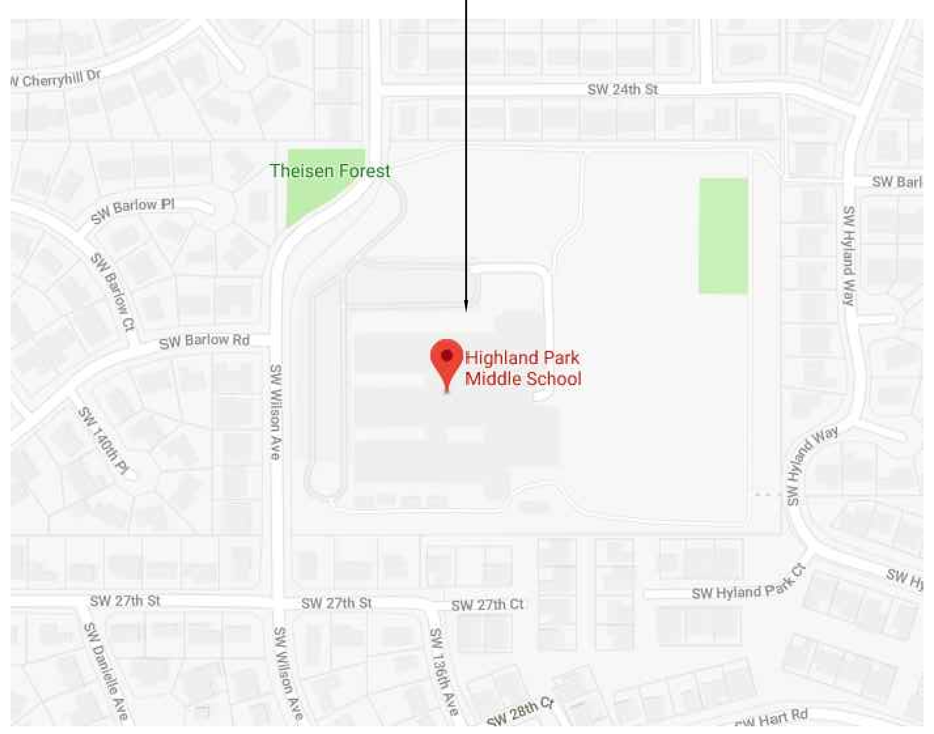
HIGHLAND PARK MIDDLE SCHOOL
PHASE 1
7000 SW WILSON AVENUE
BEAVERTON, OREGON 97008

