

2018 IBC REFERENCE

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION

305.1 EDUCATIONAL GROUP E... BUILDING OR STRUCTURE... BY SIX OR MORE PERSONS AT ANY ONE TIME FOR EDUCATIONAL PURPOSES THROUGH THE 12TH GRADE

CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS

PROPOSED BUILDING DESIGN: E OCCUPANCY | SPRINKLER | TYPE V-B

Table with columns: ALLOWABLE HEIGHT, ALLOWABLE STORY, ALLOWABLE AREA, AREA CALCULATION PER 506.2.3 SINGLE-OCCUPANCY, MULTI STORY BUILDING, PROVIDED, GYM [E], CLASSROOM WING. Includes formulas for height and area calculations.

Table with columns: HEIGHT, STORY, AREA. Includes notes about existing main floor and overall plan.

CHAPTER 9: FIRE PROTECTION SYSTEMS

903.2.3 GROUP E AN AUTOMATIC SPRINKLER SYSTEM SHALL BE PROVIDED 906.1 EXCEPTIONS TO INSTALL FIRE-EXTINGUISHER EACH CLASSROOM WILL HAVE MIN 2-A:20-B:C FIRE EXTINGUISHER...

CHAPTER 10: MEANS OF EGRESS

1004.3 POSTING OF OCCUPANT LOAD EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE...

1005.3.1 STAIRWAYS MULTIPLIED BY 0.3' PER OCCUPANT 1005.3.2 OTHER EGRESS COMPONENTS SIZING EXCEPTION 1 MULTIPLIED BY 0.15' PER OCCUPANT...

1010.1.7 THRESHOLDS...AT DOORWAYS SHALL NOT EXCEED 3/4" 1010.1.9.2 HARDWARE HEIGHT... INSTALLED 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE FINISHED FLOOR...

SECTION 29 PLUMBING SYSTEMS SEE G0.2 FOR PLUMBING CALC TABLE 2902.1 | EDUCATION: WATER CLOSET: MALE 1 PER 35 | FEMALE 1 PER 25...

SECTION 29 PLUMBING SYSTEMS SEE G0.2 FOR PLUMBING CALC TABLE 2902.1 | EDUCATION: WATER CLOSET: MALE 1 PER 35 | FEMALE 1 PER 25 LAVATORIES: MALE 1 PER 85 | FEMALE 1 PER 50...

LIST OF DRAWINGS

Table listing drawing categories: GENERAL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING. Includes drawing numbers and descriptions like 'PARTIAL SITE PLAN', '2ND FLOOR PLAN - DEMO & EXISTING', etc.

PROJECT INFORMATION

PROJECT NAME CASCADE CHRISTIAN JR HIGH SCHOOL PHASE IIB + IIBB PROJECT ADDRESS 815 21ST STREET SE PUYALLUP, WA 98372 PROJECT DESCRIPTION 2ND FLOOR TI TO CREATE 6 CLASSROOMS, TEACHER'S LOUNGE, AND RESTROOMS...

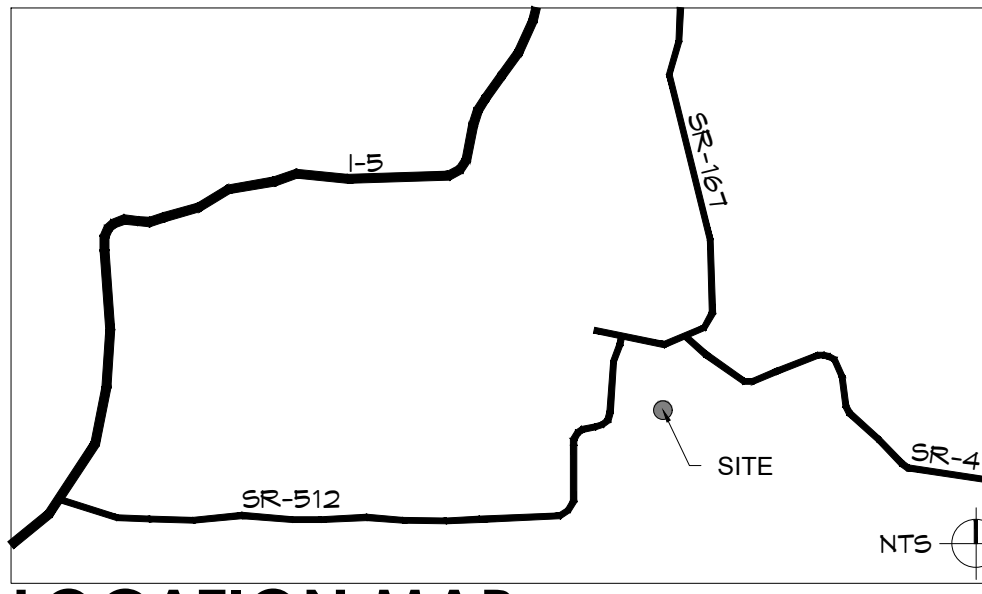
PROJECT DIRECTORY

Table listing project participants: THE OWNER (CASCADE CHRISTIAN SCHOOLS), THE ARCHITECT (JEFF BROWN ARCHITECTURE), STRUCTURAL ENGINEER (CHRIS FYNBOE, P.E.), CONTRACTOR (ABSSHER CONSTRUCTION), MECHANICAL (AIR SYSTEMS ENGINEERING INC), ELECTRIC (BOONE ELECTRIC), PLUMBING (TACOMA PLUMBING), FIRE-SPRINKLER (COLUMBIA FIRE).

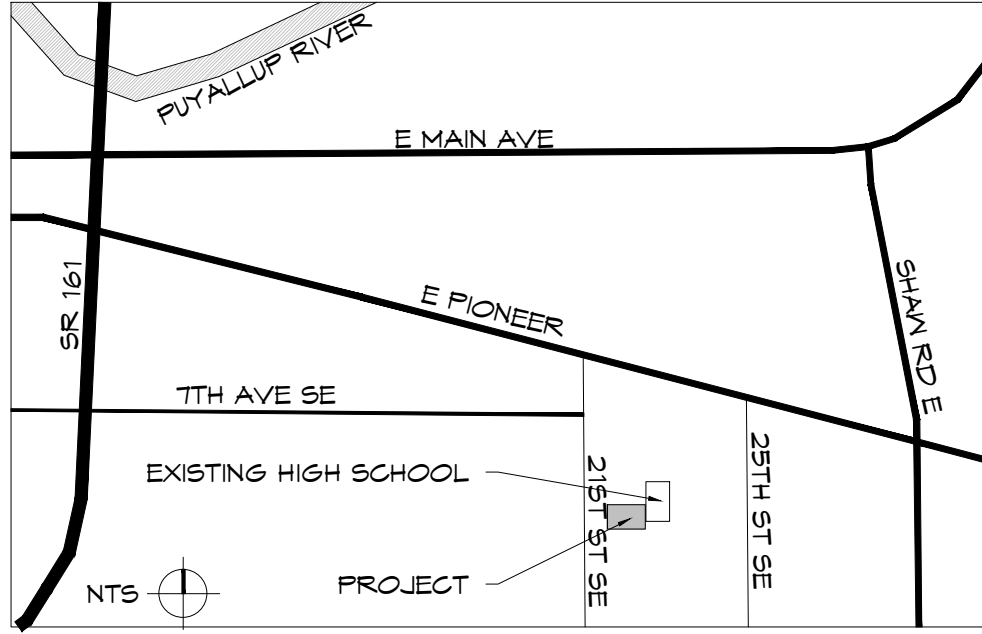
FULL SIZED LEDGBLE COLOR PLANS ARE REQUIRED TO BE PROVIDED BY THE PERMITTEE ON SITE FOR ALL INSPECTIONS (MIN. PLAN SIZE 24" X 36")

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.

VICINITY MAP



LOCATION MAP



ABBREVIATIONS

Table of abbreviations for architectural and engineering drawings, including symbols for wall board, interior, diameter, centerline, etc.

SYMBOLS LEGEND

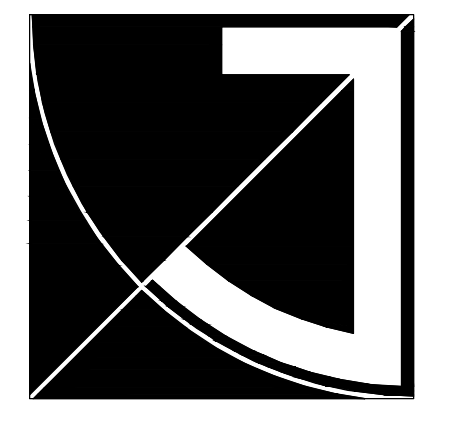
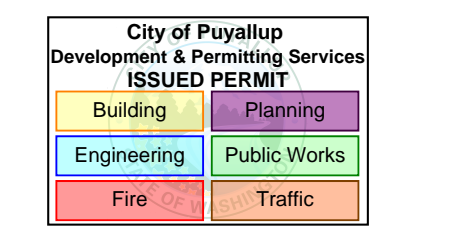
Table of symbols used in drawings, including room identification, door numbers, window numbers, equipment numbers, wall types, centerlines, north arrows, datums, revisions, column grids, enlarged detail marks, building section marks, detail marks, exterior and interior elevation symbols, and material callouts.

GENERAL NOTES

- 1. CODE CONFLICTS ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH MOST CURRENT APPLICABLE CODE AND ORDINANCES OF PIERCE COUNTY
2. DISCREPANCY IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPORT DISCREPANCIES FOUND WITHIN THESE DOCUMENTS TO THE ARCHITECT AS SOON AS THEY ARE DISCOVERED
3. SCALING DRAWINGS DO NOT SCALE THE DRAWINGS. CONTACT ARCHITECT WITH ANY CONFLICTS
4. DIMENSIONS DIMENSIONS ARE TO FACE OF STUD AND FACE OF CONC. U.N.O. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, EXISTING CONDITIONS, AND MEMBER SIZES PERTAINING TO THE WORK PRIOR TO PROCEEDING...

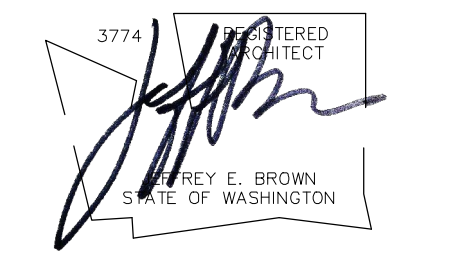
CODE/ZONING INFORMATION

GOVERNING CODE 2018 INTERNATIONAL BUILDING CODE 2018 INTERNATIONAL MECHANICAL CODE 2018 UNIFORM PLUMBING CODE 2018 WASHINGTON STATE ENERGY CODE, COMMERCIAL ADOPTED BY WA STATE BUILDING CODE COUNCIL AND ANY CITY OF PUYALLUP ORDINANCE
ZONING RS-08/RS-04 HEIGHT LIMIT: 35'



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PROJECT NAME/ADDRESS

CASCADE CHRISTIAN JR. HIGH SCHOOL PHASE 2B + 3B 813-21ST STREET SE PUYALLUP, WA 98372

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PROJECT NUMBER 23009

DRAWING TYPE

PERMIT DOCUMENTS

Table with columns: DATE, ISSUE, NO. showing revision history for 08.22.23 and 10.25.23.

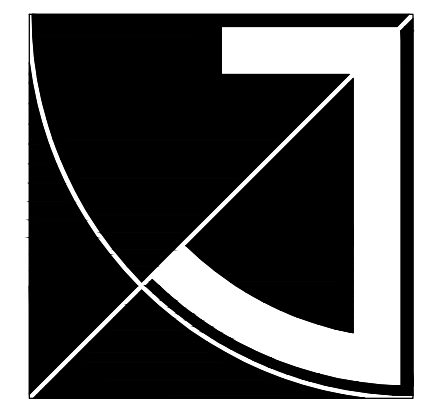
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GENERAL INFORMATION

SHEET #

G0.1

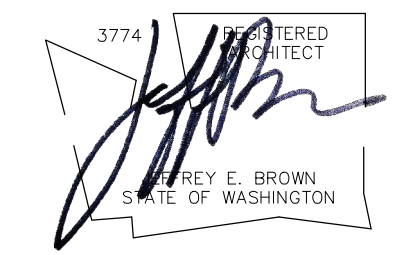
PRCTI20231318



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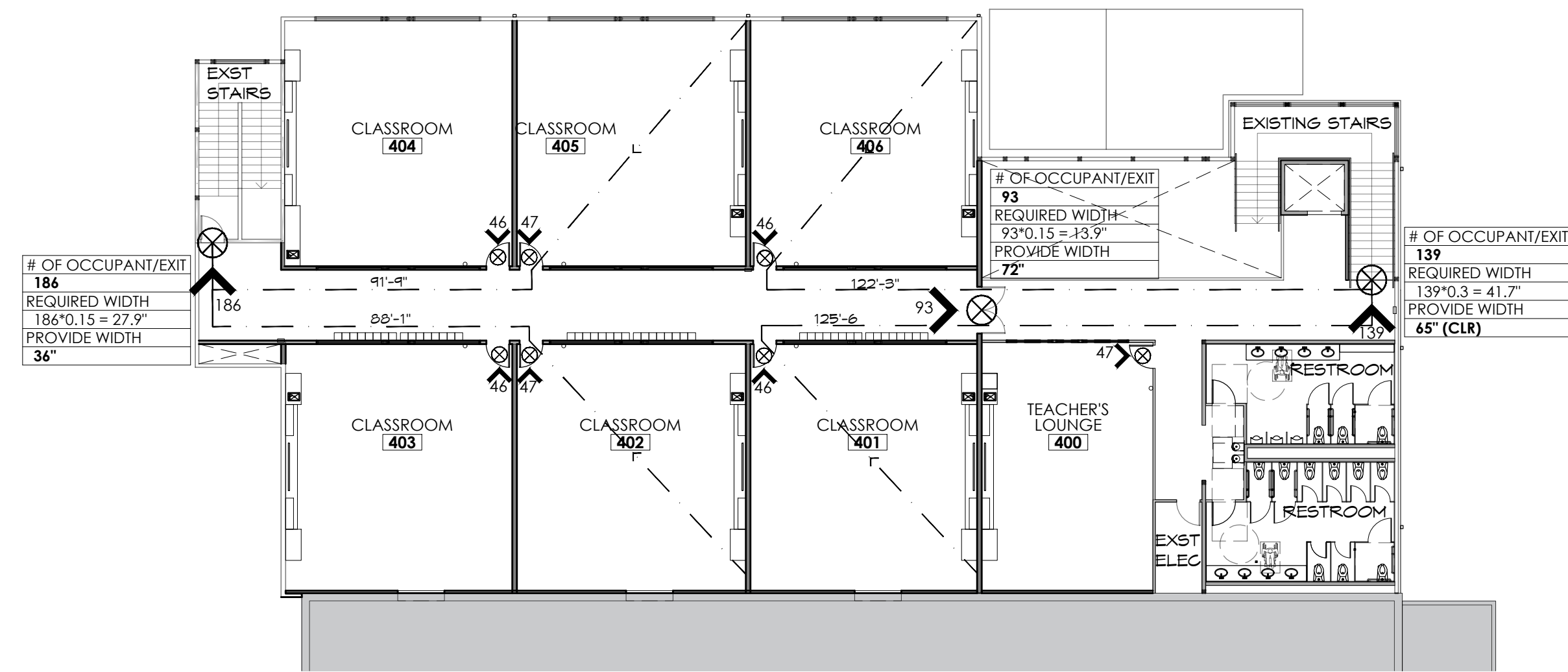
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EXIT ACCESS CODE & CALC

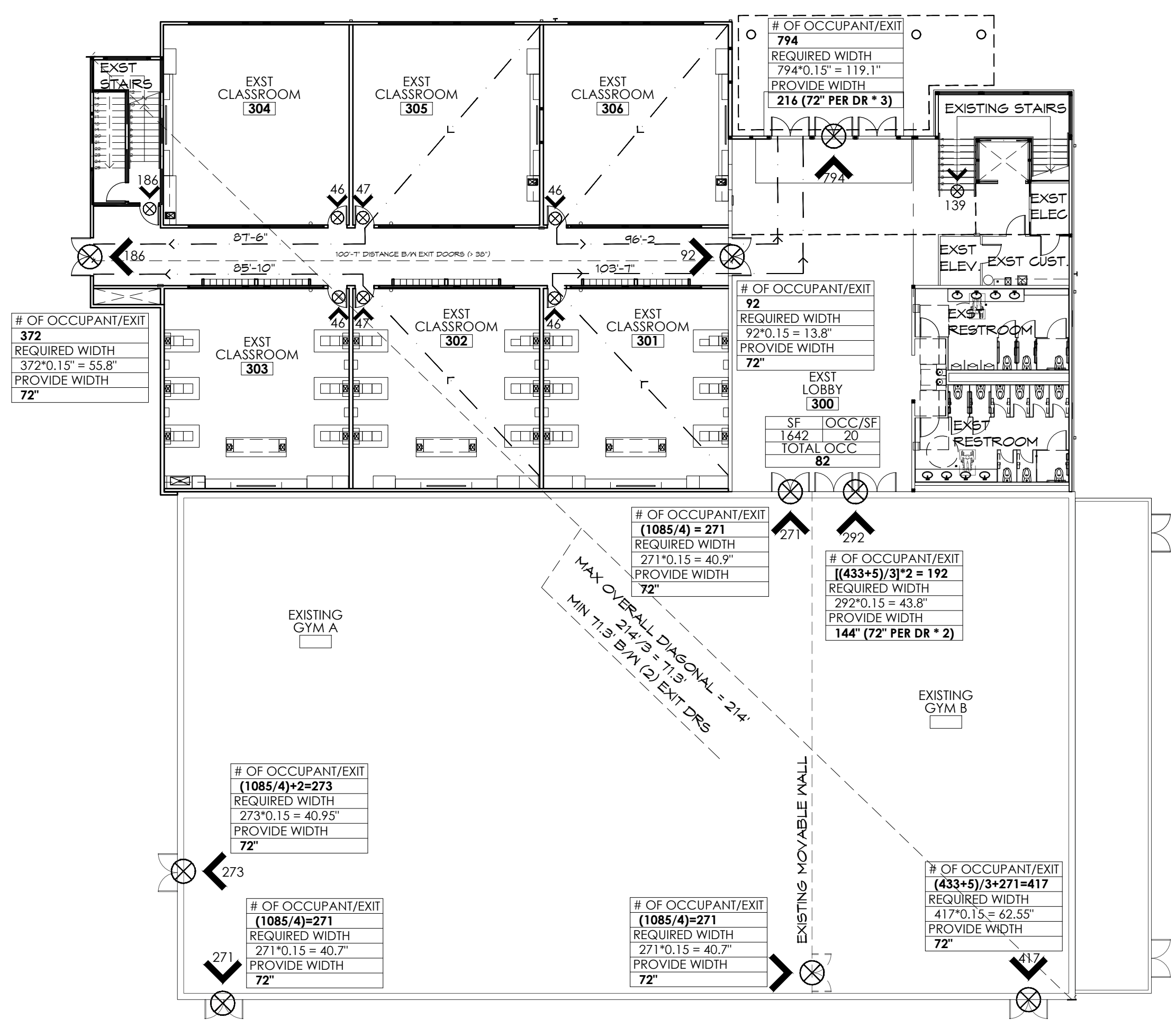
SHEET #

G0.2

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2 2ND FLR EXIT ACCESS ROUTE
 (11X17) SCALE: 1/16" = 1'-0"
 (22X34) SCALE: 1/8" = 1'-0"



1 MAIN FLR EXIT ACCESS ROUTE
 (11X17) SCALE: 1/16" = 1'-0"
 (22X34) SCALE: 1/8" = 1'-0"

APPLICABLE CODE	PHASE	OCCUPANCY	SQFT	OCC FOR PLUMB (SF/100)**	OCCUPANT LOAD			WC		LAV		Drinker Fountain
					TOTAL OCC LOAD	MALES (TOTAL/2)	FEMALE (TOTAL/2)	M REQ'D 1:35	F REQ'D 1:25	M REQ'D 1:85	F REQ'D 1:50	REQ'D 1:150 1 EVERY 500
2018 IBC	IIA+IIIA*	E SCHOOL	22434 *	224	224	112	112	3	4	1	2	1
2018 IBC	IIb+IIIB	E SCHOOL	9073	91	91	45.5	45.5	1	2	1	1	1
					TOTAL REQ'D			4	6	2	3	2
					PROVIDED			6+6***	18	8	8	2

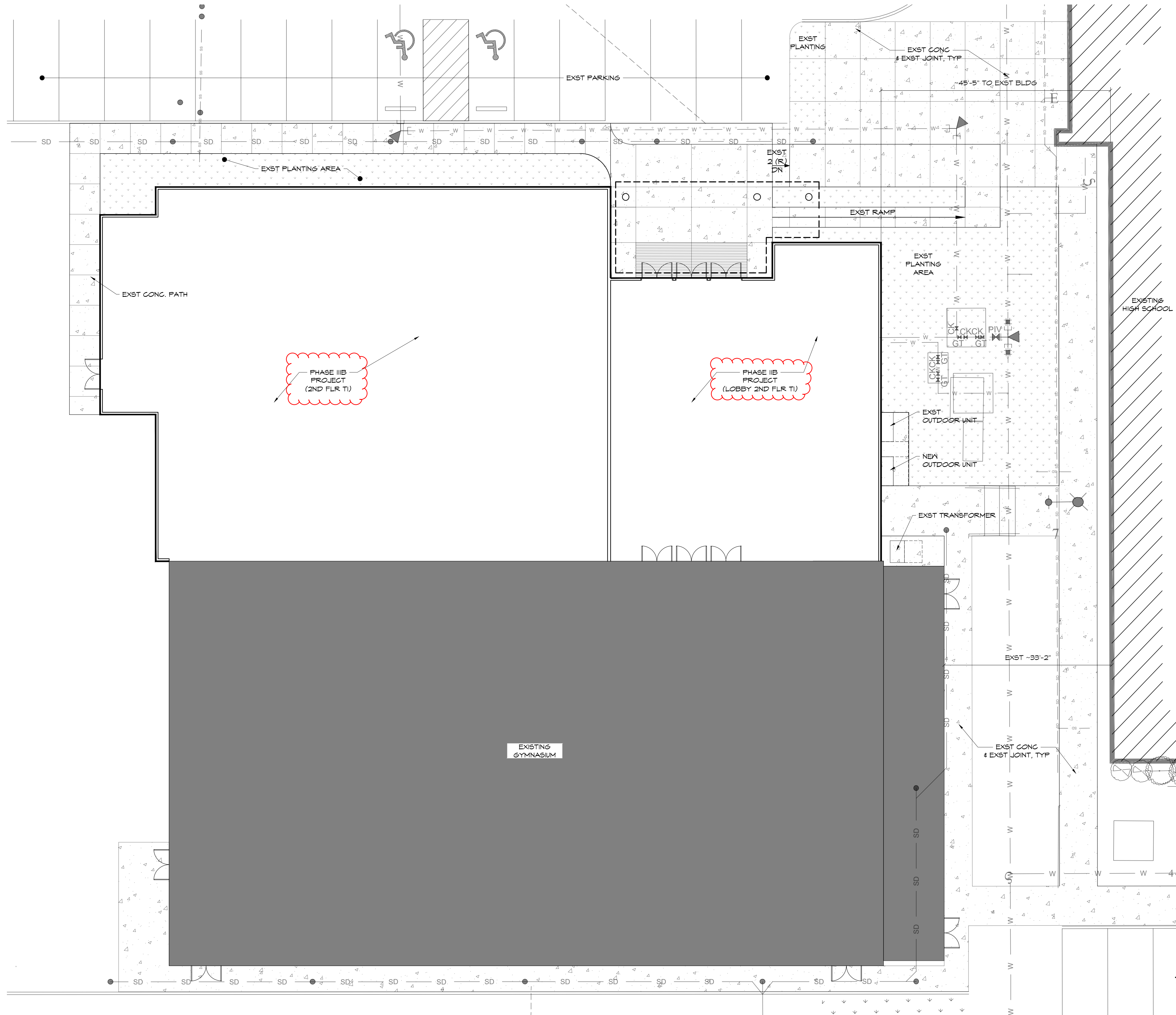
* INCLUDE EXISTING GYMNASIUM AREA FOR FIXTURE CALCULATION
 ** TABLE 2902.1, FOOTNOTE "e"
 ***6 TOILETS AND 6 URINALS

4 PLUMBING CALC

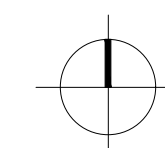
OCCUPANT LOAD CALCULATION					
	ROOM #	OCC TYPE	AREA	AREA PER OCC	OCC LOAD
EXIST'G (IBC 2015)	GYM A	ASSEMBLY	7593	7	1085
	GYM B	ASSEMBLY	3031	7	433
	LOBBY	WAITING	1642	20	82
EXISTING (2018 IBC)	CLASS 301	CLASSROOM	923	20	46
	CLASS 302	CLASSROOM	930	20	47
	CLASS 303	CLASSROOM	923	20	46
	CLASS 304	CLASSROOM	924	20	46
	CLASS 305	CLASSROOM	931	20	47
	CLASS 306	CLASSROOM	917	20	46
NEW (2018 IBC)	TEACHER'S LOUNGE	ASSEMBLY	701	15	47
	CLASS 401	CLASSROOM	923	20	46
	CLASS 402	CLASSROOM	930	20	47
	CLASS 403	CLASSROOM	923	20	46
	CLASS 404	CLASSROOM	924	20	46
	CLASS 405	CLASSROOM	931	20	47
	CLASS 406	CLASSROOM	917	20	46
			Total		24063

3 OCCUPANT LOAD CALC

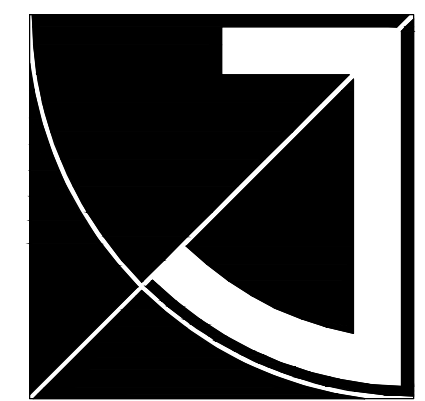
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PARTIAL SITE PLAN
 (11x17) SCALE: 1" = 20'
 (22x34) SCALE: 1" = 10'



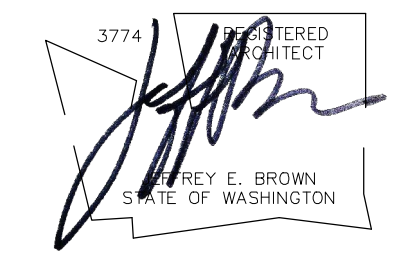
City of Puyallup	
Development & Permitting Services	
ISSUED PERMIT	Planning
Building	Public Works
Engineering	Traffic
Fire	



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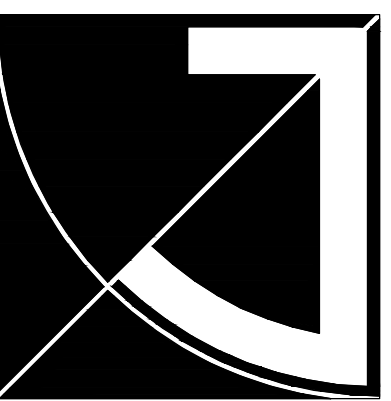
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PARTIAL SITE PLAN

SHEET #

A1.1

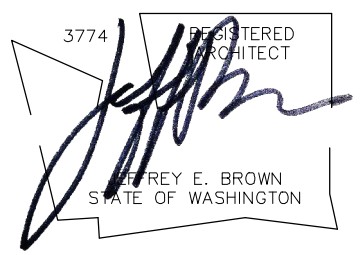
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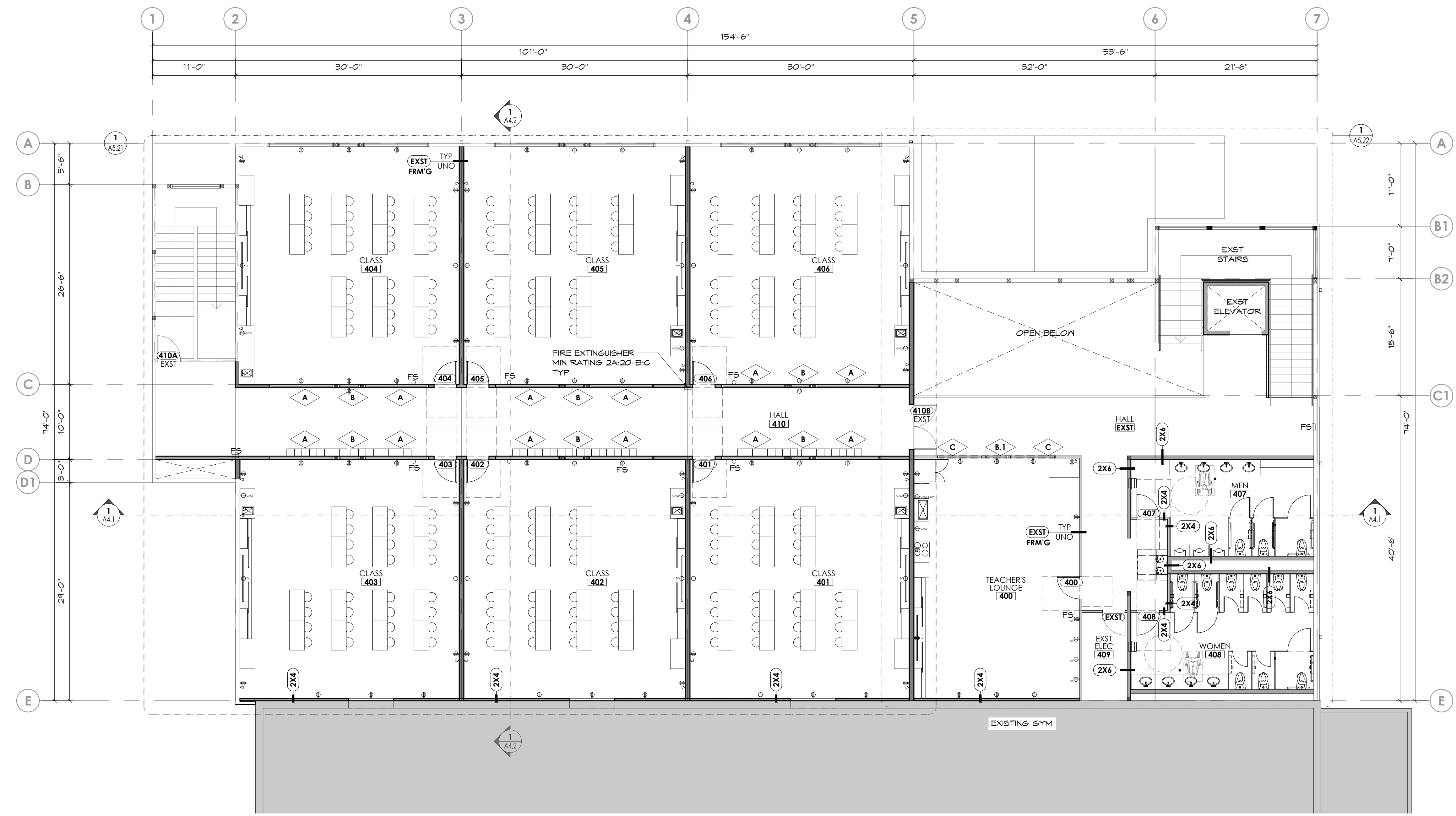
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**2ND FLOOR PLAN
 TI**

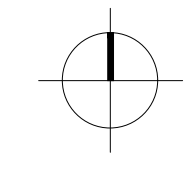
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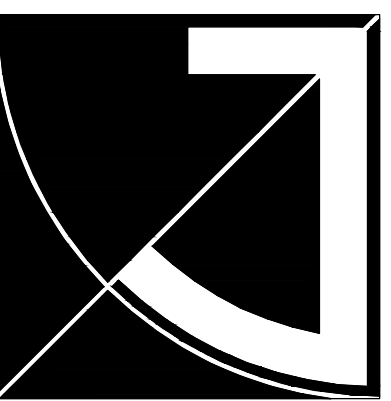
A2.1

PRCTI20231318



2ND FLOOR PLAN - TI
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 (22X34) SCALE: 1/8" = 1'-0"

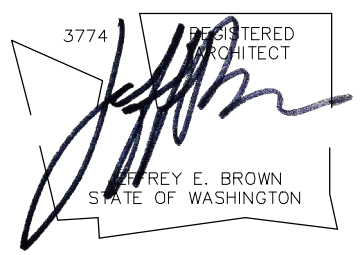




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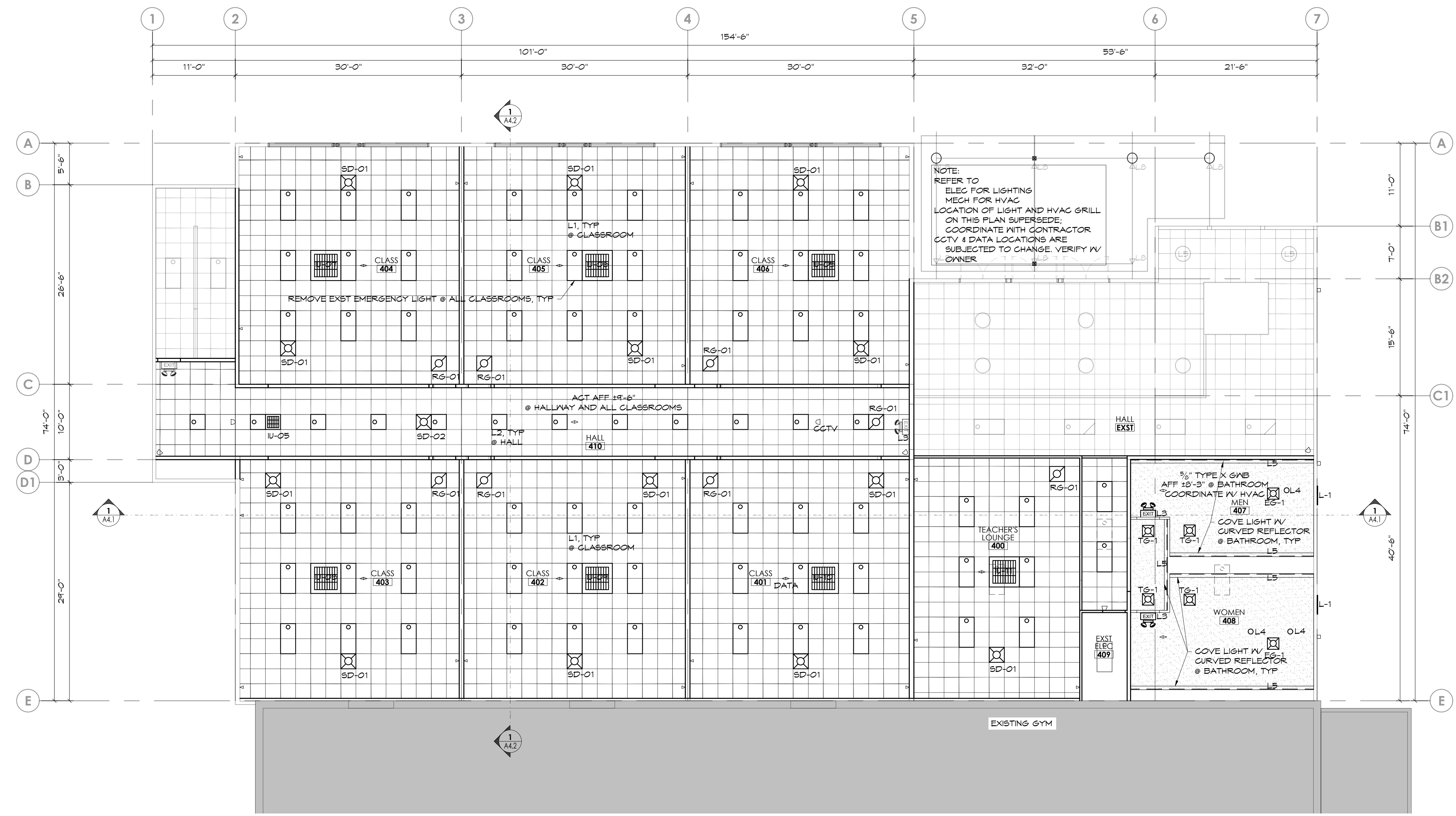
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2ND FLOOR RCP

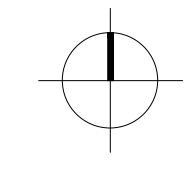
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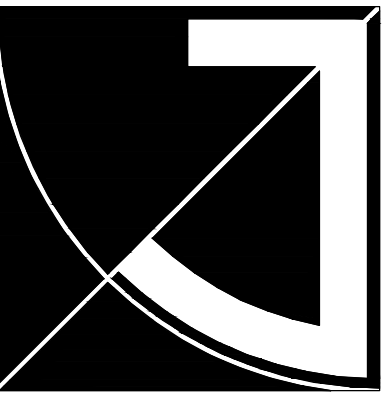
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PRCTI20231318



2ND FLOOR - RCP
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(22X34) SCALE: 1/8" = 1'-0"



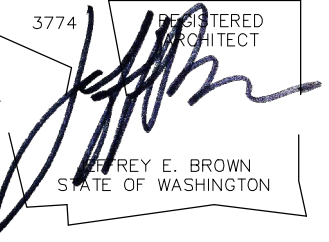


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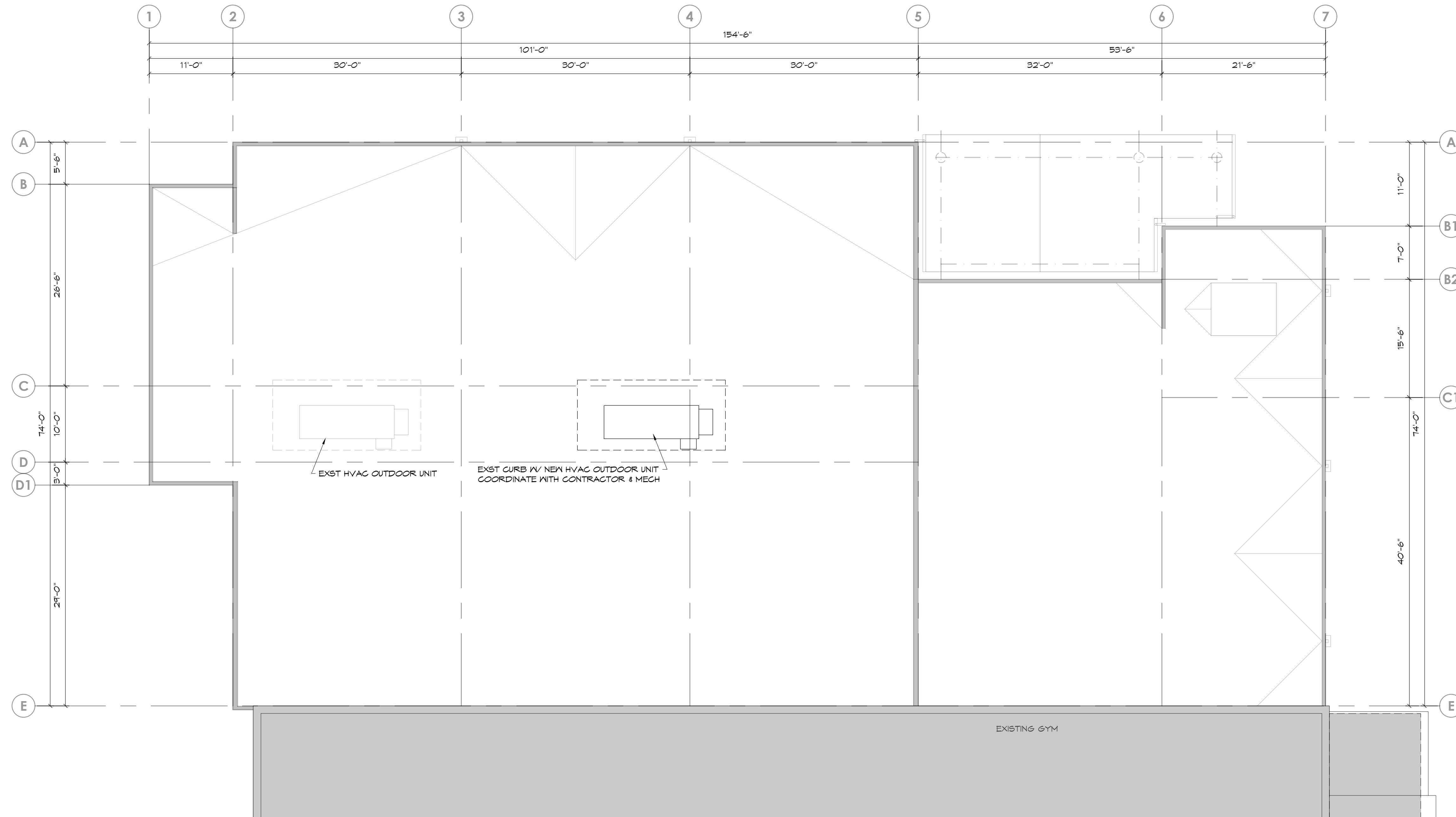
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**ROOF PLAN
EXST & NEW**

SHEET #

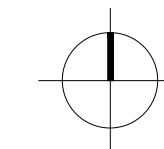
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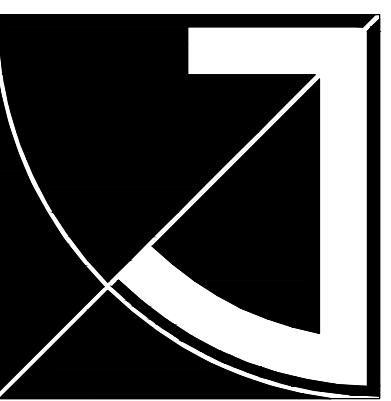
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ROOF PLAN - EXST & NEW

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(22X34) SCALE: 1/8" = 1'-0"

