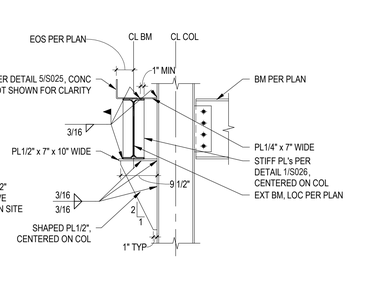
## 10 MEZZANINE CORNER BEAM BEARING

SCALE: 3/4" = 1'-0"



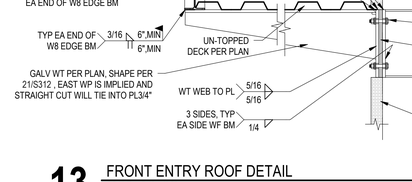

## 11 L3 PARAPET WALL POSTS

SCALE: 3/4" = 1'-0"



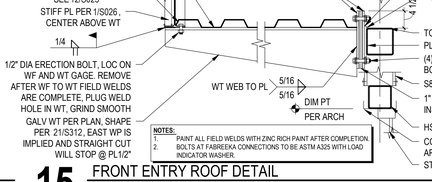

## 12 FRAMING DETAIL

SCALE: 3/4" = 1'-0"



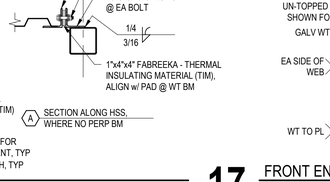

## 13 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



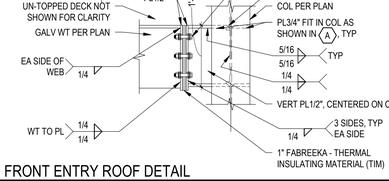

## 15 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



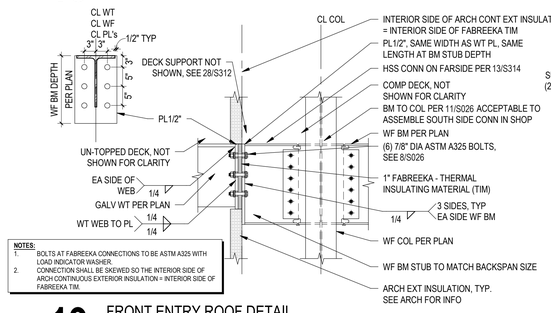

## 17 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



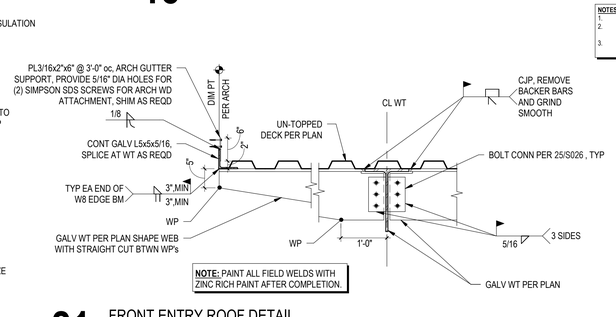

## 21 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



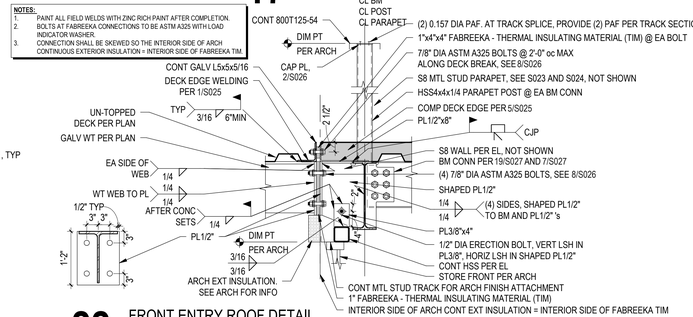

## 19 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



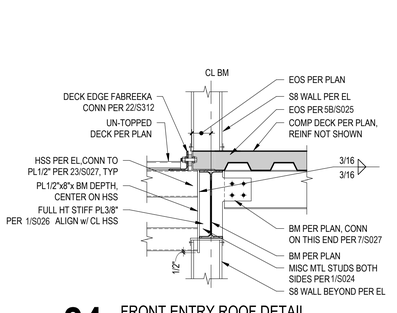

## 21 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



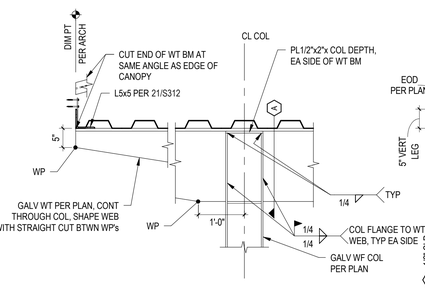

## 22 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



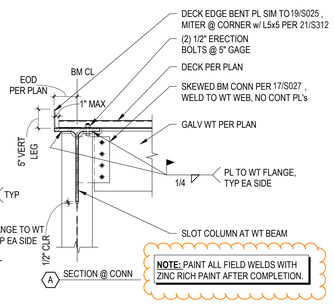

## 24 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



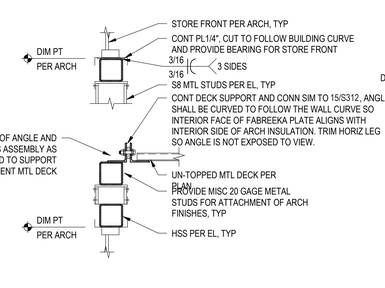

## 25 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



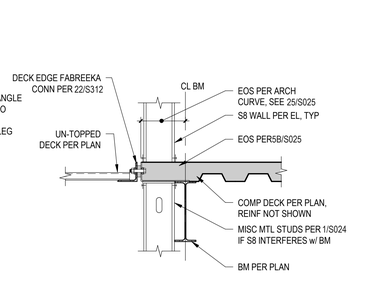

## 27 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"



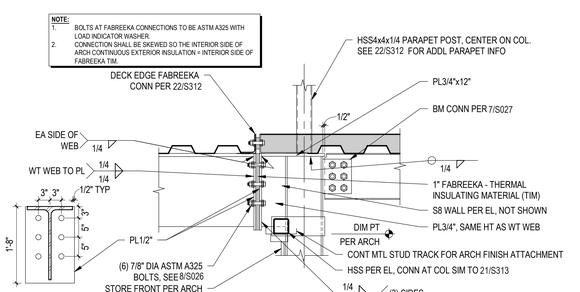

## 28 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"




## 29 FRONT ENTRY ROOF DETAIL

SCALE: 3/4" = 1'-0"

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THERESA H. DANIEL — 38621 — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

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**NEW STEM BUILDING**
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Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | AM |
| Checked by: | TD |

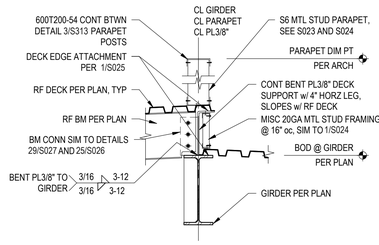
Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

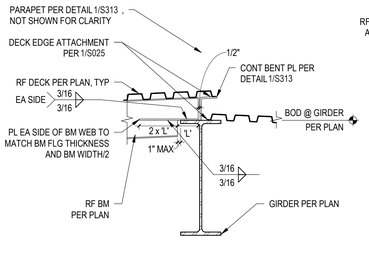
FRAMING DETAILS & SECTIONS

S312

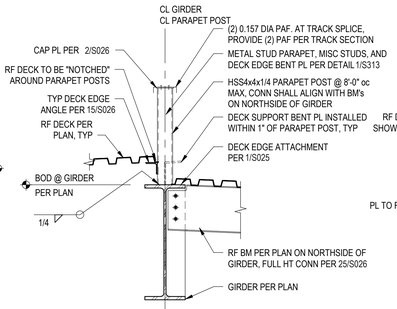
PRCNC20221036



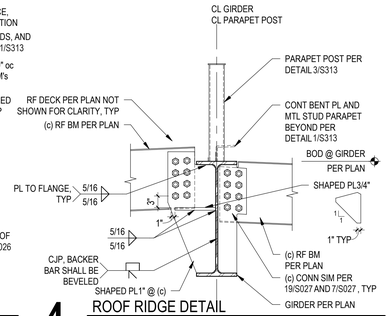

## 1 ROOF RIDGE DETAIL
SCALE: 3/4" = 1'-0"



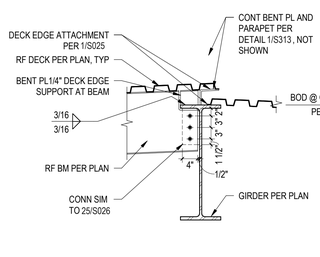

## 2 ROOF RIDGE DETAIL
SCALE: 3/4" = 1'-0"



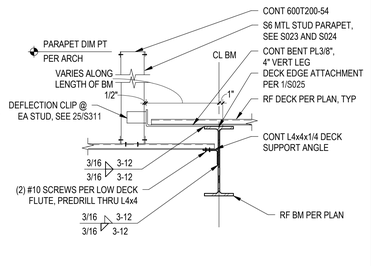

## 3 ROOF RIDGE DETAIL
SCALE: 3/4" = 1'-0"



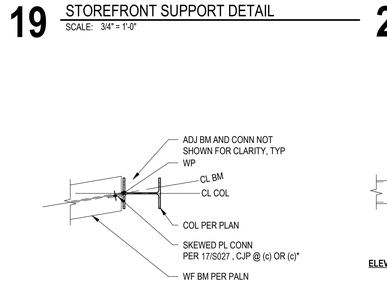

## 4 ROOF RIDGE DETAIL
SCALE: 3/4" = 1'-0"



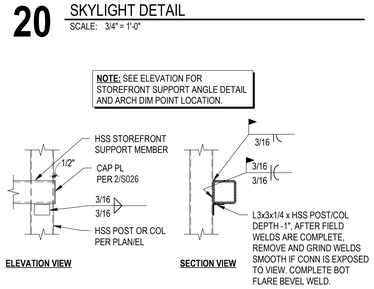

## 5 ROOF RIDGE DETAIL
SCALE: 3/4" = 1'-0"




## 6 ROOF RIDGE DETAIL
SCALE: 3/4" = 1'-0"

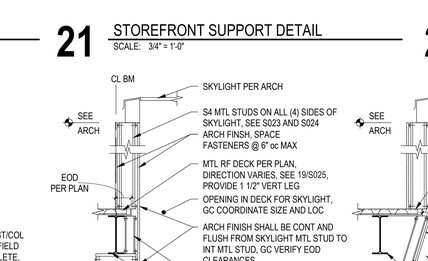



## 7 VESTIBULE STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



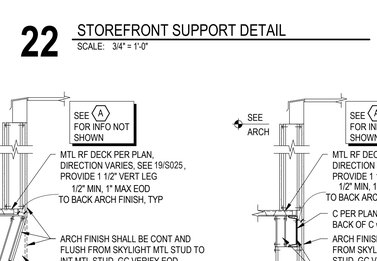

**NOTE:** AT HSS STOREFRONT STRUCTURAL SUPPORTS SMALLER THAN HSS6x6, COPE L5x3 ANGLE TO BE FLUSH WITH TOP OF HSS.

## 8 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



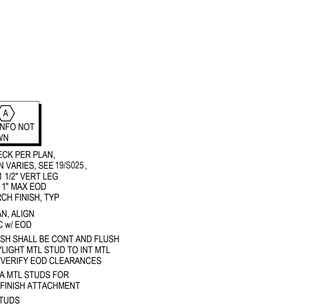

**NOTES:**
1. SEE DETAILS 1/S313 AND 3/S313 FOR INFORMATION NOT SHOWN.
2. THIS DETAIL OCCURS AT TWO LOCATIONS ON EACH SIDE OF THE GATE IN THE MECHANICAL SCREEN.

## 9 ROOF RIDGE DETAIL AT GATE
SCALE: 3/4" = 1'-0"

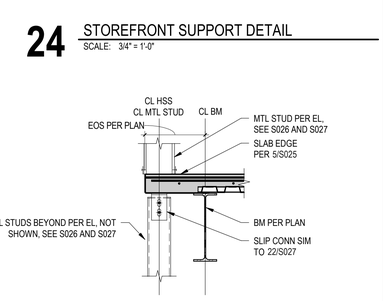



**NOTE:** SEE 9/S403 FOR ADDL INFO AT VESTIBULE FRAMING

## 10 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 11 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 12 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 13 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 14 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 15 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 16 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 17 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 18 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 19 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 20 SKYLIGHT DETAIL
SCALE: 3/4" = 1'-0"




## 21 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 22 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 24 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 25 SKEWED FRAMING CONNECTION
SCALE: 3/4" = 1'-0"




**NOTE:** SEE ELEVATION FOR STOREFRONT SUPPORT ANGLE DETAIL AND ARCH DIM POINT LOCATION.

## 26 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 27 SKYLIGHT DETAIL
SCALE: 3/4" = 1'-0"




## 30 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"

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**City of Puyallup**
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Revisions

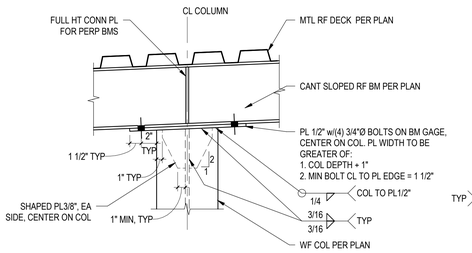
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

FRAMING DETAILS & SECTIONS

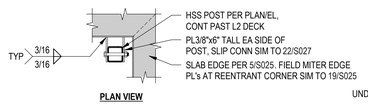
S313

IFC SET

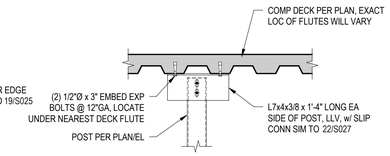
PRCNC20221036



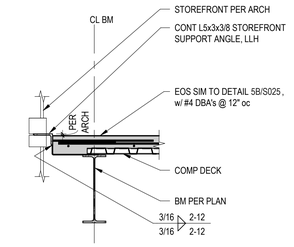

## 1 CANTILEVER OVER COLUMN
SCALE: 1 1/2" = 1'-0"



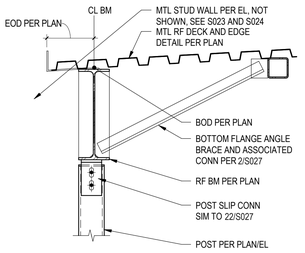

## 2 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



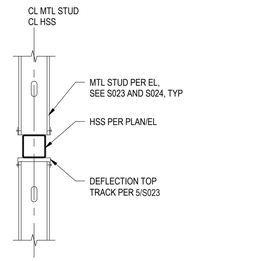

## 3 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



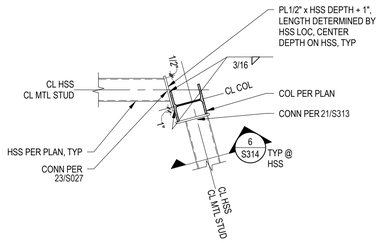

## 4 EDGE CLOSURE AT STOREFRONT
SCALE: 3/4" = 1'-0"



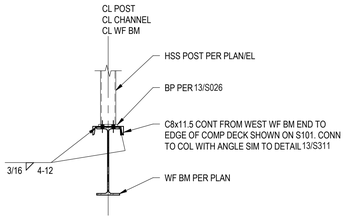

## 5 STOREFRONT POST CONNECTION
SCALE: 1" = 1'-0"



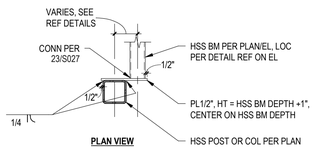

## 6 EXTERIOR MTL STUDS AT HSS
SCALE: 3/4" = 1'-0"



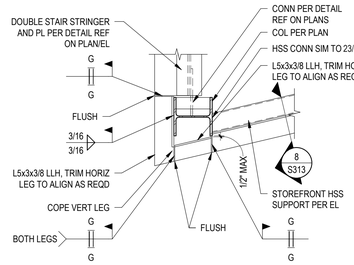

## 7 HSS CONNECTION AT COLUMN
SCALE: 3/4" = 1'-0"



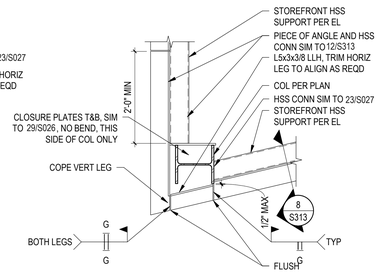

## 8 POST CONN AT BEAM
SCALE: 3/4" = 1'-0"



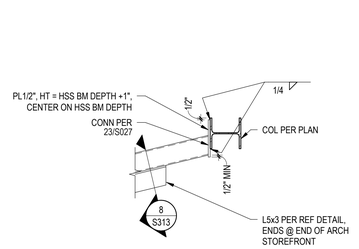

## 9 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



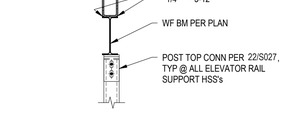

## 10 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



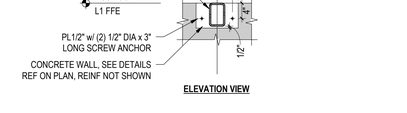

## 11 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"



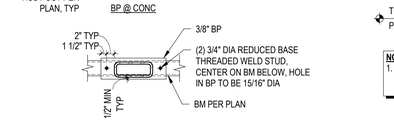

## 12 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 13 STOREFRONT SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




## 14 SKYLIGHT SOFFIT SUPPORT
SCALE: 1" = 1'-0"

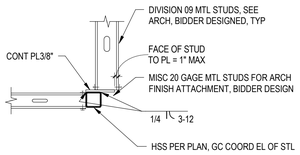



## 15 DECK CLOSURE AT CANTILEVER BM
SCALE: 3/4" = 1'-0"




NOTE: NOT ALL METAL STUD FRAMING IS SHOWN. SEE ELEVATIONS, S023, AND S024 FOR MORE INFOMATION.

## 18 STOREFRONT REENTRANT CORNER FRAMING
SCALE: 3/4" = 1'-0"



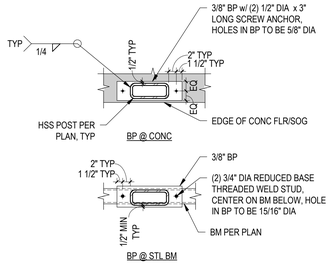

## 19 DIVISION 09 MTL STUD SOFFIT SUPPORT
SCALE: 3/4" = 1'-0"



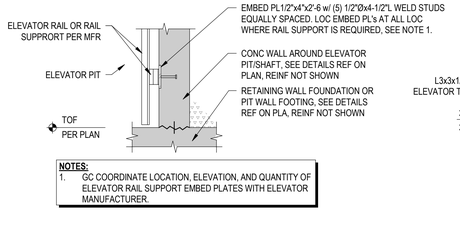

## 25 ELEVATOR BEAM BETWEEN SHAFTS
SCALE: 3/4" = 1'-0"




## 26 ELEVATOR CONN DETAIL
SCALE: 3/4" = 1'-0"

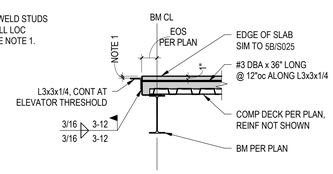



## 27 ELEVATOR POST BASEPLATE DETAIL
SCALE: 3/4" = 1'-0"



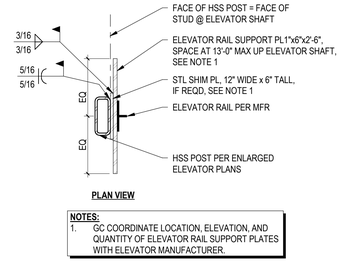

NOTES:
1. GC COORDINATE LOCATION, ELEVATION, AND QUANTITY OF ELEVATOR RAIL SUPPORT EMBED PLATES WITH ELEVATOR MANUFACTURER.

## 28 ELEVATOR RAIL SUPPORT DETAIL
SCALE: 3/4" = 1'-0"




NOTES:
1. GC COORDINATE ANGLE ELEVATION AT ELEVATOR THRESHOLD WITH ELEVATOR MANUFACTURER AND ARCH.

## 29 ELEVATOR THRESHOLD AT FLOORS
SCALE: 3/4" = 1'-0"




NOTES:
1. GC COORDINATE LOCATION, ELEVATION, AND QUANTITY OF ELEVATOR RAIL SUPPORT PLATES WITH ELEVATOR MANUFACTURER.

## 30 ELEVATOR RAIL SUPPORT DETAIL
SCALE: 3/4" = 1'-0"

IFC SET

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# NEW STEM BUILDING
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City of Puyallup
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Building | Planning | Engineering | Public Works | Fire | Traffic

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| Checked by: | TD |

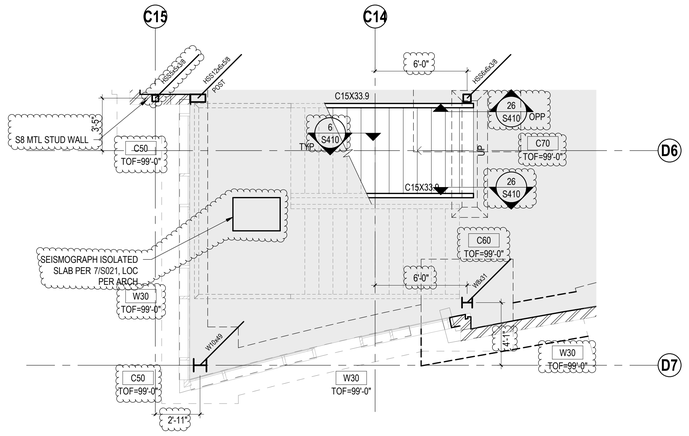
Revisions

| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

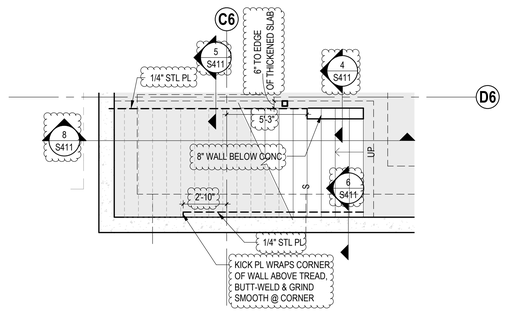
FRAMING DETAILS AND SECTIONS

S314

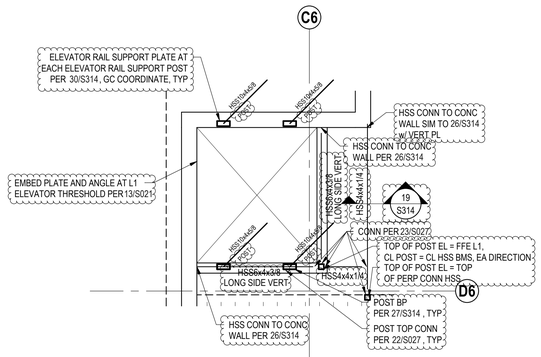
PRCNC20221036



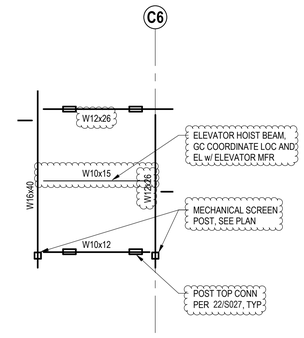

1 ENLARGED PLAN - STAIR 1-LEVEL 1
SCALE: 1/4" = 1'-0"



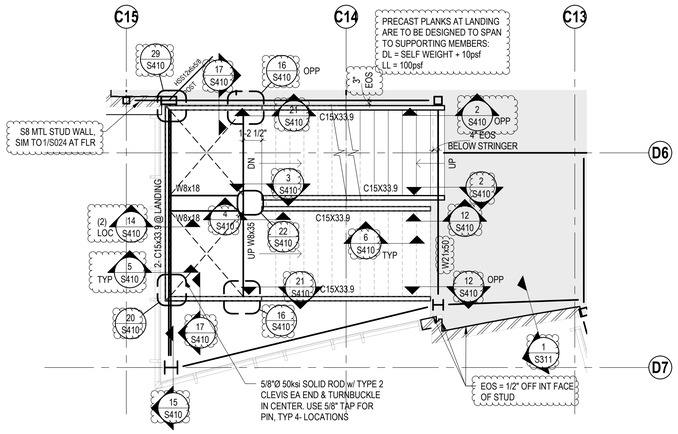

2 ENLARGED PLAN - LOBBY STAIR - LEVEL 0
SCALE: 1/4" = 1'-0"
9 S202



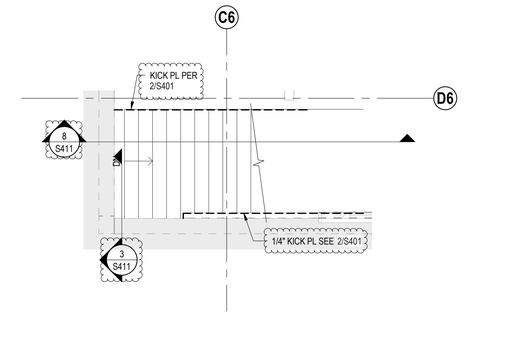

3 ENLARGED PLAN - ELEVATOR - LEVEL 1
SCALE: 1/4" = 1'-0"



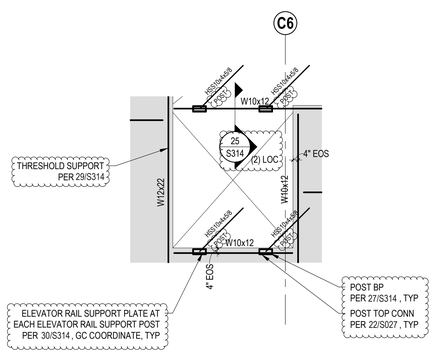

4 ENLARGED PLAN - ELEVATOR - ROOF
SCALE: 1/4" = 1'-0"



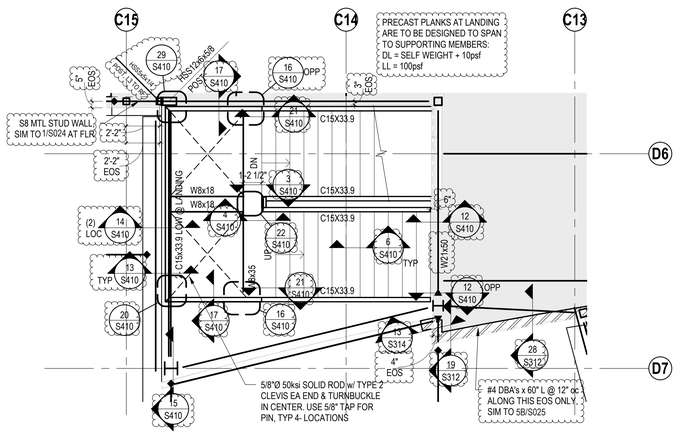

5 ENLARGED PLAN - STAIR 1-LEVEL 2
SCALE: 1/4" = 1'-0"



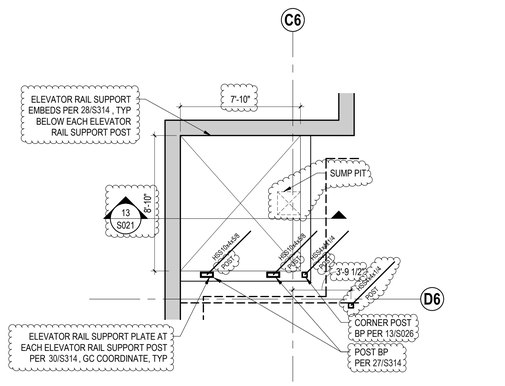

6 ENLARGED PLAN - LOBBY STAIR - LEVEL 1
SCALE: 1/4" = 1'-0"



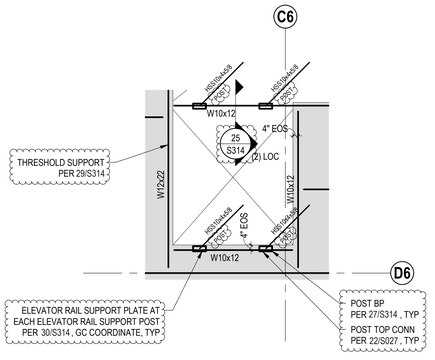

7 ENLARGED PLAN - ELEVATOR - LEVEL 2
SCALE: 1/4" = 1'-0"




8 ENLARGED PLAN - STAIR 1-LEVEL 3
SCALE: 1/4" = 1'-0"




9 ENLARGED PLAN - ELEVATOR - LEVEL 0
SCALE: 1/4" = 1'-0"




10 ENLARGED PLAN - ELEVATOR - LEVEL 3
SCALE: 1/4" = 1'-0"

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**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**

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City of Puyallup
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| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
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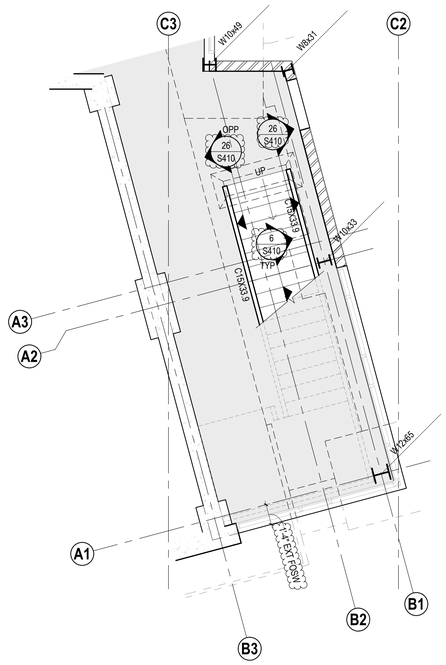
ENLARGED STAIR & ELEVATOR PLANS

**S401**

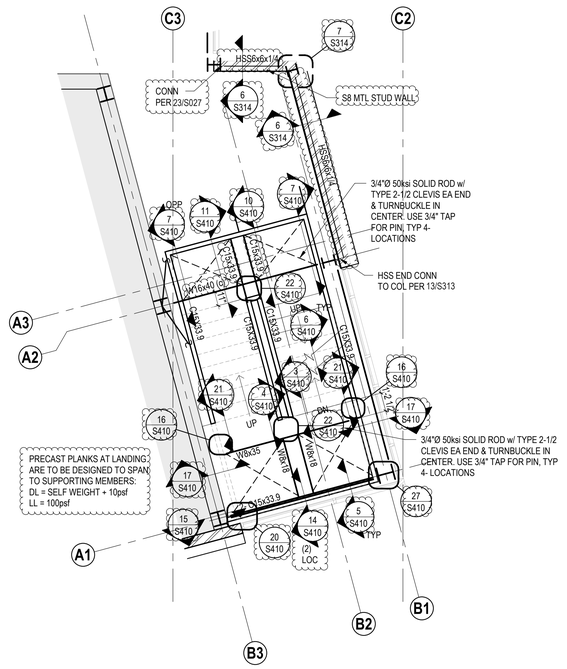
IFC SET

PRCNC20221036



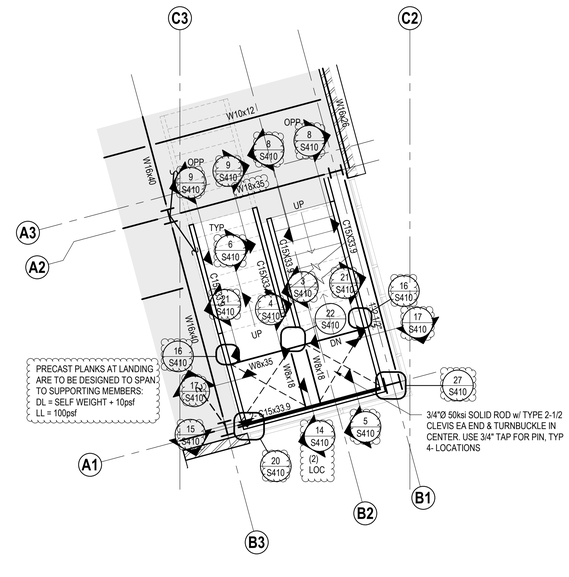

## 1 ENLARGED PLAN - STAIR 2 - LEVEL 0

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



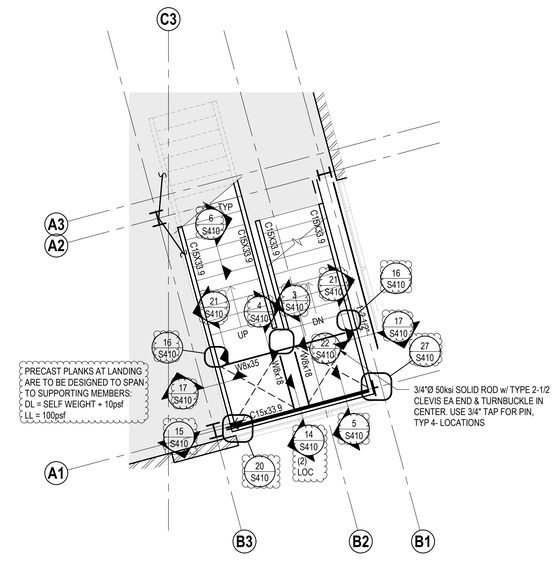

## 2 ENLARGED PLAN - STAIR 2 - LEVEL 0.5

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



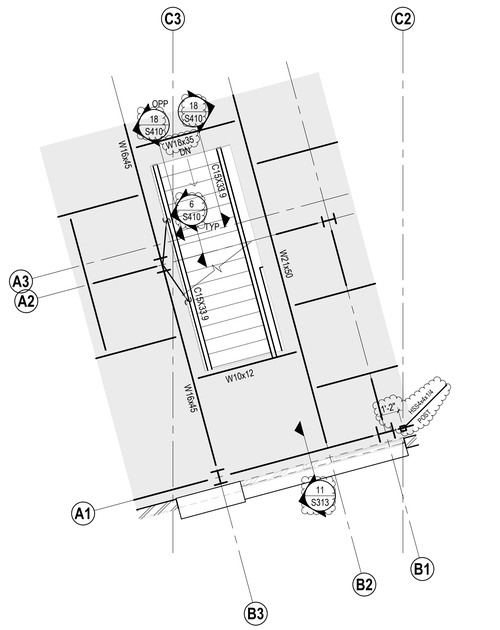

## 3 ENLARGED PLAN - STAIR 2 - LEVEL 2

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



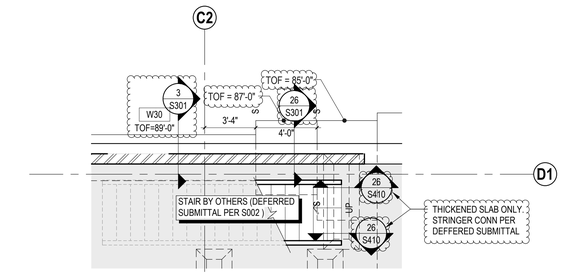

## 4 ENLARGED PLAN - STAIR 2 - LEVEL 2.5

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



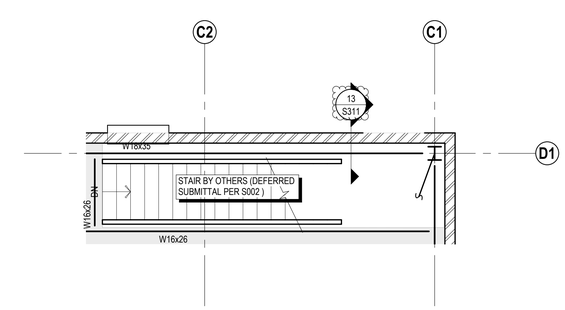

## 5 ENLARGED PLAN - STAIR 2 - LEVEL 3

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




## 6 ENLARGED PLAN - MEZZANINE STAIRS - LEVEL 0

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




## 7 ENLARGED PLAN - MEZZANINE STAIRS - LEVEL 1

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

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# PIERCE COLLEGE PUYALLUP
# NEW STEM BUILDING

1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | RB/MW |
| Checked by: | TD |

Revisions

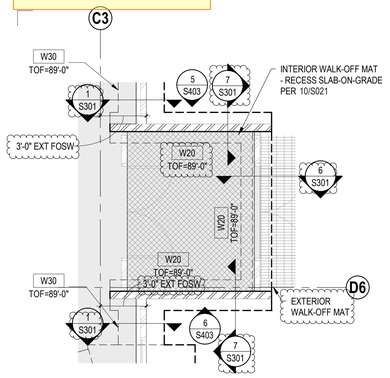
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

ENLARGED STAIR PLANS

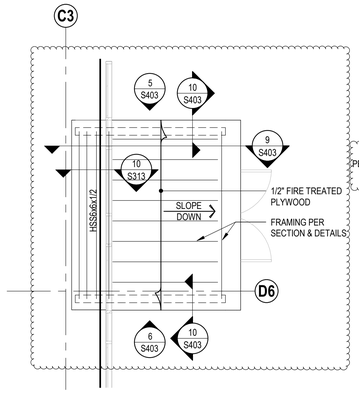
**S402**

IFC SET

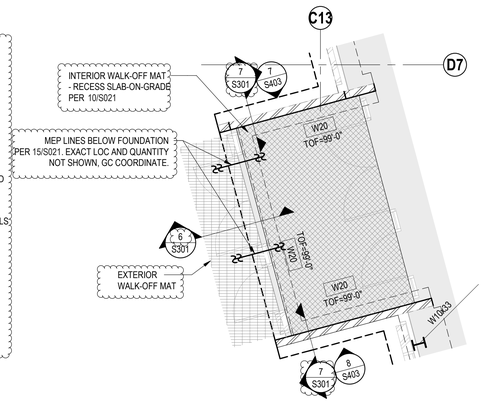
PRCNC20221036



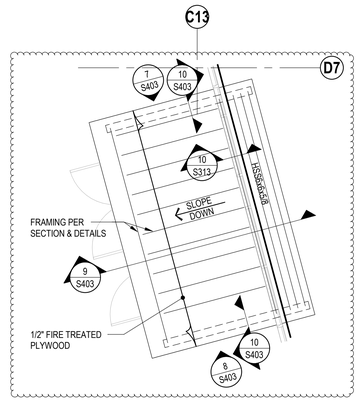

1 ENLARGED PLAN - VESTIBULE 2
SCALE: 1/4" = 1'-0"



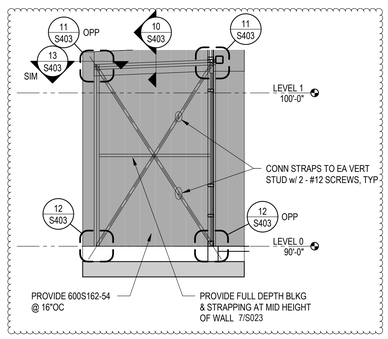

2 ENLARGED PLAN - VESTIBULE 2
SCALE: 1/4" = 1'-0"

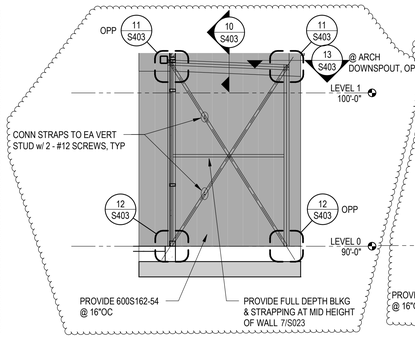


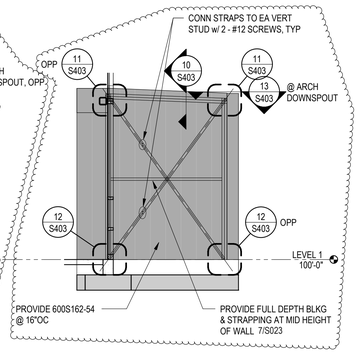

3 ENLARGED PLAN - VESTIBULE 1
SCALE: 1/4" = 1'-0"

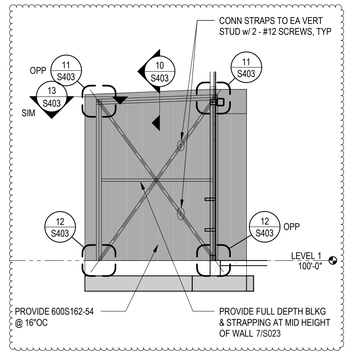



4 ENLARGED PLAN - VESTIBULE 1
SCALE: 1/4" = 1'-0"



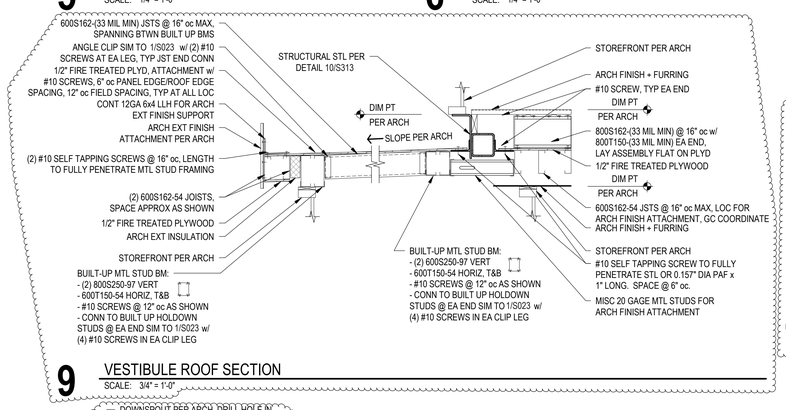




5 VESTIBULE 2 - NORTH WALL ELEVATION
SCALE: 1/4" = 1'-0"

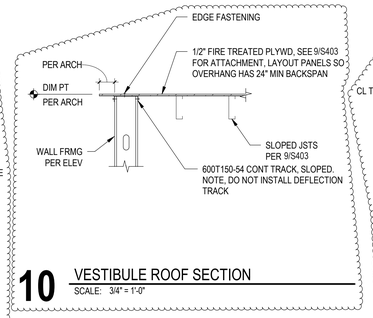
6 VESTIBULE 2 - SOUTH WALL ELEVATION
SCALE: 1/4" = 1'-0"

7 VESTIBULE 1 - NORTH WALL ELEVATION
SCALE: 1/4" = 1'-0"

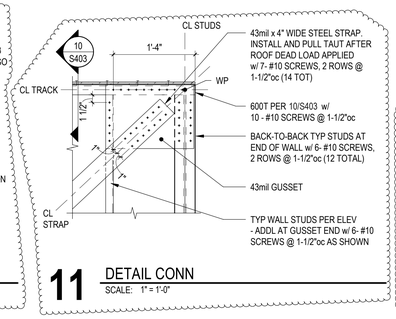
8 VESTIBULE 1 - SOUTH WALL ELEVATION
SCALE: 1/4" = 1'-0"



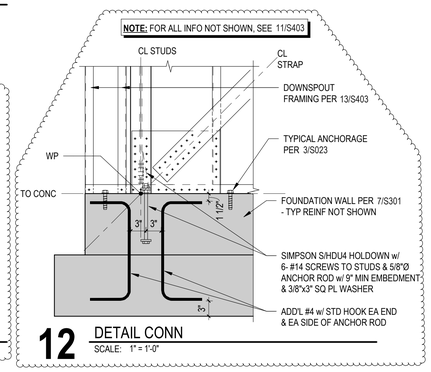

9 VESTIBULE ROOF SECTION
SCALE: 3/4" = 1'-0"




10 VESTIBULE ROOF SECTION
SCALE: 3/4" = 1'-0"




11 DETAIL CONN
SCALE: 1" = 1'-0"




12 DETAIL CONN
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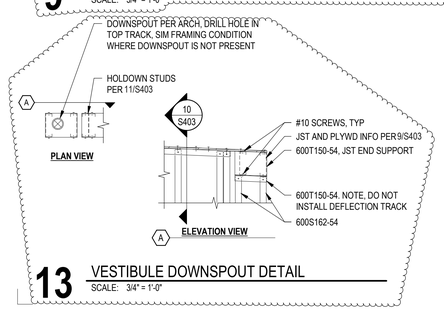


13 VESTIBULE DOWNSPOUT DETAIL
SCALE: 3/4" = 1'-0"

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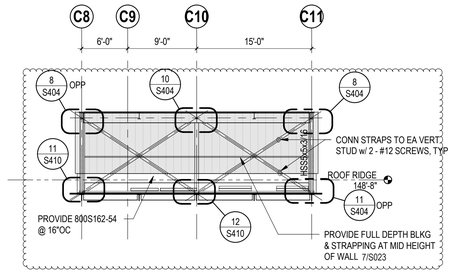
ENLARGED VESTIBULE PLANS & DETAILS

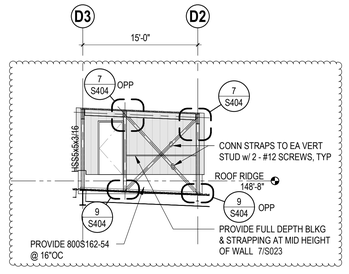
**S403**

IFC SET

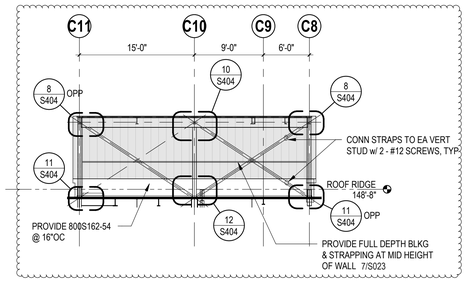
PRCNC20221036



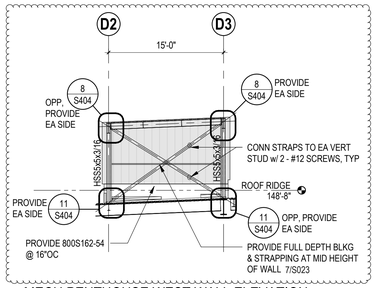

1 MECH PENTHOUSE NORTH WALL ELEVATION
SCALE: 1/8" = 1'-0"



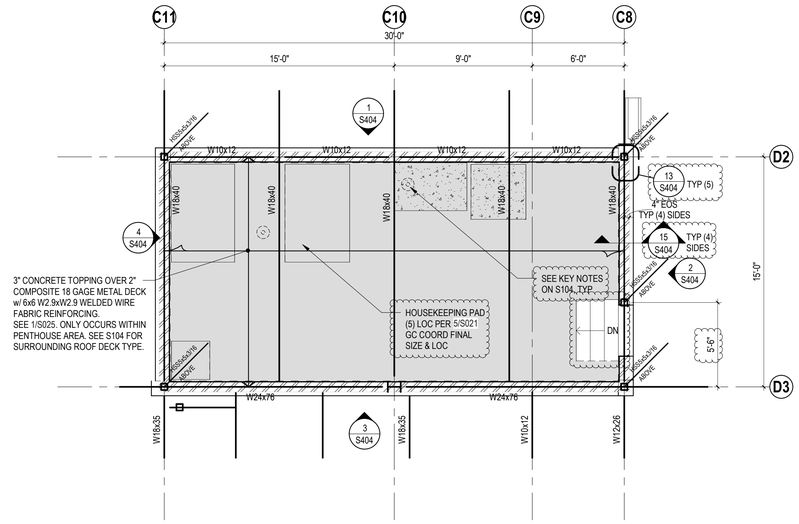

2 MECH PENTHOUSE EAST WALL ELEVATION
SCALE: 1/8" = 1'-0"




3 MECH PENTHOUSE SOUTH WALL ELEVATION
SCALE: 1/8" = 1'-0"




4 MECH PENTHOUSE WEST WALL ELEVATION
SCALE: 1/8" = 1'-0"




5 ENLARGED PLAN - MECHANICAL PENTHOUSE
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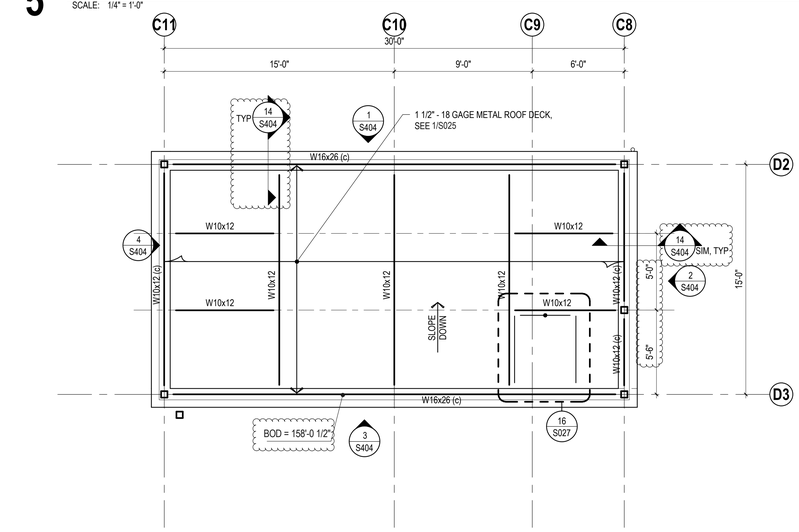
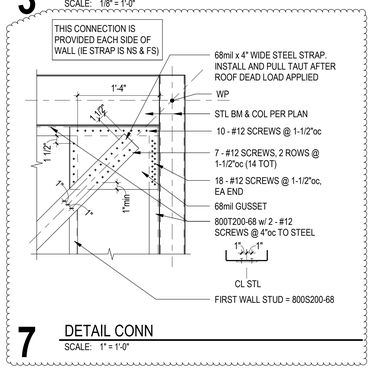
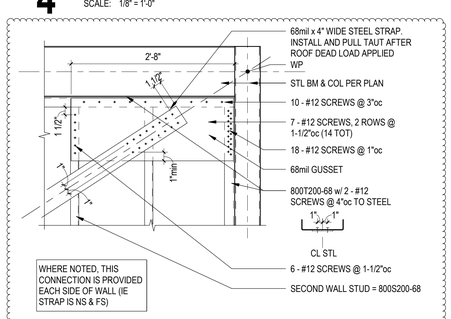



6 ENLARGED PLAN - MECHANICAL PENTHOUSE ROOF
SCALE: 1/4" = 1'-0"




7 DETAIL CONN
SCALE: 1" = 1'-0"

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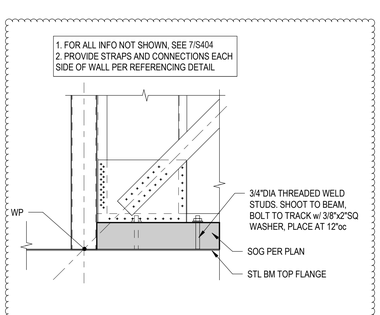
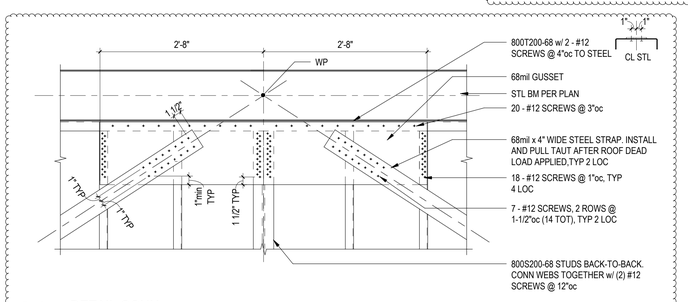
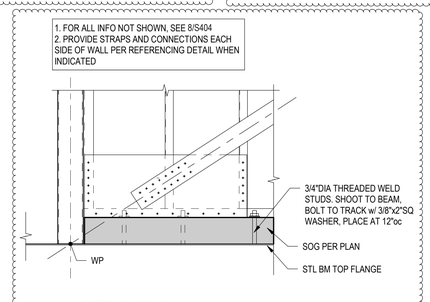
SCALE: 1" = 1'-0"



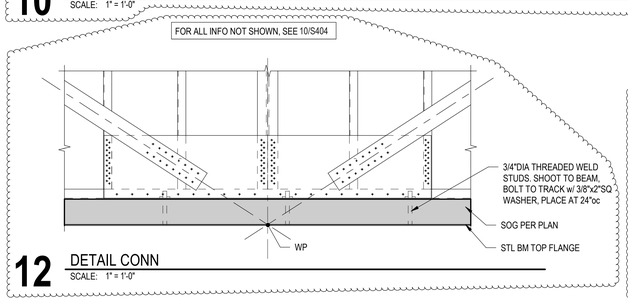

9 DETAIL CONN
SCALE: 1" = 1'-0"




10 DETAIL CONN
SCALE: 1" = 1'-0"




11 DETAIL CONN
SCALE: 1" = 1'-0"

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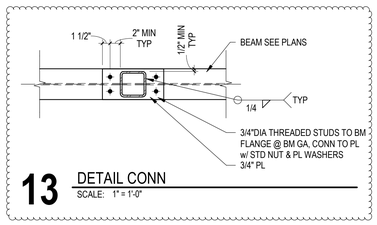


13 DETAIL CONN
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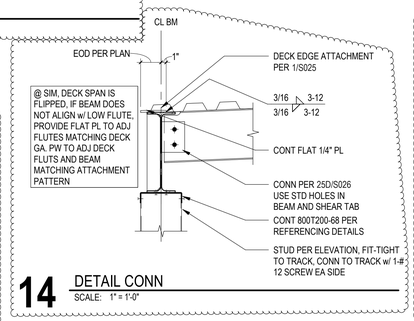


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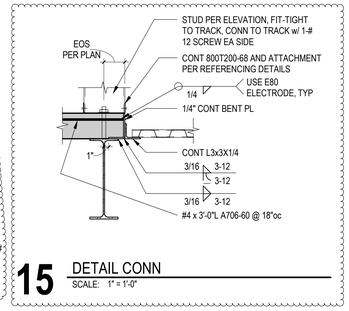
SCALE: 1" = 1'-0"




15 DETAIL CONN
SCALE: 1" = 1'-0"

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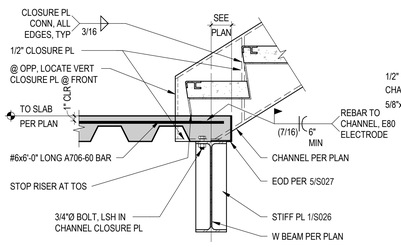
ENLARGED MECHANICAL PENTHOUSE PLAN

**S404**

IFC SET

PRCNC20221036




## 2 STAIR SECTION
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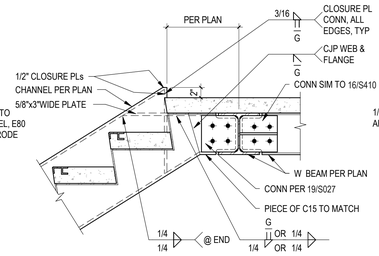


## 3 STAIR SECTION
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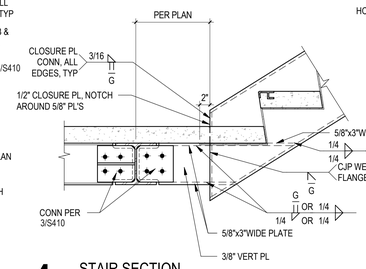


## 4 STAIR SECTION
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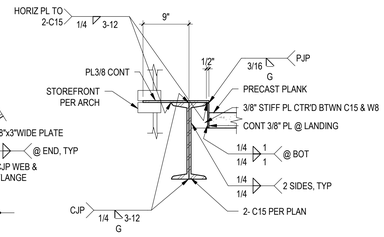
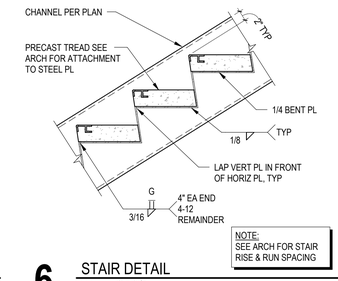
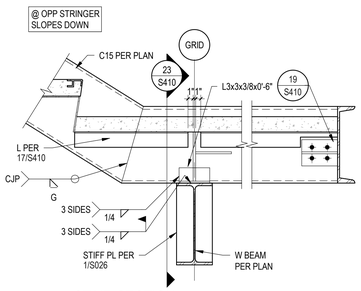



## 5 STAIR SECTION
SCALE: 1" = 1'-0"




## 6 STAIR DETAIL
SCALE: 1" = 1'-0"




## 7 STAIR SECTION
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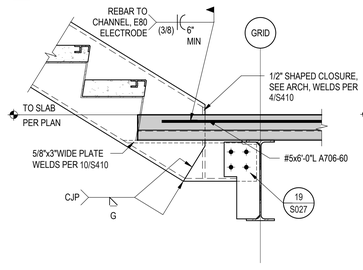
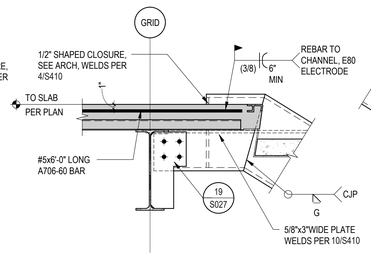



## 8 STAIR SECTION
SCALE: 1" = 1'-0"




## 9 STAIR SECTION
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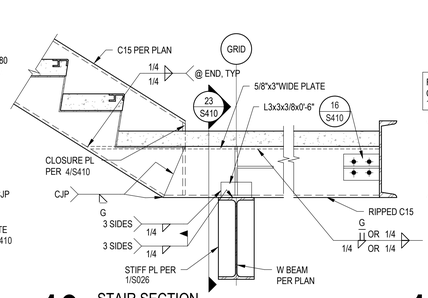


## 10 STAIR SECTION
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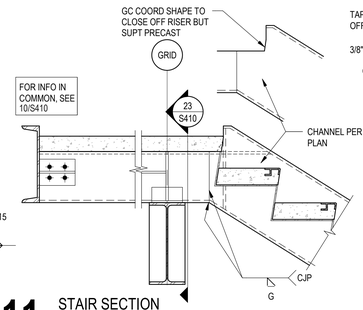
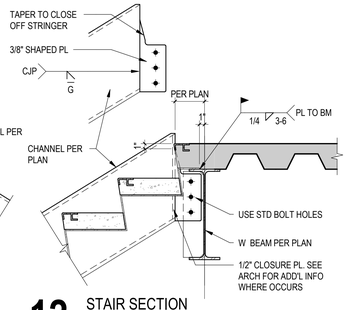



## 11 STAIR SECTION
SCALE: 1" = 1'-0"




## 12 STAIR SECTION
SCALE: 1" = 1'-0"




## 13 STAIR SECTION
SCALE: 1" = 1'-0"



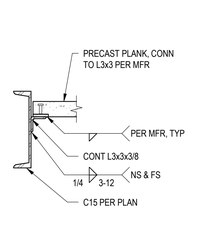

## 14 SECTION
SCALE: 1" = 1'-0"




## 15 SECTION
SCALE: 1" = 1'-0"



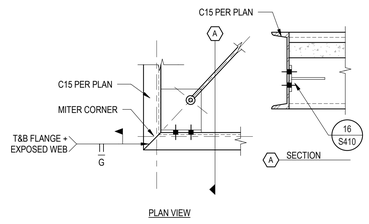

## 16 CONNECTION DETAIL
SCALE: 1" = 1'-0"



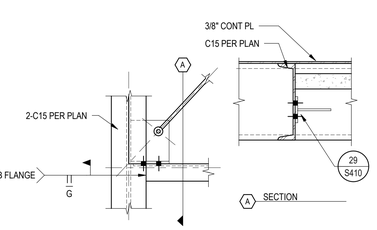

## 17 SECTION
SCALE: 1" = 1'-0"



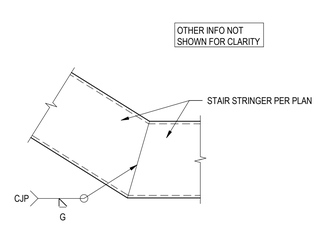

## 18 STAIR SECTION
SCALE: 1" = 1'-0"



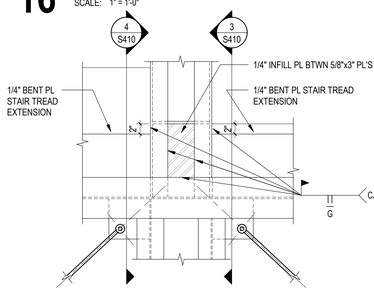

## 19 SECTION
SCALE: 1" = 1'-0"



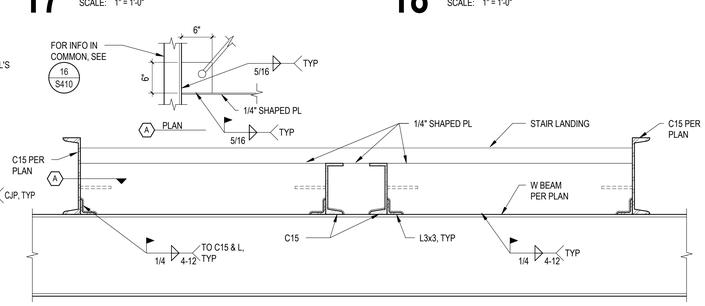

## 20 SECTION
SCALE: 1" = 1'-0"




## 21 STAIR SECTION
SCALE: 1" = 1'-0"




## 22 STAIR SECTION
SCALE: 1" = 1'-0"




## 23 SECTION
SCALE: 1" = 1'-0"




## 26 SECTION
SCALE: 1" = 1'-0"




## 27 DETAIL
SCALE: 1" = 1'-0"




## 29 SECTION
SCALE: 1" = 1'-0"

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City of Puyallup
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| Checked by: | TD |

Revisions

| Date | Description |
|---|---|
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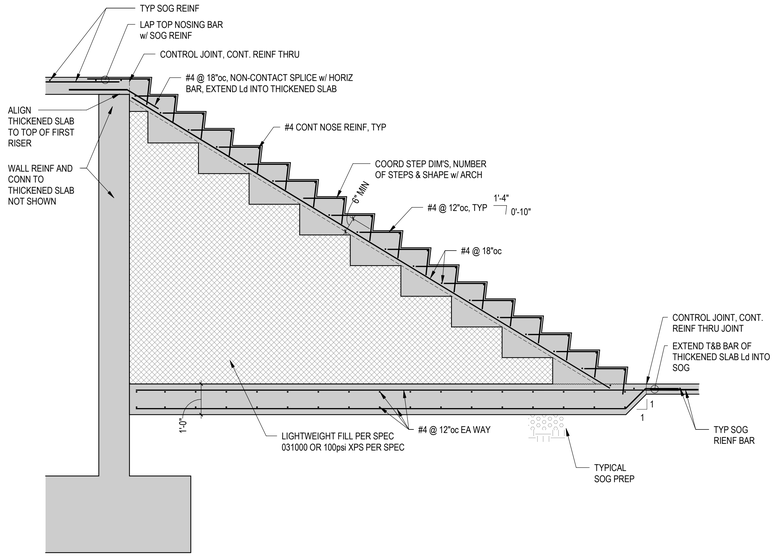
STAIR DETAILS & SECTIONS

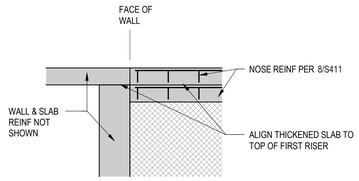
S410

IFC SET

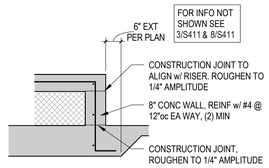
PRCNC20221036



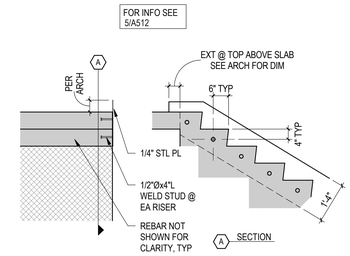

**8** SECTION
SCALE: 1/2" = 1'-0"



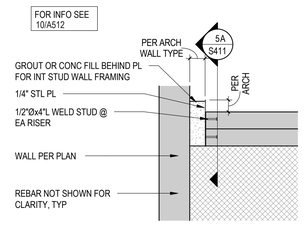

**3** SECTION
SCALE: 1/2" = 1'-0"



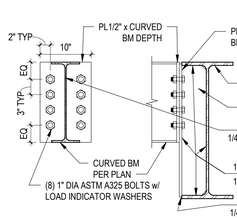

**4** SECTION
SCALE: 1/2" = 1'-0"



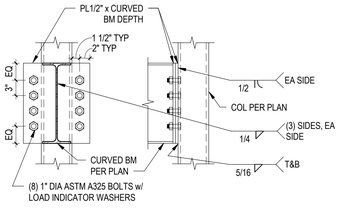

**5** SECTION
SCALE: 1/2" = 1'-0"




**6** SECTION
SCALE: 1/2" = 1'-0"

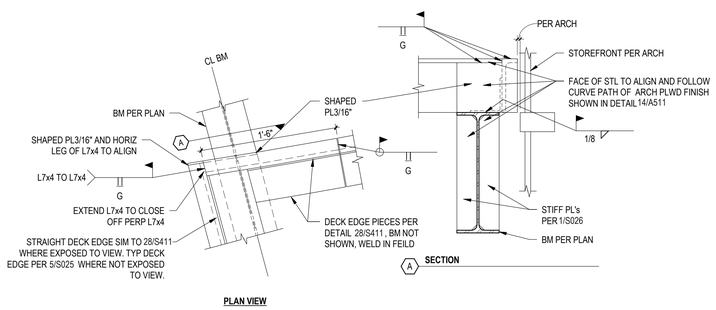



**CONN @ PERP BM**

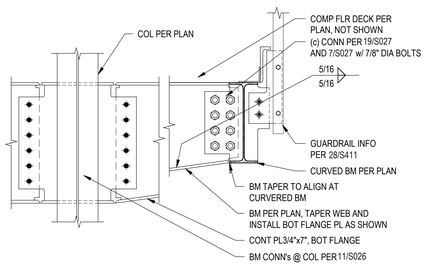



**CONN @ COL**

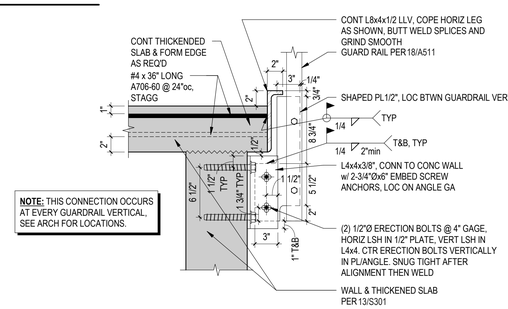
**19** CURVED BEAM END CONN
SCALE: 1" = 1'-0"



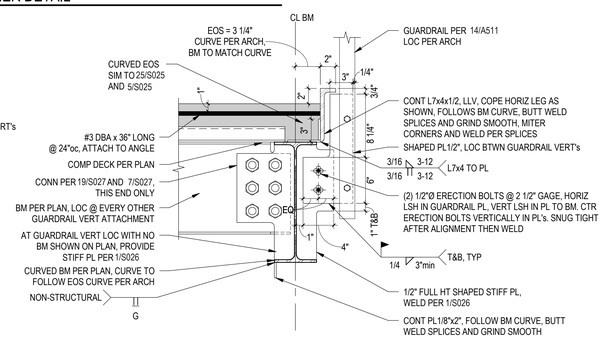

**21** LEVEL 2 OPENING CURVED EDGE OF SLAB CORNER DETAIL
SCALE: 1 1/2" = 1'-0"




**25** LEVEL 2 OPENING CURVED EDGE OF SLAB
SCALE: 1" = 1'-0"




**27** GRAVITY LAB GUARDRAIL
SCALE: 1 1/2" = 1'-0"




**28** LEVEL 2 OPENING CURVED EDGE OF SLAB DETAIL
SCALE: 1 1/2" = 1'-0"

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| Checked by: | TD |

Revisions

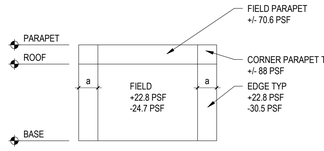
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

STAIR DETAILS & SECTIONS

**S411**

IFC SET

PRCNC20221036



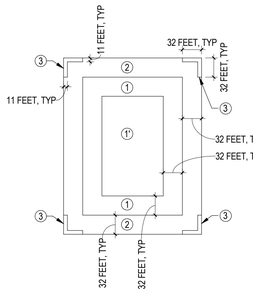

**NOTES:**
1. "a" IS 10% OF LEAST HORIZONTAL DIMENSION OR 21.5 FEET, WHICHEVER IS SMALLER, BUT NOT LESS THAN 4% OF LEAST HORIZONTAL DIMENSION OR 3 FEET.
3. REFERENCE ASCE 7-16 FIGURE 30.3-1 AND FIGURE 30.8-1
2. SEE **WIND PRESSURE NOTES** ON THIS SHEET FOR ADDITIONAL INFORMATION.

**WIND PRESSURE NOTES:**

1. WIND PRESSURES SHOWN ARE DETERMINED PER IBC 2018 SECTION 1609, ASCE 7-16 CHAPTER 26, AND ASCE 7-16 CHAPTER 30 PART 1. ROOF WIND UPLIFT PRESSURES ARE GROSS (WEIGHT OF MATERIAL HAS NOT BEEN DEDUCTED). WIND PRESSURES GIVEN ARE ULTIMATE.
2. PRESSURES SHOWN ARE CALCULATED USING BUILDING EFFECTIVE AREA FOR WORST CASE.
3. EXTERIOR COMPONENTS AND CLADDING SHALL BE DESIGNED FOR WORST CASE WIND LOAD PRESSURES SHOWN. ALTERNATIVELY, WIND LOADS MAY BE DETERMINED DIRECTLY FROM THE PROVISIONS OF THE IBC 2018/ ASCE 7-16 SECTIONS NOTED ABOVE USING THE WIND LOAD CRITERIA IN THE GENERAL NOTES.
4. INWARD PRESSURES ACT TOWARD THE BUILDING (POSITIVE), OUTWARD PRESSURES ACT AS A SUCTION ON THE BUILDING SURFACE (NEGATIVE).

## 1 COMPONENTS AND CLADDING WIND PRESSURE DIAGRAM - WALLS

SCALE: 3/4" = 1'-0"




**ROOF PRESSURES**

| | |
|---|---|
| 1' | -20.9 PSF<br>+9.3 PSF |
| 1 | -39.3 PSF<br>+9.3 PSF |
| 2 | -47.8 PSF<br>+9.3 PSF |
| 3 | -65.2 PSF<br>+9.3 PSF |

**NOTES:**
1. REFERENCE ASCE 7-16 FIGURE 30.3-2A
2. SEE **WIND PRESSURE NOTES** ON THIS SHEET FOR ADDITIONAL INFORMATION.

## 2 COMPONENTS AND CLADDING WIND PRESSURE DIAGRAM - ROOFS

SCALE: 3/4" = 1'-0"







**FRONT ROOF OVERHANG PRESSURES APPLIED TO TOP SURFACE**

| | |
|---|---|
| 1' | -34.9 PSF |
| 1 | -34.9 PSF |
| 2 | -45.5 PSF |
| 3 | -59.3 PSF |

**NOTES:**
1. REFERENCE ASCE 7-16 FIGURE 30.9-1 AND FIGURE 30.3-2A WITH ASSOCIATED NOTES
2. SEE **WIND PRESSURE NOTES** ON THIS SHEET FOR ADDITIONAL INFORMATION.

## 3 COMPONENTS AND CLADDING WIND PRESSURE DIAGRAM - FRONT ROOF OVERHANG

SCALE: 3/4" = 1'-0"

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**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
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| Drawn By: | AM |
| Checked by: | TD |

Revisions

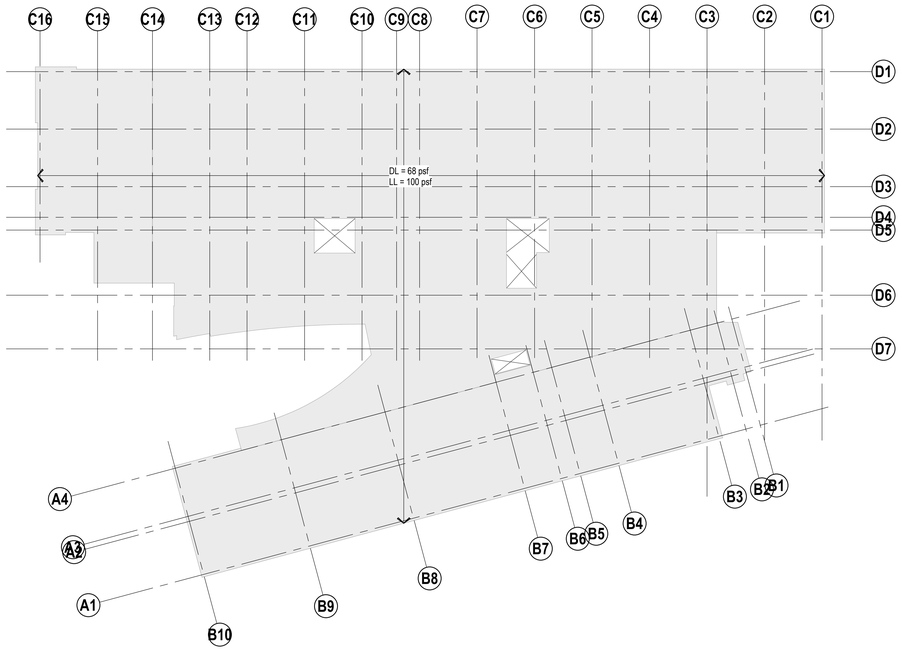
| Date | Description |
|---|---|
| 1.30.23 | IFC Revisions |

LOAD DIAGRAMS

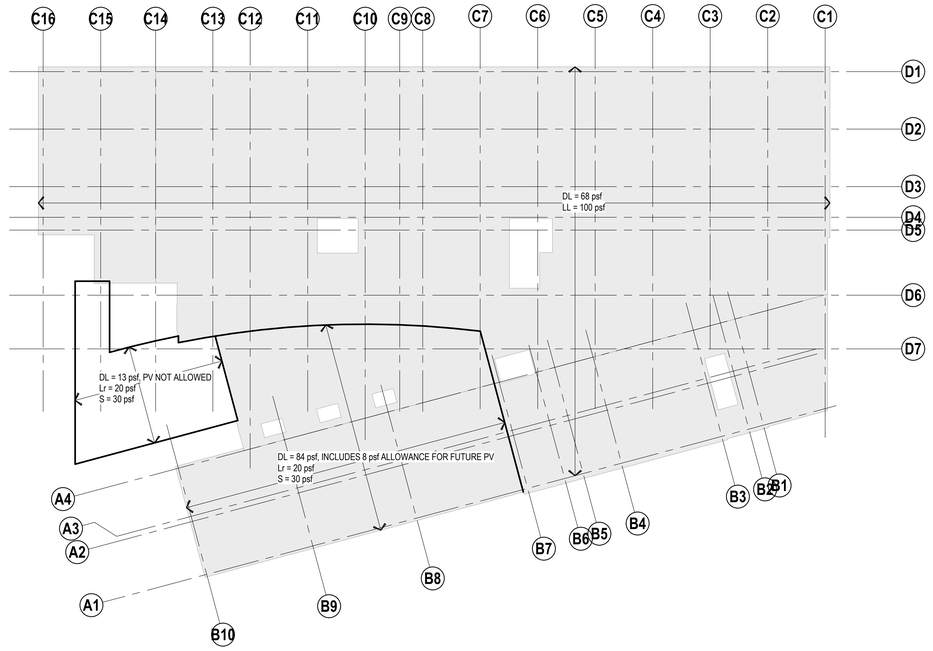
**S501**

**IFC SET**

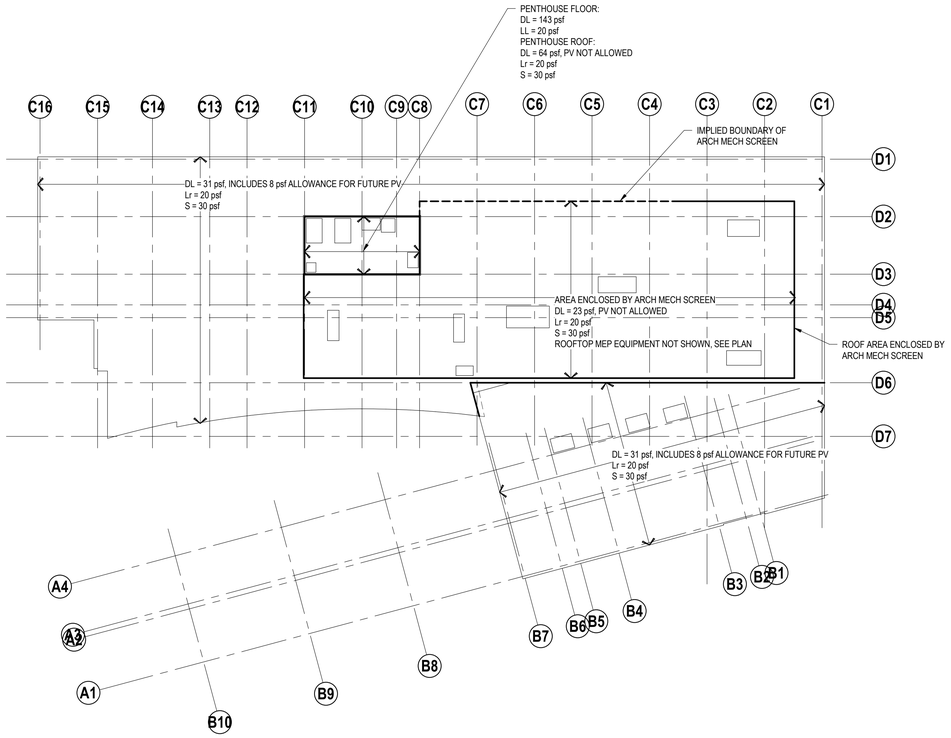
PRCNC20221036




1 LEVEL 2 LOAD MAP
SCALE: 1/16" = 1'-0"




2 LEVEL 3 LOAD MAP
SCALE: 1/16" = 1'-0"




3 ROOF LOAD MAP
SCALE: 1/16" = 1'-0"

**LOAD MAP NOTES:**

DL = DEAD LOAD
LL = LIVE LOAD
Lr = ROOF LIVE LOAD
S = SNOW LOAD
PV = FUTURE PHOTOVOLTAIC PANEL LOAD ALLOWANCE, NOTE 5

1. SEE S001 FOR ADDITIONAL LOADS.
2. SEE PLANS FOR MEP EQUIPMENT MAX WEIGHTS.
3. SEE S501 FOR WIND LOAD DIAGRAMS.
4. LIVE LOAD REDUCTION IS APPLIED AS ALLOWED BY THE REFERENCED CODE
5. THE SHOWN PV PANEL LOAD ALLOWANCES ARE INCLUDED IN THE TOTAL DEAD LOAD SHOWN.
6. DEAD LOADS DO NOT INCLUDE SELF WEIGHT OF FLOOR/ROOF FRAMING MEMBERS.

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LOAD MAPS

S502

IFC SET

PRCNC20221036

# ARCHITECTURAL ABBREVIATIONS

| | |
|---|---|
| A | |
| A/C | AIR CONDITIONING |
| AB | ALUMINUM BASE, ANCHOR BOLT |
| ABV | ABOVE |
| ACC | ACCESS, ACCESSIBLE |
| ACI | AMERICAN CONCRETE INSTITUTE |
| ACOUS | ACOUSTICAL |
| ACT | ACOUSTICAL CEILING TILE |
| AD | AREA DRAIN |
| ADD | ADDENDUM |
| ADD'T | ADDITIONAL |
| ADH | ADHESIVE |
| ADJ | ADJACENT |
| ADJST | ADJUSTABLE |
| ADMIN | ADMINISTRATIVE |
| AF | ACCESS FLOORING |
| AFF | ABOVE FINISH FLOOR |
| AGG | AGGREGATE |
| AHJ | AUTHORITY HAVING JURISDICTION |
| AHU | AIR HANDLING UNIT |
| ALT | ALTERNATE |
| ALUM | ALUMINUM |
| AMD | ACOUSTICAL METAL DECK |
| ANOD | ANODIZED |
| AP | ACOUSTICAL PANE |
| APLD | APPLIED |
| APPROX | APPROXIMATE |
| ARCH | ARCHITECT, ARCHITECTURAL |
| ASB | ASBESTOS |
| ASPH | ASPHALT |
| ASSY | ASSEMBLY |
| ATD | AUTOMATIC TOWEL DISPENSE |
| ATTEN | ATTENUATION |
| AUTO | AUTOMATIC |
| AVG | AVERAGE |
| B | |
| BATT | BLANKET INSULATION |
| BCS | BABY CHANGING STATION |
| BD | BOARD |
| BDI | BOARD INSULATION |
| BEL | BELOW |
| BET | BETWEEN |
| BIT | BITUMINOUS |
| BLDG | BUILDING |
| BLK | BLOCK |
| BLKG | BLOCKING |
| BOD | BOTTOM OF DECK |
| BOS | BOTTOM OF STEEL |
| BPL | BEARING PLATE |
| BR&S | BACKER ROD AND SEALANT |
| BRG | BEARING |
| BRK | BRICK |
| BSMT | BASEMENT |
| BTM | BOTTOM |
| BVL | BEVELED |
| C | |
| CAB | CABINET |
| CAP | CAPACITY |
| CB | CATCH BASIN |
| CBU | CEMENTITIOUS BACKER UNIT |
| CC | CUBICAL CURTAIN |
| CD | CONSTRUCTION DOCUMENTS, COUNTER DOOR |
| CDS | CASEWORK DESIGN SERIES |
| CEM | CEMENT |
| CER | CERAMIC |
| CFL | COUNTERFLASHING |
| CFM | CUBIC FEET PER MINUTE |
| CG | CORNER GUAR |
| CH | COAT HOO |
| CHAM | CHAMFER |
| CI | CAST IRON |
| CIP | CAST-IN-PLACE |
| CIR | CIRCLE |
| CIRC | CIRCUMFERENCE, CIRCULAR |
| CJ | CONTROL JOINT |
| CKT | CRICKET |
| CL | CENTERLINE |
| CLF | CHAINLINK FENCE |
| CLG | CEILING |
| CLN | CLEAN |
| CLO | CLOSET |
| CLR | CLEAR, CLEARANCE |
| CLRM | CLASSROOM |
| CLS | CLOSURE |
| cm | CENTIMETER |
| CMP | COMPOSITE METAL PANEL |
| CMT | CERAMIC MOSAIC TILE |
| CMU | CONCRETE MASONRY UNIT |
| CO | CLEAN OUT |
| COL | COLUMN |
| COM | COMMUNICATION |
| COMB | COMBINATION |
| COMP | COMPOSITION, COMPOSITE |
| CONC | CONCRETE |
| CONN | CONNECTION |
| CONST | CONSTRUCTION |
| CONT | CONTINUOUS |
| CONTR | CONTRACTOR |
| COORD | COORDINATE |
| CORR | CORRIDOR |
| CPT | CARPET |
| CPTA | CARPET AREA RUG |
| CPTT | CARPET TILE |
| CR | COLD ROLLED |
| CRS | COURSE |
| CSG | CASING |
| CT | CERAMIC TILE |
| CTB | CERAMIC TILE BASE |
| CTR | COUNTER |
| CTSK | COUNTERSUNK |
| CU | CUBIC |
| CUST | CUSTODIAN |
| CW | COLD WATER, CURTAIN WALL |
| CWK | CASEWORK |

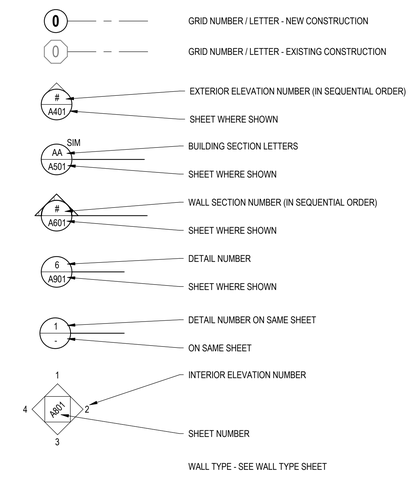
| | |
|---|---|
| D | |
| D | DEEP, DEPTH |
| DBL | DOUBLE |
| DD | DESIGN DEVELOPMENT |
| DE | DRY ERASE WALLCOVERING |
| DEMO | DEMOLISH, DEMOLITION |
| DEP | DEPRESSED |
| DET | DETAIL |
| DF | DRINKING FOUNTAIN |
| DIAG | DIAGONAL |
| DIAM | DIAMETER |
| DIM | DIMENSION |
| DIV | DIVISION |
| DL | DEAD LOAD |
| DMP | DAMPER |
| DMT | DEMOUNTABLE |
| DN | DOWN |
| DP | DAMPPROOFING |
| DR | DOOR |
| DS | DOWNSPOUT |
| DT | DRAIN TILE |
| DW | DRYWELL, DISH WASHER |
| DWG | DRAWING |
| DWL | DOWEL |
| DWR | DRAWER |
| E | |
| (E) | EXISTING |
| E | EAST |
| EA | EACH |
| EB | EXPANSION BOLT |
| EFS | EXTERIOR FINISH SYSTEM |
| EIFS | EXTERIOR INSULATED FINISH SYSTEM |
| EL | ELEVATION |
| ELAST | ELASTOMERIC |
| ELEC | ELECTRICAL |
| ELEV | ELEVATOR |
| EMER | EMERGENCY |
| ENC | ENCLOSURE |
| ENT | ENTRANCE |
| EP | EPOXY PAINT |
| EQ | EQUAL |
| EQP | EQUIPMENT |
| ESC | ESCUTCHEON |
| EW | EACH WAY |
| EXCAV | EXCAVATE |
| EXH | EXHAUST |
| EXP | EXPANSION |
| EXT | EXTERIOR |
| F | |
| FA | FIRE ALARM OR FRESH AIR |
| FAB | FABRIC |
| FAF | FLUID APPLIED FLASHING |
| FAI | FRESH AIR INTAKE |
| FB | FACE BRICK |
| FD | FLOOR DRAIN |
| FE | FIRE EXTINGUISHER |
| FEC | FIRE EXTINGUISHER CABINET |
| FF | FACTORY FINISH |
| FFE | FINISH FLOOR ELEVATION |
| FGL | FIBERGLASS |
| FH | FIRE HYDRANT |
| FHS | FIRE HOSE STATION |
| FIN | FINISH |
| FL | FLOWLINE |
| FLR | FLOOR |
| FLUR | FLUORESCENT |
| FLX | FLEXIBLE |
| FND | FOUNDATION |
| FO | FINISHED OPENING |
| FOC | FACE OF CONCRETE |
| FOM | FACE OF MASONRY |
| FOS | FACE OF STUDS |
| FP | FIREPROOF, FLAGPOLE |
| FR | FRAMING |
| FRC | FIRE RETARDANT COATING |
| FRP | FIBERGLASS REINFORCED PANEL |
| FRPH | FIBERGLASS REINFORCED PHENOLIC PANEL |
| FSB | FREE STANDING BENCH |
| FSS | FOLDING SHOWER SEAT |
| FT | FOOT OR FEET |
| FTG | FOOTING |
| FUR | FURRING |
| FUS | FOLDING UTILITY SHELF |
| G | |
| GA | GAUGE, GAGE |
| GAL | GALLON |
| GALV | GALVANZIED |
| GB | GRAB BAR |
| GC | GENERAL CONTRACTOR, GROUND CONCRETE |
| GF | GROUND FACE |
| GI | GALVANIZED IRON |
| GL | GLASS OR GLAZING |
| GLB | GLUED/LAMINATED BEAM |
| GO | GLAZED OPENING |
| GP | GALVANIZED PIPE |
| GR | GRADE, GRADING |
| GSS | GALVANIZED SHEET STEEL |
| GT | GROUT, GLASS TILE |
| GVL | GRAVEL |
| GWB | GYPSUM WALL BOARD |
| GYP | GYPSUM |
| H | |
| HB | HOSE BIB |
| HC | HOLLOW CORE, HANDICAP OR HANDICAPPED |
| HD | HEAVY DUTY OR HARD, HAND DRYER |
| HDBD | HARDBOARD |
| HDR | HEADER |
| HDW | HARDWARE |
| HDWD | HARDWOOD |
| HM | HOLLOW METAL |
| HORIZ | HORIZONTAL |
| HPC | HIGH PERFORMANCE COATING |
| HR | HOUR |
| HSS | HOLLOW STRUCTURAL SECTION |
| HT | HEIGHT |
| HTG | HEATING |
| HTR | HEATER |
| HVAC | HEATING/VENTILATION/AIR CONDITIONING |
| HW | HOT WATER |
| HZ | HERTZ |

| | |
|---|---|
| I | |
| IBC | INTERNATIONAL BUILDING CODE |
| ID | INSIDE DIAMETER |
| IE | INVERT ELEVATION |
| IF | INSIDE FACE |
| IGU | INSULATED GLAZING UNIT |
| IMP | INSULATED METAL PANEL |
| INCAN | INCANDESCENT |
| INCL | INCLUDE |
| INFO | INFORMATION |
| INSUL | INSULATION |
| INT | INTERIOR |
| INTG | INTEGRATED |
| J | |
| JB | JUNCTION BOX |
| JF | JOINT FILLER |
| JST | JOIST |
| JT | JOINT |
| K | |
| KB | KNOX BOX |
| KD | KNOCKED DOWN OR KILN DRIED |
| kg | KILOGRAM |
| KIT | KITCHEN |
| KO | KNOCKOUT |
| KPL | KICKPLATE |
| L | |
| L | LENGTH, LONG, ANGLE |
| L&P | LATH & PLASTER |
| LAB | LABORATORY |
| LAM | LAMINATE |
| LAV | LAVATORY |
| LB | LAG BOLT OR POUND |
| LBL | LABEL |
| LIB | LIBRARY |
| LIN | LINOLEUM |
| LIN | LINEAL, LINEAR |
| LKR | LOCKER |
| LL | LIVE LOAD |
| LMB | LIQUID MARKER BOARD |
| LMBP | LIQUID MARKER BOARD PAINT |
| LNDG | LANDING |
| LPT | LOW POINT |
| LT | LIGHT |
| LTL | LINTEL |
| LVR | LOUVER |
| LW | LIGHT WEIGHT |
| LWP | LINEAR WOOD PANEL |
| M | |
| m | METER |
| MAINT | MAINTENANCE |
| MAS | MASONRY |
| MAT | MATERIAL |
| MAX | MAXIMUM |
| MBR | MEMBRANE |
| MCT | SUSPENDED ACOUSTICAL METAL |
| MD | METAL DECK |
| MDF | MEDIUM DENSITY FIBERBOARD |
| MECH | MECHANICAL |
| MED | MEDIUM |
| MEZZ | MEZZANINE |
| MFR | MANUFACTURER |
| MH | MANHOLE, MOP HOLDER |
| MIN | MINIMUM |
| MIR | MIRROR |
| MISC | MISCELLANEOUS |
| MLD | MOLDING |
| mm | MILLIMETER |
| MMG | MAGNETIC MARKER GLASS |
| MMR | MANUFACTURED METAL ROOFING & SIDING |
| MO | MASONRY OPENING |
| MOD | MODULAR |
| MP | METAL PANEL |
| MPI | MASTER PAINTER'S INSTITUTE |
| MR | MOISTURE RESISTANT |
| MTD | MOUNTED |
| MTL | METAL |
| MULL | MULLION |
| MW | MICROWAVE |
| MWK | MILLWORK |
| N | |
| N | NORTH |
| N/A | NOT APPLICABLE |
| NAAWS | NORTH AMERICAN ARCHITECTURAL WOODWORKING STANDARDS |
| NB | NO BASE |
| NIC | NOT IN CONTACT |
| NO (#) | NUMBER |
| NOM | NOMINAL |
| NR | NOISE REDUCTION |
| NRC | NOISE REDUCTION COEFFICIENT |
| NTS | NOT TO SCALE |
| O | |
| OA | OVERALL |
| OC | ON CENTER |
| OCD | OVERHEAD COILING DOOR |
| OCG | OVERHEAD COILING GRILLE |
| OD | OUTSIDE DIAMETER, OVERFLOW DRAIN |
| OFCI | OWNER FURNISHED CONTRACTOR INSTALLED |
| OFF | OFFICE |
| OFOI | OWNER FURNISHED OWNER INSTALLED |
| OFS | OVERFLOW SCUPPER |
| OH | OVERHEAD |
| OPNG | OPENING |
| OPP | OPPOSITE, OPERABLE PANEL PARTITION |
| OTA | OPEN TO ABOVE |
| OTS | OPEN TO STRUCTURE |
| OWJ | OPEN-WEB JOIST |
| OZ | OUNCE |

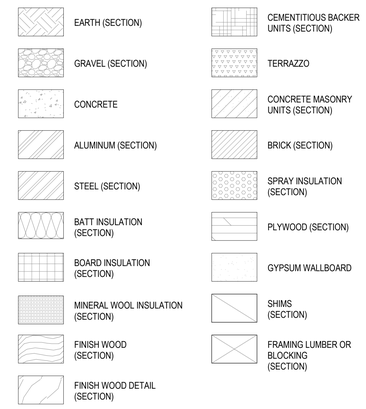
| | |
|---|---|
| P | |
| P | PAINT |
| PAR | PARALLEL |
| PB | PEG BOARD |
| PC | PORTLAND CEMENT, PRECAST CONCRETE |
| PCF | POUNDS PER CUBIC FOOT |
| PCP | PORTLAND CEMENT PLASTER |
| PDR | PAIR OF DOORS |
| PED | PEDESTAL |
| PER | PERIMETER |
| PERF | PERFORATED |
| PERP | PERPENDICULAR |
| PF | PLASTIC FILM |
| PFB | PREFABRICATED |
| PFN | PREFINISHED |
| PK | PARKING |
| PL | PLATE, PROPERTY LINE |
| PLAM | PLASTIC LAMINATE |
| PLBG | PLUMBING |
| PLF | POUNDS PER LINEAL FOOT |
| PM | PERFORATED METAL |
| PNL | PANEL |
| POL | POLISHED |
| PP | POWER POLE |
| PR | PAIR, PHENOLIC RESIN |
| PROP | PROPERTY |
| PS | PROJECTION SCREEN, SEMI-GLOSS PAINT |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| PSL | PARALLEL STRAND LUMBER |
| PT | POINT, PORCELAIN TILE |
| PTD | PAPER TOWEL DISPENSER |
| PTDR | PAPER TOWEL DISPENSER AND RECEPTABLE |
| PTN | PARTITION |
| PTR | PAPER TOWEL RECEPTACLE |
| PVC | POLYVINYL CHLORIDE |
| PVMT | PAVEMENT |
| PWD | PLYWOOD |
| Q | |
| QT | QUARRY TILE |
| QTB | QUARRY TILE BASE |
| QTY | QUANTITY |
| R | |
| R | RADIUS OR RISER |
| RA | RETURN AIR |
| RB | RESILIENT BASE |
| RBR | RUBBER |
| RBT | RABBET |
| RCP | REFLECTED CEILING PLAN |
| RD | ROOF DRAIN |
| RDWY | ROADWAY |
| REBAR | REINFORCING BAR |
| RECP | RECEPTACLE |
| REF | REFERENCE |
| REFR | REFRIGERATOR |
| REINF | REINFORCE |
| REM | REMOVE |
| REQ | REQUIRE(D) |
| RES | RESILIENT |
| RET | RETURN |
| REV | REVISION, REVISED |
| RF | RESILIENT FLOORING |
| RFG | ROOFING |
| RFL | REFLECTIVE |
| RH | ROOF HATCH |
| RH | ROBE HOOK |
| RL | RAILING |
| RM | ROOM |
| RO | ROUGH OPENING |
| RS | ROLLER SHADES |
| RSP | RIGID ENGINEERED RESIN |
| RSTR | RUBBER STAIR TREADS AND RISERS |
| RTU | ROOF TOP UNIT |
| RWL | RAIN WATER LEADER |
| RWR | RECESSED WASTE RECEPTACLE |
| S | |
| S | SOUTH |
| SA | SOUND ABSORPTIVE |
| SAF | SELF ADHEARED FLASHING |
| SAN | SANITARY |
| SAP | SOUND ABSORBING PANELS |
| SAT | SUSPENDED ACOUSTICAL TILE |
| SAW | SUSPENDED ACOUSTICAL WOOD |
| SBLK | SPLASH BLOCK |
| SC | SOLID CORE, SEALED CONCRETE |
| SC&R | SHOWER CURTAIN AND ROD |
| SCD | SEAT COVER DISPENSER |
| SCH | SCHEDULE |
| SD | SOAP DISPENSER, SECTIONAL DOOR, SCHEMATIC DESIGN |
| SDS | SOLID SURFACING |
| SDT | STATIC DISSIPATIVE TILE |
| SECT | SECTION |
| SF | SQUARE FOOT, STOREFRONT |
| SFLR | SUBFLOOR |
| SGWB | SUSPENDED GWB |
| SH | SHELF |
| SHT | SHEET |
| SHTG | SHEATHING |
| SHWR | SHOWER |
| SIM | SIMILIAR |
| SJ | STEEL JOIST |
| SK | SINK |
| SL | SLOPE |
| SLD | SEALED |
| SLV | SLEEVE |
| SM | SHEET METAL |
| SND | SANITARY NAPKIN DISPENSER |
| SNR | SANITARY NAPKIN RECEPTACLE |
| SNT | SEALANT |
| SOG | SLAB ON GRADE |
| SP | SOUNDPROOF |
| SPC | SPACE |
| SPEC | SPECIFICATION(S) |
| SPK | SPEAKER |
| SQ | SQUARE |
| SS | STAINLESS STEEL |

| | |
|---|---|
| ST | STONE, STRUCTURAL TEE |
| STC | SOUND TRANSMISSION CLASS, STAINED CONCRETE |
| STD | STANDARD |
| STG | SEATING |
| STL | STEEL |
| STO | STORAGE |
| STRC | STRUCTURAL |
| SUSP | SUSPENDED |
| SV | SHEET VINYL |
| SYM | SYMMETRICAL |
| SYN | SYNTHETIC |
| SYS | SYSTEM |
| T | |
| T | TREAD |
| T&G | TONGUE & GROOVE |
| TB | TOWEL BAR |
| TC | TOILET COMPARTMENT |
| TEL | TELEPHONE |
| TEMP | TEMPERATURE, TEMPERED, TEMPORARY |
| THK | THICK, THICKNESS |
| THR | THRESHOLD |
| THRU | THROUGH |
| TKBD | TACKBOARD |
| TKS | TACKSTRIP |
| TOB | TOP OF BEAM |
| TOC | TOP OF CURB OR CONCRETE |
| TOF | TOP OF FOOTING |
| TOL | TOLERANCE |
| TOP | TOP OF PARAPET |
| TOS | TOP OF STEEL OR SLAB |
| TOW | TOP OF WALL |
| TP | TELEPHONE POLE |
| TPD | TOILET PAPER DISPENSER |
| TPG | TOPPING |
| TRANSL | TRANSLUCENT |
| TRANSP | TRANSPARENT |
| TSTAT | THERMOSTAT |
| TV | TELEVISION |
| TWB | TREATED WOOD BLOCKING |
| TWC | TACKABLE WALL COVERING |
| TYP | TYPICAL |
| TZ | TERRAZZO |
| U | |
| UC | UNDERCUT, UNDER COUNTER |
| UG | UNDERGROUND |
| UH | UNIT HEATER |
| UNF | UNFINISHED |
| UNO | UNLESS NOTED OTHERWISE |
| UV | UNIT VENTILATOR |
| V | |
| VAR | VARIABLE, VARIES, VARNISH |
| VCT | VINYL COMPOSITION TILE |
| VENT | VENTILATE, VENTILATION, VENTED |
| VERT | VERTICAL |
| VEST | VESTIBULE |
| VG | VERTICAL GRAIN |
| VIF | VERIFY IN FIELD |
| VJ | V-JOINT |
| VNR | VENEER |
| VOL | VOLUME |
| VR | VAPOR RETARDER |
| VRB | VENTILATED RUBBER BASE |
| W | |
| W | WATER, WIDTH OR WEST |
| W/ | WITH |
| W/O | WITHOUT |
| WB | WOOD BASE, WINDOW BLINDS |
| WC | WATER CLOSET, WALL COVERING |
| WC-T | TACKABLE WALL COVERING |
| WD | WOOD |
| WDF | WOOD FLOORING |
| WDP | WOOD PANELING |
| WF | WIDE FLANGE |
| WG | WALL GUARD |
| WIN | WINDOW |
| WMP | WIRE MESH PARTITION |
| WOM | WALK OFF MAT |
| WP | WATERPROOF(ING) |
| WPT | WORKING POINT |
| WR | WATER RESISTANT, WASTE RECEPTACLE |
| WRC | WATER REPELLANT COATING |
| WS | WELD STUD |
| WSCT | WAINSCOT |
| WSTP | WATERSTOP |
| WWF | WELDED WIRE FABRIC |
| X | |
| XFMR | TRANSFORMER |
| Y | |
| YD | YARD |
| " | INCHES |
| # | NUMBER OR POUND |
| % | PERCENT |
| & | AND |
| ' | FOOT |
| * | SEE NOTES |
| - | NONE |
| / | PER |
| @ | AT |
| ± | PLUS OR MINUS |
| Ø | DIAMETER |
| ° | DEGREE |

# REFERENCE SYMBOLS




# MATERIAL SYMBOLS

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9411
REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

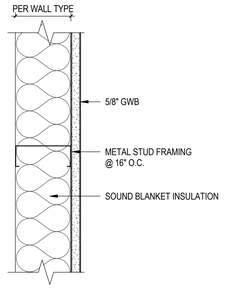
| # | Date | Description |
|---|---|---|

GENERAL ARCHITECTURAL NOTES

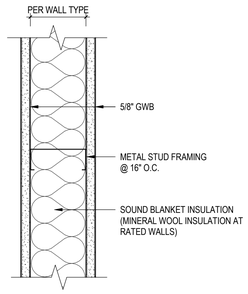
**A001**

IFC SET

PRCNC20221036

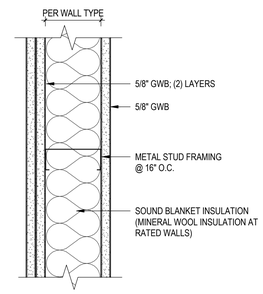



| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S0.01 | | | |
| S2.01 | | | |
| S4.01 | | | |
| S6.01 | | | |
| S8.01 | | | |



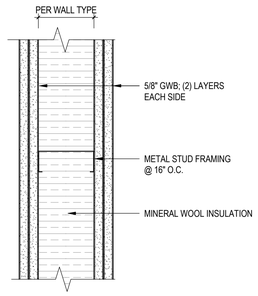

**NOTE:** RATINGS APPLY ONLY WHERE INDICATED IN PLAN; SEE LIFE SAFETY, FLOOR PLANS AND RCPS

| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S4.02 | | | |
| S6.02 | 1 HR | UL U419 | |
| S8.02 | | | |
| S10.02 | | | |



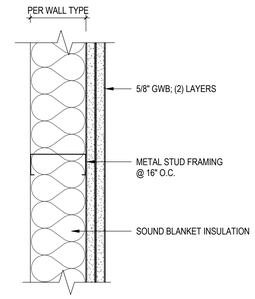

**NOTE:** RATINGS APPLY ONLY WHERE INDICATED IN PLAN; SEE LIFE SAFETY, FLOOR PLANS AND RCPS

| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S6.03 | 1 HR | UL U419 | |
| S8.03 | | | |
| S10.03 | | | |
| S12.03 | | | |

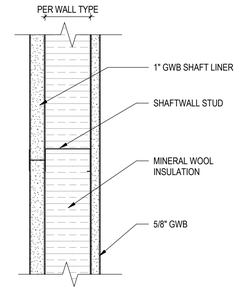



**NOTE:** RATINGS APPLY ONLY WHERE INDICATED IN PLAN; SEE LIFE SAFETY, FLOOR PLANS AND RCPS

| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S6.04 | 2 HR | UL U419 | |

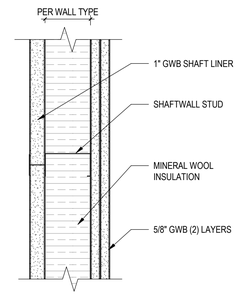



| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S6.05 | | | |




**NOTE:** RATINGS APPLY ONLY WHERE INDICATED IN PLAN; SEE LIFE SAFETY, FLOOR PLANS AND RCPS

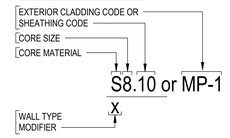
| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| H4.20 | 1 HR | UL U415 | |
| H6.20 | 1 HR | UL U415 | (UL AER-09038 FOR HORIZ.) |




| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| H4.21 | 2 HR | UL U415 | |

## WALL TYPE SYMBOL

**GENERAL WALL TYPES SYMBOL**




**CORE SIZES:**

**STEEL STUD SIZE**:
0 = 7/8"
1 = 1 1/2"
2 = 2 1/2"
4 = 3 5/8"
6 = 6"
8 = 8"
10 = 10"
12 = 12"

**WOOD STUD**:
2 = 1x2 NOMINAL
3 = 2x3 NOMINAL
4 = 2x4 NOMINAL
6 = 2x6 NOMINAL

**CMU / CONC:**
NUMBER INDICATES NOMINAL WIDTH

**CORE MATERIAL:**
S = STEEL STUD
H = SHAFTWALL STUD
W = WOOD STUD
M = CMU BLOCK
C = CONCRETE
E = EXISTING CORE

**SHEATHING CODES:**
00 = CORE ONLY
01-19 = GWB PARTITIONS
20-29 = SHAFT PARTITIONS
30-39 = PLYWOOD PARTITIONS
90-99 = PARAPET

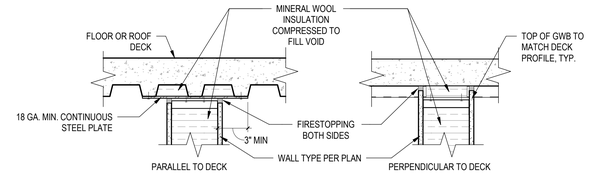
**EXTERIOR CLADDING CODES:**
MP = METAL WALL PANEL
CP = COMPOSITE METAL WALL PANEL
MV = MASONRY VENEER
PH = PHENOLIC
FC = FIBER CEMENT
CP = CEMENT PLASTER

**WALL TYPE MODIFIERS:**
n - NO SOUND BLANKETS OR ACOUSTIC SEALANT REQUIRED
p - PARTIAL HEIGHT; SEE TYPICAL INTERIOR PARTITION HEAD DETAILS FOR PARTIAL HEIGHT BRACING

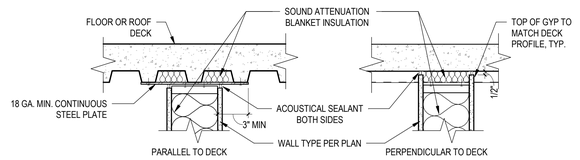
## WALL TYPE GENERAL NOTES

1. ALL INTERIOR WALLS ARE ACOUSTIC PARTITIONS UNLESS INDICATED OTHERWISE BY WALL TYPE MODIFIER.
2. RATINGS INDICATED BY A WALL TYPE ON THIS SHEET ONLY OCCUR WHERE NOTED FLOOR PLANS, RCPS AND LIFE SAFETY PLANS
3. INTERIOR WALL TYPES DO NOT INCLUDE WALL FINISHES. SEE ELEVATIONS AND FINISH PLANS FOR WALL FINISH INFORMATION.
4. SEE FLOOR PLANS, RCPS AND LIFE SAFETY PLANS FOR FIRE RATED ASSEMBLY LOCATIONS
5. ALL FIRE RATED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH TESTING AGENCY REQUIREMENTS. REFER TO SPECIFIC TEST REPORTS FOR REQUIRED COMPONENTS AND ASSEMBLY.
6. WALLS EXTEND TO THE UNDERSIDE OF DECK ABOVE UNLESS INDICATED OTHERWISE BY WALL TYPE MODIFIER. THIS INCLUDES ANY SHEATHING OR INSULATION ASSOCIATED WITH WALL TYPE. SEE TYPICAL INTERIOR PARTITION HEAD DETAILS.
7. PROVIDE TILE BACKER BOARD IN LIEU OF GWB WHERE TILE IS INDICATED. SEE ROOM FINISH PLANS AND INTERIOR ELEVATIONS.
8. PROVIDE SEALANT BELOW BOTTOM TRACKS OF EXTERIOR WALLS.
9. WALL TYPES ABOVE DOOR AND WINDOW OPENINGS TO BE SAME AS INDICATED AT ADJACENT WALL, UNO.
10. WHERE PARTITIONS ARE INDICATED TO BE BOTH FIRE-RATED AND ACOUSTICAL, FIRE-RATED DETAILS SHALL TAKE PRECEDENCE.
11. PROVIDE FOR STRUCTURAL BEAM, JOIST, AND BRIDGING PENETRATIONS THROUGH ACOUSTICAL AND FIRE-RATED PARTITIONS. CUT GWB AROUND ELEMENTS W/ 1/2" JOINT AND SEAL ACCORDINGLY W/ FIRE OR ACOUSTICAL SEALANT.
12. IDENTIFICATION MARK SHALL BE APPLIED TO ALL INSULATION MATERIALS AND INSULATION INSTALLED SUCH THAT THE MARK IS READILY OBSERVABLE DURING INSPECTION.
13. AT STEEL STUD WALLS, BLOCKING/BACKING IS REQUIRED AT THE FOLLOWING LOCATIONS:
    - A. WALL MOUNTED COUNTER BRACKETS
    - B. WALL MOUNTED ACCESSORIES AND EQUIPMENT
    - C. WALL MOUNTED DOORSTOPS
    - D. WALL MOUNTED DOOR HOLD OPEN DEVICES AND/OR CLOSERS
    - E. TOILET ROOM PARTITIONS AND ACCESSORIES
    - F. UPPER CASEWORK CABINETS AND BASE CASEWORK CABINETS AS REQUIRED PER NAAWS
    - G. WALL MOUNTED FLAT PANEL SCREENS SHOWN ON PLANS
    - H. WHITEBOARDS AND TACKBOARDS
    - I. SIGNS HEAVIER TWENTY POUNDS
    - J. PROJECTION SCREENS

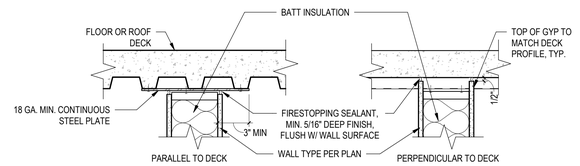
## TYPICAL INTERIOR PARTITION HEAD DETAILS



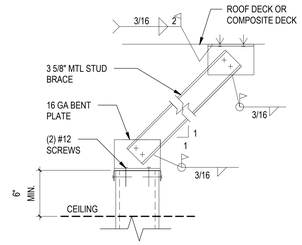

FIRE RATED HEAD DETAIL @ METAL STUDS




ACOUSTICAL HEAD DETAIL @ METAL STUDS




SMOKE PARTITION HEAD DETAIL @ METAL STUDS




PARTIAL HEIGHT PARTITION BRACING

BRACE @ 4' O.C.

1. PROVIDE FOR STRUCTURAL BEAM, JOIST, AND BRIDGING PENETRATIONS THROUGH ACOUSTICAL, SMOKE-, AND FIRE RATED PARTITIONS. CUT GWB AROUND ELEMENTS W/ 1/2" JOINT & SEAL ACCORDINGLY.
2. WHERE PARTITIONS ARE INDICATED TO BE BOTH FIRE-RATED & ACOUSTICAL, FIRE-RATING DETAILS SHALL TAKE PRECEDENCE
3. PROVIDE @ 4'-0" O.C. MAX. SPACING

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-7337 FAX: (206)624-3128

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**
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| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

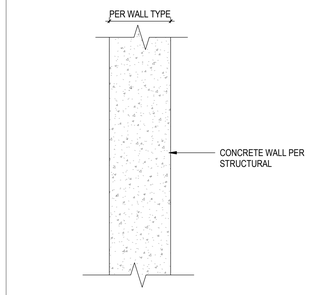
| # | Date | Description |
|---|---|---|

INTERIOR ASSEMBLIES

**A010**

**IFC SET**

PRCNC20221036




| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| C6.00 | | | |
| C8.00 | | | |
| C12.00 | | | |
| C14.00 | | | |
| C16.00 | | | |
| | | | |
| | | | |
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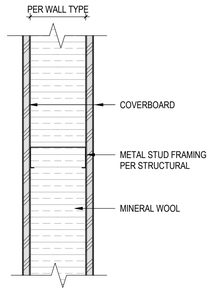


| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S6.92 | | | R21 MIN. |
| S8.92 | | | R25 MIN. |
| | | | |
| | | | |
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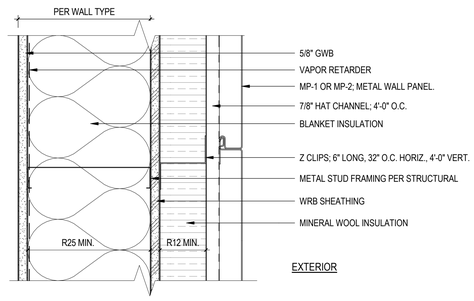


| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S6.MP-2 | | | R21 MIN. |
| S8.MP-1 | | | R25 MIN. |
| S8.MP-2 | | | R25 MIN. |
| | | | |
| | | | |
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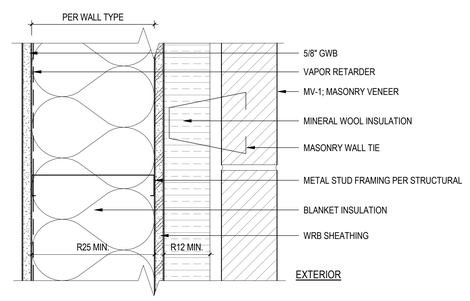
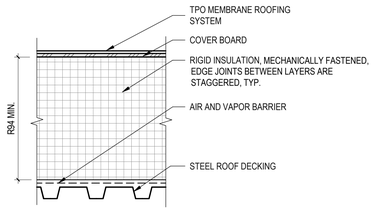


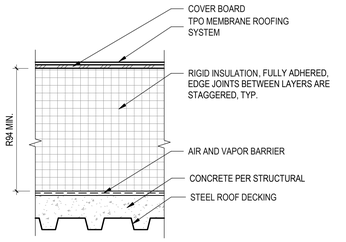

| WALL TYPE | RATING | FIRE ASSEMBLY DESIGN | COMMENTS |
|---|---|---|---|
| S8.MV-1 | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## WALL TYPE GENERAL NOTES

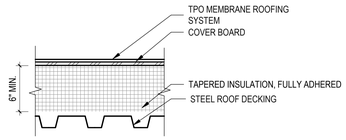
1. ALL INTERIOR WALLS ARE ACOUSTIC PARTITIONS UNLESS INDICATED OTHERWISE BY WALL TYPE MODIFIER.
2. RATINGS INDICATED BY A WALL TYPE ON THIS SHEET ONLY OCCUR WHERE NOTED FLOOR PLANS, RCPS AND LIFE SAFETY PLANS
3. INTERIOR WALL TYPES DO NOT INCLUDE WALL FINISHES. SEE ELEVATIONS AND FINISH PLANS FOR WALL FINISH INFORMATION.
4. SEE FLOOR PLANS, RCPS AND LIFE SAFETY PLANS FOR FIRE RATED ASSEMBLY LOCATIONS
5. ALL FIRE RATED WALLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH TESTING AGENCY REQUIREMENTS. REFER TO SPECIFIC TEST REPORTS FOR REQUIRED COMPONENTS AND ASSEMBLY.
6. WALLS EXTEND TO THE UNDERSIDE OF DECK ABOVE UNLESS INDICATED OTHERWISE BY WALL TYPE MODIFIER. THIS INCLUDES ANY SHEATHING OR INSULATION ASSOCIATED WITH WALL TYPE. SEE TYPICAL INTERIOR PARTITION HEAD DETAILS.
7. PROVIDE TILE BACKER BOARD IN LIEU OF GWB WHERE TILE IS INDICATED. SEE ROOM FINISH PLANS AND INTERIOR ELEVATIONS.
8. PROVIDE SEALANT BELOW BOTTOM TRACKS OF EXTERIOR WALLS.
9. WALL TYPES ABOVE DOOR AND WINDOW OPENINGS TO BE SAME AS INDICATED AT ADJACENT WALL, UNO.
10. WHERE PARTITIONS ARE INDICATED TO BE BOTH FIRE-RATED AND ACOUSTICAL, FIRE-RATED DETAILS SHALL TAKE PRECEDENCE.
11. PROVIDE FOR STRUCTURAL BEAM, JOIST, AND BRIDGING PENETRATIONS THROUGH ACOUSTICAL AND FIRE-RATED PARTITIONS. CUT GWB AROUND ELEMENTS W/ 1/2" JOINT AND SEAL ACCORDINGLY W/ FIRE OR ACOUSTICAL SEALANT.
12. IDENTIFICATION MARK SHALL BE APPLIED TO ALL INSULATION MATERIALS AND INSULATION INSTALLED SUCH THAT THE MARK IS READILY OBSERVABLE DURING INSPECTION.
13. AT STEEL STUD WALLS, BLOCKING/BACKING IS REQUIRED AT THE FOLLOWING LOCATIONS:
    - A. WALL MOUNTED COUNTER BRACKETS
    - B. WALL MOUNTED ACCESSORIES AND EQUIPMENT
    - C. WALL MOUNTED DOORSTOPS
    - D. WALL MOUNTED DOOR HOLD OPEN DEVICES AND/OR CLOSERS
    - E. TOILET ROOM PARTITIONS AND ACCESSORIES
    - F. UPPER CASEWORK CABINETS AND BASE CASEWORK CABINETS AS REQUIRED PER NAAWS
    - G. WALL MOUNTED FLAT PANEL SCREENS SHOWN ON PLANS
    - H. WHITEBOARDS AND TACKBOARDS
    - I. SIGNS HEAVIER TWENTY POUNDS
    - J. PROJECTION SCREENS



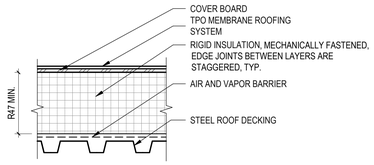

R1 INSULATED ROOF - SLOPED STRUCTURE




R2 INSULATED TAPERED ROOF

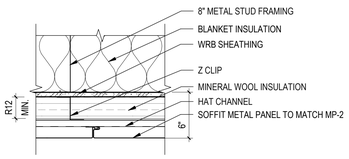



R3 UNINSULATED TAPERED ROOF




R4 INSULATED ROOF - SLOPED STRUCTURE

## ROOF TYPES




S1 INSULATED MP-2 SOFFIT

## EXTERIOR SOFFIT TYPES

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3739 FAX: (206)838-3138

9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

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**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
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|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

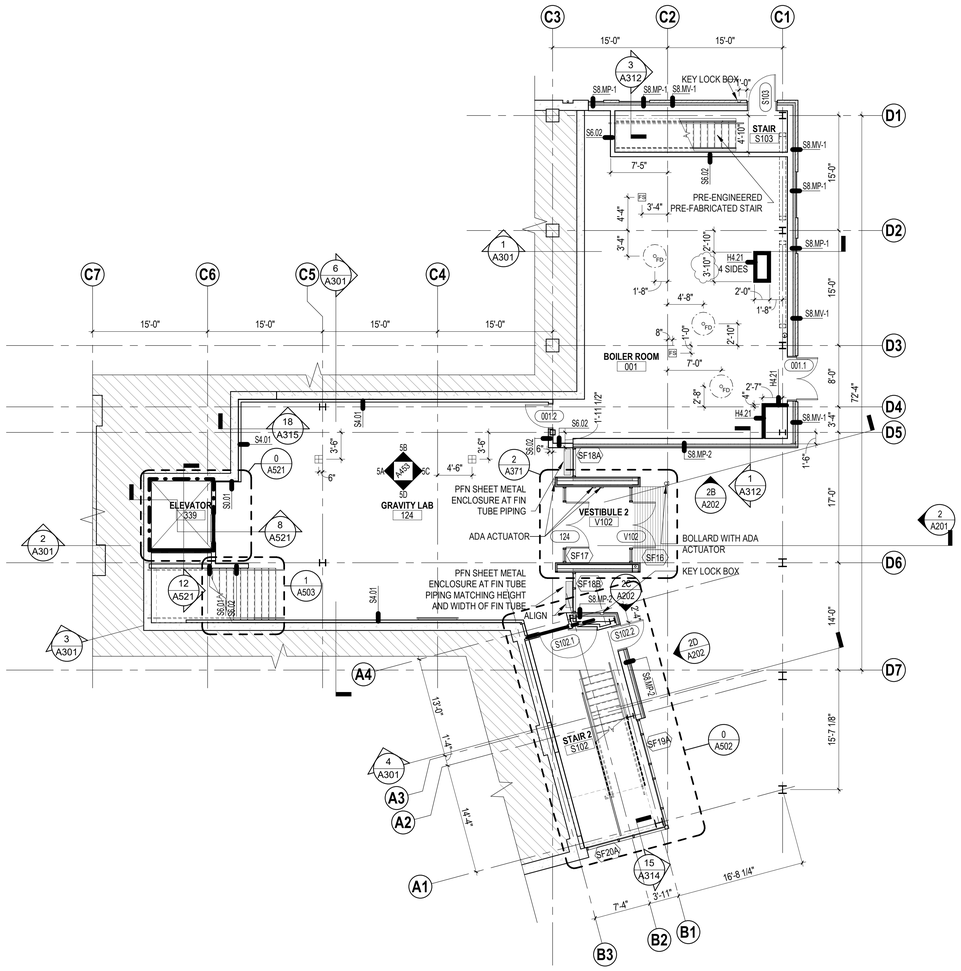
| # | Date | Description |
|---|---|---|

EXTERIOR ASSEMBLIES

**A011**

IFC SET

PRCNC20221036




LEVEL 0 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

## ARCH GENERAL PLAN NOTES

1. SEE SHEET A010 FOR TYPICAL PARTITION HEAD DETAILS
2. REFER TO REFERENCED ENLARGED PLANS FOR ADDITIONAL FLOOR PLAN INFORMATION, i.e. PARTITION TYPES, ROOM NUMBERS, AND DOOR TAGS.
3. SEE STRUCTURAL FOR ALL RECESSED SLAB LOCATIONS TO RECEIVE FLOOR MATERIALS AS SCHEDULED ON FLOOR PATTERN AND FINISH SCHEDULE SHEETS.
4. PROJECT CLOSE OUT DOCUMENTATION IS REQUIRED INCLUDING APPLICABLE CALCULATIONS, WSEC ENVELOPE COMPLIANCE REPORTS, AND FENESTRATION NFRC RATING CERTIFICATES.
5. SEE SHEET A410 FOR EQUIPMENT AND ACCESSORY SCHEDULE.
6. DIMENSIONS ARE TAKEN TO FACE OF STUD.

## LEGEND

FD FLOOR DRAIN
FS FLOOR SINK

## FIRE PROTECTION KEY

1 HOUR FIRE WALL
2 HOUR FIRE WALL
CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3730 FAX: (206)624-3730

9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
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**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
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ISSUED PERMIT
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| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | JL |
| Checked By: | JL |

Revisions

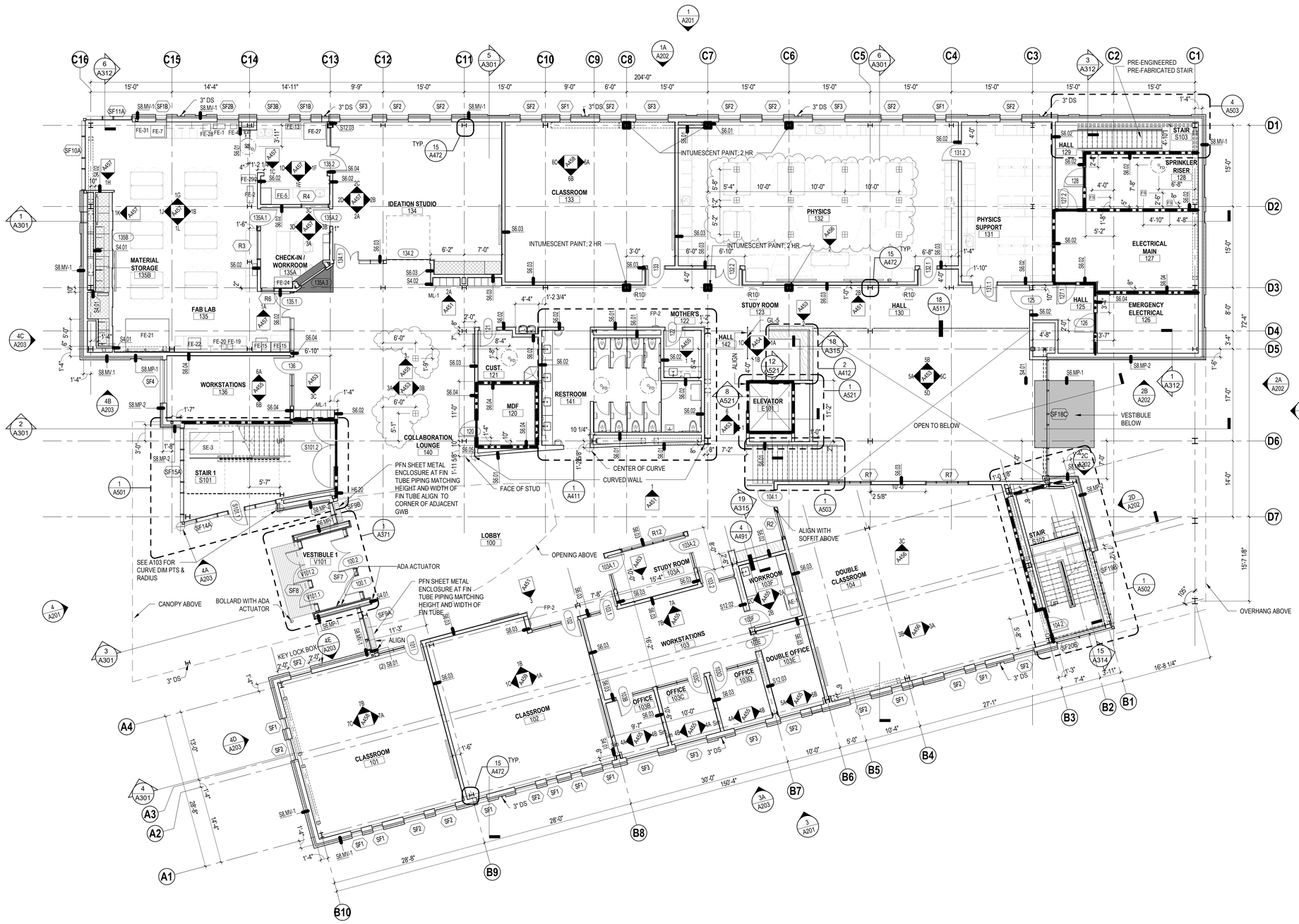
| Date | Description |
|---|---|
| | CA Changes |
| 04/11/23 | RFI-087 |

LEVEL 0 - FLOOR PLAN

**A100**

IFC SET

PRCNC20221036




LEVEL 1 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

## ARCH GENERAL PLAN NOTES

1. SEE SHEET A010 FOR TYPICAL PARTITION HEAD DETAILS
2. REFER TO REFERENCED ENLARGED PLANS FOR ADDITIONAL FLOOR PLAN INFORMATION, i.e. PARTITION TYPES, ROOM NUMBERS, AND DOOR TAGS.
3. SEE STRUCTURAL FOR ALL RECESSED SLAB LOCATIONS TO RECEIVE FLOOR MATERIALS AS SCHEDULED ON FLOOR PATTERN AND FINISH SCHEDULE SHEETS.
4. PROJECT CLOSE OUT DOCUMENTATION IS REQUIRED INCLUDING APPLICABLE CALCULATIONS, WSEC ENVELOPE COMPLIANCE REPORTS, AND FENESTRATION NFRC RATING CERTIFICATES.
5. SEE SHEET A410 FOR EQUIPMENT AND ACCESSORY SCHEDULE.
6. DIMENSIONS ARE TAKEN TO FACE OF STUD.

## LEGEND

FD FLOOR DRAIN
FS FLOOR SINK

## FIRE PROTECTION KEY

1 HOUR FIRE WALL
2 HOUR FIRE WALL
CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE

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**NEW STEM BUILDING**
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Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
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| Checked By: | JL |

Revisions

| Date | Description |
|---|---|
| 12/29/22 | ASI-014 |
| 03/10/23 | ASI-015 |

LEVEL 1 - FLOOR PLAN

**A101**

IFC SET

PRCNC20221036

## ARCH GENERAL PLAN NOTES

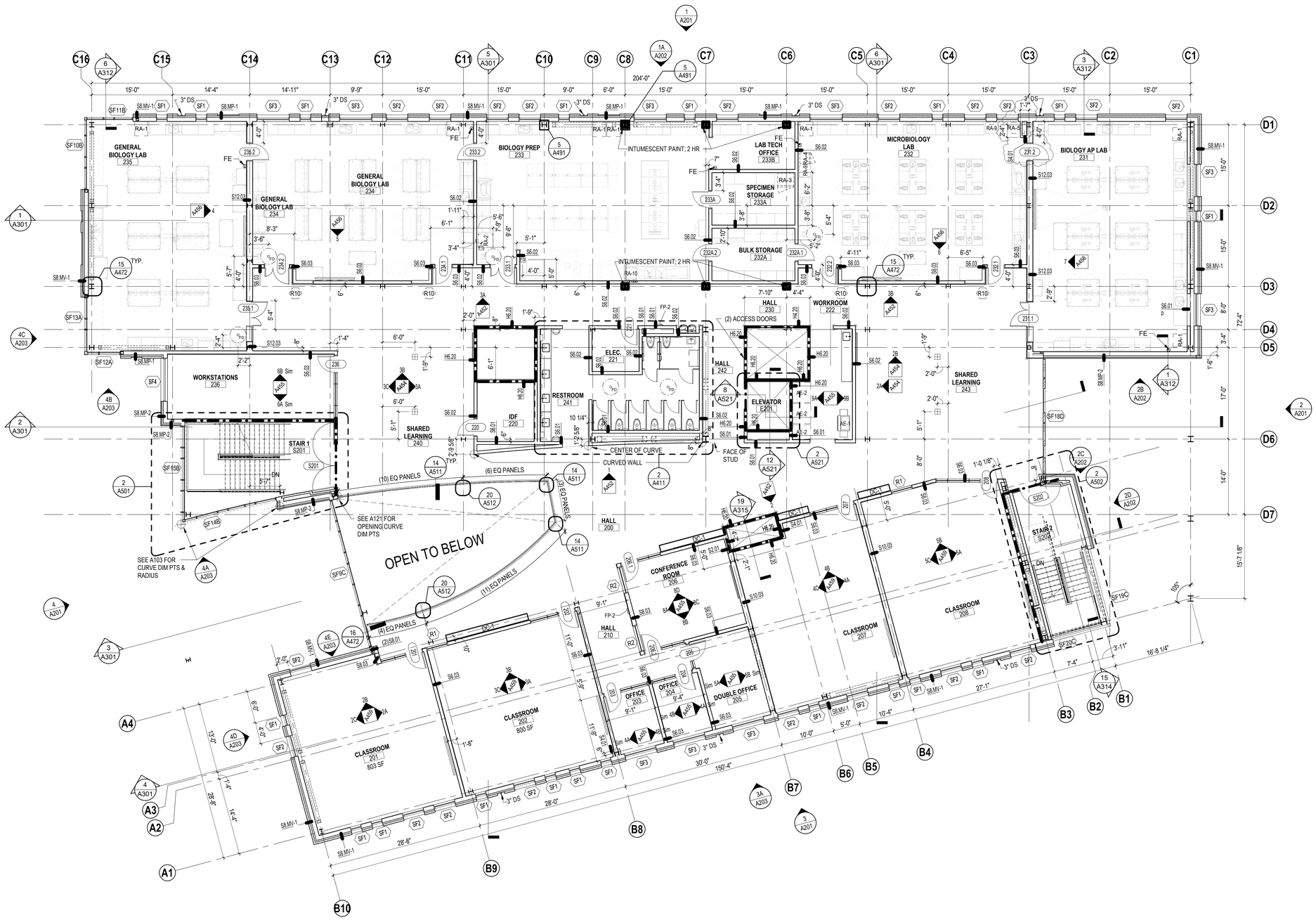
1. SEE SHEET A010 FOR TYPICAL PARTITION HEAD DETAILS
2. REFER TO REFERENCED ENLARGED PLANS FOR ADDITIONAL FLOOR PLAN INFORMATION, i.e. PARTITION TYPES, ROOM NUMBERS, AND DOOR TAGS.
3. SEE STRUCTURAL FOR ALL RECESSED SLAB LOCATIONS TO RECEIVE FLOOR MATERIALS AS SCHEDULED ON FLOOR PATTERN AND FINISH SCHEDULE SHEETS.
4. PROJECT CLOSE OUT DOCUMENTATION IS REQUIRED INCLUDING APPLICABLE CALCULATIONS, WSEC ENVELOPE COMPLIANCE REPORTS, AND FENESTRATION NFRC RATING CERTIFICATES.
5. SEE SHEET A410 FOR EQUIPMENT AND ACCESSORY SCHEDULE.
6. DIMENSIONS ARE TAKEN TO FACE OF STUD.

## LEGEND

- FD — FLOOR DRAIN
- FS — FLOOR SINK

## FIRE PROTECTION KEY

- 1 HOUR FIRE WALL
- 2 HOUR FIRE WALL
- CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE




LEVEL 2 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3730 FAX: (206)624-3730

9411 REGISTERED ARCHITECT BRIAN JEAN BARNHART STATE OF WASHINGTON

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| Drawn By: | JL |
| Checked By: | JL |

Revisions

| Date | Description |
|---|---|
| | CA Changes |
| 05/08/23 | RFI-105 |

LEVEL 2 - FLOOR PLAN

**A102**

IFC SET

PRCNC20221036

## ARCH GENERAL PLAN NOTES

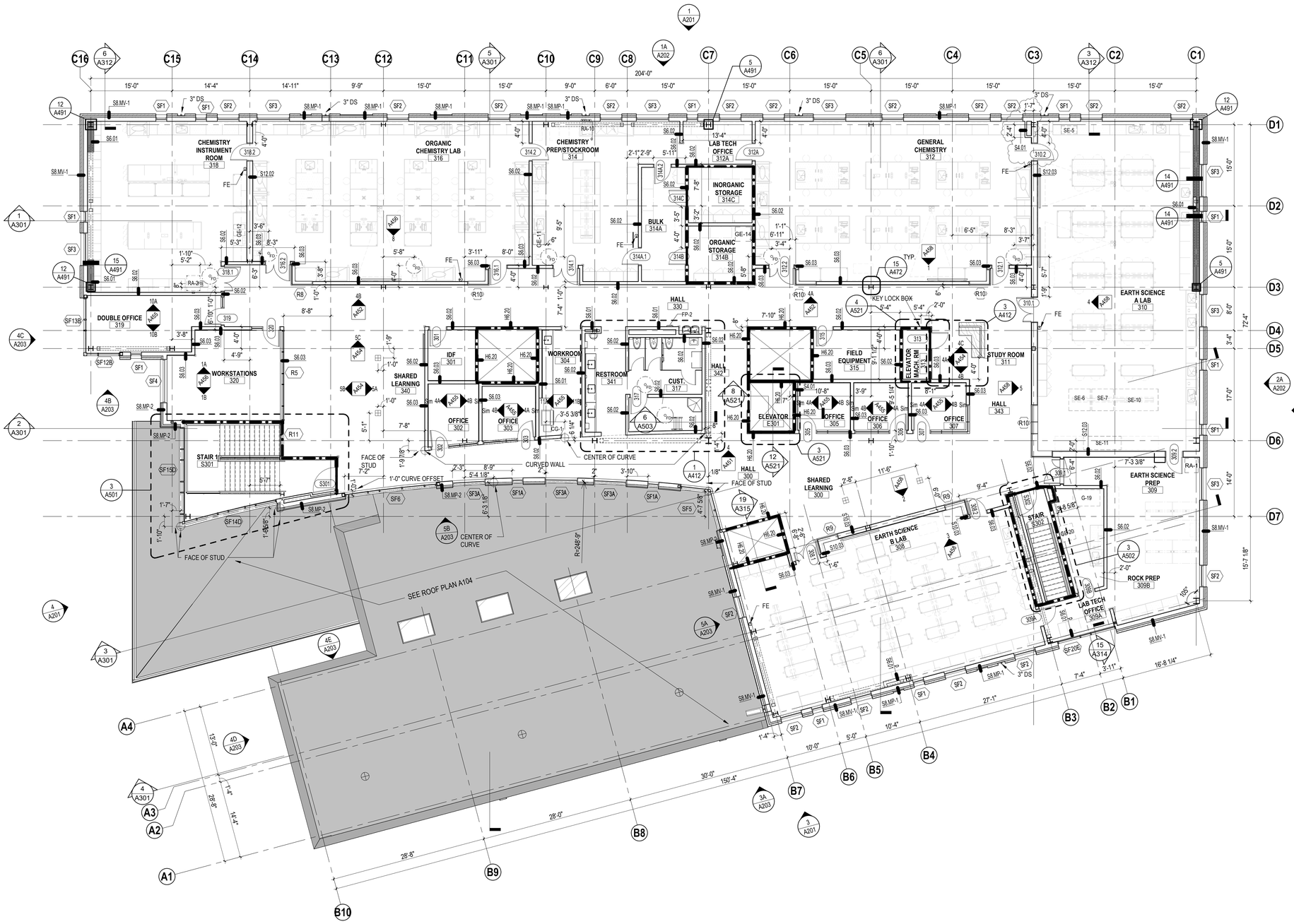
1. SEE SHEET A010 FOR TYPICAL PARTITION HEAD DETAILS
2. REFER TO REFERENCED ENLARGED PLANS FOR ADDITIONAL FLOOR PLAN INFORMATION, i.e. PARTITION TYPES, ROOM NUMBERS, AND DOOR TAGS.
3. SEE STRUCTURAL FOR ALL RECESSED SLAB LOCATIONS TO RECEIVE FLOOR MATERIALS AS SCHEDULED ON FLOOR PATTERN AND FINISH SCHEDULE SHEETS.
4. PROJECT CLOSE OUT DOCUMENTATION IS REQUIRED INCLUDING APPLICABLE CALCULATIONS, WSEC ENVELOPE COMPLIANCE REPORTS, AND FENESTRATION NFRC RATING CERTIFICATES.
5. SEE SHEET A410 FOR EQUIPMENT AND ACCESSORY SCHEDULE.
6. DIMENSIONS ARE TAKEN TO FACE OF STUD.

## LEGEND

- FD — FLOOR DRAIN
- FS — FLOOR SINK

## FIRE PROTECTION KEY

- 1 HOUR FIRE WALL
- 2 HOUR FIRE WALL
- CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE




LEVEL 3 - FLOOR PLAN
SCALE: 1/8" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3739 FAX: (206)624-3730

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

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**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
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|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | JL |
| Checked By: | JL |

Revisions

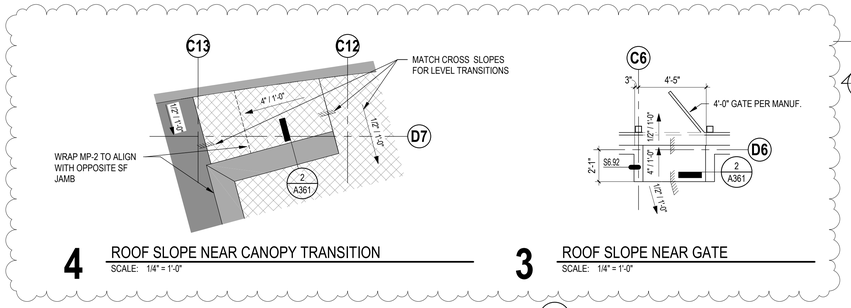
| Date | Description |
|---|---|
| | CA Changes |
| 05/08/23 | RFI-105 |

LEVEL 3 - FLOOR PLAN

**A103**

IFC SET

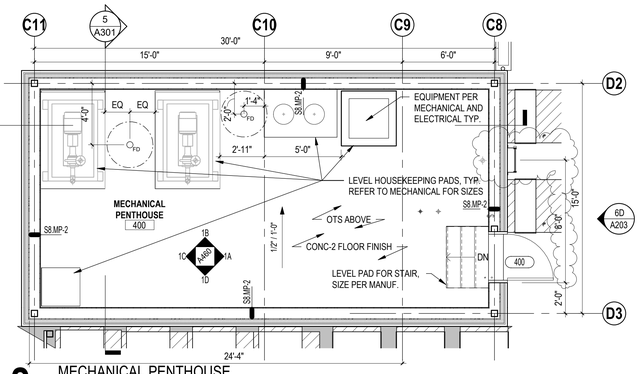
PRCNC20221036




**4** ROOF SLOPE NEAR CANOPY TRANSITION
SCALE: 1/4" = 1'-0"



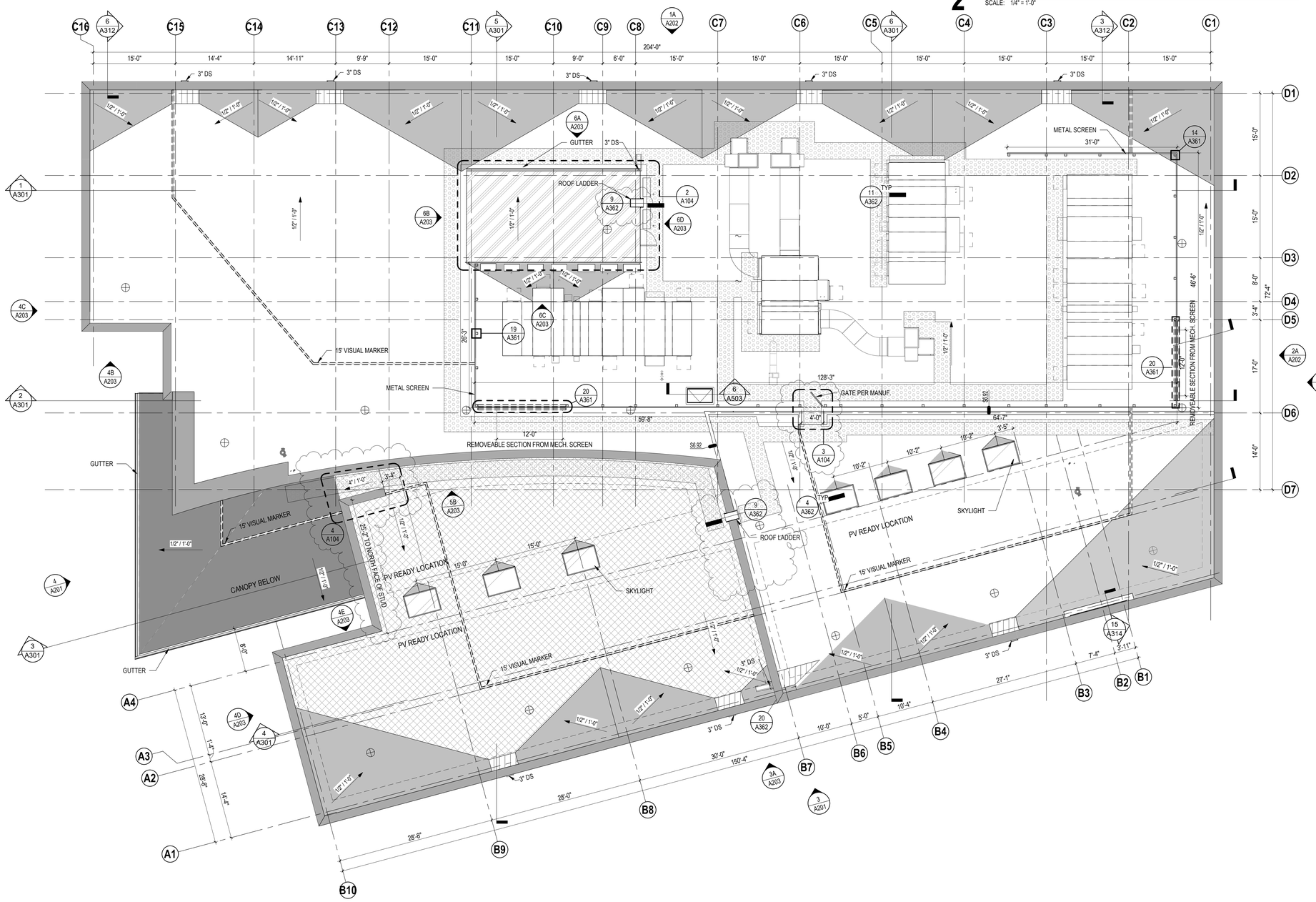

**3** ROOF SLOPE NEAR GATE
SCALE: 1/4" = 1'-0"




**2** MECHANICAL PENTHOUSE
SCALE: 1/4" = 1'-0"

## ARCH ROOF NOTES

1. ROOFTOP EQUIPMENT SHOWN FOR REFERENCE AND COORDINATION ONLY - REFER TO MEP DRAWINGS.
2. SEE EXTERIOR ASSEMBLIES FOR ROOF TYPES.
3. FOR MECHANICAL CURB CONDITIONS SEE 11/A362
4. CRICKETS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE LAYOUT PLAN FOR ARCHITECTS APPROVAL PRIOR TO INSTALLATION.
5. ROOF PENETRATIONS OF ANY KIND SHALL NOT BE LOCATED IN CRICKET VALLEYS.
6. IN ADDITION TO PENETRATIONS SHOWN ON ROOF PLAN, REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL LOCATIONS, TYPES, SIZES AND QUANTITIES. PROVIDE APPROPRIATE FLASHING REQUIRED.
7. PROVIDE SPLASH BLOCKS AT ALL DOWNSPOUTS RELEASING WATER ON LOWER ROOFS. TYP.
8. FOR CONNECTION OF DOWNSPOUTS TO STORM DRAINAGE SYSTEM, SEE CIVIL DRAWINGS.
9. SEE EXTERIOR ELEVATIONS FOR ADDITIONAL ROOFING DETAILS AND ROOF PARAPET HEIGHTS.
10. MAINTAIN 1/4" PER FOOT MINIMUM SLOPE FOR ALL CRICKET VALLEYS.
11. SKYLIGHT THERMAL ASSEMBLY REQUIREMENTS: MAX U-FACTOR 0.43, MAX SHGC 0.35.
12. PROJECT CLOSE OUT DOCUMENTATION IS REQUIRED INCLUDING APPLICABLE CALCULATIONS, WSEC ENVELOPE COMPLIANCE REPORTS, AND FENESTRATION NFRC RATING CERTIFICATES




**1** ROOF PLAN
SCALE: 1/8" = 1'-0"

## ROOF PLAN LEGEND

- R1
- R2
- R3
- R4
- GUTTER, SEE DETAILS FOR TYPE
- 15'-0" VISUAL ROOF EDGE MARKER
- PIPE PENETRATIONS THROUGH ROOF
- EQUIP CURB w/ UPSLOPE CRICKET, MIN CRICKET SLOPE, 1/2" / 1'-0", MIN VALLEY SLOPE 1/4" / 1'-0"
- SKYLIGHT
- CRICKET, MIN CRICKET SLOPE, 1/2" / 1'-0", MIN CRICKET VALLEY SLOPE 1/4" / 1'-0"
- ROOF LADDER
- WALKWAY PADS
- ROOF SCUPPER, RECESSED CONDUCTOR HEAD, & DS
- SPLASHBLOCK, TYP
- FALL PROTECTION ANCHOR POINT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TELEPHONE: (206)624-3797 FAX: (206)624-3178


9411
REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

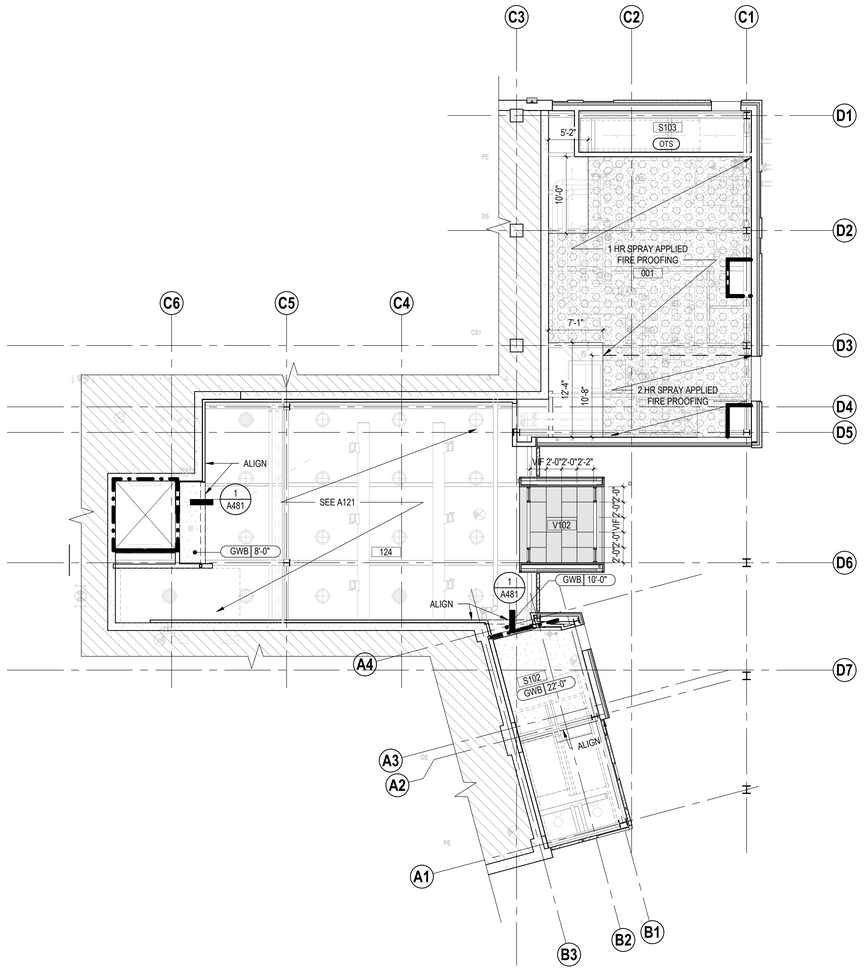
| # | Date | Description |
|---|---|---|
| | 12/01/22 | ASI-006 |

ROOF PLAN

**A104**

IFC SET

PRCNC20221036




## LEVEL 0 - REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

## REFLECTED CEILING PLAN NOTES

1. DIMENSIONS SHOWN ARE TO FINISH FACE.
2. ALL LIGHTING, MECHANICAL, ELECTRICAL, AND FIRE PROTECTION ITEMS SHOWN ARE FOR COORDINATION REFERENCE ONLY. NOT ALL ITEMS ARE SHOWN IN ARCHITECTURAL RCP'S. REFER TO ALL CONSTRUCTION DOCUMENTS FOR COMPLETE SCOPE OF WORK.
3. ANY FIXTURES NOT DIMENSIONED, COORDINATE WITH ARCHITECT BEFORE INSTALLATION.
4. ACCESS DOORS SHALL BE PROVIDED WHERE ACCESS IS REQUIRED FOR OPERATION, INSPECTION AND MAINTENANCE OF CONCEALED EQUIPMENT, DAMPERS, VALVES, CONTROLS, OR SIMILAR DEVICES. COORDINATE WITH MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION.
5. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR CONNECTIONS AND ROUTING ABOVE CEILING.
6. FOR CEILING CONDITIONS AT WINDOWS, ALSO SEE WINDOW HEAD DETAILS.