SITE LOCATION



VICINITY MAP

AREA OF WORK

LOCATION MAP

TABLE OF CONTENTS

PROJECT TEAM

BEAVERTON SCHOOL DISTRICT:
16550 SW MERLO ROAD
BEAVERTON, OREGON 97006
PHONE: 503.591.8000

CONTACT:
CHRIS HANSEN, PROJECT MANAGER
E-MAIL:
CHRISTOPHER_HANSEN@BEAVERTON.K12.OR.US

ANGELA KNOTTS, PROJECT COORDINATOR
E-MAIL:
ANGELA_KNOTTS@BEAVERTON.K12.OR.US

MFIA:
2007 SE ASH STREET
PORTLAND, OREGON 97214
PHONE: 503.234.0548

CONTACT:
LAURA FROELKE
E-MAIL: LAURA.FROELKE@MFIA-ENG.COM

MFIA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

CONSTRUCTION DOCUMENTS

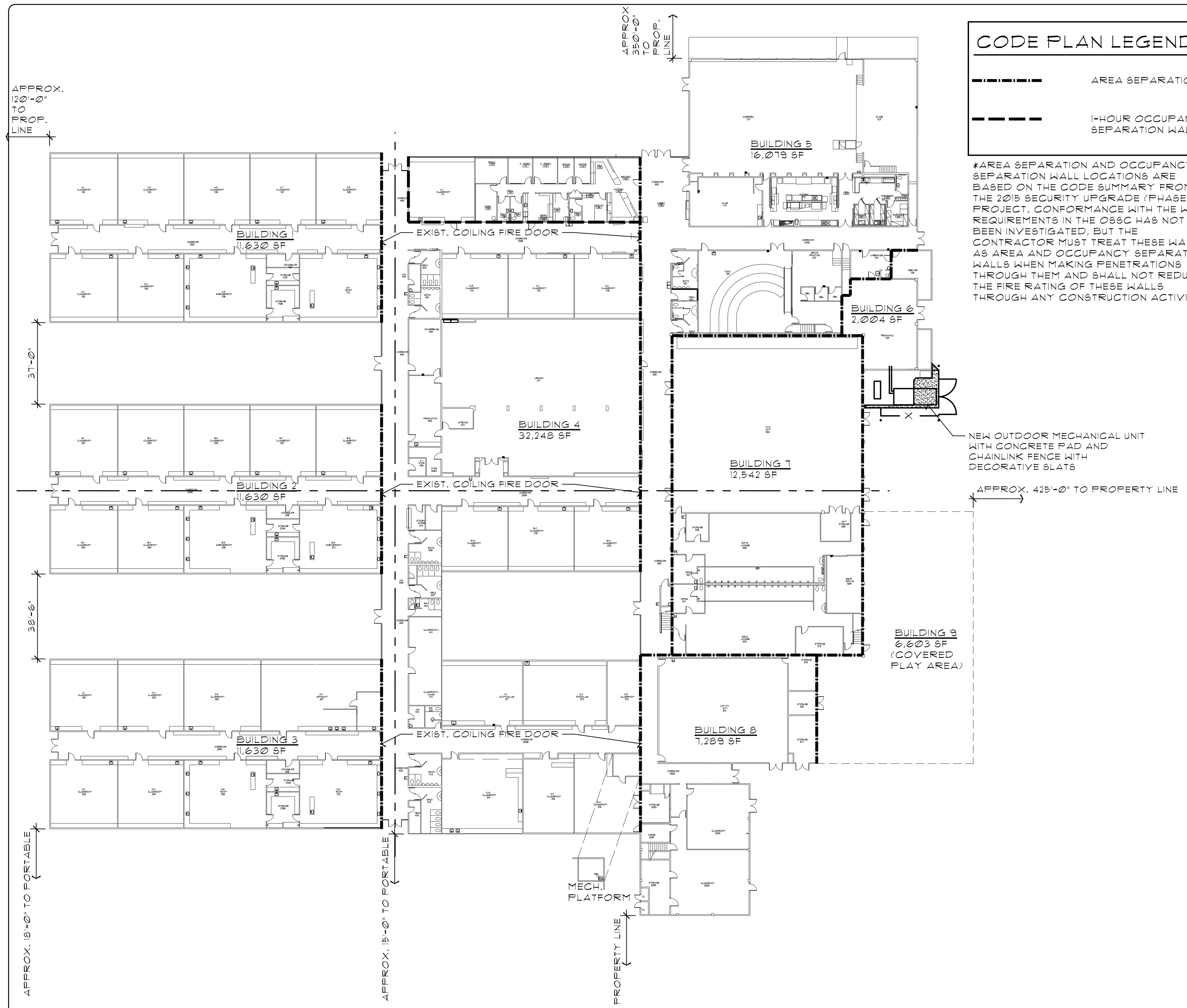
EXPIRES: 31DEC18

Date: 04/24/19
Proj No: 9652
Drawn By: LKF
Chkd By: SWM
DSGN By: SWM
Acad File: 9652_HIGHLAND_A00

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

COVER SHEET

SHEET
A0.0



1 G2 CODE FLOOR PLAN
1" = 30'-0"

CODE PLAN LEGEND

(dash-dot line)	AREA SEPARATION WALL*
(dashed line)	1-HOUR OCCUPANCY SEPARATION WALL*

*AREA SEPARATION AND OCCUPANCY SEPARATION WALL LOCATIONS ARE BASED ON THE CODE SUMMARY FROM THE 2015 SECURITY UPGRADE (PHASE 1) PROJECT. CONFORMANCE WITH THE WALL REQUIREMENTS IN THE OSSC HAS NOT BEEN INVESTIGATED, BUT THE CONTRACTOR MUST TREAT THESE WALLS AS AREA AND OCCUPANCY SEPARATION WALLS WHEN MAKING PENETRATIONS THROUGH THEM AND SHALL NOT REDUCE THE FIRE RATING OF THESE WALLS THROUGH ANY CONSTRUCTION ACTIVITY.