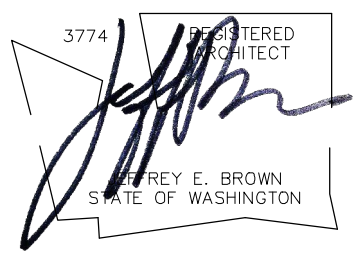




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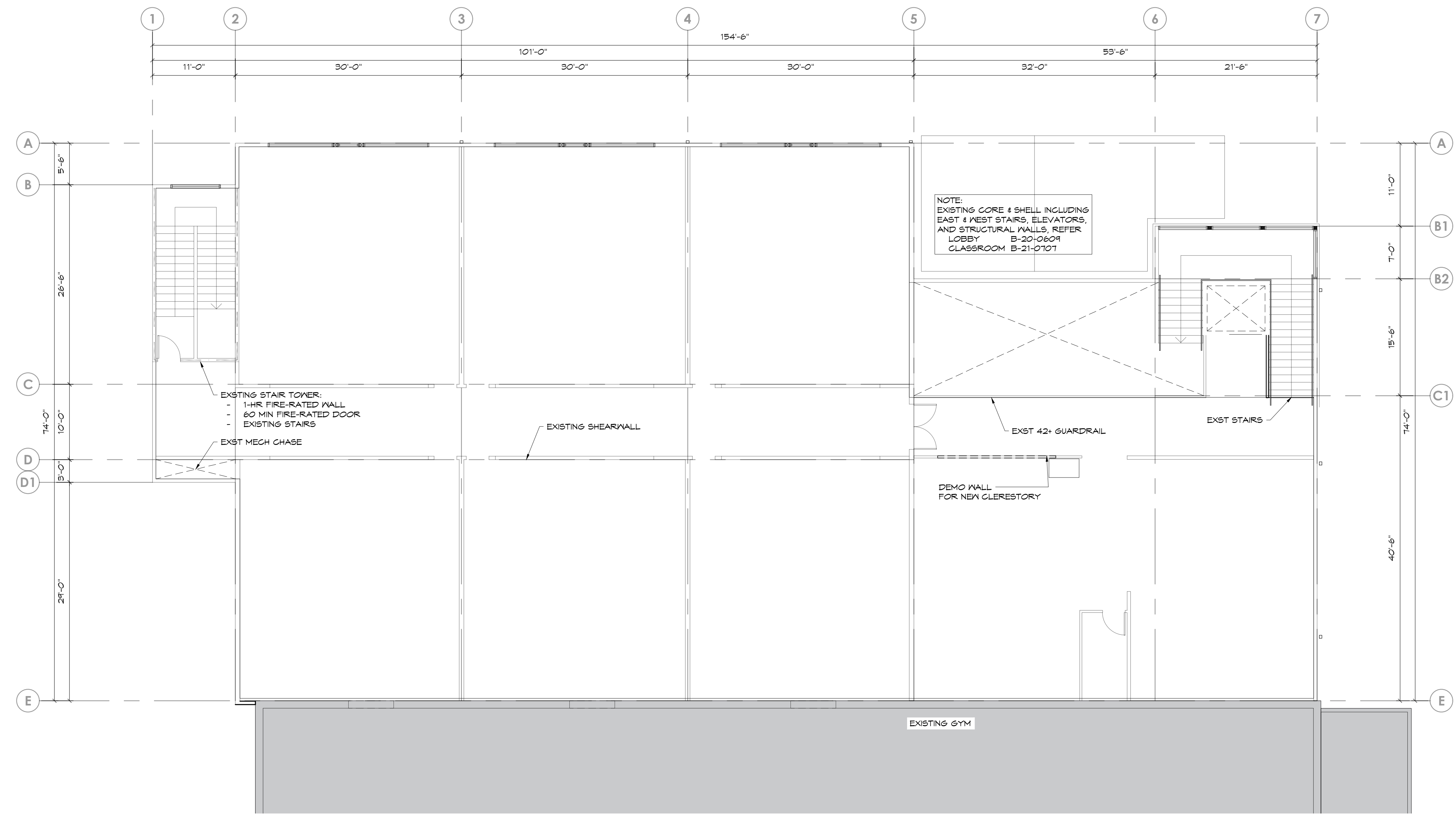
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2ND FLOOR PLAN EXST & DEMO

SHEET #

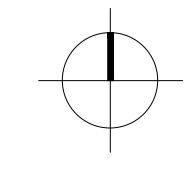
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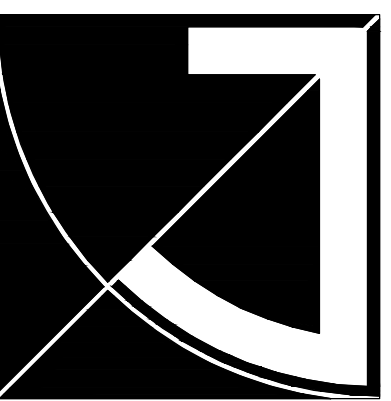
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2ND FLOOR PLAN - EXST & DEMO

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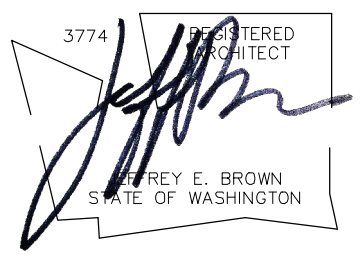




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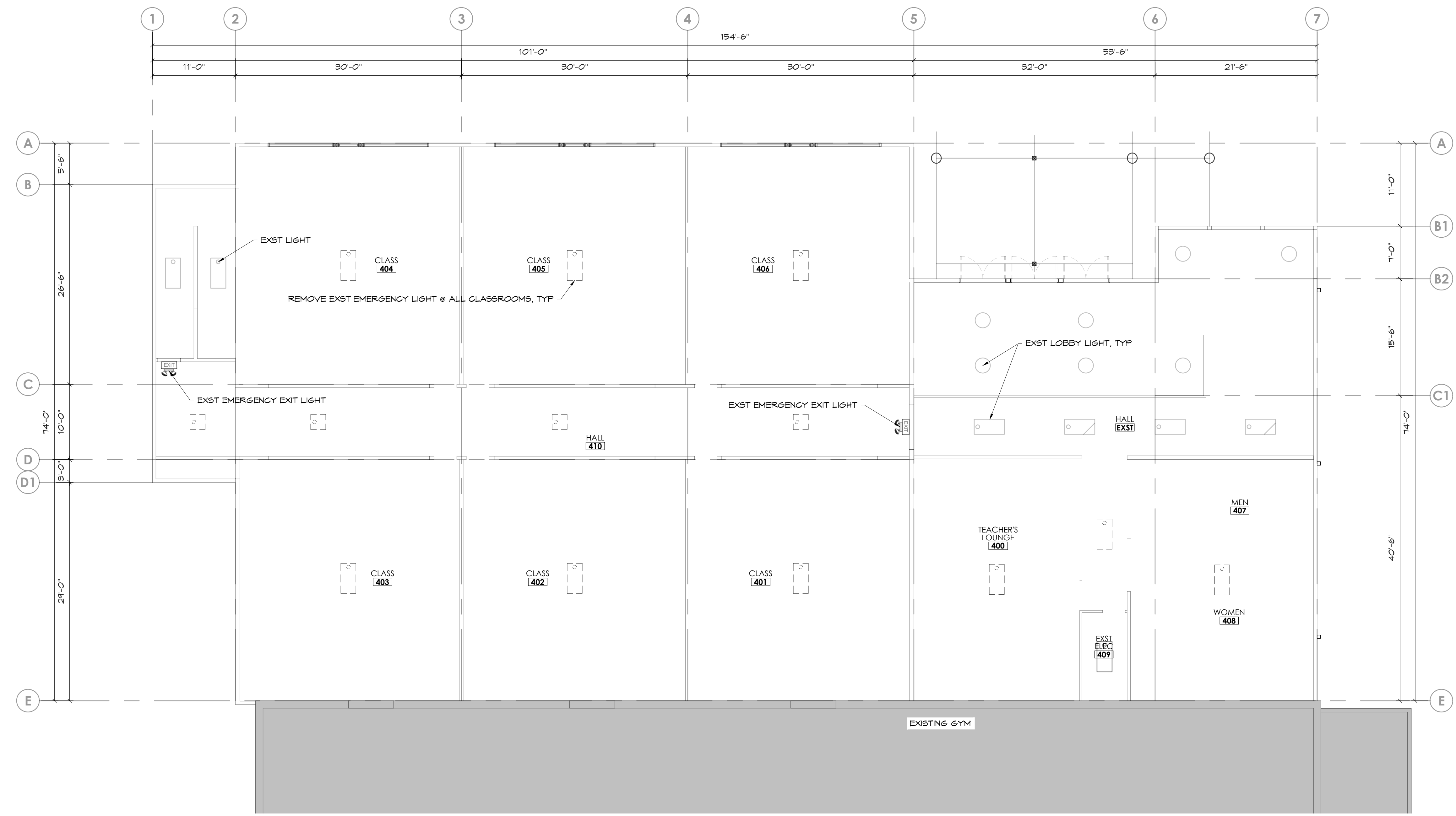
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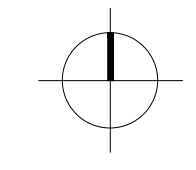
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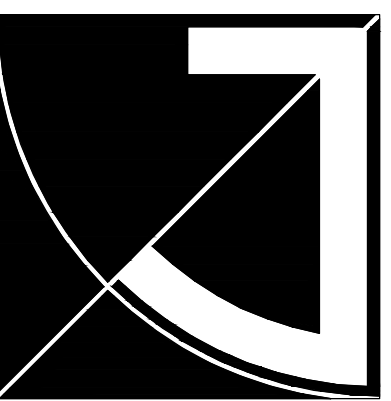
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PRCTI20231318



2ND FLOOR RCP - EXST & DEMO
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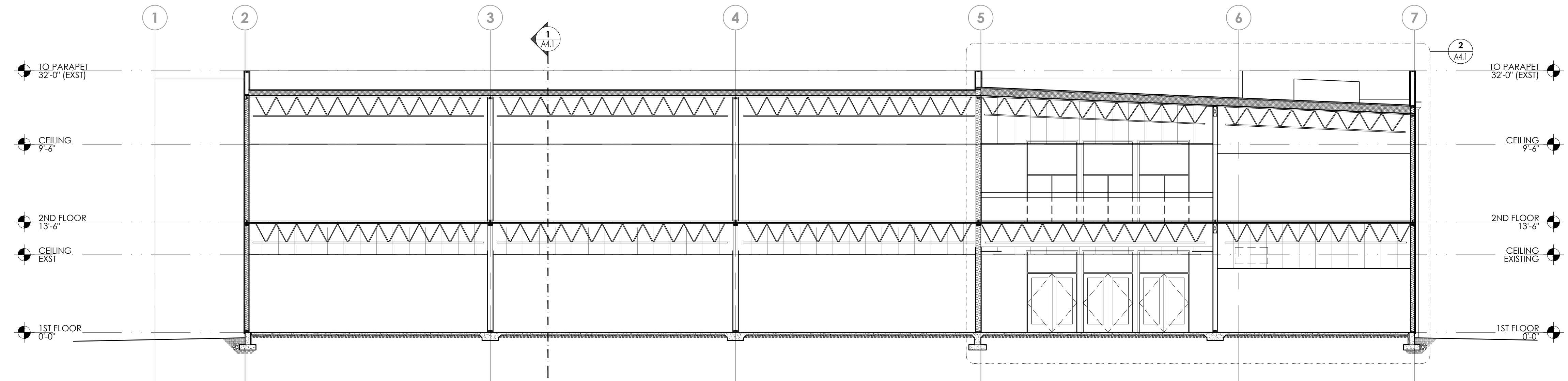
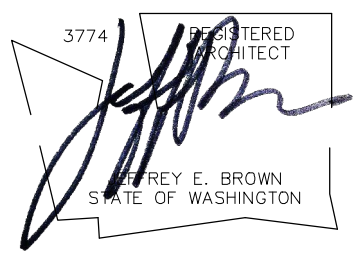




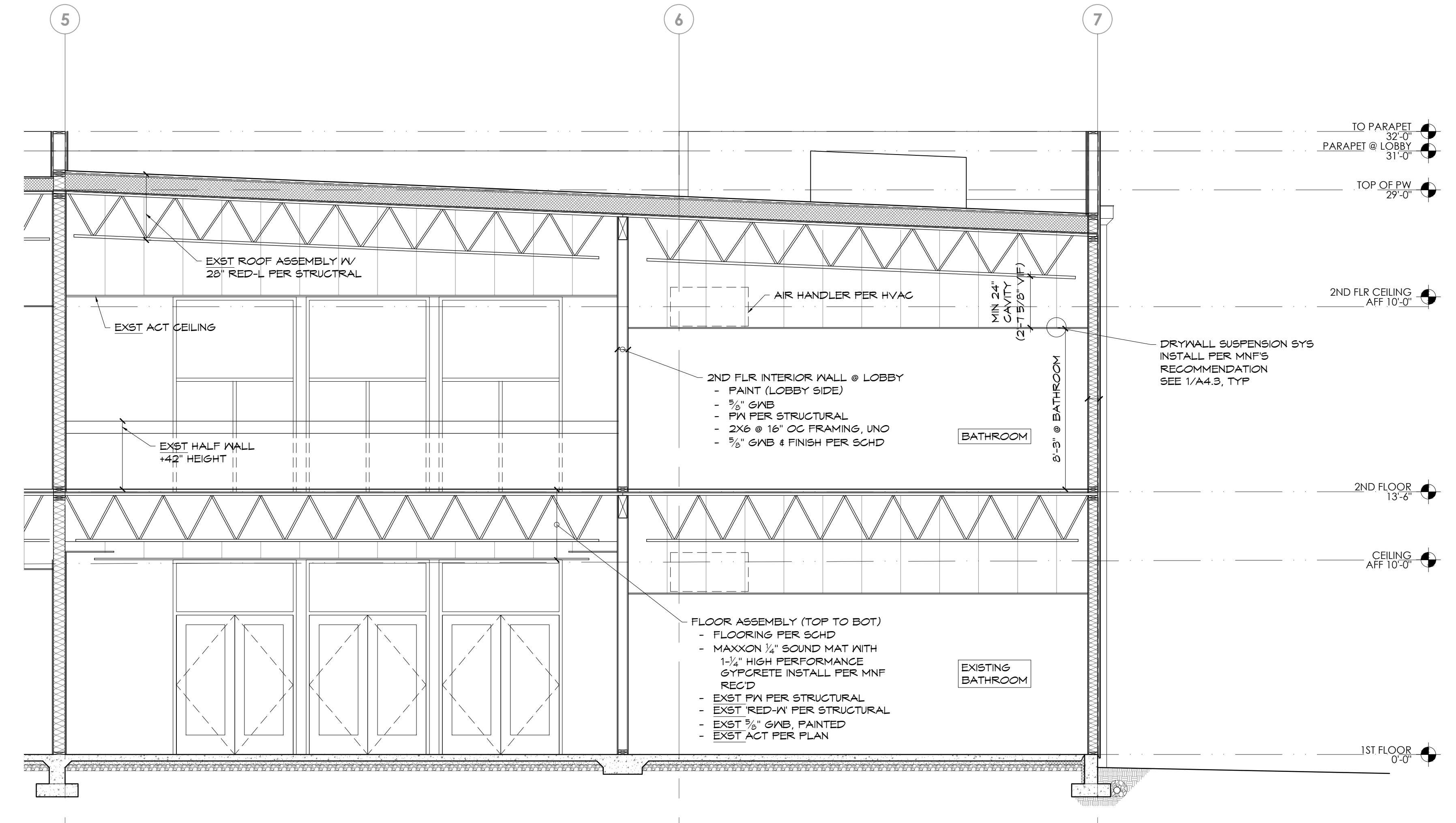
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1 SECTION-E/W
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 (22X34) SCALE: 1/8" = 1'-0"



2 SECTION-LOBBY
 (11X17) SCALE: 1/8" = 1'-0"
 (22X34) SCALE: 1/4" = 1'-0"

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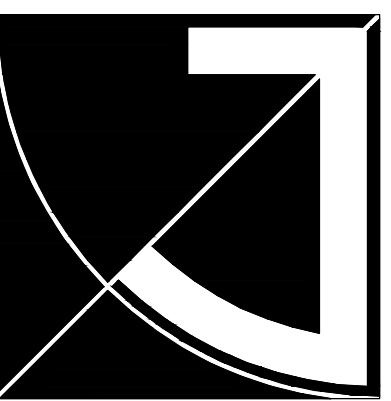
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BUILDING SECTIONS

SHEET #

A4.1

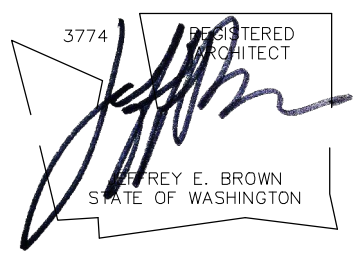
PRCT120231318



JEFF BROWN ARCHITECTURE

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PROJECT NAME/ADDRESS

**CASCADE CHRISTIAN JR. HIGH SCHOOL
PHASE 2B + 3B**
813 21ST STREET SE
PUYALLUP, WA 98372

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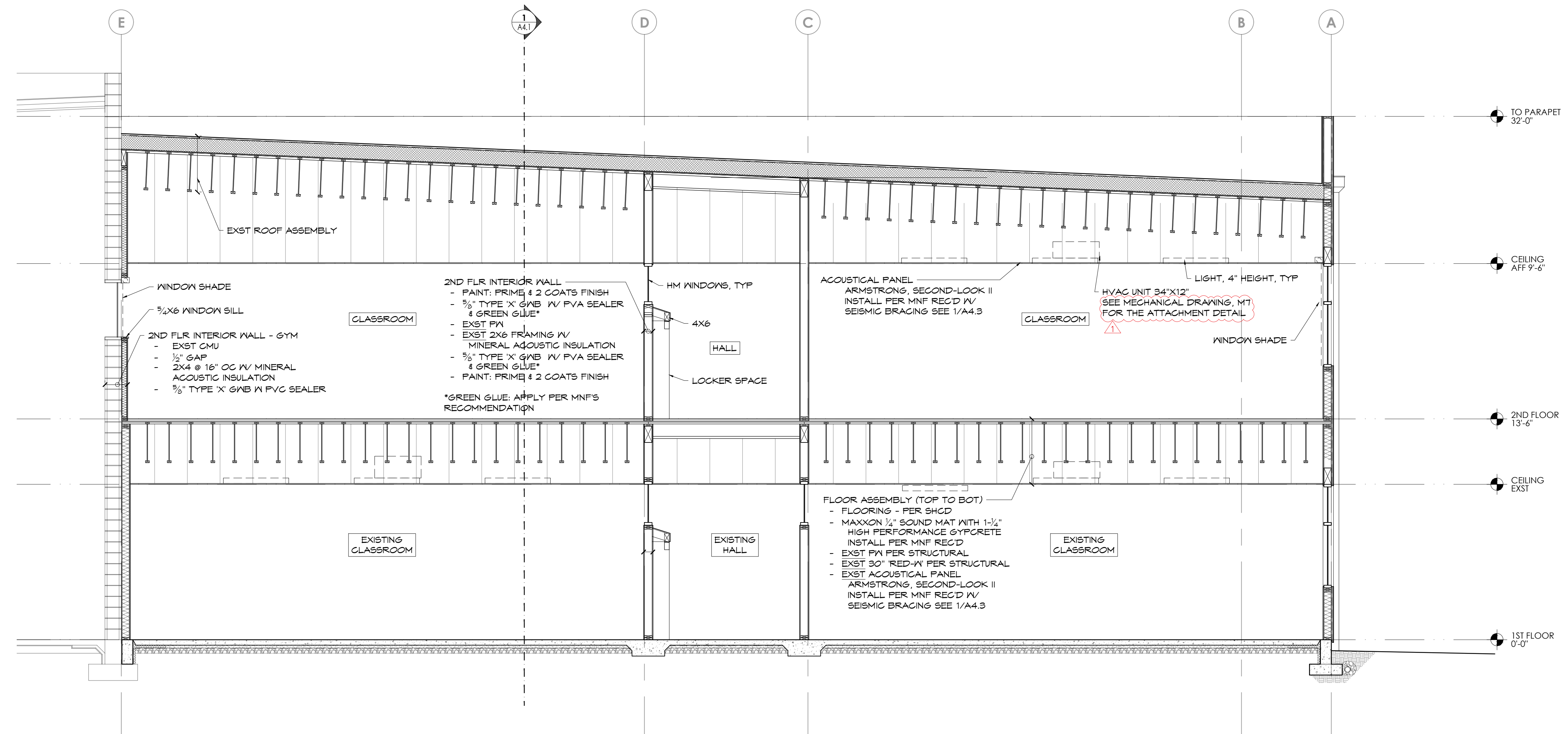
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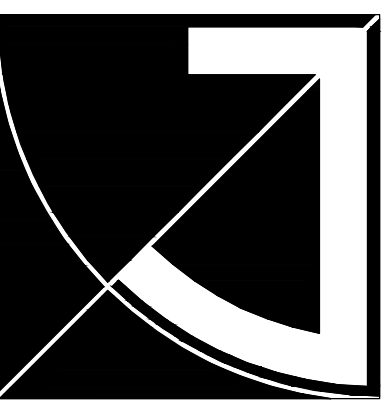
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A4.2

PRCTI20231318



1 SECTION-CLASSROOM
(11x17) SCALE: 1/8" = 1'-0"
(22x34) SCALE: 1/4" = 1'-0"

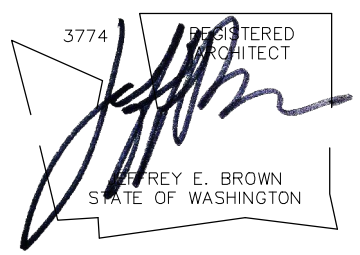


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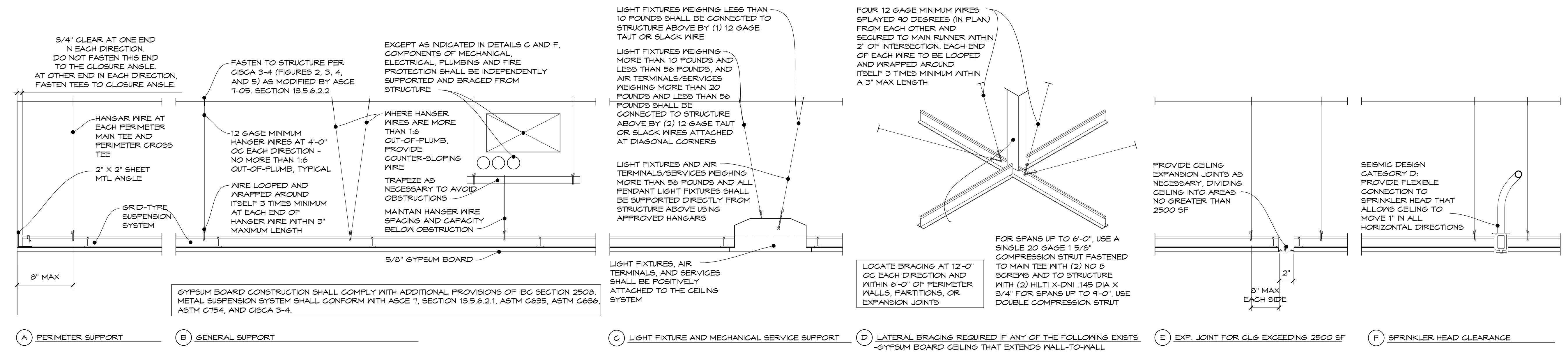
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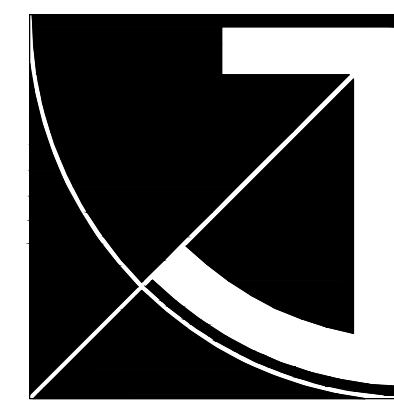
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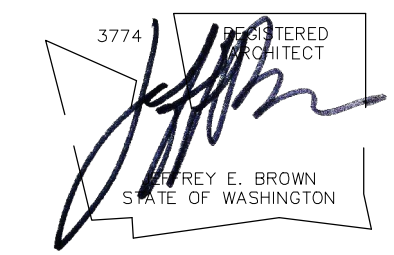
1 INSTALLATION OF SUSPENDED CEILING
 NTS



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SHEET TITLE

ENLARGED 2ND FLR PLAN-CLASSROOM

SHEET #

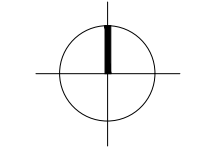
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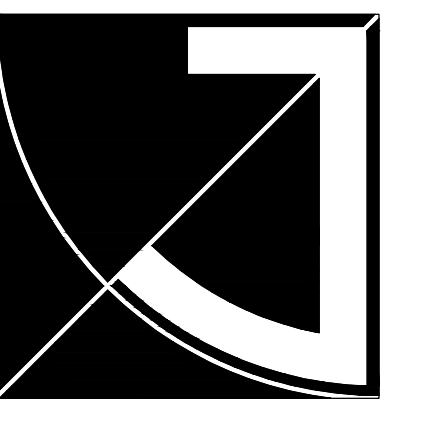
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**ENLARGED 2ND FLR PLAN
 CLASSROOM**

(11x17) SCALE: 1/8" = 1'-0"
 (22x34) SCALE: 1/4" = 1'-0"

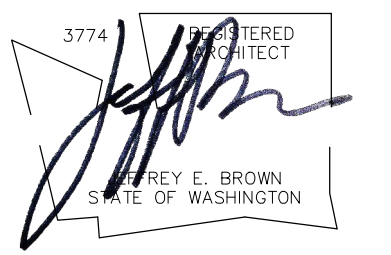




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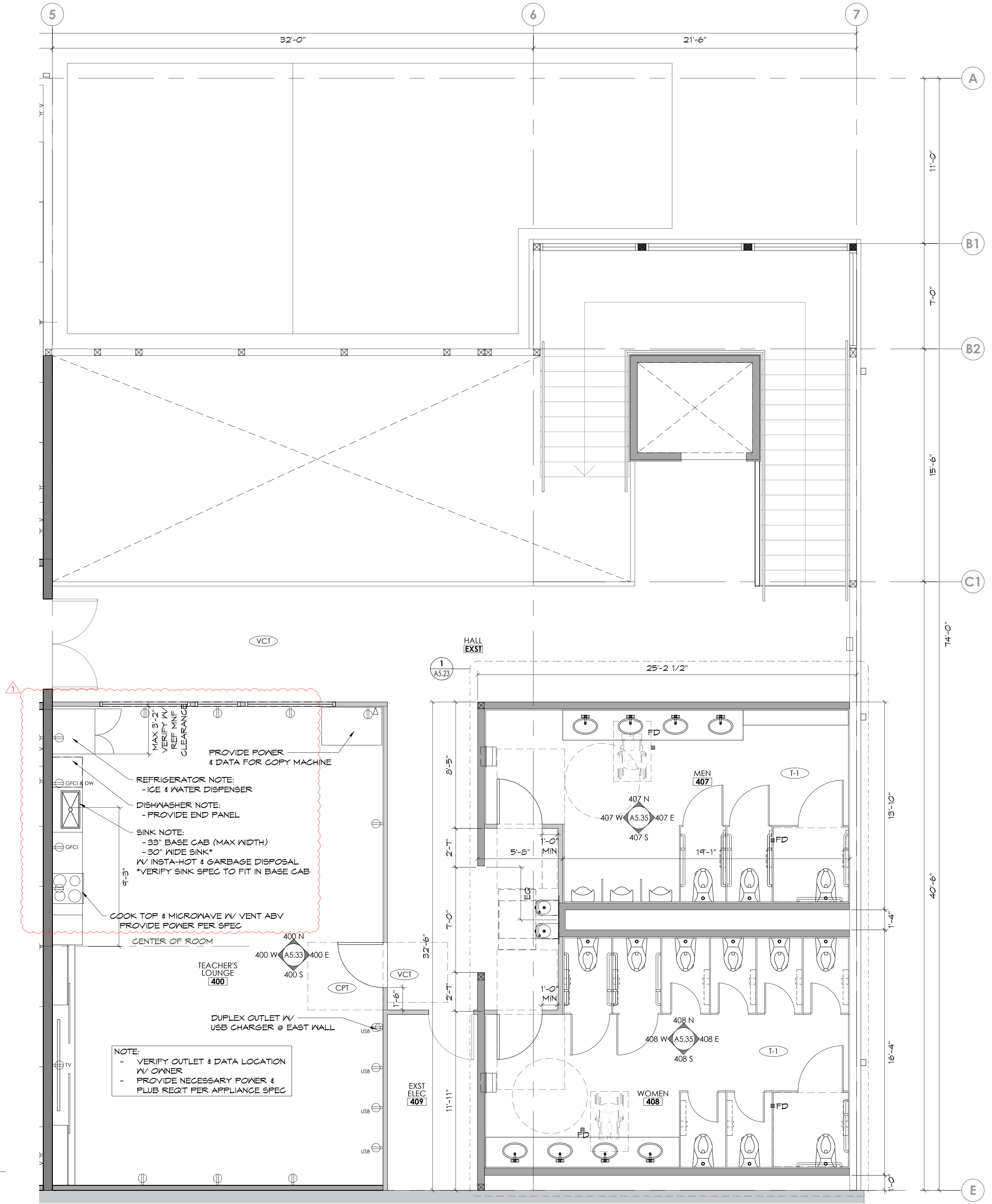
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ENLARGED 2ND FLR PLAN-LOBBY

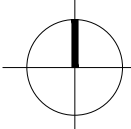
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A5.22

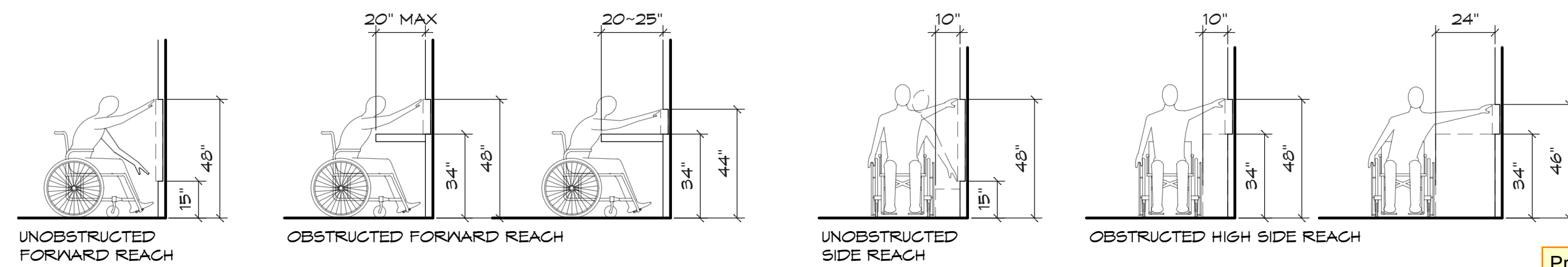
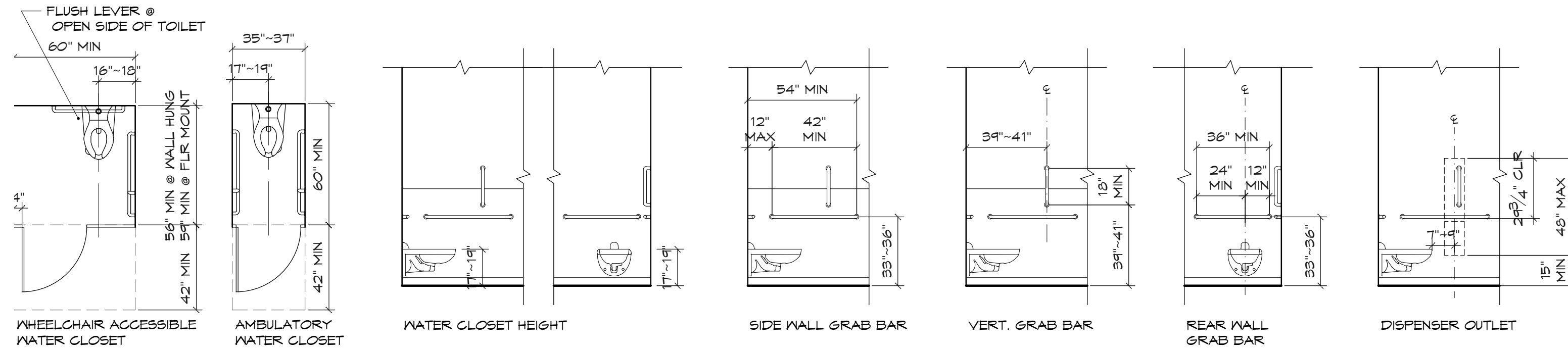
PRCTI20231318



ENLARGED 2ND FLR PLAN - LOBBY
 (11X17) SCALE: 1/8" = 1'-0"
 (22X34) SCALE: 1/4" = 1'-0"



BATHROOM ACCESSORY SCHEDULE & MOUNTING HEIGHTS



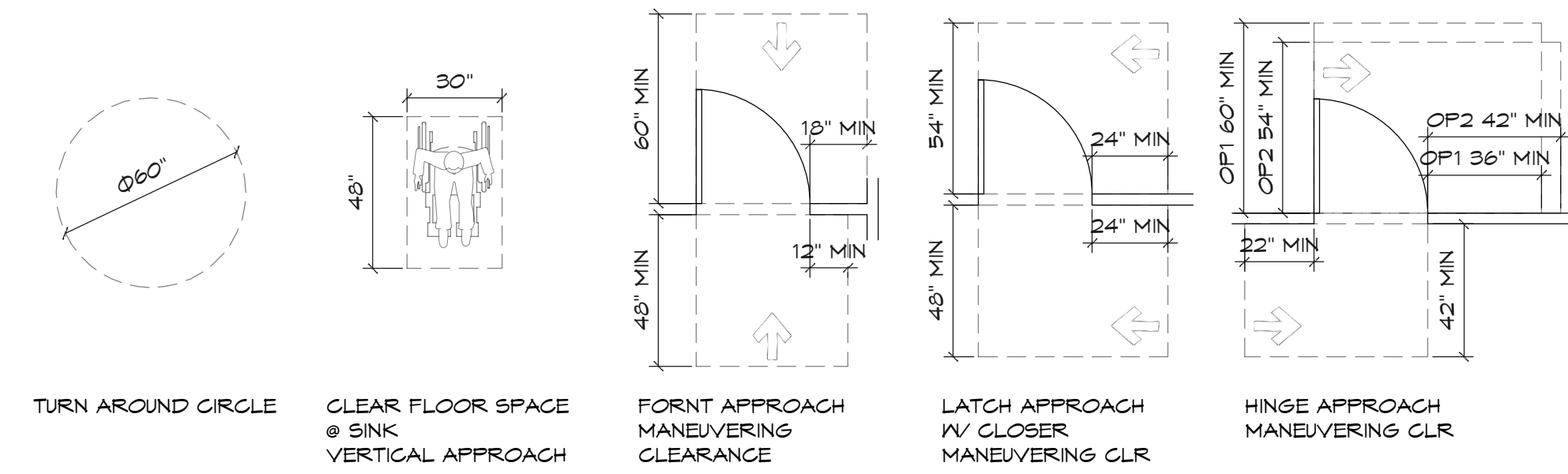
- NOTE:**
1. PROVIDE SOLID BLOCKING FOR ALL WALL MOUNTED CASEWORK, EQUIPMENT & ACCESSORIES
 2. COORDINATE LOCATIONS FOR WALL MOUNTED EQUIPMENT WITH OWNER PRIOR TO INSTALLATION
 3. GRAB BARS INSTALLATIONS SHALL RESIST A SINGLE CONCENTRATED LOAD OF 250 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT.

Provide all IBC Chapter 11 and A117.1-2009 Standards Accessibility Code requirements for reach and heights for all appliances and counter tops in teachers lounge.

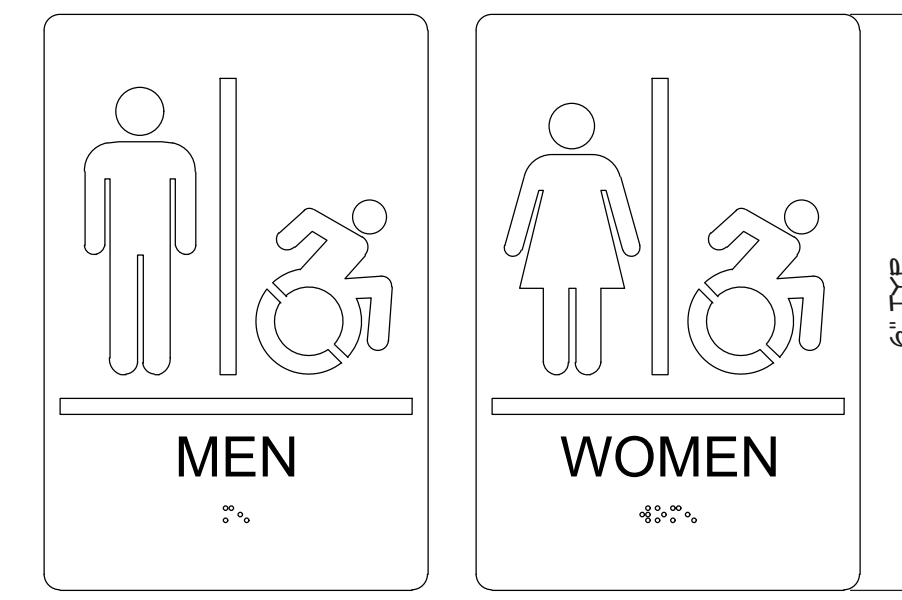
BATHROOM ACCESSORY SCHEDULE - CASCADE CHRISTIAN SCHOOL - LOBBY ADDITION						
KEY	LOCATION	DESCRIPTION	MNF	SPECIFICATION	REMARKS	
1	BOTH	PAPER TOWEL DISPENSER	BOBRICK	B-39747	AUTOMATIC	
2	BOTH	SOAP DISPENSER	MATCH W/ FAUCET MNF		AUTOMATIC; DECK MOUNT	
3	MEN'S	TOILET TISSUE DISPENSER	BOBRICK	B-221		
4	MEN'S	TOILET SEAT COVER DISPENSER	BOBRICK	B-3588		
5	WOMEN'S	TOILET TOWEL, SEAT COVER & WASTE	BOBRICK	5A: B30919 5B: B30929	TOWELS TO BE CLOSE TO THE TOILET	

2 RESTROOM ACCESSORY SCHEDULE

ACCESSIBLE SYMBOLS KEY



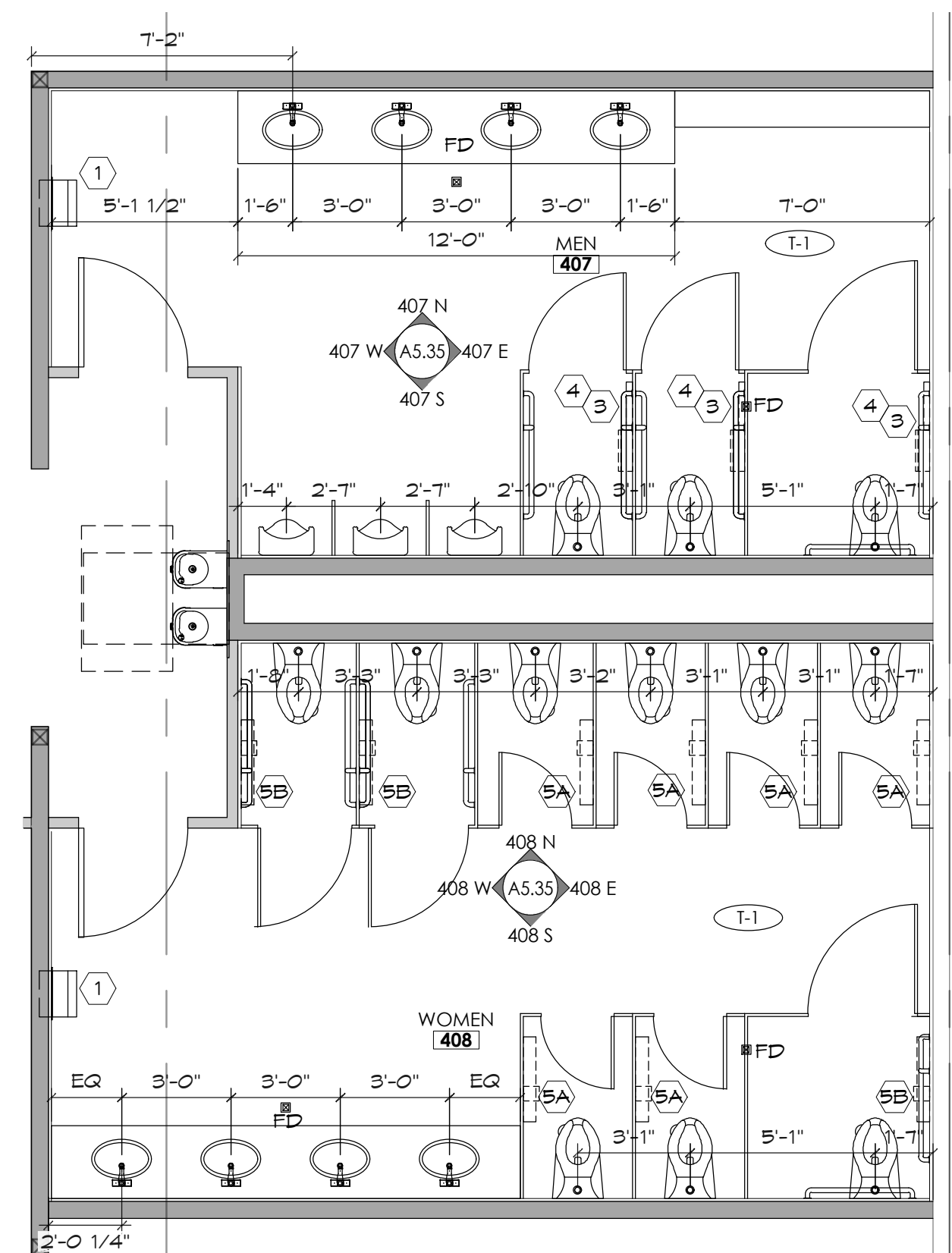
ACCESSIBLE RESTROOM SIGN



1. ALL HANDICAP ROOMS TO HAVE SIGNAGE PER ICC 1101.2.9 (ICC A117.1 SECTION 703.6.3.1) ALL INTERIOR SIGNS DEPICTING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL COMPLY WITH SECTION 706 (ICC A117.1 SECTION 703)
2. ALL ACCESSIBLE SIGNAGE DEPICTING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE WHITE ON A BLUE BACKGROUND PER 1101.2.9 IN THE WA STATE AMENDMENTS TO THE IBC
3. MOUNT ACCESSIBLE SIGNS 40" MIN AFF, MEASURED TO THE BASELINE OF THE CHARACTER PER ICC/ANSI 117.1-2009 SECTION 703.4.5

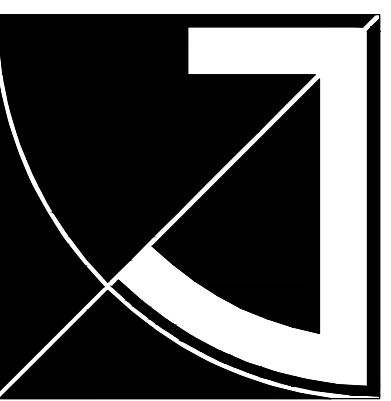
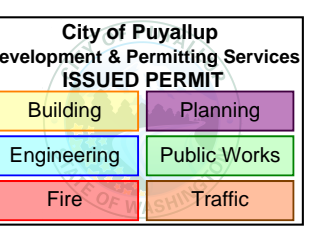
RESTROOM GENERAL NOTES:

1. TOILET ROOM PLAN & ELEVATIONS ILLUSTRATE FIXTURE CLEARANCE DIMENSIONS, MOUNTING HEIGHTS AND ACCESSORY PLACEMENT. ACTUAL LAYOUT MAY VARY. SEE FLOOR PLAN FOR CORRECTION LAYOUT.
2. LOWER EDGE OF LAVATORY TO BE 2'-3" MIN. ABOVE FINISH FLOOR FOR KNEE CLEARANCE
3. MIRROR TO BE MOUNTED 3'-4" MAX ABOVE FINISH FLOOR.
4. GRAB BARS TO BE 1-1/4" - 1-1/2" IN DIAMETER, MOUNTED 1-1/2" FROM WALL. BARS SHALL BE CAPABLE OF SUPPORTING 300 LB LIVE LOAD WITHOUT PERMANENT DEFLECTION.
5. LAVATORY RIM TO BE 34" ABOVE FINISH FLOOR.
6. FLOORS SHALL BE SMOOTH, HARD, NON-ABSORBENT SURFACE SUCH AS SHEET VINYL OR OTHER AS ACCEPTABLE BY LOCAL HEALTH AND BUILDING DEPARTMENTS. FLOORING MATERIAL MUST EXTEND ONTO THE WALL AT LEAST 6". SEE FINISH SCHEDULE FOR MORE INFORMATION.
7. DIMENSIONS, NOTES, AND EQUIPMENT TYPICAL FOR ALL TOILET ROOMS, UNLESS NOTED OTHERWISE.
8. SEE FINISH SCHEDULE ON SHEET ID## FOR RESTROOM FINISH INFORMATION.
9. TOILET ROOM FAN TO BE INTEGRALLY SWITCHED WITH TOILET LIGHT AND VENTED TO THE OUTSIDE.
10. CONCRETE OR CMU WALLS IN TOILET ROOMS SHALL BE FURRED OUT AND FINISHED SIMILAR TO ADJACENT WALLS.
11. PROVIDE PAPER TOWEL DISPENSER. UNIT TO BE MOUNTED SO THAT CONTROLS OR OPENING ARE LOCATED 40" MAX ABOVE FINISH FLOOR.
12. GYPSUM BOARD APPLIED TO PLUMBING WALLS SHOULD BE WATER-RESISTANT.
13. WATER CLOSET FLUSH VALVE TO BE ON OPEN SIDE OF TANK.
14. PROVIDE BLOCKING AS REQUIRED TO SUPPORT SINK, GRAB BARS, AND OTHER HARDWARE.
15. TOILET PAPER DISPENSERS SHALL COMPLY WITH SECTION 309.4. WHERE THE DISPENSER IS LOCATED ABOVE THE GRAB BAR, THE OUTLET OF THE DISPENSER SHALL BE LOCATED WITHIN AN AREA 24" MIN AND 42" MAX FROM THE REAR WALL. THE OUTLET OF THE DISPENSER SHALL BE LOCATED 18" MIN AND 48" MAX ABOVE THE FLOOR. DISPENSERS SHALL COMPLY WITH SECTION 609.3. DISPENSERS SHALL NOT BE OF A TYPE THAT CONTROL DELIVERY, OR DO NOT ALLOW CONTINUOUS PAPER FLOW.
16. OUTLET SHALL BE 15" MIN AND 48" MAX ABOVE FINISH FLOOR. THERE SHALL BE 1-1/2" MIN CLEARANCE BELOW AND 12" MIN ABOVE THE GRAB BAR.
17. OTHER DISPENSERS AND DISPOSAL FIXTURES SHALL BE LOCATED 40" MAX ABOVE FINISH FLOOR, MEASURED TO ANY RACK, OPERATING CONTROL, RECEPTACLE OR DISPENSER.
18. WALL WITHIN 2 FEET OF URINALS AND WATER CLOSETS SHALL HAVE A SMOOTH, HARD, NON-ABSORBENT SURFACE TO A HEIGHT OF 4'-0" ABOVE FINISH FLOOR.