## FIRE PROTECTION KEY

- 1 HOUR FIRE WALL
- 2 HOUR FIRE WALL
- CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE

## REFLECTED CEILING PLAN MATERIAL & FINISH LEGEND

- GYPSUM BOARD CEILING (GWB)
- RATED CEILING - SEE WALL TYPE H6.20 ON A010
- ACOUSTICAL CEILING TILE (ACT-1)
- ACOUSTICAL CEILING CLOUD (ACT-2)
- ACOUSTICAL CEILING TILE (ACT-3)
- ACOUSTICAL CEILING TILE (ACT-4)
- ACOUSTICAL CEILING BAFFLES (ACB-1)
- WOOD CAP (WD-1)
- SPRAY-ON FIRE PROOFING
- OTA — OPEN TO ABOVE
- OTS — OPEN TO STRUCTURE

## REFLECTED CEILING PLAN LEGEND

- DOWNLIGHT
- RECESSED LIGHT FIXTURE
- PENDANT LIGHT
- SUSPENDED LIGHT FIXTURE
- SUSPENDED INDIRECT LIGHT FIXTURE
- RETURN AIR DIFFUSERS
- SUPPLY AIR DIFFUSERS
- SD — SMOKE DETECTOR
- OCCUPANCY SENSOR
- S — SPEAKER
- P — PHOTO CELL
- HEAT DETECTOR
- EXIT SIGN
- FIRE SPRINKLER HEAD
- F — FIRE ALARM
- CEILING HATCH

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| Checked By: | JL |

Revisions

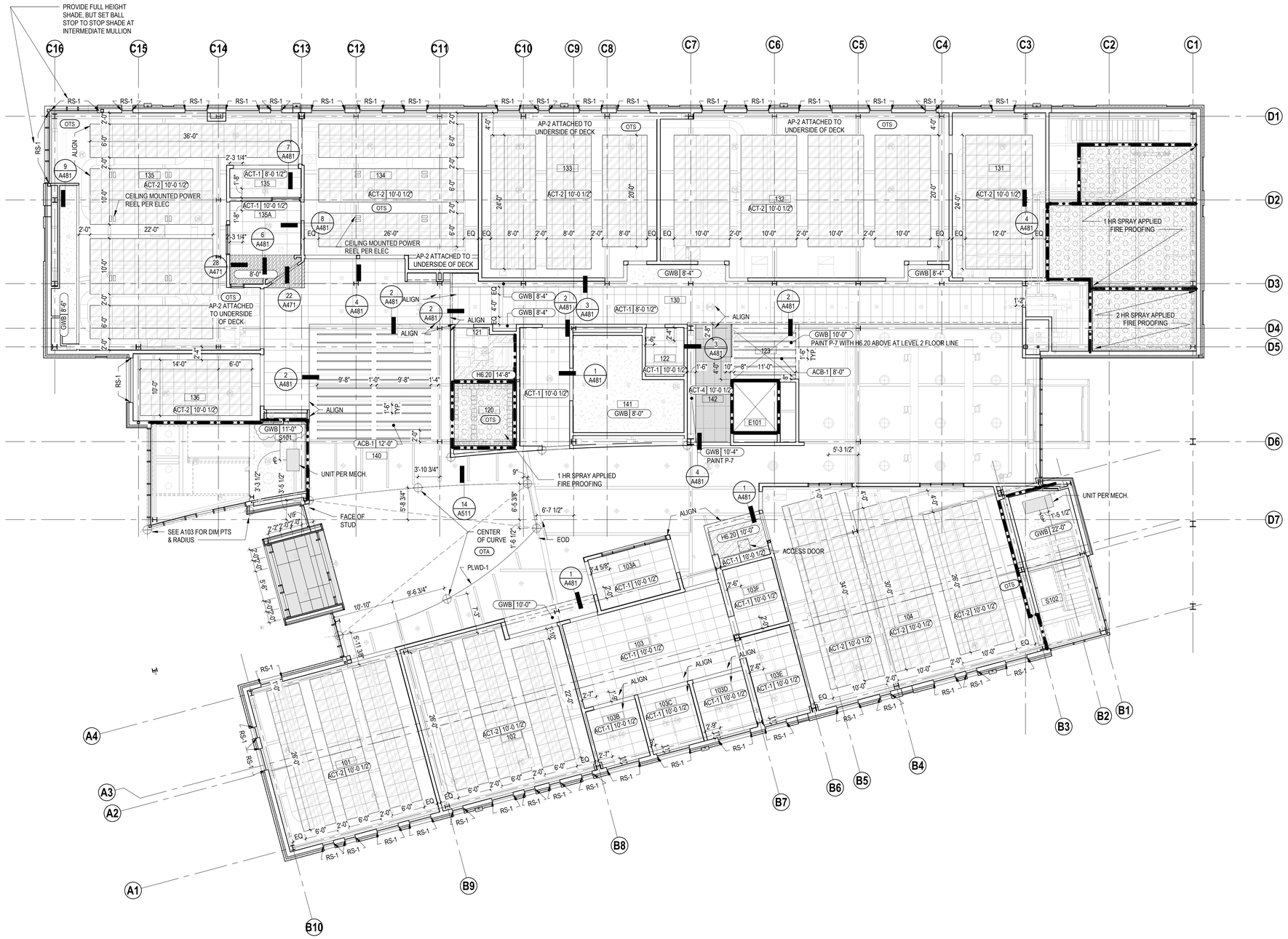
| # | Date | Description |
|---|---|---|

LEVEL 0 - REFLECTED CEILING PLAN

**A120**

IFC SET

PRCNC20221036




LEVEL 1 - REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

## REFLECTED CEILING PLAN NOTES

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5. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR CONNECTIONS AND ROUTING ABOVE CEILING.
6. FOR CEILING CONDITIONS AT WINDOWS, ALSO SEE WINDOW HEAD DETAILS.

## FIRE PROTECTION KEY

- 1 HOUR FIRE WALL
- 2 HOUR FIRE WALL
- CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE

## REFLECTED CEILING PLAN MATERIAL & FINISH LEGEND

- GYPSUM BOARD CEILING (GWB)
- RATED CEILING - SEE WALL TYPE H6.20 ON A010
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- ACOUSTICAL CEILING CLOUD (ACT-2)
- ACOUSTICAL CEILING TILE (ACT-3)
- ACOUSTICAL CEILING TILE (ACT-4)
- ACOUSTICAL CEILING BAFFLES (ACB-1)
- WOOD CAP (WD-1)
- SPRAY-ON FIRE PROOFING
- OTA — OPEN TO ABOVE
- OTS — OPEN TO STRUCTURE

## REFLECTED CEILING PLAN LEGEND

- DOWNLIGHT
- RECESSED LIGHT FIXTURE
- PENDANT LIGHT
- SUSPENDED LIGHT FIXTURE
- SUSPENDED INDIRECT LIGHT FIXTURE
- RETURN AIR DIFFUSERS
- SUPPLY AIR DIFFUSERS
- SD — SMOKE DETECTOR / OCCUPANCY SENSOR
- S — SPEAKER
- P — PHOTO CELL
- HEAT DETECTOR
- EXIT SIGN
- FIRE SPRINKLER HEAD
- F — FIRE ALARM
- CEILING HATCH

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Revisions

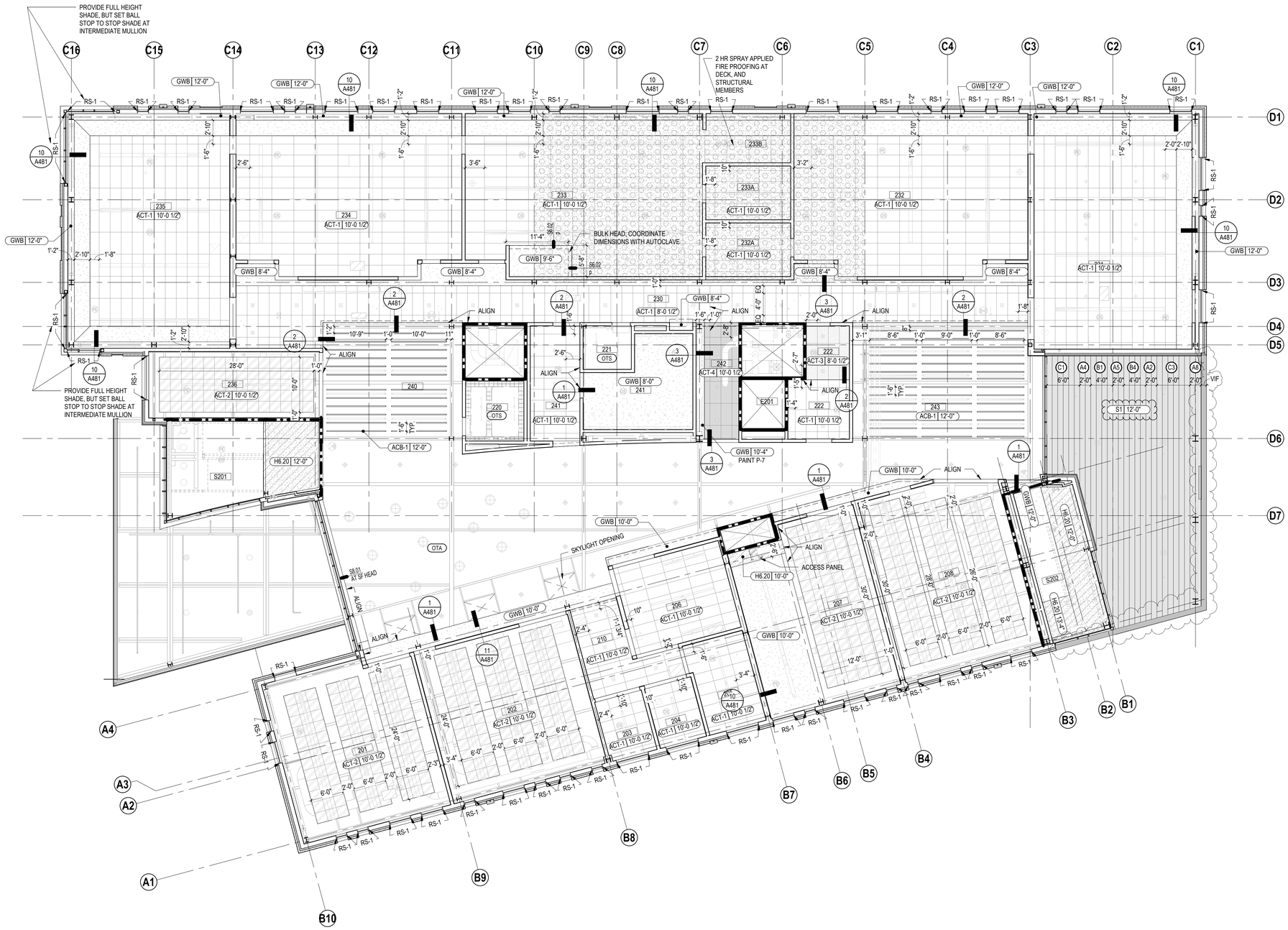
| Date | Description |
|---|---|
| | CA Changes |
| 02/23/23 | RFI-075 |

LEVEL 1 - REFLECTED CEILING PLAN

**A121**

IFC SET

PRCNC20221036




## LEVEL 2 - REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"

## REFLECTED CEILING PLAN NOTES

1. DIMENSIONS SHOWN ARE TO FINISH FACE.
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5. REFER TO MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR CONNECTIONS AND ROUTING ABOVE CEILING.
6. FOR CEILING CONDITIONS AT WINDOWS, ALSO SEE WINDOW HEAD DETAILS.

## FIRE PROTECTION KEY

- 1 HOUR FIRE WALL
- 2 HOUR FIRE WALL
- CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE

## REFLECTED CEILING PLAN MATERIAL & FINISH LEGEND

- GYPSUM BOARD CEILING (GWB)
- RATED CEILING - SEE WALL TYPE H6.20 ON A010
- ACOUSTICAL CEILING TILE (ACT-1)
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- ACOUSTICAL CEILING TILE (ACT-3)
- ACOUSTICAL CEILING TILE (ACT-4)
- ACOUSTICAL CEILING BAFFLES (ACB-1)
- WOOD CAP (WD-1)
- SPRAY-ON FIRE PROOFING
- OTA — OPEN TO ABOVE
- OTS — OPEN TO STRUCTURE

## REFLECTED CEILING PLAN LEGEND

- DOWNLIGHT
- RECESSED LIGHT FIXTURE
- PENDANT LIGHT
- SUSPENDED LIGHT FIXTURE
- SUSPENDED INDIRECT LIGHT FIXTURE
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- SUPPLY AIR DIFFUSERS
- SD — SMOKE DETECTOR / OCCUPANCY SENSOR
- S — SPEAKER
- P — PHOTO CELL
- HEAT DETECTOR
- EXIT SIGN
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- CEILING HATCH

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| Checked By: | JL |

Revisions

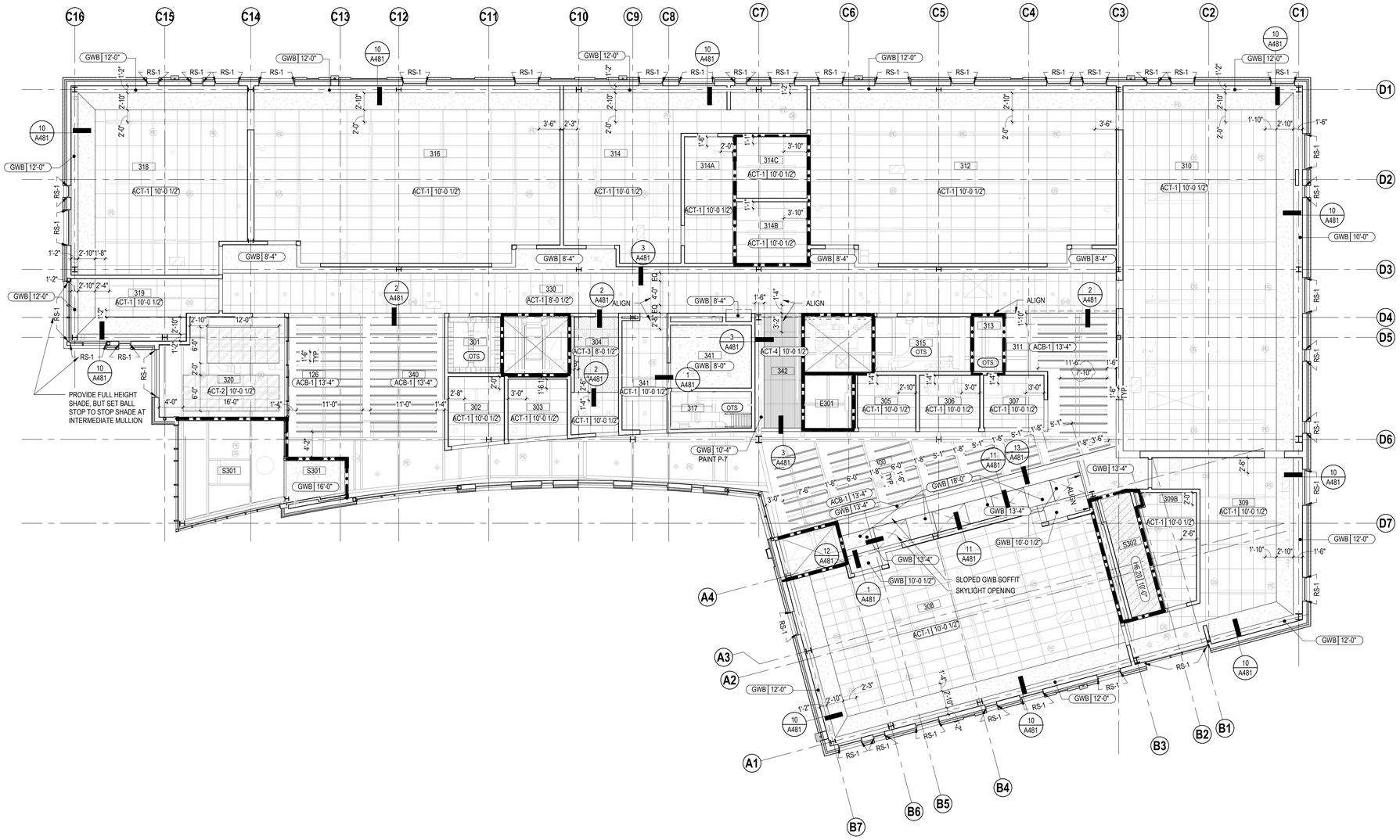
| Date | Description |
|---|---|
| 12/30/2022 | ASI-007 |

LEVEL 2 - REFLECTED CEILING PLAN

**A122**

IFC SET

PRCNC20221036




## LEVEL 3 - REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

## REFLECTED CEILING PLAN NOTES

1. DIMENSIONS SHOWN ARE TO FINISH FACE.
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6. FOR CEILING CONDITIONS AT WINDOWS, ALSO SEE WINDOW HEAD DETAILS.

## FIRE PROTECTION KEY

- 1 HOUR FIRE WALL
- 2 HOUR FIRE WALL
- CONSTRUCTION CAPABLE TO WITHSTAND THE PASSAGE OF SMOKE

## REFLECTED CEILING PLAN MATERIAL & FINISH LEGEND

- GYPSUM BOARD CEILING (GWB)
- RATED CEILING - SEE WALL TYPE H6.20 ON A010
- ACOUSTICAL CEILING TILE (ACT-1)
- ACOUSTICAL CEILING CLOUD (ACT-2)
- ACOUSTICAL CEILING TILE (ACT-3)
- ACOUSTICAL CEILING TILE (ACT-4)
- ACOUSTICAL CEILING BAFFLES (ACB-1)
- WOOD CAP (WD-1)
- SPRAY-ON FIRE PROOFING
- OTA — OPEN TO ABOVE
- OTS — OPEN TO STRUCTURE

## REFLECTED CEILING PLAN LEGEND

- DOWNLIGHT
- RECESSED LIGHT FIXTURE
- PENDANT LIGHT
- SUSPENDED LIGHT FIXTURE
- SUSPENDED INDIRECT LIGHT FIXTURE
- RETURN AIR DIFFUSERS
- SUPPLY AIR DIFFUSERS
- SD — SMOKE DETECTOR / OCCUPANCY SENSOR
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- EXIT SIGN
- FIRE SPRINKLER HEAD
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- CEILING HATCH

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9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

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Revisions

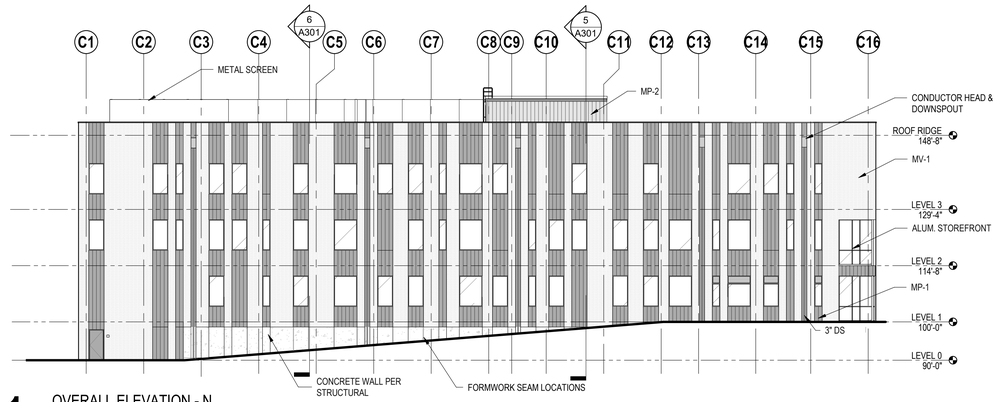
| Date | Description |
|---|---|
| 03/07/2023 | RFI-077 |

LEVEL 3 - REFLECTED CEILING PLAN

**A123**

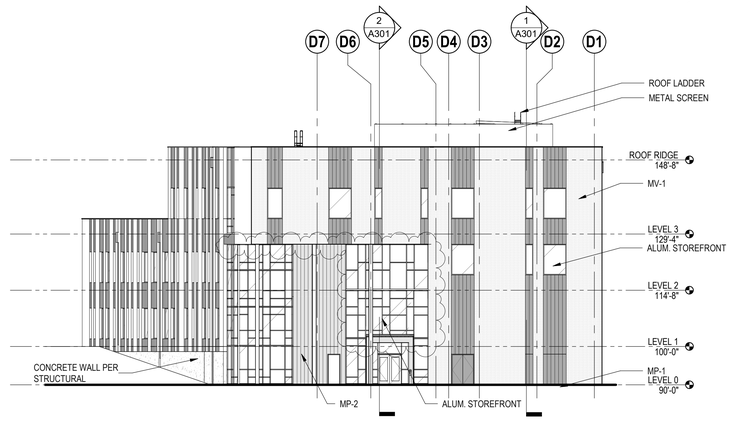
IFC SET

PRCNC20221036



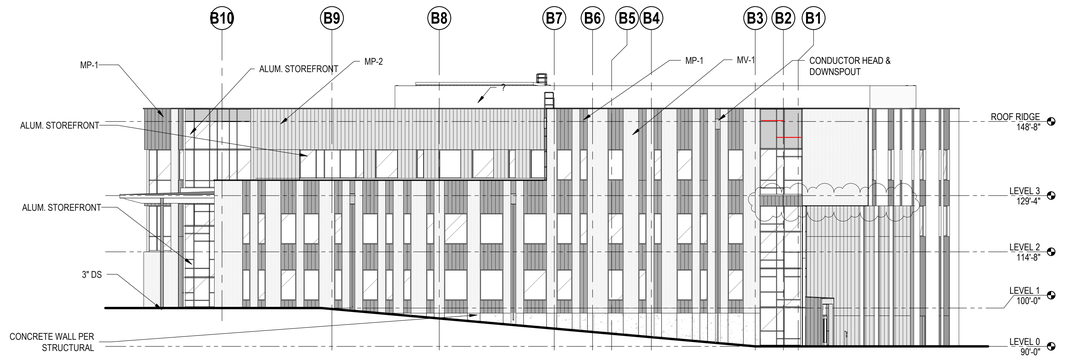

1 OVERALL ELEVATION - N

SCALE: 1/16" = 1'-0"



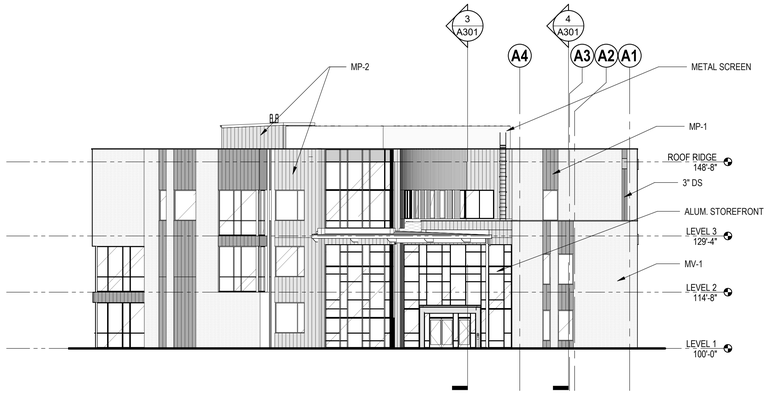

2 OVERALL ELEVATION - E

SCALE: 1/16" = 1'-0"




3 OVERALL ELEVATION - S

SCALE: 1/16" = 1'-0"




4 OVERALL ELEVATION - W

SCALE: 1/16" = 1'-0"

## ARCH ELEVATION NOTES

1. REFER TO WINDOW SCHEDULE AND FRAME TYPE ELEVATIONS FOR WINDOW SIZES AND DIMENSIONS RELATIVE TO FLOOR LEVELS.
2. REFER TO LOUVER SCHEDULE AND TYPE ELEVATIONS FOR LOUVER SIZES AND DIMENSIONS RELATIVE TO FLOOR LEVELS.
3. REFER TO STRUCTURAL AND CIVIL DRAWINGS FOR FOUNDATION AND SUBGRADE INSULATION.
4. SEE CIVIL AND LANDSCAPE FOR EXTERIOR GRADE CONDITIONS.
5. MEP SHOWN FOR REFERENCE ONLY.
6. CONCRETE TIE-BACK PATTERN TO BE PROVIDED BY ARCHITECT. ALL PANEL JOINTS ARE TO BE CONCEALED BY THE REVEALS, SEE 16/A352 & 17/A352 FOR DETAILS.
7. METAL PANEL PROFILES, PATTERNS, AND BREAK LOCATIONS TO BE PROVIDED BY ARCHITECT.

## ELEVATION KEY

- METAL PANEL; MP-1
- METAL PANEL; MP-2
- MASONRY VENEER; MV-1
- A# — SEE PATTERN KEY ON A202 FOR METAL PANEL PROFILES TYP.

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Revisions

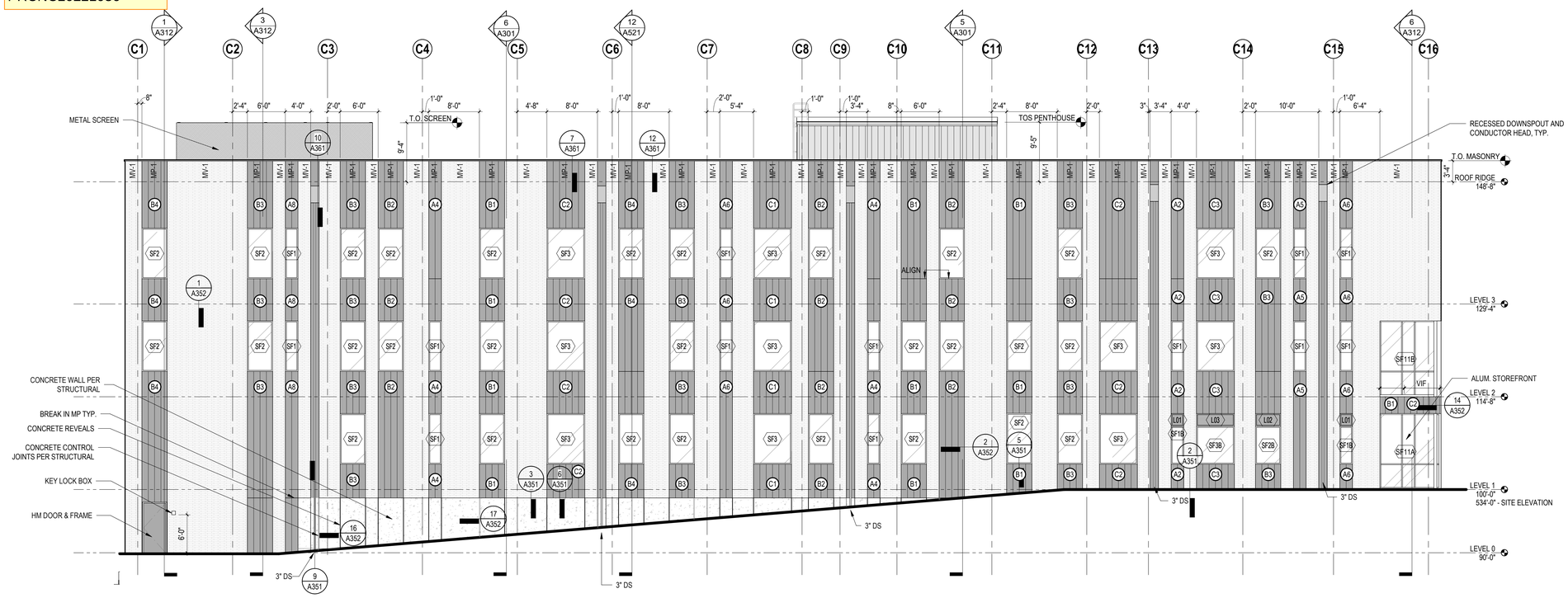
| Date | Description |
|---|---|
| 12/30/2022 | ASI-007 |

EXTERIOR ELEVATIONS - OVERALL

**A201**

IFC SET

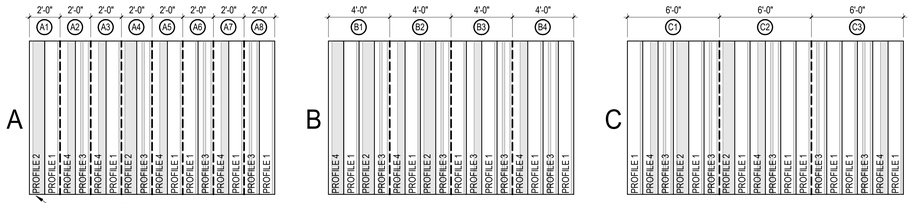
PRCNC20221036

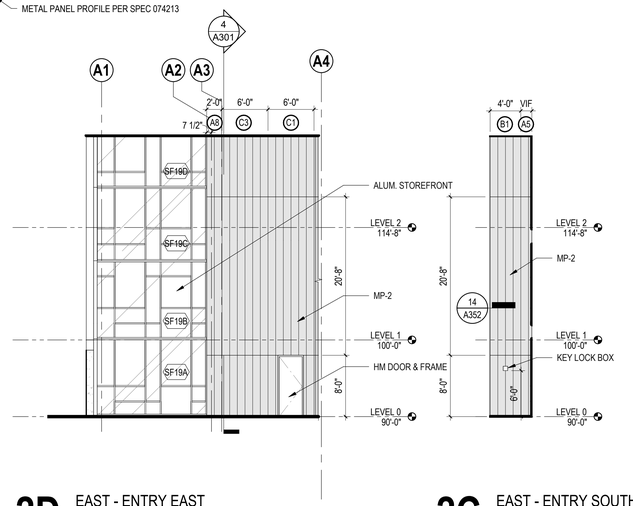



## 1A EXTERIOR ELEVATION - N
SCALE: 1/8" = 1'-0"

## METAL PANEL PATTERN KEY

ALWAYS START PATTERN LEFT JUSTIFIED AND ALIGN VERICALLY ACROSS STOREFRONT OPENINGS UNO.

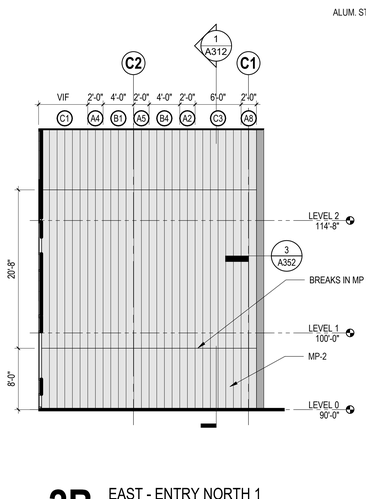


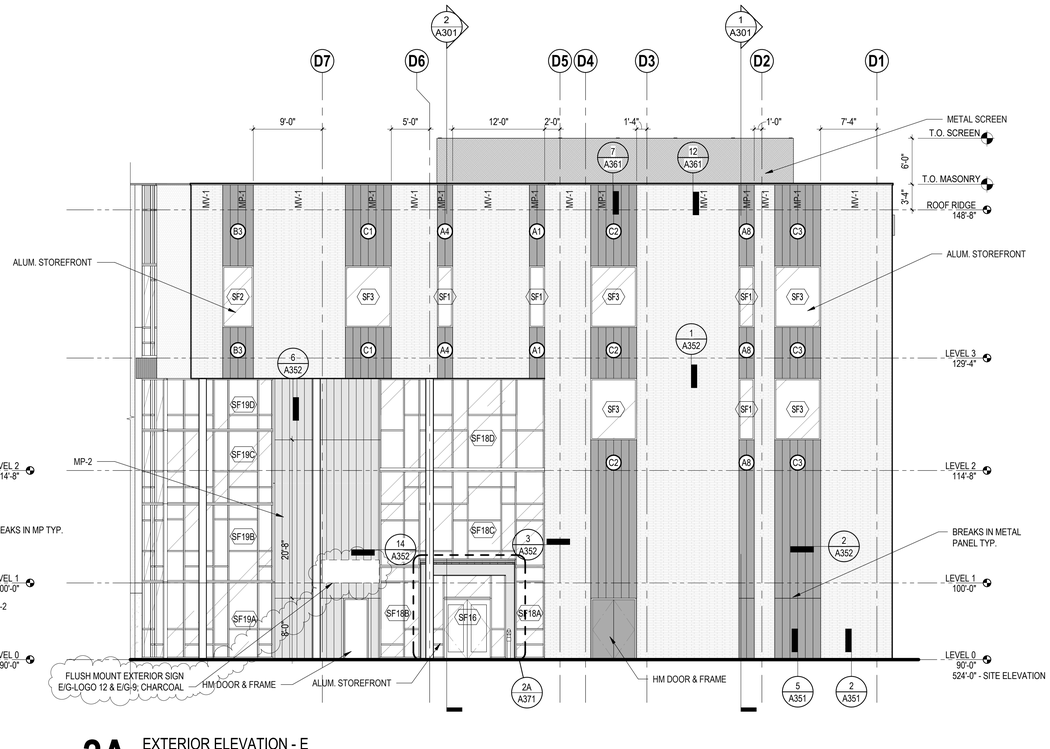

## 2D EAST - ENTRY EAST
SCALE: 1/8" = 1'-0"




## 2C EAST - ENTRY SOUTH 1
SCALE: 1/8" = 1'-0"




## 2B EAST - ENTRY NORTH 1
SCALE: 1/8" = 1'-0"




## 2A EXTERIOR ELEVATION - E
SCALE: 1/8" = 1'-0"

## ARCH ELEVATION NOTES

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2. REFER TO LOUVER SCHEDULE AND TYPE ELEVATIONS FOR LOUVER SIZES AND DIMENSIONS RELATIVE TO FLOOR LEVELS.
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7. METAL PANEL PROFILES, PATTERNS, AND BREAK LOCATIONS TO BE PROVIDED BY ARCHITECT.

## ELEVATION KEY

- METAL PANEL; MP-1
- METAL PANEL; MP-2
- MASONRY VENEER; MV-1
- A# — SEE PATTERN KEY ON A202 FOR METAL PANEL PROFILES TYP.


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Revisions

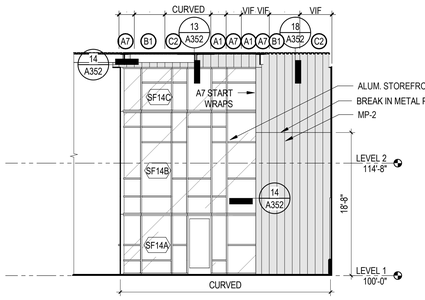
| Date | Description |
|---|---|
| | CA Changes |
| 01/31/23 | ASI-012 |

EXTERIOR ELEVATIONS

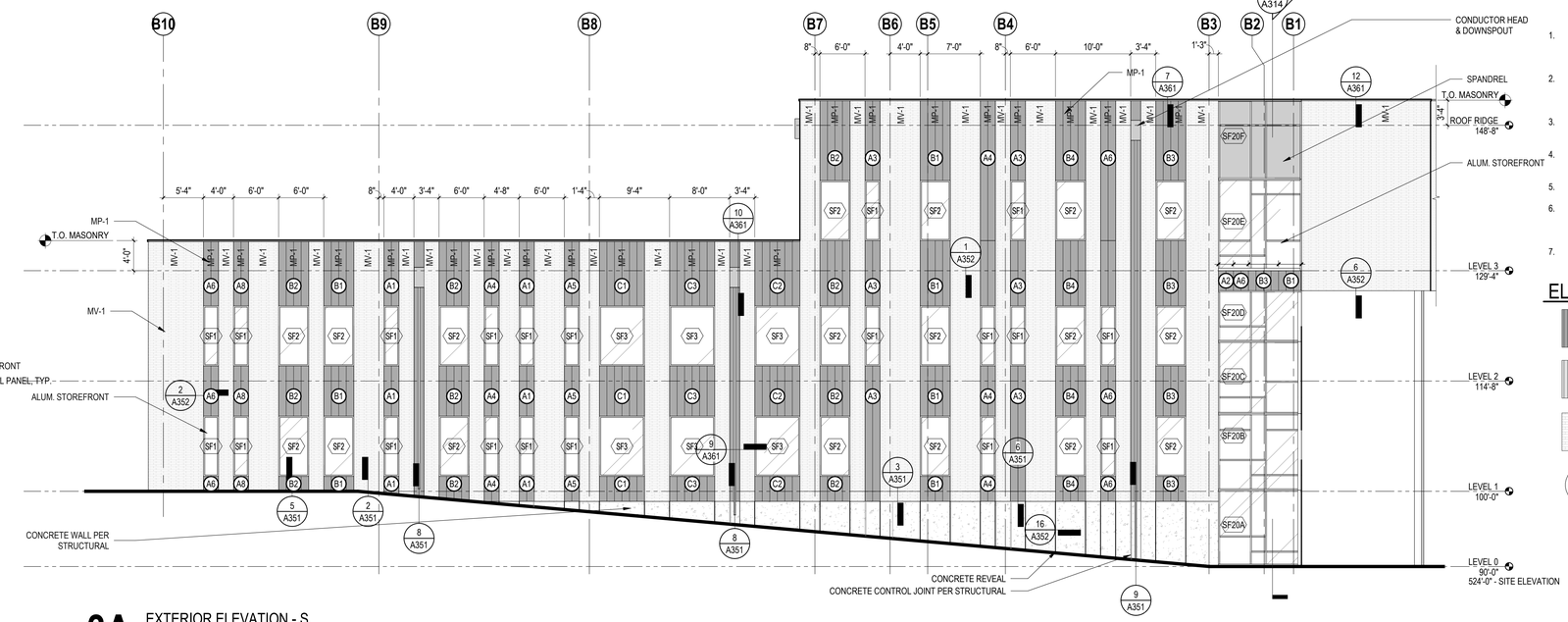
**A202**

IFC SET

PRCNC20221036




## 4A WEST - ENTRY NORTH 1
SCALE: 1/8" = 1'-0"



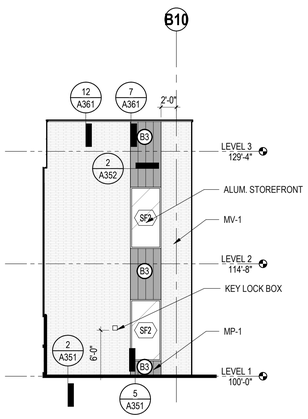

## 3A EXTERIOR ELEVATION - S
SCALE: 1/8" = 1'-0"

## ARCH ELEVATION NOTES

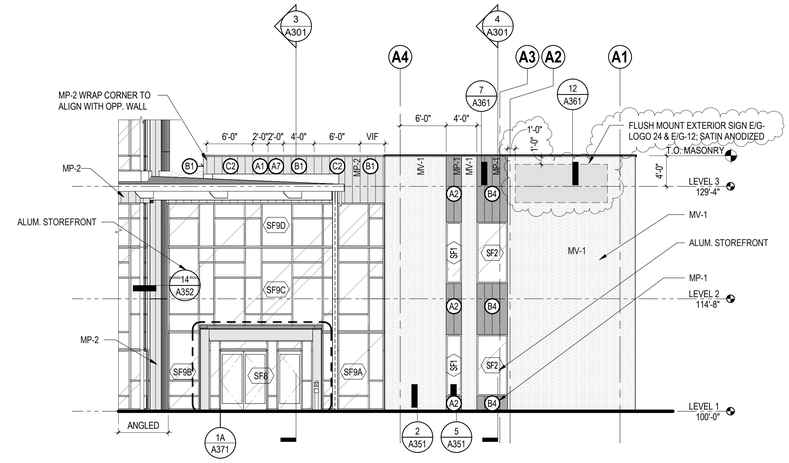
1. REFER TO WINDOW SCHEDULE AND FRAME TYPE ELEVATIONS FOR WINDOW SIZES AND DIMENSIONS RELATIVE TO FLOOR LEVELS.
2. REFER TO LOUVER SCHEDULE AND TYPE ELEVATIONS FOR LOUVER SIZES AND DIMENSIONS RELATIVE TO FLOOR LEVELS.
3. REFER TO STRUCTURAL AND CIVIL DRAWINGS FOR FOUNDATION AND SUBGRADE INSULATION.
4. SEE CIVIL AND LANDSCAPE FOR EXTERIOR GRADE CONDITIONS.
5. MEP SHOWN FOR REFERENCE ONLY.
6. CONCRETE TIE-BACK PATTERN TO BE PROVIDED BY ARCHITECT. ALL PANEL JOINTS ARE TO BE CONCEALED BY THE REVEALS, SEE 16/A352 & 17/A352 FOR DETAILS.
7. METAL PANEL PROFILES, PATTERNS, AND BREAK LOCATIONS TO BE PROVIDED BY ARCHITECT.

## ELEVATION KEY

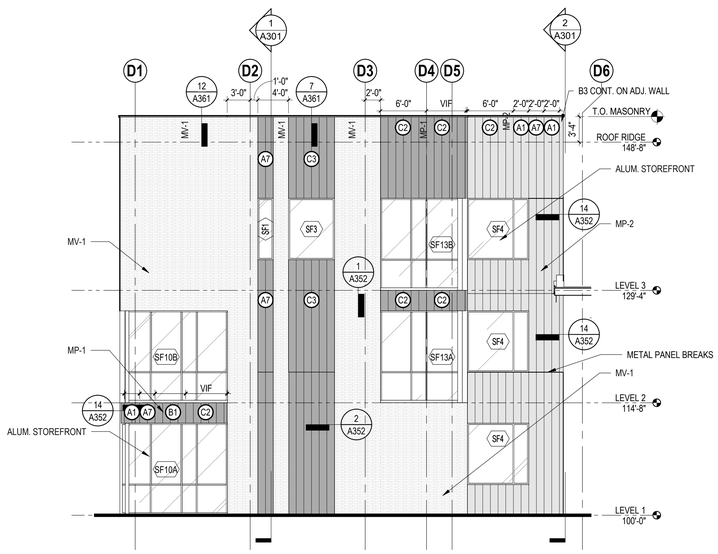
- METAL PANEL; MP-1
- METAL PANEL; MP-2
- MASONRY VENEER; MV-1
- A# — SEE PATTERN KEY ON A202 FOR METAL PANEL PROFILES TYP.



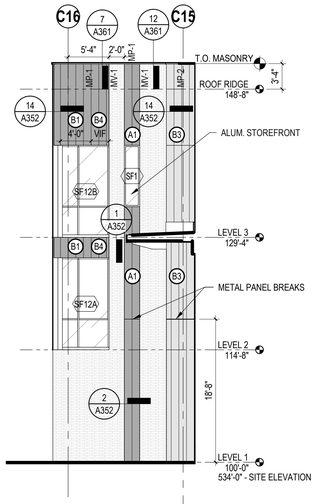

## 4E WEST - ENTRY SOUTH
SCALE: 1/8" = 1'-0"




## 4D EXTERIOR ELEVATION - W2
SCALE: 1/8" = 1'-0"



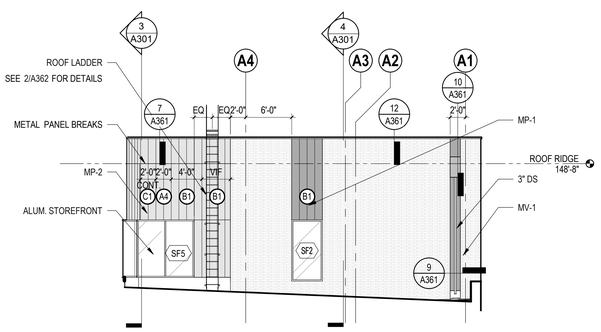

## 4C EXTERIOR ELEVATION - W
SCALE: 1/8" = 1'-0"



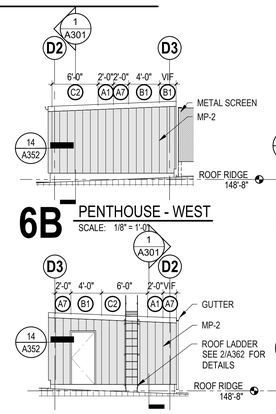

## 4B WEST - ENTRY NORTH 2
SCALE: 1/8" = 1'-0"




## 5B EXTERIOR ELEVATION - N2
SCALE: 1/8" = 1'-0"

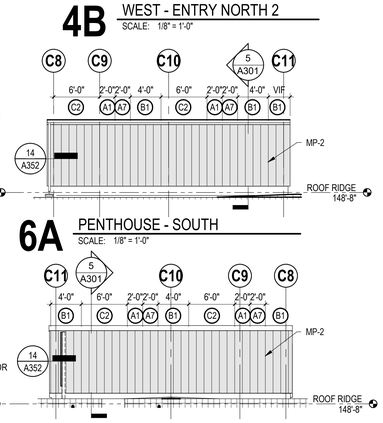



## 5A EXTERIOR ELEVATION - W3
SCALE: 1/8" = 1'-0"




## 6B PENTHOUSE - WEST
SCALE: 1/8" = 1'-0"

## 6D PENTHOUSE - EAST
SCALE: 1/8" = 1'-0"




## 6A PENTHOUSE - SOUTH
SCALE: 1/8" = 1'-0"

## 6C PENTHOUSE - NORTH
SCALE: 1/8" = 1'-0"

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9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
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City of Puyallup
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| Checked By: | JL |

Revisions

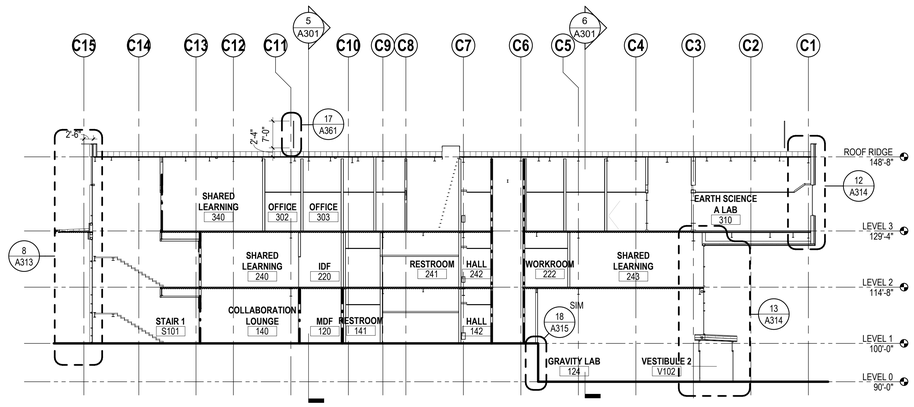
| Date | Description |
|---|---|
| | CA Changes |
| 01/31/23 | ASI-012 |

EXTERIOR ELEVATIONS

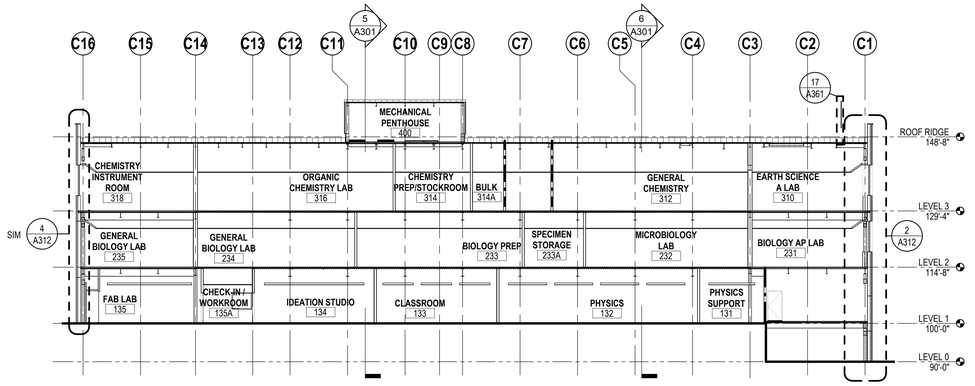
**A203**

IFC SET

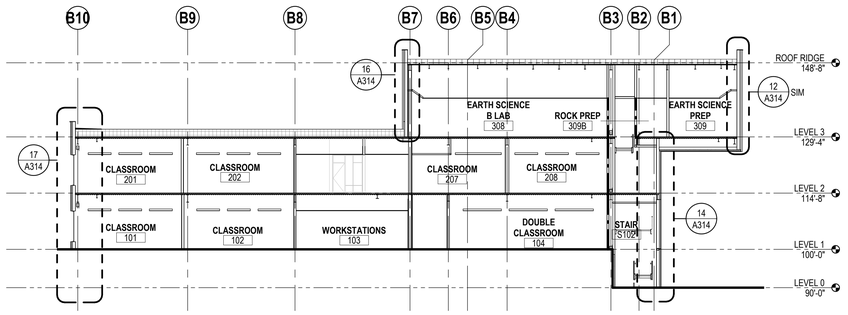
PRCNC20221036



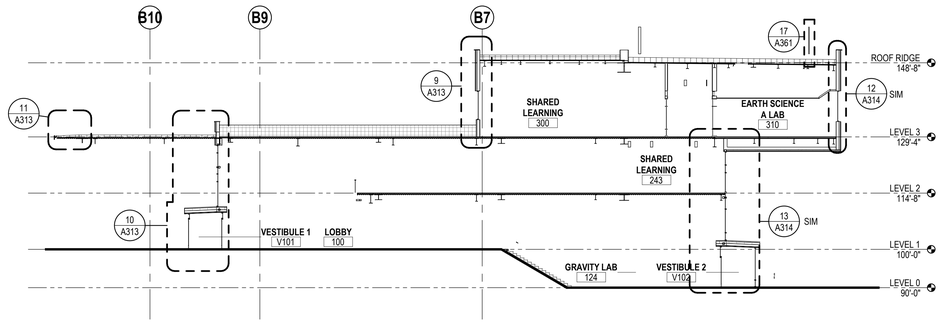

**2** BUILDING SECTION - EW 2
SCALE: 1/16" = 1'-0"



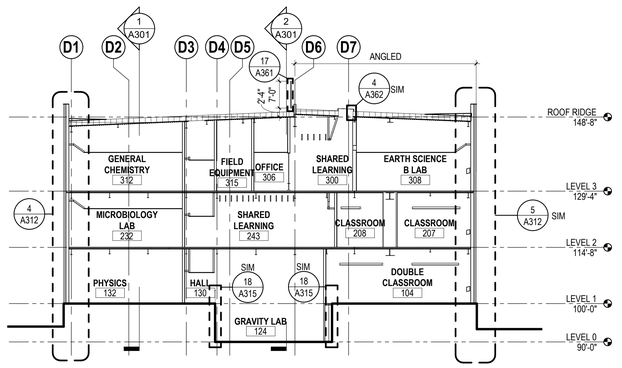

**1** BUILDING SECTION - E/W 1
SCALE: 1/16" = 1'-0"



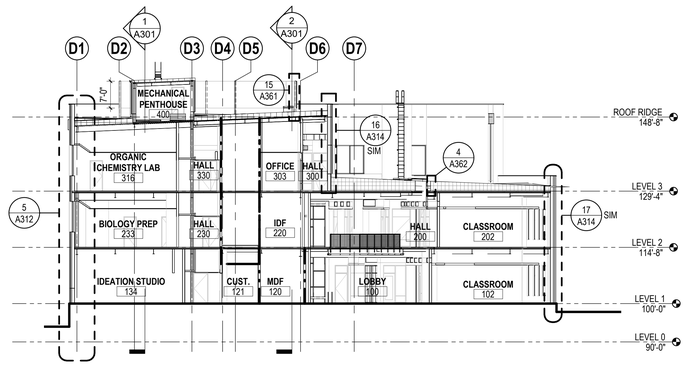

**4** BUILDING SECTION - E/W 4
SCALE: 1/16" = 1'-0"




**3** BUILDING SECTION - E/W 3
SCALE: 1/16" = 1'-0"




**6** BUILDING SECTION - N/S 2
SCALE: 1/16" = 1'-0"




**5** BUILDING SECTION - N/S 1
SCALE: 1/16" = 1'-0"

## ARCH SECTION NOTES

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9411 REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

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Revisions

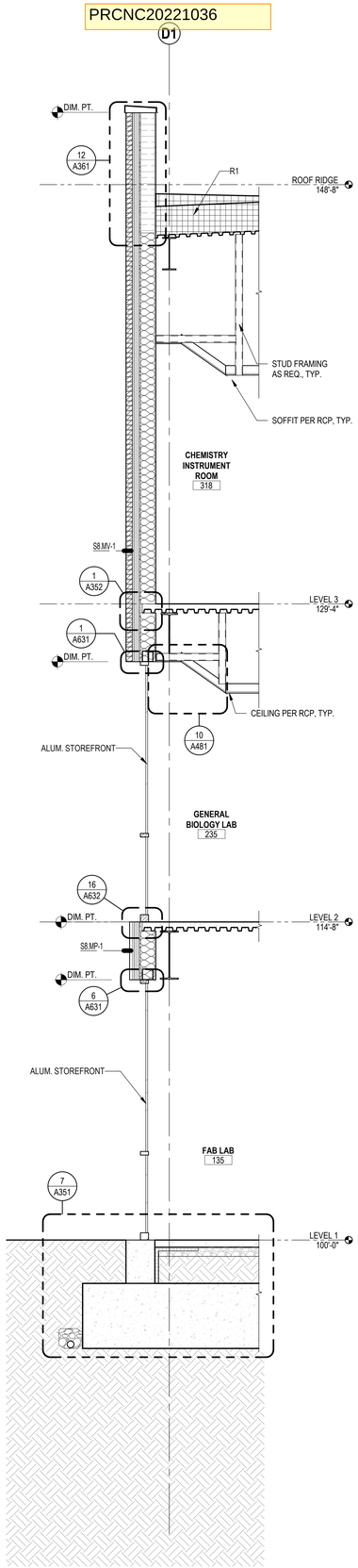
| # | Date | Description |
|---|---|---|

BUILDING SECTIONS

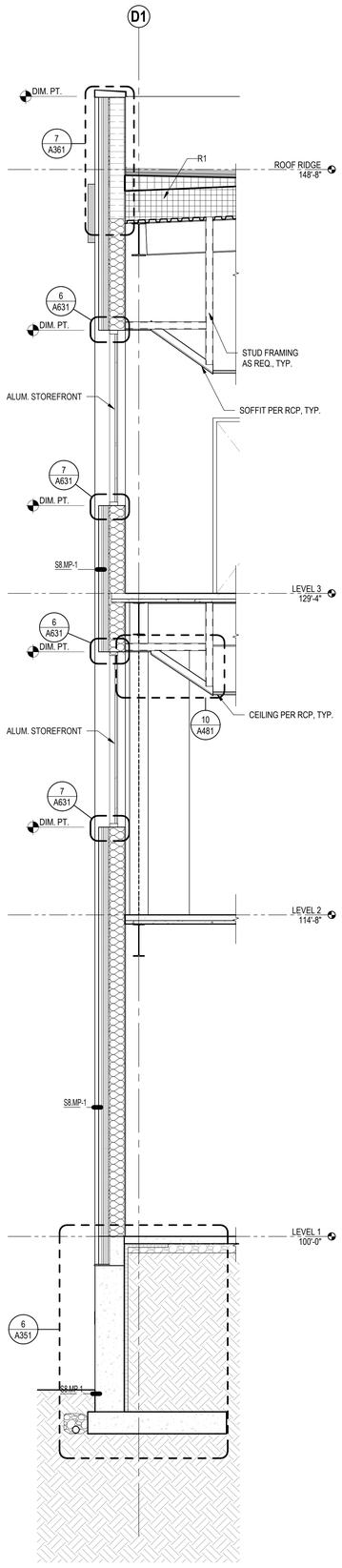
**A301**

IFC SET

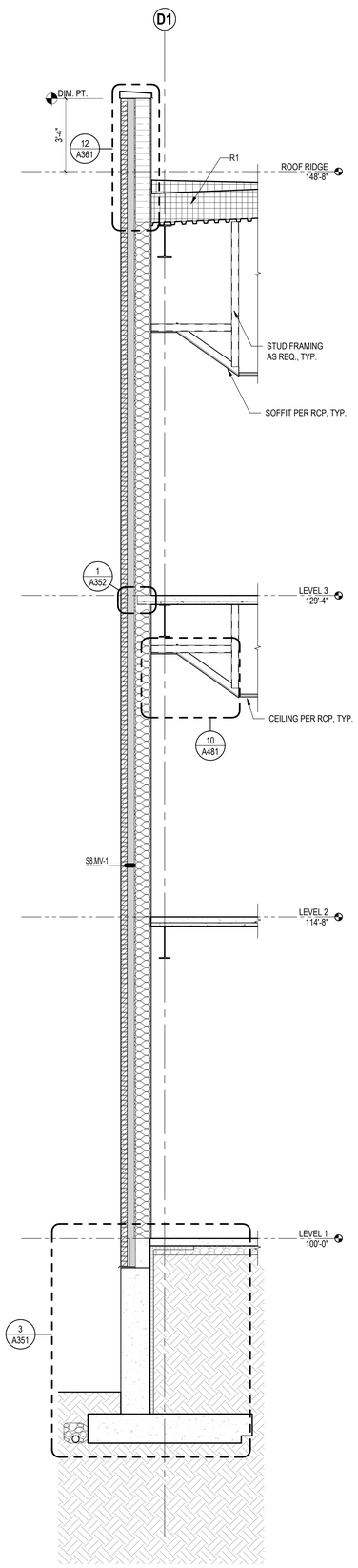
PRCNC20221036



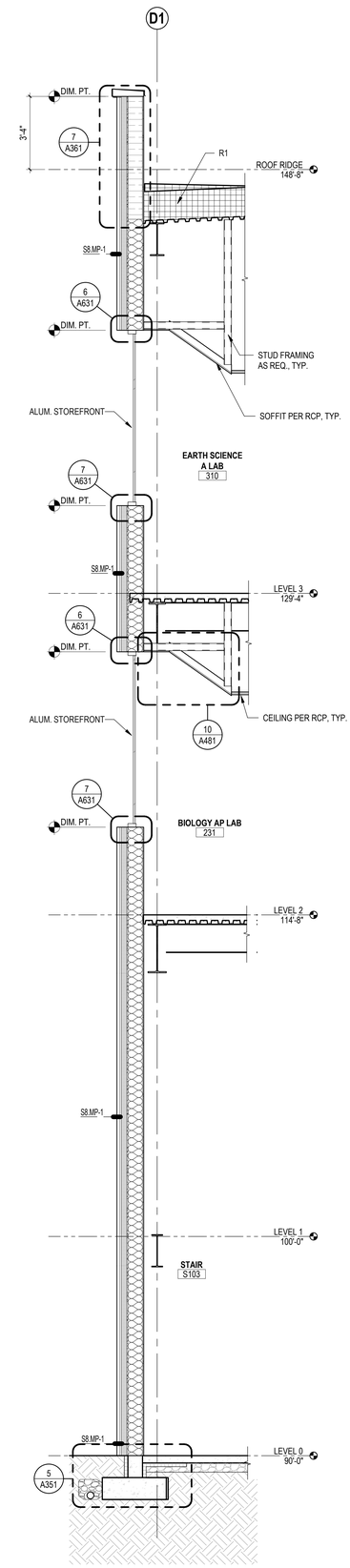

6 FAB LAB NORTH WALL
SCALE: 3/8" = 1'-0"



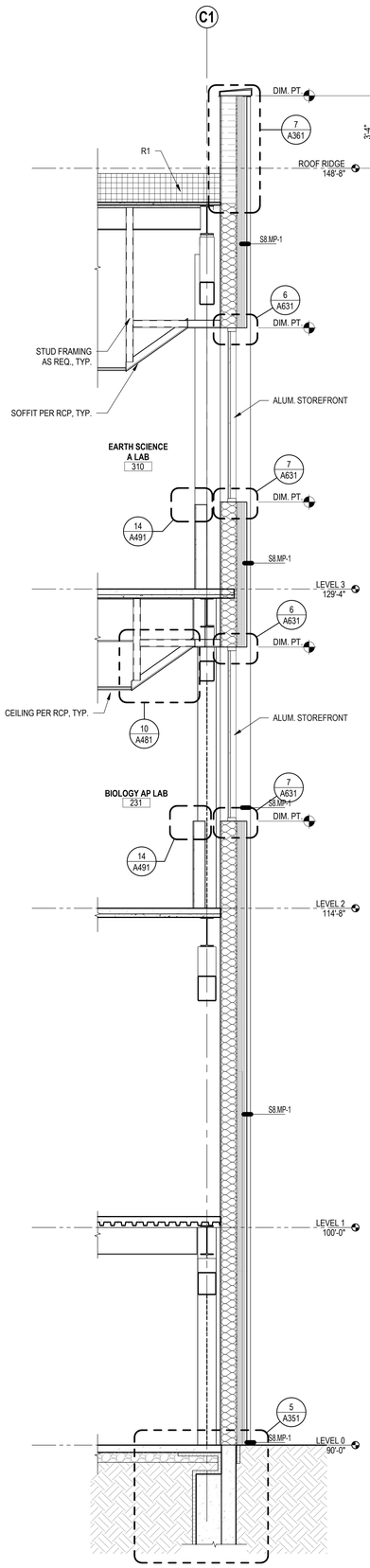

5 TYPICAL 3-STORY WALL SECTION AT SF
SCALE: 3/8" = 1'-0"



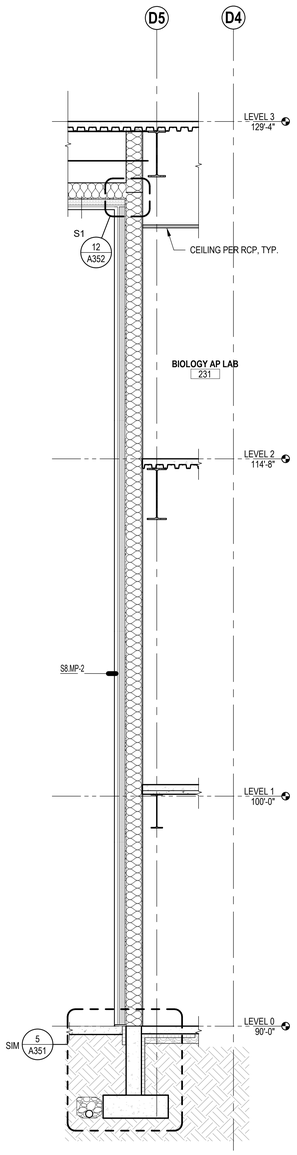

4 TYPICAL WALL SECTION AT MV-1
SCALE: 3/8" = 1'-0"




3 ELEC. MAIN NORTH WALL
SCALE: 3/8" = 1'-0"




2 EMERGENCY ELEC SOUTH WALL
SCALE: 3/8" = 1'-0"




1 SPRINKLER RISER SOUTH WALL
SCALE: 3/8" = 1'-0"

## ARCH SECTION NOTES

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Revisions

| # | Date | Description |
|---|---|---|

WALL SECTIONS

**A312**

IFC SET

PRCNC20221036

## ARCH SECTION NOTES

1. REFER TO WINDOW SCHEDULE AND FRAME TYPE ELEVATIONS FOR WINDOW SIZES AND DIMENSIONS RELATIVE TO FLOOR LEVELS.
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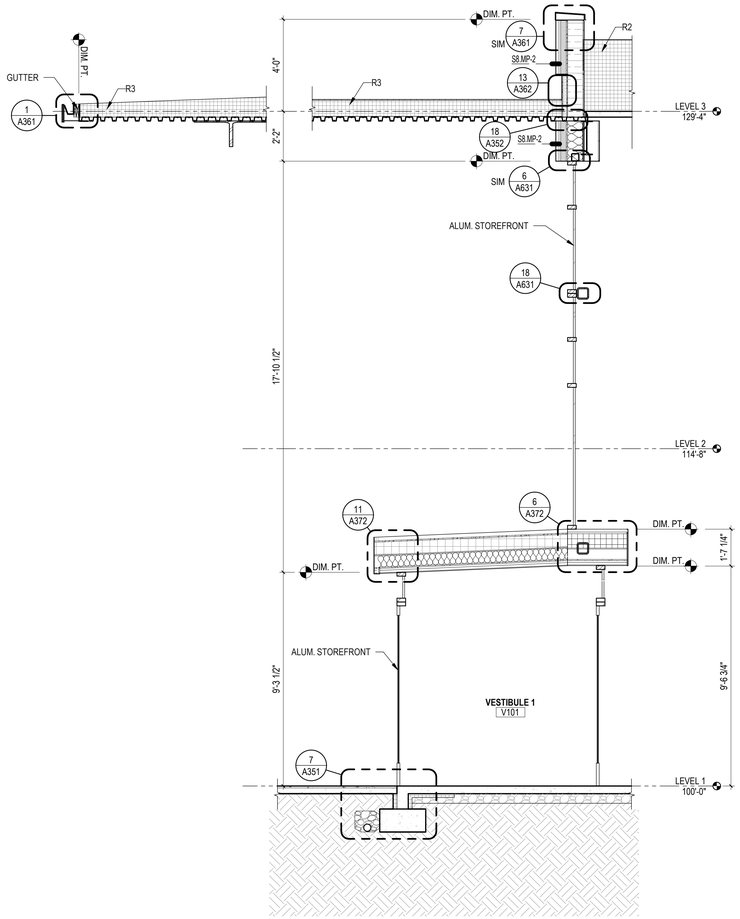
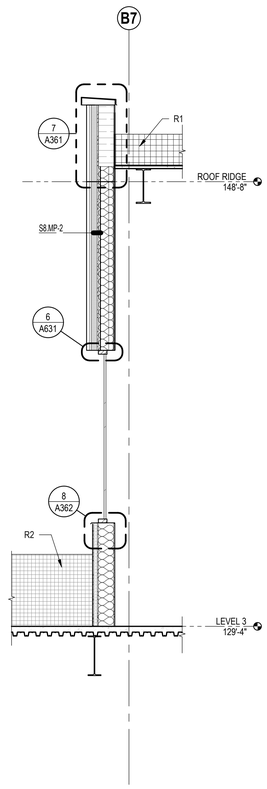
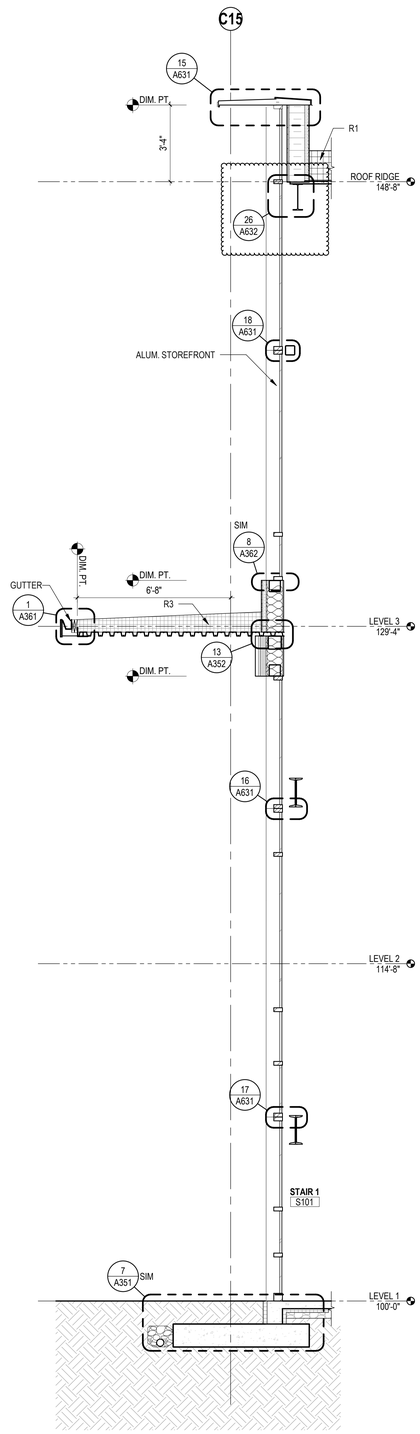



11 TYPICAL ENTRY ROOF EDGE
SCALE: 3/8" = 1'-0"




10 VESTIBULE 1 WEST WALL
SCALE: 3/8" = 1'-0"

9 TYP. WALL SECTION @ 3RD FLR ROOF
SCALE: 3/8" = 1'-0"




8 STAIR 1 WEST WALL
SCALE: 3/8" = 1'-0"

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| Checked By: | JL |

Revisions

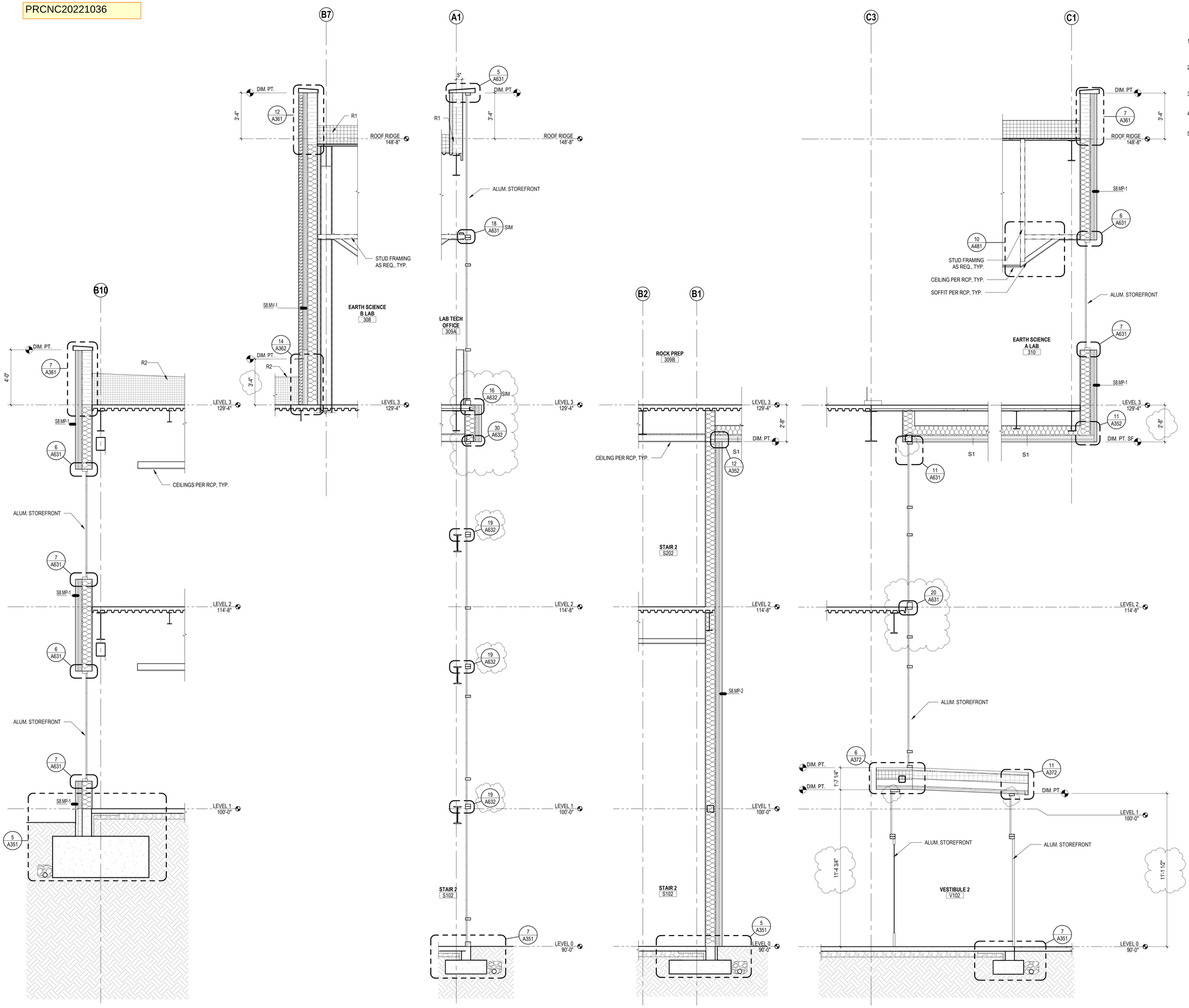
| Date | Description |
|---|---|
| 05/11/2023 | ASI-010 |

WALL SECTIONS

A313

IFC SET

PRCNC20221036




## ARCH SECTION NOTES

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**17** TYPICAL 2 STORY WALL SECTION @ SF
SCALE: 3/8" = 1'-0"

**16** EARTH SCIENCE B WW
SCALE: 3/8" = 1'-0"

**15** STAIR 2 SOUTH WALL
SCALE: 3/8" = 1'-0"

**14** STAIR 2 EAST WALL
SCALE: 3/8" = 1'-0"

**13** VESTIBULE 2 EAST WALL
SCALE: 3/8" = 1'-0"

**12** EARTH SCIENCE A EW
SCALE: 3/8" = 1'-0"

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Revisions

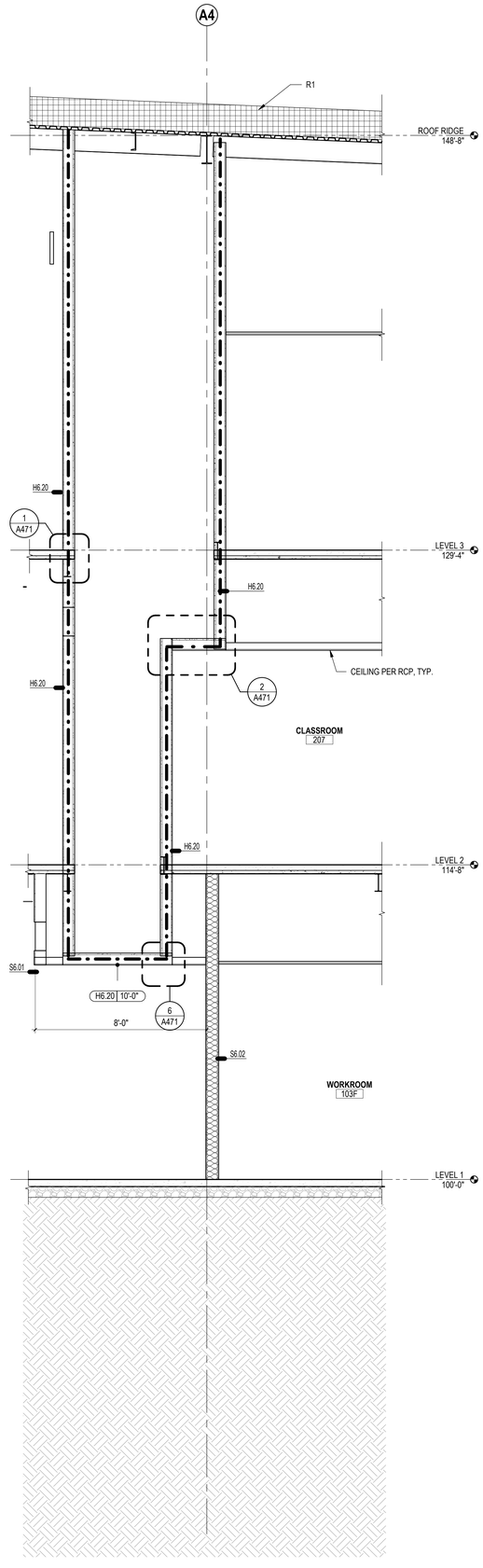
| Date | Description |
|---|---|
| 12/30/2022 | ASI-007 |

WALL SECTIONS

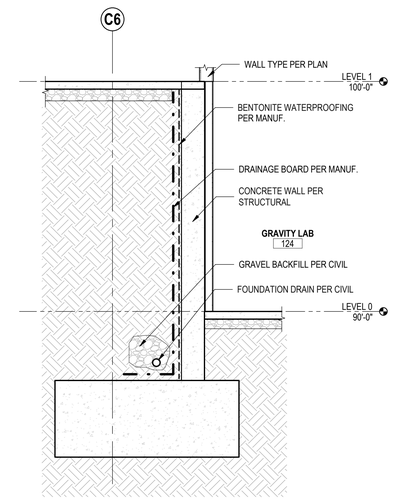
**A314**

IFC SET

PRCNC20221036




19 CLASSROOM CHASE
SCALE: 3/8" = 1'-0"




18 TYPICAL WALL SECTION @ GRAVITY LAB
SCALE: 3/8" = 1'-0"

## ARCH SECTION NOTES

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Revisions

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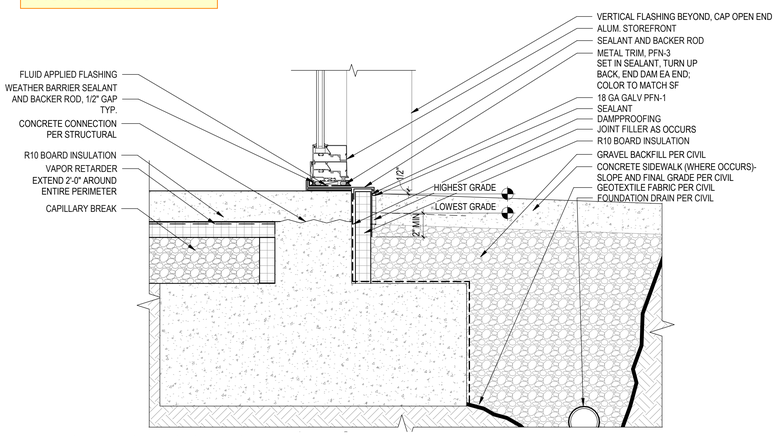
|---|---|---|

WALL SECTIONS

A315

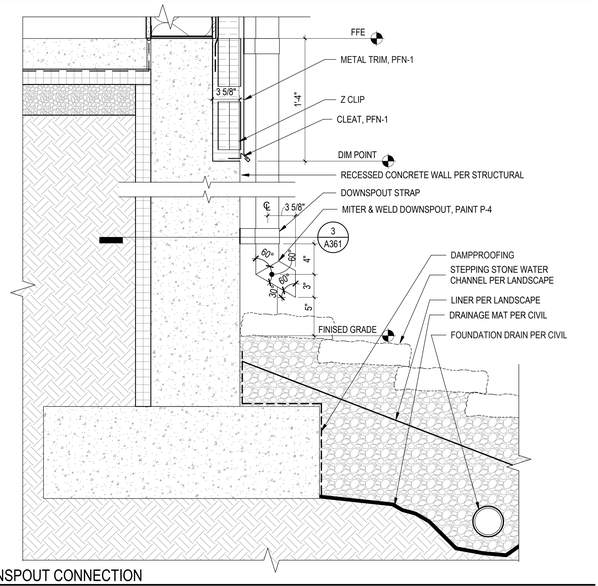
IFC SET

PRCNC20221036



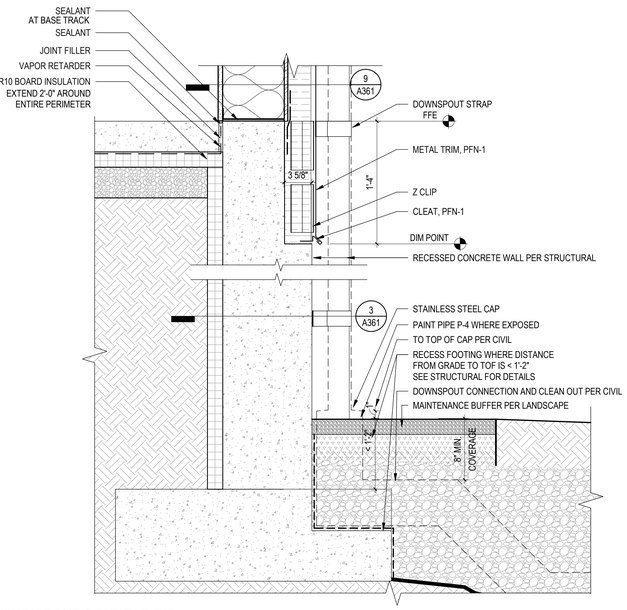

## 7 FOUNDATION AT STOREFRONT

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



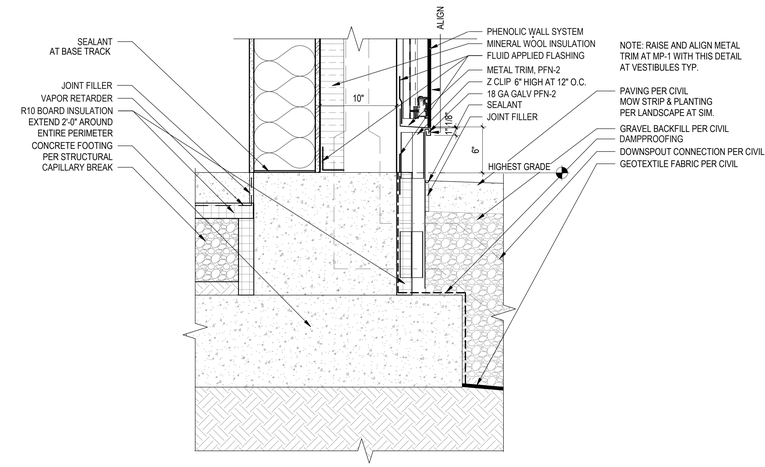

## 8 DAYLIT DOWNSPOUT CONNECTION

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



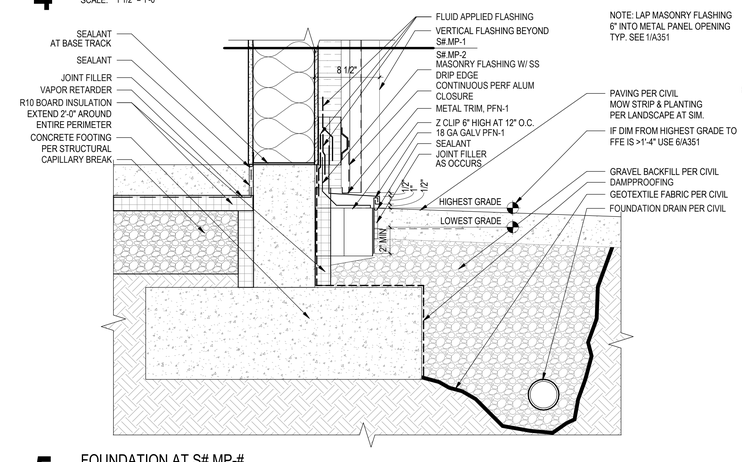

## 9 DOWNSPOUT CONNECTION

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



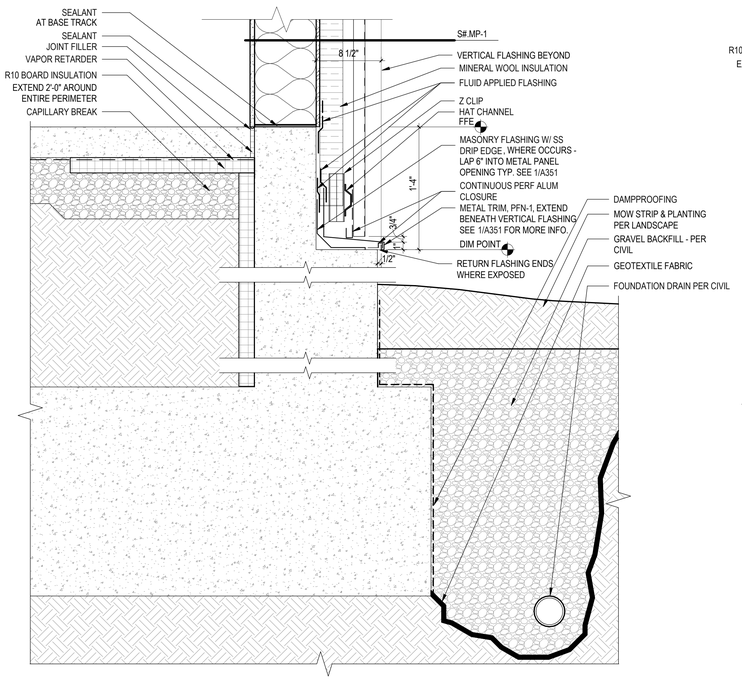

## 4 FOUNDATION AT PHENOLIC WALL SYSTEM

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



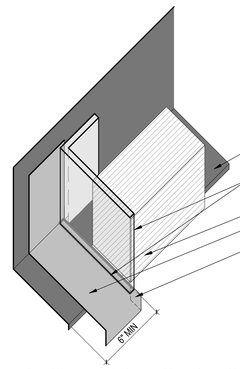

## 5 FOUNDATION AT S#.MP-#

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



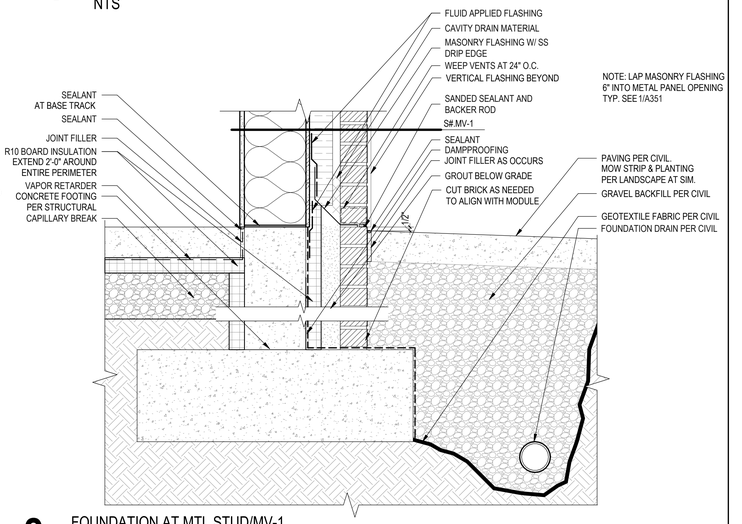

## 6 FOUNDATION AT S#.MP-# AT CONCRETE TRANSITION

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



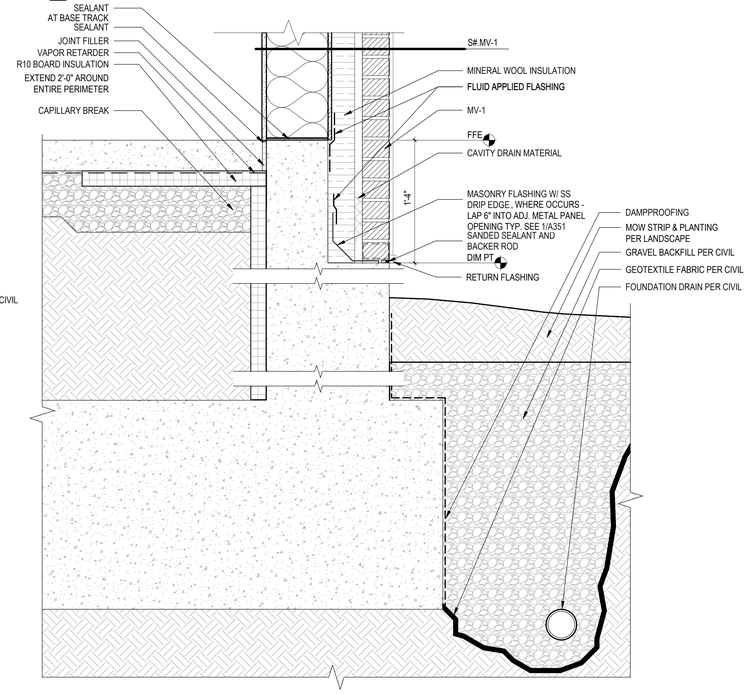

## 1 VERTICAL FLASHING TRANSITION AT BASE

NTS




## 2 FOUNDATION AT MTL STUD/MV-1

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




## 3 FOUNDATION AT S#.MV-1 AT CONCRETE TRANSITION

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

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9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

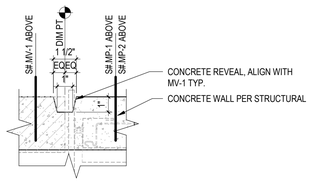
| # | Date | Description |
|---|---|---|

DETAILS - FOUNDATION

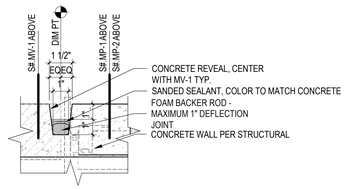
**A351**

IFC SET

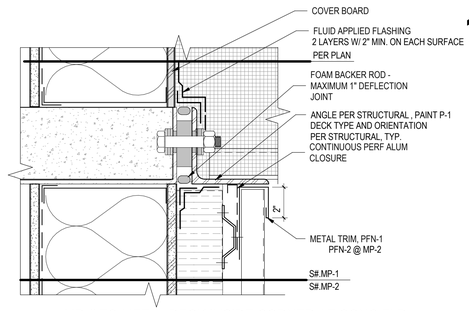
PRCNC20221036



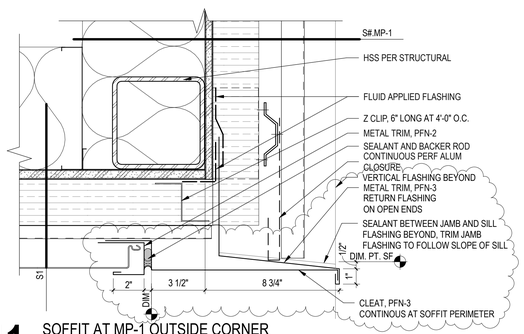

## 16 CONCRETE REVEAL
SCALE: 3" = 1'-0"



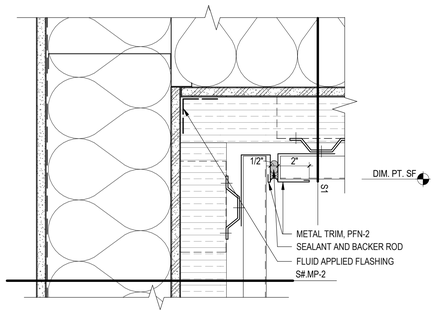

## 17 CONCRETE CONTROL JOINT
SCALE: 3" = 1'-0"



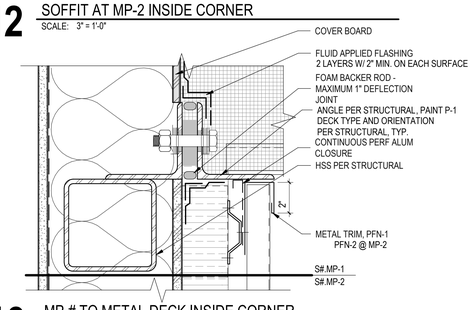

## 18 MP-# TO METAL DECK INSIDE CORNER AT CONC FLR
SCALE: 3" = 1'-0"



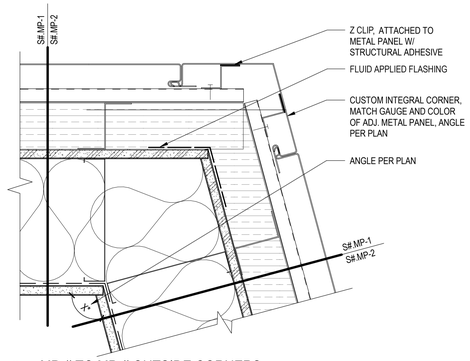

## 11 SOFFIT AT MP-1 OUTSIDE CORNER
SCALE: 3" = 1'-0"



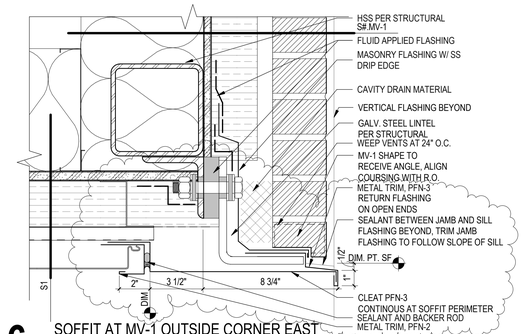

## 12 SOFFIT AT MP-2 INSIDE CORNER
SCALE: 3" = 1'-0"



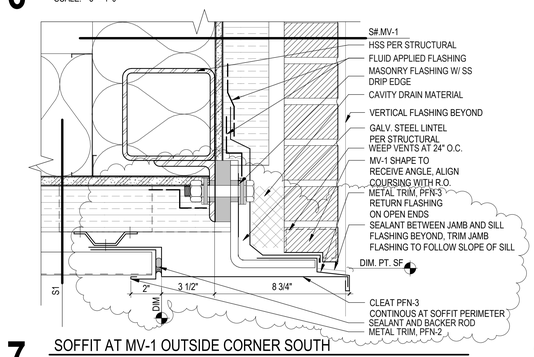

## 13 MP-# TO METAL DECK INSIDE CORNER
SCALE: 3" = 1'-0"



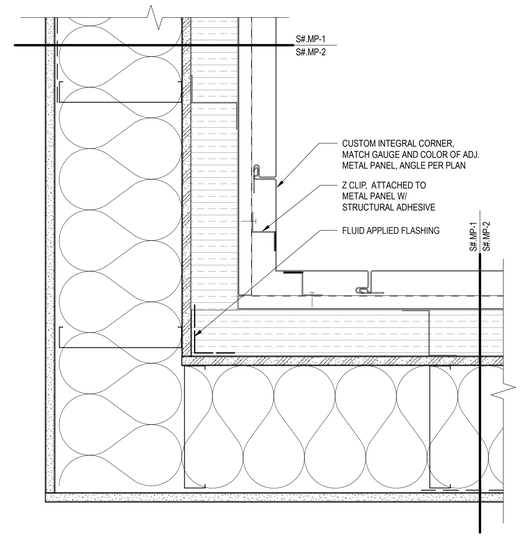

## 14 MP-# TO MP-# OUTSIDE CORNERS
SCALE: 3" = 1'-0"



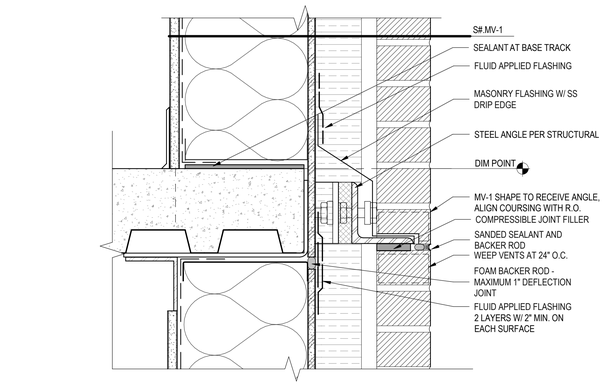

## 6 SOFFIT AT MV-1 OUTSIDE CORNER EAST
SCALE: 3" = 1'-0"



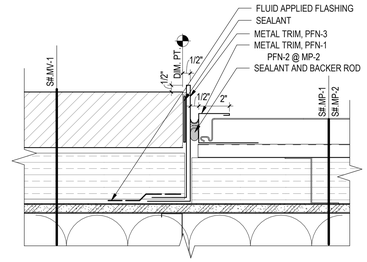

## 7 SOFFIT AT MV-1 OUTSIDE CORNER SOUTH
SCALE: 3" = 1'-0"



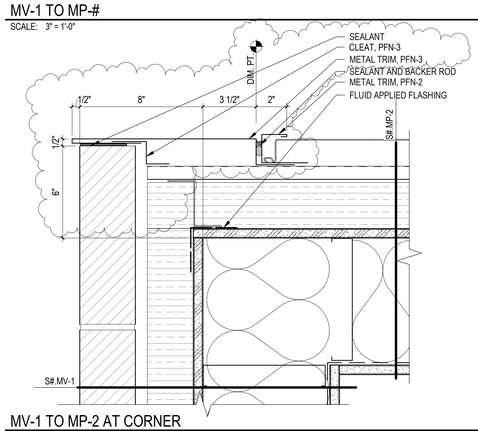

## 9 MP-# TO MP-# AT INSIDE CORNERS
SCALE: 3" = 1'-0"



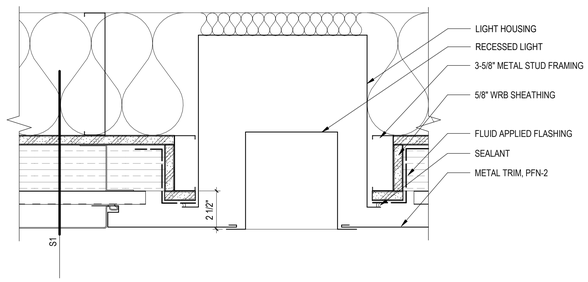

## 1 MASONRY VENEER SHELF ANGLE AT LEVEL 3
SCALE: 3" = 1'-0"




## 2 MV-1 TO MP-#
SCALE: 3" = 1'-0"




## 3 MV-1 TO MP-2 AT CORNER
SCALE: 3" = 1'-0"




## 4 EXTERIOR RECESSED LIGHT AT SOFFIT S1
SCALE: 3" = 1'-0"

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9411 REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
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**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
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| Drawn By: | BCT |
| Checked By: | JL |

Revisions

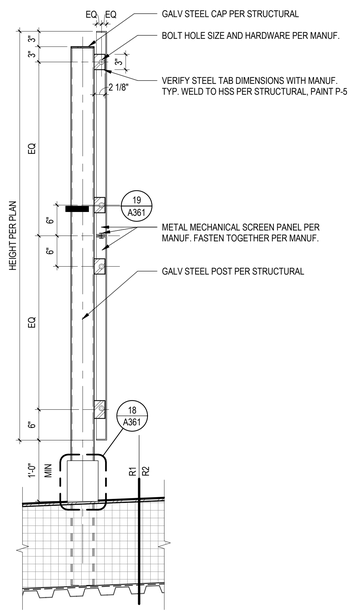
| Date | Description |
|---|---|
| 12/30/2022 | ASI-007 |

DETAILS - EXTERIOR WALLS

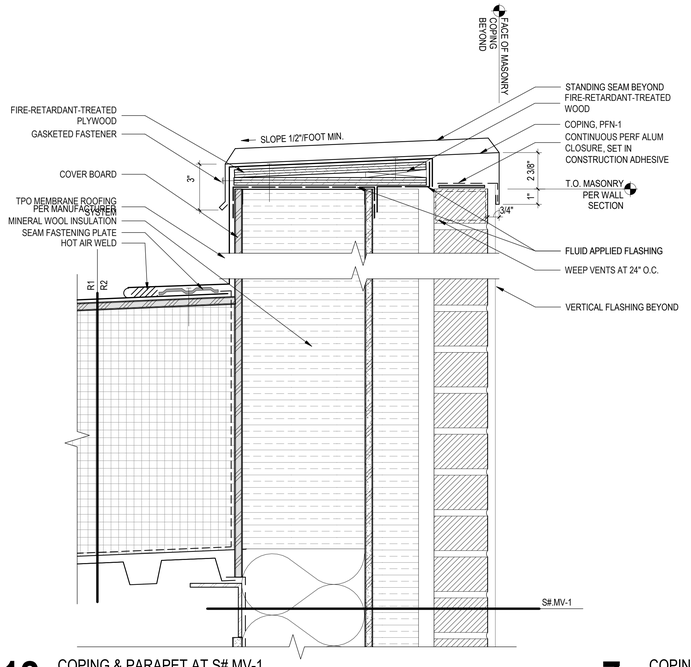
**A352**

IFC SET

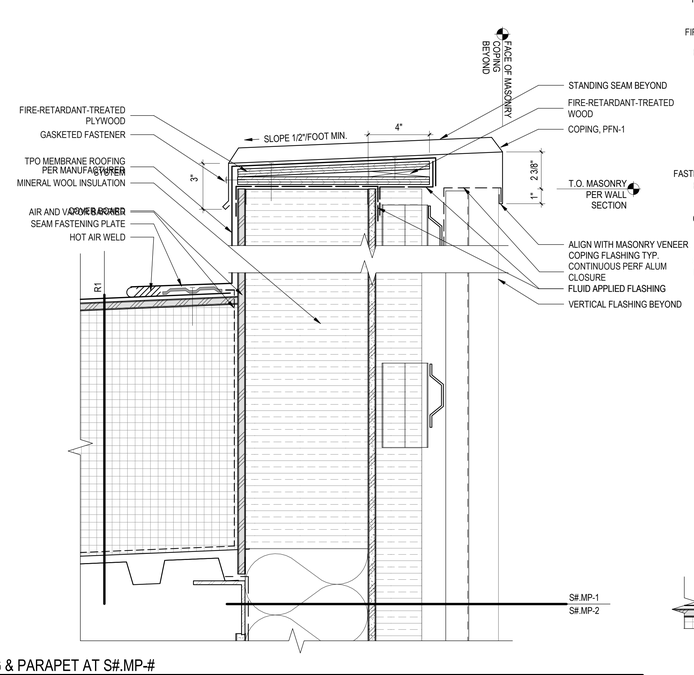
PRCNC20221036



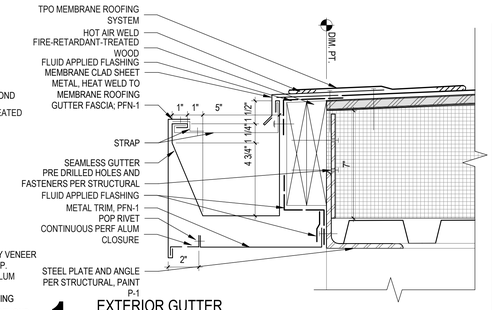

## 17 MECHANICAL SCREEN SECTION
SCALE: 1" = 1'-0"



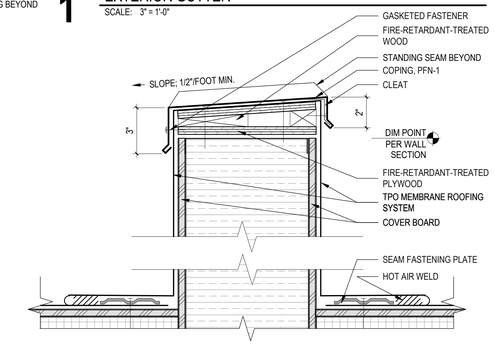

## 12 COPING & PARAPET AT S#.MV-1
SCALE: 3" = 1'-0"



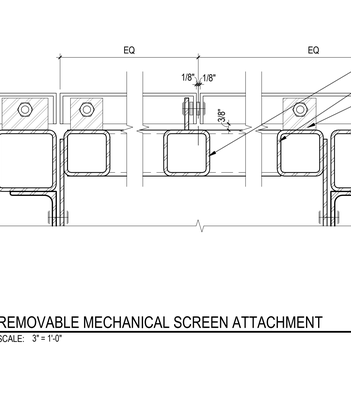

## 7 COPING & PARAPET AT S#.MP-#
SCALE: 3" = 1'-0"



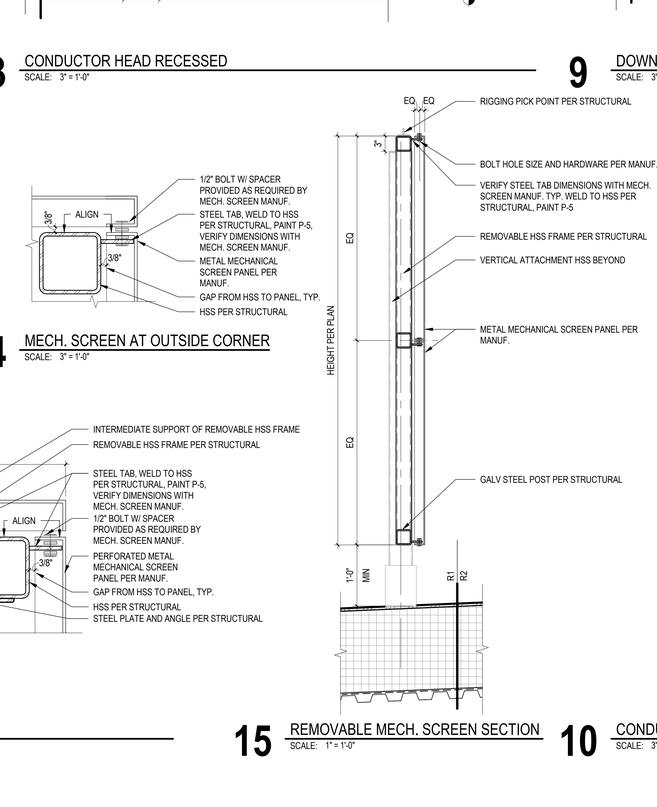

## 1 EXTERIOR GUTTER
SCALE: 3" = 1'-0"



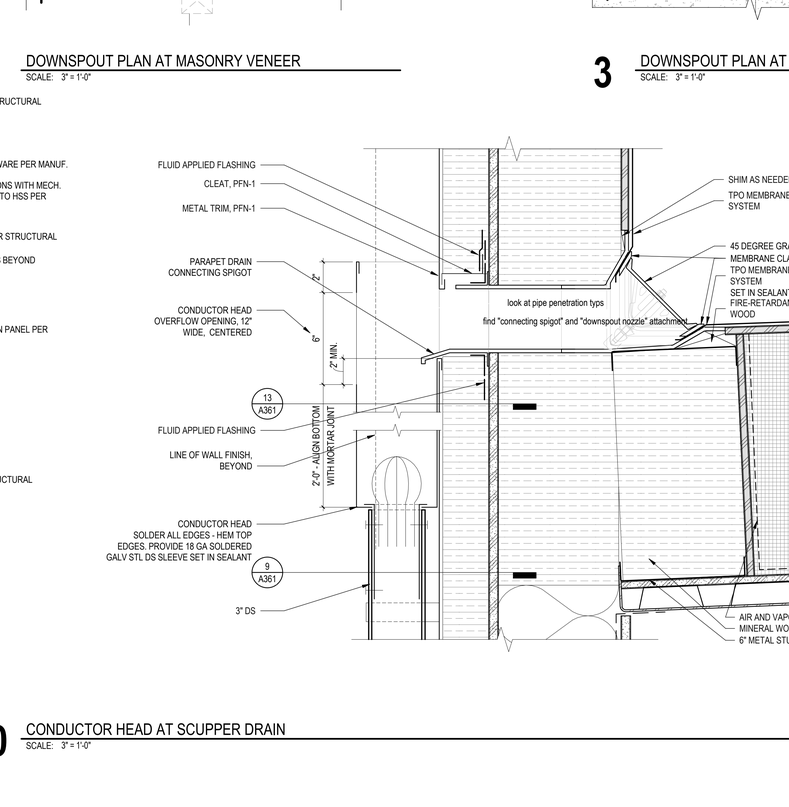

## 2 TRANSITION PARAPET
SCALE: 3" = 1'-0"



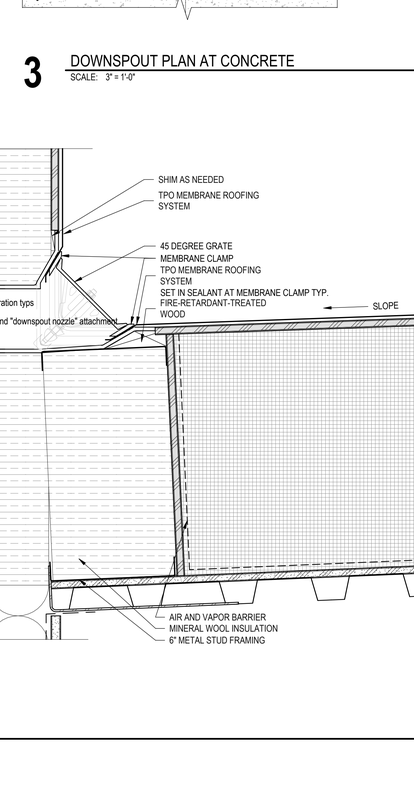

## 18 PENETRATION DETAIL
SCALE: 1 1/2" = 1'-0"



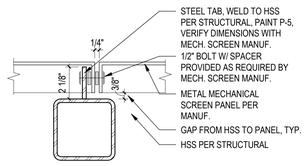

## 13 CONDUCTOR HEAD RECESSED
SCALE: 3" = 1'-0"




## 9 DOWNSPOUT PLAN AT MASONRY VENEER
SCALE: 3" = 1'-0"




## 3 DOWNSPOUT PLAN AT CONCRETE
SCALE: 3" = 1'-0"




## 19 MECHANICAL SCREEN ATTACHMENT
SCALE: 3" = 1'-0"



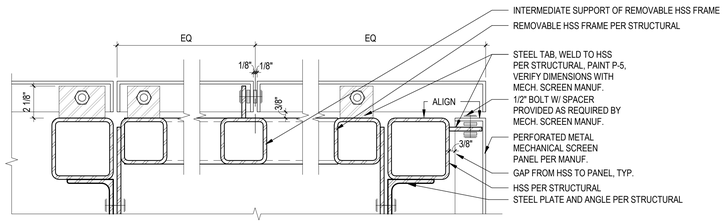

## 14 MECH. SCREEN AT OUTSIDE CORNER
SCALE: 3" = 1'-0"







## 10 CONDUCTOR HEAD AT SCUPPER DRAIN
SCALE: 3" = 1'-0"




## 20 REMOVABLE MECHANICAL SCREEN ATTACHMENT
SCALE: 3" = 1'-0"

## 15 REMOVABLE MECH. SCREEN SECTION
SCALE: 1" = 1'-0"

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9411
REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
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City of Puyallup
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Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
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| Date: | 10/07/2022 |
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| Checked By: | JL |

Revisions

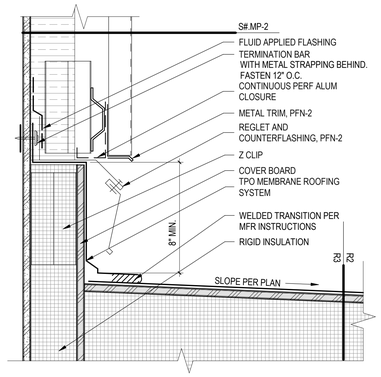
| # | Date | Description |
|---|---|---|

DETAILS - ROOF

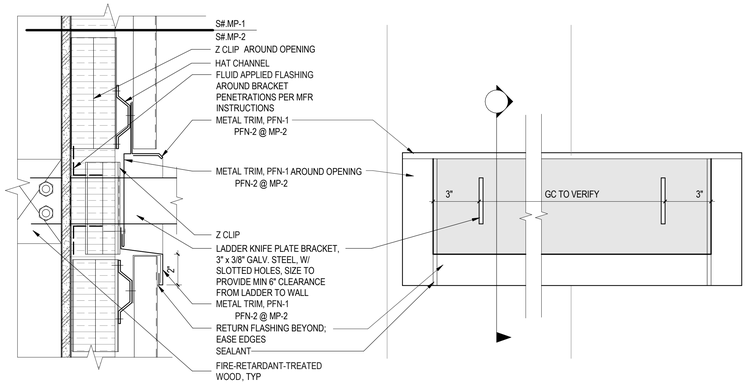
**A361**

IFC SET

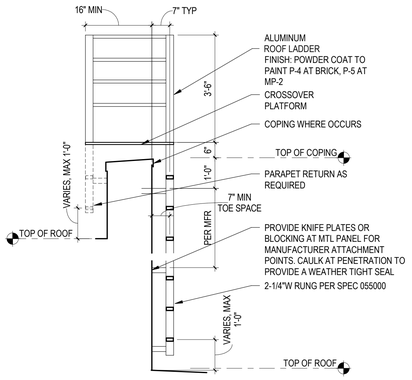
PRCNC20221036



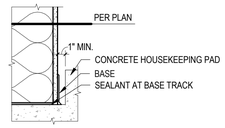

## 13 S#.MP-# TO ROOF
SCALE: 3" = 1'-0"



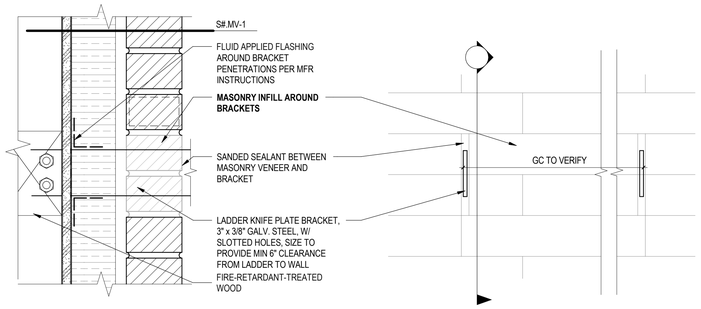

## 9 ROOF LADDER ATTACHMENT
SCALE: 3" = 1'-0"



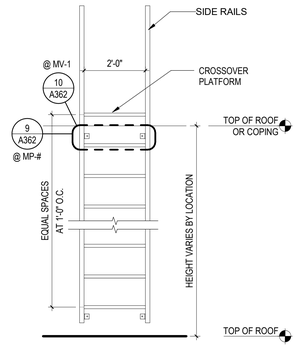

## 1 ROOF LADDER SECTION AT PARAPET
SCALE: 1/2" = 1'-0"



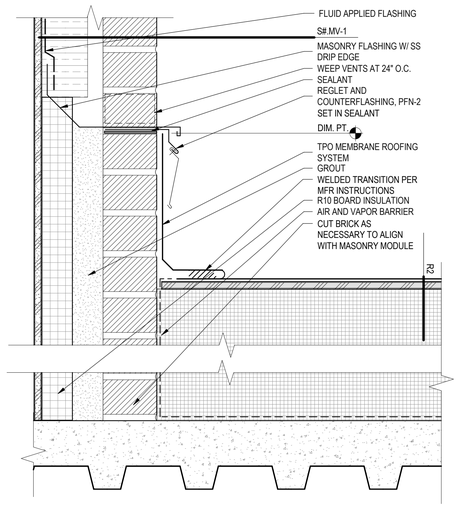

## 15 HOUSEKEEPING PAD AT WALLS
SCALE: 1 1/2" = 1'-0"



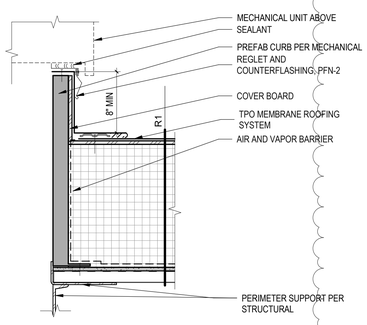

## 10 ROOF LADDER MV ATTACHMENT
SCALE: 3" = 1'-0"



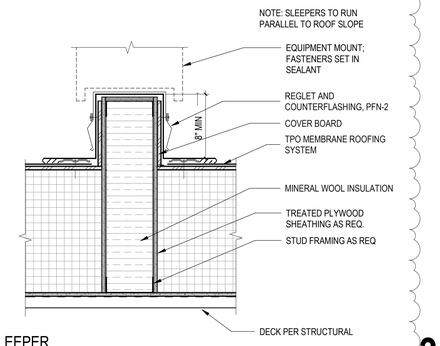

## 2 ROOF LADDER ELEVATION
SCALE: 1/2" = 1'-0"



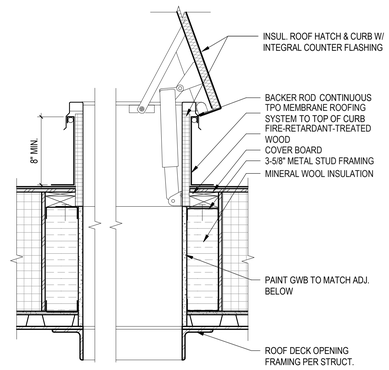

## 14 S#.MV-1 TO ROOF
SCALE: 3" = 1'-0"



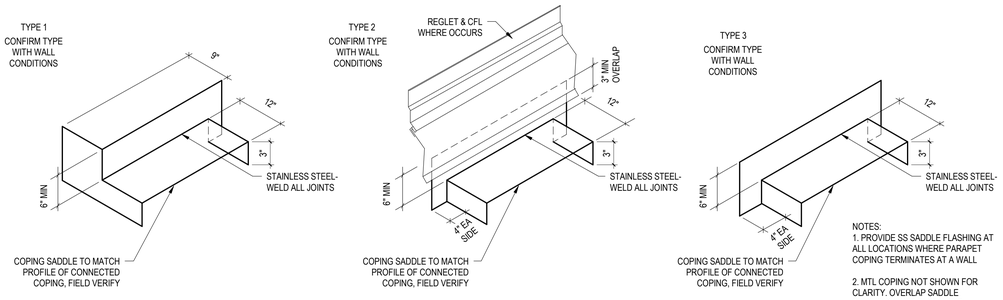

## 11 MECHANICAL PREFAB CURB
SCALE: 1 1/2" = 1'-0"



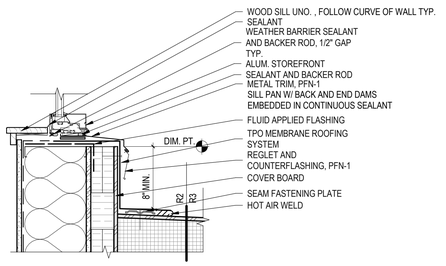

## 7 SLEEPER
SCALE: 1 1/2" = 1'-0"



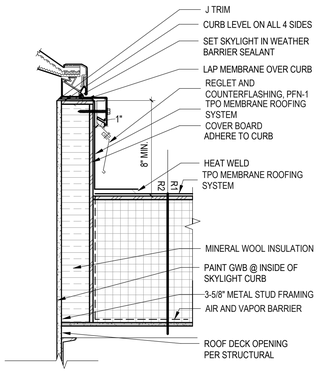

## 3 TYP. ROOF HATCH (MTL. DECK)
SCALE: 1 1/2" = 1'-0"




## 20 TYPICAL SADDLE FLASHING @ ALL PARAPET TO WALL INTERSECTIONS
SCALE: 1 1/2" = 1'-0"




## 8 SF AT ROOF
SCALE: 1 1/2" = 1'-0"




## 4 SKYLIGHT CURB
SCALE: 1 1/2" = 1'-0"

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117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3739 FAX: (206)624-3730

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

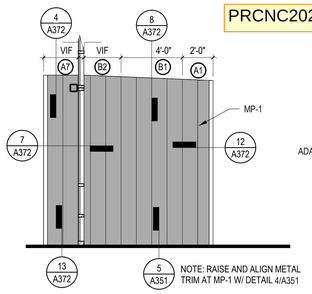
| Date | Description |
|---|---|
| 1/25/23 | RFI-059 |

DETAILS - ROOF

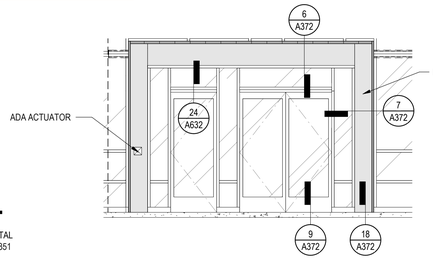
**A362**

IFC SET

PRCNC20221036




## 1D VESTIBULE 1 - SOUTH
SCALE: 1/4" = 1'-0"

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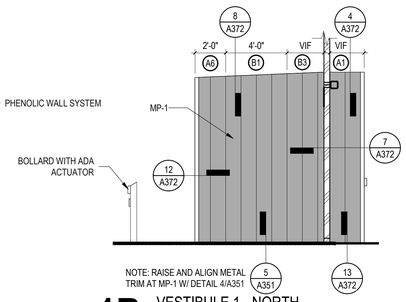
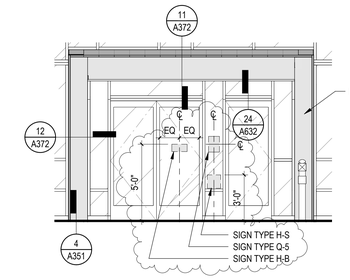
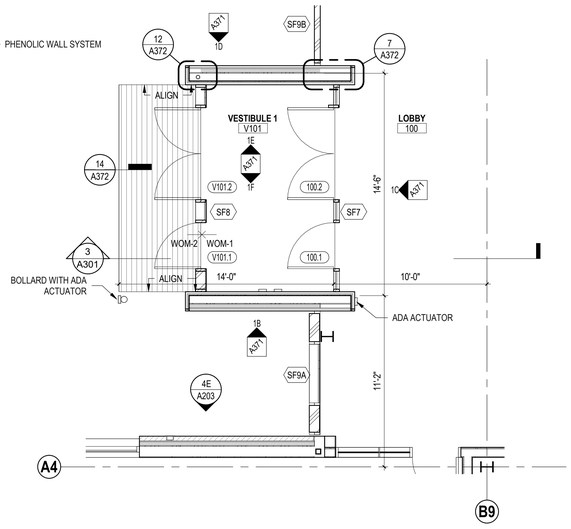
SCALE: 1/4" = 1'-0"



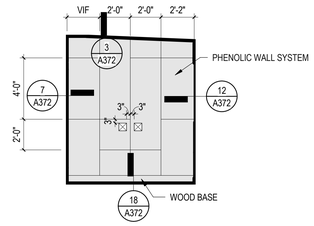

## 1B VESTIBULE 1 - NORTH
SCALE: 1/4" = 1'-0"



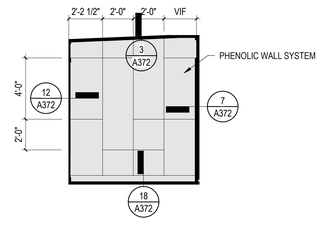

## 1A VESTIBULE 1 - WEST
SCALE: 1/4" = 1'-0"



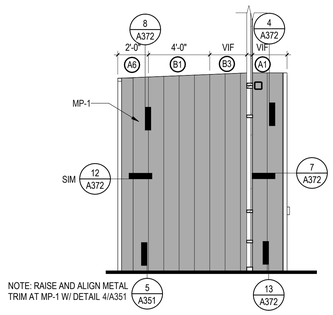

## 1 VESTIBULE 1 - PLAN
SCALE: 1/4" = 1'-0"



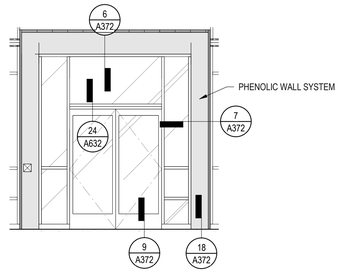

## 1F VESTIBULE 1 SOUTH INTERIOR WALL
SCALE: 1/4" = 1'-0"



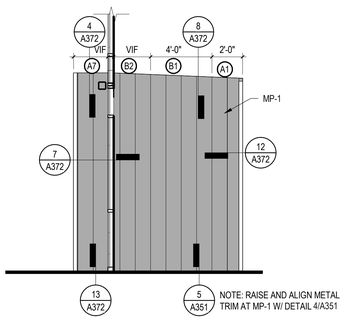

## 1E VESTIBULE 1 NORTH INTERIOR WALL
SCALE: 1/4" = 1'-0"



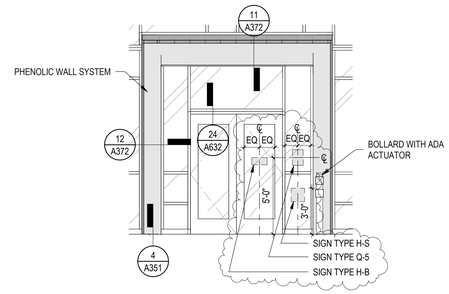

## 2D VESTIBULE 2 - NORTH
SCALE: 1/4" = 1'-0"



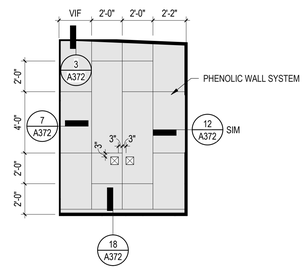

## 2C VESTIBULE 2 - WEST
SCALE: 1/4" = 1'-0"



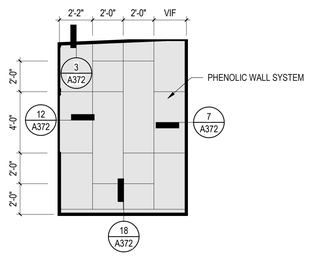

## 2B VESTIBULE 2 - SOUTH
SCALE: 1/4" = 1'-0"



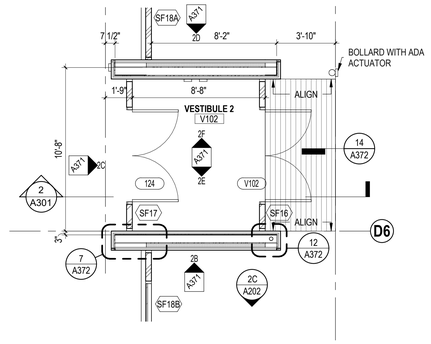

## 2A VESTIBULE 2 - EAST
SCALE: 1/4" = 1'-0"



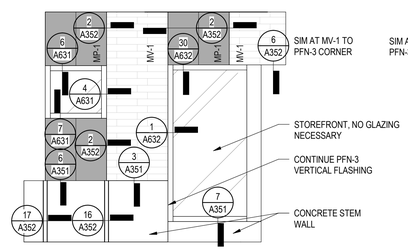

## 2F VESTIBULE 2 SOUTH INTERIOR WALL
SCALE: 1/4" = 1'-0"



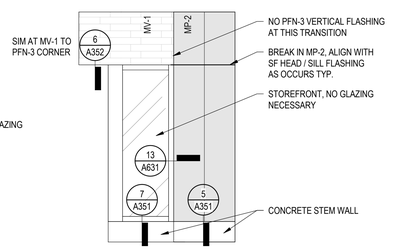

## 2E VESTIBULE 2 NORTH INTERIOR WALL
SCALE: 1/4" = 1'-0"



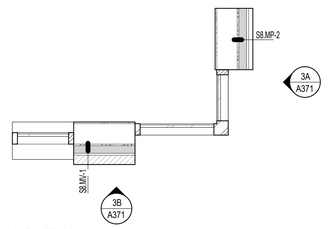

## 2 VESTIBULE 2 - PLAN
SCALE: 1/4" = 1'-0"




## 3B MOCK-UP - SOUTH ELEVATION
SCALE: 1/2" = 1'-0"




## 3A MOCK-UP - WEST ELEVATION
SCALE: 1/2" = 1'-0"




## 3 MOCK-UP - PLAN
SCALE: 1/2" = 1'-0"

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9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

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|---|---|
| Date: | 10/07/2022 |
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| Drawn By: | SP |
| Checked By: | JL |

Revisions

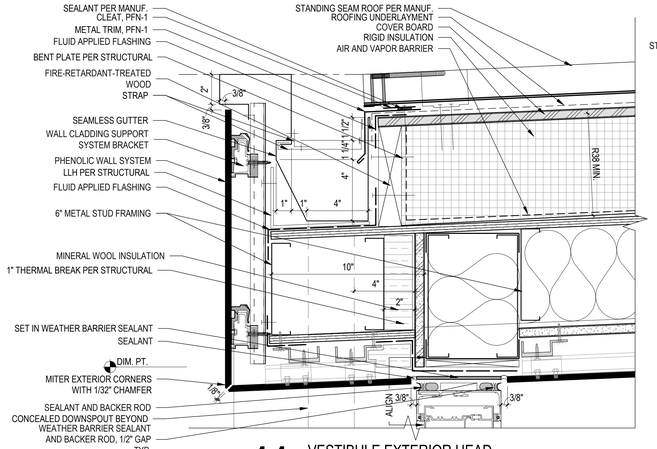
| Date | Description |
|---|---|
| | CA Changes |
| 01/31/23 | ASI-012 |

ENLARGED PLAN - VESTIBULES

**A371**

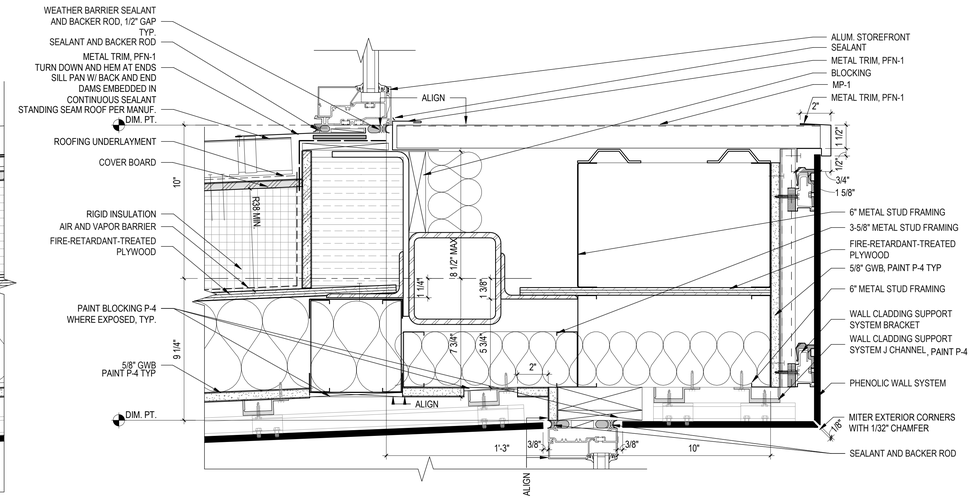
IFC SET

PRCNC20221036



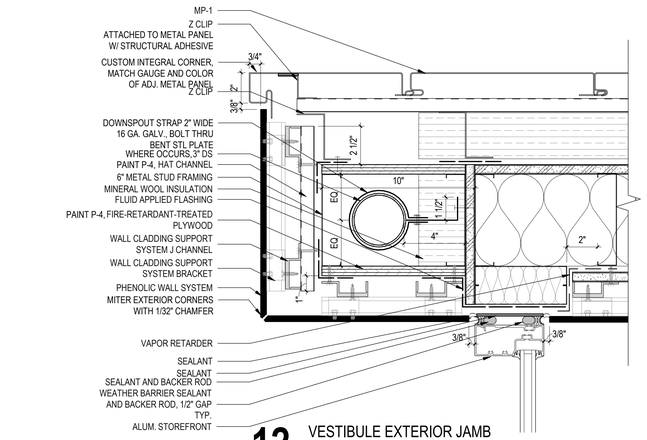

## 11 VESTIBULE EXTERIOR HEAD

SCALE: 3" = 1'-0"



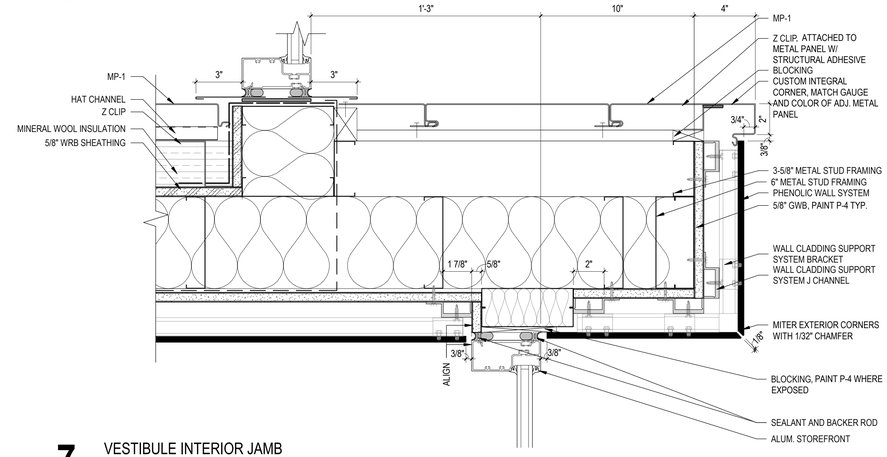

## 6 VESTIBULE INTERIOR HEAD

SCALE: 3" = 1'-0"



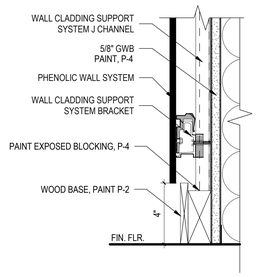

## 12 VESTIBULE EXTERIOR JAMB

SCALE: 3" = 1'-0"



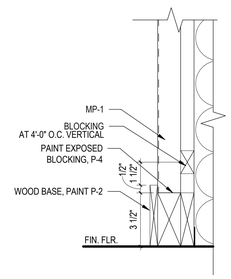

## 7 VESTIBULE INTERIOR JAMB

SCALE: 3" = 1'-0"



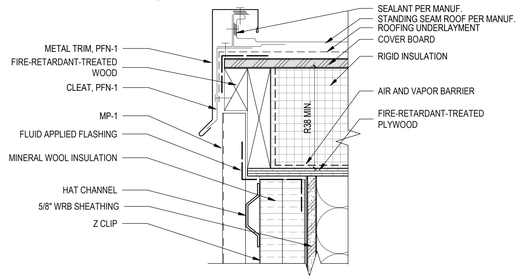

## 18 PHENOLIC BASE

SCALE: 3" = 1'-0"



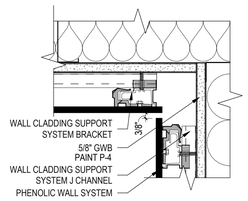

## 13 MP-2 INTERIOR BASE

SCALE: 3" = 1'-0"




## 8 VESTIBULE ROOF RAKE

SCALE: 3" = 1'-0"



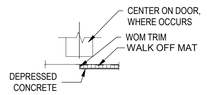

## 3 VESTIBULE INSIDE CORNER AT HEAD

SCALE: 3" = 1'-0"



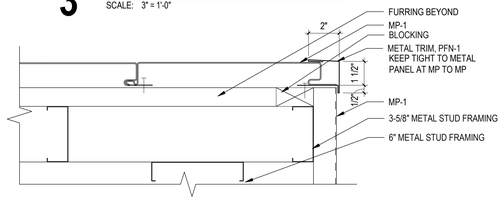

## 14 RECESSED EXTERIOR WOM

SCALE: 3" = 1'-0"




## 9 WOM FLOOR TRANSITION

SCALE: 3" = 1'-0"




## 4 VESTIBULE INTERIOR RAKE

SCALE: 3" = 1'-0"

integrus ARCHITECTURE
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TELEPHONE: (206)624-3739 FAX: (206)628-3128

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| Checked By: | JL |

Revisions

| # | Date | Description |
|---|---|---|

DETAILS - VESTIBULES

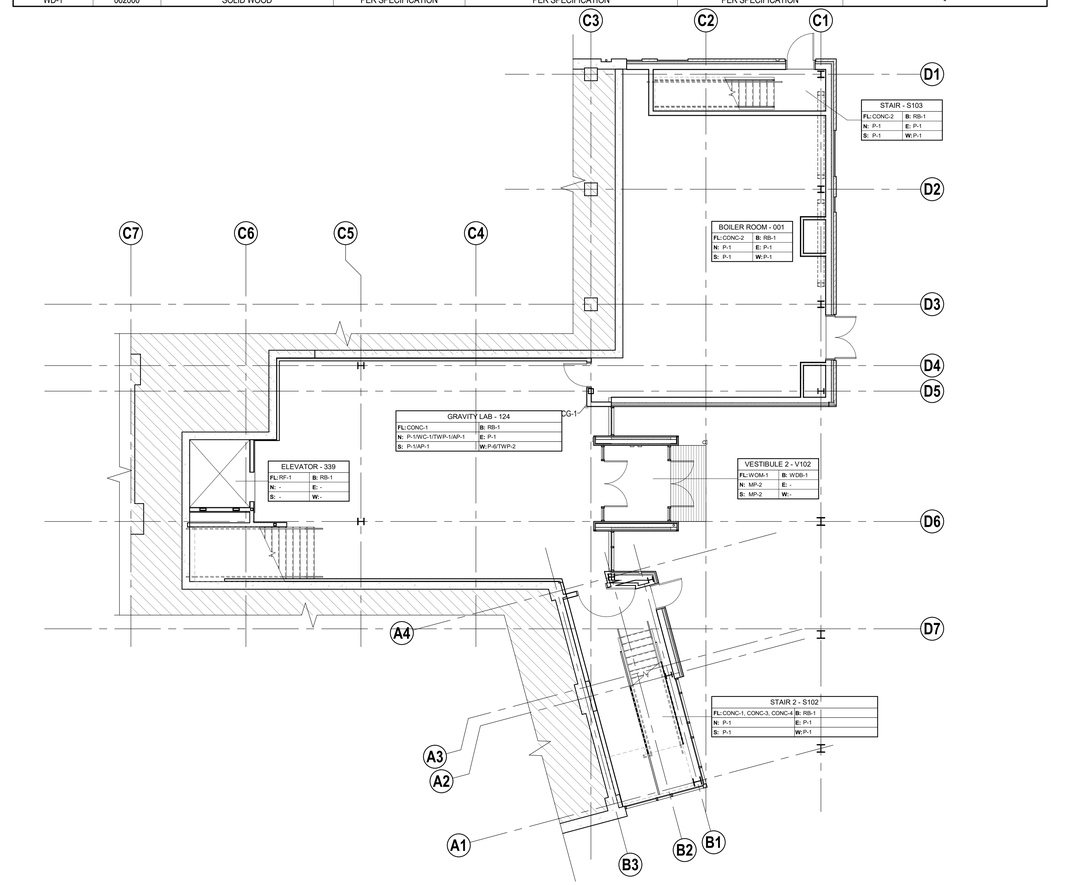
**A372**

IFC SET

PRCNC20221036

# FINISH & COLOR SCHEDULE

| CODE | CATEGORY | DESCRIPTION | MANUFACTURER | MFGR. REFERENCE NUMBER | COLOR | NOTES |
|---|---|---|---|---|---|---|
| FLOORS | | | | | | |
| CONC-1 | 033543 | POLISHED CONCRETE | PER SPECIFICATION | PER SPECIFICATION | - | - |
| CONC-2 | 033500 | SEALED CONCRETE | PER SPECIFICATION | PER SPECIFICATION | - | - |
| CONC-3 | 034500 | PRECAST CONCRETE | PER SPECIFICATION | PER SPECIFICATION | - | - |
| CONC-4 | 034500 | PRECAST CONCRETE | PER SPECIFICATION | PER SPECIFICATION | - | - |
| CPTT-1 | 096813 | CARPET TILE | SHAW | 5T324 QUAD TILE | 23580 PIGMENT BEAM | - |
| PT-1 | 093000 | PORCELAIN TILE | MOSA | GLOBAL COLLECTION / GLOBALGRIP, 12" X 12" | 75620V SMALL SPECKLED GREY | - |
| RF-1 | 096500 | RUBBER FLOORING | NORA | NORAMENT KIVO | 5367 TITANIUM | - |
| RF-2 | 096500 | RUBBER FLOORING | NORA | NORAMENT KIVO | 5361 PUMICE | - |
| WOM-1 | 096813 | WALK-OFF MAT CARPET | SHAW | 5T413 PACE TILE | 14557 TRAVERSE | - |
| WOM-2 | 124813 | WALK-OFF MAT W/ CARPET INSERT | PER SPECIFICATION | PER SPECIFICATION | PER SPECIFICATION | - |
| BASE | | | | | | |
| PTB-1 | 093000 | PORCELAIN TILE BASE | MOSA | GLOBAL COLLECTION / GLOBALGRIP, TRIM COVE BASE | 75620P SMALL SPECKLED GREY | - |
| RB-1 | 096500 | RUBBER BASE | ROPPE | PINNACLE RUBBER BASE, STANDARD TOE | LIGHT GRAY 195 | - |
| WDB-1 | 062000 | WOOD BASE | PER SPECIFICATION | 1/2" X 4" | PAINT TO MATCH RB-1 | - |
| WALLS | | | | | | |
| AP-1 | 098400 | ABSORPTIVE PANEL | FSORB | 4' X 8', 1" THICK | WHITE FS-100 | - |
| AP-2 | 098400 | ABSORPTIVE PANEL | FSORB | 4' X 8', 1" THICK | LIGHT GREY FS-130 | APPLIED TO THE UNDERSIDE OF DECK WHERE INDICATED IN REFLECTED CEILING PLANS |
| AWP-1 | 062000 | ACOUSTIC WOOD PANELING | ASI ARCHITECTURAL | AUDITION WOOD PANEL | BEECH VENEER | - |
| CT-1 | 093000 | CERAMIC TILE | DALTILE | COLOR WHEEL LINEAR 4"X12" | 1049 OCEAN BLUE | - |
| CT-2 | 093000 | CERAMIC TILE | DALTILE | COLOR WHEEL LINEAR 4"X12" | 0190 ARCTIC WHITE | - |
| FRP-1 | 068316 | FIBERGLASS REINFORCED PANEL | CRANE COMPOSITES | VARIETEX | 1277 CLEAR WATER - LINEN TEXTURE | - |
| P-1 | 099000 | PAINT | SHERWIN WILLIAMS | SW 9623 | SNOWBELT | - |
| P-2 | 099000 | PAINT | BENJAMIN MOORE | 2121-20 | STEEL WOOL | - |
| P-3 | 099000 | PAINT | PER SPECIFICATION | PER SPECIFICATION | PER SPECIFICATION | - |
| P-4 | 099000 | PAINT | PER SPECIFICATION | PER SPECIFICATION | MATCH MP-1 | - |
| P-5 | 099000 | PAINT | PER SPECIFICATION | PER SPECIFICATION | MATCH MP-2 | - |
| P-6 | 099000 | PAINT | SHERWIN WILLIAMS | SW 7586 | STOLEN KISS | - |
| P-7 | 099000 | PAINT | SHERWIN WILLIAMS | SW 6348 | REYNARD | - |
| P-8 | 099000 | PAINT | SHERWIN WILLIAMS | SW 6769 | MAXI TEAL | - |
| P-9 | 099000 | PAINT | SHERWIM WILLIAMS | SW 9165 | GOSSAMER VEIL | - |
| PLAM-1 | 064100 | PLASTIC LAMINATE | WILSONART | 10776-60 | KENSINGTON MAPLE | - |
| PLAM-2 | 064100 | PLASTIC LAMINATE | WILSONART | 5013K-60 | MUSHROOM | - |
| PLAM-3 | 064100 | PLASTIC LAMINATE | WILSONART | VIRTUAL DESIGN LIBRARY Y0476-60 | WATERSPOUT | - |
| PLWD-1 | 062000 | PLYWOOD PANELING | PER SPECIFICATION | PER SPECIFICATION | - | - |
| TWP-1 | 097200 | TACKABLE ACOUSTIC WALL PANEL | MAHARAM | TEK-WALL SLATE 300097 | 007 ROADSIDE | WRAPPED AROUND AVL SYSTEMS ACOUSTECH M-SERIES TACKABLE ACOUSTICAL PANELS |
| TWP-2 | 097200 | TACKABLE ACOUSTIC WALL PANEL | MAHARAM | MESSENGER 458640 | 069 CHERRY | WRAPPED AROUND AVL SYSTEMS ACOUSTECH M-SERIES TACKABLE ACOUSTICAL PANELS |
| WC-1 | 097200 | WRITABLE WALL COVERING | KOROSEAL | WALLTALKERS KORO-RITE | KR60-00 WHITE | - |
| WC-2 | 097200 | WRITABLE WALL COVERING | KOROSEAL | WALLTALKERS PROJECT-RITE | PE60-00 WHITE | - |
| CEILING | | | | | | |
| ACB-1 | 095123 | SUSPENDED ACOUSTICAL BAFFLES | CERTAINTEED | TAVOLA TALL BAFFLES, 2" x 18" | 1011 P AVIATION WHITE | - |
| ACT-1 | 095123 | SUSPENDED ACOUSTICAL TILE | ARMSTRONG | ULTIMA HIGH RECYCLED CONTENT, 24" x 48" | WHITE | - |
| ACT-2 | 095123 | SUSPENDED ACOUSTICAL CLOUD | ARMSTRONG | ULTIMA HIGH RECYCLED CONTENT, 24" x 24" | WHITE | - |
| ACT-3 | 095123 | SUSPENDED ACOUSTICAL TILE | ARMSTRONG | LYRA PLANT BASED, 24" x 48" | MATCH P-8 | - |
| ACT-4 | 095123 | SUSPENDED ACOUSTICAL TILE | ARMSTRONG | LYRA PLANT BASED, 24" x 48" | MATCH P-7 | - |
| MISC | | | | | | |
| PB-1 | 062000 | PEGBOARD | PER SPECIFICATION | PER SPECIFICATION | PER SPECIFICATION | - |
| RS-1 | 122413 | ROLLER SHADES | PER SPECIFICATION | PER SPECIFICATION | OYSTER/PEWTER | - |
| SDS-1 | 064100 | SOLID SURFACE | CORIAN | SOLID SURFACE | ARTISTA GRAY | - |
| WD-1 | 062000 | SOLID WOOD | PER SPECIFICATION | PER SPECIFICATION | PER SPECIFICATION | - |




1 LEVEL 0 - FINISH PLAN
SCALE: 1/8" = 1'-0"

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
11. DEVICES, EQUIPMENT & FIXTURES SHOWN FOR LOCATION COORDINATION. REFER TO MECHANICAL, ELECTRICAL & TELECOM DRAWINGS FOR SYSTEM DESIGN & DETAIL.
12. CASEWORK FINISHES SHALL BE UNO:
    A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    B. COUNTERS (NO SINK): PLAM-2, UNO.
    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO.