CODE SUMMARY

APPLICABLE CODE 2014 OSSC

BUILDING CONSTRUCTION DATA (BY BUILDING)

BUILDINGS 1, 2, AND 3

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
NUMBER OF STORIES	1 (UNCHANGED)	SPRINKLER	NO
BASEMENT		STAND PIPE	NO
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

AREA MODIFICATION (SECTION 506.2)

$$I_F = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30} = 100\left[\frac{227}{461} - 0.25\right]\frac{30}{30} = 24$$

$$A_A = A_T + \left[\frac{A_T I_F}{100}\right] + \left[\frac{A_T I_S}{100}\right] = 9{,}500 + \left[\frac{9{,}500 \times 24}{100}\right] + \left[\frac{9{,}500 \times 0}{100}\right] = 11{,}780$$

TOTAL FLOOR AREA 11,630 SF

MAXIMUM ALLOWABLE FLOOR AREA 11,780 SF OK

BUILDING 4

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	60' (W/SPRINK. INCREASE)	FIRE ALARM	YES
NUMBER OF STORIES	1 (UNCHANGED)	SPRINKLER	YES
BASEMENT		STAND PIPE	NO
MAXIMUM ALLOWABLE NUMBER OF STORIES	2 (WITH FIRE SPRINKLER INCREASE)		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

AREA MODIFICATION (SECTION 506.2)

$$I_F = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30} = 100\left[\frac{234}{850} - 0.25\right]\frac{30}{30} = 3$$

$$A_A = A_T + \left[\frac{A_T I_F}{100}\right] + \left[\frac{A_T I_S}{100}\right] = 9{,}500 + \left[\frac{9{,}500 \times 3}{100}\right] + \left[\frac{9{,}500 \times 200}{100}\right] = 28{,}785$$

TOTAL FLOOR AREA 32,248 SF

MAXIMUM ALLOWABLE FLOOR AREA 28,785 SF*

*ACTUAL FLOOR AREA EXCEEDS THE MAXIMUM ALLOWABLE FLOOR AREA. HOWEVER, THIS IS AN EXISTING CONDITION AND NO ADDITIONAL FLOOR AREA IS PROPOSED AS PART OF THIS PROJECT

BUILDING 5

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
NUMBER OF STORIES	1 (UNCHANGED)	SPRINKLER	NO
BASEMENT		STAND PIPE	NO
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

AREA MODIFICATION (SECTION 506.2)

$$I_F = 100\left[\frac{F}{P} - 0.25\right]\frac{W}{30} = 100\left[\frac{192}{793} - 0.25\right]\frac{30}{30} = 0$$

$$A_A = A_T + \left[\frac{A_T I_F}{100}\right] + \left[\frac{A_T I_S}{100}\right] = 9{,}500 + \left[\frac{9{,}500 \times 0}{100}\right] + \left[\frac{9{,}500 \times 0}{100}\right] = 9{,}500$$

TOTAL FLOOR AREA 16,079 SF

MAXIMUM ALLOWABLE FLOOR AREA 9,500 SF*

*ACTUAL FLOOR AREA EXCEEDS THE MAXIMUM ALLOWABLE FLOOR AREA. HOWEVER, THIS IS AN EXISTING CONDITION AND NO ADDITIONAL FLOOR AREA IS PROPOSED AS PART OF THIS PROJECT

BUILDING 6

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
NUMBER OF STORIES	1 (UNCHANGED)	SPRINKLER	NO
BASEMENT		STAND PIPE	NO
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

TOTAL FLOOR AREA 2,004 SF

MAXIMUM ALLOWABLE FLOOR AREA* 9,500 SF OK

*NO FRONTAGE OR FIRE SPRINKLER INCREASE

BUILDING 7

CONSTRUCTION TYPE	VB (UNCHANGED)		
BUILDING HEIGHT	(EXISTING UNCHANGED)		
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'		
NUMBER OF STORIES	1 (UNCHANGED)	HAZARDOUS MATERIALS	NO
BASEMENT		SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE NUMBER OF STORIES	1	FIRE ALARM	YES
		SPRINKLER	NO
OCCUPANCY GROUP(S)	E (UNCHANGED)	STAND PIPE	NO