1 RESTROOM PLAN

(11X17) SCALE: 1/8" = 1'-0"
(22X34) SCALE: 1/4" = 1'-0"

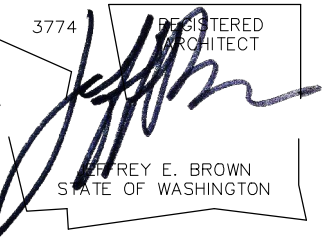


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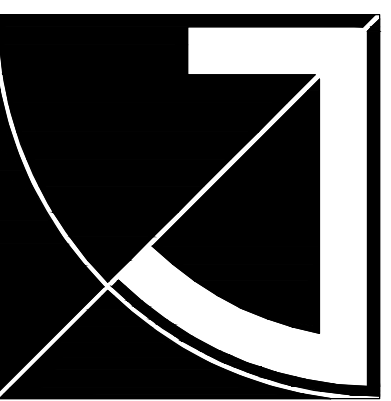
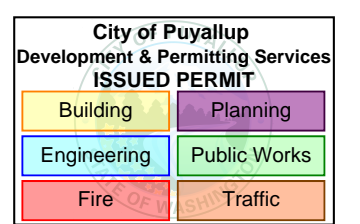
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BATHROOM NOTES

SHEET #

A5.23

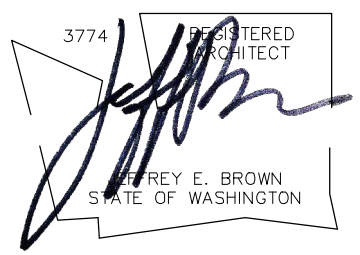
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INTERIOR FINISH SCHD & RXR

SHEET #

A5.24

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SYMBOL	ITEM	DESCRIPTION	LOCATION
ACOUSTIC CEILING TILE			
ACT-1	ACOUSTIC CEILING TILE	MANUFACTURER: ARMSTRONG SYSTEM: SECOND-LOCK II COLOR: WHITE SIZE: 24"x48"	THROUGHOUT, UNO
BASE			
B-1	BASE- 1" PAINTED MDF	FINISH: P-1 (SEE PAINT SCHEDULE) HEIGHT: 6"	LOBBY
B-2	BASE- RUBBER	SUPPLIER: ROPPE SERIES: COLOR: TBD HEIGHT: 6"	
B-3	BASE- RUBBER @ STAIRS	SUPPLIER: ROPPE COLOR: TBD HEIGHT: 6"	WEST STAIRS
GROUT			
GR-1	GROUT - EPOXY	GROUT MANUFACTURER: CUSTOM BUILDING PRODUCTS GROUT COLOR: (LIGHTER COLOR FOR WALL, T-1 & T-2)	RESTROOM WALL
GR-2	GROUT - EPOXY	GROUT MANUFACTURER: CUSTOM BUILDING PRODUCTS GROUT COLOR: (DARKER COLOR FOR FLOOR, T-3)	RESTROOM FLOOR
CARPET			
CPT-1	CARPET TILE	MANUFACTURER: SERIES:	FIELD
CPT-2	CARPET TILE	MANUFACTURER: SERIES:	ACCENT
PAINT			
P-1	PAINT	MANUFACTURER: SHERWIN WILLIAMS SYSTEM: COLOR: FINISH: LOW GLOSS-EG SHELL	WALLS AND CEILING THROUGHOUT, TYP. UNO
P-2	PAINT	MANUFACTURER: SHERWIN WILLIAMS SYSTEM: COLOR: FINISH: SEMI-GLOSS	BATHROOM
P-3	PAINT	MANUFACTURER: SHERWIN WILLIAMS SYSTEM: COLOR: FINISH: SEMI-GLOSS	DOOR FRAME
P-4	PAINT	MANUFACTURER: SHERWIN WILLIAMS SYSTEM: COLOR: FINISH: LOW GLOSS-EGSHELL	ACCENT PAINT 1
P-5	PAINT	MANUFACTURER: SHERWIN WILLIAMS SYSTEM: COLOR: FINISH: LOW GLOSS-EGSHELL	ACCENT PAINT 2

PLASTIC LAMINATE			
PLM-1	PLASTIC LAMINATE	MANUFACTURER: WILSON ART COLOR: FINISH:	CABINET (WHITE MAPLE)
PLM-2	PLASTIC LAMINATE	MANUFACTURER: WILSON ART COLOR: FINISH:	CABINET COUNTERTOP & BACKSPLASH
PLM-3	PLASTIC LAMINATE	MANUFACTURER: WILSON ART COLOR: FINISH:	RESTROOM PARTITION
PLM-4	PLASTIC LAMINATE	MANUFACTURER: WILSON ART COLOR: FINISH:	DOOR, TYP. UNO RIFT CUT WHITE WASHED MAPLE
ROLLER SHADE			
RS-1	ROLLER SHADE	MANUFACTURER: COLOR: OPENESS:	CLASSROOMS
RUBBER			
R-1	RUBBER TREAD	MANUFACTURER: ROBBY COLOR:	WEST STAIRS
SOLID SURFACE			
SS-1	SOLID SURFACE	SUPPLIER: MATERIAL: SEALER: COLOR: THICKNESS: 2CM	BATHROOM VANITY
TILE			
T-1	TILE - WALL	SUPPLIER: DELTILE SERIES: ARTICULO COLOR: COLUMN GREY AR09 SIZE: 12"x24" GROUT COLOR: GR-1	RESTROOM FIELD TILE SCHLUTER-JOLLY@ TILE TO GWB
T-2	TILE - BASE	TILE MANUFACTURER: SERIES: COLOR: SIZE: 10"x24" GROUT COLOR: GR-2	RESTROOM BASE TILE (EITHER CUT OR PROVIDE 10"x24") DILEX-AHK SCHLUTER - FINISHEHD BRUSEHD NICKEL
T-3	TILE-FLOOR	SUPPLIER: SERIES: COLOR: SIZE: 48"x48" GROUT COLOR: GR-2	RESTROOM FLOOR TILE
VYNAL			
VCT-1	VYNAL CARPET TILE	MANUFACTURER: SYSTEM: COLOR: SIZE: 24"x24"	FIELD (MIMIC CONC. FLR)
VCT-2	VYNAL CARPET TILE	MANUFACTURER: SYSTEM: COLOR: SIZE: 24"x24"	ACCENT

1 MATERIAL LIST

RM #	ROOM NAME	MATERIAL						
		FLOOR	BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL	CEILING
	HALL (EXST @ LOBBY)	VCT	B-1	GW/B/P-1 W/ GUARDRAIL	GW/B/P-1	GW/B/P-1	GW/B/P-1	EXISTING
400	TEACHER'S LOUNGE	CPT	B-2	GW/B/P-1	GW/B/P-1	GW/B/P-1	CASEWORK GW/B/P-1	ACT-1
401	CLASSROOM	CPT	B-2	GW/B/P-1	CASEWORK GW/B/P-1	GW/B/P-1 W/ RS-1	GW/B/P-4	ACT-1
402	CLASSROOM	CPT	B-2	GW/B/P-1	CASEWORK GW/B/P-1	GW/B/P-1 W/ RS-1	GW/B/P-4	ACT-1
403	CLASSROOM	CPT	B-2	GW/B/P-1	GW/B/P-4	GW/B/P-1 W/ RS-1	CASEWORK GW/B/P-1	ACT-1
404	CLASSROOM	CPT	B-2	GW/B/P-1 W/ RS-1	GW/B/P-4	GW/B/P-1	CASEWORK GW/B/P-1	ACT-1
405	CLASSROOM	CPT	B-2	GW/B/P-1 W/ RS-1	CASEWORK GW/B/P-1	GW/B/P-1	GW/B/P-4	ACT-1
406	CLASSROOM	CPT	B-2	GW/B/P-1 W/ RS-1	CASEWORK GW/B/P-1	GW/B/P-1	GW/B/P-4	ACT-1
407	MEN'S RESTROOM	T-3	T-2	T-1	T-1, P-2	T-1, P-2	T-1, P-2	GW/B/P-1
408	WOMEN'S RESTROOM	T-3	T-2	T-1, P-2	T-1, P-2	T-1, P-2	T-1, P-2	GW/B/P-1
	ALCOVE @ RESTRM	VCT	B-1	GW/B/P-1	GW/B/P-1	GW/B/P-1	T-2, P-2	ACT-1
409	EXST ELEC ROOM	VCT	B-2	GW/B/P-1	GW/B/P-1	GW/B/P-1	GW/B/P-1	ACT-1
410	HALL	VCT	B-2	GW/B/P-1	GW/B/P-1	GW/B/P-1 & LOCKER	GW/B/P-1	ACT-1
	W. STAIRS (EXST)	VCT/ R-1 @ TREAD	B-3	GW/B/P-1	GW/B/P-1	GW/B/P-1	GW/B/P-1	ACT-1

2 ROOM BY ROOM MATRIX

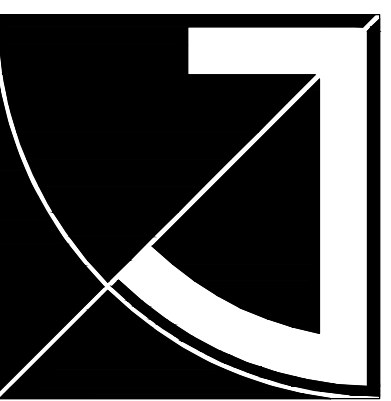
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INTERIOR FINISH SCHD & RXR

SHEET #

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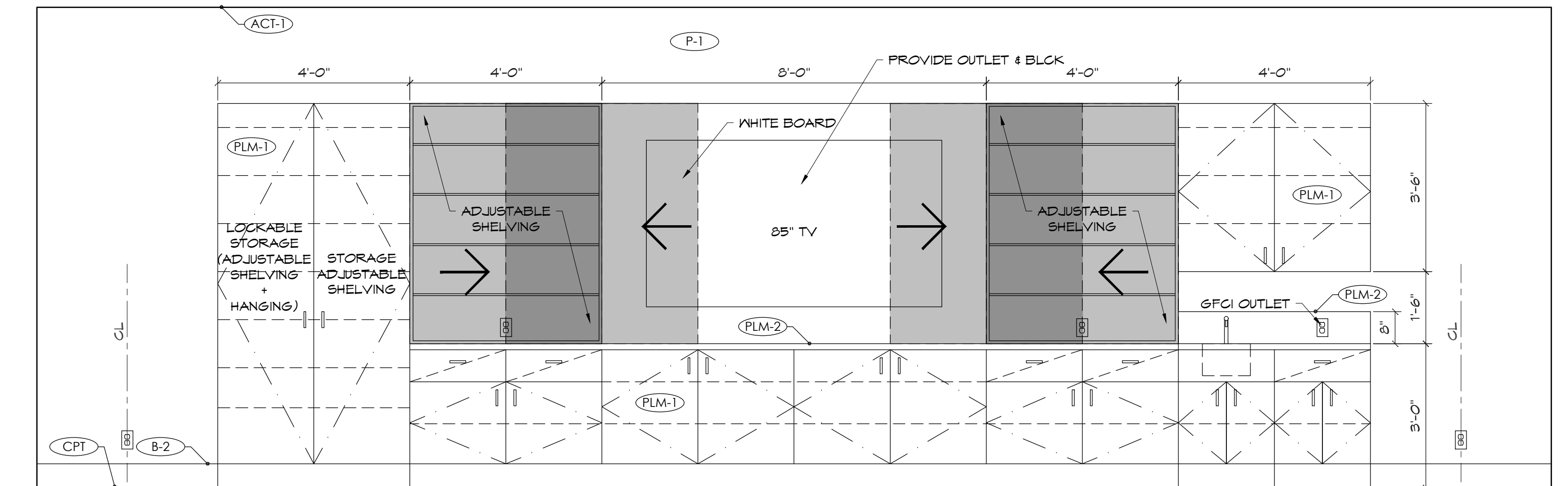
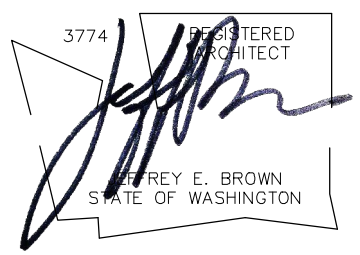
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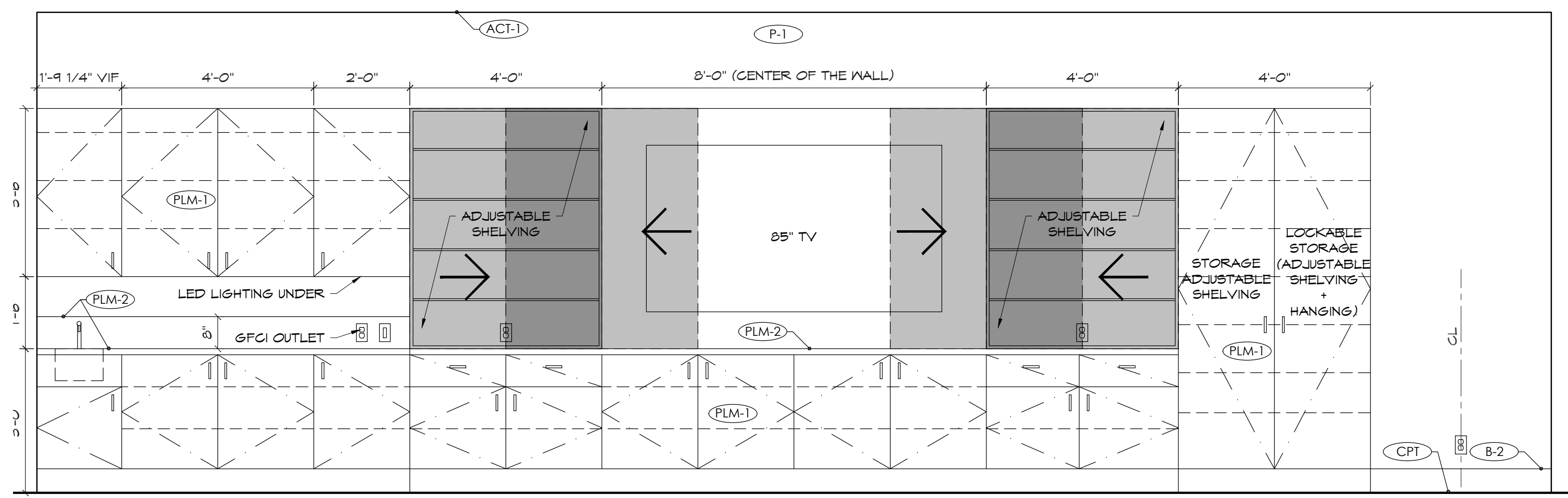
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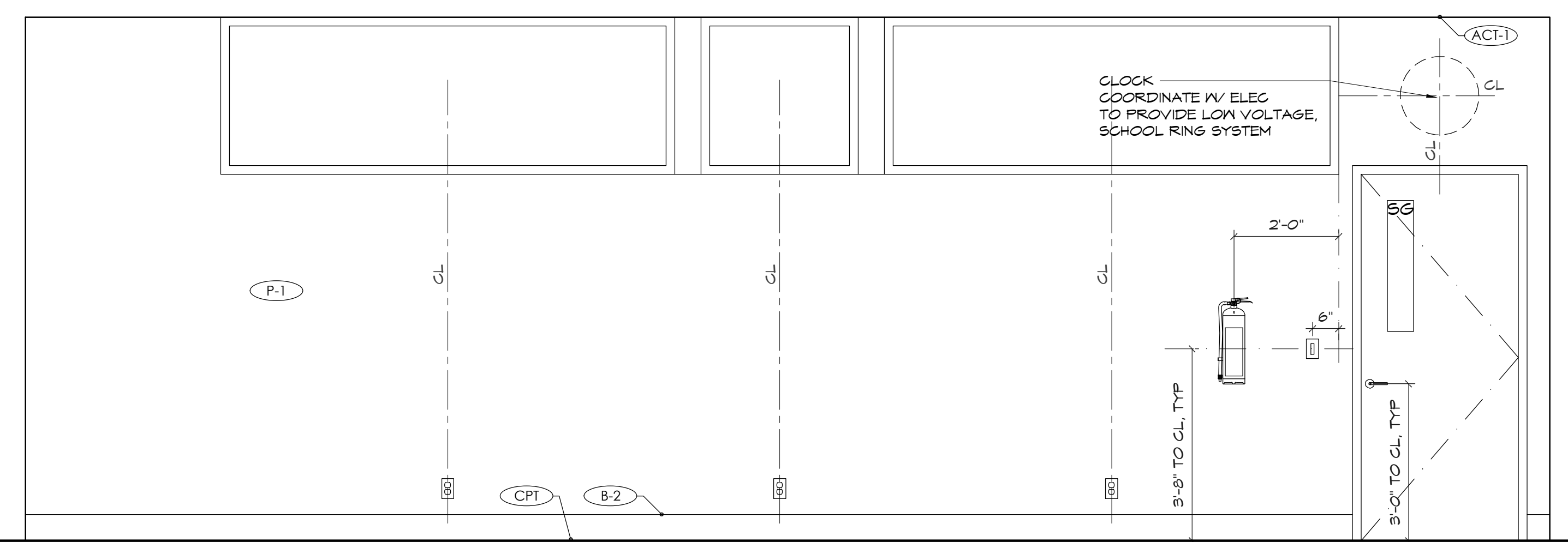
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401 E CLASSROOM - CABINET WALL
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



404 E CLASSROOM - CABINET WALL
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



401 N CLASSROOM - DOOR
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"

PROJECT NAME/ADDRESS

**CASCADE CHRISTIAN JR. HIGH SCHOOL
 PHASE 2B + 3B**
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DATE	ISSUE	NO.
08.22.23		
10.25.23	REVISION-CITY	

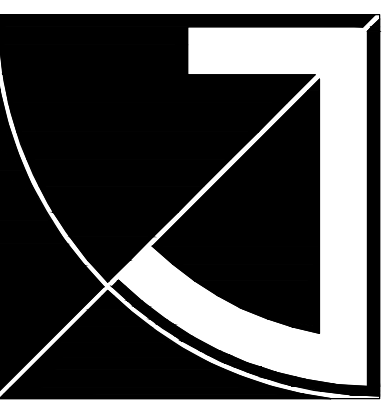
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INT. ELEV CLASSROOM

SHEET #

A5.31

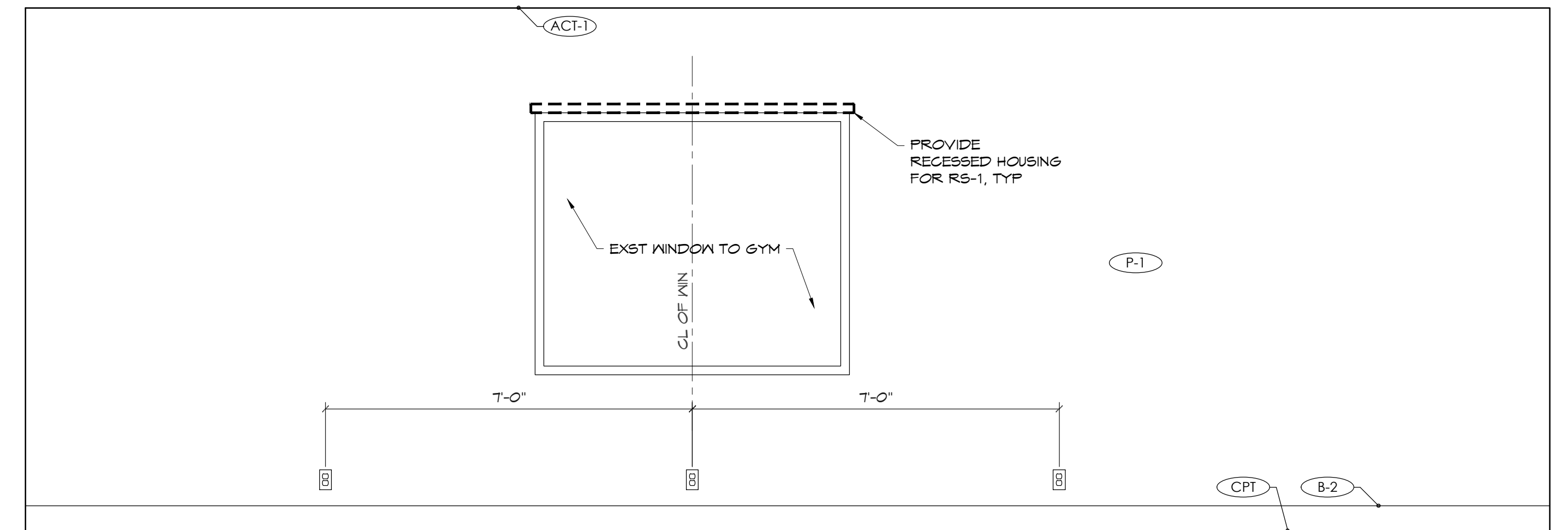
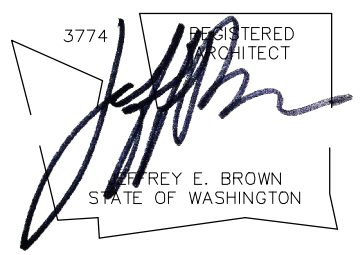
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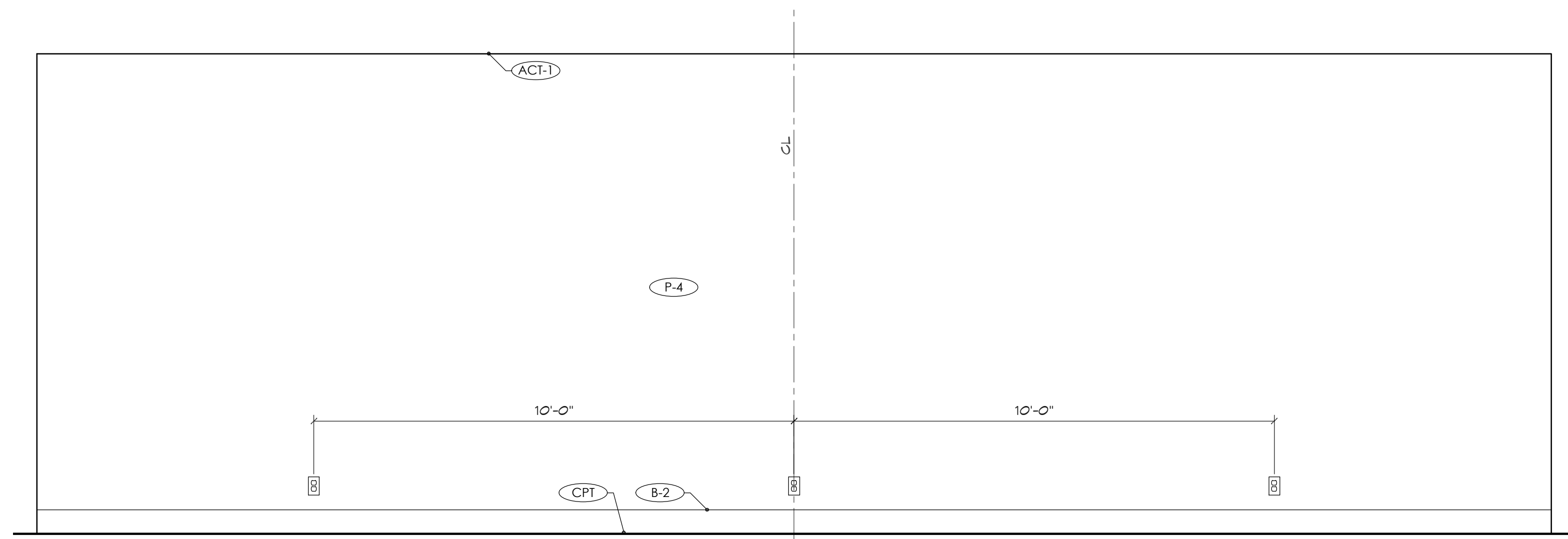
JEFF BROWN ARCHITECTURE

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 12181 C STREET SOUTH
 TACOMA, WA 98444

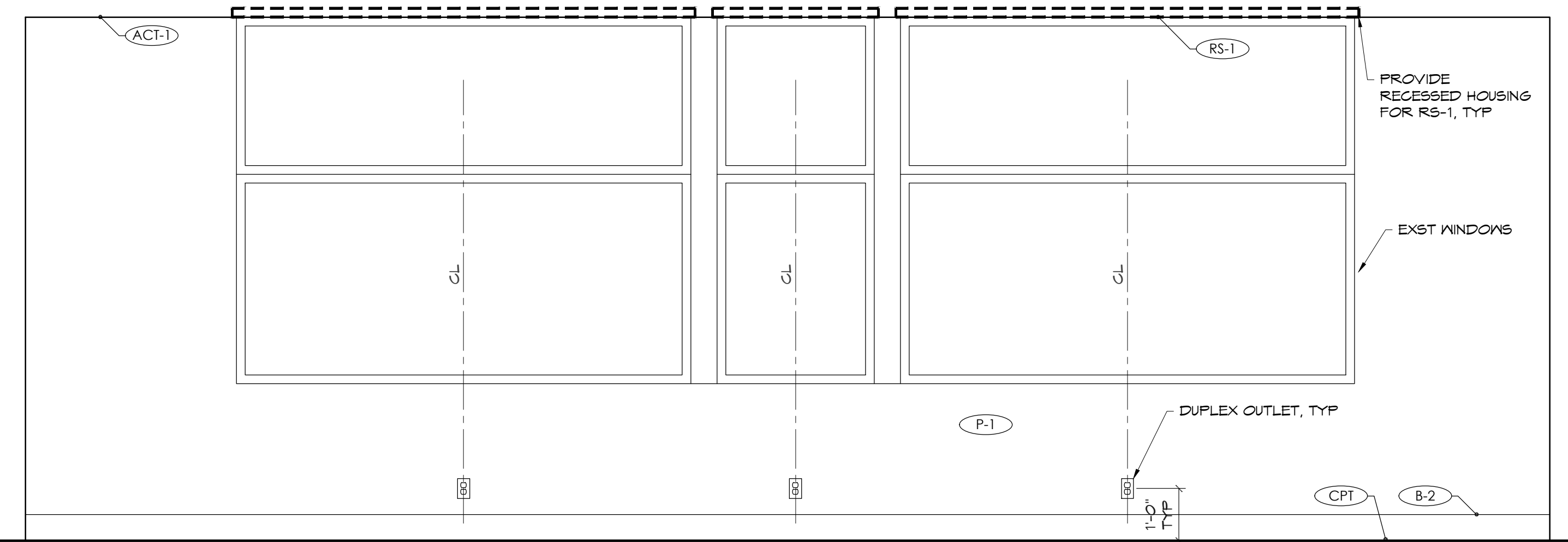
PROJECT LEAD
 JEFFREY E. BROWN
 253.606.8324
 jeff@jeffbrownarchitecture.com



401S CLASSROOM - GYM SIDE
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



401 W CLASSROOM - ACCENT PAINT WALL
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



404 N CLASSROOM - EXT. WINDOW
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"

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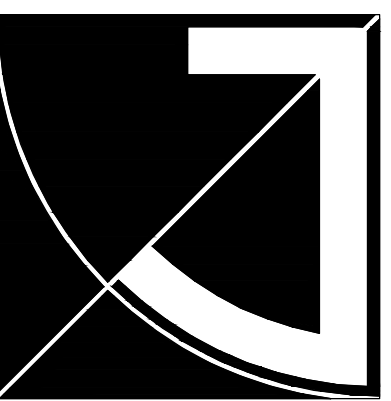
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INT. ELEV CLASSROOM

SHEET #

A5.32

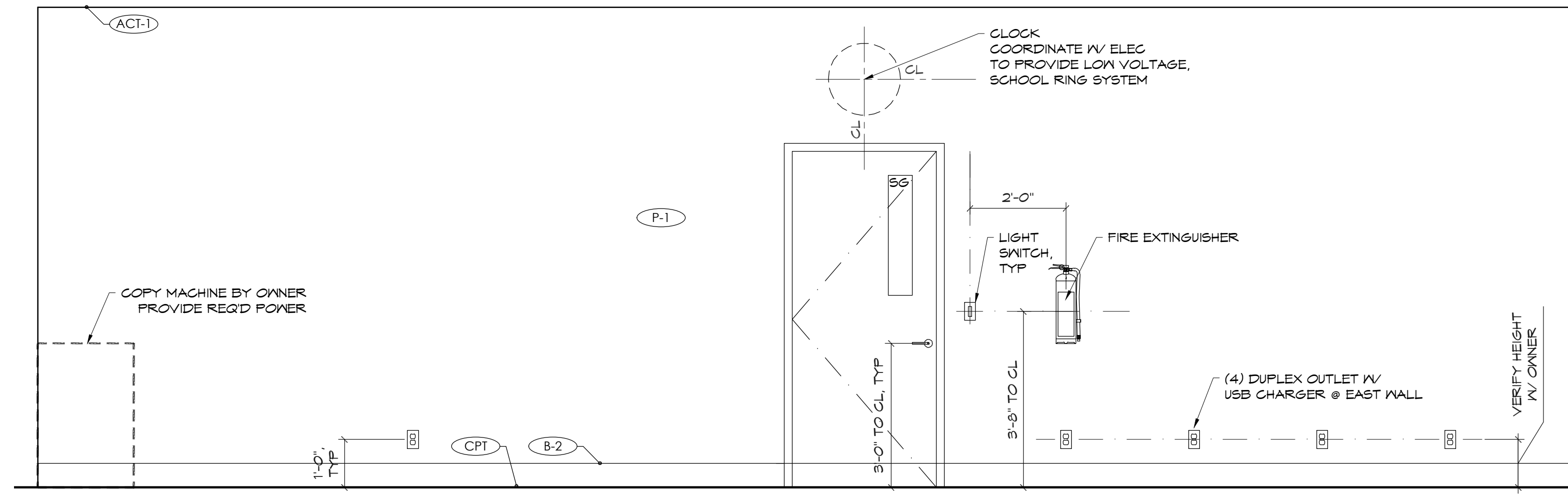
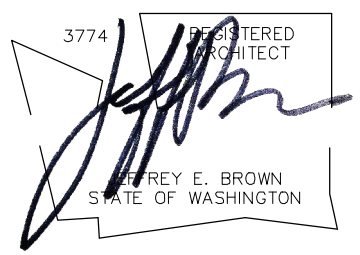
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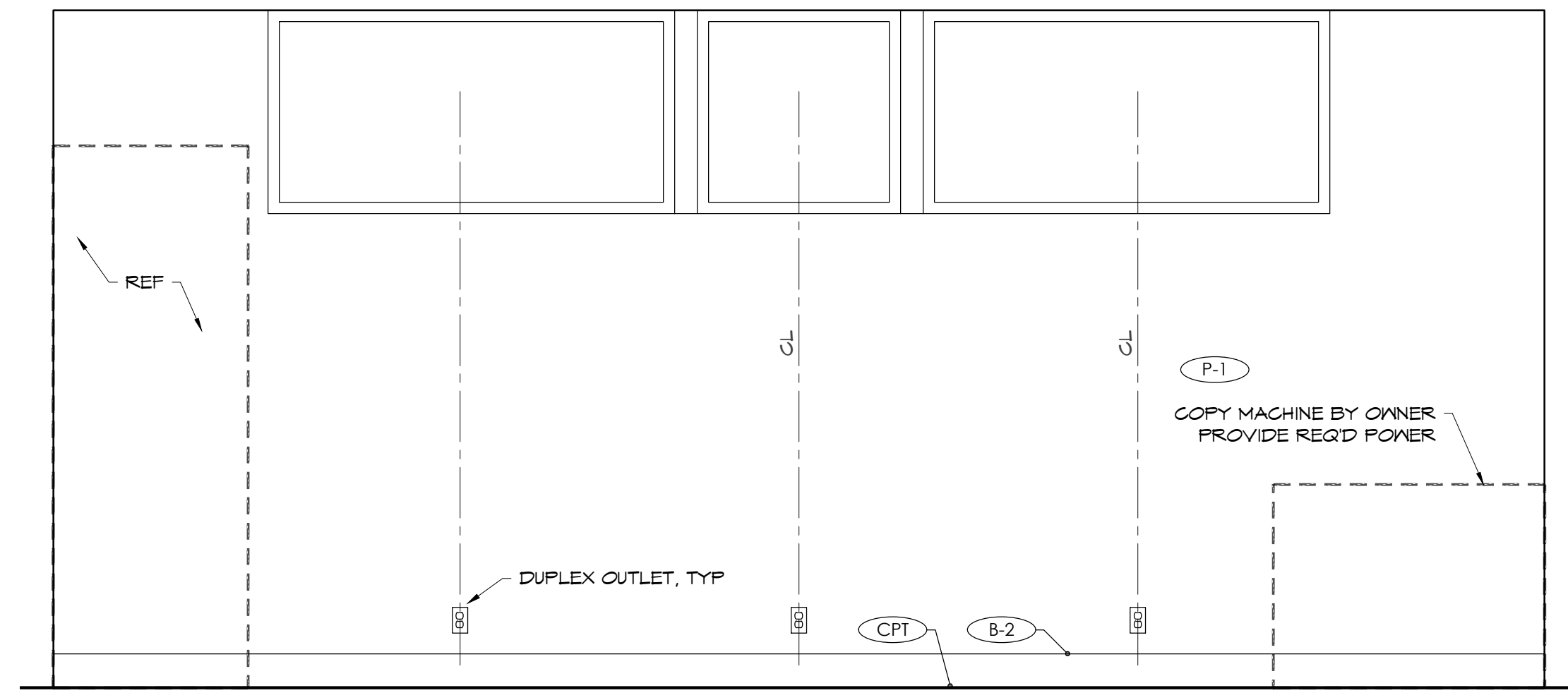
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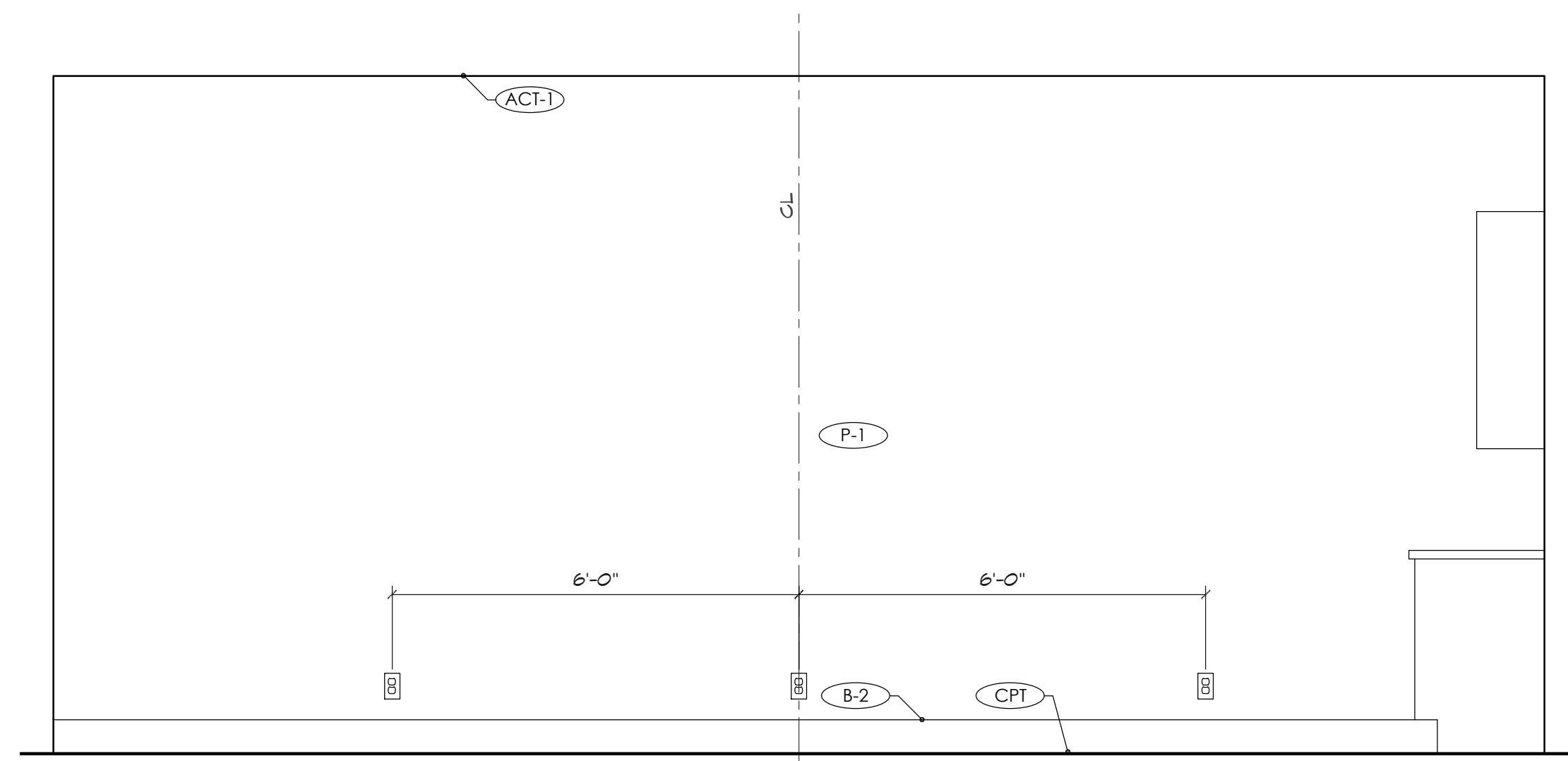
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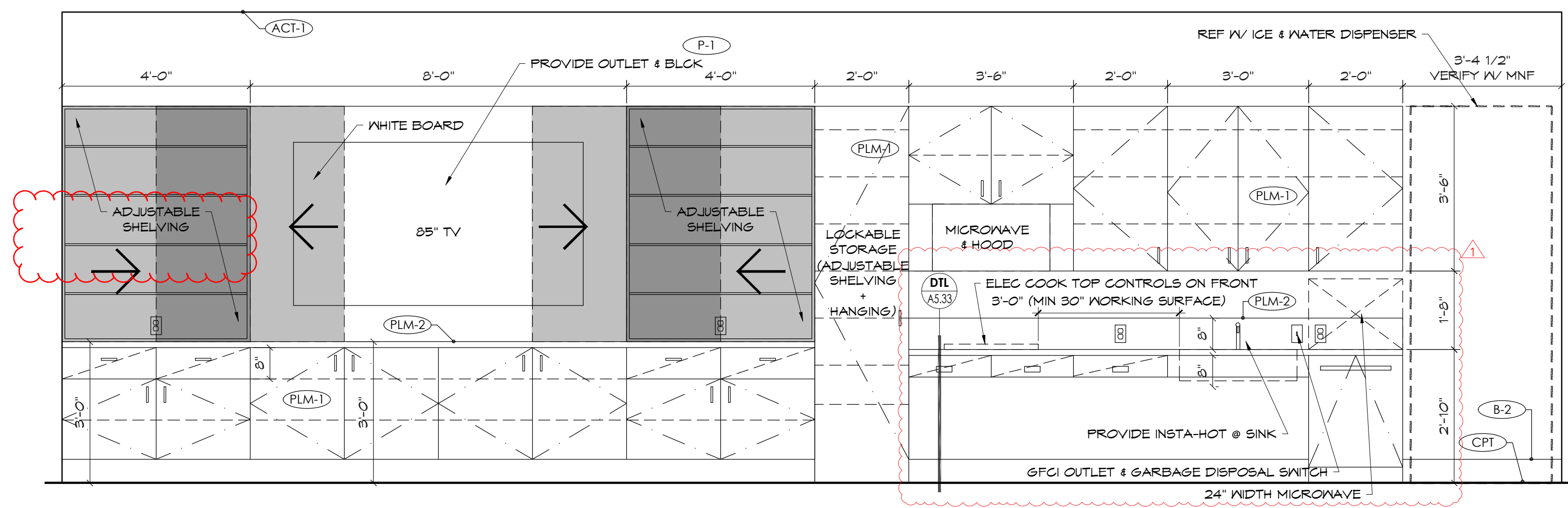
400 E TEACHER'S LOUNGE
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



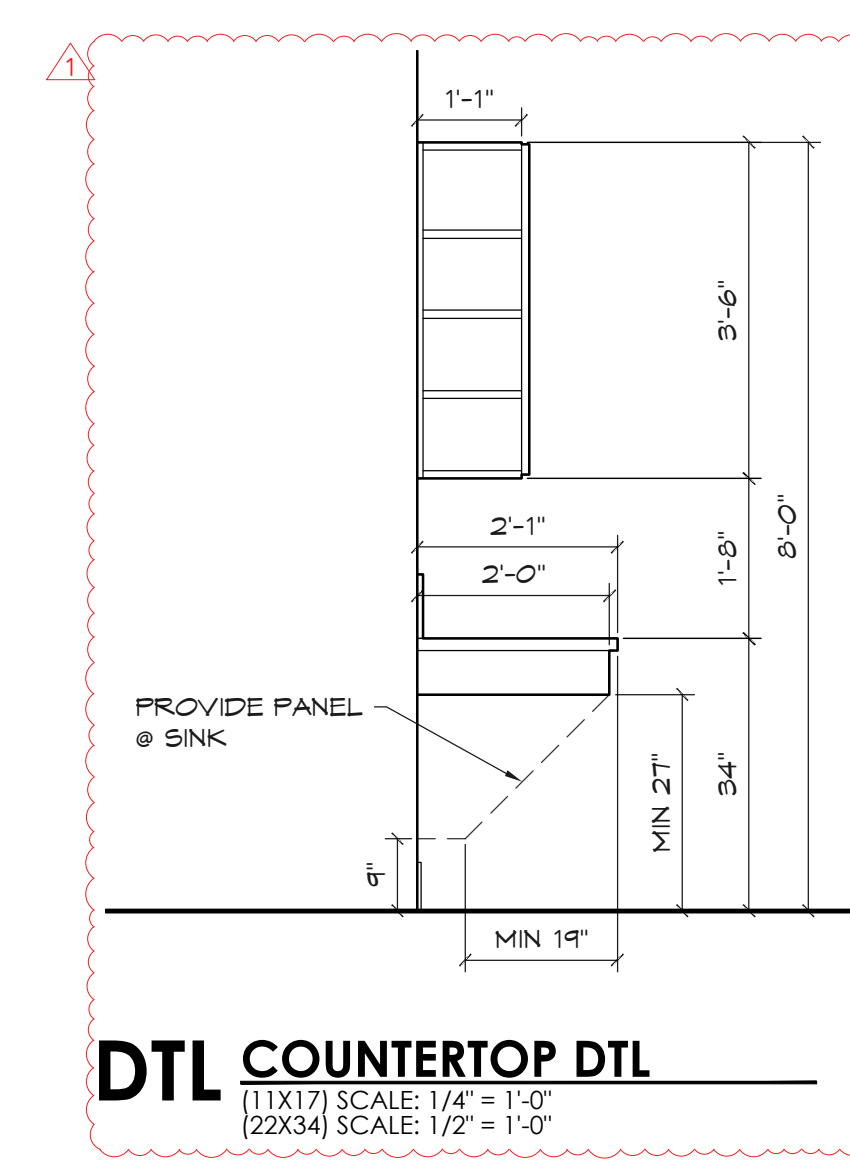
400 N TEACHER'S LOUNGE
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