## INT FINISH PLAN LEGEND

| ROOM NAME - ROOM # | |
|---|---|
| **FL:** FLOORING | **B:** BASE |
| **N:** NORTH WALL FINISH | **E:** EAST WALL FINISH |
| **S:** SOUTH WALL FINISH | **W:** WEST WALL FINISH |

CORNER GUARD LOCATION

FINISH FLOOR TRANSITION

FLOOR FINISH DIRECTION

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3739 FAX: (206)628-3138

9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

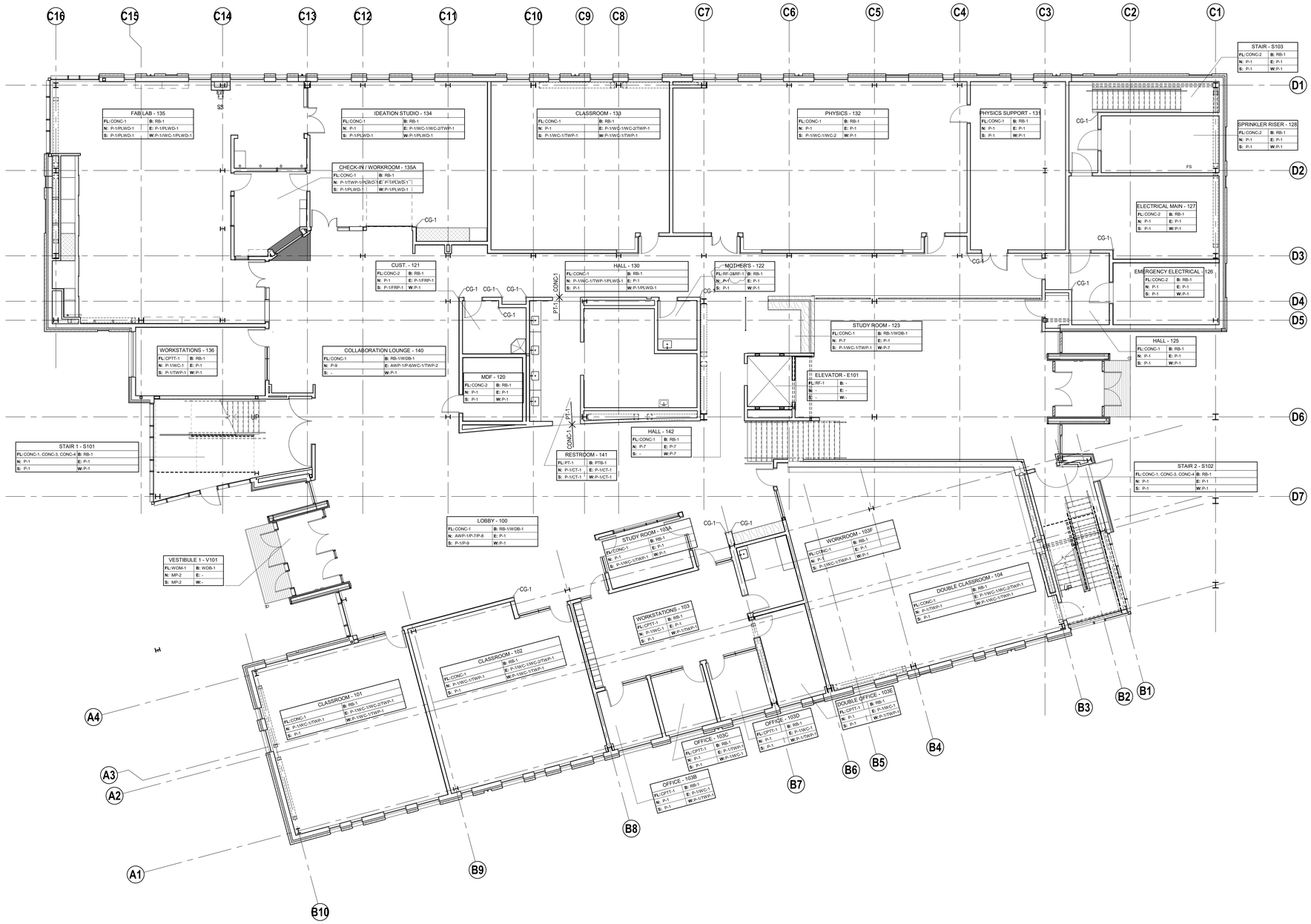
| Date | Description |
|---|---|
| 03/21/2023 | ASI-029 |

FINISH & COLOR SCHEDULE, LEVEL 0 - FINISH PLAN

**A400**

IFC SET

PRCNC20221036




LEVEL 1 - FINISH PLAN
SCALE: 1/8" = 1'-0"

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
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## INT FINISH PLAN LEGEND

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CG — CORNER GUARD LOCATION

CPTT SC — FINISH FLOOR TRANSITION

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integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3739 FAX: (206)624-3730

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**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**
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| Checked By: | JL |

Revisions

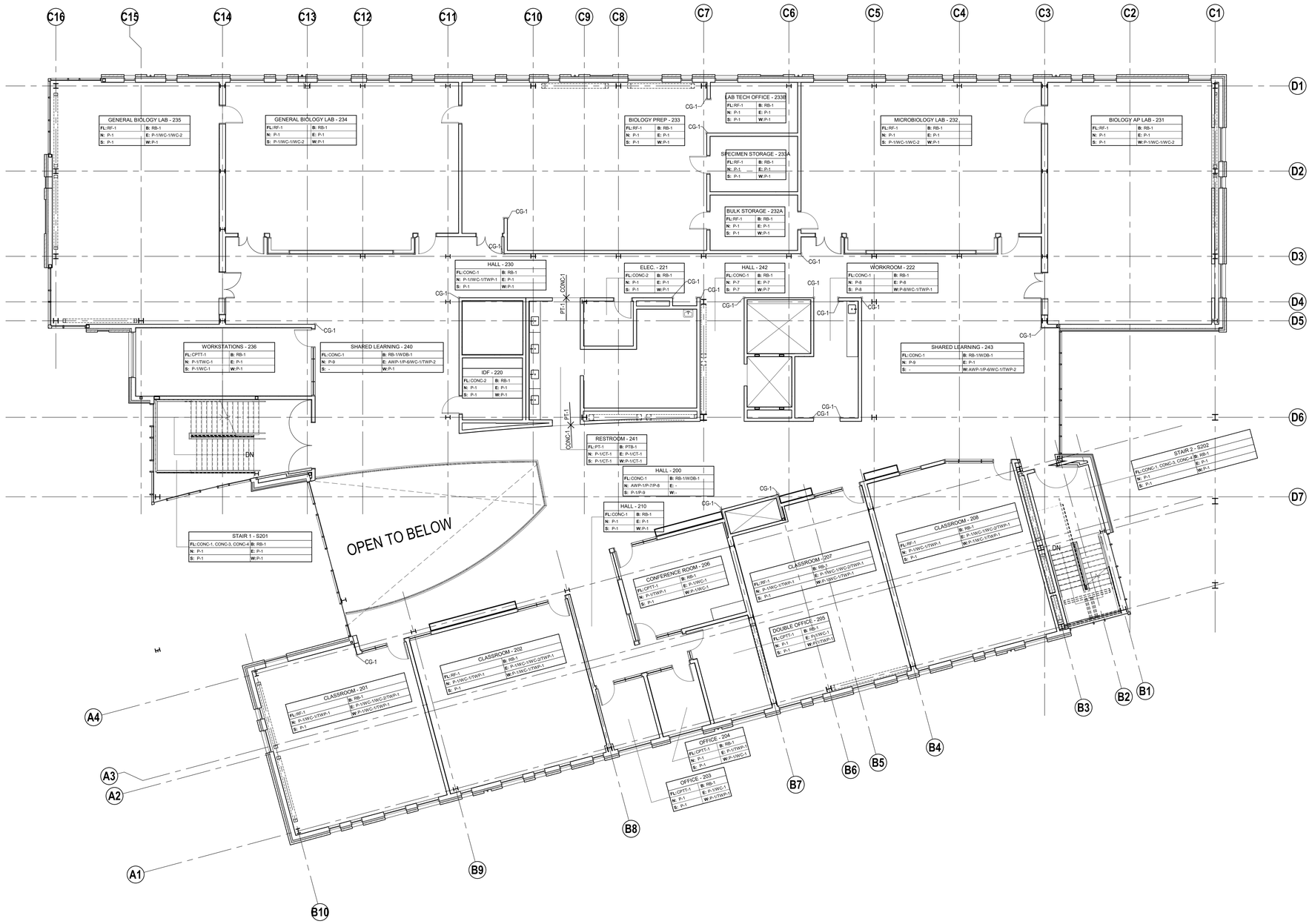
| Date | Description |
|---|---|
| 03/21/2023 | ASI-029 |

LEVEL 1 - FINISH PLANS

**A401**

**IFC SET**

PRCNC20221036




LEVEL 2 - FINISH PLAN
SCALE: 1/8" = 1'-0"

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Revisions

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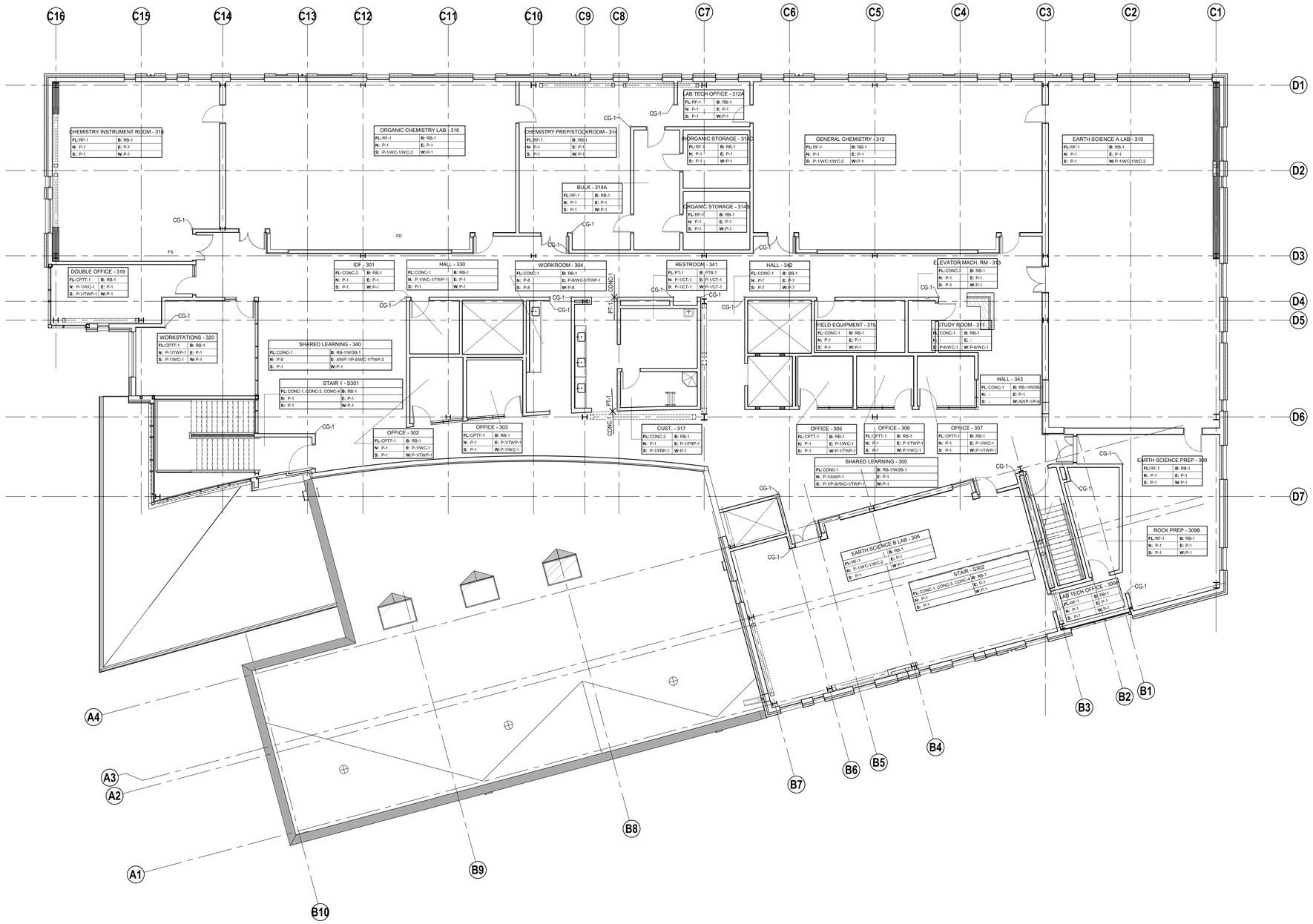
|---|---|---|

LEVEL 2 - FINISH PLANS

**A402**

IFC SET

PRCNC20221036




LEVEL 3 - FINISH PLAN
SCALE: 1/8" = 1'-0"

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Revisions

| # | Date | Description |
|---|---|---|

LEVEL 3 - FINISH PLANS

**A403**

IFC SET

PRCNC20221036

## EQUIPMENT AND ACCESSORY SCHEDULE

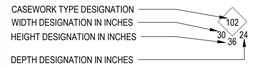
| NUMBER | DESCRIPTION | RESPONSIBILITY | MECH | PLUMB | ELEC | Spec # |
|---|---|---|---|---|---|---|
| AC-1 | COAT HOOK | CFCI | No | No | No | 102800 |
| AC-2 | WALL MOUNTED ROLL MEDIA RACK | CFCI | No | No | No | 064100 |
| AE-1 | COPIER | OFOI | No | No | Yes | 115700 |
| AE-2 | VENDING MACHINE | OFOI | No | No | Yes | 115700 |
| DO-1 | DISPLAY CASE | OFOI | No | No | No | -- |
| FE-1 | DIE CUTTER | OFOI | No | No | Yes | 115700 |
| FE-2 | DIE CUTTER - BANNER SIZE | OFOI | No | No | Yes | 115700 |
| FE-3 | HEAT PRESS - MINI | OFOI | No | No | Yes | 115700 |
| FE-4 | HEAT PRES | OFOI | No | No | Yes | 115700 |
| FE-5 | PAINT BOOTH | OFCI | Yes | No | Yes | 115700 |
| FE-6 | AIR BRUSH COMPRESSOR | OFOI | No | No | Yes | 115700 |
| FE-7 | SEMI-INDUSTRIAL EMBROIDERY MACHINE | OFOI | No | No | Yes | 115700 |
| FE-8 | PERSONAL SEWING MACHINE | OFOI | No | No | Yes | 115700 |
| FE-9 | SERGER SEWING MACHINE | OFOI | No | No | Yes | 115700 |
| FE-10 | SEWING / EMBROIDERY MACHINE | OFOI | No | No | Yes | 115700 |
| FE-11 | MANUAL FLAT KNITTING MACHINE | OFOI | No | No | No | 115700 |
| FE-12 | PROGRAMMABLE KNITTING MACHINE | OFOI | No | No | No | 115700 |
| FE-13 | PUG MILL | OFCI | No | No | Yes | 115700 |
| FE-14 | THROWING WHEEL | OFOI | No | No | Yes | 115700 |
| FE-15 | MID SIZE 3D PRINTER | OFOI | No | No | Yes | 115700 |
| FE-16 | SLS PRINTER | OFOI | No | No | Yes | 115700 |
| FE-17 | 3B PRINTER | OFOI | No | No | Yes | 115700 |
| FE-18 | CLAY 3D PRINTER | OFOI | No | No | Yes | 115700 |
| FE-19 | 3D WASH | OFOI | No | No | Yes | 115700 |
| FE-20 | 3D CURE | OFOI | No | No | Yes | 115700 |
| FE-21 | LASER CUTTER - STAND ALONE | OFCI | Yes | No | Yes | 115700 |
| FE-22 | LASER CUTTER - TABLE TOP | OFCI | Yes | No | Yes | 115700 |
| FE-23 | STEP LADDER | OFOI | No | No | No | 115700 |
| FE-24 | LAPTOP CART | OFOI | No | No | Yes | 115700 |
| FE-25 | 3D SCANNER | OFOI | No | No | Yes | 115700 |
| FE-26 | COMPRESSOR | CFCI | Yes | No | Yes | 115700 |
| FE-27 | DYEING VAT | OFCI | No | Yes | No | 115700 |
| FE-28 | SUBLIMATION PRINTER | OFOI | No | No | Yes | 115700 |
| FE-29 | DUST EXTRACTOR | OFCI | Yes | No | Yes | 115700 |
| FE-30 | POWER SANDER | OFCI | No | No | Yes | 115700 |
| FE-31 | ADJUSTABLE HEIGHT TABLE | CFCI | No | No | Yes | 115700 |
| FP-1 | FIRE EXTINGUISHER | CFCI | No | No | No | 104400 |
| FP-2 | FIRE EXTINGUISHER CABINET | CFCI | No | No | No | 104400 |
| ML-1 | METAL LOCKERS - 2 TIER | CFCI | No | No | No | 105113 |
| MS-1 | BRACKET WIRE SHELVING | CFCI | No | No | No | 064100 |
| PS-1 | PROJECTION SCREEN | OFOI | No | No | No | 115700 |
| RA-1 | REFRIGERATOR | OFOI | No | Yes | Yes | 115700 |
| RA-2 | ICE MACHINE | OFOI | No | Yes | Yes | 115700 |
| RA-3 | REACH-IN FREEZER | OFOI | No | Yes | Yes | 115700 |
| RA-4 | FREEZER | OFOI | No | Yes | Yes | 115700 |
| RA-5 | LARGE REFRIGERATOR | OFOI | No | Yes | Yes | 115700 |
| RA-6 | SMALL REFRIGERATOR | OFOI | No | Yes | Yes | 115700 |
| RA-7 | EP REFRIDGERATOR | OFOI | No | Yes | Yes | 115700 |
| RA-8 | INDUCTION COOKTOP | OFOI | No | No | Yes | 115700 |
| RA-9 | STACKED INCUBATOR | OFOI | No | Yes | Yes | 115700 |
| RA-10 | UNDER COUNTER GLASS WASHER | OFOI | No | Yes | Yes | 115700 |
| SE-1 | GOGGLE STORAGE | CFCI | No | No | Yes | 115700 |
| SE-2 | FLAMMABLE STORAGE CABINET | CFCI | No | No | No | 115310 |
| SE-3 | SEISMOGRAPH | OFCI | Yes | No | Yes | 115700 |
| SE-4 | SNORKEL EXHAUST - ATOMIC ABSORPTION | OFOI | Yes | No | Yes | 115700 |
| SE-5 | SEISMOGRAPH READOUT | OFCI | Yes | No | Yes | 115700 |
| SE-6 | STREAM TABLE | OFCI | No | Yes | Yes | 115700 |
| SE-7 | 3D SANDBOX | OFCI | Yes | No | Yes | 115700 |
| SE-8 | LARGE ROCK SAW | OFCI | Yes | No | Yes | 115700 |
| SE-9 | ROCK SAW | OFCI | Yes | No | Yes | 115700 |
| SE-10 | EROSION TANK | OFCI | Yes | Yes | Yes | 115700 |
| SE-11 | WAVE TABLE | OFCI | Yes | Yes | Yes | 115700 |
| TA-1 | GRAB BAR | CFCI | No | No | No | 102800 |
| TA-2 | CHANGING STATION | OFCI | No | No | No | 102800 |
| TA-3 | FEMININE HYGIENE DISPENSER | OFCI | No | No | No | 102800 |
| TA-4 | TOILET PAPER DISPENSER | OFCI | No | No | No | 102800 |
| TA-5 | PAPER TOWEL DISPENSER | OFCI | No | No | No | 102800 |
| TA-6 | SOAP DISPENSER | OFCI | No | No | No | 102800 |
| TA-7 | TRASH CAN | OFOI | No | No | No | 102800 |
| TA-8 | SEAT COVER DISPENSER | OFCI | No | No | No | 102800 |
| TA-9 | SANITARY NAPKIN RECEPTACLE | OFCI | No | No | No | 102800 |
| TA-10 | DRINKING FOUNTAIN | CFCI | No | Yes | Yes | 224000 |
| TA-12 | SHARP BOX | OFCI | No | No | No | 102800 |
| VD-1 | DIGITAL DISPLAY | OFOI | No | No | Yes | 115700 |
| VD-2 | DIGITAL DISPLAY | OFOI | No | No | Yes | 115700 |

## MEP SYMBOL LEGEND

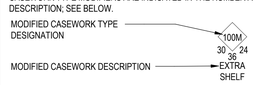
CLOCK

## NAAWS (CDS) CASEWORK TYPE SYMBOL

(STANDARDS BASED ON NORTH AMERICAN ARCHITECTURAL WOODWORK STANDARDS)




CASEWORK TYPE MODIFIERS ARE INDICATED IN THE NUMBER AND A DESCRIPTION; SEE BELOW.

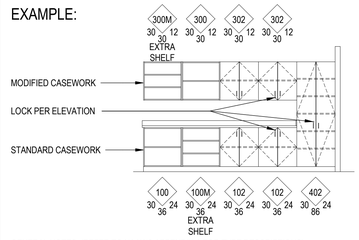



CUSTOM CASEWORK IS INDICATED IN THE TYPE NUMBER FIELD AND ACCOMPANIED WITH DETAILS SHOWN ON ELEVATIONS; SEE BELOW.

THE **CDS IS SUBDIVIDED AS FOLLOWS**:

| | |
|---|---|
| BASE CABINETS W/O DRAWERS | 100 SERIES |
| BASE CABINETS W/ DRAWERS | 200 SERIES |
| WALL-HUNG CABINETS | 300 SERIES |
| TALL STORAGE CABINETS | 400 SERIES |
| TALL WARDROBE CABINETS | 500 SERIES |
| LIBRARY CABINETS | 600 SERIES |
| MOVABLE CABINETS | 700 SERIES |

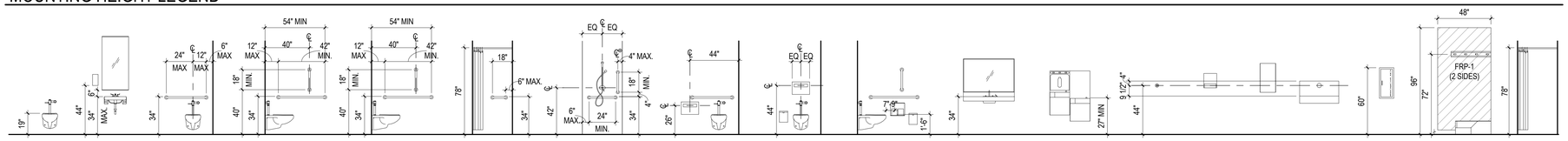
EXAMPLE:




GENERAL NOTES: (REFER TO NAAWS APPENDIX A FOR TYPE DESCRIPTIONS)

1. 100 OR 200 SERIES CABINETS MAY BE CONVERTED INTO MOVEABLE CABINETS BY PREFIXING A "7"TO THE NUMBER. (EXAMPLE: 7-102-36"x30"x18 [7-102-914 mm x 762 mm x 457 mm]).
2. MOVEABLE CABINETS SHALL BE EQUIPPED WITH ADEQUATE APPROVED CASTERS FOR THE INTENDED LOAD CAPACITY.
3. CDS #'s 728, 729, 735, 736, 737, 738, AND 739 REQUIRE METAL ANGLE REINFORCED CORNERS.
4. CARTS AND ROLLING TALL STORAGE CABINETS WITH DOORS, LACKING ANY HORIZONTAL; AND/OR VERTICAL STABILIZING DIVIDERS, REQUIRE A DIAPHRAGM BOTTOM; SPECIFICALLY CDS #'s 702, 712, 716, 722, 743,744, 746, 747, 750, AND 751.
5. WARDROBE CABINETS (500 SERIES) WITH DOORS REQUIRE A FRAMED MIRROR ON ONE DOOR, AND CABINETS # 533 AND 534 REQUIRE A PAPER ROLLER/CUTTER AND SLIDE-OUT TILTING PAPER SHELVES.
6. CART STORAGE CABINETS ARE REQUIRED TO HAVE HARDWOOD SIDE GUIDES, SPECIFICALLY CDS #'s 160, 161, AND 162.
7. CERAMICS DRYING CABINETS ARE REQUIRED TO HAVE GALVANIZED METAL FRAME SHELVES WITH WIRE MESH, SPECIFICALLY CDS #'s 198 199, AND 459.
8. FILE DRAWERS REQUIRE FULL-EXTENSION SLIDES AND A FILE-HANGING SYSTEM, SPECIFICALLY CDS #'s 223, 224, 230, 231, 240, 242, 253, 255, 531, 532, AND 533.
9. WARDROBE CABINETS ARE REQUIRED TO HAVE A SHELF, POLE, AND FRAMED MIRROR WHEN CLOSED WITH HINGED DOORS, SPECIFICALLY, CDS #'s 501, 511, 512, 522, 530, 531, 532, AND 552.

## MOUNTING HEIGHT LEGEND

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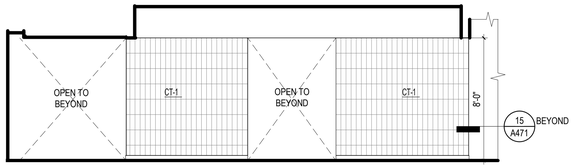
GENERAL INTERIOR NOTES, SCHEDULES & LEGENDS

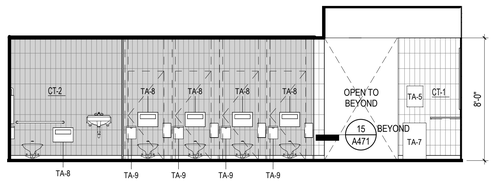
**A410**

IFC SET

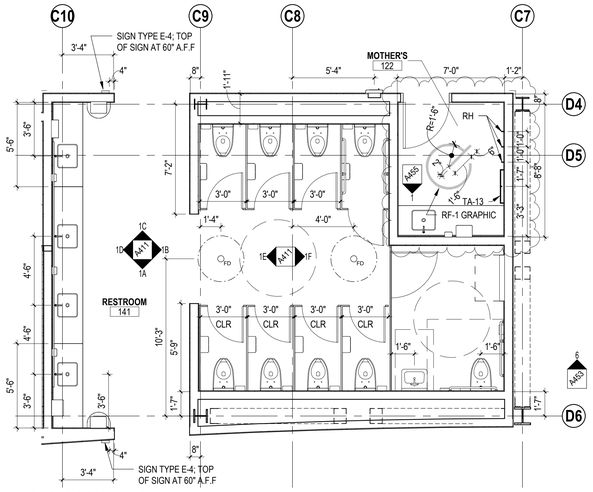
PRCNC20221036



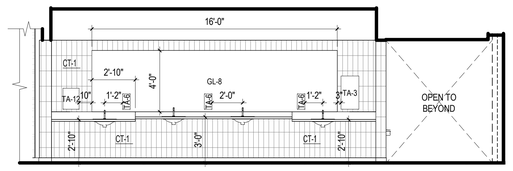

## 1B RESTROOM LEVEL 1 - EAST 1
SCALE: 1/4" = 1'-0"



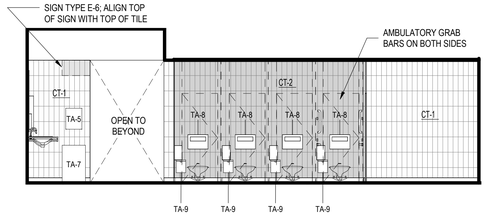

## 1A RESTROOM LEVEL 1 - SOUTH
SCALE: 1/4" = 1'-0"



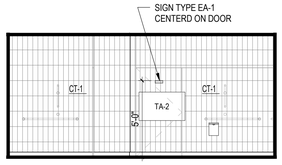

## 1 RESTROOM 141- PLAN
SCALE: 1/4" = 1'-0"



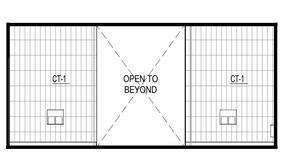

## 1D RESTROOM LEVEL 1 - WEST 1
SCALE: 1/4" = 1'-0"



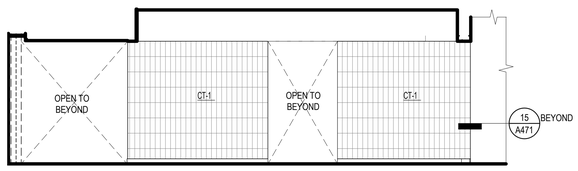

## 1C RESTROOM LEVEL 1 - NORTH
SCALE: 1/4" = 1'-0"



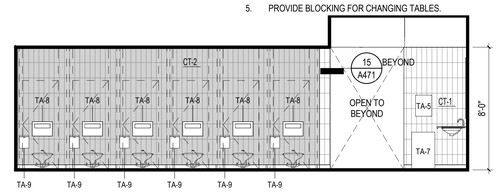

## 1F RESTROOM LEVEL 1 - EAST 2
SCALE: 1/4" = 1'-0"



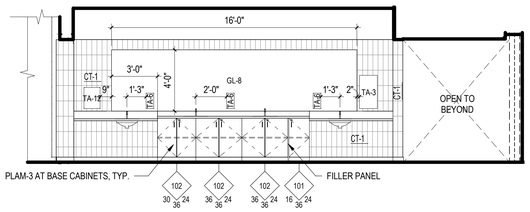

## 1E RESTROOM LEVEL 1 - WEST 2
SCALE: 1/4" = 1'-0"



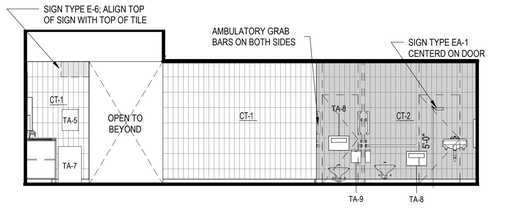

## 2B RESTROOM LEVEL 2 - EAST 1
SCALE: 1/4" = 1'-0"



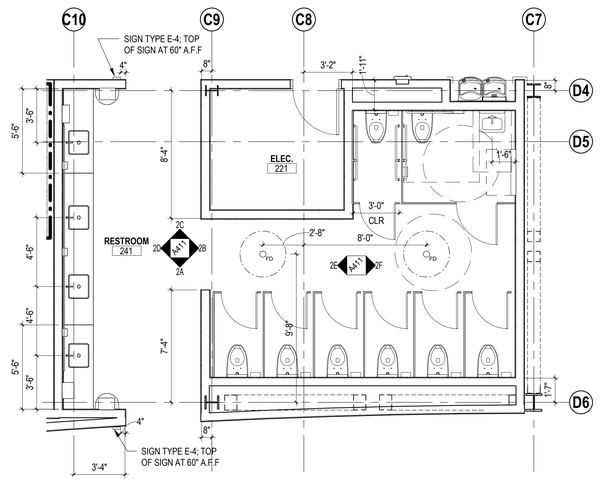

## 2A RESTROOM LEVEL 2 - SOUTH
SCALE: 1/4" = 1'-0"



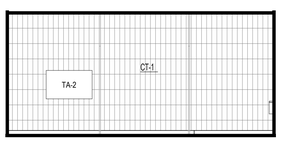

## 2D RESTROOM LEVEL 2 - WEST 1
SCALE: 1/4" = 1'-0"



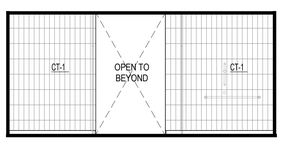

## 2C RESTROOM LEVEL 2 - NORTH
SCALE: 1/4" = 1'-0"




## 2 RESTROOM 241 - PLAN
SCALE: 1/4" = 1'-0"




## 2F RESTROOM LEVEL 2 - EAST 2
SCALE: 1/4" = 1'-0"




## 2E RESTROOM LEVEL 2 - WEST 2
SCALE: 1/4" = 1'-0"

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
11. DEVICES, EQUIPMENT & FIXTURES SHOWN FOR LOCATION COORDINATION. REFER TO MECHANICAL, ELECTRICAL & TELECOM DRAWINGS FOR SYSTEM DESIGN & DETAIL.
12. CASEWORK FINISHES SHALL BE UNO:
    A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    B. COUNTERS (NO SINK): PLAM-2, UNO.
    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO.

## RESTROOMS GENERAL NOTES

1. ONE (1) TOILET PAPER DISPENSER (TA-10) AND SANITARY NAPKIN RECEPTACLE (TA-9) IN EACH TOILET STALL IN ALL TOILET ROOMS.
2. REFER TO PLUMBING DRAWINGS FOR FLOOR DRAIN (FD) LOCATIONS AT EACH TOILET AND SHOWER ROOM. CONFIRM EACH FD WITH ARCHITECT.
3. PROVIDE BACKING SUPPORT AT ALL GRAB BARS PER MANUFACTURER'S RECOMMENDATION.
4. FOR ANY WALL MOUNTED ITEM NOT SHOWN ON ELEVATIONS COORDINATE LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
5. PROVIDE BLOCKING FOR CHANGING TABLES.

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117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-7337 FAX: (206)628-3138

9411
REGISTERED ARCHITECT
BRIAN JON BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

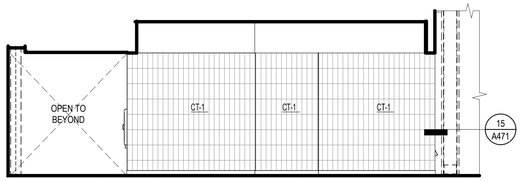
| Date | Description |
|---|---|
| 01/31/23 | ASI-012 |
| 03/21/2023 | ASI-029 |

ENLARGED FLOOR PLANS W/ ELEVATIONS

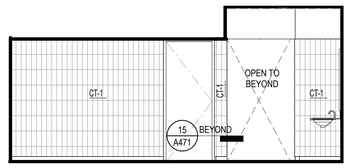
**A411**

IFC SET

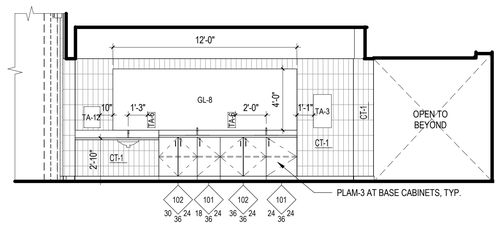
PRCNC20221036



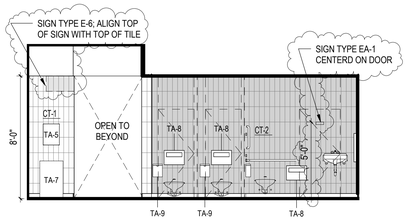

## 1B RESTROOM LEVEL 3 - EAST 1
SCALE: 1/4" = 1'-0"



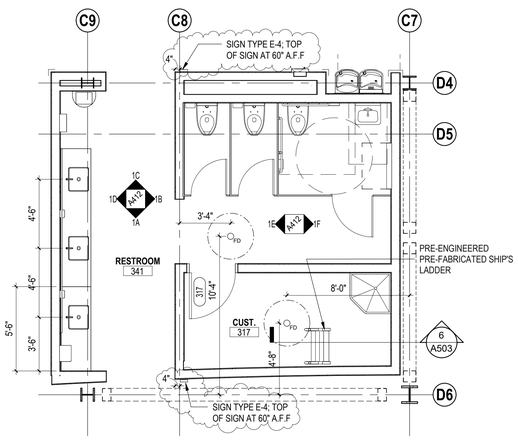

## 1A RESTROOM LEVEL 3 - SOUTH
SCALE: 1/4" = 1'-0"



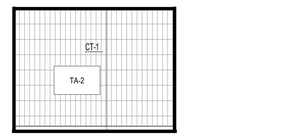

## 1D RESTROOM LEVEL 3 - WEST 1
SCALE: 1/4" = 1'-0"



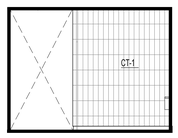

## 1C RESTROOM LEVEL 3 - NORTH
SCALE: 1/4" = 1'-0"



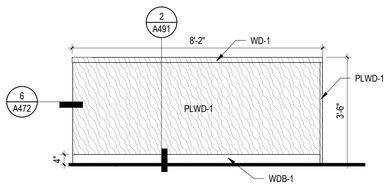

## 1 RESTROOM 341 - PLAN
SCALE: 1/4" = 1'-0"



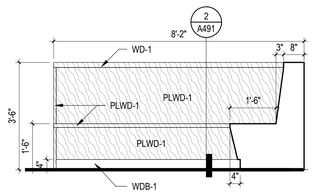

## 1F RESTROOM LEVEL 3 - EAST 2
SCALE: 1/4" = 1'-0"



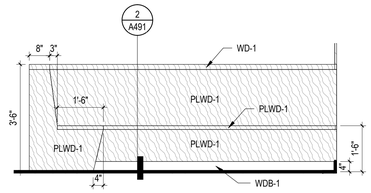

## 1E RESTROOM LEVEL 3 - WEST 2
SCALE: 1/4" = 1'-0"



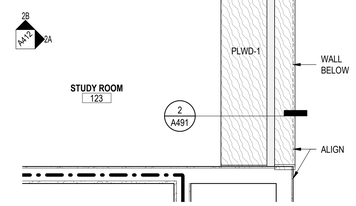

## 2C STUDY ROOM 123 BENCH - NORTH
SCALE: 1/2" = 1'-0"



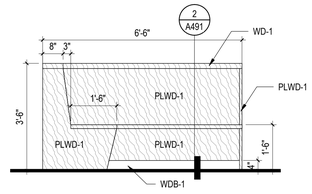

## 2B STUDY ROOM 123 BENCH - SOUTH
SCALE: 1/2" = 1'-0"



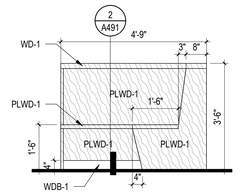

## 2A STUDY ROOM 123 BENCH - EAST
SCALE: 1/2" = 1'-0"



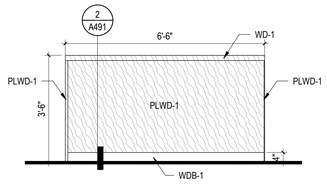

## 2 STUDY ROOM 123 BENCH - PLAN
SCALE: 1/2" = 1'-0"



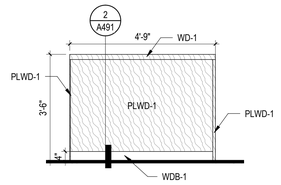

## 3D STUDY ROOM 311 BENCH - WEST
SCALE: 1/2" = 1'-0"



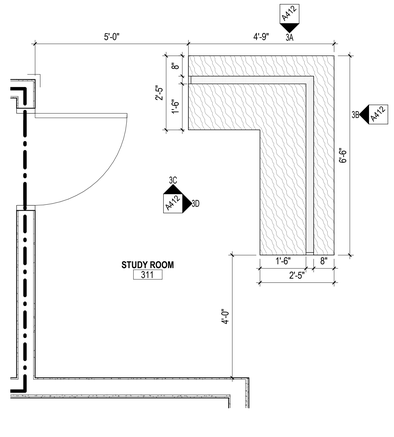

## 3C STUDY ROOM 311 BENCH - SOUTH
SCALE: 1/2" = 1'-0"




## 3B STUDY ROOM 311 BENCH - EAST
SCALE: 1/2" = 1'-0"




## 3A STUDY ROOM 311 BENCH - NORTH
SCALE: 1/2" = 1'-0"




## 3 STUDY ROOM 311 BENCH - PLAN
SCALE: 1/2" = 1'-0"

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
11. DEVICES, EQUIPMENT & FIXTURES SHOWN FOR LOCATION COORDINATION. REFER TO MECHANICAL, ELECTRICAL & TELECOM DRAWINGS FOR SYSTEM DESIGN & DETAIL.
12. CASEWORK FINISHES SHALL BE UNO:
    A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    B. COUNTERS (NO SINK): PLAM-2, UNO.
    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO. FINISH M10 AT AWP TO MATCH WOOD TEXTURE.

## RESTROOMS GENERAL NOTES

1. ONE (1) TOILET PAPER DISPENSER (TA-10) AND SANITARY NAPKIN RECEPTACLE (TA-9) IN EACH TOILET STALL IN ALL TOILET ROOMS.
2. REFER TO PLUMBING DRAWINGS FOR FLOOR DRAIN (FD) LOCATIONS AT EACH TOILET AND SHOWER ROOM. CONFIRM EACH FD WITH ARCHITECT.
3. PROVIDE BACKING SUPPORT AT ALL GRAB BARS PER MANUFACTURER'S RECOMMENDATION.
4. FOR ANY WALL MOUNTED ITEM NOT SHOWN ON ELEVATIONS COORDINATE LOCATION WITH ARCHITECT PRIOR TO INSTALLATION.
5. PROVIDE BLOCKING FOR CHANGING TABLES.

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117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-7337 FAX: (206)624-3139

9411
REGISTERED ARCHITECT
BRIAN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

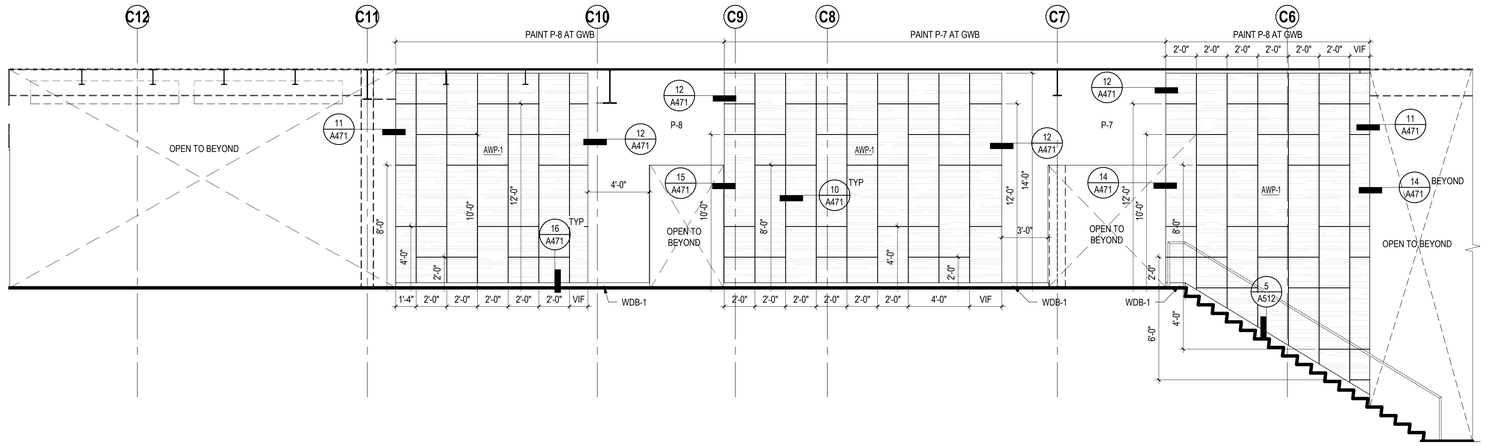
| Date | Description |
|---|---|
| 01/31/23 | ASI-012 |

ENLARGED FLOOR PLANS W/ ELEVATIONS

**A412**

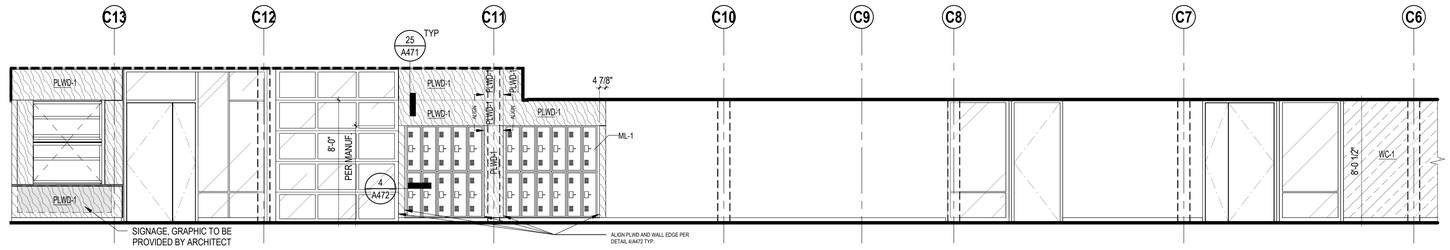
IFC SET

PRCNC20221036



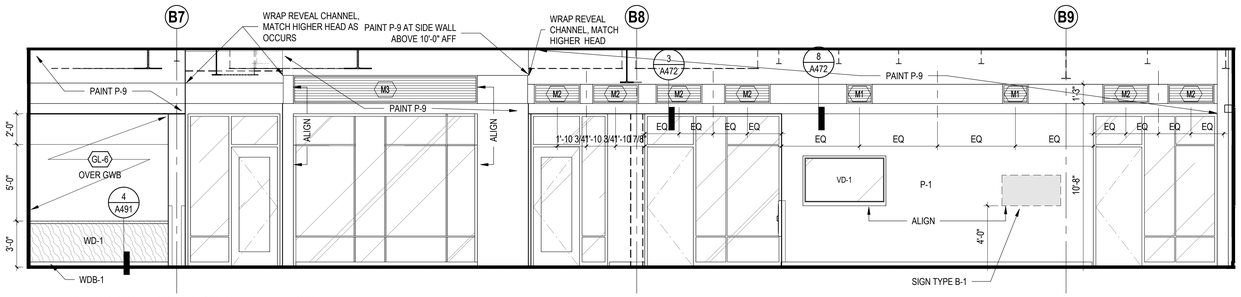

## 1 CORE LEVEL 1 - NORTH

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



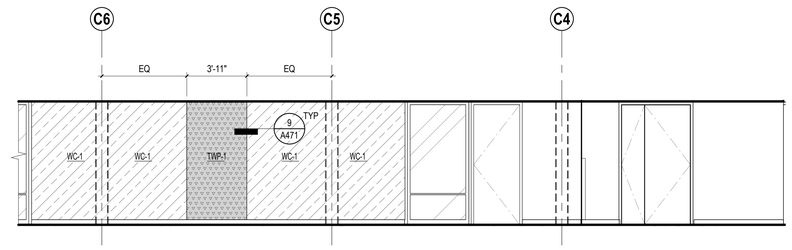

## 2A LAB CORRIDOR LEVEL 1 - NORTH 1

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



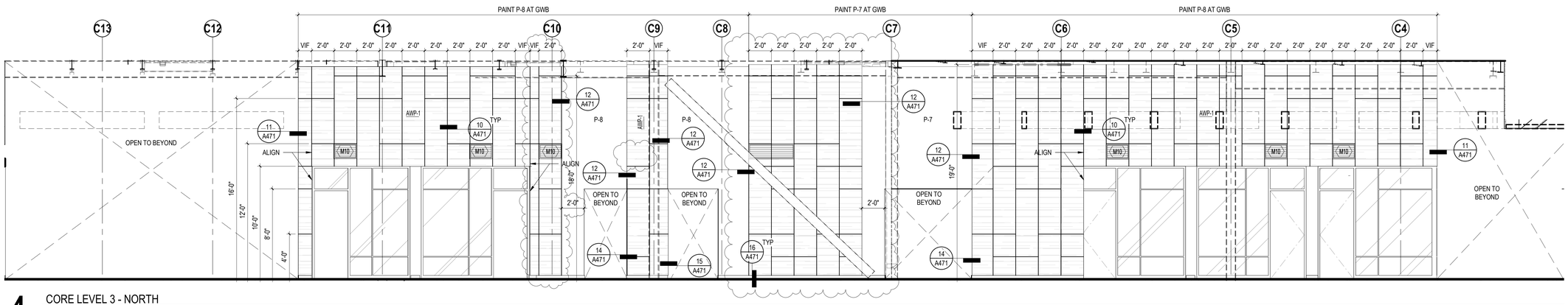

## 3 CLASSROOM CORRIDOR LEVEL 1 - SOUTH

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




## 2B LAB CORRIDOR LEVEL 1 - NORTH 2

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




## 4 CORE LEVEL 3 - NORTH

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

# INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
11. DEVICES, EQUIPMENT & FIXTURES SHOWN FOR LOCATION COORDINATION. REFER TO MECHANICAL, ELECTRICAL & TELECOM DRAWINGS FOR SYSTEM DESIGN & DETAIL.
12. CASEWORK FINISHES SHALL BE UNO:
    A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    B. COUNTERS (NO SINK): PLAM-2, UNO.
    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO.

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9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

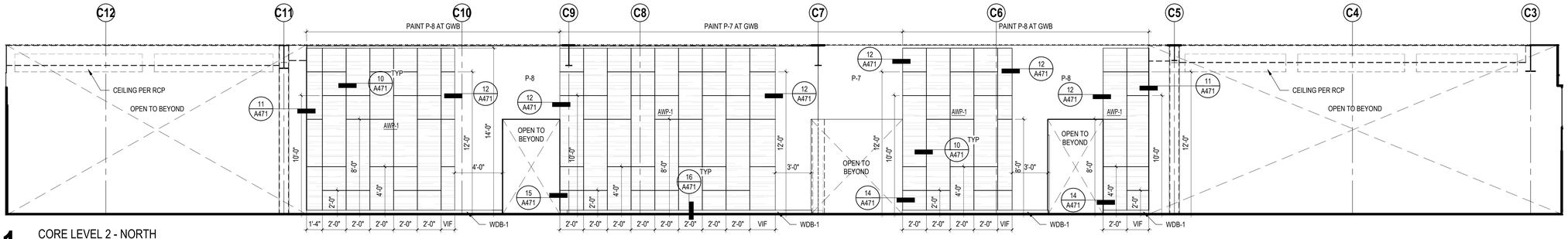
| Date | Description |
|---|---|
| | CA Changes |
| 04/28/23 | RFI-104 |

INTERIOR ELEVATIONS

**A451**

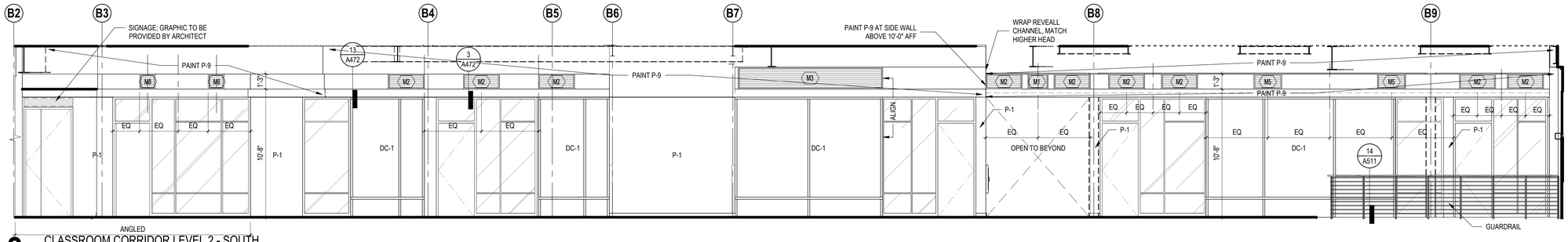
IFC SET

PRCNC20221036



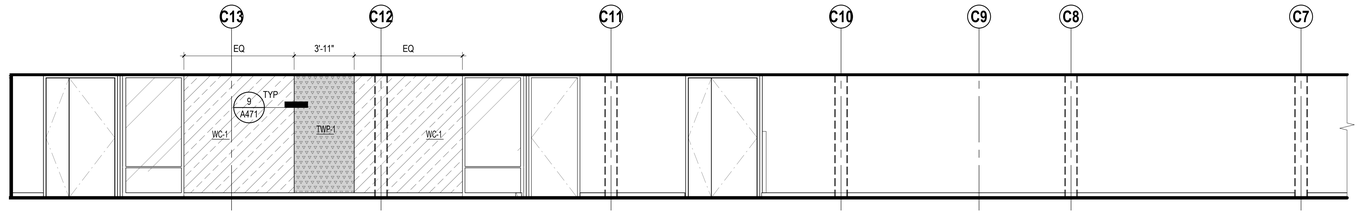

## 1 CORE LEVEL 2 - NORTH

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



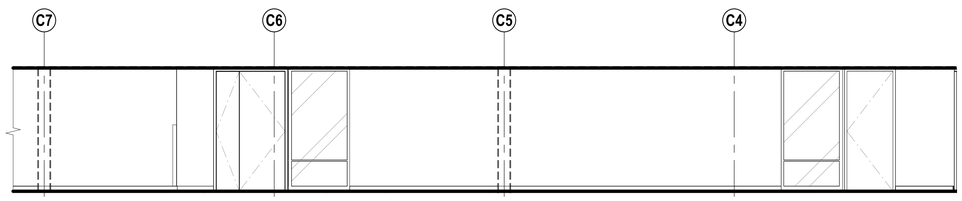

## 2 CLASSROOM CORRIDOR LEVEL 2 - SOUTH

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



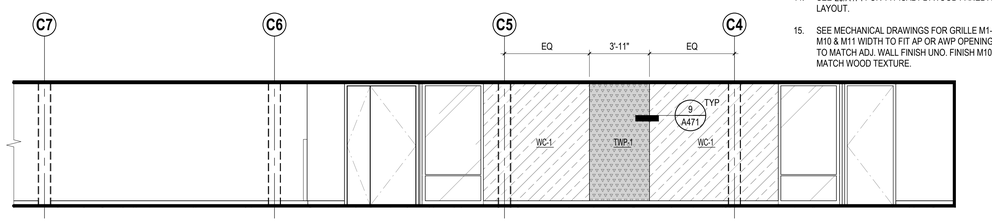

## 3A LAB CORRIDOR LEVEL 2 - NORTH 1

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



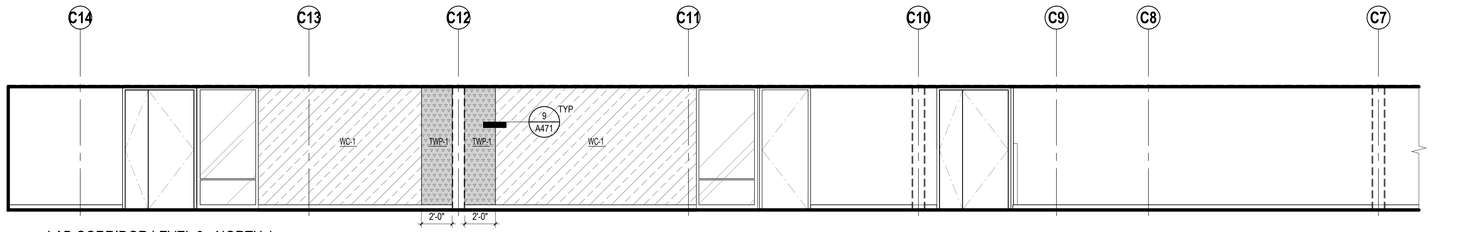

## 4A LAB CORRIDOR LEVEL 3 - NORTH 2

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




## 3B LAB CORRIDOR LEVEL 2 - NORTH 2

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




## 4B LAB CORRIDOR LEVEL 3 - NORTH 1

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

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
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    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO. FINISH M10 AT AWP TO MATCH WOOD TEXTURE.

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117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
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9411 REGISTERED ARCHITECT
BRIAN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

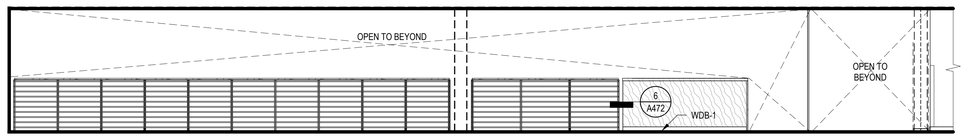
| # | Date | Description |
|---|---|---|

INTERIOR ELEVATIONS

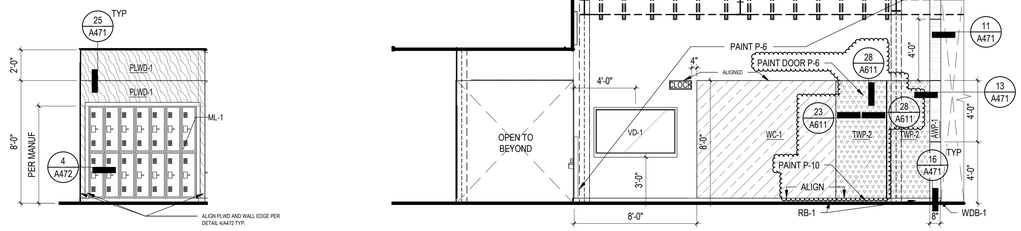
**A452**

IFC SET

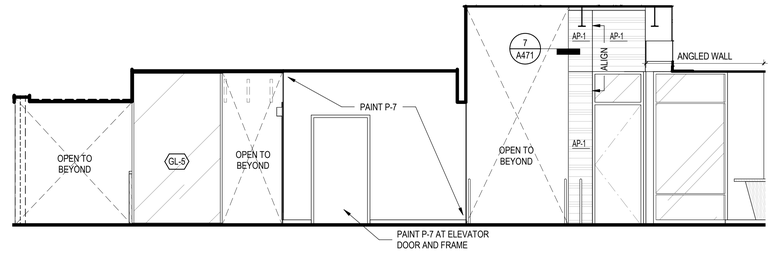
PRCNC20221036

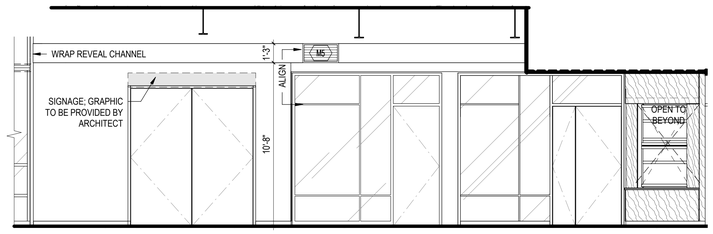



## 2 HALL 130 - SOUTH
SCALE: 1/4" = 1'-0"



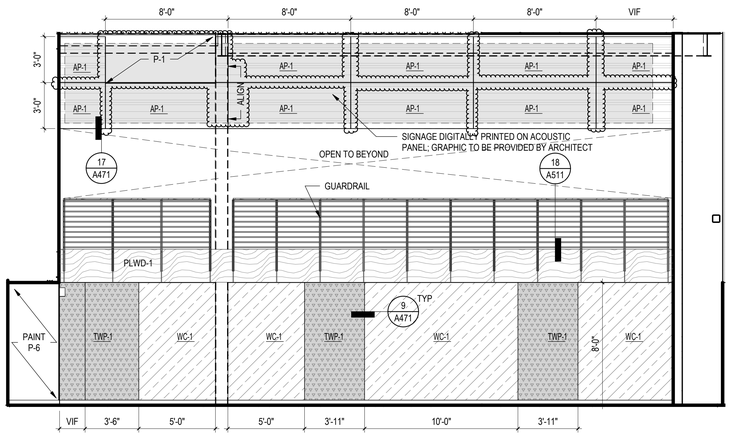

## 1 HALL 142 - EAST
SCALE: 1/4" = 1'-0"



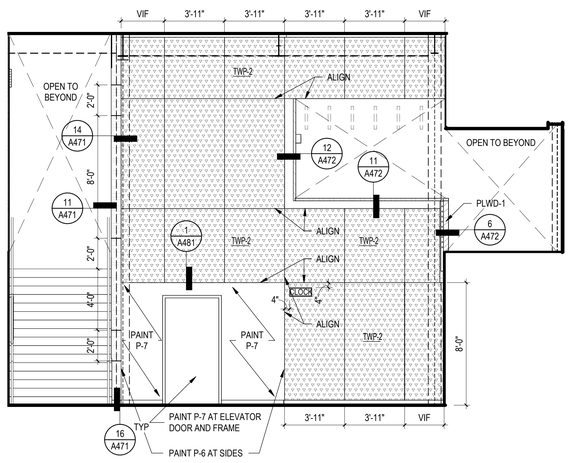



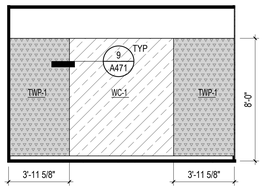

## 3C COLLABORATION LOUNGE 140 - SOUTH
SCALE: 1/4" = 1'-0"

## 3B COLLABORATION LOUNGE - EAST
SCALE: 1/4" = 1'-0"




## 3A COLLABORATION LOUNGE - WEST
SCALE: 1/4" = 1'-0"

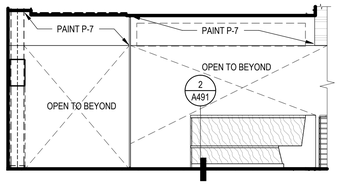


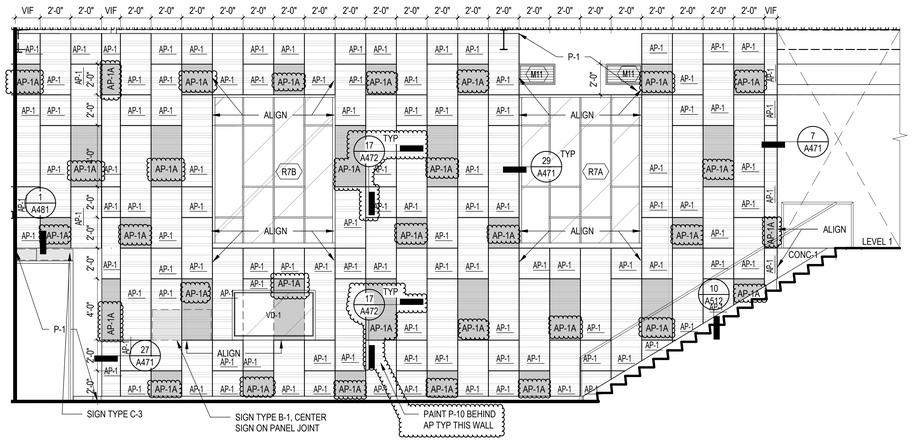



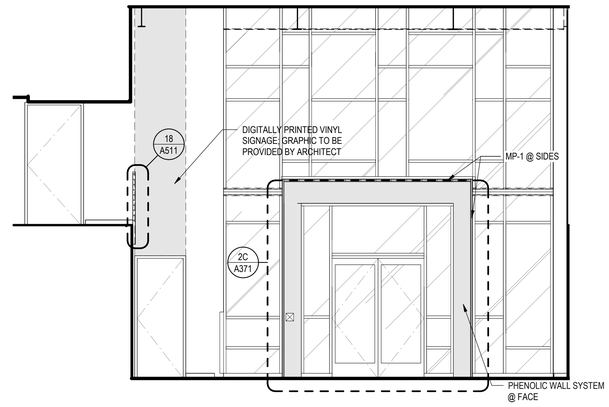

## 5B GRAVITY LAB - NORTH
SCALE: 1/4" = 1'-0"

## 5A GRAVITY LAB - WEST
SCALE: 1/4" = 1'-0"

## 4 STUDY ROOM 103A - SOUTH
SCALE: 1/4" = 1'-0"




## 6 HALL 142/STUDY ROOM 123 - NORTH
SCALE: 1/4" = 1'-0"

## 5D GRAVITY LAB - SOUTH
SCALE: 1/4" = 1'-0"

## 5C GRAVITY LAB - EAST
SCALE: 1/4" = 1'-0"

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
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13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO.

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TELEPHONE: (206)624-7337 FAX: (206)838-3138

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

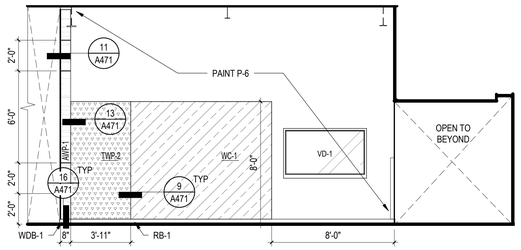
| Date | Description |
|---|---|
| 05/11/2023 | ASI-010 |

INTERIOR ELEVATIONS

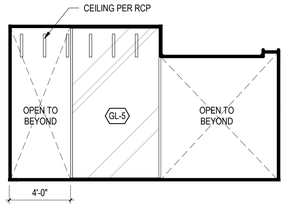
**A453**

IFC SET

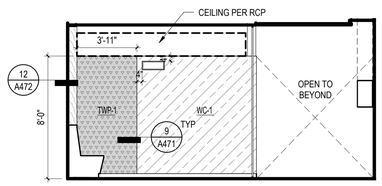
PRCNC20221036



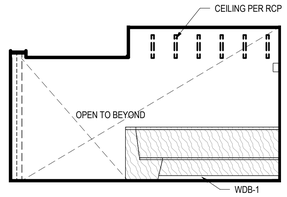

## 2A SHARED LEARNING 243 - WEST
SCALE: 1/4" = 1'-0"



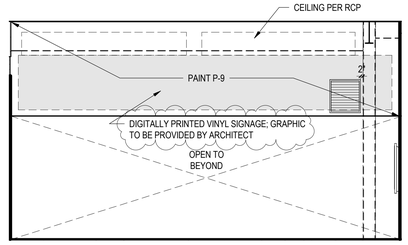

## 1C STUDY ROOM 123 - WEST
SCALE: 1/4" = 1'-0"



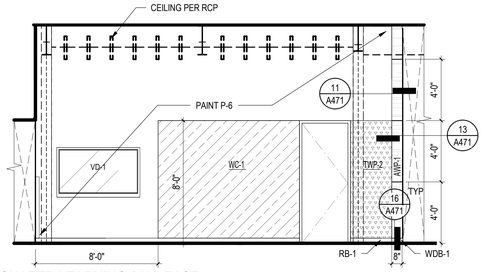

## 1B STUDY ROOM 123 - SOUTH
SCALE: 1/4" = 1'-0"



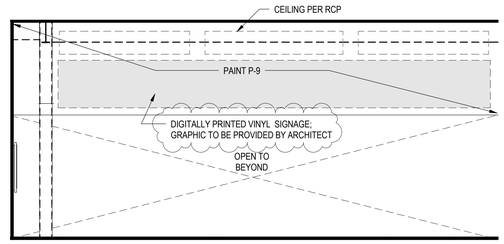

## 1A STUDY ROOM 123 - EAST
SCALE: 1/4" = 1'-0"



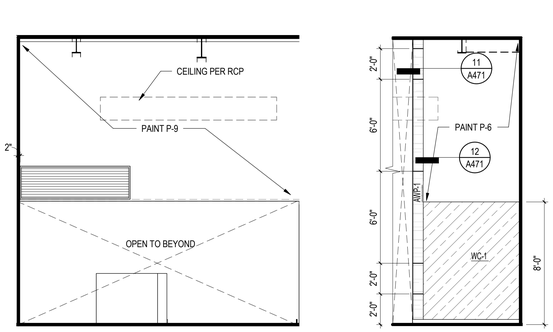

## 3B SHARED LEARNING 240 SOFFIT - NORTH
SCALE: 1/4" = 1'-0"



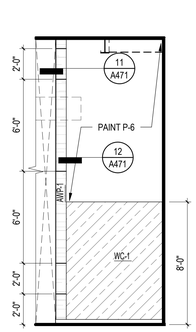

## 3A SHARED LEARNING 240 - EAST
SCALE: 1/4" = 1'-0"



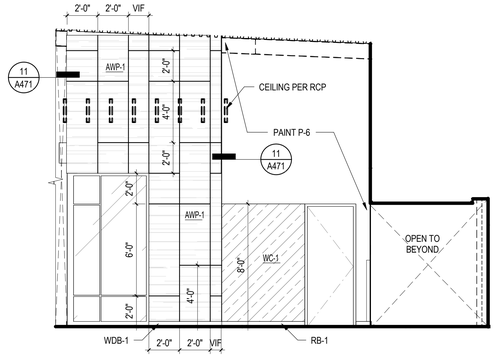

## 2B SHARED LEARNING 243 SOFFIT - NORTH
SCALE: 1/4" = 1'-0"



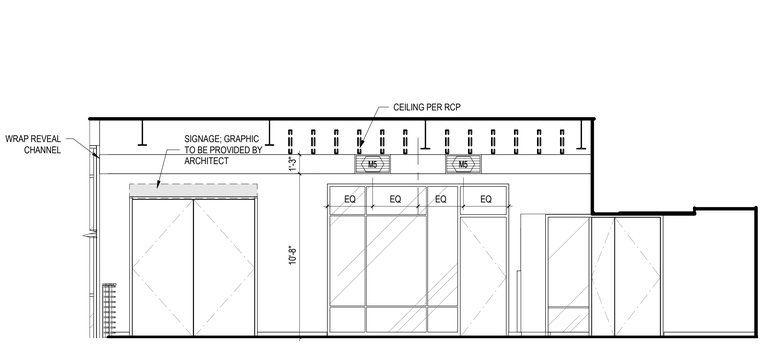

## 4C STUDY ROOM 311 - NORTH
SCALE: 1/4" = 1'-0"



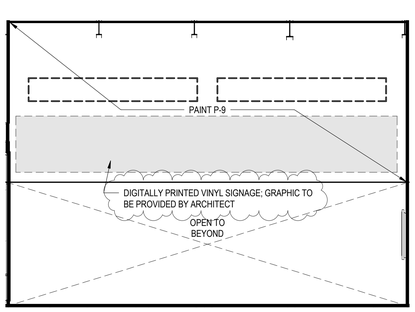

## 4B STUDY ROOM 311 - SOUTH
SCALE: 1/4" = 1'-0"



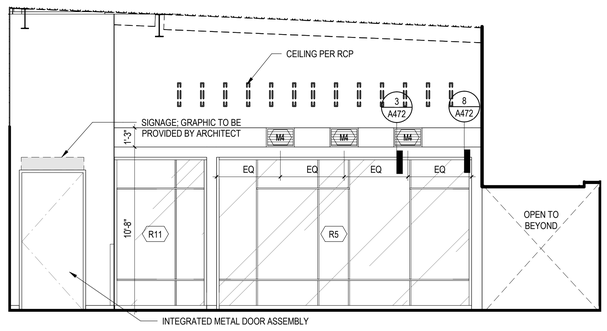

## 4A STUDY ROOM 311 - WEST
SCALE: 1/4" = 1'-0"



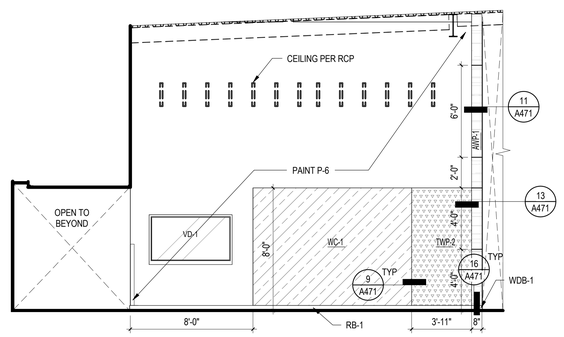

## 3C SHARED LEARNING 240 - WEST
SCALE: 1/4" = 1'-0"




## 5C SHARED LEARNING 340 SOFFIT - NORTH
SCALE: 1/4" = 1'-0"




## 5B SHARED LEARNING 340 - WEST
SCALE: 1/4" = 1'-0"




## 5A SHARED LEARNING 340 - EAST
SCALE: 1/4" = 1'-0"

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
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5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
11. DEVICES, EQUIPMENT & FIXTURES SHOWN FOR LOCATION COORDINATION. REFER TO MECHANICAL, ELECTRICAL & TELECOM DRAWINGS FOR SYSTEM DESIGN & DETAIL.
12. CASEWORK FINISHES SHALL BE UNO:
    A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    B. COUNTERS (NO SINK): PLAM-2, UNO.
    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO. FINISH M10 AT AWP TO MATCH WOOD TEXTURE.

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-7337 FAX: (206)624-3139

9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

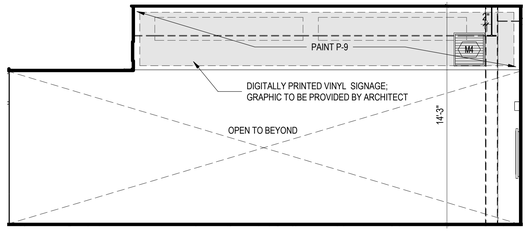
| Date | Description |
|---|---|
| 01/31/23 | ASI-012 |

INTERIOR ELEVATIONS

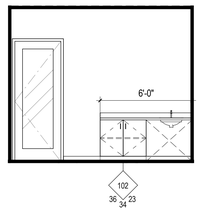
**A454**

IFC SET

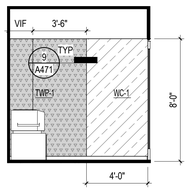
PRCNC20221036



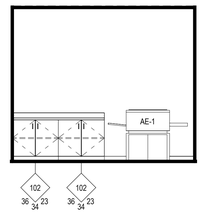

## 3 COLLABORATION LOUNGE SOFFIT - NORTH
SCALE: 1/4" = 1'-0"



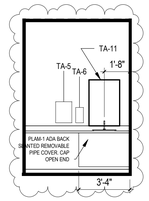

## 2C WORKROOM 103F - WEST
SCALE: 1/4" = 1'-0"




## 2B WORKROOM 103F - SOUTH
SCALE: 1/4" = 1'-0"




## 2A WORKROOM 103F - EAST
SCALE: 1/4" = 1'-0"




## 1 MOTHER'S ROOM - SOUTH
SCALE: 1/4" = 1'-0"

### INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
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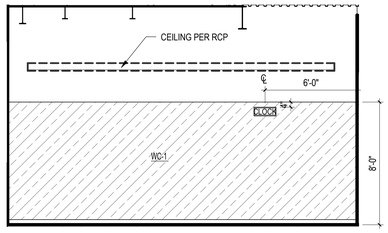
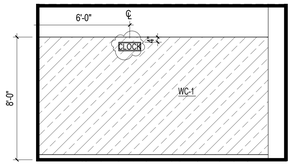
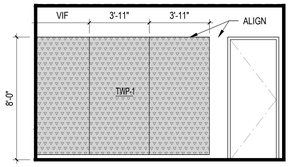


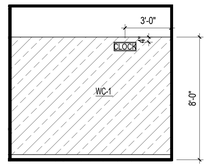

## 6A WORKSTATIONS 136 - NORTH
SCALE: 1/4" = 1'-0"



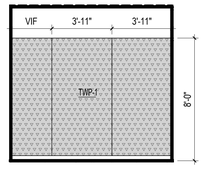

## 5B DOUBLE OFFICE 103E - EAST
SCALE: 1/4" = 1'-0"



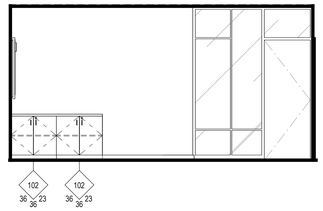

## 5A DOUBLE OFFICE 103E - WEST
SCALE: 1/4" = 1'-0"



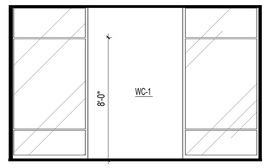

## 4B OFFICE - EAST
SCALE: 1/4" = 1'-0"



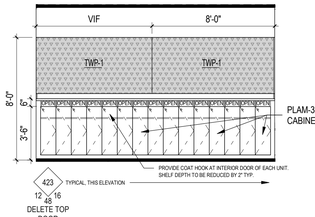

## 4A OFFICE - WEST
SCALE: 1/4" = 1'-0"




## 8B CONFERENCE ROOM - SOUTH
SCALE: 1/4" = 1'-0"

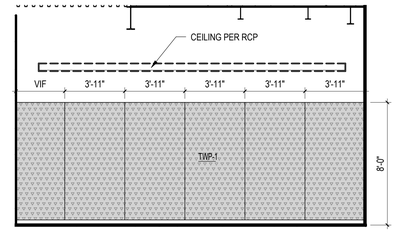



## 8A CONFERENCE ROOM - WEST
SCALE: 1/4" = 1'-0"

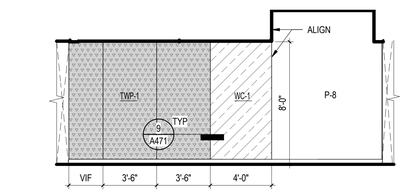



## 7B WORKSTATIONS 103 - WEST
SCALE: 1/4" = 1'-0"

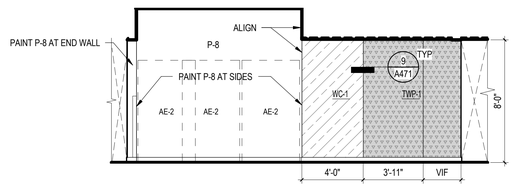
## 7A WORKSTATIONS 103 - NORTH
SCALE: 1/4" = 1'-0"



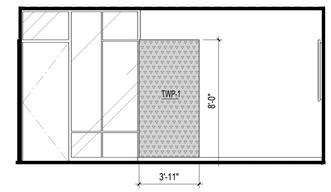

## 6B WORKSTATIONS 136 - SOUTH
SCALE: 1/4" = 1'-0"



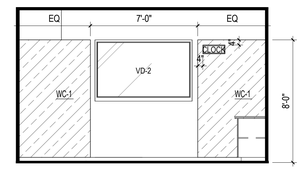

## 9B WORKROOM 222 - EAST
SCALE: 1/4" = 1'-0"




## 9A WORKROOM 222 - WEST
SCALE: 1/4" = 1'-0"



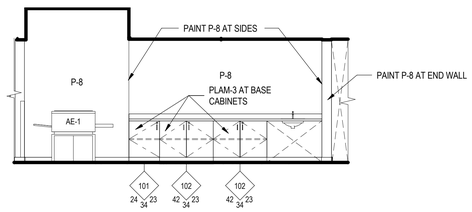

## 8D CONFERENCE ROOM - NORTH
SCALE: 1/4" = 1'-0"



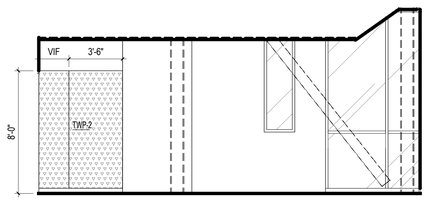

## 8C CONFERENCE ROOM - EAST
SCALE: 1/4" = 1'-0"



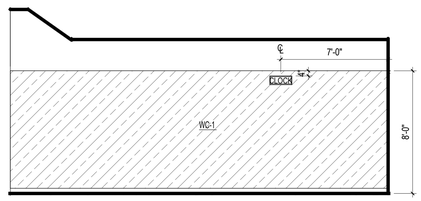

## 11B WORKROOM LEVEL 3 - EAST
SCALE: 1/4" = 1'-0"




## 11A WORKROOM LEVEL 3 - WEST
SCALE: 1/4" = 1'-0"




## 10B DOUBLE OFFICE 319 - SOUTH
SCALE: 1/4" = 1'-0"




## 10A DOUBLE OFFICE 319 - NORTH
SCALE: 1/4" = 1'-0"

IFC SET

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3739 FAX: (206)628-3138

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

| Date | Description |
|---|---|
| 01/31/23 | ASI-012 |
| 03/21/2023 | ASI-029 |
| 03/15/23 | RFI-078 |

INTERIOR ELEVATIONS

A455

PRCNC20221036

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
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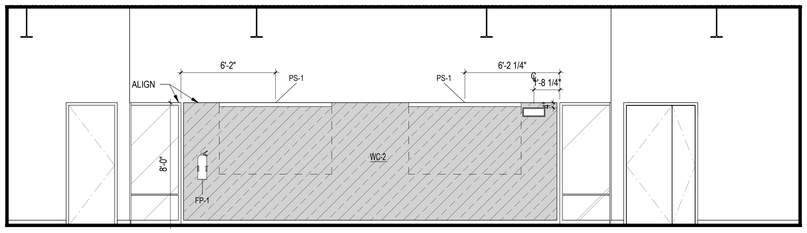
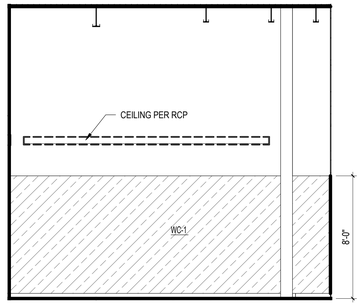
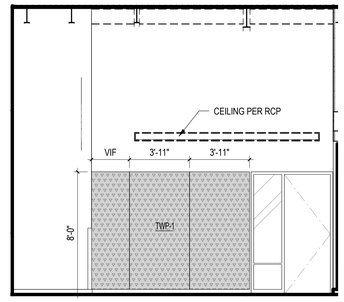


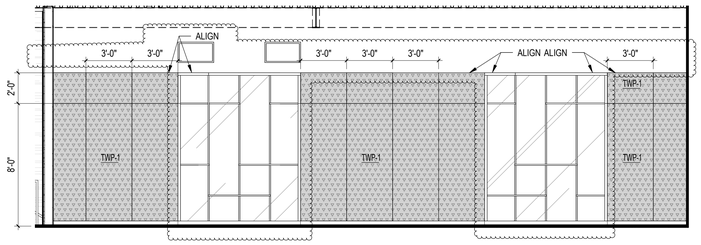

**2** PHYSICS 132 - SOUTH
SCALE: 1/4" = 1'-0"



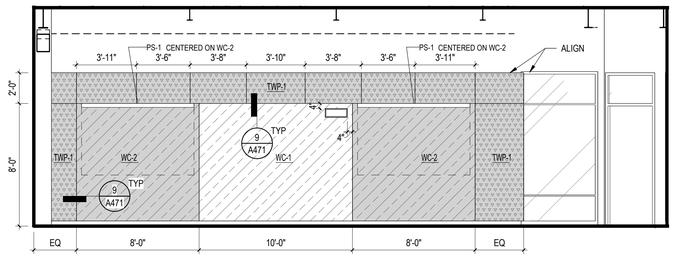

**1B** WORKSTATION 320 - SOUTH
SCALE: 1/4" = 1'-0"



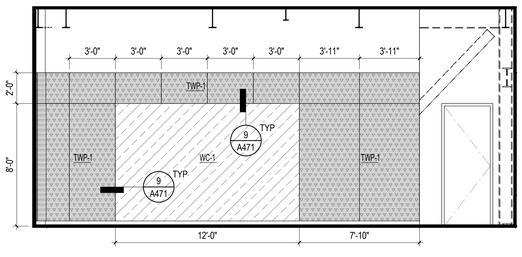

**1A** WORKSTATION 320 - NORTH
SCALE: 1/4" = 1'-0"



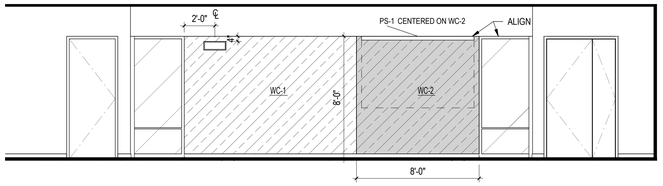

**3C** DOUBLE CLASSROOM - NORTH
SCALE: 1/4" = 1'-0"



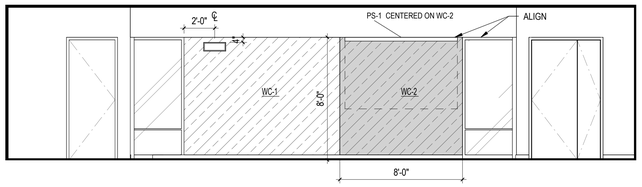

**3B** DOUBLE CLASSROOM - WEST
SCALE: 1/4" = 1'-0"



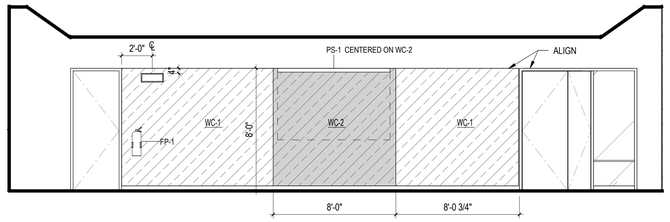

**3A** DOUBLE CLASSROOM - EAST
SCALE: 1/4" = 1'-0"



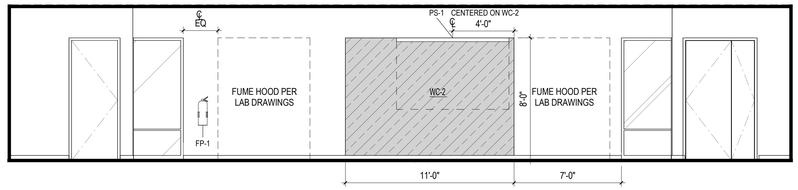

**6** MICROBIOLOGY LAB 232 - SOUTH
SCALE: 1/4" = 1'-0"



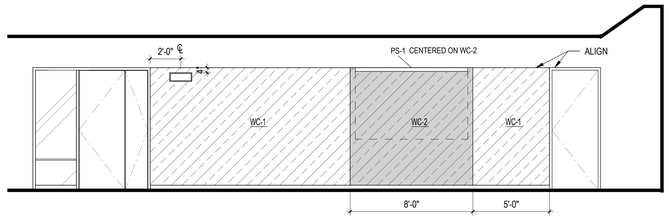

**5** GENERAL BIOLOGY LAB 234 - SOUTH
SCALE: 1/4" = 1'-0"




**4** GENERAL BIOLOGY LAB 235 - EAST
SCALE: 1/4" = 1'-0"




**8** ORGANIC CHEMISTRY LAB 316 - SOUTH
SCALE: 1/4" = 1'-0"




**7** BIOOLOGY AP LAB 231 - WEST
SCALE: 1/4" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
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9411 REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

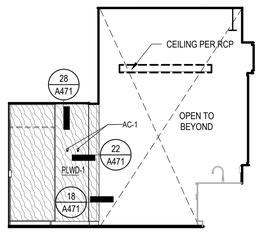
| Date | Description |
|---|---|
| 2/08/2023 | ASI-009 |

INTERIOR ELEVATIONS

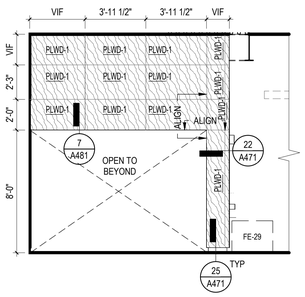
**A456**

IFC SET

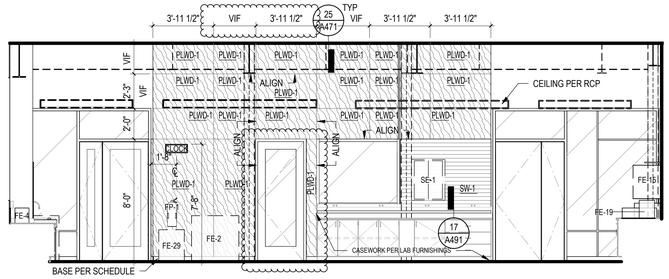
PRCNC20221036



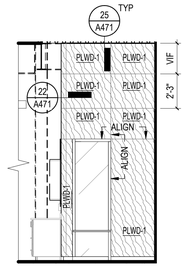

## 1D PAINT ZONE - WEST
SCALE: 1/4" = 1'-0"




## 1C FAB WET ZONE S
SCALE: 1/4" = 1'-0"



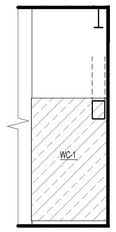

## 1B FAB LAB - EAST
SCALE: 1/4" = 1'-0"



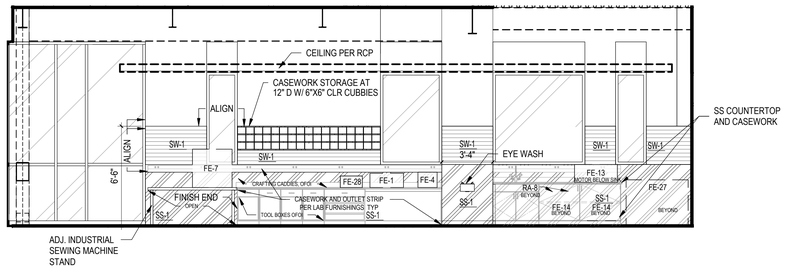

## 1A FAB ENTRY N
SCALE: 1/4" = 1'-0"

## INTERIOR GENERAL NOTES

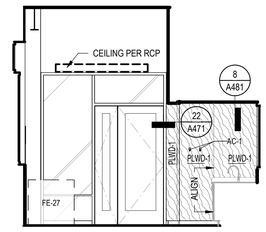
1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
11. DEVICES, EQUIPMENT & FIXTURES SHOWN FOR LOCATION COORDINATION. REFER TO MECHANICAL, ELECTRICAL & TELECOM DRAWINGS FOR SYSTEM DESIGN & DETAIL.
12. CASEWORK FINISHES SHALL BE UNO:
    A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    B. COUNTERS (NO SINK): PLAM-2, UNO.
    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO. FINISH M10 AT AWP TO MATCH WOOD TEXTURE.



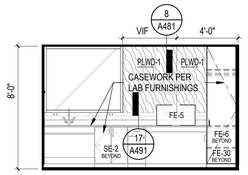

## 1H FAB LAB - S2
SCALE: 1/4" = 1'-0"



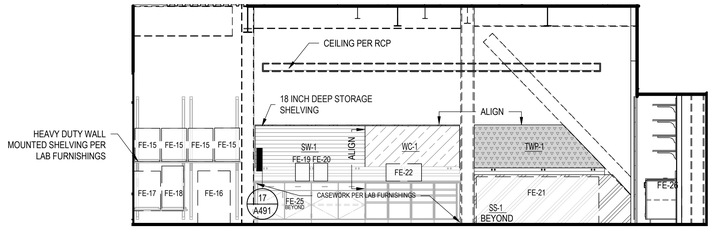

## 1G FAB LAB - NORTH
SCALE: 1/4" = 1'-0"



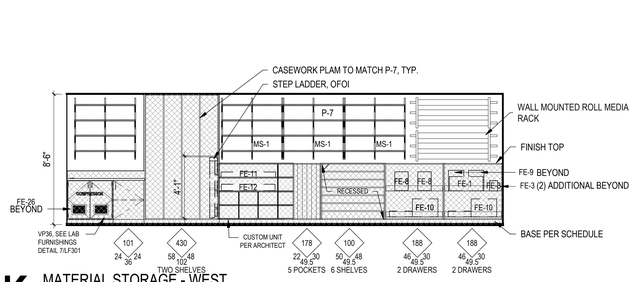

## 1F PAINT ZONE - EAST
SCALE: 1/4" = 1'-0"



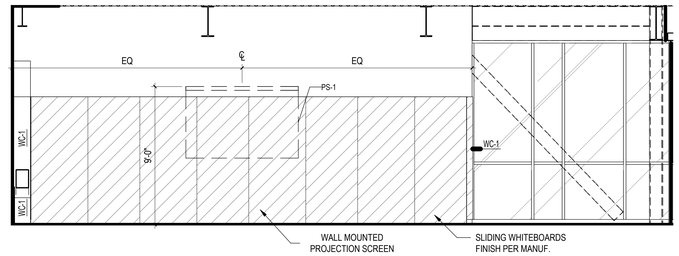

## 1E PAINT ZONE - SOUTH
SCALE: 1/4" = 1'-0"



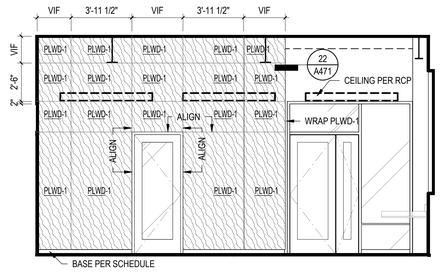

## 1L FAB LAB - SOUTH 1
SCALE: 1/4" = 1'-0"



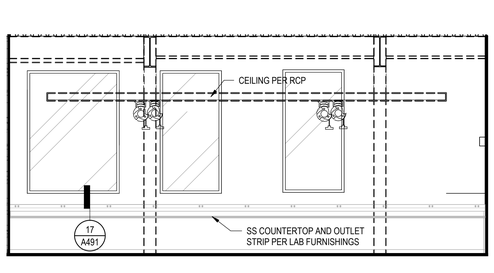

## 1K MATERIAL STORAGE - WEST
SCALE: 1/4" = 1'-0"



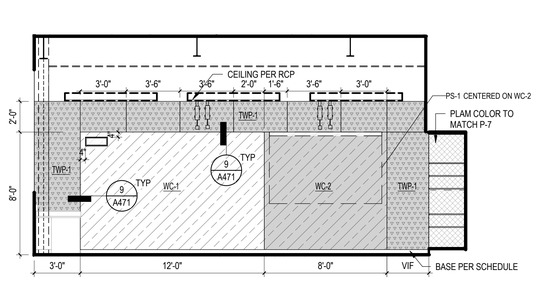

## 1J FAB LAB - WEST
SCALE: 1/4" = 1'-0"



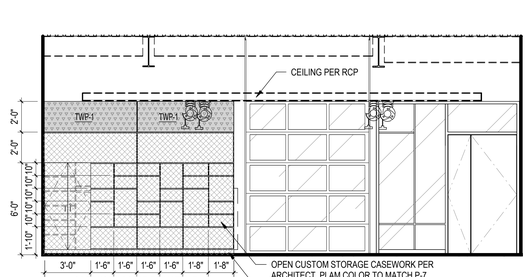

## 2D IDEATION STUDIO - WEST
SCALE: 1/4" = 1'-0"



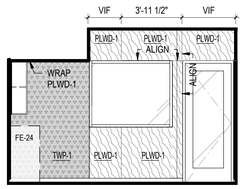

## 2C IDEATION STUDIO - NORTH
SCALE: 1/4" = 1'-0"



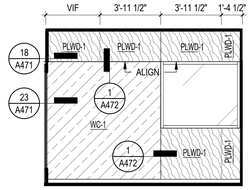

## 2B IDEATION STUDIO - EAST
SCALE: 1/4" = 1'-0"



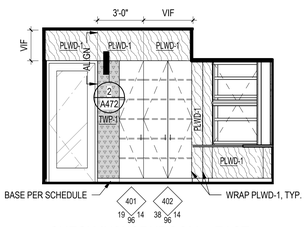

## 2A IDEATION STUDIO - SOUTH
SCALE: 1/4" = 1'-0"



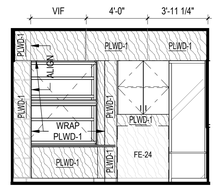

## 3D CHECK-IN/WORKROOM - WEST
SCALE: 1/4" = 1'-0"




## 3C CHECK-IN/WORKROOM - NORTH
SCALE: 1/4" = 1'-0"




## 3B CHECK-IN/WORKROOM - EAST
SCALE: 1/4" = 1'-0"




## 3A CHECK-IN/WORKROOM - SOUTH
SCALE: 1/4" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE: (206)624-3797 FAX: (206)628-3178

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

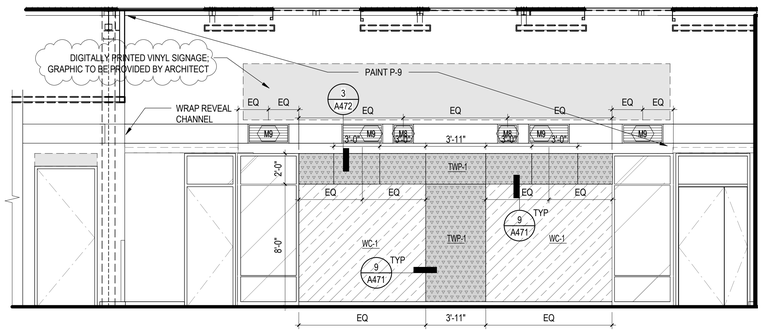
| # | Date | Description |
|---|---|---|
| | 11/21/2022 | RFI-024 |

INTERIOR ELEVATIONS

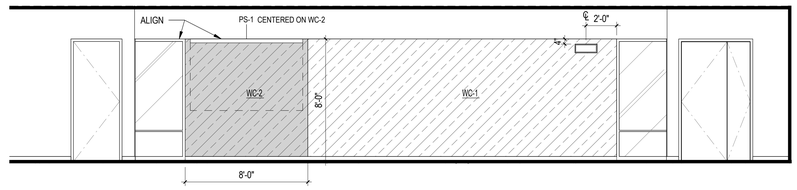
**A457**

IFC SET

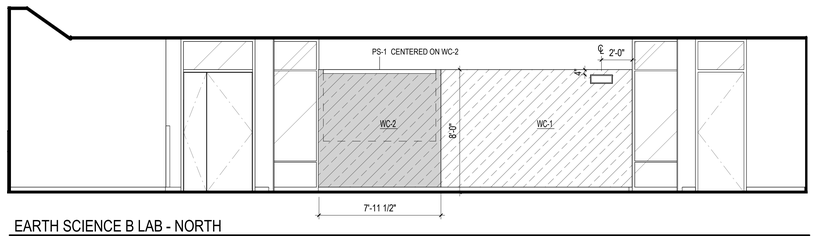
PRCNC20221036



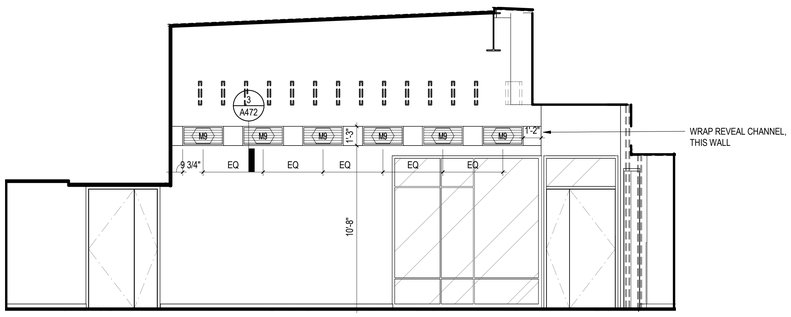

## 2 SHARED LEARNING 300 - SOUTH
SCALE: 1/4" = 1'-0"



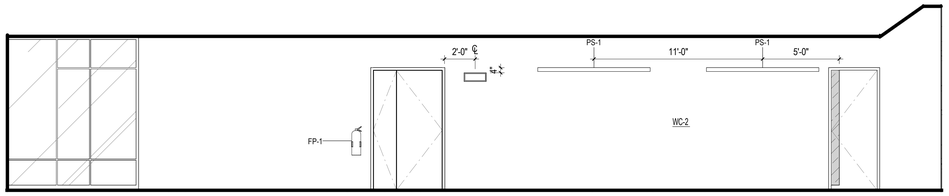

## 1 GENERAL CHEMISTRY 312 - SOUTH
SCALE: 1/4" = 1'-0"



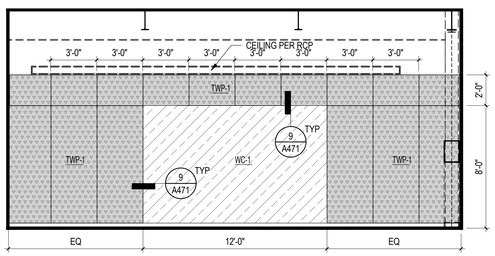

## 3 EARTH SCIENCE B LAB - NORTH
SCALE: 1/4" = 1'-0"



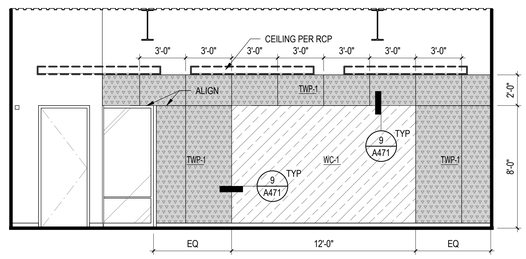

## 5 SHARED LEARNING 300 - EAST
SCALE: 1/4" = 1'-0"



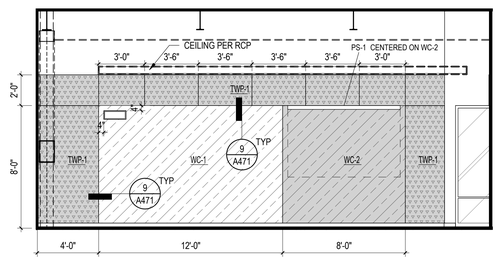

## 4 EARTH SCIENCE A LAB - WEST
SCALE: 1/4" = 1'-0"



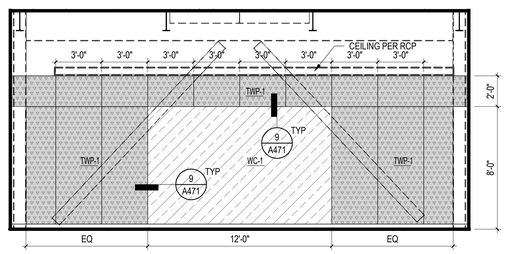

## 6C CLASSROOM 133 - WEST
SCALE: 1/4" = 1'-0"



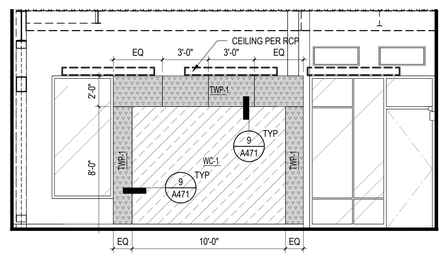

## 6B CLASSROOM 133 - SOUTH
SCALE: 1/4" = 1'-0"



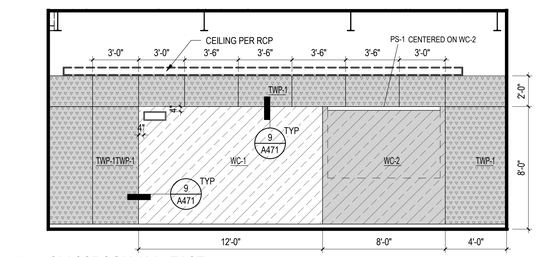

## 6A CLASSROOM 133 - EAST
SCALE: 1/4" = 1'-0"




## 7C CLASSROOM 101 - WEST
SCALE: 1/4" = 1'-0"




## 7B CLASSROOM 101 - NORTH
SCALE: 1/4" = 1'-0"




## 7A CLASSROOM 101 - EAST
SCALE: 1/4" = 1'-0"

# INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
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7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
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    - A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    - B. COUNTERS (NO SINK): PLAM-2, UNO.
    - C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO. FINISH M10 AT AWP TO MATCH WOOD TEXTURE.

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117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3730 FAX: (206)624-3730

9411 REGISTERED ARCHITECT
BRIAN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

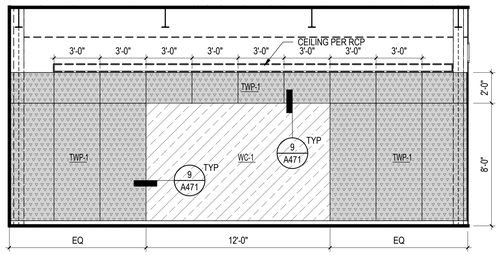
| Date | Description |
|---|---|
| 01/31/23 | ASI-012 |

INTERIOR ELEVATIONS

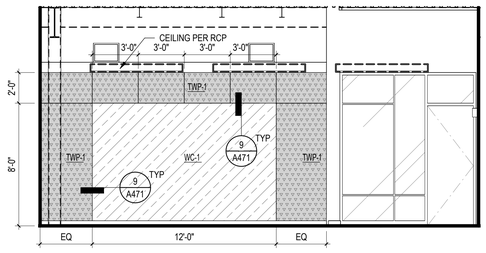
**A458**

IFC SET

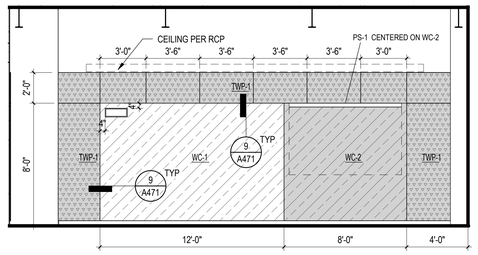
PRCNC20221036



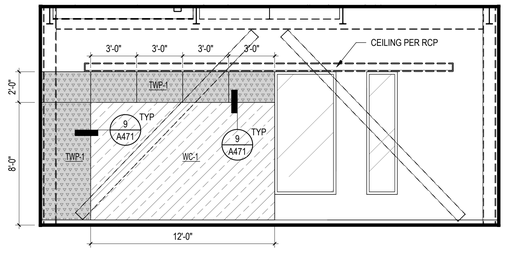

## 1C CLASSROOM 102 - WEST
SCALE: 1/4" = 1'-0"



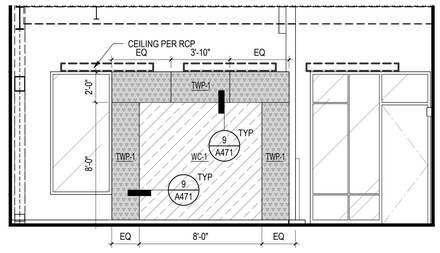

## 1B CLASSROOM 102 - NORTH
SCALE: 1/4" = 1'-0"



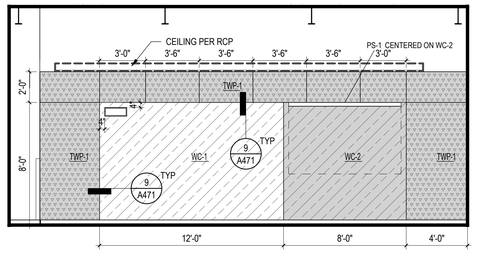

## 1A CLASSROOM 102 - EAST
SCALE: 1/4" = 1'-0"



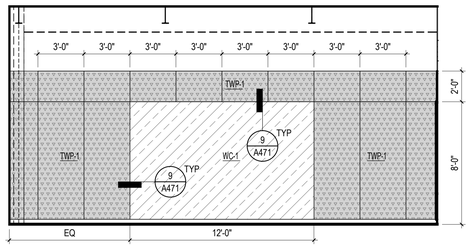

## 2C CLASSROOM 201 - WEST
SCALE: 1/4" = 1'-0"



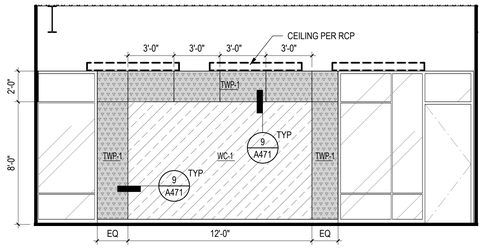

## 2B CLASSROOM 201 - NORTH
SCALE: 1/4" = 1'-0"



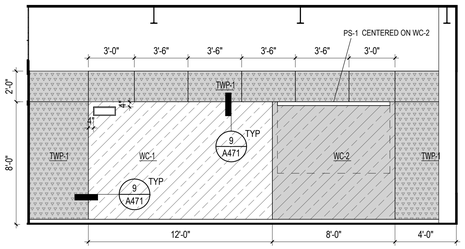

## 2A CLASSROOM 201 - EAST
SCALE: 1/4" = 1'-0"



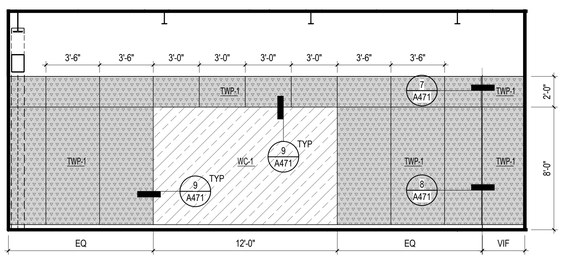

## 3C CLASSROOM 202 - WEST
SCALE: 1/4" = 1'-0"



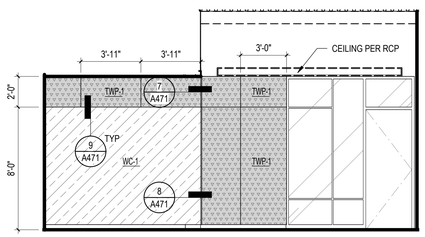

## 3B CLASSROOM 202 - NORTH
SCALE: 1/4" = 1'-0"



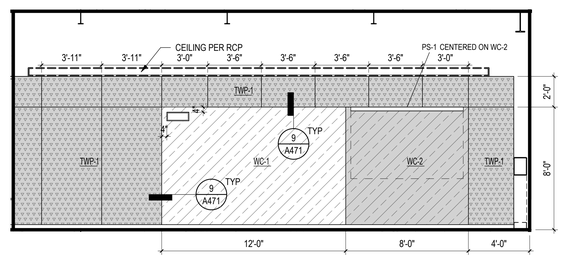

## 3A CLASSROOM 202 - EAST
SCALE: 1/4" = 1'-0"



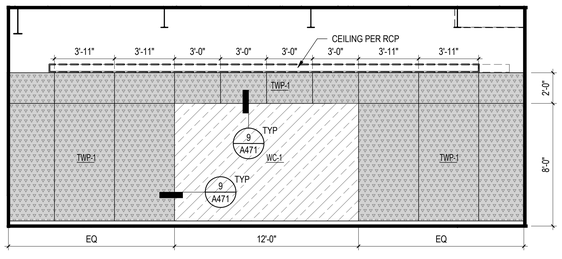

## 4C CLASSROOM 207 - WEST
SCALE: 1/4" = 1'-0"



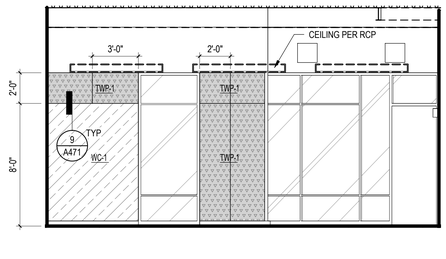

## 4B CLASSROOM 207 - NORTH
SCALE: 1/4" = 1'-0"



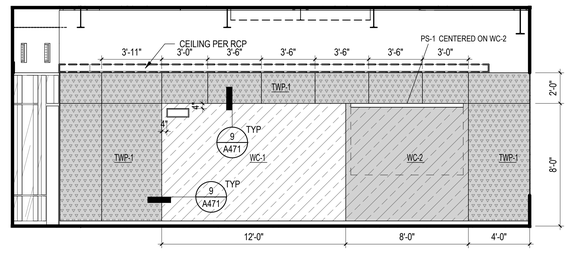

## 4A CLASSROOM 207 - EAST
SCALE: 1/4" = 1'-0"




## 5C CLASSROOM 208 - WEST
SCALE: 1/4" = 1'-0"




## 5B CLASSROOM 208 - NORTH
SCALE: 1/4" = 1'-0"




## 5A CLASSROOM 208 - EAST
SCALE: 1/4" = 1'-0"

## INTERIOR GENERAL NOTES

1. REFER TO SHEET A400 FOR MATERIAL ABBREVIATIONS.
2. FOR CEILING ELEVATION AND FINISH INFORMATION REFER TO REFLECTED CEILING PLANS.
3. REFER TO A410 FOR TYPICAL MOUNTING HEIGHTS LEGEND, EQUIPMENT AND ACCESSORY SCHEDULE, MEP SYMBOL LEGEND, AND CASEWORK LEGEND.
4. ALL GWB AND UNDERSIDE OF STRUCTURAL DECK TO BE PAINTED P-1, UNO.
5. ALL STRUCTURAL STEEL TO BE PAINTED P-2, UNO.
6. INSTALL WALL BASE ON ALL WALLS.
7. ALL FINISHES AND RUBBER BASE TO EXTEND UNDER ALL MOVEABLE CASEWORK AND EQUIPMENT.
8. ALL FLOORING / COLOR TRANSITIONS, WHERE REQUIRED SHALL BE CENTERED UNDER DOOR, U.N.O.
9. UNLESS INDICATED ON FINISH PLANS, VERIFY CARPET INSTALL DIRECTION WITH ARCHITECT PRIOR TO ORDERING MATERIAL AND INSTALLATION.
10. FOR ALL WALL MOUNTED ITEMS NOT SHOWN ON INTERIOR ELEVATIONS, COORDINATE WITH ARCHITECT PRIOR TO INSTALLATION.
11. DEVICES, EQUIPMENT & FIXTURES SHOWN FOR LOCATION COORDINATION. REFER TO MECHANICAL, ELECTRICAL & TELECOM DRAWINGS FOR SYSTEM DESIGN & DETAIL.
12. CASEWORK FINISHES SHALL BE UNO:
    A. VERTICALS (UPPER & LOWER): PLAM-1, UNO.
    B. COUNTERS (NO SINK): PLAM-2, UNO.
    C. COUNTERS (AT SINK): SDS-1, UNO.
13. PROVIDE SCRIBES AS NEEDED AT ALL CASEWORK.
14. SEE 20/A471 FOR TYPICAL PLYWOOD PANEL FASTENER LAYOUT.
15. SEE MECHANICAL DRAWINGS FOR GRILLE M1-M9 SIZES. SIZE M10 & M11 WIDTH TO FIT AP OR AWP OPENINGS TYP. COLOR TO MATCH ADJ. WALL FINISH UNO. FINISH M10 AT AWP TO MATCH WOOD TEXTURE.

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9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

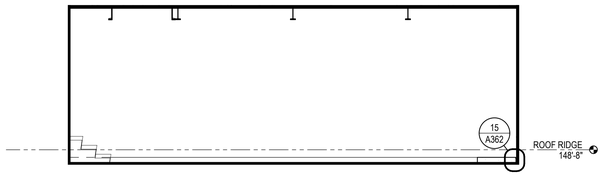
| # | Date | Description |
|---|---|---|

INTERIOR ELEVATIONS

**A459**

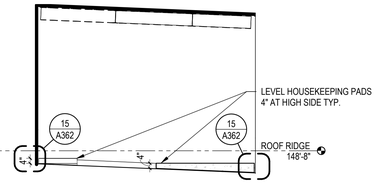
IFC SET

PRCNC20221036



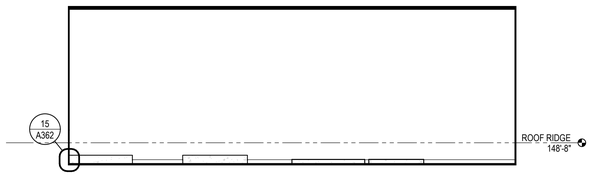

## 1D MECHANICAL PENTHOUSE - SOUTH

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



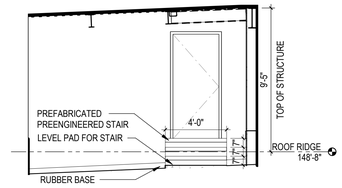

## 1C MECHANICAL PENTHOUSE - WEST

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




## 1B MECHANICAL PENTHOUSE - NORTH

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




## 1A MECHANICAL PENTHOUSE - EAST

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

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BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
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Development & Permitting Services
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Building | Planning
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|---|---|---|

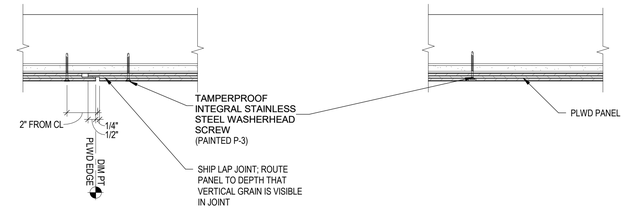
INTERIOR ELEVATIONS

**A460**

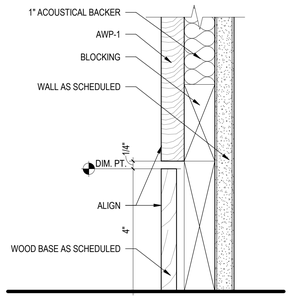
IFC SET

PRCNC20221036

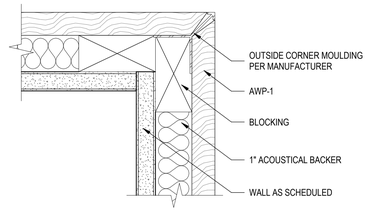
NOTE: PANEL DIMENSIONS ARE MEASURED FROM CENTERLINE OF JOINTS.



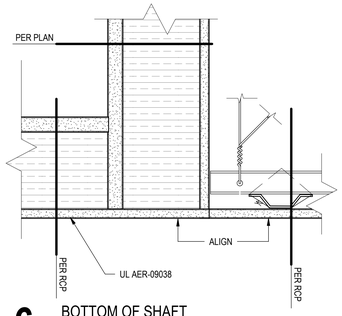

## 26 PLWD PANEL JOINT & ATTACHMENT, TYP.
SCALE: 3" = 1'-0"



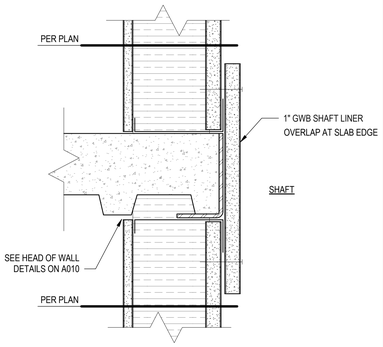

## 16 AWP-1 AT BASE
SCALE: 6" = 1'-0"



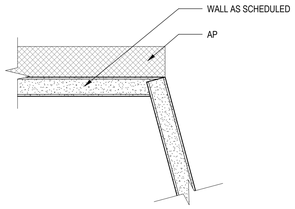

## 11 AWP-1/AWP-1 OUTSIDE CORNER
SCALE: 6" = 1'-0"



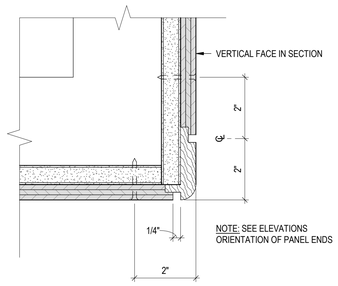

## 6 BOTTOM OF SHAFT
SCALE: 3" = 1'-0"



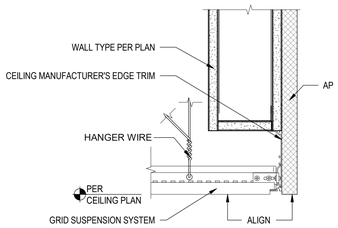

## 1 SHAFT WALL AT FLOOR SLAB
SCALE: 3" = 1'-0"



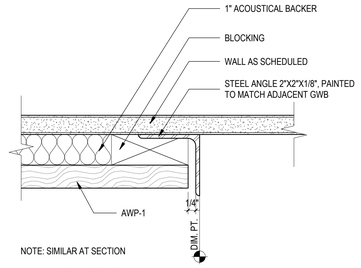

## 27 AP/GWB OUTSIDE CORNER
SCALE: 6" = 1'-0"



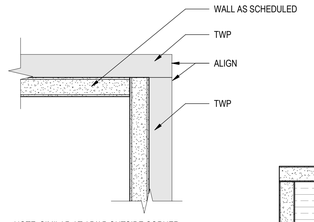

## 22 PLWD PANEL OUTSIDE CORNER
SCALE: 6" = 1'-0"



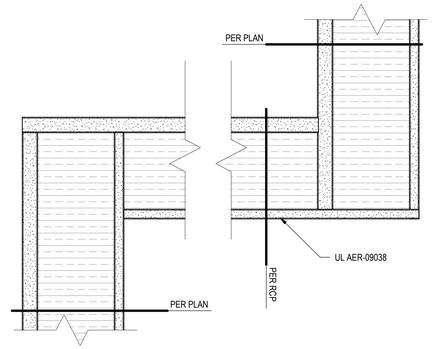

## 17 AP/ACT AT CEILING EDGE
SCALE: 3" = 1'-0"



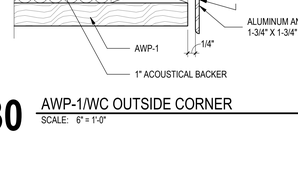

## 12 AWP-1 TO GWB
SCALE: 6" = 1'-0"



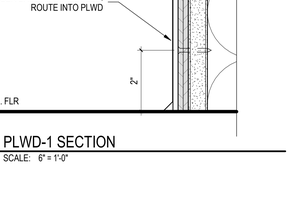

## 7 TWP/TWP OUTSIDE CORNER
SCALE: 6" = 1'-0"



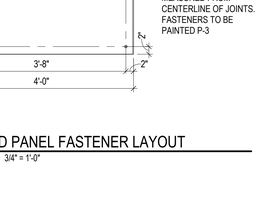

## 2 SHAFT JOG
SCALE: 3" = 1'-0"



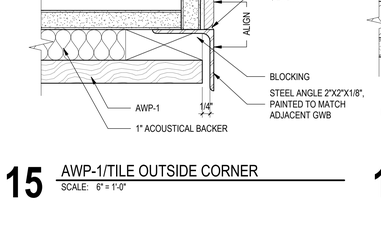

## 28 WALL TO PLYWOOD SOFFIT
SCALE: 6" = 1'-0"



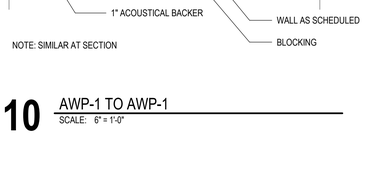

## 23 INSIDE CORNER AT PLWD TO WC
SCALE: 6" = 1'-0"



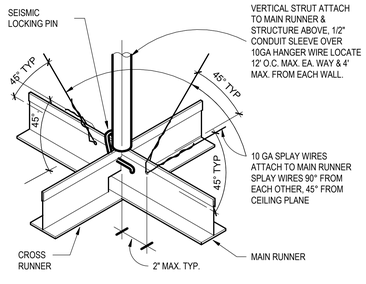

## 18 INSIDE CORNER AT PLWD
SCALE: 6" = 1'-0"



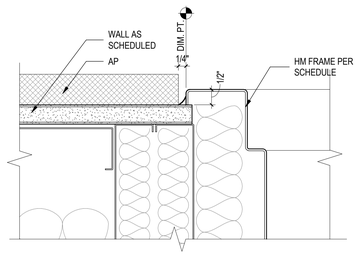

## 13 AWP-1 TO TWP
SCALE: 6" = 1'-0"



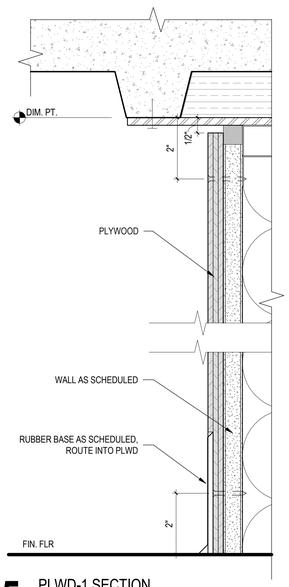

## 8 TWP/WC OUTSIDE CORNER
SCALE: 6" = 1'-0"



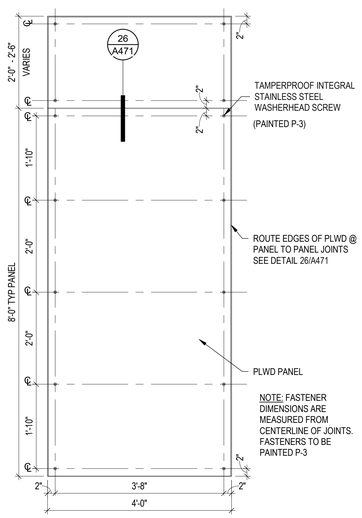

## 4 SEISMIC BRACING AT ACT CEILING
SCALE: 1 1/2" = 1'-0"




## 29 AP TO HM
SCALE: 6" = 1'-0"



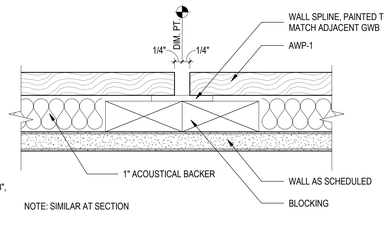

## 25 PLWD-1 SECTION
SCALE: 6" = 1'-0"



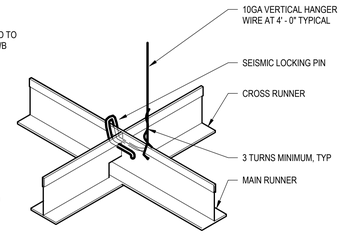

## 20 PLWD PANEL FASTENER LAYOUT
SCALE: 3/4" = 1'-0"



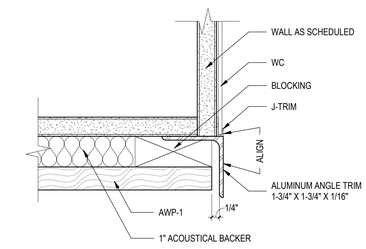

## 15 AWP-1/TILE OUTSIDE CORNER
SCALE: 6" = 1'-0"




## 10 AWP-1 TO AWP-1
SCALE: 6" = 1'-0"




## 5 SEISMIC LOCKING PIN AT ACT CEILING
SCALE: 1 1/2" = 1'-0"




## 30 AWP-1/WC OUTSIDE CORNER
SCALE: 6" = 1'-0"

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| Checked By: | JL |

Revisions

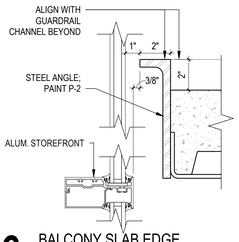
| # | Date | Description |
|---|---|---|

DETAILS - INTERIOR FLOOR/ WALL

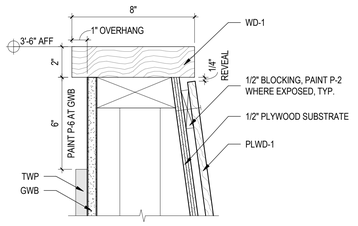
**A471**

IFC SET

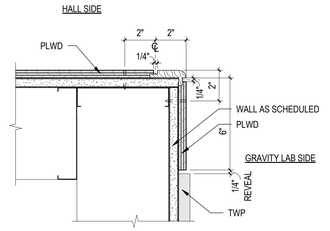
PRCNC20221036



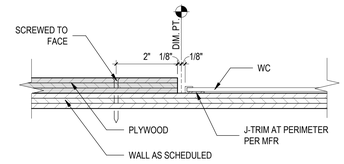

16 BALCONY SLAB EDGE
SCALE: 3" = 1'-0"




11 TWP REVEAL AT GRAVITY LAB
SCALE: 3" = 1'-0"

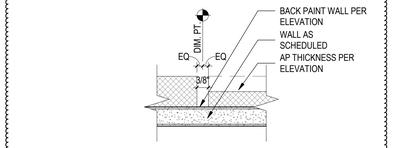



6 PLWD OUTSIDE CORNER AT GRAVITY LAB
SCALE: 3" = 1'-0"

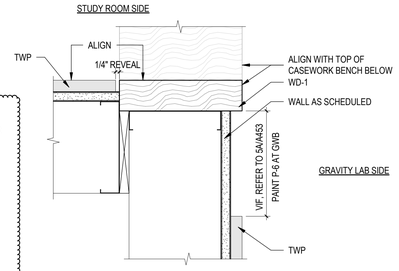



NOTE: SIMILAR AT SECTION

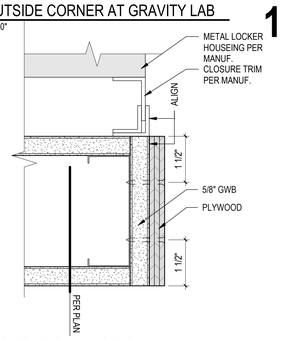
1 PLWD TO WC
SCALE: 6" = 1'-0"



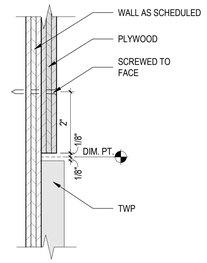

17 AP TO AP
SCALE: 6" = 1'-0"



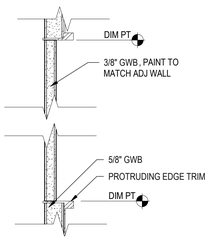

12 TWP OUTSIDE CORNER AT GRAVITY LAB
SCALE: 3" = 1'-0"



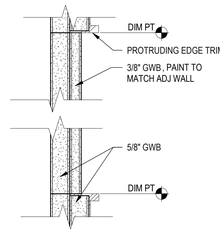

4 PLYWOOD AT METAL LOCKERS
SCALE: 6" = 1'-0"



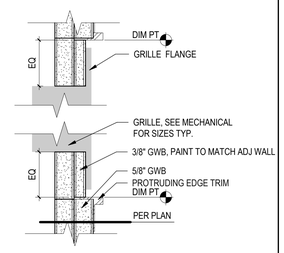

2 PLWD TO TWP
SCALE: 6" = 1'-0"



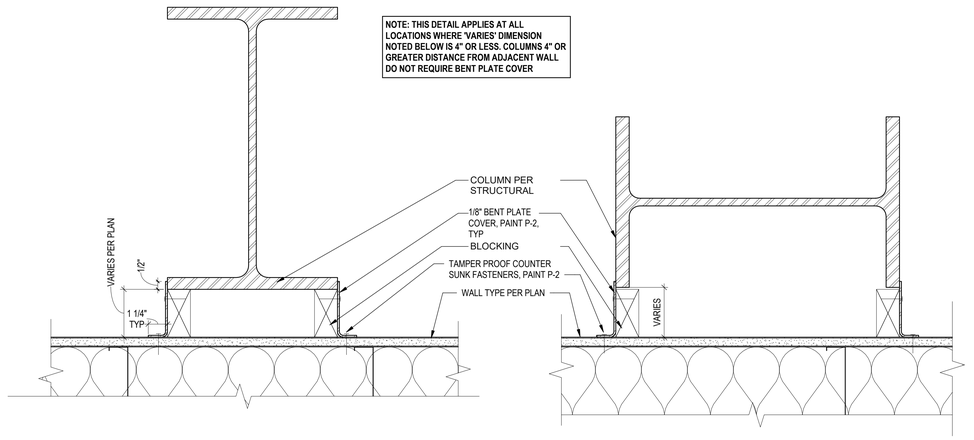

13 HORIZONTAL SINGLE GWB REVEAL
SCALE: 6" = 1'-0"




8 HORIZONTAL DOUBLE GWB REVEAL
SCALE: 6" = 1'-0"




3 GWB REVEAL AT MECH GRILLES
SCALE: 6" = 1'-0"




15 COLUMN CLOSURE
SCALE: 3" = 1'-0"

IFC SET

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9411 REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

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| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

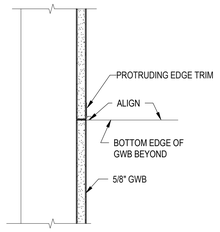
Revisions

| Date | Description |
|---|---|
| 05/11/2023 | ASI-010 |

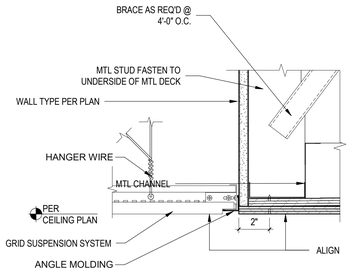
DETAILS - INTERIOR FLOOR/ WALL

A472

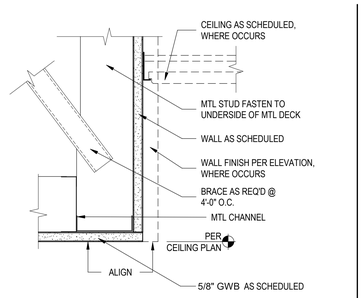
PRCNC20221036



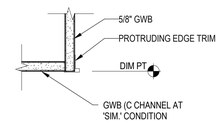

## 11 CONTINUOUS GWB TRIM AT SKYLIGHT
SCALE: 3" = 1'-0"



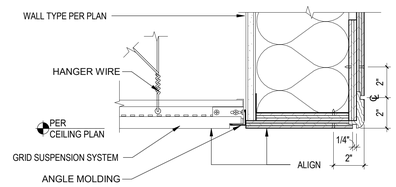

## 6 ACT TO PLYWOOD SOFFIT
SCALE: 3" = 1'-0"



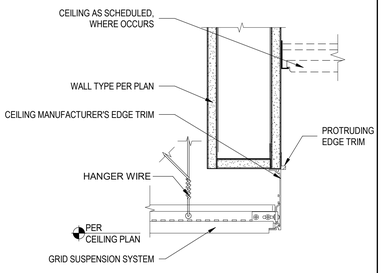

## 1 GWB AT CEILING EDGE
SCALE: 3" = 1'-0"



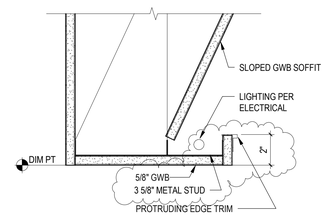

## 12 GWB TRIM AT SKYLIGHT
SCALE: 3" = 1'-0"



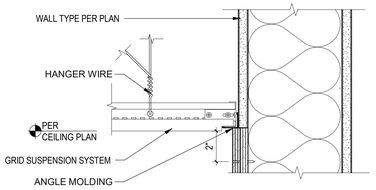

## 7 ACT TO PLYWOOD HEADER
SCALE: 3" = 1'-0"



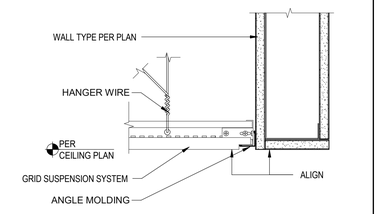

## 2 ACT AT CEILING EDGE
SCALE: 3" = 1'-0"



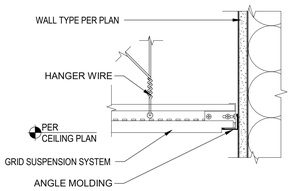

## 13 LIGHT COVE
SCALE: 3" = 1'-0"



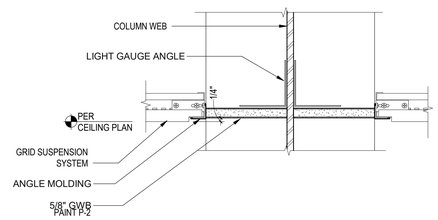

## 8 ACT TO PLWD AT WALL
SCALE: 3" = 1'-0"



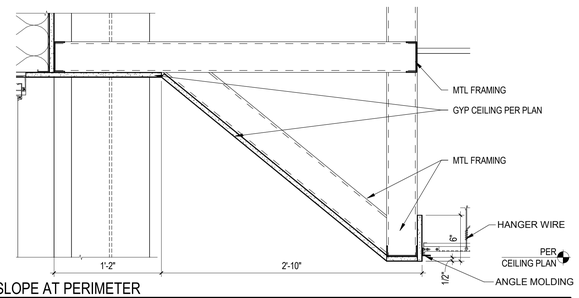

## 3 ACT AT CEILING EDGE
SCALE: 3" = 1'-0"




## 9 ACT TO GWB WALL
SCALE: 3" = 1'-0"




## 4 GWB TO BEAM CONDITION
SCALE: 3" = 1'-0"




## 10 CEILING SLOPE AT PERIMETER
SCALE: 1 1/2" = 1'-0"

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9411 REGISTERED ARCHITECT BRIAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BR |
| Checked By: | JL |

Revisions

| # | Date | Description |
|---|---|---|
| | 12/16/2022 | ASI-004 |

DETAILS - CEILING

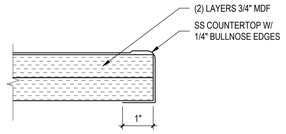
**A481**

IFC SET

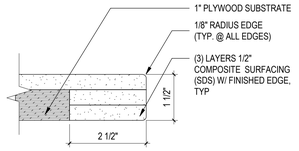
PRCNC20221036

## CASEWORK GENERAL NOTES

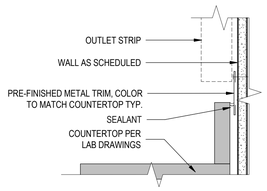
1. ALL SOLID CORE AND BLOCKING MUST BE MOISTURE RESISTANT @ MILLWORK AREAS.
2. ALL CONNECTIONS BETWEEN HORIZONTAL AND VERTICAL PANELS ARE TO BE CONCEALED FASTENERS.
3. ALL SDS COUNTERTOPS TO HAVE TYPICAL EDGE DETAIL PER 6/A491
4. ALL SDS COUNTERTOPS TO HAVE TYPICAL EDGE DETAIL PER 16/A491



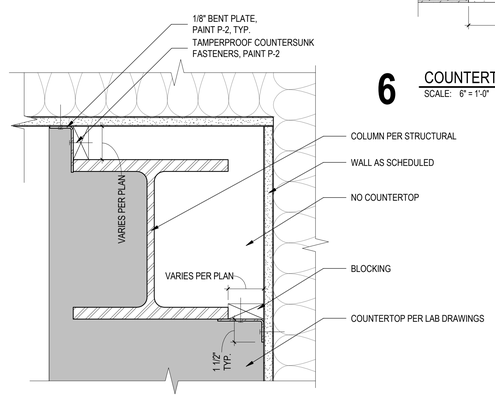

**16** COUNTERTOP EDGE AT SS SURFACE
SCALE: 6" = 1'-0"



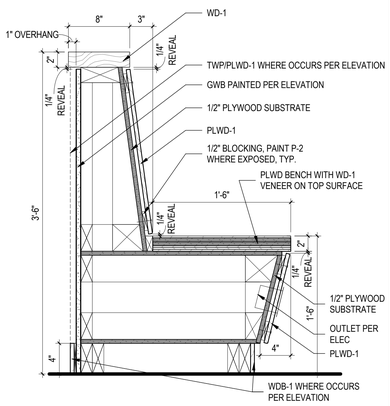

**6** COUNTERTOP EDGE AT SDS SURFACE
SCALE: 6" = 1'-0"



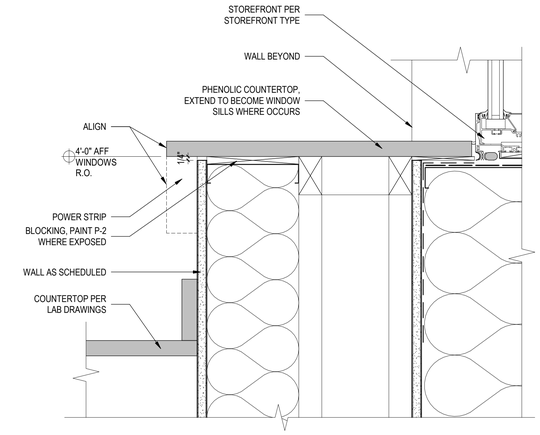

**17** COUNTERTOP AT OUTLET STRIP
SCALE: 3" = 1'-0"



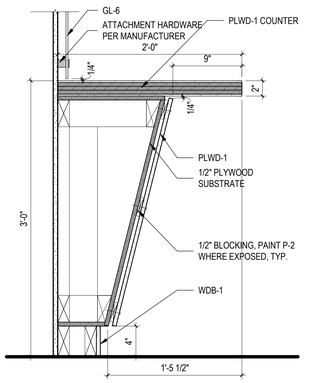

**12** LAB COUNTERTOP AT COLUMN 2
SCALE: 3" = 1'-0"



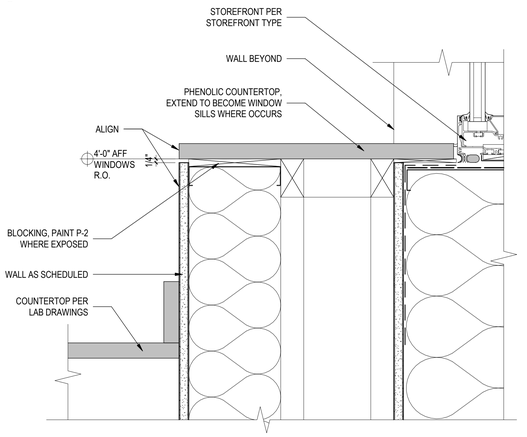

**2** STUDY ROOM BENCH SECTION
SCALE: 1 1/2" = 1'-0"



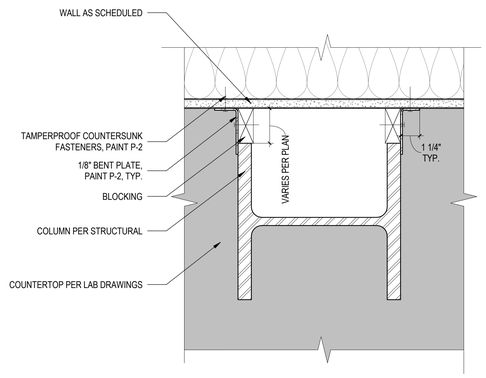

**14** COUNTERTOP SILL AT WINDOW 1
SCALE: 3" = 1'-0"




**4** STUDY ROOM COUNTERTOP SECTION
SCALE: 1 1/2" = 1'-0"




**15** COUNTERTOP SILL AT WINDOW 2
SCALE: 3" = 1'-0"




**5** LAB COUNTERTOP AT COLUMN 1
SCALE: 3" = 1'-0"

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STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

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| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | JL |

Revisions

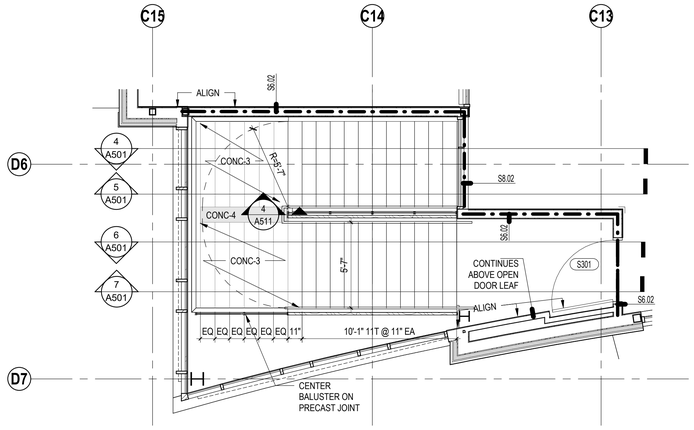
| # | Date | Description |
|---|---|---|

DETAILS - CASEWORK

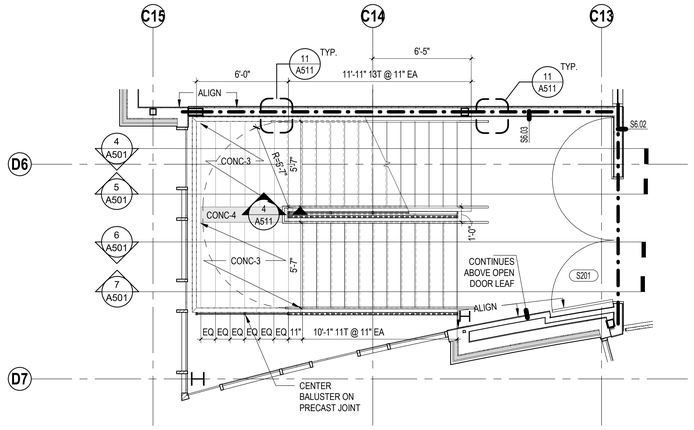
**A491**

IFC SET

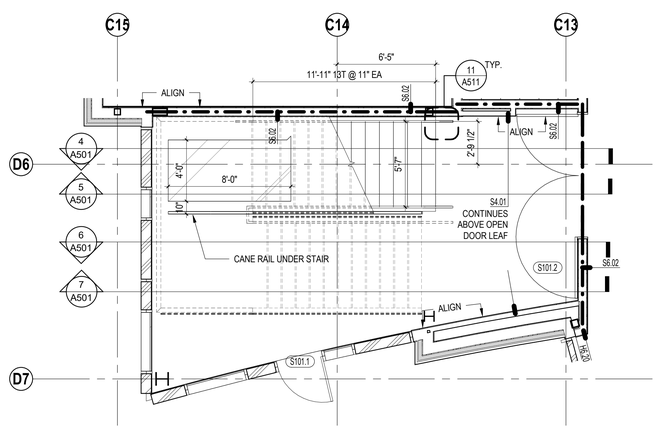
PRCNC20221036



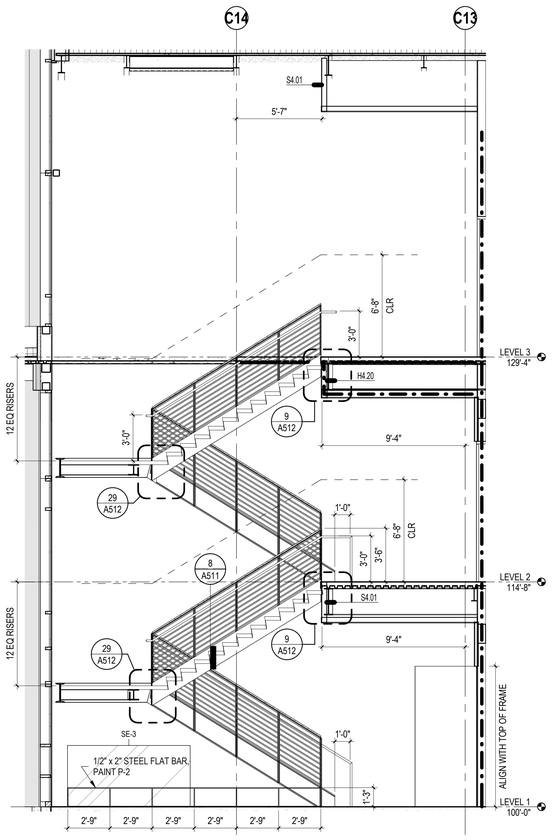

3 STAIR 1 - PLAN - LEVEL 3
SCALE: 1/4" = 1'-0"



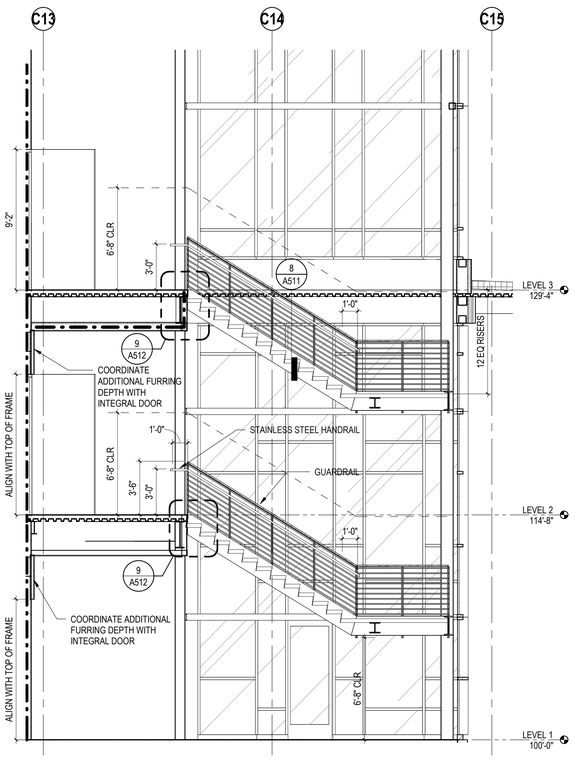

2 STAIR 1 - PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"



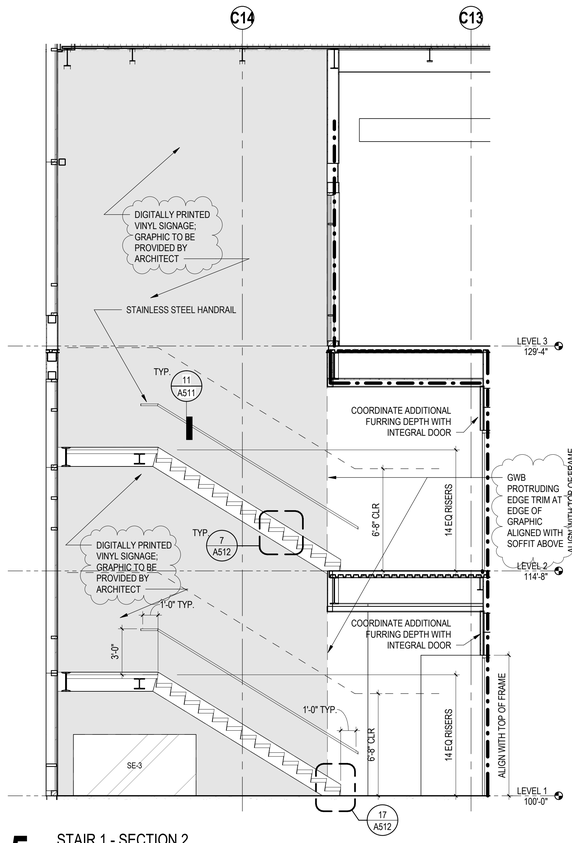

1 STAIR 1 - PLAN - LEVEL 1
SCALE: 1/4" = 1'-0"



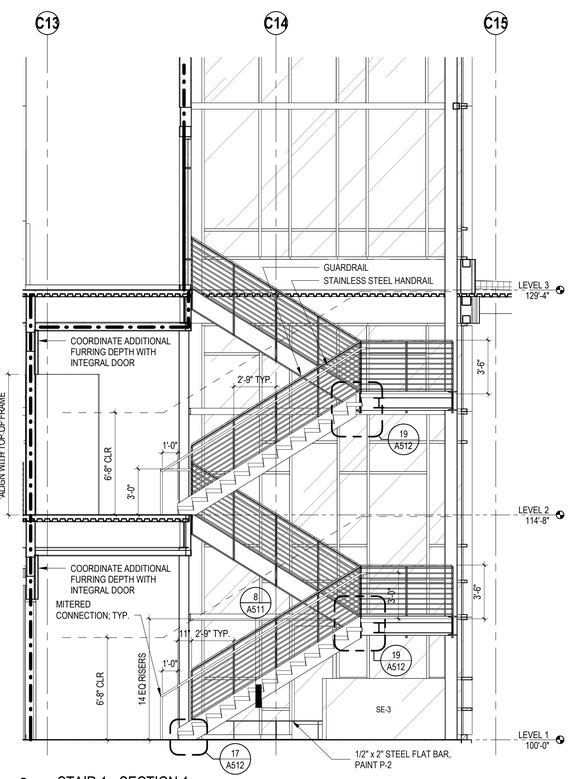

7 STAIR 1 - SECTION 4
SCALE: 1/4" = 1'-0"




6 STAIR 1 - SECTION 3
SCALE: 1/4" = 1'-0"




5 STAIR 1 - SECTION 2
SCALE: 1/4" = 1'-0"




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

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| Drawn By: | JL |
| Checked By: | JL |

Revisions

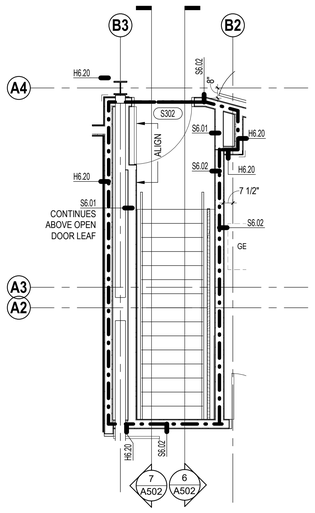
| Date | Description |
|---|---|
| 01/31/23 | ASI-012 |

STAIR - PLANS AND SECTIONS

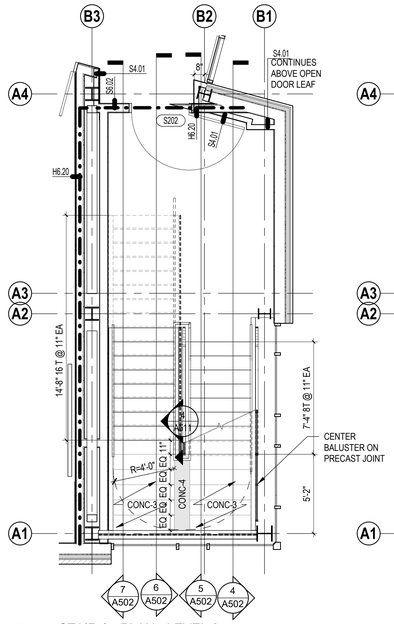
**A501**

IFC SET

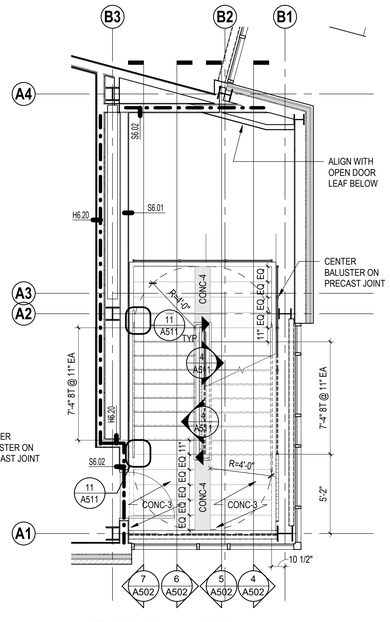
PRCNC20221036



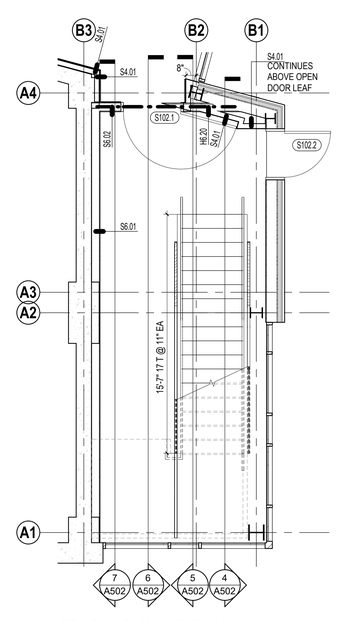

**3** STAIR 2 - PLAN - LEVEL 3
SCALE: 1/4" = 1'-0"



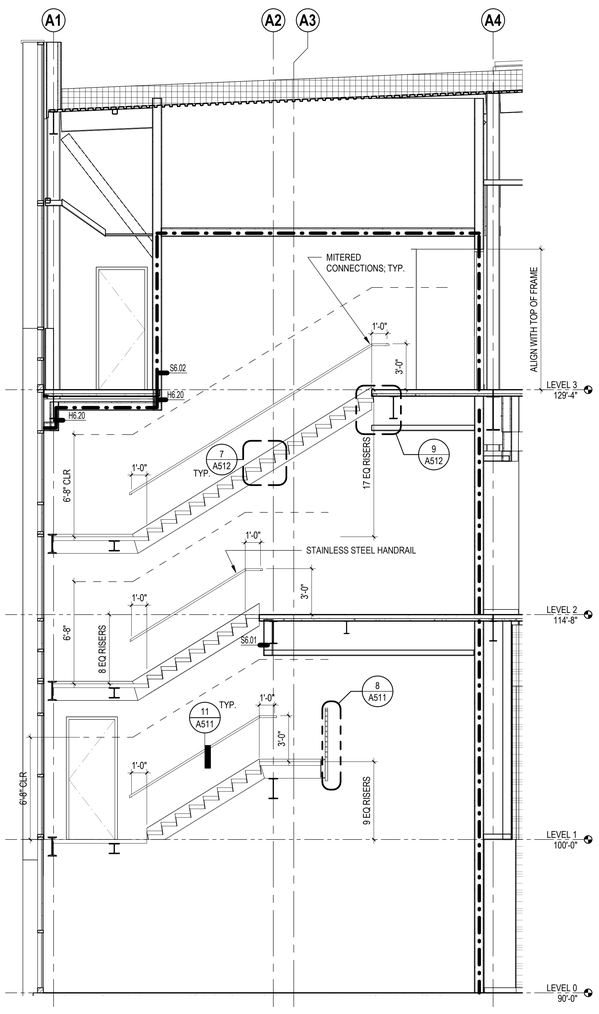

**2** STAIR 2 - PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"



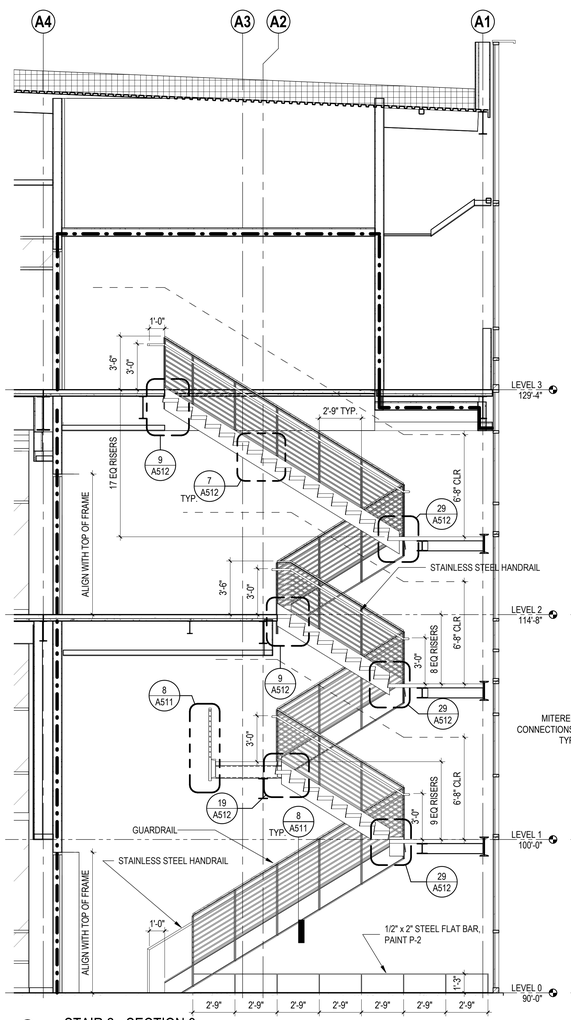

**1** STAIR 2 - PLAN - LEVEL 1
SCALE: 1/4" = 1'-0"



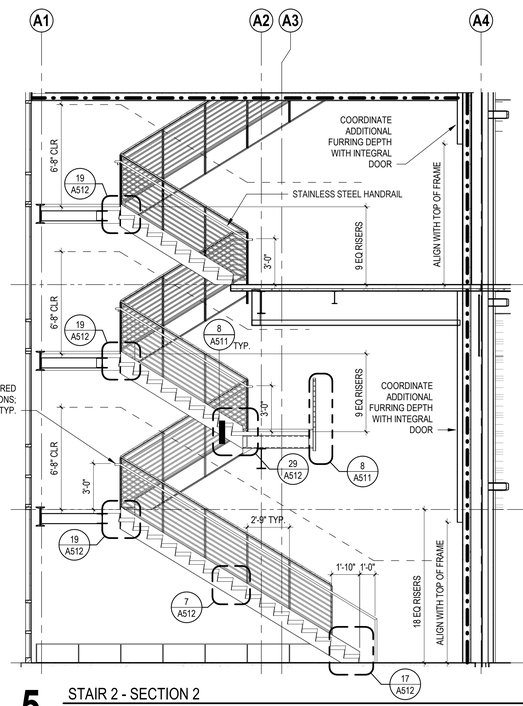

**0** STAIR 2 - PLAN - LEVEL 0
SCALE: 1/4" = 1'-0"



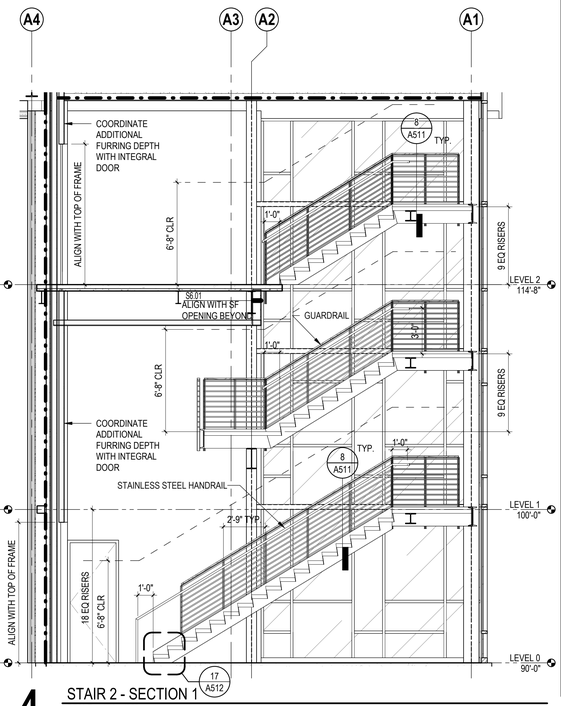

**7** STAIR 2 - SECTION 4
SCALE: 1/4" = 1'-0"




**6** STAIR 2 - SECTION 3
SCALE: 1/4" = 1'-0"




**5** STAIR 2 - SECTION 2
SCALE: 1/4" = 1'-0"




**4** STAIR 2 - SECTION 1
SCALE: 1/4" = 1'-0"

IFC SET

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3737 FAX: (206)624-3739

9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
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| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | JL |
| Checked By: | JL |