FLOOR AREA:

TOTAL FLOOR AREA 12,542 SF

MAXIMUM ALLOWABLE FLOOR AREA* 9,500 SF**

*NO FRONTAGE OR FIRE SPRINKLER INCREASE

**ACTUAL FLOOR AREA EXCEEDS THE MAXIMUM ALLOWABLE FLOOR AREA. HOWEVER, THIS IS AN EXISTING CONDITION AND NO ADDITIONAL FLOOR AREA IS PROPOSED AS PART OF THIS PROJECT

BUILDING 8

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
NUMBER OF STORIES	1 (UNCHANGED)	SPRINKLER	NO
BASEMENT		STAND PIPE	NO
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

TOTAL FLOOR AREA 7,289 SF

MAXIMUM ALLOWABLE FLOOR AREA* 9,500 SF OK

*NO FRONTAGE OR FIRE SPRINKLER INCREASE

BUILDING 9

CONSTRUCTION TYPE	VB (UNCHANGED)	HAZARDOUS MATERIALS	NO
BUILDING HEIGHT	(EXISTING UNCHANGED)	SPECIAL INSPECTION	NO
MAXIMUM ALLOWABLE BUILDING HEIGHT	40'	FIRE ALARM	YES
NUMBER OF STORIES	2 (UNCHANGED)	SPRINKLER	NO
BASEMENT		STAND PIPE	NO
MAXIMUM ALLOWABLE NUMBER OF STORIES	1		
OCCUPANCY GROUP(S)	E (UNCHANGED)		

FLOOR AREA:

TOTAL FLOOR AREA 6,603 SF

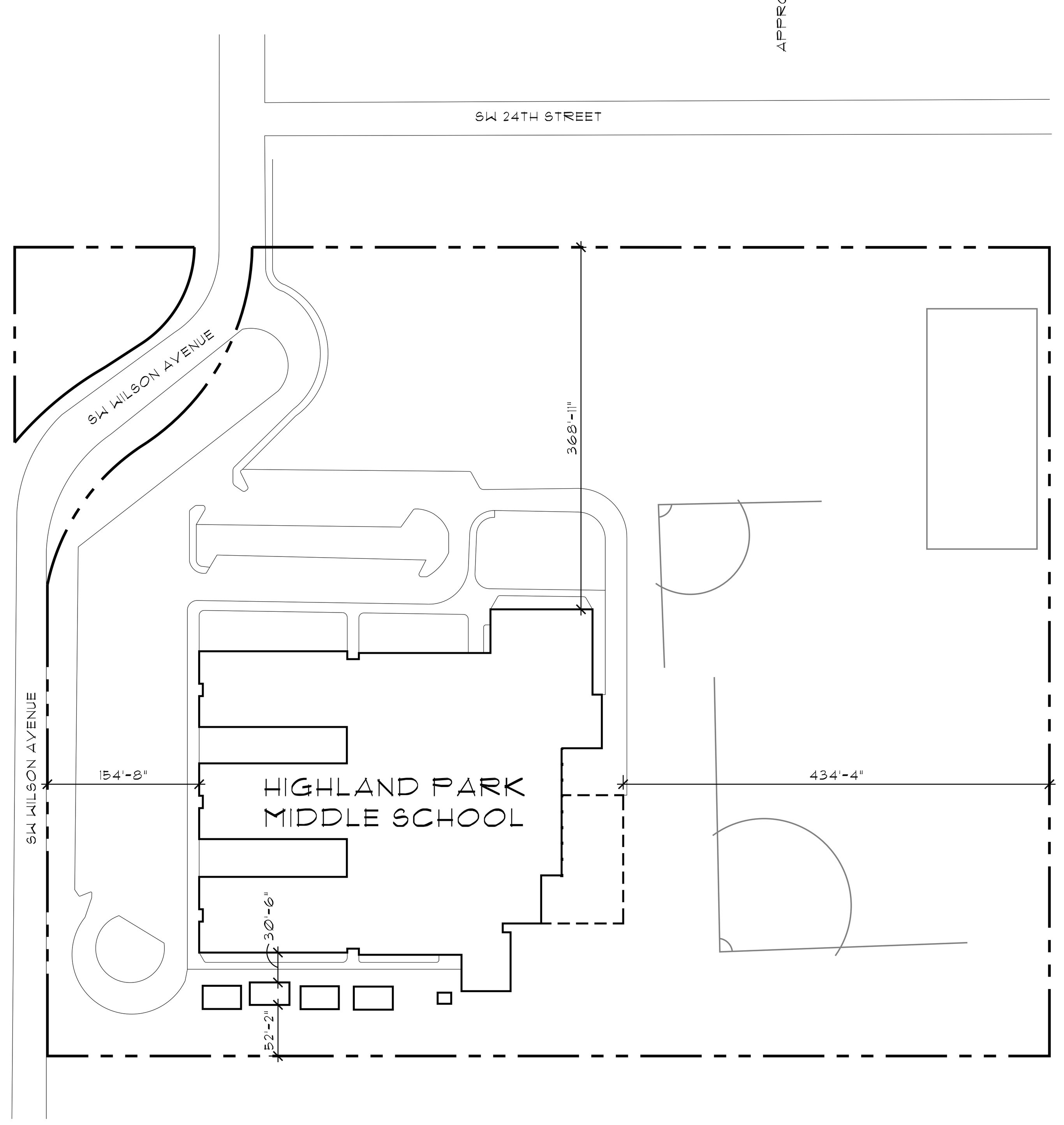
MAXIMUM ALLOWABLE FLOOR AREA* 9,500 SF OK