400 S TEACHER'S LOUNGE
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



400 W TEACHER'S LOUNGE
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



DTL COUNTERTOP DTL
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"

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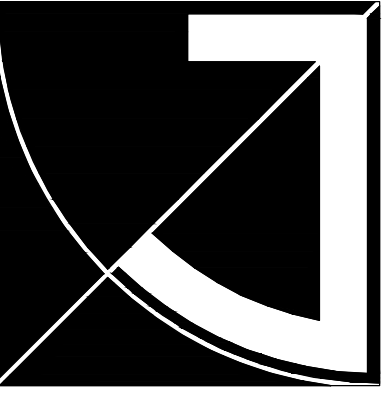
SHEET TITLE

**INT. ELEV
 TEACHER'S LOUNGE**

SHEET #

A5.33

PRCTI20231318

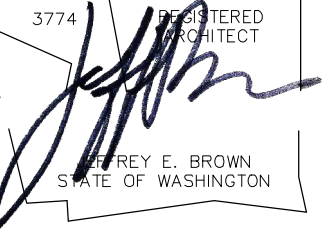


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**CASCADE CHRISTIAN JR. HIGH SCHOOL
 PHASE 2B + 3B**

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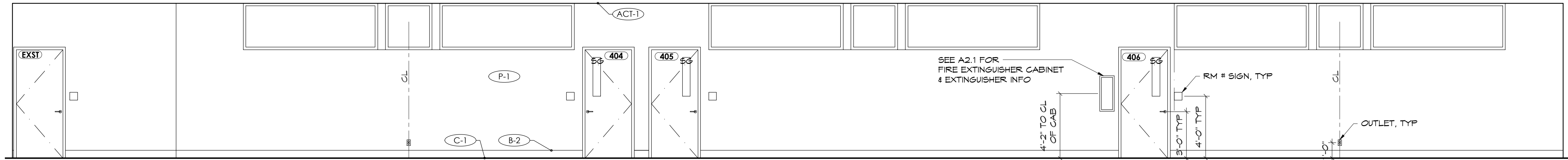
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INT. ELEV HALLWAY

SHEET #

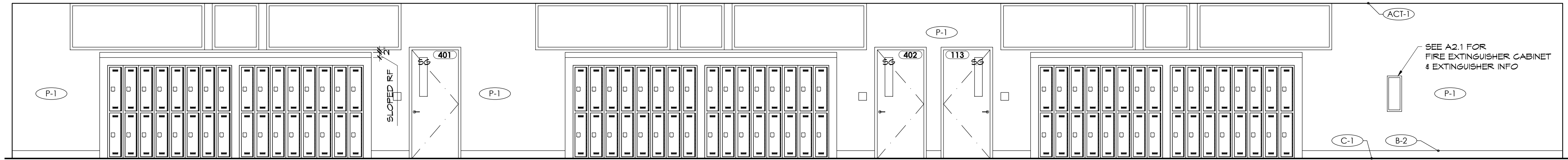
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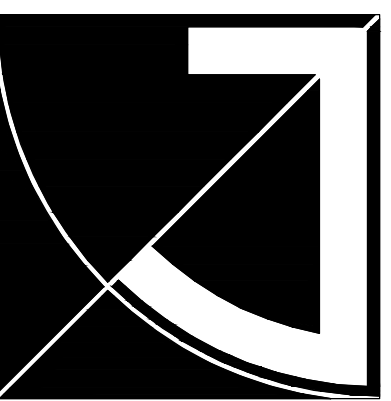
410 N HALLWAY

(11X17) SCALE: 1/8" = 1'-0"
 (22X34) SCALE: 1/4" = 1'-0"



410 S HALLWAY

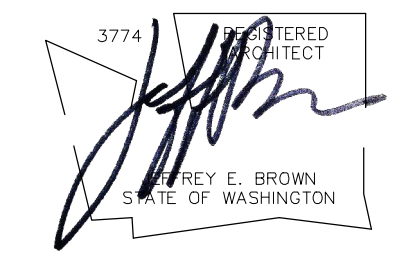
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 (22X34) SCALE: 1/4" = 1'-0"



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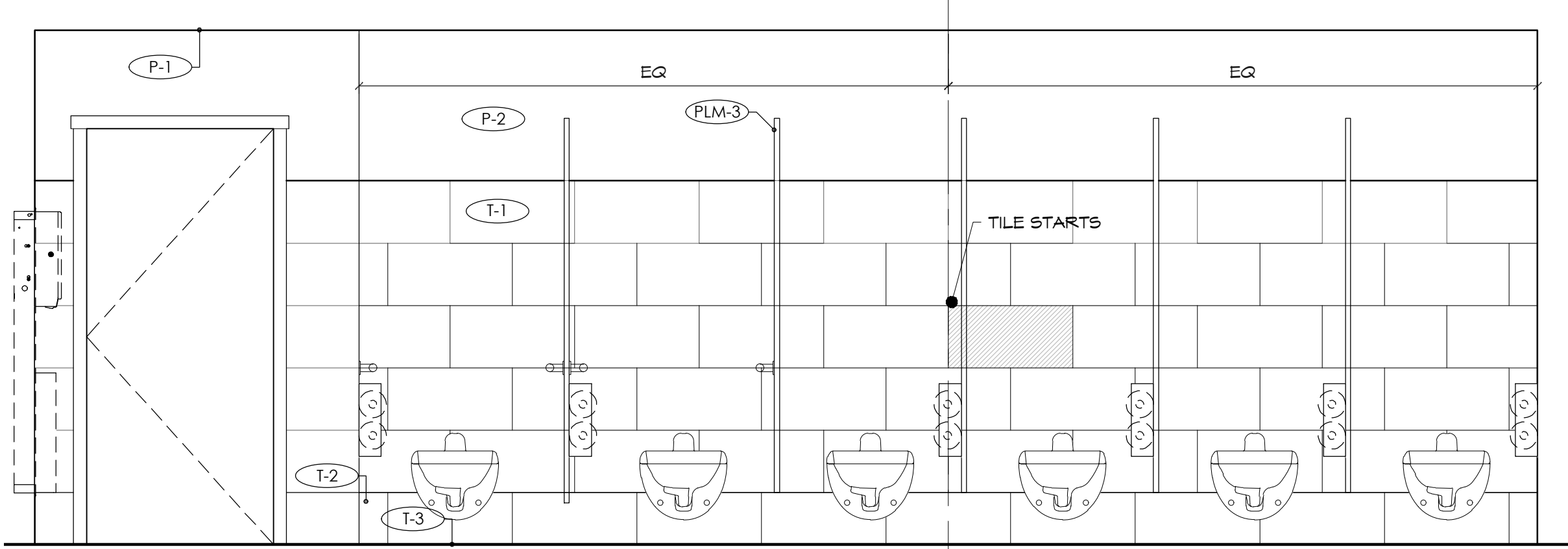
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INT. ELEV BATHROOMS

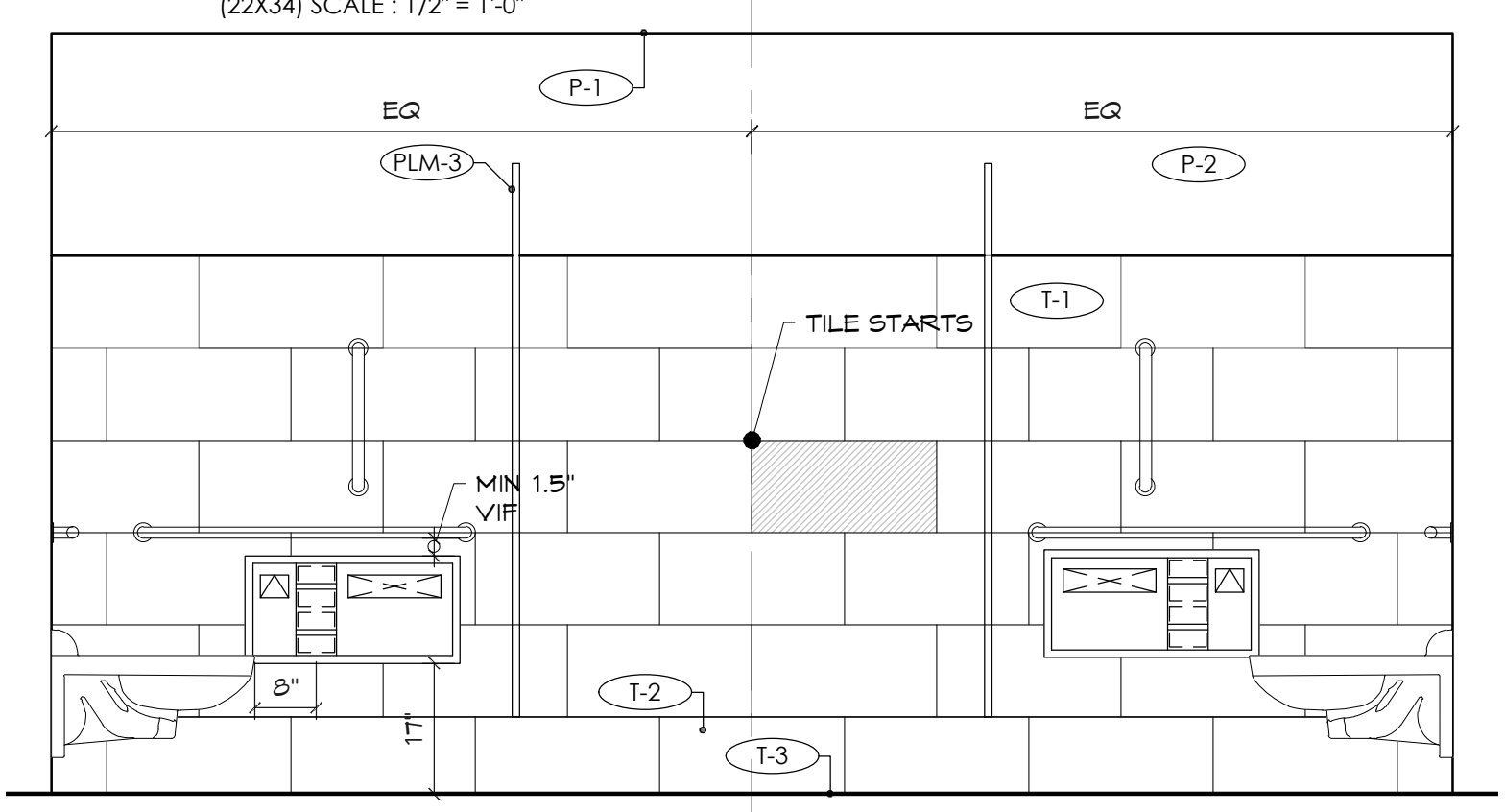
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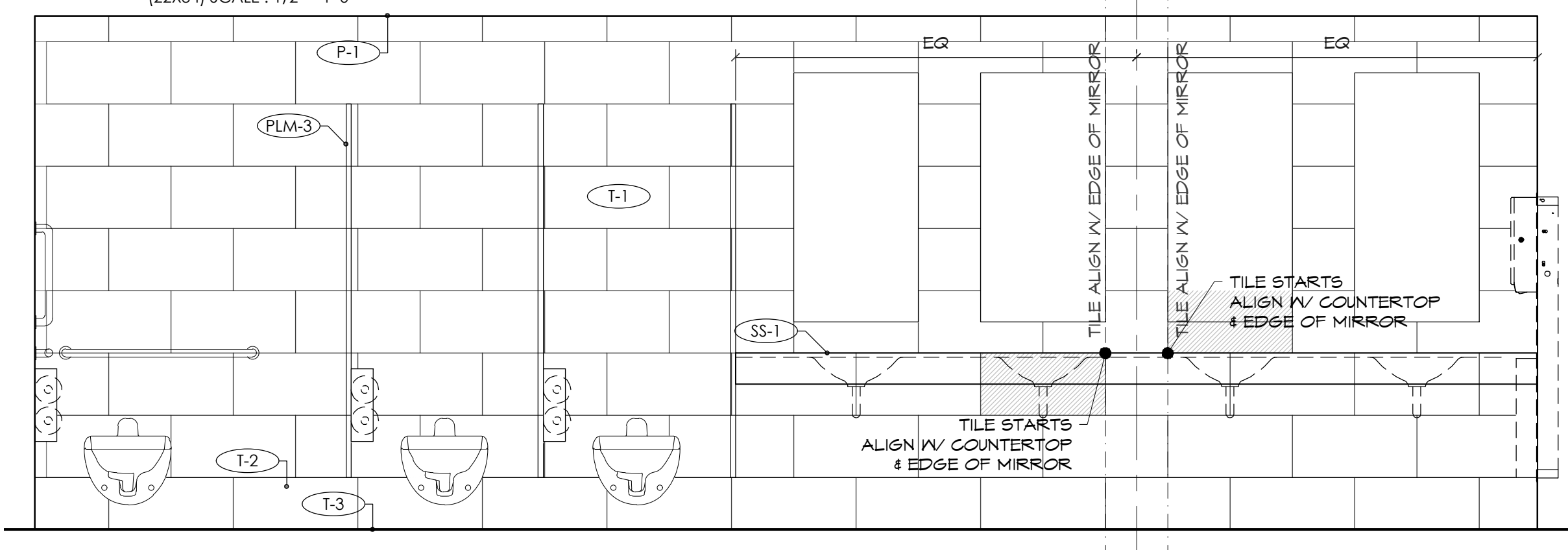
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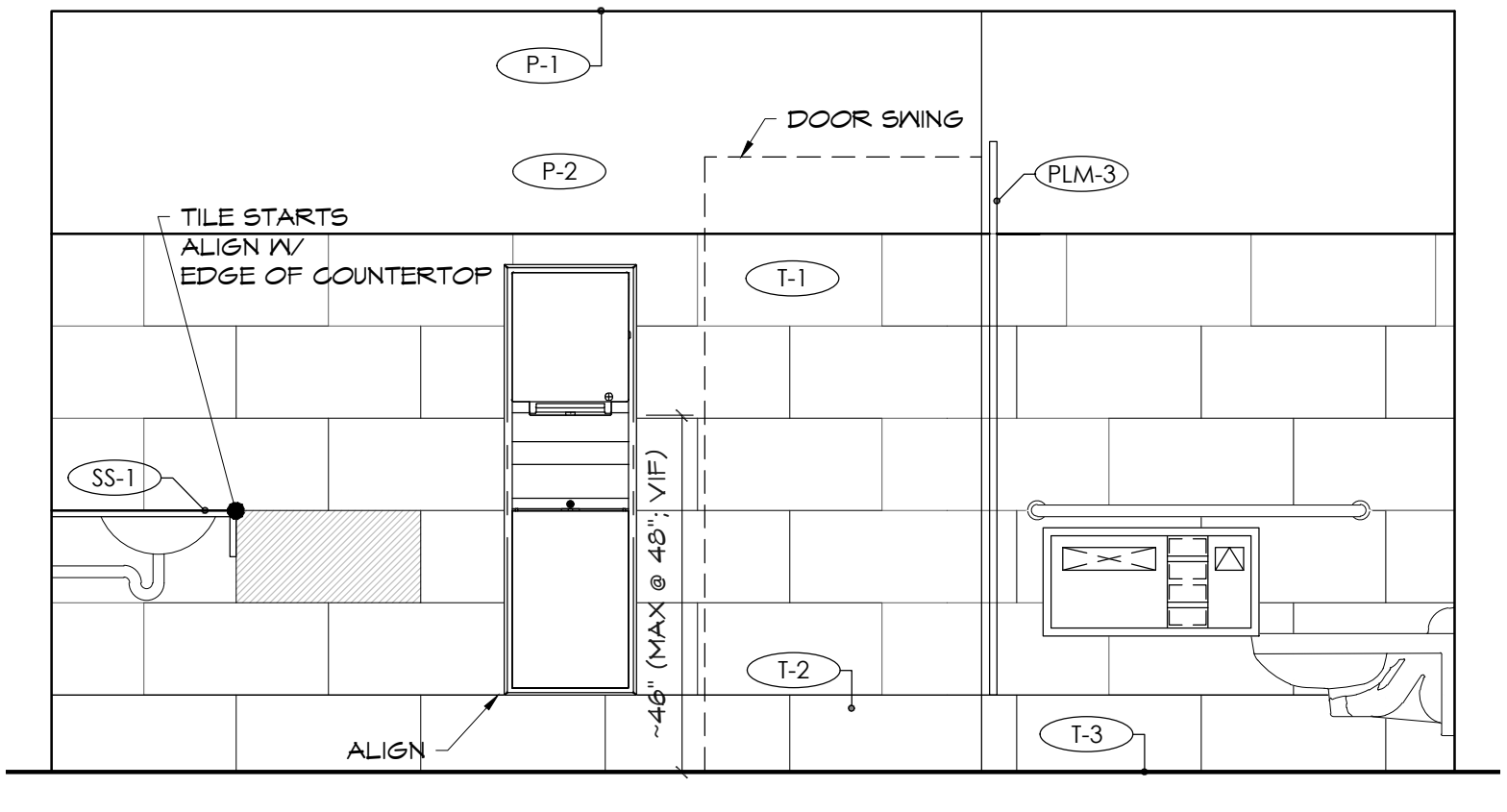
408N WOMENS
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



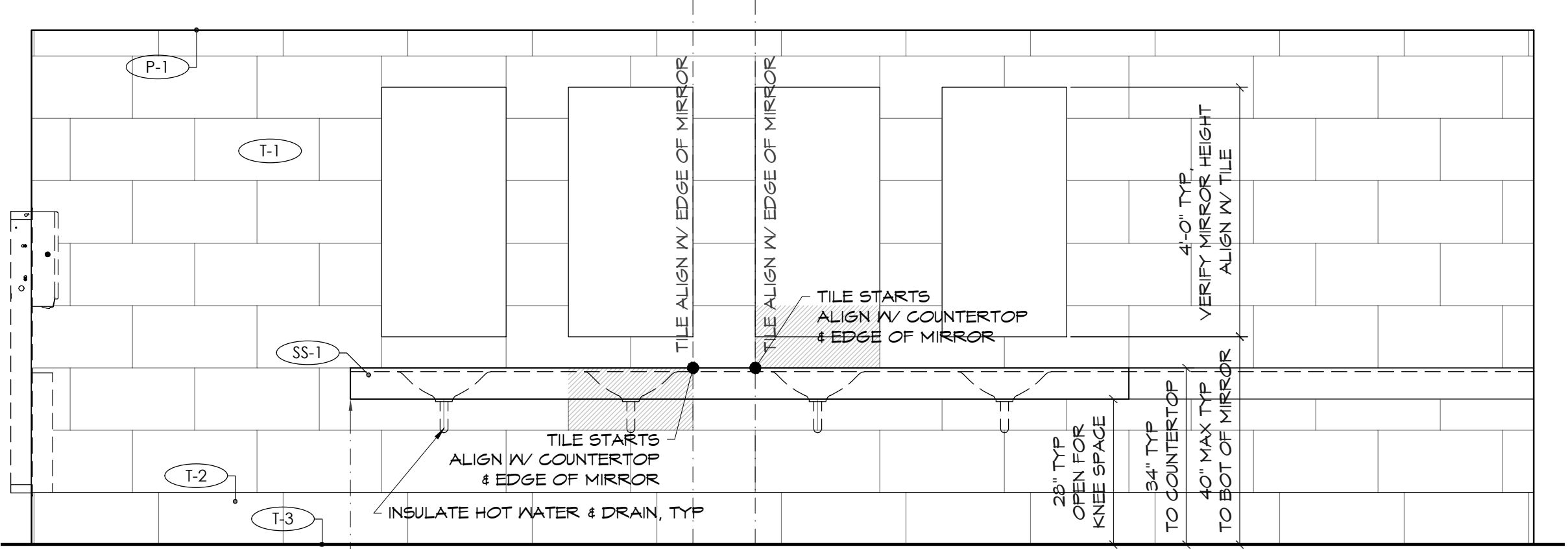
408E WOMEN'S
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



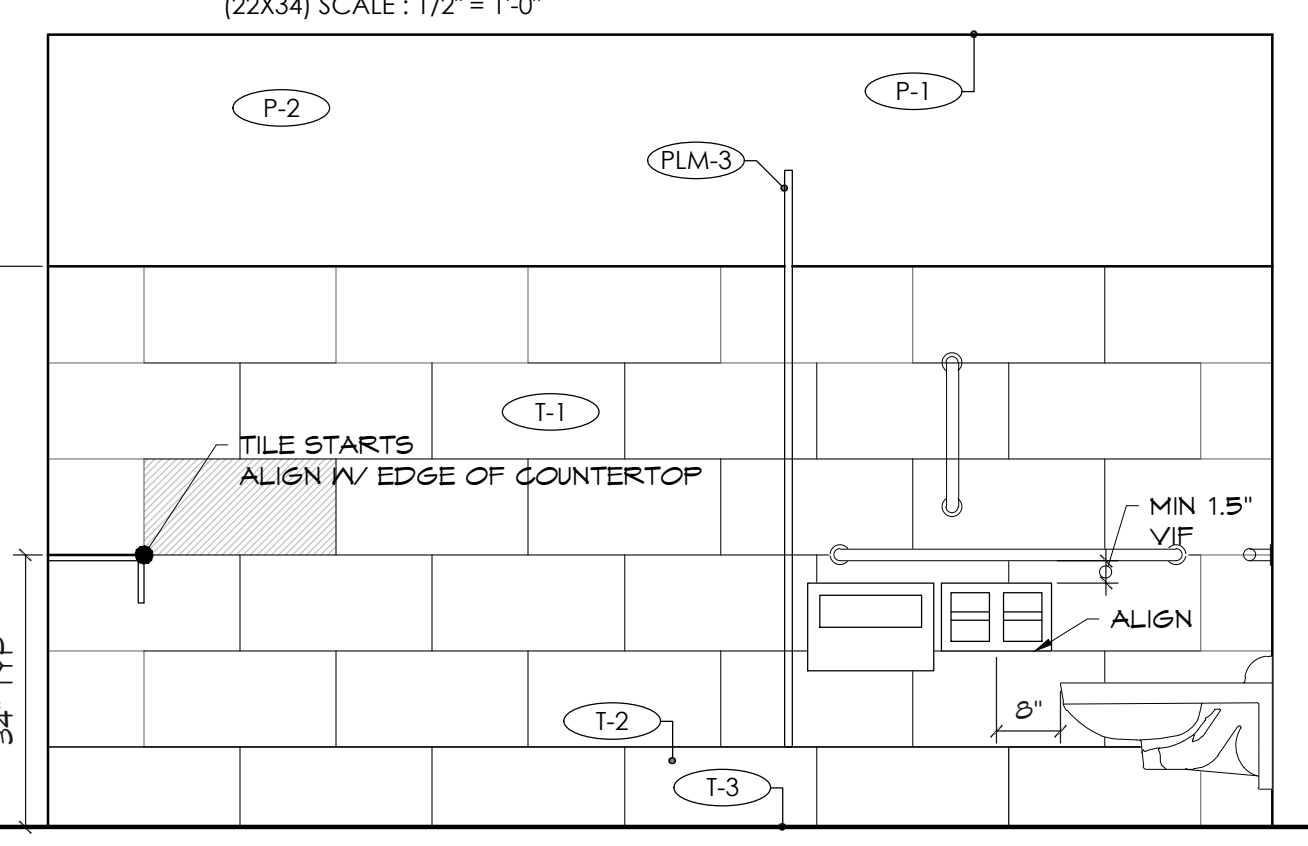
408S WOMEN'S
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



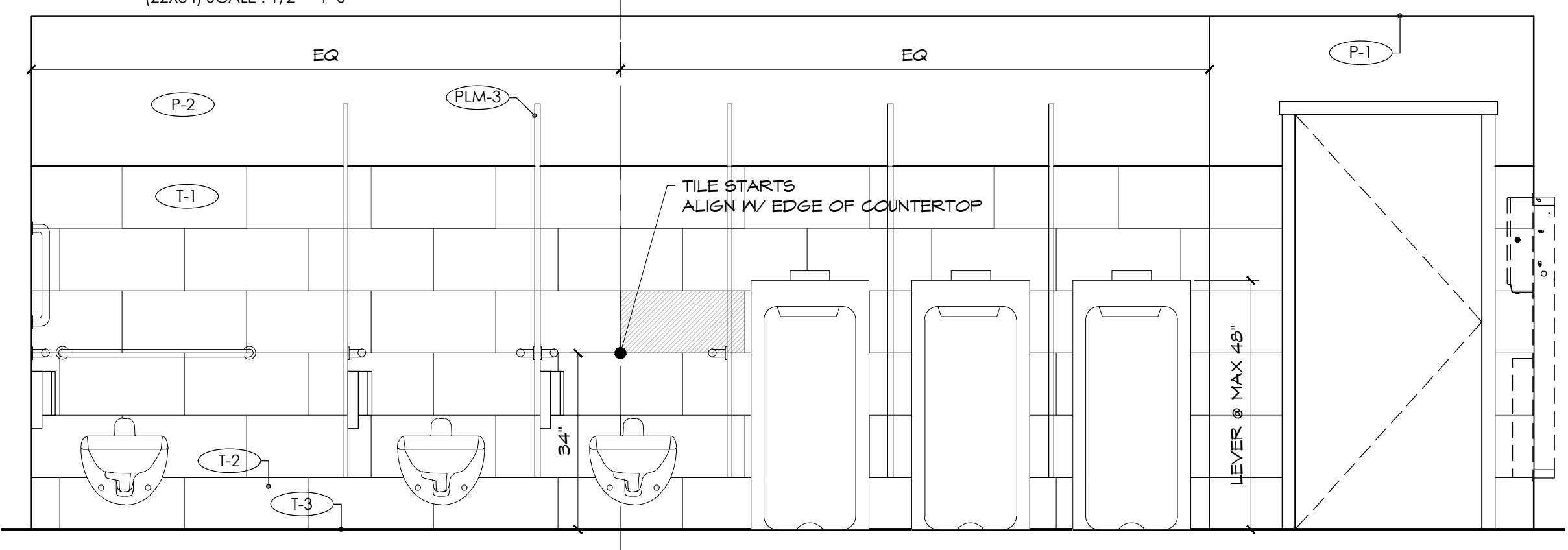
408W WOMEN'S
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 (22X34) SCALE: 1/2" = 1'-0"



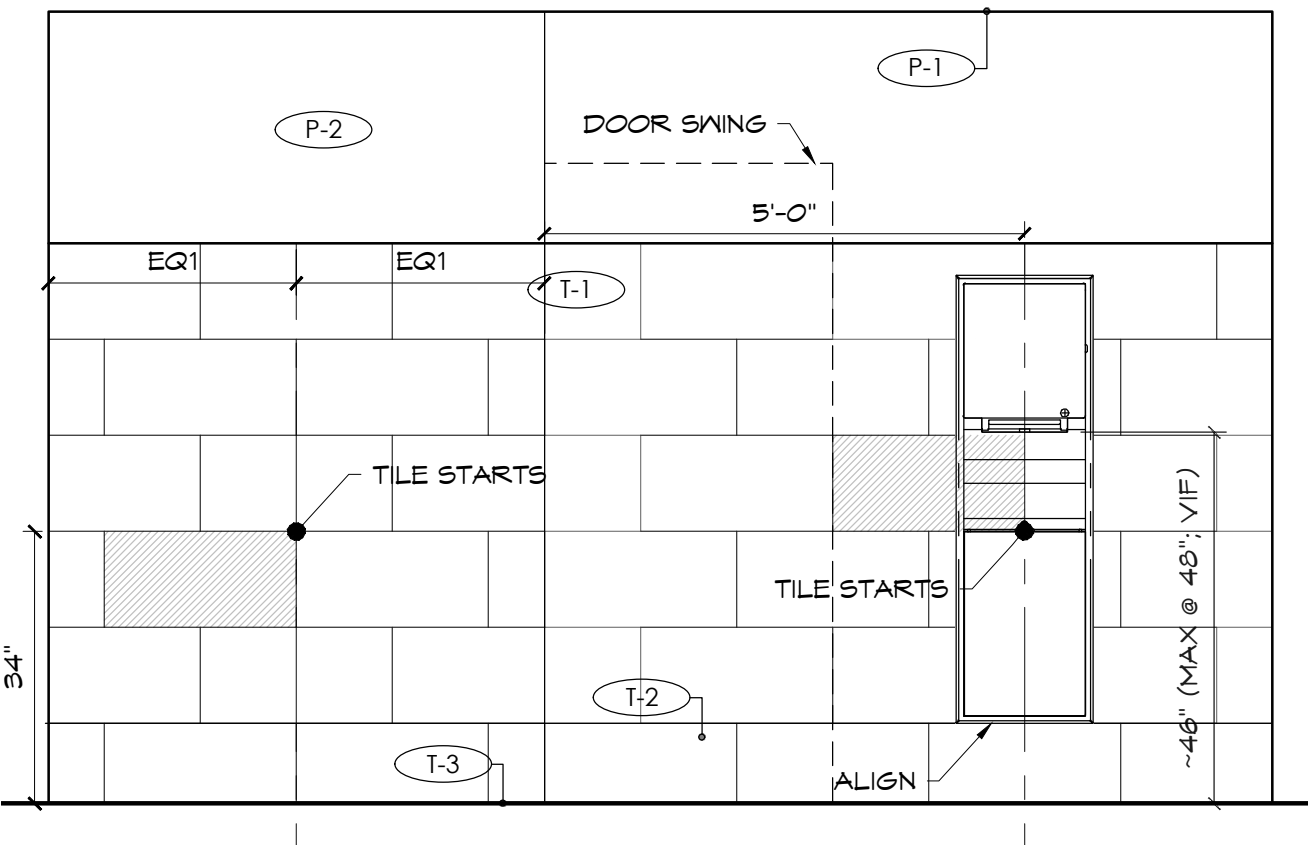
407N MENS
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



407E MENS
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"



407S MENS
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"

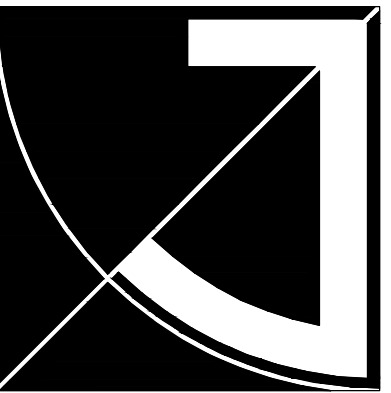


407W MENS
 (11X17) SCALE: 1/4" = 1'-0"
 (22X34) SCALE: 1/2" = 1'-0"

604.7 Dispensers, Toilet paper dispensers shall comply with Section 309.4. Where the dispenser is located above the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 36 inches (915 mm) maximum from the rear wall. Where the dispenser is located below the grab bar, the outlet of the dispenser shall be located within an area 24 inches (610 mm) minimum and 42 inches (1065 mm) maximum from the rear wall. The outlet of the dispenser shall be located 18 inches (455 mm) minimum and 48 inches (1220 mm) maximum above the floor.

Dispensers shall comply with Section 609.3.

Dispensers shall not be of a type that control delivery, or do not allow continuous paper flow.

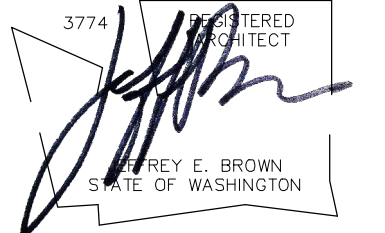


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PROJECT LEAD

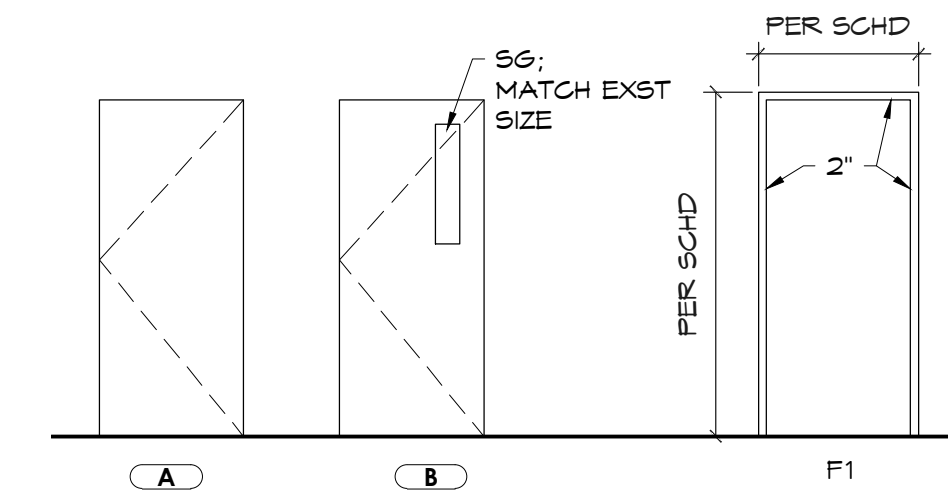
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jeff@jeffbrownarchitecture.com



PROJECT NAME/ADDRESS

NO.	LOCATION	DOORS					FRAME			HDWR SET	REMARKS	
		TYPE	WIDTH	HEIGHT	THICK	MAT	FINISH	TYPE	MAT			FINISH
400	TEACHER'S LOUNGE	B	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	CLASSROOM SECURITY	RIFT CUT WHITE MAPLE RELITE (SG) KICKPLATES ACOUSTIC WEATHER STRIP FLOOR STOP SELF-CLOSER W/ HOLD FEATURE (VERIFY DEGREE THAT UNLOCKS HOLD)
401	CLASSROOM	B	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	CLASSROOM SECURITY	RIFT CUT WHITE MAPLE RELITE (SG) KICKPLATES ACOUSTIC WEATHER STRIP FLOOR STOP SELF-CLOSER W/ HOLD FEATURE (VERIFY DEGREE THAT UNLOCKS HOLD)
402	CLASSROOM	B	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	CLASSROOM SECURITY	RIFT CUT WHITE MAPLE RELITE (SG) KICKPLATES ACOUSTIC WEATHER STRIP FLOOR STOP SELF-CLOSER W/ HOLD FEATURE (VERIFY DEGREE THAT UNLOCKS HOLD)
403	CLASSROOM	B	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	CLASSROOM SECURITY	RIFT CUT WHITE MAPLE RELITE (SG) KICKPLATES ACOUSTIC WEATHER STRIP FLOOR STOP SELF-CLOSER W/ HOLD FEATURE (VERIFY DEGREE THAT UNLOCKS HOLD)
404	CLASSROOM	B	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	CLASSROOM SECURITY	RIFT CUT WHITE MAPLE RELITE (SG) KICKPLATES ACOUSTIC WEATHER STRIP FLOOR STOP SELF-CLOSER W/ HOLD FEATURE (VERIFY DEGREE THAT UNLOCKS HOLD)
405	CLASSROOM	B	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	CLASSROOM SECURITY	RIFT CUT WHITE MAPLE RELITE (SG) KICKPLATES ACOUSTIC WEATHER STRIP FLOOR STOP SELF-CLOSER W/ HOLD FEATURE (VERIFY DEGREE THAT UNLOCKS HOLD)
406	CLASSROOM	B	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	CLASSROOM SECURITY	RIFT CUT WHITE MAPLE RELITE (SG) KICKPLATES ACOUSTIC WEATHER STRIP FLOOR STOP SELF-CLOSER W/ HOLD FEATURE (VERIFY DEGREE THAT UNLOCKS HOLD)
407	MEN'S	A	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	PASSAGE	RIFT CUT WHITE MAPLE KICK PLATE
408	WOMEN'S	A	3'-0"	7'-0"	1 3/4"	WD	STAIN & (2) CLR COAT	F1	HM	PT	PASSAGE	RIFT CUT WHITE MAPLE KICK PLATE
410A	EXISTING HALL EAST STAIRS	EXST	3'-0"	7'-0"	EXST	EXST	EXST	EXST	EXST	EXST	PASSAGE	ALL EXISTING HARDWARE (INCLUDE IT FOR REFERENCE PURPOSE) PANIC BAR SELF CLOSER 60 MIN FIRE-RATED SMOKE SEAL FLOOR STOP
410B	EXISTING HALL CLASS TO LOBBY	EXST	(2) 3'-0"	7'-0"	EXST	EXST	EXST	EXST	EXST	EXST	STORAGE LOCK	ALL EXISTING HARDWARE (INCLUDE IT FOR REFERENCE PURPOSE) KICK PLATE RELITE MAGNATIC-HOLDERS COORDINATOR PANIC BAR SELF-CLOSER REMOVABLE MULLION SMOKE SEAL

2 DOOR SCHEDULE



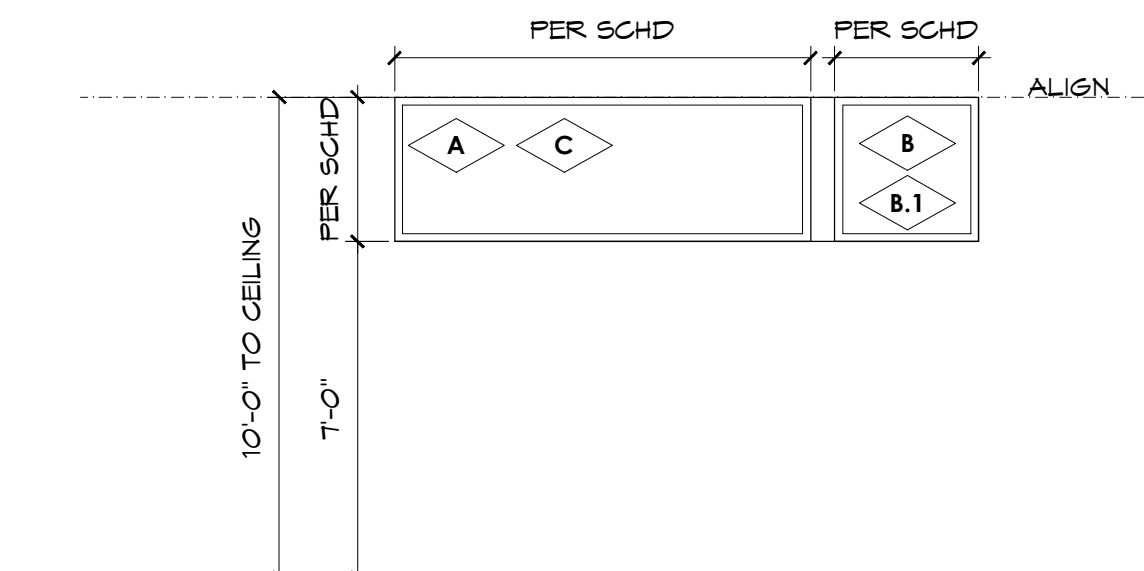
- NOTE:
- ALL INTERIOR WOOD DOOR TO BE SOLID-CORE
 - SG = SAFETY GLAZING
 - DOOR SWING PER A2.1-A2.3
 - DOOR WIDTH AND HEIGHT PER SCHD, TYP

1 DOOR TYPE

(11X17) SCALE: 1/8" = 1'-0"
(22X34) SCALE: 1/4" = 1'-0"

MARK	WIDTH		HEIGHT		TYPE	GLASS	REMARKS
	FT	IN	FT	IN			
INTERIOR							
A	8	6	2	6	FIXED		2X6 WALL FRAMING
B	3	0	2	6	FIXED		2X6 WALL FRAMING
B.1	3	0	2	6	FIXED		2X4 WALL FRAMING @ RM # 400
C	6	0	2	6	FIXED		2X4 WALL FRAMING @ RM # 400

4 WINDOW SCHEDULE



3 INTERIOR WINDOW TYPE

(11X17) SCALE: 1/8" = 1'-0"
(22X34) SCALE: 1/4" = 1'-0"

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DOOR SCHD & TYPE WIN SCHD & TYPE

SHEET #

A7.1

PRCTI20231318

GENERAL NOTES

- ALL WORK PERFORMED SHALL BE DONE IN STRICT ACCORDANCE TO ALL APPLICABLE MECHANICAL, BUILDING, ENERGY, FUEL, GAS, AND LOCAL CODES, WITH AMENDMENTS.
- WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
- COORDINATE MECHANICAL WORK WITH THE GENERAL CONTRACTOR AND CO-CONTRACTORS AS APPLICABLE.
- A SHORT DASH IN A SCHEDULE TABLE CELL INDICATES THAT THE COLUMN HEADING IS NOT USED OR NOT APPLICABLE TO THAT SCHEDULED ITEM.
- ALL PIPING & DUCTWORK IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE HARD SUSPENDED CEILING. COORDINATE WITH ARCHITECTURAL DOCUMENTS FOR FURRING & CHASE LOCATIONS & SIZES.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 70 STANDARDS AND LOCAL REQUIREMENTS.
- ALL FIELD WIRING SHALL REQUIRE AN ELECTRICAL PERMIT AND SHALL BE PERFORMED BY A LICENSED ELECTRICIAN.
- ACCESS DOORS WHERE REQUIRED SHALL BE FURNISHED BY ASEI.

HVAC/SHEET METAL:

- THE FIRST FIGURE OF DUCT SIZE CALLOUTS INDICATES DIMENSION OF FACE SHOWN OR INDICATED. DUCT SIZES ARE NET INSIDE DIMENSIONS. PROVIDE ANY APPLICABLE DUCT LINING AND INSULATION PER THESE PLANS.
- TOTAL STATIC PRESSURE NOTED IN SCHEDULES SHALL BE ASSUMED TO INCLUDE DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
- ALL SUPPLY AIR FILTERS SHALL BE AS SCHEDULED.
- AIR TERMINAL SIZES SHOWN ON PLANS ARE NECK SIZES. PROVIDE ADDITIONAL PANS, HARDWARE, ETC., REQUIRED TO INSTALL AIR TERMINAL IN CEILING SYSTEM.
- DUCTWORK SHALL BE LOW PRESSURE.
- CONSTRUCT DUCTWORK ACCORDING TO WASHINGTON STATE ENERGY CODE SECTION C403.10.2. ALL DUCT WORK SHALL BE PRIMED GALVANIZED SHEET STEEL, LOCK FORMING QUALITY, FABRICATED IN ACCORDANCE TO SMACNA STANDARDS. DUCT GAUGES AND SUPPORTS ARE PER IMC. ALL DUCT TRAVERSE SEAMS AND LONGITUDINAL JOINTS SHALL BE SEALED.
- PROVIDE TURNING VANES IN ALL MITERED RECTANGULAR DUCT ELBOWS & TEES.
- PROVIDE MOTORIZED DAMPERS ON OUTDOOR AIR SUPPLY, AND EXHAUST OPENINGS. DAMPERS SHALL HAVE A MAXIMUM LEAKAGE RATE OF 4 CFM PER SQUARE FOOT AT 1" W.C. WHERE SHOWN.
- VENTILATION AND EXHAUST AIR IS PROVIDED IN ACCORDANCE WITH IMC 403.3.1.1.
- PROVIDE EACH ZONE WITH THERMOSTATIC CONTROLS THAT PROVIDE A DEADBAND OF AT LEAST 5 DEGREES FAHRENHEIT IN WHICH HEATING OR COOLING ENERGY IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM. THERMOSTAT SHALL BE CAPABLE OF THERMOSTATIC SETBACK, AUTOMATIC SETBACK AND SHUTDOWN, AND AUTOMATIC START CAPABILITIES PER WASHINGTON STATE ENERGY CODE SECTION C403.4.
- PROVIDE TEMPORARY COVERS OVER OPEN ENDS OF EQUIPMENT AND DUCTWORK DURING CONSTRUCTION.
- PROVIDE MANUAL VOLUME DAMPER FOR EACH DIFFUSER, REGISTER, AND GRILLE.
- ASEI TO AIR BALANCE ALL SYSTEMS TO WITHIN 10% OF DESIGN AIRFLOW UPON PROJECT COMPLETION.
- ALL SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED AND SEALED PER WASHINGTON STATE ENERGY CODE SECTION C403.10.1.