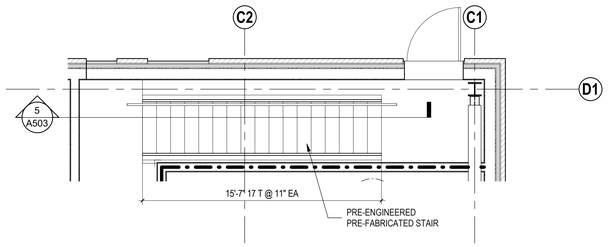
Revisions

| # | Date | Description |
|---|---|---|

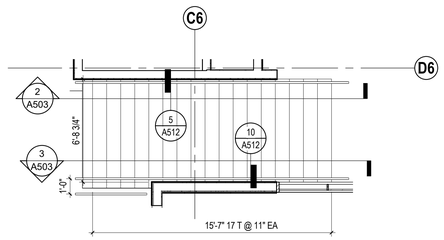
STAIR - PLANS AND SECTIONS

**A502**

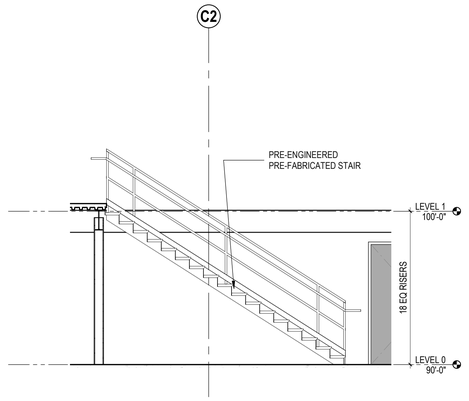
PRCNC20221036



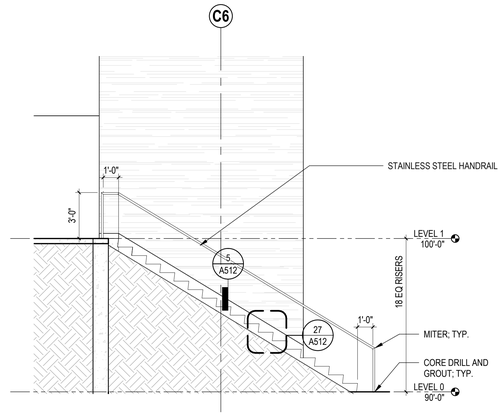

**4** MECHANICAL MEZZANINE STAIR - PLAN
SCALE: 1/4" = 1'-0"



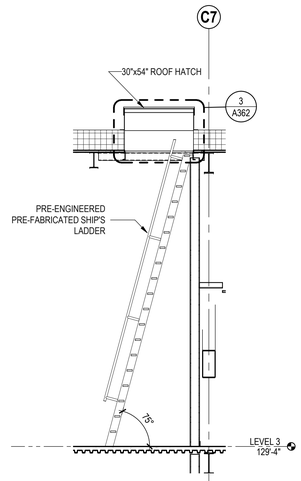

**1** LOBBY STAIR - PLAN
SCALE: 1/4" = 1'-0"



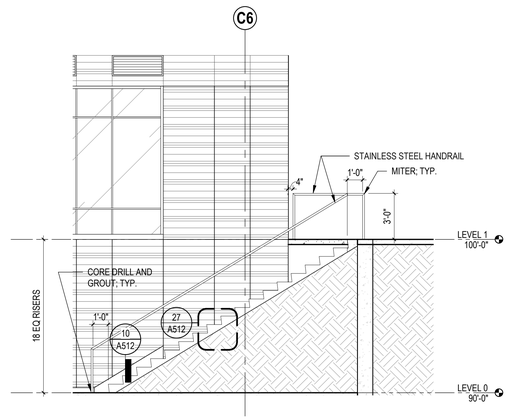

**5** MECHANICAL MEZZANINE STAIR - SECTION
SCALE: 1/4" = 1'-0"




**2** LOBBY STAIR - SECTION 1
SCALE: 1/4" = 1'-0"




**6** ROOF ACCESS SHIPS LADDER - SECTION
SCALE: 1/4" = 1'-0"




**3** LOBBY STAIR - SECTION 2
SCALE: 1/4" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
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9411 REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

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| Drawn By: | JL |
| Checked By: | JL |

Revisions

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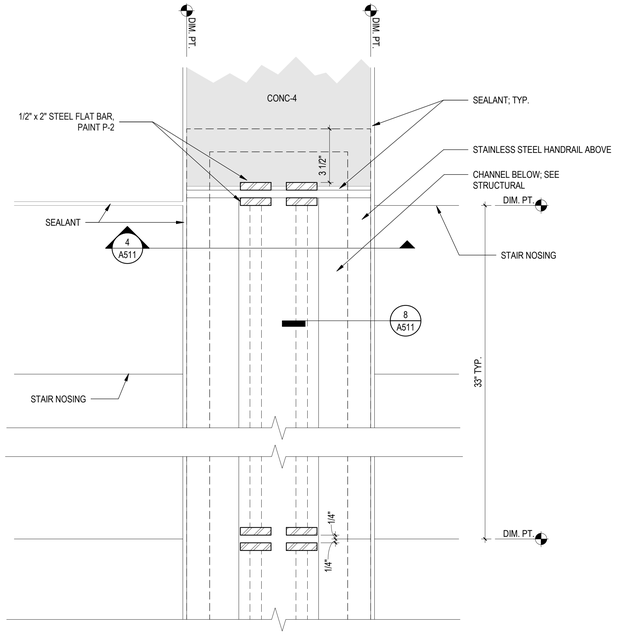
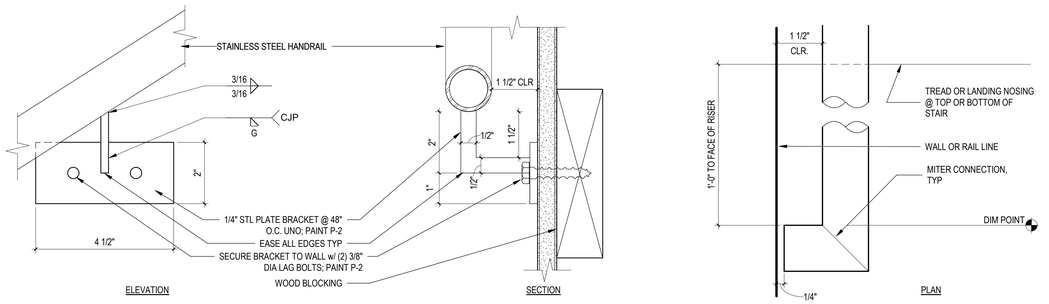
STAIR - PLANS AND SECTIONS

**A503**

IFC SET

PRCNC20221036

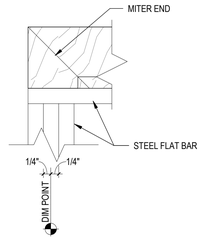


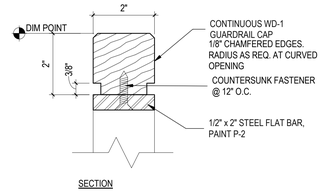





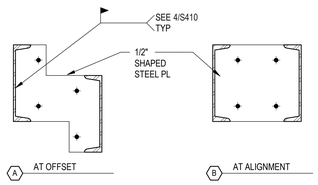


## 11 HANDRAIL
SCALE: 6" = 1'-0"

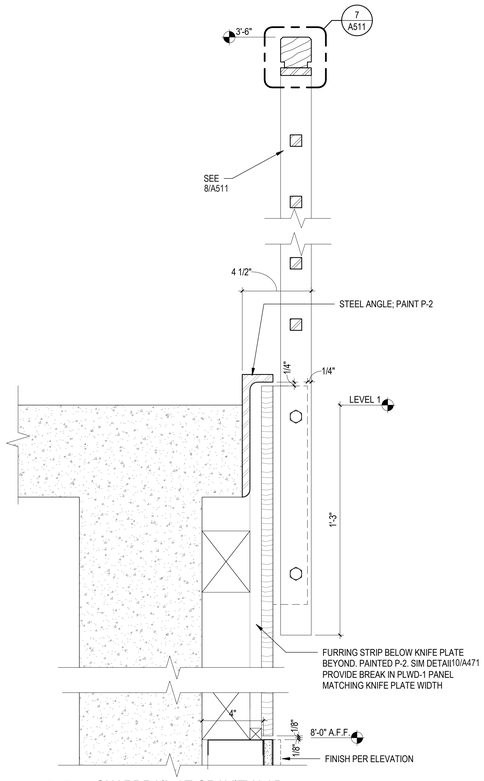


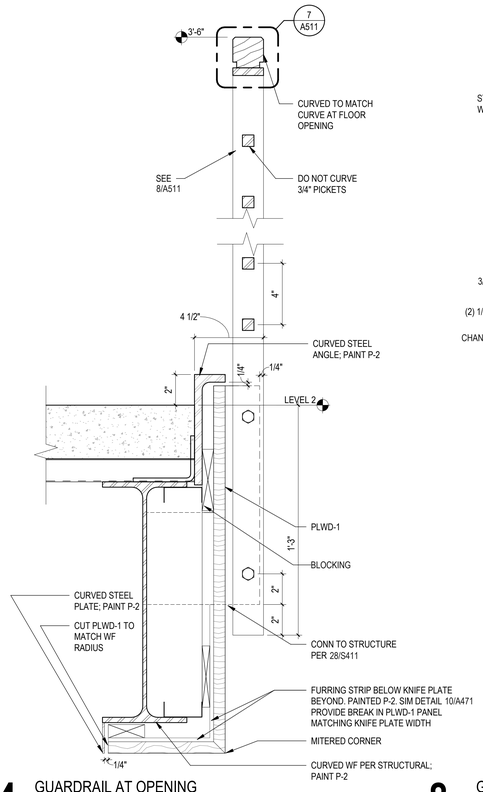

## 20 GUARDRAIL AT SWITCHBACK
SCALE: 3" = 1'-0"




## 22 SECTION
SCALE: 1" = 1'-0"

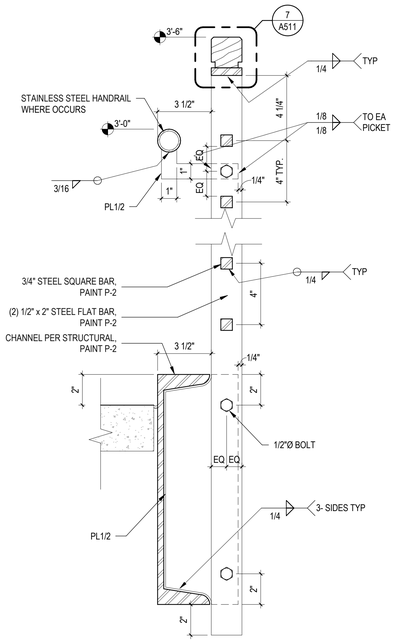



## 18 GUARDRAIL AT GRAVITY LAB
SCALE: 3" = 1'-0"

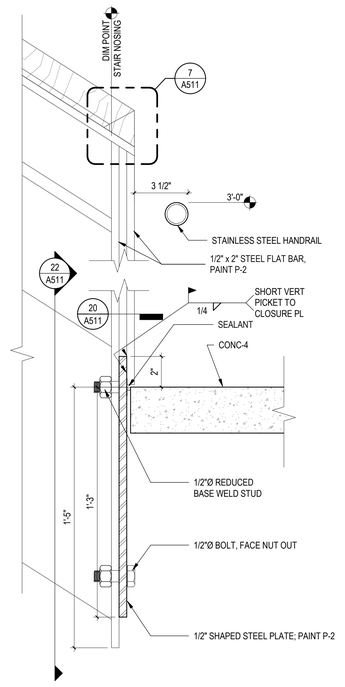



## 14 GUARDRAIL AT OPENING
SCALE: 3" = 1'-0"

## 7 GUARDRAIL CAP
SCALE: 6" = 1'-0"




## 8 GUARDRAIL AND HANDRAIL
SCALE: 3" = 1'-0"




## 4 STRINGER AT SWITCHBACK
SCALE: 3" = 1'-0"

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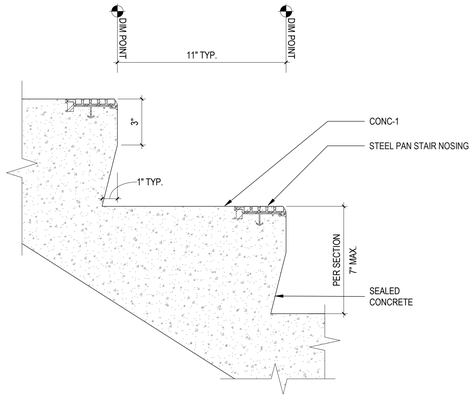
STAIR - DETAILS

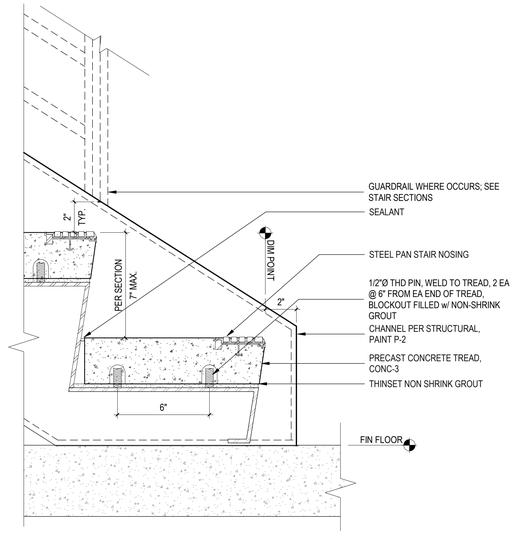
**A511**

IFC SET

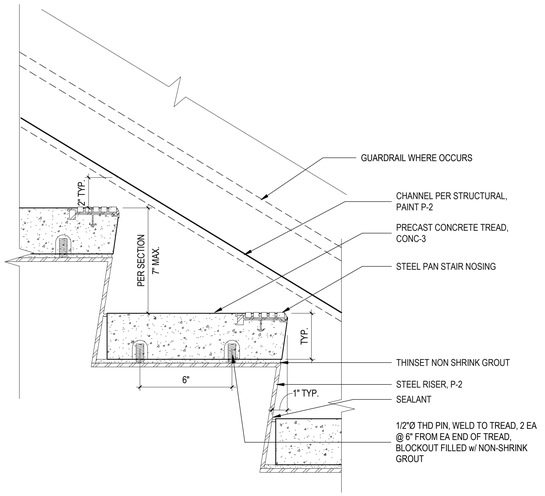
PRCNC20221036



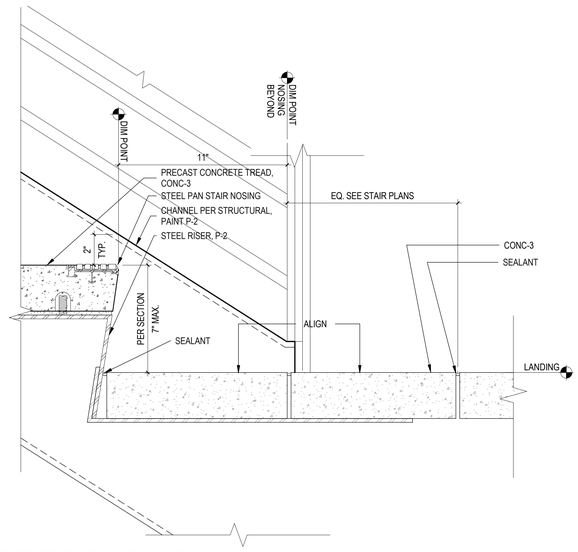

## 27 CAST IN PLACE STAIR
SCALE: 3" = 1'-0"



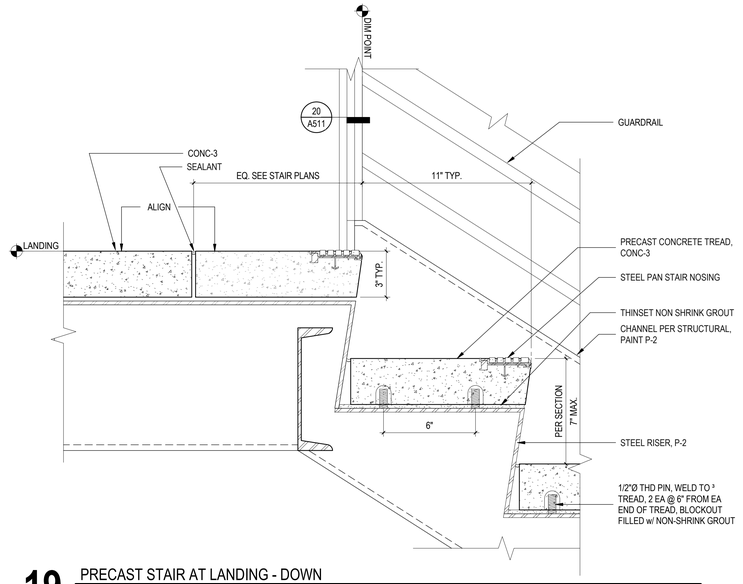

## 17 PRECAST STAIR BOTTOM TREAD
SCALE: 3" = 1'-0"



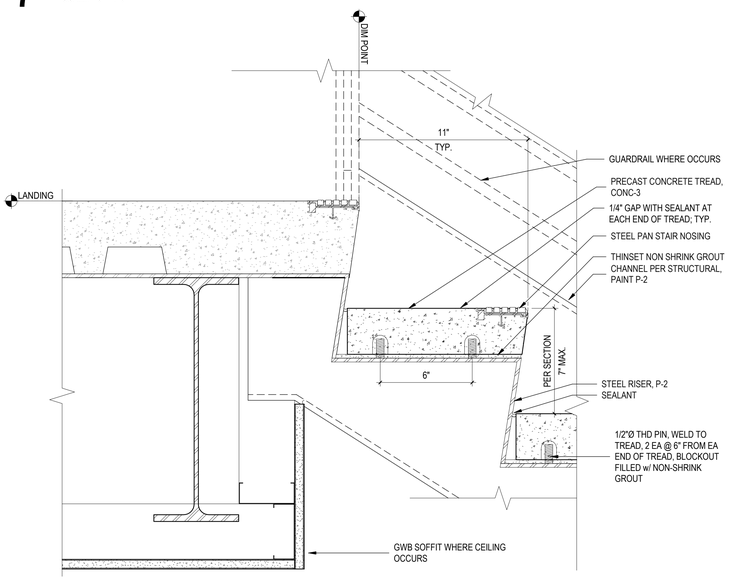

## 7 PRECAST STAIR TREAD
SCALE: 3" = 1'-0"



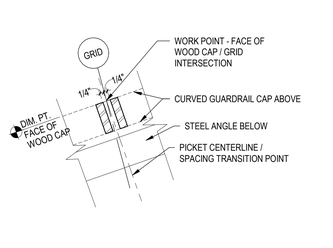

## 29 PRECAST STAIR AT LANDING - UP
SCALE: 3" = 1'-0"



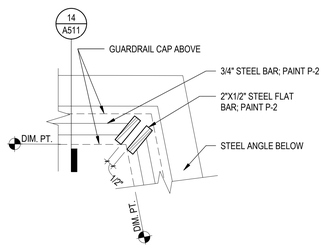

## 19 PRECAST STAIR AT LANDING - DOWN
SCALE: 3" = 1'-0"



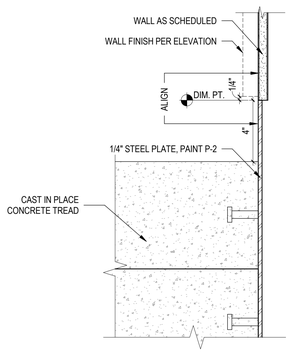

## 9 PRECAST STAIR AT FLOOR
SCALE: 3" = 1'-0"



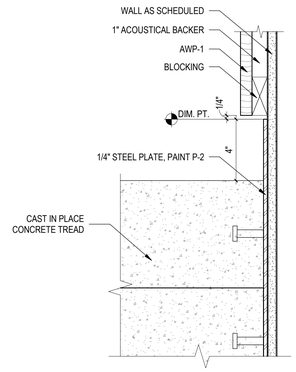

## 20 GUARDRAIL SPACING TRANSITION AT OPENING
SCALE: 3" = 1'-0"




## 15 GUARDRAIL AT OPENING PLAN
SCALE: 3" = 1'-0"




## 10 MTL BASE AT CAST IN PLACE STAIR 2
SCALE: 3" = 1'-0"




## 5 MTL BASE AT CAST IN PLACE STAIR 1
SCALE: 3" = 1'-0"

integrus ARCHITECTURE
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| Checked By: | Checker |

Revisions

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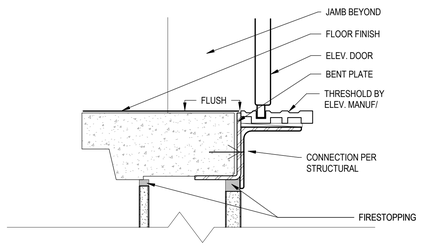
STAIR - DETAILS

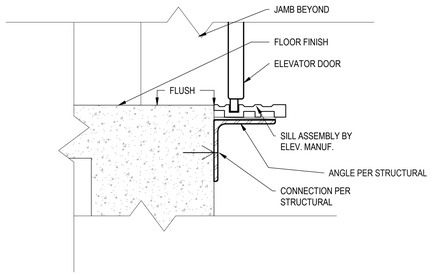
A512

IFC SET

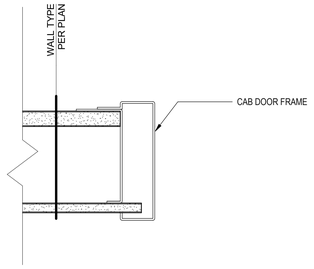
PRCNC20221036




## 17 ELEVATOR DOOR SILL AT UPPER FLOORS
SCALE: 3" = 1'-0"

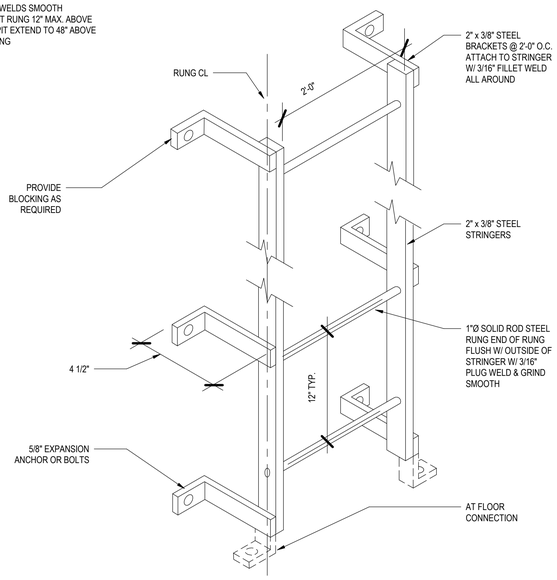



## 18 ELEVATOR DOOR SILL AT CONCRETE STEM WALL
SCALE: 3" = 1'-0"

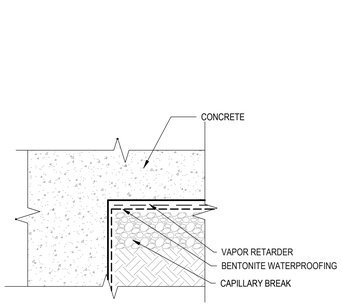



## 16 ELEVATOR DOOR JAMB
SCALE: 3" = 1'-0"

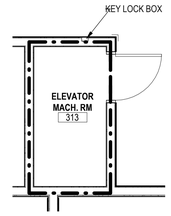
NOTE:
1. GRIND ALL WELDS SMOOTH
2. BEGIN FIRST RUNG 12" MAX. ABOVE FLOOR & AT PIT EXTEND TO 48" ABOVE UPPER LANDING



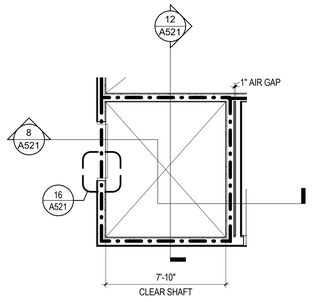

## 20 ELEVATOR PIT LADDER
SCALE: 3" = 1'-0"



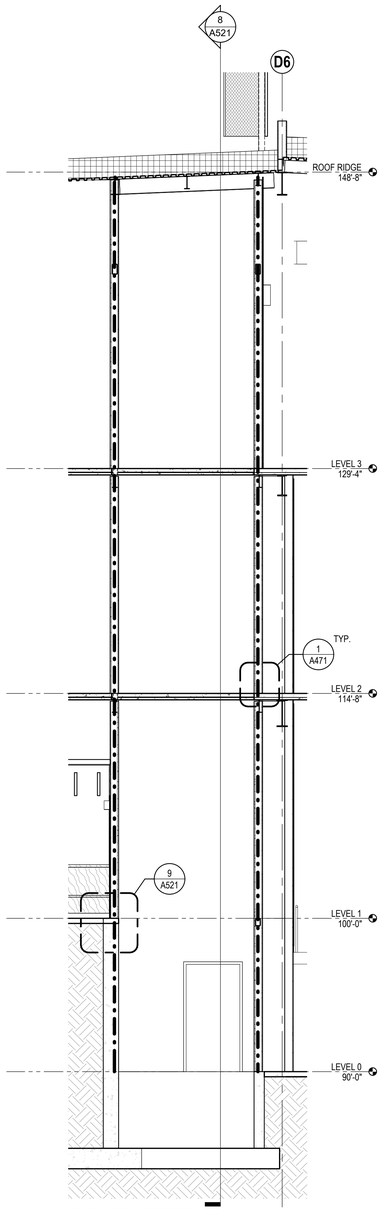

## 9 ELEVATOR PIT WATERPROOFING
SCALE: 3" = 1'-0"



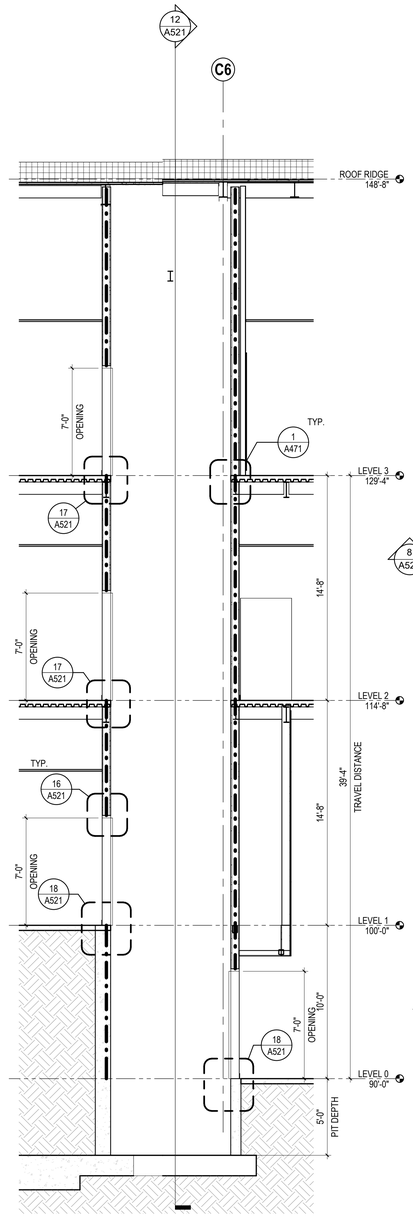

## 4 ELEVATOR MACHINE ROOM PLAN
SCALE: 1/4" = 1'-0"



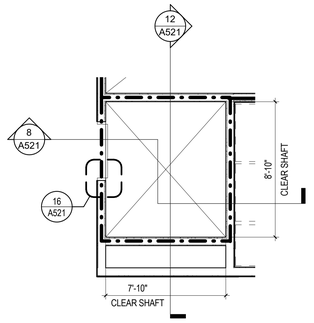

## 3 ELEVATOR PLAN - LEVEL 3
SCALE: 1/4" = 1'-0"



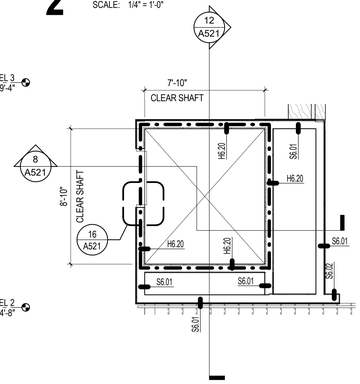

## 12 ELEVATOR SECTION - N/S
SCALE: 1/4" = 1'-0"



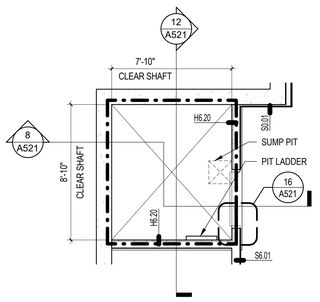

## 8 ELEVATOR SECTION - E/W
SCALE: 1/4" = 1'-0"




## 2 ELEVATOR PLAN - LEVEL 2
SCALE: 1/4" = 1'-0"




## 1 ELEVATOR PLAN - LEVEL 1
SCALE: 1/4" = 1'-0"




## 0 ELEVATOR PLAN - LEVEL 0
SCALE: 1/4" = 1'-0"

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| Job No.: | 22135.00 |
| Drawn By: | JL |
| Checked By: | JL |

Revisions

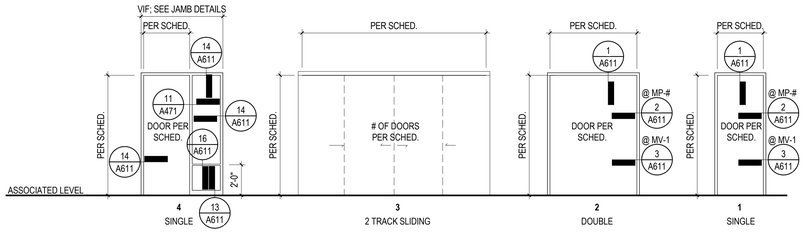
| # | Date | Description |
|---|---|---|

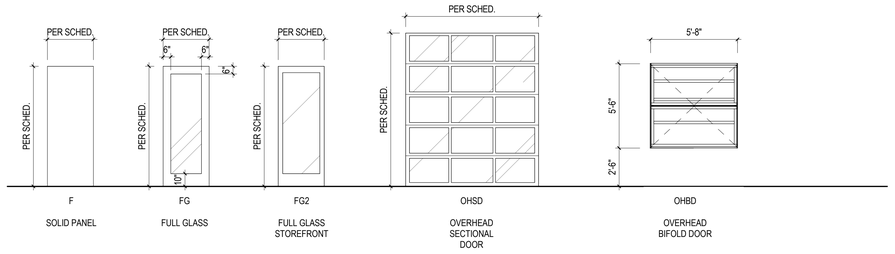
ELEVATOR

**A521**

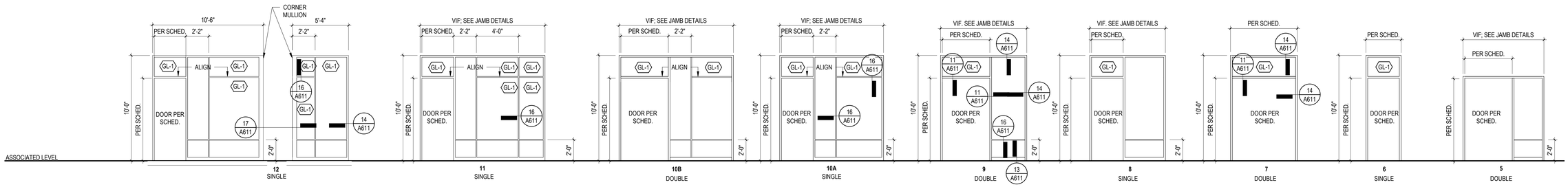
IFC SET

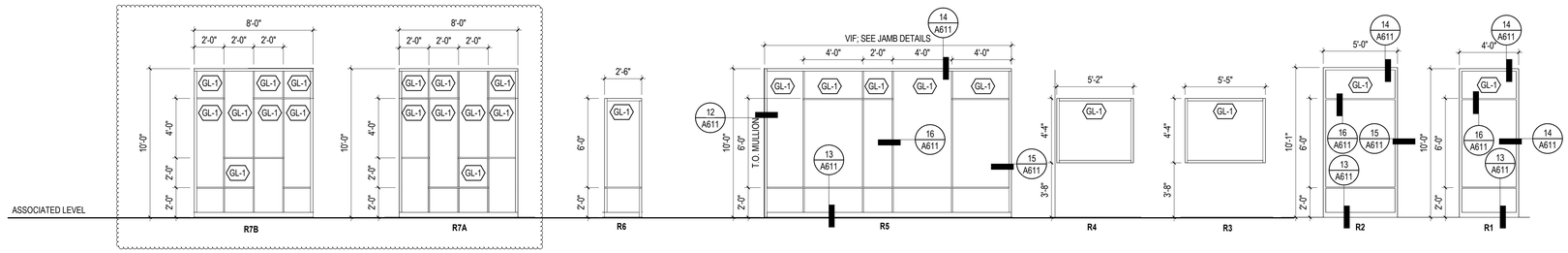
PRCNC20221036



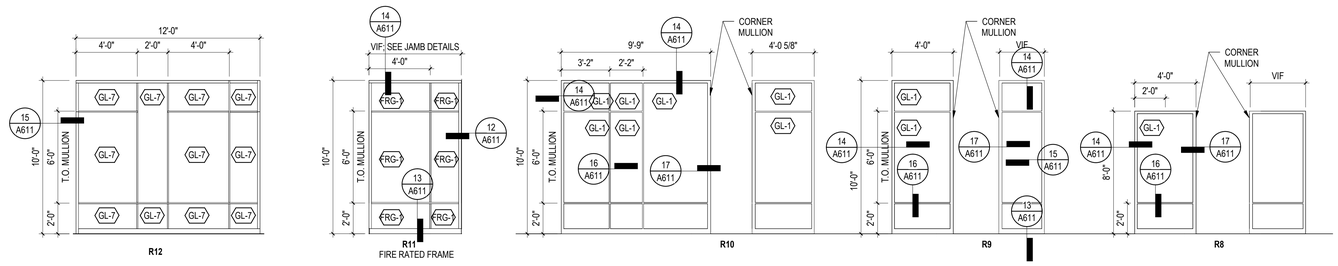




## DOOR TYPES




## RELITE TYPES




## RELITE TYPES CONT.

SINGLE PANE GLASS

- GL-1 CLEAR HEAT STRENGTHENED 1/4"
- GL-2 CLEAR TEMPERED 1/4"
- GL-3 NON VISION (SPANDREL) 1/4"
- GL-4 CLEAR TEMPERED LAMINATED 1/4"
- GL-5 COLORED ACID ETCHED GLASS
- GL-6 CLEAR SINGLE-SIDED ACID ETCHED GLASS
- GL-7 CLEAR DOUBLE-SIDED ACID ETCHED GLASS
- GL-8 MIRROR

FIRE RATED GLASS

- FRG 60 MIN RATING

DOUBLE PANE INSULATED GLASS

- IG-1 HEAT STRENGTHENED / HEAT STRENGTHENED
- IG-2 TEMPERED / TEMPERED
- IG-3 TEMPERED / NON VISION (SPANDREL)

## GEN. WINDOW/ DOOR NOTES

1. REFER TO REFLECTED CEILING PLANS FOR ROLLER SHADE LOCATIONS.
2. SEE DOOR SCHEDULE FOR DOOR GLAZING AND DOOR DETAIL LOCATIONS.
3. ALL ALUMINUM STOREFRONT TO RECEIVE GLAZING TYPE IG-2 UNO. HOLLOW METAL RELITES TO RECEIVE GLAZING TYPE GL-2 UNO.
4. VERIFY DOOR FRAME TYPE, PANEL, HARDWARE, & DIMENSIONS WITH MANUFACTURER.
5. DOOR DETAILS NOT REFERENCED ON WINDOW FRAME ELEVATIONS. REFER TO DOOR SCHEDULE FOR REFERENCED DETAILS.
6. FOR CLADDING INFORMATION REFER TO DOOR, WINDOW DETAILS AND EXTERIOR ELEVATIONS.
10. DOOR AND DOOR FRAME DIMENSIONS TO OUTSIDE OF FRAME AND CENTERLINE OF MULLIONS, UNO. WINDOW DIMENSIONS TO ROUGH OPENING UNO.
11. 2" HM DOOR FRAMES AND PERIMETER RELITE FRAMES, 1" HM MULLIONS (4" DEEP) WITHIN PERIMETER, 4" HM FRAMES AT SILL, TYP UNO.
12. FENESTRATION PRODUCTS SHALL BE LABELED WITH NFRC U-FACTOR, SHGC, VT AND LEAKAGE RATING.
13. MAXIMUM U-VALUE OF 0.40 AT OPERABLE FENESTRATION; 0.38 AT FIXED FENESTRATION; 0.60 FOR GLAZING DOORS; 0.37 FOR OPAQUE DOORS; U-FACTOR AS DETERMINED, CERTIFIED, AND LABELED IN CONFORMANCE TO NFRC 100 BY INDEPENDENT AGENCY LICENSED BY NFRC. EXCEED WASHINGTON STATE ENERGY CODE PER C406.10 ENHANCED ENVELOPE PERFORMANCE.
14. ALL STOREFRONT TO BE TYPE 1 UNO.

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3737 FAX: (206)624-3730

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

| Date | Description |
|---|---|
| 2/08/2023 | ASI-009 |

DOOR, FRAME, & RELITE TYPES

**A600**

IFC SET

PRCNC20221036

## DOOR CODED NOTES

1. PANIC HARDWARE
2. ADA PUSH BUTTON
3. CARD READER
4. FIRE RATED GLAZING RELITE ABOVE
5. INTEGRATED DOOR ASSEMBLY
6. OVERHEAD BIFOLD DOOR (OHBD)
7. 8 PANEL 2 TRACK SLIDING WB SYSTEM
8. OVERHEAD SECTIONAL DOOR (OHSD)
9. ~~ACOUSTIC SEALS~~
10. FLUSH DOOR SYSTEM

## DOOR SCHEDULE

| DOOR NUMBER | DOOR TYPE | DOOR PANEL 1 WIDTH | DOOR PANEL 2 WIDTH | DOOR HEIGHT | DOOR MATERIAL | DOOR FINISH | DOOR GLAZING | FRAME TYPE | FRAME MATERIAL | FRAME FINISH | FRAME GLAZING | DETAIL (SEE SHEET A611 UNO) HEAD | DETAIL (SEE SHEET A611 UNO) JAMB | DETAIL (SEE SHEET A611 UNO) SILL | FIRE RATING | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 001.1 | F | 2'-9" | 2'-9" | 7'-10" | HM | P-4 | -- | 2 | HM | P-4 | -- | 1 | 3 | 4 | | 1, 3 |
| 001.2 | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | 1, 3 |
| 100.1 | FG | 3'-0" | | 7'-10" | AL | P-3 | IG-2 | SF7 | AL | P-3 | GL-1 / GL-2 | PER MANUF | PER MANUF | -- | | 1, 2 |
| 100.2 | FG2 | 3'-0" | 3'-0" | 7'-10" | AL | P-3 | IG-2 | SF7 | AL | P-3 | GL-1 / GL-2 | PER MANUF | PER MANUF | -- | | 1, 2 |
| 101 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 102 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 103.1 | FG | 3'-0" | 0" | 7'-10" | WD | FF | GL-2 | 8 | HM | P-2 | GL-1 / GL-2 | 11 | 14 | -- | | VIF WIDTH = 7'-2" |
| 103.2 | FG | 3'-0" | | 7'-10" | WD | FF | GL-2 | 8 | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 103A.1 | FG | 3'-0" | | 7'-10" | WD | FF | IG-2 | 8 | HM | P-2 | GL-1 / GL-2 | 11 | 14, 15 | -- | | VIF WIDTH = 6'-2" |
| 103A.2 | FG | 3'-0" | | 7'-10" | WD | FF | IG-2 | 8 | HM | P-2 | GL-1 / GL-2 | 11 | 14, 15 | -- | | VIF WIDTH = 6'-2" |
| 103A.6 | G | 9'-9" | | 9'-10" | | | | R10 | | | | | | | | |
| 103B | F | 3'-0" | | 7'-10" | WD | FF | -- | 8 | HM | P-2 | GL-1 / GL-2 | 11 | 14 | -- | | VIF WIDTH = 7'-2" |
| 103C | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 103D | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 103E | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 103F | FG | 3'-0" | | 7'-10" | WD | FF | GL-2 | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 104.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 6 | HM | P-2 | GL-1 | 11 | 14, 15 | -- | | 1 |
| 104.2 | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | 1 HR | 1 |
| 120 | F | 3'-0" | | 8'-0" | HM | P-6 / P-10 | -- | 1 | HM | P-1 / P-6 | -- | 28 | 23, 28 | -- | 1.5 HR | 3, 10 |
| 121 | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 122 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 124 | FG | 3'-0" | 3'-0" | 7'-10" | AL | P-3 | IG-2 | SF17 | AL | P-3 | IG-1 / IG-2 | PER MANUF | PER MANUF | -- | | 1, 2 |
| 125 | F | 3'-6" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | 1, 3 |
| 126 | F | 3'-6" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | 1.5 HR | |
| 127.1 | F | 3'-6" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | 1 HR | 1 |
| 127.2 | F | 3'-6" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | 1 HR | 1 |
| 128 | F | 3'-6" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | 1 HR | |
| 131.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14 | -- | | |
| 131.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 132.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 132.2 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 133 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 134.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 10B | HM | | | 11 | 14 | -- | | VIF WIDTH = 9'-4" |
| 134.2 | OHSD | 8'-0" | | 10'-0" | PER MANUF. | FF | GL-2 | 1 | PER MANUF. | PER MANUF | -- | | | | | 8 |
| 135.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | GL-2 | 10B | HM | | | 11 | 14 | -- | | |
| 135.2 | FG | 3'-0" | 1'-6" | 7'-10" | WD | FF | GL-2 | 9 | HM | P-2 | GL-1 / GL-2 | 11 | 14 | -- | | |
| 135A.1 | FG | 3'-0" | | 7'-10" | WD | FF | GL-2 | 1 | HM | P-2 | -- | 11 SIM | 14 SIM | -- | | |
| 135A.2 | FG | 3'-0" | | 7'-10" | WD | FF | GL-2 | 1 | HM | P-2 | -- | 11 SIM | 14 SIM | | | |
| 135A.3 | OHBD | 8'-0" | | 10'-0" | PER MANUF. | FF | GL-2 | 1 | PER MANUF. | PER MANUF. | -- | | | | | 6 |
| 135B | F | 28'-5" | | 8'-4" | PER MANUF. | FF. | -- | 3 | PER MANUF | PER MANUF. | -- | | | | | 7 |
| 136 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14 | -- | | VIF WIDTH = 9'-2" |
| 201 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14 | -- | | |
| 202 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14 | -- | | |
| 203 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 204 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 205 | F | 3'-0" | | 7'-10" | WD | FF | -- | 8 | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 206.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | VIF WIDTH = 7'-10" |
| 206.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 207 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | VIF WIDTH = 8'-6" |
| 208 | F | 3'-0" | | 7'-10" | WD | FF | -- | 11 | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 220 | F | 3'-0" | | 8'-0" | HM | P-6 / P-10 | -- | 1 | HM | P-1 / P-6 | -- | 28 | 23, 28 | -- | | 3, 10 |
| 221 | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 231.1 | F | 1'-6" | 3'-0" | 7'-10" | WD | FF | -- | 5 | HM | P-2 | GL-2 | 14 | 14 | -- | | |
| 231.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | 9 |
| 232.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 232.2 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 232A.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 232A.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 233.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14 | -- | | |
| 233.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 233A | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 234.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 234.2 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 235.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 5 | HM | P-2 | -- | 11 | 14 | -- | | |
| 235.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | 9 |
| 236 | F | 3'-0" | | 7'-10" | WD | FF | -- | 11 | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 301 | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | 3 |
| 302 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 303 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 305 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 306 | F | 3'-0" | | 7'-10" | WD | FF | -- | 10A | HM | P-2 | GL-1 / GL-2 | 11 | 14, 12 | -- | | |
| 307 | F | 3'-0" | | 7'-10" | WD | FF | -- | 12 | HM | P-2 | GL-1 / GL-2 | 11 | 14 | -- | | |
| 308.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 7 | HM | P-2 | GL-1 | 11 | 14, 15 | -- | | |
| 308.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 6 | HM | P-2 | GL-1 | 11 | 14, 15 | -- | | |
| 309.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 7 | HM | P-2 | GL-1 | 11 | 14 | -- | | |
| 309.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 309A | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 309B | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | 9 |
| 310.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14 | -- | | |
| 310.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 312.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 312.2 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 312A | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 313 | F | 3'-0" | | 8'-0" | HM | P-6 / P-10 | -- | 1 | HM | P-1 / P-6 | -- | 28 | 23, 28 | -- | 1 HR | 9, 10 |
| 314.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14 | -- | | |
| 314.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 314A.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 314A.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 314B | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | 1 HR | |
| 314C | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | 1 HR | |
| 315 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 316.1 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 316.2 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14, 15 | -- | | |
| 317 | F | 3'-0" | | 7'-10" | HM | P-2 | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 318.1 | F | 3'-0" | 1'-6" | 7'-10" | WD | FF | -- | 2 | HM | P-2 | -- | 14 | 14, 12 | -- | | |
| 318.2 | F | 3'-0" | | 7'-10" | WD | FF | -- | 1 | HM | P-2 | -- | 14 | 14 | -- | | |
| 319 | F | 3'-0" | | 7'-10" | WD | FF | -- | 4 | HM | P-2 | GL-2 | 14 | 14, 12 | -- | | |
| 320 | F | 3'-0" | | 7'-10" | WD | FF | -- | 4 | HM | P-2 | GL-2 | 14 | 14, 15 | -- | | |
| 400 | F | 3'-0" | | 6'-10" | HM | P-5 | -- | 1 | HM | P-5 | -- | 1 | 2 | 9 | | |
| S101.1 | FG2 | 3'-0" | | 7'-10" | AL | P-3 | IG-2 | SF14A | AL | P-3 | IG-1 / IG-2 | PER MANUF | PER MANUF | 5 | | 1 |
| S101.2 | F | 4'-0" | 4'-0" | 9'-0" | HM | P-1 | -- | 2 | HM | P-1 | -- | 27 | 26 | -- | 1 HR | 1, 4, 5 |
| S102.1 | F | 3'-9" | | 9'-0" | HM | P-1 | -- | 1 | HM | P-1 | -- | 27 | 26 | -- | 1 HR | 1, 4, 5 |
| S102.2 | F | 3'-0" | | 7'-10" | HM | P-5 | IG-2 | SF7 | HM | P-5 | -- | 1 | 2 | 4 | | 1 |
| S103 | F | 3'-6" | | 7'-10" | HM | P-4 | -- | 1 | HM | P-4 | -- | 1 | 3 | 4 | | 1, 3 |
| S201 | F | 4'-0" | 4'-0" | 9'-0" | HM | P-1 | -- | 2 | HM | P-1 | -- | 27 | 26 | -- | 1 HR | 1, 4, 5 |
| S202 | F | 3'-9" | | 9'-0" | HM | P-1 | -- | 1 | HM | P-1 | -- | 27 | 26 | -- | 1 HR | 1, 4, 5 |
| S301 | F | 4'-0" | | 9'-0" | HM | P-1 | -- | 1 | HM | P-1 | -- | 27 | 26 | -- | 1 HR | 1, 4, 5 |
| S302 | F | 3'-9" | | 9'-0" | HM | P-1 | -- | 1 | HM | P-1 | -- | 27 | 26 | -- | 1 HR | 1, 4, 5 |
| V101.1 | FG | 3'-0" | | 7'-10" | AL | P-3 | IG-2 | SF8 | AL | P-3 | IG-1 / IG-2 | PER MANUF | PER MANUF | 5 | | 1, 3 |
| V101.2 | FG | 3'-0" | 3'-0" | 7'-10" | AL | P-3 | IG-2 | SF17 | AL | P-3 | IG-1 / IG-2 | PER MANUF | PER MANUF | 5 | | 1, 2 |
| V102 | FG2 | 3'-0" | 3'-0" | 7'-10" | AL | P-3 | IG-2 | SF16 | AL | P-3 | IG-1 / IG-2 | PER MANUF | PER MANUF | 5 | | 1, 2, 3 |

IFC SET

integrus ARCHITECTURE
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9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

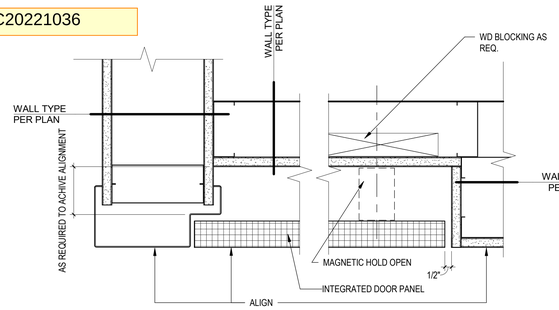
Revisions

| Date | Description |
|---|---|
| 05/11/2023 | ASI-010 |

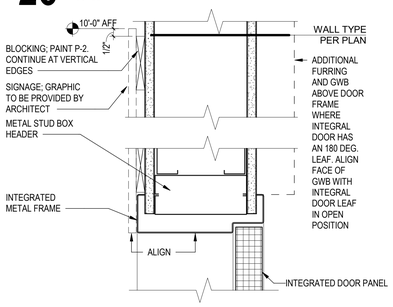
DOOR AND FRAME SCHEDULE

A601

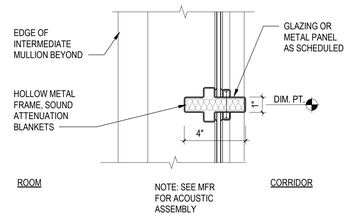
PRCNC20221036



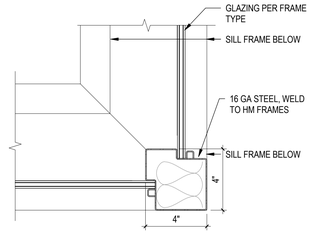

## 26 INTEGRATED DOOR JAMB
SCALE: 3" = 1'-0"



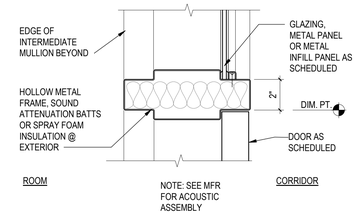

## 27 INTEGRATED DOOR HEAD
SCALE: 3" = 1'-0"



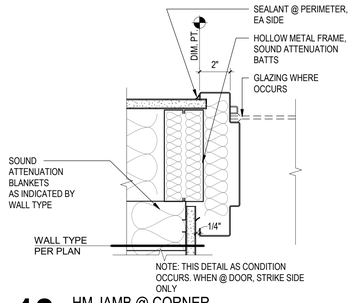

## 16 HM RELITE MULLION
SCALE: 3" = 1'-0"



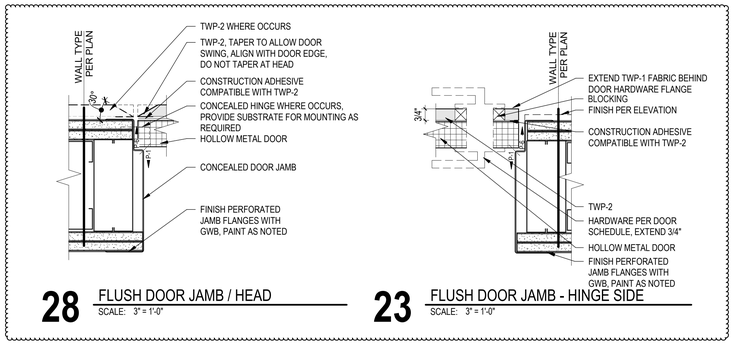

## 17 HM RELITE CORNER
SCALE: 3" = 1'-0"




## 11 HM HEAD / JAMB @ TRANSOM
SCALE: 3" = 1'-0"



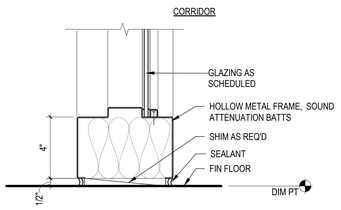

## 12 HM JAMB @ CORNER
SCALE: 3" = 1'-0"



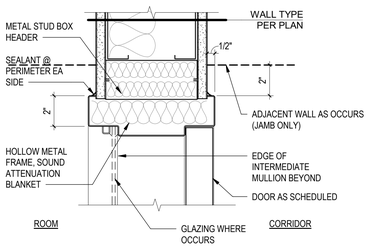

## 28 FLUSH DOOR JAMB / HEAD
SCALE: 3" = 1'-0"



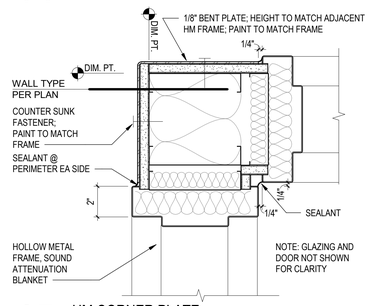

## 23 FLUSH DOOR JAMB - HINGE SIDE
SCALE: 3" = 1'-0"



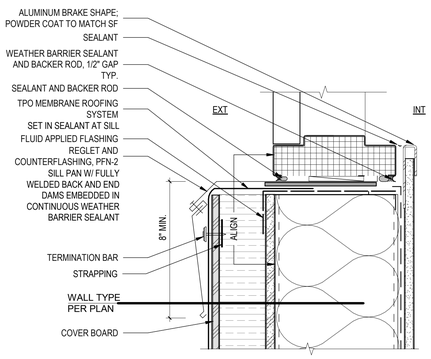

## 13 HM RELITE SILL @ FLOOR
SCALE: 3" = 1'-0"



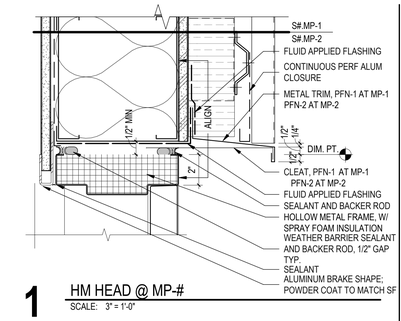

## 14 HM HEAD/ JAMB @ GWB
SCALE: 3" = 1'-0"



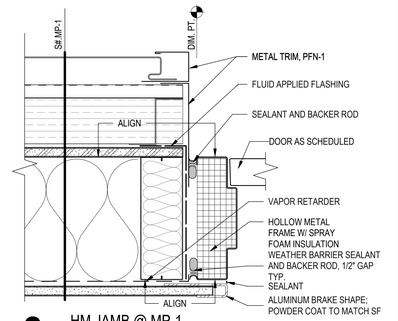

## 15 HM CORNER PLATE
SCALE: 3" = 1'-0"



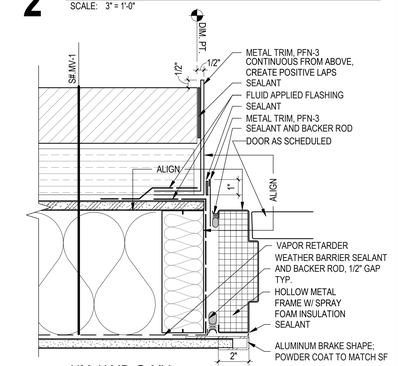

## 9 HM SERVICE SILL
SCALE: 3" = 1'-0"



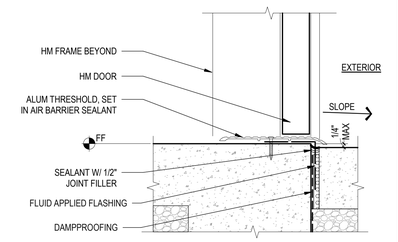

## 1 HM HEAD @ MP-#
SCALE: 3" = 1'-0"



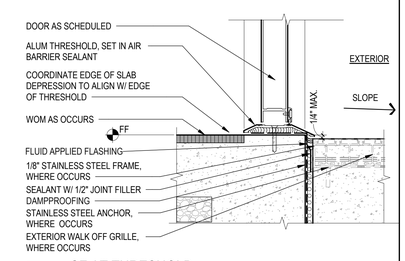

## 2 HM JAMB @ MP-1
SCALE: 3" = 1'-0"




## 3 HM JAMB @ MV
SCALE: 3" = 1'-0"




## 4 HM DOOR THRESHOLD
SCALE: 3" = 1'-0"




## 5 SF AT THRESHOLD
SCALE: 3" = 1'-0"

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE: (206)624-3730 FAX: (206)624-3730

9411 REGISTERED ARCHITECT
BRIAN JOHN BARNHART
STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

| Date | Description |
|---|---|
| 05/11/2023 | ASI-010 |

DETAILS - DOORS

**A611**

IFC SET

PRCNC20221036

SINGLE PANE GLASS

- GL-1 CLEAR HEAT STRENGTHENED 1/4"
- GL-2 CLEAR TEMPERED 1/4"
- GL-3 NON VISION (SPANDREL) 1/4"
- GL-4 CLEAR TEMPERED LAMINATED 1/4"
- GL-5 COLORED ACID ETCHED GLASS
- GL-6 CLEAR SINGLE-SIDED ACID ETCHED GLASS
- GL-7 CLEAR DOUBLE-SIDED ACID ETCHED GLASS
- GL-8 MIRROR

FIRE RATED GLASS

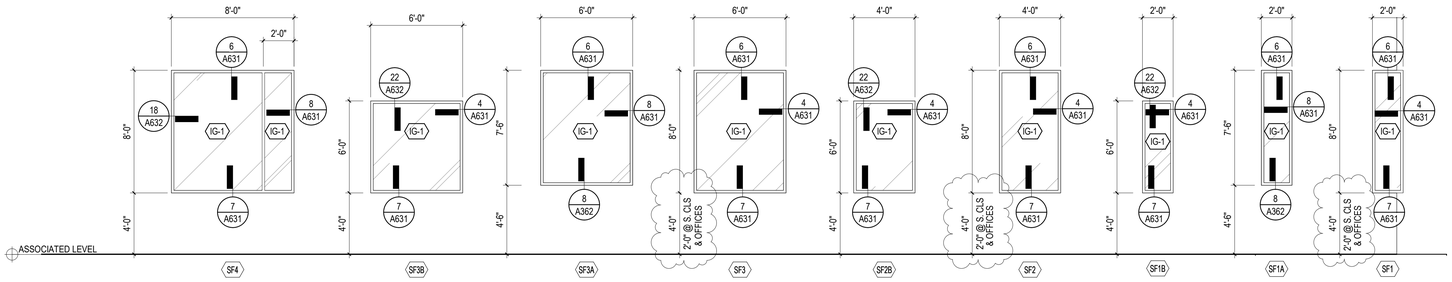
- FRG 60 MIN RATING

DOUBLE PANE INSULATED GLASS

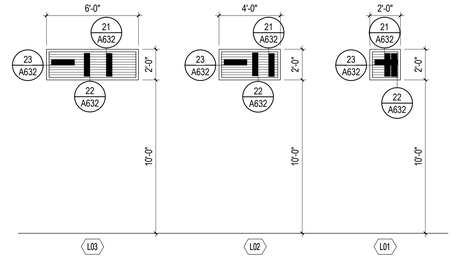
- IG-1 HEAT STRENGTHENED / HEAT STRENGTHENED
- IG-2 TEMPERED / TEMPERED
- IG-3 TEMPERED / NON VISION (SPANDREL)

## GEN. WINDOW/ DOOR NOTES

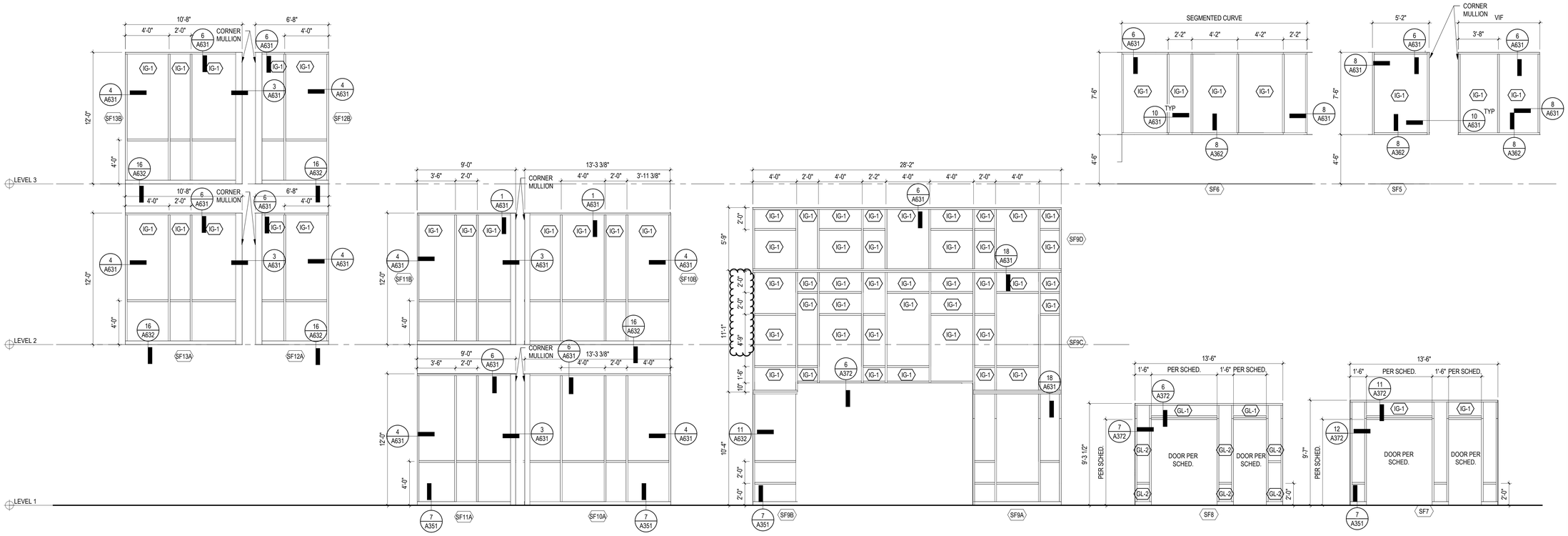
1. REFER TO REFLECTED CEILING PLANS FOR ROLLER SHADE LOCATIONS.
2. SEE DOOR SCHEDULE FOR DOOR GLAZING AND DOOR DETAIL LOCATIONS.
3. ALL ALUMINUM STOREFRONT TO RECEIVE GLAZING TYPE IG-2 UNO. HOLLOW METAL RELITES TO RECEIVE GLAZING TYPE GL-2 UNO.
4. VERIFY DOOR FRAME TYPE, PANEL, HARDWARE, & DIMENSIONS WITH MANUFACTURER.
5. DOOR DETAILS NOT REFERENCED ON WINDOW FRAME ELEVATIONS. REFER TO DOOR SCHEDULE FOR REFERENCED DETAILS.
6. FOR CLADDING INFORMATION REFER TO DOOR, WINDOW DETAILS AND EXTERIOR ELEVATIONS.
10. DOOR AND DOOR FRAME DIMENSIONS TO OUTSIDE OF FRAME AND CENTERLINE OF MULLIONS, UNO. WINDOW DIMENSIONS TO ROUGH OPENING UNO.
11. 2" HM DOOR FRAMES AND PERIMETER RELITE FRAMES, 1" HM MULLIONS (4" DEEP) WITHIN PERIMETER, 4" HM FRAMES AT SILL, TYP UNO.
12. FENESTRATION PRODUCTS SHALL BE LABELED WITH NFRC U-FACTOR, SHGC, VT AND LEAKAGE RATING.
13. MAXIMUM U-VALUE OF 0.40 AT OPERABLE FENESTRATION; 0.38 AT FIXED FENESTRATION; 0.60 FOR GLAZING DOORS; 0.37 FOR OPAQUE DOORS; U-FACTOR AS DETERMINED, CERTIFIED, AND LABELED IN CONFORMANCE TO NFRC 100 BY INDEPENDENT AGENCY LICENSED BY NFRC. EXCEED WASHINGTON STATE ENERGY CODE PER C406.10 ENHANCED ENVELOPE PERFORMANCE.
14. ALL STOREFRONT TO BE TYPE 1 UNO.




## STOREFRONT TYPES




## LOUVER TYPES




integrus ARCHITECTURE

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9411 REGISTERED ARCHITECT BRIAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

| Date | Description |
|---|---|
| 12/30/2022 | ASI-007 |

STOREFRONT & LOUVER TYPES

**A621**

IFC SET

PRCNC20221036

# GEN. WINDOW/ DOOR NOTES

SINGLE PANE GLASS

- GL-1 CLEAR HEAT STRENGTHENED 1/4"
- GL-2 CLEAR TEMPERED 1/4"
- GL-3 NON VISION (SPANDREL) 1/4"
- GL-4 CLEAR TEMPERED LAMINATED 1/4"
- GL-5 COLORED ACID ETCHED GLASS
- GL-6 CLEAR SINGLE-SIDED ACID ETCHED GLASS
- GL-7 CLEAR DOUBLE-SIDED ACID ETCHED GLASS
- GL-8 MIRROR

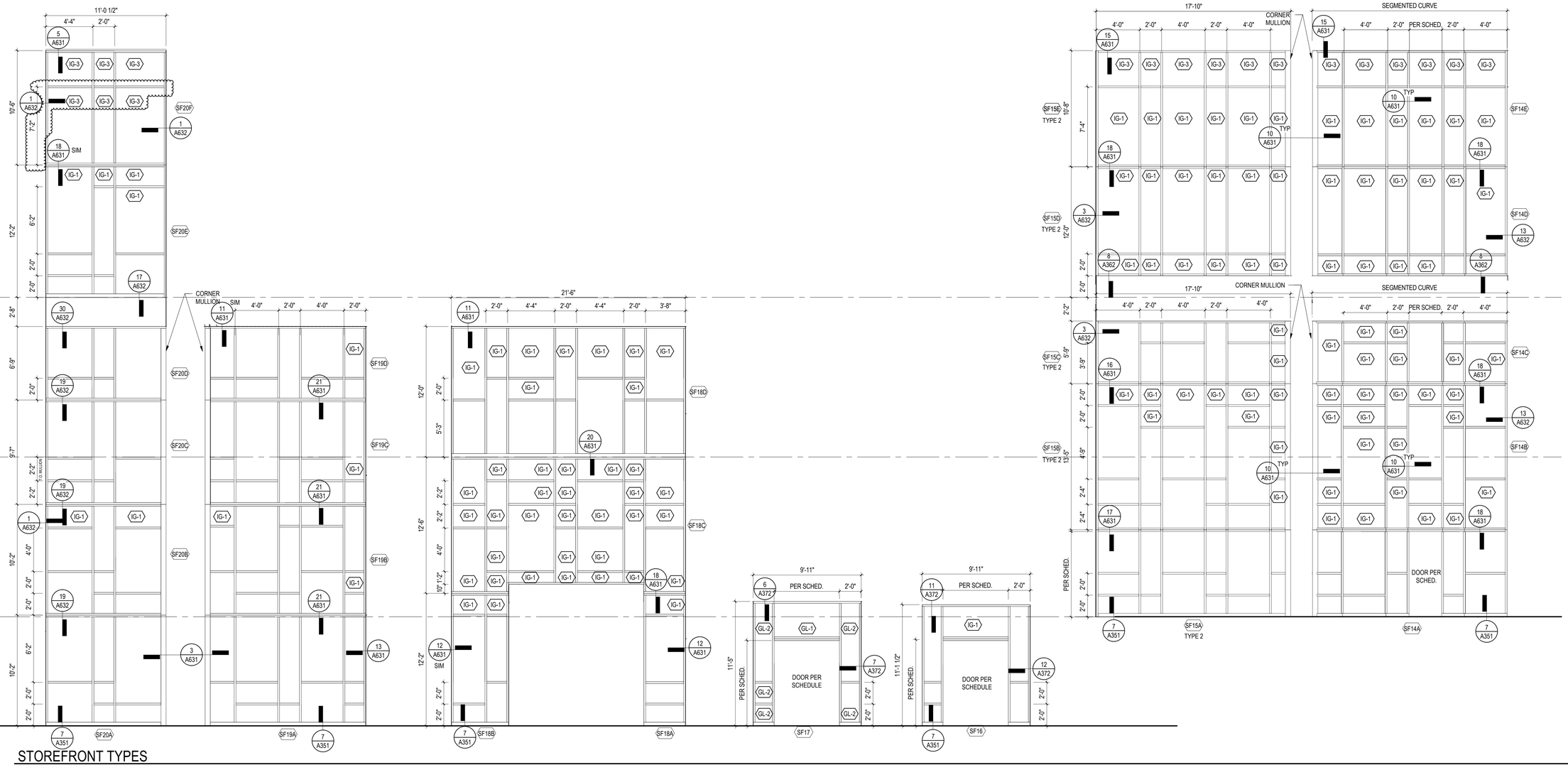
FIRE RATED GLASS

- FRG1 60 MIN RATING

DOUBLE PANE INSULATED GLASS

- IG-1 HEAT STRENGTHENED / HEAT STRENGTHENED
- IG-2 TEMPERED / TEMPERED
- IG-3 TEMPERED / NON VISION (SPANDREL)

1. REFER TO REFLECTED CEILING PLANS FOR ROLLER SHADE LOCATIONS.
2. SEE DOOR SCHEDULE FOR DOOR GLAZING AND DOOR DETAIL LOCATIONS.
3. ALL ALUMINUM STOREFRONT TO RECEIVE GLAZING TYPE IG-2 UNO. HOLLOW METAL RELITES TO RECEIVE GLAZING TYPE GL-2 UNO.
4. VERIFY DOOR FRAME TYPE, PANEL, HARDWARE, & DIMENSIONS WITH MANUFACTURER.
5. DOOR DETAILS NOT REFERENCED ON WINDOW FRAME ELEVATIONS. REFER TO DOOR SCHEDULE FOR REFERENCED DETAILS.
6. FOR CLADDING INFORMATION REFER TO DOOR, WINDOW DETAILS AND EXTERIOR ELEVATIONS.
10. DOOR AND DOOR FRAME DIMENSIONS TO OUTSIDE OF FRAME AND CENTERLINE OF MULLIONS, UNO. WINDOW DIMENSIONS TO ROUGH OPENING UNO.
11. 2" HM DOOR FRAMES AND PERIMETER RELITE FRAMES, 1" HM MULLIONS (4" DEEP) WITHIN PERIMETER, 4" HM FRAMES AT SILL, TYP UNO.
12. FENESTRATION PRODUCTS SHALL BE LABELED WITH NFRC U-FACTOR, SHGC, VT AND LEAKAGE RATING.
13. MAXIMUM U-VALUE OF 0.40 AT OPERABLE FENESTRATION; 0.38 AT FIXED FENESTRATION; 0.60 FOR GLAZING DOORS; 0.37 FOR OPAQUE DOORS: U-FACTOR AS DETERMINED, CERTIFIED, AND LABELED IN CONFORMANCE TO NFRC 100 BY INDEPENDENT AGENCY LICENSED BY NFRC. EXCEED WASHINGTON STATE ENERGY CODE PER C406.10 ENHANCED ENVELOPE PERFORMANCE.
14. ALL STOREFRONT TO BE TYPE 1 UNO.




STOREFRONT TYPES

integrus ARCHITECTURE
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TELEPHONE: (206)624-3730 FAX: (206)624-3730

9411 REGISTERED ARCHITECT BRIAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

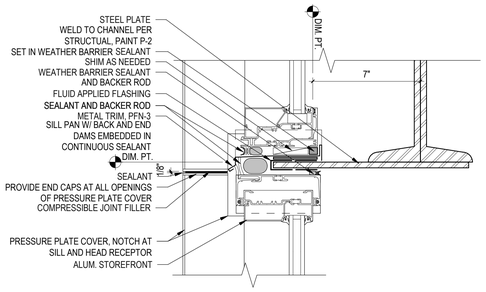
| Date | Description |
|---|---|
| 2/2/2023 | RFI-066 |

STOREFRONT TYPES

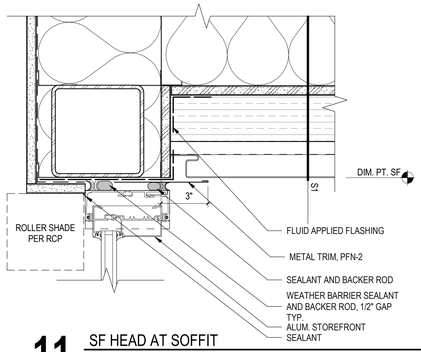
**A622**

IFC SET

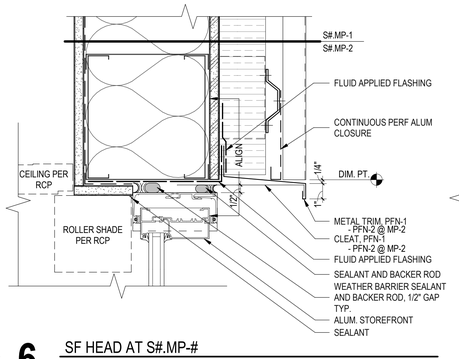
PRCNC20221036



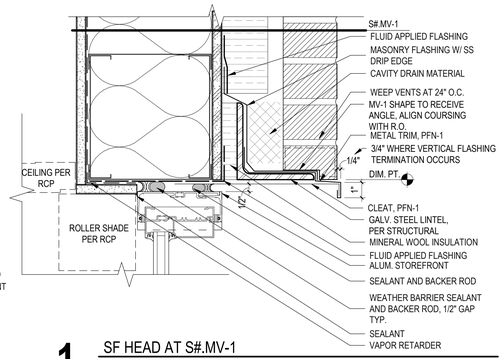

**16** SF INTERMEDIATE AT B.O. CHANNEL
SCALE: 3" = 1'-0"




**11** SF HEAD AT SOFFIT
SCALE: 3" = 1'-0"

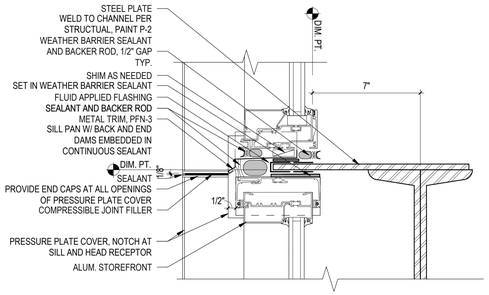



**6** SF HEAD AT S#.MP-#
SCALE: 3" = 1'-0"

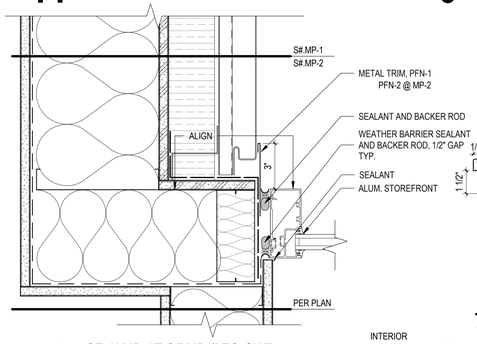



**1** SF HEAD AT S#.MV-1
SCALE: 3" = 1'-0"

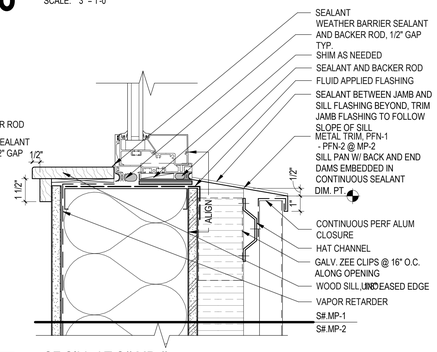
1. REFER TO REFLECTED CEILING PLANS FOR ROLLER SHADE LOCATIONS.
2. SEE DOOR SCHEDULE FOR DOOR GLAZING AND DOOR DETAIL LOCATIONS.
3. ALL ALUMINUM STOREFRONT TO RECEIVE GLAZING TYPE IG-2 UNO. HOLLOW METAL RELITES TO RECEIVE GLAZING TYPE GL-2 UNO.
4. VERIFY DOOR FRAME TYPE, PANEL, HARDWARE, & DIMENSIONS WITH MANUFACTURER.
5. DOOR DETAILS NOT REFERENCED ON WINDOW FRAME ELEVATIONS. REFER TO DOOR SCHEDULE FOR REFERENCED DETAILS.
6. FOR CLADDING INFORMATION REFER TO DOOR, WINDOW DETAILS AND EXTERIOR ELEVATIONS.
10. DOOR AND DOOR FRAME DIMENSIONS TO OUTSIDE OF FRAME AND CENTERLINE OF MULLIONS, UNO. WINDOW DIMENSIONS TO ROUGH OPENING UNO.
11. 2" HM DOOR FRAMES AND PERIMETER RELITE FRAMES, 1" HM MULLIONS (4" DEEP) WITHIN PERIMETER, 4" HM FRAMES AT SILL, TYP UNO.
12. FENESTRATION PRODUCTS SHALL BE LABELED WITH NFRC U-FACTOR, SHGC, VT AND LEAKAGE RATING.
13. MAXIMUM U-VALUE OF 0.40 AT OPERABLE FENESTRATION; 0.38 AT FIXED FENESTRATION; 0.60 FOR GLAZING DOORS; 0.37 FOR OPAQUE DOORS; U-FACTOR AS DETERMINED, CERTIFIED, AND LABELED IN CONFORMANCE TO NFRC 100 BY INDEPENDENT AGENCY LICENSED BY NFRC. EXCEED WASHINGTON STATE ENERGY CODE PER C406.10 ENHANCED ENVELOPE PERFORMANCE.
14. ALL STOREFRONT TO BE TYPE 1 UNO.



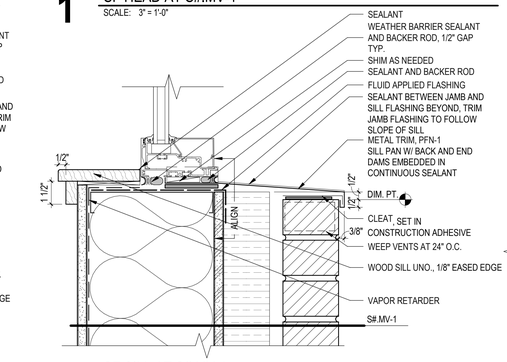

**17** SF INTERMEDIATE AT T.O. CHANNEL
SCALE: 3" = 1'-0"



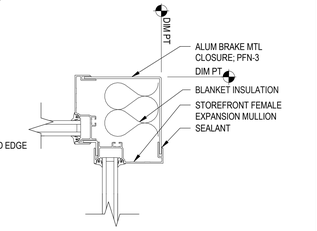

**12** SF JAMB AT S#.MP-# TO GWB
SCALE: 3" = 1'-0"



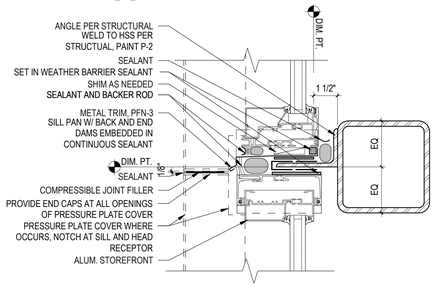

**7** SF SILL AT S#.MP-#
SCALE: 3" = 1'-0"



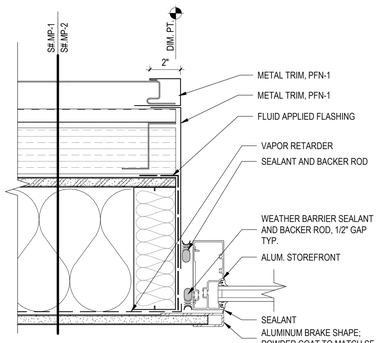

**2** SF SILL AT S#.MV-1
SCALE: 3" = 1'-0"



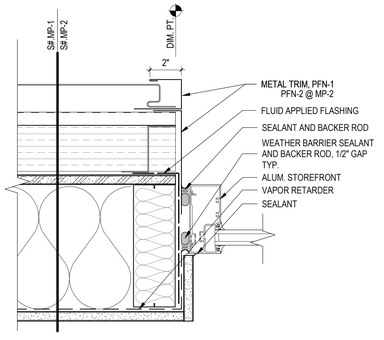

**3** SF TO SF EXTERIOR CORNER
SCALE: 3" = 1'-0"



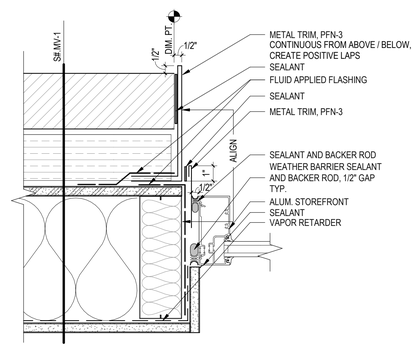

**18** SF INTERMEDIATE AT HSS
SCALE: 3" = 1'-0"



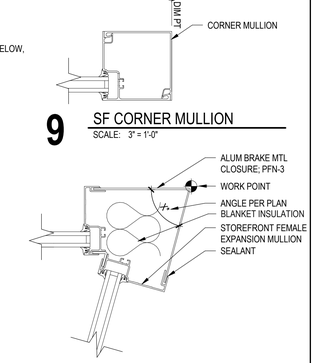

**13** SF JAMB AT S#.MP-# AT STAIR
SCALE: 3" = 1'-0"




**8** SF JAMB AT S#.MP-#
SCALE: 3" = 1'-0"



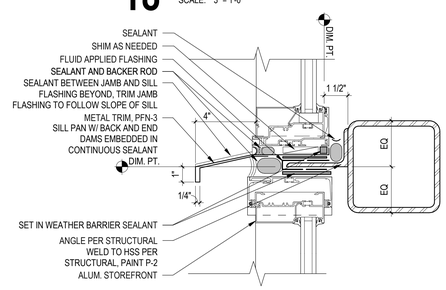

**4** SF JAMB AT S#.MV -1
SCALE: 3" = 1'-0"



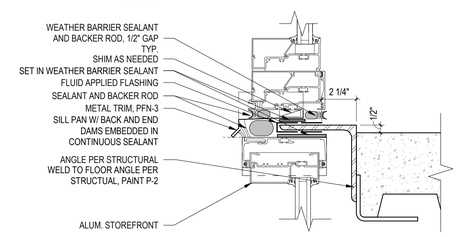

**9** SF CORNER MULLION
SCALE: 3" = 1'-0"



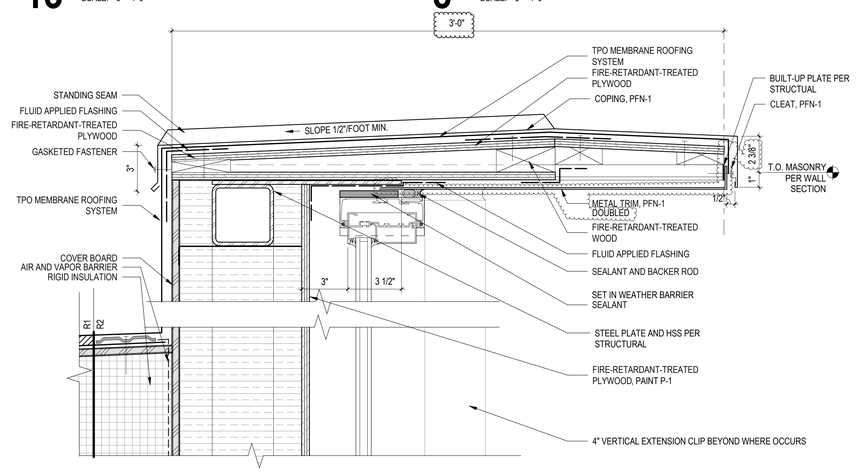

**10** SF TO SF VARIABLE ANGLE
SCALE: 3" = 1'-0"



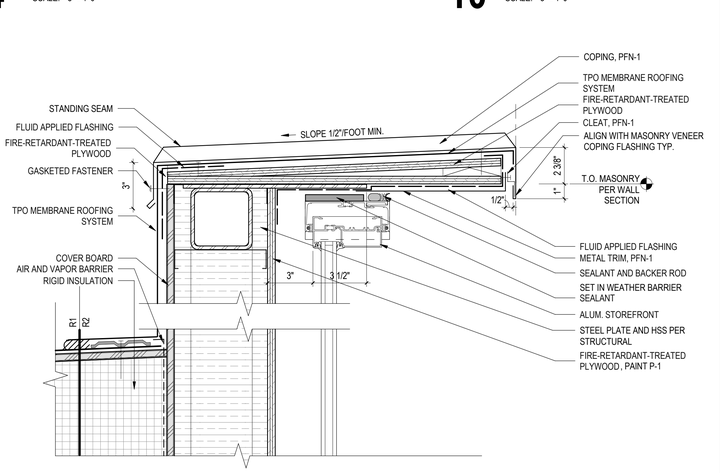

**21** SF19 INTERMEDIATE AT HSS
SCALE: 3" = 1'-0"




**20** SF MULLION AT FLOOR EDGE
SCALE: 3" = 1'-0"




**15** SF PARAPET HEAD AT WEST STAIR
SCALE: 3" = 1'-0"




**5** SF PARAPET HEAD AT EAST STAIR
SCALE: 3" = 1'-0"

## GEN. WINDOW/ DOOR NOTES

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-7337 FAX: (206)628-3138

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

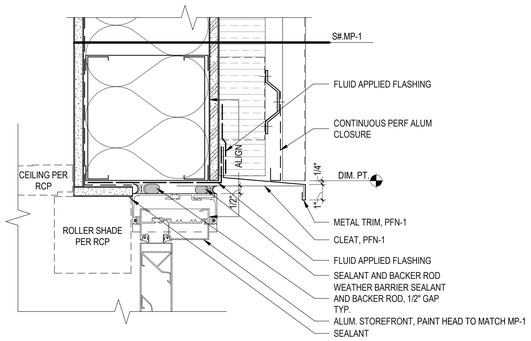
| Date | Description |
|---|---|
| 6/14/2023 | ASI-027 |

DETAILS - LOUVER AND WINDOW

**A631**

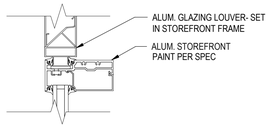
IFC SET

PRCNC20221036



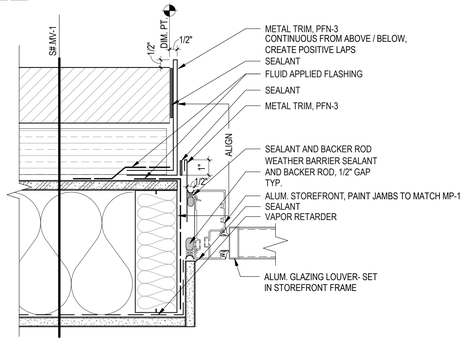

## 21 LOUVER HEAD AT STOREFRONT MW1

SCALE: 3" = 1'-0"



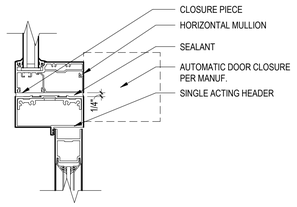

## 22 LOUVER SILL AT STOREFRONT

SCALE: 3" = 1'-0"



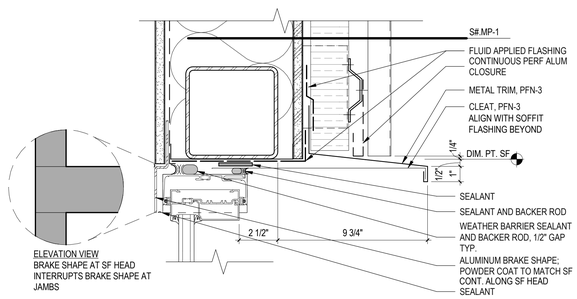

## 23 LOUVER JAMB AT STOREFRONT MV-1

SCALE: 3" = 1'-0"



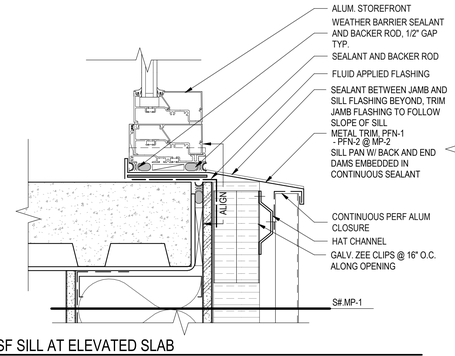

## 24 SF DOUBLE TRANSOM BAR

SCALE: 3" = 1'-0"



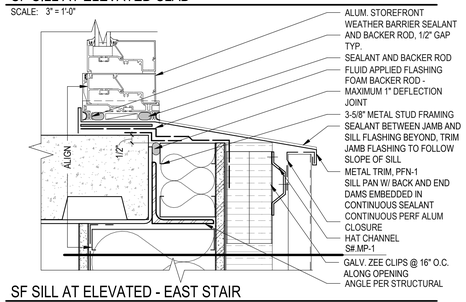

## 30 SF20 HEAD AT MP-1

SCALE: 3" = 1'-0"



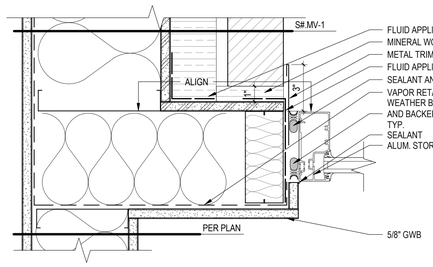

## 16 SF SILL AT ELEVATED SLAB

SCALE: 3" = 1'-0"



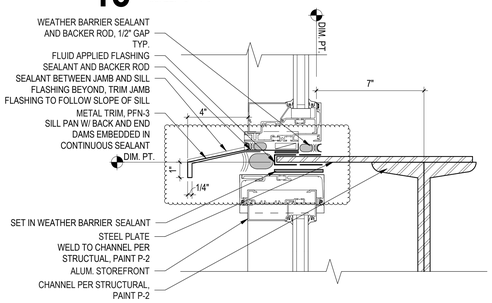

## 17 SF SILL AT ELEVATED - EAST STAIR

SCALE: 3" = 1'-0"



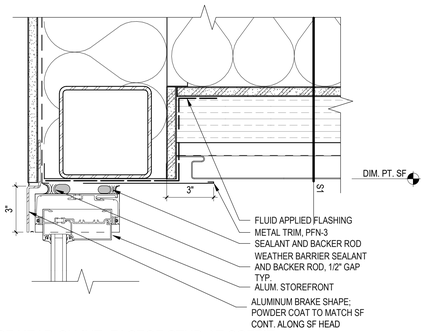

## 18 SF JAMB AT MV-1 TO GWB

SCALE: 3" = 1'-0"



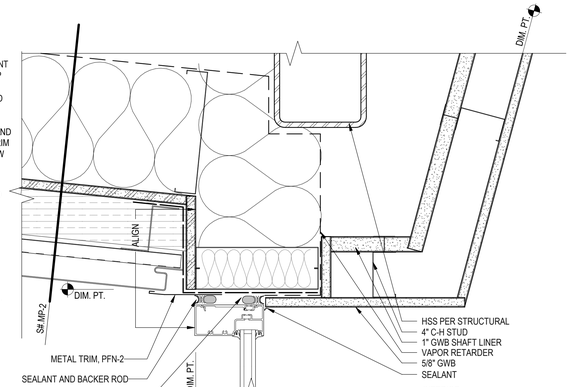

## 19 SF INTERMEDIATE AT T.O. CHANNEL AT SF20

SCALE: 3" = 1'-0"



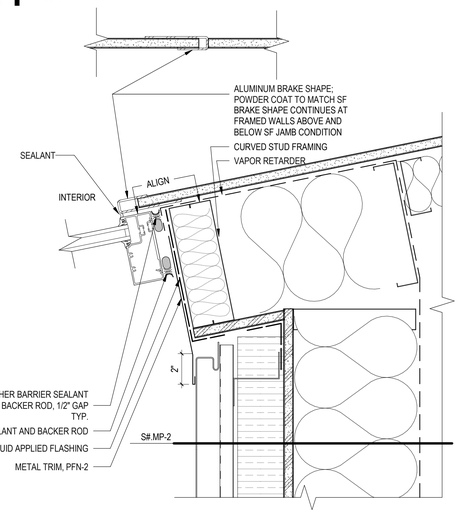

## 25 SF HEAD ON INT. FACEOF STUD AT SOFFIT

SCALE: 3" = 1'-0"



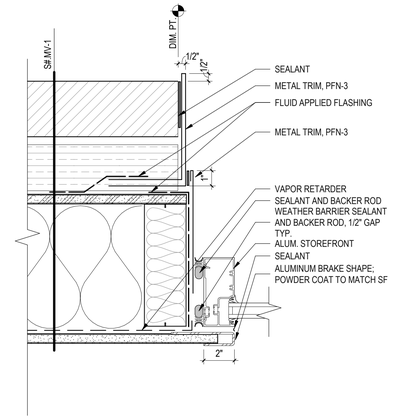

## 11 SF JAMB AT S#.MP-# TO GWB ANGLE

SCALE: 3" = 1'-0"



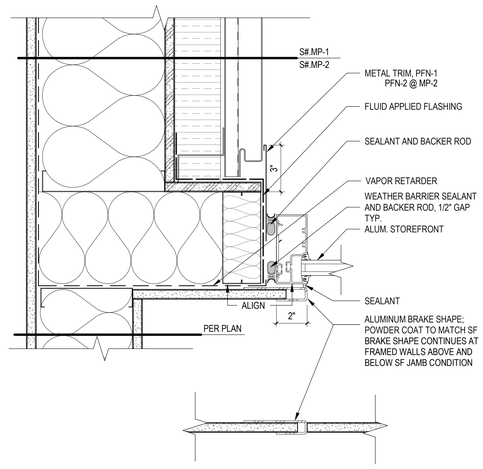

## 13 SF JAMB AT S#.MP-# TO GWB ANGLE AT INTERIOR OF STUD

SCALE: 3" = 1'-0"



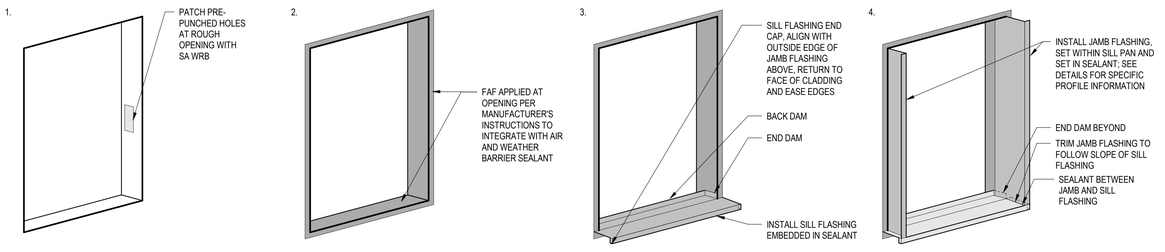

## 1 SF TO MV-1 AT INTERIOR OF STUD

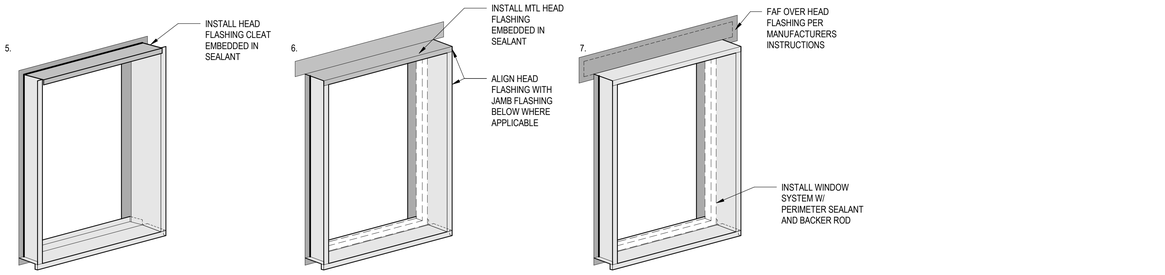
SCALE: 3" = 1'-0"




## 3 SF JAMB AT S#.MP-# TO GWB AT INTERIOR OF STUD

SCALE: 3" = 1'-0"




## 20 R.O. SEQUENCING CONFIGURATION AND GENERAL NOTES

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

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-3739 FAX: (206)624-3730

9411 REGISTERED ARCHITECT BRIAN JOHN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | BCT |
| Checked By: | JL |

Revisions

| Date | Description |
|---|---|
| 2/2/2023 | RFI-066 |

DETAILS - LOUVER AND WINDOW

**A632**

IFC SET

PRCNC20221036

## SIGNAGE SCHEDULE LEGEND

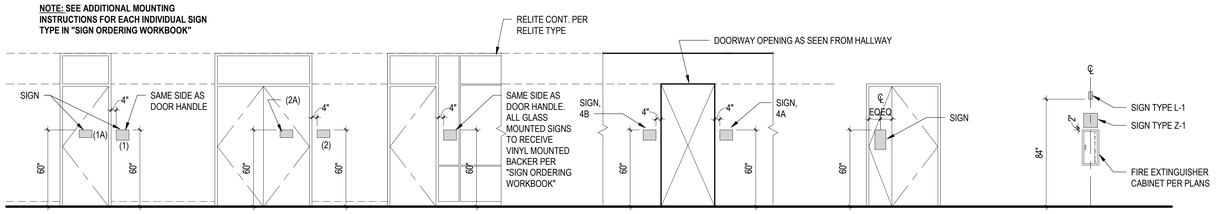
| ROOM NUMBER | ROOM NAME | DOOR NUMBER | SIGN TYPE | MOUNTING LOCATION | NUMBER ON SIGN | TEXT ON SIGN | CODED NOTES |
|---|---|---|---|---|---|---|---|
| 1001 | ROOM | 1001A / 1001B / 1001C | A1, H1, L1 / -- / L1 | 2A, 1, 3 / -- / 3 | 1001 | ROOM | 1, 7 / -- / 7 |

- DOORS ASSOCIATED WITH ROOM 1001
- SIGNS ASSOCIATED WITH DOOR 1001A
- NO SIGNS ASSOCIATED WITH DOOR 1001B
- SIGN ASSOCIATED WITH DOOR 1001C
- MOUNTING LOCATION FOR SIGN L1 ASSOCIATED WITH DOOR 1001C
- NO MOUNTING LOCATIONS ASSOCIATED WITH DOOR 1001B
- MOUNTING LOCATION FOR SIGN L1 ASSOCIATED WITH DOOR 1001A
- MOUNTING LOCATION FOR SIGN H1 ASSOCIATED WITH DOOR 1001A
- MOUNTING LOCATION FOR SIGN A1 ASSOCIATED WITH DOOR 1001A
- CODED NOTES FOR SIGNS ASSOCIATED WITH DOOR 1001C
- NO CODED NOTES ASSOCIATED WITH DOOR 1001B
- CODED NOTES FOR SIGNS ASSOCIATED WITH DOOR 1001A

SIGNAGE SCHEDULE

| ROOM NUMBER | ROOM NAME | DOOR NUMBER | SIGN TYPE | MOUNTING LOCATION | NUMBER ON SIGN | TEXT ON SIGN | CODED NOTES |
|---|---|---|---|---|---|---|---|
| LEVEL 0 | | | | | | | |
| 001 | BOILER ROOM | 001.1 / 001.2 | N-1 / N-2 | 1 / 1 | -- / 001 | MECHANICAL / MECHANICAL | -- / -- |
| 124 | GRAVITY LAB | 124 / -- | N-0 / B-1 | 3 / -- | -- / -- | EXIT / -- | 2 / 1 |
| S102 | STAIR 2 | S102.1 / S102.2 | C3 / N-0 | -- / 1 | -- / -- | -- / EXIT | 2 / 2 |
| S103 | STAIR | S103 | N-1, FS-1, FS-2 | 1,1A, 1A | --, --, -- | FIRE RISER, --, -- | --, 2, 2 |
| V102 | VESTIBULE 2 | V102 | H-S, H-B, Q-5 | PER SIGN TYPE | --, --, -- | --, --, -- | --, --, -- |
| LEVEL 1 | | | | | | | |
| 100 | LOBBY | 100.1 / 100.2 / --, --, --, -- | N-0 / -- / B-1, L-1, Z-1, B-4 | 3 / -- / --, 6, 6, -- | -- / -- / --, --, --, -- | EXIT / -- / --, --, --, -- | 2 / -- / 1, --, 7, 2 |
| 101 | CLASSROOM | 101 | R-2 | 3 | 101 | CLASSROOM | -- |
| 102 | CLASSROOM | 102 | R-2 | 3 | 102 | CLASSROOM | -- |
| 103 | WORKSTATIONS | 103.1 / 103.2 | RX-1 / RX-1 | 3 / 3 | 103 / 103 | OFFICE / OFFICE | -- / -- |
| 103A | STUDY ROOM | 103A.1 / 103A.2 | RX-1 / RX-1 | 3 / 3 | 103A / 103A | STUDY / STUDY | -- / -- |
| 103B | OFFICE | 103B | RX-1 | 3 | 103B | OFFICE | -- |
| 103C | OFFICE | 103C | RX-1 | 3 | 103C | OFFICE | -- |
| 103D | OFFICE | 103D | RX-1 | 3 | 103D | OFFICE | -- |
| 103E | DOUBLE OFFICE | 103E | RX-1 | 1 | 103E | OFFICE | -- |
| 103F | WORKROOM | 103F | N-2 | 1 | 103F | WORKROOM | -- |
| 104 | DOUBLE CLASSROOM | 104.1 / 104.2 | R-2, N-0, OM-1 / N0 | 3, 3, -- / 1 | 104, --, -- / -- | CLASSROOM, EXIT, -- / EXIT | --, --, -- / -- |
| 120 | MDF | 120 | N-1 | 1A | 120 | -- | -- |
| 121 | CUST. | 121 | N-2 | 1 | 121 | CUSTODIAL | -- |
| 122 | MOTHER'S | 122 | E-5 | 1 | 122 | WELLNESS ROOM | 2 |
| 125 | HALL | 125 | N-2 | 1 | 126 & 127 | ELECTRICAL | -- |
| 126 | EMERGENCY ELECTRICAL | 126 | N-3 | 1 | 126 | EMERGENCY ELECTRICAL | -- |
| 127 | ELECTRICAL MAIN | 127.1 / 127.2 | N-2 / N-2 | 1 / 1 | 127 / 127 | ELECTRICAL / ELECTRICAL | -- / -- |
| 128 | SPRINKLER RISER | 128 | N-2, FS-1, FS-2 | 1, 1A, 1A | 128, --, -- | FIRE RISER, --, -- | --, 2, 2 |
| 130 | HALL | --, --, --, -- | L-1, Z-1, L-2, L-2 | 6, 6, --, -- | --, --, --, -- | --, --, --, -- | --, 7, 3, 3 |
| 131 | PHYSICS SUPPORT | 131.1 / 131.2 | R-1 / N-1, N-1 | 5 / 1, 1 | 131 / 131, 132 | -- / --, -- | -- / --, -- |
| 132 | PHYSICS | 132.1 / 132.2 | RX-2 / RX-2 | 1 / 5 | 132 / 132 | LAB / LAB | -- / -- |
| 133 | CLASSROOM | 133 | R-2 | 1 | 133 | CLASSROOM | -- |
| 134 | IDEATION STUDIO | 134.1 | RX-2, G/S | 5, 5 | 134, -- | LAB, -- | --, -- |
| 135 | FAB LAB | 135.1 / 135.2 | RX-2, G/S / N2, N2 | 5, 5 / 5, 5 | 135, -- / 134, 135 | LAB, -- / LAB, LAB | --, -- / --, -- |
| 135A | CHECK-IN / WORKROOM | 135A.1 / 135A.2 / 135A.3 | N-1 / N-2 / TQ-1 | 1A / 1A / -- | 135A / 135A / -- | WORKROOM / WORKROOM / -- | -- / -- / -- |
| 136 | WORKSTATIONS | 136 | RX-1 | 3 | 136 | OFFICE | -- |
| 141 | RESTROOM | --, --, --, -- | E-4, E-4, E-6, EA-1 | PER PLAN & ELEVATIONS | 141, 141, --, -- | INCLUSIVE RESTROOM FACILITIES, INCLUSIVE RESTROOM FACILITIES, --, -- | 2, 2, 2, -- |
| 142 | HALL | -- | L-4 | -- | -- | -- | 8 |
| E101 | ELEVATOR | -- | A-1 | -- | -- | -- | -- |
| S101 | STAIR 1 | S101.1 / S101.2 | N-0 / C3 | 3 / -- | -- / -- | EXIT / -- | 2 / 2 |
| V101 | VESTIBULE 1 | V101.1 / V101.2 | H-S, H-B, Q-5 / -- | PER SIGN TYPE | --, --, -- / -- | --, --, -- / -- | -- / -- |
| LEVEL 2 | | | | | | | |
| 201 | CLASSROOM | 201 | R-2 | 3 | 201 | CLASSROOM | -- |
| 202 | CLASSROOM | 202 | R-2 | 3 | 202 | CLASSROOM | -- |
| 203 | OFFICE | 203 | RX-1 | 3 | 203 | OFFICE | -- |
| 204 | OFFICE | 204 | RX-1 | 3 | 204 | OFFICE | -- |
| 205 | DOUBLE OFFICE | 205 | RX-1 | 3 | 205 | OFFICE | -- |
| 206 | CONFERENCE ROOM | 206.1 / 206.2 | R-2 / R-2 | 3 / 3 | 206 / 206 | CONFERENCE / CONFERENCE | -- |
| 207 | CLASSROOM | 207 | R-2 | 3 | 207 | CLASSROOM | -- |
| 208 | CLASSROOM | 208 | R-2 | 3 | 208 | CLASSROOM | -- |
| 210 | HALL | --, -- | L1, Z1 | 6, 6 | --, -- | --, -- | --, 7 |
| 220 | IDF | 220 | N-1 | 1A | 220 | -- | -- |
| 221 | ELEC. | 221 | N-2 | 1 | 221 | ELECTRICAL | -- |
| 222 | WORKROOM | N OPENING / S OPENING | RX-2 / RX-2 | 4A / 4B | 222 / 222 | WORKROOM / WORKROOM | -- / -- |
| 230 | HALL | --, --, -- | L1, Z-1, L2 | 6, 6, -- | --, --, -- | --, --, -- | --, 7, 3 |
| 231 | BIOLOGY AP LAB | 231.1 / 231.2 | RX-2 / N-1, N-1 | 5 / 1, 1 | 231 / 231, 232 | LAB / --, -- | -- / --, -- |
| 232 | MICROBIOLOGY LAB | 232.1 / 232.2 | RX-2 / RX-2 | 1 / 5 | 232 / 232 | LAB / LAB | -- / -- |
| 232A | BULK STORAGE | 232A.1 / 232A.2 | N-2 / N-2 | 1 / 1 | 232A / 232A | STORAGE / STORAGE | -- / -- |
| 233 | BIOLOGY PREP | 233.1 / 233.2 | R1 / N-1, N-1 | 5 / 1, 1 | 233 / 233, 234 | -- / --, -- | -- / --, -- |
| 233A | SPECIMEN STORAGE | 233A | N2 | 1 | 233A | STORAGE | -- |
| 234 | GENERAL BIOLOGY LAB | 234.1 / 234.2 | RX-2 / RX-2 | 1 / 5 | 234 / 234 | LAB / LAB | -- / -- |
| 235 | GENERAL BIOLOGY LAB | 235.1 / 235.2 | RX-2 / N-1, N-1 | 5 / 1, 1 | 235 / 235, 234 | LAB / --, -- | -- / --, -- |
| 236 | WORKSTATIONS | 236 | RX-1 | 3 | 236 | OFFICE | -- |
| 241 | RESTROOM | --, --, --, -- | E-4, E-4, E-6, EA-1 | PER PLAN & ELEVATIONS | 241, 241, --, -- | INCLUSIVE RESTROOM FACILITIES, INCLUSIVE RESTROOM FACILITIES, --, -- | 2, 2, 2, -- |
| 242 | HALL | --, -- | L-4, J-1 | --, -- | --, -- | --, -- | 8, 7 |
| S201 | STAIR 1 | S201 | N-0, C-3 | 1, -- | EXIT STAIR, -- | EXIT STAIR, -- | --, 2 |
| S202 | STAIR 2 | S202 | N-0, C-3 | 1, -- | EXIT STAIR, -- | EXIT STAIR, -- | --, 2 |
| LEVEL 3 | | | | | | | |
| 301 | IDF | 301 | N-1 | 1 | 301 | -- | -- |
| 302 | OFFICE | 302 | RX-1 | 3 | 302 | OFFICE | -- |
| 303 | OFFICE | 303 | RX-1 | 3 | 303 | OFFICE | -- |
| 304 | WORKROOM | N OPENING / S OPENING | RX-2 / RX-2 | 4A / 4B | 304 / 304 | WORKROOM / WORKROOM | -- / -- |
| 305 | OFFICE | 305 | RX-1 | 3 | 305 | OFFICE | -- |
| 306 | OFFICE | 306 | RX-1 | 3 | 306 | OFFICE | -- |
| 307 | OFFICE | 307 | RX-1 | 3 | 307 | OFFICE | -- |
| 308 | EARTH SCIENCE B LAB | 308.1 / 308.2 | RX-2 / RX-2 | 5 / 1 | 308 / 308 | LAB / LAB | -- / -- |
| 309 | EARTH SCIENCE PREP | 309.1 / 309.2 | R-1 / N-1, N-1 | 5 / 1, 1 | 309 / 309, 310 | -- / --, -- | -- / --, -- |
| 309A | LAB TECH OFFICE | 309A | N-1, N-1 | 1, 1 | 308, 309 | --, -- | --, -- |
| 309B | ROCK PREP | 309B | N-1 | 1 | 309B | -- | -- |
| 310 | EARTH SCIENCE A LAB | 310.1 / 310.2 | RX-2 / N-1, N-1 | 5 / 1, 1 | 310 / 310, 312 | LAB / --, -- | -- / --, -- |
| 312 | GENERAL CHEMISTRY | 312.1 / 312.2 | RX-2 / RX-2 | 1 / 5 | 312 / 312 | LAB / LAB | -- / -- |
| 312A | LAB TECH OFFICE | 312A | N-1, N-1 | 1 / 1 | 312 / 314 | -- / -- | -- / -- |
| 313 | ELEVATOR MACH. RM | 313 | N-3, HP-2 | 1A, 1A | 313, -- | ELEVATOR EQUIPMENT, -- | --, 8 |
| 314 | CHEMISTRY PREP/STOCKROOM | 314.1 / 314.2 | R-1 / N-1, N-1 | 5 / 1, 1 | 314 / 314, 316 | -- / --, -- | -- / --, -- |
| 314A | BULK | 314A.1 / 314A.2 | N-2 / N-2 | 1 / 1 | 314A / 314A | STORAGE / STORAGE | -- / -- |
| 314B | ORGANIC STORAGE | 314B | N-2 | 1 | 314B | STORAGE | -- |
| 314C | INORGANIC STORAGE | 314C | N-2 | 1 | 314C | STORAGE | -- |
| 315 | FIELD EQUIPMENT | 315 | N-2 | 1 | 315 | STORAGE | -- |
| 316 | ORGANIC CHEMISTRY LAB | 316.1 / 316.2 | RX-2 / RX-2 | 1 / 5 | 316 / 316 | LAB / LAB | -- / -- |
| 317 | CUST. | 317 | N-2 | 1 | 317 | CUSTODIAL | -- |
| 318 | CHEMISTRY INSTRUMENT ROOM | 318.1 / 318.2 | R-1 / N-1, N-1 | 5 / 1, 1 | 318 / 318, 316 | -- / --, -- | -- / --, -- |
| 319 | DOUBLE OFFICE | 319 | RX-1 | 3 | 319 | OFFICE | -- |
| 320 | WORKSTATIONS | 320 | RX-1 | 3 | 320 | OFFICE | -- |
| 330 | HALL | --, --, -- | L-1, Z-1, L-2 | 6, 6, -- | --, --, -- | --, --, -- | --, 7, 3 |
| 341 | RESTROOM | --, --, --, -- | E-4, E-4, E-6, EA-1 | PER PLAN & ELEVATIONS | 341, 341, --, -- | INCLUSIVE RESTROOM FACILITIES, INCLUSIVE RESTROOM FACILITIES, --, -- | 2, 2, 2, -- |
| 342 | HALL | --, -- | L-4, J-1 | --, -- | --, -- | --, -- | 8, 7 |
| S301 | STAIR 1 | S301 | N-0, C-3 | 1, -- | --, -- | EXIT STAIR, -- | --, 2 |
| S302 | STAIR | S302 | N-0, C-3 | 1, -- | --, -- | EXIT STAIR, -- | --, 2 |
| ROOF RIDGE | | | | | | | |
| 400 | MECHANICAL PENTHOUSE | 400 | N-1 | 1A | -- | MECHANICAL | -- |

**NOTE: SEE ADDITIONAL MOUNTING INSTRUCTIONS FOR EACH INDIVIDUAL SIGN TYPE IN "SIGN ORDERING WORKBOOK"**




- BESIDE DOOR: LOCATION 1
- CENTERED ON DOOR: LOCATION 1A
- BESIDE DOOR: LOCATION 2
- CENTERED ON DOOR: LOCATION 2A

LOCATION 3

*SIM AT DOUBLE DOOR

- 4A RIGHT SIDE ONLY
- 4B LEFT SIDE ONLY

LOCATION 5

LOCATION 6

## SIGNAGE MOUNTING LEGEND

## SIGNAGE GENERAL NOTES

1. VERIFY EVAC MAP SIGN LOCATIONS WITH AHJ PRIOR TO MOUNTING.
2. SUPPLY SIGN TYPES PER "SIGN ORDERING WORKBOOK". MODIFICATIONS TO SIGN TYPES AND ADDITIONAL SIGN TYPES ON A711 PER CODED NOTES IN SIGNAGE SCHEDULE
3. VERIFY THAT ALL MOUNTING LOCATIONS ARE ADA COMPLIANT.
4. COORDINATE SIGNS WITH ALL SURFACE MOUNTED ELEMENTS BEFORE INSTALLATION.
5. MOUNT SIGN AT LATCH SIDE OF DOOR. WHERE NECESSARY, MOUNT 6" FROM CORNER AT WALL PERPENDICULAR TO DOOR WHERE DOOR SWING DOES NOT INTERFERE WITH SIGN ACCESSIBILITY.
6. REFER TO SIGNAGE MOUNTING LEGEND AND SCHEDULE FOR SIGNAGE MOUNTING LOCATIONS
7. MODIFY SIGN TYPES FROM "SIGN ORDERING WORKBOOK" AS FOLLOWS:
   - REPLACE ADA SYMBOL WITH SYMBOL PROVIDED BY ARCHITECT
   - ADD AN ADDITIONAL 1.25" OF HEIGHT TO ALL SIGN TYPES N-1, N-2, R-1, RX-1, R-2, RX-2, OM-1 TO RECEIVE GRAPHIC PROVIDED BY ARCHITECT

## CODED NOTES

1. SEE INTERIOR ELEVATION FOR ADDITIONAL MOUNTING INFORMATION
2. SEE SHEET A711 FOR SIGN TYPE
3. MODIFY GRAPHIC FROM "SIGN ORDERING WORKBOOK" WITH GRAPHIC PROVIDED BY ARCHITECT
4. NOT USED
5. LOCATE SIGN AT PERPENDICULAR WALL LOCATION.
6. NOT USED
7. COORDINATE SIGN TYPE AND LOCATION WITH AHJ.
8. MOUNT CENTERED OVER ELEVATOR DOOR, BOTTOM OF SIGN AT 84" AFF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9411 REGISTERED ARCHITECT BRIAN JAN BARNHART STATE OF WASHINGTON

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | SP |
| Checked By: | Checker |

Revisions

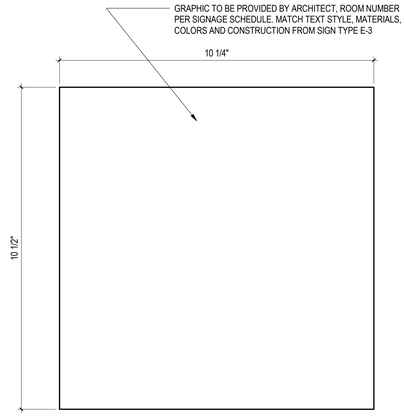
| Date | Description |
|---|---|
| 01/31/23 | ASI-012 |

SIGNAGE SCHEDULE

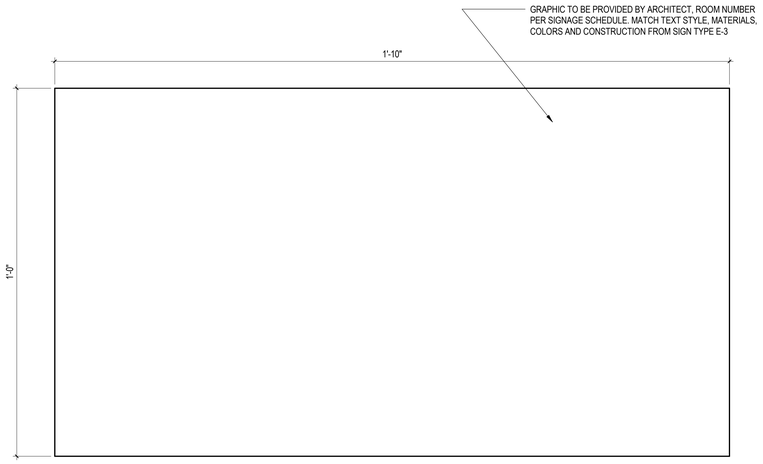
A701

IFC SET

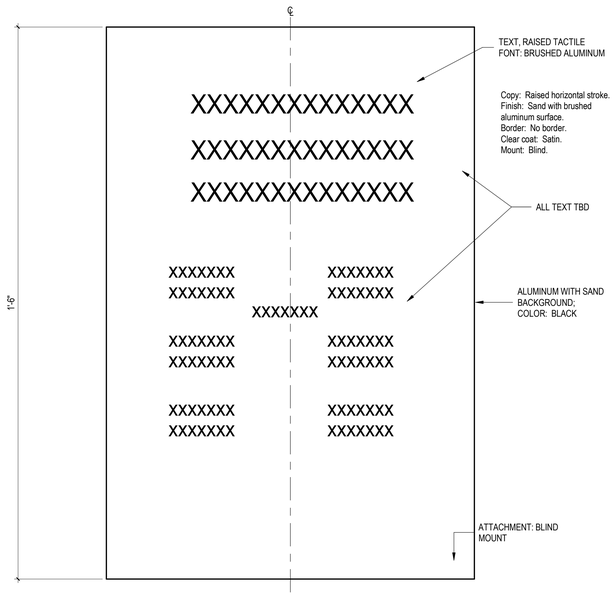
PRCNC20221036



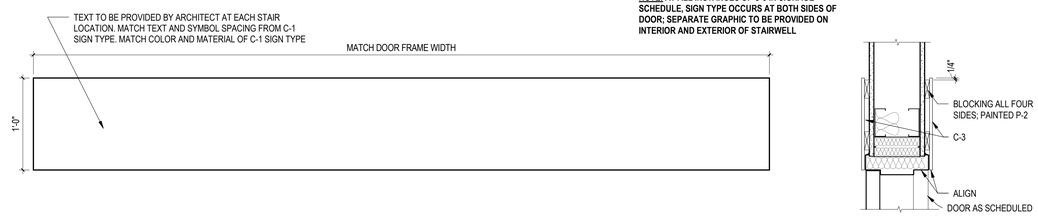

## 5 SIGN TYPE E-4 & E-5
SCALE: 6" = 1'-0"




## 6 SIGN TYPE E-6
SCALE: 6" = 1'-0"

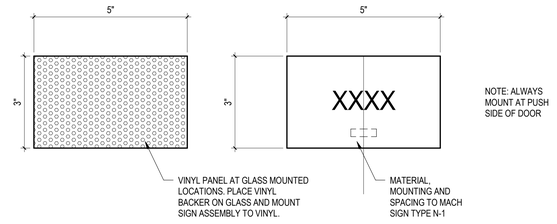



## 7 SIGN TYPE B-4 - DEDICATION PLAQUE
SCALE: 6" = 1'-0"



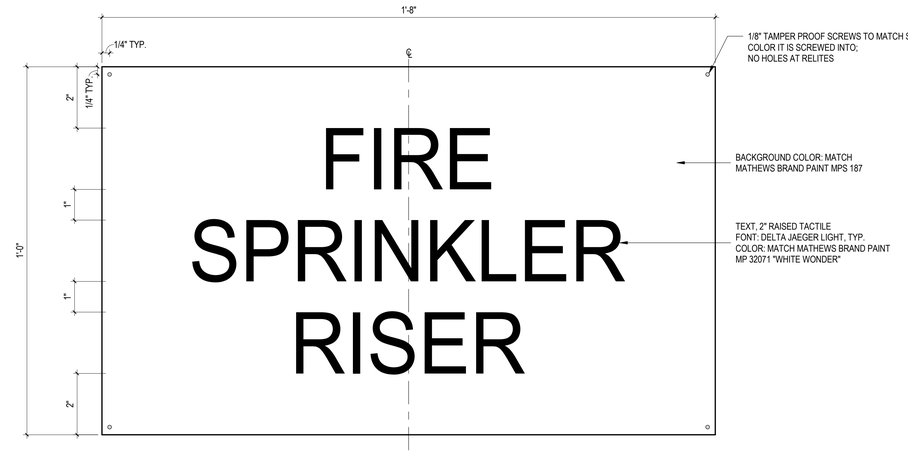

**NOTE: AT ALL INSTANCES OF C-3 IN SIGNAGE SCHEDULE, SIGN TYPE OCCURS AT BOTH SIDES OF DOOR; SEPARATE GRAPHIC TO BE PROVIDED ON INTERIOR AND EXTERIOR OF STAIRWELL**

## 1 SIGN TYPE C-3
SCALE: 1 1/2" = 1'-0"




NOTE: ALWAYS MOUNT AT PUSH SIDE OF DOOR

## 2 SIGN TYPE N-0
SCALE: 6" = 1'-0"




## 3 SIGN TYPE FS-1 FIRE SPRINKLER RISER
SCALE: 6" = 1'-0"

## 4 SIGN TYPE FS-2 FIRE ALARM CONTROL PANEL
SCALE: 6" = 1'-0"

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Revisions

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|---|---|
| 01/31/23 | ASI-012 |

SIGNAGE TYPES

A711

IFC SET

PRCNC20221036

## MECHANICAL SHEET LIST

| SHEET # | SHEET NAME |
|---|---|
| M001 | SYMBOLS, LEGENDS AND ABBREVIATIONS - MECHANICAL |
| M002 | EQUIPMENT SCHEDULE - MECHANICAL |
| M003 | EQUIPMENT SCHEDULES - MECHANICAL |
| M004 | EQUIPMENT SCHEDULES - MECHANICAL |
| M005 | EQUIPMENT SCHEDULES - MECHANICAL |
| M006 | EQUIPMENT SCHEDULES - MECHANICAL |
| M007 | EQUIPMENT SCHEDULES - MECHANICAL |
| M008 | EQUIPMENT SCHEDULES - MECHANICAL |
| M009 | EQUIPMENT SCHEDULES - MECHANICAL |
| M010 | LEED SCHEDULES - MECHANICAL |
| M011 | SITE PLANS - MECHANICAL |
| M100 | LEVEL 0 - FLOOR PLAN - MECHANICAL ZONING |
| M101 | LEVEL 1 - FLOOR PLAN - MECHANICAL ZONING |
| M102A | LEVEL 2 - FLOOR PLAN - MECHANICAL ZONING |
| M102B | LEVEL 2 - FLOOR PLAN - MECHANICAL PRESSURE MAP |
| M103A | LEVEL 3 - FLOOR PLAN - MECHANICAL ZONING |
| M103B | LEVEL 3 - FLOOR PLAN - MECHANICAL PRESSURE MAP |
| M200 | LEVEL 0 - FLOOR PLAN - MECHANICAL |
| M201 | LEVEL 1 - FLOOR PLAN - MECHANICAL |
| M202 | LEVEL 2 - FLOOR PLAN - MECHANICAL |
| M203 | LEVEL 3 - FLOOR PLAN - MECHANICAL |
| M204 | ROOF PLAN - MECHANICAL |
| M300 | LEVEL 0 - FLOOR PLAN - MECHANICAL PIPING |
| M301 | LEVEL 1 - FLOOR PLAN - MECHANICAL PIPING |
| M302 | LEVEL 2 - FLOOR PLAN - MECHANICAL PIPING |
| M303 | LEVEL 3 - FLOOR PLAN - MECHANICAL PIPING |
| M304 | ROOF PLAN - MECHANICAL PIPING |
| M401 | ENLARGED PLAN - MECHANICAL |
| M402 | ENLARGED PLANS - MECHANICAL |
| M403 | ENLARGED PLANS - MECHANICAL |
| M404 | ENLARGED PLANS - MECHANICAL |
| M601 | DETAILS - MECHANICAL |
| M602 | DETAILS - MECHANICAL |
| M701 | FLOW DIAGRAMS - MECHANICAL |
| M702 | FLOW DIAGRAMS - MECHANICAL |
| M703 | FLOW DIAGRAMS - MECHANICAL |
| M801 | CONTROL DIAGRAMS - MECHANICAL |
| M802 | CONTROL DIAGRAMS - MECHANICAL |
| M803 | CONTROL DIAGRAMS - MECHANICAL |
| Grand total: 39 | |

## GENERAL NOTES:

A. CONFORM WORK TO THE MOST RECENTLY ADOPTED STATE CODES, AS WELL AS APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES, REGULATIONS, AND AMENDMENTS.

B. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR PERMITS, LICENSES, INSPECTIONS, AND INSPECTION CERTIFICATES REQUIRED IN ACCORDANCE WITH THE PROVISIONS OF THE CONTRACT DOCUMENTS.

C. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT ATTEMPT TO SHOW ALL REQUIRED OFFSETS, BENDS, OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. COORDINATE WITH OTHER TRADES AND PROVIDE NECESSARY FITTINGS FOR A COMPLETE AND OPERATIONAL SYSTEM.

D. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

E. PROVIDE COMPLETE SUBMITTAL PACKAGE FOR REVIEW BY ARCHITECTURAL AND ENGINEERING TEAM PRIOR TO PURCHASE AND INSTALLATION.

F. EQUIPMENT INDICATED ON DRAWINGS ARE THE BASIS OF DESIGN. WHERE EQUIPMENT PROVIDED DIFFERS FROM BASIS OF DESIGN IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADDITIONAL ELECTRICAL, STRUCTURAL, MECHANICAL, OR ARCHITECTURAL REQUIREMENTS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

G. FURNISH AND PROCURE MATERIALS OR EQUIPMENT INDICATED TO BE "FURNISHED BY OTHERS" FROM SOURCES SPECIFIED BY THE CONTRACT DOCUMENTS.

H. COVER AND PROTECT EQUIPMENT AND MATERIAL ON THE JOB SITE FROM WATER, DIRT, DUST, AND DAMAGE PRIOR TO INSTALLATION.

I. COORDINATE LOCATIONS OF EQUIPMENT, ROUTING, AND ELEVATIONS WITH OTHER TRADES PRIOR TO FABRICATION AND INSTALLATION. RESOLVE CONFLICTS THAT OCCUR DURING CONSTRUCTION PRIOR TO INSTALLATION.

J. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF INSTALLATION STANDARDS AND CONSTRUCTION CONDITIONS. FIELD VERIFY DIMENSIONS AND EXISTING CONDITIONS PRIOR TO SHOP FABRICATION AND FIELD INSTALLATION. NOTIFY ARCHITECT OF DISCREPANCIES IDENTIFIED BETWEEN EXISTING CONDITIONS AND THE CONSTRUCTION DRAWINGS.

K. VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE FINAL EQUIPMENT LOCATIONS WITH OTHER TRADES TO ALLOW FOR REQUIRED CLEARANCES.

L. PROVIDE MINIMUM HORIZONTAL AND VERTICAL WORKING CLEARANCES FOR ELECTRICAL PANELS AND EQUIPMENT IN ACCORDANCE WITH THE ELECTRICAL CODE. ROUTING PIPING OVER ELECTRICAL PANELS IS NOT ALLOWED.

M. INSTALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS AND REQUIREMENTS. NOTIFY ARCHITECT OF CONFLICTS IDENTIFIED BETWEEN MANUFACTURERS DOCUMENTATION AND THE CONTRACT DOCUMENTS.

N. PROVIDE SUPPORTS AND MOUNTING REQUIRED FOR INSTALLATION OF SYSTEM INCLUDING BUT NOT LIMITED TO EQUIPMENT, DISTRIBUTION, AND ACCESSORIES. SUPPORT TO STRUCTURE PER CODE AND MANUFACTURERS REQUIREMENTS. COORDINATE WITH STRUCTURAL ENGINEER PRIOR TO INSTALLATION.

O. PROVIDE SEISMIC RESTRAINT OF SYSTEMS AND EQUIPMENT AS REQUIRED BY ASCE-7 AND INTERNATIONAL BUILDING CODE AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION. COORDINATE WITH STRUCTURAL ENGINEER PRIOR TO INSTALLATION.

P. PROVIDE FIRE STOPPING FOR PENETRATIONS THRU FIRE RATED ASSEMBLIES AS REQUIRED BY THE APPLICABLE BUILDING CODE. REFER TO ARCHITECTURAL PLANS FOR LOCATION OF RATED ASSEMBLIES.

Q. PROVIDE PLENUM RATED HVAC, PLUMBING, INSULATION, WIRING, CONTROLS, ETC. MEETING CODE FLAME/SMOKE REQUIREMENTS WITHIN PLENUMS.

R. PROVIDE ACCESS PANELS FOR ACCESS TO SENSORS, VALVES, AND ACCESSORIES LOCATED WITHIN WALLS AND HARD LID CEILINGS. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

S. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE.

T. APPLIANCES AND EQUIPMENT ABOVE ACCESSIBLE CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES BY 24-INCHES TO ALLOW FOR READY ACCESS FOR INSPECTION, SERVICE, AND REPAIR WITHOUT REMOVING PERMANENT CONSTRUCTION. THE APPLIANCE MAY BE REMOVED OR REPLACED BY REMOVING THE CEILING OR WALL ASSEMBLIES AS LONG AS THEY ARE NOT PERMANENT CONSTRUCTION.

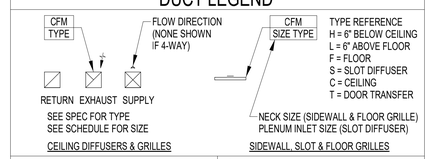
U. MAINTAIN A CURRENT MARK-UP OF THE DRAWINGS SHOWING DEVIATIONS FROM ORIGINAL SET INCLUDING RFI, ASI, CHANGE ORDERS, ETC. SUBMIT MARK UP FOR AS-BUILT DOCUMENTATION IN ACCORDANCE WITH THE PROJECT REQUIREMENTS.

V. CLOSE OUT DOCUMENTATION TO INCLUDE: RECORD DOCUMENTS, O&M MANUALS, WSEC COMPLIANCE REPORTS, AND CALCULATIONS.

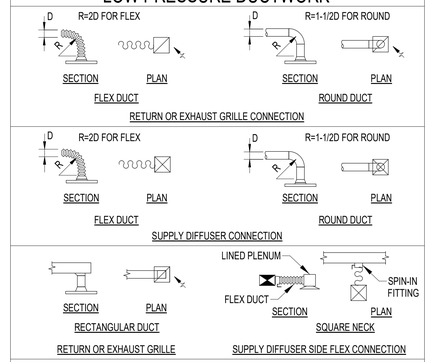
## STANDARD ABBREVIATIONS

| | | | |
|---|---|---|---|
| AD | AREA DRAIN | IE | INVERT ELEVATION |
| ADA | AMERICANS WITH DISABILITIES ACT | IN | INCH, INCHES |
| AF | AIRFOIL | INSUL | INSULATION |
| AFF | ABOVE FINISHED FLOOR | IPS | IRON PIPE SIZE |
| AHP | APPARATUS HOUSING PLENUM | ISO | ISOMETRIC |
| AL | ALUMINUM | ISOL | ISOLATOR, ISOLATION |
| ALT | ALTERNATIVE | JP | JOCKEY PUMP |
| AP | ACCESS PANEL | KW | KILOWATT |
| APD | AIR PRSSURE DROP | KWH | KILOWATT HOUR |
| APPROX | APPROXIMATELY | L | LENGTH |
| ARCH | ARCHITECT, ARCHITECTURAL | LAT | LEAVING AIR TEMP |
| AS | AUTOMATIC SPRINKLER | LAV | LAVATORY |
| AUTO | AUTOMATIC | LB | POUND |
| BDD | BACKDRAFT DAMPER | LDB | LEAVING DRY BULB |
| BFF | BELOW FINISHED FLOOR | LF | LINEAR FEET |
| BHP | BREAK HORESPOWER | LFT | LEAVING FLUID TEMPERATURE |
| BI | BACKWARD INCLINED | LVG | LEAVING |
| BLDG | BUILDING | LWB | LEAVING WET BULB |
| BOP | BOTTOM OF PIPE | LWT | LEAVING WATER TEMPERATURE |
| BOS | BOTTOM OF STRUCTURE | MAX | MAXIMUM |
| BSMT | BASEMENT | MBH | THOUSAND BTU PER HOUR |
| BTU | BRITISH THERMAL UNIT | MCA | MINIMUM CIRCUIT AMPACITY |
| BTUH | BRITISH THERMAL UNITS PER HOUR | MECH | MECHANICAL |
| BTV | BUTTERFLY VALVE | MERV | MINIMUM EFFICIENCY REPORTING VALUE |
| BV | BALANCING VALVE | MFR | MANUFACTURER |
| CALC | CALCULATION | MIN | MINIMUM |
| CB | CATCH BASIN | MISC | MISCELLANEOUS |
| CFH | CUBIC FEET PER HOUR | MOCP | MAXIMUM OVERCURRENT PROTECTION |
| CFM | CUBIC FEET PER MINUTE | MS | MOP SINK |
| CFS | CUBIC FEET PER SECOND | MTD | MOUNTED |
| CI | CAST IRON | NC | NORMALLY CLOSED |
| CL | CENTERLINE | NIC | NOT IN CONTRACT |
| CLG | CEILING OR COOLING | NO | NORMALLY OPEN |
| CO | CLEANOUT | NPS | NOMINAL PIPE SIZE |
| CONC | CONCRETE | NRS | NON-RISING STEM |
| CONN | CONNECT, CONNECTION | NTS | NOT TO SCALE |
| CONT | CONTINUED, CONTINUATION | OAT | OUTSIDE AIR TEMPERATURE |
| CP | CIRCULATING PUMP | OC | ON CENTER DISTANCE |
| CTG | CLEANOUT TO GRADE | OD | OVERFLOW DRAIN |
| CV | CHECK VALVE | OS&Y | OUTSIDE SCREW & YOKE GATE VALVE |
| DB | DRY BULB | OSA | OUTSIDE AIR |
| DDC | DIRECT DIGITAL CONTROL | PD | PLANTER DRAIN |
| DEFL | DEFLECTION | P/FT | PITCH PER FOOT |
| DF | DRINKING FOUNTAIN | PG | PRESSURE GAUGE |
| DFU | DRAINAGE FIXTURE UNIT | PH | PHASE |
| DI | DEIONIZED | PIV | POST INDICATING VALVE |
| DIA | DIAMETER | PP | POLYPROPYLENE |
| DIP | DUCTILE IRON PIPE | PRV | PRESSURE REDUCING VALVE |
| DN | DOWN (PENETRATES FLOOR) | PS | PRESSURE SWITCH |
| DP | DEW POINT | PSI | POUNDS PER SQUARE INCH |
| DR | DRAIN | PSIG | POUNDS PER SQUARE INCH (GAUGE) |
| DV | DRAIN VALVE | PVC | POLYVINYL CHLORIDE |
| DROP | DROP (WITHIN FLOOR) | PVS | PVC COATED STEEL |
| DWDI | DOUBLE WIDTH DOUBLE INLET | R, RAD | RADIUS |
| DWG | DRAWING | RA | RELIEF AIR |
| (E), EXIST | EXISTING | RD | ROOF DRAIN |
| EAT | ENTERING AIR TEMPERATURE | RET | RETURN AIR |
| EC | EXTENDED COVERAGE | REV | REVISION |
| ECM | ELECTRONICALLY COMMUTATED MOTOR | RH | RELATIVE HUMIDITY |
| EDB | ENTERING DRY BULB | RISE | RISE (WITHIN FLOOR) |
| EEW | EMERGENCY EYE WASH | RM | ROOF MANIFOLD |
| EFF | EFFICIENCY | RN | RISER NIPPLE |
| EFT | ENTERING FLUID TEMPERATURE | RPM | REVOLUTIONS PER MINUTE |
| ELEC | ELECTRIC, ELECTRICAL | S | SINK |
| ELEV | ELEVATION | SA | SUPPLY AIR |
| ENGR | ENGINEER | SB | SWAY BRACE |
| EQ | EQUAL | SCFM | STANDARD CUBIC FEET PER MINUTE |
| EQUIP | EQUIPMENT | SD | SHOWER DRAIN (PLUMBING) |
| ES | EMERGENCY SHOWER | SD | SMOKE DAMPER (MECHANICAL) |
| ESP | EXTERNAL STATIC PRESSURE | SE | SEWAGE EJECTOR |
| ET | EXPANSION TANK | SECT | SECTION |
| EWB | ENTERING WET BULB | SENS | SENSIBLE |
| EWC | ELECTRIC WATER COOLER | SF | SQUARE FOOT, SQUARE FEET |
| EWH | ELECTRIC WATER HEATER | SH | SHOWER |
| EWT | ENTERING WATER TEMPERATURE | SIM | SIMILAR |
| EX | EXTRACTOR | SOV | SHUTOFF VALVE |
| EXP | EXPANSION | SP | STATIC PRESSURE |
| EXH | EXHAUST OR EXHAUST AIR | SPEC | SPECIFICATION |
| F | DEGREES FAHRENHEIT | SQ | SQUARE |
| FC | FORWARD CURVED | SQ IN | SQUARE INCH, SQUARE INCHES |
| FCO | FLOOR CLEANOUT | SS | STAINLESS STEEL (ALL) |
| FD | FIRE DAMPER (MECHANICAL) | SSP | STANDARD SPRAY PENDENT |
| FD | FLOOR DRAIN (PLUMBING) | SSU | STANDARD SPRAY UPRIGHT |
| FDC | FIRE DEPARTMENT CONNECTION | STL | STEEL |
| FFE | FINISHED FLOOR ELEVATION | STRUCT | STRUCTURE, STRUCTURAL |
| FIG | FIGURE | SWP | SINGLE WALL PLENUM |
| FL | FLOOR | SWSI | SINGLE WIDTH SINGLE INLET |
| FLA | FULL LOAD AMPACITY | TD | TRENCH DRAIN |
| FLEX | FLEXIBLE | TDH | TOTAL DISCHARGE HEAD |
| FP | FIRE PUMP | TDL | TOTAL DEVELOPED LENGTH |
| FPD | FLUID PRESSURE DROP | TEMP | TEMPERATURE |
| FPM | FEET PER MINUTE | TMV | THERMOSTATIC MIXING VALVE |
| FPS | FEET PER SECOND | TOP | TOP OF PIPE |
| FS | FLOOR SINK | TP | TRAP PRIMER VALVE |
| FSD | FIRE SMOKE DAMPER | TS | TAMPER SWITCH |
| FT | FEET/FOOT | TSP | TOTAL STATIC PRESSURE |
| FTR | FINNED TUBE RADIATOR | TYP | TYPICAL |
| FLT | FLUSH TANK | U | URINAL |
| FU | FIXTURE UNIT | UG | UNDERGROUND |
| FV | FLUSH VALVE | UP | UP (PENETRATES FLOOR SLAB) |
| (F) | FUTURE | UON | UNLESS OTHERWISE NOTED |
| G | GRADE | V | VOLTS |
| GA | GAGE/GAUGE | VB | VACUUM BREAKER |
| GAL | GALLON | VD | VOLUME DAMPER |
| GALV | GALVANIZED | VEL | VELOCITY |
| GLY | GLYCOL | VERT | VERTICAL |
| GH | GROUND HYDRANT | VFD | VARIABLE FREQUENCY DRIVE |
| GPH | GALLONS PER HOUR | VTR | VENT THROUGH ROOF |
| GPM | GALLONS PER MINUTE | W | WIDTH |
| GV | GATE VALVE | WB | WET BULB |
| H | HEIGHT | WC | WATER CLOSET |
| HB | HOSE BIBB | WCO | WALL CLEANOUT |
| HD | HUB DRAIN | WFU | WATER FIXTURE UNITS |
| HORIZ | HORIZONTAL | WG | WATER GAUGE |
| HP | HORSEPOWER | WH | WALL HYDRANT |
| HR | HOUR | WHA | WATER HAMMER ARRESTOR |
| HSW | HORIZONTAL SIDE WALL | WPD | WATER PRESSURE DROP |
| HT | HEAT TRACE | WTD | WATER TEMPERATURE DROP |
| HTG | HEATING | WTR | WATER TEMPERATURE RISE |
| HV | HOSE VALVE | W/ | WITH |
| HVC | HOSE VALVE CABINET | W/O | WITHOUT |
| ID | INSIDE DIAMETER, INSIDE DIMENSION | | |

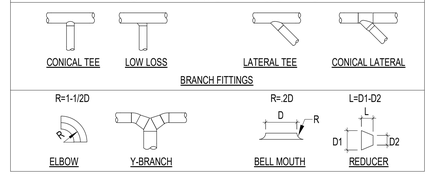
## DUCT LEGEND



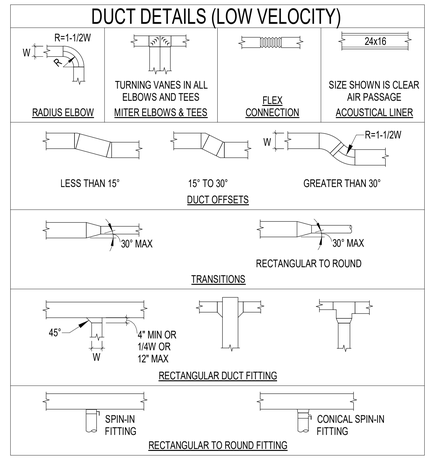

## LOW PRESSURE DUCTWORK




## MEDIUM PRESSURE DUCTWORK

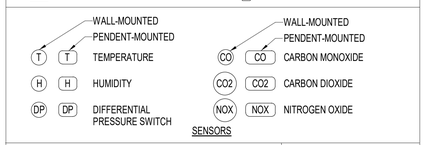



## DUCT DETAILS (LOW VELOCITY)

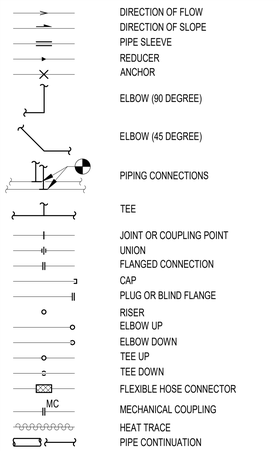



## SYMBOLS

| | | | |
|---|---|---|---|
| A | ACCESS PANEL | # | NUMBERED NOTE |
| | POINT OF CONNECTION | X | REMOVE EXISTING |
| E | EXISTING TO REMAIN | K | CAP EXISTING / CAP FOR FUTURE |
| B | BELOW GRADE / FLOOR | R | RELOCATE EXISTING |
| 1 | REVISION NUMBER | F | FUTURE |




## MISC. FITTINGS & SYMBOLS



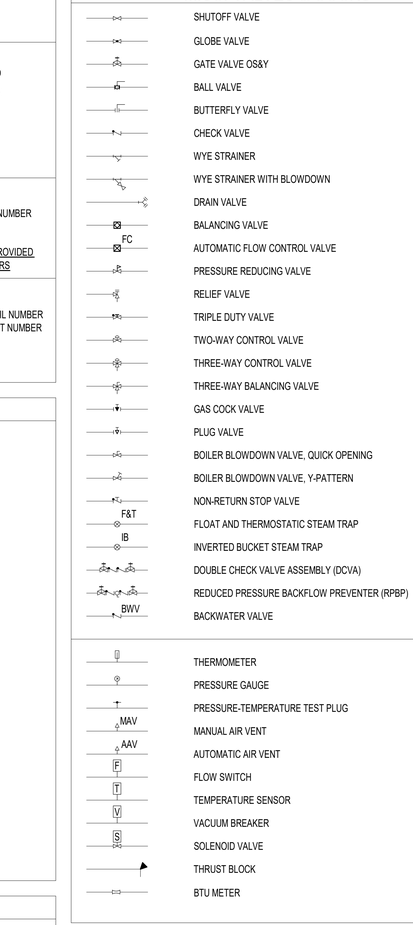

## HVAC PIPING

| | |
|---|---|
| D | DRAIN (CONDENSATE/INDIRECT) |
| CHWS | CHILLED WATER SUPPLY |
| CHWR | CHILLED WATER RETURN |
| HWS | HEATING WATER SUPPLY |
| HWR | HEATING WATER RETURN |
| HRWS | HEAT RECOVERY WATER SUPPLY |
| HRWR | HEAT RECOVERY WATER RETURN |
| GLS | GLYCOL SUPPLY |
| GLR | GLYCOL RETURN |
| RL | REFRIGERANT LIQUID |
| RS | REFRIGERANT SUCTION |

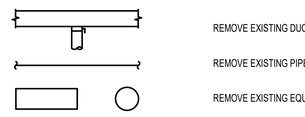
## GENERAL NOTES:

A. THIS IS A STANDARD LEGEND SHEET, THEREFORE, SOME SYMBOLS MAY APPEAR ON THIS SHEET THAT DO NOT APPEAR ON THE DRAWINGS.

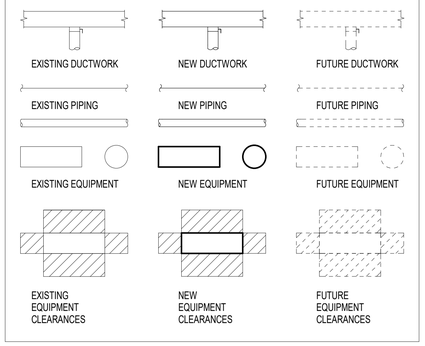
## MISC. VALVES & COCKS




## DEMOLITION LEGEND




## NEW, EXISTING, & FUTURE WORK

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STATE OF WASHINGTON
13385
REGISTERED PROFESSIONAL ENGINEER
11/10/2022

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | PAE |
| Checked By: | CLG |

Revisions

| # | Date | Description |
|---|---|---|
| 1 | 11-04-22 | ASI-001 |

SYMBOLS, LEGENDS AND ABBREVIATIONS - MECHANICAL

**M001**

IFC SET

PRCNC20221036

## DESIGN CONDITIONS - MCCHORD AFB, WA

| SPACE | WINTER | | SUMMER | |
|---|---|---|---|---|
| | TEMPERATURE | HUMIDITY | TEMPERATURE | HUMIDITY |
| OUTDOOR | 20.5˚ F DB | 11.8˚ F DP / 10.2 HR / 26.2 ˚ F MCDB | 86.3˚ F DB / 65.2˚ F MCWB | 61.3˚ F DP / 82.1 HR / 69.8˚ F MCDB |
| INDOOR | 70˚ F ± 2˚ F DB | 50% RH MAX, NO MINIMUM | 75˚ F ± 2˚ F DB | 50% RH MAX, NO MINIMUM |

GENERAL NOTES:
A. OUTDOOR CONDITIONS BASED ON ASHRAE FUNDAMENTALS 2017 99.6% AND 0.4% DATA.

## AIR HANDLING UNIT SCHEDULE - GENERAL INFORMATION

| TAG | LOCATION | SERVICE | MIXING BOX: MAX OSA (CFM) | MIN OSA (CFM) | LOW MIN OSA (CFM) | LEAVING AIR DESIGN CONDITIONS: AHU LAT SUMMER (°F DB/WB) | AHU LAT WINTER (°F) | SUPPLY AIRFLOW (CFM) | RETURN AIRFLOW (CFM) | SYSTEM BHP: MAXIMUM ALLOWABLE (BHP) | DESIGN SYSTEM (BHP) | FILTERS: PRE RATING (MERV) | PRE CLEAN PD (IN WG) | POST RATING (MERV) | POST CLEAN PD (IN WG) | WHEEL - 2 LOCATIONS RATING (MERV) | WHEEL - 2 LOCATIONS CLEAN PD (IN WG) | ELECTRICAL - SINGLE POINT CONNECTION: VOLT/ PHASE | MCA (A) | MOCP (A) | SCCR (kA) | GEN. POWER (Y/N) | APPROXIMATE OPERATING WEIGHT (LBS) | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-1 | ROOF | LABORATORY SUPPLY | - | - | - | 55/51 | 72 | 24,000 | - | 50.57 | 48.91 | 8 | 0.11 | 14 | 0.40 | - | - | 460/3 | 41.98 | 50 | 13 | Y | 15,000 | DAIKIN SKYLINE | 1, 3, 5, 8, 10 |
| AHU-2 | ROOF | LABORATORY EXHAUST | - | - | - | - | - | - | 24,100 | | | 8 | 0.11 | - | - | - | - | - | - | - | 25 | - | 9,000 | DAIKIN SKYLINE | 5, 9, 13 |
| AHU-3 | ROOF | CLASSROOMS - SOUTH SHAFT | 31,000 | 10,000 | 1,800 | 55/51.7 | 75 | 31,000 | 29,600 | 48.49 | 48.44 | 8 | 0.11 | 14 | 0.39 | 8 | 0.11 | 460/3 | 91.5 | 100 | 25 | N | 25,000 | DAIKIN SKYLINE | 2, 3, 4, 6, 11, 14 |
| AHU-4 | ROOF | CLASSROOMS - WEST SHAFT | 20,000 | 7,000 | 1,135 | 57/54.2 | 72 | 20,000 | 19,300 | 33.67 | 26.78 | 8 | 0.10 | 14 | 0.36 | 8 | 0.11 | 460/3 | 64.8 | 70 | 25 | N | 22,000 | DAIKIN SKYLINE | 2, 3, 5, 7, 12, 15 |

GENERAL NOTES:
A. PROVIDE AN INSULATED ROOF CURB.
B. PROVIDE 2-INCH SPRING ISOLATION CURB FOR ALL AIR HANDLING UNITS WHERE FANS ARE NOT INTERNALLY ISOLATED.
C. MINIMUM OSA CALCULATED BASED ON CODE AND ASHRAE STANDARD 62.
D. HEATING COILS BASED ON MAXIMUM FACE VELOCITY OF 350 FPM
E. COOLING COILS BASED ON MAXIMUM FACE VELOCITY OF 500 FPM
F. HEAT RECOVERY SECTION EFFECTIVENESS IS BASED ON AHRI 1060.
G. PROVIDE DUCT SMOKE DETECTOR. INTERLOCK DETECTOR WITH ELECTRICAL SERVICE TO DE-ENERGIZE UNIT UPON DETECTION OF SMOKE.
H. FAN ENERGY INDEX (FEI) BASED ON MANUFACTURERS' CERTIFIED DATA, RATIO OF THE ELECTRIC INPUT POWER OF A REFERENCE FAN TO THE ELECTRIC INPUT POWER OF THE ACTUAL FAN, AS CALCULATED PER AMCA 208.
I. ARRANGE UNIT FOR SINGLE POINT POWER CONNECTION W/ DISCONNECT SWITCH. PROVIDE A SEPARATE, DEDICATED 120V CONNECTION FOR RECEPTACLE(S) AND LIGHTS.
J. DOUBLE WALL 24 GAUGE GALVANIZED STEEL CONSTRUCTION. MINIMUM OF R-13 FOAM INJECTED INSULATION.
K. DAMPERS HAVE CLASS I RATING WITH A MAXIMUM LEAKAGE RATE OF 4 CFM/SQ FT AT 1 INCH WG WHEN TESTED IN ACCORDANCE WITH AMCA 500D AND ARE LABELED BY AN AGENCY FOR SUCH PURPOSE IN COMPLIANCE WITH 2018 WSEC C403.7.8.3.
L. PROVIDE OPPOSED BLADE DAMPERS IN ALL LOCATIONS.
M. PROVIDE AN EXTRA FILTER SET TO OWNER PRIOR TO OCCUPANCY.
O. PROVIDE BLANK OFF PLATES FOR ALL FANS.
P. PROVIDE EXTERNAL DUCT MOUNTED SILENCERS, AS REQUIRED BY ACOUSTICAL CONSULTANT, ON ALL SUPPLY AND RETURN DUCT CONNECTIONS.
Q. SYSTEM MAXIMUM ALLOWABLE BREAK HORSEPOWER IS THE TOTAL OPERATING BHP OF ALL MOTORS WITHIN AN AIR HANDLING SYSTEM, INCLUDING SUPPLY FANS, (LABORATORY) EXHAUST FANS AND ENTHALPY WHEEL MOTORS.
R. CONFIRM THAT FANS CAN ACCOMMODATE AN ADDITIONAL 0.5-INCH PER MERV-8 FILTER AND 1-INCH PER MERV-14 FILTER OF DIRTY FILTER LOADING WITHOUT OVERLOADING THE SELECTED FAN MOTORS.