*NO FRONTAGE OR FIRE SPRINKLER INCREASE

FIRE RESISTING BUILDING REQUIREMENTS IBC TABLE 601

BUILDING ELEMENT	CONST. TYPE VB
STRUCTURAL FRAME	0HR
EXTERIOR BEARING WALLS	0HR
INTERIOR BEARING WALLS	0HR
EXTERIOR NONBEARING WALLS AND PARTITIONS	PER TBL 602*
INTERIOR BEARING WALLS AND PARTITIONS	0HR
FLOOR	0HR
ROOF	0HR

*WHERE SEPARATION DISTANCE IS 10 FEET OR LESS, EXTERIOR NONBEARING WALLS AND PARTITIONS ARE REQUIRED TO BE 1-HOUR RATED. WHERE SEPARATION DISTANCE IS GREATER THAN 10 FEET, EXTERIOR NONBEARING WALLS AND PARTITIONS ARE NOT REQUIRED TO BE FIRE RATED



2 G2 CODE SITE PLAN
1" = 100'-0"

CONSTRUCTION DOCUMENTS

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7000 SW WILSON AVENUE
BEAVERTON OREGON

Date:	04/24/19
Proj No:	9852
Drawn By:	SLK
Chkd By:	DAP
DSGN By:	DAP
Acad File:	