PIPING:

- INSULATE PIPING PER WASHINGTON STATE ENERGY CODE SECTION C403.10.3.
- ALL PRESSURES LISTED ARE GAGE PRESSURES UNLESS OTHERWISE NOTED.
- PROVIDE COMPLETE CONDENSATE DRAINAGE SYSTEM FOR ALL INDOOR UNITS. FIELD ROUTE DRAINAGE PIPING FROM EQUIPMENT TO NEAREST DRAIN LOCATION (SUCH AS SERVICE SINK, FUNNEL DRAIN, ETC.). SLOPE NON-PRESSURIZED DRAIN PIPING TO DRAIN LOCATION. PIPING & FITTINGS SHALL BE PVC. MINIMUM PIPE SIZE SHALL BE 3/4". INCREASE PIPE SIZE WHERE APPLICABLE PER IMC 307.2.2.
- VALVES SHALL BE INSTALLED SO THAT SYSTEM REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
- VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS UNLESS OTHERWISE NOTED.
- THE PROPOSED ROUTING FOR THE REFRIGERATION PIPING BETWEEN THE INDOOR AND OUTDOOR UNITS IS INDICATED AS NOTED ON THE PLANS. THAT SINGLE LINE REPRESENTS ALL THE PIPING RUNS REQUIRED FOR THE SYSTEM DESIGNED. SIZE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATION.

COORDINATION NOTES

- GENERAL CONTRACTOR TO CUT AND PROVIDE OPENINGS FOR ALL ROOFTOP, CEILING, FLOOR, AND WALL PENETRATIONS, INCLUDING WEATHERPROOF SEALING. ASEI TO PROVIDE SIZE AND LOCATION.
 - GENERAL CONTRACTOR TO PROVIDE FRAMED OPENINGS WHERE REQUIRED FOR ALL MECHANICAL PENETRATIONS, INCLUDING HEADERS IF REQUIRED. GENERAL CONTRACTOR TO VERIFY PENETRATION LOCATIONS WITH ASEI BEFORE FRAMING OPENINGS.
 - GENERAL CONTRACTOR TO PROVIDE SERVICE ACCESS PER CODE TO ALL MECHANICAL EQUIPMENT.
 - GENERAL CONTRACTOR TO PROVIDE STRUCTURE FOR MOUNTING AND HANGING MEMBERS OF MECHANICAL EQUIPMENT.
 - GENERAL CONTRACTOR TO PROVIDE ALL CUTTING OF T-BAR CEILING AND EXTRA MATERIAL AS REQUIRED FOR HVAC INSTALLATION.
 - GENERAL CONTRACTOR TO PROVIDE ACCESS PANELS IN HARD LID CEILING.
- PLUMBING CONTRACTOR**
- ASEI TO FURNISH AND INSTALL ALL CONDENSATE DRAIN LINES PER CODE.
 - PLUMBING CONTRACTOR TO OFFSET VENTS 10 FEET MINIMUM FROM ALL HVAC FRESH INTAKES.
- ELECTRICAL CONTRACTOR**
- ELECTRICAL CONTRACTOR TO PROVIDE ALL ELECTRICAL CONNECTIONS, DISCONNECTS, AND MOTOR STARTERS FOR MECHANICAL EQUIPMENT.
 - ASEI TO INSTALL ALL 24 VOLT LOW VOLTAGE WIRING FOR THERMOSTATS.
 - ELECTRICAL CONTRACTOR TO PROVIDE 120V SERVICE OUTLET WITHIN 25 FEET OF EACH PIECE OF MECHANICAL EQUIPMENT.
 - ELECTRICAL CONTRACTOR TO INSTALL ALL LINE VOLTAGE WIRING AND CONDUIT.
- COMPLETION**
- PROVIDE TEST AND BALANCE REPORT, EQUIPMENT STARTUP TEST REPORTS, OPERATION AND MAINTENANCE MANUALS, AND AS-BUILT RECORD DRAWINGS, AS APPLICABLE, TO OWNER UPON PROJECT COMPLETION.

GENERAL CONTRACT REQUIREMENTS

- THE DRAWINGS ARE DIAGRAMMATIC. COORDINATE INSTALLATION WITH THE BUILDING. PROVIDE ALL NECESSARY OFFSETS, CHANGES IN DIRECTION, EXTENSIONS AND ASSOCIATED MATERIALS FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
- COORDINATE MECHANICAL WORK WITH ELECTRICAL, ARCHITECTURAL, AND STRUCTURAL WORK SHOWN ON OTHER CONTRACT DOCUMENTS. PROVIDE ADDITIONAL PIPE OR DUCT OFFSETS WHERE REQUIRED TO COORDINATE INSTALLATION.
- LOCATIONS AND SIZES OF FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH OTHER TRADES INVOLVED.
- MAINTAIN A SET OF PLANS ON SITE. RECORD ALL CHANGES TO ACTUAL ARRANGEMENTS ON THESE PLANS. PROVIDE THIS SET OF PLANS TO THE OWNER'S REPRESENTATIVE WHEN WORK IS COMPLETE.
- PROJECT SCHEDULING: COMPLY WITH OWNER'S REQUIREMENTS.
- OPERATION AND MAINTENANCE MANUAL: PROVIDE COMPLETE OPERATIONS AND MAINTENANCE MANUAL IN HARD COVER. PROVIDE OPERATIONS, MAINTENANCE AND PARTS DATA ON ANY ITEM OR EQUIPMENT UPON PROJECT COMPLETION.
- WARRANTY PROVISIONS: THE CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT AND SYSTEMS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIAL, EQUIPMENT, OR POOR WORKMANSHIP, WHICH MAY SHOW ITSELF DURING THIS WARRANTY PERIOD.

SEISMIC AND VIBRATION REQUIREMENTS

- HANGERS AND SEISMIC BRACING FOR THE MECHANICAL SYSTEMS SHALL BE DESIGNED AND PROVIDED BY THE MECHANICAL CONTRACTOR. REFER TO DRAWINGS FOR LOCATIONS OF EQUIPMENT AND MECHANICAL SYSTEMS. MECHANICAL CONTRACTOR SHALL COORDINATE THE SUPPORT SYSTEMS AND DESIGN LOADS FOR HUNG MECHANICAL SYSTEMS WITH THE GENERAL CONTRACTOR AND OTHER TRADES THAT MAY BE IMPACTED.
 - PROVIDE ALL SEISMIC RESTRAINT REQUIRED BY THE AUTHORITY HAVING JURISDICTION AND THE APPLICABLE CODES.
- VIBRATION CRITERIA: PROVIDE VIBRATION ISOLATION IN ACCORDANCE WITH THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS (ASHRAE) APPLICATIONS HANDBOOK.

BASIC MATERIALS AND METHODS

- ALL MATERIALS AND EQUIPMENT SHALL BE LISTED OR LABELED BY A RECOGNIZED AGENCY. UL, AGA, FM, CSA, ARI, ETC.
- EQUIPMENT SHALL BE AS INDICATED ON THE DRAWING SCHEDULES. THE DRAWING SCHEDULES ESTABLISH THE LEVEL OF QUALITY.
- MECHANICAL SYSTEM PENETRATIONS OF FIRE RATED ASSEMBLIES SHALL BE PROTECTED IN ACCORDANCE WITH THE BUILDING CODE IN FORCE IN THE AUTHORITY HAVING JURISDICTION FOR THIS PROJECT. THIS INCLUDES PIPING, DUCTWORK, SUPPORTS, AND OTHER SYSTEM AND APPURTENANCE PROVIDED AS PART OF THE MECHANICAL WORK OF THIS CONTRACT.
- MOTORS SHALL COMPLY WITH THE WSEC.
- ELECTRICAL INSTALLATION SHALL COMPLY WITH THE NEC.
- PROTECT OF STORED MATERIALS. REPLACE DAMAGED MATERIALS PRIOR TO INSTALLATION.
- PROVIDE WATER-TIGHT SEAL FOR OPENINGS TO THE BUILDING THROUGH WHICH PIPE PASSES.
- PROVIDE AND INSTALL PIPE SUPPORTS IN ACCORDANCE WITH MANUFACTURER'S STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY (MSS) STANDARDS, SPECIFICALLY STANDARD SP-69, "PIPE HANGERS AND SUPPORTS - SELECTION AND APPLICATION" AND STANDARD SP-58, "PIPE HANGERS AND SUPPORTS - MATERIALS, DESIGN AND MANUFACTURE". PROVIDE PIPE SUPPORT SPACING IN ACCORDANCE WITH THE UPC OR IMC.
- TESTING: ALL WORK UNDER THIS CONTRACT SHALL BE THOROUGHLY AND SYSTEMATICALLY TESTED, BOTH DURING CONSTRUCTION AND AFTER COMPLETION. PIPE TESTING SHALL BE EITHER AS SPECIFIED IN THE APPROPRIATE SPECIFICATION SECTION, OR AS SPECIFIED IN THE APPLICABLE PLUMBING OR MECHANICAL CODE. DUCTWORK SHALL BE TESTED AS PART OF THE AIR BALANCING PROCESS. NOTIFY THE OWNER'S REPRESENTATIVE 48-HOURS IN ADVANCE OF ALL TESTS. TESTS SHALL BE MAINTAINED UNTIL APPROVED.
- START-UP, BALANCING AND COMMISSIONING.
 - EQUIPMENT STARTUP SHALL BE PERFORMED BY QUALIFIED PERSONNEL. THE TECHNICAL SPECIFICATION SECTIONS WILL DETAIL OTHER SPECIAL REQUIREMENTS, IF ANY. PROVIDE A STATEMENT OF THE STARTUP TECHNICIAN'S QUALIFICATIONS IF REQUESTED.
 - BALANCE ALL AIR SYSTEMS. BALANCE IN ACCORDANCE WITH EITHER NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR AMERICAN AIR BALANCE COUNCIL (AAEC) CRITERIA.
 - PROVIDE COMMISSIONING IN ACCORDANCE WITH THE WSEC.

AIR DISTRIBUTION SYSTEM - GENERAL

- PROVIDE PER THE IMC, THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) 'DUCT CONSTRUCTION MANUAL, METAL AND FLEXIBLE', AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
- IN ADDITION TO THE REQUIREMENTS ABOVE, INSTALL EQUIPMENT AND COMPONENTS IN ACCORDANCE WITH THE PIPING AND MANUFACTURER'S INSTALLATION REQUIREMENTS, FLEXIBLE CONNECTIONS: PROVIDE AT EACH FAN AND AIR HANDLING UNIT CONNECTION TO DUCT.
- ACCESS PANELS: PROVIDE FOR MAINTENANCE OF ALL DUCT-MOUNTED EQUIPMENT (FIRE DAMPERS, CONTROL DAMPERS, COILS, ETC.).
- LOCATE VALVES, CLEANOUTS, DAMPERS, CONTROLS AND SIMILAR COMPONENTS SO THAT THEY ARE ACCESSIBLE.
 - INSTALL TAG ON CEILING GRID FRAME TO INDICATE LOCATION AND TYPE OF EQUIPMENT THAT REQUIRES MAINTENANCE.
- PROVIDE ACCESS DOORS FOR MECHANICAL EQUIPMENT INSTALLED BEHIND WALLS, ABOVE INACCESSIBLE CEILINGS AND BELOW FLOORS. COORDINATE ACCESS DOOR LOCATIONS WITH ARCHITECT/ENGINEER. ACCESS DOOR SHALL BE SIZED SO THAT ADJACENT EQUIPMENT IS ACCESSIBLE.
 - PROVIDE 16 GA. STEEL, FLUSH TYPE ACCESS DOOR WITH CONCEALED HINGE AND SLOT SCREWDRIVER TYPE CAM LATCH. PROVIDE FACTORY PRIMED IN PAINTED SURFACE AREAS FOR FIELD PAINTING.
 - PROVIDE STAINLESS STEEL FOR ALL OTHER AREAS. PROVIDE UL LISTED AND LABELED DOOR WHERE FIRE-RESISTANCE RATING IS INDICATED ON DRAWINGS.
- PROVIDE DUCT ACCESS PANELS FOR FIRE DAMPER ACTUATOR ACCESS.
- VOLUME DAMPERS.
 - FABRICATED IN ACCORDANCE WITH SMACNA DUCT CONSTRUCTION STANDARDS AND AS INDICATED.
 - FABRICATE SPLITTER DAMPERS OF SAME MATERIAL AND GAGE AS DUCT TO 24 INCHES (600 MM) SIZE IN EITHER DIRECTION, AND TWO GAGES HEAVIER FOR LARGER SIZES, SECURED WITH CONTINUOUS HINGE OR ROD, OPERATED WITH MINIMUM 1/4-INCH (6 MM) DIAMETER ROD.
 - FABRICATE SINGLE BLADE DAMPERS FOR DUCT SIZES TO 9-1/2 X 30 INCH. FABRICATE MULTI-BLADE DAMPER OF OPPOSED BLADE PATTERN WITH MAXIMUM BLADE SIZES 12 X 72 INCH. ASSEMBLE CENTER AND EDGE CRIMPED BLADES IN PRIME COATED OR GALVANIZED CHANNEL FRAME WITH SUITABLE HARDWARE.
 - EXCEPT IN ROUND DUCTWORK 12 INCHES (300 MM) IN DIAMETER AND SMALLER, PROVIDE END BEARINGS.
 - PROVIDE LOCKING, INDICATING QUADRANT REGULATORS ON SINGLE AND MULTI-BLADE DAMPERS, WHERE WIDTH EXCEEDS 30 INCHES (750 MM), PROVIDE REGULATOR AT BOTH ENDS.
- MOTORIZED DAMPERS.
 - GENERAL.
 - COORDINATE ACTUATOR TYPE WITH CONTROLS CONTRACTOR.
 - MULTI SECTION DAMPER ASSEMBLIES SHALL BE PROVIDED WITH A FACTORY INSTALLED COMMON JACKSHAFT.
 - PROVIDE PARALLEL BLADE AIRFOIL TYPE FOR OPEN/CLOSED CONTROL AND OPPOSED BLADE AIRFOIL TYPE FOR MODULATING/THROTTLING CONTROL.
 - DAMPER BLADES.
 - EXTENDED ALUMINUM OR GALVANIZED STEEL AIR FOILS WITH REPLACEABLE RUBBER BLADE SEALS, 6-INCHES WIDE MAXIMUM.
 - 304 STAINLESS STEEL WHEN INSTALLED IN DISHWASHER HOOD DUCTWORK.
 - JAMB SEALS SHALL BE FLEXIBLE METAL COMPRESSION TYPE.
 - APPROVED MANUFACTURERS.
 - GREENHECK
 - RUSKIN

LOW PRESSURE STEEL DUCTWORK

- GALVANIZED CARBON STEEL PER SMACNA STANDARDS.
- FLEXIBLE DUCTWORK SHALL BE VINYL COATED SPRING STEEL, HELIX BONDED TO A VINYL COATED FIBERGLASS MECH LINER WRAPPED WITH FIBERGLASS WOOL INSULATION. JACKET WITH A REINFORCED METALIZED MYLOR NEOPRENE LAMINATE OUTER CASING.

DUCT INSULATION

- FLEXIBLE FIBERGLASS DUCTWORK SHALL MEET ASTM C563, TYPE 1, CLASS B2 FLEXIBLE BLANKET. K VALUE SHALL BE 0.27 @ 75 DF.
- VAPOR BARRIER JACKET: PROVIDE FSK ALUMINUM FOIL REINFORCED WITH FIBER GLASS YARN AND LAMINATED FIRE RESISTANT KRAFT. SECURE WITH UL LISTED PRESSURE SENSITIVE TAPE AND/OR OUTWARD CINCHED EXPANDED STABLES.
- INSULATION SHALL MEET THE REQUIREMENTS OF THE INSULATION SCHEDULE, SHOWN ON PLANS.
- APPROVED MANUFACTURERS: MANVILLE, OWENS CORNING, OR APPROVED EQUAL.

FANS

- SCHEDULED FANS SHALL BE THE BASIS OF DESIGN. UNITS OF SIMILAR CONSTRUCTION AND CAPABILITIES MAY BE SUBMITTED FOR REVIEW.
- PROVIDE CURBS SLOPED TO MATCH ROOF PITCH FOR ROOF TOP FANS.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND AS NOTED ON PLANS.
- PROVIDE ACOUSTIC LINING IN CONNECTING DUCTWORK 10' UPSTREAM AND DOWNSTREAM OF FAN, UNLESS OTHERWISE NOTED ON PLANS.

FILTERS

- PROVIDE 2" MERV 8, PLEATED, DISPOSABLE FILTERS. SIZE OF FILTER SHALL BE COMPATIBLE WITH FILTER BOX OR AIR HANDLER.

VRF UNITS

- BASIS OF DESIGN SHALL REPRESENT THE QUALITY OF UNITS.
- MAJOR COMPONENTS INCLUDE:
 - EVAPORATOR AND CONDENSER UNITS.
 - CONTROLS - UNITS SHALL BE CONTROLLED BY MANUFACTURER'S PROPRIETARY TEMPERATURE CONTROL SYSTEM.
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

DEDICATED OUTDOOR AIR UNITS

- BASIS OF DESIGN SHALL REPRESENT THE QUALITY OF UNIT.
- CABINET SHALL INCLUDE FACTORY WIRING, CONTROLS, BLOWERS, FILTERS, INSTALLED INLET AIR THERMISTERS, AND ENTHALPIC HEAT EXCHANGER.
- APPROVED MANUFACTURER: PREMISYS.

AIR TERMINALS

- SCHEDULED GRILLES, REGISTERS, AND DIFFUSERS SHALL BE THE BASIS OF DESIGN. UNITS OF SIMILAR CONSTRUCTION AND CAPABILITIES MAY BE SUBMITTED FOR REVIEW. DEVICES SHALL DISTRIBUTE THE QUANTITY OF AIRFLOW UNIFORMLY THROUGHOUT THE INDICATED SPACE WITHOUT CAUSING NOTICEABLE NOISE OR DRAFTS.
- PROVIDE ALL DEVICES FOR COMPLETE INSTALLATION DEPENDING ON LOCATION OF INSTALLATION (IE: A.C. OR HARD LID CEILINGS).
- INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND AS NOTED ON PLANS.

AIR BALANCING

- SCOPE OF WORK INCLUDES SETTING VOLUME (FLOW) AND SPEED ADJUSTMENTS TO HVAC. INSTRUMENTATION USED TO BALANCE THIS SYSTEM SHALL BE IN GOOD CONDITION AND MAINTAINED. IF REQUIRED BY THE OWNER, THE TESTS SHALL BE DONE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
- THE BALANCER SHALL BE AN INDEPENDENT FIRM THAT SPECIALIZES IN BALANCING AND TUNING OF PUMPING SYSTEMS AND AIR MOVING EQUIPMENT AIR DISTRIBUTION AND EXHAUST SYSTEMS. THE BALANCER SHALL PROVIDE PROOF OF HAVING SUCCESSFULLY COMPLETED FIVE PROJECTS OF SIMILAR SCOPE. TESTING AND ADJUSTING SHALL BE PERFORMED IN ACCORDANCE WITH NEBB OR AABC STANDARDS AND PROCEDURES.
- DAMAGE DONE TO THE SYSTEM BY THE BALANCER SHALL BE HIS/HER RESPONSIBILITY TO RECTIFY. NEATLY TYPED RECORDS SHALL BE MAINTAINED AT ALL STEPS, ADJUSTMENTS, AND BEGINNING AND FINAL READINGS. THE RECORDS SHALL ALSO INCLUDE MEASUREMENT LOCATIONS, DESIGN CAPACITIES, AND DATES AND NAMES OF PERSONNEL INVOLVED. FINAL SETTINGS SHALL BE CLEARLY MARKED ON EACH BALANCING DEVICE.
- CHECK OUT TEMPERATURE CONTROLS TO ASSURE PROPER CONTROL SEQUENCE, PROPER CONTROL SETTINGS, AND PROPER CONTROL CALIBRATION. REPORT MALFUNCTIONS IN LOGS UNDER 'ADDITIONAL REMARKS.'
- AIR BALANCE LOG:
 - TEST AND ADJUST ENTIRE SYSTEM WITHIN SCOPE OF WORK. VOLUMES SHALL BE WITHIN 10% OF DESIGN REQUIREMENTS.
 - MEASURE TOTAL STATIC PRESSURE INCLUDING DUCT SYSTEM, TERMINAL UNITS, FILTERS, ETC.
 - ADJUST AND RECORD SYSTEM TO DESIGN RECIRCULATED AIR CFM.
 - DIFFUSERS, GRILLES AND REGISTERS SHALL BE ADJUSTED TO MINIMIZE DRAFTS IN ALL AREAS.
 - ALL FILTERS SHALL BE CLEAN AND IN PLACE BEFORE STARTING FANS.
 - DATA: RECORD AND CHECK THE FOLLOWING SYSTEMS AND EQUIPMENT.
 - AIR TERMINALS: SUPPLY, RETURN, OR EXHAUST IDENTIFICATIONS, CATALOGUE IDENTIFICATION, APPLICATIONS FACTORS, DESIGN AND RECORDED VELOCITIES AND AIR QUANTITIES, AND STATIC PRESSURES.

COPPER LINESET

- COPPER LINESET SHALL BE USED FOR REFRIGERANT PIPING.
- SIZE OF PIPING SHALL BE PER THE MANUFACTURER'S RECOMMENDATION AND REQUIREMENTS.
- MATERIALS FOR COPPER LINESET SHALL BE SOFT ANNEALED COPPER. CONTRACTOR TO SELECT END FINISHING TO SUIT INSTALLATION AND MANUFACTURER'S RECOMMENDATION.

PLASTIC PIPE

- PVC PIPE SHALL BE USED FOR CONDENSATE PIPING.
- PVC PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS SHALL BE PER IAPMO INSTALLATION STANDARD (IS) 09-03. "PVC BUILDING DRAIN, WASTE, AND VENT PIPE AND FITTINGS."

PIPING SYSTEM SPECIALTIES

- SPECIALTY PIPE SYSTEMS SHALL BE CONSTRUCTED OF MATERIALS THAT ARE COMPATIBLE WITH THE TYPE OF PIPING MATERIAL AND FLUIDS IN THE SYSTEM. THEY SHALL BE RATED FOR THE TEMPERATURES AND PRESSURES OF THE SYSTEMS IN WHICH THE VALVES ARE INSTALLED.
- PROVIDE DIELECTRIC BREAKS BETWEEN DISSIMILAR METALS.
- TEST PLUGS: PROVIDE NIPPLES AND COUPLINGS TO MAKE THE TEST PLUGS EXTEND THROUGH THE INSULATED PIPE.

VALVES

- VALVES SHALL BE CONSTRUCTED OF MATERIALS THAT ARE COMPATIBLE WITH THE TYPE OF PIPING MATERIAL AND FLUIDS IN THE SYSTEM. VALVES SHALL BE RATED FOR THE TEMPERATURES AND PRESSURES OF THE SYSTEMS IN WHICH THE VALVES ARE INSTALLED.

PIPE TESTING

- CONDENSATE PIPING SHALL BE TESTED WITH AT LEAST 10 FOOT HEAD OF WATER FOR A PERIOD OF NOT LESS THAN 15 MINUTES. TESTS SHALL BE PER UPC CHAPTER 7. TEST GAUGES SHALL BE PER UPC 318.
- REFRIGERANT PIPING SHALL BE TESTED FOR A PERIOD OF NOT LESS THAN 60 MINUTES AT A PRESSURE NOT LOWER THAN THE DESIGN PRESSURES OR THE SETTING OF THE PRESSURE RELIEF DEVICES. TEST PER IMC SECTION 1110.
- PIPING IS CONSIDERED "PASSED" IF THE PRESSURE REMAINS UNCHANGED FOR THE DURATIONS LISTED ABOVE.

REFRIGERANT PIPE INSULATION

- RUBBER OR FLEXIBLE FOAM STYLE INSULATION FOR REFRIGERANT PIPING SYSTEMS SHALL BE PROVIDED WITH LINESET.
- PROVIDE PER THE WSEC AND THE MANUFACTURER'S PUBLISHED INSTRUCTIONS. INSULATION THICKNESSES SHALL WITH WSEC.
- LINESET PIPING EXPOSED TO WEATHER SHALL BE PROTECTED FROM DAMAGE. PROVIDE ARMORED SHIELD OR EQUAL IN AREAS THAT ARE EXTERIOR TO THE BUILDING ENVELOPE OR AREAS THAT ARE SUBJECT TO DAMAGE.

APPLICABLE CODES

AS ADOPTED BY THE CITY OF PUYALLUP, WASHINGTON

INTERNATIONAL MECHANICAL CODE, IMC 2018
INTERNATIONAL BUILDING CODE, IBC 2018
WASHINGTON STATE ENERGY CODE, WSEC 2018
INTERNATIONAL FUEL GAS CODE, IFGC 2018
UNIFORM PLUMBING CODE, UPC 2018

AND ASSOCIATED WASHINGTON ADMINISTRATIVE CODE AMENDMENTS

DESIGN CONDITIONS

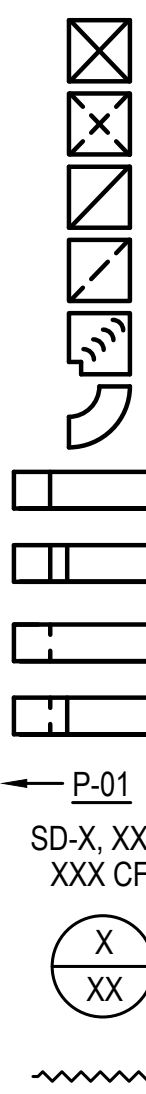
OUTDOOR CONDITIONS (PUYALLUP)
COOLING: 86°F DB (WSEC)
HEATING: 26°F DB (WSEC)

INDOOR CONDITIONS
COOLING: 75°F DB, 50% RH
HEATING: 70°F DB

SCOPE OF WORK

- PROVIDE VRF SYSTEMS FOR CLASSROOM ADDITION.
- PROVIDE DOAS SYSTEMS FOR ADDITION VENTILATION, PROVIDE DEMAND CONTROL VENTILATION IN CLASSROOM SPACES.

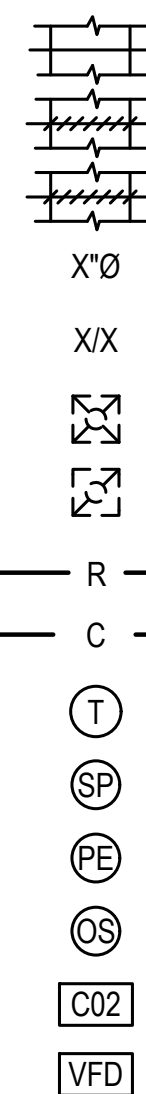
SYMBOL



DESCRIPTION

SUPPLY DUCT, OSA DUCT UP
SUPPLY DUCT, OSA DUCT DOWN
RETURN, RELIEF, TRANSFER UP
RETURN, RELIEF, TRANSFER DOWN
RECTANGULAR ELBOW WITH TURNING VANES
ROUND/ RECTANGULAR ELBOW
RECTANGULAR DUCT SQUARE ELBOW UP
RECTANGULAR DUCT, RADIUS ELBOW UP
RECTANGULAR DUCT, SQUARE ELBOW DOWN
RECTANGULAR DUCT, RADIUS ELBOW DOWN
EQUIPMENT ABBREVIATION AND NUMBER (TAG)
AIR TERMINAL TYPE, SIZE, AND CFM
DETAIL NUMBER
DRAWING NUMBER WHERE DRAWN
FLEXIBLE DUCT

SYMBOL

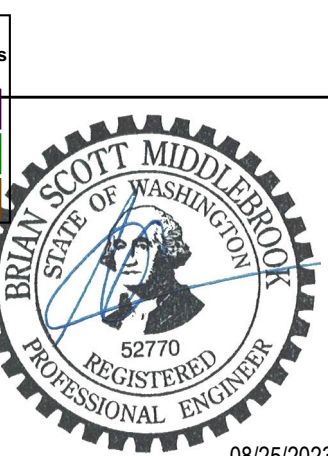
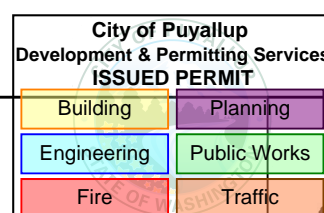


DESCRIPTION

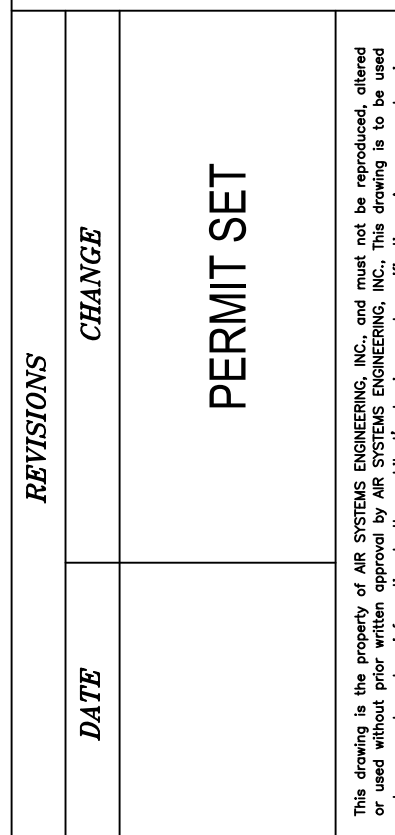
VOLUME DAMPER (VD)
MOTORIZED DAMPER
BACKDRAFT DAMPER
ROUND DUCT
SQUARE DUCT
SQUARE 4-WAY CEILING DIFFUSERS
RETURN/ EXHAUST GRILLE
REFRIGERANT PIPING
CONDENSATE
THERMOSTAT (TSTAT)
SPACE PRESSURE SENSOR
PRESSURE ELEMENT
OCCUPANCY SENSOR
CARBON DIOXIDE SENSOR
VARIABLE FREQUENCY DRIVE

ABBREVIATIONS

(E)	EXISTING	LAT	LATERAL
AABC	AMERICAN AIR BALANCE COUNCIL	LBLBS#	POUNDS
AFF	ABOVE FINISHED FLOOR	LF	LINEAR FEET
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	LVL	LEVEL
AG	AIR GAP	MAX	MAXIMUM
AGA	AMERICAN GAS ASSOCIATION	MC	MECHANICAL CONTRACTOR
AHRI	AIR CONDITIONING, HEATING, & REFRIGERATION INSTITUTE	MCA	MAXIMUM CIRCUIT AMPACITY
AMP	AMPERAGE	MERV	MINIMUM EFFICIENCY REPORTING VALUE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS	MF/GMFR	MANUFACTURER MINIMUM
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	MOCPI/ MOP	MAXIMUM OVER CURRENT PROTECTION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MSS	MANUFACTURER'S STANDARDIZATION SOCIETY
BAS	BUILDING AUTOMATION SYSTEM	NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
BHP	BREAK HORSE POWER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CFM	CUBIC FEET PER HOUR	OC	ON CENTER
COND	CONDENSATE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CONFIG	CONFIGURATION	NO	NUMBER
CSA	CANADIAN STANDARDS ASSOCIATION	NOM	NOMINAL
DB	DRY BULB	NTS	NOT TO SCALE
DC	DOUBLE CHECK	OSA	OUTSIDE AIR
DDC	DIRECT DIGITAL CONTROLS	PH	PHASE
dF	DEGREES FAHRENHEIT	PSF	POUNDS PER SQUARE FOOT
DIA	DIAMETER	RA	RETURN AIR
DN	DOWN	RH	RELATIVE HUMIDITY
DOAS	DEDICATED OUTSIDE AIR SYSTEM	RP	REDUCED PRESSURE
DX	DIRECT EXPANSION	RPM	REVOLUTIONS PER MINUTE
EA	EXHAUST AIR	SA	SUPPLY AIR
EAT	ENTERING AIR TEMPERATURE	SF	SQUARE FEET
EC	ELECTRICAL CONTRACTOR	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
ECM	ELECTRICALLY COMMUTATED MOTOR	SPEC	SPECIFICATION
EFF	EFFICIENCY	THRD	THREADED
ESP	EXTERNAL STATIC PRESSURE	TYP	TYPICAL
ETC	ET CETERA	UL	UNDERWRITERS LABORATORY
EX. SP.	EXTERNAL STATIC PRESSURE	UPC	UNIFORM PLUMBING CODE
FLA	FULL LOAD AMPS	VOLT	VOLTAGE
FM	FACTORY MANUAL	VRF	VARIABLE REFRIGERANT FLOW
FT	FEET	VAV	VARIABLE AIR VOLUME
GA	GAUGE	VERT	VERTICAL
HP	HORSEPOWER	W	WITH
HR	HOUR	WIN	WINTER
IBC	INTERNATIONAL BUILDING CODE	WSEC	WASHINGTON STATE ENERGY CODE
IFGC	INTERNATIONAL FUEL GAS CODE	WSFU	WATER SUPPLY FIXTURE UNITS
IMC	INTERNATIONAL MECHANICAL CODE		
IN	INCH		
IU	INDOOR UNIT		



08/25/2023



REVISIONS
CHANGE
DATE

DRAWN
RPG
DESIGN
BSM
DATE
03/23/2022
APPROVED

CASCADE CHRISTIAN JUNIOR HIGH
LEGEND, ABBREVIATIONS, AND GENERAL NOTES
815 21ST STREET SE
PUYALLUP, WASHINGTON 98372

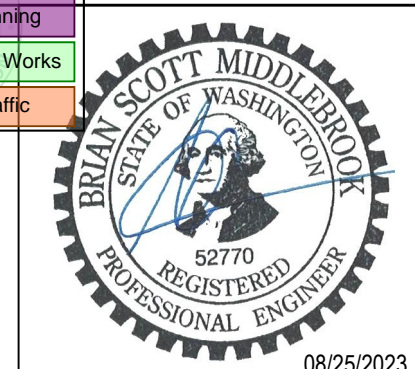
AIR CONDITIONING DESIGN & INSTALLATION
(253) 676-9464
3602 SOUTH PARKWAY, WA 98409

AIR CONDITIONING/SHEET METAL/REFRIGERATION/PROFESSIONAL ENGINEERS/SERVICE & MAINTENANCE

Air Systems Engineering Inc.
COMFORT SYSTEMS USA

SHEET NO.
M1
OR
9
JOB NO.
4126

PRCTI20231318



DEDICATED OUTSIDE AIR UNIT SCHEDULE

UNIT NO	MFR	MODEL	LOCATION	CONFIG	AREA SERVED	SUPPLY FAN DATA					EXHAUST FAN DATA					ENTHALPY WHEEL DATA				GAS HEATER DATA				FILTER	WEIGHT LBS	ELECTRICAL				DISCON FURN BY	NOTES			
						CFM	HP	BHP	ESP	RPM	CFM	HP	BHP	ESP	RPM	WIN EAT	WIN LAT	WIN EFF	SUM EAT	SUM LAT	SUM EFF	WHEEL HP	TYPE			INPUT	OUTPUT	LAT	MCA			MOP	V	PH
DOAS-01	VALENT	VXE-212-52B-0-J-D1	ROOF	VERTICAL DISCHARGE	SECOND FLOOR	4575	3	2.56	0.75	2212	4210	3	2.14	0.75	1256	24	53.6	62.1	86	78.7	66.3	-	INDIRECT	300 MBH	243 MBH	100	MERV 8	3864	27.9	30	208	3	MFG	1, 2, 3, 4, 5, 6, 7

NOTES

- PROVIDE WITH CLASS 1A MOTORIZED LOW LEAKAGE OUTDOOR AIR AND RETURN AIR DAMPERS
- PROVIDE WITH MANUFACTURER'S SEISMICALLY RATED CURB, SLOPED TO MATCH ROOF PITCH.
- PROVIDE WITH STAINLESS STEEL HEAT EXCHANGER.
- ONBOARD CONTROLS LIMITS DISCHARGE AIR TEMPERATURE TO 100 DEGREES FAHRENHEIT.
- PROVIDED WITH 4:1 TURNDOWN.
- UNIT USES LESS THAN 1 W/CFM DURING NORMAL OPERATION.
- MFG TO PROVIDE FACTORY WIRED NON FUSED DISCONNECT.

INDOOR UNIT SCHEDULE

UNIT NO	MFR	MODEL	TYPE	SYSTEM SERVED	AREA SERVED	AIRFLOW CFM	ESP IN. W.C.	OSA CFM	COOLING (MBH)		HEATING (MBH) TOTAL	WEIGHT	ELECTRICAL				DISCON FURN BY	NOTES
									TOTAL	SENSIBLE			MCA	MOP	V	PH		
IU-01	mitsubishi	PLFY-P30	CEILING CASSETTE	OU-01	CLASSROOM 404	747	-	-	30	-	34	60	0.63	15	208	1	EC	1, 2, 3, 4
IU-02	mitsubishi	PLFY-P30	CEILING CASSETTE	OU-01	CLASSROOM 405	747	-	-	30	-	34	90	0.63	15	208	1	EC	1, 2, 3, 4
IU-03	mitsubishi	PLFY-P30	CEILING CASSETTE	OU-01	CLASSROOM 406	747	-	-	30	-	34	90	0.63	15	208	1	EC	1, 2, 3, 4
IU-04	mitsubishi	PEFY-P36	DUCTED	OU-01	HALL EXIST	1200	0.6	-	36	-	40	93	3.33	15	208	1	EC	1, 2, 3, 4
IU-05	mitsubishi	PLFY-P36	CEILING CASSETTE	OU-01	TEACHERS 400	989	-	-	36	-	40	60	1.09	15	208	1	EC	1, 2, 3, 4
IU-06	mitsubishi	PLFY-P24	CEILING CASSETTE	OU-01	CLASSROOM 401	706	-	-	24	-	27	60	0.59	15	208	1	EC	1, 2, 3, 4
IU-07	mitsubishi	PLFY-P24	CEILING CASSETTE	OU-01	CLASSROOM 402	706	-	-	24	-	27	60	0.59	15	208	1	EC	1, 2, 3, 4
IU-08	mitsubishi	PLFY-P24	CEILING CASSETTE	OU-01	CLASSROOM 403	706	-	-	24	-	27	60	0.59	15	208	1	EC	1, 2, 3, 4
IU-09	mitsubishi	PMFY-P12	CEILING CASSETTE	OU-01	HALL 410	328	-	-	12	-	13.5	31	0.26	15	208	1	EC	1, 2, 3, 4

NOTES

- PROVIDE WITH CONDENSATE DRAIN PAN AND CONDENSATE PUMP OPTION.
- PROVIDE WITH ALL APPURTUNANCES NECESSARY FOR A COMPLETE INSTALLATION.
- SEE CORRESPONDING OUTDOOR UNIT SCHEDULE FOR CAPACITY AND EFFICIENCY DATA.
- OSA AIR PROVIDED BY DEDICATED OUTDOOR AIR UNIT PER WSEC C403.3.5.3.

VENTILATION SCHEDULE

ZONE NUMBER	ZONE NAME	PRIMARY AIRFLOW	ZONE OSA, V _{OT}	ROOM NAME	OCCUPANCY DESCRIPTION	A _Z	P _Z DENSITY	P _Z	R _P	OSA _P	R _A	OSA _A	MISC	V _{dz}	DISTRIBUTION EFFECTIVENESS	TOTAL OSA V _{dz}	CORRECTED OSA	EA PER SF	# OF TOILETS	# OF SHOWERS	REQUIRED EA	NOTES
2	DOAS 2		4575	406 CLASSROOM	CLASSROOM 9+	917.7	35	33	10	330	0.12	111		441	0.8	552	555				0	
				400 TEACHERS	MULTIUSE ASSEMBLY	701.2	100	71	7.5	532.5	0.06	43		575.5	0.8	720	720				0	2
				410 HALL	CORRIDOR	944.2	0	0	0	0	0.06	57		57	0.8	72	75				0	
				405 CLASSROOM	CLASSROOM 9+	927.2	35	33	10	330	0.12	112		442	0.8	553	555				0	
				404 CLASSROOM	CLASSROOM 9+	922.3	35	33	10	330	0.12	111		441	0.8	552	555				0	
				401 CLASSROOM	CLASSROOM 9+	921.3	35	33	10	330	0.12	111		441	0.8	552	555				0	
				402 CLASSROOM	CLASSROOM 9+	930.9	35	33	10	330	0.12	112		442	0.8	553	555				0	
				403 CLASSROOM	CLASSROOM 9+	921.3	35	33	10	330	0.12	111		441	0.8	552	555				0	
				EXISTING HALL	CORRIDOR	1551.9	0	0	0	0	0.06	94		94	0.8	118	450				0	2
				MENS	RESTROOM	280.7	0	0	0	0	0	0		0	0.8	0	0		6		420	1
				WOMENS	RESTROOM	341.2	0	0	0	0	0	0		0	0.8	0	0		9		630	1

GENERAL NOTES:

- ZONE NAME AND NUMBER CORRESPONDS TO LOAD CALCULATION.

NOTES:

- EXHAUSTED AT 70 CFM/ FLUSH VALVE FIXTURE.
- AIR FLOW USED FOR TRANSFER AIR INTO RESTROOMS

OUTDOOR UNIT SCHEDULE

UNIT NO	MFR	MODEL	LOCATION	COOLING (MBH)		HEATING (MBH)		WEIGHT (LBS)	ELECTRICAL MODULES				DISCON FURN BY	NOTES
				TOTAL	IEER (SEER)	TOTAL	COP (HPSF)		MCA	MOP	V	PH		
OU-01	mitsubishi	PURY-P216	SECOND FLOOR	216	23.2	243	3.49	598 / 576	43 / 33	70 / 50	208	3	EC	1, 2, 3, 4, 5, 6, 7

NOTES

- COOLING CAPACITY MBH AT 95 D.B. OUTDOOR AND 80 D.B./67 W.B. INDOOR.
- HEATING CAPACITY AND EFFICIENCY AT 43 W.B. OUTDOOR AND 70 D.B. INDOOR.
- PROVIDE ADDITIONAL REFRIGERANT CHARGE AS REQUIRED TO FULLY CHARGE SYSTEM.
- PROVIDE WITH ALL APPURTUNANCES NECESSARY FOR A COMPLETE INSTALLATION.
- PROVIDE WITH R410-A REFRIGERANT.
- PROVIDE ALL UNITS LOCATED OUTDOORS WITH LOCKING REFRIGERANT ACCESS PORT PER IMC 1101.10
- TWINNED UNITS. PROVIDE TWO ELECTRICAL CONNECTIONS.