NOTES:
1. HYDRONIC RUN AROUND LOOP HEAT RECOVERY COIL LEAVING AIR TEMPERATURE MEETS THE REQUIREMENTS OF WSEC C403.7.7.2.
2. ENTHALPY RECOVERY MEETS THE REQUIREMENTS OF 2018 WSEC C403.7.6.
3. COOLING COIL TO ACHIEVE AIR HANDLING UNIT LEAVING AIR CONDITIONS SCHEDULED IN "LEAVING AIR DESIGN CONDITIONS - AHU LAT SUMMER" COLUMN OF AHU COIL SCHEDULE.
4. HYDRONIC COIL CONNECTION PIPING TO DROP INTERNAL TO AHU CASING AND ROOF CURB.
5. PROVIDE EXTERNAL INSULATED PIPE CHASE FOR HYDRONIC COIL CONNECTION PIPING.
6. 48-INCH BY 96-INCH BOTTOM OPENING FOR SUPPLY AND RETURN DUCT CONNECTIONS.
7. 38-INCH BY 76-INCH BOTTOM OPENING FOR SUPPLY AND RETURN DUCT CONNECTIONS.
8. 46-INCH BY 56-INCH BOTTOM OPENING FOR SUPPLY DUCT CONNECTION.
9. 42-INCH BY 84-INCH EXHAUST AIR DUCT CONNECTION.

NOTES CONTINUED:
10. PROVIDE A MINIMUM OF 25-FEET OF 2-INCH ACOUSTIC LINING FROM AHU DISCHARGE PRIOR TO ALL TERMINAL UNIT INLETS.
11. PROVIDE A MINIMUM OF 30-FEET OF 2-INCH ACOUSTIC LINING FROM AHU DISCHARGE PRIOR TO ALL TERMINAL UNIT INLETS. BRANCHES THAT OCCUR OFF THE DUCT MAIN WITHIN THE NOTED 30-FEET MAY BE LINED WITH 1-INCH THICK LINING. THERE SHOULD BE A MINIMUM OF 30-FEET OF DUCT LINER BETWEEN THE AHU DISCHARGE AND ANY DIFFUSER.
12. PROVIDE A MINIMUM OF 40-FEET OF 2-INCH ACOUSTIC LINING FROM AHU DISCHARGE PRIOR TO ALL TERMINAL UNIT INLETS. BRANCHES THAT OCCUR OFF THE DUCT MAIN WITHIN THE NOTED 40-FEET MAY BE LINED WITH 1-INCH THICK LINING. THERE SHOULD BE A MINIMUM OF 35-FEET OF DUCT LINER BETWEEN THE AHU DISCHARGE AND ANY DIFFUSER.
13. PROVIDE PACKLESS (NO MEDIA) SILENCER WITH MINIMUM INSERTION LOSS OF 0 DB AT 63 HZ, 9 DB AT 125 HZ, 18 DB AT 250 HZ, 6 DB AT 500 HZ, 5 DB AT 1000 HZ, 7 DB AT 2000 HZ, 5 DB AT 4000 HZ AND 3 DB AT 8000 HZ OCTAVE BAND.
14. LINE ALL DUCTWORK BETWEEN AHU AND STUDY 311 WITH 2-INCH ACOUSTIC LINING. LINE THE REMAINING RETURN BRANCHES FOR 25-FEET FROM THE AHU.
15. PROVIDE 15-FEET OF 2-INCH ACOUSTIC LINING FROM AHU RETURN CONNECTION.

## AIR HANDLING UNIT SCHEDULE (CONTINUED) - ACOUSTICS

| TAG | RETURN FAN ARRAY ACOUSTIC PERFORMANCE: RADIATED SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | DISCHARGE SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | RETURN SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | SUPPLY FAN ARRAY ACOUSTIC PERFORMANCE: RADIATED SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | DISCHARGE SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | RETURN SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 70 | 90 | 75 | 68 | 67 | 54 | 46 | 51 | 78 | 97 | 91 | 87 | 87 | 80 | 75 | 72 | 80 | 86 | 86 | 83 | 78 | 76 | 74 | 70 |
| AHU-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-3 | 70 | 77 | 71 | 65 | 61 | 49 | 46 | 51 | 80 | 87 | 89 | 86 | 83 | 77 | 76 | 75 | 77 | 82 | 83 | 79 | 73 | 71 | 71 | 71 | 81 | 91 | 76 | 69 | 68 | 55 | 46 | 51 | 91 | 101 | 94 | 90 | 90 | 83 | 78 | 75 | 81 | 87 | 87 | 84 | 79 | 77 | 75 | 71 |
| AHU-4 | 66 | 77 | 63 | 59 | 55 | 44 | 46 | 51 | 76 | 87 | 81 | 80 | 77 | 72 | 71 | 69 | 73 | 82 | 78 | 73 | 69 | 66 | 66 | 64 | 78 | 88 | 73 | 66 | 65 | 52 | 46 | 51 | 88 | 98 | 91 | 87 | 87 | 80 | 75 | 72 | 78 | 84 | 84 | 81 | 76 | 74 | 72 | 68 |

## AIR HANDLING UNIT SCHEDULE (CONTINUED) - COILS

| TAG | HYDRONIC HEATING COIL (0% PROPYLENE GLYCOL): AIRFLOW (CFM) | EAT (°F) | LAT (°F) | EWT (°F) | LWT (°F) | FLOW (GPM) | APD (IN. WG.) | WPD (FT. WG.) | COIL CONNECTION QUANTITY (#) | COIL CONNECTION SIZE (IN) | VALVE TYPE | COIL RUNOUT (IN) | HYDRONIC COOLING COIL (20% PROPYLENE GLYCOL): AIRFLOW (CFM) | EAT (°F DB/WB) | LAT (°F DB/WB) | EWT (°F) | LWT (°F) | FLOW (GPM) | APD (IN. WG.) | WPD (FT. WG.) | COIL CONNECTION QUANTITY (#) | COIL CONNECTION SIZE (IN) | VALVE TYPE | COIL RUNOUT (IN) | HYDRONIC RUN AROUND LOOP COIL (20% PROPYLENE GLYCOL): WINTER AIRFLOW (CFM) | WINTER EAT (°F DB) | WINTER LAT (°F DB) | WINTER EWT (°F) | WINTER LWT (°F) | WINTER FLOW (GPM) | WINTER APD (IN. WG.) | WINTER WPD (FT. WG.) | SUMMER AIRFLOW (CFM) | SUMMER EAT (°F DB/WB) | SUMMER LAT (°F DB/WB) | SUMMER EWT (°F) | SUMMER LWT (°F) | SUMMER FLOW (GPM) | SUMMER APD (IN. WG.) | SUMMER WPD (FT. WG.) | COIL CONNECTION QUANTITY (#) | COIL CONNECTION SIZE (IN) | COIL RUNOUT (IN) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-1 | 24,000 | 19 | 69.6 | 115 | 95.2 | 133.8 | 0.12 | 3.7 | 3 | 2 1/2 | 3-WAY | 3 | 24,000 | 86/67 | 52.0/51.0 | 42 | 54.6 | 185.3 | 0.31 | 20.7 | 2 | 3 | 3-WAY | 4 | 24,000 | 19 | 45.2 | 54.2 | 41.9 | 125 | 0.25 | 8.57 | 24,000 | 86/67 | 80.3/65.2 | 79.0 | 81.4 | 125 | 0.20 | 7.89 | 2 | 2 | 3 |
| AHU-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 24,100 | 70 | 50.4 | 41.3 | 53.0 | 125 | 0.32 | 8.60 | 24,100 | 75/66 | 80.3/67.4 | 81.5 | 79.3 | 125 | 0.21 | 7.89 | 2 | 2 | 3 |
| AHU-3 | 17,000 | 24 | 73.1 | 115 | 83.3 | 57.6 | 0.06 | 2.6 | 3 | 2 1/2 | 2-WAY | 2 1/2 | 31,000 | 79.4/66.0 | 52.5/51.7 | 42 | 54.6 | 213.0 | 0.45 | 11.4 | 2 | 3 | 2-WAY | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-4 | 10,000 | 24 | 70.3 | 115 | 94.9 | 50.3 | 0.04 | 1.2 | 2 | 2 1/2 | 2-WAY | 2 1/2 | 20,000 | 79.4/66.0 | 54.7/54.2 | 42 | 53.8 | 123.9 | 0.38 | 7.7 | 2 | 2 1/2 | 2-WAY | 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## AIR HANDLING UNIT SCHEDULE (CONTINUED) - DAMPERS

| TAG | OUTDOOR AIR INTAKE DAMPER: QUANTITY (#) | DIMENSIONS (IN) | AIRFLOW EACH (CFM) | LOCATION | PACKAGED HOOD | OUTDOOR AIR INTAKE DAMPER - ECONOMIZER BYPASS: DIMENSIONS (IN) | AIRFLOW (CFM) | LOCATION | PACKAGED HOOD | RETURN AIR DAMPER: DIMENSIONS (IN) | AIRFLOW (CFM) | LOCATION | PACKAGED HOOD | EXHAUST AIR DAMPER - ECONOMIZER MODE: DIMENSIONS (IN) | AIRFLOW (CFM) | LOCATION | PACKAGED HOOD | EXHAUST AIR DAMPER: DIMENSIONS (IN) | AIRFLOW (CFM) | LOCATION | PACKAGED HOOD | EXHAUST FAN CONNECTION DAMPER (TYP. 2): DIMENSIONS (IN) | AIRFLOW (CFM) | LOCATION | PACKAGED HOOD | BYPASS DAMPER - UPSTREAM OF HEAT RECOVERY COIL: DIMENSIONS (IN) | AIRFLOW (CFM) | LOCATION | PACKAGED HOOD | BYPASS DAMPER - DOWNSTREAM OF HEAT RECOVERY COIL: DIMENSIONS (IN) | AIRFLOW (CFM) | LOCATION | PACKAGED HOOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-1 | 2 | 120 X 34 | 12,000 | EXTERIOR | YES | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 42 X 98 | 22,000 | EXTERIOR | NO - FIELD DUCT | 42 X 50 | 10,000 | EXTERIOR | NO - FIELD DUCT | 42 X 50 | 10,000 | EXTERIOR | YES |
| AHU-3 | 1 | 46 X 108 | 31,000 | EXTERIOR | YES | 37 X 111 | 31,000 | INTERIOR | N/A | 27 X 112 | 17,050 | INTERIOR | N/A | 46 X 108 | 29,600 | EXTERIOR | YES | 27 X 111 | 12550 | EXTERIOR | NO - FIELD FAB | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-4 | 1 | 38 X 90 | 20,000 | EXTERIOR | YES | 27 X 91 | 20,000 | INTERIOR | N/A | 27 X 91 | 11,700 | INTERIOR | N/A | 38 X 90 | 19,300 | EXTERIOR | YES | 24 X 96 | 8300 | EXTERIOR | YES - LOUVER | - | - | - | - | - | - | - | - | - | - | - | - | - |

## AIR HANDLING UNIT SCHEDULE (CONTINUED) - ENTHALPY RECOVERY

| TAG | ENTHALPY WHEEL: AIRFLOWS (CFM) SUPPLY | RETURN | PURGE | MOTOR (HP) | ENTHALPY RECOVERY WINTER (%) | SUMMER (%) | PRESSURE DROP SUPPLY (IN. WG.) | EXHAUST (IN. WG.) | WINTER AIR CONDITIONS (°F DB): OUTDOOR AIR | SUPPLY AIR | RETURN AIR | EXHAUST AIR | SUMMER AIR CONDITIONS (°F DB/WB): OUTDOOR AIR | SUPPLY AIR | RETURN AIR | EXHAUST AIR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-3 | 13,950 | 12,550 | 298 | 1 | 69.4% | 66.2% | 0.92 | 0.82 | 19 | 49.1 | 70 | 34.7 | 86/67 | 79.4/66.3 | 75/66 | 82.4/66.8 |
| AHU-4 | 9,000 | 8,300 | 298 | 1 | 78.3% | 75.6% | 0.60 | 0.54 | 19 | 53.4 | 70 | 30.9 | 86/67 | 78.5/66.2 | 75/66 | 83.2/66.9 |

## AIR HANDLING UNIT SCHEDULE (CONTINUED) - FANS

| TAG | SUPPLY FAN: TOTAL AIRFLOW (CFM) | FAN QUANTITY (#) | FAN AIRFLOW (CFM) | TSP (IN WG) | ESP (IN WG) | DUTY SPEED (RPM) | MAX SPEED (RPM) | FAN ENERGY INDEX | MOTOR: QUANTITY | POWER (BHP) | RATING (HP) | VOLT/ PHASE | SPEED CONTROL | SCCR (kA) | RETURN/EXHAUST FAN: TOTAL AIRFLOW (CFM) | FAN QUANTITY (#) | FAN AIRFLOW (CFM) | TSP (IN WG) | ESP (IN WG) | DUTY SPEED (RPM) | MAX SPEED (RPM) | FAN ENERGY INDEX | MOTOR: QUANTITY | POWER (BHP) | RATING (HP) | VOLT/ PHASE | SPEED CONTROL | SCCR (KAIC) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AHU-1 | 24,000 | 4 | 6,000 | 4.18 | 3.0 | 1,939 | 2,225 | 1.47 | 4 | 5.70 | 9.40 | 460/3 | ECM | 100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AHU-3 | 31,000 | 6 | 5,167 | 4.74 | 2.30 | 1,920 | 2,225 | 1.32 | 6 | 5.50 | 9.40 | 460/3 | ECM | 100 | 29,600 | 4 | 7,400 | 2.23 | 1.0 | 1,552 | 1,750 | 1.42 | 4 | 3.86 | 6.71 | 460/3 | ECM | 100 |
| AHU-4 | 20,000 | 4 | 5,000 | 4.05 | 2.30 | 1,799 | 2,225 | 1.38 | 4 | 4.55 | 9.40 | 460/3 | ECM | 100 | 19,300 | 3 | 6,433 | 1.94 | 1.0 | 1,389 | 1,750 | 1.56 | 3 | 2.86 | 6.71 | 460/3 | ECM | 100 |

## FAN SCHEDULE

| TAG | LOCATION | SERVICE | TYPE | DRIVE | FAN: AIRFLOW MAX (CFM) | AIRFLOW MIN (CFM) | TSP (IN WG) | DUTY SPEED (RPM) | MAX SPEED (RPM) | FAN ENERGY INDEX | DISCHARGE NOZZLE DIAMETER (IN) | MINIMUM STACK HEIGHT (FT) | ELECTRICAL: VOLT/ PHASE | POWER (BHP) | RATING (HP) | MOTOR (RPM) | VFD (Y/N) | VFD SCCR (KAIC) | GEN. POWER (Y/N) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF1 | ROOF | LAB EXHAUST | CENTRIFUGAL | DIRECT | 22,000 | 22,000 | 5.41 | 1,238 | 1,424 | 1.34 | 34 | 10.5 | 460/3 | 26.11 | 40 | 1,760 | Y | 25 | N | 4,200 | VEKTOR-CH | 1, 2, 3, 4 |
| EF-2 | ROOF | LAB EXHAUST | CENTRIFUGAL | DIRECT | 22,000 | 22,000 | 5.41 | 1,238 | 1,424 | 1.34 | 34 | 10.5 | 460/3 | 26.11 | 40 | 1,760 | Y | 25 | N | 4,200 | VEKTOR-CH | 1, 2, 3, 4 |
| EF-3 | ROOF | EMERGENCY LAB EXHAUST | CENTRIFUGAL | DIRECT | 13,000 | 13,000 | 2.15 | 982 | - | 1.27 | 31 | 18 | 460/3 | 8.60 | 10 | - | Y | 13 | Y | 3,500 | VEKTOR-CH | 2, 4 |
| EF-4 | ROOF | PAINT BOOTH EXHAUST | CENTRIFUGAL | BELT | 1,300 | 1,300 | 1.00 | 1,427 | - | - | 14 | 10 | 120/1 | 0.41 | 1/2 | - | N | 5 | N | 250 | GREENHECK USF | 4 |
| EF-5 | 135 FAB LAB | VACUUM PUMP MAKEUP | CENTRIFUGAL | DIRECT | 100 | 100 | 1.00 | 1,689 | - | - | | | 120/1 | 0.07 | 0.07 | - | N | 5 | N | 50 | GREENHECK CSP | |

GENERAL NOTES:
A. FAN ENERGY INDEX (FEI) BASED ON MANUFACTURERS' CERTIFIED DATA, RATIO OF THE ELECTRIC INPUT POWER OF A REFERENCE FAN TO THE ELECTRIC INPUT POWER OF THE ACTUAL FAN, AS CALCULATED PER AMCA 208.
B. WIND CONSULTANT TO REVIEW FAN SUBMITTALS TO VERIFY THAT FAN SELECTION MEETS PLUME HEIGHT REQUIREMENTS.
C. PROVIDE SHAFT GROUNDING RINGS AND 2-INCH SPRING ISOLATOR SUPPORTS.

NOTES:
1. FANS ARE CONFIGURED FOR FULL N+1 REDUNDANCY.
2. VFD'S TO BE MOUNTED IN ROOFTOP MECHANICAL ROOM. PROVIDE LOCAL DISCONNECT ON ROOF.
3. SPRUCE SILENCER ON FAN DISCHARGE NOZZLE.
4. MAXIMUM DISCHARGE NOZZLE DIAMETER AND MINIMUM STACK HEIGHT FROM TOP OF ROOF INSULATION PER WIND CONSULTANT, AMBIENT AIR TECHNOLOGIES, WIND STUDY.

## FAN SCHEDULE (CONTINUED) - ACOUSTICS

| TAG | INLET SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | OUTLET SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | ATTENUATED OUTLET SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EF-1 | 92 | 98 | 100 | 89 | 85 | 83 | 77 | 74 | 90 | 94 | 99 | 92 | 90 | 88 | 83 | 77 | 90 | 94 | 99 | 92 | 90 | 88 | 83 | 77 |
| EF-2 | 92 | 98 | 100 | 89 | 85 | 83 | 77 | 74 | 90 | 94 | 99 | 92 | 90 | 88 | 83 | 77 | 90 | 94 | 99 | 92 | 90 | 88 | 83 | 77 |

## FIRE SMOKE DAMPERS

| TAG | LOCATION | SERVICE | SYSTEM | STAT TEMP (°F) | INITIATING DEVICE | ELECTRICAL: VOLT/ PHASE | ELECTRICAL: CONN. QTY (#) | DIMENSIONS: WIDTH (IN) | DIMENSIONS: HEIGHT (IN) | MANUFACTURER & MODEL | DAMPER CONTROLLER MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FSD-01-01 | LEVEL 1 | LEVEL 1 - RETURN | AHU-3 | 165 | DD | 120/1 | 2 | 56 | 24 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-01-02 | LEVEL 1 | LEVEL 1 - CLASS SUPPLY | AHU-3 | 165 | DD | 120/1 | 1 | 38 | 26 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-01-03 | LEVEL 1 | LEVEL 1 - RETURN | AHU-4 | 165 | DD | 120/1 | 1 | 26 | 20 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-01-04 | LEVEL 1 | LEVEL 1 - CLASS SUPPLY | AHU-4 | 165 | DD | 120/1 | 1 | 30 | 26 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-01-05 | LEVEL 1 | LEVEL 1 - RETURN | AHU-4 | 165 | DD | 120/1 | 2 | 52 | 26 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-01-06 | LEVEL 1 | LEVEL 1 - RESTROOM EXH | AHU-2 | 165 | DD | 120/1 | 1 | 12 | 12 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-01-07 | LEVEL 1 | LEVEL 1 - FAB LAB MAKEUP | AHU-1 | 165 | DD | 120/1 | 1 | 16 | 16 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-02-01 | LEVEL 2 | LEVEL 2 - RETURN | AHU-4 | 165 | DD | 120/1 | 1 | 16 | 18 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-02-02 | LEVEL 2 | LEVEL 2 - CLASS SUPPLY | AHU-4 | 165 | DD | 120/1 | 1 | 16 | 14 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-02-03 | LEVEL 2 | LEVEL 2 - RETURN | AHU-3 | 165 | DD | 120/1 | 2 | 56 | 26 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-02-04 | LEVEL 2 | LEVEL 2 - CLASS SUPPLY | AHU-3 | 165 | DD | 120/1 | 1 | 38 | 28 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-02-05 | LEVEL 2 | LEVEL 2 - LAB SUPPLY | AHU-1 | 165 | DD | 120/1 | 1 | 28 | 20 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-02-06 | LEVEL 2 | LEVEL 2 - RESTROOM EXH | AHU-2 | 165 | DD | 120/1 | 1 | 12 | 12 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-03-01 | LEVEL 3 | LEVEL 3 - CLASS SUPPLY | AHU-4 | 165 | DD | 120/1 | 1 | 30 | 16 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-03-02 | LEVEL 3 | LEVEL 3 - RETURN | AHU-4 | 165 | DD | 120/1 | 2 | 56 | 30 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-03-03 | LEVEL 3 | LEVEL 3 - RETURN | AHU-3 | 165 | DD | 120/1 | 2 | 56 | 40 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-03-04 | LEVEL 3 | LEVEL 3 - CLASS SUPPLY | AHU-3 | 165 | DD | 120/1 | 2 | 38 | 48 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-03-05 | LEVEL 3 | LEVEL 3 - LAB SUPPLY | AHU-1 | 165 | DD | 120/1 | 1 | 24 | 28 | RUSKIN FSD60 | RUSKIN ADC-105 | |
| FSD-03-06 | LEVEL 3 | LEVEL 3 - RESTROOM EXH | AHU-2 | 165 | DD | 120/1 | 1 | 12 | 12 | RUSKIN FSD60 | RUSKIN ADC-105 | |

GENERAL NOTES:
A. PROVIDE WITH REMOTE DAMPER BLADE POSITION INDICATOR
B. INITIATING DEVICES: DUCT SMOKE DETECTOR (DD), AREA SMOKE DETECTOR (AD) OR FIRE ALARM SYSTEM (FA)
C. ALL FIRE SMOKE DAMPERS ON A SINGLE SYSTEM CLOSE ON DETECTION OF SMOKE AND SHUTDOWN OF THE AIR MOVING SYSTEMS.

NOTES:
1. NONE

IFC SET

integrus ARCHITECTURE
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STATE OF WASHINGTON — 13385 — REGISTERED PROFESSIONAL ENGINEER — 11/7/2023

PAE
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LUMA Lumaid.com

STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: PAE
Checked By: CLG

Revisions

| # | Date | Description |
|---|---|---|
| 7 | 10/25/22 | HVAC Post CD Revision |
| 1 | 11/04/22 | ASI-001 |
| 5 | 01/10/23 | ASI-013 |

EQUIPMENT SCHEDULE - MECHANICAL

M002

PRCNC20221036

## DIFFUSERS AND GRILLES

| TAG | TYPE | DESCRIPTION | AIRFLOW RANGE MIN (CFM) | AIRFLOW RANGE MAX (CFM) | INLET SIZE (IN) | FACE SIZE T-BAR (IN) | MAX NC | THROW (FT) | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| C-1 | CEILING SUPPLY DIFFUSER | RADIAL THROW PLAQUE DIFFUSER | 0 | 98 | 6 | 24x24 | 15 | 2-3-5 | PRICE SPD | |
| | | | 99 | 175 | 8 | 24x24 | 15 | 2-4-7 | | |
| | | | 176 | 273 | 10 | 24x24 | 15 | 3-5-9 | | |
| | | | 274 | 393 | 12 | 24x24 | 15 | 4-6-11 | | |
| | | | 394 | 560 | 14 | 24x24 | 18 | 5-7-13 | | |
| C-2 | CEILING RETURN/ EXHAUST GRILLE | PERFORATED FACE, STEEL, ROUND OR RECTANGULAR DUCT CONNECTION | 0 | 98 | 6 | 12x12 | - | - | PRICE PDDR | |
| | | | 99 | 175 | 8 | 24x24 | - | - | | |
| | | | 176 | 273 | 10 | 24x24 | - | - | | |
| | | | 274 | 393 | 12 | 24x24 | - | - | | |
| | | | 394 | 519 | 14 | 24x24 | - | - | | |
| | | | 520 | 782 | 15x15 | 24x24 | - | - | | |
| | | | 783 | 1,125 | 18x18 | 24x24 | - | - | | |
| | | | 1,126 | 1,681 | 22x22 | 24x24 | 17 | - | | |
| C-3 | CEILING TRANSFER RETURN GRILLE | PERFORATED FACE, RECTANGULAR DUCT CONNECTION | 0 | 133 | 8x8 | 24x24 | - | - | PRICE PDDR | |
| | | | 134 | 208 | 10x10 | 24x24 | - | - | | |
| | | | 209 | 300 | 12x12 | 24x24 | - | - | | |
| | | | 301 | 469 | 15x15 | 24x24 | - | - | | |
| | | | 470 | 675 | 18x18 | 24x24 | - | - | | |
| | | | 676 | 1,008 | 22x22 | 24x24 | - | - | | |
| | | | 1,009 | 2,018 | 46x22 | 24x48 | - | - | | |
| C-4 | CEILING SUPPLY DIFFUSER | RADIAL FLOW, LOW VELOCITY, HIGH VOLUME | 0 | 910 | 16 | 24x48 | - | - | PRICE RFD | |
| C-5 | CEILING EXHAUST GRILLE | PERFORATED FACE, ALUMINUM, RECTANGULAR DUCT CONNECTION | 0 | 1,400 | 22x22 | 24x24 | - | - | PRICE PDDR | |
| H-1 | SIDEWALL SUPPLY | 45 DEG DEFLECTION, 1/2" BLADE SPACING | 0 | 125 | 6x6 | - | 16 | 5-7-10 | PRICE 500 SERIES | |
| | | | 126 | 250 | 12x6 | - | 16 | 7-10-14 | | |
| | | | 251 | 333 | 12x8 | - | 16 | 7-11-16 | | |
| | | | 334 | 500 | 12x12 | - | 16 | 9-14-20 | | |
| | | | 501 | 750 | 18x12 | - | 18 | 11-16-24 | | |
| | | | 751 | 1050 | 24x14 | - | 16 | 13-19-29 | | |
| H-2 | SIDEWALL RETURN/ EXHAUST GRILLE | 45 DEG DEFLECTION, 1/2" BLADE SPACING | 0 | 250 | 12x6 | - | - | - | PRICE 500 SERIES | |
| | | | 251 | 1800 | 30x14 | - | - | - | | |
| | | | 1801 | 2100 | 36x28 | - | - | - | | |
| | | | 2101 | 6650 | 60x32 | - | - | - | | |
| | | | 6651 | 7200 | 62x36 | - | - | - | | |
| | | | 7201 | 8300 | 80x30 | - | - | - | | |
| H-3 | SIDEWALL TRANSFER GRILLE | 45 DEG DEFLECTION, 1/2" BLADE SPACING | 100 | 440 | 18x12 | - | - | - | PRICE 500 SERIES | |
| | | | 441 | 649 | 24x12 | - | - | - | | |
| | | | 650 | 691 | 28x12 | - | - | - | | |
| | | | 692 | 875 | 32x12 | - | - | - | | |
| | | | 876 | 1000 | 36x20 | - | - | - | | |
| S-1 | SLOT DIFFUSER | VERTICAL THROW ANGLED PLENUM | 0 | 250 | 10" | 48 | 22 | 3-4-6 | PRICE SDA | 1 |

GENERAL NOTES:

A. NOISE CRITERIA (NC) BASED ON ROOM ABSORPTION OF 10 dB, MEASURED PER ANSI/ASHRAE STANDARD 70.

B. THROW VALUES GIVEN FOR TERMINAL VELOCITIES 150, 100, AND 50 FPM FOR ISOTHERMAL CONDITIONS.

C. ADJUST THROW DIRECTION AND QUANTITY PRIOR TO AIR BALANCING.

NOTES:

1. THREE ONE INCH SLOTS

## MISCELLANEOUS LAB EQUIPMENT (FOR REFERENCE ONLY)

| TAG | EQUIPMENT | EXHAUST AIRFLOW (CFM) | STATIC PRESSURE (IN. WG.) | EXHAUST DUCT CONNECTION SIZE (IN) | DEDICATED FILTRATION UNIT (Y/N) |
|---|---|---|---|---|---|
| 6A | SNORKEL EXHAUST | 60 | 0.5 | 4 | N |
| 6B | SNORKEL EXHAUST - ATOMIC ABSORPTION | 200 | 0.5 | 5 | N |
| BP-1 | AUTOCLAVE | 1370 | - | - | N |
| FE-1 | HEAT PRESS | - | - | - | N |
| FE-2 | VINYL CUTTER | - | - | - | N |
| FE-3 | PORTABLE HEAT PRESS | - | - | - | N |
| FE-4 | 5 IN 1 HEAT PRESS | - | - | - | N |
| FE-5 | PAINT BOOTH | 1300 | - | 12 | N |
| FE-6 | AIR BRUSH AND AIR COMPRESSOR | - | - | - | N |
| FE-7 | SEMI-INDUSTRIAL EMBROIDERY | - | - | - | N |
| FE-8 | PERSONAL SEWING MACHINE | - | - | - | N |
| FE-9 | KNITTING MACHINES | - | - | - | N |
| FE-10 | SEWING/EMBROIDERY MACHINE | - | - | - | N |
| FE-11 | MANUAL FLAT KNITTING MACHINE | - | - | - | N |
| FE-12 | PROGRAMMABLE KNITTING MACHINE | - | - | - | N |
| FE-13 | CLAY RECYCLER | - | - | - | N |
| FE-14 | THROWING WHEEL | - | - | - | N |
| FE-15 | FDM PRINTERS | - | - | - | Y |
| FE-16 | POWER PRINTER | - | - | - | Y |
| FE-17 | RESIN PRINTER | - | - | - | Y |
| FE-18 | CLAY PRINTER | - | - | - | Y |
| FE-19 | RESIN WASH STATION | - | - | - | N |
| FE-20 | RESIN CURE STATION | - | - | - | N |
| FE-21 | LASER PRINTER | - | - | - | Y |
| FE-22 | LASER PRINTER | - | - | - | Y |
| FE-23 | STEP LADDER | - | - | - | N |
| FE-24 | INDUCTION COOKTOP | - | - | - | Y |
| FE-25 | GOGGLE STORAGE | - | - | - | N |
| FE-26 | COMPRESSOR AND HOUSING | - | - | - | N |
| FE-27 | DYEING VAT | - | - | - | N |
| FE-28 | SUBLIMATION PRINTER | - | - | - | Y |
| FE-29 | DUST EXTRACTION | - | - | - | Y |
| FE-30 | POWER SANDER | - | - | - | Y |
| FE-31 | 3D SCANNER | - | - | - | N |
| FE-32 | LAPTOP STORAGE CART LAPTOP | - | - | - | N |
| FE-33 | FIREPROOF CHEMICAL STORAGE CABINET | - | - | - | N |
| VP | VACUUM PUMP CABINET | 100 | 0.2 | 6 | N |

GENERAL NOTES:

A. REFER TO LAB DRAWING SCHEDULES FOR SPECIFICATIONS AND QUANTITIES.

B. DEDICATED FILTERATION UNIT IS SEPARATE FROM EQUIPMENT BEING SERVED AND REQUIRES AN INDEPENDENT ELECTRICAL CONNECTION

C. INTEGRAL FANS ON PAINT BOOTH WILL BE REMOVED PRIOR TO INSTALLATION. PROVIDE DEDICATED EXHAUST FAN ON ROOF.

D. AUTOCLAVE EXHUAST IS PROVIDED VIA GENERAL EXHAUST SYSTEM DUCTED TO ARCHITECTURALLY PROVIDED HOOD.

E. DUCT REQUIRED FOR FILTRATION UNITS OUTSIDE OF PROJECT SCOPE. OWNER TO FURNISH WITH EQUIPMENT.

F. EQUIPMENT PROVIDED BY DIVISION 11 OR BY OWNER AS CALLED OUT IN LAB FURNISHING PLANS. REFER TO LAB FURNISHING PLANS FOR CONNECTION DETAILS.

KEY:

"-" = NOT APPLICABLE, INFORMATION HAS NOT BEEN PROVIDED TO DATE.

Y = ASSUMES DEDICATED FILTRATION UNIT IS REQUIRED, INFORMATION HAS NOT BEEN PROVIDED TO DATE TO CONFIRM.

N = ASSUMES NO DEDICATED FILTRATION UNIT IS REQUIRED, INFORMATION HAS NOT BEEN PROVIDED TO DATE TO CONFIRM.

## LAB EXHAUST AIR VALVE SCHEDULE

| TAG | LOCATION | INLET (IN) | MAX CFM | OCCUPIED CFM | UNOCCUPIED CFM | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|
| TU-2-101 | 141 RESTROOM | 10 | 700 | 700 | 700 | PRICE RDVQ | 1 |
| | | | | | | | |
| TU-2-201 | 235 GENERAL BIOLOGY LAB | 14 | 1725 | 1725 | 930 | PRICE RDVQ | 1 |
| TU-2-202 | 234 GENERAL BIOLOGY LAB | 14 | 1415 | 1415 | 840 | PRICE RDVQ | 1 |
| TU-2-203 | 233 BIOLOGY PREP | 8 | 400 | 400 | 400 | PHOENIX ACCEL II | 3, 5 |
| TU-2-204 | 233 BIOLOGY PREP | 14 | 1370 | 1370 | 500 | PRICE RDVQ | 1 |
| TU-2-205 | 232A & 233A STORAGE | 6 | 370 | 370 | 240 | PRICE RDVQ | 1 |
| TU-2-206 | 232 MICROBIOLOGY LAB | 14 | 1100 | 1100 | 500 | PRICE RDVQ | 1 |
| TU-2-207 | 232 MICROBIOLOGY LAB | 12 | 640 | 640 | 640 | PHOENIX ACCEL II | 3, 5 |
| TU-2-208 | 231 BIOLOGY AP LAB | 8 | 480 | 480 | 160 | PRICE RDVQ | 1 |
| TU-2-209 | 231 BIOLOGY AP LAB | 10 | 480 | 480 | 400 | PHOENIX ACCEL II | 2, 5 |
| TU-2-210 | 231 BIOLOGY AP LAB | 10 | 480 | 480 | 400 | PHOENIX ACCEL II | 2, 5 |
| TU-2-211 | 241 RESTROOM | 10 | 660 | 660 | 660 | PRICE RDVQ | 1 |
| TU-2-212 | 235 GENERAL BIOLOGY LAB | 8 | 100 | 100 | 0 | PHOENIX ACCEL II | 4, 5 |
| | | | | | | | |
| TU-2-301 | 318 CHEMISTRY INSTRUMENT ROOM | 8 | 400 | 400 | 400 | PHOENIX ACCEL II | 3, 5 |
| TU-2-302 | 316 CHEMISTRY INSTRUMENT ROOM | 8 | 400 | 400 | 240 | PHOENIX ACCEL II | 3, 5 |
| TU-2-303 | 316 CHEMISTRY INSTRUMENT ROOM | 8 | 470 | 470 | 160 | PRICE RDVQ | 1 |
| TU-2-304 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-305 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-306 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-307 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-308 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-309 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-310 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-311 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-312 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-313 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-314 | 316 ORGANIC CHEMISTRY LAB | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-315 | 314 CHEMISTRY PREISTOCKROOM | 8 | 400 | 400 | 400 | PHOENIX ACCEL II | 3, 5 |
| TU-2-316 | 314 CHEMISTRY PREISTOCKROOM | 10 | 670 | 670 | 270 | PRICE RDVQ | 1 |
| TU-2-317 | 314A BULK | 6 | 250 | 250 | 170 | PRICE RDVQ | 1 |
| TU-2-318 | 312 GENERAL CHEMISTRY | 8 | 480 | 400 | 200 | PHOENIX ACCEL II | 3, 5 |
| TU-2-319 | 312 GENERAL CHEMISTRY | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-320 | 312 GENERAL CHEMISTRY | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-321 | 312 GENERAL CHEMISTRY | 12 | 780 | 640 | 300 | PHOENIX ACCEL II | 3, 5 |
| TU-2-322 | 314B & 314C STORAGE | 6 | 385 | 385 | 220 | PRICE RDVQ | 1 |
| TU-2-323 | 341 RESTROOM | 8 | 485 | 485 | 485 | PRICE RDVQ | 1 |

GENERAL NOTES:

A. AIR PRESSURE DROP THROUGH TERMINAL UNIT TO BE NO GREATER THAN 0.75 IN WG.

B. REFER TO LABORATORY PLAN DRAWINGS FOR REQUIREMENTS FOR CONNECTING TO SNORKELS AND FUME HOODS.

NOTES:

1. VALVE SERVES GENERAL ROOM EXHAUST.
2. VALVE SERVES SNORKEL EQUIPMENT.
3. VALVE SERVES FUME HOOD.
4. VALVE SERVES VACUUM PUMP IN ROOM ABOVE.
5. VALVE TO MAINTAIN PRESSURE INDEPENDENT CONTROL CHARACTERISTICS WITHIN 0.3 TO 3.0 IN WG PRESSURE DROP ACROSS VALVE.

## FUME HOOD SCHEDULE (FOR REFERENCE ONLY)

| TAG | HOOD SIZE AND TYPE | DESIGN AIRFLOW (CFM) | MAX AIRFLOW (CFM) | MIN VAV AIRFLOW (CFM) | MAX HOOD SP (IN WC) | EXHAUST CONNECTION (IN) |
|---|---|---|---|---|---|---|
| 4' ACFH | 4' ADA CHEMICAL FUME HOOD | 400 | 480 | 200 | 0.25 | 10 |
| 6' CFH | 6' CHEMICAL FUME HOOD | 640 | 780 | 300 | 0.25 | 12 |
| 6' ACFH | 6' ADA CHEMICAL FUME HOOD | 640 | 780 | 300 | 0.25 | 12 |

GENERAL NOTES:

A. REFER TO LAB DRAWING SCHEDULES FOR SPECIFICATIONS AND QUANTITIES.

B. EQUIPMENT PROVIDED BY DIVISION 11. REFER TO LAB FURNISHING PLANS FOR CONNECTION DETAILS.

## DUCT COIL SCHEDULE

| TAG | SERVICE | AIRFLOW (CFM) | MAX AIR PD (IN WG) | HYDRONIC COIL - HEATING HEATING CFM | CAPACITY (MBH) | EAT (°F) | LAT (°F) | EWT (°F) | WTD (°F) | FLOW RATE (GPM) | RUN OUT (IN) | SIZE FIN HxW (IN) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DC-101 | 135 FAB LAB | 1300 | 0.61 | 1,300 | 28.3 | 52 | 70 | 115 | 20 | 2.5 | 3/4 | 14X14 | 250 | RAE |
| DC-301 | 316 ORGANIC CHEMISTRY LAB | 1720 | 0.40 | 1720 | 55.7 | 55 | 85 | 115 | 20 | 5.6 | 1 | 24X18 | 250 | RAE |
| DC-302 | 316 ORGANIC CHEMISTRY LAB | 1720 | 0.40 | 1720 | 55.7 | 55 | 85 | 115 | 20 | 5.6 | 1 | 24X18 | 250 | RAE |
| DC-303 | 316 ORGANIC CHEMISTRY LAB | 1720 | 0.40 | 1720 | 55.7 | 55 | 85 | 115 | 20 | 5.6 | 1 | 24X18 | 250 | RAE |
| DC-304 | 316 ORGANIC CHEMISTRY LAB | 1720 | 0.40 | 1720 | 55.7 | 55 | 85 | 115 | 20 | 5.6 | 1 | 24X18 | 250 | RAE |
| DC-305 | 312 GENERAL CHEMISTRY | 1125 | 0.40 | 1125 | 42.5 | 55 | 90 | 115 | 20 | 4.3 | 1 | 18X14 | 250 | RAE |
| DC-306 | 312 GENERAL CHEMISTRY | 1125 | 0.40 | 1125 | 42.5 | 55 | 90 | 115 | 20 | 4.3 | 1 | 18X14 | 250 | RAE |

GENERAL NOTES:

A. HYDRONIC COIL TO BE MOUNTED EXTERNALLY IN THE DUCTWORK DOWNSTREAM OF THE TERMINAL UNIT.

B. NOT USED.

C. WATER PRESSURE DROP THROUGH COIL NOT TO EXCEED 10 FT.

D. NOT USED.

E. MAX 8 FPI, 4 ROWS.

F. NOT USED.

## TERMINAL UNIT SCHEDULE

| TAG | SERVICE | TYPE | PRIMARY AIR INLET (IN) | PRIMARY AIR MAX CFM | PRIMARY AIR HEATING CFM | PRIMARY AIR MIN CFM | PRIMARY AIR LOW MIN CFM | PRIMARY AIR UNOCCUPIED CFM | PRIMARY AIR SUMMER PRIMARY AIR TEMPERATURE (°F) | HYDRONIC COIL MBH | HYDRONIC COIL GPM | HYDRONIC COIL RUNOUT (IN) | HYDRONIC COIL VALVE TYPE | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TU-1-101 | 135 FAB LAB | VV | 2x12 10 | 1300 | 1300 | 1300 | 0 | - | 55 | - | - | - | - | PHOENIX ACCEL II | 1, 2 10 |
| TU-3-100 | 100 LOBBY | VVR | 14 | 1600 | 550 | 550 | 440 | - | 55 | 17.8 | 2.4 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-101 | 101 CLASSROOM | VVR | 14 | 1505 | 1030 | 1030 | 440 | - | 55 | 33.4 | 4.5 | 1 | 3-WAY | PRICE SDVQ | |
| TU-3-102 | 102 CLASSROOM | VVR | 14 | 1435 | 975 | 975 | 440 | - | 55 | 31.6 | 4.3 | 1 | 2-WAY | PRICE SDVQ | |
| TU-3-103 | 103 WORKSTATIONS | VVR | 6 | 240 | 130 | 70 | 70 | - | 60 | 2.1 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-104 | 103A STUDY ROOM | VVR | 6 | 295 | 115 | 70 | 70 | - | 60 | 1.9 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-105 | 103B OFFICE | VVR | 12 | 1135 | 310 | 310 | 310 | - | 55 | 10.0 | 1.4 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-106 | 104 DOUBLE CLASSROOM | VVR | 14 | 1480 | 1095 | 1095 | 440 | - | 55 | 35.5 | 4.8 | 1 | 2-WAY | PRICE SDVQ | |
| TU-3-107 | 124 GRAVITY LAB | VVR | 14 | 1350 | 565 | 565 | 440 | - | 55 | 19.0 | 2.6 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-108 | 124 GRAVITY LAB | VVR | 14 | 1350 | 565 | 565 | 440 | - | 55 | 19.0 | 2.6 | 3/4 | 2-WAY | PRICE SDVQ | |
| | | | | | | | | | | | | | | | |
| TU-4-100 | 136 WORKSTATIONS | VVR | 8 | 570 | 140 | 140 | 140 | - | 57 | 4.5 | 0.6 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-101 | 135 FAB LAB | VVR | 14 | 1645 | 675 | 675 | 440 | - | 57 | 21.9 | 3.0 | 3/4 | 3-WAY | PRICE SDVQ | |
| TU-4-102 | 135 FAB LAB | VVR | 14 | 1645 | 675 | 675 | 440 | - | 57 | 21.9 | 3.0 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-103 | 134 IDEATION STUDIO | VVR | 14 | 1515 | 705 | 705 | 440 | - | 57 | 22.8 | 3.1 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-104 | 133 CLASSROOM | VVR | 14 | 1575 | 1150 | 1150 | 440 | - | 57 | 37.3 | 5.0 | 1 | 2-WAY | PRICE SDVQ | |
| TU-4-105 | 132 PHYSICS | VVR | 16 | 2175 | 1045 | 1045 | 670 | - | 57 | 33.9 | 4.6 | 1 | 2-WAY | PRICE SDVQ | |
| TU-4-106 | 131 PHYSICS SUPPORT | VVR | 8 | 475 | 140 | 140 | 140 | - | 57 | 4.5 | 0.6 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-107 | 140 COLLABORATION LOUNGE | VVR | 12 | 945 | 460 | 460 | 310 | - | 57 | 14.9 | 2.0 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-108 | 135A CHECK IN/WORKROOM | VVR | 6 | 200 | 70 | 70 | 70 | - | 62 | 1.1 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-109 | 122 MOTHERS | VVR | 10 | 865 | 315 | 230 | 230 | - | 62 | 5.1 | 0.7 | 3/4 | 2-WAY | PRICE SDVQ | |
| | | | | | | | | | | | | | | | |
| TU-1-201 | 235 GENERAL BIOLOGY LAB | VVR | 14 | 1725 | 1725 | - | - | 830 | 55 | 56.0 | 5.7 | 1 | 2-WAY | PRICE SDVQ | |
| TU-1-202 | 234 GENERAL BIOLOGY LAB | VVR | 14 | 1265 | 1265 | - | - | 765 | 55 | 45.6 | 4.6 | 1 1/4 | 2-WAY | PRICE SDVQ | |
| TU-1-203 | 233 BIOLOGY PREP | VVR | 14 | 1540 | 1540 | - | - | 700 | 55 | 52.0 | 5.2 | 1 1/4 | 2-WAY | PRICE SDVQ | |
| TU-1-204 | 232A & 233A STORAGE | VVR | 6 | 220 | 220 | - | - | 90 | 55 | 8.4 | 0.9 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-1-205 | 232 MICROBIOLOGY LAB | VVR | 14 | 1595 | 1595 | - | - | 790 | 55 | 53.3 | 5.4 | 1 1/4 | 2-WAY | PRICE SDVQ | |
| TU-1-206 | 231 BIOLOGY AP LAB | VVR | 14 | 1350 | 1350 | - | - | 860 | 55 | 47.7 | 4.8 | 1 1/4 | 2-WAY | PRICE SDVQ | |
| | | | | | | | | | | | | | | | |
| TU-3-200 | 100 LOBBY - DOUBLE HIGH AREA | VVR | 16 | 2085 | 670 | 670 | 570 | - | 55 | 21.7 | 2.9 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-201 | 201 CLASSROOM | VVR | 14 | 1590 | 1170 | 1170 | 440 | - | 55 | 37.9 | 5.1 | 1 | 2-WAY | PRICE SDVQ | |
| TU-3-202 | 202 CLASSROOM | VVR | 14 | 1505 | 925 | 925 | 440 | - | 55 | 30.0 | 4.1 | 1 | 2-WAY | PRICE SDVQ | |
| TU-3-203 | 203 OFFICE | VVR | 10 | 970 | 230 | 230 | 230 | - | 55 | 10.0 | 1.4 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-204 | 207 CLASSROOM | VVR | 14 | 1490 | 1110 | 1110 | 440 | - | 55 | 36.0 | 4.9 | 1 | 2-WAY | PRICE SDVQ | |
| TU-3-205 | 208 CLASSROOM | VVR | 14 | 1430 | 1125 | 1125 | 440 | - | 55 | 36.5 | 4.9 | 1 | 2-WAY | PRICE SDVQ | |
| TU-3-206 | 206 CONFERENCE ROOM | VVR | 8 | 420 | 175 | 140 | 140 | - | 60 | 2.8 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-207 | 200 HALL | VVR | 10 | 730 | 315 | 230 | 230 | - | 55 | 10.2 | 1.4 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-208 | 243 SHARED LEARNING | VVR | 12 | 1105 | 810 | 810 | 310 | - | 55 | 26.2 | 3.5 | 1 | 2-WAY | PRICE SDVQ | |
| | | | | | | | | | | | | | | | |
| TU-4-201 | 236 WORKSTATIONS | VVR | 8 | 585 | 145 | 140 | 140 | - | 57 | 4.7 | 0.6 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-202 | 240 SHARED LEARNING | VVR | 10 | 760 | 630 | 630 | 230 | - | 57 | 20.4 | 2.8 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-203 | 233B LAB TECH OFFICE | VVR | 6 | 200 | 90 | 70 | 70 | - | 57 | 2.9 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-204 | 230 HALL | VVR | 8 | 445 | 265 | 140 | 140 | - | 62 | 4.3 | 0.6 | 3/4 | 2-WAY | PRICE SDVQ | |
| | | | | | | | | | | | | | | | |
| TU-1-301 | 318 CHEMISTRY INSTRUMENT ROOM | VVR | 12 | 1170 | 1170 | - | - | 700 | 55 | 37.2 | 3.8 | 1 | 3-WAY | PRICE SDVQ | |
| TU-1-302 | 316 ORGANIC CHEMISTRY LAB | VV | 2x12 | 1720 | 1720 | - | - | 785 | | - | - | - | - | PHOENIX ACCEL II | 1, 2 |
| TU-1-303 | 316 ORGANIC CHEMISTRY LAB | VV | 2x12 | 1720 | 1720 | - | - | 785 | | - | - | - | - | PHOENIX ACCEL II | 1, 2 |
| TU-1-304 | 316 ORGANIC CHEMISTRY LAB | VV | 2x12 | 1720 | 1720 | - | - | 785 | | - | - | - | - | PHOENIX ACCEL II | 1, 2 9 |
| TU-1-305 | 316 ORGANIC CHEMISTRY LAB | VV | 2x12 | 1720 | 1720 | - | - | 785 | | - | - | - | - | PHOENIX ACCEL II | 1, 2 |
| TU-1-306 | 314 CHEMISTRY PREISTOCKROOM | VVR | 10 9 | 970 | 970 | - | - | 670 | 55 | 29.2 | 3.0 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-1-307 | 314A BULK | VVR | 6 | 150 | 150 | - | - | 70 | 55 | 6.3 | 0.6 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-1-308 | 314B & 314C STORAGE | VVR | 6 | 265 | 265 | - | - | 70 | 55 | 10.2 | 1.0 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-1-309 | 312 GENERAL CHEMISTRY | VV | 14 | 1125 | 1125 | - | - | 515 | | - | - | - | - | PHOENIX ACCEL II | 1, 2 |
| TU-1-310 | 312 GENERAL CHEMISTRY | VV | 14 | 1125 | 1125 | - | - | 515 | | - | - | - | - | PHOENIX ACCEL II | 1, 2 9 |
| | | | | | | | | | | | | | | | |
| TU-3-301 | 300 SHARED LEARNING | VVR | 12 | 1010 | 700 | 700 | 310 | - | 55 | 22.7 | 3.1 | 3/4 | 3-WAY | PRICE SDVQ | |
| TU-3-302 | 1/2 EARTH SCI B | VVR | 14 | 1330 | 650 | 650 | 440 | - | 55 | 21.1 | 2.8 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-303 | 1/2 EARTH SCI B | VVR | 14 | 1330 | 650 | 650 | 440 | - | 55 | 21.1 | 2.8 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-304 | 309A LAB TECH OFFICE | VVR | 8 | 555 | 175 | 140 | 140 | - | 55 | 5.7 | 0.8 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-305 | 309 EARTH SCIENCE PREP | VVR | 8 | 610 | 305 | 305 | 140 | - | 55 | 13.7 | 1.9 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-306 | 1/2 EARTH SCI A | VVR | 14 | 1320 | 710 | 710 | 440 | - | 55 | 23.0 | 3.1 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-307 | 1/2 EARTH SCI A | VVR | 14 | 1320 | 710 | 710 | 440 | - | 55 | 23.0 | 3.1 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-3-308 | 309B ROCK PREP | VVR | 6 | 310 | 70 | 70 | 70 | - | 60 | 1.4 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| | | | | | | | | | | | | | | | |
| TU-4-301 | 300 HALL | VVR | 16 | 2200 | 860 | 670 | 670 | - | 57 | 27.9 | 3.8 | 1 | 2-WAY | PRICE SDVQ | |
| TU-4-302 | 340 SHARED LEARNING | VVR | 10 | 685 | 685 | 685 | 230 | - | 57 | 22.2 | 3.0 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-303 | 320 WORKSTATIONS | VVR | 10 | 635 | 230 | 230 | 230 | - | 57 | 7.5 | 1.0 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-304 | 319 DOUBLE OFFICE | VVR | 12 | 980 | 315 | 310 | 310 | - | 57 | 10.2 | 1.4 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-305 | 312A LAB TECH OFFICE | VVR | 6 | 235 | 120 | 70 | 70 | - | 57 | 3.9 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-306 | 302 OFFICE | VVR | 8 | 545 | 155 | 140 | 140 | - | 62 | 2.5 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-307 | 305 OFFICE | VVR | 6 | 315 | 160 | 70 | 70 | - | 62 | 2.6 | 0.5 | 3/4 | 2-WAY | PRICE SDVQ | |
| TU-4-308 | 330 HALL | VVR | 10 | 760 | 345 | 230 | 230 | - | 62 | 6.5 | 0.9 | 3/4 | 2-WAY | PRICE SDVQ | |

GENERAL NOTES:

A. PRIMARY AIR TEMPERATURE PER SCHEDULE (SUMMER), 60°F (WINTER).

B. PROVIDE 8 FEET OF DUCT LINER DOWNSTREAM OF TERMINAL UNITS AND SUPPLY VALVES.

C. HYDRONIC HEATING COIL ENTERING WATER TEMPERATURE: 115°F, LEAVING WATER TEMPERATURE: 95°F.

D. HEATING PRIMARY AIR TEMPERATURE: 90°F.

NOTES:

1. HIGH SPEED ACTUATOR.
2. VALVE TO MAINTAIN PRESSURE INDEPENDENT CONTROL CHARACTERISTICS WITHIN 0.3 TO 3.0 IN WG PRESSURE DROP ACROSS VALVE. 9

KEY:

VVR = VARIABLE AIR VOLUME TERMINAL UNIT WITH REHEAT

VV = VARIABLE AIR VOLUME TERMINAL UNIT

## FAN COIL SCHEDULE

| TAG | LOCATION | SERVICE | AIRFLOW (CFM) | FILTER (MERV) | HYDRONIC COOLING COIL (20% PG) CAPACITY (BTU/H) TOTAL | CAPACITY (BTU/H) SENSIBLE | EAT (°F DB/WB) | LAT (°F DB/WB) | EWT (°F) | MIN WTD (°F) | FLOW (GPM) | VALVE TYPE | HYDRONIC HEATING COIL CAPACITY (MBH) | EAT (°F) | LAT (°F) | EWT (°F) | MIN WTD (°F) | FLOW (GPM) | ELECTRICAL MOTOR QUANTITY (#) | SCCR (KAIC) | MOTOR (HP) | VOLT/ PHASE | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FCU-101 | LEVEL 0 MECH | LEVEL 0 MECH | 555 | 8 | - | - | - | - | - | - | - | - | 18 | 60 | 90 | 115 | 20 | 1.8 | 1 | 7 | 1/3 | 120/1 | 300 | POLAR SWC |
| FCU-102 | WATER ENTRY | WATER ENTRY | 555 | 8 | - | - | - | - | - | - | - | - | 18 | 60 | 90 | 115 | 20 | 1.8 | 1 | 7 | 1/3 | 120/1 | 300 | POLAR SWC |
| FCU-201 | 231 BIOLOGY AP LAB | 231 BIOLOGY AP LAB | 812 | 8 | 13,000 | 13,000 | 75/62.5 | 55/54 | 44 | 12 | 2.2 | 3-WAY | - | - | - | - | - | - | 1 | 7 | 1/3 | 120/1 | 300 | POLAR PCGH |
| FCU-202 | 232 MICROBIOLOGY LAB | 232 MICROBIOLOGY LAB | 812 | 8 | 13,000 | 13,000 | 75/62.5 | 55/54 | 44 | 12 | 2.2 | 2-WAY | - | - | - | - | - | - | 1 | 7 | 1/3 | 120/1 | 300 | POLAR PCGH |
| FCU-203 | 233 BIOLOGY PREP | 233 BIOLOGY PREP | 812 | 8 | 13,000 | 13,000 | 75/62.5 | 55/54 | 44 | 12 | 2.2 | 2-WAY | - | - | - | - | - | - | 1 | 7 | 1/3 | 120/1 | 300 | POLAR PCGH |
| FCU-204 | 234 GENERAL BIOLOGY LAB | 234 GENERAL BIOLOGY LAB | 812 | 8 | 13,000 | 13,000 | 75/62.5 | 55/54 | 44 | 12 | 2.2 | 2-WAY | - | - | - | - | - | - | 1 | 7 | 1/3 | 120/1 | 300 | POLAR PCGH |
| FCU-205 |

PRCNC20221036

## AIR COOLED CHILLER SCHEDULE

| TAG | LOCATION | SERVICE | CAPACITY (TONS) | DESIGN CONDITIONS: GLYCOL (%) | FLOW: MAX (GPM) | FLOW: DESIGN (GPM) | FLOW: MIN (GPM) | TEMPERATURE: EWT (°F) | TEMPERATURE: LWT (°F) | PRESSURE DROP: MAX (FT WG) | PRESSURE DROP: DESIGN (FT WG) | PRESSURE DROP: MIN (FT WG) | COMPRESSORS: QTY (#) | COMPRESSORS: TYPE | COMPRESSORS: RLA EACH (A) | COMPRESSORS: VFD (Y/N) | FANS: QTY. (#) | FANS: FLA EACH (A) | FANS: VFD (Y/N) | DESIGN EFFICIENCY: AMBIENT TEMP (°F DB/WB) | DESIGN EFFICIENCY: FULL LOAD (EER) | DESIGN EFFICIENCY: IPLV (EER) | RATED AHRI EFFICIENCY: FULL LOAD (EER) | RATED AHRI EFFICIENCY: IPLV (EER) | CODE EFFICIENCY: WSEC C403.3.2(7) - PATH B: FULL LOAD (EER) | CODE EFFICIENCY: WSEC C403.3.2(7) - PATH B: IPLV (EER) | REFRIGERANT: TYPE | REFRIGERANT: CHARGE (LBS) | ELECTRICAL: VOLT/ PHASE | ELECTRICAL: MCA (A) | ELECTRICAL: MOCP (A) | ELECTRICAL: SCCR (kA) | ELECTRICAL: GEN. POWER (Y/N) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CH-1 | GRADE | CHILLED WATER | 300 | 20 | 876.6 | 620.6 | 220 | 54 | 42 | 33.9 | 17.1 | 2.8 | 2 | SCREW | 223 & 190 | Y | 18 | 3.3 | Y | 87/67 | 11.00 | 18.24 | 11.01 | 18.24 | ≥ 9.7 | ≥ 16.1 | R-134A | 388 | 460/3 | 537 | 700 | 65 | N | 20,000 | DAIKIN AWV 016B |

GENERAL NOTES:

A. DESIGN EFFICIENCIES ARE AT DESIGN CONDITIONS LISTED IN THE SCHEDULE.

B. RATED EFFICIENCIES ARE AT ARI STANDARD CONDITIONS.

C. PROVIDE SPRING ISOLATORS.

D. CODE AHRI EFFICIENCY REQUIREMENTS PROVIDED FOR REFERENCE.

E. SINGLE POINT CONNECTION POWERS ON BOARD CONTROLLER.

F. PROVIDE DUAL BASKET STRAINER AT CHILLER INLET WITH MESH SIZE MEETING MANUFACTURER REQUIREMENTS.

## AIR COOLED CHILLER SCHEDULE (CONTINUED)

| TAG | ACOUSTIC PERFORMANCE AT FULL LOAD CONDITIONS: SOUND POWER (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ | SOUND PRESSURE AT 30 FT (DB) 63 HZ | 125 HZ | 250 HZ | 500 HZ | 1000 HZ | 2000 HZ | 4000 HZ | 8000 HZ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CH-1 | 102 | 98 | 95 | 100 | 99.0 | 93.0 | 85 | 75 | 75 | 71.0 | 68.0 | 73.0 | 72 | 66 | 58 | 48 |

## PUMP SCHEDULE

| TAG | LOCATION | SERVICE | TYPE | PUMP STAGING | GLYCOL (%) | PERFORMANCE: FLOW: MAX (GPM) | FLOW: MIN (GPM) | HEAD PRESSURE: DESIGN (FT WG) | HEAD PRESSURE: SHUT-OFF (FT WG) | IMPELLER: FULL (IN) | IMPELLER: TRIM (IN) | EFFICIENCY: DUTY (%) | EFFICIENCY: PLEV (%) | ELECTRICAL: VOLT/ PHASE | MOTOR TYPE | POWER (BHP) | RATING (HP) | DUTY (RPM) | SPEED (RPM) | SPEED CONTROL | SCCR (A) | GEN POWER (Y/N) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HWP-1 | MECHANICAL ROOM | HEATING WATER | BASE MOUNT END SUCTION | PS | 0 | 480 | 100 | 120 | 167 | 13.5 | 13.125 | 75.0 | 73.0 | 460/3 | | 23.2 | 30 | 1678 | 1800 | VFD | 35 | Y | 1,500 | B&G E-1510 | |
| HWP-2 | MECHANICAL ROOM | HEATING WATER | BASE MOUNT END SUCTION | PS | 0 | 480 | 100 | 120 | 167 | 13.5 | 13.125 | 75.0 | 73.0 | 460/3 | | 23.2 | 30 | 1678 | 1800 | VFD | 35 | Y | 1,500 | B&G E-1510 | |
| CHWP-1 | MECHANICAL ROOM | CHILLED WATER | BASE MOUNT END SUCTION | PS | 20 | 620 | 170 | 125 | 138 | 13.5 | 12.25 | 78.5 | 72.5 | 460/3 | | 25.3 | 40 | 1647 | 1800 | VFD | 35 | N | 1,500 | B&G E-1510 | |
| CHWP-2 | MECHANICAL ROOM | CHILLED WATER | BASE MOUNT END SUCTION | PS | 20 | 620 | 170 | 125 | 138 | 13.5 | 12.25 | 78.5 | 72.5 | 460/3 | | 25.3 | 40 | 1647 | 1800 | VFD | 35 | N | 1,500 | B&G E-1510 | |
| HRP-1 | MECHANICAL PENTHOUSE | LABORATORY HEAT RECOVERY | BASE MOUNT END SUCTION | PS | 20 | 125 | 35 | 55 | 60.3 | 9.5 | 8.5 | 71.5 | 66.2 | 460/3 | | 2.45 | 5 | 1542 | 1800 | VFD | 35 | Y | 500 | B&G E-1510 | 1 |
| HRP-2 | MECHANICAL PENTHOUSE | LABORATORY HEAT RECOVERY | BASE MOUNT END SUCTION | PS | 20 | 125 | 35 | 55 | 60.3 | 9.5 | 8.5 | 71.5 | 66.2 | 460/3 | | 2.45 | 5 | 1542 | 1800 | VFD | 35 | Y | 500 | B&G E-1510 | 1 |

GENERAL NOTES:

A. PROVIDE TEFC TYPE MOTORS WHERE SCHEDULED AND WHERE PUMP IS LOCATED WITHIN THE AIRSTREAM.

B. PUMP SIZING BASED ON OPERATING POINT.

KEY:

PL = PARALLEL, LEAD-LAG: INDIVIDUAL PUMP CAPACITY IS SUCH THAT BOTH PUMPS OPERATE TO PROVIDE DESIGN FLOW.

PS = PARALLEL, STANDBY: INDIVIDUAL PUMP CAPACITY IS SUCH THAT ONE PUMP IS FULLY REDUNDANT.

S = STANDALONE: PUMP IS SIZED TO PROVIDE DESIGN FLOW; NO REDUNDANCY PROVIDED.

NOTES:

1. IMPELLER TRIMMED TO 8.5 INCHES

## GLYCOL MIXING TANK

| TAG | LOCATION | SERVICE | TANK VOLUME (GAL) | ELECTRICAL: VOLT/ PHASE | ELECTRICAL: SCCR (KAIC) | GEN. POWER (Y/N) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|---|---|
| GT-1 | LEVEL 0 MECH ROOM | CHILLED WATER | 50 | 120/1 | 10 | NO | 575 | J.L. WINGERT |
| GT-2 | MECH PENTHOUSE | HEAT RECOVERY WATER | 50 | 120/1 | 5 | NO | 575 | J.L. WINGERT |

GENERAL NOTES:

A. PROVIDE SEISMIC RESTRAINTS.

B. SUPPLY FULL TANK OF GLYCOL MIXTURE AT PROJECT TURN OVER.

## AIR SEPARATOR SCHEDULE

| TAG | LOCATION | SERVICE | TYPE | INLET SIZE (IN) | FLOW (GPM) | MAX WPD (FT WG) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|---|---|
| AS-1 | MECHANICAL ROOM | CHILLED WATER | AIR/DIRT | 8 | 620 | 1.4 | 900 | SPIROVENT VDN |
| AS-2 | MECHANICAL ROOM | HEATING WATER | AIR/DIRT | 6 | 480 | 2.1 | 375 | SPIROVENT VDN |
| AS-3 | MECH PENTHOUSE | HEATING WATER | AIR/DIRT | 3 | 125 | 1.5 | 225 | SPIROVENT VDN |

## SPLIT SYSTEM SCHEDULE

| TAG | LOCATION | SERVICE | TYPE | COOLING CAPACITY: TOTAL (MBH) | COOLING CAPACITY: EAT (°F DB) | HEATING CAPACITY: TOTAL (MBH) | HEATING CAPACITY: EAT (°F) | MIN EFFICIENCY: EER | MIN EFFICIENCY: SEER | MIN EFFICIENCY: COP AT 17°F | REFRIGERANT TYPE | ELECTRICAL: VOLT/ PHASE | ELECTRICAL: MCA (A) | ELECTRICAL: MOCP (A) | ELECTRICAL: SCCR (KAIC) | GEN. POWER (Y/N) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ACCU-R101 / AC-101 | ROOF/LEVEL 1 | MDF 153 | WALL-MOUNT | 12 | 95 | - | - | 12.0 | 20.8 | - | R410A | 208/1 | 11 | 28 | 5 | Y | 200 / 50 | MITSUBISHI PKA/PUY | 1, 2, 3 |
| ACCU-R102 / AC-102 | ROOF/LEVEL 1 | ELECTRICAL MAIN 127 | WALL-MOUNT | 36 | 95 | - | - | 10.8 | 18.8 | - | R410A | 208/1 | 25 | 31 | 5 | N | 200 / 50 | MITSUBISHI PKA/PUY | 1, 2, 3 |
| ACCU-R103 / AC-103 | ROOF/LEVEL 1 | EMERGENCY ELECTRICAL 126 | WALL-MOUNT | 24 | 95 | - | - | 12.2 | 21.4 | - | R410A | 208/1 | 19 | 26 | 5 | N | 200 / 50 | MITSUBISHI PKA/PUY | 1, 2, 3 |
| ACCU-R201 / AC-201 | ROOF/LEVEL 2 | IDF 252 | WALL-MOUNT | 12 | 95 | - | - | 12.0 | 20.8 | - | R410A | 208/1 | 11 | 28 | 5 | N | 200 / 50 | MITSUBISHI PKA/PUY | 1, 2, 3 |
| ACCU-R202 / AC-202 | ROOF/LEVEL 2 | ELEC 254 | WALL-MOUNT | 24 | 95 | - | - | 12.0 | 20.8 | - | R410A | 208/1 | 11 | 28 | 5 | N | 200 / 50 | MITSUBISHI PKA/PUY | 1, 2, 3 |
| ACCU-R203 / AC-203 | ROOF/LEVEL 2 | STAIRWELL - SOUTHEAST | CEILING SUPPENDED | 24 | 95 | 15.4 | 17 | 10.8 | 12.2 | 2.97 | R410A | 208/1 | 19 | 26 | 5 | N | 200 / 50 | MITSUBISHI PCA/PUZ | 1, 2 |
| ACCU-R204 / AC-204 | ROOF/LEVEL 2 | STAIRWELL - SOUTHWEST | CEILING SUPPENDED | 36 | 95 | 24.4 | 17 | 11.0 | 19.1 | 2.88 | R410A | 208/1 | 25 | 31 | 5 | N | 200 / 50 | MITSUBISHI PCA/PUZ | 1, 2 |
| ACCU-R301 / AC-301 | ROOF/LEVEL 3 | IDF 352 | WALL-MOUNT | 12 | 95 | - | - | 12.0 | 20.8 | - | R410A | 208/1 | 11 | 28 | 5 | N | 200 / 50 | MITSUBISHI PKA/PUY | 1, 2, 3 |
| ACCU-R302 / AC-302 | ROOF/LEVEL 3 | ELEVATOR MACHINE ROOM 354 | WALL-MOUNT | 12 | 95 | - | - | 12.0 | 20.8 | - | R410A | 208/1 | 11 | 28 | 5 | N | 200 / 50 | MITSUBISHI PKA/PUY | 1, 2, 3 |

GENERAL NOTES:

A. MINIMUM EFFICIENCY IS AT ARI STANDARD CONDITIONS.

B. PROVIDE WASHABLE MERV 8 FILTERS

C. SCHEDULED REFRIGERANT CHARGE DOES NOT INCLUDE SYSTEM PIPING. REFER TO MANUFACTURER'S DATA FOR REFRIGERANT CHARGE FOR PIPING.

NOTES:

1. PROVIDE CONDENSATE PUMP BLUE DIAMOND (ADVANCED) MINI CONDENSATE PUMP X87-721 W/ RESERVOIR & SENSOR (208/230V). ROUTE CONDENSATE DRAIN VIA 3/4 INCH COPPER HEADER, SLOPED AT 1/8 INCH PER FOOT TO JANITOR ROOM MOP SINK OR MECHANICAL ROOM FLOOR DRAIN. ROUTING SHOWN ON HYDRONIC PLANS.

2. INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT.

3. COOLING ONLY UNIT.

## TANK SCHEDULE

| TAG | LOCATION | SERVICE | TYPE | PRESSURE: MIN (PSIG) | PRESSURE: MAX (PSIG) | VOLUME: TOTAL (GAL) | VOLUME: ACCEPTANCE (GAL) | SYSTEM CONN. SIZE (IN) | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| EXPANSION TANKS | | | | | | | | | | |
| ET-101 | LO MECH ROOM | HEATING WATER | DIAPHRAGM | 37 | 125 | 67 | 27 | 1.00 | TACO CX | 1 |
| ET-102 | LO MECH ROOM | HEATING WATER | DIAPHRAGM | 37 | 125 | 67 | 27 | 1.00 | TACO CX | 1 |
| ET-103 | LO MECH ROOM | CHILLED WATER | DIAPHRAGM | 37 | 125 | 47 | 15 | 1.00 | TACO CX | 2 |
| ET-104 | LO MECH ROOM | CHILLED WATER | DIAPHRAGM | 37 | 125 | 47 | 15 | 1.00 | TACO CX | 2 |
| ET-401 | MECH PENTHOUSE | HEATING RECOVERY | DIAPHRAGM | 15 | 125 | 23 | 10 | 1.00 | TACO CX | 2 |
| ET-402 | MECH PENTHOUSE | HEATING RECOVERY | DIAPHRAGM | 15 | 125 | 23 | 10 | 1.00 | TACO CX | 2 |
| BUFFER TANKS | | | | | | | | | | |
| BT-101 | LO MECH ROOM | CHILLED WATER | 2-PORT BUFFER | - | 125 | 1,250 | - | 6 | TACO BHL | |

GENERAL NOTES:

A. FLOOR MOUNTED TANK INSTALLED ON 4-INCH HOUSEKEEPING PAD.

B. DESIGNED AND CONSTRUCTED PER ASME CODE SECTION VIII DIVISION 1.

NOTES:

1. TANK SIZE BASED ON MINIMUM TEMPERATURE 40°F, MAXIMUM TEMPERATURE 140°F.

2. TANK SIZE BASED ON MINIMUM TEMPERATURE 40°F, MAXIMUM TEMPERATURE 100°F.

## BOILER SCHEDULE

| TAG | LOCATION | SERVICE | TYPE | HEATING CAPACITY (MBH) | FLUID: GLYCOL (%) | FLUID: FLOW: MAX (GPM) | FLUID: FLOW: MIN (GPM) | FLUID: TEMPERATURE: LWT (°F) | FLUID: TEMPERATURE: EWT (°F) | FLUID: MAX WPD (FT WG) | FUEL: TYPE | FUEL: INPUT (MBH) | FUEL: MIN AFUE (%) | ELECTRICAL: VOLT/ PHASE | ELECTRICAL: FLA (A) | ELECTRICAL: SCCR (KAIC) | ELECTRICAL: GEN. POWER (Y/N) | APPROX. WEIGHT (LBS) | MANUFACTURER & MODEL | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-801 | BASEMENT | HWS | CONDENSING | 2,397.5 | 0 | 240 | 50 | 115 | 95 | 15 | NAT. GAS | 2,500 | 94.5 | 208/3 | 10.3 | 4 | YES | 2,500 | RBI FLEXCORE 2500 | 1, 2 |
| B-802 | BASEMENT | HWS | CONDENSING | 2,397.5 | 0 | 240 | 50 | 115 | 95 | 15 | NAT. GAS | 2,500 | 94.5 | 208/3 | 10.3 | 4 | YES | 2,500 | RBI FLEXCORE 2500 | 1, 2 |

GENERAL NOTES:

A. UNITS MOUNTED ON HOUSEKEEPING PAD.

B. UNIT HAS A MINIMUM TURNDOWN OF 5:1 IN COMPLIANCE WITH 2018 WSEC C403.3.4.

C. PROVIDE 36 INCHES CLEAR BETWEEN MULTIPLE BOILERS.

D. PROVIDE A MINIMUM CLEARANCE OF 36 INCHES ON ALL SIDES FOR EACH BOILER.

E. PROVIDE 30 INCHES TOP CLEARANCE ABOVE BOILER.

F. PROVIDE TWO MEANS OF EXIT WHEN BOILER ROOM EXCEEDS 500 SF AND ANY SINGLE BOILER INPUT CAPACITY EXCEEDS 400 MBH.

G. PROVIDE BOILER SHUT-OFF BUTTON AT EXIT(S) TO BOILER ROOM. BUTTON TO SHUT OFF POWER AND FUEL SUPPLY TO BOILERS.

NOTES:

1. ROUTE COMBUSTION AIR AND FLUE TO OUTDOORS THROUGH SIDEWALL OF THE MECHANICAL ROOM INDEPENDENT OF OTHER BOILERS PER MANUFACTURER RECOMMENDATIONS.

2. PROVIDE INDIVIDUAL CONDENSATE TRAP FOR EACH BOILER, AND ONE YEAR'S SUPPLY OF NEUTRALIZATION AGENT.

## RADIATOR SCHEDULE

| TAG NUMBER | LOCATION / SERVICE | TYPE | LENGTH (IN) | HEIGHT (IN) | DEPTH (IN) | HYDRONYIC HEATING: OUTPUT (BTUH/FT) | HYDRONYIC HEATING: DESIGN (BTUH) | HYDRONYIC HEATING: FLOW (GPM) | HYDRONYIC HEATING: AWT (°F) | HYDRONYIC HEATING: EAT (°F) | VALVE TYPE | MAX. WPD (FT HD.) | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FT-101 | 100 LOBBY | HEATING ONLY, 2 PIPE | 30 | 10-3/4 | 6-1/16 | 568 | 1,420 | 1.00 | 110 | 70 | 3-WAY | 0.20 | VULCAN JV4-AR-PM |
| FT-102 | 100 LOBBY | HEATING ONLY, 2 PIPE | 60 | 10-3/4 | 6-1/16 | 568 | 2,840 | 1.00 | 110 | 70 | 3-WAY | 0.25 | VULCAN JV4-AR-PM |
| FT-103 | 124 GRAVITY LAB | HEATING ONLY, 2 PIPE | 60 | 10-3/4 | 6-1/16 | 568 | 2,840 | 1.00 | 110 | 70 | 2-WAY | 0.25 | VULCAN JV4-AR-PM |

GENERAL NOTE(S):

A. NONE

## METER SCHEDULE

| SERVICE | TYPE | OPERATING RANGE: TEMP (°F) | OPERATING RANGE: FLOW (GPM) | REPORTED VALUES (UNITS): INSTANTANEOUS: FLOW | INSTANTANEOUS: ENERGY | TOTALIZED: FLOW | TOTALIZED: ENERGY | MANUFACTURER & MODEL |
|---|---|---|---|---|---|---|---|---|
| CHILLED WATER (CHWS/R) | MAGNETIC BTU | 42 - 54 | 0 - 650 | (GPM) | (BTU/H) | (GAL) | (MBH) | ONICON SYSTEM 10, F3100 |
| HEATING WATER (HWS/R) | MAGNETIC BTU | 95 - 115 | 0 - 500 | (GPM) | (BTU/H) | (GAL) | (MBH) | ONICON SYSTEM 10, F3100 |

GENERAL NOTES:

A. INSTALL PER MANUFACTURER REQUIREMENTS.

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10/6/2022

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STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: Author
Checked By: Checker

Revisions

| # | Date | Description |
|---|---|---|

EQUIPMENT SCHEDULES - MECHANICAL

M004

IFC SET

PRCNC20221036

**BREAK HORSEPOWER AHU-1**

| SYSTEM NAME | JURISDICTION: | CODE REFERENCE: | SYSTEM TYPE: | SYSTEM SUPPLY (CFMS): | CREDITS | | | | | | | OPTION 2 FAN SYSTEM BHP | OPTION 2 FAN SYSTEM 90% BHP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | INCLUDED? | DEVICE | ADJUSTMENT | ADDITIONAL INPUT | PD | CFMD | A | | |
| AHU-1 | WASHINGTON | WA ENERGY CODE 2019 - C403.8.1 | VARIABLE VOLUME | 24,000 CFM | YES | RETURN OR EXHAUST SYSTEMS REQUIRED BY CODE OR ACCREDITATION STANDARDS TO BE FULLY DUCTED, OR SYSTEMS REQUIRED TO MAINTAIN AIR PRESSURE DIFFERENTIALS BETWEEN ADJACENT ROOMS. | 0.5 IN. OF WATER (2.15 IN. OF WATER FOR LABORATORY AND VIVARIUM SYSTEMS) | Laboratory | 2.15 | 24000 | 12.49 | ≤ 61.76 bhp | 48.91 |
| | | | | | YES | RETURN AND/OR EXHAUST AIRFLOW CONTROL DEVICES | 0.5 IN. OF WATER | - | 0.5 | 24000 | 2.90 | | |
| | | | | | YES | EXHAUST FILTERS, SCRUBBERS, OR OTHER EXHAUST TREATMENT | THE PRESSURE DROP OF DEVICE CALCULATED AT FAN SYSTEM DESIGN CONDITION | 0.16 | 0.16 | 24000 | 0.93 | | |
| | | | | | NO | PARTICULATE FILTRATION CREDIT: MERV 9 THROUGH 12 | 0.5 IN. OF WATER | - | - | - | - | | |
| | | | | | YES | PARTICULATE FILTRATION CREDIT: MERV 13 THROUGH 15 | 0.9 IN. OF WATER | - | 0.9 | 24000 | 5.23 | | |
| | | | | | NO | PARTICULATE FILTRATION CREDIT: MERV 16 AND GREATER AND ELECTRONICALLY ENHANCED FILTERS | PRESSURE DROP CALCULATED AT 2× CLEAN FILTER PRESSURE DROP AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | CARBON AND OTHER GAS-PHASE AIR CLEANERS | CLEAN FILTER PRESSURE DROP AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | BIOSAFETY CABINET | PRESSURE DROP OF DEVICE AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | ENERGY RECOVERY DEVICE, OTHER THAN COIL RUNAROUND LOOP | FOR EACH AIRSTREAM [(2.2 × ENTHALPY RECOVERY RATIO) - 0.5] IN. OF WATER | - | - | - | - | | |
| | | | | | | | | - | | - | | | |
| | | | | | YES | COIL RUNAROUND LOOP | 0.6 IN. OF WATER FOR EACH AIRSTREAM | 2 | 1.2 | 24000 | 6.97 | | |
| | | | | | NO | EVAPORATIVE HUMIDIFIER/COOLER IN SERIES WITH ANOTHER COOLING COIL | PRESSURE DROP OF DEVICE AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | SOUND ATTENUATION SECTION (FANS SERVING SPACES WITH DESIGN BACKGROUND NOISE GOALS BELOW NC35) | 0.15 IN. OF WATER | - | - | - | - | | |
| | | | | | YES | EXHAUST SYSTEM SERVING FUME HOODS | 0.35 IN. OF WATER | - | 0.35 | 24000 | 2.03 | | |
| | | | | | NO | LABORATORY AND VIVARIUM EXHAUST SYSTEMS IN HIGH-RISE BUILDINGS | 0.25 IN. OF WATER/100 FT OF VERTICAL DUCT EXCEEDING 75 FT | - | - | - | - | | |
| | | | | | DEDUCTIONS | | | | | | | | |
| | | | | | NO | SYSTEMS WITHOUT CENTRAL COOLING DEVICE | -0.6 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | SYSTEMS WITHOUT CENTRAL HEATING DEVICE | -0.3 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | SYSTEMS WITH CENTRAL ELECTRIC RESISTANCE HEAT | -0.2 IN. OF WATER | - | - | - | - | | |
| | | | | | | | | | | | 30.56 | | |

**BREAK HORSEPOWER AHU-3**

| SYSTEM NAME | JURISDICTION: | CODE REFERENCE: | SYSTEM TYPE: | SYSTEM SUPPLY (CFMS): | CREDITS | | | | | | | OPTION 2 FAN SYSTEM BHP | OPTION 2 FAN SYSTEM 90% BHP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | INCLUDED? | DEVICE | ADJUSTMENT | ADDITIONAL INPUT | PD | CFMD | A | | |
| AHU-3 | WASHINGTON | WA ENERGY CODE 2019 - C403.8.1 | VARIABLE VOLUME | 31,000 CFM | NO | RETURN OR EXHAUST SYSTEMS REQUIRED BY CODE OR ACCREDITATION STANDARDS TO BE FULLY DUCTED, OR SYSTEMS REQUIRED TO MAINTAIN AIR PRESSURE DIFFERENTIALS BETWEEN ADJACENT ROOMS. | 0.5 IN. OF WATER (2.15 IN. OF WATER FOR LABORATORY AND VIVARIUM SYSTEMS) | N/A | - | - | - | ≤ 53.88 bhp | 48.50 |
| | | | | | NO | RETURN AND/OR EXHAUST AIRFLOW CONTROL DEVICES | 0.5 IN. OF WATER | - | - | - | - | | |
| | | | | | YES | EXHAUST FILTERS, SCRUBBERS, OR OTHER EXHAUST TREATMENT | THE PRESSURE DROP OF DEVICE CALCULATED AT FAN SYSTEM DESIGN CONDITION | 0.11 | 0.11 | 13950 | 0.37 | | |
| | | | | | NO | PARTICULATE FILTRATION CREDIT: MERV 9 THROUGH 12 | 0.5 IN. OF WATER | - | - | 27900 | - | | |
| | | | | | YES | PARTICULATE FILTRATION CREDIT: MERV 13 THROUGH 15 | 0.9 IN. OF WATER | - | 0.9 | 31000 | 6.75 | | |
| | | | | | NO | PARTICULATE FILTRATION CREDIT: MERV 16 AND GREATER AND ELECTRONICALLY ENHANCED... | PRESSURE DROP CALCULATED AT 2× CLEAN FILTER PRESSURE DROP AT FAN SYSTEM DESIG... | - | - | - | - | | |
| | | | | | NO | CARBON AND OTHER GAS-PHASE AIR CLEANERS | CLEAN FILTER PRESSURE DROP AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | BIOSAFETY CABINET | PRESSURE DROP OF DEVICE AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | YES | ENERGY RECOVERY DEVICE, OTHER THAN COIL RUNAROUND LOOP | FOR EACH AIRSTREAM [(2.2 × ENTHALPY RECOVERY RATIO) - 0.5] IN. OF WATER | 0.662 | 0.9564 | 13950 | 6.46 | | |
| | | | | | | | | 2 | | 13950 | 0.00 | | |
| | | | | | NO | COIL RUNAROUND LOOP | 0.6 IN. OF WATER FOR EACH AIRSTREAM | - | - | - | - | | |
| | | | | | NO | EVAPORATIVE HUMIDIFIER/COOLER IN SERIES WITH ANOTHER COOLING COIL | PRESSURE DROP OF DEVICE AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | SOUND ATTENUATION SECTION (FANS SERVING SPACES WITH DESIGN BACKGROUND NOISE... | 0.15 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | EXHAUST SYSTEM SERVING FUME HOODS | 0.35 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | LABORATORY AND VIVARIUM EXHAUST SYSTEMS IN HIGH-RISE BUILDINGS | 0.25 IN. OF WATER/100 FT OF VERTICAL DUCT EXCEEDING 75 FT | - | - | - | - | | |
| | | | | | DEDUCTIONS | | | | | | | | |
| | | | | | NO | SYSTEMS WITHOUT CENTRAL COOLING DEVICE | -0.6 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | SYSTEMS WITHOUT CENTRAL HEATING DEVICE | -0.3 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | SYSTEMS WITH CENTRAL ELECTRIC RESISTANCE HEAT | -0.2 IN. OF WATER | - | - | - | - | | |
| | | | | | | | | | | | 13.58 | | |

**BREAK HORSEPOWER AHU-4**

| SYSTEM NAME | JURISDICTION: | CODE REFERENCE: | SYSTEM TYPE: | SYSTEM SUPPLY (CFMS): | CREDITS | | | | | | | OPTION 2 FAN SYSTEM BHP | OPTION 2 FAN SYSTEM 90% BHP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | INCLUDED? | DEVICE | ADJUSTMENT | ADDITIONAL INPUT | PD | CFMD | A | | |
| AHU-4 | WASHINGTON | WA ENERGY CODE 2019 - C403.8.1 | VARIABLE VOLUME | 20,000 CFM | NO | RETURN OR EXHAUST SYSTEMS REQUIRED BY CODE OR ACCREDITATION STANDARDS TO BE FULLY DUCTED, OR SYSTEMS REQUIRED TO MAINTAIN AIR PRESSURE DIFFERENTIALS BETWEEN ADJACENT ROOMS. | 0.5 IN. OF WATER (2.15 IN. OF WATER FOR LABORATORY AND VIVARIUM SYSTEMS) | N/A | - | - | - | ≤ 37.41 bhp | 33.67 |
| | | | | | NO | RETURN AND/OR EXHAUST AIRFLOW CONTROL DEVICES | 0.5 IN. OF WATER | - | - | - | - | | |
| | | | | | YES | EXHAUST FILTERS, SCRUBBERS, OR OTHER EXHAUST TREATMENT | THE PRESSURE DROP OF DEVICE CALCULATED AT FAN SYSTEM DESIGN CONDITION | 0.18 | 0.18 | 13950 | 0.61 | | |
| | | | | | NO | PARTICULATE FILTRATION CREDIT: MERV 9 THROUGH 12 | 0.5 IN. OF WATER | - | - | - | - | | |
| | | | | | YES | PARTICULATE FILTRATION CREDIT: MERV 13 THROUGH 15 | 0.9 IN. OF WATER | - | 0.9 | 31000 | 6.75 | | |
| | | | | | NO | PARTICULATE FILTRATION CREDIT: MERV 16 AND GREATER AND ELECTRONICALLY ENHANCED... | PRESSURE DROP CALCULATED AT 2× CLEAN FILTER PRESSURE DROP AT FAN SYSTEM DESIG... | - | - | - | - | | |
| | | | | | NO | CARBON AND OTHER GAS-PHASE AIR CLEANERS | CLEAN FILTER PRESSURE DROP AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | BIOSAFETY CABINET | PRESSURE DROP OF DEVICE AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | YES | ENERGY RECOVERY DEVICE, OTHER THAN COIL RUNAROUND LOOP | FOR EACH AIRSTREAM [(2.2 × ENTHALPY RECOVERY RATIO) - 0.5] IN. OF WATER | 0.5 | 0.6 | 13950 | 4.05 | | |
| | | | | | | | | 2 | | 13950 | 0.00 | | |
| | | | | | NO | COIL RUNAROUND LOOP | 0.6 IN. OF WATER FOR EACH AIRSTREAM | - | - | - | - | | |
| | | | | | NO | EVAPORATIVE HUMIDIFIER/COOLER IN SERIES WITH ANOTHER COOLING COIL | PRESSURE DROP OF DEVICE AT FAN SYSTEM DESIGN CONDITION | - | - | - | - | | |
| | | | | | NO | SOUND ATTENUATION SECTION (FANS SERVING SPACES WITH DESIGN BACKGROUND NOISE... | 0.15 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | EXHAUST SYSTEM SERVING FUME HOODS | 0.35 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | LABORATORY AND VIVARIUM EXHAUST SYSTEMS IN HIGH-RISE BUILDINGS | 0.25 IN. OF WATER/100 FT OF VERTICAL DUCT EXCEEDING 75 FT | - | - | - | - | | |
| | | | | | DEDUCTIONS | | | | | | | | |
| | | | | | NO | SYSTEMS WITHOUT CENTRAL COOLING DEVICE | -0.6 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | SYSTEMS WITHOUT CENTRAL HEATING DEVICE | -0.3 IN. OF WATER | - | - | - | - | | |
| | | | | | NO | SYSTEMS WITH CENTRAL ELECTRIC RESISTANCE HEAT | -0.2 IN. OF WATER | - | - | - | - | | |
| | | | | | | | | | | | 11.41 | | |

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JUSTIN STEELMAN — STATE OF WASHINGTON — 21388 — REGISTERED PROFESSIONAL ENGINEER — 10/6/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: Author
Checked By: Checker

Revisions

| # | Date | Description |
|---|---|---|

EQUIPMENT SCHEDULES - MECHANICAL

**M005**

IFC SET

PRCNC20221036

## WSEC 2018 - COMMISSIONING

GENERAL
THE FOLLOWING SECTIONS IN THIS TABLE ARE REQUIRED TO BE PERFORMED AND COMPLETED BY A CERTIFIED COMMISSIONING PROFESSIONAL.

COMMISSIONING PLAN
COMMISSIONING PLAN REQUIRED TO BE DEVELOPED BY A CERTIFIED COMMISSIONING PROFESSIONAL COMPLYING WITH ALL THE REQUIREMENTS LISTED IN THE WSEC SECTION C408.1.

COMMISSIONED SYSTEMS
COMMISSIONING FOR MECHANICAL SYSTEMS MUST BE COMPLETED BY A CERTIFIED COMMISSIONING PROFESSIONAL FOR ALL SYSTEMS LISTED IN WASHINGTON STATE ENERGY CODE (WSEC) SECTION C408.1.

ALL HVAC SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH WSEC SECTION C408.2.2.

FUNCTIONAL PERFORMANCE TESTS SHALL BE PERFORMED ON ALL EQUIPMENT, SYSTEMS AND CONTROLS IN ACCORDANCE WITH WSEC SECTION C408.2.3. WRITTEN TEST PROCEDURES AND RESULTS SHALL BE DOCUMENTED. TESTS SHALL INCLUDE ALL MODES AND SEQUENCE OF OPERATION INCLUDING FULL-LOAD, PART-LOAD AND EMERGENCY CONDITIONS LISTED IN WSEC SECTION C408.2.3.1.

VERIFY SERVICE HOT WATER HEATING SYSTEMS COMMISSIONING SATISFIES ALL THE REQUIREMENTS OF WSEC SECTION C408.4.

VERIFY METERING SYSTEM COMMISSIONING SATISFIES ALL THE REQUIREMENTS OF WSEC SECTION C408.6.

SUPPORTING DOCUMENTS (C103.6)
SYSTEM DOCUMENTATION AND MANUALS TO BE PROVIDED TO OWNER PRIOR TO CERTIFICATION.
RECORD DOCUMENTS TO BE PROVIDED TO OWNER PRIOR TO CERTIFICATION.
TRAINING WILL BE PROVIDED TO THE OWNER PRIOR TO CERTIFICATION.

PRELIMINARY COMMISSIONING REPORT (C408.1.4.1)
PRELIMINARY COMMISSION TO BE PROVIDED TO OWNER WILL INCLUDE:
1. ITEMIZATION OF DEFICIENCIES FOUND DURING TESTING THAT ARE PART OF THE ENERGY CODE AND THAT WERE NOT CORRECTED BY THE TIME OF REPORT PREPARATION.
2. DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF REPORT PREPARATION WITH THE ANTICIPATED COMPLETION DATE.
3. STATUS OF THE PROJECT SUPPORTING DOCUMENTS (SEE ABOVE).

FINAL COMMISSIONING REPORT (C408.1.3)
PROVIDE A FINAL COMMISSIONING REPORT, INCLUDING ALL THE REQUIREMENTS STATED IN SECTION C408.1.3, COMPLETED AND CERTIFIED BY THE CERTIFIED COMMISSIONING PROFESSIONAL AND DELIVERED TO THE BUILDING OWNER PRIOR TO THE FINAL INSPECTIONS OR OBTAINING A CERTIFICATE OF OCCUPANCY. INCLUDE THE FOLLOWING IN THE REPORT:
1. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
2. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.
3. FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE, PROVIDED HEREIN FOR REPEATABILITY.

## MECHNICAL PIPE MATERIAL SCHEDULE

| SERVICE | MAX OPERATING PRESSURE (PSI) | MAX OPERATING TEMPERATURE (°F) | LOCATION | SIZE | DESCRIPTION | NOTES |
|---|---|---|---|---|---|---|
| HEATING HOT WATER (HHW) | 125 | 110 | ABOVE GRADE | SMALL BORE 2" & SMALLER | PIPE: COPPER, HARD DRAWN TUBING, TYPE L, ASTM B88<br>FITTINGS: WROUGHT COPPER, ANSI B16.22, 150 PSI<br>JOINTS: WHERE CONCEALED - SOLDER, WHERE ACCESSIBLE - PRO PRESS | 1 |
| | | | | LARGE BORE 2-1/2" & LARGER | PIPE: BLACK STEEL, SHCEDULE 40 , ASTM A135 OR A53<br>FITTINGS: CLASS 150, DUCTILE IRON, ASTM A536, GRADE 65-45-12<br>JOINTS: WHERE CONCEALED - WELDED, WHERE ACCESSIBLE - MECHANICAL COUPLINGS | 1 |
| HEAT RECOVERY WATER (HRW) | 125 | 100 | ABOVE GRADE | SMALL BORE 2" & SMALLER | PIPE: COPPER, HARD DRAWN TUBING, TYPE L, ASTM B88<br>FITTINGS: WROUGHT COPPER, ANSI B16.22, 150 PSI<br>JOINTS: WHERE CONCEALED - SOLDER, WHERE ACCESSIBLE - PRO PRESS | 1 |
| | | | | LARGE BORE 2-1/2" & LARGER | PIPE: BLACK STEEL, SHCEDULE 40 , ASTM A135 OR A53<br>FITTINGS: CLASS 150, DUCTILE IRON, ASTM A536, GRADE 65-45-12<br>JOINTS: WHERE CONCEALED - WELDED, WHERE ACCESSIBLE - MECHANICAL COUPLINGS | 1 |
| CHILLED WATER (CHW) | 125 | 60 | BELOW GRADE | LARGE BORE 2-1/2" & LARGER | PIPE: BLACK STEEL, SHCEDULE 40 , ASTM A53 OR A53A<br>FITTINGS: CLASS 150, WROUGHT STEEL, ASTM A234 OR A234M<br>JOINTS: WELDED | 1 |
| | | | ABOVE GRADE | SMALL BORE 2" & SMALLER | PIPE: COPPER, HARD DRAWN TUBING, TYPE L, ASTM B88<br>FITTINGS: WROUGHT COPPER, ANSI B16.22, 150 PSI<br>JOINTS: WHERE CONCEALED - SOLDER, WHERE ACCESSIBLE - PRO PRESS | 1 |
| | | | | LARGE BORE 2-1/2" & LARGER | PIPE: BLACK STEEL, SHCEDULE 40 , ASTM A135 OR A53<br>FITTINGS: CLASS 150, DUCTILE IRON, ASTM A536, GRADE 65-45-12<br>JOINTS: WHERE CONCEALED - WELDED, WHERE ACCESSIBLE - MECHANICAL COUPLINGS | 1 |
| COIL CONDENSATE DRAINS AND INDIERECT DRAINS (D) | 40 | 70 | ABOVE GRADE | 1/2" & LARGER | PIPE: COPPER, HARD DRAWN TUBING, TYPE L, ASTM B88<br>FITTINGS: WROUGHT COPPER, ANSI B16.22, 150 PSI<br>JOINTS: WHERE CONCEALED - SOLDER, WHERE ACCESSIBLE - PRO PRESS | 1 |

GENERAL NOTES:
A. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

NOTES:
1. REFER TO WA STATE CODE INSULATION SCHEDULE FOR INSULATION THICKNESS AND PERFORMANCE.

## MECHANICAL HVAC DUCT MATERIAL SCHEDULE

| SERVICE | SMACNA PRESSURE CLASS | MATERIAL | LOCATION | INSULATION TYPE |
|---|---|---|---|---|
| LOW PRESSURE SUPPLY AIR | +2" WG | GALVANIZED DUCT | DOWNSTREAM OF AIR TERMINAL UNITS | 1-INCH LINER<br>INTERNALLY LINED FOR 3-FEET |
| | | | DOWNSTREAM OF AIR TERMINAL UNITS | 1-INCH LINER<br>WHERE REQUIRED TO MEET MINIMUM INTERNAL LINER REQUIREMENTS BETWEEN AHU DISCHAGRE AND ANY DIFFUSER. REFER TO MEDIUM PRESSURE SUPPLY AIR SECTION FOR DETAILS. |
| | | | ALL ELSE | NONE (NOTE 4) |
| MEDIUM PRESSURE SUPPLY AIR | +6" WG WITHIN SHAFT<br>+4" WG DOWNSTREAM OF FIRE SMOKE DAMPER | GALVANIZED DUCT | AHU-1 SUPPLY | 2-INCH INTERNAL LINER<br>INTERNALLY LINED FOR A MINIMUM OF 25-FEET FROM AHU DISCHARGE PRIOR TO ALL TERMINAL UNIT INLETS |
| | | | AHU-3 SUPPLY | 2-INCH INTERNAL LINER<br>INTERNALLY LINED FOR A MINIMUM OF 30-FEET FROM AHU DISCHARGE PRIOR TO ALL TERMINAL UNITS<br>1-INCH INTERNAL LINER<br>BRANCHES THAT OCCUR OFF THE DUCT MAIN WITHIN THE NOTED 30-FEET MAY BE LINED WITH 1-INCH LINER WITHIN BRANCH TO ACHIEVE TOTAL OF 30-FEET PRIOR TO TERMINAL UNIT (NOTE 2) |
| | | | AHU-4 SUPPLY | 2-INCH INTERNAL LINER<br>INTERNALLY LINED FOR A MINIMUM OF 40-FEET FROM AHU DISCHARGE PRIOR TO ALL TERMINAL UNITS.<br>1-INCH INTERNAL LINER<br>BRANCHES THAT OCCUR OFF THE DUCT MAIN WITHIN THE NOTED 40-FEET MAY BE LINED WITH 1-INCH LINER WITHIN BRANCH TO ACHIEVE TOTAL OF 40-FEET PRIOR TO TERMINAL UNIT (NOTE 3) |
| LOW PRESSURE EXHAUST AIR | -2" WG | GALVANIZED DUCT | UPSTREAM OF TERMINAL UNITS | INTERNALLY LINED 3-FEET |
| | | | AHU-3 EXHAUST | 2-INCH INTERNAL LINER<br>LINE ALL DUCTWORK BETWEEN AHU EXHAUST AND STUDY 311. LINE THE REMAINING RETURN BRANCHES FOR 25-FEET FROM AHU. |
| | | | AHU-4 EXHAUST | 2-INCH INTERNAL LINER<br>PROVIDE 15-FEET OF LINER FROM AHU EXHAUST CONNECTION |
| | | | ALL ELSE | NONE |
| | | | ALL ELSE | NONE |
| | | | ALL ELSE | NONE |
| LAB/FUME HOOD EXHAUST AIR MEDIUM PRESSURE | +6" WG WITHIN SHAFT<br>+4" WG OUTSIDE OF SHAFT | GALVANIZED STEEL WITH GAGE BELOW<br>22 GAGE FOR 0-8 INCHES (NOTE 1)<br>20 GAGE FOR 9-18 INCHES (NOTE 1)<br>18 GAGE FOR 19-30 INCHES (NOTE 1)<br>16 GAGE FOR OVER 30 INCHES (NOTE 1) | ALL | NO LINER OR INSULATION<br><br>SILENCER REQUIRED FOR AHU-2<br>REFER TO AIR HANDLING UNIT SCHEDULE - GENERAL INFORMATION FOR PERFORMANCE REQUIREMENTS.<br>ALL OTHER EXHAUST DUCTWORK IS NOT LINED |
| LAB/FUME HOOD EXHAUST AIR LOW PRESSURE | -2" WG | 316 STAINLESS STEEL WITH GAGE BELOW<br>22 GAGE FOR 0-8 INCHES (NOTE 1)<br>20 GAGE FOR 9-18 INCHES (NOTE 1)<br>18 GAGE FOR 19-30 INCHES (NOTE 1)<br>16 GAGE FOR OVER 30 INCHES (NOTE 1) | BRANCHES TO FUME HOODS (UNTIL CONNECTION TO MAIN) | NONE |
| | -2" WG | GALVANIZED STEEL WITH GAGE BELOW<br>22 GAGE FOR 0-8 INCHES (NOTE 1)<br>20 GAGE FOR 9-18 INCHES (NOTE 1)<br>18 GAGE FOR 19-30 INCHES (NOTE 1)<br>16 GAGE FOR OVER 30 INCHES (NOTE 1) | ALL ELSE | NONE |
| PAINTBOOTH EXHAUST | -4" WG WITHIN SHAFT<br>-2" WG OUTSIDE OF SHAFT | GALVANIZED STEEL WITH GAGE BELOW<br>22 GAGE FOR 0-8 INCHES (NOTE 1)<br>20 GAGE FOR 9-18 INCHES (NOTE 1)<br>18 GAGE FOR 19-30 INCHES (NOTE 1)<br>16 GAGE FOR OVER 30 INCHES (NOTE 1) | ALL | NONE |
| TRANSFER AIR DUCT / RETURN AIR BOOTS | +/- 1" WG | GALVANIZED DUCT | ALL | 1-INCH INTERNAL LINER |

GENERAL NOTES:
A. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

NOTES:
1. DUCT DIAMETER OR MAXIMUM SIDE DIMENSION IN COMPLIANCE WITH WASHINGTON STATE MECHANICAL CODE SECTION 510.9.
2. THERE SHOULD BE A MINIMUM OF 30-FEET OF DUCT LINER BETWEEN AHU DISCHARGE AND ANY DIFFUSER.
3. THERE SHOULD BE A MINIMUM OF 35-FEET OF DUCT LINER BETWEEN AHU DISCHARGE AND ANY DIFFUSER.
4. SUPPLY AIR IS GREATER THAN OR EQUAL TO 55°F AND LESS THAN 105°F. THEREFORE PER MINIMUM DUCT SCHEDULE ON M006, INSULATION IS NOT REQUIRED.

## MINIMUM DUCT INSULATION (WASHINGTON)

| DUCT SYSTEM | DUCT LOCATION | DUCT USE | | CLIMATE ZONE | AIRFLOW | INSULATION R-VALUE | NOTES |
|---|---|---|---|---|---|---|---|
| OUTDOOR AIR | INSIDE CONDITIONED SPACE | UPSTREAM OF AUTOMATIC SHUTOFF DAMPER | | 4C & 5B | ≥ 2,800 CFM | R-16 | 1 |
| | | DOWNSTREAM OF AUTOMATIC SHUTOFF DAMPER TO HVAC UNIT OR ROOM | | 4B | ≥ 2,800 CFM | R-8 | |
| | | | | 5B | | R-12 | |
| | | INSIDE CONDTIONED SPACE | | 4C & 5B | < 2,800 CFM | R-7 | 1 |
| SUPPLY AIR OR RETURN AIR | OUTSIDE THE BUILDING | OUTDOORS AND EXPOSED TO WEATHER | | 4C | ALL CFM | R-8 | 2 |
| | | | | 5B | | R-12 | |
| | UNCONDITIONED SPACE | ENCLOSED BUT NOT IN CONDTIONED ENVELOPE | | 4C & 5B | | R-6 | 2 |
| | | 15°F BETWEEN INSIDE AND OUTSIDE OF DUCT | | 4C & 5B | | R-3.3 | 3 |
| | INSIDE THE BUILDING | IN A BUILDING ENVELOPE ASSEMBLY | | 4C & 5B | | R-16 | 4 |
| SUPPLY AIR | WITHIN CONDTIONED SPACE | SUPPLY AIR < 55°F OR SUPPLY AIR >105°F | DUCT OUTSIDE OF SPACE DIRECTLY SERVED | 4C & 5B | | R-3.3 | 2 |
| | | | DUCT INSIDE OF SPACE DIRECTLY SERVED | 4C & 5B | | NONE | 2 |
| | | SUPPLY AIR > 55°F OR SUPPLY AIR <105°F | | 4C & 5B | | NONE | |
| RETURN AIR OR EXHAUST AIR | | DOWNSTREAM OF ENERGY RECOVERY & UPSTREAM OF AUTOMATIC SHUTOFF DAMPER | | 4C | | R-8 | |
| | | | | 5B | | R-12 | |
| RELEIF AIR OR EXHAUST AIR | | DOWNSTREAM OF AUTOMATIC SHUTOFF DAMPER | | 4C & 5B | | R-16 | |

GENERAL NOTES:
A. INSULATION R-VALUES, MEASURED IN H·SF·°F/BTU, ARE FOR THE INSULATION AS INSTALLED AND DO NOT INCLUDE FILM RESISTANCE. THE REQUIRED MINIMUM THICKNESSES DO NOT CONSIDER WATER VAPOR TRANSMISSION AND POSSIBLE SURFACE CONDENSATION. INSULATION RESISTANCE MEASURED ON A HORIZONTAL PLANE IN ACCORDANCE WITH ASTM C518 AT A MEAN TEMPERATURE OF 75°F AT THE INSTALLED THICKNESS.
B. SEE INTERNATIONAL MECHANICAL CODE SECTIONS 603.12 AND 604 FOR FURTHER DETAILS ON DUCT INSULATION REQUIREMENTS.
C. OUTSIDE THE BUILDING INCLUDES ATTICS ABOVE INSULATED CEILINGS, PARKING GARAGES AND CRAWL SPACES.

NOTES:
1. SEE SECTION c403.10.1.1 FOR ADDITIONAL REQUIREMENTS.
2. SEE SECTION C403.10.2 FOR DETAILS.
3. SEE IMC SECTION 603.12 FOR ADDITIONAL REQUIREMENTS FOR CONDENSATION CONTROL AT DUCTWORK.
4. DUCT OR PLENUM IS SEPERATED FROM BUILDING ENVELOPE ASSEMBLY WITH THE MINIMUM INSULATION VALUE.

## MINIMUM NOMINAL FULL-LOAD EFFICIENCY (%) (WASHINGTON)

| MOTOR | | NEMA DESIGN A, NEMA DESIGN B, AND IEC DESIGN N MOTORS (EXCLUDING FIRE PUMP) | | | | | | | | NEMA DESIGN C AND IEC DESIGN H MOTORS AT 60HZ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 POLE | | 4 POLE | | 6 POLE | | 8 POLE | | 4 POLE | | 6 POLE | | 8 POLE | |
| HP | KW | ENCLOSED | OPEN | ENCLOSED | OPEN | ENCLOSED | OPEN | ENCLOSED | OPEN | ENCLOSED | OPEN | ENCLOSED | OPEN | ENCLOSED | OPEN |
| 1 | 0.75 | 77 | 77 | 85.5 | 85.5 | 82.5 | 82.5 | 75.5 | 75.5 | 85.5 | 85.5 | 82.5 | 82.5 | 75.5 | 75.5 |
| 1.5 | 1.1 | 84 | 84 | 86.5 | 86.5 | 87.5 | 86.5 | 78.5 | 77.5 | 86.5 | 86.5 | 87.5 | 86.5 | 78.5 | 77.5 |
| 2 | 1.5 | 85.5 | 85.5 | 86.5 | 86.5 | 88.5 | 87.5 | 84 | 86.5 | 86.5 | 86.5 | 88.5 | 87.5 | 84 | 86.5 |
| 3 | 2.2 | 86.5 | 85.5 | 89.5 | 89.5 | 89.5 | 88.5 | 85.5 | 87.5 | 89.5 | 89.5 | 89.5 | 88.5 | 85.5 | 87.5 |
| 5 | 3.7 | 88.5 | 86.5 | 89.5 | 89.5 | 89.5 | 89.5 | 86.5 | 88.5 | 89.5 | 89.5 | 89.5 | 89.5 | 86.5 | 88.5 |
| 7.5 | 5.5 | 89.5 | 88.5 | 91.7 | 91 | 91 | 90.2 | 86.5 | 89.5 | 91.7 | 91 | 91 | 90.2 | 86.5 | 89.5 |
| 10 | 7.5 | 90.2 | 89.5 | 91.7 | 91.7 | 91 | 91.7 | 89.5 | 90.2 | 91.7 | 91.7 | 91 | 91.7 | 89.5 | 90.2 |
| 15 | 11 | 91 | 90.2 | 92.4 | 93 | 91.7 | 91.7 | 89.5 | 90.2 | 92.4 | 93 | 91.7 | 91.7 | 89.5 | 90.2 |
| 20 | 15 | 91 | 91 | 93 | 93 | 91.7 | 92.4 | 90.2 | 91 | 93 | 93 | 91.7 | 92.4 | 90.2 | 91 |
| 25 | 18.5 | 91.7 | 91.7 | 93.6 | 93.6 | 93 | 93 | 90.2 | 91 | 93.6 | 93.6 | 93 | 93 | 90.2 | 91 |
| 30 | 22 | 91.7 | 91.7 | 93.6 | 94.1 | 93 | 93.6 | 91.7 | 91.7 | 93.6 | 94.1 | 93 | 93.6 | 91.7 | 91.7 |
| 40 | 30 | 92.4 | 92.4 | 94.1 | 94.1 | 94.1 | 94.1 | 91.7 | 91.7 | 94.1 | 94.1 | 94.1 | 94.1 | 91.7 | 91.7 |
| 50 | 37 | 93 | 93 | 94.5 | 94.5 | 94.1 | 94.1 | 92.4 | 92.4 | 94.5 | 94.5 | 94.1 | 94.1 | 92.4 | 92.4 |
| 60 | 45 | 93.6 | 93.6 | 95 | 95 | 94.5 | 94.5 | 92.4 | 93 | 95 | 95 | 94.5 | 94.5 | 92.4 | 93 |
| 75 | 55 | 93.6 | 93.6 | 95.4 | 95 | 94.5 | 94.5 | 93.6 | 94.1 | 95.4 | 95 | 94.5 | 94.5 | 93.6 | 94.1 |
| 100 | 75 | 94.1 | 93.6 | 95.4 | 95.4 | 95 | 95 | 93.6 | 94.1 | 95.4 | 95.4 | 95 | 95 | 93.6 | 94.1 |
| 125 | 90 | 95 | 94.1 | 95.4 | 95.4 | 95 | 95 | 94.1 | 94.1 | 95.4 | 95.4 | 95 | 95 | 94.1 | 94.1 |
| 150 | 110 | 95 | 94.1 | 95.8 | 95.8 | 95.8 | 95.4 | 94.1 | 94.1 | 95.8 | 95.8 | 95.8 | 95.4 | 94.1 | 94.1 |
| 200 | 150 | 95.4 | 95 | 96.2 | 95.8 | 95.8 | 95.4 | 94.5 | 94.1 | 96.2 | 95.8 | 95.8 | 95.4 | 94.5 | 94.1 |
| 250 | 186 | 95.8 | 95 | 96.2 | 95.8 | 95.8 | 95.8 | 95 | 95 | | | | | | |
| 300 | 224 | 95.8 | 95.4 | 96.2 | 95.8 | 95.8 | 95.8 | | | | | | | | |
| 350 | 261 | 95.8 | 95.4 | 96.2 | 95.8 | 95.8 | 95.8 | | | | | | | | |
| 400 | 298 | 95.8 | 95.8 | 96.2 | 95.8 | | | | | | | | | | |
| 450 | 336 | 95.8 | 96.2 | 96.2 | 96.2 | | | | | | | | | | |
| 500 | 373 | 95.8 | 96.2 | 96.2 | 96.2 | | | | | | | | | | |

GENERAL NOTES:
A. NOMINAL EFFICIENCIES SHALL BE ESTABLISHED IN ACCORDANCE WITH DOE 10 CFR 431.
B. FOR PURPOSES OF DETERMINING THE REQUIRED MINIMUM NOMINAL FULL-LOAD EFFICIENCY OF AN ELECTRIC MOTOR THAT HAS A HORSEPOWER OR KILOWATT RATING BETWEEN TWO HORSEPOWER OR TWO KILOWATT RATINGS LISTED IN THIS TABLE, EACH SUCH MOTOR SHALL BE DEEMED TO HAVE A LISTED HORSEPOWER OR KILOWATT RATING, DETERMINED AS FOLLOWS:
1. A HORSEPOWER AT OR ABOVE THE MIDPOINT BETWEEN THE TWO CONSECUTIVE HORSEPOWERS SHALL BE ROUNDED UP TO THE HIGHER OF THE TWO HORSEPOWERS.
2. A HORSEPOWER BELOW THE MIDPOINT BETWEEN THE TWO CONSECUTIVE HORSEPOWERS SHALL BE ROUNDED DOWN TO THE LOWER OF THE TWO HORSEPOWERS.
3. A KILOWATT RATING SHALL BE DIRECTLY CONVERTED FROM KILOWATTS TO HORSEPOWER USING THE FORMULA 1 KW = (1/0.746) HORSEPOWER. THE CONVERSION SHOULD BE CALCULATED TO THREE SIGNIFICANT DECIMAL PLACES, AND THE RESULTING HORSEPOWER SHALL BE ROUNDED IN ACCORDANCE WITH 1 OR 2, WHICHEVER APPLIES.

## ISOLATION SCHEDULE

| EQUIPMENT | BASE | ISOLATOR | MIN STATIC DEFLECTION | BASIS OF DESIGN ISOLATOR |
|---|---|---|---|---|
| AHU-1 | NONE | STEEL/NEOPRENE SPRING | 1" | MASON SLF/KINETICS FDS |
| AHU-3 | NONE | STEEL/NEOPRENE SPRING | 1" | MASON SLF/KINETICS FDS |
| AHU-4 | NONE | STEEL/NEOPRENE SPRING | 1" | MASON SLF/KINETICS FDS |
| EF-1 | NONE | SEISMIC SPRING | 2" | MASON SLR/KINETICS FHS |
| EF-2 | NONE | SEISMIC SPRING | 2" | MASON SLR/KINETICS FHS |
| EF-3 | NONE | SEISMIC SPRING | 2" | MASON SLR/KINETICS FHS |
| EF-4 | NONE | SEISMIC SPRING | 2" | MASON SLR/KINETICS FHS |
| FCU | NONE | NEOPRENE BUSHING | -- | MASON HG |
| CH-1 | NONE | RESTRAINED SPRING | 1" | MASON SLR/KINETICS KCI |
| HWP-1 | CONCRETE INERTIA BASE | STEEL/NEOPRENE SPRING | 1" | MASON SLF/KINETICS FDS |
| HWP-2 | CONCRETE INERTIA BASE | STEEL/NEOPRENE SPRING | 1" | MASON SLF/KINETICS FDS |
| CHWP-1 | CONCRETE INERTIA BASE | STEEL/NEOPRENE SPRING | 1" | MASON SLF/KINETICS FDS |
| CHWP-2 | CONCRETE INERTIA BASE | STEEL/NEOPRENE SPRING | 1" | MASON SLF/KINETICS FDS |
| HRP-1 | CONCRETE INERTIA BASE | STEEL/NEOPRENE SPRING | 2" | MASON SLF/KINETICS FDS |
| HRP-2 | CONCRETE INERTIA BASE | STEEL/NEOPRENE SPRING | 2" | MASON SLF/KINETICS FDS |
| ACCU | NONE | NEOPRENE MOUNT | 0.25" | MASON ND/KINETICS RD |
| B-B01 | NONE | NEOPRENE MOUNT | 0.25" | MASON ND/KINETICS RD |
| B-B02 | NONE | NEOPRENE MOUNT | 0.25" | MASON ND/KINETICS RD |

## MINIMUM AVERAGE FULL-LOAD EFFICIENCY SMALL MOTORS (%) (WASHINGTON)

| MOTOR HP | OPEN MOTORS | | | | | |
|---|---|---|---|---|---|---|
| | POLYPHASE | | | CAPACITOR & INDUCTION | | |
| NUMBER OF POLES | 2 | 4 | 6 | 2 | 4 | 6 |
| SYNCHRONOUS SPEED (RPM) | 3,600 | 1,800 | 1,200 | 3,600 | 1,800 | 1,200 |
| 0.25 | 65.6 | 69.5 | 67.5 | 66.6 | 68.5 | 62.2 |
| 0.33 | 69.5 | 73.4 | 71.4 | 70.5 | 72.4 | 66.6 |
| 0.5 | 73.4 | 78.2 | 75.3 | 72.4 | 76.2 | 76.2 |
| 0.75 | 76.8 | 81.1 | 81.7 | 76.2 | 81.8 | 80.2 |
| 1 | 77 | 83.5 | 82.5 | 80.4 | 82.6 | 81.1 |
| 1.5 | 84 | 86.5 | 83.8 | 81.5 | 83.8 | |
| 2 | 85.5 | 86.5 | | 82.9 | 84.5 | |
| 3 | 85.5 | 86.9 | | 84.1 | | |

GENERAL NOTES:
A. AVERAGE FULL LOAD EFFICIENCIES SHALL BE ESTABLISHED IN ACCORDANCE WITH 10 CFR 431

## MINIMUM PIPE INSULATION (WASHINGTON)

| FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F) | INSULATION CONDUCTIVITY | | NOMINAL PIPE OR TUBE DIAMETER (IN) | | | | |
|---|---|---|---|---|---|---|---|
| | CONDUCTIVITY (BTU-IN/(HR-SF-°F)) | MEAN RATING TEMPERATURE (°F) | < 1 | 1 TO < 1-1/2 | 1-1/2 TO < 4 | 4 TO < 8 | > 8 |
| | NOMINAL INSULATION THICKNESS (IN) | | | | | | |
| > 350 | 0.32 - 0.34 | 250 | 4.5 | 5.0 | 5.0 | 5.0 | 5.0 |
| 251 - 350 | 0.29 - 0.32 | 200 | 3.0 | 4.0 | 4.5 | 4.5 | 4.5 |
| 201 - 250 | 0.27 - 0.30 | 150 | 2.5 | 2.5 | 2.5 | 3.0 | 3.0 |
| 141 - 200 | 0.25 - 0.29 | 125 | 1.5 | 1.5 | 2.0 | 2.0 | 2.0 |
| 105 - 140 | 0.21 - 0.28 | 100 | 1.0 | 1.0 | 1.5 | 1.5 | 1.5 |
| 40 - 60 | 0.21 - 0.27 | 75 | 0.5 | 0.5 | 1.0 | 1.0 | 1.0 |
| < 40 | 0.20 - 0.26 | 75 | 0.5 | 1.0 | 1.0 | 1.0 | 1.5 |

GENERAL NOTES:
A. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
B. FOR PIPING SMALLER THAN 1-1/2 INCH AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION FOR THESE THICKNESSES BY 1 INCH (25 MM) IS PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN GENERAL NOTE D) BUT NOT TO A THICKNESS LESS THAN 1 INCH.
C. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1-1/2 INCHES IS PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN NOTE D) BUT NOT TO THICKNESSES LESS THAN 1 INCH.
D. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, DETERMINE THE MINIMUM THICKNESS (T) AS FOLLOWS:
T = r{(1 + t/r)^(K/k) - 1}
WHERE:
T = MINIMUM INSULATION THICKNESS
r = ACTUAL OUTSIDE RADIUS OF THE PIPE
t = INSULATION THICKNESS LISTED IN THE TABLE FOR APPLICABLE FLUID TEMPERATURE AND PIPE SIZE
K = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID TEMPERATURE (BTU-IN/(HR-SF-°F))
k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED INTHE TABLE FOR THE APPLICABLE FLUID TEMPERATURE
E. DIRECT BURIED CHILLED WATER PIPING (FLUID TEMPERATURE IS AT OR BELOW 60°F) DOES NOT NEED TO BE INSULATED PER WSEC C403.10.3 EXCEPTION 6.

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10/6/2022

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STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: Author
Checked By: Checker

Revisions

| # | Date | Description |
|---|---|---|

EQUIPMENT SCHEDULES - MECHANICAL

M006

IFC SET

PRCNC20221036

VENTILATION SCHEDULE - MULTIPLE SPACES - WASHINGTON

## AHU-1

| LOCATION | FLOOR AREA (SF) | PRIMARY AIRFLOW RATE (CFM) | OCCUPANCY CLASSIFICATION | PEOPLE OUTDOOR AIRFLOW RATE Rp (CFM/PERSON) | AREA OUTDOOR AIRFLOW RATE Ra (CFM/SF) | DEFAULT OCCUPANT DENSITY (PEOPLE/1000SF) | CODE POPULATION | DESIGN POPULATION | OUTDOOR AIRFLOW RATE Vbz (CFM) | ZONE AIR DISTRIBUTION EFFECTIVENESS Ez | OUTDOOR AIR INTAKE Voz (CFM) | PRIMARY OUTDOOR AIR FRACTION Zp | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 231 BIOLOGY AP LAB | 1283 | 1350 | Science Laboratories | 10 | 0.18 | 25 | 32.1 | 32.1 | 551.7 | 0.8 | 690 | 0.51 | |
| 232 MICROBIOLOGY LAB | 1204 | 1595 | Science Laboratories | 10 | 0.18 | 25 | 30.1 | 30.1 | 517.7 | 0.8 | 648 | 0.41 | |
| 232A BULK STORAGE | 152 | 220 | Storage rooms, chemical | -- | -- | -- | 0.0 | - | 0.0 | 0.8 | 0 | 0.00 | |
| 233 BIOLOGY PREP | 1253 | 1540 | Science Laboratories | 10 | 0.18 | 25 | 31.3 | 31.3 | 538.8 | 0.8 | 674 | 0.44 | |
| 233A SPECIMEN STORAGE | 152 | 220 | Storage rooms, chemical | -- | -- | -- | 0.0 | - | 0.0 | 0.8 | 0 | 0.00 | |
| 234 GENERAL BIOLOGY LAB | 1166 | 1265 | Science Laboratories | 10 | 0.18 | 25 | 29.2 | 29.2 | 501.4 | 0.8 | 627 | 0.50 | |
| 235 GENERAL BIOLOGY LAB | 1256 | 1725 | Science Laboratories | 10 | 0.18 | 25 | 31.4 | 31.4 | 540.1 | 0.8 | 676 | 0.39 | |
| 312 GENERAL CHEMISTRY | 1453 | 1125 | Science Laboratories | 10 | 0.18 | 25 | 36.3 | 36.3 | 624.8 | 0.8 | 781 | 0.69 | |
| 314 CHEMISTRY PREP/STOCKROOM | 611 | 970 | Science Laboratories | 10 | 0.18 | 25 | 15.3 | 15.3 | 262.7 | 0.8 | 329 | 0.34 | |
| 314A BULK | 173 | 150 | Storage rooms, chemical | -- | -- | -- | 0.0 | - | 0.0 | 0.8 | 0 | 0.00 | |
| 314B ORGANIC STORAGE | 120 | 285 | Storage rooms, chemical | -- | -- | -- | 0.0 | - | 0.0 | 0.8 | 0 | 0.00 | |
| 314C INORGANIC STORAGE | 120 | 285 | Storage rooms, chemical | -- | -- | -- | 0.0 | - | 0.0 | 0.8 | 0 | 0.00 | |
| 316 ORGANIC CHEMISTRY LAB | 1454 | 1720 | Science Laboratories | 10 | 0.18 | 25 | 36.4 | 36.4 | 625.2 | 0.8 | 782 | 0.45 | |
| 318 CHEMISTRY INSTRUMENT ROOM | 902 | 1170 | Science Laboratories | 10 | 0.18 | 25 | 22.6 | 22.6 | 387.9 | 0.8 | 485 | 0.41 | |
| TOTALS: | 11299 | 13620 | | | | | 265 | 265 | 4550 | | 5692 | Zp max = 0.69 | |

TOTAL AIRFLOW: 5,000
SYSTEM POPULATION: 50

SYSTEM VENTILATION EFFICIENCY - Ev:0.79
OCCUPANT DIVERSITY - D:0.19
UNCORRECTED OUTDOOR AIR INTAKE - Vou:2,405
**CODE REQUIRED OUTDOOR AIR INTAKE FLOWRATE - Vot:**057

GENERAL NOTES:
A. SYSTEM OUTDOOR AIR CALCULATION IS BASED ON THE SECTION 403 OF THE 2018 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON AMMENDMENTS.
B. REFER TO AIR HANDLING UNIT SCHEDULE FOR ACTUAL OUTDOOR AIR FLOW RATE.
NOTES:
1. DESIGN OCCUPANCY REPRESENTS THE ACTUAL OCCUPANCY DOCUMENTED ON THE PLANS, WHICH IS NOT LESS THAN 1/2 THE CODE OCCUPANCY.

VENTILATION SCHEDULE - MULTIPLE SPACES - WASHINGTON

## AHU-3

| LOCATION | FLOOR AREA (SF) | PRIMARY AIRFLOW RATE (CFM) | OCCUPANCY CLASSIFICATION | PEOPLE OUTDOOR AIRFLOW RATE Rp (CFM/PERSON) | AREA OUTDOOR AIRFLOW RATE Ra (CFM/SF) | DEFAULT OCCUPANT DENSITY (PEOPLE/1000SF) | CODE POPULATION | DESIGN POPULATION | OUTDOOR AIRFLOW RATE Vbz (CFM) | ZONE AIR DISTRIBUTION EFFECTIVENESS Ez | OUTDOOR AIR INTAKE Voz (CFM) | PRIMARY OUTDOOR AIR FRACTION Zp | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 LOBBY | 1903 | 550 | Main entry lobbies | 5 | 0.06 | 10 | 19.0 | 22.0 | 224.2 | 0.8 | 281 | 0.51 | |
| 100 LOBBY DOUBLE HEIGHT | 747 | 670 | Main entry lobbies | 5 | 0.06 | 10 | 7.5 | 12.0 | 104.8 | 0.8 | 132 | 0.20 | |
| 101 CLASSROOM | 831 | 1030 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 29.1 | 32.0 | 419.7 | 0.8 | 525 | 0.51 | |
| 102 CLASSROOM | 827 | 975 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 28.9 | 30.0 | 399.2 | 0.8 | 500 | 0.51 | |
| 103 WORKSTATIONS | 455 | 130 | Office spaces | 5 | 0.06 | 5 | 2.3 | 5.0 | 52.3 | 0.8 | 66 | 0.51 | |
| 103A STUDY ROOM, 103F WORKROOM | 245 | 115 | Conference rooms | 5 | 0.06 | 50 | 12.3 | 7.0 | 49.7 | 0.8 | 63 | 0.55 | |
| 103B, 103C, 103D OFFICE, 103E DOUBLE OFFICE | 441 | 310 | Office spaces | 5 | 0.06 | 5 | 2.2 | 8.0 | 66.5 | 0.8 | 84 | 0.27 | |
| 104 DOUBLE CLASSROOM | 1462 | 1095 | Lecture classroom | 7.5 | 0.06 | 65 | 95.0 | 48.0 | 447.7 | 0.8 | 560 | 0.51 | |
| 124 GRAVITY LAB (1/2) | 652 | 585 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 22.8 | 16.0 | 238.2 | 0.8 | 298 | 0.51 | |
| 124 GRAVITY LAB (1/2) | 652 | 585 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 22.8 | 16.0 | 238.2 | 0.8 | 298 | 0.51 | |
| 200, 210 HALL | 1942 | 315 | Corridors serving other than Group R occupancies | -- | 0.06 | -- | 0.0 | - | 116.5 | 0.8 | 146 | 0.46 | |
| 201 CLASSROOM | 808 | 1170 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 28.3 | 38.0 | 477.0 | 0.8 | 597 | 0.51 | |
| 202 CLASSROOM | 805 | 925 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 28.2 | 28.2 | 378.4 | 0.8 | 473 | 0.51 | |
| 203, 204, 205 OFFICE | 377 | 230 | Office spaces | 5 | 0.06 | 5 | 1.9 | 8.0 | 62.6 | 0.8 | 79 | 0.34 | |
| 206 CONFERENCE ROOM | 323 | 175 | Conference rooms | 5 | 0.06 | 50 | 16.2 | 10.0 | 69.4 | 0.8 | 87 | 0.50 | |
| 207 CLASSROOM | 793 | 1110 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 27.8 | 36.0 | 455.2 | 0.8 | 569 | 0.51 | |
| 208 CLASSROOM | 844 | 1125 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 29.5 | 36.0 | 461.3 | 0.8 | 577 | 0.51 | |
| 243 SHARED LEARNING | 688 | 810 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 24.1 | 25.0 | 332.6 | 0.8 | 416 | 0.51 | |
| 300 SHARED LEARNING | 492 | 700 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 17.2 | 21.0 | 269.0 | 0.8 | 337 | 0.48 | |
| 308 EARTH SCIENCE B LAB (1/2) | 708 | 650 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 24.8 | 18.0 | 265.0 | 0.8 | 332 | 0.51 | |
| 308 EARTH SCIENCE B LAB (1/2) | 708 | 650 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 24.8 | 18.0 | 265.0 | 0.8 | 332 | 0.51 | |
| 309 EARTH SCIENCE PREP | 540 | 305 | Office spaces | 5 | 0.06 | 5 | 2.7 | 2.7 | 45.9 | 0.8 | 58 | 0.19 | |
| 309A LAB TECH OFFICE | 102 | 175 | Office spaces | 5 | 0.06 | 5 | 0.5 | 1.0 | 11.1 | 0.8 | 14 | 0.08 | |
| 309B ROCK PREP | 167 | 70 | Office spaces | 5 | 0.06 | 5 | 0.8 | 1.0 | 15.0 | 0.8 | 19 | 0.27 | |
| 310 EARTH SCIENCE A LAB (1/2) | 919 | 710 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 32.2 | 18.0 | 290.3 | 0.8 | 363 | 0.51 | |
| 310 EARTH SCIENCE A LAB (1/2) | 919 | 710 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 32.2 | 18.0 | 290.3 | 0.8 | 363 | 0.51 | |
| TOTALS: | 19350 | 15875 | | | | | 533 | 475 | 6045 | | 7569 | Zp max = 0.55 | |

TOTAL AIRFLOW: 15,875
SYSTEM POPULATION: 475

SYSTEM VENTILATION EFFICIENCY - Ev:0.83
OCCUPANT DIVERSITY - D:1.00
UNCORRECTED OUTDOOR AIR INTAKE - Vou:6,046
**CODE REQUIRED OUTDOOR AIR INTAKE FLOWRATE - Vot:**258

GENERAL NOTES:
A. SYSTEM OUTDOOR AIR CALCULATION IS BASED ON THE SECTION 403 OF THE 2018 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON AMMENDMENTS.
B. REFER TO AIR HANDLING UNIT SCHEDULE FOR ACTUAL OUTDOOR AIR FLOW RATE.
NOTES:
1. DESIGN OCCUPANCY REPRESENTS THE ACTUAL OCCUPANCY DOCUMENTED ON THE PLANS, WHICH IS NOT LESS THAN 1/2 THE CODE OCCUPANCY.

VENTILATION SCHEDULE - MULTIPLE SPACES - WASHINGTON

## AHU-4

| LOCATION | FLOOR AREA (SF) | PRIMARY AIRFLOW RATE (CFM) | OCCUPANCY CLASSIFICATION | PEOPLE OUTDOOR AIRFLOW RATE Rp (CFM/PERSON) | AREA OUTDOOR AIRFLOW RATE Ra (CFM/SF) | DEFAULT OCCUPANT DENSITY (PEOPLE/1000SF) | CODE POPULATION | DESIGN POPULATION | OUTDOOR AIRFLOW RATE Vbz (CFM) | ZONE AIR DISTRIBUTION EFFECTIVENESS Ez | OUTDOOR AIR INTAKE Voz (CFM) | PRIMARY OUTDOOR AIR FRACTION Zp | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 122 MOTHER'S | 64 | 120 | Office spaces | 5 | 0.06 | 5 | 0.3 | 1.0 | 8.8 | 0.8 | 12 | 0.10 | |
| 123 STUDY ROOM | 106 | 195 | Office spaces | 5 | 0.06 | 5 | 0.5 | 1.0 | 11.4 | 0.8 | 15 | 0.08 | |
| 125 130, 142 HALL | 1547 | 250 | Corridors serving other than Group R occupancies | -- | 0.06 | -- | 0.0 | - | 92.8 | 0.8 | 117 | 0.47 | |
| 131 PHYSICS SUPPORT | 495 | 140 | Office spaces | 5 | 0.06 | 5 | 2.5 | 2.5 | 42.1 | 0.8 | 53 | 0.38 | |
| 132 PHYSICS | 1469 | 1045 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 51.4 | 25.0 | 426.3 | 0.8 | 533 | 0.51 | |
| 133 CLASSROOM | 908 | 1150 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 31.8 | 36.0 | 469.0 | 0.8 | 587 | 0.51 | |
| 134 IDEATION STUDIO | 826 | 705 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 28.9 | 19.0 | 289.1 | 0.8 | 362 | 0.51 | |
| 135 FAB LAB (1/2) | 782 | 675 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 27.4 | 18.0 | 273.8 | 0.8 | 343 | 0.51 | |
| 135 FAB LAB (1/2) | 782 | 675 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 27.4 | 18.0 | 273.8 | 0.8 | 343 | 0.51 | |
| 135A CHECK-IN/WORKROOM | 138 | 70 | Office spaces | 5 | 0.06 | 5 | 0.7 | 1.0 | 13.3 | 0.8 | 17 | 0.24 | |
| 136 WORKSTATIONS | 283 | 140 | Office spaces | 5 | 0.06 | 5 | 1.4 | 5.0 | 42.0 | 0.8 | 53 | 0.38 | |
| 140 COLLABORATION LOUNGE | 998 | 460 | Conference rooms | 5 | 0.06 | 50 | 49.9 | 25.0 | 184.9 | 0.8 | 232 | 0.50 | |
| 222 WORKROOM | 201 | 35 | Office spaces | 5 | 0.06 | 5 | 1.0 | 1.0 | 17.1 | 0.8 | 22 | 0.63 | |
| 230, 242 HALL | 1474 | 230 | Corridors serving other than Group R occupancies | -- | 0.06 | -- | 0.0 | - | 88.4 | 0.8 | 111 | 0.48 | |
| 233B LAB TECH OFFICE | 137 | 90 | Office spaces | 5 | 0.06 | 5 | 0.7 | 2.0 | 18.2 | 0.8 | 23 | 0.26 | |
| 236 WORKSTATIONS | 372 | 145 | Office spaces | 5 | 0.06 | 5 | 1.9 | 7.0 | 57.3 | 0.8 | 72 | 0.50 | |
| 240 SHARED LEARNING | 801 | 630 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 28.0 | 16.0 | 256.1 | 0.8 | 321 | 0.51 | |
| 300 HALL | 903 | 860 | Corridors serving other than Group R occupancies | -- | 0.06 | -- | 0.0 | - | 54.2 | 0.8 | 68 | 0.08 | |
| 302, 303, 304 OFFICE | 385 | 155 | Office spaces | 5 | 0.06 | 5 | 1.9 | 6.0 | 53.1 | 0.8 | 67 | 0.43 | |
| 305, 306, 307 OFFICE | 264 | 160 | Office spaces | 5 | 0.06 | 5 | 1.3 | 9.0 | 60.8 | 0.8 | 77 | 0.48 | |
| 312A LAB TECH OFFICE | 104 | 120 | Office spaces | 5 | 0.06 | 5 | 0.5 | 1.0 | 11.2 | 0.8 | 15 | 0.13 | |
| 315 FIELD EQUIPMENT | 150 | 40 | Storage rooms, chemical | -- | -- | -- | 0.0 | - | 0.0 | 0.8 | 0 | 0.00 | |
| 319 DOUBLE OFFICE | 231 | 315 | Office spaces | 5 | 0.06 | 5 | 1.2 | 1.2 | 19.6 | 0.8 | 25 | 0.08 | |
| 320 WORKSTATIONS | 356 | 230 | Office spaces | 5 | 0.06 | 5 | 1.8 | 1.8 | 30.3 | 0.8 | 38 | 0.17 | |
| 330, 342 HALL | 1418 | 210 | Corridors serving other than Group R occupancies | -- | 0.06 | -- | 0.0 | - | 85.1 | 0.8 | 107 | 0.51 | |
| 340 SHARED LEARNING | 497 | 685 | Classrooms (age 9 plus) | 10 | 0.12 | 35 | 17.4 | 22.0 | 279.6 | 0.8 | 350 | 0.51 | |
| 343 HALL, 311 STUDY ROOM | 495 | 130 | Office spaces | 5 | 0.06 | 5 | 2.5 | 4.0 | 49.7 | 0.8 | 63 | 0.48 | |
| TOTALS: | 16186 | 9660 | | | | | 280 | 222 | 3208 | | 4026 | Zp max = 0.63 | |

TOTAL AIRFLOW: 9,660
SYSTEM POPULATION: 223

SYSTEM VENTILATION EFFICIENCY - Ev:0.70
OCCUPANT DIVERSITY - D:1.00
UNCORRECTED OUTDOOR AIR INTAKE - Vou:3,213
**CODE REQUIRED OUTDOOR AIR INTAKE FLOWRATE - Vot:**564

GENERAL NOTES:
A. SYSTEM OUTDOOR AIR CALCULATION IS BASED ON THE SECTION 403 OF THE 2018 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON AMMENDMENTS.
B. REFER TO AIR HANDLING UNIT SCHEDULE FOR ACTUAL OUTDOOR AIR FLOW RATE.
NOTES:
1. DESIGN OCCUPANCY REPRESENTS THE ACTUAL OCCUPANCY DOCUMENTED ON THE PLANS, WHICH IS NOT LESS THAN 1/2 THE CODE OCCUPANCY.

integrus ARCHITECTURE
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KEVIN STEELE — STATE OF WASHINGTON — 21388 — REGISTERED ARCHITECT — PROFESSIONAL ENGINEER — 10/6/2022

PAE
pae-engineers.com
LUMA Lumald.com

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

EQUIPMENT SCHEDULES - MECHANICAL

**M007**

IFC SET

PRCNC20221036

BUILDING ENERGY TOTAL SYSTEM PERFORMANCE RATIO — U.S. DEPARTMENT OF ENERGY

# Washington State TSPR Analysis

1

Total System Performance Ratio for HVAC

## BUILDING INFORMATION

**Pierce College New STEM Building**
1601 39th Ave SE
Puyallup, WA 98374

| | | | |
|---|---|---|---|
| Building Type: | **Education** | Analysis Date: | **06/24/2022** |
| Gross Floor Area: | **53,997 ft²** | Building ID #: | **25331** |
| Year of Construction: | **2022** | Software Release: | 2021.2.0.253 |

## Whole Building Total System Performance Ratio

| | |
|---|---|
| Proposed Building TSPR: | 15 |
| Baseline Building TSPR: | 14 |

The Total System Performance Ratio complies with the 2018 Washington State Energy Code.

Total System Performance Ratio (TSPR) is the ratio of the sum of a building's annual heating and cooling load in thousands of BTUs to the sum of the annual carbon emissions in pounds from energy consumption of the building HVAC systems.

## SUBMITTED BY

| | |
|---|---|
| Name | Josiah Sawyer |
| Organization | PAE Consulting Engineers.com |
| Email | josiah.sawyer@pae-engineers.com |
| Phone Number | (971) 245-8260 |

## ANALYSIS PARAMETERS

| | |
|---|---|
| Energy Code | 2018 Washington State Energy Code |
| ASHRAE Climate Zone | 4C, Mixed - Marine |
| Weather Station | Tacoma Mcchord Afb WA USA TMY3 WMO#=742060 |

The Total System Performance Ratio Analysis has been performed in accordance with the 2018 Washington State Energy Code.

# System Checksums

By PAE Consulting Engineers, Inc.

LOADS LAST UPDATED 06/24/2022

**Classroom/Office** — **Fan Coil**

### COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 86 / 65 / 61

| | Space Sens. + Lat. Btu/h | Plenum Sens. + Lat Btu/h | Net Total Btu/h | Percent Of Total (%) |
|---|---|---|---|---|
| **Envelope Loads** | | | | |
| Skylite Solar | 18,155 | 0 | 18,155 | 2 |
| Skylite Cond | 547 | 0 | 547 | 0 |
| Roof Cond | 20,814 | 0 | 20,814 | 3 |
| Glass Solar | 91,094 | 0 | 91,094 | 12 |
| Glass/Door Cond | 9,428 | 0 | 9,428 | 1 |
| Wall Cond | 14,420 | 0 | 14,420 | 2 |
| Partition/Door | 0 | | 0 | 0 |
| Floor | -11 | | -11 | 0 |
| Adjacent Floor | 0.00 | 0.00 | 0.00 | 0.00 |
| Infiltration | 5,845 | | 5,845 | 1 |
| *Sub Total ==>* | 160,294 | 0 | 160,294 | 21 |
| **Internal Loads** | | | | |
| Lights | 42,827 | 10,642 | 53,468 | 7 |
| People | 328,609 | 0 | 328,609 | 42 |
| Misc | 115,683 | 0 | 115,683 | 15 |
| *Sub Total ==>* | 487,119 | 10,642 | 497,760 | 64 |
| **Ceiling Load** | 0 | 0 | 0 | 0 |
| **Ventilation Load** | 0 | 0 | 108,017 | 14 |
| **Adj Air Trans Heat** | 0 | | 0 | 0 |
| **Dehumid. Ov Sizing** | | | 0 | 0 |
| **Ov/Undr Sizing** | 14,902 | | 14,902 | 2 |
| **Exhaust Heat** | | -3,680 | -3,680 | 0 |
| **Sup. Fan Heat** | | | 0 | 0 |
| **Ret. Fan Heat** | | 0 | 0 | 0 |
| **Duct Heat Pkup** | | 0 | 0 | 0 |
| **Underflr Sup Ht Pkup** | | | 0 | 0 |
| **Supply Air Leakage** | | 0 | 0 | 0 |
| ***Grand Total ==>*** | 662,315 | 6,962 | 777,294 | 100.00 |

### CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

| | Space Sensible Btu/h | Percent Of Total (%) |
|---|---|---|
| **Envelope Loads** | | |
| Skylite Solar | 20,342 | 3 |
| Skylite Cond | 235 | 0 |
| Roof Cond | 16,711 | 3 |
| Glass Solar | 211,811 | 35 |
| Glass/Door Cond | -7,886 | -1 |
| Wall Cond | 15,195 | 3 |
| Partition/Door | 0 | 0 |
| Floor | -19.99 | 0 |
| Adjacent Floor | 0.00 | 0.00 |
| Infiltration | -1,656 | 0 |
| *Sub Total ==>* | 254,734 | 42 |
| **Internal Loads** | | |
| Lights | 44,030 | 7 |
| People | 172,181 | 29 |
| Misc | 114,941 | 19 |
| *Sub Total ==>* | 331,152 | 55 |
| **Ceiling Load** | 0 | 0 |
| **Ventilation Load** | 0 | 0 |
| **Adj Air Trans Heat** | 0 | 0 |
| **Ov/Undr Sizing** | 14,902 | 2 |
| **Exhaust Heat** | | |
| **Sup. Fan Heat** | | |
| **Ret. Fan Heat** | | |
| **Duct Heat Pkup** | | |
| **Underflr Sup Ht Pkup** | | |
| **Supply Air Leakage** | | |
| ***Grand Total ==>*** | 600,788 | 100.00 |

### HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 19

| | Space Peak Space Sens Btu/h | Coil Peak Tot Sens Btu/h | Percent Of Total (%) |
|---|---|---|---|
| **Envelope Loads** | | | |
| Skylite Solar | 0 | 0 | 0.00 |
| Skylite Cond | -5,100 | -5,100 | 0.66 |
| Roof Cond | -12,847 | -12,847 | 1.65 |
| Glass Solar | 0 | 0 | 0.00 |
| Glass/Door Cond | -52,019 | -52,019 | 6.69 |
| Wall Cond | -25,228 | -25,228 | 3.24 |
| Partition/Door | 0 | 0 | 0.00 |
| Floor | -65 | -65 | 0.01 |
| Adjacent Floor | 0.00 | 0.00 | 0.00 |
| Infiltration | -25,439 | -25,439 | 3.27 |
| *Sub Total ==>* | -120,698 | -120,698 | 15.51 |
| **Internal Loads** | | | |
| Lights | 0 | 0 | 0.00 |
| People | 0 | 0 | 0.00 |
| Misc | 0 | 0 | 0.00 |
| *Sub Total ==>* | 0 | 0 | 0.00 |
| **Ceiling Load** | 0 | 0 | 0.00 |
| **Ventilation Load** | 0 | -657,261 | 84.49 |
| **Adj Air Trans Heat** | 0 | 0 | 0 |
| **Ov/Undr Sizing** | 1 | 1 | 0.00 |
| **Exhaust Heat** | | 0 | 0.00 |
| **OA Preheat Diff.** | | 0 | 0.00 |
| **RA Preheat Diff.** | | 0 | 0.00 |
| **Additional Reheat** | | 0 | 0.00 |
| **Underflr Sup Ht Pkup** | | 0 | 0.00 |
| **Supply Air Leakage** | | 0 | 0.00 |
| ***Grand Total ==>*** | -120,698 | -777,959 | 100.00 |

### TEMPERATURES

| | Cooling | Heating |
|---|---|---|
| **SADB** | 55.0 | 74.0 |
| **Ra Plenum** | 75.0 | 70.0 |
| **Return** | 75.4 | 70.0 |
| **Ret/OA** | 80.0 | 48.1 |
| **Fn MtrTD** | 0.0 | 0.0 |
| **Fn BldTD** | 0.0 | 0.0 |
| **Fn Frict** | 0.0 | 0.0 |

### AIRFLOWS

| | Cooling | Heating |
|---|---|---|
| **Diffuser** | 27,239 | 27,239 |
| **Terminal** | 27,239 | 27,239 |
| **Main Fan** | 27,239 | 27,239 |
| **Sec Fan** | 0 | 0 |
| **Nom Vent** | 11,712 | 11,712 |
| **AHU Vent** | 11,712 | 11,712 |
| **Infil** | 453 | 453 |
| **MinStop/Rh** | 0 | 0 |
| **Return** | 23,734 | 23,734 |
| **Exhaust** | 8,207 | 8,207 |
| **Rm Exh** | 3,959 | 3,959 |
| **Auxiliary** | 0 | 0 |
| **Leakage Dwn** | 0 | 0 |
| **Leakage Ups** | 0 | 0 |

### ENGINEERING CKS

| | Cooling | Heating |
|---|---|---|
| **% OA** | 43.0 | 43.0 |
| **cfm/ft²** | 1.02 | 1.02 |
| **cfm/ton** | 420.53 | |
| **ft²/ton** | 410.52 | |
| **Btu/hr·ft²** | 29.23 | -29.26 |
| **No. People** | 699 | |

### COOLING COIL SELECTION

| | Total Capacity ton | Total Capacity MBh | Sens Cap. MBh | Coil Airflow cfm | Enter DB °F | Enter WB °F | Enter HR gr/lb | Leave DB °F | Leave WB °F | Leave HR gr/lb |
|---|---|---|---|---|---|---|---|---|---|---|
| **Main Clg** | 64.8 | 777.3 | 655.3 | 27,239 | 80.0 | 63.3 | 61.4 | 55.0 | 53.6 | 59.8 |
| **Aux Clg** | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Opt Vent** | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ***Total*** | 64.8 | 777.3 | | | | | | | | |

### AREAS

| | Gross Total ft² | Glass ft² | Glass (%) |
|---|---|---|---|
| **Floor** | 26,591 | | |
| **Part** | 0 | | |
| **Int Door** | 1 | | |
| **ExFlr** | 14 | | |
| **Roof** | 9,538 | 208 | 2 |
| **Wall** | 11,930 | 2,769 | 23 |
| **Ext Door** | 0 | 0 | 0 |

### HEATING COIL SELECTION

| | Capacity MBh | Coil Airflow cfm | Ent °F | Lvg °F |
|---|---|---|---|---|
| **Main Htg** | -778.0 | 27,239 | 48.1 | 74.0 |
| **Aux Htg** | 0.0 | 0 | 0.0 | 0.0 |
| **Preheat** | -207.7 | 27,239 | 48.1 | 55.0 |
| **Humidif** | 0.0 | 0 | 0.0 | 0.0 |
| **Opt Vent** | 0.0 | 0 | 0.0 | 0.0 |
| ***Total*** | -778.0 | | | |

Project Name: 21-1194
Dataset Name: PIERCE STEM.TRC

TRACE® 700 v6.3.5 calculated at 01:49 PM on 06/24/2022
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# System Checksums

By PAE Consulting Engineers, Inc.