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

BBL ARCHITECTS
200 North State Street
Lake Oswego, Oregon 97034

REGISTERED ARCHITECT STATE OF OREGON

SHEET
G1

FLOOR PLAN LEGEND

AREA SEPARATION WALL*

1-HOUR OCCUPANCY SEPARATION WALL*

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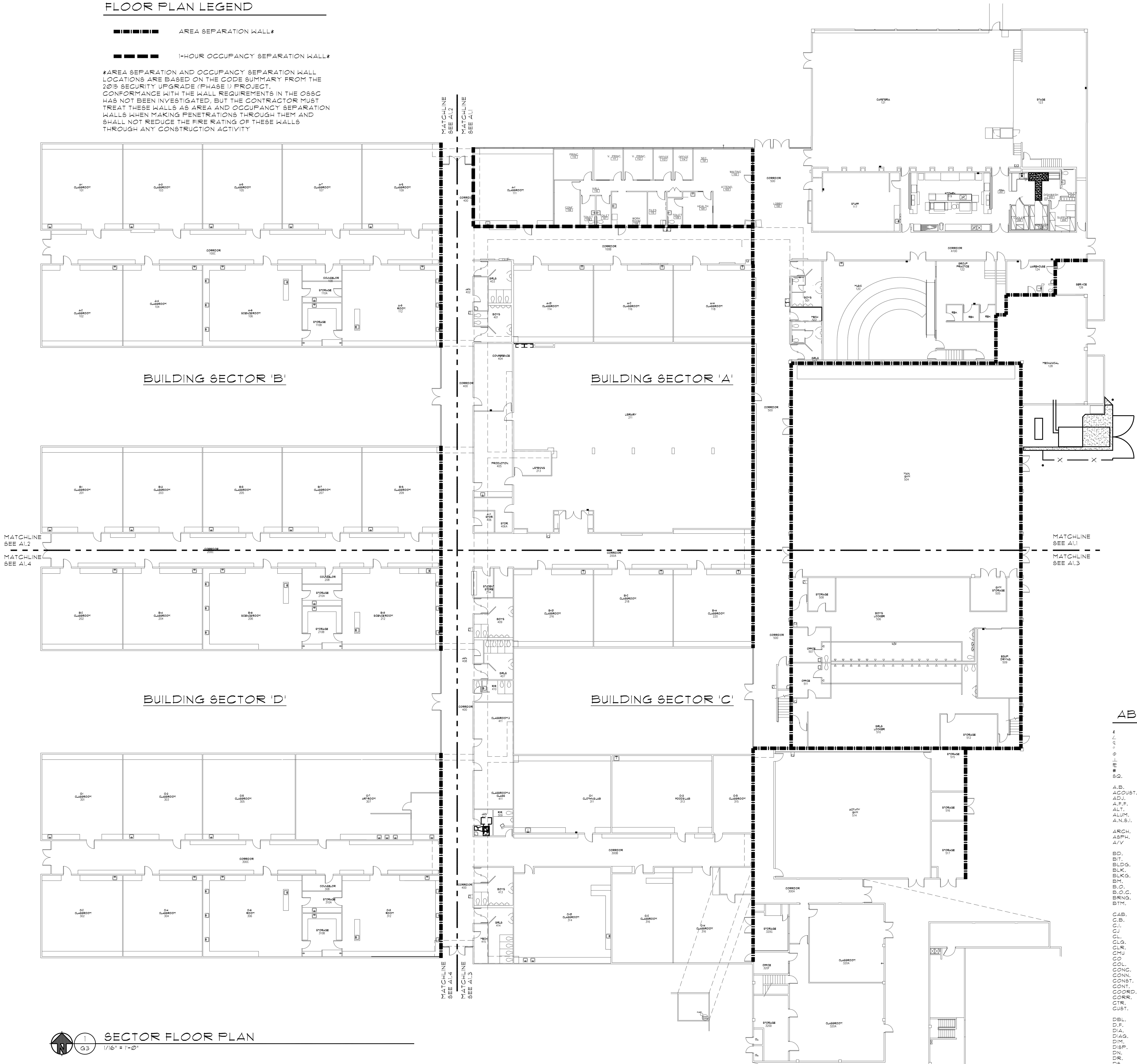

1 G3 SECTOR FLOOR PLAN
1/16" = 1'-0"

GENERAL SHEET NOTES

1. SEE ENLARGED PLANS FOR DESCRIPTION OF WORK.
2. PATCH FINISHES AT NEW REFRIGERANT LINE PENETRATIONS.
3. PATCH FINISHES AT NEW DUCTWORK PENETRATIONS.
4. PATCH FINISHES AT NEW MECHANICAL UNITS.

STANDARD SYMBOLS

1 / A2.1	EXTERIOR ELEVATION TAG	101A	DOOR TAG
1 / A3.1	BUILDING SECTION FLAG - DIRECTION FLAG OMITTED		KEYNOTE TAG
1 / A3.2	WALL SECTION FLAG - DIRECTION FLAG MAY BE OMITTED		SHEET NOTE TAG
			DEMOLITION NOTE TAG
D, C, A, B, 1 / A4.1	INTERIOR ELEVATION TAG	8	REVISION TAG
		E	WINDOW TYPE TAG
1 / A5.1 TYP.	DETAIL FLAG	H	WALL TYPE TAG
1 / A5.1 SIM.	DETAIL CALLOUT	8'-0"	CEILING HEIGHT TAG
N	NORTH ARROW	ROOM NAME 101	FLOOR PLAN ROOM LABEL & NUMBER
A	GRID BUBBLE & GRID LINE	10'-0" T.O. SOFFIT	ELEVATION TAG