REVISIONS

CHANGE	DATE
PERMIT SET	

DRAWN BY: RFG
DESIGN BY: BSM
DATE: 03/23/2022
APPROVED

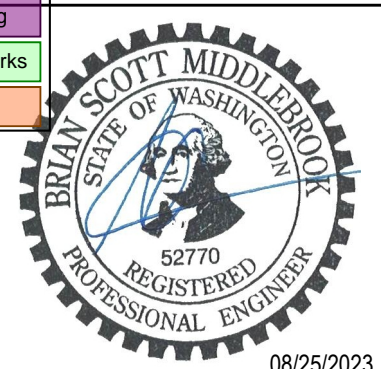
CASCADE CHRISTIAN JUNIOR HIGH SCHEDULES I

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SHEET NO. M2 OF 9 JOB NO. 4126

PRCTI20231318



08/25/2023

AIR TERMINAL SCHEDULE

UNIT NO	MFR	MODEL	MOUNTING TYPE	STYLE	NOTES
SD-01	TITUS	MCD	CEILING	MODULAR CORE	1, 2
SD-02	TITUS	300RS	SIDEWALL	DOUBLE DEFLECTION	1, 2
RG-01	TITUS	50F	CEILING	EGGCRATE RETURN	1, 2
RG-02	TITUS	50F	CEILING	EGGCRATE RETURN	1, 2
RG-03	TITUS	350RL	CEILING	LOUVER FACE	1, 2
TG-01	TITUS	50F	CEILING	EGGCRATE RETURN	1, 2
TG-02	TITUS	50F	CEILING	EGGCRATE RETURN	1, 2

NOTES:
1. PROVIDE AIR BALANCING DEVICE AT EACH AIR TERMINAL.
2. COORDINATE FINISH WITH ARCHITECT.

MISCELLANEOUS EQUIPMENT SCHEDULE

UNIT NO	TYPE	MFG	MODEL	DESCRIPTION/ DATA	NOTES
PRV-01	PRESSURE REDUCING VALVE	MAXITROL	325-5L	2PSI INLET PRESSURE, 500 MBH MAXIMUM LOAD, 1/2"	3
MD-01	MOTORIZED DAMPER	GREENHECK	VCD-20	10X10 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-02	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2
MD-03	MOTORIZED DAMPER	GREENHECK	VCD-20	10X10 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-04	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2
MD-05	MOTORIZED DAMPER	GREENHECK	VCD-20	10X10 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-06	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2
MD-07	MOTORIZED DAMPER	GREENHECK	VCDR-50	6" DAMPER, BUTTERFLY STYLE.	1, 2
MD-08	MOTORIZED DAMPER	GREENHECK	VCDR-50	6" DAMPER, BUTTERFLY STYLE.	1, 2
MD-08	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2
MD-10	MOTORIZED DAMPER	GREENHECK	VCD-20	12x12 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-11	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2
MD-12	MOTORIZED DAMPER	GREENHECK	VCD-20	12x12 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-13	MOTORIZED DAMPER	GREENHECK	VCD-20	10X10 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-14	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2
MD-15	MOTORIZED DAMPER	GREENHECK	VCD-20	10X10 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-16	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2
MD-17	MOTORIZED DAMPER	GREENHECK	VCD-20	10X10 DAMPER, OPPOSED BLADE SINGLE FLANGE.	1, 2
MD-18	MOTORIZED DAMPER	GREENHECK	VCDR-50	12" DAMPER, BUTTERFLY STYLE.	1, 2

NOTES:
1. PROVIDE WITH BELIMO LMB24-3 24V, 45 IN-LB TORQUE, ON/ OFF DAMPER WITHOUT SPRING RETURN.
2. CONTRACTOR TO VERIFY TORQUE REQUIREMENTS BEFORE ORDER.
3. PROVIDE WITH 13A15 VENT PROTECTOR FOR OUTDOOR APPLICATIONS.

SUPPLY, RETURN, EXHAUST, AND RELIEF AIR DUCTWORK INSULATION SCHEDULE

DUCT SYSTEM	DUCT LOCATION AND USE	CLIMATE ZONE	MINIMUM INSTALLED DUCT INSULATION R-VALUE	NOTES
SUPPLY AIR OR RETURN AIR	OUTSIDE THE BUILDING (OUTDOORS AND EXPOSED TO WEATHER)*	4C	R-8	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	OUTSIDE THE BUILDING (OUTDOORS AND EXPOSED TO WEATHER)*	5B	R-12	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	UNCONDITIONED SPACE (ENCLOSED BUT NOT IN THE BUILDING CONDITIONED ENVELOPE)	4C AND 5B	R-5	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR OR RETURN AIR	UNCONDITIONED SPACE WHERE THE DUCT CONVEYS AIR THAT IS WITHIN 15°F OF THE AIR TEMPERATURE OF THE SURROUNDING UNCONDITIONAL SPACE.	4C AND 5B	R-3.3	SEE IMC SECTION 603.12 FOR ADDITIONAL REQUIREMENTS FOR CONDENSATION CONTROL AT DUCTWORK
SUPPLY AIR OR RETURN AIR	WHERE LOCATED IN A BUILDING ENVELOPE ASSEMBLY	4C AND 5B	R-16	DUCT OR PLENUM IS SEPARATED FROM BUILDING ENVELOPE ASSEMBLY WITH THE MINIMUM INSULATION VALUE
SUPPLY AIR	WITHIN CONDITIONED SPACE WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS LESS THAN 55°F OR GREATER THAN 105°F	4C AND 5B	R-3.3	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR	WITHIN CONDITIONED SPACE THAT DUCT DIRECTLY SERVES WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS LESS THAN 55°F OR GREATER THAN 105°F	4C AND 5B	NONE	SEE SECTION C403.10.1.2 FOR DETAILS
SUPPLY AIR	WITHIN CONDITIONED SPACE WHERE THE SUPPLY DUCT CONVEYS AIR THAT IS LESS THAN 55°F OR GREATER THAN 105°F OR LESS	4C AND 5B	NONE	
RETURN OR EXHAUST AIR	WITHIN CONDITIONED SPACE, DOWNSTREAM OF AN ENERGY RECOVERY MEDIA, UPSTREAM OF AN AUTOMATIC SHUT OFF DAMPER.	4C	R-8	
RETURN OR EXHAUST AIR	WITHIN CONDITIONED SPACE, DOWNSTREAM OF AN ENERGY RECOVERY MEDIA, UPSTREAM OF AN AUTOMATIC SHUT OFF DAMPER.	5B	R-12	
RELIEF OR EXHAUST AIR	CONDITIONED SPACE DOWNSTREAM OF AN AUTOMATIC SHUT OFF DAMPER.	4C AND 5B	R-16	

GENERAL NOTES:
1. INSULATION R-VALUES, MEASURED IN h · ft² · °F/RTU, 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.
2. SEE INTERNATIONAL MECHANICAL CODE SECTIONS 603.12 AND 604 FOR FURTHER DETAILS ON DUCT INSTALLATION REQUIREMENTS.
3. INCLUDES ATTIC ABOVE INSULATED CEILINGS, PARKING GARAGES AND CRAWL SPACES.

BRANCH CIRCUIT CONTROLLER SCHEDULE

UNIT NO	MFG	MODEL	WEIGHT LBS	ELECTRICAL				DISCON FURN BY	NOTES
				MCA	MOP	V	PH		
BCC-01	MITSUBISHI	CMB-P1010	132	0.83	15	208	1	EC	1, 2

NOTES:
1. PROVIDE WITH BALL VALVES ON EACH PORT.
2. PROVIDE WITH CONDENSATE PUMP OPTION.

REFRIGERANT MANAGEMENT SCHEDULE

OUTDOOR UNIT	INDOOR UNITS	ROOM NAME	ROOM AREA	ROOM HEIGHT	VOLUME	REFRIGERANT QUANTITY	REFRIGERANT LBS/1000 CF	ALLOWED REFRIGERANT PER 1000 SF	NOTES
OU-02	IU-01	CLASSROOM 404	922.3	10	9223	97.37	10.56	26	
OU-02	IU-02	CLASSROOM 405	927.2	10	9272	97.37	10.50	26	
OU-02	IU-03	CLASSROOM 406	917.7	10	9177	97.37	10.61	26	
OU-02	IU-04	HALL EXIST	1551	10	15510	97.37	6.28	26	
OU-02	IU-05	TEACHERS 400	701.2	10	7012	97.37	13.89	26	
OU-02	IU-06	CLASSROOM 401	921.3	10	9213	97.37	10.57	26	
OU-02	IU-07	CLASSROOM 402	921.3	10	9213	97.37	10.57	26	
OU-02	IU-08	CLASSROOM 403	930.9	10	9309	97.37	10.46	26	
OU-02	IU-09	HALL 410	944.2	10	9442	97.37	10.31	26	

GENERAL NOTES:
1. SYSTEM UTILIZES R410A, REFRIGERANT CLASS HFC, ASHRAE STANDARD 34 SAFETY RATING A1.
2. REFRIGERANT QUANTITIES PER MANUFACTURER.
3. PER IMC TABLE 1103.1, A MAXIMUM OF 26 LBS PER 1000 CUBIC FEET IS ALLOWED.

PIPE INSULATION SCHEDULE

FLUID OPERATING AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL OR TUBE SIZE (inches)				
	BTU · in./h · ft ² · °F	TEMPERATURE, °F	< 1	1 to 1-1/2	1-1/2 to < 4	4 to < 8	≥ 8
> 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	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

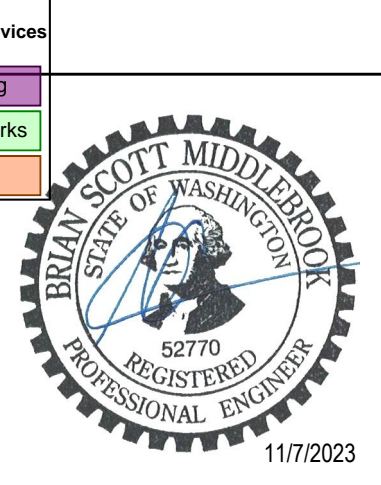
GENERAL NOTES:
1. FOR PIPING SMALLER THAN 1-1/2 INCH (38mm) AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1 INCH (25mm) SHALL BE PERMITTED (BEFORE THICKNESSES REQUIRED IN FOOTNOTE b) NOT TO A THICKNESS LESS THAN 1 INCH (25mm).
2. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:
 $T = ((1 + t/r) ^k - 1)$
WHERE:
T = MINIMUM INSULATION THICKNESS.
r = ACTUAL OUTSIDE RADIUS OF 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/h · ft² · °F)
k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE.
3. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1-1/2 INCHES (38mm) SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE b) BY BUT NOT TO THICKNESS LESS THAN 1 INCH (25mm)

REVISIONS	CHANGE	DATE	PERMIT SET
DRAWN	RFG	DESIGN	BSM
		DATE	03/23/2022
		APPROVED	

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SHEET NO. **M3** OF **9**
JOB NO. **4126**

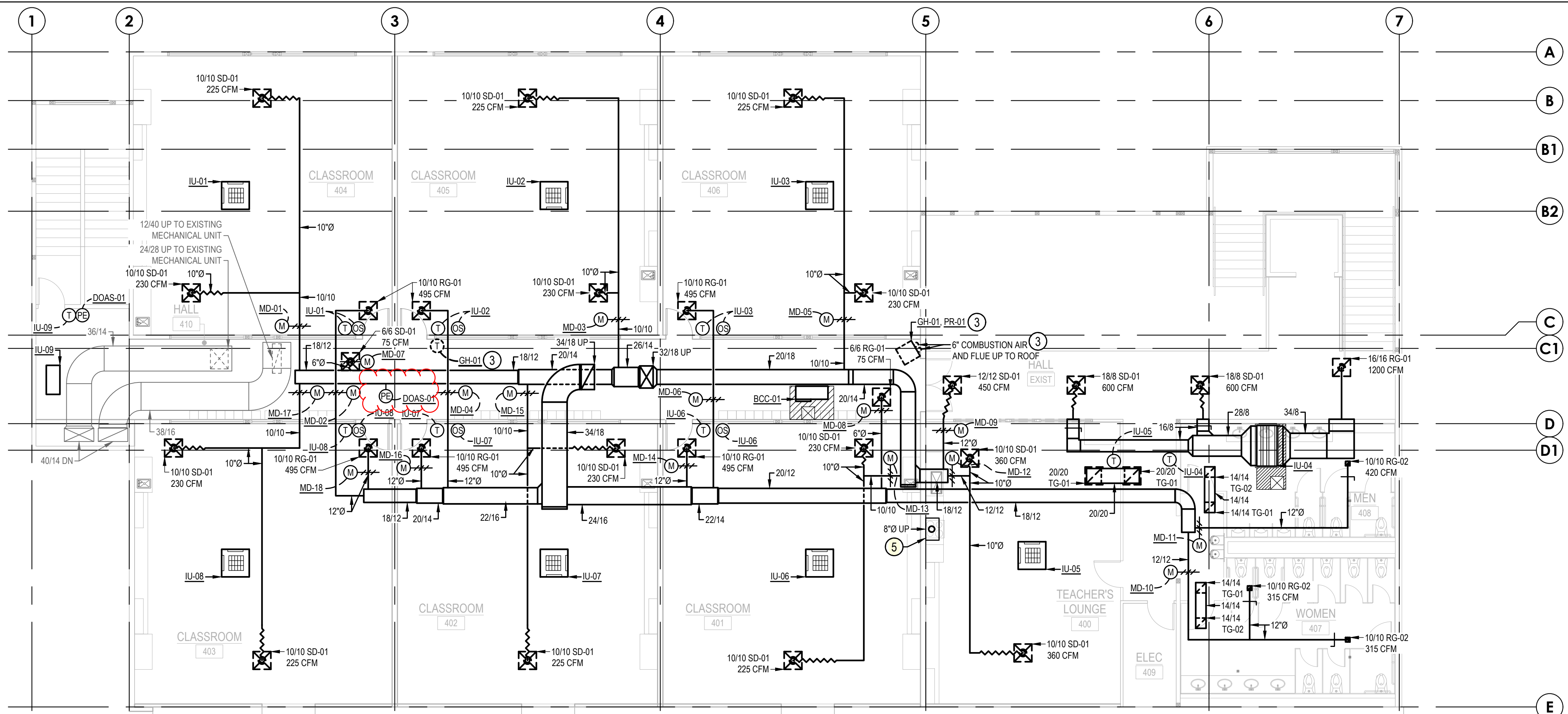


GENERAL NOTES

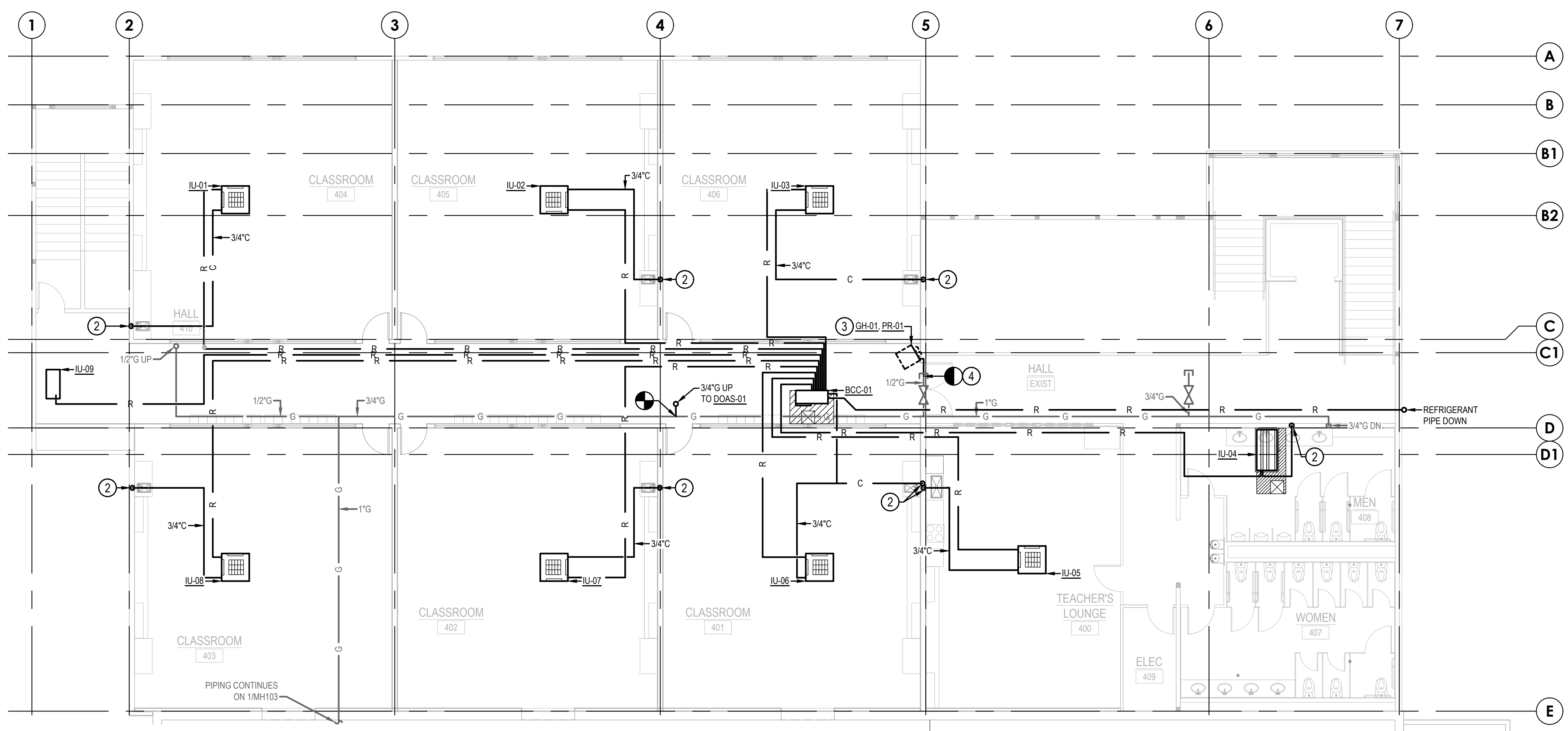
1. LINES AND EQUIPMENT SHOWN DARK IS NEW WORK. LINES AND EQUIPMENT SHOWN LIGHT IS EXISTING TO REMAIN.
2. DUCTWORK IS SCHEMATIC IN NATURE. CONTRACTOR TO PROVIDE ADDITIONAL FITTINGS AND OFFSETS AS REQUIRED TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.
3. PIPING IS SCHEMATIC IN NATURE. CONTRACTOR TO PROVIDE ADDITIONAL FITTINGS AND OFFSETS AS REQUIRED TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.
4. THIS DRAWING WAS CREATED FROM AS BUILT DOCUMENTATION AND FIELD NOTES AND MAY NOT REPRESENT ACTUAL AS BUILT CONDITIONS. CONTRACTOR TO VERIFY SCOPE PRIOR TO COMMENCING WORK. COORDINATE ANY DISCREPANCIES WITH MECHANICAL ENGINEER.

PLAN NOTES

1. INSTALL DUCT PRESSURE SENSOR IN SUPPLY AIR DUCT IN THIS APPROXIMATE LOCATION.
2. ROUTE 3/4" CONDENSATE DOWN WALL TO SINK TAIL PIECE. TAIL PIECE PROVIDED BY PLUMBING CONTRACTOR.
3. DEMOLISH EXISTING UNIT AND ASSOCIATED APPURTENANCES. OWNER HAS FIRST RIGHT OF REFUSAL FOR DEMOLISHED EQUIPMENT.
4. PROVIDE GAS COCK AND PIPE CAP FOR LINE SEGMENT.
5. RESIDENTIAL STYLE RANGE HOOD, PROVIDED BY OTHERS.



1 SECOND FLOOR HVAC PLAN
SCALE: 1/8" = 1'-0"



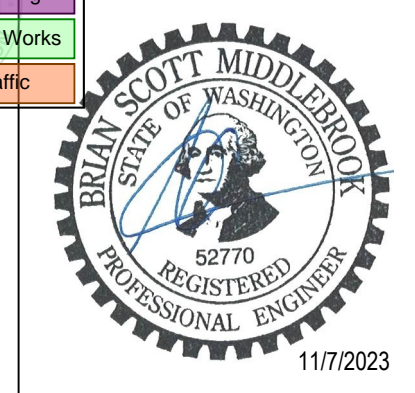
2 SECOND FLOOR PLAN PIPING PLAN
SCALE: 1/8" = 1'-0"

REVISIONS	CHANGE	DATE
	REVISION 1	11/07/2023

DRAWN	DESIGN	DATE	APPROVED
RFG	BSM	03/23/2022	

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SECOND FLOOR PLAN
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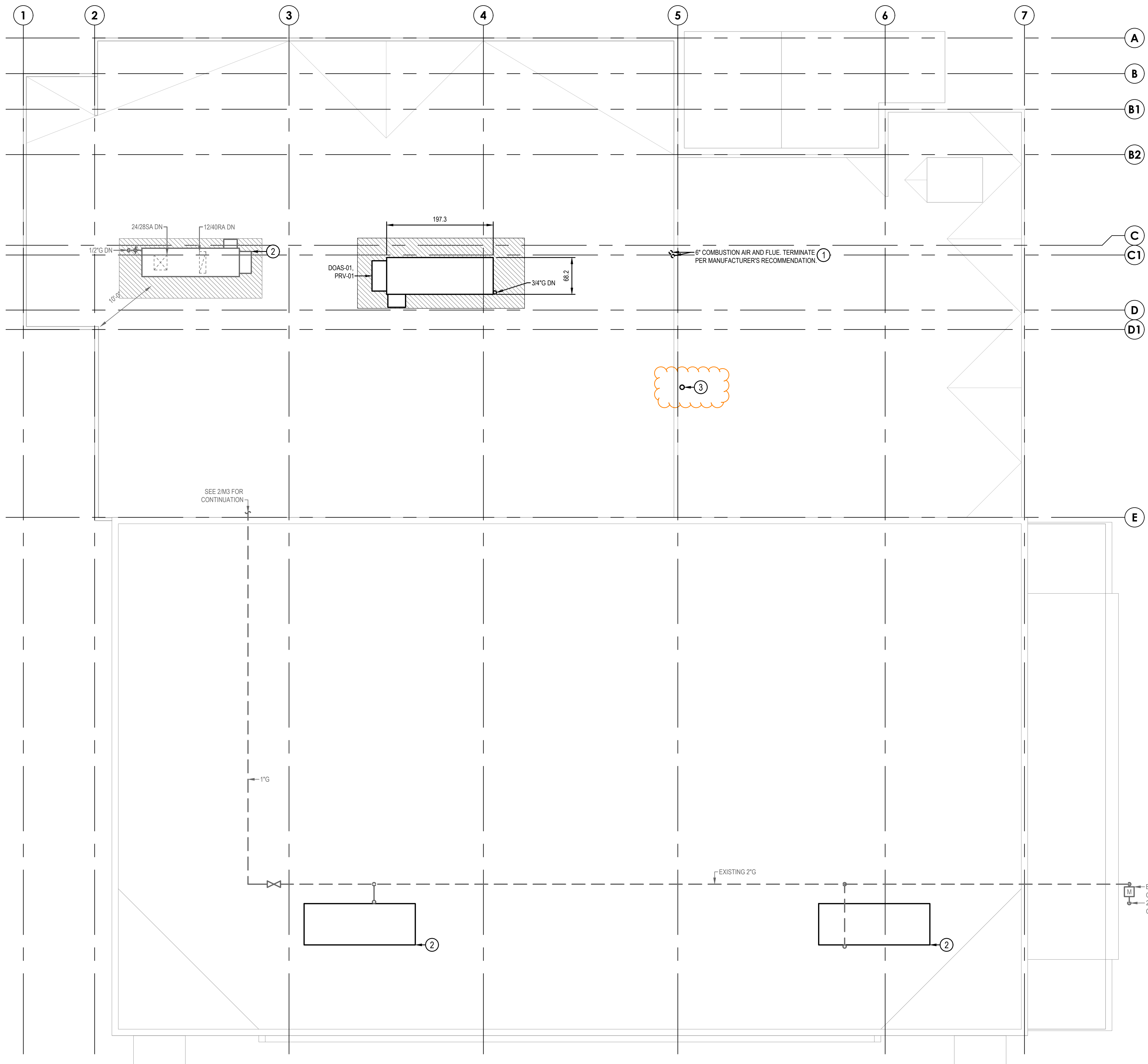


GENERAL NOTES

1. LINES AND EQUIPMENT SHOWN DARK IS NEW WORK. LINES AND EQUIPMENT SHOWN LIGHT IS EXISTING TO REMAIN.
2. DUCTWORK IS SCHEMATIC IN NATURE. CONTRACTOR TO PROVIDE ADDITIONAL FITTINGS AND OFFSETS AS REQUIRED TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.
3. PIPING IS SCHEMATIC IN NATURE. CONTRACTOR TO PROVIDE ADDITIONAL FITTINGS AND OFFSETS AS REQUIRED TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.
4. THIS DRAWING WAS CREATED FROM AS BUILT DOCUMENTATION AND FIELD NOTES AND MAY NOT REPRESENT ACTUAL AS BUILT CONDITIONS. CONTRACTOR TO VERIFY SCOPE PRIOR TO COMMENCING WORK. COORDINATE ANY DISCREPANCIES WITH MECHANICAL ENGINEER.

PLAN NOTES

- ① REMOVE EXISTING GAS UNIT HEATER CONCENTRIC VENT TERMINATION. PATCH ROOF TO MATCH EXISTING.
- ② UNIT PROVIDED UNDER PREVIOUS CONTRACT.
- ③ 8" RANGE VENT TERMINATE WITH A DOWN TURNED 90 ELBOW. PROVIDE SCREEN ON DUCT TERMINATION.



REVISIONS	CHANGE	DATE
	REVISION 1	11/07/2023

DRAWN	DESIGN	DATE	APPROVED
RFG	BSM	03/23/2022	

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ROOF PLAN
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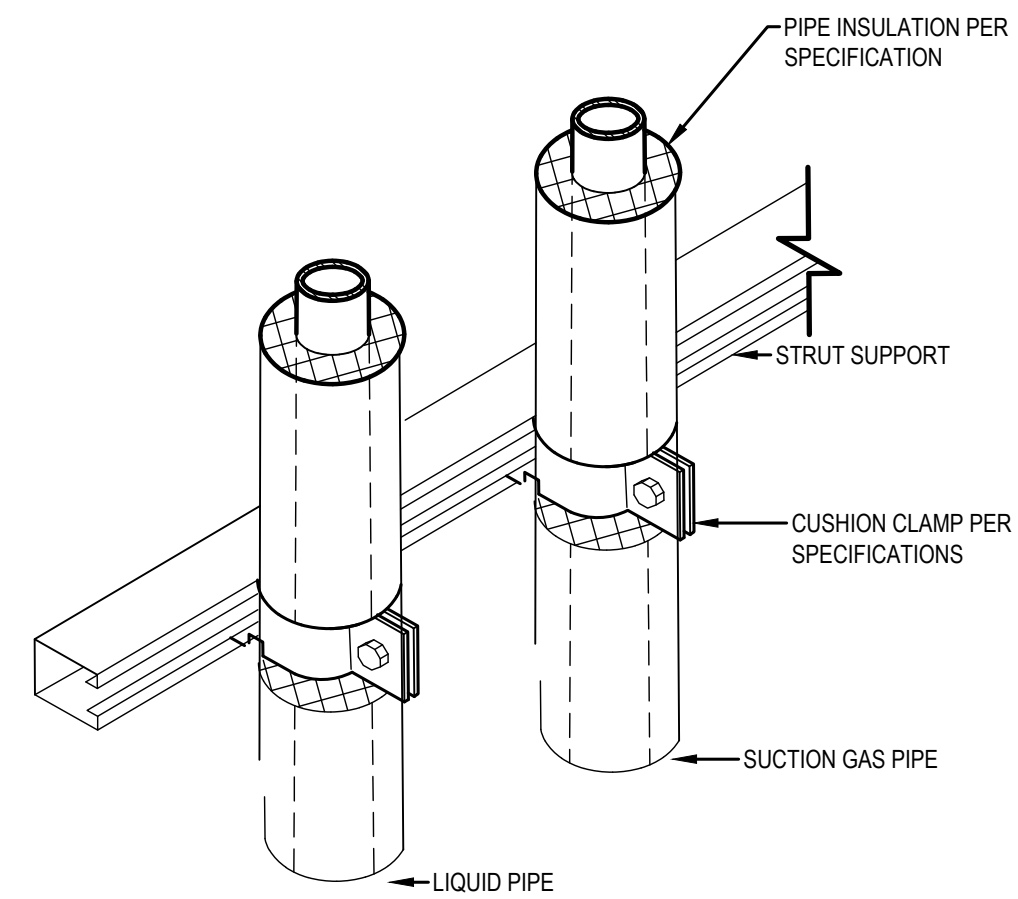
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TACOMA, WA 98409

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

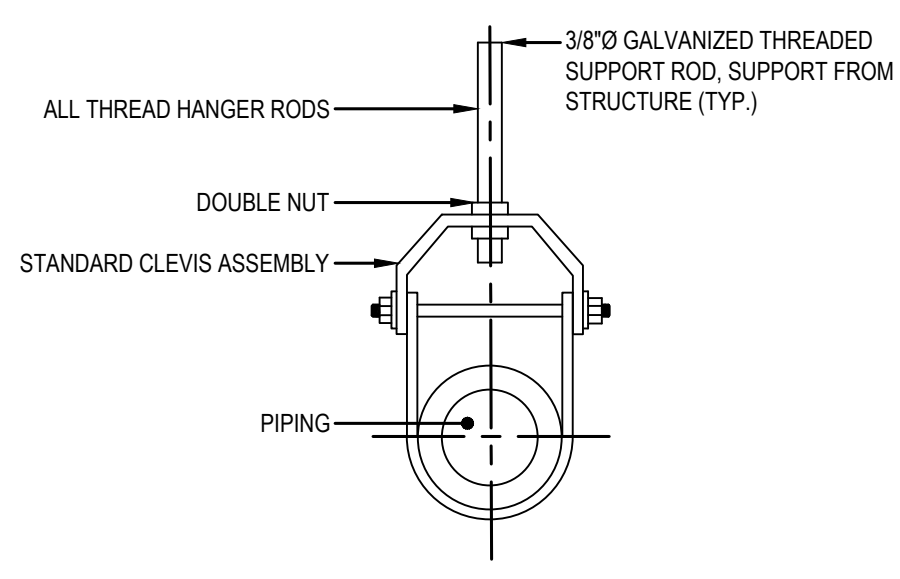
6 M7 7 M7 8 M7 9 M8

SHEET NO. **M6** OF **9**
JOB NO. 4126

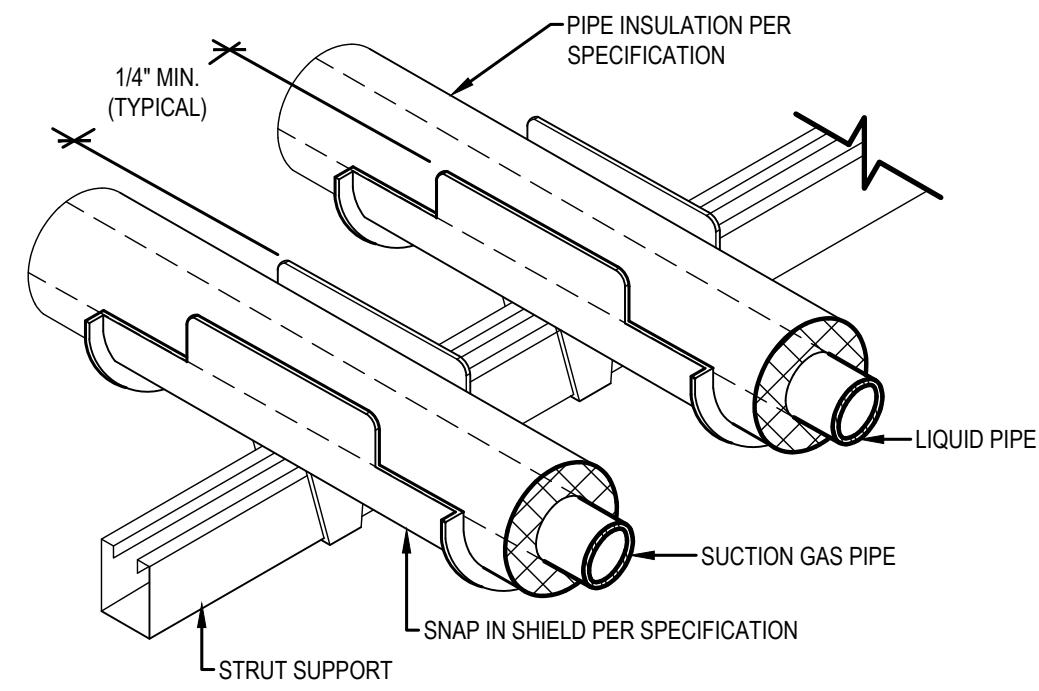
PRCTI20231318



1 VERTICAL REFRIGERANT PIPE SUPPORT DETAIL
SCALE: NTS

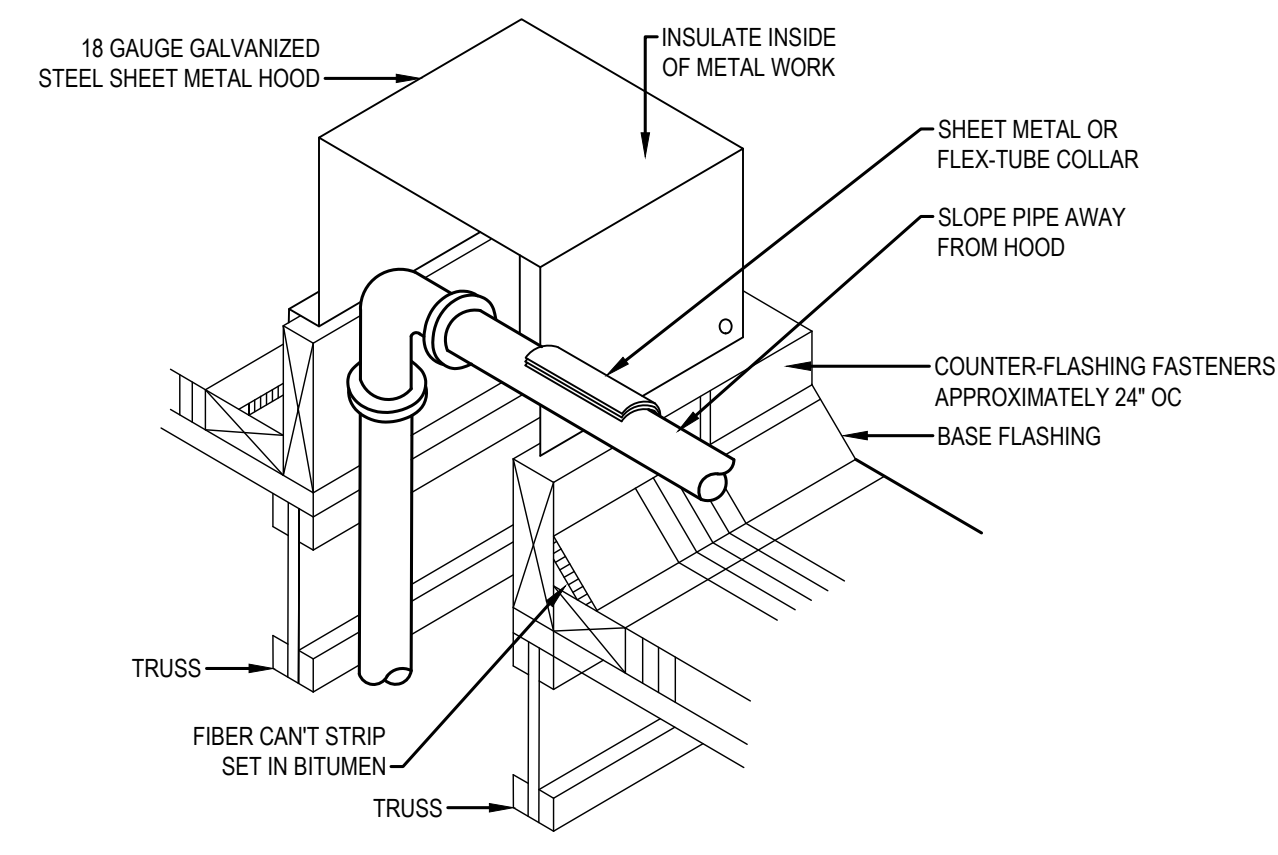


2 PIPE HANGER DETAIL
SCALE: NTS

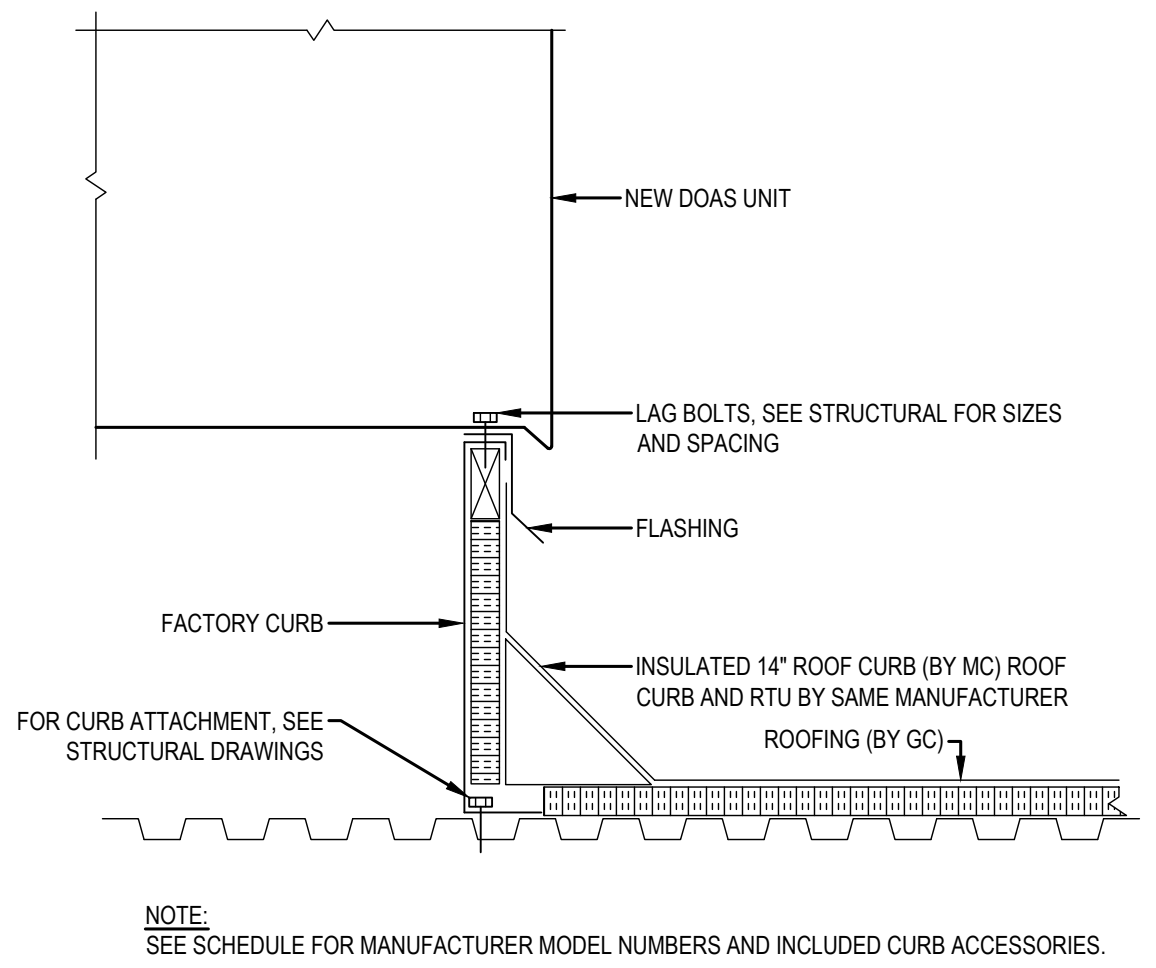


NOTES:
1. SUCTION GAS, DISCHARGE GAS, AND LIQUID PIPES SHALL BE INDIVIDUALLY SUPPORTED. AT NO TIME SHALL PIPES BE COMBINED AND INSTALLED WITHIN THE SAME SNAP IN SHIELD SUPPORT.
2. DETAIL APPLIES TO STRUT AND TRAPEZE STYLE SUPPORTS.