**Lab** — **Fan Coil**

### COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 15
Outside Air: OADB/WB/HR: 86 / 65 / 61

| | Space Sens. + Lat. Btu/h | Plenum Sens. + Lat Btu/h | Net Total Btu/h | Percent Of Total (%) |
|---|---|---|---|---|
| **Envelope Loads** | | | | |
| Skylite Solar | 0 | 0 | 0 | 0 |
| Skylite Cond | 0 | 0 | 0 | 0 |
| Roof Cond | 19,577 | 0 | 19,577 | 2 |
| Glass Solar | 71,207 | 0 | 71,207 | 9 |
| Glass/Door Cond | 10,283 | 0 | 10,283 | 1 |
| Wall Cond | 14,977 | 0 | 14,977 | 2 |
| Partition/Door | 0 | | 0 | 0 |
| Floor | -857 | | -857 | 0 |
| Adjacent Floor | 0.00 | 0.00 | 0.00 | 0.00 |
| Infiltration | 8,160 | | 8,160 | 1 |
| *Sub Total ==>* | 123,348 | 0 | 123,348 | 15 |
| **Internal Loads** | | | | |
| Lights | 61,365 | 15,341 | 76,706 | 10 |
| People | 207,184 | 0 | 207,184 | 26 |
| Misc | 311,324 | 0 | 311,324 | 39 |
| *Sub Total ==>* | 579,872 | 15,341 | 595,213 | 74 |
| **Ceiling Load** | 0 | 0 | 0 | 0 |
| **Ventilation Load** | 0 | 0 | 85,555 | 11 |
| **Adj Air Trans Heat** | 0 | | 0 | 0 |
| **Dehumid. Ov Sizing** | | | 0 | 0 |
| **Ov/Undr Sizing** | 0 | | 0 | 0 |
| **Exhaust Heat** | | -2,160 | -2,160 | 0 |
| **Sup. Fan Heat** | | | 0 | 0 |
| **Ret. Fan Heat** | | 0 | 0 | 0 |
| **Duct Heat Pkup** | | 0 | 0 | 0 |
| **Underflr Sup Ht Pkup** | | | 0 | 0 |
| **Supply Air Leakage** | | 0 | 0 | 0 |
| ***Grand Total ==>*** | 703,221 | 13,181 | 801,958 | 100.00 |

### CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

| | Space Sensible Btu/h | Percent Of Total (%) |
|---|---|---|
| **Envelope Loads** | | |
| Skylite Solar | 0 | 0 |
| Skylite Cond | 0 | 0 |
| Roof Cond | 13,207 | 2 |
| Glass Solar | 154,030 | 23 |
| Glass/Door Cond | 189 | 0 |
| Wall Cond | 17,933 | 3 |
| Partition/Door | 0 | 0 |
| Floor | -603.41 | 0 |
| Adjacent Floor | 0.00 | 0.00 |
| Infiltration | 1,819 | 0 |
| *Sub Total ==>* | 186,575 | 28 |
| **Internal Loads** | | |
| Lights | 61,413 | 9 |
| People | 106,540 | 16 |
| Misc | 311,745 | 47 |
| *Sub Total ==>* | 479,697 | 72 |
| **Ceiling Load** | 0 | 0 |
| **Ventilation Load** | 0 | 0 |
| **Adj Air Trans Heat** | 0 | 0 |
| **Ov/Undr Sizing** | 0 | 0 |
| **Exhaust Heat** | | |
| **Sup. Fan Heat** | | |
| **Ret. Fan Heat** | | |
| **Duct Heat Pkup** | | |
| **Underflr Sup Ht Pkup** | | |
| **Supply Air Leakage** | | |
| ***Grand Total ==>*** | 666,273 | 100.00 |

### HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: 19

| | Space Peak Space Sens Btu/h | Coil Peak Tot Sens Btu/h | Percent Of Total (%) |
|---|---|---|---|
| **Envelope Loads** | | | |
| Skylite Solar | 0 | 0 | 0.00 |
| Skylite Cond | 0 | 0 | 0.00 |
| Roof Cond | -12,111 | -12,111 | 2.40 |
| Glass Solar | 0 | 0 | 0.00 |
| Glass/Door Cond | -56,737 | -56,737 | 11.25 |
| Wall Cond | -35,549 | -35,549 | 7.05 |
| Partition/Door | 0 | 0 | 0.00 |
| Floor | -5,106 | -5,106 | 1.01 |
| Adjacent Floor | 0.00 | 0.00 | 0.00 |
| Infiltration | -33,930 | -33,930 | 6.73 |
| *Sub Total ==>* | -143,432 | -143,432 | 28.43 |
| **Internal Loads** | | | |
| Lights | 0 | 0 | 0.00 |
| People | 0 | 0 | 0.00 |
| Misc | 0 | 0 | 0.00 |
| *Sub Total ==>* | 0 | 0 | 0.00 |
| **Ceiling Load** | 0 | 0 | 0.00 |
| **Ventilation Load** | 0 | -361,097 | 71.57 |
| **Adj Air Trans Heat** | 0 | 0 | 0 |
| **Ov/Undr Sizing** | 0 | 0 | 0.00 |
| **Exhaust Heat** | | 0 | 0.00 |
| **OA Preheat Diff.** | | 0 | 0.00 |
| **RA Preheat Diff.** | | 0 | 0.00 |
| **Additional Reheat** | | 0 | 0.00 |
| **Underflr Sup Ht Pkup** | | 0 | 0.00 |
| **Supply Air Leakage** | | 0 | 0.00 |
| ***Grand Total ==>*** | -143,432 | -504,529 | 100.00 |

### TEMPERATURES

| | Cooling | Heating |
|---|---|---|
| **SADB** | 55.0 | 74.3 |
| **Ra Plenum** | 75.0 | 70.0 |
| **Return** | 75.5 | 70.0 |
| **Ret/OA** | 77.7 | 59.2 |
| **Fn MtrTD** | 0.0 | 0.0 |
| **Fn BldTD** | 0.0 | 0.0 |
| **Fn Frict** | 0.0 | 0.0 |

### AIRFLOWS

| | Cooling | Heating |
|---|---|---|
| **Diffuser** | 30,276 | 30,276 |
| **Terminal** | 30,276 | 30,276 |
| **Main Fan** | 30,276 | 30,276 |
| **Sec Fan** | 0 | 0 |
| **Nom Vent** | 6,435 | 6,435 |
| **AHU Vent** | 6,435 | 6,435 |
| **Infil** | 605 | 605 |
| **MinStop/Rh** | 0 | 0 |
| **Return** | 27,748 | 27,748 |
| **Exhaust** | 3,907 | 3,907 |
| **Rm Exh** | 3,132 | 3,132 |
| **Auxiliary** | 0 | 0 |
| **Leakage Dwn** | 0 | 0 |
| **Leakage Ups** | 0 | 0 |

### ENGINEERING CKS

| | Cooling | Heating |
|---|---|---|
| **% OA** | 21.3 | 21.3 |
| **cfm/ft²** | 1.45 | 1.45 |
| **cfm/ton** | 453.03 | |
| **ft²/ton** | 312.48 | |
| **Btu/hr·ft²** | 38.40 | -24.16 |
| **No. People** | 429 | |

### COOLING COIL SELECTION

| | Total Capacity ton | Total Capacity MBh | Sens Cap. MBh | Coil Airflow cfm | Enter DB °F | Enter WB °F | Enter HR gr/lb | Leave DB °F | Leave WB °F | Leave HR gr/lb |
|---|---|---|---|---|---|---|---|---|---|---|
| **Main Clg** | 66.8 | 802.0 | 692.6 | 30,276 | 77.7 | 62.0 | 59.1 | 55.0 | 52.8 | 56.9 |
| **Aux Clg** | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Opt Vent** | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| ***Total*** | 66.8 | 802.0 | | | | | | | | |

### AREAS

| | Gross Total ft² | Glass ft² | Glass (%) |
|---|---|---|---|
| **Floor** | 20,883 | | |
| **Part** | 0 | | |
| **Int Door** | 1 | | |
| **ExFlr** | 1,103 | | |
| **Roof** | 8,795 | 0 | 0 |
| **Wall** | 15,880 | 2,972 | 19 |
| **Ext Door** | 31 | 31 | 100 |

### HEATING COIL SELECTION

| | Capacity MBh | Coil Airflow cfm | Ent °F | Lvg °F |
|---|---|---|---|---|
| **Main Htg** | -504.5 | 30,276 | 59.2 | 74.3 |
| **Aux Htg** | 0.0 | 0 | 0.0 | 0.0 |
| **Preheat** | 0.0 | 0 | 0.0 | 0.0 |
| **Humidif** | 0.0 | 0 | 0.0 | 0.0 |
| **Opt Vent** | 0.0 | 0 | 0.0 | 0.0 |
| ***Total*** | -504.5 | | | |

Project Name: 21-1194
Dataset Name: PIERCE STEM.TRC

TRACE® 700 v6.3.5 calculated at 01:49 PM on 06/24/2022
Alternative - 2 System Checksums Report Page 3 of 3

IFC SET

integrus ARCHITECTURE
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JOSIAH STEVEN SAWYER — STATE OF WASHINGTON — 21388 — PROFESSIONAL ENGINEER — 10/6/2022

PAE pae-engineers.com LUMA Lumaid.com

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

EQUIPMENT SCHEDULES - MECHANICAL

**M008**

PRCNC20221036

## Mechanical Requirements List, pg 1 of 25

2019 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 – Administered by ESD22 NEEA, All rights reserved
The following information is necessary to check a mechanical permit application for compliance with the mechanical systems and equipment requirements in the Washington State Energy Code, Commercial Provisions.
For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@seweregroves.com

Project:
Pierce College New STEM Building - 2019 WSEC
1601 39th Ave SE
Puyallup, WA 98374

Date: 2022-06-24

| Applies | Code Section | Code Provision | Compliance Information Required In Permit Documentation | Location in Documents | Building Department Notes |
|---|---|---|---|---|---|
| **SCOPE** | | | | | |
| | C105.1 | Construction documents - General | For a shell & core or tenant space (first build-out) project, indicate if there is no mechanical scope included in the project. | | |
| | C105.1 | Construction documents - General | For an alteration project, indicate if there is no mechanical scope included in the project. | | |
| **PERFORMANCE CRITERIA & SYSTEM DESIGN** | | | | | |
| NA | C403.1 | Exempt process equipment | Identify equipment used by manufacturing, industrial or commercial processes that are not for space conditioning or maintaining comfort and amenities for occupants, identify provisions applicable to this equipment per C403.1 exception | | |
| YES | C403.1.1 | HVAC total system performance ratio (TSPR) | For systems serving office, retail, library or education occupancies, provide a TSPR report that demonstrates the proposed design ratio is equal to or greater than the standard reference design ratio, or exception applied | M007 | |
| YES | C403.1.2 | Calculation of heating and cooling loads | Provide load calculations performed per ASHRAE Std 183 or equivalent; using design parameters per C302 and Appendix C; include load adjustments to account for energy recovery | M007 | |
| NA | C403.1.3 | Data centers | Provide documentation that demonstrates that data center systems comply with the maximum allowed design MLC and Annualized MLC per ASHRAE 90.4 with 2019 WSEC adjustments per climate zone | | |
| YES | C403.2.1<br>C403.4.2.2 | Zone isolation | If there are HVAC zones that are intended to be occupied non-simultaneously, identify isolation zone areas on plans; if multiple zones intended to be occupied simultaneously will be combined into a single isolation zone, include on plans that the combined zone area does not exceed 25,000 sf and does not include more than one floor, or exception applied | M003 | |
| YES | | | Indicate locations of associated zone isolation dampers in HVAC distribution system | M003 | |
| YES | | | Refer to HVAC Controls section in Requirements List for applicable automatic setback and shutdown controls requirements | | |
| **EQUIPMENT SELECTION & PERFORMANCE** | | | | | |



## Mechanical Requirements List, pg 2 of 25

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| | | | | | | |
|---|---|---|---|---|---|---|
| YES | C403.3.1 | Equipment and system sizing | Indicate that output capacities of heating and cooling equipment and systems are no greater than the smallest available equipment size that exceeds the calculated loads; note exceptions applied | M002, M003, M004, M007 | | |
| YES | C403.3.2<br>C403.9.1 | HVAC equipment performance requirements (efficiency) | Provide equipment schedules on plans and in WSEC mechanical equipment compliance reports; indicate equipment type, calculated loads, capacity, rated and WSEC minimum efficiency, and if any efficiency credits (equipment ratings) for unit ventilation or cfms and operating hours for all air systems; identify heating and cooling equipment that does not have a corresponding WSEC minimum efficiency (manufacturer rated) | M005 | | |
| NA | C405.8 | Electric motor efficiency | List all motors 1/12 hp (hp that are not integral to a rated piece of equipment in the mechanical or electrical equipment schedules on plans; indicate that motors meet applicable efficiency table, hp, rpm, number of poles and enclosure | | | |
| NA | C403.3.2 | Gas and oil-fired forced air furnace and unit heaters | Install air furnaces with capacity 225,000 Btu/h and all unit heaters; indicate in equipment schedule integral automatic shutoff, IID, flue or draft damper, and vented jack | | | |
| YES | C403.3.2.4 | Packaged electric heating / cooling equipment | Verify all packaged electric equipment with > 6,000 Btu/h cooling capacity and any amount of heating is a heat pump; include in equipment schedules | M004 | | |
| NA | C403.3.3 | Hot gas bypass limitation for DX cooling equipment | For cooling equipment with hot gas bypass, provide either multiple step unloading or continuous capacity modulation; indicate bypass capacity per Table C403.3.3 | | | |
| YES | C403.4.3<br>C403.3.4 | Large capacity boiler systems | For hydronic systems with only a single boiler that has > 500,000 Btu/h input capacity, indicate multi-stage or modulating burner | M001 | | |
| YES | | | For boiler system (single or multiple) with > 1,000,000 Btu/h input capacity, indicate turndown ratio per Table C403.3.4 and method (multiple staged, input boilers, modulating boilers, or combination) | M001 | | |
| YES | C403.2.3 | Variable flow capacity - pumps | For pump motors 2.5 hp, indicate method of variable flow control (VSD or equivalent method) in equipment schedule, or exception applied | M004 | | |
| **HYDRONIC SYSTEMS - CONTROLS** | | | | | | |
| YES | C403.4.3 | Boiler sequencing | Indicate automatic controls that sequence operation of multiple boilers | M001 | | |



## Mechanical Requirements List, pg 3 of 25

2019 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 – Administered by ESD22 NEEA, All rights reserved
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| | | | | | | |
|---|---|---|---|---|---|---|
| YES | C403.3.5<br>C403.3.5.4 | Dedicated outdoor air systems | For buildings with occupancies required to comply with the DOAS provisions per Table C403.3.3, identify on plans all occupancies in the building and indicate which occupied spaces are required to have ventilation air delivered by a DOAS; or exception applied | M006 | | |
| NA | | | If natural ventilation exception is applied, identify these spaces on plans; indicate operable window area complies with IMC; if CO2 sensor ventilation control is required, indicate supply and ventilation air cfms and operating hours for all air systems; identify heating and cooling equipment that does not have a corresponding WSEC minimum efficiency (manufacturer rated) | | | |
| YES | C403.3.6 | Decoupled DOAS supply air | If high efficiency VAV exception is applied, identify these spaces on plans; refer to Single Zone VAV section for Groups A-1, A-2 and A-3 occupancy classifications, or Multiple Zone VAV for other than Groups A-1, A-2 and A-3 per Table C403.3.3 | M006 | | |
| NA | | | If compliance with the DOAS provisions is deemed to be impractical, provide documentation that demonstrates the alternate design complies with the intent of the corresponding level of energy efficiency, as pre-approved by the AHJ | | | |
| YES | C403.3.7 | Variable flow capacity - fans | Refer to Requirements List section after Multiple Zone Air Systems for High Efficiency Multiple-Zone VAV Systems exception to C403.3.5 DOAS | M004 | | |
| NA | | | Refer to Requirements List section after High Efficiency Multiple-Zone Air Systems for High Efficiency Single-Zone VAV Systems exception to C403.3.5 DOAS | | | |
| NA | C403.5.3.1 | DOAS energy recovery method and effectiveness | For DOAS systems, indicate exhaust air ER method and basis of rated effectiveness (sensible or latent); indicate if 60% sensible or ≥ 50% enthalpy ER effectiveness based on 100% outdoor air and return air conditions at design conditions, or exception applied | | | |
| YES | C403.5.2 | DOAS fan power | For DOAS with total system fan hp ≥ 5 hp, indicate total system fan power complies with fan power limitation per Section C403.8.1 | M006 | | |



## Mechanical Requirements List, pg 4 of 25

2019 WSEC Requirements for Commercial Buildings including Group R2, R3 & R4 over 3 stories & all R1 – Administered by ESD22 NEEA, All rights reserved
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| | | | | | | |
|---|---|---|---|---|---|---|
| NA | C403.3.5.2 | Heating / cooling system controls with DOAS | Indicate systems and equipment associated with the delivery of zone level heating and cooling (fans, hydronic pumps, primary air dampers, etc) are configured to shut off, and central equipment is configured to turn down, when there is no call for heating or cooling in the zone | | | |
| NA | | | If applying Exception 2 to supply air temperature reset, indicate that the system is designed to operate at the coldest supply air temperature; including how supply and ventilation air is provided during all occupied hours, including during inclement weather | | | |
| YES | C403.3.5.3 | Decoupled DOAS supply air | Indicate method of delivery of DOAS supply air to the occupied space (directly into space, into return air plenum, into space via fan coils); or exception applied | M006 | | |
| NA | C403.6.1 | Multiple zone DOAS | For DOAS serving multiple zones, indicate controls configured to reduce the volume of outdoor air in each zone independently when the zone is not occupied; or exception applied | | | |
| NA | | | If compliance with the DOAS provisions is deemed to be impractical, provide documentation that demonstrates the alternate design complies with the intent of the corresponding level of energy efficiency, as pre-approved by the AHJ | | | |
| YES | C403.3.7 | Variable flow capacity - fans | Refer to Requirements List section after Multiple Zone Air Systems for High Efficiency Multiple-Zone VAV Systems exception to C403.3.5 DOAS | M004 | | |
| NA | | | Refer to Requirements List section after High Efficiency Multiple-Zone Air Systems for High Efficiency Single-Zone VAV Systems exception to C403.3.5 DOAS | | | |
| NA | C403.5.3.1 | DOAS energy recovery method and effectiveness | For DOAS systems, indicate exhaust air ER method and basis of rated effectiveness (sensible or latent); indicate if 60% sensible or ≥ 50% enthalpy ER effectiveness based on 100% outdoor air and return air conditions at design conditions, or exception applied | | | |
| YES | C403.5.2 | DOAS fan power | For DOAS with total system fan hp ≥ 5 hp, indicate total system fan power complies with fan power limitation per Section C403.8.1 | M006 | | |



## Mechanical Requirements List, pg 5 of 25

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| | | | | | | |
|---|---|---|---|---|---|---|
| YES | C403.4.2 | Motor nameplate hp | For all applicable HVAC systems with total fan motor nameplate hp > 5hp, indicate fan motors specified are the smallest available motor hp size greater than fan bhp; note exceptions applied | M002 | | |
| YES | C405.8 | Fractional hp fan motors | For all fractional hp fan motors (1/12 - 1 hp), indicate that motors comply with applicable WSEC efficiency tables if motor type is not listed in an efficiency table, indicate whether the motor is electronically commutated motor or has motor rated efficiency of at least 70%; or exception applied | M002, M005 | | |
| YES | C403.8.3 | Fan efficiency | For individual fans ≥ 5 hp, and multiple fans combined in series or parallel that operate as the functional equivalent of a single fan with a combined total motor hp ≥ 5hp, indicate in equipment schedule that rated FEI for all applicable fans is ≥ 0.87, or exception applied; indicate if any fans in series or parallel have a wire-to-air efficiency within 15% of the fan maximum total efficiency | M002 | | |
| NA | C403.8.4 | Group R occupancy fan efficiency grade | For all climate Zone 1 and 2 fans in Group R occupancies, indicate that all associated heating and cooling fans have a fan efficiency grade (FEG) of 67 or higher, based on the fan's motor nameplate hp, and the fan's maximum total efficiency (peak efficiency); indicate if fans are part of a listed product | | | |
| NA | C406.2.2 | Minimum equipment efficiency | In addition system selection requirements, indicate that all associated heating and cooling equipment and systems are configured to provide equipment performance that exceeds the heating, cooling, full load, part load) that is at least 5% better than the listed WSEC efficiency; include specific equipment exceptions applied | | | |
| YES | C403.2.3 | Variable flow capacity - fans | For fan motors ≥ 7.5 hp, indicate method of variable flow control (VSD or equivalent method) in equipment schedule, or exception applied | M002 | | |
| YES | C403.8.5.1 | Fan airflow control | For DX air handling units with cooling capacity ≥ 42,000 Btu/h and evaporative and chilled water air handling units with fan motor ≥ 0.25 hp, indicate whether system is single speed, multiple speed, or variable airflow; method (cooling capacity controlled in response to space temperature, space temperature is controlled by modulating supply airflow, or both) | M001, M002, M003 | | |
| YES | | | For mechanical cooling systems (including DX and chilled water coils) that control cooling capacity in response to space temperature, provide a minimum of two stages of fan speed control; indicate if system has a fan motor ≥ 5 hp and if full rated airflow during full cooling is ≤ 66% of the full rated airflow during full cooling; indicate if system has a fan motor ≥ 5 hp and if full rated airflow during part load cooling is ≤ 50

PRCNC20221036

## ASHRAE 62.1-2016 VENTILATION SCHEDULE

### AHU-1/AHU-2

| ZONE | AREA (SF) | ZONE PRIMARY AIRFLOW RATE VPZ (CFM) | OCCUPANCY CLASSIFICATION | PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE RP (CFM/PERSON) | AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2) | DEFAULT OCCUPANT DENSITY (#/1000 FT^2) | CODE POPULATION (#) | DESIGN POPULATION (#) | PEOPLE OUTDOOR AIRFLOW RATE (CFM) | AREA OUTDOOR AIRFLOW RATE (CFM) | OUTDOOR AIRFLOW RATE (CFM) | ZONE AIR DISTRIBUTION EFFECTIVENESS | OUTDOOR AIR INTAKE VOZ (CFM) | 30% INCREASE (CFM) | MINIMUM OUTDOOR AIR INTAKE VOZ (CFM) | PROVIDED OUTDOOR AIRFLOW [NOTE 1] (CFM) | PRIMARY OUTDOOR AIR FRACTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 231 BIOLOGY AP LAB | 1283 | 1350 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 32.075 | 32.075 | 320.75 | 230.94 | 551.69 | 0.8 | 690.0 | 207 | 897.00 | 1350 | 1.00 |
| 232 MICROBIOLOGY LAB | 1204 | 1595 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 30.1 | 30.1 | 301 | 216.72 | 517.72 | 0.8 | 648.0 | 194.4 | 843.00 | 1595 | 1.00 |
| 232A BULK STORAGE | 152 | 220 | GENERAL - OCCUPIABLE STORAGE ROOMS FOR LIQUIDS OR GELS | 5 | 0.12 | 2 | 0.304 | 1 | 5 | 18.24 | 23.24 | 0.8 | 30.0 | 9 | 39.00 | 220 | 1.00 |
| 233 BIOLOGY PREP | 1253 | 285 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 31.325 | 31.325 | 313.25 | 225.54 | 538.79 | 0.8 | 674.0 | 202.2 | 877.00 | 285 | 1.00 |
| 233A SPECIMEN STORAGE | 152 | 1540 | GENERAL - OCCUPIABLE STORAGE ROOMS FOR LIQUIDS OR GELS | 5 | 0.12 | 2 | 0.304 | 1 | 5 | 18.24 | 23.24 | 0.8 | 30.0 | 9 | 39.00 | 1540 | 1.00 |
| 234 GENERAL BIOLOGY LAB | 1166 | 220 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 29.15 | 29.15 | 291.5 | 209.88 | 501.38 | 0.8 | 627.0 | 188.1 | 816.00 | 220 | 1.00 |
| 235 GENERAL BIOLOGY LAB | 1256 | 1265 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 31.4 | 31.4 | 314 | 226.08 | 540.08 | 0.8 | 676.0 | 202.8 | 879.00 | 1265 | 1.00 |
| 312 GENERAL CHEMISTRY | 1453 | 1725 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 36.325 | 36.325 | 363.25 | 261.54 | 624.79 | 0.8 | 781.0 | 234.3 | 1016.00 | 1725 | 1.00 |
| 314 CHEMISTRY PREP/STOCKROOM | 611 | 1125 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 15.275 | 15.275 | 152.75 | 109.98 | 262.73 | 0.8 | 329.0 | 98.7 | 428.00 | 1125 | 1.00 |
| 314A BULK | 173 | 970 | GENERAL - OCCUPIABLE STORAGE ROOMS FOR LIQUIDS OR GELS | 5 | 0.12 | 2 | 0.346 | 1 | 5 | 20.76 | 25.76 | 0.8 | 33.0 | 9.9 | 43.00 | 970 | 1.00 |
| 314B ORGANIC STORAGE | 120 | 150 | GENERAL - OCCUPIABLE STORAGE ROOMS FOR LIQUIDS OR GELS | 5 | 0.12 | 2 | 0.24 | 1 | 5 | 14.4 | 19.4 | 0.8 | 25.0 | 7.5 | 33.00 | 150 | 1.00 |
| 314C INORGANIC STORAGE | 120 | 285 | GENERAL - OCCUPIABLE STORAGE ROOMS FOR LIQUIDS OR GELS | 5 | 0.12 | 2 | 0.24 | 1 | 5 | 14.4 | 19.4 | 0.8 | 25.0 | 7.5 | 33.00 | 285 | 1.00 |
| 316 ORGANIC CHEMISTRY LAB | 1454 | 285 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 36.35 | 36.35 | 363.5 | 261.72 | 625.22 | 0.8 | 782.0 | 234.6 | 1017.00 | 285 | 1.00 |
| 318 CHEMISTRY INSTRUMENT ROOM | 902 | 1720 | EDUCATIONAL - SCIENCE LABRATORIES | 10 | 0.18 | 25 | 22.55 | 22.55 | 225.5 | 162.36 | 387.86 | 0.8 | 485.0 | 145.5 | 631.00 | 1720 | 1.00 |
| | | | | | | | | | | | | | | | | | |
| TOTALS | 11299 | 12735 | | | | | 266 | 270 | 2671 | 1991 | 4661 | | | | | | |

TOTAL AIRFLOW: 5000
SYSTEM POPULATION: 50

SYSTEM VENTILATION EFFICIENCY - EV: 0.60
OCCUPANT DIVERSITY - D: 0.19
UNCORRECTED OUTDOOR AIR INTAKE - VOU: 3232
STANDARD REQUIRED OUTDOOR AIR INTAKE FLOWRATE - VOT: 5387

GENERAL NOTES:
A. SYSTEM OUTDOOR AIR CALCULATION IS BASED ON CHAPTER 6 OF THE ASHRAE STANDARD 62.1-2016.
B. REFER TO AIR HANDLING UNIT SCHEDULE FOR ACTUAL OUTDOOR AIR FLOW RATE.
NOTES:
1. PROVIDED AIRFLOW RATE IS DRIVEN BY MINIMUM AIR CHANGE REQUIREMENTS FOR LABORATORY SPACE REQUIREMENTS

## ASHRAE 62.1-2016 VENTILATION SCHEDULE

### AHU-3

| ZONE | AREA (SF) | ZONE PRIMARY AIRFLOW RATE VPZ (CFM) | OCCUPANCY CLASSIFICATION | PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE RP (CFM/PERSON) | AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2) | DEFAULT OCCUPANT DENSITY (#/1000 FT^2) | CODE POPULATION (#) | DESIGN POPULATION (#) | PEOPLE OUTDOOR AIRFLOW RATE (CFM) | AREA OUTDOOR AIRFLOW RATE (CFM) | OUTDOOR AIRFLOW RATE (CFM) | ZONE AIR DISTRIBUTION EFFECTIVENESS | OUTDOOR AIR INTAKE VOZ (CFM) | 30% INCREASE (CFM) | OUTDOOR AIR INTAKE VOZ (CFM) | PRIMARY OUTDOOR AIR FRACTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 LOBBY | 1903 | 550 | OFFICE - MAIN ENTRY LOBBIES | 5 | 0.06 | 10 | 19.03 | 22 | 110 | 114.18 | 224.18 | 0.8 | 281.0 | 84.3 | 365.00 | 0.67 |
| 100 LOBBY DOUBLE HEIGHT | 747 | 670 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 5 | 0.06 | 10 | 7.47 | 12 | 60 | 44.82 | 104.82 | 0.8 | 132.0 | 39.6 | 172.00 | 0.26 |
| 101 CLASSROOM | 831 | 1030 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 29.085 | 32 | 320 | 99.72 | 419.72 | 0.8 | 525.0 | 157.5 | 683.00 | 0.66 |
| 102 CLASSROOM | 827 | 975 | OFFICE - OFFICE SPACE | 10 | 0.12 | 35 | 28.945 | 30 | 300 | 99.24 | 399.24 | 0.8 | 500.0 | 150 | 650.00 | 0.67 |
| 103 WORKSTATIONS | 455 | 130 | GENERAL - CONFERENCE/MEETING | 5 | 0.06 | 5 | 2.275 | 5 | 25 | 27.3 | 52.3 | 0.8 | 66.0 | 19.8 | 86.00 | 0.66 |
| 103A STUDY ROOM. 103F WORKROOM | 245 | 115 | OFFICE - OFFICE SPACE | 5 | 0.06 | 50 | 12.25 | 7 | 35 | 14.7 | 49.7 | 0.8 | 63.0 | 18.9 | 82.00 | 0.71 |
| 103B, 103C, 103D OFFICE, 103E DOUBLE OFFICE | 441 | 310 | EDUCATIONAL - LECTURE CLASSROOM | 5 | 0.06 | 5 | 2.205 | 8 | 40 | 26.46 | 66.46 | 0.8 | 84.0 | 25.2 | 110.00 | 0.35 |
| 104 DOUBLE CLASSROOM | 1462 | 1095 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 7.5 | 0.06 | 65 | 95.03 | 48 | 360 | 87.72 | 447.72 | 0.8 | 560.0 | 168 | 728.00 | 0.66 |
| 124 GRAVITY LAB (1/2) | 652 | 585 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 22.82 | 16 | 160 | 78.24 | 238.24 | 0.8 | 298.0 | 89.4 | 388.00 | 0.66 |
| 124 GRAVITY LAB (1/2) | 652 | 585 | GENERAL - CORRIDORS | 10 | 0.12 | 35 | 22.82 | 16 | 160 | 78.24 | 238.24 | 0.8 | 298.0 | 89.4 | 388.00 | 0.66 |
| 200, 210 HALL | 1942 | 315 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | - | 0.06 | 0 | 0 | - | - | 116.52 | 116.52 | 0.8 | 146.0 | 43.8 | 190.00 | 0.60 |
| 201 CLASSROOM | 808 | 1170 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 28.28 | 38 | 380 | 96.96 | 476.96 | 0.8 | 597.0 | 179.1 | 777.00 | 0.66 |
| 202 CLASSROOM | 805 | 925 | OFFICE - OFFICE SPACE | 10 | 0.12 | 35 | 28.175 | 28.175 | 281.75 | 96.6 | 378.35 | 0.8 | 473.0 | 141.9 | 615.00 | 0.66 |
| 203, 204, 205 OFFICE | 377 | 230 | GENERAL - CONFERENCE/MEETING | 5 | 0.06 | 5 | 1.885 | 8 | 40 | 22.62 | 62.62 | 0.8 | 79.0 | 23.7 | 103.00 | 0.45 |
| 206 CONFERENCE ROOM | 323 | 175 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 5 | 0.06 | 50 | 16.15 | 10 | 50 | 19.38 | 69.38 | 0.8 | 87.0 | 26.1 | 114.00 | 0.65 |
| 207 CLASSROOM | 793 | 1110 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 27.755 | 36 | 360 | 95.16 | 455.16 | 0.8 | 569.0 | 170.7 | 740.00 | 0.67 |
| 208 CLASSROOM | 844 | 1125 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 29.54 | 36 | 360 | 101.28 | 461.28 | 0.8 | 577.0 | 173.1 | 751.00 | 0.67 |
| 243 SHARED LEARNING | 668 | 810 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 24.08 | 25 | 250 | 82.56 | 332.56 | 0.8 | 416.0 | 124.8 | 541.00 | 0.67 |
| 300 SHARED LEARNING | 492 | 700 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 17.22 | 21 | 210 | 59.04 | 269.04 | 0.8 | 337.0 | 101.1 | 439.00 | 0.63 |
| 308 EARTH SCIENCE B LAB (1/2) | 708 | 650 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 24.78 | 18 | 180 | 84.96 | 264.96 | 0.8 | 332.0 | 99.6 | 432.00 | 0.66 |
| 308 EARTH SCIENCE B LAB (1/2) | 708 | 650 | OFFICE - OFFICE SPACE | 10 | 0.12 | 35 | 24.78 | 18 | 180 | 84.96 | 264.96 | 0.8 | 332.0 | 99.6 | 432.00 | 0.66 |
| 309 EARTH SCIENCE PREP | 540 | 305 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 3 | 3 | 13.5 | 32.4 | 45.9 | 0.8 | 58.0 | 17.4 | 76.00 | 0.25 |
| 309A LAB TECH OFFICE | 102 | 175 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 0.51 | 1 | 5 | 6.12 | 11.12 | 0.8 | 14.0 | 4.2 | 19.00 | 0.11 |
| 309B ROCK PREP | 167 | 70 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 5 | 0.06 | 5 | 0.835 | 1 | 5 | 10.02 | 15.02 | 0.8 | 19.0 | 5.7 | 25.00 | 0.36 |
| 310 EARTH SCIENCE A LAB (1/2) | 919 | 710 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 32.165 | 18 | 180 | 110.28 | 290.28 | 0.8 | 363.0 | 108.9 | 472.00 | 0.66 |
| 310 EARTH SCIENCE A LAB (1/2) | 919 | 710 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 32.165 | 18 | 180 | 110.28 | 290.28 | 0.8 | 363.0 | 108.9 | 472.00 | 0.66 |
| | | | | | | | | | | | | | | | | |
| TOTALS | 19350 | 15875 | | | | | 533 | 475 | 4245 | 1800 | 6045 | | 7569.0 | 2271 | Zp max = 9851.00 | Zp max = 0.71 |

TOTAL AIRFLOW: 15875
SYSTEM POPULATION: 475

SYSTEM VENTILATION EFFICIENCY - EV: 0.78
OCCUPANT DIVERSITY - D: 1.00
UNCORRECTED OUTDOOR AIR INTAKE - VOU: 7860
STANDARD REQUIRED OUTDOOR AIR INTAKE FLOWRATE - VOT: 10050

GENERAL NOTES:
A. SYSTEM OUTDOOR AIR CALCULATION IS BASED ON CHAPTER 6 OF THE ASHRAE STANDARD 62.1-2016.
B. REFER TO AIR HANDLING UNIT SCHEDULE FOR ACTUAL OUTDOOR AIR FLOW RATE.
NOTES:
1. DESIGN OCCUPANCY REPRESENTS THE ACTUAL OCCUPANCY DOCUMENTED ON THE PLANS.

## ASHRAE 62.1-2016 VENTILATION SCHEDULE

### AHU-4

| ZONE | AREA (SF) | ZONE PRIMARY AIRFLOW RATE VPZ (CFM) | OCCUPANCY CLASSIFICATION | PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE RP (CFM/PERSON) | AREA OUTDOOR AIRFLOW RATE IN BREATHING ZONE (CFM/FT^2) | DEFAULT OCCUPANT DENSITY (#/1000 FT^2) | CODE POPULATION (#) | DESIGN POPULATION (#) | PEOPLE OUTDOOR AIRFLOW RATE (CFM) | AREA OUTDOOR AIRFLOW RATE (CFM) | OUTDOOR AIRFLOW RATE (CFM) | ZONE AIR DISTRIBUTION EFFECTIVENESS | OUTDOOR AIR INTAKE VOZ (CFM) | 30% INCREASE (CFM) | OUTDOOR AIR INTAKE VOZ (CFM) | PRIMARY OUTDOOR AIR FRACTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 122 MOTHER'S | 64 | 120 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 0.32 | 1 | 5 | 3.84 | 8.84 | 0.8 | 12.0 | 3.6 | 16.00 | 0.13 |
| 123 STUDY ROOM | 106 | 195 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 0.53 | 1 | 5 | 6.36 | 11.36 | 0.8 | 15.0 | 4.5 | 20.00 | 0.10 |
| 125 130, 142 HALL | 1547 | 250 | GENERAL - CORRIDORS | - | 0.06 | 0 | 0 | - | - | 92.82 | 92.82 | 0.8 | 117.0 | 35.1 | 153.00 | 0.61 |
| 131 PHYSICS SUPPORT | 495 | 140 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 2.475 | 2.475 | 12.375 | 29.7 | 42.075 | 0.8 | 53.0 | 15.9 | 69.00 | 0.49 |
| 132 PHYSICS | 1469 | 1045 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 51.415 | 25 | 250 | 176.28 | 426.28 | 0.8 | 533.0 | 159.9 | 693.00 | 0.66 |
| 133 CLASSROOM | 908 | 1150 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 31.78 | 36 | 360 | 108.96 | 468.96 | 0.8 | 587.0 | 176.1 | 764.00 | 0.66 |
| 134 IDEATION STUDIO | 826 | 705 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 28.91 | 19 | 190 | 99.12 | 289.12 | 0.8 | 362.0 | 108.6 | 471.00 | 0.57 |
| 135 FAB LAB (1/2) | 782 | 675 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 27.37 | 18 | 180 | 93.84 | 273.84 | 0.8 | 343.0 | 102.9 | 446.00 | 0.66 |
| 135 FAB LAB (1/2) | 782 | 675 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 27.37 | 18 | 180 | 93.84 | 273.84 | 0.8 | 343.0 | 102.9 | 446.00 | 0.66 |
| 135A CHECK-IN/WORKROOM | 138 | 70 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 0.69 | 1 | 5 | 8.28 | 13.28 | 0.8 | 17.0 | 5.1 | 23.00 | 0.33 |
| 136 WORKSTATIONS | 283 | 140 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 1.415 | 5 | 25 | 16.98 | 41.98 | 0.8 | 53.0 | 15.9 | 69.00 | 0.49 |
| 140 COLLABORATION LOUNGE | 998 | 460 | GENERAL - CONFERENCE/MEETING | 5 | 0.06 | 50 | 49.9 | 25 | 125 | 59.88 | 184.88 | 0.8 | 232.0 | 69.6 | 302.00 | 0.66 |
| 222 WORKROOM | 201 | 35 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 1.005 | 1.005 | 5.025 | 12.06 | 17.085 | 0.8 | 22.0 | 6.6 | 29.00 | 0.83 |
| 230, 242 HALL | 1474 | 230 | GENERAL - CORRIDORS | - | 0.06 | 0 | 0 | - | - | 88.44 | 88.44 | 0.8 | 111.0 | 33.3 | 145.00 | 0.63 |
| 233B LAB TECH OFFICE | 137 | 90 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 0.685 | 2 | 10 | 8.22 | 18.22 | 0.8 | 23.0 | 6.9 | 30.00 | 0.33 |
| 236 WORKSTATIONS | 372 | 145 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 1.86 | 7 | 35 | 22.32 | 57.32 | 0.8 | 72.0 | 21.6 | 94.00 | 0.65 |
| 240 SHARED LEARNING | 801 | 630 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 28.035 | 16 | 160 | 96.12 | 256.12 | 0.8 | 321.0 | 96.3 | 418.00 | 0.66 |
| 300 HALL | 903 | 860 | GENERAL - CORRIDORS | - | 0.06 | 0 | 0 | - | - | 54.18 | 54.18 | 0.8 | 68.0 | 20.4 | 89.00 | 0.10 |
| 302, 303, 304 OFFICE | 385 | 155 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 1.925 | 6 | 30 | 23.1 | 53.1 | 0.8 | 67.0 | 20.1 | 88.00 | 0.57 |
| 305, 306, 307 OFFICE | 264 | 160 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 1.32 | 9 | 45 | 15.84 | 60.84 | 0.8 | 77.0 | 23.1 | 101.00 | 0.63 |
| 312A LAB TECH OFFICE | 104 | 120 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 0.52 | 1 | 5 | 6.24 | 11.24 | 0.8 | 15.0 | 4.5 | 20.00 | 0.17 |
| 315 FIELD EQUIPMENT | 150 | 40 | OFFICE - OCCUPIABLE STORAGE FOR DRY MATERIALS | 5 | 0.06 | 2 | 0.3 | 1 | 5 | 9 | 14 | 0.8 | 18.0 | 5.4 | 24.00 | 0.60 |
| 319 DOUBLE OFFICE | 231 | 315 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 1.155 | 1.155 | 5.775 | 13.86 | 19.635 | 0.8 | 25.0 | 7.5 | 33.00 | 0.10 |
| 320 WORKSTATIONS | 356 | 230 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 1.78 | 1.78 | 8.9 | 21.36 | 30.26 | 0.8 | 38.0 | 11.4 | 50.00 | 0.22 |
| 330, 342 HALL | 1418 | 210 | GENERAL - CORRIDORS | - | 0.06 | 0 | 0 | - | - | 85.08 | 85.08 | 0.8 | 107.0 | 32.1 | 140.00 | 0.67 |
| 340 SHARED LEARNING | 497 | 685 | EDUCATIONAL - CLASSROOMS (AGES 9 PLUS) | 10 | 0.12 | 35 | 17.395 | 22 | 220 | 59.64 | 279.64 | 0.8 | 350.0 | 105 | 455.00 | 0.66 |
| 343 HALL, 311 STUDY ROOM | 495 | 130 | OFFICE - OFFICE SPACE | 5 | 0.06 | 5 | 2.475 | 4 | 20 | 29.7 | 49.7 | 0.8 | 63.0 | 18.9 | 82.00 | 0.63 |
| | | | | | | | | | | | | | | | | |
| TOTALS | 16186 | 9660 | | | | | 281 | 223 | 1887 | 1335 | 3222 | | 4044.0 | 1213 | Zp max = 5270.00 | Zp max = 0.83 |

TOTAL AIRFLOW: 9660
SYSTEM POPULATION: 223

SYSTEM VENTILATION EFFICIENCY - EV: 0.60
OCCUPANT DIVERSITY - D: 1.00
UNCORRECTED OUTDOOR AIR INTAKE - VOU: 4184
STANDARD REQUIRED OUTDOOR AIR INTAKE FLOWRATE - VOT: 6921

GENERAL NOTES:
A. SYSTEM OUTDOOR AIR CALCULATION IS BASED ON CHAPTER 6 OF THE ASHRAE STANDARD 62.1-2016.
B. REFER TO AIR HANDLING UNIT SCHEDULE FOR ACTUAL OUTDOOR AIR FLOW RATE.
NOTES:
1. DESIGN OCCUPANCY REPRESENTS THE ACTUAL OCCUPANCY DOCUMENTED ON THE PLANS.

1

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
TELEPHONE: (206)624-7337 FAX: (206)624-3730

STATE OF WASHINGTON — 13385 — REGISTERED PROFESSIONAL ENGINEER — 10/7/2022

PAE pae-engineers.com
LUMA Lumaid.com

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: YMA
Checked By: CLG

Revisions

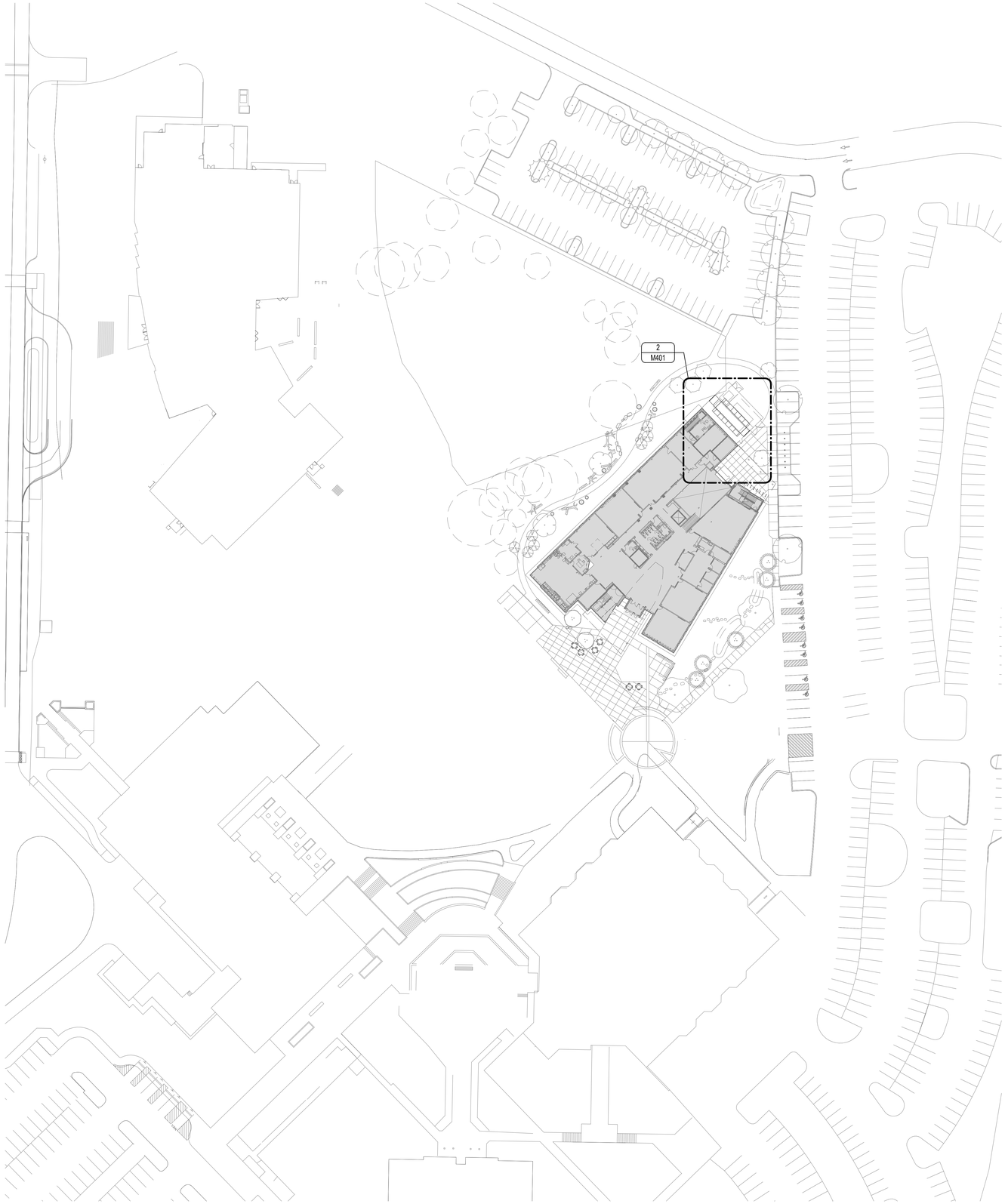
| # | Date | Description |
|---|---|---|
| 1 | 11-04-22 | ASI-001 |

LEED SCHEDULES - MECHANICAL

M010
1

IFC SET

PRCNC20221036




1 SITE PLAN - MECHANICAL
1" = 40'-0"

## GENERAL NOTES:

A. PROVIDE INDEPENDENT 3/4-INCH SUPPLY AND RETURN HYDRONIC PIPING FROM BRANCH LINES TO TERMINAL EQUIPMENT UNLESS OTHERWISE NOTED.

A. RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.

B. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

C. PROVIDE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, OR ROOFS. FILL ANNULAR SPACE WITH MINERAL FIBER (OR FIRE STOPPING MATERIAL WHERE FIRE RATED) AND SEAL WATERTIGHT.

D. PROVIDE WALL SLEEVES FLUSH WITH FINISHED SURFACE.

E. PROVIDE FLOOR SLEEVES EXTENDING A MINIMUM OF 2 INCHES ABOVE FINISHED FLOOR WITHIN EQUIPMENT ROOMS AND SHAFTS. DO NOT SUPPORT PIPING BY RESTING PIPE CLAMPS ON FLOOR SLEEVES.

F. PROVIDE ROOF SLEEVES EXTENDING A MINIMUM OF 8 INCHES ABOVE ROOF.

G. PROVIDE WALL AND CEILING PLATES AT EACH PIPE PENETRATION THROUGH ARCHITECTURAL WALLS AND CEILINGS.

H. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

I. SLOPE ALL CONDENSATE 1/4" PER FOOT TO LAVATORY TAILPIECE AND PROVIDE CLEANOUTS IN ACCORDANCE WITH WA PLUMBING CODE 814.0.

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Lumaled.com

STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|
| 1 | 11-04-22 | ASI-001 |

SITE PLANS - MECHANICAL

M011 1

IFC SET

PRCNC20221036

**GENERAL NOTES:**

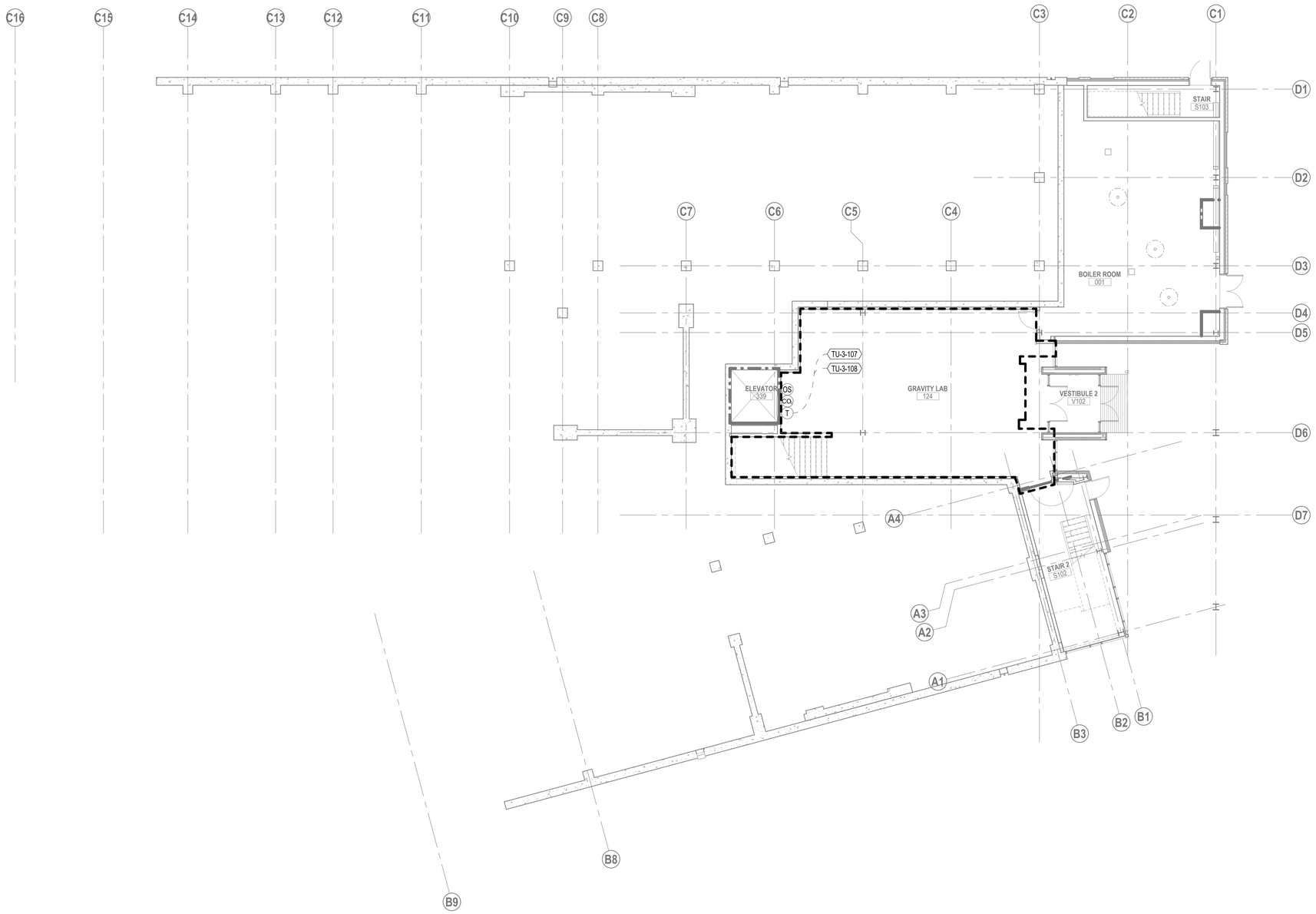
A. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

B. OCCUPANCY SENSORS FOR HVAC CONTROL MUST BE INDEPENDENT OF LIGHITNG SENSORS.

C. LOCATION OF OCCUPANCY SENSORS SHOWN ON PLAN DOES NOT REFLECT REQUIRED QUANTITY AND LAYOUT. CONTROLS CONTRACTOR TO PROVIDE LAYOUT; SUBMIT TO ENGINEER FOR REVIEW.

**NOTES:**

1. NONE.




1 FLOOR PLAN - LEVEL 0 - MECHANICAL ZONING
1/8" = 1'-0"

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JUSTIN STEELMAN
STATE OF WASHINGTON
21382
REGISTERED ARCHITECT
PROFESSIONAL ENGINEER
10/6/2022

PAE
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LUMA
Lumald.com

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

LEVEL 0 - FLOOR PLAN - MECHANICAL ZONING

**M100**

IFC SET

PRCNC20221036

## GENERAL NOTES:

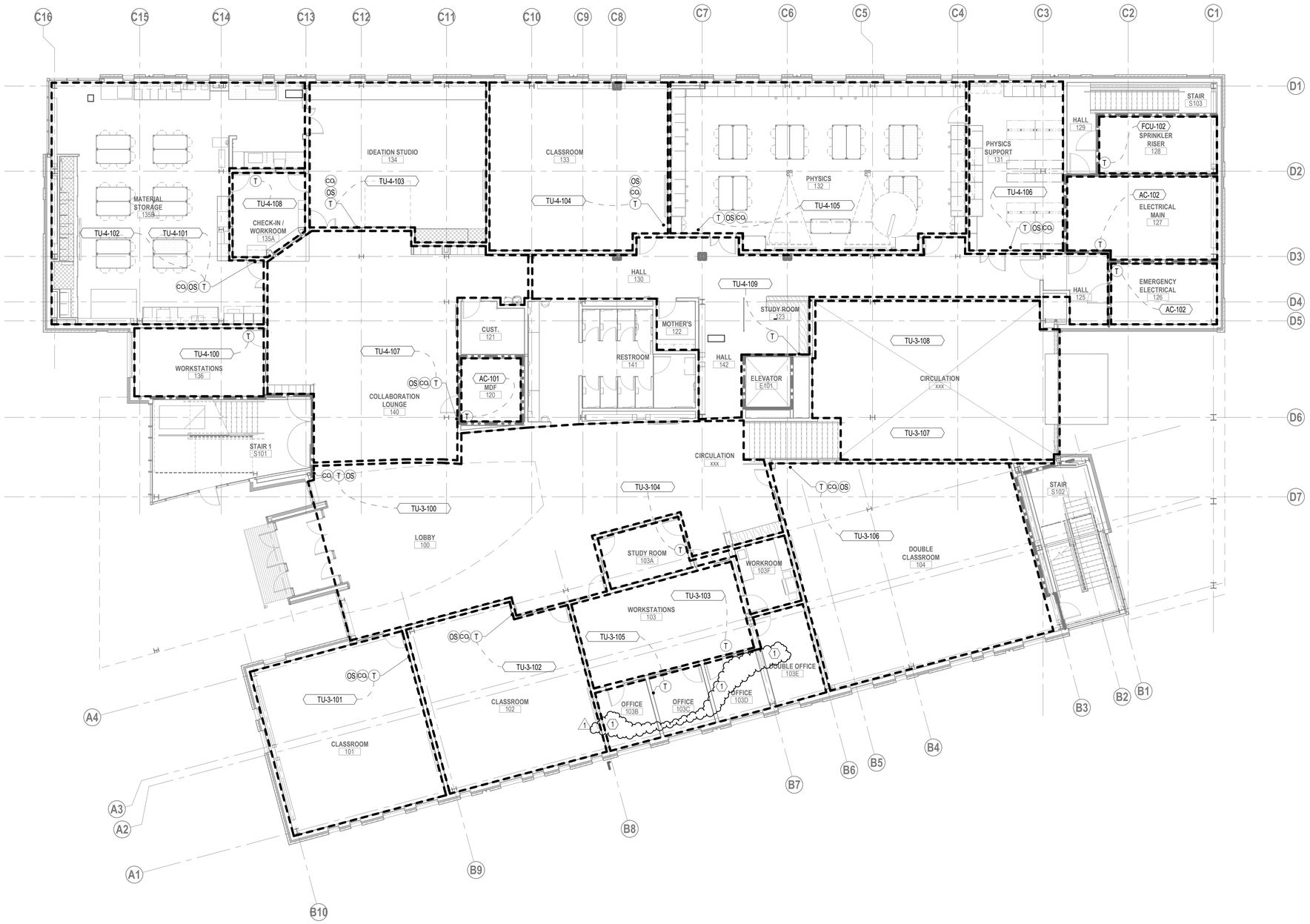
A. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

B. OCCUPANCY SENSORS FOR HVAC CONTROL MUST BE INDEPENDENT OF LIGHITNG SENSORS.

C. LOCATION OF OCCUPANCY SENSORS SHOWN ON PLAN DOES NOT REFLECT REQUIRED QUANTITY AND LAYOUT. CONTROLS CONTRACTOR TO PROVIDE LAYOUT; SUBMIT TO ENGINEER FOR REVIEW.

## NOTES:

1. PROVIDE LOCAL DESK FANS AT EACH INDIVIDUAL WORK STATION.




1 LEVEL 1 - FLOOR PLAN - MECHANICAL - ZONING
1/8" = 1'-0"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STATE OF WASHINGTON
CHRISTOPHER L. GLEASON
13385
REGISTERED PROFESSIONAL ENGINEER
11/7/2022

PAE
pae-engineers.com
LUMA
Lumaid.com


**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | PAE |
| Checked By: | CLG |

Revisions

| # | Date | Description |
|---|---|---|
| 1 | 11-04-22 | ASI-001 |

LEVEL 1 - FLOOR PLAN - MECHANICAL ZONING

**M101**

**IFC SET**

PRCNC20221036

## GENERAL NOTES:

A. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

B. OCCUPANCY SENSORS FOR HVAC CONTROL MUST BE INDEPENDENT OF LIGHITNG SENSORS.

C. LOCATION OF OCCUPANCY SENSORS SHOWN ON PLAN DOES NOT REFLECT REQUIRED QUANTITY AND LAYOUT. CONTROLS CONTRACTOR TO PROVIDE LAYOUT; SUBMIT TO ENGINEER FOR REVIEW.

## NOTES:

1. PROVIDE LOCAL DESK FANS AT EACH INDIVIDUAL WORK STATION.
2. PROVIDE WALL MOUNTED CARBON DIOXIDE MONITOR. ONLY LOCAL READOUT REQUIRED.

1

1 LEVEL 2 - FLOOR PLAN - MECHANICAL - ZONING
1/8" = 1'-0"


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11/7/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
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| Job No.: | 22135.00 |
| Drawn By: | PAE |
| Checked By: | CLG |

Revisions

| # | Date | Description |
|---|---|---|
| 1 | 11-04-22 | ASI-001 |

LEVEL 2 - FLOOR PLAN - MECHANICAL ZONING

**M102A**

IFC SET

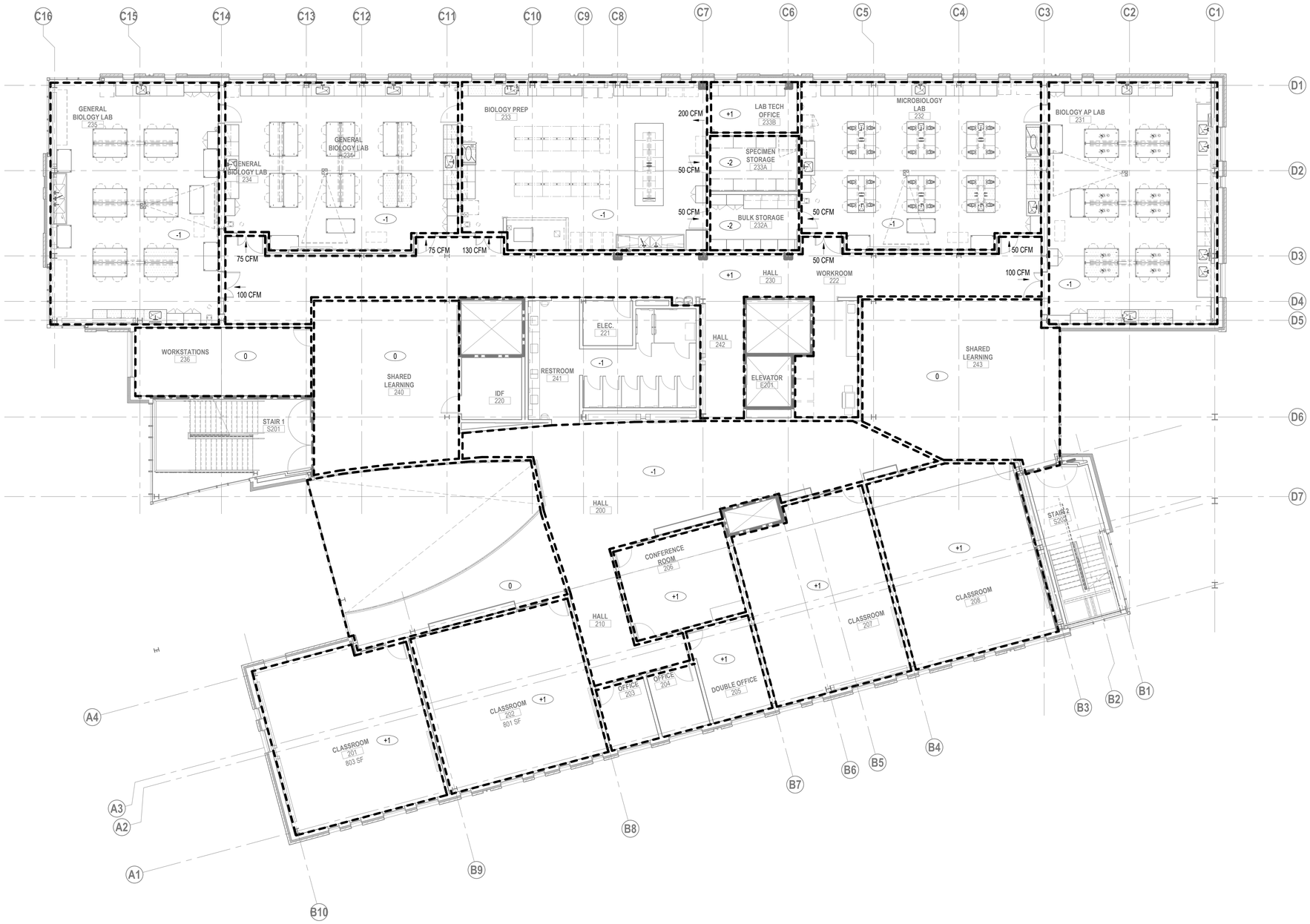
PRCNC20221036

**GENERAL NOTES:**

A. NONE.

**PRESSURIZATION KEY:**

-X ROOM PRESSURE NEGATIVE TO ADJACENT SPACE.
0 ROOM PRESSURE NEUTRAL TO ADJACENT SPACE.
+X ROOM PRESSURE POSITIVE TO ADJACENT SPACE.




1 LEVEL 2 - FLOOR PLAN - MECHANICAL - PRESSURE MAP
1/8" = 1'-0"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10/6/2022

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| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

LEVEL 2 - FLOOR PLAN - MECHANICAL PRESSURE MAP

**M102B**

IFC SET

PRCNC20221036

## GENERAL NOTES:

A. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

B. OCCUPANCY SENSORS FOR HVAC CONTROL MUST BE INDEPENDENT OF LIGHITNG SENSORS.

C. LOCATION OF OCCUPANCY SENSORS SHOWN ON PLAN DOES NOT REFLECT REQUIRED QUANTITY AND LAYOUT. CONTROLS CONTRACTOR TO PROVIDE LAYOUT; SUBMIT TO ENGINEER FOR REVIEW.

## NOTES:

1. PROVIDE LOCAL DESK FANS AT EACH INDIVIDUAL WORK STATION.

1

1 LEVEL 3 - FLOOR PLAN - MECHANICAL - ZONING
1/8" = 1'-0"


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**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
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Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

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| Engineering | Public Works |
| Fire | Traffic |

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|---|---|
| Date: | 10/07/2022 |
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| Drawn By: | PAE |
| Checked By: | CLG |

Revisions

| # | Date | Description |
|---|---|---|
| 1 | 11-04-22 | ASI-001 |

LEVEL 3 - FLOOR PLAN - MECHANICAL ZONING

**M103A**

IFC SET

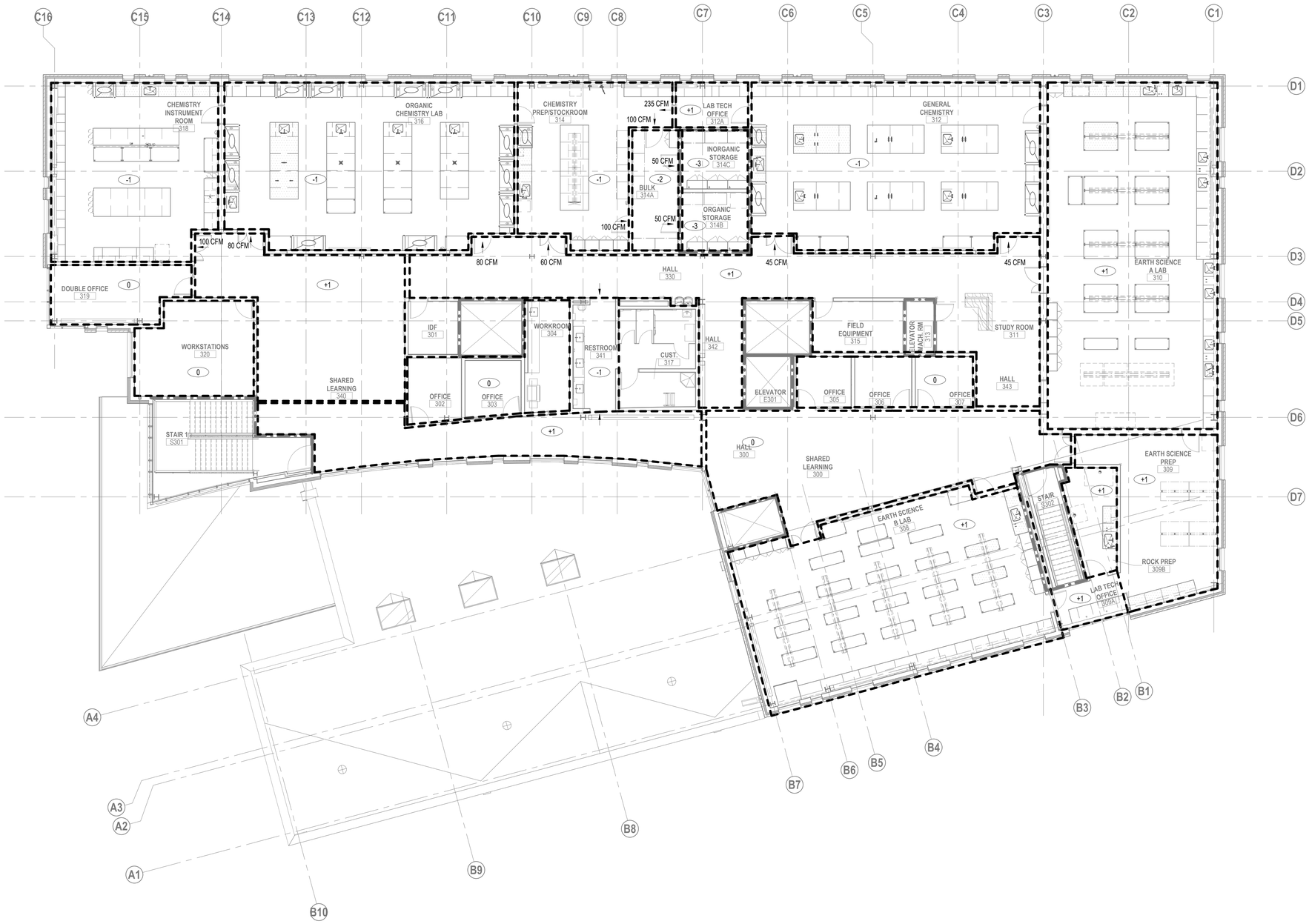
PRCNC20221036

**GENERAL NOTES:**

A. NONE.

**PRESSURIZATION KEY:**

-X ROOM PRESSURE NEGATIVE TO ADJACENT SPACE.
0 ROOM PRESSURE NEUTRAL TO ADJACENT SPACE.
+X ROOM PRESSURE POSITIVE TO ADJACENT SPACE.




1 LEVEL 3 - FLOOR PLAN - MECHANICAL - PRESSURE MAP
1/8" = 1'-0"

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JUSTIN STEELMAN — STATE OF WASHINGTON — 21388 — REGISTERED ARCHITECT — PROFESSIONAL ENGINEER
10/7/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

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**Development & Permitting Services**
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| Engineering | Public Works |
| Fire | Traffic |

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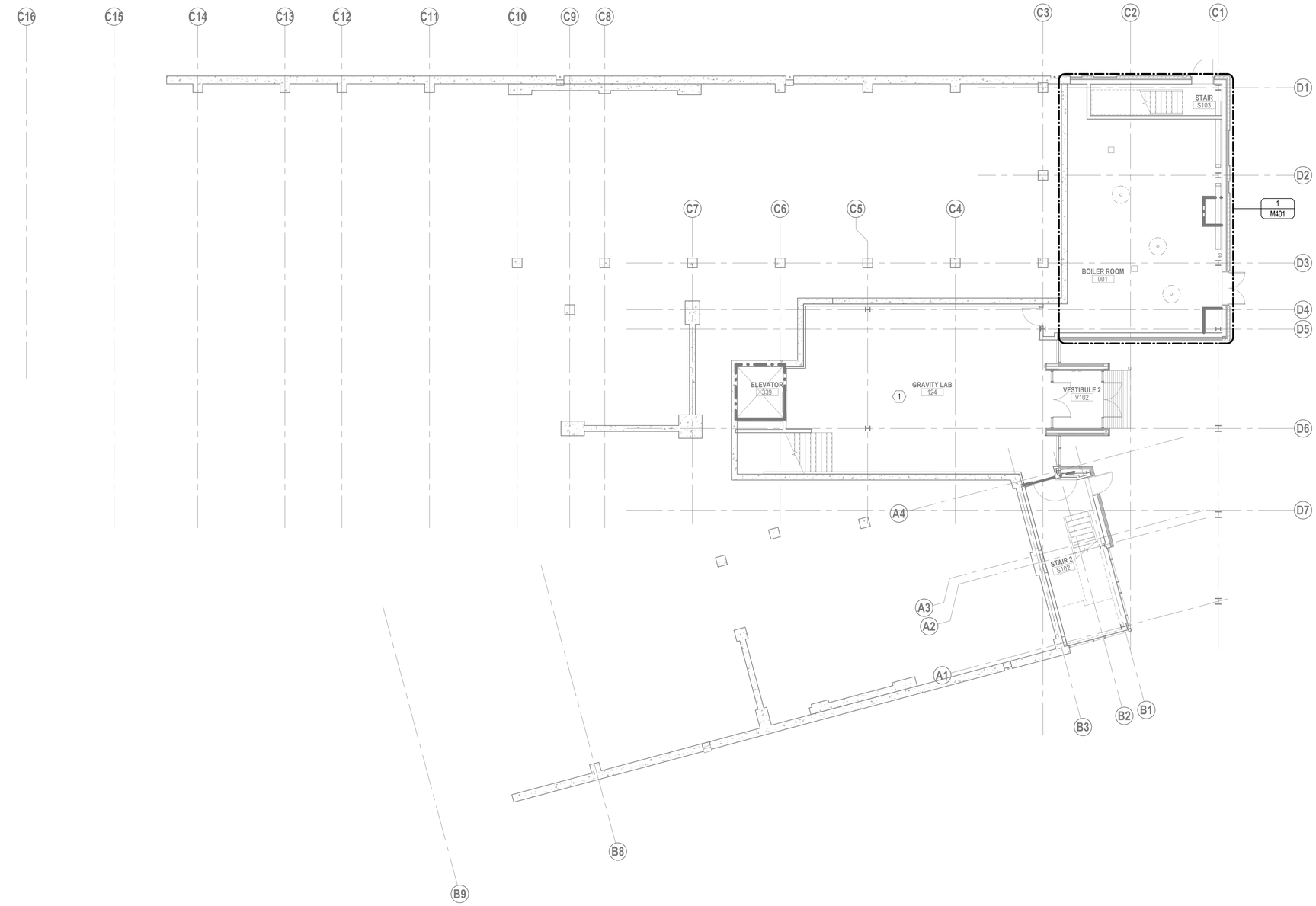
| # | Date | Description |
|---|---|---|

LEVEL 3 - FLOOR PLAN - MECHANICAL PRESSURE MAP

**M103B**

IFC SET

PRCNC20221036




1 LEVEL 0 - FLOOR PLAN - MECHANICAL
1/8" = 1'-0"

## GENERAL NOTES:

A. PROVIDE SHEET METAL DUCTWORK AND COMPONENTS INCLUDING HANGING, SEALING, PLENUMS, AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION, NFPA 90A, AND 90B STANDARDS.

B. DUCT DIMENSIONS SHOWN ARE INSIDE SHEET METAL DIMENSIONS OR CLEAR OPENING INSIDE LINED DUCT. THE FIRST NUMBER REPRESENTS THE WIDTH OF DUCT IN PLAN VIEW.

C. SIZE BRANCH DUCTWORK TO MATCH EQUIPMENT CONNECTION SIZE, UNLESS OTHERWISE NOTED.

D. SIZE BRANCH DUCTWORK TO DIFFUSERS AND GRILLES TO MATCH DIFFUSER OR GRILLE CONNECTION SIZE, UNLESS OTHERWISE NOTED.

E. PROVIDE 24-INCH x 24-INCH ACCESS DOORS FOR MECHANICAL EQUIPMENT LOCATED ABOVE HARD LID CEILINGS. COORDINATE FINAL ACCESS DOOR LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

F. RUN DUCTS CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO WALL AND UNDERSIDE OF BEAMS AND JOISTS.

G. COORDINATE WORK WITH OTHER TRADES. PROVIDE OFFSETS IN DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER.

H. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

I. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES. M603 FOR CONNECTION DETAILS.

J. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

K. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

## NOTES:

1. GRAVITY LAB DUCTWORK IS SHOWN ON M201.

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10/6/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

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**Development & Permitting Services**
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| Engineering | Public Works |
| Fire | Traffic |

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Revisions

| # | Date | Description |
|---|---|---|

LEVEL 0 - FLOOR PLAN - MECHANICAL

**M200**

IFC SET

PRCNC20221036

## GENERAL NOTES:

A. PROVIDE SHEET METAL DUCTWORK AND COMPONENTS INCLUDING HANGING, SEALING, PLENUMS, AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION, NFPA 90A, AND 90B STANDARDS.

B. DUCT DIMENSIONS SHOWN ARE INSIDE SHEET METAL DIMENSIONS OR CLEAR OPENING INSIDE LINED DUCT. THE FIRST NUMBER REPRESENTS THE WIDTH OF DUCT IN PLAN VIEW.

C. SIZE BRANCH DUCTWORK TO MATCH EQUIPMENT CONNECTION SIZE, UNLESS OTHERWISE NOTED.

D. SIZE BRANCH DUCTWORK TO DIFFUSERS AND GRILLES TO MATCH DIFFUSER OR GRILLE CONNECTION SIZE, UNLESS OTHERWISE NOTED.

E. PROVIDE 24-INCH x 24-INCH ACCESS DOORS FOR MECHANICAL EQUIPMENT LOCATED ABOVE HARD LID CEILINGS. COORDINATE FINAL ACCESS DOOR LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

F. RUN DUCTS CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO WALL AND UNDERSIDE OF BEAMS AND JOISTS.

G. COORDINATE WORK WITH OTHER TRADES. PROVIDE OFFSETS IN DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER.

H. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

I. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES. M603 FOR CONNECTION DETAILS.

J. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

K. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

## NOTES:

1. GENDER NEUTRAL RESTROOM. RESTROOM STALL PROVIDED WITH INDIVIDUAL EXHAUST GRILL AND MANUAL BALANCE DAMPER. STALL DOOR PROVIDED WITH 2" UNDERCUT FOR AIRFLOW.
2. PROVIDE BIRD SCREEN ON RETURN AIR TRANSFER DUCT OPENING.
3. PROVIDE INTERNAL LINING ON ALL TRANSFER DUCTWORK.

1 LEVEL 1 - FLOOR PLAN - MECHANICAL
1/8" = 1'-0"

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STATE OF WASHINGTON — JAMES J. SCHNEIDER — 13385 — REGISTERED PROFESSIONAL ENGINEER — 3/30/23

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
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City of Puyallup
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| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | JJS |
| Checked By: | CLG |

Revisions

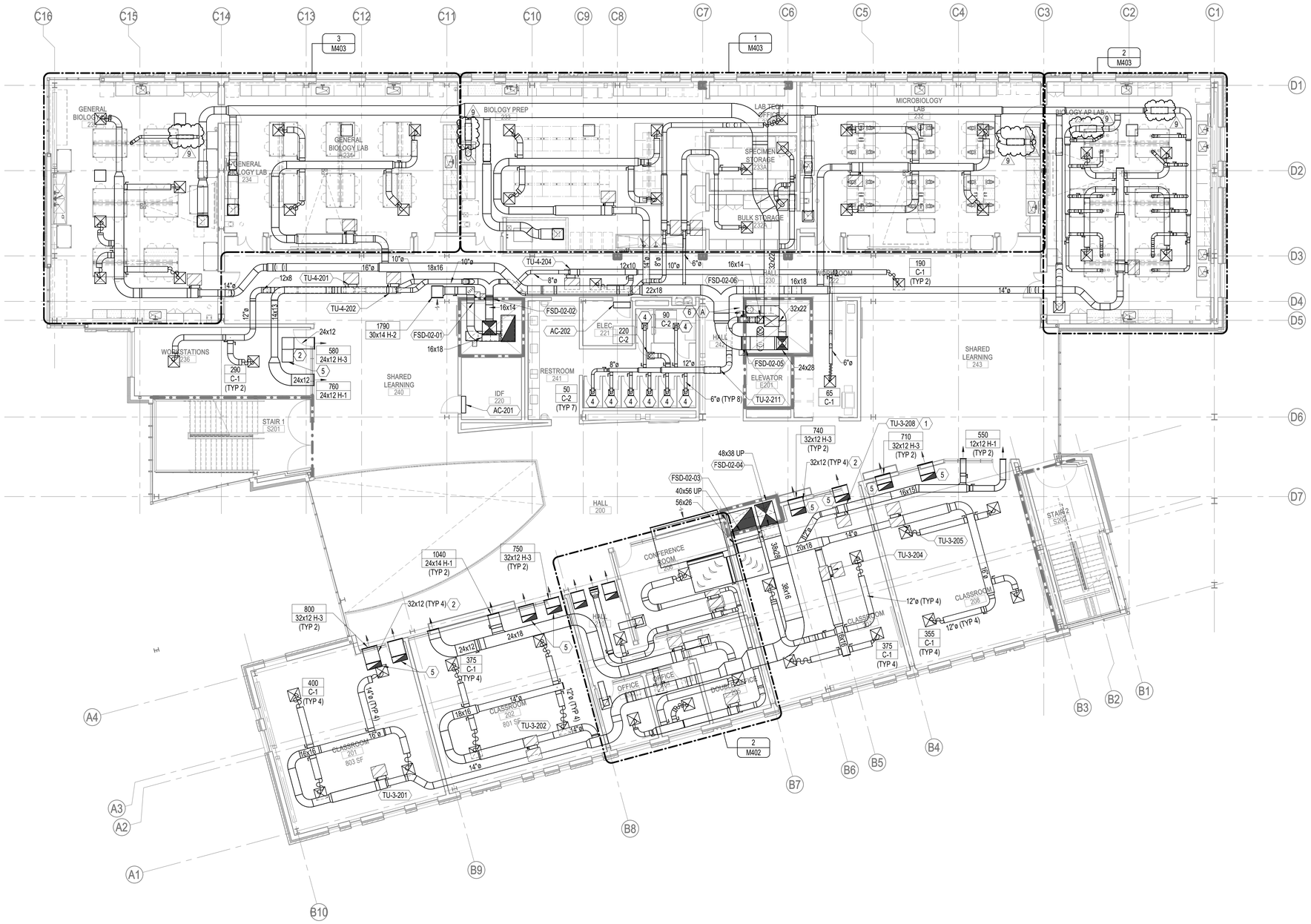
| # | Date | Description |
|---|---|---|
| 4 | 12/16/22 | ASI-008 |
| 10 | 03/30/23 | ASI-017 |

LEVEL 1 - FLOOR PLAN - MECHANICAL

**M201**

IFC SET

PRCNC20221036




1 LEVEL 2 - FLOOR PLAN - MECHANICAL
1/8" = 1'-0"

## GENERAL NOTES:

A. PROVIDE SHEET METAL DUCTWORK AND COMPONENTS INCLUDING HANGING, SEALING, PLENUMS, AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION, NFPA 90A, AND 90B STANDARDS.

B. DUCT DIMENSIONS SHOWN ARE INSIDE SHEET METAL DIMENSIONS OR CLEAR OPENING INSIDE LINED DUCT. THE FIRST NUMBER REPRESENTS THE WIDTH OF DUCT IN PLAN VIEW.

C. SIZE BRANCH DUCTWORK TO MATCH EQUIPMENT CONNECTION SIZE, UNLESS OTHERWISE NOTED.

D. SIZE BRANCH DUCTWORK TO DIFFUSERS AND GRILLES TO MATCH DIFFUSER OR GRILLE CONNECTION SIZE, UNLESS OTHERWISE NOTED.

E. PROVIDE 24-INCH x 24-INCH ACCESS DOORS FOR MECHANICAL EQUIPMENT LOCATED ABOVE HARD LID CEILINGS. COORDINATE FINAL ACCESS DOOR LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

F. RUN DUCTS CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO WALL AND UNDERSIDE OF BEAMS AND JOISTS.

G. COORDINATE WORK WITH OTHER TRADES. PROVIDE OFFSETS IN DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER.

H. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

I. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES. M603 FOR CONNECTION DETAILS.

J. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

K. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

## NOTES:

1. PROVIDE VINYL MASS LOADED WRAP ON ALL FAN POWERED TERMINAL UNITS.
2. PROVIDE INTERNAL LINING ON ALL TRANSFER DUCTWORK.
3. PROVIDE SILENCERS IMMEDIATELY UPSTREAM AND DOWNSTREAM OF ALL FAN POWERED TERMINAL UNITS.
4. GENDER NEUTRAL RESTROOM. RESTROOM STALL PROVIDED WITH INDIVIDUAL EXHAUST GRILL AND MANUAL BALANCE DAMPER. STALL DOOR PROVIDED WITH 2" UNDERCUT FOR AIRFLOW.
5. PROVIDE BIRD SCREEN ON RETURN AIR TRANSFER DUCT OPENING.
6. LOW ACCESS PANEL FOR FLOOR LEVEL FIRE SMOKE DAMPER.

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

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| Checked By: | Checker |

Revisions

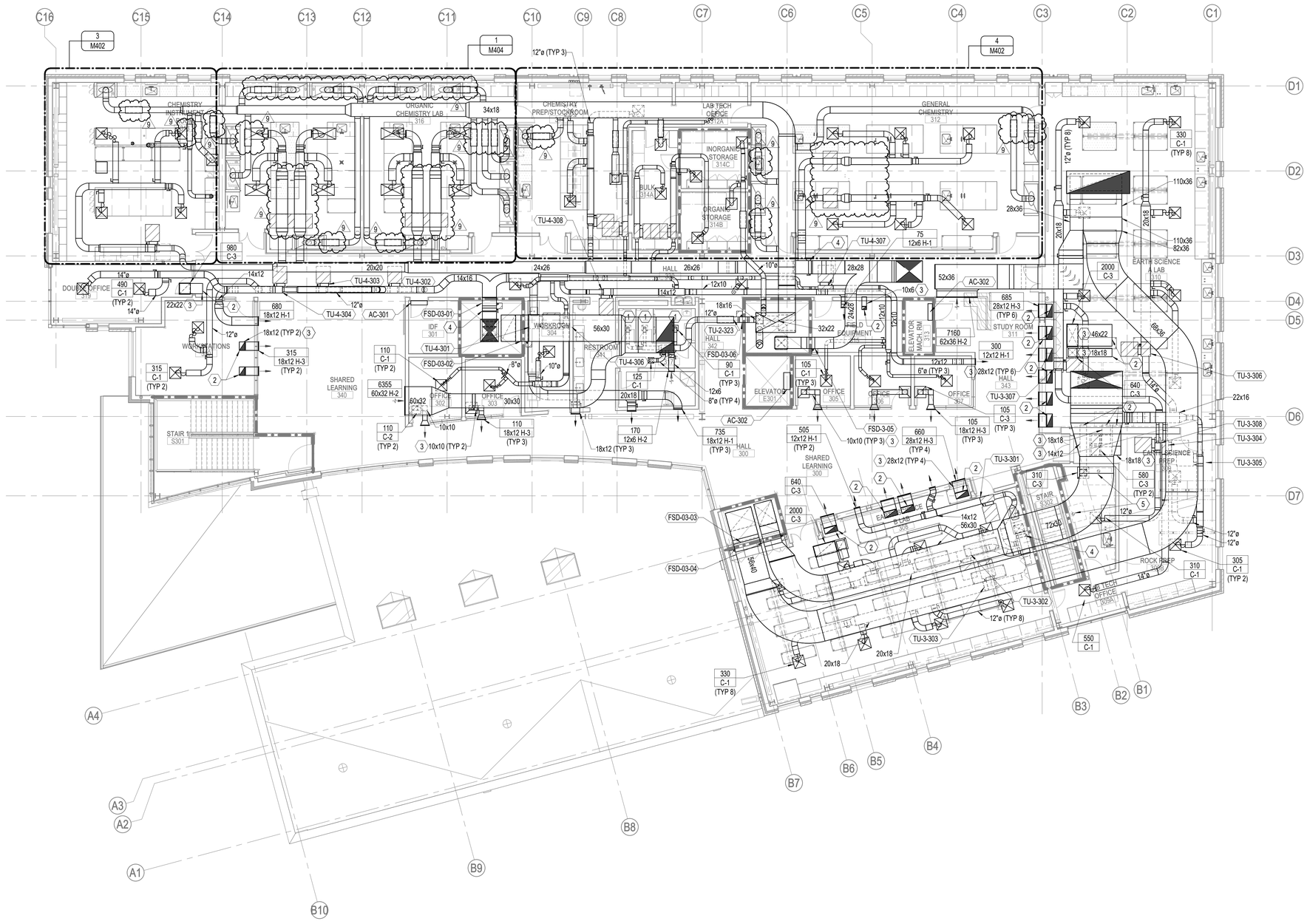
| # | Date | Description |
|---|---|---|
| 9 | 03/27/23 | ASI-017 |

LEVEL 2 - FLOOR PLAN - MECHANICAL

**M202**

IFC SET

PRCNC20221036




1 LEVEL 3 - FLOOR PLAN - MECHANICAL
1/8" = 1'-0"

## GENERAL NOTES:

A. PROVIDE SHEET METAL DUCTWORK AND COMPONENTS INCLUDING HANGING, SEALING, PLENUMS, AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION, NFPA 90A, AND 90B STANDARDS.

B. DUCT DIMENSIONS SHOWN ARE INSIDE SHEET METAL DIMENSIONS OR CLEAR OPENING INSIDE LINED DUCT. THE FIRST NUMBER REPRESENTS THE WIDTH OF DUCT IN PLAN VIEW.

C. SIZE BRANCH DUCTWORK TO MATCH EQUIPMENT CONNECTION SIZE, UNLESS OTHERWISE NOTED.

D. SIZE BRANCH DUCTWORK TO DIFFUSERS AND GRILLES TO MATCH DIFFUSER OR GRILLE CONNECTION SIZE, UNLESS OTHERWISE NOTED.

E. PROVIDE 24-INCH x 24-INCH ACCESS DOORS FOR MECHANICAL EQUIPMENT LOCATED ABOVE HARD LID CEILINGS. COORDINATE FINAL ACCESS DOOR LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

F. RUN DUCTS CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO WALL AND UNDERSIDE OF BEAMS AND JOISTS.

G. COORDINATE WORK WITH OTHER TRADES. PROVIDE OFFSETS IN DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER.

H. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

I. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES. M603 FOR CONNECTION DETAILS.

J. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

K. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

## NOTES:

1. GENDER NEUTRAL RESTROOM. RESTROOM STALL PROVIDED WITH INDIVIDUAL EXHAUST GRILL AND MANUAL BALANCE DAMPER. STALL DOOR PROVIDED WITH 2" UNDERCUT FOR AIRFLOW.
2. PROVIDE BIRD SCREEN ON RETURN AIR TRANSFER DUCT OPENING.
3. PROVIDE INTERNAL LINING ON ALL TRANSFER DUCTWORK.
4. TEST AND BALANCE CONTRACTOR TO ADJUST DAMPER SUCH THAT DOWNSTREAM TERMINAL UNITS DO NOT EXCEED 1.25 - INCH PRESSURE DROP.
5. EXHAUST FOR ROCK SAWS, PROVIDE COMPLETE DUST COLLECTION SYSTEM INDEPENDENT OF ALL BUILDING AIR HANDLING SYSTEMS.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10/7/2022

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NEW STEM BUILDING
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| Checked By: | Checker |

Revisions

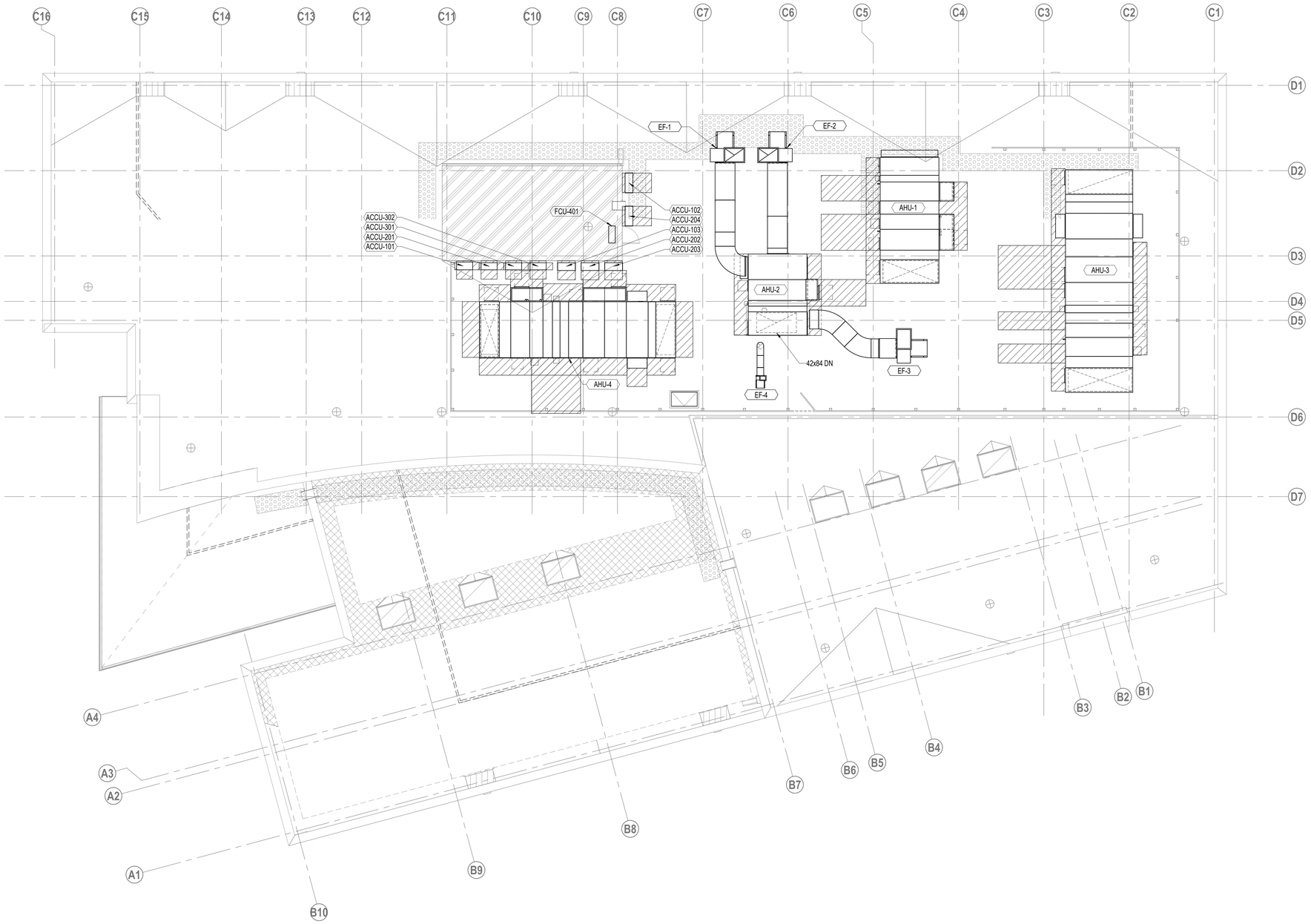
| # | Date | Description |
|---|---|---|
| 9 | 03/27/23 | ASI-017 |

LEVEL 3 - FLOOR PLAN - MECHANICAL

**M203**

IFC SET

PRCNC20221036




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

## GENERAL NOTES:

A. PROVIDE SHEET METAL DUCTWORK AND COMPONENTS INCLUDING HANGING, SEALING, PLENUMS, AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION, NFPA 90A, AND 90B STANDARDS.

B. DUCT DIMENSIONS SHOWN ARE INSIDE SHEET METAL DIMENSIONS OR CLEAR OPENING INSIDE LINED DUCT. THE FIRST NUMBER REPRESENTS THE WIDTH OF DUCT IN PLAN VIEW.

C. SIZE BRANCH DUCTWORK TO MATCH EQUIPMENT CONNECTION SIZE, UNLESS OTHERWISE NOTED.

D. SIZE BRANCH DUCTWORK TO DIFFUSERS AND GRILLES TO MATCH DIFFUSER OR GRILLE CONNECTION SIZE, UNLESS OTHERWISE NOTED.

E. PROVIDE 24-INCH x 24-INCH ACCESS DOORS FOR MECHANICAL EQUIPMENT LOCATED ABOVE HARD LID CEILINGS. COORDINATE FINAL ACCESS DOOR LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

F. RUN DUCTS CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO WALL AND UNDERSIDE OF BEAMS AND JOISTS.

G. COORDINATE WORK WITH OTHER TRADES. PROVIDE OFFSETS IN DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER.

H. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

I. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES. M603 FOR CONNECTION DETAILS.

J. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

K. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

## NOTES:

1. NONE.

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STEVEN STEELE — STATE OF WASHINGTON — 21382 — REGISTERED PROFESSIONAL ENGINEER — 10/7/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
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City of Puyallup
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| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

ROOF PLAN - MECHANICAL

**M204**

IFC SET

PRCNC20221036

## GENERAL NOTES:

A. PROVIDE INDEPENDENT 3/4-INCH SUPPLY AND RETURN HYDRONIC PIPING FROM BRANCH LINES TO TERMINAL EQUIPMENT UNLESS OTHERWISE NOTED.

A. RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.

B. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

C. PROVIDE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, OR ROOFS. FILL ANNULAR SPACE WITH MINERAL FIBER (OR FIRE STOPPING MATERIAL WHERE FIRE RATED) AND SEAL WATERTIGHT.

D. PROVIDE WALL SLEEVES FLUSH WITH FINISHED SURFACE.

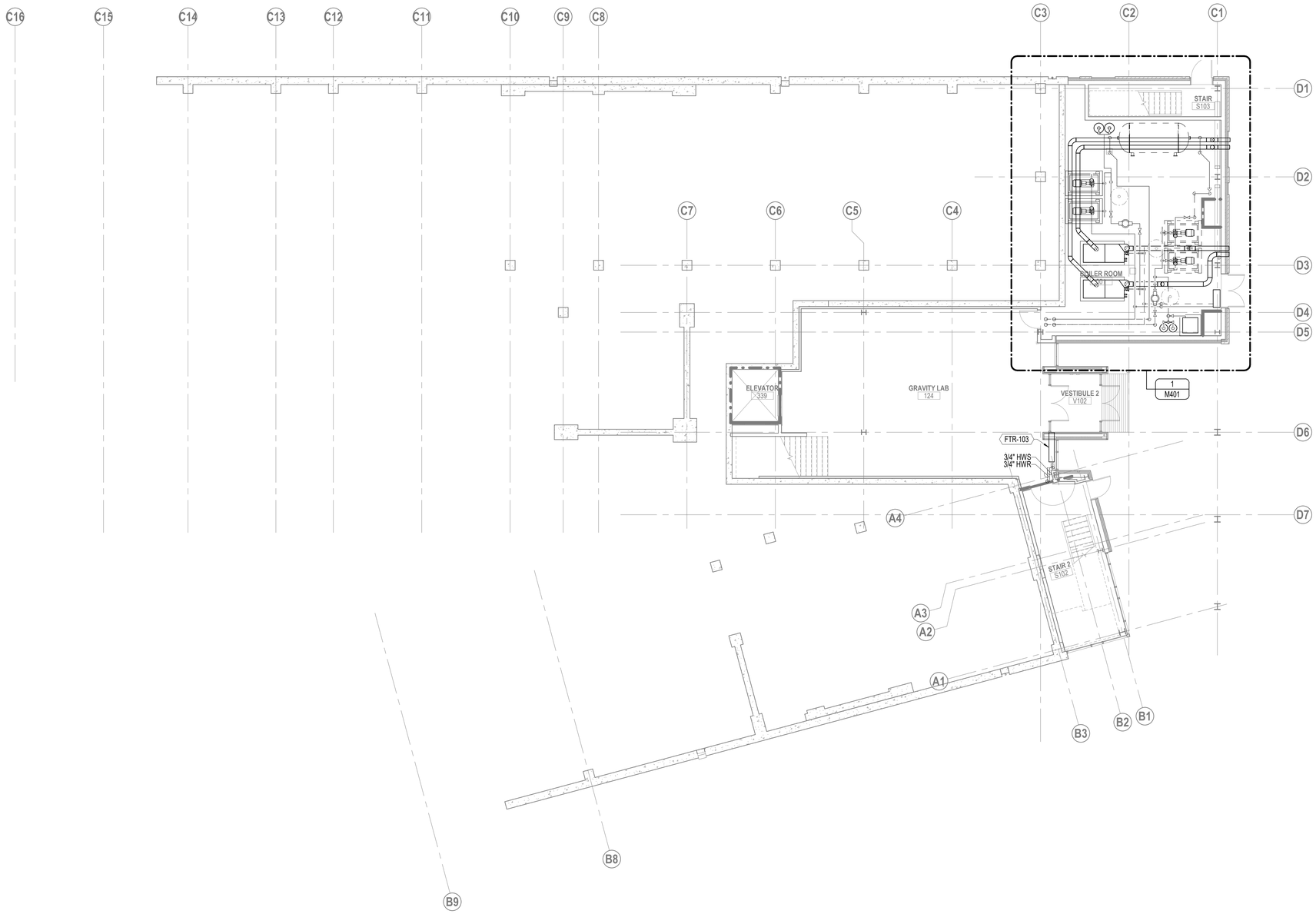
E. PROVIDE FLOOR SLEEVES EXTENDING A MINIMUM OF 2 INCHES ABOVE FINISHED FLOOR WITHIN EQUIPMENT ROOMS AND SHAFTS. DO NOT SUPPORT PIPING BY RESTING PIPE CLAMPS ON FLOOR SLEEVES.

F. PROVIDE ROOF SLEEVES EXTENDING A MINIMUM OF 8 INCHES ABOVE ROOF.

G. PROVIDE WALL AND CEILING PLATES AT EACH PIPE PENETRATION THROUGH ARCHITECTURAL WALLS AND CEILINGS.

H. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

I. SLOPE ALL CONDENSATE 1/4" PER FOOT TO LAVATORY TAILPIECE AND PROVIDE CLEANOUTS IN ACCORDANCE WITH WA PLUMBING CODE 814.0.




1 LEVEL 0 - FLOOR PLAN - MECHANICAL PIPING
1/8" = 1'-0"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**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
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**City of Puyallup**
**Development & Permitting Services**
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Revisions

| # | Date | Description |
|---|---|---|

LEVEL 0 - FLOOR PLAN - MECHANICAL PIPING

**M300**

IFC SET

PRCNC20221036

## GENERAL NOTES:

A. PROVIDE INDEPENDENT 3/4-INCH SUPPLY AND RETURN HYDRONIC PIPING FROM BRANCH LINES TO TERMINAL EQUIPMENT UNLESS OTHERWISE NOTED.

A. RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.

B. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

C. PROVIDE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, OR ROOFS. FILL ANNULAR SPACE WITH MINERAL FIBER (OR FIRE STOPPING MATERIAL WHERE FIRE RATED) AND SEAL WATERTIGHT.

D. PROVIDE WALL SLEEVES FLUSH WITH FINISHED SURFACE.

E. PROVIDE FLOOR SLEEVES EXTENDING A MINIMUM OF 2 INCHES ABOVE FINISHED FLOOR WITHIN EQUIPMENT ROOMS AND SHAFTS. DO NOT SUPPORT PIPING BY RESTING PIPE CLAMPS ON FLOOR SLEEVES.

F. PROVIDE ROOF SLEEVES EXTENDING A MINIMUM OF 8 INCHES ABOVE ROOF.

G. PROVIDE WALL AND CEILING PLATES AT EACH PIPE PENETRATION THROUGH ARCHITECTURAL WALLS AND CEILINGS.

H. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

I. SLOPE ALL CONDENSATE 1/4" PER FOOT TO LAVATORY TAILPIECE AND PROVIDE CLEANOUTS IN ACCORDANCE WITH WA PLUMBING CODE 814.0.

## NOTES:

1. LINE TAKEOFF CAPPED FOR FUTURE DEMAND. SEE RISER DIAGRAM M702 FOR DETAIL.
2. PROVIDE OFFSETS TO AVOID STRUCTURE AND DUCTWORK AS NEEDED.
3. CONNECT CONDENSATE DRAIN TO LAVATORY TAILPIECE IN ACCORDANCE WITH WA PLUMBING CODE 814.0.
4. PUMP CONDENSATE TO TOP OF DRAIN LINE IN ACCORDANCE WITH WA PLUMBING CODE 814.0

1 LEVEL 1 - FLOOR PLAN - MECHANICAL PIPING
1/8" = 1'-0"

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**PIERCE COLLEGE PUYALLUP**
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| Checked By: | CLG |

Revisions

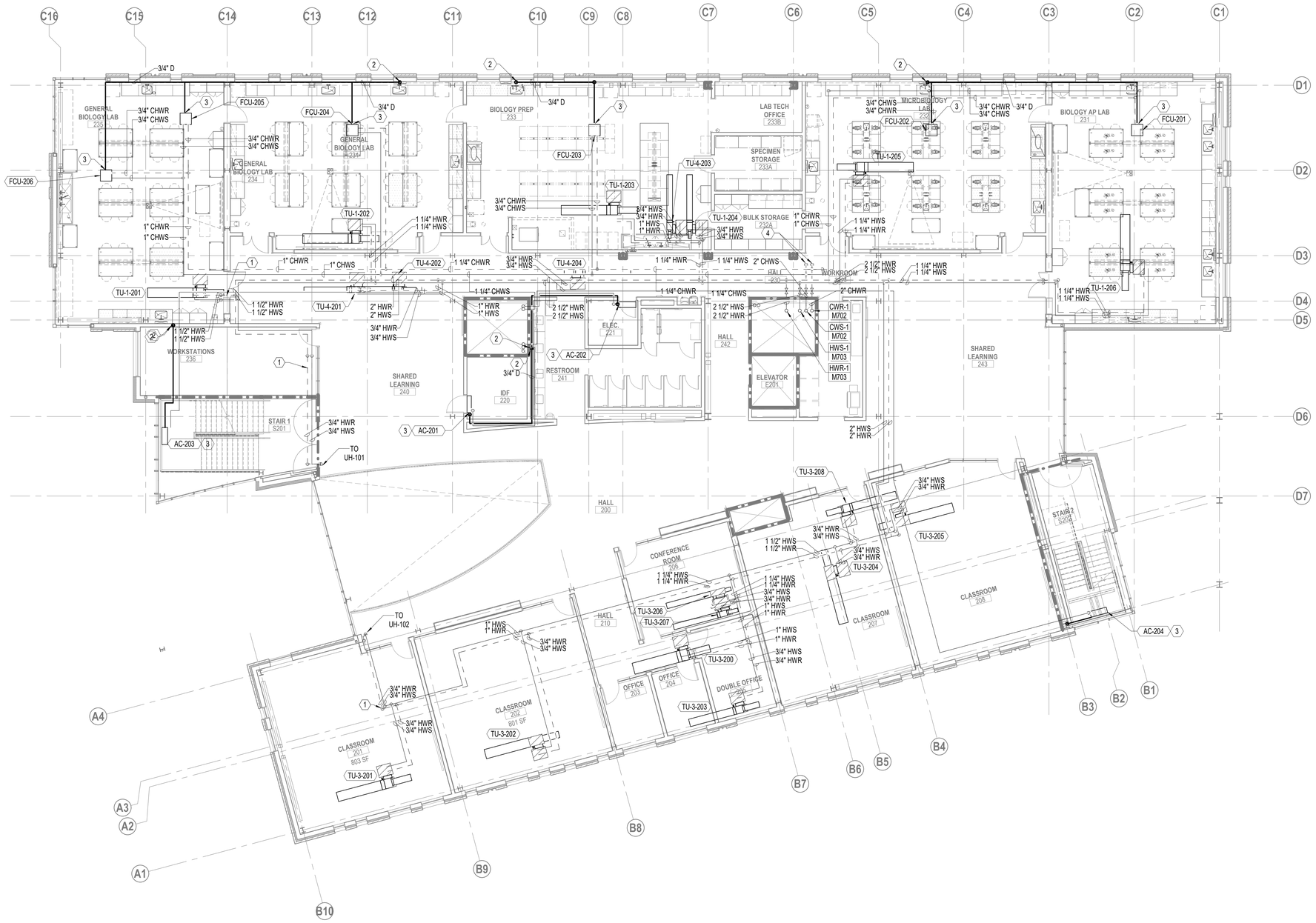
| # | Date | Description |
|---|---|---|
| 4 | 12/16/22 | ASI-008 |

LEVEL 1 - FLOOR PLAN - MECHANICAL PIPING

**M301**

IFC SET

PRCNC20221036




1 LEVEL 2 - FLOOR PLAN - MECHANICAL PIPING
1/8" = 1'-0"

## GENERAL NOTES:

A. PROVIDE INDEPENDENT 3/4-INCH SUPPLY AND RETURN HYDRONIC PIPING FROM BRANCH LINES TO TERMINAL EQUIPMENT UNLESS OTHERWISE NOTED.

A. RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.

B. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

C. PROVIDE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, OR ROOFS. FILL ANNULAR SPACE WITH MINERAL FIBER (OR FIRE STOPPING MATERIAL WHERE FIRE RATED) AND SEAL WATERTIGHT.

D. PROVIDE WALL SLEEVES FLUSH WITH FINISHED SURFACE.

E. PROVIDE FLOOR SLEEVES EXTENDING A MINIMUM OF 2 INCHES ABOVE FINISHED FLOOR WITHIN EQUIPMENT ROOMS AND SHAFTS. DO NOT SUPPORT PIPING BY RESTING PIPE CLAMPS ON FLOOR SLEEVES.

F. PROVIDE ROOF SLEEVES EXTENDING A MINIMUM OF 8 INCHES ABOVE ROOF.

G. PROVIDE WALL AND CEILING PLATES AT EACH PIPE PENETRATION THROUGH ARCHITECTURAL WALLS AND CEILINGS.

H. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

I. SLOPE ALL CONDENSATE 1/4" PER FOOT TO LAVATORY TAILPIECE AND PROVIDE CLEANOUTS IN ACCORDANCE WITH WA PLUMBING CODE 814.0.

## NOTES:

1. PROVIDE OFFSETS TO AVOID STRUCTURE AND DUCTWORK AS NEEDED.
2. CONNECT CONDENSATE DRAIN TO LAVATORY TAILPIECE IN ACCORDANCE WITH WA PLUMBING CODE 814.0.
3. PUMP CONDENSATE TO TOP OF DRAIN LINE IN ACCORDANCE WITH WA PLUMBING CODE 814.0
4. LINE TAKEOFF CAPPED FOR FUTURE DEMAND. SEE RISER DIAGRAM M702 FOR DETAIL.

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JUSTIN STEELE — STATE OF WASHINGTON — 21388 — REGISTERED PROFESSIONAL ENGINEER — 10/6/2022

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**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
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| # | Date | Description |
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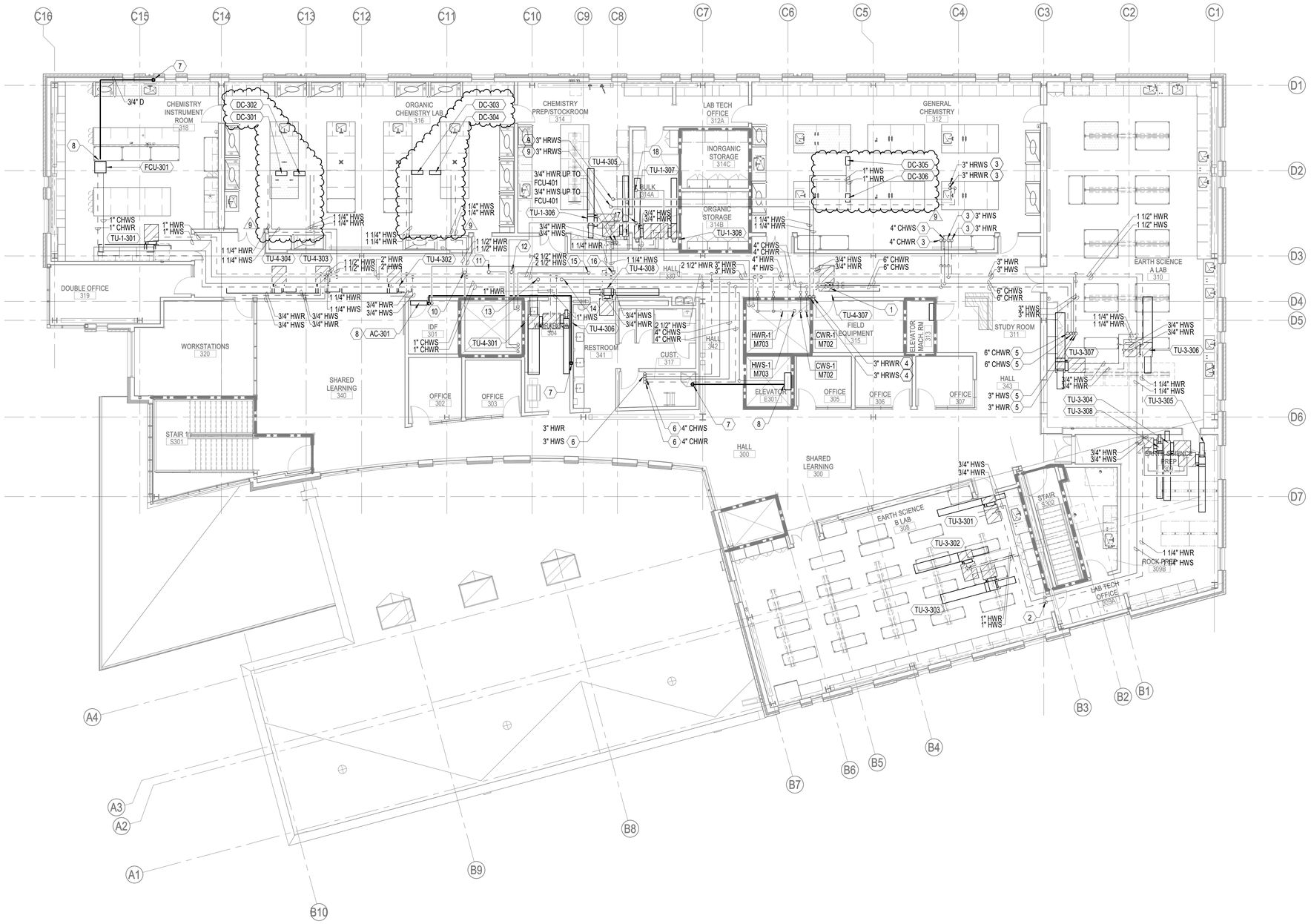
LEVEL 2 - FLOOR PLAN - MECHANICAL PIPING

**M302**

IFC SET

PRCNC20221036




1 LEVEL 3 - FLOOR PLAN - MECHANICAL PIPING
1/8" = 1'-0"

## GENERAL NOTES:

A. PROVIDE INDEPENDENT 3/4-INCH SUPPLY AND RETURN HYDRONIC PIPING FROM BRANCH LINES TO TERMINAL EQUIPMENT UNLESS OTHERWISE NOTED.

A. RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.

B. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

C. PROVIDE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, OR ROOFS. FILL ANNULAR SPACE WITH MINERAL FIBER (OR FIRE STOPPING MATERIAL WHERE FIRE RATED) AND SEAL WATERTIGHT.

D. PROVIDE WALL SLEEVES FLUSH WITH FINISHED SURFACE.

E. PROVIDE FLOOR SLEEVES EXTENDING A MINIMUM OF 2 INCHES ABOVE FINISHED FLOOR WITHIN EQUIPMENT ROOMS AND SHAFTS. DO NOT SUPPORT PIPING BY RESTING PIPE CLAMPS ON FLOOR SLEEVES.

F. PROVIDE ROOF SLEEVES EXTENDING A MINIMUM OF 8 INCHES ABOVE ROOF.

G. PROVIDE WALL AND CEILING PLATES AT EACH PIPE PENETRATION THROUGH ARCHITECTURAL WALLS AND CEILINGS.

H. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

I. SLOPE ALL CONDENSATE 1/4" PER FOOT TO LAVATORY TAILPIECE AND PROVIDE CLEANOUTS IN ACCORDANCE WITH WA PLUMBING CODE 814.0.

## NOTES:

1. LINE TAKEOFF CAPPED FOR FUTURE DEMAND. SEE RISER DIAGRAM M702 FOR DETAIL.
2. PROVIDE OFFSETS TO AVOID STRUCTURE AND DUCTWORK AS NEEDED.
3. UP TO AIR HANDLING UNIT 1.
4. UP TO AIR HANDLING UNIT 2.
5. UP TO AIR HANDLING UNIT 3.
6. UP TO AIR HANDLING UNIT 4.
7. CONNECT CONDENSATE DRAIN TO LAVATORY TAILPIECE IN ACCORDANCE WITH WA PLUMBING CODE 814.0.
8. PUMP CONDENSATE TO TOP OF DRAIN LINE IN ACCORDANCE WITH WA PLUMBING CODE 814.0
9. UP TO MECHANICAL PENTHOUSE.
10. RL UP TO ACCU-101.
11. RL UP TO ACCU-201.
12. RL UP TO ACCU-301.
13. RL UP TO ACCU-302.
14. RL UP TO ACCU-103.
15. RL UP TO ACCU-202.
16. RL UP TO ACCU-203.
17. RL UP TO ACCU-204.
18. RL UP TO ACCU-102.

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JOSEPH M. SCHELL
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11/7/2023

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**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
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Revisions

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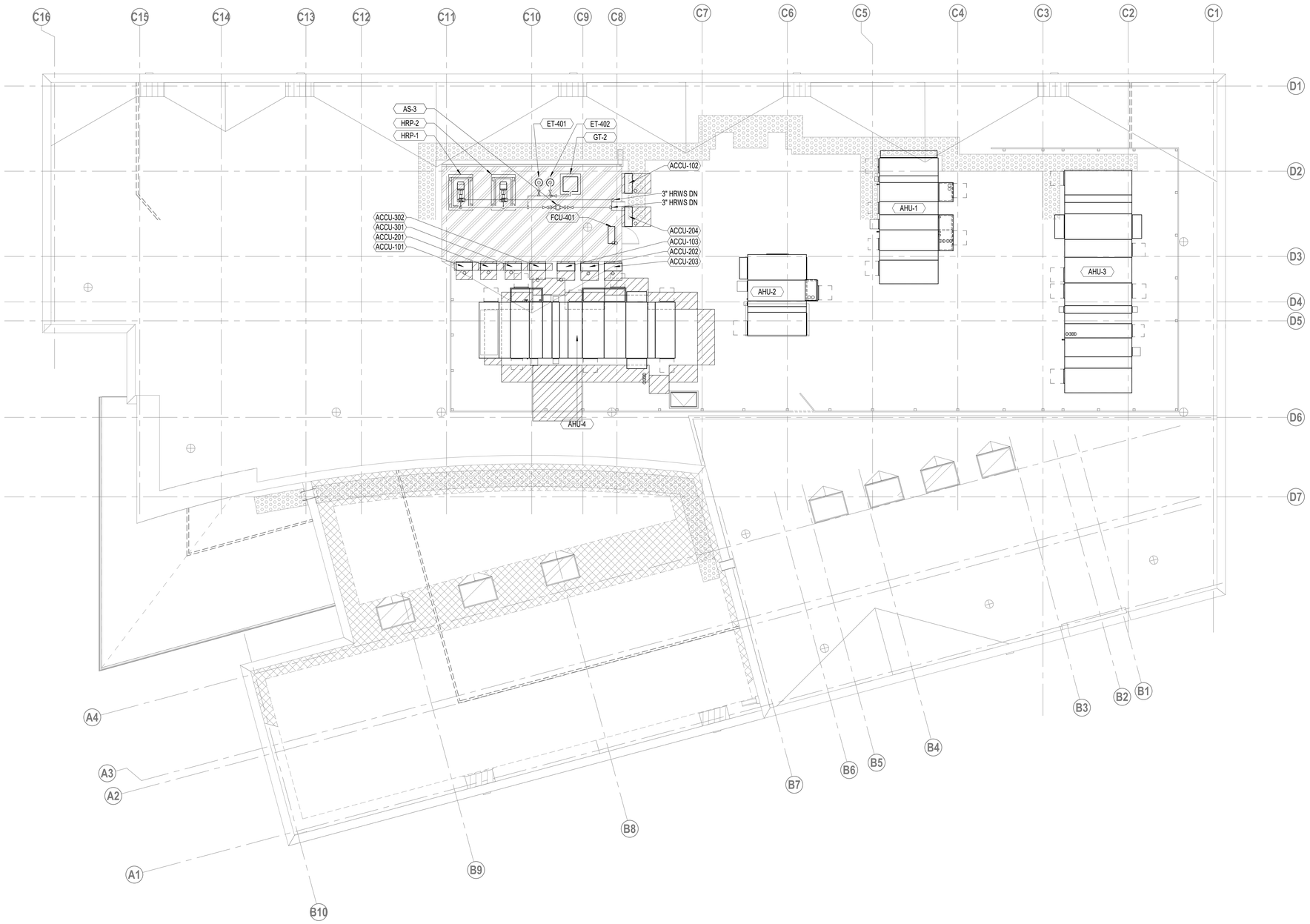
| 9 | 03/27/23 | ASI-017 |

LEVEL 3 - FLOOR PLAN - MECHANICAL PIPING

**M303**

IFC SET

PRCNC20221036




1 ROOF PLAN - MECHANICAL PIPING
1/8" = 1'-0"

## GENERAL NOTES:

A. PROVIDE INDEPENDENT 3/4-INCH SUPPLY AND RETURN HYDRONIC PIPING FROM BRANCH LINES TO TERMINAL EQUIPMENT UNLESS OTHERWISE NOTED.

A. RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.

B. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

C. PROVIDE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, OR ROOFS. FILL ANNULAR SPACE WITH MINERAL FIBER (OR FIRE STOPPING MATERIAL WHERE FIRE RATED) AND SEAL WATERTIGHT.

D. PROVIDE WALL SLEEVES FLUSH WITH FINISHED SURFACE.

E. PROVIDE FLOOR SLEEVES EXTENDING A MINIMUM OF 2 INCHES ABOVE FINISHED FLOOR WITHIN EQUIPMENT ROOMS AND SHAFTS. DO NOT SUPPORT PIPING BY RESTING PIPE CLAMPS ON FLOOR SLEEVES.

F. PROVIDE ROOF SLEEVES EXTENDING A MINIMUM OF 8 INCHES ABOVE ROOF.

G. PROVIDE WALL AND CEILING PLATES AT EACH PIPE PENETRATION THROUGH ARCHITECTURAL WALLS AND CEILINGS.

H. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

I. SLOPE ALL CONDENSATE 1/4" PER FOOT TO LAVATORY TAILPIECE AND PROVIDE CLEANOUTS IN ACCORDANCE WITH WA PLUMBING CODE 814.0.

## NOTES:

1. NONE.

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

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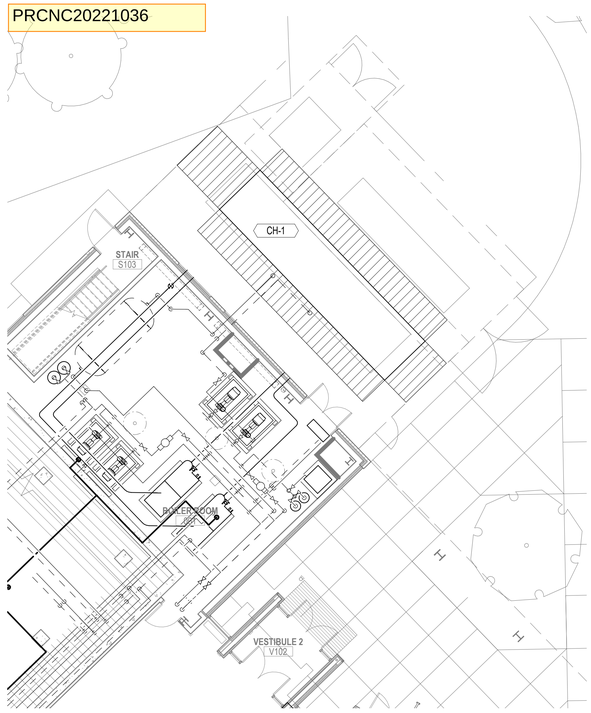
ROOF PLAN - MECHANICAL PIPING

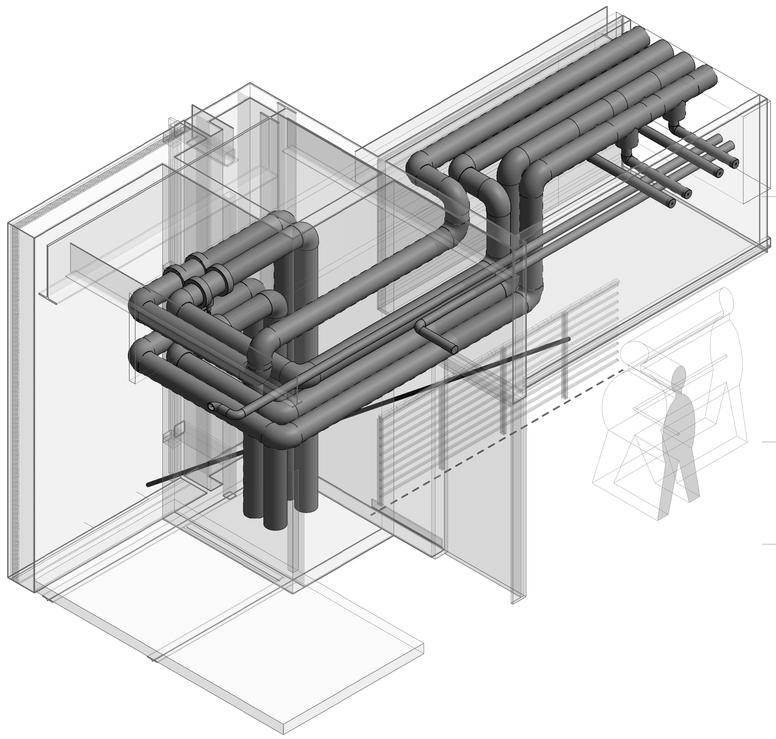
**M304**

IFC SET

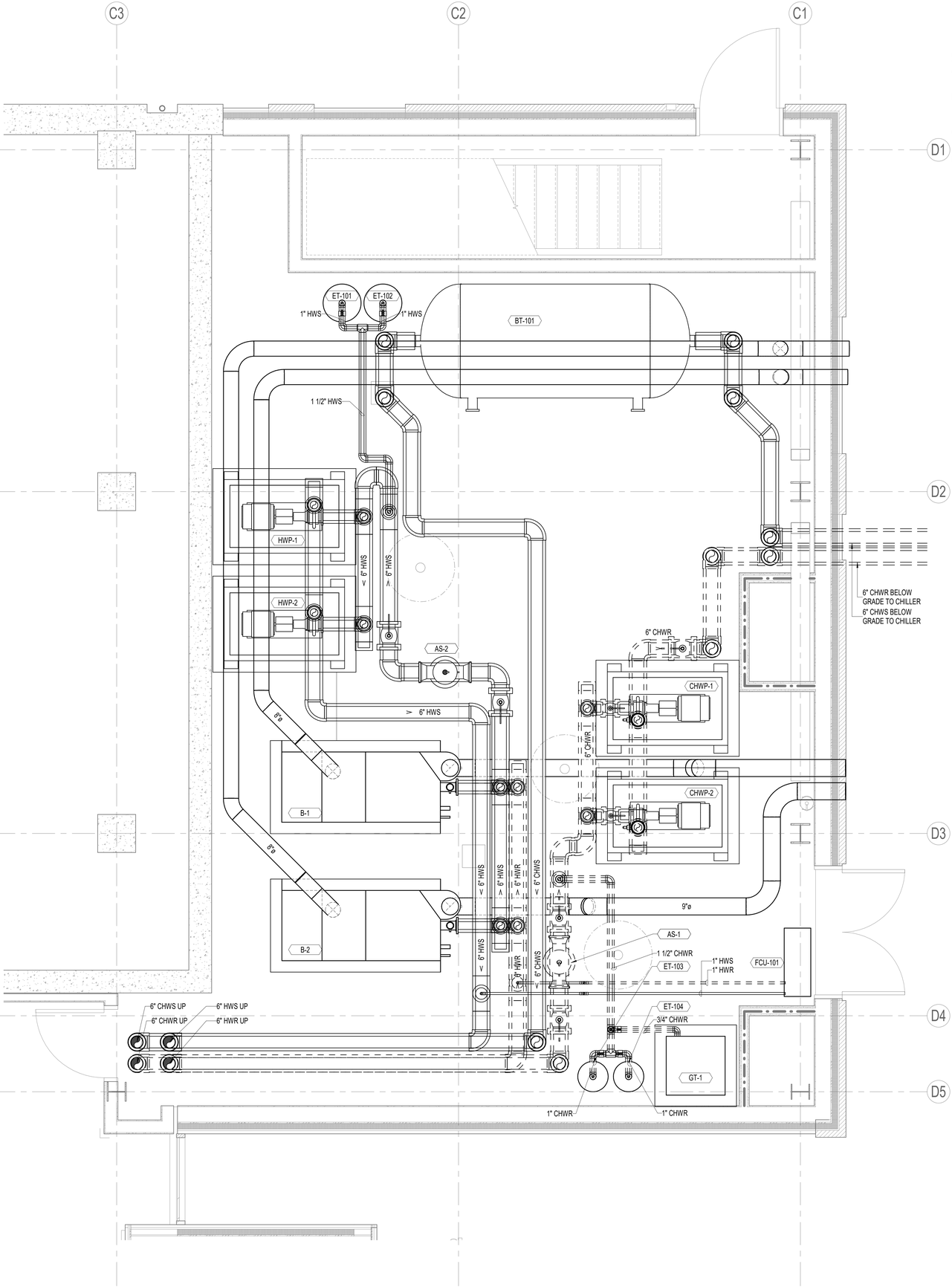
PRCNC20221036




2 PRINT - Mechanical - Site - Callout 1
1/8" = 1'-0"



3 L01 MECHANICAL PIPE RISER




1 LEVEL 1 - BOILER RROM 316 - ENLARGED PLAN - MECHANICAL
1/2" = 1'-0"

**GENERAL NOTES:**

A. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

B. REFERENCE ARCH RCP'S FOR EXACT DIFFUSER LOCATIONS, AND M603 FOR CONNECTION DETAILS.

C. COORDINATE FLOOR-BOX LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN.

D. OUTLETS SHOWN ALONG RACEWAY, NOT INDICATED AS ABOVE COUNTER, ARE KNEE SPACE OUTLETS. COORDINATE EXACT LOCATION WITH LAB CONSULTANT AND CASEWORK DRAWINGS.

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10/6/2022

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**PIERCE COLLEGE PUYALLUP**
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Revisions

| # | Date | Description |
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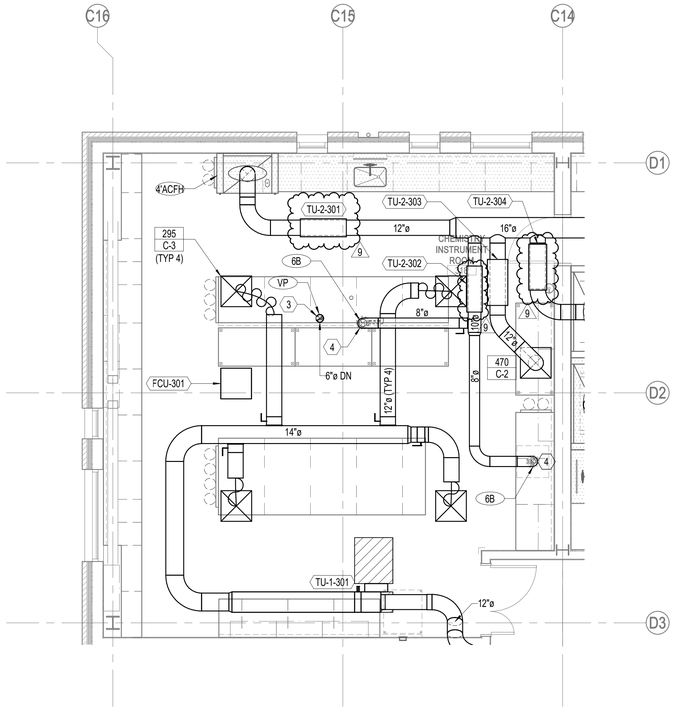
ENLARGED PLAN - MECHANICAL

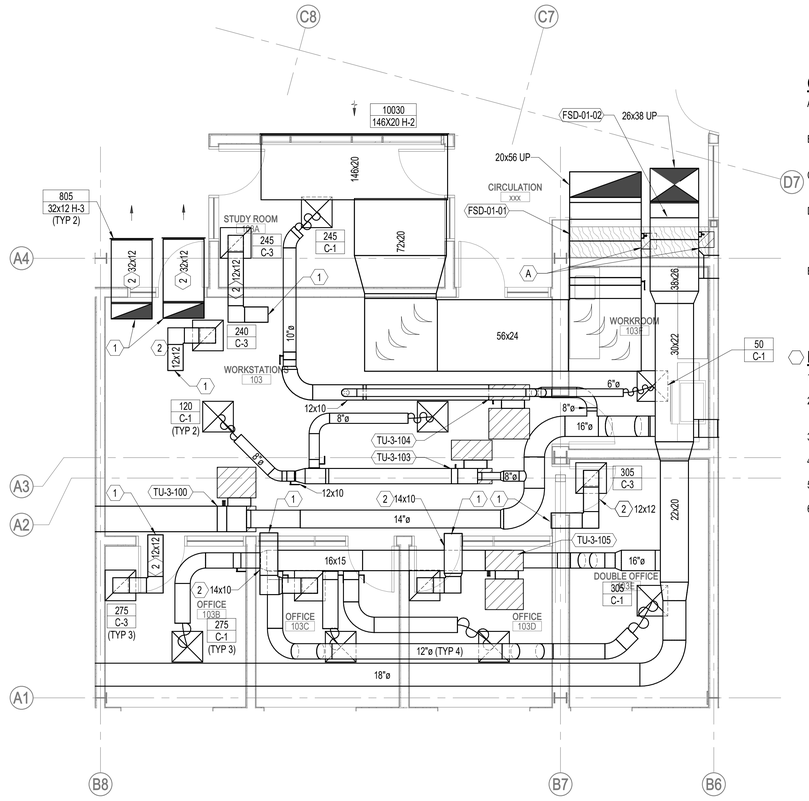
**M401**

IFC SET

PRCNC20221036




3 LEVEL 3 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"




1 LEVEL 1 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

## GENERAL NOTES:

A. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

B. REFERENCE ARCH RCP'S FOR EXACT DIFFUSER LOCATIONS, AND M603 FOR CONNECTION DETAILS.

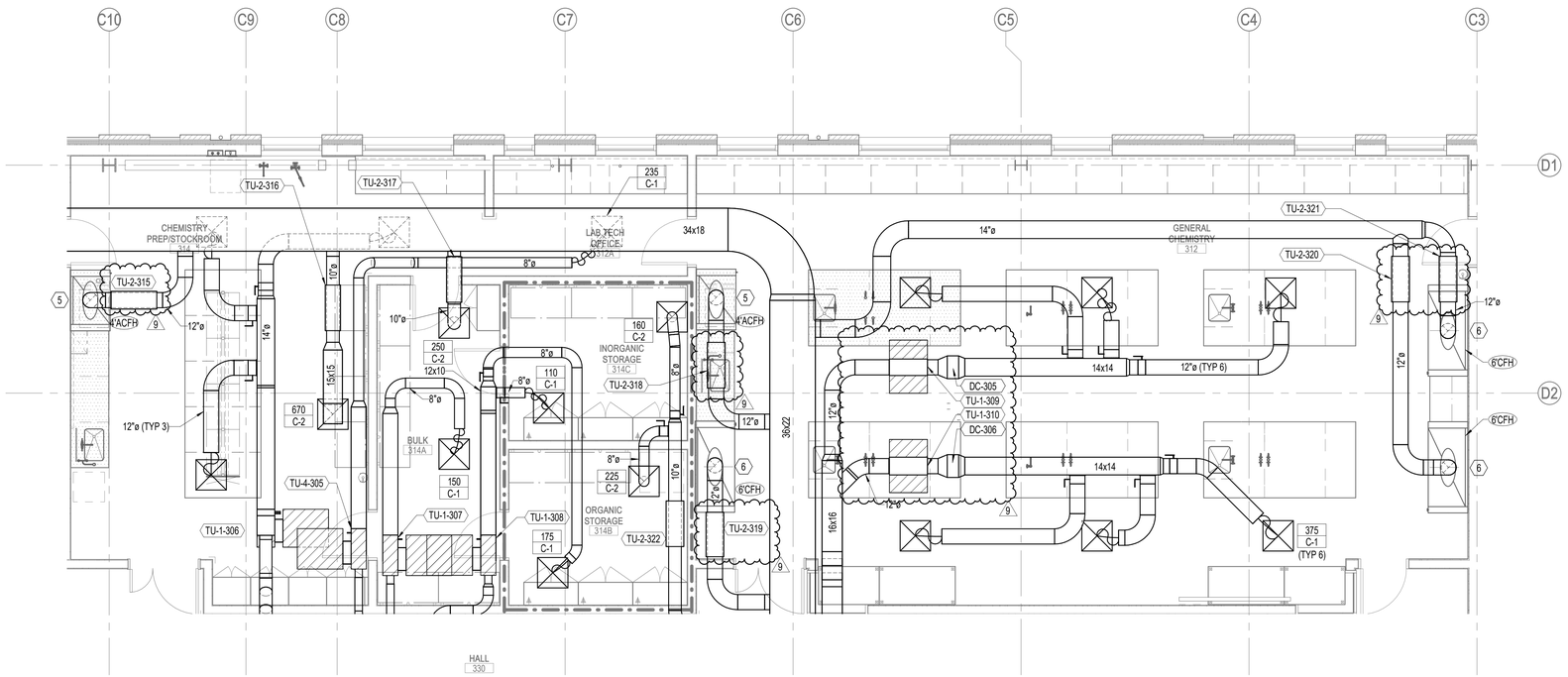
C. COORDINATE FLOOR-BOX LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN.

D. OUTLETS SHOWN ALONG RACEWAY, NOT INDICATED AS ABOVE COUNTER, ARE KNEE SPACE OUTLETS. COORDINATE EXACT LOCATION WITH LAB CONSULTANT AND CASEWORK DRAWINGS.

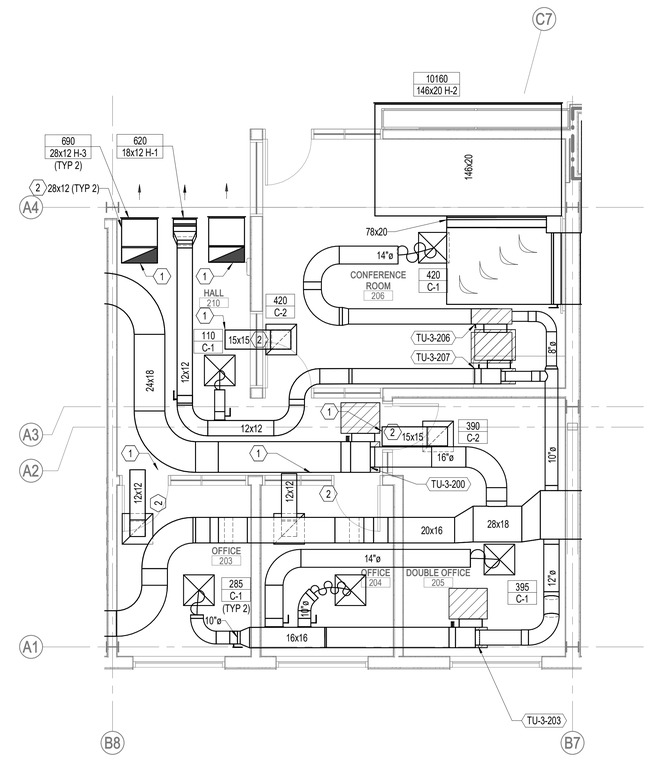
E. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

## NOTES:

1. BIRD SCREEN RETURN AIR TRANSFER DUCT OPENING.
2. PROVIDE INTERNAL LINING ON ALL TRANSFER DUCTWORK.
3. CONNECT TO VACUUM PUMP.
4. CONNECT TO ATOMIC ABSORPTION SNORKEL.
5. CONNECT TO 4 FOOT CHEMICAL FUME HOOD.
6. CONNECT TO 6 FOOT CHEMICAL FUME HOOD.




4 LEVEL 3 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"




2 LEVEL 2 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

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Revisions

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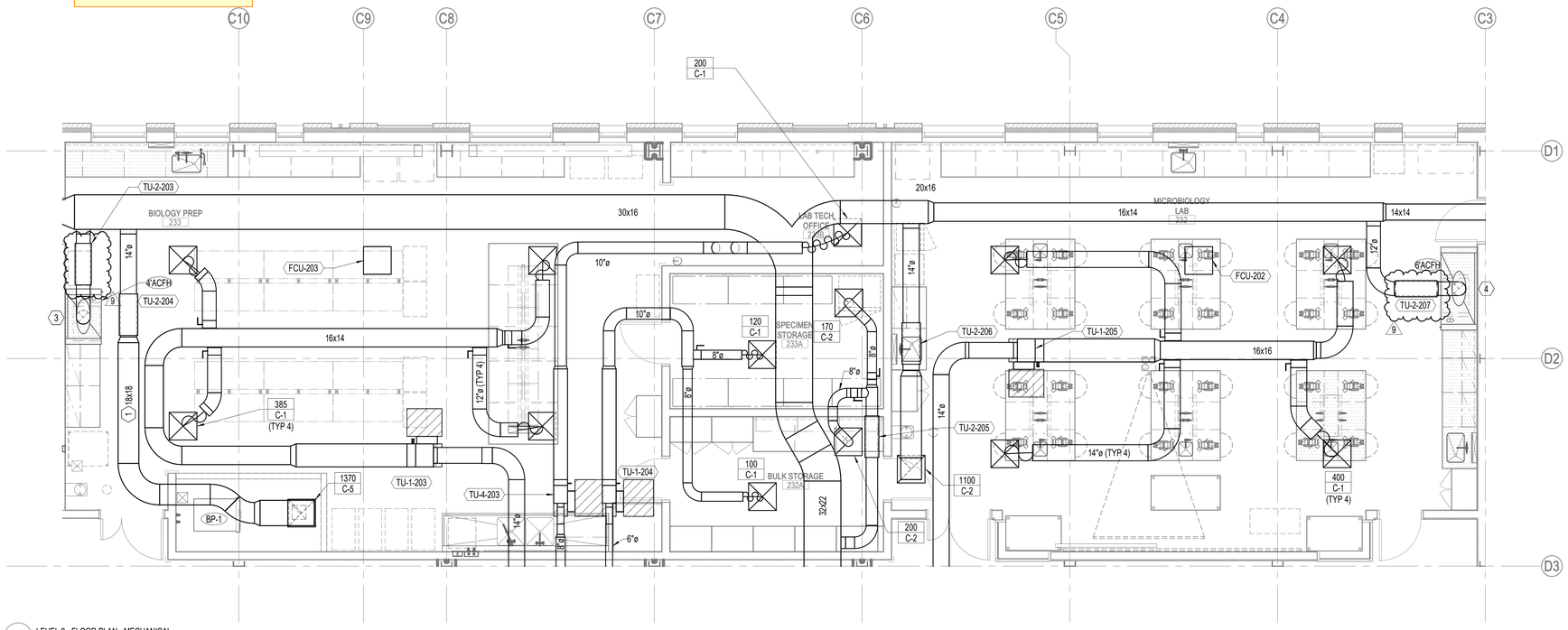
| 9 | 03/27/23 | ASI-017 |

ENLARGED PLANS - MECHANICAL

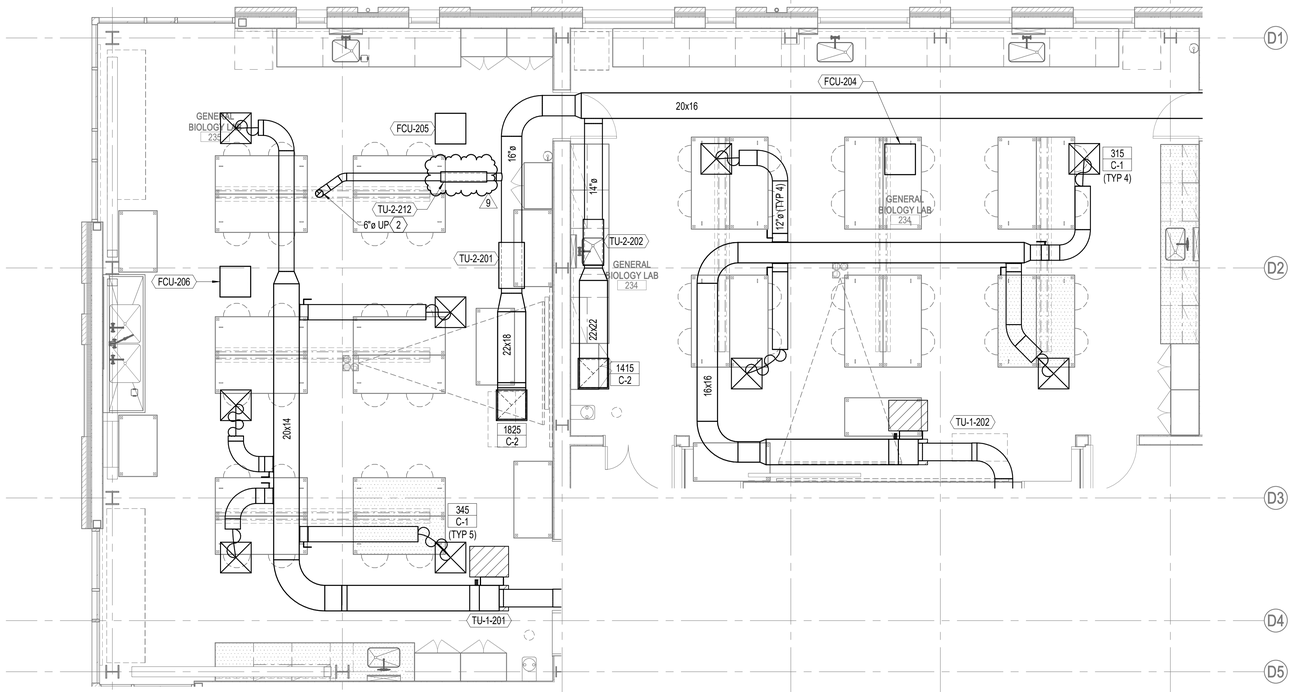
**M402**

IFC SET

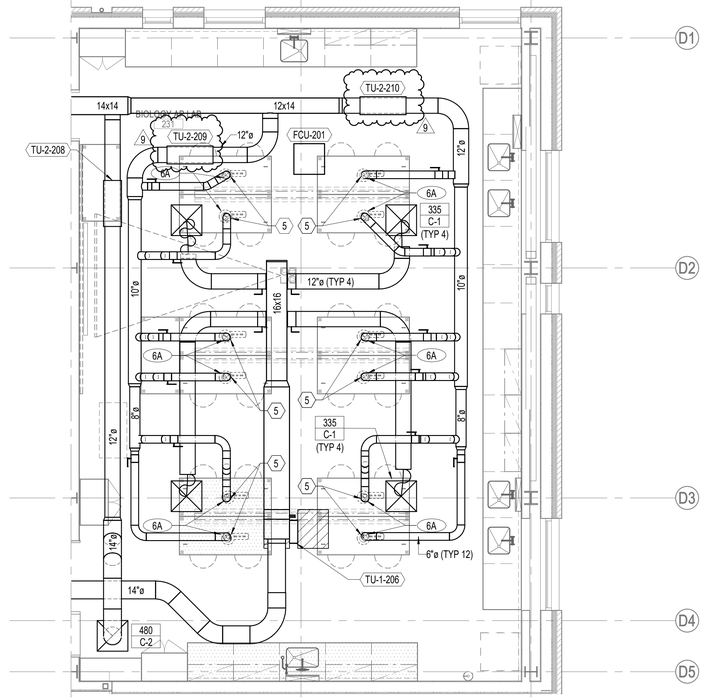
PRCNC20221036




1 LEVEL 2 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"




3 LEVEL 2 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"




2 LEVEL 2 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

## GENERAL NOTES:

A. PROVIDE SHEET METAL DUCTWORK AND COMPONENTS INCLUDING HANGING, SEALING, PLENUMS, AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION, NFPA 90A, AND 90B STANDARDS.

B. DUCT DIMENSIONS SHOWN ARE INSIDE SHEET METAL DIMENSIONS OR CLEAR OPENING INSIDE LINED DUCT. THE FIRST NUMBER REPRESENTS THE WIDTH OF DUCT IN PLAN VIEW.

C. SIZE BRANCH DUCTWORK TO MATCH EQUIPMENT CONNECTION SIZE, UNLESS OTHERWISE NOTED.

D. SIZE BRANCH DUCTWORK TO DIFFUSERS AND GRILLES TO MATCH DIFFUSER OR GRILLE CONNECTION SIZE, UNLESS OTHERWISE NOTED.

E. PROVIDE 24-INCH x 24-INCH ACCESS DOORS FOR MECHANICAL EQUIPMENT LOCATED ABOVE HARD LID CEILINGS. COORDINATE FINAL ACCESS DOOR LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

F. RUN DUCTS CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO WALL AND UNDERSIDE OF BEAMS AND JOISTS.

G. COORDINATE WORK WITH OTHER TRADES. PROVIDE OFFSETS IN DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER.

H. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

I. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES. M603 FOR CONNECTION DETAILS.

J. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

K. APPLIANCES AND EQUIPMENT ABOVE HARD LID CEILINGS: PROVIDE CEILING ACCESS PANEL NOT LESS THAN 24-INCHES WIDE AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE IN THE SPACE. COORDINATE PANELS AND LOCATIONS WITH ARCHITECT.

## NOTES:

1. PROVIDE ALUMINUM DUCT SLOPED AT 1/4"/12" DOWNSTREAM OF VALVE TO EXHAUST GRILLE.
2. CONNECT TO VACUUM PUMP CABINET IN 318 CHEMISTRY INSTRUMENT ROOM.
3. CONNECT TO 4 FOOT CHEMICAL FUME HOOD.
4. CONNECT TO 6 FOOT CHEMICAL FUME HOOD.
5. CONNECT TO EXHAUST SNORKEL.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STATE OF WASHINGTON
43385
REGISTERED
PROFESSIONAL ENGINEER
10/7/2022


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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

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| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

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| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

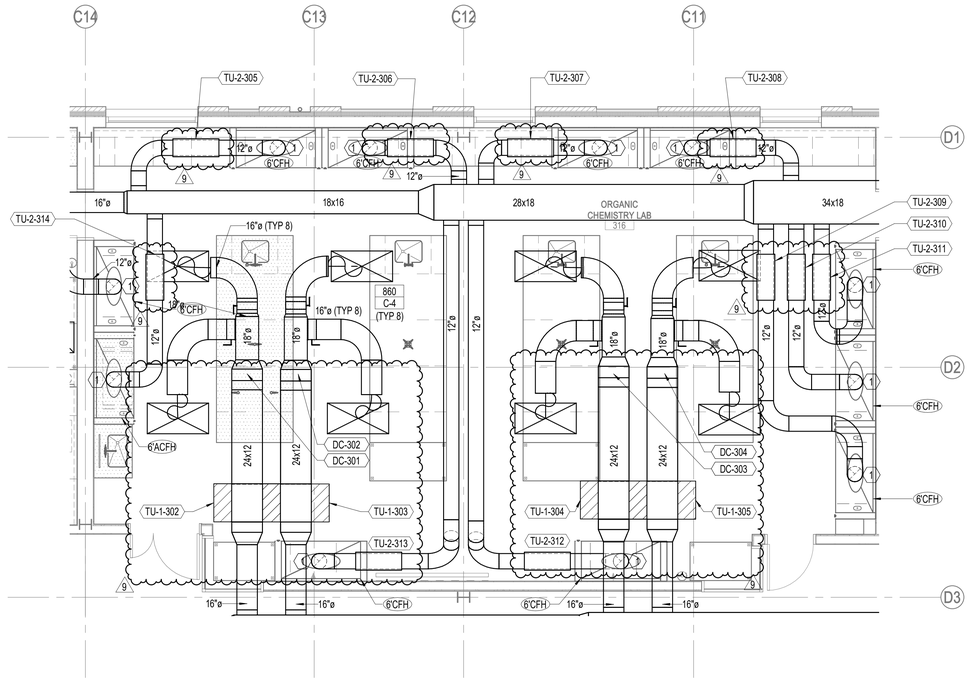
| # | Date | Description |
|---|---|---|
| 9 | 03/27/23 | ASI-017 |

ENLARGED PLANS - MECHANICAL

**M403**

IFC SET

PRCNC20221036




1 LEVEL 3 - ORGANIC CHEMISTRY LAB 316 - ENLARGED PLAN - MECHANICAL
1/4" = 1'-0"




2 LEVEL 1 - FLOOR PLAN - MECHANICAL
1/4" = 1'-0"

## GENERAL NOTES:

A. PROVIDE SHEET METAL DUCTWORK AND COMPONENTS INCLUDING HANGING, SEALING, PLENUMS, AND ACCESSORIES IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA STANDARDS FOR HVAC DUCT CONSTRUCTION, NFPA 90A, AND 90B STANDARDS.

B. DUCT DIMENSIONS SHOWN ARE INSIDE SHEET METAL DIMENSIONS OR CLEAR OPENING INSIDE LINED DUCT. THE FIRST NUMBER REPRESENTS THE WIDTH OF DUCT IN PLAN VIEW.

C. SIZE BRANCH DUCTWORK TO MATCH EQUIPMENT CONNECTION SIZE, UNLESS OTHERWISE NOTED.

D. SIZE BRANCH DUCTWORK TO DIFFUSERS AND GRILLES TO MATCH DIFFUSER OR GRILLE CONNECTION SIZE, UNLESS OTHERWISE NOTED.

E. PROVIDE 24-INCH x 24-INCH ACCESS DOORS FOR MECHANICAL EQUIPMENT LOCATED ABOVE HARD LID CEILINGS. COORDINATE FINAL ACCESS DOOR LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

F. RUN DUCTS CONCEALED. UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS. INSTALL DUCTWORK AS CLOSE AS POSSIBLE TO WALL AND UNDERSIDE OF BEAMS AND JOISTS.