GENERAL NOTES

1. COORDINATE ALL WORK WITH THE DRAWINGS AND SPECIFICATIONS.
2. CONTRACTOR AND SUB-CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS, LOCATIONS, AND PROJECT REQUIREMENTS PRIOR TO SUBMITTING A BID.
3. CONTRACTOR AND SUB-CONTRACTORS SHALL FIELD VERIFY DIMENSIONS, AND FAMILIARIZE THEMSELVES WITH PROJECT REQUIREMENTS PRIOR TO COMMENCING WITH THE WORK. CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO ARCHITECT.
4. WORK SHALL INCLUDE ALL REQUIRED PERMITS, LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE ALL WORK INDICATED ON DRAWINGS AND SPECIFICATIONS.
5. PROVIDE TEMPORARY DUST-PROOF PARTITIONS AS REQUIRED TO PROTECT ALL EXISTING AREAS AND EQUIPMENT FROM DAMAGE DUE TO DEMOLITION OR NEW CONSTRUCTION ACTIVITIES. COORDINATE LOCATIONS AND REQUIREMENTS WITH OWNER.
6. GENERAL CONTRACTOR TO PATCH, REPAIR AND PAINT (REFINISH) SURFACES AND BUILDING ELEMENTS DAMAGED BY MECHANICAL, ELECTRICAL, AND PLUMBING WORK AND WHERE ITEMS ARE REMOVED, RELOCATED OR ADDED.
7. REPAIR FLOORS WHERE DAMAGED BY THE WORK OF THIS PROJECT.
8. PATCH AND REPAIR ALL SURFACES TO MATCH EXISTING WHERE ITEMS ARE REMOVED OR ALTERED - FIELD VERIFY EXTENT REQUIRED.
9. ALL PAINTING SHALL BE DONE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ADJACENT FINISHES AND CLEANUP.
10. CONTRACTOR IS RESPONSIBLE FOR FINAL CLEAN-UP OF WORK AREAS AND ALL EXPOSED BUILDING SURFACES AT SUBSTANTIAL COMPLETION.
11. ALL TRASH AND TOOLS SHALL BE REMOVED FROM PREMISES EACH DAY AND THE AREA LEFT CLEAN WHENEVER UNATTENDED. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP. COORDINATE WITH OWNER IF SECURE STORAGE IS NEEDED ONSITE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO FINISHED SURFACES, EQUIPMENT, FURNITURE, EXISTING MATERIALS OR FINISHES, CAUSED AS A RESULT OF HIS WORK. REPAIR OR REPLACE DAMAGED ITEMS AS DIRECTED BY ARCHITECT.
13. ALL WORK SHALL BE DONE IN ACCORDANCE WITH APPLICABLE CODES AND STANDARDS.
14. WORK SHALL BE DONE BY THOSE SKILLED AND EXPERIENCED IN THEIR RESPECTIVE TRADES. WORK SHALL BE OF THE HIGHEST QUALITY WORKMANSHIP.

ABBREVIATIONS (NOT ALL ABBREVIATIONS ARE USED)