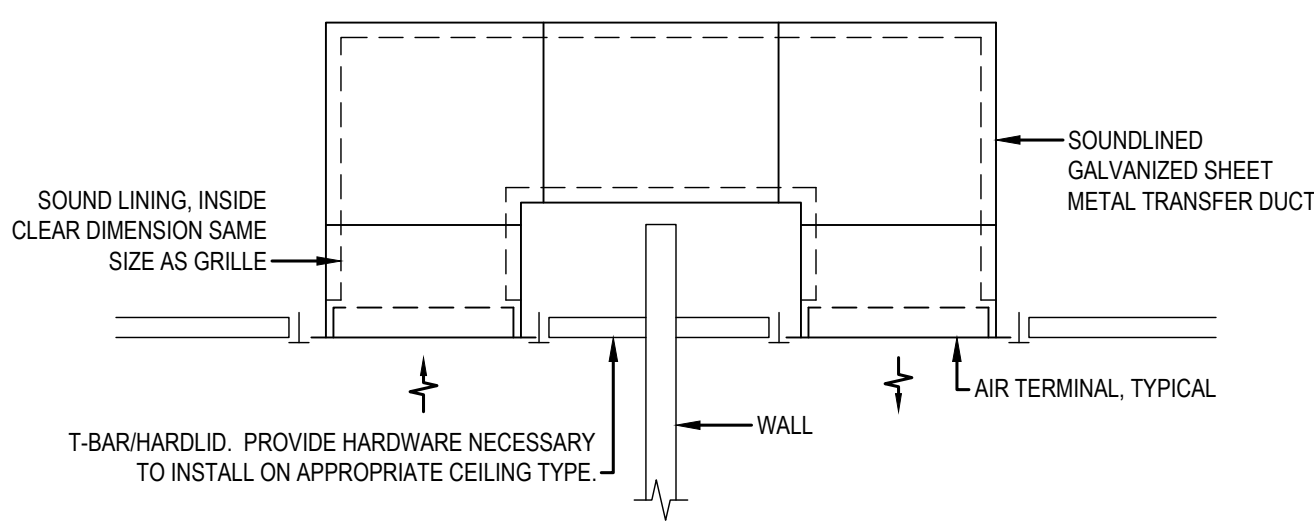
3 REFRIGERANT PIPE SUPPORT DETAIL
SCALE: NTS



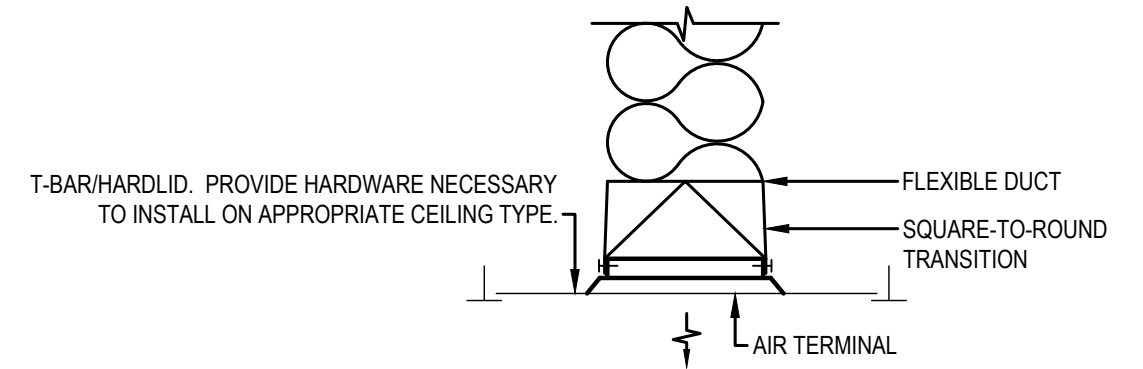
4 ROOFTOP PIPE PENETRATION DETAIL
SCALE: NTS



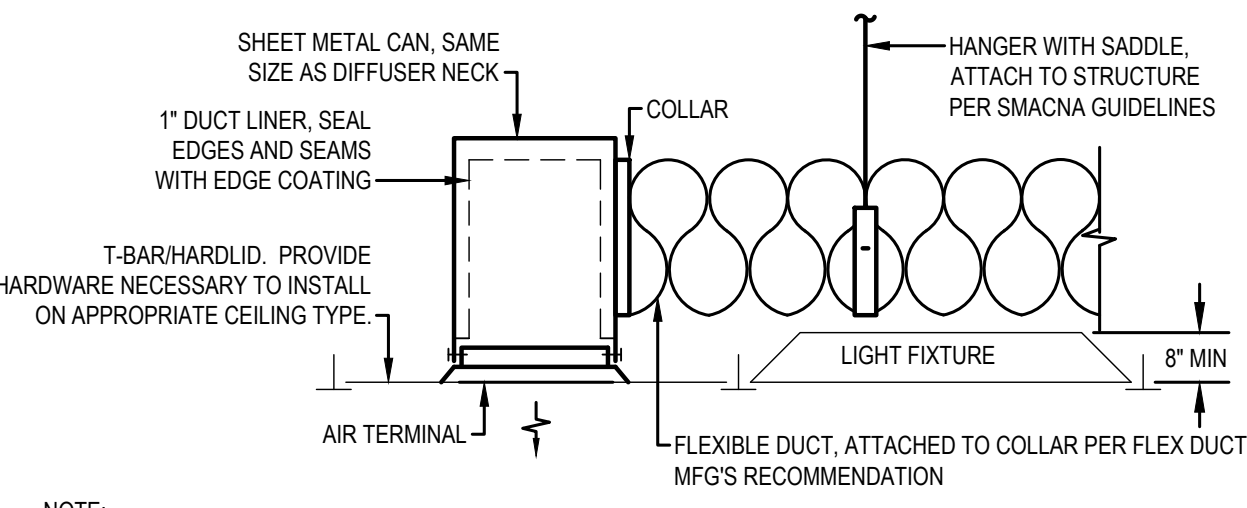
5 DOAS UNIT MOUNTING
SCALE: NTS



6 TRANSFER GRILL INSTALLATION
SCALE: NTS

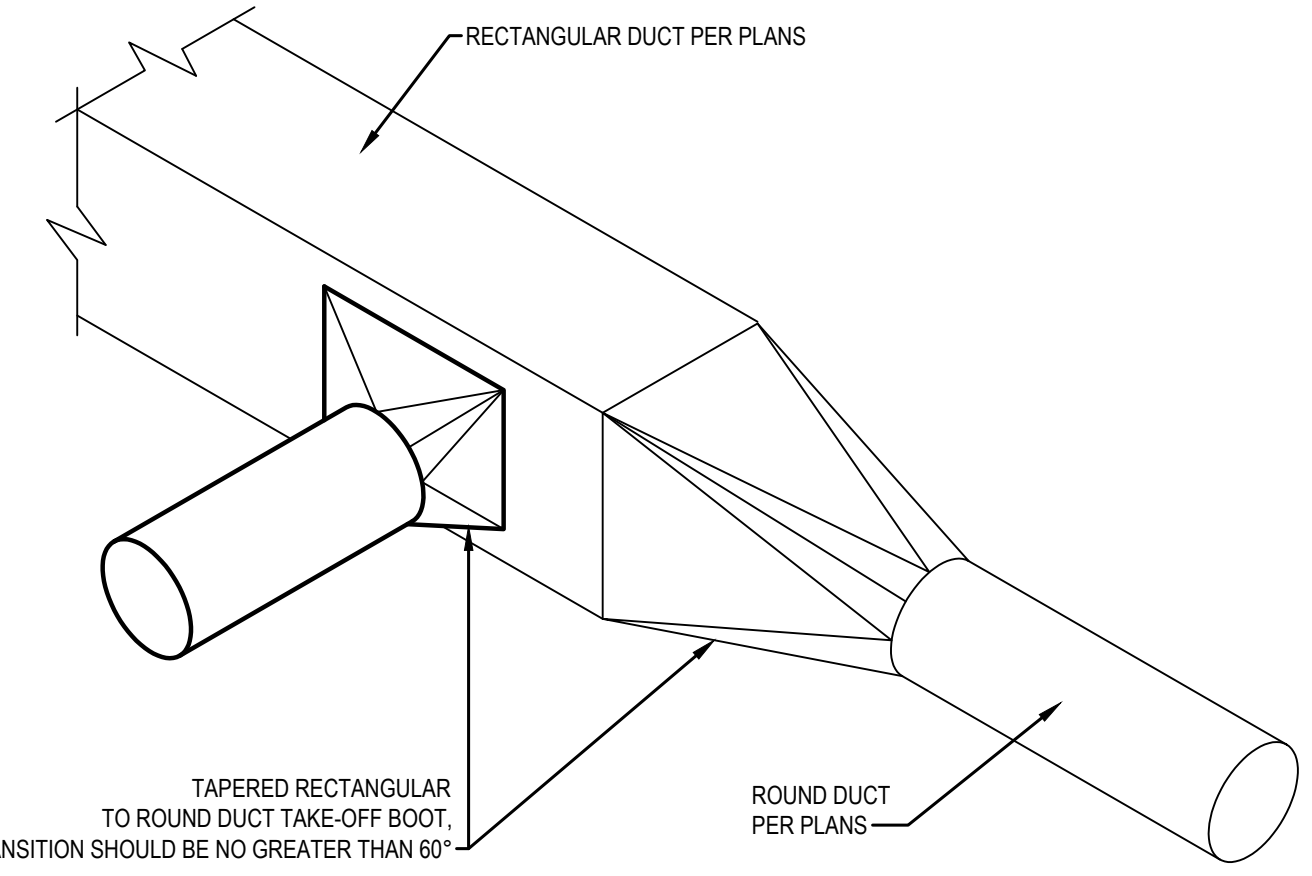


NOTE:
USE THIS TYPE OF CONNECTION WHERE THERE IS ENOUGH CEILING SPACE TO KEEP KINKS OUT OF FLEXIBLE DUCT



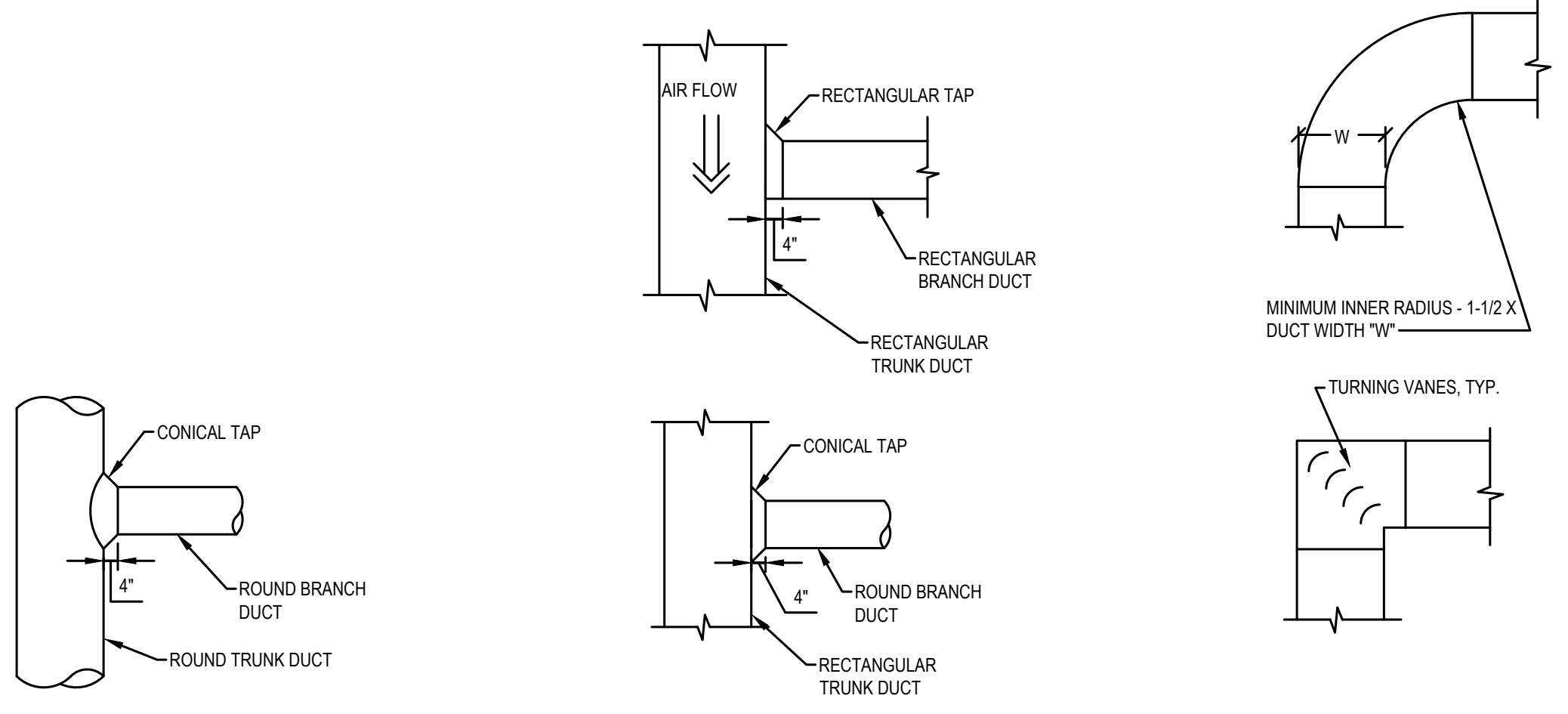
NOTE:
USE THIS TYPE OF CONNECTION IN CONSTRICTED CEILING SPACES

7 TYPICAL SUPPLY AIR TERMINAL INSTALLATION
SCALE: NTS



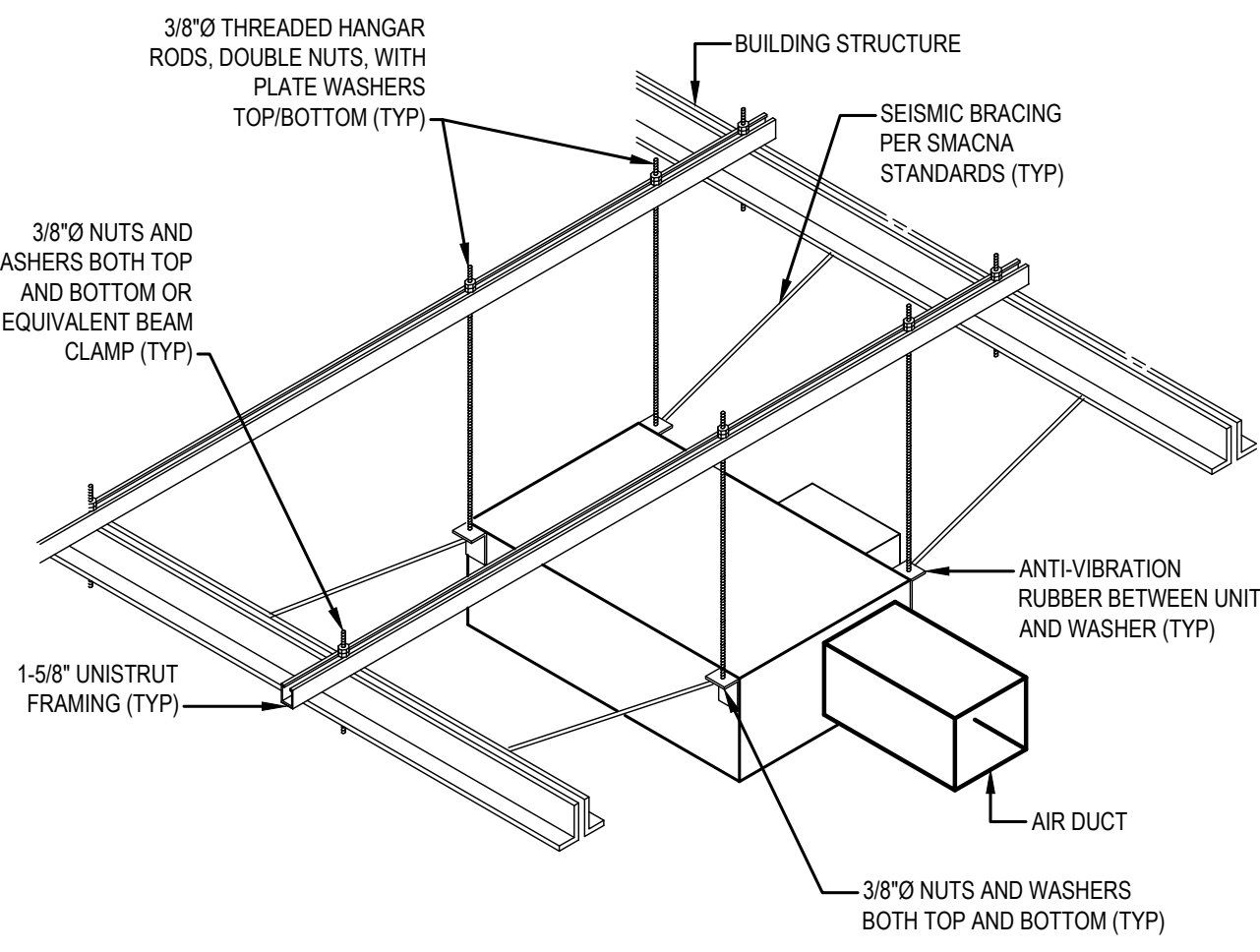
8 RECTANGULAR TO ROUND DUCT TRANSITION INSTALLATION DETAIL
SCALE: NTS

NOTE:
1. MAINTAIN ACCESS CLEARANCE AS NOTED ON PLANS.
2. SEE VRF DIAGRAMS ON M-306 - M308 FOR REFRIGERANT PIPING.
3. ROUTE CONDENSATE PER PLANS.

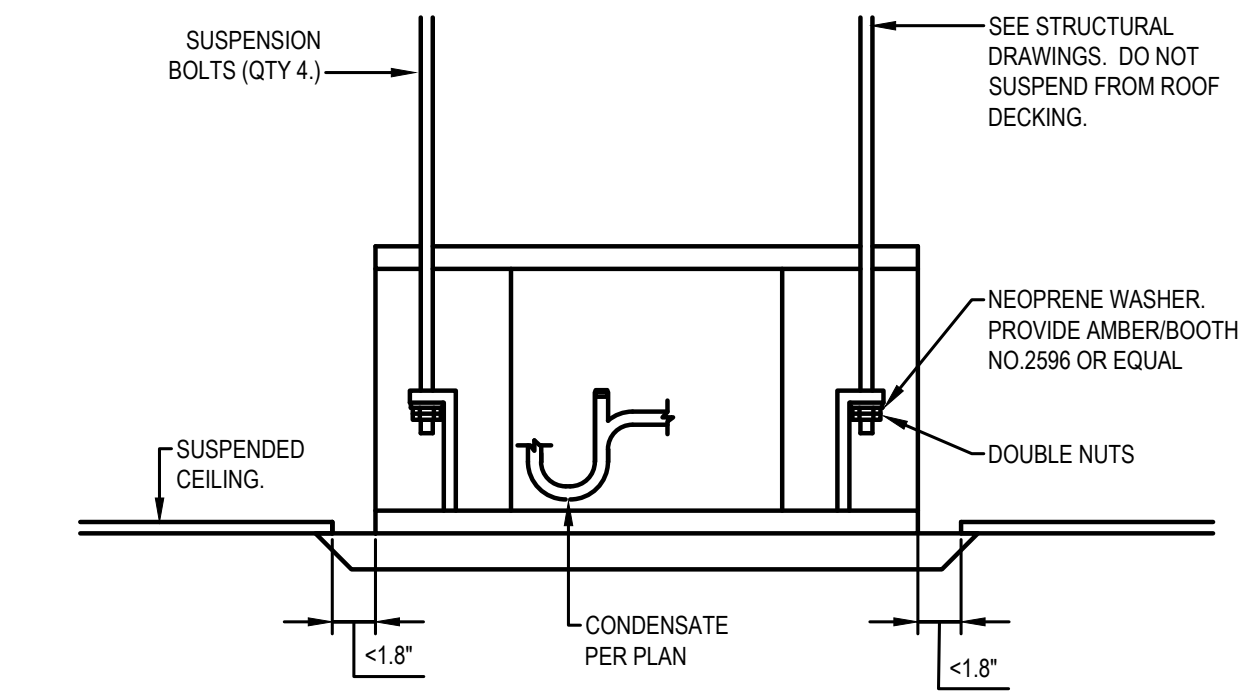


NOTE:
1. CONSTRUCT PER SMACNA DUCT CONSTRUCTION GUIDE, LATEST VERSION.

9 TYPICAL DUCT ELBOW AND DUCT TEE DETAILS
SCALE: NTS



10 TYPICAL SUSPENDED EQUIPMENT
SCALE: NTS



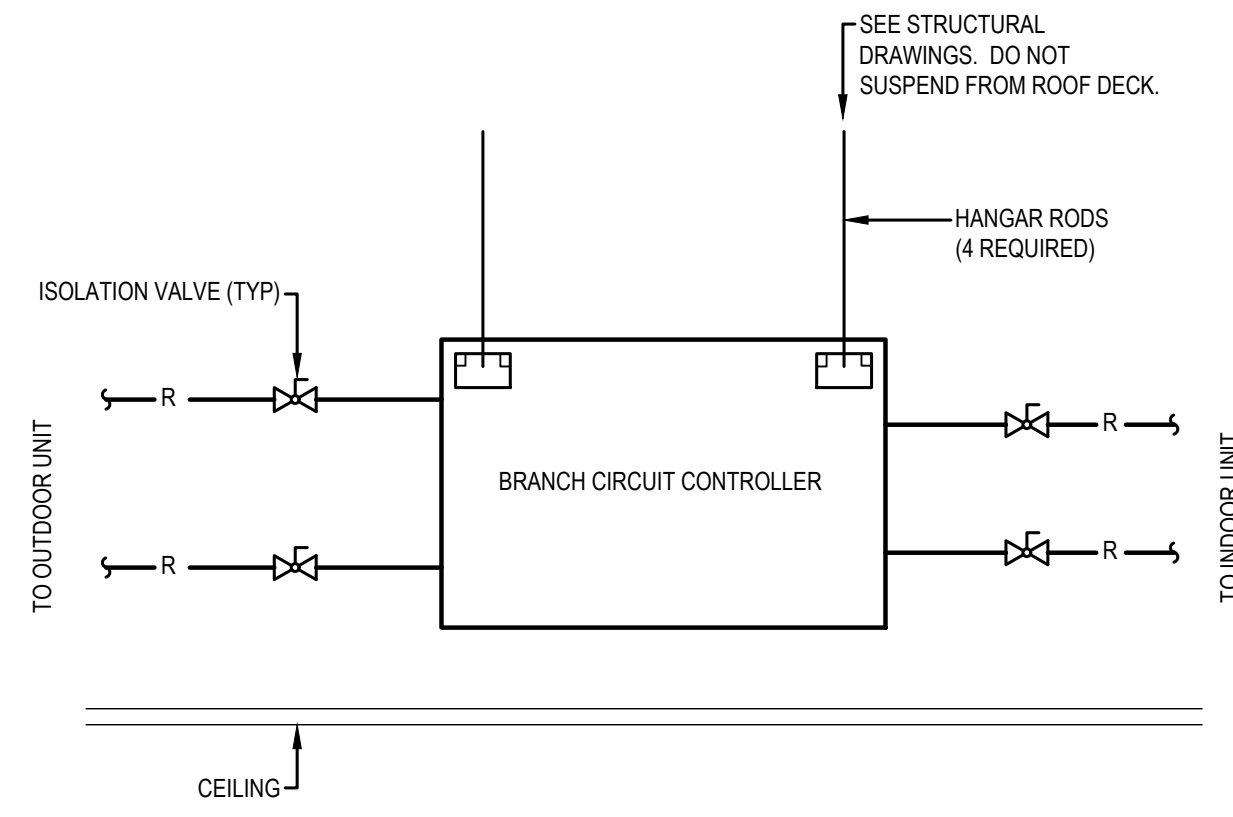
11 INDOOR UNIT INSTALLATION DETAIL
SCALE: NTS

REVISIONS	CHANGE	DATE	PERMIT SET

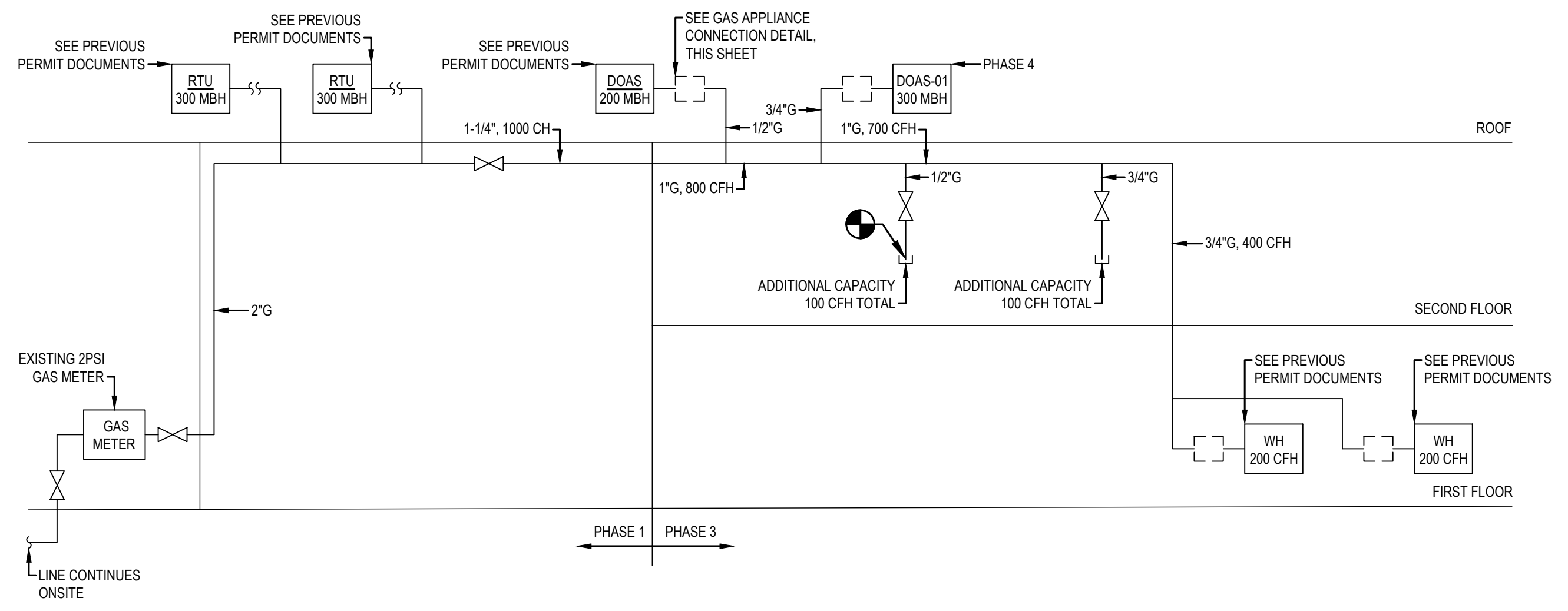
CASCADE CHRISTIAN JUNIOR HIGH
DETAILS I
815 21ST STREET SE
PUYALLUP, WASHINGTON 98372

AIR SYSTEMS ENGINEERING INC.
DESIGN & INSTALLATION
COMFORT USA
AIR CONDITIONING/SHEET METAL/REFRIGERATION/PROFESSIONAL ENGINEERS/SERVICE & MAINTENANCE
(206) 876-9664
3602 SOUTH PINE/FAIRWAY, WA 98409

SHEET NO. **M7** OF **9**
JOB NO. 4126

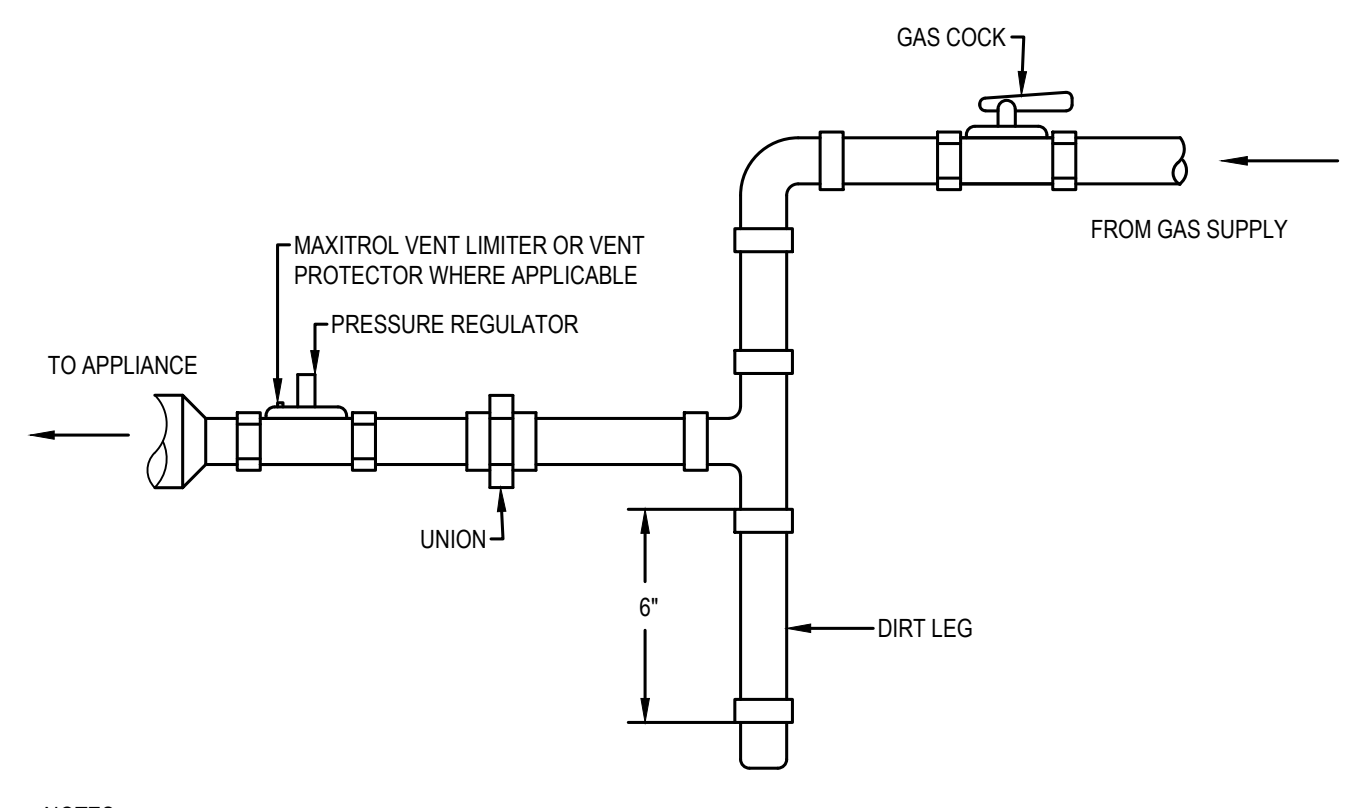


1 VRF BRANCH SELECTOR CONNECTION DETAIL
SCALE: NTS



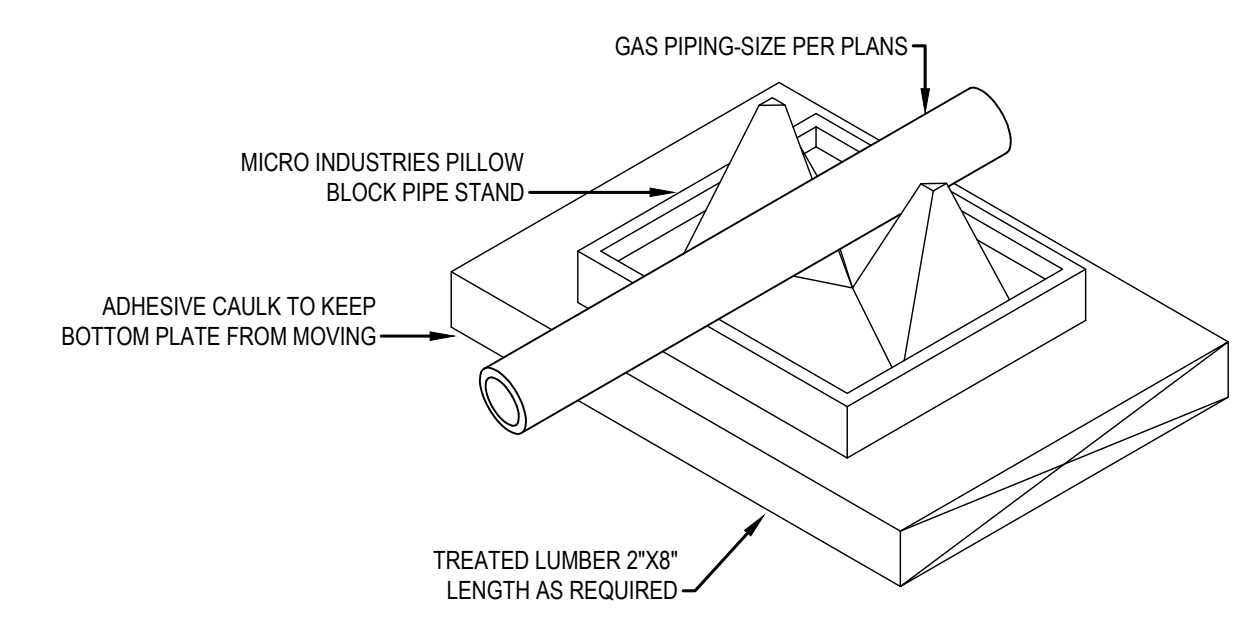
2 GAS FLOW DIAGRAM
SCALE: NTS

NOTES:
1. GAS PIPING SIZED BASED ON TABLE 402.4(5) IFGC 2018, 2 PSI INLET PRESSURE USING THE LONGEST LENGTH METHOD.
2. GAS METER A SHALL ACCOMMODATE 1600 CFH OF NATURAL GAS THROUGH 400 LF.



3 GAS APPLIANCE CONNECTION DETAIL
SCALE: NTS

NOTES:
1. INSTALL GAS CONNECTIONS PER MANUFACTURER'S RECOMMENDATION. REFER TO MECHANICAL DOCUMENTS AND CONSTRUCTION SUBMITTALS FOR MORE INFORMATION.
2. INSTALL TEST PLUGS WHERE APPROPRIATE PER MAXITROL INSTALLATION DIRECTIONS.



4 ROOF TOP GAS PIPING DETAIL
SCALE: NTS

REVISIONS		CHANGE	PERMIT SET
DATE			

DRAWN RFG
DESIGN BSM
DATE 03/23/2022
APPROVED

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Air Systems Engineering Inc.
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SHEET NO. **M8** OF **9**
JOB NO. **4126**

SEQUENCE OF OPERATIONS

- TYPICAL SYSTEM SCHEDULE:**
- OFF HOURS ARE 6:00 PM TO 6:00 AM AND WEEKENDS, ADJUSTABLE.
 - MORNING WARMUP IS TO BE STARTED AT AN "OPTIMAL START" TIME. OCCUPIED HOURS RE 6:00 AM TO 6:00 PM MONDAY THROUGH FRIDAY, ADJUSTABLE.
- TYPICAL SETPOINTS (ADJUSTABLE):**
- HEATING SPACE TEMPERATURE - 70 DEGREES FAHRENHEIT COOLING SPACE TEMPERATURE - 75 DEGREES FAHRENHEIT

MISCELLANEOUS CONTROLS

- GENERAL**
- PROVIDE AND INSTALL ALL NECESSARY DEVICES, RELAYS, SWITCHES, SENSORS, DAMPERS, CONDUIT, AND WIRING TO PROVIDE A COMPLETE AND OPERATIONAL DDC SYSTEM.
 - SYSTEM OCCUPANCY SCHEDULE SHALL BE COORDINATED WITH THE BUILDING OWNER.
 - PID LOOPS: WHENEVER A MOTOR RPM, DAMPER POSITION, OR VALVE POSITION IS TO MODULATE IN RESPONSE TO A SENSOR OUTPUT, A PID LOOP IS TO BE UTILIZED TO ACHIEVE THE DESIRED CONTROL FUNCTION. PID LOOP VARIABLES SHALL BE TUNED PER INDUSTRY STANDARDS. PROPORTIONAL, INTEGRAL AND DERIVATIVE VARIABLES SHALL BE USED.
 - PROPORTIONAL CONTROL: WHENEVER THE TERM PROPORTIONAL IS USED IN THE SEQUENCES IT IS INTENDED THAT PID LOOPS ARE EMPLOYED TO ACHIEVE THAT CONTROL.
 - INTERLOCKS: PROVIDE ALL NECESSARY EQUIPMENT, DEVICES, WIRING, AND PROGRAMMING FOR INTERLOCK OF EQUIPMENT AS SHOWN ON EQUIPMENT SCHEDULES.
- TIMING OF CONTROL WORK:**
- THE CONTROL SYSTEM SHALL BE COMPLETE PRIOR TO BALANCING OF THE PROJECT. CONTROL PERSONNEL ARE TO ASSIST IN SYSTEM OPERATION FOR THE BALANCER. THE CONTROL SYSTEM SHALL BE COMPLETE PRIOR TO HVAC SYSTEM COMMISSIONING AND CONTROL PERSONNEL ARE TO ASSIST IN SYSTEM OPERATION AND TESTING DURING COMMISSION. THE CONTROL SYSTEM SHALL BE COMMISSIONED PRIOR TO OWNER OCCUPANCY.
- INTERLOCKS:**
- PROVIDE ALL NECESSARY EQUIPMENT, DEVICES, WIRING AND PROGRAMMING FOR INTERLOCK OF EQUIPMENT AS SHOWN ON THE EQUIPMENT SCHEDULES.
- EMCS TRACK CHANGES:**
- EMCS SHALL RECORD SOFTWARE CHANGES AND USER LOGIN NAME FROM BEGINNING OF INSTALLATION.
- TRENDING:**
- ALL CONTROL SYSTEM INPUT AND OUTPUT POINTS SHALL BE ACCESSIBLE AND PROGRAMMED FOR TRENDING. A GRAPHIC TRENDING PACKAGE SHALL BE AVAILABLE.

DOAS SEQUENCE

- GENERAL**
- CONTROLLER SHALL BE PROVIDED WITH REQUIRED SENSORS AND PROGRAMMING FOR ROOFTOP UNIT. CONTROLLER SHALL BE FACTORY PROGRAMMED, MOUNTED AND TESTED. CONTROLLER SHALL HAVE A LCD READOUT FOR CHANGING SET POINTS AND MONITORING UNIT OPERATION.
- ZONE SPACE TEMPERATURE SENSORS SHALL BE EQUIPPED WITH PUSHBUTTONS TO PROVIDE UNOCCUPIED OVERRIDE REQUEST. OVERRIDE RUNTIME SHALL BE 2 HOURS (ADJUSTABLE).
 - UNIT SHALL BE PROGRAMMED FOR START/STOP THROUGH THE DDC SYSTEM BASED ON DESIGNED OCCUPIED MODES WITH WEEKDAY, WEEKEND, AND HOLIDAY SCHEDULES.
 - OCCUPIED/UNOCCUPIED MODES: SHALL BE BASED ON A 7-DAY TIME CLOCK INTERNAL TO THE CONTROLLER. THE SCHEDULE SHALL BE SET BY THE END USER.

- SUPPLY BLOWER SEQUENCE:** THE SUPPLY BLOWER IS PROVIDED WITH A FACTORY MOUNTED VARIABLE FREQUENCY DRIVE. THE SUPPLY BLOWER SPEED WILL BE CONTROLLED WITH THE FOLLOWING SEQUENCE.
- SUPPLY FAN SHALL START VIA A SCHEDULE (ADJUSTABLE) OR OVERRIDE COMMAND (ADJUSTABLE). OVERRIDE COMMAND CAN BE TRIGGERED BY A ZONE SPACE TEMPERATURE SENSOR UNOCCUPIED OVERRIDE REQUEST OR BY EMCS USER INTERFACE.
 - OUTSIDE AIR DAMPER SHALL OPEN UPON ACTIVATION AND FAN SHALL START VIA DAMPER END SWITCH. DAMPER SHALL FAIL CLOSED.
 - SUPPLY FAN SPEED VARIES TO MAINTAIN DUCT PRESSURE SETPOINT. SETPOINT SHALL RANGE BETWEEN 0.3" W.C. TO 1.0" W.C. (ADJUSTABLE) BASED ON MOTORIZED DAMPER POSITIONS. AIR BALANCER TO SELECT FINAL SETPOINTS.
 - FAN ALARMS:
 - FAN ALARM ACTIVATES IF FAN STATUS FAILS TO ACTIVATE AFTER FAN HAS BEEN STARTED. PROOF IS VIA SAIL SWITCH. EMCS RECORDS FAN ALARM.
 - HARDWIRE FAN SHUTDOWN UPON ACTIVATION OF FIRE/SMOKE ALARM. EMCS RECORDS FIRE/SMOKE ALARM.
 - HARDWIRE FAN SHUTDOWN UPON HIGH DUCT PRESSURE ALARM ACTIVATION. EMCS RECORDS HIGH PRESSURE ALARM.

- EXHAUST BLOWER SEQUENCE:** THE EXHAUST BLOWER IS PROVIDED WITH A FACTORY MOUNTED VARIABLE FREQUENCY DRIVE. THE EXHAUST BLOWER SPEED WILL BE CONTROLLED WITH THE FOLLOWING SEQUENCE.
- EXHAUST OPERATES WHENEVER THE SUPPLY FAN IS PROVEN ON.
 - EXHAUST DAMPER SHALL OPEN UPON ACTIVATION AND FAN SHALL START VIA DAMPER END SWITCH. DAMPERS SHALL FAIL CLOSED.
 - EXHAUST FAN SPEED VARIES TO MAINTAIN SPACE PRESSURE SETPOINT. SETPOINT SHALL RANGE BETWEEN 0.05" W.C. TO 0.10" W.C. (ADJUSTABLE) WITH RESPECT TO AMBIENT CONDITIONS. AIR BALANCER TO SELECT FINAL SETPOINTS.
 - FAN ALARMS:
 - FAN ALARM ACTIVATES IF FAN STATUS FAILS TO ACTIVATE AFTER FAN HAS BEEN STARTED. EMCS RECORDS FAN ALARM. PROOF IS VIA SAIL SWITCH.
 - HARDWIRE FAN SHUTDOWN UPON ACTIVATION OF FIRE/SMOKE ALARM. EMCS RECORDS FIRE/SMOKE ALARM.
 - HARDWIRE FAN SHUTDOWN UPON HIGH DUCT PRESSURE ALARM ACTIVATION. EMCS RECORDS HIGH PRESSURE ALARM.

DOAS SEQUENCE (CONTINUED)

- HEATING SEQUENCE:**
- THE HEATING IS CONTROLLED TO MAINTAIN THE SUPPLY TEMPERATURE SET POINT. THE HEATING WILL BE LOCKED OUT WHEN THE OUTSIDE AIR IS > 80 F.
 - INDIRECT GAS FURNACE: THE CONTROLLER WILL MODULATE THE INDIRECT GAS FURNACE TO MAINTAIN THE SUPPLY TEMPERATURE SET POINT (ADJ.).
 - INTERNAL CONTROLS PREVENT DISCHARGE TEMPERATURES ABOVE 100°F.

- TEMPERATURE SET POINTS**
- THE CONTROLLER WILL MODULATE THE HEATING AND COOLING TO MAINTAIN AN ACTIVE SET POINT.
- OUTSIDE (OA) RESET: THE CONTROLLER WILL MONITOR THE OUTDOOR AIR TEMPERATURE AND ADJUSTS THE DESIRED SUPPLY TEMPERATURE SET POINT ACCORDINGLY. WHEN THE OUTDOOR AIR IS BELOW 55 F, THE CONTROLLER WILL CHANGE THE SUPPLY SET POINT TO 70 F. IF THE OUTDOOR AIR IS ABOVE 65 F, THE CONTROLLER WILL CHANGE THE SUPPLY SET POINT TO 55 F. IF THE OUTDOOR AIR TEMPERATURE IS BETWEEN 55 F AND 65 F, THE SUPPLY SET POINT CHANGES ACCORDING TO THE OUTDOOR AIR RESET FUNCTION.
 - BUILDING FREEZE PROTECTION: IF THE SUPPLY AIR TEMPERATURE DROPS BELOW 35 F (ADJ.) FOR 5 MINUTES (ADJ.), THE CONTROLLER WILL DE-ENERGIZE THE UNIT AND ACTIVATE THE ALARM OUTPUT AFTER A PRESET TIME DELAY.
 - TEMPERATURE PROTECTION: THE CONTROLLER WILL ENABLE THE SUPPLY FAN TO MODULATE DOWN TO HELP THE UNIT KEEP UP WITH HEATING DEMAND IN THE EVENT OF WHEEL FAILURE OR THE UNIT OPERATING OUTSIDE DESIGN CONDITIONS.

- ENERGY WHEEL FROST CONTROL:** FROST CONTROL FOR THE ENERGY WHEEL IS ENABLED WHEN FROST IS PRESENT ON THE WHEEL, BASED ON THE OUTSIDE AIR TEMPERATURE AND THE PRESSURE DROP ACROSS THE WHEEL. IF THE OUTDOOR AIR TEMPERATURE IS BELOW 5 F, ADJ. AND THE DIFFERENTIAL PRESSURE ACROSS THE WHEEL IS ABOUT 1.5", ADJ. FROST CONTROL WILL ENABLE.
- TIMED EXHAUST (100% OA ONLY): WHEN FROSTING IS OCCURRING, THE SUPPLY BLOWER IS CYCLED (30 MIN. ON / 5 MIN. OFF, ADJ.) TO ALLOW THE WARM EXHAUST AIR TO DEFOST THE WHEEL. ONCE THE PRESSURE DROP DECREASES BELOW THE SET POINT, FROST MODE IS DE-ENERGIZED AND THE SUPPLY BLOWER IS NO LONGER CYCLED.

- ECONOMIZER SEQUENCE:** WHEN THE APPLICATION REQUIRES COOLING, AND THE OUTDOOR AIR CONDITIONS ARE SUITABLE FOR FREE COOLING, THE CONTROLLER WILL MODULATE THE ENERGY WHEEL SPEED TO MAINTAIN THE SUPPLY AIR TEMPERATURE SET POINT.
- DEW POINT/DRY BULB: THE ECONOMIZER WILL BE LOCKED OUT WHEN THE OUTSIDE AIR IS < 40 F DB (ADJ.) OR > 75 F DB(ADJ.) OR > 55 F DEW POINT (ADJ.); OR THERE IS A CALL FOR HEATING.