G. COORDINATE WORK WITH OTHER TRADES. PROVIDE OFFSETS IN DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE OWNER.

H. VERIFY EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. VERIFY AND PROVIDE DUCT TRANSITIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE DIMENSIONS PRIOR TO FABRICATION.

I. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES. M603 FOR CONNECTION DETAILS.

J. REFER TO LAB CONSULTANT DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.

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## NOTES:

1. CONNECT TO 6 FOOT CHEMICAL FUME HOOD.
2. BIRD SCREEN RETURN AIR TRANSFER DUCT OPENING.
3. PROVIDE INTERNAL LINING ON ALL TRANSFER DUCTWORK.
4. DUCT TO PAINT BOOTH EXHAUST CONNECTION.

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LICENSED PROFESSIONAL ENGINEER
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43388
CRAIG L. GRAHAM
PROFESSIONAL ENGINEER
11/7/2023

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Lumaid.com

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
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Building | Planning | Engineering | Public Works | Fire | Traffic

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| Drawn By: | JJS |
| Checked By: | CLG |

Revisions

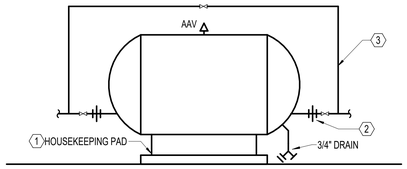
| # | Date | Description |
|---|---|---|
| 4 | 12/16/22 | ASI-008 |
| 9 | 03/27/23 | ASI-017 |
| 10 | 03/30/23 | ASI-017 |

ENLARGED PLANS - MECHANICAL

**M404**

IFC SET

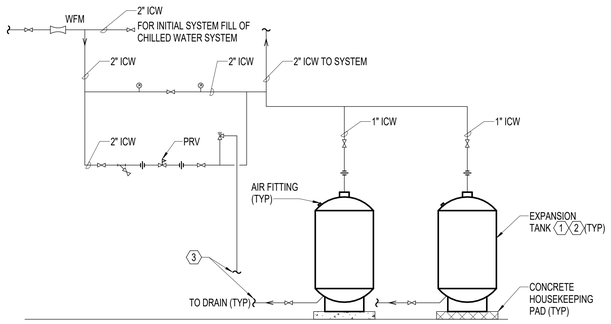
PRCNC20221036




**NOTES:**

1. SEE SPECIFICATIONS FOR SEISMIC RESTRAINT REQUIREMENTS.
2. FULL LINE SIZE FLANGED CONNECTION.
3. FULL LINE BYPASS.

9 BUFFER TANK PIPING CONNECTIONS
NONE



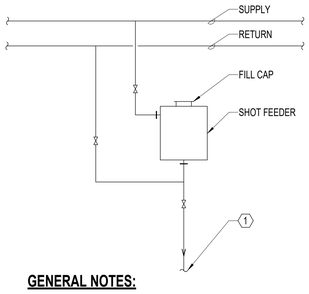

**GENERAL NOTES:**

A. SET PRESSURE RELIEF VALVES TO 15 PSI BELOW THE RATED OPERATING PRESSURE.

**NOTES:**

1. SEE SPECIFICATIONS FOR SEISMIC REQUIREMENTS.
2. VERTICAL FLOOR MOUNTED OR HORIZONTAL SUSPENDED FROM STRUCTURE AS INDICATED ON THE DRAWING.
3. DRAIN PIPING TO APPROVED RECEPTOR. TERMINATE AT DRAIN WITH AIR GAP.

10 EXPANSION TANK
NONE



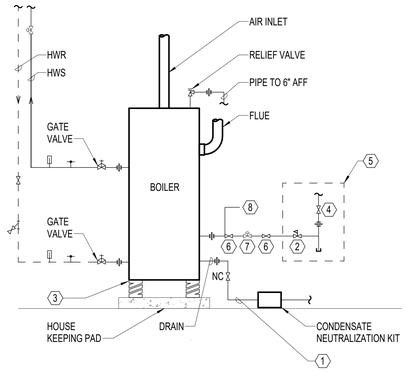

**GENERAL NOTES:**

A. INSULATE PIPING AND CHEMICAL FEEDER.

**NOTES:**

1. ROUTE TO NEAREST APPROVED RECEPTOR.

11 BY-PASS CHEMICAL FEEDER
NONE



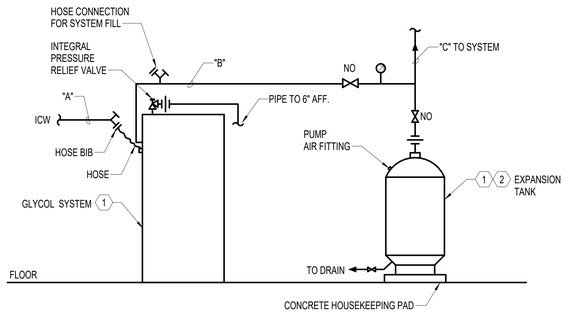

**GENERAL NOTES:**

A. SET PRESSURE RELIEF VALVES TO 15 PSI BELOW THE RATED OPERATING PRESSURE.

**NOTES:**

1. VENT DRAIN AND TRAP PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. A SINGLE PRESSURE REGULATOR IS PRIVIDED FOR BOTH BOILERS. REFER TO PLUMBING DOCUMENTS FOR ADDITIONAL INFORMATION.
3. SEE SPECIFICATIONS FOR VIBRATION ISOLATION AND SEISMIC RESTRAINT.
4. MAIN GAS VALVE. REFER TO PLUMBING DOCUMENTS FOR ADDITIONAL INFORMATION.
5. EQUIPMENT AND PIPING PROVIDED BY PLUMBING.
6. ISOLATION VALVE. PROVIDED WITH BOILER.
7. GAS CONTROL VALVE. PROVIDED WITH BOILER.
8. PILOT REGULATOR AND SOLENOID VALVE. PROVIDED WITH BOILER.

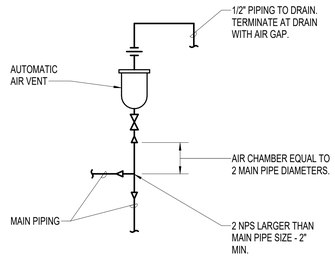
7 BOILER PIPING
NONE



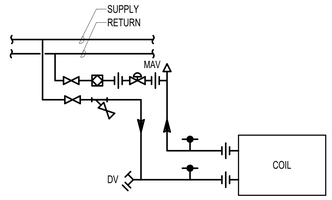

**NOTES:**

1. SEE SPECIFICATIONS FOR SEISMIC RESTRAINT REQUIREMENTS.
2. VERTICAL FLOOR MOUNTED OR HORIZONTAL SUSPENDED FROM STRUCTURE AS INDICATED ON THE DRAWING.

8 GLYCOL MIXING TANK
NONE

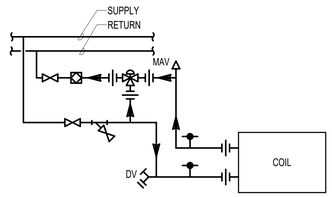



4 AUTOMATIC AIR VENT
NONE



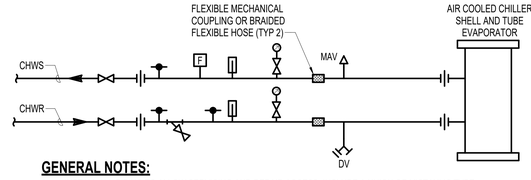

**2-WAY**

5 HYDRONIC COIL PIPING DETAIL - 2-WAY
NONE




**3-WAY**

6 HYDRONIC COIL PIPING DETAIL - 3-WAY
NONE




**GENERAL NOTES:**

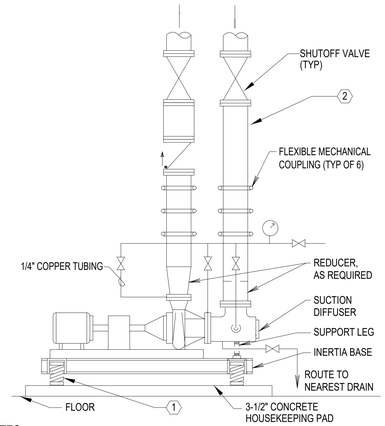
A. INSTALL ALL PIPING TO ALLOW SERVICING AND REPAIR ACCESS. INCLUDE A UNION OR VICTAULIC TYPE COUPLING IN PIPING AT A LOCATION IN EACH PIPE THAT ALLOWS PIPES TO BE EASILY REMOVED FOR TUBE BUNDLE MAINTENANCE.

B. VIBRATION ISOLATION AND SEISMIC RESTRAINT PER SPECIFICATIONS.

C. WELDED PIPE CONNECTIONS ARE NOT ALLOWED BETWEEN STRAINER AND EVAPORATOR DUE TO THE CHANCE OF SLAG ENTERING THE EVAPORATOR.

D. PROVIDE 1/8 INCH MESH FOR WYE STRAINER.

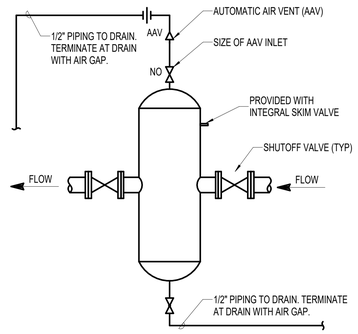
1 AIR COOLED CHILLER PIPING CONNECTIONS
NONE




**NOTES:**

1. SEE SPECIFICATIONS FOR VIBRATION ISOLATION AND SEISMIC RESTRAINT.
2. PROVIDE WYE STRAINER.

2 BASE MOUNTED PUMPS
NONE




3 AIR SEPARATOR - HIGH EFFICIENCY COALESCING
NONE

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KEVIN STEELE — STATE OF WASHINGTON — 21388 — REGISTERED PROFESSIONAL ENGINEER — 10/7/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
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Building | Planning | Engineering | Public Works | Fire | Traffic

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| Drawn By: | Author |
| Checked By: | Checker |

Revisions

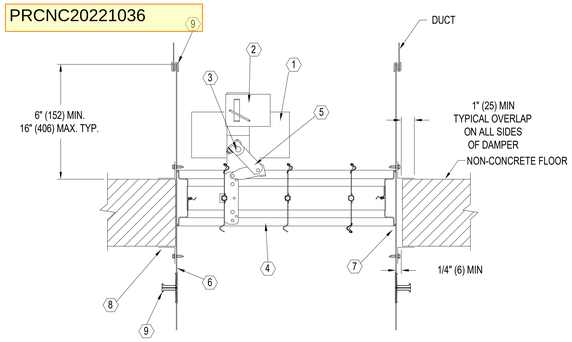
| # | Date | Description |
|---|---|---|

DETAILS - MECHANICAL

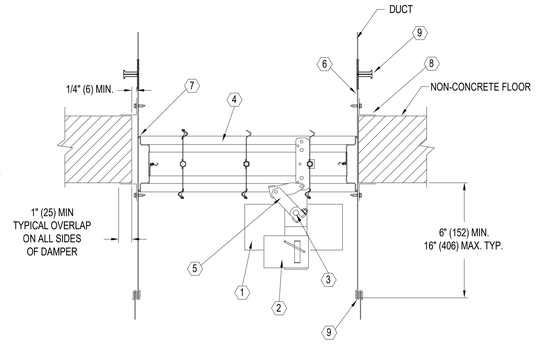
**M601**

IFC SET

PRCNC20221036



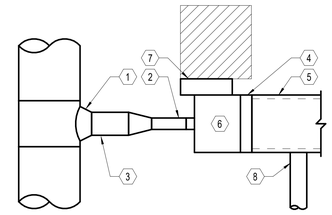

ACTUATOR ABOVE FLOOR




ACTUATOR BELOW FLOOR

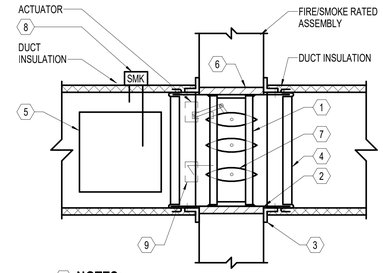
**NOTES:**

1. ACTUATOR (LOCATION MAY VARY). DAMPER MAY BE SUPPLIED WITHOUT ACTUATOR INSTALLED. UL LISTED FIRE DAMPER ACTUATORS MAY BE FIELD INSTALLED IF PROPERLY LABELED. SEE ACTUATORS INSTALLATION INSTRUCTIONS FOR FIELD MOUNTING OF DAMPER ACTUATORS. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
2. OPTIONAL FIRESTAT
3. AUXILLARY OPERATING JACK SHAFT
4. DAMPER
5. OVER CENTER LOCK
6. SLEEVE
7. CAULKING MATERIAL (MAY BE ON EITHER SIDE OF DAMPER FRAME
8. PFMA OR CONVENTIONAL MOUNTING ANGLES
9. S-JOINT/DUCT MATE, SLEEVE TO DUCT



**NOTES:**

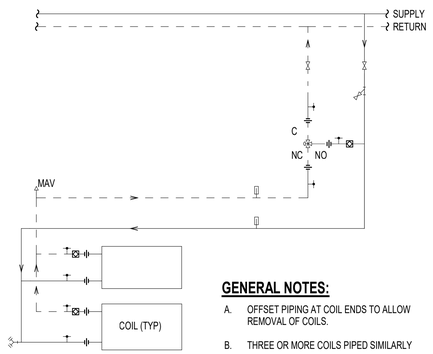
1. CONICAL TEE.
2. INLET DUCT. MINIMUM STRAIGHT LENGTH = 3'-0" OR 4 DUCT DIAMETERS FROM MAIN DUCT, WHICHEVER IS LARGER. FLEXIBLE CONNECTIONS ARE NOT ALLOWED.
3. MEDIUM PRESSURE MAIN DUCT. IF UNDER 10'-0" IN LENGTH, DUCT SIZE TO BE SAME SIZE AS TERMINAL UNIT INLET CONNECTION, IF LENGTH IS 10'-0" OR LARGER, DUCT SIZE TO BE AS SHOWN ON PLAN.
4. HEATING COIL, WHERE INDICATED (ELECTRIC OR HYDRONIC). MAINTAIN NATIONAL ELECTRIC CODE CLEARANCE REQUIRED FOR ELECTRIC RE- HEAT COILS.
5. DISCHARGE DUCT TO BE 1.5" LINED SHEET METAL, MINIMUM 8'-0" LONG, SAME SIZE AS TERMINAL UNIT OUTLET, OR AS SHOWN ON PLAN, WHICHEVER IS LARGER.
6. TERMINAL UNIT. INSTALL UNIT WITHIN 2' OF CEILING PLANE WHEN ABOVE HARD LID WITH ARCHITECTURAL ACCESS PANEL.
7. CONTROL ENCLOSURE. PROVIDE 36" CLEARANCE DIRECTLY IN FRONT OF ENCLOSURE. MOUNT CONTROL PANEL AND COIL VALVE ASSEMBLY ON SAME SIDE OF UNIT.
8. FIRST BRANCH DUCT TAP MAY NOT BE WITHIN FIRST 5'-0" OF PLENUM.




**NOTES:**

1. COMBINATION FIRE AND SMOKE DAMPER (VERTICAL SUPPLY TYPE SHOWN, HORIZONTAL & RETURN/EXHAUST SIMILAR).
2. GALVANIZED STEEL SLEEVE GAUGE NOT LESS THAN CONNECTION DUCT. FASTEN TO DAMPER FRAME AND PERIMETER ANGLES. CAULK BETWEEN DAMPER FRAME & SLEEVE.
3. PERIMETER ANGLES-14 GA. GALVANIZED STEEL, 1 1/2" x 1 1/2" MIN. TO PROVIDE 1" MIN. OVERLAP OF OPENING ON ALL 4 SIDES. DO NOT FASTEN TO PARTITION.
4. AIR TIGHT, BREAKAWAY DUCT CONNECTION.
5. ACCESS PANEL-SIZE & LOCATION TO PERMIT SERVICING FUSIBLE ROD AND LINK. ACTUATOR TO BE LOCATED OUT OF AIR STREAM. LOCATE PANEL WITHIN 12" OF FSD.
6. PROVIDE 15/16" TO 1/2" CLEARANCE ON HEIGHT & WIDTH, OR AS SPECIFIED BY DAMPER MANUFACTURER. FILL OPENING WITH FIRESTOP MATERIAL.
7. PROVIDE AIRFOIL BLADES ON MEDIUM PRESSURE DUCTWORK.
8. SMOKE DETECTOR FURNISHED PER DIVISION 26, INSTALLED PER DIVISION 23, POWER WIRING PER DIVISION 26, CONTROL WIRING PER DIVISION 28.
9. DAMPER POSITION SWITCH.

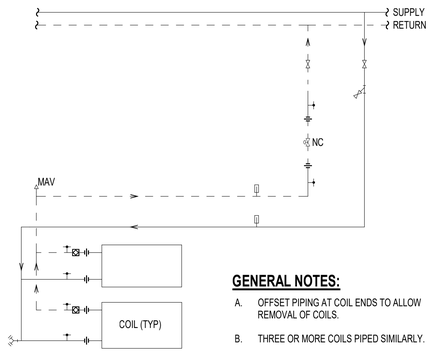
6 BASE MOUNTED PUMPS
NONE




**GENERAL NOTES:**

A. OFFSET PIPING AT COIL ENDS TO ALLOW REMOVAL OF COILS.
B. THREE OR MORE COILS PIPED SIMILARLY
C. PROVIDE PRESSURE INDEPENDENT CONTROL VALVE..

7 HYDRONIC COIL - AIR HANDLER - 3-WAY - PIPING DIAGRAM
NONE

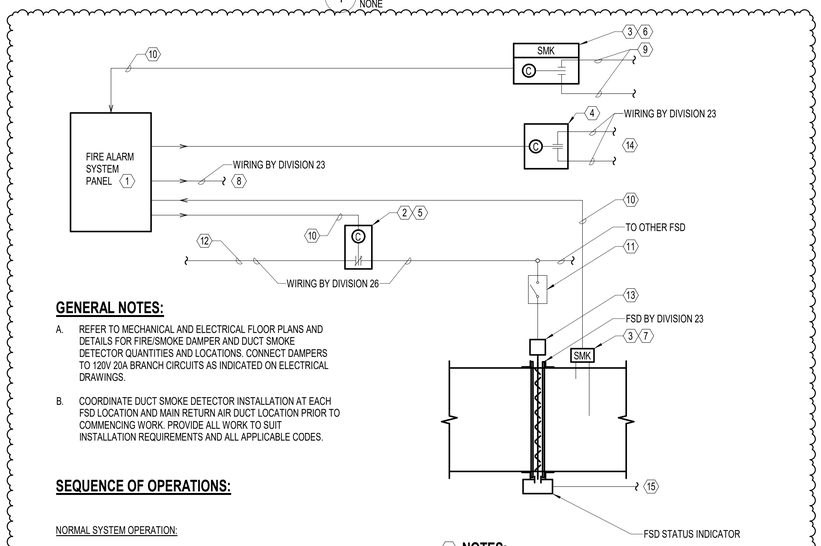



**GENERAL NOTES:**

A. OFFSET PIPING AT COIL ENDS TO ALLOW REMOVAL OF COILS.
B. THREE OR MORE COILS PIPED SIMILARLY.
C. PROVIDE PRESSURE INDEPENDENT CONTROL VALVE.

8 HYDRONIC COIL - AIR HANDLER - 2-WAY - PIPING DIAGRAM
NONE

4 TYPICAL TERMINAL UNIT
NONE




**GENERAL NOTES:**

A. REFER TO MECHANICAL AND ELECTRICAL FLOOR PLANS AND DETAILS FOR FIRE/SMOKE DAMPER AND DUCT SMOKE DETECTOR QUANTITIES AND LOCATIONS. CONNECT DAMPERS TO 120V 20A BRANCH CIRCUITS AS INDICATED ON ELECTRICAL DRAWINGS.
B. COORDINATE DUCT SMOKE DETECTOR INSTALLATION AT EACH FSD LOCATION AND MAIN RETURN AIR DUCT LOCATION PRIOR TO COMMENCING WORK. PROVIDE ALL WORK TO SUIT INSTALLATION REQUIREMENTS AND ALL APPLICABLE CODES.

**SEQUENCE OF OPERATIONS:**

NORMAL SYSTEM OPERATION:

1. FIRE/SMOKE DAMPERS REMAIN OPEN DURING NORMAL SYSTEM OPERATION.
2. DDC SYSTEM MONITORS FIRE/SMOKE DAMPER POSITION TO CONFIRM DAMPERS ARE OPEN BEFORE ENABLING THE FAN.

UPON THE DETECTION OF SMOKE BY ANY DUCT SMOKE DETECTOR:

1. THE FIRE ALARM SYSTEM SIGNALS THE AIR HANDLING UNIT IN ALARM TO SHUTDOWN VIA ADDRESSABLE CONTROL RELAY LOCATED AT EACH AIR HANDLING UNIT.
2. THE FIRE ALARM SYSTEM PROVIDES A SIGNAL TO THE DDC SYSTEM VIA SINGLE ADDRESSABLE CONTROL RELAY TO INITIATE THE DDC SYSTEM SHUTDOWN MODE.
3. THE FIRE ALARM SYSTEM CLOSES COMBINATION FIRE/SMOKE DAMPERS VIA ADDRESSABLE CONTROL RELAY(S) 20-SECONDS (ADJUSTABLE) AFTER FAN SHUTDOWN SIGNAL OCCURRED.

UPON FIRE ALARM RESET AFTER THE DETECTION OF SMOKE HAS OCCURRED:

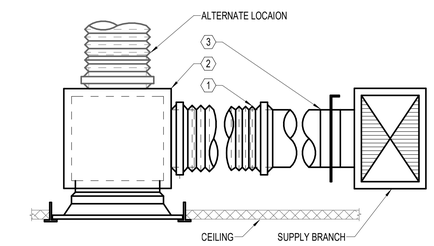
1. THE FIRE ALARM SYSTEM OPENS COMBINATION FIRE/SMOKE DAMPERS VIA ADDRESSABLE CONTROL RELAY(S).
2. THE FIRE ALARM SYSTEM DISABLES FAN SHUTDOWN SIGNAL TO THE DDC SYSTEM VIA SINGLE ADDRESSABLE CONTROL RELAY.
3. THE FIRE ALARM SYSTEM DISABLES SHUTDOWN SIGNAL TO EACH AIR HANDLING UNIT VIA ADDRESSABLE CONTROL RELAY.

**NOTES:**

1. REFER TO ELECTRICAL PLANS FOR FIRE ALARM PANEL LOCATION.
2. MOUNT ADJACENT TO APPROPRIATE ELECTRICAL PANEL.
3. PROVIDE/MAINTAIN WORKING ACCESS TO DUCT SMOKE DETECTORS.
4. REMOTE ADDRESSABLE FIRE ALARM RELAY PROVIDED BY DIVISION 28 (FORM C CONTACT). MOUNT ADJACENT TO AIR HANDLING UNIT.
5. REMOTE ADDRESSABLE FIRE ALARM RELAY BY DIVISION 28 (PROGRAMMED FOR 20 SECOND DELAY AFTER FAN STOP SIGNAL).
6. AHU DUCT SMOKE DETECTOR WITH SEPARATELY ADDRESSABLE RELAY BASE (FORM C CONTACT) FURNISHED BY DIVISION 28. WIRED BY DIVISION 28 TO FIRE ALARM SYSTEM. DETECTOR INSTALLED BY DIVISION 23.
7. DUCT SMOKE DETECTOR FURNISHED BY DIVISION 28. WIRED BY DIVISION 28 TO FIRE ALARM SYSTEM. INSTALLED BY DIVISION 23.
8. SHUTDOWN COMMAND FROM FIRE ALARM SYSTEM TO DDC SYSTEM.
9. WIRING BY DIVISION 23 FOR SMOKE DETECTOR STATUS SIGNAL TO DDC SYSTEM.
10. FIRE ALARM WIRE BY DIVISION 28.
11. DISCONNECT BY DIVISION 26 (TYP) FOR EACH FSD.
12. 120V BRANCH CIRCUIT BY DIVISION 26 (TYP).
13. FSD ACTUATOR BY DIVISION 23 (TYP).
14. FAN SHUTDOWN SIGNAL TO AIR HANDLING UNIT.
15. TO DDC BY DIVISION 23. TO FIRE ALARM BY DIVISION 28

5 HVAC AND FIRE ALARM INTERFACE WITH FSD STATUS INDICATOR
NONE

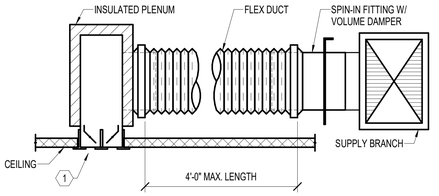
1 COMBINATION FIRE/SMOKE DAMPER
NONE




**NOTES:**

1. FLEX DUCT. 4' MAX LENGTH.
2. SHEETMETAL PLENUM SIZED 3-INCHES LARGER THAN DIFFUSER DUCT CONNECTION SIZE WITH 1-INCH BLACK DUCT LINER.
3. SPIN-IN FITTING WITH VOLUME DAMPER.

2 TYPICAL SQUARE NECK T-BAR DIFFUSER
NONE




**NOTES:**

1. REFER TO ARCH RCP FOR CEILING AND DIFFUSER LOCATIONS.

3 TYPICAL SLOT DIFFUSER
NONE

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STATE OF WASHINGTON 21385 REGISTERED PROFESSIONAL ENGINEER 11/7/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

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| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|
| 15 | 04/05/23 | RFI-089 |

DETAILS - MECHANICAL

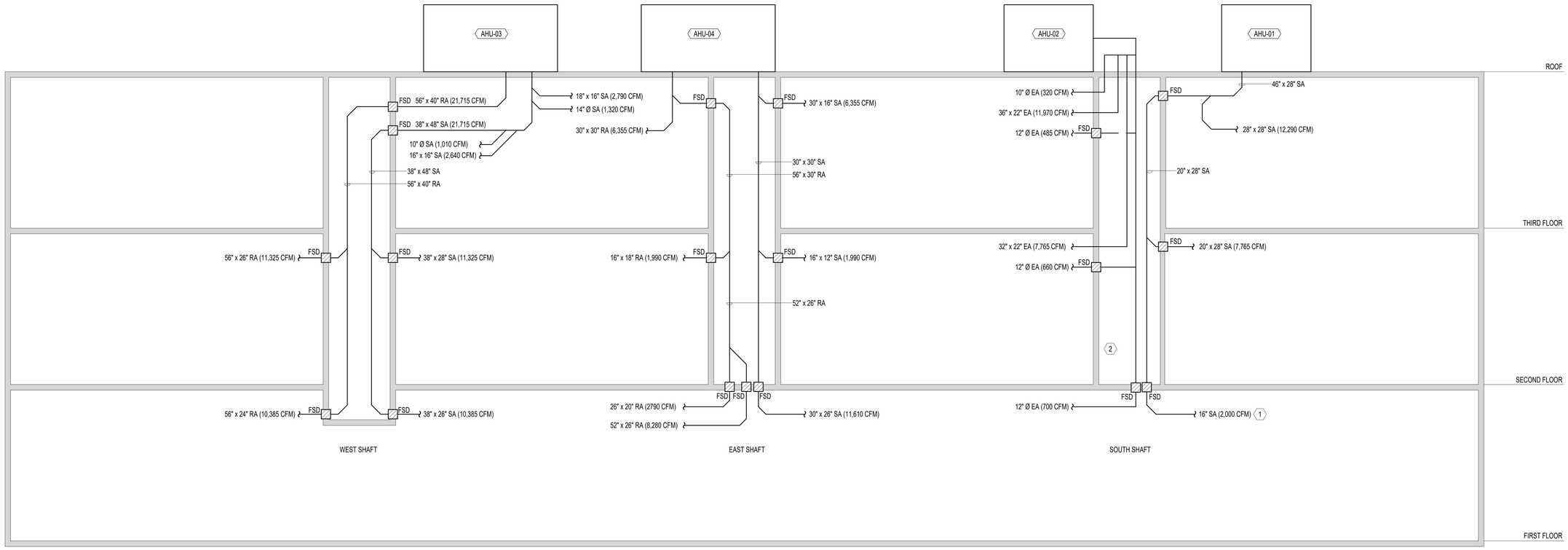
**M602**

IFC SET

PRCNC20221036

**NOTES:**

1. 2,000 CFM FOR FABRICATION LAB EQUIPMENT MAKE UP AIR. 1,300 CFM ALLOCATED FOR THE PAINT BOOTH. 700 CFM FOR FUTURE EQUIPMENT. EXHAUST FOR FUTURE FABRICATION LAB EQUIPMENT TO BE PROVIDED WITH DEDICATED EXHAUST FAN AND ROUTED TO EXTERIOR LOUVER IN FABRICATION LAB.
2. 14-INCH ROUND PAINT BOOTH EXHAUST DUCT ROUTED THROUGH SHAFT TO ROOFTOP EXHAUST FAN. PROVIDE FIRE SMOKE DAMPER AT LEVEL 1 SHAFT PENETRATION.




1 AIR FOW DIAGRAM
NONE

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10/6/2022

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LUMA Lumald.com

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
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| | |
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| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

FLOW DIAGRAMS - MECHANICAL

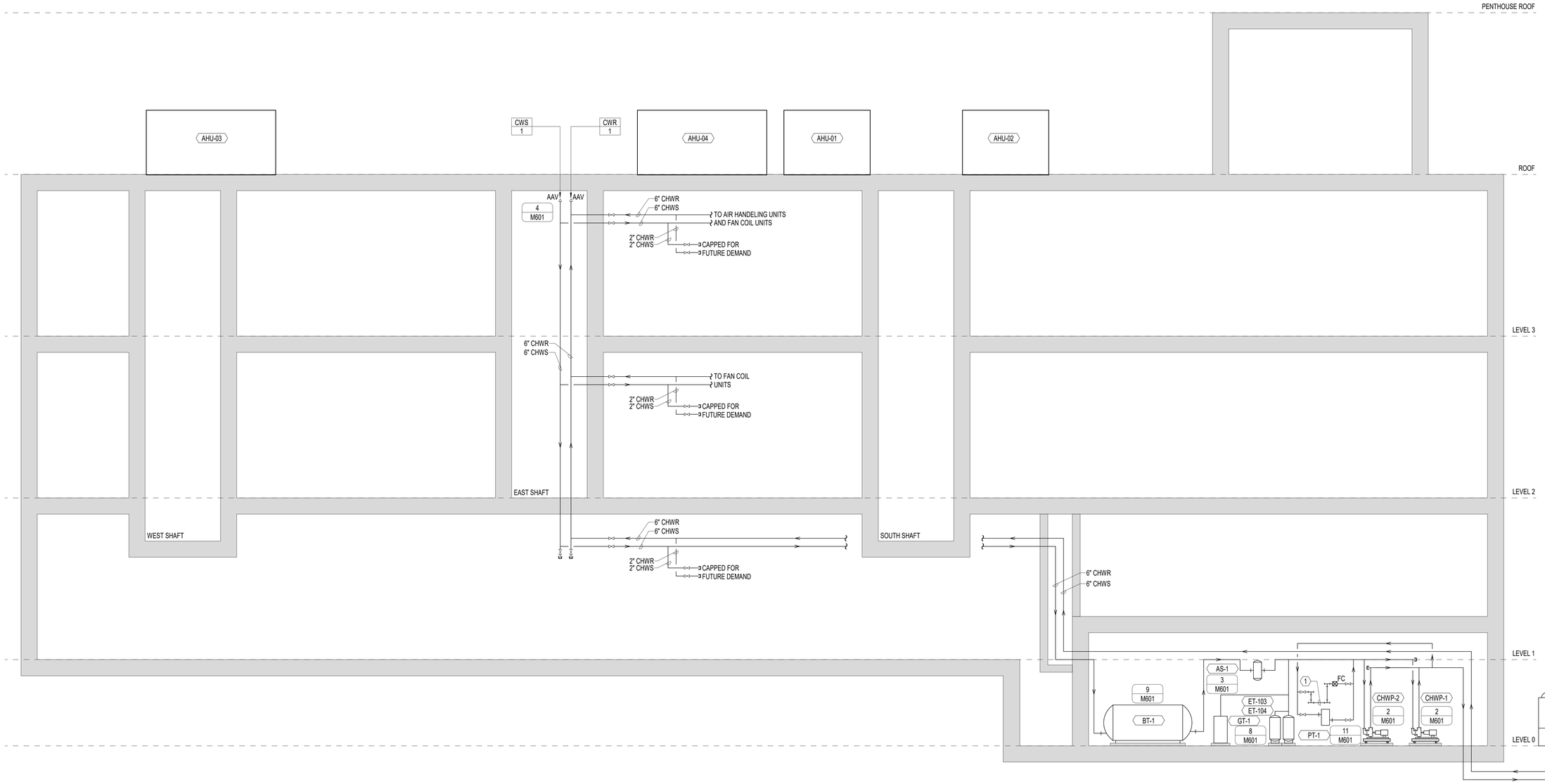
**M701**

IFC SET

PRCNC20221036

**NOTES:**

1. CORROSION COUPON RACK.




1 CHILLED WATER FOW DIAGRAM
NONE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**Puyallup, WA 98374**

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

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|---|---|
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| Engineering | Public Works |
| Fire | Traffic |

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Revisions

| # | Date | Description |
|---|---|---|

FLOW DIAGRAMS - MECHANICAL

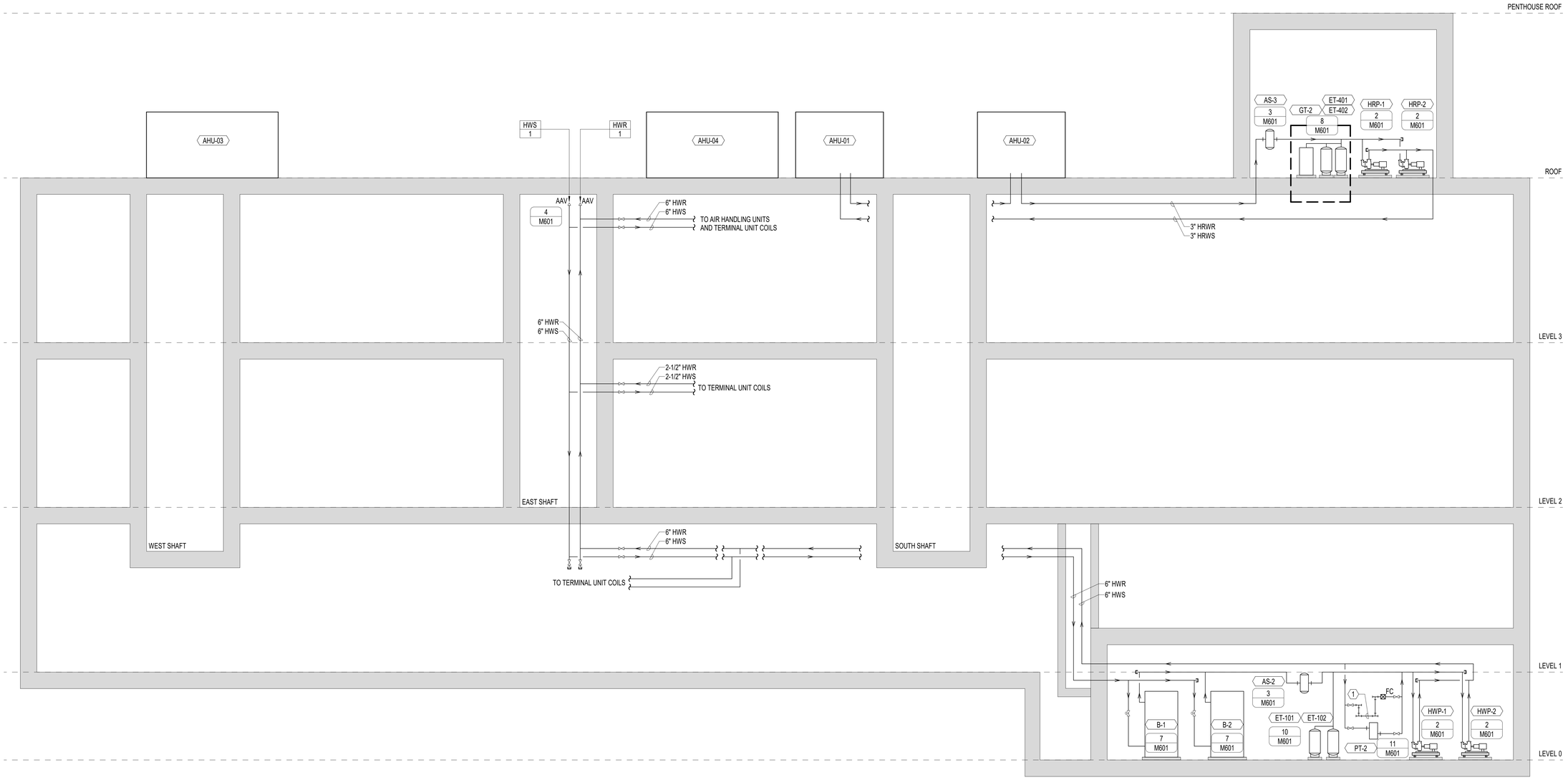
**M702**

**IFC SET**

PRCNC20221036

**NOTES:**

1. CORROSION COUPON RACK.




1 HEATING WATER FLOW DIAGRAM - BOILER
NONE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**NEW STEM BUILDING**
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Puyallup, WA 98374

City of Puyallup
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| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

FLOW DIAGRAMS - MECHANICAL

**M703**

**IFC SET**

PRCNC20221036

## SYSTEM CONTROLS

- GENERAL
  - THE FOLLOWING OUTLINES THE SYSTEM LEVEL CONTROLS FOR THE PROJECT
  - THE SEQUENCES OF OPERATION PRESENTED ARE INTENDED TO BE PERFORMANCE BASED. IMPLEMENTED CONTROL SEQUENCES THAT PROVIDE THE SAME FUNCTIONAL RESULT USING DIFFERENT DETAILED LOGIC ARE ACCEPTABLE.
- SCHEDULE OF OPERATION
  - PROVIDE A MINIMUM OF SIX SCHEDULES FOR EQUIPMENT OPERATION INCLUDING THE FOLLOWING COMPONENTS AS A MINIMUM
    - SEVEN UNIQUE DAYS PER WEEK
    - INDIVIDUAL TIME CYCLE CAPABILITY FOR EACH PIECE OF EQUIPMENT
- OCCUPIED MODE
  - EACH SYSTEM ENTERS OCCUPIED MODE AS DETERMINED BY THE SCHEDULE OF OPERATION
    - OPTIMUM START: PROVIDE CONTROLS FOR EACH SYSTEM THAT VARY THE START-UP TIME TO MEET THE TEMPERATURE SET POINT AT THE TIME OF OCCUPANCY
  - MANUAL OVERRIDE: ALLOW TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS BASED ON INPUT FROM ANY ONE OF THE FOLLOWING
    - CONTROLS SYSTEM USER INPUT
    - ROOM TEMPERATURE SENSORS WITH OVERRIDE REQUEST BUTTON
    - MANUAL OPERATED TIMER
    - OCCUPANCY SENSOR
- UNOCCUPIED MODE
  - EACH SYSTEM ENTERS UNOCCUPIED MODE AS DETERMINED BY THE SCHEDULE OF OPERATION
    - ZONE TEMPERATURE SETPOINTS CHANGE TO SETBACK VALUES

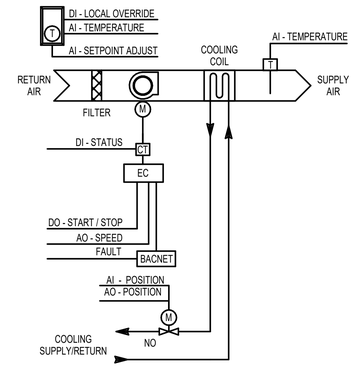
## SYSTEM CONTROLS (CONTINUED)

- INPUTS/OUTPUTS
  - DIGITAL INPUTS (DI): TWO STATE SIGNAL FROM SENSING DEVICE TO CONTROL SYSTEM. EXAMPLES: ON/OFF, OPEN/CLOSE, ENABLE/DISABLE.
  - DIGITAL OUTPUTS (DO): TWO STATE SIGNAL FROM CONTROL SYSTEM TO CONTROL DEVICE. EXAMPLES: ON/OFF, OPEN/CLOSE, ENABLE/DISABLE.
  - ANALOG INPUTS (AI): LOW VOLTAGE, CURRENT, OR RESISTANCE SIGNAL FROM SENSING DEVICE TO CONTROL SYSTEM. EXAMPLES: 0 TO 10 VDC, 4 TO 20 mA.
  - ANALOG OUTPUTS (AO): LOW VOLTAGE, CURRENT, OR RESISTANCE SIGNAL FROM CONTROL SYSTEM TO CONTROL DEVICE. EXAMPLES: 0 TO 10 VDC, 4 TO 20 mA.
- BUILDING STATIC PRESSURE CONTROLS
  - SETPOINT: 0.05 INCHES OF WATER RELATIVE TO OUTDOORS
- ZONE TEMPERATURE CONTROLS
  - DEADBAND:
    - WHERE USED TO CONTROL BOTH HEATING AND COOLING PROVIDE A MINIMUM DEADBAND OF 5°F BETWEEN HEATING AND COOLING SETPOINTS
    - WHEN ZONE TEMPERATURE IS WITHIN DEADBAND: HEATING AND COOLING ENERGY TO THE ZONE IS SET TO MINIMUM OR OFF
  - TEMPERATURE SENSORS WITH USER ADJUSTMENT CAPABILITY
    - WARMER: INCREASE HEATING AND COOLING SETPOINTS BY 2°F
    - COLDER: DECREASE HEATING AND COOLING SETPOINTS BY 2°F

### HVAC ZONE CONTROL SETPOINTS

| SPACE TYPE | ACCURACY | NORMAL | | SETBACK | |
|---|---|---|---|---|---|
| | | MIN | MAX | MIN | MAX |
| TEMPERATURE (°F) | | | | | |
| CLASSROOM | ± 2 | 70 | 75 | 60 | 85 |
| LABORATORY (AHU-1) | ± 2 | 70 | 75 | 60 | 85 |
| CLASSROOM | ± 2 | 70 | 75 | 60 | 85 |
| OFFICE | ± 2 | 70 | 75 | 60 | 85 |
| CONFERENCE ROOM | ± 2 | 70 | 75 | 60 | 85 |
| LOBBY | ± 2 | 70 | 75 | 60 | 85 |
| MECHANICAL | ± 2 | 40 | - | 40 | - |
| ELECTRICAL/IDF/MDF | ± 2 | - | 80 | - | 80 |
| CO2 (PPM) | | | | | |
| AS SHOWN ON M1XX | ± 50 | - | 800 | - | - |

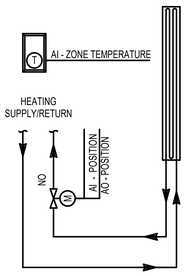
1 GENERAL SYSTEM CONTROL NOTES AND SET POINTS
N.T.S




## FAN COIL UNIT - COOLING ONLY

- GENERAL
  - COOLING COIL VALVE MODULATE TO MAINTAIN ZONE COOLING TEMPERATURE SETPOINT
  - MAXIMUM RATE OF CHANGE FOR VALVE OPERATION IS 10% PER MINUTE
- SCHEDULE OF OPERATION
  - FAN COIL UNIT ZONE SCHEDULE MATCHES ASSOCIATED AIR HANDLER SEQUENCE OF OPERATION
- OCCUPIED MODE
  - ZONE TEMPERATURE DROPS BELOW COOLING SETPOINT
    - FAN OFF
    - COOLING COIL VALVE CLOSED
  - ZONE TEMPERATURE ABOVE COOLING SETPOINT
    - FAN OPERATES AT FULL SPEED
    - COOLING COIL VALVE MODULATES TO MAINTAIN ZONE COOLING SETPOINT
- UNOCCUPIED MODE
  - COOLING COIL VALVE CLOSED
  - FAN OFF
- ALARMS/SAFETIES
  - FAN FAILURE ALARM
- POINTS FOR MONITORING
  - COOLING COIL VALVE POSITION
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

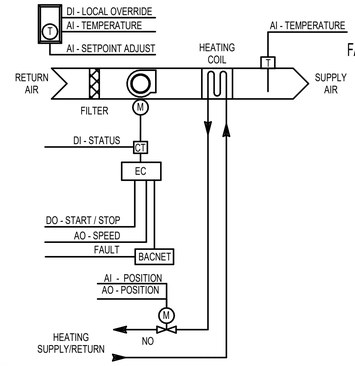
6 FCU-XXX - 2-PIPE - COOLING
N.T.S




## FINNED TUBE

- GENERAL
  - FINNED TUBE OPERATES TO MAINTAIN SPACE TEMPERATURE SETPOINT
- SCHEDULE OF OPERATION
  - FINNED TUBE OPERATES WHEN COMMANDED BY CONTROL SYSTEM
  - UNIT OPERATES 24 HOURS A DAY 7 DAYS A WEEK
- OCCUPIED MODE
  - TEMPERATURE BELOW HEATING SETPOINT
    - HEATING VALVE MODULATES TO MAINTAIN SPACE HEATING TEMPERATURE SETPOINT
  - TEMPERATURE ABOVE HEATING SETPOINT
    - HEATING VALVE SHUT
- UNOCCUPIED MODE
  - TEMPERATURE BELOW SETBACK HEATING SETPOINT
    - HEATING VALVE MODULATES TO MAINTAIN SPACE HEATING TEMPERATURE SETPOINT
  - TEMPERATURE ABOVE SETBACK HEATING SETPOINT
    - HEATING VALVE OFF
- ALARMS/SAFETIES
  - STATUS
- POINTS FOR MONITORING
  - NONE
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

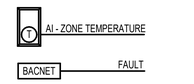
5 FINNED TUBE
N.T.S




## FAN COIL UNIT - HEATING ONLY

- GENERAL
  - HEATING COIL VALVE MODULATE TO MAINTAIN ZONE HEATING TEMPERATURE SETPOINT
  - MAXIMUM RATE OF CHANGE FOR VALVE OPERATION IS 10% PER MINUTE
- SCHEDULE OF OPERATION
  - FAN COIL UNIT ZONE SCHEDULE MATCHES ASSOCIATED AIR HANDLER SEQUENCE OF OPERATION
- OCCUPIED MODE
  - ZONE TEMPERATURE ABOVE HEATING SETPOINT
    - FAN OFF
    - HEATING COIL VALVE CLOSED
  - ZONE TEMPERATURE BELOW HEATING SETPOINT
    - FAN OPERATES AT FULL SPEED
    - HEATING COIL VALVE MODULATES TO MAINTAIN ZONE HEATING SETPOINT
- UNOCCUPIED MODE
  - HEATING COIL VALVE CLOSED
  - FAN OFF
- ALARMS/SAFETIES
  - FAN FAILURE ALARM
- POINTS FOR MONITORING
  - HEATING COIL VALVE POSITION
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

3 FCU-XXX - 2-PIPE - HEATING
N.T.S




## SPLIT SYSTEM MONITORING

- GENERAL
  - UNITS ARE CONTROLLED BY FACTORY INSTALLED, PACKAGED CONTROL SYSTEM WHICH INCLUDE A WALL MOUNTED, PROGRAMMABLE THERMOSTAT.
  - FACTORY-INSTALLED, PACKAGED CONTROLS WILL CYCLE THE REFRIGERANT SYSTEM TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.
- MONITORING POINTS
  - FAULT (VIA BACNET)
  - SPACE TEMPERATURE
    - PROVIDE ADDITIONAL BMS THERMOSTAT TO MONITOR SPACE TEMPERATURE. LOCATE ADJACENT TO MANUFACTURER PROVIDED PROGRAMMABLE THERMOSTAT.

2 SPLIT SYSTEM
N.T.S

## HEATING WATER PLANT – BOILERS – VARIABLE PRIMARY

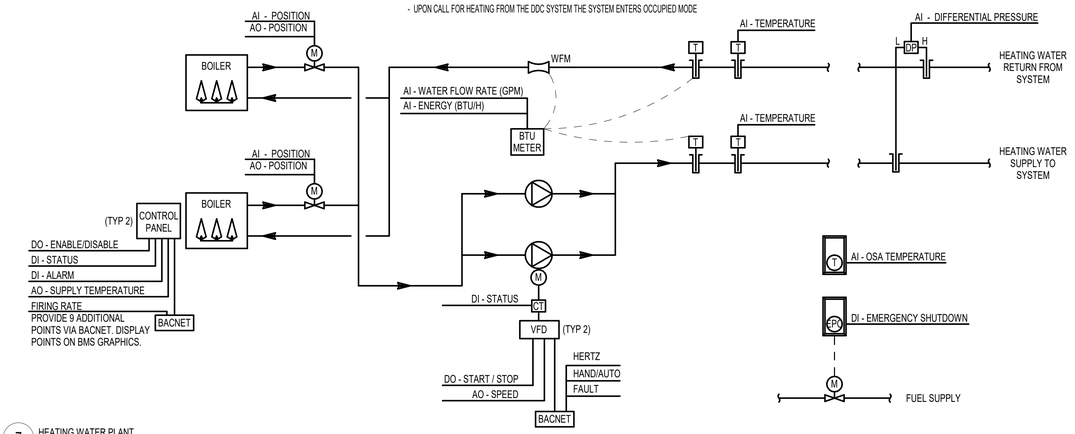
- GENERAL
  - CIRCULATION PUMPS OPERATE AT VARIABLE SPEED, BOILERS MODULATE TO MAINTAIN LOOP SUPPLY TEMPERATURE SETPOINT
- SCHEDULE OF OPERATION
  - OPERATES WHEN COMMANDED BY CONTROL SYSTEM
- ENABLED MOMODE
  - PUMP CONTROL
    - PUMPS DISABLED WHEN OUTDOOR AIR TEMPERATURE IS ABOVE 70°F (ADJ)
    - SYSTEM DIFFERENTIAL PRESSURE SETPOINT IS ESTABLISHED AS PART OF THE TESTING ADJUSTING AND BALANCING OF THE SYSTEM TO ACHIEVE THE DESIGN FLOW RATE OF THE CRITICAL BRANCH.
      - DIFFERENTIAL PRESSURE SETPOINT RESET: SETPOINT RESET BY TRIM AND RESPOND LOGIC TO THE LOWEST POSSIBLE VALUE WHILE MAINTAINING THE MOST OPEN CONTROL VALVE AT TERMINAL EQUIPMENT 90% OPEN
    - PUMP SPEED MODULATES TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT
      - HOLD PUMP SPEED CONSTANT WHEN BOILERS STAGING ON/OFF
    - LEAD STANDBY SEQUENCE
      - WHEN LEAD PUMP FAILS THE STANDBY PUMP OPERATES TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT
      - FAILED PUMP IS DISABLED UNTIL RE-ENABLED BY CONTROL SYSTEM USER
    - LEAD PUMP DESIGNATION ALTERNATES WEEKLY TO DIVIDE OPERATING TIME EQUALLY BETWEEN PUMPS
  - BOILER CONTROL
    - BOILERS ARE ENABLED WHEN THE FOLLOWING CONDITIONS ARE MET:
      - OUTDOOR AIR TEMPERATURE IS BELOW 65°F (ADJ) FOR 1 HOUR (ADJ)
      - ANY ONE HEATING VALVE IN THE SYSTEM IS 10% OR MORE OPEN
    - BOILER MANUFACTURER CONTROLS SYSTEM STAGES AND OPERATES BOILERS. BOILER ISOLATION VALVES. AND PRE- AND POST-PURGE CYCLES TO ASSURE SAFE OPERATION OF BOILERS AND TO MAINTAIN HEATING WATER SUPPLY TEMPERATURE SETPOINT PROVIDED BY THE DDC SYSTEM.

## HEATING WATER PLANT – BOILERS – VARIABLE PRIMARY (CONTINUED)

- BOILER CONTROL
  - BOILERS ARE ENABLED WHEN THE FOLLOWING CONDITIONS ARE MET:
    - OUTDOOR AIR TEMPERATURE IS BELOW 65°F (ADJ) FOR 1 HOUR (ADJ)
    - ANY ONE HEATING VALVE IN THE SYSTEM IS 10% OR MORE OPEN
  - BOILER MANUFACTURER CONTROLS SYSTEM STAGES AND OPERATES BOILERS. BOILER ISOLATION VALVES. AND PRE- AND POST-PURGE CYCLES TO ASSURE SAFE OPERATION OF BOILERS AND TO MAINTAIN HEATING WATER SUPPLY TEMPERATURE SETPOINT PROVIDED BY THE DDC SYSTEM.
  - UPON FAILURE OF ANY BOILER THE ASSOCIATED ISOLATION VALVE CLOSES AND THE NEXT BOILER IN THE STAGING SEQUENCE OPERATES
  - LEAD BOILER DESIGNATION ALTERNATES WEEKLY TO DIVIDE OPERATING TIME EQUALLY BETWEEN BOILERS
- HEATING WATER SUPPLY TEMPERATURE SETPOINT CONTROL
  - HEATING WATER SYSTEM DEMAND RESET - TRIM AND RESPOND
    - HEATING WATER SUPPLY TEMPERATURE STARTING SETPOINT = 115°F (ADJ)
    - HEATING WATER SUPPLY TEMPERATURE SETPOINT IS RESET TO LOWEST POSSIBLE VALUE USING TRIM AND RESPOND LOGIC TO MAINTAIN CRITICAL TERMINAL EQUIPMENT VALVES AT 90% OPEN
      - EVERY 2 MINUTES (ADJ) HEATING WATER SUPPLY WATER TEMPERATURE SETPOINT IS DECREASED BY 0.10°F (ADJ)
        - WHEN TWO OR MORE TERMINAL EQUIPMENT VALVES ARE MORE THAN 90% OPEN THE HEATING WATER SUPPLY TEMPERATURE SETPOINT INCREASES BY 0.15°F (ADJ)
      - MAXIMUM HEATING WATER TEMPERATURE SETPOINT = 120°F (ADJ)
      - MINIMUM HEATING WATER TEMPERATURE SETPOINT = 100°F (ADJ)
- EMERGENCY BOILER ROOM SHUTDOWN
  - EMERGENCY STOP SWITCH LOCATED AT ENTRANCES TO BOILER ROOM WILL DISCONNECT POWER AND ISOLATE FUEL TO THE BOILER PLANT WHEN ACTIVATED
- UNOCCUPIED MODE
  - GENERAL: EQUIPMENT AND VALVES IN DE-ENERGIZED POSITIONS
  - UPON CALL FOR HEATING FROM THE DDC SYSTEM THE SYSTEM ENTERS OCCUPIED MODE

## HEATING WATER PLANT – BOILERS – VARIABLE PRIMARY (CONTINUED)

- ALARMS/SAFETIES
  - BOILER SYSTEM ALARM: NOTIFICATION FROM THE BOILER MANUFACTURER CONTROLS SYSTEM OF ANY ALARM CONDITION
  - EMERGENCY BOILER ROOM SHUTDOWN SAFETY: STOP SWITCH LOCATED AT ENTRANCES TO BOILER ROOM SHUT DOWN BOILER PLANT EQUIPMENT WHEN ACTIVATED
  - EMERGENCY BOILER ROOM SHUTDOWN ALARM: ACTIVATION OF EMERGENCY STOP SWITCH
  - HIGH HEATING WATER SUPPLY TEMPERATURE ALARM: TEMPERATURE IS MORE THAN 10°F (ADJ) ABOVE SETPOINT FOR 5 MINUTES (ADJ)
  - LOW HEATING WATER SUPPLY TEMPERATURE ALARM: TEMPERATURE IS MORE THAN 10°F (ADJ) BELOW SETPOINT FOR 5 MINUTES (ADJ)
  - VARIABLE FREQUENCY DRIVE (VFD) ALARMS: PROVIDE INDIVIDUAL SIGNALS TO THE DDC CONTROLLER INDICATING ALARM CONDITION AND ALARM TYPE
  - HEATING WATER PUMP FAILURE ALARM: PUMP FAILURE INDICATED BY CURRENT TRANSFORMER SWITCH
- POINTS FOR MONITORING
  - BOILER ISOLATION VALVE POSITION (TYP)
  - BOILER FIRING RATE (TYP)
  - VARIABLE FREQUENCY DRIVE SPEED (TYP)
  - VARIABLE FREQUENCY DRIVE CURRENT (TYP)
  - VARIABLE FREQUENCY DRIVE ENERGY USE (TYP)
  - HEATING WATER SUPPLY TEMPERATURE
  - HEATING WATER RETURN TEMPERATURE
  - HEATING WATER FLOW RATE (BTU METER)
  - HEATING WATER ENERGY (BTU METER)
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE




7 HEATING WATER PLANT
N.T.S

## CHILLED WATER PLANT - AIR COOLED CHILLER

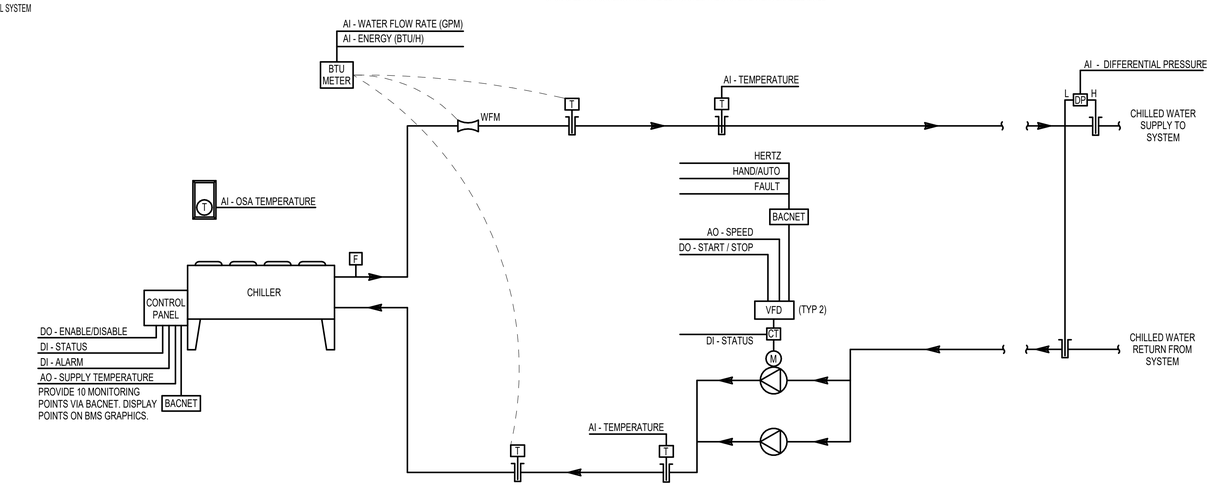
- GENERAL
  - CIRCULATION PUMPS OPERATE AT VARIABLE SPEED, CHILLER MODULATE TO MAINTAIN LOOP SUPPLY TEMPERATURE SETPOINT
- SCHEDULE OF OPERATION
  - OPERATES WHEN COMMANDED BY CONTROL SYSTEM
- ENABLED MODE
  - PUMP CONTROL
    - PUMPS DISABLED WHEN OUTDOOR AIR TEMPERATURE IS BELOW 55°F (ADJ)
    - SYSTEM DIFFERENTIAL PRESSURE SETPOINT IS ESTABLISHED AS PART OF THE TESTING ADJUSTING AND BALANCING OF THE SYSTEM TO ACHIEVE THE DESIGN FLOW RATE OF THE CRITICAL BRANCH.
      - DIFFERENTIAL PRESSURE SETPOINT RESET: SETPOINT RESET BY TRIM AND RESPOND LOGIC TO THE LOWEST POSSIBLE VALUE WHILE MAINTAINING THE MOST OPEN CONTROL VALVE AT TERMINAL EQUIPMENT 90% OPEN
    - PUMP SPEED MODULATES TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT
      - HOLD PUMP SPEED CONSTANT WHEN CHILLER IS STAGING ON/OFF
    - LEAD STANDBY SEQUENCE
      - WHEN LEAD PUMP FAILS THE STANDBY PUMP OPERATES TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT
      - FAILED PUMP IS DISABLED UNTIL RE-ENABLED BY CONTROL SYSTEM USER
    - LEAD PUMP DESIGNATION ALTERNATES WEEKLY TO DIVIDE OPERATING TIME EQUALLY BETWEEN PUMPS

## CHILLED WATER PLANT - AIR COOLED CHILLER (CONTINUED)

- CHILLER CONTROL
  - ENABLED CHILLER WHEN THE FOLLOWING CONDITIONS ARE MET:
    - OUTDOOR AIR TEMPERATURE IS ABOVE 65 DEGREES F FOR 1 HOUR
    - ANY ONE COOLING VALVE IN THE SYSTEM IS 10% OR MORE OPEN
  - CHILLER MANUFACTURER CONTROLS SYSTEM OPERATES CHILLER TO ASSURE SAFE OPERATION OF CHILLER AND TO MAINTAIN CHILLED WATER SUPPLY TEMPERATURE SETPOINT PROVIDED BY THE DDC SYSTEM.
  - CHILLED WATER SUPPLY TEMPERATURE SETPOINT CONTROL
    - CHILLER OPERATES TO MAINTAIN SYSTEM CHILLED WATER SUPPLY TEMPERATURE SETPOINT
    - CHILLED WATER SYSTEM DEMAND RESET - TRIM AND RESPOND
      - CHILLED WATER SUPPLY TEMPERATURE STARTING SETPOINT = 48 DEGREES F
      - CHILLED WATER SUPPLY TEMPERATURE SETPOINT IS RESET TO HIGHEST POSSIBLE VALUE USING TRIM AND RESPOND LOGIC TO MAINTAIN CRITICAL TERMINAL EQUIPMENT VALVES AT 90% OPEN
        - EVERY 2 MINUTES CHILLED WATER SUPPLY WATER TEMPERATURE SETPOINT IS INCREASED BY 0.10 DEGREES F
          - WHEN TWO OR MORE TERMINAL EQUIPMENT VALVES ARE MORE THAN 90% OPEN THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT DECREASES BY 0.15 DEGREES F
        - MAXIMUM CHILLED WATER TEMPERATURE SETPOINT = 53 DEGREES F
        - MINIMUM CHILLED WATER TEMPERATURE SETPOINT = 42 DEGREES F
- DISABLED MODE
  - GENERAL: EQUIPMENT AND VALVES IN DE-ENERGIZED POSITIONS
  - UPON CALL FOR COOLING FROM THE DDC SYSTEM THE SYSTEM ENTERS ENABLED MODE

## CHILLED WATER PLANT - AIR COOLED CHILLER (CONTINUED)

- ALARMS/SAFETIES
  - CHILLER SYSTEM ALARM: NOTIFICATION FROM THE CHILLER MANUFACTURER CONTROLS SYSTEM OF ANY ALARM CONDITION
  - EMERGENCY CHILLER ROOM SHUTDOWN ALARM: ACTIVATION OF EMERGENCY STOP SWITCH
  - HIGH CHILLED WATER SUPPLY TEMPERATURE ALARM: TEMPERATURE IS MORE THAN 5 DEGREES F ABOVE SETPOINT FOR 5 MINUTES
  - LOW CHILLED WATER SUPPLY TEMPERATURE ALARM: TEMPERATURE IS MORE THAN 5 DEGREES F BELOW SETPOINT FOR 5 MINUTES
  - VARIABLE FREQUENCY DRIVE (VFD) ALARMS: PROVIDE INDIVIDUAL SIGNALS TO THE DDC CONTROLLER INDICATING ALARM CONDITION AND ALARM TYPE
  - CHILLED WATER PUMP FAILURE ALARM: PUMP FAILURE INDICATED BY CURRENT TRANSFORMER SWITCH
- POINTS FOR MONITORING
  - VARIABLE FREQUENCY DRIVE SPEED
  - VARIABLE FREQUENCY DRIVE CURRENT
  - VARIABLE FREQUENCY DRIVE ENERGY USE
  - CHILLED WATER SUPPLY TEMPERATURE
  - CHILLED WATER RETURN TEMPERATURE
  - CHILLED WATER FLOW RATE (BTU METER)
  - CHILLED WATER ENERGY (BTU METER)
  - CHILLER STATUS
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE




4 CHILLED WATER PLANT
N.T.S

IFC SET

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
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| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
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CONTROL DIAGRAMS - MECHANICAL

**M801**

PRCNC20221036

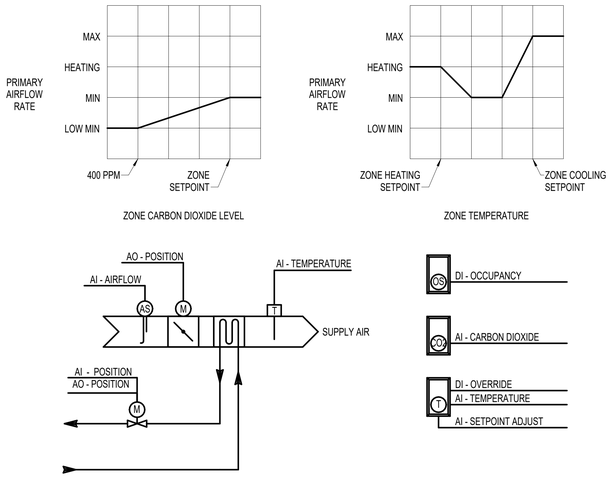
## TERMINAL UNIT - VARIABLE VOLUME WITH REHEAT

- GENERAL
  - TERMINAL UNIT OPERATES AS VARIABLE VOLUME TO MAINTAIN ZONE TEMPERATURE SETPOINT
  - TERMINAL UNIT OPERATES AS VARIABLE VOLUME TO MAINTAIN ZONE CARBON DIOXIDE SETPOINT
  - MAXIMUM RATE OF CHANGE FOR DAMPER OPERATION IS 10% PER MINUTE
  - MAXIMUM RATE OF CHANGE FOR VALVE OPERATION IS 10% PER MINUTE
  - LEAVING AIR TEMPERATURE MAXIMUM SETPOINT = 90°F
  - LEAVING AIR TEMPERATURE MINIMUM SETPOINT = 55°F
- SCHEDULE OF OPERATION
  - TERMINAL UNIT SCHEDULE MATCHES ASSOCIATED AIR HANDLER SEQUENCE OF OPERATION
- OCCUPIED MODE
  - ZONE TEMPERATURE CONTROL
    - ZONE TEMPERATURE BELOW HEATING SETPOINT
      - FIRST STAGE OF HEATING INCREASES SUPPLY AIR TEMPERATURE, SECOND STAGE OF HEATING INCREASES SUPPLY AIRFLOW
      - LEAVING AIR TEMPERATURE SETPOINT SET TO MAXIMUM VALUE
      - HEATING COIL MODULATES TO MAINTAIN LEAVING AIR TEMPERATURE SETPOINT AS RESET BY SPACE TEMPERATURE
      - DAMPER MODULATES TO MAINTAIN MINIMUM AIRFLOW RATE
      - IF ZONE TEMPERATURE BELOW HEATING SETPOINT FOR 5 MINUTES
        - DAMPER MODULATES LINEARLY BETWEEN MINIMUM AIRFLOW RATE AND HEATING AIRFLOW RATE TO MAINTAIN ZONE HEATING SETPOINT
      - WHEN ZONE TEMPERATURE IS EQUAL TO HEATING SETPOINT
        - REVERSE SEQUENCE IDENTIFIED ABOVE
    - ZONE TEMPERATURE BETWEEN HEATING AND COOLING SETPOINTS
      - LEAVING AIR TEMPERATURE SETPOINT SET TO ASSOCIATED AIR HANDLER LEAVING AIR TEMPERATURE
      - HEATING COIL OFF
      - DAMPER MODULATES TO MAINTAIN LOW MINIMUM AIRFLOW RATE
    - ZONE TEMPERATURE ABOVE COOLING SETPOINT
      - LEAVING AIR TEMPERATURE SETPOINT SET TO ASSOCIATED AIR HANDLER LEAVING AIR TEMPERATURE
      - HEATING COIL OFF
      - DAMPER MODULATES LINEARLY BETWEEN MINIMUM AIRFLOW RATE AND MAXIMUM AIRFLOW RATE TO MAINTAIN ZONE COOLING SETPOINT
        - WHEN ZONE TEMPERATURE IS EQUAL TO COOLING SETPOINT
          - REVERSE SEQUENCE IDENTIFIED ABOVE
  - ZONE CARBON DIOXIDE CONTROL (WHERE CO2 SENSOR IS SHOWN ON M1XX SERIES)
    - DAMPER MODULATES LINEARLY BASED ON CARBON DIOXIDE LEVEL
    - CARBON DIOXIDE LEVEL AT 400 PPM OR LESS
      - DAMPER MODULATES TO MAINTAIN LOW MINIMUM AIRFLOW RATE PER TERMINAL UNIT SCHEDULE
    - CARBON DIOXIDE LEVEL AT SETPOINT OR HIGHER
      - DAMPER MODULATES TO MAINTAIN MINIMUM AIRFLOW RATE PER TERMINAL UNIT SCHEDULE
  - ZONE OCCUPANCY CONTROL (WHERE OCCUPANCY SENSOR IS SHOWN ON M1XX SERIES)
    - WHEN ZONE IS UNOCCUPIED PER OCCUPANCY SENSOR
      - RESET ZONE TEMPERATURE SETPOINTS BY 5°F FOR BOTH HEATING AND COOLING
      - SET MINIMUM VENTILATION RATE TO ZERO, WHILE SPACE TEMPERATURE IS WITHIN DEADBAND
- UNOCCUPIED MODE
  - WHEN SPACE TEMPERATURE IS WITHIN DEADBAND
    - HEATING COIL CONTROL VAVLE SHUT
    - WHEN AHU CYCLES ON, MODULATE DAMPER TO MAINTAIN LOW MINIMUM AIRFLOW RATE
    - WHEN AHU IS OFF, DAMPER OPEN
  - WHEN SPACE TEMPERATURE IS BELOW SETBACK HEATING SETPOINT
    - SIGNAL TO AIR HANDLING UNIT TO OPERATE IN OPTIMUM START, WARM UP MODE
      - MODULATE DAMPER TO MAINTAIN HEATING AIRFLOW
      - MODULATE HEATING COIL VALVE TO MAINTAIN LEAVING AIR TEMPERATURE OF 90°F (ADJ)
      - WHEN ZONE TEMPERATURE MEETS SET BACK HEATING SET SET POINT FOR 5 MINUTES (ADJ) RETURN TO UNOCCUPIED MODE
  - WHEN SPACE TEMPERATURE IS ABOVE SETBACK COOLING SETPOINT
    - SIGNAL TO AIR HANDLING UNIT TO OPERATE IN OPTIMUM START, COOL DOWN MODE
      - MODULATE DAMPER TO MAINTAIN MAXIMUM AIRFLOW
      - HEATING COIL VALVE SHUT
      - WHEN ZONE TEMPERATURE MEETS SET BACK COOLING SET SET POINT FOR 5 MINUTES (ADJ) RETURN TO UNOCCUPIED MODE
- ALARMS/SAFETIES
  - LOW AIRFLOW ALARM: AIRFLOW RATE IS LESS THAN 50% OF SETPOINT FOR 5 MINUTES
  - LOW LEAVING AIR TEMPERATURE ALARM: LEAVING AIR TEMPERATURE IS MORE THAN 10°F (ADJ) BELOW SETPOINT FOR 5 MINUTES (ADJ)
- POINTS FOR MONITORING
  - DAMPER POSITION
  - HEATING COIL VALVE POSITION
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

**GENERAL NOTES:**

A. REFER TO MECHANICAL ZONING PLANS, M1XX SERIES, FOR ZONE SENSOR REQUIREMENTS.

B. WHERE TWO ZONES ARE CONNECTED BY PERMANENT OPENINGS, CONFIGURE CONTROLS SUCH THAT COOLING IS LOCKED OUT WHEN ONE ZONE IS IN HEATING.




2 TERMINAL UNIT - VVR
N.T.S

## AIR HANDLING UNIT - VAV - MULTIPLE ZONE

- GENERAL
  - MULTIPLE ZONE AIR HANDLING UNIT OPERATES AT VARIABLE VOLUME
- SCHEDULE OF OPERATION
  - UNIT OPERATES WHEN COMMANDED BY CONTROL SYSTEM
- MIXING BOX CONTROL OPTIONS
  - RECIRCULATION MODE
    - OUTSIDE AIR DAMPER: CLOSED
    - ECONOMIZER RELIEF DAMPER: CLOSED
    - HEAT EXCHANGER RELIEF DAMPER: CLOSED
    - PRIMARY RECIRULATION DAMPER: OPEN
    - SECONDARY RECIRCULATION DAMPER: CLOSED
  - HEAT EXCHANGER MODE
    - OUTSIDE AIR DAMPER: OPEN
    - ECONOMIZER RELIEF DAMPER: CLOSED
    - HEAT EXCHANGER RELIEF DAMPER:
      - MODULATE TO MAINTAIN HEAT EXCHANGER RELIEF PLENUM STATIC PRESSURE OF 0.015 IN. WG. (ADJ) (SET BY TAB CONTRACTOR)
    - PRIMARY RECIRULATION DAMPER:
      - MODULATE TO MAINTAIN OUTDOOR AIRFLOW SETPOINT
    - SECONDARY RECIRCULATION DAMPER: CLOSED
  - ECONOMIZER MODE
    - OUTSIDE AIR DAMPER: OPEN
    - ECONOMIZER RELIEF DAMPER:
      - MODULATE TO MAINTAIN RETURN PLENUM STATIC PRESSURE OF 0.015 IN. WG. (ADJ) (SET BY TAB CONTRACTOR)
    - HEAT EXCHANGER RELIEF DAMPER: CLOSED
    - PRIMARY RECIRULATION DAMPER:
      - MODULATED INVERSE OF AND IN TANDEM WITH SECONDARY RECIRCULATION DAMPER TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT
    - SECONDARY RECIRCULATION DAMPER:
      - MODULATED INVERSE OF AND IN TANDEM WITH PRIMARY RECIRCULATION DAMPER TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT
- ENTHALPY WHEEL DEFROST
  - ENTHALPY WHEEL SPEED MODULATES BASED ON DIFFERENTIAL PRESSURE ACROSS ENTHALPY WHEEL TO PREVENT FROSTING.
  - WHEN ENTHALPY WHEEL IS ENABLED AND OUTDOOR AIR TEMPERATURE IS LESS THAN 32°F (ADJ) MODULATE ENTHALPY WHEEL TO MAINTAIN DIFFERENTIAL PRESSURE ACROSS ENTHALPY WHEEL WITHIN 100% TO 120% (ADJ) OF TYPICAL VALUE

## AIR HANDLING UNIT - VAV - MULTIPLE ZONE (CONTINUED)

- OPTIMUM START
  - PROVIDE CONTROL ALGORITHM TO AUTOMATICALLY START THE SYSTEM TO ACHIEVE SPACE TEMPERATURE SETPOINT AT THE TIME OF OCCUPANCY AS A FUNCTION OF THE FOLLOWING VARIABLES (AS A MINIMUM):
    - DIFFERENCE BETWEEN SPACE TEMPERATURE AND OCCUPIED ZONE TEMPERATURE SETPOINT
    - OUTSIDE AIR TEMPERATURE
    - AMOUNT OF TIME PRIOR TO SCHEDULED OCCUPANCY
- SUPPLY AIR TEMPERATURE SETPOINT MINIMUM = 55°F (ADJ)
- SUPPLY AIR TEMPERATURE SETPOINT MAXIMUM = 90°F (ADJ)
- WARM UP
  - AIR HANDLING UNIT OPERATES IN FULL RECIRCULATION MODE AND ADDS HEAT TO ACHIEVE ZONE TEMPERATURE HEATING SETPOINT
  - ZONE TEMPERATURE BELOW HEATING SETPOINT
    - MIXING BOX CONTROL: RECIRCULATION MODE
    - HEATING
      - SUPPLY AIR TEMPERATURE SETPOINT RESET 1°F (ADJ) PER MINUTE (ADJ) UNTIL MAXIMUM VALUE IS REACHED
        - FIRST STAGE OF HEATING: MODULATE ENTHAPLY WHEEL SPEED TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT
        - SECOND STAGE OF HEATING: HEATING COIL MODULATES TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT
      - WHEN ZONE TEMPERATURE MEETS HEATING SETPOINT FOR 5 MINUTES (ADJ)
        - ENTER OCCUPIED MODE
    - SUPPLY FAN CONTROL
      - MODULATE SUPPLY FAN SPEED TO MAINTAIN DUCT STATIC PRESSURE SET POINT (SET BY TAB CONTRACTOR)
    - RETURN FAN CONTROL
      - MODULATE RETURN FAN SPEED TO MATCH SUPPLY FAN AIRFLOW RATE
- COOL DOWN
  - AIR HANDLING UNIT OPERATES IN FULL ECONOMIZER MODE TO ACHIEVE ZONE TEMPERATURE COOLING SETPOINT
  - SUPPLY FAN CONTROL
    - MODULATE SUPPLY FAN SPEED TO MAINTAIN DUCT STATIC PRESSURE SET POINT (SET BY TAB CONTRACTOR)
  - RETURN FAN CONTROL
    - MODULATE RETURN FAN SPEED TO MAINTAIN RETURN FAN AIRFLOW RATE OF 600 CFM (ADJ) LESS THAN SUPPLY FAN AIRFLOW RATE
  - ZONE TEMPERATURES ABOVE COOLING SETPOINT AND OUTDOOR AIR TEMPERATURE IS 2°F (ADJ) OR MORE BELOW ZONE TEMPERATURE
    - MIXING BOX CONTROL: ECONOMIZER MODE
    - COOLING
      - COOLING COIL VALVE CLOSED
      - ENTHALPY WHEEL OFF
      - SUPPLY AIR TEMPERATURE SETPOINT RESET 1°F (ADJ) PER MINUTE (ADJ) UNTIL SETPOINT VALUE IS REACHED
      - WHEN ZONE TEMPERATURES MEET COOLING SETPOINT FOR 5 MINUTES (ADJ)
        - ENTER OCCUPIED MODE
  - ZONE TEMPERATURES ABOVE COOLING SETPOINT AND OUTDOOR AIR TEMPERATURE 2°F (ADJ) BELOW ZONE TEMPERATURE OR WARMER
    - MIXING BOX CONTROL: HEAT EXCHANGER MODE
    - COOLING
      - COOLING COIL VALVE ENABLED
      - SUPPLY AIR TEMPERATURE SETPOINT RESET 1 DEGREE F PER MINUTE UNTIL MINIMUM SETPOINT VALUE IS REACHED
        - FIRST STAGE OF COOLING: MODULATE ENTHAPLY WHEEL TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.
        - SECOND STAGE OF COOLING: MODULATE COOLING COIL TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.
  - WHEN ZONE TEMPERATURES MEET COOLING SETPOINT OR SUPPLY FAN SPEED REACHES 100% FOR 5 MINUTES
    - ENTER OCCUPIED MODE

## AIR HANDLING UNIT - VAV - MULTIPLE ZONE (CONTINUED)

- OCCUPIED MODE
  - SUPPLY AIR TEMPERATURE SETPOINT MINIMUM = 55°F (ADJ)
  - SUPPLY AIR TEMPERATURE SETPOINT MAXIMUM = 65°F (ADJ)
  - SUPPLY FAN CONTROL
    - MODULATE SUPPLY FAN SPEED TO MAINTAIN DUCT STATIC PRESSURE SET POINT (SET BY TAB CONTRACTOR)
  - RETURN FAN CONTROL
    - MODULATE RETURN FAN SPEED TO MAINTAIN RETURN FAN AIRFLOW RATE OF 600 CFM (ADJ) LESS THAN SUPPLY FAN AIRFLOW RATE
  - AIR HANDLING UNIT ECONOMIZER MODE: WHEN OUTDOOR AIR IS LESS THAN OR EQUAL TO 75°F AND OUTDOOR IS GREATER THAN OR EQUAL TO 55°F (ADJ)
    - FIRST STAGE OF COOLING IS ECONOMIZER FUNCTION. ECONOMIZER COOLING IS MAXIMIZED WITHOUT ADDING ADDITIONAL HEATING LOAD. SECOND STAGE OF COOLING IS THE COOLING COIL.
    - ENTHAPLY WHEEL OFF
    - HEATING COIL CLOSED
    - MIXING BOX CONTROL: ECONOMIZER MODE
      - IF ECONOMIZER FUNCTION REDUCES OUTDOOR AIRFLOW BELOW OUTDOOR AIRFLOW SETPOINT, ENTER AIR HANDLING UNIT MINIMUM OUTDOOR AIR MODE FOR 1 HOUR (ADJ)
    - IF MIXED AIR TEMPERATURE IS GREATER THAN SUPPLY AIR TEMPERATURE SETPOINT
      - MODULATE COOLING COIL TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.
    - IF MIXED AIR TEMPERATURE EQUALS SUPPLY AIR TEMPERATURE SETPOINT
      - COOLING COIL CLOSED
  - AIR HANDLING UNIT MINIMUM OUTDOOR AIR MODE: WHEN OUTDOOR AIR IS GREATER THAN 75°F OR LESS THAN 55°F (ADJ)
    - FIRST STAGE OF TEMPERATURE CONTROL IS THE ENTHAPLY WHEEL. SECOND STAGE OF TEMPERATURE CONTROL ARE THE HEATING AND COOLING COILS AS REQUIRED.
    - MIXING BOX CONTROL: HEAT EXCHANGER MODE
    - MODULATE ENTHAPLY WHEEL TO MAINTAIN SUPPLY TEMPERATURE SETPOINT.
    - IF MIXED AIR TEMPERATURE IS GREATER THAN SUPPLY AIR TEMPERATURE SETPOINT
      - HEATING COIL CLOSED
      - MODULATE COOLING COIL TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.
    - IF MIXED AIR TEMPERATURE EQUALS SUPPLY AIR TEMPERATURE SETPOINT
      - COOLING COIL CLOSED
      - HEATING COIL CLOSED
    - IF MIXED AIR TEMPERATURE IS LESS THAN SUPPLY AIR TEMPERATURE SETPOINT
      - COOLING COIL CLOSED
      - MODULATE HEATING COIL TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT.
    - MINIMUM OUTDOOR AIRFLOW SETPOINT RESET (ZONE CARBON DIOXIDE CONTROL)
      - RESET MINIMUM OUTDOOR AIRFLOW TO MAINTAIN CRITICAL ZONE CARBON DIOXIDE LEVEL
        - CRITICAL ZONE IS DEFINED AS THE ZONE WITH HIGHEST CARBON DIOXIDE LEVEL
- UNOCCUPIED MODE
  - AIR HANDLING UNIT SHUT OFF UNLESS ZONE TEMPERATURES EXCEED SETBACK SETPOINTS
  - ZONE TEMPERATURE BETWEEN SETBACK HEATING SETPOINT AND SETBACK COOLING SETPOINT
    - AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - ZONE TEMPERATURE BELOW SETBACK HEATING SETPOINT
    - AIR HANDLING UNIT OPERATES IN OPTIMUM START, WARM UP MODE UNTIL ZONE TEMPERATURE REACHES SETBACK HEATING SETPOINT
      - WHEN ZONE TEMPERATURE MEETS SETBACK HEATING SETPOINT FOR 5 MINUTES
        - AIR HANDLER TURNS OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - ZONE TEMPERATURE ABOVE SETBACK COOLING SETPOINT
    - AIR HANDLING UNIT OPERATES IN OPTIMUM START, COOL DOWN MODE UNTIL ZONE TEMPERATURE REACHES SETBACK COOLING SETPOINT
      - WHEN ZONE TEMPERATURE MEETS SETBACK COOLING SETPOINT FOR 5 MINUTES
        - AIR HANDLER TURNS OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS

## AIR HANDLING UNIT - VAV - MULTIPLE ZONE (CONTINUED)

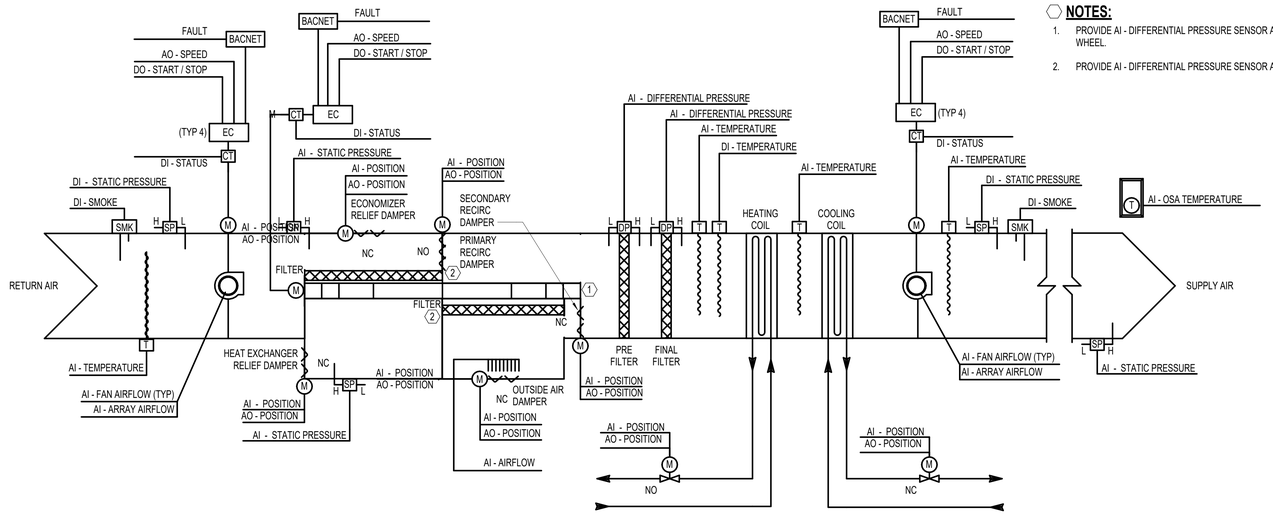
- ECONOMIZER FAULT DETECTION DIAGNOSTICS (FDD) SYSTEM
  - DISPLAY SYSTEM STATUS BASED ON TEMPERATURE SENSORS LOCATED IN OUTDOOR AIR, SUPPLY AIR, AND RETURN AIR
    - FREE COOLING AVAILABLE
    - ECONOMIZER ENABLED
    - COMPRESSOR ENABLED
    - HEATING ENABLED
    - MIXED AIR LOW LIMIT CYCLE ACTIVE
  - PROVIDE UNIT CONTROLLER CAPABLE OF MANUALLY INITIATING EACH OPERATING MODE TO VERIFY OPERATION OF COMPRESSORS, ECONOMIZERS, AND FANS INDEPENDENTLY
  - FAULT REPORTING
    - OUTDOOR AIR TEMPERATURE SENSOR FAILURE/FAULT
    - RETURN AIR TEMPERATURE SENSOR FAILURE/FAULT
    - SUPPLY AIR TEMPERATURE SENSOR FAILURE/FAULT
    - ECONOMIZER NOT OPERATING WHEN ENABLED
    - ECONOMIZER OPERATING WHEN DISABLED
    - DAMPER OPERATOR FAILURE/FAULT (TYP 5)
    - OUTDOOR AIRFLOW RATE EXCEEDS SETPOINT BY 10% FOR 5 MINUTES
- ALARMS/SAFETIES
  - HIGH LEAVING AIR TEMPERATURE ALARM: LEAVING AIR TEMPERATURE IS MORE THAN 10°F (ADJ) ABOVE SETPOINT FOR 5 MINUTES
  - LOW LEAVING AIR TEMPERATURE ALARM: LEAVING AIR TEMPERATURE IS MORE THAN 10°F (ADJ) BELOW SETPOINT FOR 5 MINUTES
  - FIRE ALARM SHUTDOWN SAFETY: UPON RECEIVING FIRE ALARM SIGNAL FROM FIRE ALARM SYSTEM TURN AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - SMOKE DETECTION ALARM: UPON DETECTION OF SMOKE BY SMOKE DETECTOR LOCATED IN THE AIR HANDLER OR ASSOCIATED DUCTWORK, TURN AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - FREEZE PROTECTION ALARM: LOW LIMIT THERMOSTAT LOCATED BETWEEN HEATING AND COOLING COILS SENSES A TEMPERATURE BELOW 40°F, TURN AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - PRE-FILTER CHANGE ALARM: WHEN DIFFERENTIAL PRESSURE MEASURED ACROSS FILTER BANK INDICATES THE STATIC PRESSURE DROP EXCEEDS 1.0 INCHES W.G.
  - FINAL-FILTER CHANGE ALARM: WHEN DIFFERENTIAL PRESSURE MEASURED ACROSS FILTER BANK INDICATES THE STATIC PRESSURE DROP EXCEEDS 1.5 INCHES W.G.
  - SUPPLY DUCT STATIC PRESSURE HIGH LIMIT ALARM: IN THE EVENT THE STATIC PRESSURE EXCEEDS 1.75 INCHES W.G.
  - SUPPLY FAN DISCHARGE PRESSURE HIGH LIMIT SAFETY: IN THE EVENT THE STATIC PRESSURE EXCEEDS 2.0 INCHES W.G. HARD WIRED MANUAL RESET PRESSURE SWITCH SHUTS DOWN FAN
  - RETURN FAN INLET PRESSURE LOW LIMIT SAFETY: IN THE EVENT THE STATIC PRESSURE EXCEEDS -1.50 INCHES W.G. HARD WIRED MANUAL RESET PRESSURE SWITCH SHUTS DOWN FAN
  - EC MOTOR ALARMS: PROVIDE INDIVIDUAL SIGNALS TO THE DDC CONTROLLER INDICATING ALARM CONDITION AND ALARM TYPE. IN THE EVENT OF ECM SHUTDOWN, TURN AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - HEAT WHEEL FAILURE ALARM: FAILURE OF WHEEL
- POINTS FOR MONITORING
  - SUPPLY AIR TEMPERATURE
  - HEATING COIL CONTROL VALVE POSITION
  - COOLING COIL CONTROL VALVE POSITION
  - HEAT WHEEL FAILURE ALARM: FAILURE OF WHEEL
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

**GENERAL NOTES:**

A. REFER TO AIR HANDLING UNIT SCHEDULE FOR QUANTITY OF FANS. EACH FAN SHALL HAVE A DEDICATED VFD.

**NOTES:**

1. PROVIDE AI - DIFFERENTIAL PRESSURE SENSOR ACROSS ENTHALPY WHEEL.
2. PROVIDE AI - DIFFERENTIAL PRESSURE SENSOR ACROSS FILTER BANK.




1 VAV - MULTIPLE ZONE - ENTHALPY WHEEL
N.T.S

IFC SET

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10/6/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
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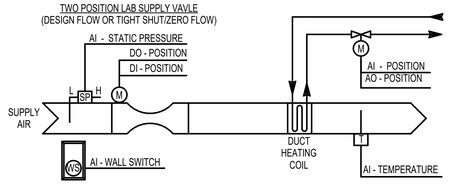
CONTROL DIAGRAMS - MECHANICAL

**M802**

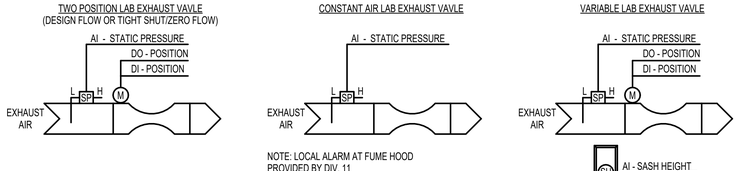
PRCNC20221036




## PAINT BOOTH CONTROLS

- GENERAL
  - EXHAUST FAN AND SUPPLY VALVE OPERATE VIA WALL SWITCH
- WHEN ACTIVATED BY WALL SWITCH
  - OPEN EXAHUST ISOLATION DAMPER
  - EXHAUST FAN ON (TO DESIGN AIRFLOW AS SET BY TAB)
  - SUPPLY VALVE TO DESIGN AIRFLOW
  - DUCT COIL CONTROL VALVE MODULATES TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT AS RESET BY SPACE TEMPERATURE
- WHEN DEACTIVATED BY WALL SWITCH
  - DUCT COIL CONTROL VALVE OFF
  - SUPPLY VALVE OFF (SHUTZERO FLOW)
  - EXHAUST FAN OFF
  - CLOSE EXHAUST ISOLATION DAMPER
  - TERMINAL UNIT AIRFLOW CONTROL
  - TERMINAL UNIT AIRFLOW CONTROL
- POINTS FOR MONITORING
  - SUPPLY AIR TEMPERATURE
  - DUCT COIL VALVE POSITION
  - FAN STATUS
  - SUPPLY VALVE POISTION
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

5 PAINT BOOTH CONTROLS
N.T.S




## TERMINAL UNIT - LABORATORY

- GENERAL
  - TERMINAL UNIT OPERATES AS VARIABLE VOLUME TO MAINTAIN ZONE PRESSURIZATION
  - MAXIMUM RATE OF CHANGE FOR VALVE OPERATION IS 10% PER MINUTE
- SCHEDULE OF OPERATION
  - TERMINAL UNIT SCHEDULE MATCHES ASSOCIATED AIR HANDLER SEQUENCE OF OPERATION
- ZONE PRESSURIZATION CONTROL
  - LAB SPACES RELATIVE PRESSURES SHALL BE MAINTAINED ACCORDING TO THE PRESSURIZATION FLOOR PLANS. RELATIVE PRESSURE RELATIONSHIPS SHALL BE OBTAINED BY FIXED VOLUMETRIC OFFSET CONTROL. THE ROOM AIRFLOW WILL BE CONTROLLED BY THE SUPPLY TERMINAL UNIT TO MAINTAIN THE MINIMUM REQUIRED AIR CHANGE RATE OR THE ROOM TEMPERATURE SETPOINT. THE EXHAUST TERMINAL UNITS AND EXHAUST AIR VALVES WILL TRACK THE SUPPLY TERMINAL UNIT AIRFLOW WHILE MAINTAINING THE OFFSET AS SHOWN ON THE LAB TERMINAL UNIT SCHEDULE. AS THE ROOM AIRFLOW CHANGES OR AS STATIC PRESSURE IN THE SUPPLY AND EXHAUST DUCTS FLUCTUATE, THE ROOM SUPPLY AND EXHAUST TERMINAL UNITS AND VALVES SHALL MODULATE TOGETHER TO MAINTAIN A FIXED VOLUMETRIC OFFSET WITHIN 1.5 SECONDS. [EXHAUST FLOW = SUPPLY FLOW + OFFSET]
- OCCUPIED MODE
  - TERMINAL UNIT AIRFLOW CONTROL
    - DAMPER MODULATES TO MAINTAIN OCCUPIED AIRFLOW BASED ON ZONE PRESSURIZATION CONTROL AND SCHEDULED AIRFLOWS
  - ZONE TEMPERATURE CONTROL (SUPPLY TERMINAL UNITS ONLY)
    - ZONE TEMPERATURE BELOW HEATING SETPOINT
      - HEATING COIL MODULATES TO MAINTAIN SPACE HEATING SETPOINT. HEATING COIL LEAVING AIR TEMPERATURE NOT TO EXCEED 90°F (ADJ)
    - ZONE TEMPERATURE ABOVE HEATING SETPOINTS
      - HEATING COIL OFF

## TERMINAL UNIT - LABORATORY (CONTINUED)

- UNOCCUPIED MODE
  - TERMINAL UNIT AIRFLOW CONTROL
    - DAMPER MODULATES TO MAINTAIN UNOCCUPIED AIRFLOW BASED ON ZONE PRESSURIZATION CONTROL AND SCHEDULED AIRFLOWS
    - WHEN OCCUPANCY SENSOR SENSES OCCUPANCY DURING UNOCCUPIED MODE OVERRIDE ZONE TERMINAL DEVICES TO OCCUPIED AIRFLOW FOR 1 HOUR (ADJ)
  - ZONE TEMPERATURE CONTROL (SUPPLY TERMINAL UNITS ONLY)
    - ZONE TEMPERATURE BELOW HEATING SETPOINT
      - HEATING COIL MODULATES TO MAINTAIN SPACE HEATING SETPOINT. HEATING COIL LEAVING AIR TEMPERATURE NOT TO EXCEED 90°F (ADJ)
    - ZONE TEMPERATURE ABOVE HEATING SETPOINTS
      - HEATING COIL OFF
- ALARMS/SAFETIES
  - LOW AIRFLOW ALARM: AIRFLOW RATE IS LESS THAN 50% OF SETPOINT FOR 5 MINUTES
  - LOW INLET STATIC ALARM: INLET STATIC IS LESS THAN MANUFACTURER REQUIRED MINIMUM FOR ONE MINUTE (ADJ)
    - IF LOW INLET STATIC OCCURS FOR 30 SECONDS (ADJ) SEND SIGNAL TO FANS TO LINEARLY INCREASE FAN STATIC PRESSURE SETPOINT UNTIL MINIMUM INLET STATIC PRESSURE IS MET
- POINTS FOR MONITORING
  - DAMPER POSITION
  - HEATING COIL VALVE POSITION
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

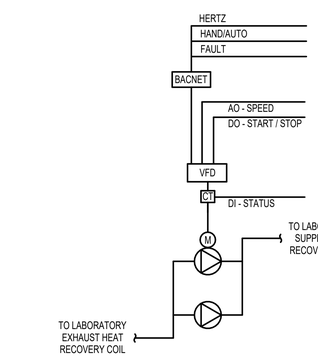
4 TERMINAL UNIT - LABORATORY
N.T.S

## GENERAL NOTES:

A. REFER TO MECHANICAL ZONING PLANS, M1XX SERIES, FOR ZONE SENSOR REQUIREMENTS.

B. ROOM LEVEL AIRFLOWS TO VARY BASED ON OCCUPANCY (VIA ROOM OCCUPANCY SENSOR) FUME HOOD AIRFLOW (VIA SASH SENSOR).

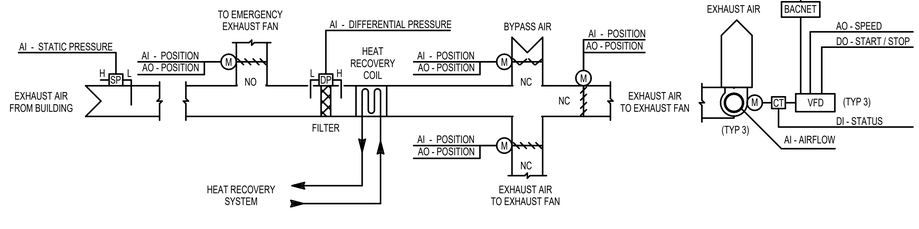
C. REFER TO AIR HANDLING UNIT SCHEDULE FOR QUANTITY OF FANS.




## LABORATORY HEAT RECOVERY PUMPS

- GENERAL
  - PUMPS OPERATE TO MAINTAIN LABORATORY SUPPLY HEAT RECOVERY COIL LEAVING AIR TEMPERATURE
- SCHEDULE OF OPERATION
  - UNIT OPERATES WHEN LABORATORY SUPPLY AIR HANDLING UNIT OPERATES
- ENABLED MODE
  - PUMP CONTROL
    - PUMP SPEED MODULATES BETWEEN MINIMUM FLOW AND MAXIMUM FLOW (AS SET BY THE TEST AND BALANCE AGENT) TO MAINTAIN LABORATORY SUPPLY HEAT RECOVERY COIL LEAVING AIR TEMPERATURE OF 55°F (ADJ)
  - LEAD STANDBY SEQUENCE
    - WHEN LEAD PUMP FAILS THE STANDBY PUMP OPERATES TO MAINTAIN HEAT RECOVERY COIL LEAVING AIR TEMPERATURE
    - FAILED PUMP IS DISABLED UNTIL RE-ENABLED BY CONTROL SYSTEM USER
  - LEAD PUMP DESIGNATION ALTERNATES WEEKLY TO DIVIDE OPERATING TIME EQUALLY BETWEEN PUMPS
- DISABLED MODE (MAINTENANCE MODE)
  - PUMPS OFF
- ALARMS/SAFETIES
  - VARIABLE FREQUENCY DRIVE SPEED (TYP)
  - VARIABLE FREQUENCY DRIVE CURRENT (TYP)
  - VARIABLE FREQUENCY DRIVE ENERGY USE (TYP)
- POINTS FOR MONITORING
  - LABORATORY SUPPLY HEAT RECOVERY COIL TEMPERATURE
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

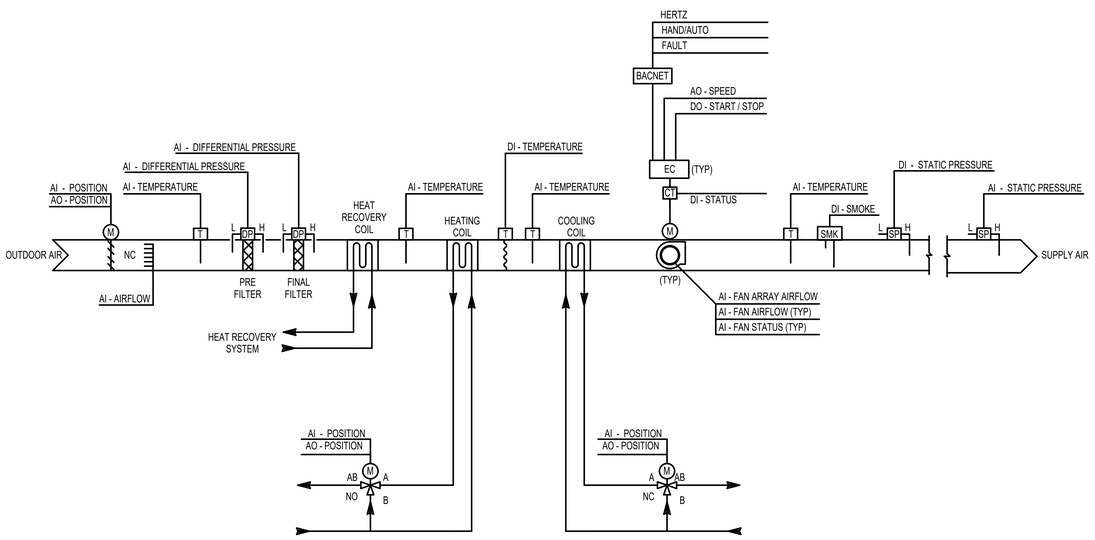
2 LABORATORY HEAT RECOVERY
N.T.S




## LABORATORY EXHAUST FAN

- GENERAL
  - FAN OPERATES TO MAINTAIN CONSTANT AIRFLOW
  - BYPASS DAMPER MODULATES TO MAINTAIN SYSTEM DIFFERENTIAL PRESSURE SETPOINT
- SCHEDULE OF OPERATION
  - UNIT OPERATES 24 HOURS A DAY 7 DAYS A WEEK (EXCEPT WHEN DISABLED AT CONTROL SYSTEM USER INTERFACE FOR MAINTENANCE)
- ENABLED MODE
  - FAN CONTROL
    - OPEN FAN ISOLATION DAMPER
    - FAN TO MAINTAIN SYSTEM AIRFLOW AS MEASURED AT THE FAN INLET AIR MEASURING STATION
    - LEAD STANDBY SEQUENCE
      - WHEN LEAD FAN FAILS, THE LEAD ISOLATION DAMPER CLOSES, THE STANDBY FAN ISOLATION DAMPER OPENS, AND THE STANDBY FAN OPERATES TO MAINTAIN SYSTEM AIRFLOW AS MEASURED BY THE STANDBY FAN INLET AIR MEASURING STATION
      - FAILED FAN IS DISABLED UNTIL RE-ENABLED BY CONTROL SYSTEM USER
    - LEAD FAN DESIGNATION ALTERNATES WEEKLY TO DIVIDE OPERATING TIME EQUALLY BETWEEN FANS
  - BYPASS DAMPER CONTROL
    - MODULATE BYPASS DAMPER TO MAINTAIN DUCT STATIC PRESSURE SET POINT (ADJ) AS SET BY TEST AND BALANCE AGENT
  - EMERGENCY FAN DAMPER CLOSED
  - EMERGENCY FAN OFF
- EMERGENCY MODE
  - UPON LOSS OF POWER, OPEN EMERGENCY FAN ISOLATION DAMPER
  - EMERGENCY RUNS AT FULL SPEED
- DISABLED MODE (MAINTENANCE MODE)
  - FANS OFF
  - CLOSE FAN ISOLATION DAMPER
  - CLOSE BYPASS DAMPER
- ALARMS/SAFETIES
  - FAN STATUS
- POINTS FOR MONITORING
  - FAN AIRFLOW
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

3 LABORATORY EXHAUST FAN AND HEAT RECOVERY
N.T.S




## LABORATORY SUPPLY AIR HANDLING UNIT

- GENERAL
  - MULTIPLE ZONE AIR HANDLING UNIT OPERATES AT VARIABLE VOLUME
- SCHEDULE OF OPERATION
  - UNIT OPERATES 24 HOURS A DAY 7 DAYS A WEEK
  - UNIT OPERATES WHEN ASSOCIATED LABORATORY EXHAUST FAN OPERATES
- SUPPLY AIR TEMPERATURE SETPOINT
  - MAXIMUM SUPPLY AIR TEMPERATURE SETPOINT RATE OF CHANGE: 1°F PER MINUTE (ADJ)
  - MINIMUM SETPOINT = 55°F (ADJ)
  - MAXIMUM SETPOINT = 75°F (ADJ)
- ENABLED MODE
  - AIR HANDLING UNIT BEGINS OPERATION AT MINIMUM SPEED
    - OUTSIDE AIR DAMPER OPEN
  - SUPPLY FAN CONTROL
    - FAN STARTS AT MINIMUM SPEED
      - MAXIMUM SUPPLY FAN SPEED SETPOINT RATE OF CHANGE: 2% PER MINUTE (ADJ)
    - FAN SPEED RESET – DUCT STATIC PRESSURE TRIM AND RESPOND
      - SUPPLY FAN SPEED MODULATES TO MAINTAIN SUPPLY DUCT STATIC PRESSURE SETPOINT
      - SUPPLY DUCT STATIC PRESSURE SETPOINT IS RESET TO LOWEST POSSIBLE VALUE USING TRIM AND RESPOND LOGIC TO MAINTAIN CRITICAL TERMINAL UNITS AT 90% OPEN
        - EVERY 2 MINUTES SUPPLY STATIC PRESSURE SETPOINT IS REDUCED BY 0.05 INCHES W.G. (ADJ)
          - WHEN TWO OR MORE TERMINAL UNIT DAMPERS ARE MORE THAN 90% OPEN THE SUPPLY STATIC PRESSURE SETPOINT INCREASES BY 0.07 INCHES W.G.
        - MAXIMUM AND MINIMUM DUCT STATIC PRESSURE SET POINT TO BE SET BY TEST AND BALANCE AGENT
- SUPPLY AIR TEMPERATURE CONTROL
  - SUPPLY AIR TEMPERATURE SETPOINT SET TO CURRENT SUPPLY AIR TEMPERATURE READING
    - MAXIMUM SUPPLY AIR TEMPERATURE SETPOINT RATE OF CHANGE: 1°F PER MINUTE (ADJ)
  - SUPPLY AIR TEMPERATURE BELOW SETPOINT
    - HEATING COIL MODULATES TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT
    - COOLING COIL VALVE CLOSED
  - SUPPLY AIR TEMPERATURE AT SETPOINT
    - HEATING COIL VALVE CLOSED
    - COOLING COIL VALVE CLOSED
  - SUPPLY AIR TEMPERATURE ABOVE SETPOINT
    - HEATING COIL VALVE CLOSED
    - COOLING COIL MODULATES TO MAINTAIN SUPPLY AIR TEMPERATURE SETPOINT

## LABORATORY SUPPLY AIR HANDLING UNIT (CONTINUED)

- DISABLED MODE (MAINTENANCE MODE)
  - GENERAL: FANS OFF, ISOLATION DAMPER SHUT, VALVES IN DE-ENERGIZED POSITIONS
  - THE SYSTEM CANNOT ENTER OCCUPIED MODE UNTIL MAINTENANCE MODE IS RELEASED FROM THE OPERATOR WORKSTATION
- ALARMS/SAFETIES
  - HIGH LEAVING AIR TEMPERATURE ALARM: LEAVING AIR TEMPERATURE IS MORE THAN 10°F ABOVE SETPOINT FOR 5 MINUTES
  - LOW LEAVING AIR TEMPERATURE ALARM: LEAVING AIR TEMPERATURE IS MORE THAN 10°F BELOW SETPOINT FOR 5 MINUTES
  - FIRE ALARM SHUTDOWN SAFETY: UPON RECEIVING FIRE ALARM SIGNAL FROM FIRE ALARM SYSTEM TURN AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - SMOKE DETECTION ALARM: UPON DETECTION OF SMOKE BY SMOKE DETECTOR LOCATED IN THE AIR HANDLER OR ASSOCIATED DUCTWORK, TURN AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - FREEZE PROTECTION ALARM: LOW LIMIT THERMOSTAT LOCATED BETWEEN HEATING AND COOLING COILS SENSES A TEMPERATURE BELOW 40 DEGREES F, TURN AIR HANDLER OFF, ALL COMPONENTS IN NORMAL DE-ENERGIZED POSITIONS
  - FAN FAILURE ALARM: VIA AIRFLOW MEASURING STATION
  - PRE-FILTER CHANGE ALARM: WHEN DIFFERENTIAL PRESSURE MEASURED ACROSS FILTER BANK INDICATES THE STATIC PRESSURE DROP EXCEEDS 1.0 INCHES W.G. (ADJ)
  - FINAL-FILTER CHANGE ALARM: WHEN DIFFERENTIAL PRESSURE MEASURED ACROSS FILTER BANK INDICATES THE STATIC PRESSURE DROP EXCEEDS 1.5 INCHES W.G. (ADJ)
  - SUPPLY DUCT STATIC PRESSURE HIGH LIMIT ALARM: IN THE EVENT THE STATIC PRESSURE EXCEEDS 1.75 INCHES W.G. (ADJ, SET BY TEST AND BALANCE AGENT)
  - SUPPLY FAN OUTLET PRESSURE HIGH LIMIT SAFETY: IN THE EVENT THE STATIC PRESSURE EXCEEDS 3.5 INCHES W.G. (ADJ, SET BY TEST AND BALANCE AGENT) HARD WIRED MANUAL RESET PRESSURE SWITCH SHUTS DOWN FAN
  - HEATING COIL PUMP FAILURE ALARM: FAILURE OF PUMP
- POINTS FOR MONITORING
  - SUPPLY TEMPERATURE SETPOINT
  - SUPPLY TEMPERATURE
  - SUPPLY FAN ARRAY AIRFLOW
- NOTES
  - SETPOINTS AND VARIABLES ARE TO BE INDIVIDUALLY ADJUSTABLE THROUGH CONTROL SYSTEM GRAPHICAL USER INTERFACE

1 LABORATORY SUPPLY AIR HANDLING UNIT
N.T.S

IFC SET

integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA 98104
TELEPHONE (206)624-3137 FAX (206)624-3138

WASHINGTON STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS 21388 10/6/2022

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

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| Job No.: | 22135.00 |
| Drawn By: | Author |
| Checked By: | Checker |

Revisions

| # | Date | Description |
|---|---|---|

CONTROL DIAGRAMS - MECHANICAL

**M803**

PRCNC20221036

# PIERCE COLLEGE STEM

## GENERAL

- EXISTING MECHANICAL TO BE REMOVED
- EXISTING MECHANICAL TO REMAIN
- MATCHLINE OR PROPERTY LINE
- ENLARGED PLAN BOUNDARY
- 1 / M1.01 — DETAIL/PLAN IDENTIFIER
- A / M1.01 — SECTION IDENTIFIER
- A / M1.01 — ELEVATION IDENTIFIER
- 1 — REVISION CALLOUT
- 1 — KEYED NOTE TAG
- 1 — CODED NOTE
- AHU-01 — MECHANICAL EQUIPMENT TAG
- INVERT ELEVATION OR POC

## CONTROLS (PLAN VIEW)

- T / TU-XX — THERMOSTAT OR TEMPERATURE SENSOR
- $S_G$ — SENSOR: SHOWN WITH GUARD (TYPICAL ALL SENSORS)
- S — HUMIDISTAT OR HUMIDITY SENSOR
- CO — CARBON MONOXIDE SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- IAQ — INDOOR AIR QUALITY SENSOR
- $S_X$ — SWITCH BY MECHANICAL

## ELECTRICAL PROVISIONS FOR MECHANICAL WORK

- LOCATION OF STARTER, DISCONNECT & CONTROLS
- VFD — VARIABLE FREQUENCY DRIVE
- HT — HT — HEAT TRACE BETWEEN SYMBOLS OR END OF RUN

## ACCESS

- ACCESS DOOR (SPECIFIED OR AS SHOWN ON DWGS)
- MECHANICAL ACCESS (SPECIFIED OR AS SHOWN ON DWGS)

## PIPING

- PIPE ELBOW UP OR PIPE TEE UP AND DOWN
- PIPE ELBOW DOWN
- PIPE TEE UP
- PIPE TEE DOWN
- PIPE RISE
- PIPE CAP
- PIPE PLUG
- FLOW DIRECTION
- PIPE BREAK
- C — CONDENSATE DRAIN

## STORM DRAINAGE PIPING SYSTEM

- ROOF DRAIN
- OVERFLOW ROOF DRAIN
- RL — RAIN LEADER
- ORL — OVERFLOW RAIN LEADER

## SOIL AND WASTE WATER PIPING SYSTEM

- SANITARY SEWER/WASTE UNDERGROUND
- SANITARY SEWER/WASTE ABOVE GROUND
- VENT PIPING
- X" VTR — VENT THRU ROOF (INCLUDE SIZE)
- FLOOR DRAIN/FUNNEL FLOOR DRAIN
- WCO — CLEANOUT – FREE STANDING WALL MOUNTED
- FCO — CLEANOUT – FLUSH WITH FLOOR
- AW — ACID WASTE

## DOMESTIC WATER PIPING SYSTEM

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER CIRCULATION
- NPCW — NON POTABLE COLD WATER
- NPHW — NON POTABLE HOT WATER
- NPHWC — NON POTABLE HOT WATER CIRCULATION
- TP — TRAP PRIMER WATER
- WATER METER
- BASKET STRAINER
- HOSE BIBB/WALL HYDRANT
- TRAP PRIMER BOX

## VALVES

- VALVE: GATE, BALL, BUTTERFLY (REFER TO SPECIFICATIONS)
- GLOBE VALVE
- SOLENOID VALVE
- CHECK VALVE
- BALANCING VALVE

## PIPING SPECIALTIES

- UNION
- FLANGE
- FLEX CONNECTOR
- THERMAL/SEISMIC FLEXIBLE LOOP
- EJ — THERMAL EXPANSION JOINT

## NATURAL GAS PIPING SYSTEM

- G — LOW PRESSURE NATURAL GAS PIPING
- MPG — MEDIUM PRESSURE NATURAL GAS PIPING
- GAS COCK
- PRESSURE REGULATOR
- PRESSURE REGULATOR WITH VENT
- SEISMIC GAS SHUT-OFF
- GAS PRESSURE REDUCING VALVE WITH VENT

## GENERAL NOTES

1. COORDINATE MECHANICAL WORK WITH THAT OF OTHER TRADES. REFER TO CONTRACT DOCUMENTS INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, STRUCTURAL, FIRE PROTECTION, FIRE ALARM, SECURITY, CIVIL AND LANDSCAPE DRAWINGS AND SPECIFICATIONS.
2. MAINTAIN CODE REQUIRED AND MANUFACTURERS' MINIMUM MAINTENANCE CLEARANCES AND AS NOTED ON THE DRAWINGS. SYSTEMS INSTALLED FOUND TO BE IN CONFLICT WITH THIS REQUIREMENT WILL BE MOVED AT CONTRACTOR'S EXPENSE TO ENSURE COMPLIANCE.
3. ACCESS CLEARANCES FOR MAINTENANCE AND REPLACEMENT: VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE LOCATIONS OF MECHANICAL WORK AND WORK OF OTHER TRADES TO PROVIDE ACCESS CLEARANCES FOR SERVICE AND MAINTENANCE.

## PIPING NOTES

1. PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
2. PROVIDE AN INSULATED COPPER TRACER WIRE OR OTHER APPROVED CONDUCTOR ADJACENT TO UNDERGROUND NONMETALLIC (PLASTIC) PIPING. ACCESS SHALL BE PROVIDED TO THE TRACER WIRE OR THE TRACER WIRE SHALL TERMINATE ABOVE GROUND AT EACH END OF THE PIPING. THE TRACER WIRE SHALL NOT BE LESS THAN NO. 18 AWG AND THE INSULATION TYPE SHALL BE SUITABLE FOR BURIAL.
3. PROVIDE 12" LONG, ½" WIDE FLUORESCENT ORANGE TAPE AT CONCEALED VALVE LOCATIONS.

## STERILIZATION AND FLUSHING OF WATER PIPING

1. AFTER COMPLETION OF WATER PIPING INSTALLATION, BUT PRIOR TO CONNECTION TO EXISTING MAINS, FLUSH SYSTEM WITH CLEAN WATER. TAKE SAMPLE OF WATER FROM SYSTEM TO DETERMINE COMPLIANCE WITH HEALTH DEPARTMENT STANDARDS. OBTAIN NECESSARY TESTS FROM GOVERNING HEALTH DEPARTMENT. IF SAMPLE IS NOT IN COMPLIANCE, PERFORM STERILIZATION.
2. STERILIZE FOR 8 HOUR CONTACT TIME WITH 50 PARTS PER MILLION CHLORINE CONCENTRATION. OPEN VALVES SEVERAL TIMES. FOLLOW BY FLUSHING WITH CLEAN WATER UNTIL RESIDUAL CHLORINE IS LESS THAN 0.2 PARTS PER MILLION.
3. AFTER FLUSHING AND STERILIZATION ARE COMPLETE, CONDUCT TESTS TO DETERMINE COMPLIANCE WITH HEALTH DEPARTMENT STANDARDS FOR STERILIZATION RESULTS. IF PIPE SYSTEM IS FOUND TO BE CONTAMINATED, CORRECT DEFECTS AND PERFORM ADDITIONAL FLUSHING AND STERILIZATION UNTIL SATISFACTORY RESULTS ARE OBTAINED.
4. SUBMIT WRITTEN CERTIFICATION OF FLUSHING AND STERILIZATION BY LOCAL AHJ.

## PLUMBING NOTES

1. INVERT ELEVATIONS SHOWN ARE FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE AND CONFIRM LOCATIONS PRIOR TO STARTING WORK.
2. SEE TYPICAL PLUMBING DETAILS ON SHEET M5.0.
3. SLOPE WASTE PIPING AT ¼" PER FOOT UNLESS OTHERWISE NOTED.
4. SEE ARCHITECTURAL DRAWINGS INCLUDING INTERIOR ELEVATIONS FOR PLUMBING FIXTURE LOCATIONS AND REQUIRED MOUNTING HEIGHTS. THIS INCLUDES FLOOR DRAINS, ROOF DRAINS AND OWNER FURNISHED ITEMS.
5. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING CONSTRUCTION INCLUDING FLOOR SYSTEMS AND SLAB CONDITIONS.
6. FOR PIPE SIZES TO INDIVIDUAL FIXTURES SEE PLUMBING FIXTURE SCHEDULE.
7. PROVIDE CLEANOUTS BELOW EACH SINK.
8. PROVIDE ACCESS PANEL AT ISOLATION VALVES WHERE LOCATED ABOVE HARD LID CEILINGS OR IN WALLS. SHUT OFF VALVE LOCATIONS ARE SHOWN DIAGRAMMATICALLY AND NEED TO BE COORDINATED SO THEY ARE INSTALLED IN ACCESSIBLE LOCATIONS.
9. PROVIDE ACCESS PANEL FOR WATER HAMMER ARRESTORS AND TRAP PRIMER PANELS.
10. FLOOR DRAINS, FLOOR SINKS AND TRAPS SHALL BE SERVED FROM THE NEAREST ELECTRONIC TRAP PRIMER.
11. ROUTE MAIN HOT WATER LINES SHOWN DOWN IN WALLS TO WITHIN 24" OF LAVATORIES OR HAND WASHING SINKS.
12. PIPING INSTALLED ON EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR, "WARM" SIDE OF THE INSULATION SYSTEM.

## Sheet List Table



| Sheet Number | Sheet Title |
|---|---|
| P0.01 | ABBREVIATIONS, NOTES, AND LEGEND |
| P0.02 | PLUMBING SCHEDULE 1 |
| P0.03 | PLUMBING SCHEDULE 2 |
| P0.04 | PLUMBING SCHEDULE 3 |
| P1.00 | LEVEL 0 UNDERGROUND PLUMBING PLAN |
| P1.01 | LEVEL 0 FLOOR PLAN & LEVEL 1 UNDERGROUND PLUMBING PLAN |
| P1.02 | LEVEL 1 PLUMBING PLAN |
| P1.03 | LEVEL 2 PLUMBING PLAN |
| P1.04 | LEVEL 3 PLUMBING PLAN |
| P1.05 | ROOF PLUMBING PLAN |
| P2.01 | LEVEL 2 ENLARGED PLANS |
| P2.02 | LEVEL 3 ENLARGED PLANS |
| P3.01 | SANITARY RISER |
| P3.02 | WATER RISER |
| P3.03 | GAS & VACUUM RISER |
| P3.04 | WATER 3D RISER |
| P3.05 | SANITARY 3D RISER |
| P4.01 | PLUMBING DETAILS 1 |
| P4.02 | PLUMBING DETAILS 2 |



## ABBREVIATIONS

| | |
|---|---|
| Ø | DIAMETER, PHASE |
| A | AIR, AMPS |
| AAV | AUTOMATIC AIR VENT |
| ABV | ABOVE |
| AC | AIR CONDITIONER |
| ACU | AIR CONDITIONING UNIT |
| AD | ACCESS DOOR |
| ADA | AMERICANS WITH DISABILITIES ACT |
| AF | AIRFOIL |
| AFF | ABOVE FINISHED FLOOR |
| AFUE | ANNUAL FUEL UTILIZATION EFFICIENCY |
| AG | ABOVE GROUND |
| AHJ | AUTHORITY HAVING JURISDICTION |
| AHU | AIR HANDLING UNIT |
| AL | ACOUSTIC LINED (DUCT) |
| AP | ACCESS PANEL |
| ARCH | ARCHITECT |
| ASHRAE | AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS, INC. |
| ATM | ATMOSPHERE |
| B | BOILER |
| BDD | BACK DRAFT DAMPER |
| BF | BELOW FLOOR |
| BHP | BRAKE HORSE POWER |
| BOD | BOTTOM OF DUCT |
| BOP | BOTTOM OF PIPE |
| BOT | BOTTOM |
| BTUH | BRITISH THERMAL UNIT PER HOUR |
| BV | BALL VALVE |
| C | CONDENSATE PIPING |
| CAP | CAPACITY |
| CC | COOLING COIL |
| CD | CEILING DIFFUSER, CONDENSATE DRAIN |
| CFM | CUBIC FEET PER MINUTE |
| CG | CEILING GRILLE |
| CH | CABINET HEATER |
| CKV | CHECK VALVE |
| CLG | CEILING, COOLING |
| CO | CLEANOUT |
| CO2 | CO2 SENSOR |
| COND | CONDENSER, CONDENSATE |
| CONN | CONNECTOR |
| CONT | CONTINUE, CONTROL |
| COP | COEFFICIENT OF PERFORMANCE |
| C. TK | COMPRESSION TANK |
| CU | CONDENSING UNIT, CUBIC |
| CV | CONSTANT VOLUME |
| CW | COLD WATER PIPING |
| D | DRAIN |
| DB | DRY BULB (TEMPERATURE) |
| dB | DECIBEL |
| DCVA | DOUBLE CHECK VALVE ASSEMBLY |
| DEG | DEGREE |
| DEMO | DEMOLITION |
| DFU | DRAINAGE FIXTURE UNIT |
| DIA | DIAMETER |
| DIM | DIMENSION |
| DN | DOWN |
| DWGS | DRAWINGS |
| (E) | EXISTING |
| EA | EXHAUST AIR |
| EAT | ENTERING AIR TEMPERATURE |
| EER | ENERGY EFFICIENCY RATIO |
| EF | EXHAUST FAN |
| EFF | EFFICIENCY |
| EG | EXHAUST GRILLE |
| EL | ELEVATION |
| ELEC | ELECTRIC |
| EQUIV | EQUIVALENT |
| ESP | EXTERNAL STATIC PRESSURE |
| ET | EXPANSION TANK |
| EVAP | EVAPORATOR, EVAPORATIVE |
| EWC | ELECTRIC WATER COOLER |
| EWT | ENTERING WATER TEMP |
| EXH | EXHAUST |
| EXT | EXTERIOR, EXTERNAL |
| F | FAHRENHEIT, FIRE MAIN PIPING |
| FCO | FLOOR CLEANOUT |
| FCU | FAN COIL UNIT |
| FD | FIRE DAMPER, FLOOR DRAIN, DRY SPRINKLER ROUTING |
| FDC | FIRE DEPARTMENT CONNECTION |
| FLA | FULL LOAD AMPS |
| FLEX | FLEXIBLE |
| FLR | FLOOR |
| FPM | FEET PER MINUTE |
| FPS | FEET PER SECOND |
| FS | FLOOR SINK |
| F/S | FIRE/SMOKE DAMPER |
| FT | FEET, FIN TUBE |
| FV | FACE VELOCITY |
| FW | FILTERED WATER PIPING |
| G | GAS |
| GA | GAGE |
| GAL | GALLONS |
| GALV | GALVANIZED |
| GPF | GALLONS PER FLUSH |
| GPH | GALLONS PER HOUR |
| GPM | GALLONS PER MINUTE |
| GRD | GRILLES, REGISTERS, AND DIFFUSERS |
| GV | GATE VALVE, GLOBE VALVE |
| IAQ | INDOOR AIR QUALITY |
| IE | INVERT ELEVATION |
| IN. | INCH |
| IN.WG | INCHES WATER COLUMN |
| kW | KILOWATT |
| L | LENGTH |
| LAT | LEAVING AIR TEMPERATURE |
| LBS | POUND |
| LD | LINEAR DIFFUSER |
| LR | LINEAR RETURN |
| LVR | LOUVER |
| LWR | LOW WALL RETURN |
| MAT | MIXED AIR TEMPERATURE |
| MAV | MANUAL AIR VENT |
| MAX | MAXIMUM |
| MBH | THOUSAND BTU PER HOUR |
| MC | MECHANICAL CONTRACTOR |
| MCA | MINIMUM CIRCUIT AMPACITY |
| MECH | MECHANICAL |
| MERV | MINIMUM EFFICIENCY REPORTING VALUE |
| MIN | MINIMUM |
| MOCP | MAXIMUM OVERCURRENT PROTECTION |
| MOD | MOTOR OPERATED DAMPER |
| N | NEW |
| NA | NOT APPLICABLE |
| NC | NORMALLY CLOSED, NOISE CRITERIA |
| NIC | NOT IN CONTRACT |
| NO | NORMALLY OPEN, NITROUS OXIDE |
| IN. | NUMBER |
| NTS | NOT TO SCALE |
| OA | OUTDOOR AIR |
| OC | ON CENTER |
| OD | OUTSIDE DIMENSION OR DIAMETER |
| ORD | OVERFLOW ROOF DRAIN |
| ORL | OVERFLOW RAIN LEADER |
| OSA | OUTDOOR SUPPLY AIR |
| P | PUMP, PRESSURE, PLUMBING FIXTURE |
| PD | PRESSURE DROP, PUMPED DRAIN |
| PH | PHASE |
| PIV | POST INDICATOR VALVE |
| POC | POINT OF CONNECTION |
| PRV | PRESSURE REDUCING VALVE |
| PSIG | POUNDS PER SQUARE INCH GAGE |
| QTY | QUANTITY |
| R | RELOCATED |
| RA | RETURN AIR, RELIEF AIR |
| RD | ROOF DRAIN |
| REG | REGISTER |
| REF | REFERENCE, RETURN/EXHAUST FAN |
| RG | RETURN GRILLE |
| RI&C | ROUGH IN AND CONNECT |
| RL | RAIN LEADER |
| RLA | RATED LOAD AMPS |
| RPBP | REDUCED PRESSURE BACKFLOW PREVENTER |
| RPM | REVOLUTIONS PER MINUTE |
| RTU | ROOFTOP UNIT |
| S | SENSOR |
| SA | SUPPLY AIR |
| SCFM | STANDARD CUBIC FEET PER MINUTE |
| SCH | SCHEDULE |
| SENS | SENSIBLE |
| SF | SUPPLY FAN, SQUARE FOOT |
| SG | SUPPLY GRILLE, SIGHT GLASS WITH MOISTURE INDICATOR |
| SIM | SIMILAR |
| SL | REFRIGERANT SUCTION LINE OR SOUND LINED (CLEAR INSIDE DIMENSION) |
| SMACNA | SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION, INC. |
| SOV | SHUTOFF VALVE |
| SP | STATIC PRESSURE |
| SS | STAINLESS STEEL, SANITARY SEWER |
| T | THERMOSTAT |
| TCV | TEMPERATURE CONTROL VALVE |
| TD | TRENCH DRAIN, TEMPERATURE DIFFERENCE |
| TEMP | TEMPERATURE |
| TG | TRANSFER GRILLE |
| TOD | TOP OF DUCT |
| TOP | TOP OF PIPE |
| TOS | TOP OF STEEL |
| TOF | TOP OF FOOTING |
| TRAP | STEAM TRAP |
| TSP | TOTAL STATIC PRESSURE |
| TU | TERMINAL UNIT |
| TW | TEMPERED WATER |
| TYP | TYPICAL |
| UG | UNDERGROUND |
| UH | UNIT HEATER |
| UNO | UNLESS NOTED OTHERWISE |
| V | VENT PIPING, VOLT |
| VA | VALVE |
| VAV | VARIABLE AIR VOLUME |
| VCD | VOLUME CONTROL DEVICE |
| VD | VOLUME DAMPER |
| VEL | VELOCITY |
| VENT | VENTILATION, VENTILATOR |
| VFD | VARIABLE FREQUENCY DRIVE |
| VOLT | VOLTAGE |
| VTR | VENT THRU ROOF |
| W | WASTE, WATT, WIDE, WATER |
| W/ | WITH |
| WB | WET BULB (TEMPERATURE) |
| WC | WATER CLOSET, WATER COLUMN |
| WCO | WALL CLEANOUT |
| WG | WATER GAGE |
| WH | WATER HEATER, WALL HYDRANT |
| WHA | WATER HAMMER ARRESTOR |
| WM | WATER METER |
| WSEC | WASHINGTON STATE ENERGY CODE |
| WSFU | WATER SUPPLY FIXTURE UNIT |
| WT | WEIGHT |


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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|

ABBREVIATIONS, NOTES, AND LEGEND

**P0.01**

IFC SET

PRCNC20221036

## WATER HEATER SIZING CALCULATION

| FIXTURE | HW FLOW RATE (GPH) | QUANTITY | TOTAL FLOW RATE (GPH) |
|---|---|---|---|
| | | | |
| LAVATORIES (LV-1) | 15 | 11 | 165 |
| LAVATORIES (LV-2) | 15 | 3 | 45 |
| MOP SINK (MS-1) | 20 | 3 | 60 |
| EMERGENCY SHOWER (ESH-1) | 150 | 11 | 300 |
| EMERGENCY EYEWASH (EEW-1) | 45 | 23 | 45 |
| EMERGENCY EYEWASH (EEW-2) | 45 | 3 | 45 |
| EMERGENCY EYEWASH (EEW-3) | 45 | 1 | 45 |
| *water heater sized for partial usage | | | |
| TOTAL HW FLOW RATE (GPH) | | | 705 |
| DEMAND FACTOR | | | 0.4 |
| STORAGE FACTOR | | | 1 |
| PROBABLE DEMAND | | | 282 |
| REQUIRED STORAGE (GAL) | | | 705 |
| HOT WATER AVAILABLE REQUIRED (GAL) | | | 846 |

## NONPOTABLE WATER HEATER SIZING CALCULATION

| FIXTURE | HW FLOW RATE (GPH) | QUANTITY | TOTAL FLOW RATE (GPH) |
|---|---|---|---|
| LAB SINK (SK-1) SMALL SINK | 5 | 25 | 125 |
| LAB SINK (SK-2) LARGER SINK | 5 | 2 | 10 |
| LAB SINK (SK-3) TWO COMP SINK | 5 | 14 | 70 |
| LAB SINK (SK-4) CUP SINK | 2 | 6 | 12 |
| LAB SINK (SK-7) SCULLERY SINK | 5 | 2 | 10 |
| LAB SINK (SK-8) SCULLERY SINK | 5 | 1 | 5 |
| CUP SINK (CS-1) | 5 | 5 | 25 |
| LAB SINK (SS-1) | 5 | 3 | 15 |
| LAB SINK (SS-2) | 5 | 1 | 5 |
| LAB SINK (SS-3) | 5 | 1 | 5 |
| | | | |
| TOTAL HW FLOW RATE (GPH) | | | 282 |
| DEMAND FACTOR | | | 0.4 |
| STORAGE FACTOR | | | 1 |
| PROBABLE DEMAND | | | 112.8 |
| REQUIRED STORAGE (GAL) | | | 282 |
| HOT WATER AVAILABLE REQUIRED (GAL) | | | 338.4 |

## BACKFLOW DEVICE SCHEDULE

| MARK | MANUFACTURER / MODEL NO. | LOCATION | DESCRIPTION |
|---|---|---|---|
| RPBA-1 | REDUCED PRESSURE PRINCIPAL ASSEMBLY WATTS 957, 3" | SPRINKLER RISER | 3" FOR DOMESTIC WATER |
| RPBA-2 | REDUCED PRESSURE PRINCIPAL ASSEMBLY WATTS 957, 3" | SPRINKLER RISER | 3" FOR DOMESTIC WATER |
| RPBA-3 | REDUCED PRESSURE PRINCIPAL ASSEMBLY WATTS 009QT 3/4" LEAD FREE | SPRINKLER RISER | ICE MACHINE |
| RPBA-4 | REDUCED PRESSURE PRINCIPAL ASSEMBLY WATTS 957, 1-1/2" | SPRINKLER RISER | 1-1/2" NON POTABLE HOT WATER |
| RPBA-5 | REDUCED PRESSURE PRINCIPAL ASSEMBLY WATTS 957, 2" | SPRINKLER RISER | 2" NON POTABLE COLD WATER |
| BA-1 | 2" | BOILER ROOM | MAKEUP WATER |
| BA-2 | 3/4" | PENTHOUSE | MAKEUP WATER |

## PLUMBING PUMP SCHEDULE

| MARK | LOCATION | SYSTEM SERVED | MANUFACTURER / MODEL NO. | PUMP | | | MOTOR | | NOTES |
|---|---|---|---|---|---|---|---|---|---|
| | | | | TYPE | FLOW (GPM) | HEAD (FT) | HP/W | V/PH | |
| CP-1 | WATER HEATER | GWH-1 | GOULDS, 1SV13FA7J20 | DOMESTIC CIRCULATOR | 5 | 70 | 1/2 HP | 120/1 | 1, CONTROL PUMP W/ AQUASTATSET FOR 125 |
| CP-2 | WATER HEATER | GWH-2 | GOULDS, 1SV13FA7J20 | NON POTABLE CIRCULATOR | 5 | 70 | 1/2 HP | 120/1 | 1, CONTROL PUMP W/ AQUASTATSET FOR 125 |
| SP-1 | MECH RM. | BOILER ROOM FLOOR DRAINS | WEIL, 1607-2", SUBMERSIBLE PUMP, BASIN 24" DIA. X 78" DEEP, 25' POWER CABLE, 2613-2" REMOVAL SYSTEM, 8230-AS FLOAT SWITCHES, 8117 NEMA 4 CONTROL PANEL, 8805 BASIN COVER, 8816F CURB FRAME. | SUMP PUMP, SIMPLEX | 15 | 16 | 1/2 HP | 208/1 | 1, FLOATS, CONTROL PANEL, HIGH WATER ALARM AND BASIN TO FIT |
| SP-2 | ELEV PIT | ELEVATOR PIT | STANCOR OIL MINDER OM50JR SE | SUMP PUMP | 50 | 22 | 1/2 | 208/1 | WITH OIL MINDER OIL SENSOR, FLOATS, CONTROL PANEL AND ALARM |
| NOTES: | | | | | | | | | |
| 1- PROVIDE WITH BRONZE BODY CONSTRUCTION | | | | | | | | | |

## WATER HEATER SCHEDULE

| MARK | AREA SERVED | MANUFACTURER / MODEL NO. | BTU/HR | GALLONS (GAL) | ENTERING WATER TEMP | STORED WATER TEMP | 1ST HOUR DELIVERY | EFFICIENCY | ELEC AMPS | V / PH. | WATER RUNOUT (IN) | DIMENSION HxD (INxIN) | OPERATING WEIGHT (LBS) | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GWH-1 | POTABLE | BTH-500 Mxi | 499,000 | 83 | 50 | 140 | 723 | 98% | | 120/1 | see plans | 75-3/4X 33.12 | 1850 | |
| GWH-2 | NONPOTABLE | BTH-199 Mxi | 199,000 | 70 | 50 | 130 | 364 | 98% | | 120/1 | see plans | 76X27.75 | 1356 | |
| NOTES: | 1. ASME RATED 2. HOT WATER LINES TO HAVE MIXING VALVES TO BRING TEMPERATURE DOWN TO 125°F 3. WATER HEATERS SHALL BE ENERGY STAR 4. PROVIDE WITH BACNET CONTROL PANEL TO INTERFACE WITH BUILDING ENERGY MANAGEMENT SYSTEM. | | | | | | | | | | | | | |

## PLUMBING FIXTURE SCHEDULE

| FIXTURE TAG | FIXTURE DESCRIPTION | FIXTURE SPECIFICATIONS | NOTES |
|---|---|---|---|
| WC-1 | WATER CLOSET<br>WATER SENSE CERTIFIED | ~~TOILET: AMERICAN STANDARD A2257.101020 OR SLOAN ST2459A-VITREOUS CHINA~~<br>FLUSH VALVE: SLOAN SOLIS 8111-1.28-OR, MOTION SENSOR, 1.28 GPF<br>~~SEAT: BEMIS 1955SSCT000~~<br>CARRIER: WADE 311-NL4/-NR4 , 330-ND4, SINGLE OR DOUBLE, HORIZONTAL OR VERTICAL DEPENDING ON PLANS SHOWN | WALL MOUNTED FLUSHOMETER, VITREOUS CHINA, HIGH EFFICIENCY, LOW CONSUMPTION 1.28 GPF, ELONGATED BOWL, TOP SPUD, COLOR WHITE. BATTERY OPERATED, HANDS FREE FLUSH VALVE POLISHED CHROME. |
| WC-2 | WATER CLOSET ADA<br>WATER SENSE CERTIFIED | ~~TOILET: AMERICAN STANDARD A2257.101020 OR SLOAN ST2459A-VITREOUS CHINA~~<br>FLUSH VALVE: SLOAN SOLIS 8111-1.28-OR, MOTION SENSOR, 1.28 GPF<br>~~SEAT: BEMIS 1955SSCT000~~<br>CARRIER: WADE 311-NL4/-NR4 , 330-ND4, SINGLE OR DOUBLE, HORIZONTAL OR VERTICAL DEPENDING ON PLANS SHOWN | WALL MOUNTED FLUSHOMETER, VITREOUS CHINA, HIGH EFFICIENCY, LOW CONSUMPTION 1.28 GPF, ELONGATED BOWL, TOP SPUD, COLOR WHITE. BATTERY OPERATED, HANDS FREE FLUSH VALVE POLISHED CHROME. |
| LV-1 | LAVATORY<br>WATER SENSE CERTIFIED | SINK: AMERICAN STANDARD, OVALYN UNDER COUNTER MOUNTED SINK - 0496.221 UNGLAZED RIM<br>FAUCET: SLOAN 3335186 , SLOAN MODEL EAR-200-PLG-ITM-CP 0.35 GPM<br>TRAP: McGUIRE B8902C, CAST IRON BODY, CHROME FINISH<br>ANGLE STOP: BRASSCRAFT KTSCR19<br>CHICAGO 243260001<br>TEMPERING VALVE: POWERS LFE480-10<br>P.O. PLUG: McGUIRE 155A, OPEN GRID, POLISHED CHROME | FAUCET, CHICAGO 116111AB4, 0.35 GPM, VANDAL PROOF, DUAL SUPPLY FOR HOT AND COLD WATER, ELECTRONIC WITH DUAL BEAM INFRARED SENSOR. COUNTER MOUNTED VITREOUS CHINA, FRONT OVERFLOW SINGLE FAUCET CENTER HOLE, COLOR WHITE, PROVIDE WITH PROFLO TRAP COVER FOR ADA COMPLIANCE. BATTERY OPERATED, HANDS FREE FLUSH VALVE. |
| LV-2 | LAVATORY ADA<br>WATER SENSE CERTIFIED | SINK: AMERICAN STANDARD, OVALYN UNDER COUNTER MOUNTED SINK - 0496.221 UNGLAZED RIM<br>FAUCET: SLOAN 3335186 , SLOAN MODEL EAR-200-PLG-ITM-CP 0.35 GPM<br>TRAP: McGUIRE B8902C, CAST IRON BODY, CHROME FINISH<br>ANGLE STOP: BRASSCRAFT KTSCR19<br>CHICAGO 243260001<br>TEMPERING VALVE: POWERS LFE480-10<br>P.O. PLUG: McGUIRE 155A, OPEN GRID, POLISHED CHROME | FAUCET, CHICAGO 116111AB4, 0.35 GPM, VANDAL PROOF, DUAL SUPPLY FOR HOT AND COLD WATER, ELECTRONIC WITH DUAL BEAM INFRARED SENSOR. COUNTER MOUNTED VITREOUS CHINA, FRONT OVERFLOW SINGLE FAUCET CENTER HOLE, COLOR WHITE, PROVIDE WITH PROFLO TRAP COVER FOR ADA COMPLIANCE. BATTERY OPERATED, HANDS FREE FLUSH VALVE. |
| MS-1 | MOP SINK<br>WATER SENSE CERTIFIED | SINK: KOHLER WHITBY SERVICE SINK K-6710-0, 27"x27"x8"<br>FAUCET: ZURN Z843M1-RC WITH VACUUM BREAKER | WALL MOUNTED, 8" FIXED CENTERS CONCEALED HOT AND COLD WATER WITH INTEGRAL STOPS, PAIL HOOK, 3/4" THREADED HOSE SPOUT, TOP REINFORCING BAR |
| FD-1 | FLOOR DRAIN | DRAIN: WADE 1100 SERIES, MODEL 1100-A5-1-ARC, DRAIN BODY WITH 5"<br>BODY: TWO PIECE DURA-COATED CAST IRON BODY, DOUBLE DRAINAGE FLANGE, REVERSIBLE FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET<br>STRAINER: 5 INCH ADJUSTABLE ROUND NICKEL BRONZE | |
| FD-2 | FLOOR DRAIN | DRAIN: WADE 1100 SERIES, MODEL 1100-A5-1-ARC, DRAIN BODY WITH 5"<br>BODY: TWO PIECE DURA-COATED CAST IRON BODY, DOUBLE DRAINAGE FLANGE, REVERSIBLE FLASHING COLLAR, WEEPHOLES, BOTTOM OUTLET<br>STRAINER: 5 INCH ADJUSTABLE ROUND NICKEL BRONZE | |
| FS-1 | FLOOR SINK | DRAIN: SILVERWIND FS/RFS 400 SERIES, 8" SQUARE, 6" SUMP DEPTH<br>TOP: 8 INCH SQUARE<br>CAST IRON HALF GRATE<br>BODY: 6 INCH DEEP, CAST IRON ENAMELED<br>SEDIMENT BASKET, DOME STRAINER | DOME BOTTOM STRAINER, FLANGE AND FLASHING CLAMP |
| HB-1 | HOSE BIBB | WOODFORD B67 POLISHED CHROME ANTI SIPHON, VACUUM BREAKER PROTECTED WALL FAUCETS, ENCLOSED FLUSH MOUNTED WALL BOX, 3/4" INLET. | |
| HB-2 | INTERIOR HOSE BIBB | WOODFORD MODEL 24P3/4 WITH VACUUM BREAKER. | LOCATED IN MECH ROOM |
| BF-1 | DRINKING FOUNTAIN<br>BOTTLE FILLER | FOUNTAIN: ELKAY LZWS-EDFP217K OR APPROVED EQUAL<br>P TRAP: McGUIRE M8912C<br>ANGLE STOP: BRASSCRAFT KTSCR19 | NON REFRIGERATED UNIT, DUAL LEVEL WITH INTEGRAL BOTTLE FILLING STATION, 1.1 GPM, FULLY ASSEMBLED FRONT PUSH BUTTON, STAINLESS STEEL BACK PANEL |
| SB-1 | SERVICE BOX | SERVICE BOX: GUY GRAY OR APPROVED EQUAL | |
| TP-1 | TRAP PRIMER | PPP PT-6, 120V | |
| DT | DILUTION TRAP | ORION | |
| HR-1 | HOSE REEL | KLUTCH AUTO-REWIND AIR HOSE REEL, UNIT WHITE, HOSE WHITE, 3/8" X 50 FT HOSE, WALL OR CEILING MOUNTED | |
| ST-1 | SOLIDS TRAP | ZURN-12280, 2" INLET & 2" OUTLET, 15 GPM, MOUNTED IN CABINET BELOW SINK. | ACID RESISTANT COMPOSITE INTERIOR W/PUC SEDIMENT BUCKET. |

## WATER METER SCHEDULE

| MARK | LOCATION | SYSTEM SERVED | MANUFACTURER / MODEL NO. | SIZE | DDC CONTOLS | POWER | PANEL |
|---|---|---|---|---|---|---|---|
| M | WATER ROOM | DOMESTIC COLD WATER | ONICON FT - 3100 | 3" | RS485 BACnet | 24 VAC / VDC | ONICON D-100 |
| M | WATER ROOM | DOMESTIC HOT WATER | ONICON F - 4600 | 2" | RS485 BACnet | 20 - 28V AC/DC, 5 VA MAX | ONICON D-100 |
| M | WATER ROOM | NON POTABLE HOT WATER | ONICON F - 4600 | 1-1/2" | RS485 BACnet | 20 - 28V AC/DC, 5 VA MAX | ONICON D-100 |
| M | BOILER ROOM | MAKEUP WATER | ONICON F - 4600 | 2" | RS485 BACnet | 20 - 28V AC/DC, 5 VA MAX | ONICON D-100 |
| M | PENTHOUSE | MAKEUP WATER | ONICON F - 4600 | 3/4" | DDC | BATTERY 1/15 Hz | NONE |
| NOTE: NSF / ANSI STANDARD 61, AWWA STANDARD C701. | | | | | | | |

## VACUUM PUMP SCHEDULE

| MARK | LOCATION | MANUFATURER: PATTONS MODEL NUMBER | HP | CAPACITY @19" HG (2) | | PACKAGE BTU/HR (3) | NOISE LEVEL (4) | SYSTEM FLA | RECEIVER SIZE (GALLONS) | L/H (INCHES) | WEIGHT (POUNDS) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PUMP (SCFM) | SYSTEM (SCFM) | | | 460 V(C) | | | |
| VP-1 | ROOFTOP PENTHOUSE | 75LV-25-053 PDS-5HP-DPX-CLAW-120G-RCVR | 5 | 38 | 76 | 25440 | 82 | 12 | 120 | 88/91 | 1898 |
| 1) NORMAL OPERATING CONDITION AT MAXIMUM AMBIENT OF 105 F. CONSULT FACTORY FOR HIGHER AMBIENT CONDITIONS<br>2) CAPACITIES ARE SHOWN WITH ALL PUMPS RUNNING<br>3) PACKAGE BTU/HR ARE SHOWN WITH ALL PUMPS RUNNING<br>4) NOISE LEVELS ARE SHOWN IN dB(A) AND REFLECT ALL PUMPS RUNNING | | | | | | | | | | | |

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STATE PROJECT NO.: 2020-148
PIERCE COLLEGE PUYALLUP
NEW STEM BUILDING
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: Terry Potvin
Checked By: Linda Burman

Revisions

| | Date | Description |
|---|---|---|
| | 3/16/2023 | ASI-028 |

PLUMBING SCHEDULE 1

P0.02

IFC SET

PRCNC20221036

## MIXING VALVE SCHEDULE

| GENERAL | | BASIS OF DESIGN: ACORN. BRADLEY ACCEPTABLE ALTERNATE | SPECIFICATIONS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TAG # | SERVICE | TYPE | MANUFACTURER | MODEL NUMBER | ASSE LISTED | LOCATION | FLOW THROUGH VALVE | MINIMUM FLOW REQ'D | PRESSURE DROP @DESIGN FLOW | CONNECTION SIZE (INCHES) | NSF 61 CERTIFIED (POTABLE SYSTEM) | LEAD FREE | OUTLET TEMP SETPOINT |
| TMV-1 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-2 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-3 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-4 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-5 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-6 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-7 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-8 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-9 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-10 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-11 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 45 GPM | 15 GPM | 5 PSI | 3/4 INCH | YES | YES | 80 DEG F. |
| TMV-12 | DOM HW GWH-2 | THERMOSTATIC | ACORN | SFMV-17-5 | YES | WATER ROOM | 225 GPM | 75 GPM | 5 PSI | 2 INCH | YES | YES | 80 DEG F. |
| TMV-13 | DOM HW GWH-1 | THERMOSTATIC | ACORN | SFMV-17-5 | YES | WATER ROOM | 225 GPM | 75 GPM | 5 PSI | 2 INCH | YES | YES | 80 DEG F. |
| TMV-1A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-2A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-3A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-4A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-5A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-6A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-7A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-8A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-9A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-10A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-11A | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-14 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-15 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-16 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-17 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-18 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-19 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-20 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-21 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |
| TMV-22 | DOM HW | THERMOSTATIC | ACORN | ET-71 | YES | LAB AREAS | 14 GPM | 10 GPM | 5 PSI | 1/2 INCH | YES | YES | 80 DEG F. |

079

## DOMESTIC WATER EXPANSION TANK SCHEDULE

| MARK | LOCATION | SYSTEM SERVED | MANUFACTURER / MODEL NO. | TANK VOLUME (GAL) | ACCEPTANCE FACTOR | SYSTEM CONN. (IN) | PHYSICAL | | NOTES |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | SIZE (DIAxL) (INxIN) | WEIGHT (LBS) | |
| ET-1 | RISER ROOM | WTR HTR | AMTROL STC-12C-DD | 6.4 | 0.5 | 3/4 | 12X18 | 76 | |
| ET-2 | RISER ROOM | WTR HTR | AMTROL STC-12C-DD | 6.4 | 0.5 | 3/4 | 12X18 | 76 | |

NOTE: EXPANSION TANK SHALL BE DELIVERED TO THE SITE PRE-CHARGED TO OPERATING PRESSURE. CONTRACTOR SHALL COORDINATE PRIOR TO ORDERING. PROVIDE SEISMIC BRACING AND ASME RATINGS.

## APPROVED PIPE MATERIALS FOR BUILDING SUPPLY AND WATER DISTRIBUTION PIPING AND FITTINGS

| SERVICE | LOCATION | SIZE | MATERIAL | JOINTS | NOTES |
|---|---|---|---|---|---|
| DOMESTIC WATER | BELOWGRADE | 4" AND SMALLER | TYPE K COPPER | BRAZED | NSF-61 |
| | ABOVEGRADE | 2" & SMALLER | TYPE L COPPER | VIEGA PROPRESS | NSF-61 |
| | | 2'-1/2" & LARGER | SCHEDULE 10 STAINLESS STEEL | VICATULIC GROOVED | NSF-61 |
| | | | | COMBINATION VIC GROOVE x WELDED | NSF-61 |
| NON-POTABLE WATER | ABOVEGRADE | 2" & SMALLER | TYPE L COPPER | VIEGA PROPRESS | NSF-61 |
| | | 2'-1/2" & LARGER | SCHEDULE 10 STAINLESS STEEL | VICATULIC GROOVED | NSF-61 |
| | | | | COMBINATION VIC GROOVE x WELDED | NSF-61 |

NOTES:

## PIPING SYSTEMS INSULATION SCHEDULE

| TYPE OF PIPE | INSTALLATION LOCATION | INSULATION TYPE | PIPE SIZE (INCH) | INSULATION THICKNESS (INCH) | NOTES |
|---|---|---|---|---|---|
| COLD PLUMBING PIPING | INSIDE BUILDING ENVELOPE | FIBERGLASS | ALL SIZES | 1" THICK | 1 |
| | OUTSIDE BUILDING ENVELOPE AND BURIED LESS THAN 3'-0" BELOW GRADE | ELASTOMERIC | ALL SIZES | MULTIPLE LAYERS FOR 1-1/2" TOTAL THICKNESS | 1,3 |
| | IN TRENCHES AND UTILIDORS | CELLULAR GLASS | ALL SIZES | 1" THICK | 2 |
| HOT PLUMBING PIPING | INSIDE BUILDING ENVELOPE | FIBERGLASS | 1-1/4 INCH AND SMALLER | 1" THICK | |
| | | | 1-1/2 INCH AND LARGER | 1-1/2" THICK | 1 |
| | OUTSIDE BUILDING ENVELOPE AND BURIED | ELASTOMERIC | ALL SIZES | 1-1/2" THICK | 1 |
| | IN TRENCHES AND UTILIDORS | CELLULAR GLASS | ALL SIZES | 1-1/2" THICK | 1,3 |

NOTES:
1-INCLUDE POLYETHYLENE TUBING.
2-INCLUDE MULTI-PLY LAMINATE JACKET.
3-INCLUDE FACTORY APPLIED WEATHER PROOF JACKET OR MANUFACTURER RECOMMENDED COATING.

## WATER AND WASTE SYSTEMS LOAD CALCULATIONS

| KIND OF FIXTURE | NUMBER OF FIXTURES | WATER SOURCE FIXTURE UNITS | TOTAL WFUS | HWFUS | WASTE DRAINGE UNITS PER FIXTURE | TOTAL DRAINAGE UNITS DFUS |
|---|---|---|---|---|---|---|
| *POTABLE WATER FIXTURES* | | | | | | |
| WATER CLOSET (WC-1) | 17 | 2.5 | 42.5 | - | 4 | 68 |
| WATER CLOSET (WC-2) | 3 | 2.5 | 7.5 | - | 4 | 12 |
| LAVATORY (LV-1) | 11 | 1 | 11 | 8.25 | 1 | 11 |
| LAVATORY (LV-2) | 3 | 1 | 3 | 2.25 | 1 | 3 |
| MOP SINK (MS-1) | 2 | 3 | 6 | 4.5 | 3 | 6 |
| EMERGENCY SHOWERS (ESH-1) | 11 | 4 | 44 | 33 | 2 | 22 |
| EMERGENCY EYEWASH (EEW-1) | 23 | 1.5 | 34.5 | 25.875 | 2 | 46 |
| EMERGENCY EYEWASH (EEW-2) | 3 | 1.5 | 4.5 | 3.375 | 2 | 6 |
| EMERGENCY EYEWASH (EEW-3) | 1 | 1.5 | 1.5 | 1.125 | 2 | 2 |
| BOTTLE FILLER (BF-1) | 3 | 0.5 | 1.5 | - | 0.5 | 1.5 |
| HOSE BIBB (HB-1) | 4 | 1 | 4 | - | - | - |
| | POTABLE SUBTOTALS | | 160 | 78.375 | - | 177.5 |
| *NONPOTABLE WATER FIXTURES* | | | | | | |
| LAB SINK (SS-1) STAINLESS STEEL | 3 | 2 | 6 | 4.5 | 2 | 6 |
| LAB SINK (SS-2) STAINLESS STEEL | 1 | 2 | 2 | 1.5 | 2 | 2 |
| LAB SINK (SS-3) STAINLESS STEEL | 1 | 2 | 2 | 1.5 | 2 | 2 |
| LAB SINK (SK-1) SMALL SINK | 25 | 2 | 50 | 37.5 | 2 | 50 |
| LAB SINK (SK-2) LARGER SINK | 2 | 2 | 4 | 3 | 2 | 4 |
| LAB SINK (SK-3) | 14 | 2 | 28 | 21 | 2 | 28 |
| LAB SINK (SK-4) | 6 | 2 | 12 | 9 | 2 | 12 |
| LAB SINK (SK-7) SCULLERY SINK | 2 | 2 | 4 | 3 | 2 | 4 |
| LAB SINK (SK-8) SCULLERY SINK | 1 | 2 | 2 | 1.5 | 2 | 2 |
| LAB SINK (CS-1) CUP SINK | 5 | 0.5 | 2.5 | - | 1 | 5 |
| | NONPOTABLE SUBTOTALS | | 112.5 | 82.5 | - | 115 |
| *SANITARY FIXTURES* | | | | | | |
| FLOOR SINK (FS-1) | 8 | - | - | - | 2 | 16 |
| FLOOR DRAIN (FD-1) | 7 | - | - | - | 2 | 14 |
| FLOOR DRAIN (FD-2) | 11 | - | - | - | 2 | 22 |
| | SANITARY SUBTOTAL | | - | - | - | 52 |
| | SYSTEM TOTALS | | 272.5 | 160.875 | - | 344.5 |
| | METER-FIXTURE MAX. LENGTH (FT) | | 450 | TOTAL WSFU = 433.375 | | |
| | SUPPLY LINE PRESSURE (PSI) | | 76 | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **SUPPLY LINE SIZING** | WATER PIPE SIZE (IN) | 3 | PRESSURE AVAILABLE | | MINIMUM ALLOWABLE | | MAXIMUM HEIGHT | |
| | METER SIZE (IN) | 3 | 64 | | 30 | | 45 | |
| | FRICTION LOSS | 14.65 | FRICTION LOSS PER 100 FEET | | 3.26 | | PSI | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **WATER LINE SIZING** | **MAXIMUM LOAD OF WATER PIPE BASED ON 3.26 PSI DROP OVER 450 FEET & MAX 8 FPS** | | | | | | | | |
| | SIZE OF PIPE | 1/2" | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" | 2-1/2" | 3" |
| | MAXIMUM GPM | 2 | 5 | 11 | 18 | 30 | 60 | 130 | 180 |
| | MAXIMUM WFU | 1 | 2 | 4 | 8 | 10 | 80 | 400 | 800 |
| | BASED ON COPPER TUBING TYPE M, L, K | | | | | | | | |

## PLUMBING FIXTURE ROUGH-IN SCHEDULE

| MARK | FIXTURE TYPE | WASTE (IN) | VENT (IN) | CW (IN) | HW (IN) | NPCW (IN) | NPHW (IN) | NOTES |
|---|---|---|---|---|---|---|---|---|
| WC-1 | WATER CLOSET | 4" | 2" | 1-1/4" | - | - | - | - |
| WC-2 | WATER CLOSET - ADA | 4" | 2" | 1-1/4" | - | - | - | 1 |
| LV-1 | LAVATORY - COUNTER | 1-1/2" | 1-1/2" | 1/2" | 1/2" | - | - | - |
| LV-2 | LAVATORY - WALL HUNG | 1-1/2" | 1-1/2" | 1/2" | 1/2" | - | - | 1 |
| BF-1 | BOTTLE FILLER | 1-1/4" | 1-1/4" | 1/2" | - | - | - | 1 |
| MS-1 | MOP SINK | 3" | 2" | 3/4" | 3/4" | - | - | - |
| EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - |
| EEW-2 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - |
| EEW-3 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - |
| ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | - | - | - |
| FS-1 | FLOOR SINK | 2" | 2" | - | - | - | - | 3 |
| FD-1 | FLOOR DRAIN | 2" | 2" | - | - | - | - | 3 |
| FD-2 | FLOOR DRAIN | 4" | 2" | - | - | - | - | 3 |
| VTR | VENT THRU ROOF | - | - | - | - | - | - | 5 |
| *NONPOTABLE WATER FIXTURES* | | | | | | | | |
| SK-1 | LAB SINK | 2" | 1-1/2" | - | - | 1/2" | 1/2" | - |
| SK-2 | LAB SINK | 2" | 1-1/2" | - | - | 1/2" | 1/2" | - |
| SK-3 | LAB SINK | 2" | 1-1/2" | - | - | 1/2" | 1/2" | - |
| SK-4 | LAB SINK | 1-1/2" | 1-1/2" | - | - | 1/2" | 1/2" | - |
| SK-7 | SCULLERY SINK | 2" | 2" | - | - | 3/4" | 3/4" | - |
| SK-8 | SCULLERY SINK | 2" | 2" | - | - | 3/4" | 3/4" | - |
| ST-1 | SOIL TRAP | 2" | 1-1/2" | - | - | - | - | - |
| SS-1 | STAINLESS STEEL - SINGLE | 2" | 1-1/2" | 1/2" | 1/2" | - | - | - |
| SS-2 | STAINLESS STEEL - DOUBLE | 2" | 1-1/2" | - | - | 1/2" | 1/2" | - |
| SS-3 | STAINLESS STEEL - COUNTER | 2" | 1-1/2" | - | - | 1/2" | 1/2" | - |
| CS-1 | CUP SINK - COUNTER MOUNTED | 1-1/2" | 1-1/2" | - | - | 1/2" | - | - |
| FH-1 | FUME HOOD - CUP SINK | 1-1/2" | 1-1/2" | - | - | 1/2" | - | - |

**GENERAL NOTES**

| | |
|---|---|
| A | PIPE SIZES LISTED MAY BE DIFFERENT THAN THE ACTUAL FIXTURE CONNECTION. PROVIDE BRANCH PIPE OF LISTED SIZE AND PIPE FITTINGS AND OFFSETS AS REQUIRED FOR COMPLETE INSTALLATION |
| B | PROVIDE FINAL CONNECTIONS TO ALL FIXTURES |
| C | PROVIDE WALL CLEANOUTS FOR ALL SINKS AND WATER CLOSETS |
| D | ALL NON POTABLE FIXUTURES RAN ON THEIR OWN SYSTEM |

**NOTES**

| | |
|---|---|
| 1 | ADA COMPLIANT WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS. MOUNTING HEIGHT AS INDICATED ON ARCHITECTURAL DRAWINGS. |
| 2 | PROVIDE TRAP PRIMER ASSEMBLY SERVE ADJACENT DRAINS. PROVIDE WITH SHUTOFF VALVE. |
| 3 | CW CONNECTION VIA TRAP PRIMER. |
| 4 | CLEANOUTS ARE TO BE INSTALLED EVERY 100 FEET. |
| 5 | SIZE AS NOTED ON DRAWINGS. WHERE APPLICABLE, VENT SIZE SHALL BE AS NOTED ON THE DRAWING, 1-1/2", HALF SIZE OF WASTE OR WHICHEVER IS LARGER. |

## APPROVED MISC PIPE MATERIALS

| SERVICE | LOCATION | SIZE | MATERIAL | JOINTS | NOTES |
|---|---|---|---|---|---|
| COMPRESSED AIR | ABOVEGRADE | 2" & SMALLER | SCHEDULE 40 A53B ERW | MEGAPRESS | |
| CONDENSATE | ABOVEGRADE | 2" & SMALLER | TYPE M COPPER | VIEGA PROPRESS | |

NOTES:

## APPROVED PIPE MATERIALS FOR DRAIN, WASTE, VENT PIPE AND FITTINGS

| MATERIAL | UNDERGOUND DRAIN, WASTE, VENT PIPE AND FITTINGS | ABOVEGROUND DRAIN, WASTE, VENT PIPE AND FITTINGS | BUILDING SEWER PIPE AND FITTINGS | REFERENCED STANDARD(S) PIPE | REFERENCED STANDARD(S) FITTINGS |
|---|---|---|---|---|---|
| CAST IRON NO-HUB | X | X | - | STANDARD COUPLINGS | ASME B16.3 |

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: Terry Potvin
Checked By: Linda Burman

Revisions

| # | Date | Description |
|---|---|---|
| 079 | 03-03-2023 | EEW |

PLUMBING SCHEDULE 2

**P0.03**

IFC SET

PRCNC20221036

## LAB EQUIPMENT PLUMBING REQUIREMENTS SCHEDULE

| ROOM | FLOOR | LOCATION | MARK | FIXTURE OR EQUIPMENT | NPCW | NPHW | CW (IN) | HW (IN) | WASTE | VENT | DILUTION TRAP | GAS | VAC | AIR | FLOOR DRAIN/SINK | DRAIN | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 131 | LEVEL 1 | PHYSICS SUPPORT | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | SK-3, 2 GALLON ADA DILUTION TRAP |
| 131 | LEVEL 1 | PHYSICS SUPPORT | EEW-2 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-16 |
| 132 | LEVEL 1 | PHYSICS | GT-1 | GAS TURRET | - | - | - | - | 2" | 2" | - | 1/2" | - | - | - | - | (1) GT-1 |
| 132 | LEVEL 1 | PHYSICS | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | SK-3, 2 GALLON ADA DILUTION TRAP |
| 132 | LEVEL 1 | PHYSICS | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (2) SK-1, 2 GALLON DILUTION TRAP ON EACH |
| 135 | LEVEL 1 | FAB LAB | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-5A |
| 135 | LEVEL 1 | FAB LAB | SS-2 | STAINLESS STEEL SINK | 1/2" | 1/2" | - | - | 2" | 2" | | | | | | | |
| 135 | LEVEL 1 | FAB LAB | SS-3 | STAINLESS STEEL SINK - DOUBLE | 1/2" | 1/2" | - | - | 2" | 2" | | | | | | | |
| 135 | LEVEL 1 | FAB LAB | ESH | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-5 |
| | | | | | | | | | | | | | | | | | |
| 231 | LEVEL 2 | BIOLOGY AP LAB | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (5) SK-1, (5)2 GALLON DILUTION TRAP |
| 231 | LEVEL 2 | BIOLOGY AP LAB | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, 2 GALLON ADA DILUTION TRAP |
| 231 | LEVEL 1 | BIOLOGY AP LAB | EEW-2 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-20 |
| 232 | LEVEL 2 | MICROBIOLOGY LAB | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (2) SK-1, (2)2 GALLON DILUTION TRAP |
| 232 | LEVEL 2 | MICROBIOLOGY LAB | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, 2 GALLON ADA DILUTION TRAP |
| 232 | LEVEL 2 | MICROBIOLOGY LAB | SK-4 | LAB SINK | 1/2" | - | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (6) SK-4, 2 GALLON DILUTION TRAP |
| 232 | LEVEL 2 | MICROBIOLOGY LAB | GT-1 & 2 | GAS TURRET | - | - | - | - | - | - | - | 1/2" | - | - | - | - | (2) GT-1, (5) GT-2, GAS VALVE WITH EMERGENCY SHUTOFF |
| 232 | LEVEL 2 | MICROBIOLOGY LAB | VT-1 & 2 | VACUUM TURRET | - | - | - | - | - | - | - | - | 1/2" | - | - | - | (2) VT-1, (5) VT-2 |
| 232 | LEVEL 2 | MICROBIOLOGY LAB | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-4A |
| 232 | LEVEL 2 | MICROBIOLOGY LAB | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-4 |
| 233 | LEVEL 2 | BIOLOGY PREP | SK-3 | LAB SINK - ADA | - | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3 WITH 1/2" DI WATER, 2 GALLON ADA DILUTION TRAP |
| 233 | LEVEL 2 | BIOLOGY PREP | SB-1 | SERVICE BOX | - | - | 1/2" | - | - | - | - | - | - | - | - | - | ICE MACHINE, RPBA-3 |
| 233 | LEVEL 2 | BIOLOGY PREP | EEW-2 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-17 |
| 233 | LEVEL 2 | BIOLOGY PREP | SB-1 | SERVICE BOX | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | |
| 233 | LEVEL 2 | BIOLOGY PREP | SK-7 | SCULLERY SINK - 2 COMP SINK | 1/2" | 1/2" | - | - | 2" | 2" | - | - | - | - | - | - | (1) SK-7 |
| 233 | LEVEL 2 | BIOLOGY PREP | FH-1 | FUME HOOD - CUP SINK | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | - | - | - | - | - | FH-1, BOTTLE TRAP |
| 233 | LEVEL 2 | BIOLOGY PREP | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-3A |
| 233 | LEVEL 2 | BIOLOGY PREP | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-3 |
| 233 | LEVEL 2 | BIOLOGY PREP | GT-2 | GAS TURRET | - | - | - | - | - | - | - | 1/2" | - | - | - | - | (1) GT-2 |
| 233 | LEVEL 2 | BIOLOGY PREP | VT-2 | VACUUM TURRET | - | - | - | - | - | - | - | - | 1/2" | - | - | - | (1) VT-2 |
| 233 | LEVEL 2 | BIOLOGY PREP | | ICE MACHINE | - | - | 1/2" | - | 2" | 2" | - | - | - | - | 2"FS-1 | - | RPBA-3 |
| 233 | LEVEL 2 | BIOLOGY PREP | | STERILIZER | 1/2" | 1/2" | - | - | 2" | 2" | - | - | - | - | 2"FS-1 | - | |
| 233 | LEVEL 2 | BILOGY PREP | EEW-2 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV |
| 234 | LEVEL 2 | GENERAL BIOLOGY | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (1) SK-1, 2 GALLON DILUTION TRAP |
| 234 | LEVEL 2 | GENERAL BIOLOGY | SK-2 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (2) SK-2, 2 GALLON DILUTION TRAP |
| 234 | LEVEL 2 | GENERAL BIOLOGY | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, 2 GALLON ADA DILUTION TRAP |
| 234 | LEVEL 2 | GENERAL BIOLOGY | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-2A |
| 234 | LEVEL 2 | GENERAL BIOLOGY | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-2 |
| 235 | LEVEL 2 | GENERAL BIOLOGY | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (1) SK-1, 2 GALLON DILUTION TRAP |
| 235 | LEVEL 2 | GENERAL BIOLOGY | SK-3 | LAB SINK-ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, (1)ST-1 SOLIDS TRAP, 2 GALLON ADA DILUTION TRAP |
| 235 | LEVEL 2 | GENERAL BIOLOGY | SK-8 | SCULLERY SINK - 2 COMP SINK | 1/2" | 1/2" | - | - | 2" | 2" | - | - | - | - | - | - | (1) SK-8, (1)ST-1 |
| 235 | LEVEL 2 | GENERAL BIOLOGY | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-1A |
| 235 | LEVEL 2 | GENERAL BIOLOGY | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-1 |
| | | | | | | | | | | | | | | | | | |
| 308 | LEVEL 3 | EARTH SCIENCE B LAB | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, (1)ST-1 SOLIDS TRAP, 2 GALLON ADA DILUTION TRAP |
| 309B | LEVEL 3 | ROCK PREP | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, 2 GALLON ADA DILUTION TRAP |
| 309B | LEVEL 3 | ROCK PREP | ST-1 | SOILDS TRAP | - | - | - | - | 2" | 2" | - | - | - | - | - | - | (1)ST-1 SOLIDS TRAP |
| 309B | LEVEL 3 | ROCK PREP | EEW-2 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-18 |
| 310 | LEVEL 3 | EARTH SCIENCE A LAB | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (6) SK-1, 2 GALLON DILUTION TRAP ON EACH |
| 310 | LEVEL 3 | EARTH SCIENCE A LAB | SK-2 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (1) SK-2, 2 GALLON DILUTION TRAP |
| 310 | LEVEL 3 | EARTH SCIENCE A LAB | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, 2 GALLON ADA DILUTION TRAP |
| 310 | LEVEL 3 | EARTH SCIENCE A LAB | EEW-3 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-19 |
| 310 | LEVEL 3 | EARTH SCIENCE A LAB | ST-1 | SOILDS TRAP | - | - | - | - | 2" | 2" | - | - | - | - | - | - | (4)ST-1 SOLIDS TRAP |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (4) SK-1, 2 GALLON DILUTION TRAP ON EACH |
| 079 312 | LEVEL 3 | GENERAL CHEMISTRY | SK-3 | LAB SINK - ADA, TMV-21 079 | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, 2 GALLON ADA DILUTION TRAP, TMV-21 079 |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | CS-2 | CUP SINK - COUNTER MOUNTED | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | - | - | - | - | - | (2) CS-2, BOTTLE TRAP AT EACH |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | GT-1 & 2 | GAS TURRET | - | - | - | - | - | - | - | 1/2" | - | - | - | - | (2) GT-1, (5) GT-2, GAS VALVE WITH EMERGENCY SHUTOFF |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | VT-1 & 2 | VACUUM TURRET | - | - | - | - | - | - | - | 1/2" | 1/2" | - | - | - | (2) VT-1, (5) VT-2 |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | FH-1 | FUME HOOD | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | 1/2" | 1/2" | | - | | (4)FH-1, BOTTLE TRAP AT EACH |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-10A |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-10 |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-11A |
| 312 | LEVEL 3 | GENERAL CHEMISTRY | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-11 |
| 079 314 | LEVEL 3 | CHEMISTRY PREP/STOCKROOM | SK-3 | LAB SINK - ADA, TMV-22 079 | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, 2 GALLON ADA DILUTION TRAP, TMV-22 079 |
| 314 | LEVEL 3 | CHEMISTRY PREP/STOCKROOM | SK-7 | SKULLERY SINK - 2 COMP SINK | 3/4" | 3/4" | - | - | 2" | 2" | - | - | - | - | - | - | (1) SK-7 |
| 314 | LEVEL 3 | CHEMISTRY PREP/STOCKROOM | SB-1 | SERVICE BOX | 1/2" | 1/2" | - | - | - | - | - | - | - | - | - | - | |
| 314 | LEVEL 3 | CHEMISTRY PREP/STOCKROOM | DI WATER | DI WATER UNIT | 3/4" | - | - | - | - | - | - | | | | | | DI WATER UNIT |
| 314 | LEVEL 3 | CHEMISTRY PREP/STOCKROOM | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-9A |
| 314 | LEVEL 3 | CHEMISTRY PREP/STOCKROOM | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-9 |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | SK-1 | LAB SINK | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON | - | - | - | - | - | (4) SK-1, 2 GALLON DILUTION TRAP ON EACH |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, ADA DILUTION TRAP AT EACH |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | FH-1 | FUME HOOD | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | 1/2" | 1/2" | | | | (2)FH-1 WITH NPCW, GAS, VAC, BOTTLE TRAP AT EACH |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | FH-1 | FUME HOOD | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | 1/2" | 1/2" | | | | (2)FH-1, 1 CUP SINK AND WITH NPCW, GAS, VAC, BOTTLE TRAP AT EACH |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | FH-1 | FUME HOOD | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | 1/2" | 1/2" | | | | (7)FH-1, 2 CUP SINKS AND WITH NPCW, GAS, VAC, BOTTLE TRAP AT EACH |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | VT-2 & 4 | VACUUM TURRET | - | - | - | - | - | - | - | 1/2" | 1/2" | - | - | - | (2) VT-1, (1) VT-2, (3) VT-4 |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-7A |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-7 |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-8A |
| 316 | LEVEL 3 | ORGANIC CHEMISTRY LAB | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-8 |
| | | | | | | | | | | | | | | | | | |
| 318 | LEVEL 3 | CHEMISTRY INSTRUMENT ROOM | SK-3 | LAB SINK - ADA | 1/2" | 1/2" | - | - | 2" | 2" | 2 GALLON ADA | - | - | - | - | - | (1) SK-3, ADA DILUTION TRAP |
| 318 | LEVEL 3 | CHEMISTRY INSTRUMENT ROOM | CS-2 | CUP SINK - COUNTER MOUNTED | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | - | - | - | - | - | (3) CS-2, BOTTLE TRAP AT EACH |
| 318 | LEVEL 3 | CHEMISTRY INSTRUMENT ROOM | FH-1 | FUME HOOD | 1/2" | - | - | - | 1-1/2" | 1-1/2" | BOTTLE TRAP | 1/2" | - | | | | (1)FH-1, 1 CUP SINK AND WITH NPCW, GAS, VAC, BOTTLE TRAP |
| 318 | LEVEL 3 | CHEMISTRY INSTRUMENT ROOM | | ICE MACHINE | 1/2" | - | - | - | 2" | 2" | - | - | - | - | 2"FS-1 | - | RPBA-3 |
| 318 | LEVEL 3 | CHEMISTRY INSTRUMENT ROOM | EEW-1 | EMERGENCY EYEWASH | - | - | 1/2" | 1/2" | - | - | - | - | - | - | - | - | TMV-6A |
| 318 | LEVEL 3 | CHEMISTRY INSTRUMENT ROOM | ESH-1 | EMERGENCY SHOWER | - | - | 1-1/2" | 1-1/2" | 4" | 2" | - | - | - | - | 4"FD-2 | - | TMV-6 |

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

Date: 10/07/2022
Job No.: 22135.00
Drawn By: Terry Potvin
Checked By: Linda Burman

Revisions

| # | Date | Description |
|---|---|---|
| 079 | 03-03-2023 | EEW |

PLUMBING SCHEDULE 3

**P0.04**

IFC SET

PRCNC20221036

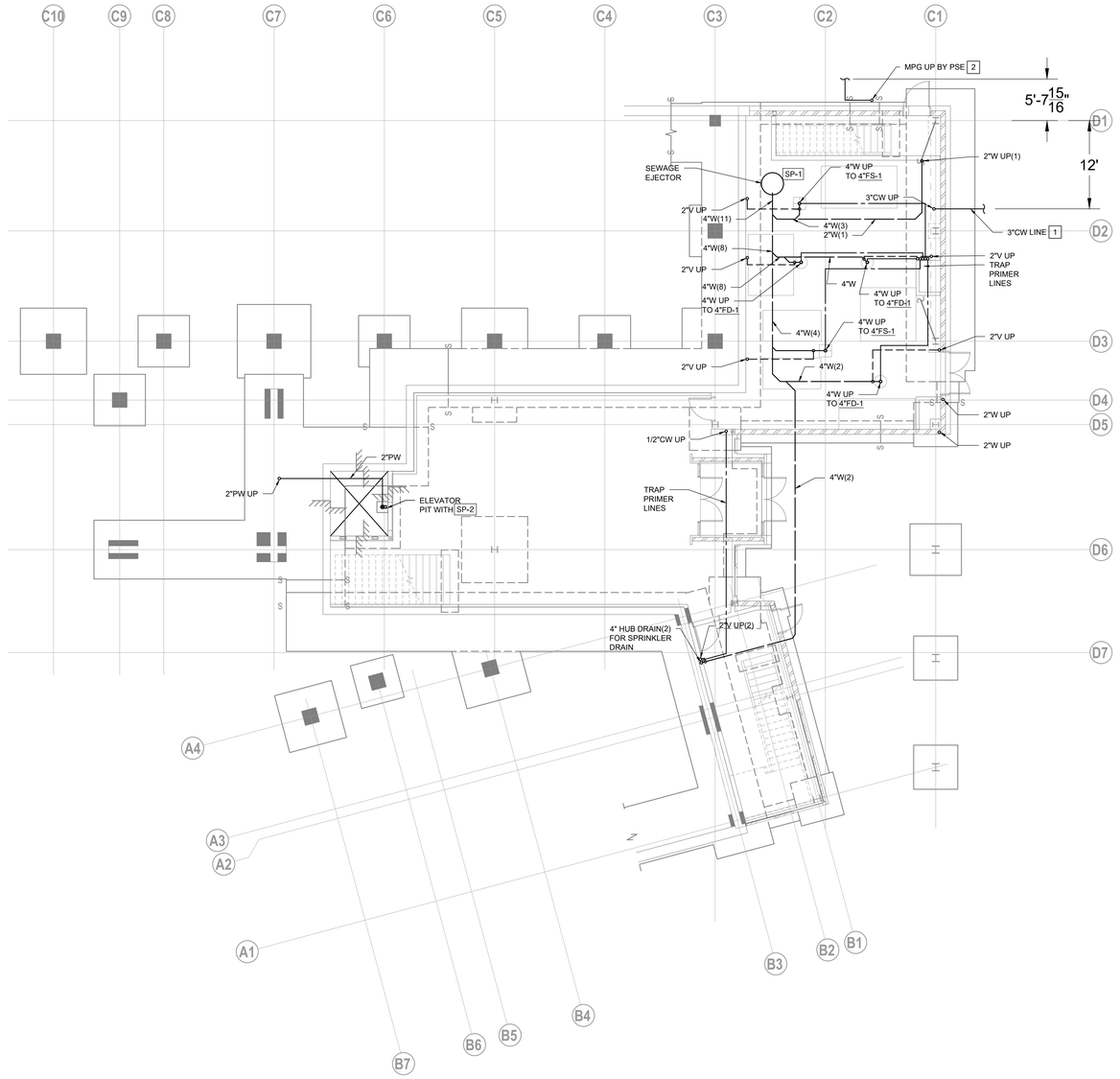
## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1 FOR CONTINUATION, SEE CIVIL DRAWINGS. COL WATER LINE INTO BUILDING NEEDS TO FIT THROUGH OPENING IN FOUNDATION.

2 COORDINATE GAS SERVICE WITH PUGET SOUND ENERGY. INCOMING SERVICE LINE SHOWN FOR REFERENCE ONLY, 2 PSI PRESSURE, TOTAL LOAD 59558 CFH. SEE SHEET P3.03 FOR SERVICE & PIPE SIZING INFORMATION.




## LEVEL 0 UNDERGROUND PLUMBING PLAN

Scale: 1/8" = 1'-0"

IFC SET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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|

LEVEL 0
UNDERGROUND
PLUMBING PLAN

**P1.00**

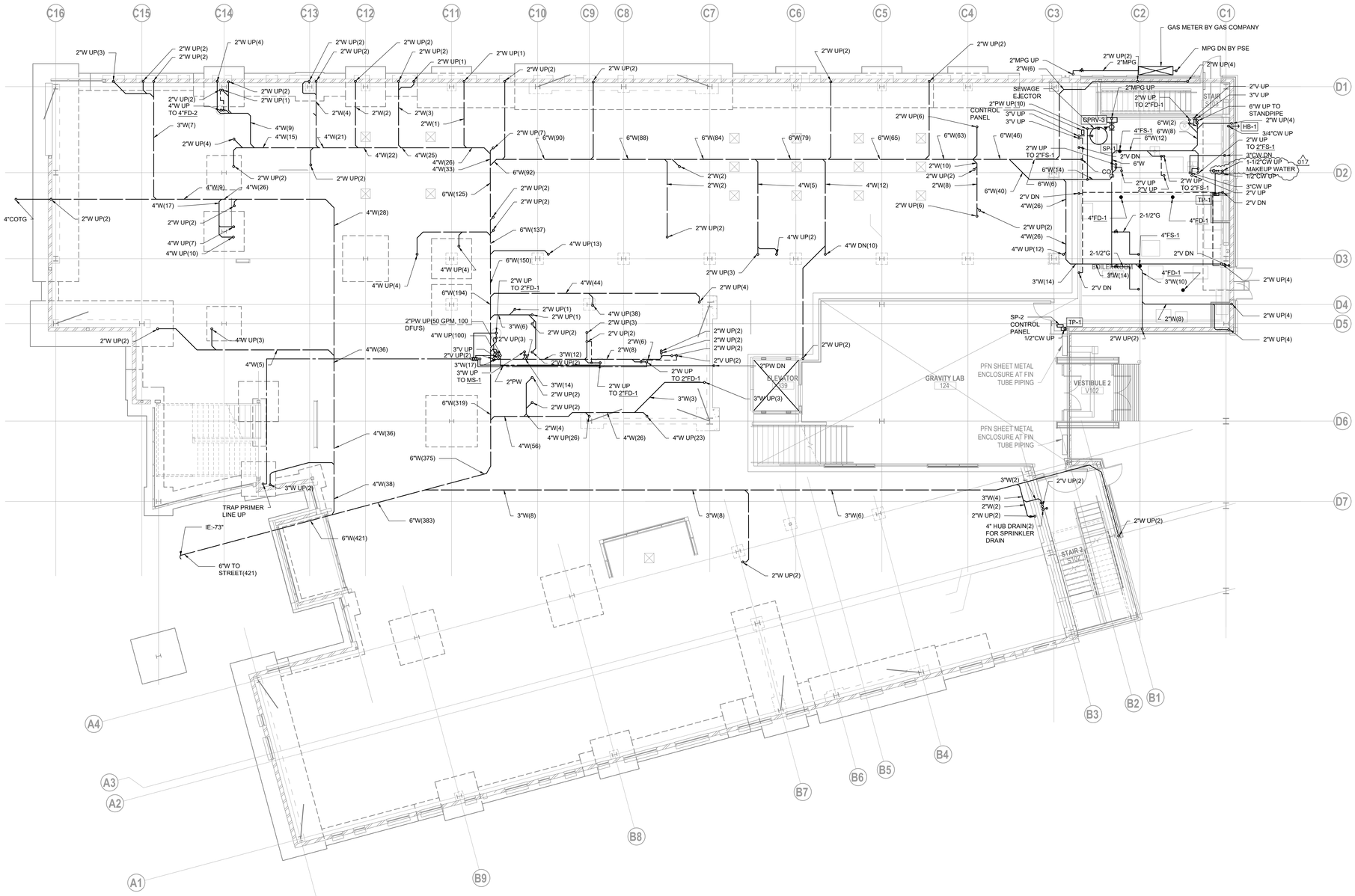
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1 PROVIDE 2" CW MAKE-UP WATER WITH PRESSURE REDUCER FOR HYDRONIC HEATING LOOP FILL & "T" OFF ANOTHER 2" MAKE-UP WATER FOR CHILLER LOOP SYSTEM




## LEVEL 0 FLOOR PLAN & LEVEL 1 UNDERGROUND PLUMBING PLAN

Scale: 1/8" = 1'-0"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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|
| Δ17 | 12-29-2022 | METERS |

LEVEL 0 FLOOR PLAN & LEVEL 1 UNDERGROUND PLUMBING PLAN

**P1.01**

IFC SET

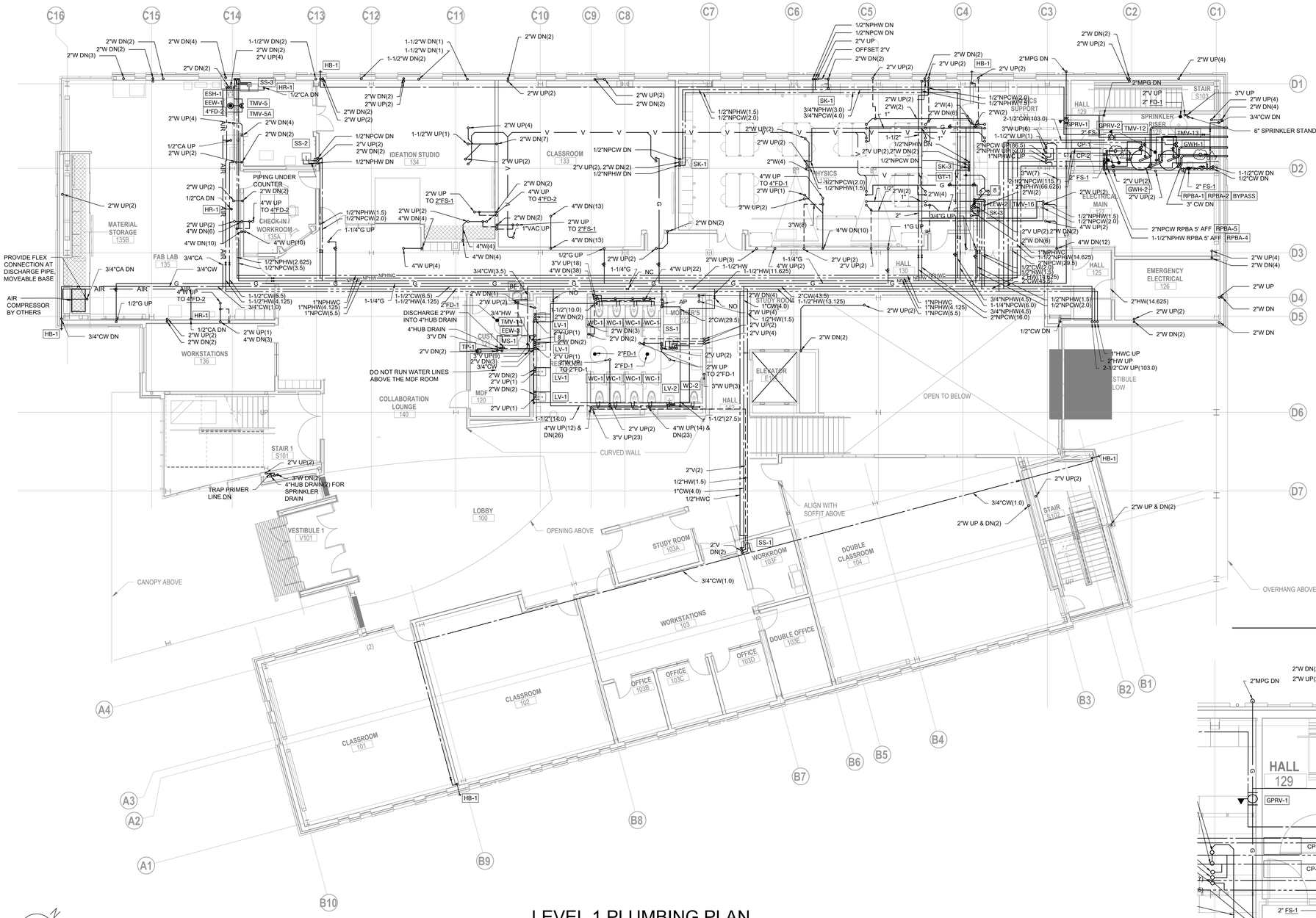
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. CUP SINK: PROVIDE 1-1/2"W DN, 1-1/2"V UP, PROVIDE DILUTION TRAP.
3. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
4. SK-1(ISLAND): PROVIDE 2"W DN, 2" ISLAND VENT, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
5. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
6. NOT USED
7. VACCUM CONNECTION TO FUME HOOD.
8. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.


C16
C15
C14
C13
C12
C11
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C8
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C2
C1
D1
D2
D3
D4
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D7
A4
A3
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B10
B9
B8
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B6
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B4
B3
B2
B1
MATERIAL STORAGE 135B
FAB LAB 135
CHECK-IN / WORKROOM 135A
IDEATION STUDIO 134
CLASSROOM 133
PHYSICS LAB 132
HALL 129
SPRINKLER RISER 128
ELECTRICAL MAIN 127
HALL 125
EMERGENCY ELECTRICAL 126
STAIR S103
WORKSTATIONS 136
HALL 130
STUDY ROOM 131
MOTHER'S ROOM 122
ELEVATOR E101
HALL 145
COLLABORATION LOUNGE 140
MDF 120
CUST
STAIR 1 S101
LOBBY 100
VESTIBULE 1 V101
STAIR S102
VESTIBULE BELOW
OPEN TO BELOW
CANOPY ABOVE
OVERHANG ABOVE
OPENING ABOVE
ALIGN WITH SOFFIT ABOVE
CURVED WALL
DO NOT RUN WATER LINES ABOVE THE MDF ROOM
PROVIDE FLEX CONNECTION AT DISCHARGE PIPE, MOVEABLE BASE
AIR COMPRESSOR BY OTHERS
TRAP PRIMER LINE DN
4"HUB DRAIN 2) FOR SPRINKLER DRAIN
DISCHARGE 2"PW INTO 4"HUB DRAIN
4"HUB DRAIN 3"V DN
CLASSROOM 102
CLASSROOM 101
WORKSTATIONS 103
STUDY ROOM 103A
WORKROOM 103F
DOUBLE CLASSROOM 104
OFFICE 103B
OFFICE 103C
OFFICE 103D
DOUBLE OFFICE 103E
1/2"NPHW DN
1/2"NPCW DN
2"V UP
OFFSET 2"V
2"W DN(2)
2"V UP(2)
2"MPG DN
2"W UP(4)
3"V UP
2"W DN(4)
3/4"CW DN
6" SPRINKLER STANDPIPE
2"W UP(6)
1-1/2"W UP(1)
2"W UP(3)
2"W UP(2)
2"W DN(6)
2"W(4)
2"W(2)
2"W(7)
2"W(6)
2"W DN(12)
2"W DN
2"W UP & DN(2)
1-1/2"CW DN
3" CW DN
2" FS-1
RPBA-1
RPBA-2
BYPASS
RPBA-4
RPBA-5
2"NPCW RPBA 5' AFF
1-1/2"NPHW RPBA 5' AFF
GPRV-1
GPRV-2
TMV-12
TMV-13
TMV-16
GWH-1
GWH-2
CP-1
CP-2
SS-1
SS-2
SS-3
SK-1
SK-2
SK-3
GT-1
HB-1
HR-1
ESH-1
EEW-1
4"FD-1
TMV-5
TMV-5A
EEW-2
EEW-3
MS-1
TPI-1
LV-1
LV-2
WC-1
WC-2
FD-1
2"FD-1
AP
NO
NC
G
HW
HWC
NPHW
NPCW
AIR
1/2"CA DN
1/2"CA UP
3/4"CA DN
3/4"CA
3/4"CW
3/4"CW(1.0)
1/2"G UP
1-1/4"G UP
1-1/4"G
1"G UP
1"VAC UP
1-1/2"HW(11.625)
1-1/2"HW(13.125)
1-1/2"HW(4.125)
1-1/2"CW(6.5)
1-1/2"CW(43.5)
1-1/2"CW(103.0)
1"NPHWC
1"NPHW(4.125)
1"NPCW(5.5)
1"CW(4.0)
1"HWC
1"HWC UP
2"HW UP
2-1/2"CW UP(103.0)
1/2"NPHW(1.5)
1/2"NPCW(2.0)
1/2"NPHW(66.625)
1/2"NPCW(115.7)
1/2"NPHW(14.625)
1/2"NPCW(89.5)
1/2"NPCW(2.625)
1/2"NPHW(3.5)
1/2"NPHW(4.5)
1/2"NPCW(6.0)
1/2"NPCW(16.0)
1/2"NPHW(2.625)
1/2"NPCW(3.5)
1/2"NPHW(2.0)
1/2"NPCW(2.0)
1/2"NPHW(1.5)
1/2"HWC
2"CW(29.5)
2"CW(43.5)
2"CW(14.625)
3/4"NPHW(3.0)
3/4"NPCW(4.0)
3/4"NPHW(4.5)
3/4"NPCW(16.0)
3/4"HW
3/4"CW(3.5)
3/4"CW(1.0)
4"W UP(22)
4"W UP(14) & DN(23)
4"W UP(12) & DN(26)
4"W DN(38)
4"W DN(13)
4"W DN(10)
4"W DN(4)
4"W UP(10)
4"W UP TO 4"FD-2
2"W UP TO 2"FS-1
2"W UP TO 2"FD-1
3"W UP(18)
3"W UP(23)
3"W UP(3)
2"V UP(3)
2"V UP(4)
2"V UP(2)
2"V UP(1)
2"V DN(2)
2"V DN(3)
2"V DN(4)
2"V(2)
1"VAC UP
1/2"HW(1.5)
1"CW(4.0)
1/2"HWC
1-1/2"(27.5)
1-1/2"(14.0)
1-1/2"(10.0)
1-1/2"W DN(1)
1-1/2"W DN(2)
1-1/2"W UP(1)
1-1/2"NPHW(1.5)
1-1/2"NPCW(2.0)
1-1/2"NPHW DN
1-1/2"NPCW DN
1-1/2"CW(103.0)
1-1/2" V
2"W DN(3)
2"W DN(7)
2"W DN(38)
2"W DN(26)
2"W DN(2), 2"W DN(2)
2"V UP(2), 2"W DN(2)
2"V UP(2),2"W DN(2)
2"V UP(2),2"W DN(2)
2"W UP(2), 2"W DN(2)
2"W UP(4)
2"W UP(2)
2"W UP(1)
2"W UP(3)
2"W UP(4)
2"W UP(2)
2"W UP(2)
2"W UP(2

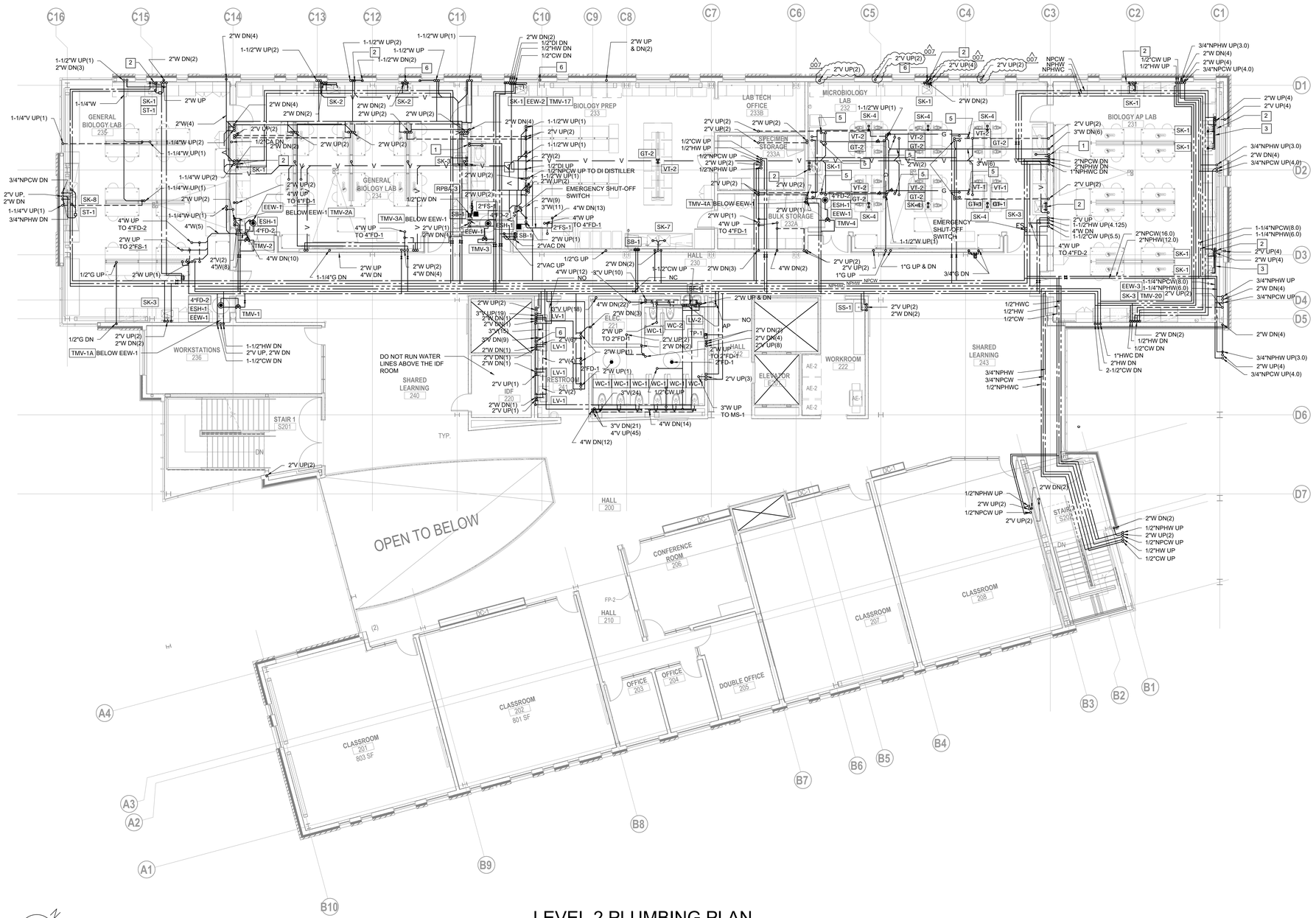
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
3. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
4. NOT USED
5. 1/2"G UP TO GAS TURRET ABOVE.
6. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.




## LEVEL 2 PLUMBING PLAN

Scale: 1/8" = 1'-0"


integrus ARCHITECTURE
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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|
| 007 | 12-07-2022 | VENTS |

LEVEL 2
PLUMBING PLAN

**P1.03**

IFC SET

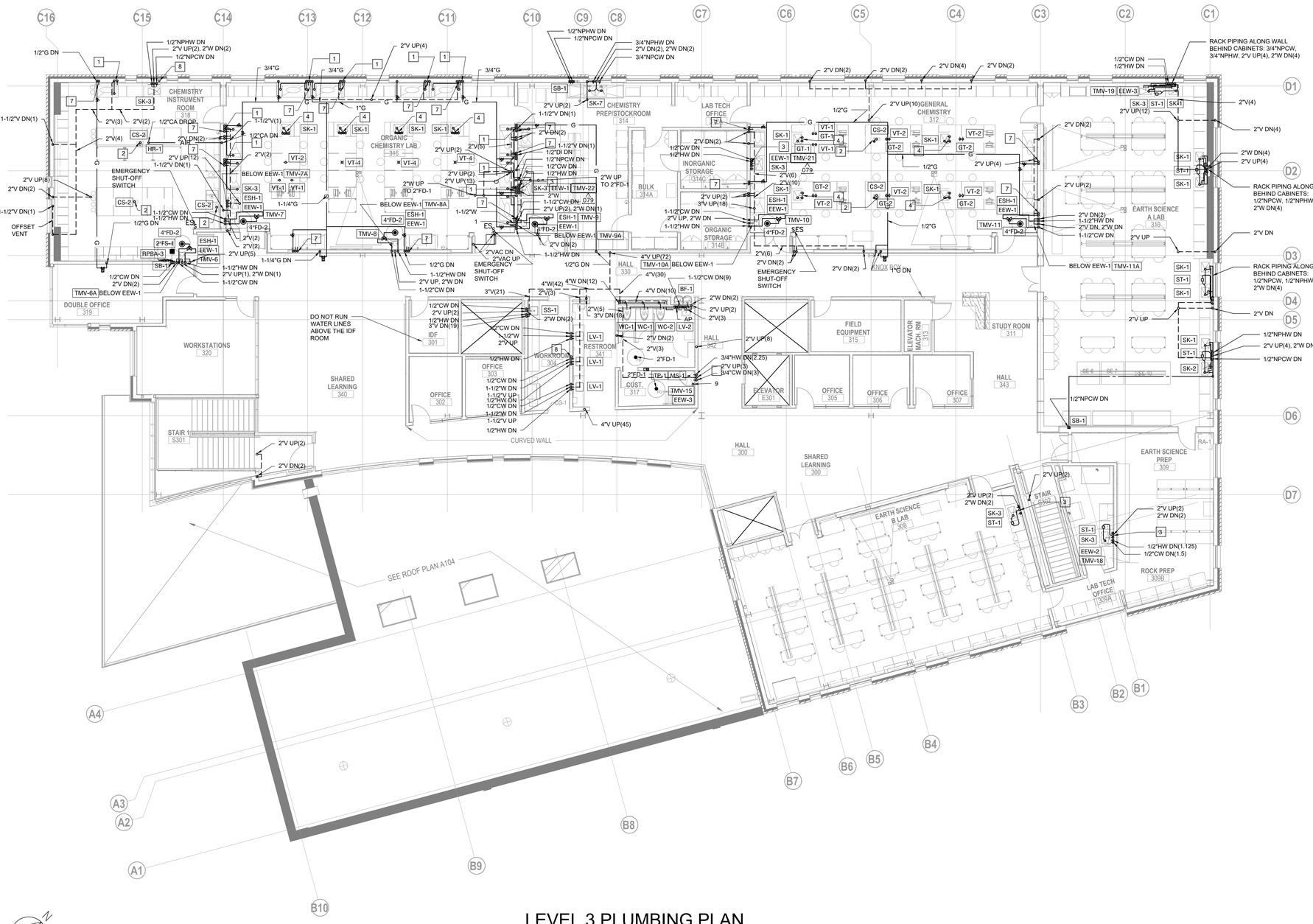
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. CUP SINK: PROVIDE 1-1/2"W DN, 1-1/2"V UP, PROVIDE DILUTION TRAP.
3. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
4. SK-1(ISLAND): PROVIDE 2"W DN, 2" ISLAND VENT, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
5. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
6. NOT USED
7. VACCUM CONNECTION TO FUME HOOD.
8. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.
9. RUN CONDENSATE TO MS-1




## LEVEL 3 PLUMBING PLAN

Scale: 1/8" = 1'-0"


integrus ARCHITECTURE
117 SOUTH MAIN STREET, SUITE 100, SEATTLE, WA. 98104
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**1601 39th AVE SE**
**Puyallup, WA 98374**

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| Engineering | Public Works |
| Fire | Traffic |

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| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
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Revisions

| # | Date | Description |
|---|---|---|
| 079 | 03-03-2023 | EEW |

LEVEL 3
PLUMBING PLAN

**P1.04**

**IFC SET**

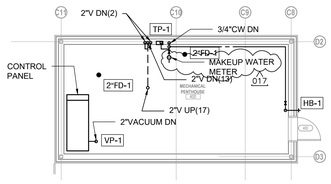
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

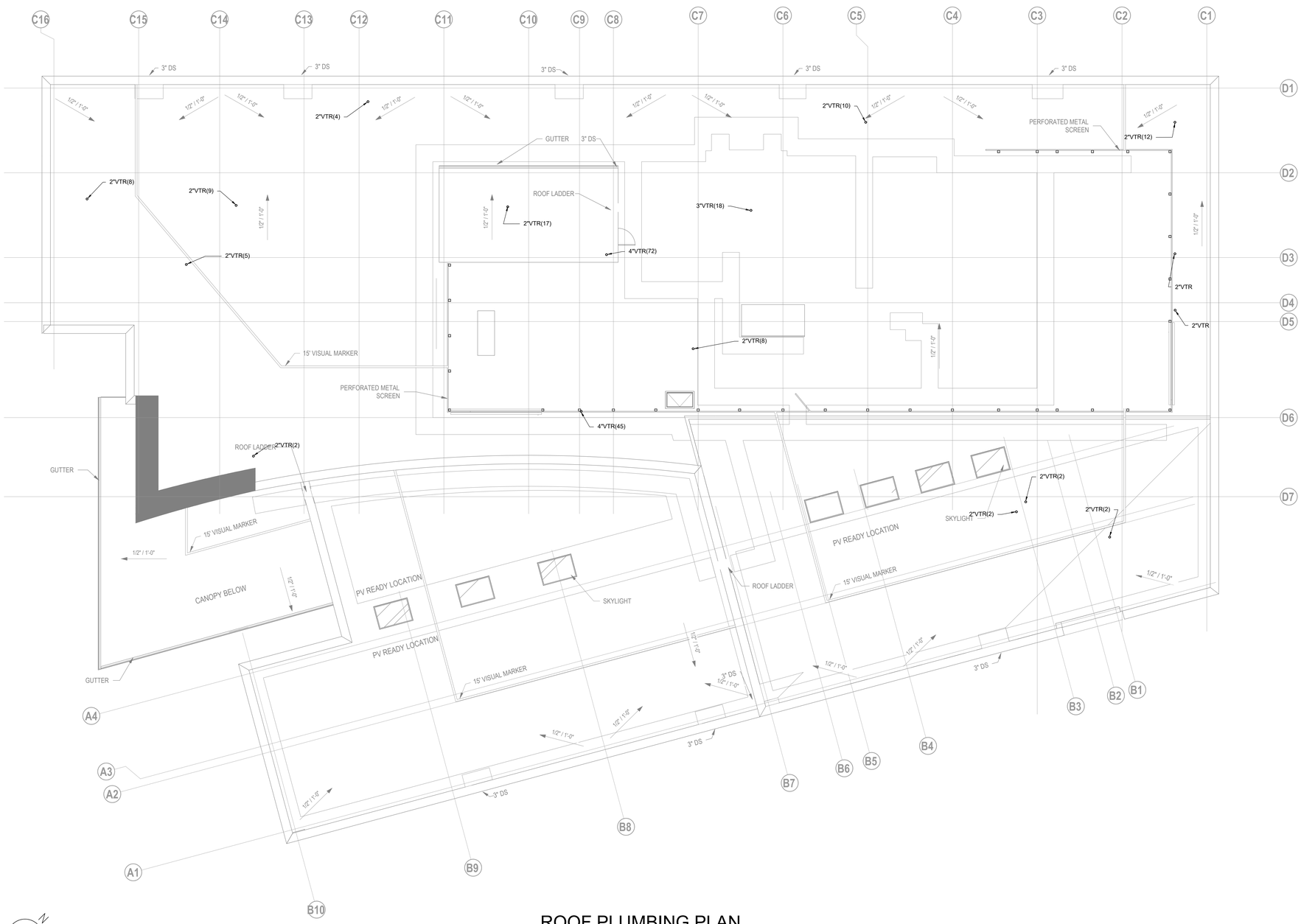
## PLAN NOTES

1




## PENTHOUSE PUMP ROOM

Scale: 1/8" = 1'-0"




## ROOF PLUMBING PLAN

Scale: 1/8" = 1'-0"

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| Engineering | Public Works |
| Fire | Traffic |

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| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

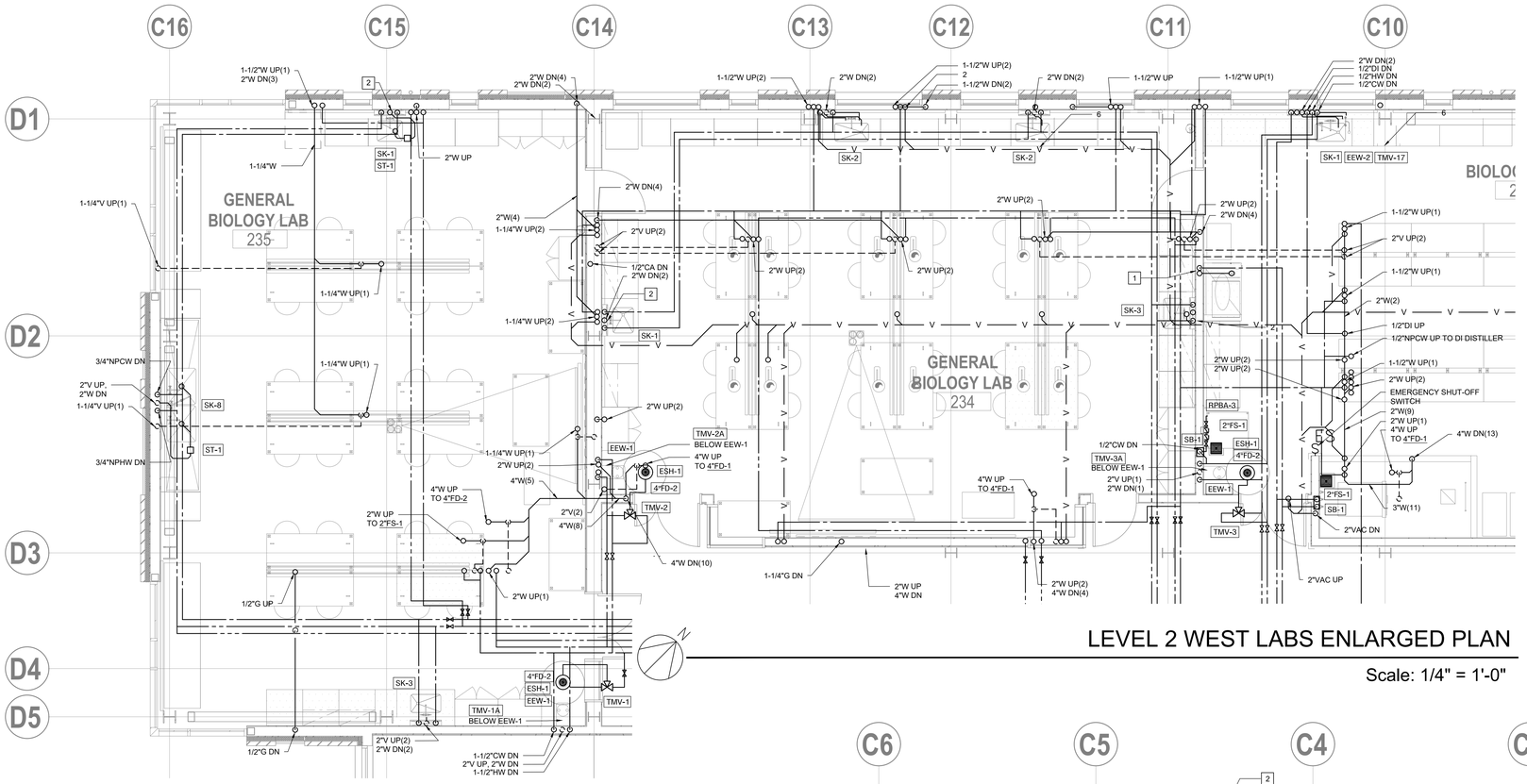
| # | Date | Description |
|---|---|---|
| 017 | 12-29-2022 | METERS |

ROOF PLUMBING PLAN

**P1.05**

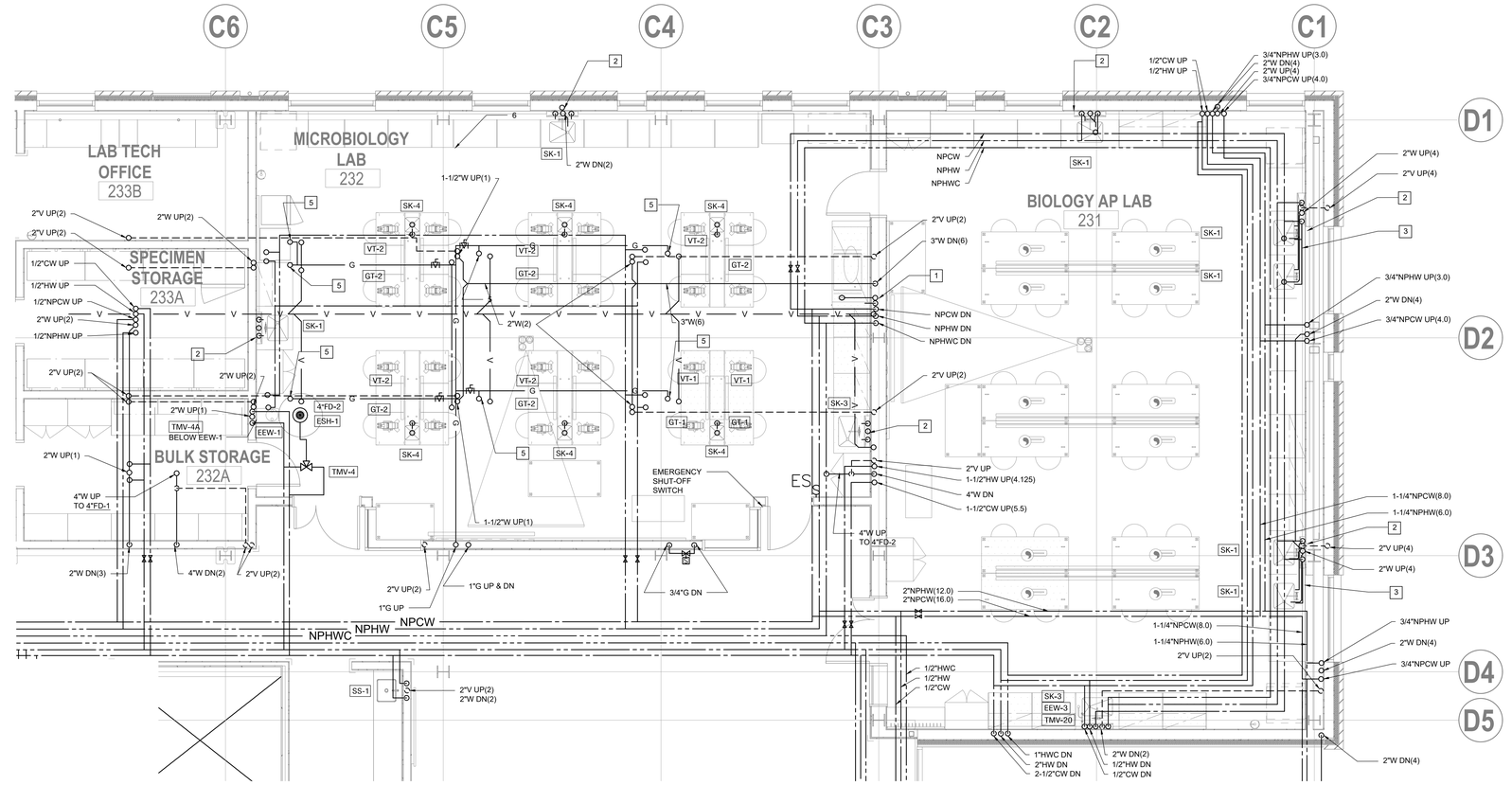
IFC SET

PRCNC20221036




## LEVEL 2 WEST LABS ENLARGED PLAN

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




## LEVEL 2 EAST LABS ENLARGED PLAN

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

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES
2. SEE SHEET P0.03 AND P0.04 FOR LOCAL PIPE CONNECTIONS TO PLUMBING FIXTURES.

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
3. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
4. 2" CW LINE, DROP DOWN AND RUN FULL SIZE HEADER THE LENGTH OF THE PLUMBING CHASE WITH WATER HAMMER ARRESTOR AT THE END OF RUN.
5. 1/2"G UP TO GAS TURRET ABOVE(TYP).
6. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

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| Engineering | Public Works |
| Fire | Traffic |

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| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

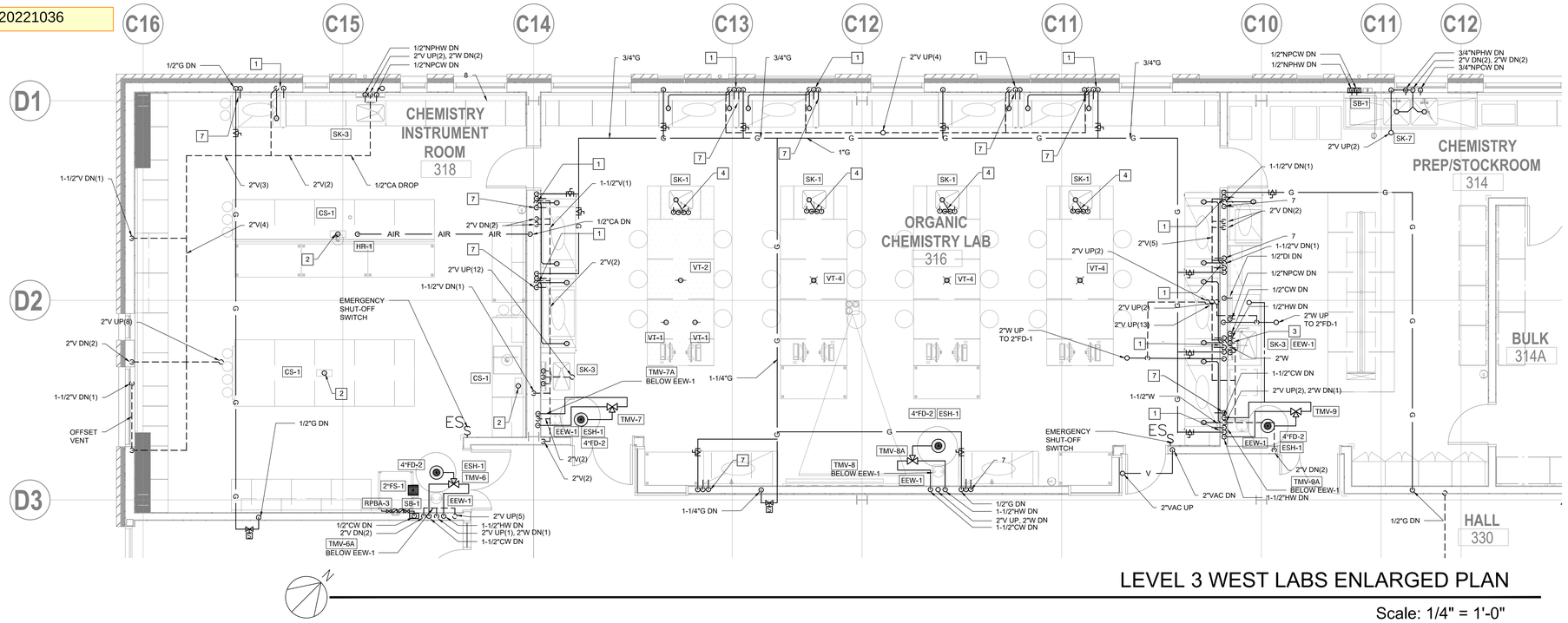
| # | Date | Description |
|---|---|---|

LEVEL 2
ENLARGED PLANS

**P2.01**

**IFC SET**

PRCNC20221036




## GENERAL NOTES

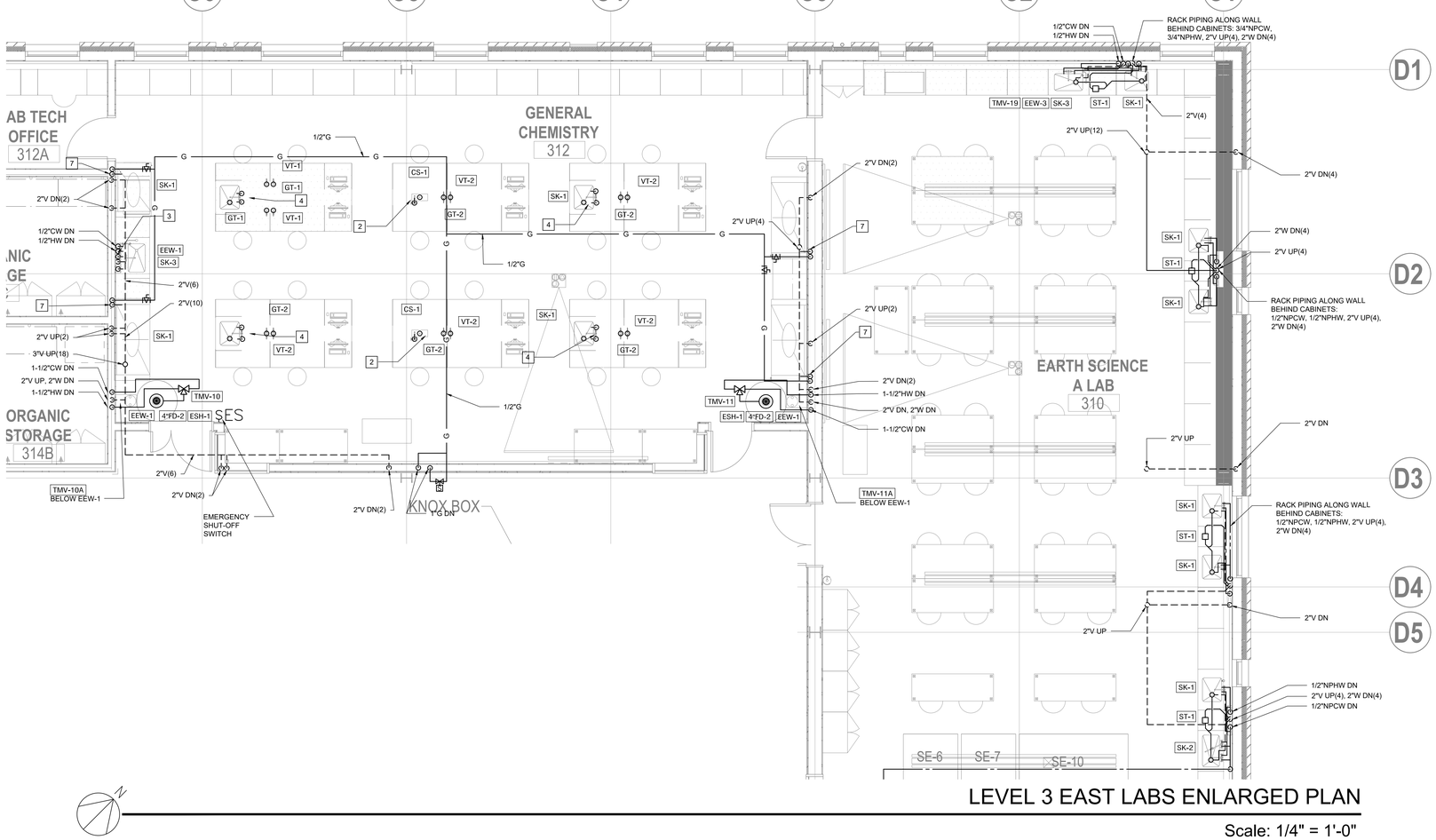
1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES
2. SEE SHEET P0.03 AND P0.04 FOR LOCAL PIPE CONNECTIONS TO PLUMBING FIXTURES.

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. CUP SINK: PROVIDE 1-1/2"W DN, 1-1/2"V UP, PROVIDE DILUTION TRAP.
3. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
4. SK-1(ISLAND): PROVIDE 2"W DN, 2" ISLAND VENT, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
5. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
6. 1-1/2" CW LINE, DROP DOWN AND RUN FULL SIZE HEADER THE LENGTH OF THE PLUMBING CHASE WITH WATER HAMMER ARRESTOR AT THE END OF RUN.
7. VACCUM CONNECTION TO FUME HOOD.
8. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.
9. RUN CONDENSATE TO MS-1

## LEVEL 3 WEST LABS ENLARGED PLAN

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




## LEVEL 3 EAST LABS ENLARGED PLAN

Scale: 1/4" = 1'-0"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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

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| Engineering | Public Works |
| Fire | Traffic |

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|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

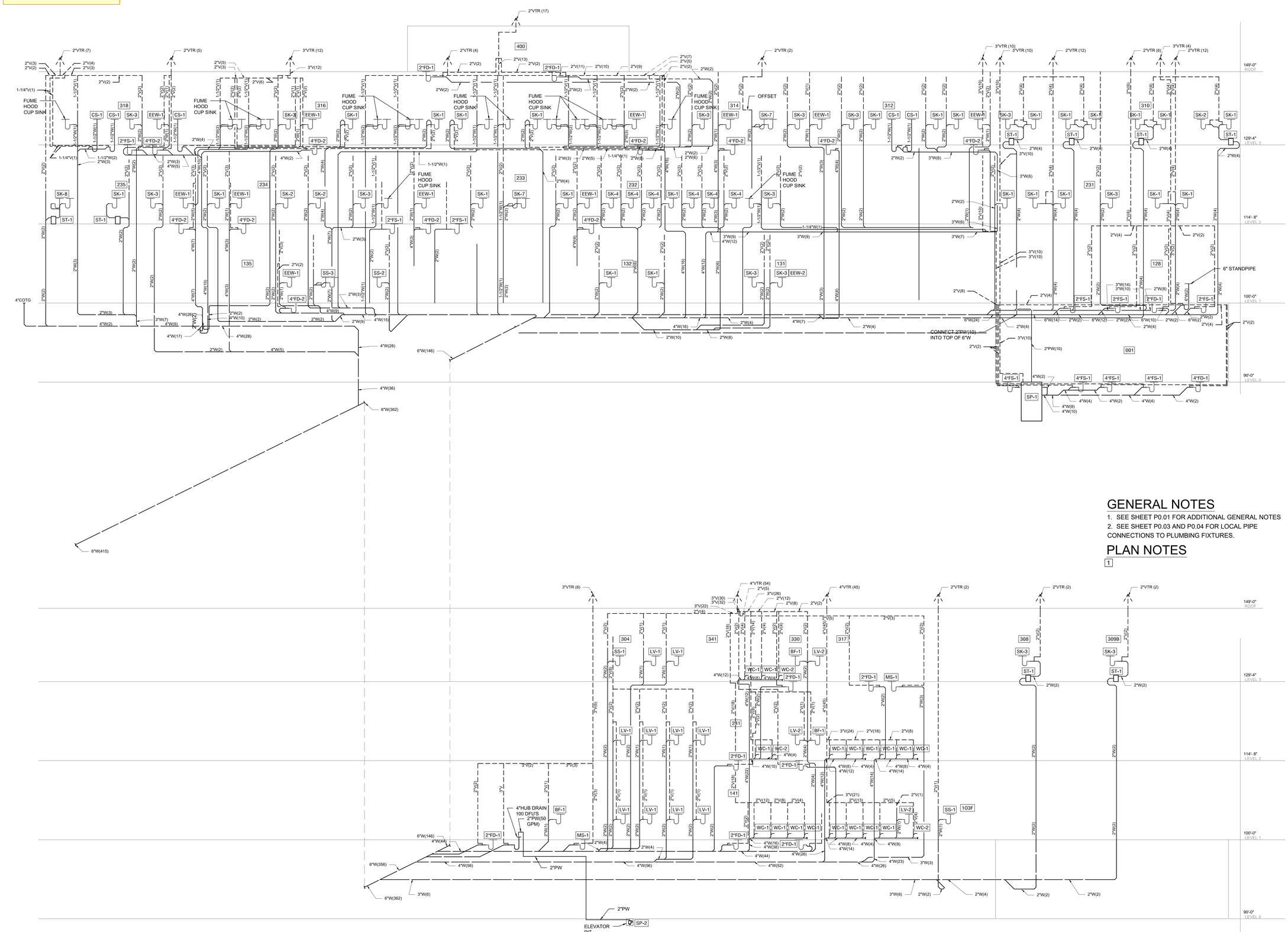
| # | Date | Description |
|---|---|---|

LEVEL 3
ENLARGED PLANS

**P2.02**

IFC SET

PRCNC20221036




## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES
2. SEE SHEET P0.03 AND P0.04 FOR LOCAL PIPE CONNECTIONS TO PLUMBING FIXTURES.

## PLAN NOTES

1

## SANITARY RISER

Scale: NONE

IFC SET

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LINDA S BURMAN — STATE OF WASHINGTON — 22135 — REGISTERED PROFESSIONAL ENGINEER

**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
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City of Puyallup
Development & Permitting Services
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| Checked By: | Linda Burman |

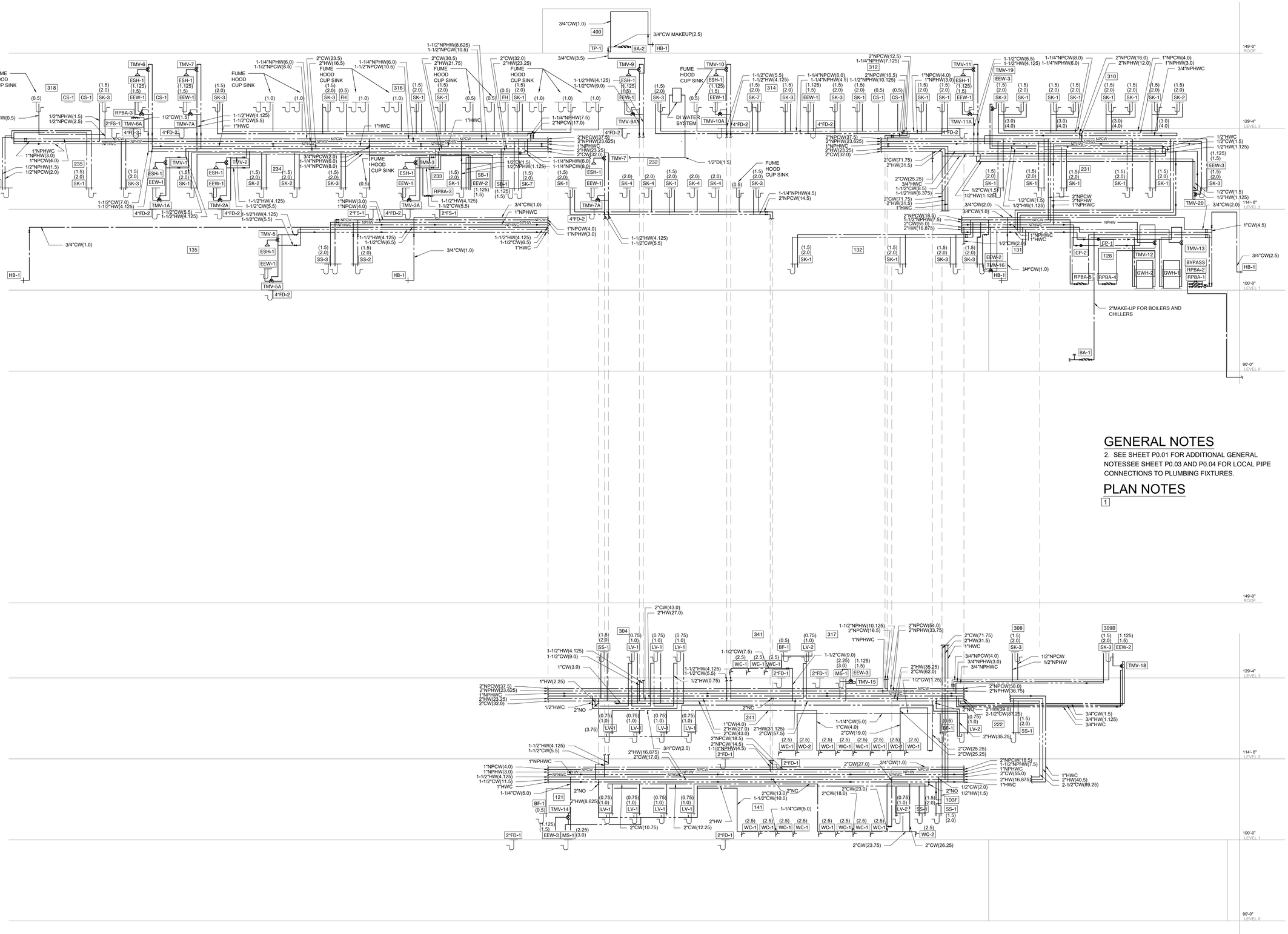
Revisions

| # | Date | Description |
|---|---|---|

SANITARY RISER

**P3.01**

PRCNC20221036


149'-0" ROOF
129'-4" LEVEL 3
114'-8" LEVEL 2
100'-0" LEVEL 1
90'-0" LEVEL 0
3/4"CW(1.0)
400
3/4"CW MAKEUP(2.5)
TP-1
BA-2
HB-1
3/4"CW(3.5)
TMV-9
TMV-9A
TMV-10
TMV-10A
DI WATER SYSTEM
TMV-11
TMV-11A
TMV-19
TMV-6
TMV-7
TMV-7A
TMV-1
TMV-1A
TMV-2
TMV-2A
TMV-3
TMV-3A
TMV-5
TMV-5A
TMV-20
FUME HOOD CUP SINK
318
316
314
312
310
235
234
233
232
231
222
135
132
131
128
241
141
121
103F
309B
308
304
341
317
RPBA-3
RPBA-4
RPBA-5
RPBA-1
RPBA-2
BYPASS
GWH-1
GWH-2
TMV-12
TMV-13
TMV-16
TMV-18
CP-1
CP-2
EEW-1
EEW-2
EEW-3
ESH-1
SK-1
SK-2
SK-3
SK-4
SK-7
SK-8
SS-1
SS-2
SS-3
SB-1
LV-1
LV-2
WC-1
WC-2
BF-1
MS-1
EEW-3
2"MAKE-UP FOR BOILERS AND CHILLERS
1"CW(4.5)
3/4"CW(2.5)
1/2"DI(1.5)
1/2"DI(1.125)
1-1/2"NPHW(8.625)
1-1/2"NPCW(10.5)
2"CW(23.5)
2"HW(16.5)
2"CW(30.5)
2"HW(21.75)
2"CW(32.0)
2"HW(23.25)
1-1/4"NPHW(6.0)
1-1/2"NPCW(8.5)
1-1/2"HW(4.125)
1-1/2"CW(9.0)
1-1/4"NPHW(7.5)
2"NPCW(17.0)
1-1/2"CW(5.5)
1"HWC
2"NPCW(37.5)
2"NPHW(23.625)
1"NPHWC
2"HW(23.25)
2"CW(32.0)
1-1/4"NPHW(6.0)
1-1/4"NPHW(8.0)
3/4"NPCW(2.0)
1-1/4"NPHW(6.0)
1-1/2"NPCW(10.5)
1-1/2"HW(4.125)
1-1/2"CW(5.5)
1-1/4"NPHW(4.5)
2"NPCW(14.5)
1-1/4"NPHW(6.0)
1-1/4"NPHW(4.5)
1-1/2"NPHW(10.125)
2"NPCW(12.5)
1-1/4"NPHW(7.125)
2"NPCW(16.5)
1-1/2"NPHW(10.125)
1"NPCW(4.0)
1"NPHW(3.0)
2"NPCW(16.0)
2"NPHW(12.0)
1"NPCW(4.0)
1"NPHW(3.0)
3/4"NPHWC
1-1/2"CW(5.5)
1-1/4"NPHW(4.125)
1-1/4"NPCW(8.0)
1-1/4"NPHW(6.0)
2"NPCW(37.5)
2"NPHW(23.625)
1"NPHWC
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2"CW(71.75)
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2"CW(25.25)
3/4"HWC
1-1/2"HW(6.375)
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2"HW(31.5)
1"HWC
1/2"CW(1.5)
1/2"HW(1.125)
3/4"CW(2.0)
3/4"CW(1.0)
2"NPCW
2"NPHW
1"NPHWC
2"NPCW(18.5)
1-1/2"NPHW(7.5)
2"CW(55.0)
2"HW(16.875)
1"NPHWC
1"HWC
1/2"CW(2.0)
1/2"CW(1.5)
1/2"HW(1.125)
1/2"HWC
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1/2"HW(1.125)
(1.125)
(1.5)
EEW-3
1/2"CW(1.5)
3/4"HW(1.125)
3/4"HWC
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1"NPHW(3.0)
1"NPHW(3.0)
1"NPCW(4.0)
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1-1/2"CW(5.5)
1"NPHWC
1/2"NPCW
1/2"NPHW
1/2"NPCW(0.5)
1/2"NPHW(1.5)
1/2"NPCW(2.5)
1"NPHWC
1"NPHW(3.0)
1"NPCW(4.0)
1/2"NPHW(1.5)
1/2"NPCW(2.0)
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1-1/2"CW(5.5)
1-1/2"HW(4.125)
1-1/2"CW(5.5)
1-1/2"CW(1.5)
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1"HWC
1"NPCW(4.0)
1"NPHW(3.0)
1-1/2"HW(4.125)
1-1/2"CW(5.5)
1-1/2"HW(4.125)
1-1/2"CW(6.5)
1"HWC
1-1/2"HW(4.125)
1-1/2"CW(9.0)
1-1/2"HW(4.125)
1-1/2"CW(9.0)
1"HW(2.25)
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1"CW(3.0)
1-1/2"HW(4.125)
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1/2"HW(0.75)
2"NPCW(37.5)
2"NPHW(23.625)
1"NPHWC
2"HW(23.25)
2"CW(32.0)
1/2"HWC
2"NO
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1-1/4"NPHW(4.5)
2"FD-1
2"HW(16.875)
2"CW(17.0)
3/4"CW(2.0)
1"NPHWC
1"NPCW(4.0)
1"NPHW(3.0)
1-1/2"HW(4.125)
1-1/2"CW(11.5)
1"HWC
1-1/4"CW(5.0)
2"NO
2"HW(8.625)
2"CW(10.75)
2"CW(12.25)
2"HW
2"NC
2"CW(13.0)
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2"CW(23.0)
2"CW(18.0)
2"CW(23.75)
2"CW(26.25)
1"NPCW(4.0)
1"NPHW(3.0)
1-1/2"HW(4.125)
1-1/2"CW(6.5)
1"HWC
1-1/2"HW(4.125)
1-1/2"CW(5.5)
1-1/4"NPHW(4.5)
2"NPCW(14.5)
1-1/4"CW(5.0)
1"CW(4.0)
2"CW(19.0)
2"HW(31.125)
2"CW(57.5)
1"CW(4.0)
2"HW(27.0)
2"CW(43.0)
2"HW(27.0)
2"CW(43.0)
1-1/2"NPHW(10.125)
2"NPCW(16.5)
1"NPHWC
2"NPCW(54.0)
2"NPHW(33.75)
2"CW(71.75)
2"HW(31.5)
1"HWC
3/4"NPCW(4.0)
3/4"NPHW(3.0)
3/4"NPHWC
1/2"NPCW
1/2"NPHW
2"CW(35.25)
2"CW(62.0)
1/2"CW(1.25)
2"NPCW(58.0)
2"NPHW(36.75)
2"HW(39.0)
2-1/2"CW(87.25)
2"HW(35.25)
2"CW(25.25)
2"CW(25.25)
2"NPCW(18.5)
1-1/2"NPHW(7.5)
1"NPHWC
2"CW(55.0)
2"HW(16.875)
1"HWC
2"HW(40.5)
2-1/2"CW(89.25)
1"HWC
2"HW(40.5)
2-1/2"CW(89.25)
1"NPHWC
1"HWC
1-1/2"HW(4.125)
1-1/2"CW(5.5)
1"NPHWC
1"HWC
1-1/4"NPHW(4.5)
2"NPCW(14.5)
1-1/2"DI(1.5)
1-1/2"DI(1.125)
1-1/4"NPHW(6.0)
1-1/4"NPHW(6.0)
1-1/2"DI(1.5)
1-1/2"DI(1.125)
1-1/4"NPHW(6.0)
1-1/4"NPHW(6.0)
1-1/4"NPHW(8.0)
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1-1/2"CW(9.0)
1-1/2"HW(4.125)
1-1/2"CW(5.5)
1-1/2"HW(4.125)
1-1/2"CW(5.5)
1-1/2"HW(4.125)
1-1/2"CW(5.5

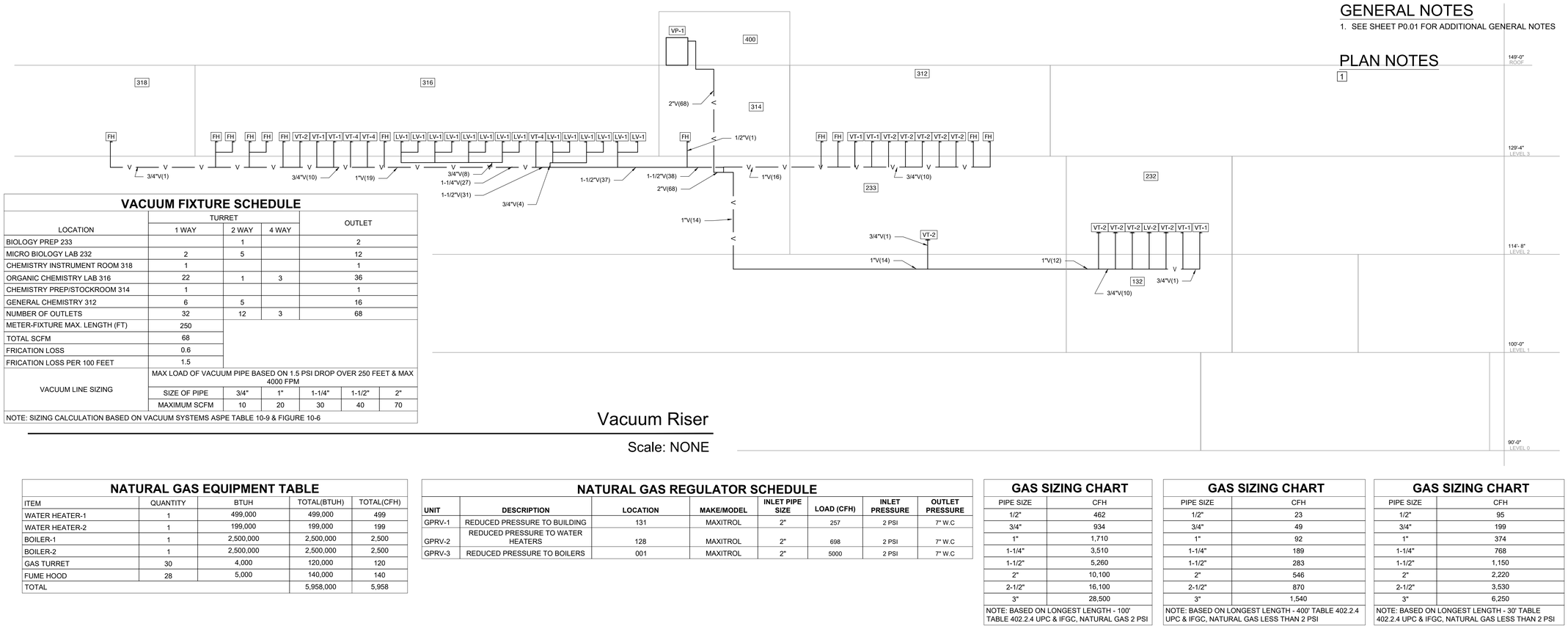
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1




### VACUUM FIXTURE SCHEDULE

| LOCATION | TURRET 1 WAY | TURRET 2 WAY | TURRET 4 WAY | OUTLET |
|---|---|---|---|---|
| BIOLOGY PREP 233 | | 1 | | 2 |
| MICRO BIOLOGY LAB 232 | 2 | 5 | | 12 |
| CHEMISTRY INSTRUMENT ROOM 318 | 1 | | | 1 |
| ORGANIC CHEMISTRY LAB 316 | 22 | 1 | 3 | 36 |
| CHEMISTRY PREP/STOCKROOM 314 | 1 | | | 1 |
| GENERAL CHEMISTRY 312 | 6 | 5 | | 16 |
| NUMBER OF OUTLETS | 32 | 12 | 3 | 68 |
| METER-FIXTURE MAX. LENGTH (FT) | 250 | | | |
| TOTAL SCFM | 68 | | | |
| FRICATION LOSS | 0.6 | | | |
| FRICATION LOSS PER 100 FEET | 1.5 | | | |

VACUUM LINE SIZING — MAX LOAD OF VACUUM PIPE BASED ON 1.5 PSI DROP OVER 250 FEET & MAX 4000 FPM

| SIZE OF PIPE | 3/4" | 1" | 1-1/4" | 1-1/2" | 2" |
|---|---|---|---|---|---|
| MAXIMUM SCFM | 10 | 20 | 30 | 40 | 70 |

NOTE: SIZING CALCULATION BASED ON VACUUM SYSTEMS ASPE TABLE 10-9 & FIGURE 10-6

## Vacuum Riser

Scale: NONE

### NATURAL GAS EQUIPMENT TABLE

| ITEM | QUANTITY | BTUH | TOTAL(BTUH) | TOTAL(CFH) |
|---|---|---|---|---|
| WATER HEATER-1 | 1 | 499,000 | 499,000 | 499 |
| WATER HEATER-2 | 1 | 199,000 | 199,000 | 199 |
| BOILER-1 | 1 | 2,500,000 | 2,500,000 | 2,500 |
| BOILER-2 | 1 | 2,500,000 | 2,500,000 | 2,500 |
| GAS TURRET | 30 | 4,000 | 120,000 | 120 |
| FUME HOOD | 28 | 5,000 | 140,000 | 140 |
| TOTAL | | | 5,958,000 | 5,958 |

### NATURAL GAS REGULATOR SCHEDULE

| UNIT | DESCRIPTION | LOCATION | MAKE/MODEL | INLET PIPE SIZE | LOAD (CFH) | INLET PRESSURE | OUTLET PRESSURE |
|---|---|---|---|---|---|---|---|
| GPRV-1 | REDUCED PRESSURE TO BUILDING | 131 | MAXITROL | 2" | 257 | 2 PSI | 7" W.C |
| GPRV-2 | REDUCED PRESSURE TO WATER HEATERS | 128 | MAXITROL | 2" | 698 | 2 PSI | 7" W.C |
| GPRV-3 | REDUCED PRESSURE TO BOILERS | 001 | MAXITROL | 2" | 5000 | 2 PSI | 7" W.C |

### GAS SIZING CHART

| PIPE SIZE | CFH |
|---|---|
| 1/2" | 462 |
| 3/4" | 934 |
| 1" | 1,710 |
| 1-1/4" | 3,510 |
| 1-1/2" | 5,260 |
| 2" | 10,100 |
| 2-1/2" | 16,100 |
| 3" | 28,500 |

NOTE: BASED ON LONGEST LENGTH - 100' TABLE 402.2.4 UPC & IFGC, NATURAL GAS 2 PSI

### GAS SIZING CHART

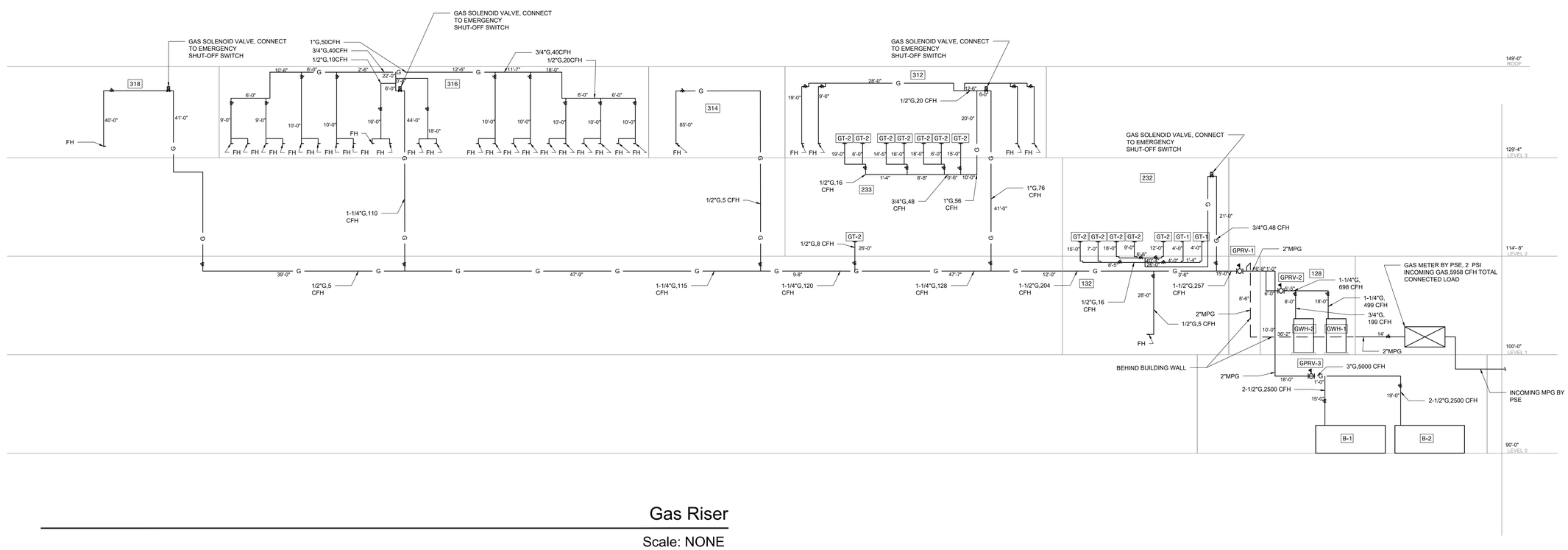
| PIPE SIZE | CFH |
|---|---|
| 1/2" | 23 |
| 3/4" | 49 |
| 1" | 92 |
| 1-1/4" | 189 |
| 1-1/2" | 283 |
| 2" | 546 |
| 2-1/2" | 870 |
| 3" | 1,540 |

NOTE: BASED ON LONGEST LENGTH - 400' TABLE 402.2.4 UPC & IFGC, NATURAL GAS LESS THAN 2 PSI

### GAS SIZING CHART

| PIPE SIZE | CFH |
|---|---|
| 1/2" | 95 |
| 3/4" | 199 |
| 1" | 374 |
| 1-1/4" | 768 |
| 1-1/2" | 1,150 |
| 2" | 2,220 |
| 2-1/2" | 3,530 |
| 3" | 6,250 |

NOTE: BASED ON LONGEST LENGTH - 30' TABLE 402.2.4 UPC & IFGC, NATURAL GAS LESS THAN 2 PSI




## Gas Riser

Scale: NONE

IFC SET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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
1601 39th AVE SE
Puyallup, WA 98374

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning | Engineering | Public Works | Fire | Traffic

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|---|---|
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| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
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GAS & VACUUM RISER

**P3.03**

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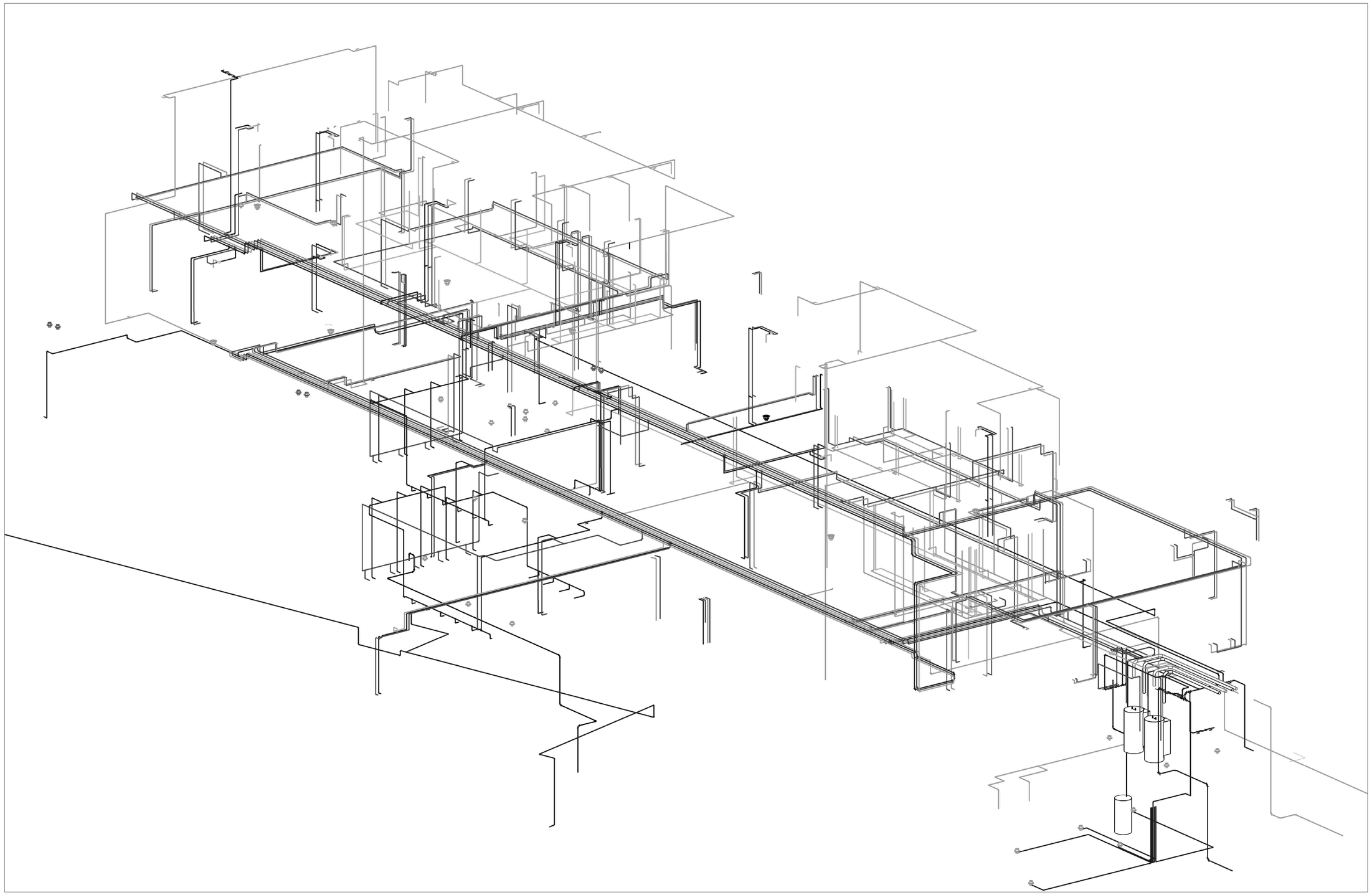

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| Checked By: | Linda Burman |

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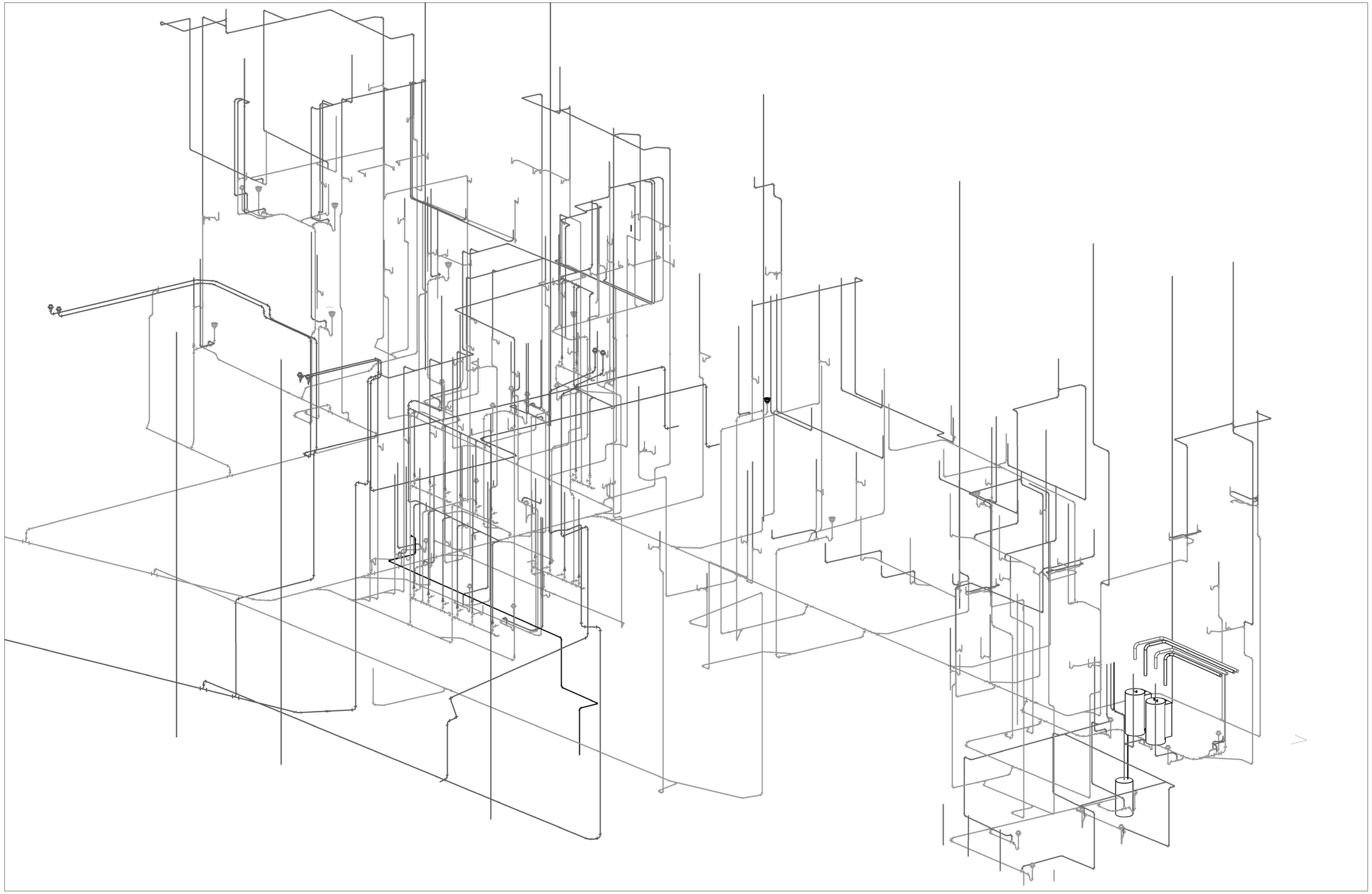
WATER 3D RISER

**P3.04**

IFC SET

PRCNC20221036



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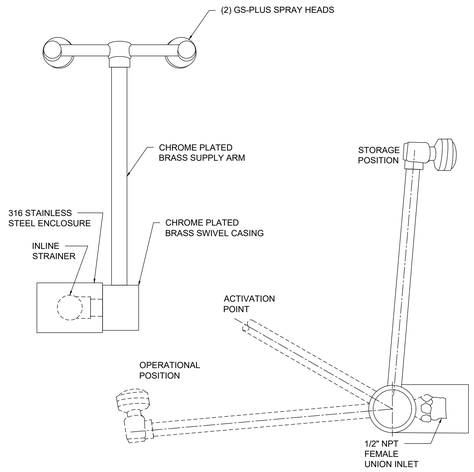
|---|---|---|

SANITARY 3D RISER

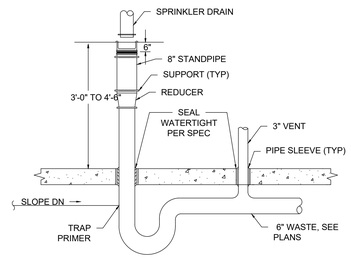
**P3.05**

IFC SET

PRCNC20221036

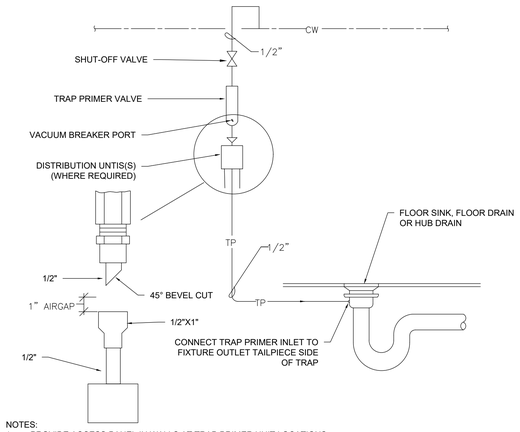



1 EMERGENCY EYE WASH STATION — SCALE NTS



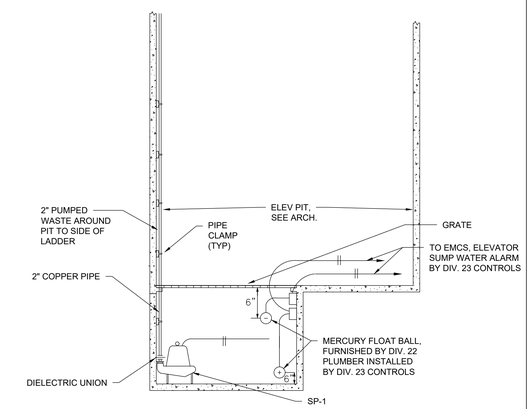

NOTES:
PROVIDE FIRESTOPPING WHERE FLOOR IS RATED BY ARCHITECTURAL PLAN.

2 SPRINKLER TEST/DRAIN RECEPTOR — SCALE NTS

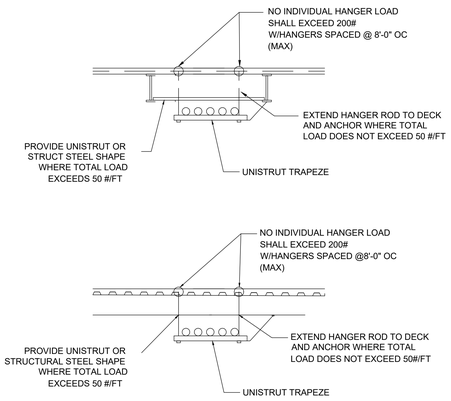



NOTES:
1. PROVIDE ACCESS PANEL IN WALLS AT TRAP PRIMER UNIT LOCATIONS.
2. TRAP PRIMER VALVE SHALL BE MOUNTED ONE FOOT ABOVE THE FINISHED FLOOR FOR EVERY 20 FEET OF PRIMER LINE.
3. INSTALL TRAP PRIMER PIPING AND UNIT PER MANUFACTURER'S RECOMMENDATIONS. PIPING MUST SLOPE TO POINT OF CONNECTION TO DRAIN WITHOUT TRAPS IN PIPING.

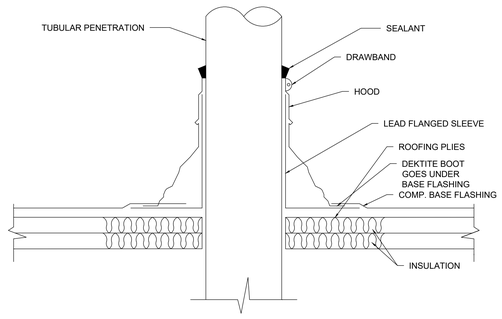
3 TRAP PRIMER INSTALLATION — SCALE NTS




4 ELEVATOR SUMP WATER CONTROL DETAIL — SCALE NTS

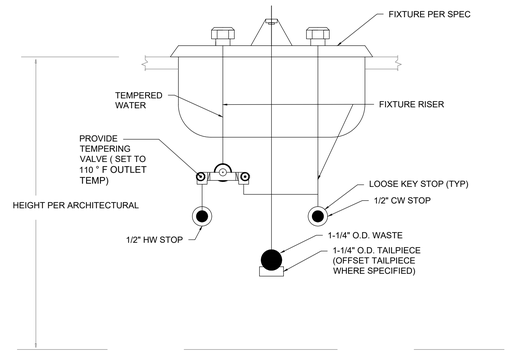



5 PIPING TRAPEZE — SCALE NTS

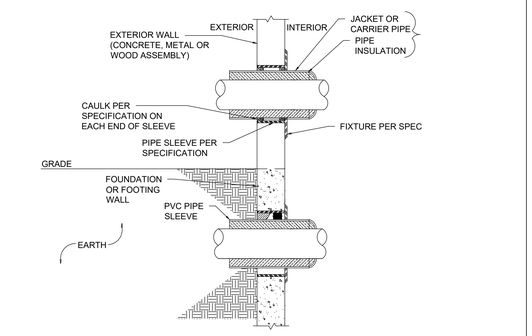



NOTES:
1. REFER TO ARCHITECTURAL ROOF DETAILS 18/A361.

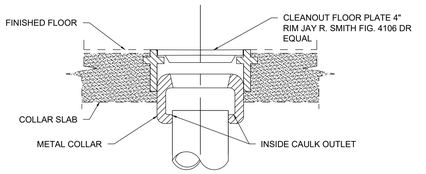
6 ROOF PENETRATION — SCALE NTS




7 LOCAL MIXING VALVE — SCALE NTS

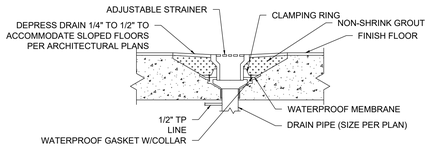



8 PIPE THROUGH EXTERIOR THROUGH FOUNDATION WALL — SCALE NTS

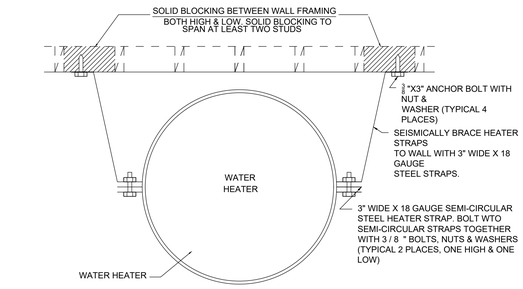



NOTES:
SHALL BE INSTALLED IN SUCH A MANNER THAT THE TOP COVER SHALL BE FLUSH WITH THE SURFACE OF THE FINISHED FLOOR.

9 INTERIOR CLEANOUT — SCALE NTS

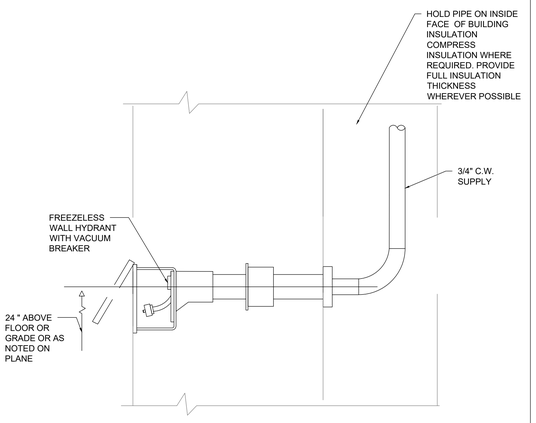



10 FLOOR DRAIN IN CONCRETE FLOOR — SCALE NTS




NOTES:
LOCATE UPPER STRAP WITHIN UPPER 1/3 AND LOCATE LOWER STRAP WITHIN LOWER 1/3 OF TANK BUT ABOVE CONTROLS

11 SEISMIC BRACING DETAIL-WATER HEATER — SCALE NTS




12 TYPICAL FREEZE PROOF WALL HYDRANT — SCALE NTS

IFC SET

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City of Puyallup
Development & Permitting Services
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|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

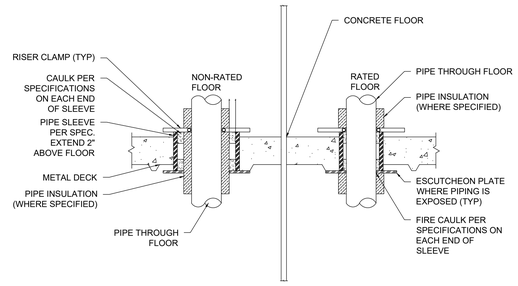
Revisions

| # | Date | Description |
|---|---|---|

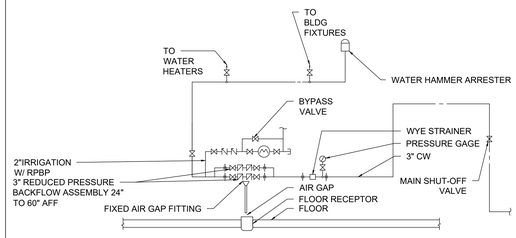
PLUMBING DETAILS 1

P4.01

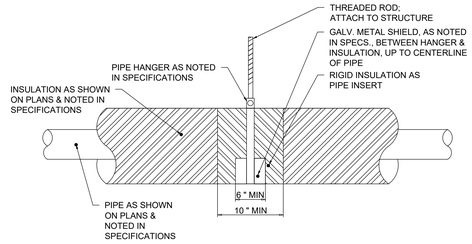
PRCNC20221036



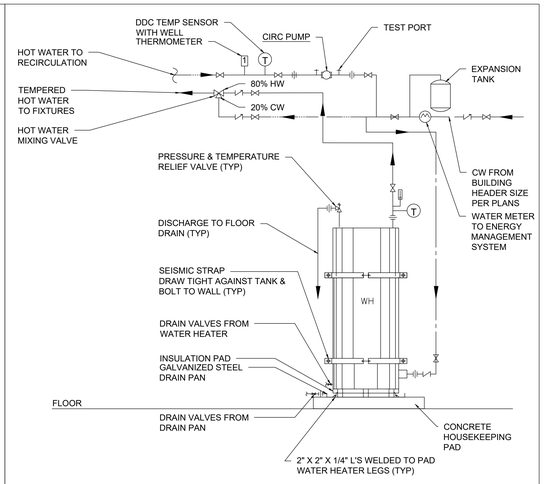

1 PIPE SLEEVE THROUGH CONCRETE FLOOR — SCALE NTS




2 COLD WATER HEADER (POTABLE & NON-POTABLE) — SCALE NTS




3 INSULATED PIPE HANGER — SCALE NTS




4 WATER HEATER (POTABLE & NON-POTABLE) — SCALE NTS



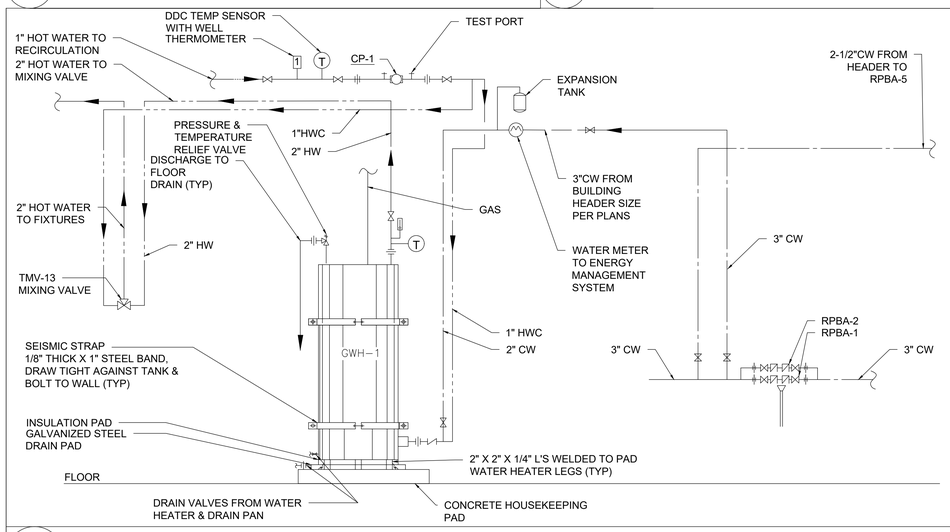

5 ICE MAKER CONNECTIONS — SCALE NTS



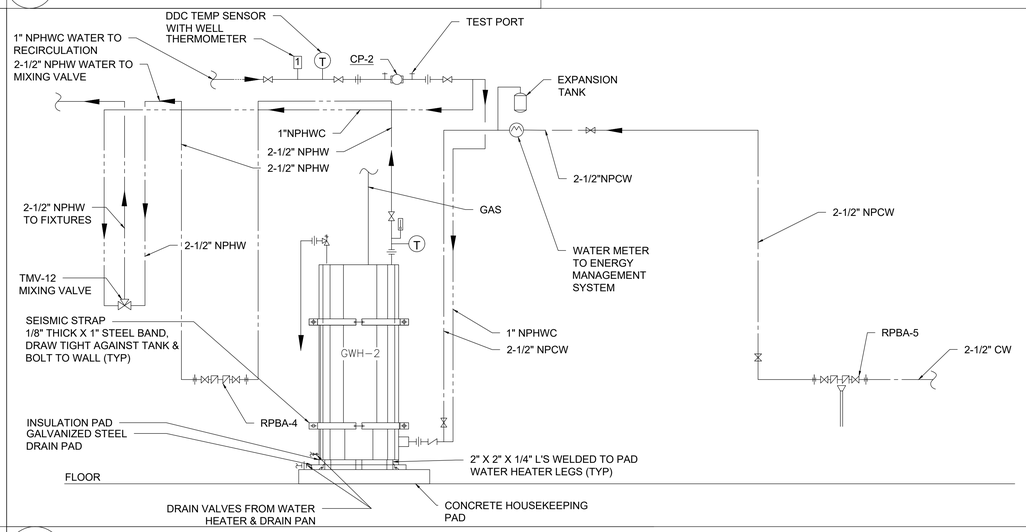

6 DEIONIZED WATER TANK CONNECTIONS — SCALE NTS




7 VACUUM PUMP DETAIL — SCALE NTS




4A POTABLE WATER HEATER PIPING DETAIL — SCALE NTS




4B NON-POTABLE WATER HEATER PIPING DETAIL — SCALE NTS

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| Building | Planning |
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| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|

PLUMBING DETAILS 2

**P4.02**

IFC SET

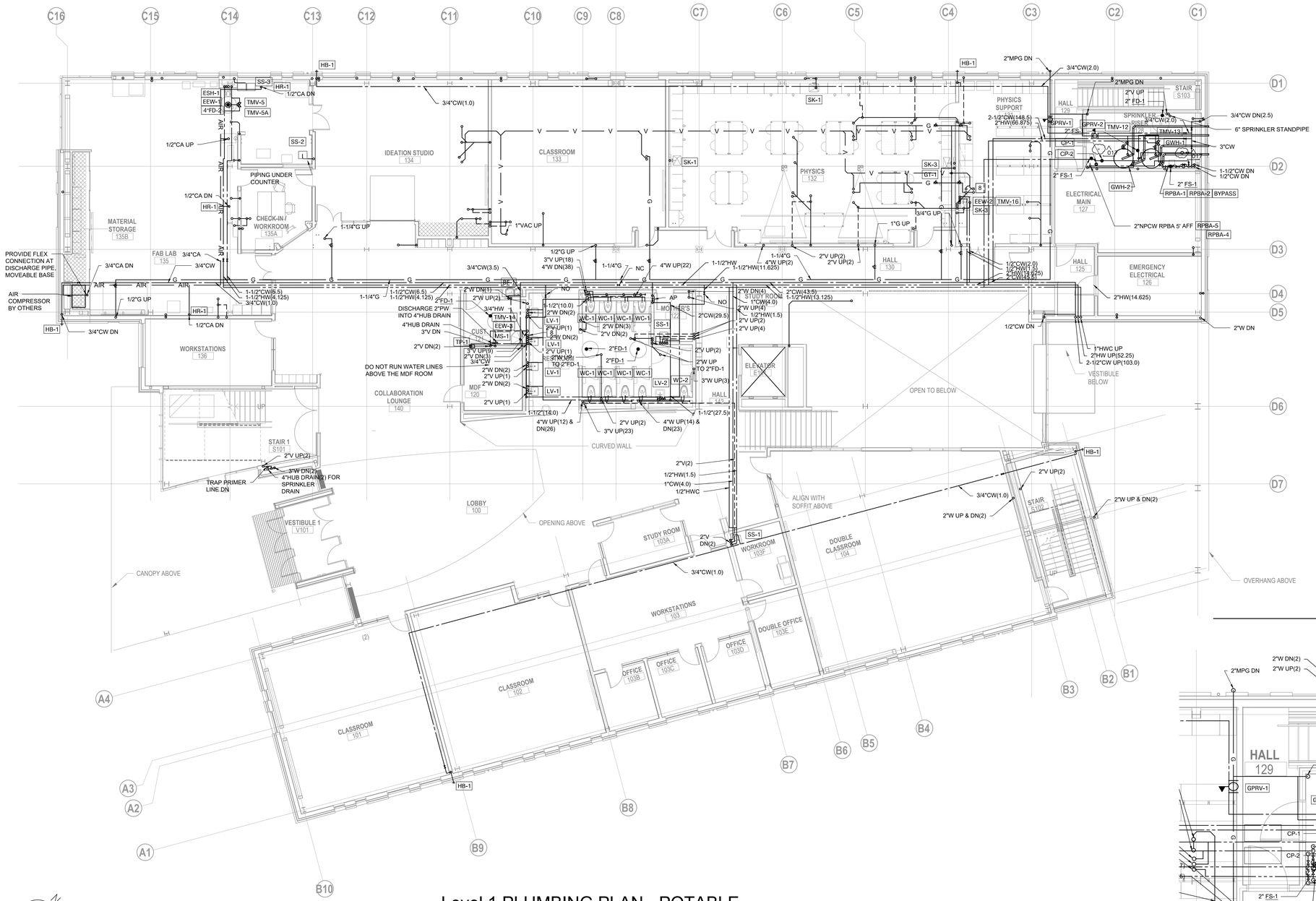
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. CUP SINK: PROVIDE 1-1/2"W DN, 1-1/2"V UP, PROVIDE DILUTION TRAP.
3. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
4. SK-1(ISLAND): PROVIDE 2"W DN, 2" ISLAND VENT, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
5. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
6. NOT USED
7. VACCUM CONNECTION TO FUME HOOD.
8. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.

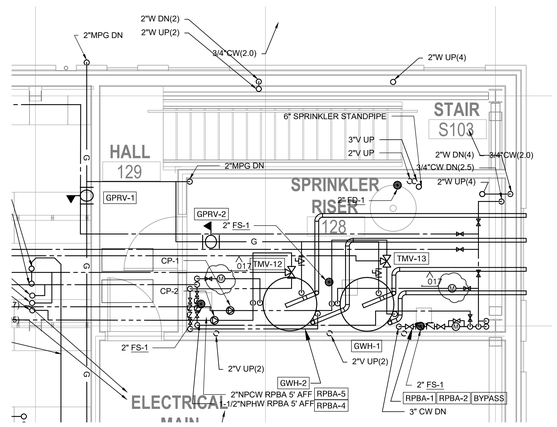



## Level 1 PLUMBING PLAN - POTABLE

Scale: 1/8" = 1'-0"

## ENLARGED WATER ROOM

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




IFC SET

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LINDA S BURMAN STATE OF WASHINGTON 21025 REGISTERED PROFESSIONAL ENGINEER

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

**City of Puyallup**
**Development & Permitting Services**
**ISSUED PERMIT**

| | |
|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

| | |
|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|
| 1 | 12-29-2022 | METERS |

Level 1 PLUMBING PLAN - POTABLE

**P5.01**

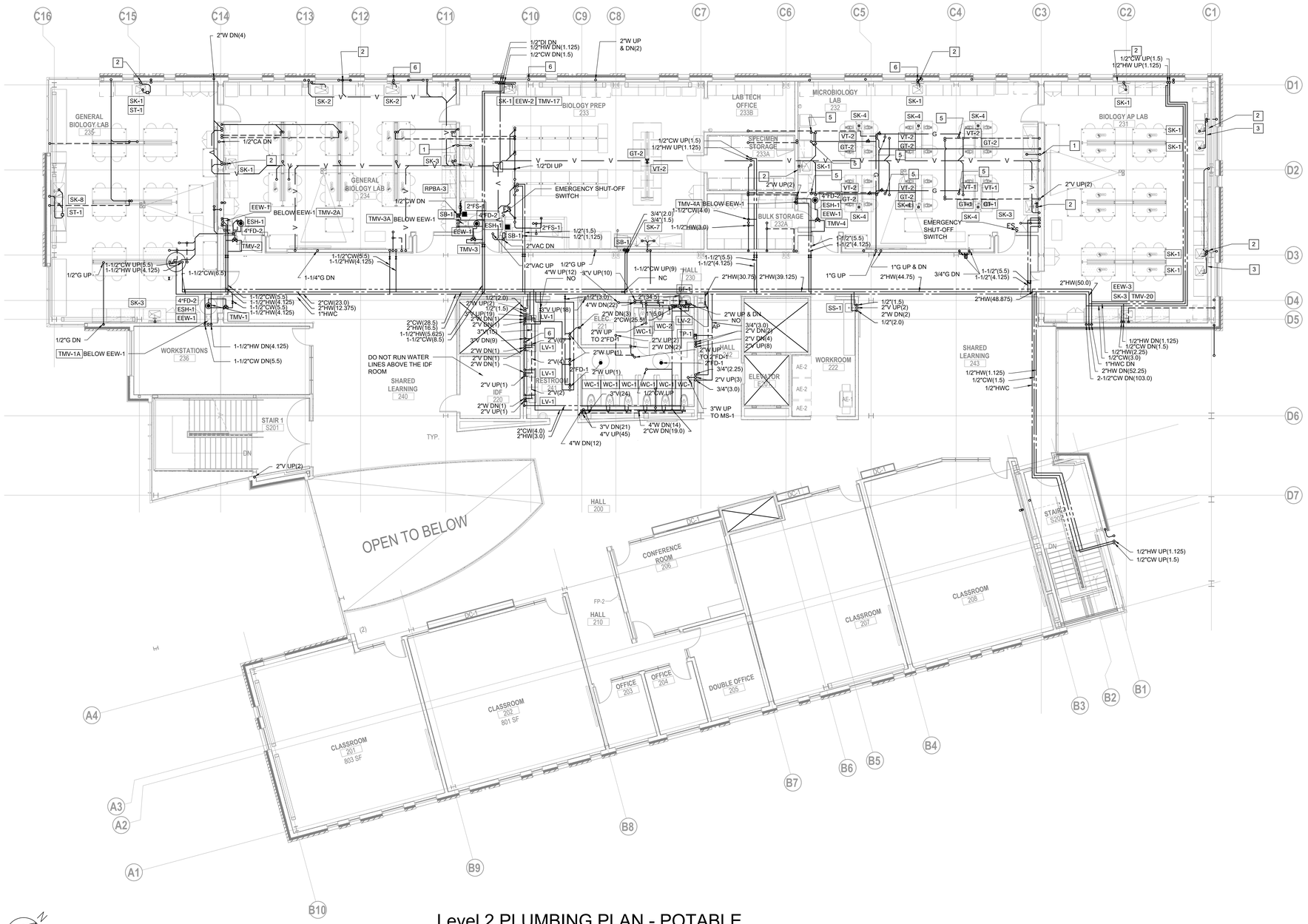
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
3. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
4. NOT USED
5. 1/2"G UP TO GAS TURRET ABOVE.
6. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.




## Level 2 PLUMBING PLAN - POTABLE

Scale: 1/8" = 1'-0"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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING 4**
**1601 39th AVE SE**
**Puyallup, WA 98374**

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

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| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

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| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|
| 007 | 12-07-2022 | VENTS |

Level 2 PLUMBING PLAN - POTABLE

**P5.02**

IFC SET

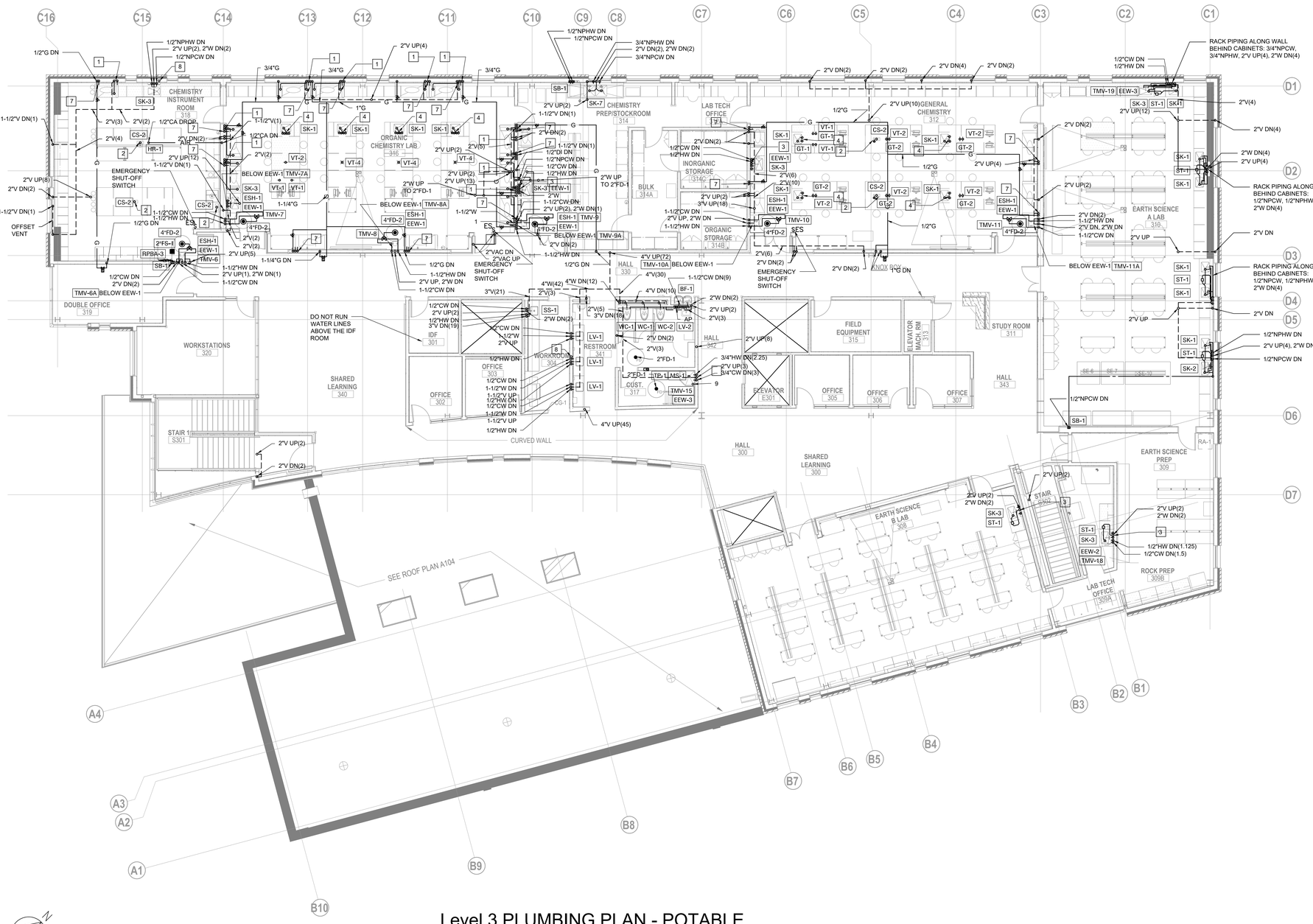
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. CUP SINK: PROVIDE 1-1/2"W DN, 1-1/2"V UP, PROVIDE DILUTION TRAP.
3. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
4. SK-1(ISLAND): PROVIDE 2"W DN, 2" ISLAND VENT, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
5. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
6. NOT USED
7. VACCUM CONNECTION TO FUME HOOD.
8. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.
9. RUN CONDENSATE TO MS-1




## Level 3 PLUMBING PLAN - POTABLE

Scale: 1/8" = 1'-0"

IFC SET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**NEW STEM BUILDING**
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| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

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| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|
| 007 | 12-07-2022 | VENTS |

Level 3 PLUMBING PLAN - POTABLE

**P5.03**

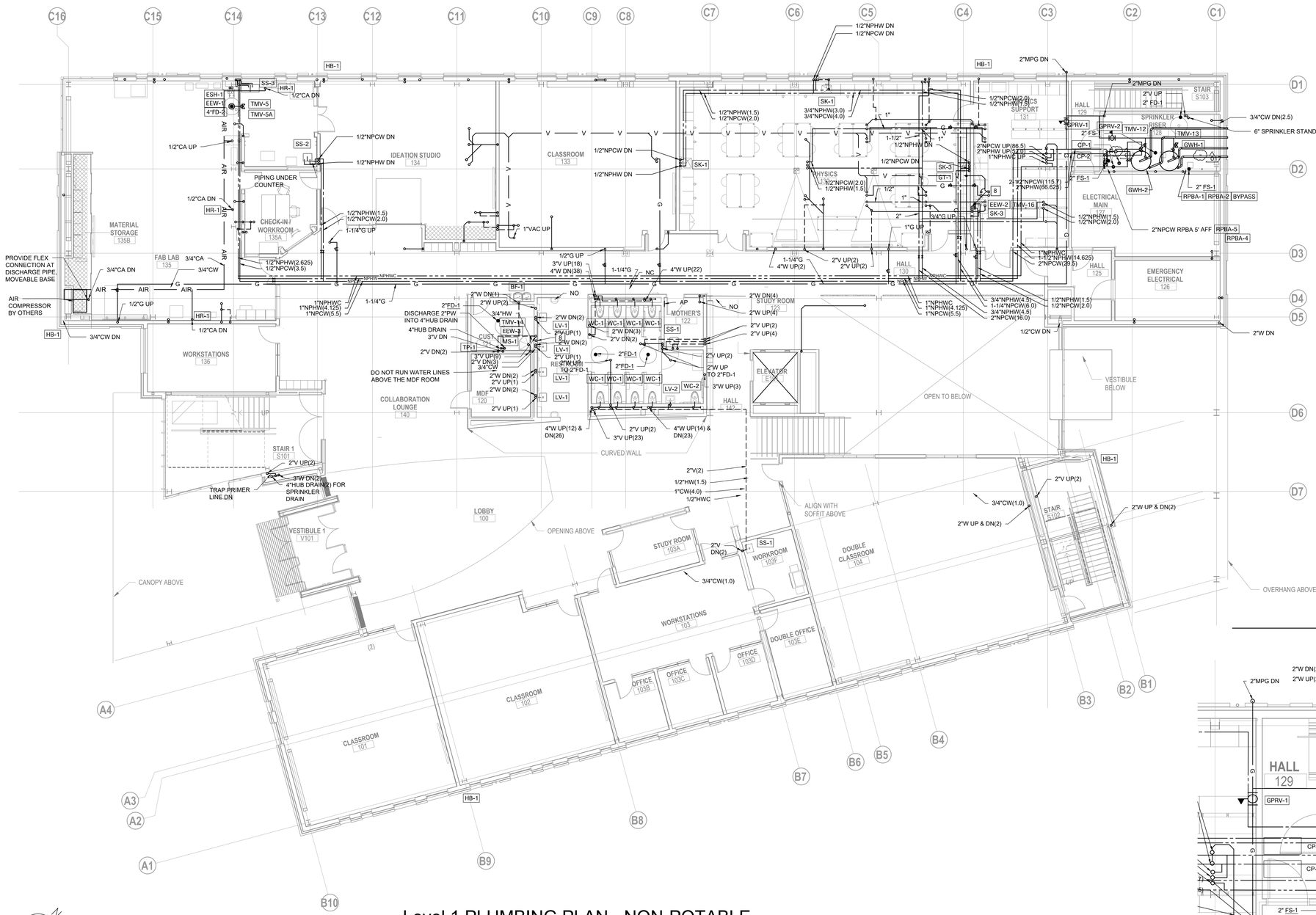
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. CUP SINK: PROVIDE 1-1/2"W DN, 1-1/2"V UP, PROVIDE DILUTION TRAP.
3. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
4. SK-1(ISLAND): PROVIDE 2"W DN, 2" ISLAND VENT, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
5. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
6. NOT USED
7. VACCUM CONNECTION TO FUME HOOD.
8. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.

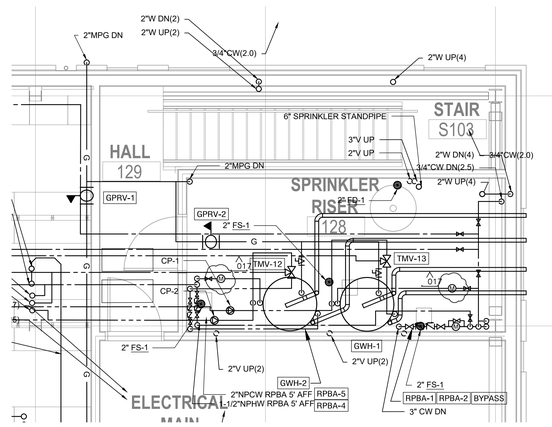



## Level 1 PLUMBING PLAN - NON-POTABLE

Scale: 1/8" = 1'-0"

## ENLARGED WATER ROOM

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

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**STATE PROJECT NO.: 2020-148**
**PIERCE COLLEGE PUYALLUP**
**NEW STEM BUILDING**
**1601 39th AVE SE**
**Puyallup, WA 98374**

**City of Puyallup**
**Development & Permitting Services**
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|---|---|
| Building | Planning |
| Engineering | Public Works |
| Fire | Traffic |

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|---|---|
| Date: | 10/07/2022 |
| Job No.: | 22135.00 |
| Drawn By: | Terry Potvin |
| Checked By: | Linda Burman |

Revisions

| # | Date | Description |
|---|---|---|
| 1 | 12-29-2022 | METERS |

Level 1 PLUMBING PLAN - NON-POTABLE

**P5.04**

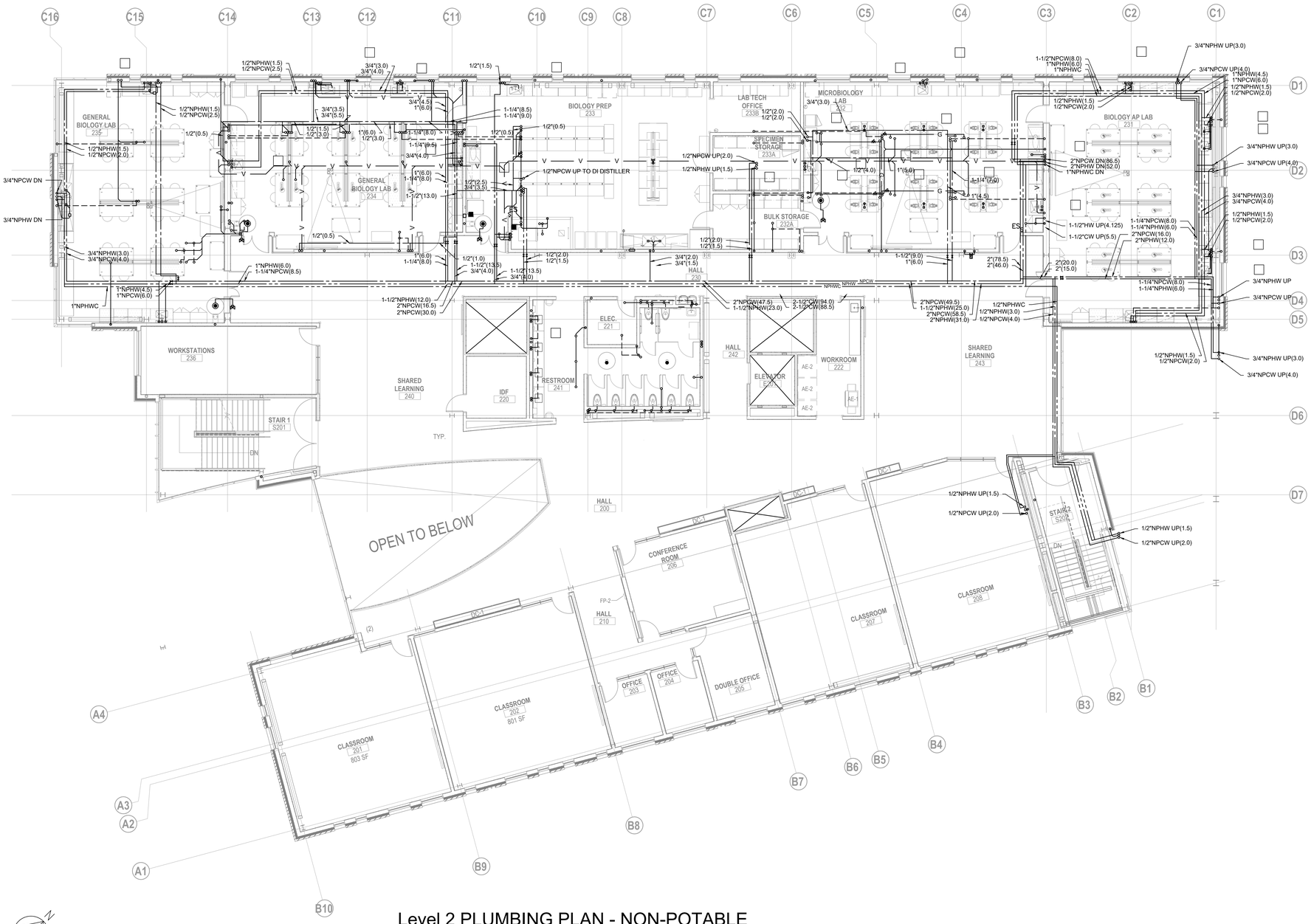
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
3. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
4. NOT USED
5. 1/2"G UP TO GAS TURRET ABOVE.
6. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.




Level 2 PLUMBING PLAN - NON-POTABLE

Scale: 1/8" = 1'-0"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Level 2 PLUMBING PLAN - NON-POTABLE

**P5.05**

IFC SET

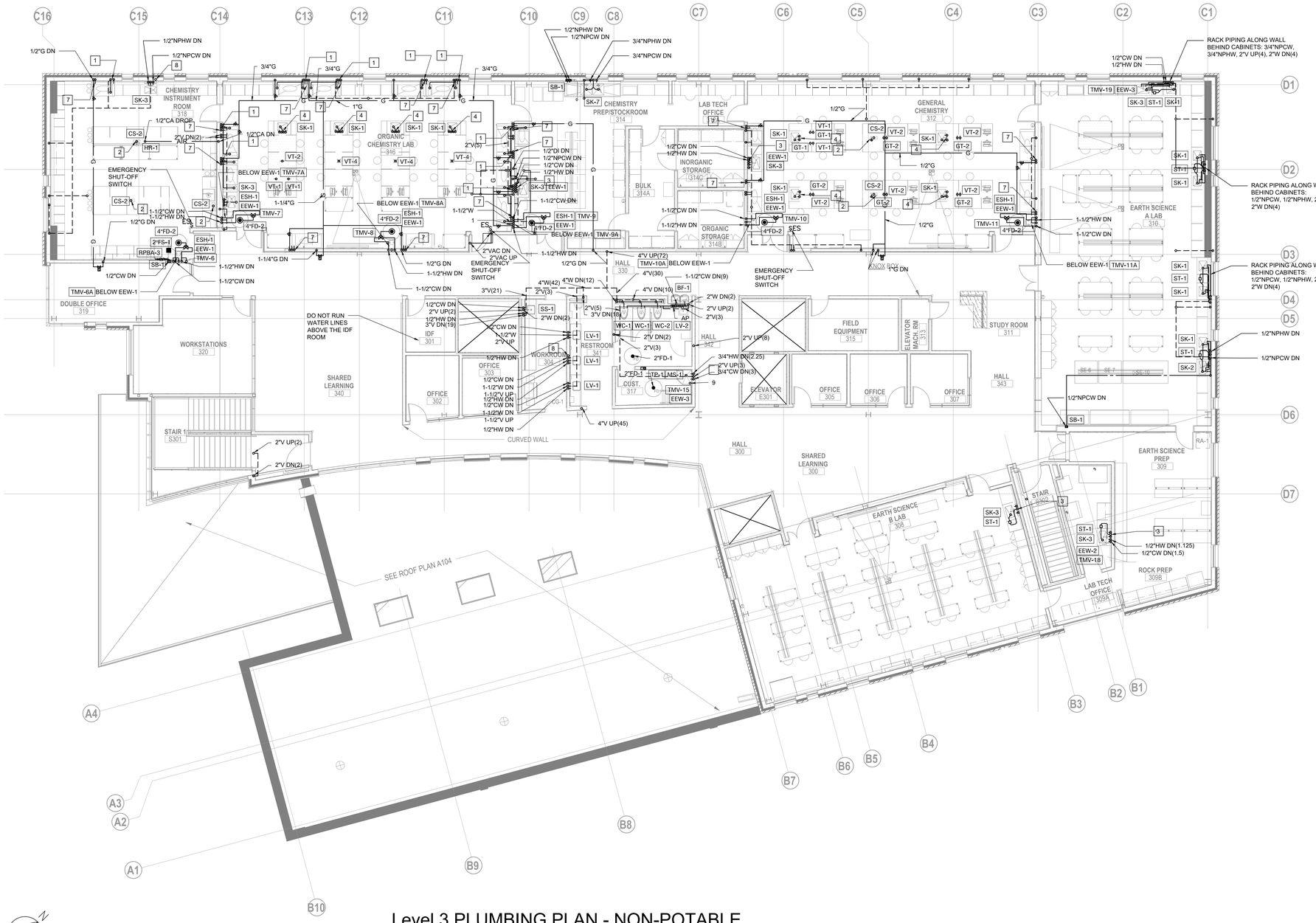
PRCNC20221036

## GENERAL NOTES

1. SEE SHEET P0.01 FOR ADDITIONAL GENERAL NOTES

## PLAN NOTES

1. FUME HOOD: PROVIDE 1-1/2"W DN, 1-1/2"V UP, 1/2"NPCW DN. PROVIDE DILUTION TRAP.
2. CUP SINK: PROVIDE 1-1/2"W DN, 1-1/2"V UP, PROVIDE DILUTION TRAP.
3. SK-1: PROVIDE 2"W DN, 2"V UP, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
4. SK-1(ISLAND): PROVIDE 2"W DN, 2" ISLAND VENT, 1/2"NPCW DN, 1/2"NPHW DN. PROVIDE DILUTION TRAP.
5. RACK 2"W, 1/2"NPCW,1/2"NPHW ALONG BACK WALL BEHIND CABINETS. KEEP 2"V HIGH AS POSSIBLE.
6. NOT USED
7. VACCUM CONNECTION TO FUME HOOD.
8. CONNECT CONDENSATE PIPING TO LAV TAILPIECE.
9. RUN CONDENSATE TO MS-1




## Level 3 PLUMBING PLAN - NON-POTABLE

Scale: 1/8" = 1'-0"

IFC SET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Revisions

| # | Date | Description |
|---|---|---|
| 07 | 12-07-2022 | VENTS |

Level 3 PLUMBING PLAN - NON-POTABLE

**P5.06**