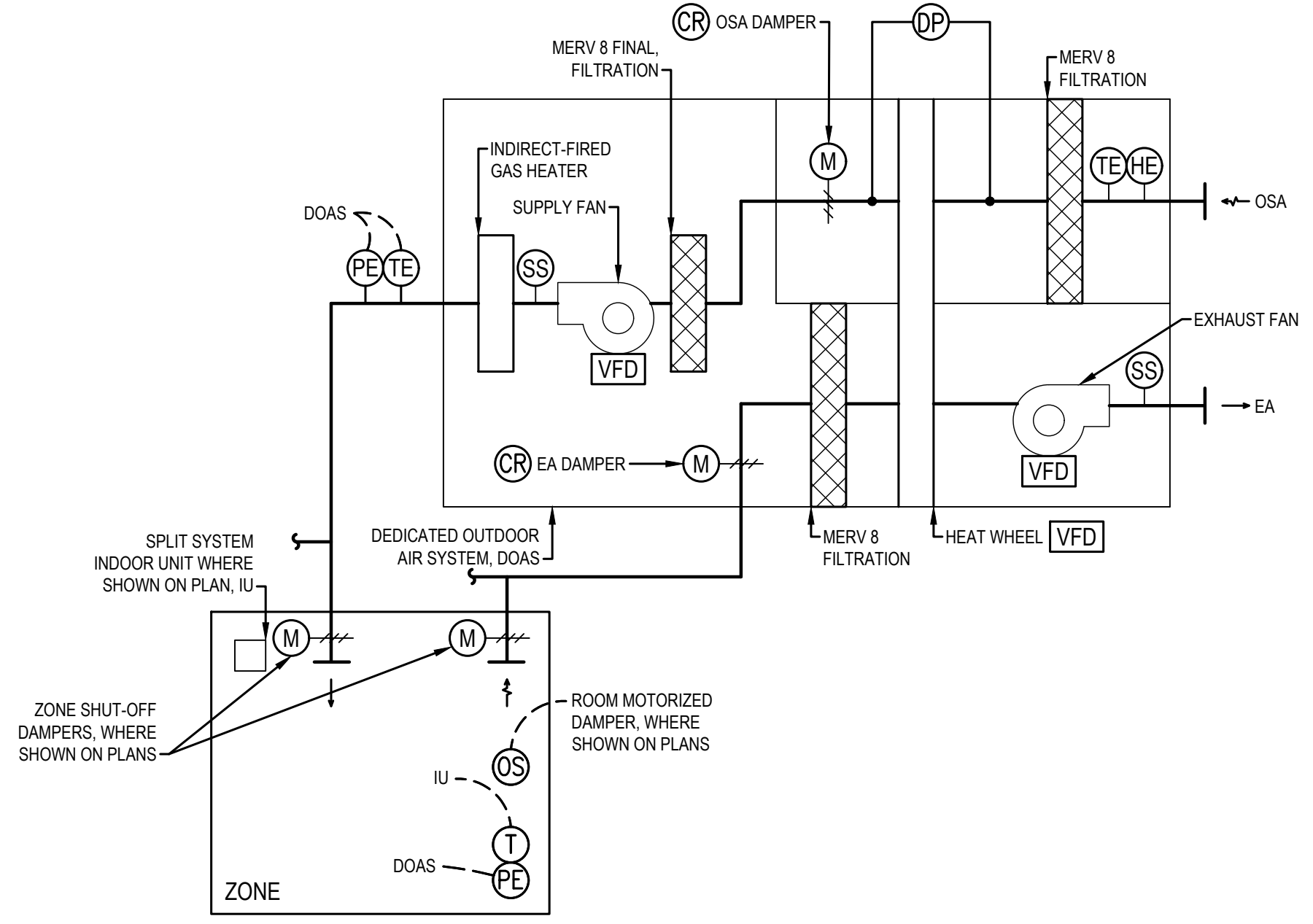
- MISCELLANEOUS ALARMS INDICATION:** THE CONTROLLER WILL DISPLAY ALARMS AND HAVE ONE DIGITAL OUTPUT FOR REMOTE INDICATION OF AN ALARM CONDITION. ALARMS INCLUDE:
- DIRTY WHEEL ALARM: THE CONTROLLER MONITORS PRESSURE ACROSS THE WHEEL AND SENDS AN ALARM IN THE CASE OF AN INCREASED PRESSURE DROP.
 - TEMPERATURE SENSOR ALARM: THE CONTROLLER SENDS AN ALARM IN THE CASE OF A FAILED AIR TEMPERATURE SENSOR.

- ACCESSORIES:** THE FOLLOWING ACCESSORIES WILL BE INCLUDED WITH THE UNIT TO EXPAND THE FUNCTIONALITY OR USABILITY OF THE CONTROLLER.
- MICROPROCESSOR M-NET: UNIT WILL BE CONTROLLED THROUGH THE DDC CONTROLLER AND COMMUNICATION TO M-NET THROUGH A FACTORY-MOUNTED CONTROLLER M-NET AND CONTROL/MONITOR THE FOLLOWING:
 - UNIT ENABLE/DISABLE
 - SUPPLY TEMPERATURE SET POINT OR COLD COIL TEMPERATURE SET POINT
 - GLOBAL ALARMS
 - PHASE AND BROWNOUT PROTECTION: FACTORY MOUNTED AND WIRED COMPONENT WHICH MONITORS THE MAIN POWER COMING INTO THE UNIT. IF A PHASE DROPS OUT, OR IF THE INCOMING VOLTAGE EXCEEDS THE ACCEPTABLE RANGE, THE COMPONENT WILL TURN OFF THE UNIT TO HELP PROTECT THE ELECTRICAL SYSTEMS.

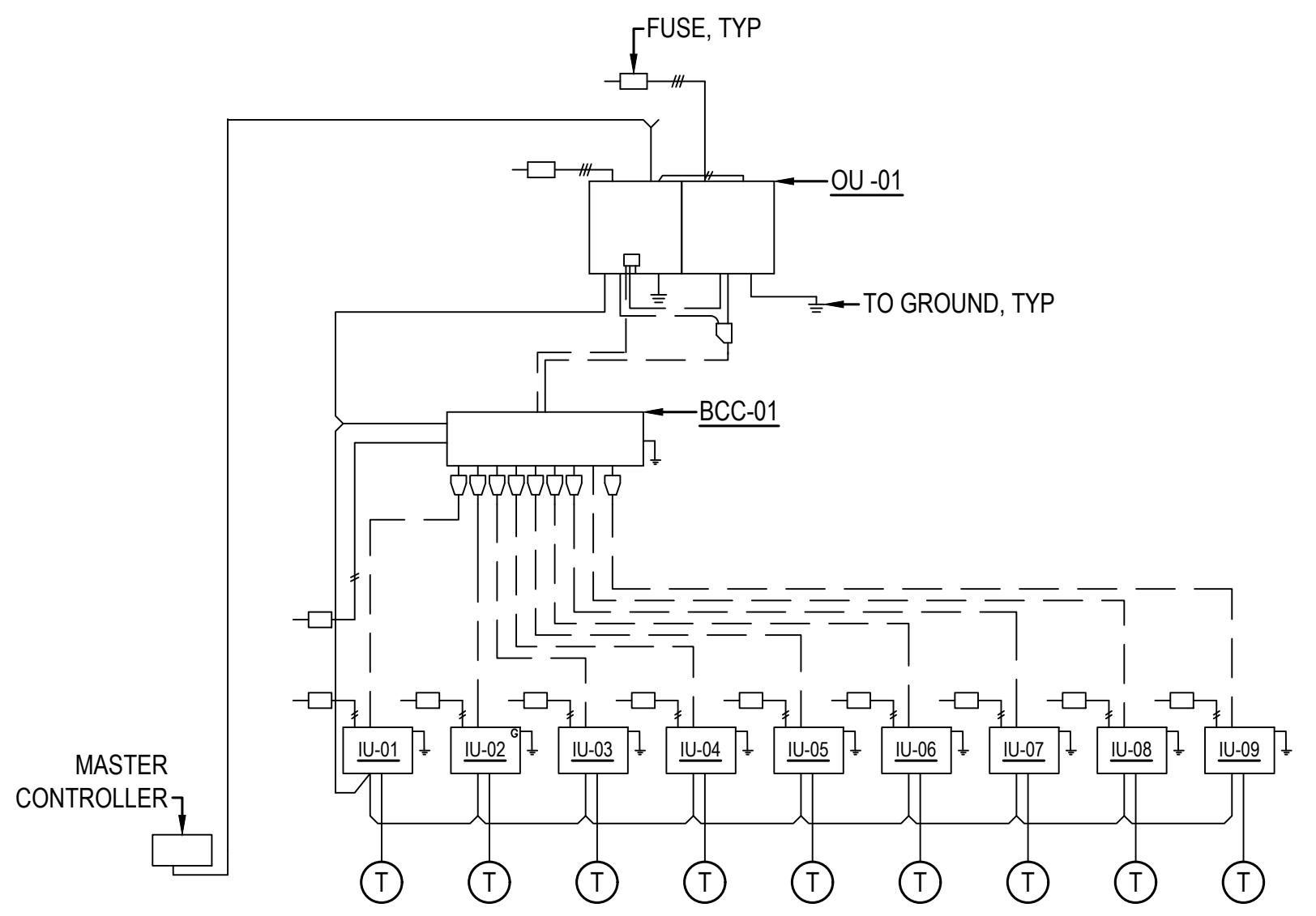
- OCCUPANCY SENSORS:**
- WHERE SHOWN ON PLANS, OCCUPANCY SENSORS SHALL CONTROL ROOM MOTORIZED DAMPERS. IF ROOM IS UNOCCUPIED FOR 5 MINUTES (ADJUSTABLE), MOTORIZED DAMPERS SHALL CLOSE.

VRF CONTROL SEQUENCE

- GENERAL**
- ON/OFF CONTROL: THE INDOOR UNITS CAN BE COMMANDED ON/OFF EITHER BY A SCHEDULE IN THE CENTRAL CONTROLLER OR AT THE REMOTE CONTROLLER. IF ALL INDOOR UNITS ARE OFF, THE OUTDOOR UNIT SHALL TURN OFF.
 - NIGHT SETBACK MODE: THE SYSTEM SHALL CYCLE ON DURING UNOCCUPIED PERIODS AS NEEDED TO MAINTAIN UNOCCUPIED TEMPERATURE SET POINT.
 - SPACE TEMPERATURE CONTROL: THE INDOOR UNIT SHALL MODULATE ITS INTERNAL LINEAR EXPANSION VALVE TO MAINTAIN THE TEMPERATURE SET POINT VIA THE INDOOR UNIT'S INTERNAL CONTROLS.
 - THE SET POINT IS ADJUSTABLE AT THE REMOTE CONTROLLER OR CENTRAL CONTROLLER. THE TEMPERATURE SET POINT CAN ALSO BE SCHEDULED AT THE REMOTE CONTROLLER OR THE CENTRAL CONTROLLER.
 - MODE CONTROL:
 - AUTO MODE:
 - THE INDOOR UNIT SHALL DETERMINE WHETHER IT SHOULD BE IN AUTO-HEAT MODE OR AUTO-COOL MODE BASED ON SPACE TEMPERATURE RELATIVE TO TEMPERATURE SET POINT. IF THE INDOOR UNIT IS IN AUTO HEAT MODE, THE INDOOR UNIT CONTROL BOARD SHALL FOLLOW THE HEAT MODE SEQUENCE. IF THE INDOOR UNIT IS IN AUTO COOL MODE, THE INDOOR UNIT CONTROL BOARD SHALL FOLLOW THE COOL MODE SEQUENCE.
 - THE INDOOR UNIT SHALL SWITCH FROM AUTOHEAT TO AUTOCOOL WHEN THE SPACE TEMPERATURE RISES ABOVE AND REMAINS ABOVE THE TEMPERATURE SET POINT PLUS THE DEAD BAND FOR 3 MINUTES. THE INDOOR UNIT WILL SWITCH FROM AUTOCOOL TO AUTOHEAT WHEN THE SPACE TEMPERATURE DROPS BELOW AND REMAINS BELOW THE TEMPERATURE SET POINT MINUS THE DEAD BAND FOR 3 MINUTES.
 - HEATING MODE: THE INDOOR UNIT SHALL MODULATE ITS LINEAR EXPANSION VALVE TO MAINTAIN TEMPERATURE SET POINT.
 - COOLING MODE: THE INDOOR UNIT SHALL MODULATE ITS LINEAR EXPANSION VALVE TO MAINTAIN TEMPERATURE SET POINT.
 - FAN/VANE CONTROL: FAN SPEED AND VANE DIRECTION (IF APPLICABLE) SHALL BE ADJUSTABLE BY THE USER AT THE REMOTE CONTROLLER AND/OR THE CENTRAL CONTROLLER.
 - TEMPERATURE SETPOINT:
 - EQUIPMENT ROOMS: SPACE AIR TEMPERATURE SETPOINT IS 70°F (ADJUSTABLE) FOR HEATING CONTROL AND 75°F (ADJUSTABLE) FOR COOLING CONTROL.



DOAS SYSTEM FLOW DIAGRAM
NOT TO SCALE



1 SECOND FLOOR VRF FLOW DIAGRAM
SCALE: NTS

GENERAL NOTES

- PIPING IS SCHEMATIC IN NATURE CONTRACTOR TO PROVIDE ADDITIONAL FITTINGS AND OFFSETS AS REQUIRED TO INSTALL A COMPLETE AND FUNCTIONING SYSTEM.

DIAGRAM SYMBOL LEGEND

- POWER WIRE
- CONTROL WIRE
- - - REFER. PIPING

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building Planning
Engineering Public Works
Fire Traffic

BRIAN SCOTT MIDDLEBROOK
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
52770
08/25/2023

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RFG	BSM	03/23/2022	

CASCADE CHRISTIAN JUNIOR HIGH
SEQUENCE OF OPERATIONS I
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PUYALLUP, WASHINGTON 98372

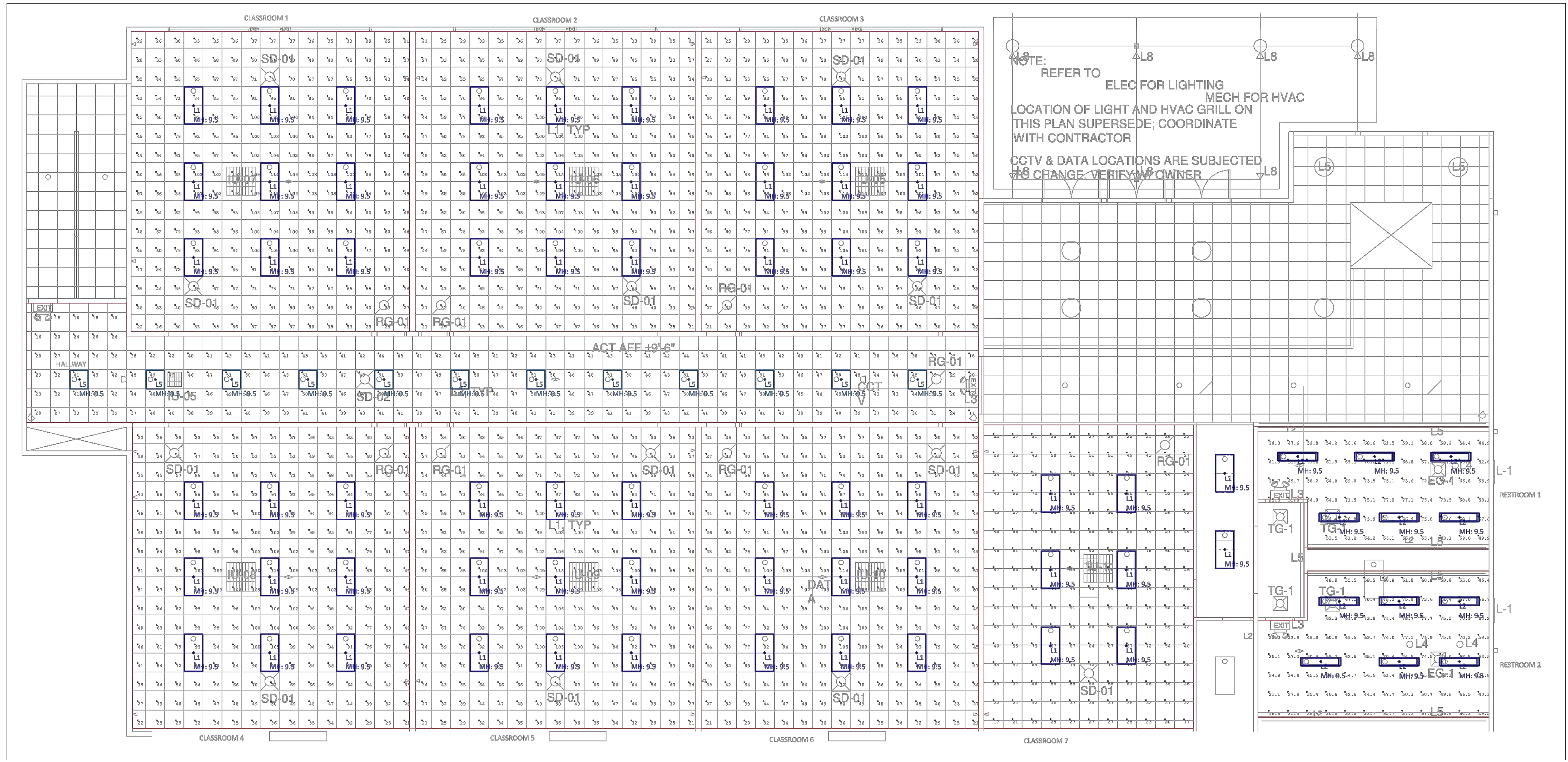
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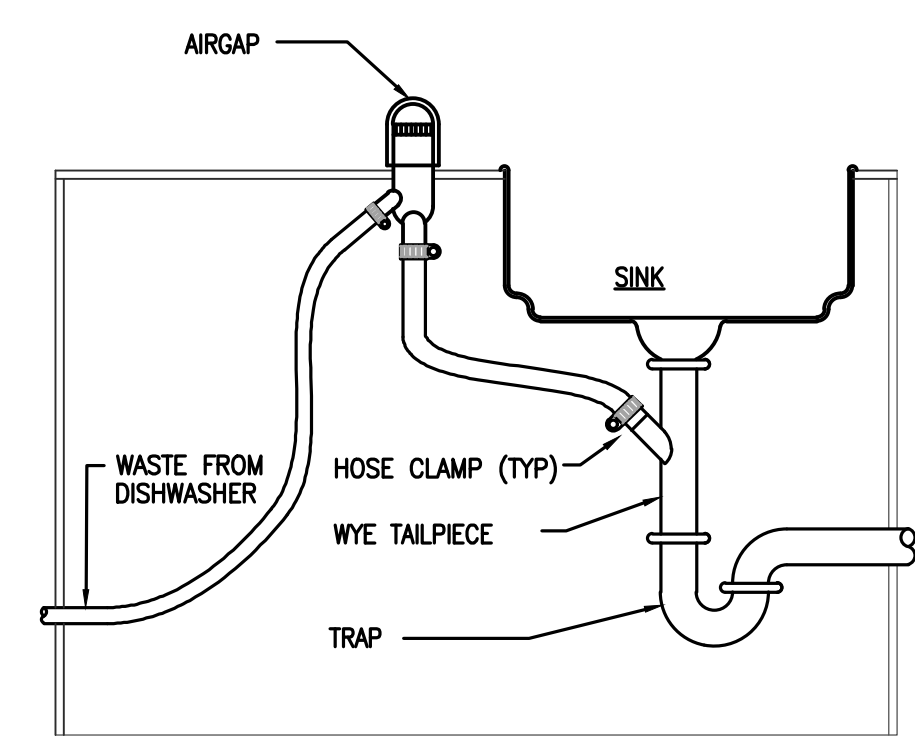
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COMFORT USA SYSTEMS

AIR CONDITIONING/SHEET METAL/REFRIGERATION/PROFESSIONAL ENGINEERS/SERVICE & MAINTENANCE

SHEET NO. **M9** OF **9**
JOB NO. **4126**

PRCTI20231318



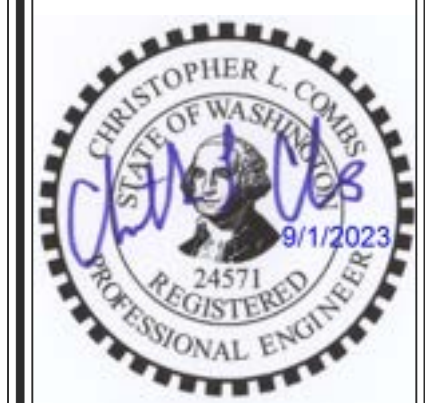


DISHWASHER WASTE DETAIL 1
 NOT TO SCALE P0.02

CASCADE
 CHRISTIAN
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 PHASE
 IIB & IIIB

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PLUMBING
 DETAILS AND
 NOTES



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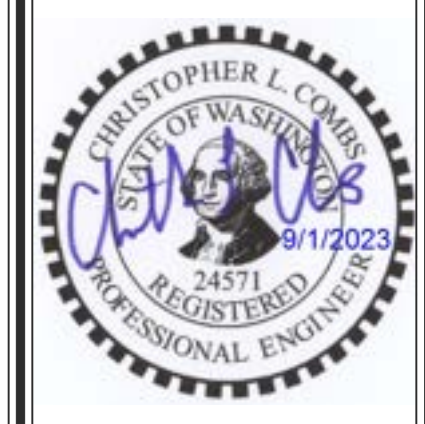
DESIGNED: B.COMBS
 DRAWN: Z.BRUSER
 REVIEWED: B.COMBS
 DATE: 09/01/2023
 JOB NUMBER: 23011
 REVISION: PERMIT

NOTE:
 AS-BUILT FEATURES AND NOTATIONS ARE SHOWN IN LIGHT LINE WORK. NEW WORK IS SHOWN IN DARK LINE WORK.

PRCTI20231318

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P0.02



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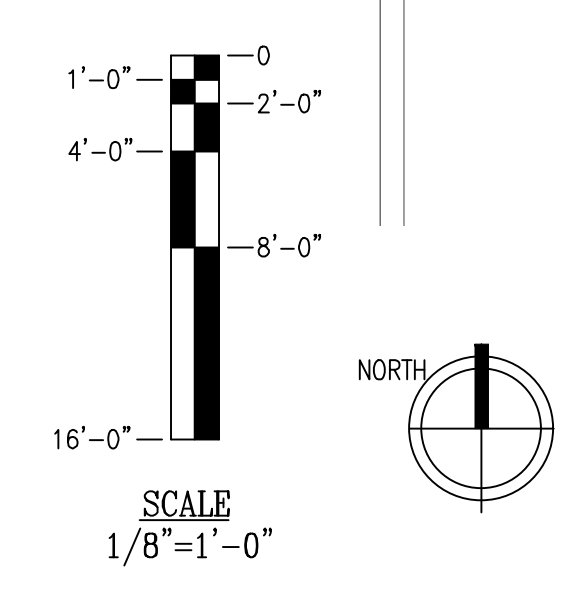
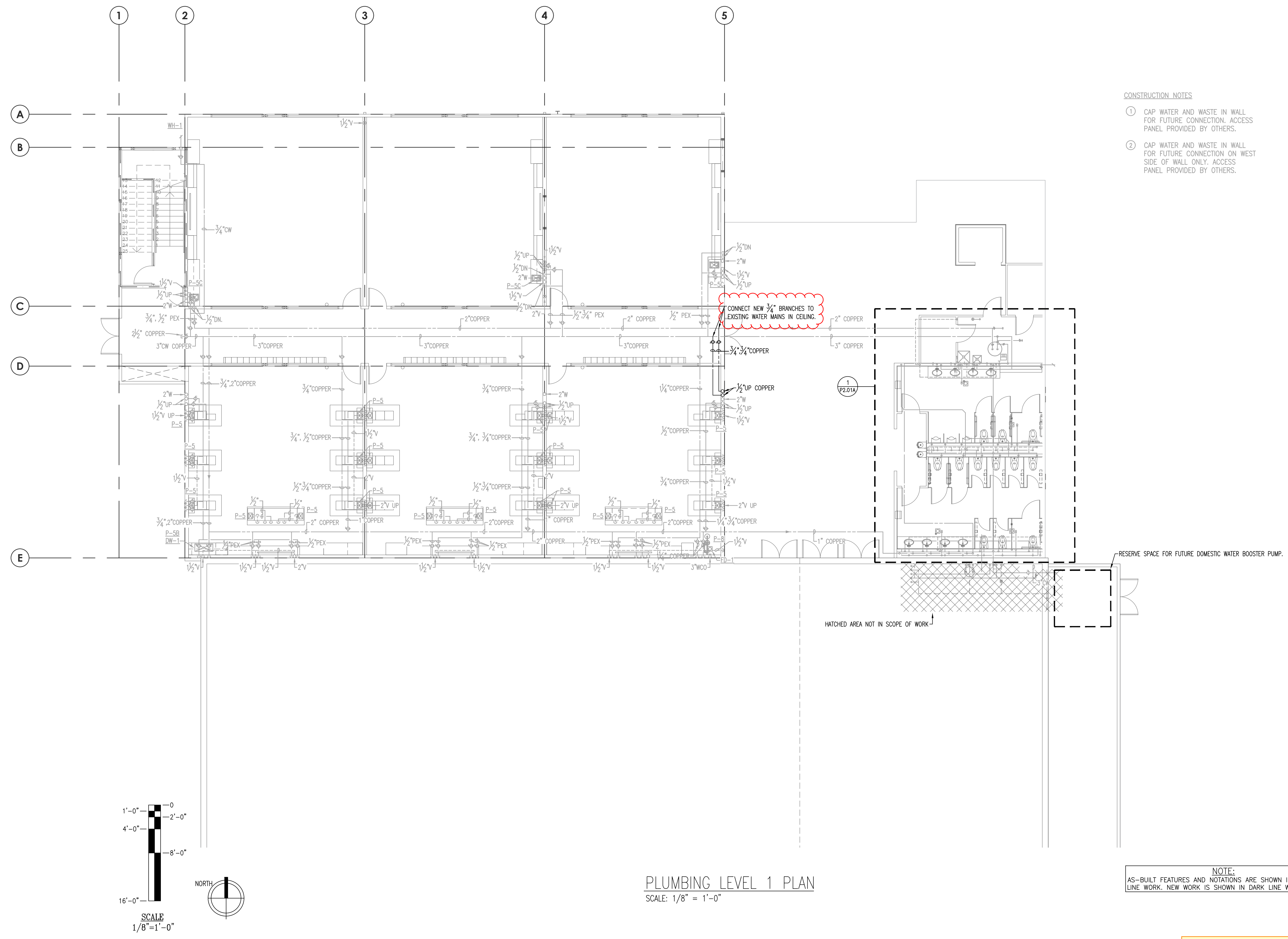
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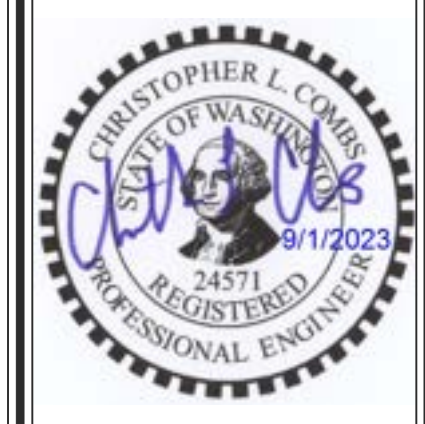
CONSTRUCTION NOTES

- 1 CAP WATER AND WASTE IN WALL FOR FUTURE CONNECTION. ACCESS PANEL PROVIDED BY OTHERS.
- 2 CAP WATER AND WASTE IN WALL FOR FUTURE CONNECTION ON WEST SIDE OF WALL ONLY. ACCESS PANEL PROVIDED BY OTHERS.



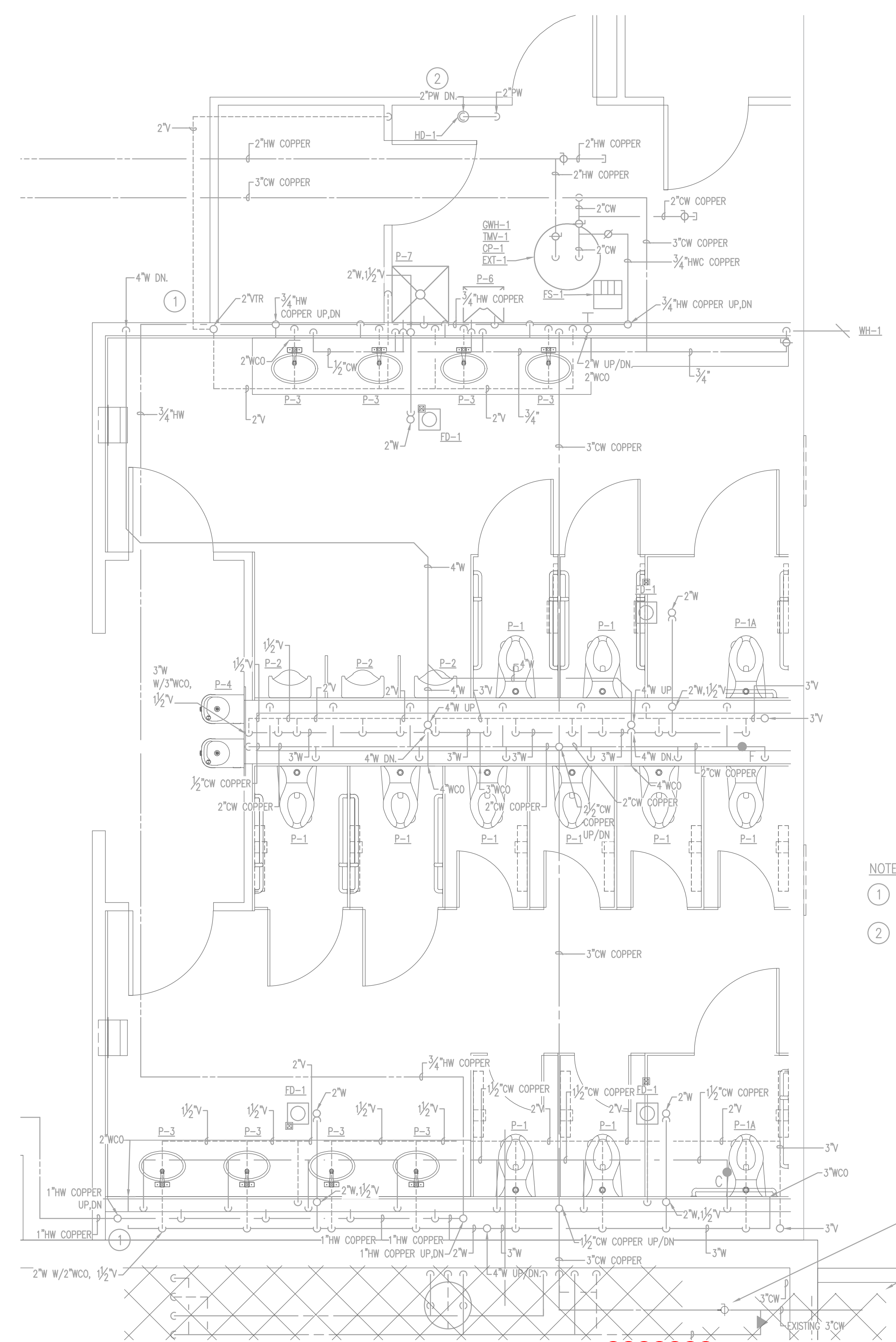
PLUMBING LEVEL 1 PLAN
SCALE: 1/8" = 1'-0"

NOTE:
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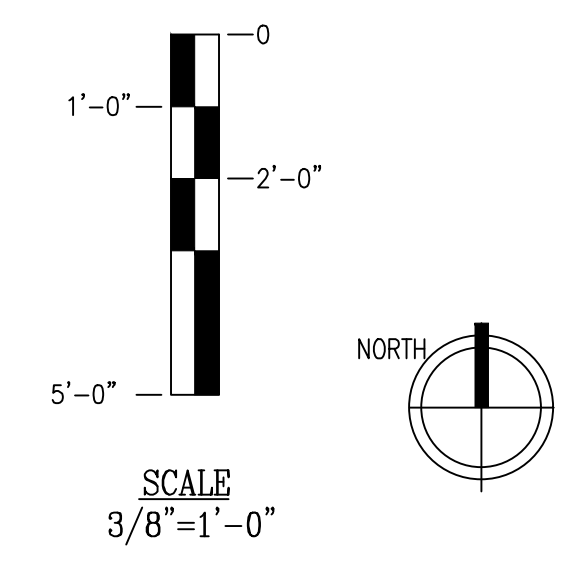


- NOTES:
- ① ROUTE HW SUPPLY IN WALL WITHIN 2'-0" OF LAVATORY STOPS PER WSEC.
 - ② PUMPED WASTE MUST DISCHARGE INTO TOP OF HUB DRAIN WITH AIR GAP.

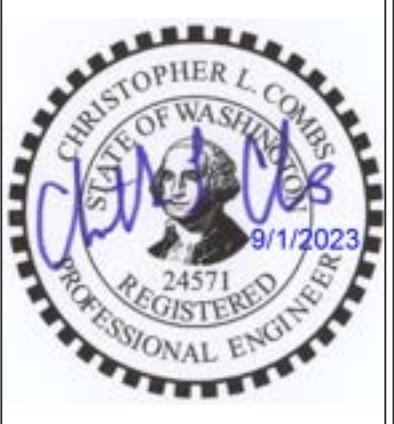
CONNECT 3" CW TO EXISTING 3" CW DOWNSTREAM OF EXISTING VALVE.

HATCHED AREA NOT IN SCOPE OF WORK

NOTE:
 AS-BUILT FEATURES AND NOTATIONS ARE SHOWN IN LIGHT LINE WORK. NEW WORK IS SHOWN IN DARK LINE WORK.



① PLUMBING LEVEL 1 ENLARGED (EXISTING)
 P2.01A SCALE: 3/8" = 1'-0"

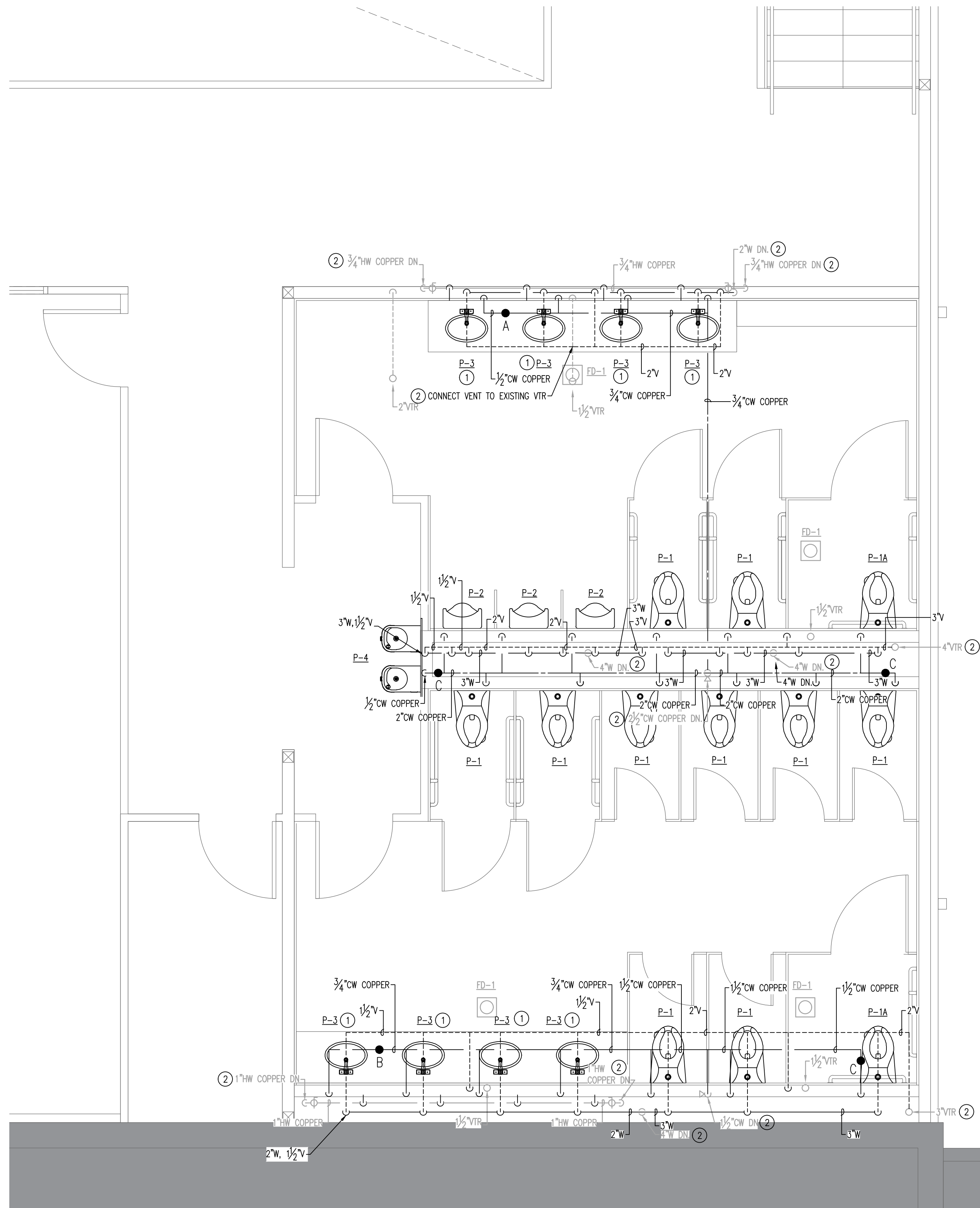


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DESIGNED: B.COMBS
DRAWN: Z.BRUSER
REVIEWED: B.COMBS
DATE: 09/01/2023
JOB NUMBER: 23011
REVISION: PERMIT

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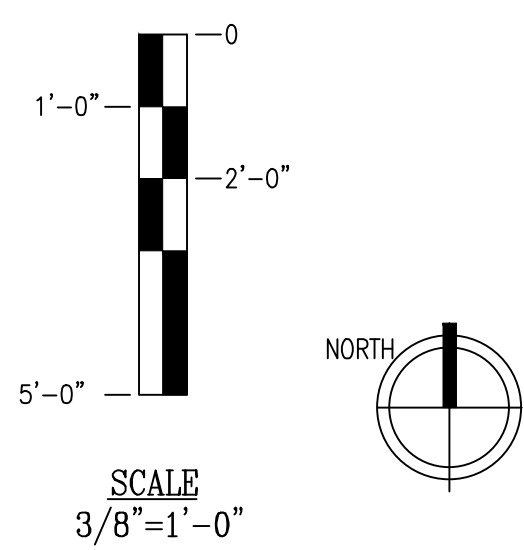
P2.02A



CONSTRUCTION NOTES

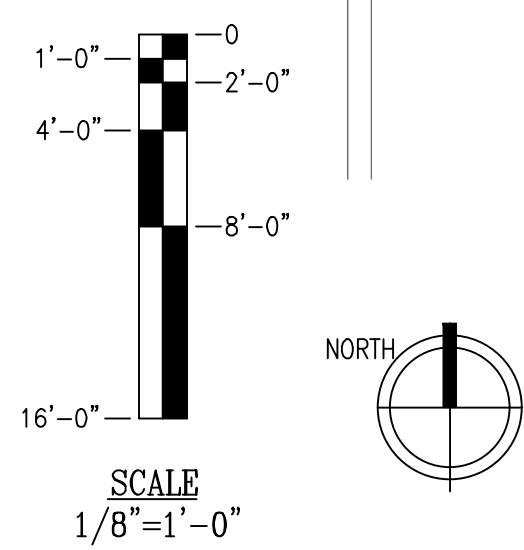
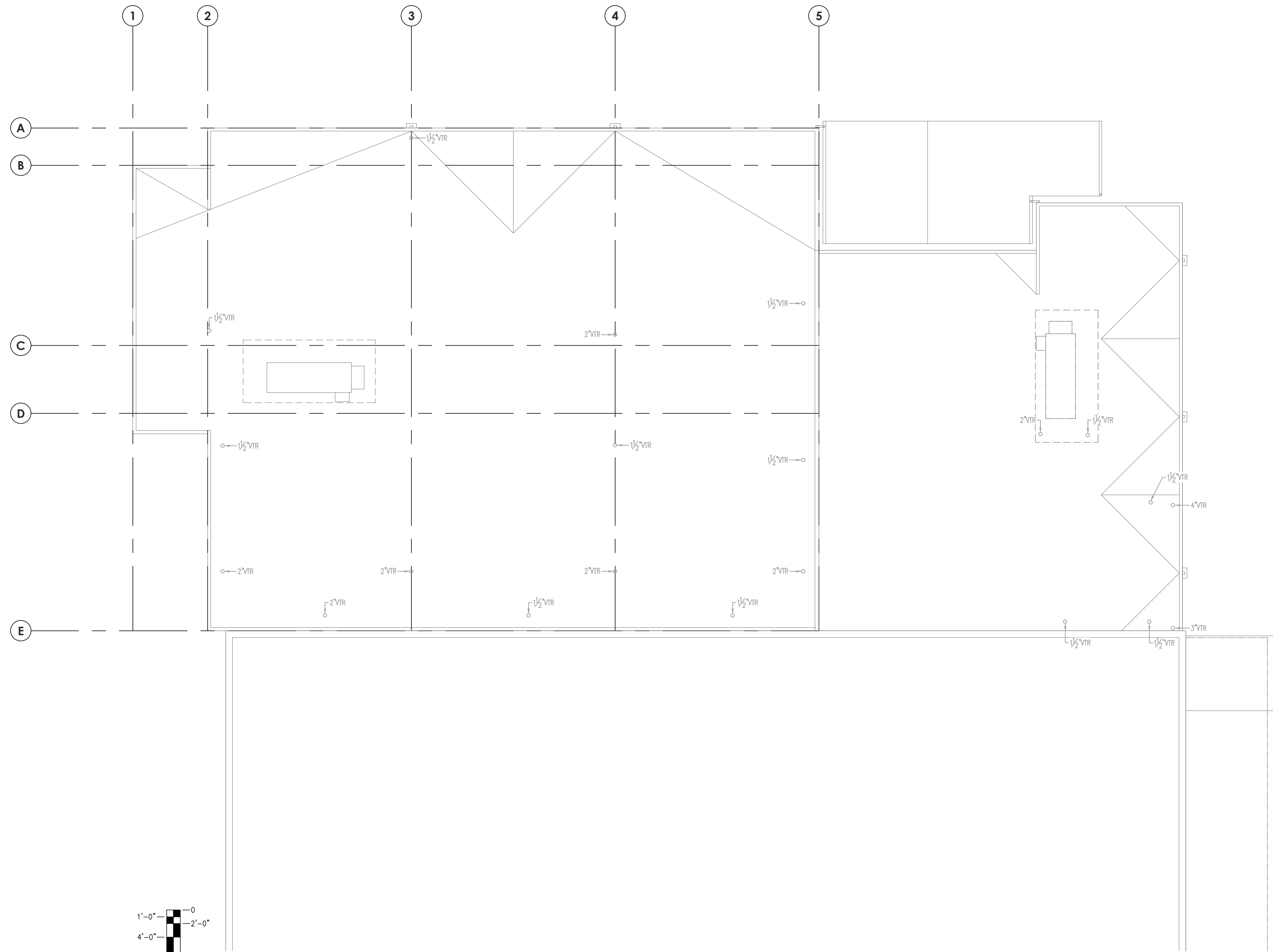
- ROUTE HW SUPPLY IN WALL WITHIN 2'-0" OF LAVATORY STOPS PER WSEC.
- INSTALL NEW FIXTURES TO EXISTING PLUMBING STUB OUTS INSTALLED UNDER PREVIOUS PHASE.

NOTE:
AS-BUILT FEATURES AND NOTATIONS ARE SHOWN IN LIGHT LINE WORK. NEW WORK IS SHOWN IN DARK LINE WORK.



1 PLUMBING LEVEL 2 ENLARGED
P2.02A SCALE: 3/8" = 1'-0"

PRCTI20231318



PLUMBING ROOF PLAN (EXISTING)
SCALE: 1/8" = 1'-0"

NOTE:
AS-BUILT FEATURES AND NOTATIONS ARE SHOWN IN LIGHT LINE WORK. NEW WORK IS SHOWN IN DARK LINE WORK.

City of Puyallup
Development & Permitting Services

Building Planning
Engineering Public Works
Fire Traffic

TACOMA PLUMBING
and HEATING, Inc.
DESIGN BUILD
COMMERCIAL
INDUSTRIAL
UTILITIES

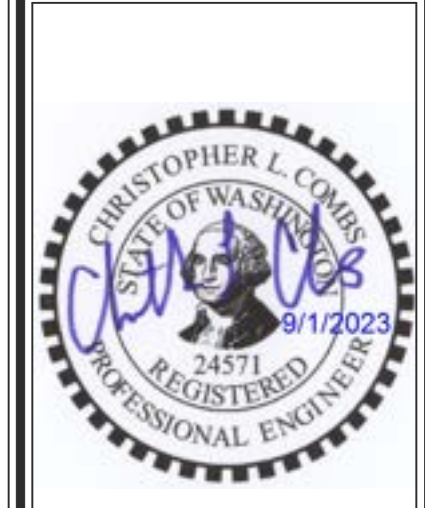
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CASCADE
CHRISTIAN
JUNIOR HIGH
PHASE
IIB & IIIB

815 21ST STREET SE
PUYALLUP, WA. 98372

PLUMBING ROOF
PLAN



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P2.03