&	And
∠	Angle
℄	Centerline
°	Degrees
Φ	Diameter or Round
⊥	Perpendicular
ℙ	Plate
#	Pound or Number
SQ.	Square
A.B.	Anchor Bolt
ACOUST.	Acoustical
ADJ.	Adjustable
A.F.F.	Above Finish Floor
ALT.	Alternate
ALUM.	Aluminum
A.N.S.I.	American National Standards Institute A117.1-1980
ARCH.	Architectural
ASPH.	Asphalt
A/V	Audio/Video
BD.	Board
BIT.	Bituminous or Bitumen
BLDG.	Building
BLK.	Block
BLKG.	Blocking
BM.	Beam
B.O.	Bottom Of
B.O.C.	Bottom of Curb
BRNG.	Bearing
BTM.	Bottom
CAB.	Cabinet
C.B.	Catch Basin
C.I.	Cast Iron
CJ	Control Joint
CL.	Closet
CLG.	Ceiling
CLR.	Clear
CMU	Concrete Masonry Unit
CO	Cleanout
COL.	Column
CONC.	Concrete
CONN.	Connect or Connection
CONST.	Construction
CONT.	Continuous
COORD.	Coordinate
CORR.	Corridor
CTR.	Center
CUST.	Custodial
DBL.	Double
D.F.	Drinking Fountain
DIA.	Diameter
DIAG.	Diagonal
DIM.	Dimension
DISP.	Dispenser
DN.	Down
DR.	Door
DS	Downspout
DTL.	Detail
DWG	Drawing
EJ	Expansion Joint
EL.	Elevation
ELEC.	Electrical
ELEV.	Elevator
EQ.	Equal
EXP.	Expansion
EXT.	Exterior
EXIST. or (E)	Existing
F.D.	Floor Drain
FDN.	Foundation
F.E.	Fire Extinguisher
F.E.C.	Fire Extinguisher Cab.
F.H.C.	Fire Hose Cabinet
FIN.	Finish
FLR.	Floor
FLUOR.	Fluorescent
F.O.C.	Face of Concrete
F.O.F.	Face of Finish
F.O.S.	Face of Stud
F.R.T.	Fire Retardant Treated
FT.	Foot or Feet
FTG.	Footing
GA.	Gauge
GALV.	Galvanized
GC	General Contractor
GFCI	Ground-Fault Circuit Interrupter
G.L.B.	Glue Laminated Beam
G.M.U.	Glass Masonry Unit
GYP.	Gypsum
H.B.	Hose Bib
H.C.	Hollow Core
HDR.	Header
H.M.	Hollow Metal
HORIZ.	Horizontal
HR.	Hour
HT.	Height
I.D.	Inside Diameter or Inside Dimension
INSUL.	Insulation
INT.	Interior
JT.	Joint
LAM.	Laminate
LAV.	Lavatory
LT.	Light
MAX.	Maximum
M.B.	Machine Bolt
M.D.O.	Medium Density Overlay
MECH.	Mechanical
MEMB.	Membrane
MFR. or MANUF.	Manufacturer
M.H.	Man Hole
MIN.	Minimum
MISC.	Miscellaneous
M.O.	Masonry Opening
MOD. BIT.	Modified Bitumen
MTL.	Metal
(N)	New
N.I.C.	Not In Contract
NO. or #	Number
NOM.	Nominal
N.T.S.	Not to Scale
O.C.	On Center
O.D.	Outside Diameter
O.F.C.I.	Owner Furnished Contractor Installed
O.F.O.I.	Owner Furnished Owner Installed
OPNG.	Opening
OPP.	Opposite
O.S.S.C.	Oregon Structural Specialty Code
PL.	Plate
PLAM	Plastic Laminate
PLYWD.	Plywood
PR.	Pair
P.T.	Pressure Treated
PTD	Paper Towel Dispenser
PTD/R	Combination Paper Towel Dispenser / Receptacle
PTN.	Partition
R.	Riser
RAD.	Radius
R.D.	Roof Drain
REF.	Refrigerator or Reference
REINF.	Reinforced
REQ'D.	Required
REQ'MTS.	Requirements
RESIL.	Resilient
REV.	Reverse
RM.	Room
R.O.	Rough Opening
S.C.	Solid Core
SCD	Seat Cover Dispenser
SCHED.	Schedule
SD	Soap Dispenser
SECT.	Section
S.F. or SQ. FT.	Square Feet
SHT'G.	Sheathing
SIM.	Similar
SM	Sheet Metal
SND	Sanitary Napkin Dispenser
SNR	Sanitary Napkin Receptacle
SPEC.	Specification
SS	Stainless Steel
STL.	Steel
STOR.	Storage
STRUCT.	Structural
SUSP.	Suspended
T.	Tread
T&G	Tongue and Groove
TEL.	Telephone
TEMP.	Tempered
T.O.	Top Of
T.O.C.	Top of Curb
T.O.P.	Top of Pavement
T.O.W.	Top of Wall
TPD	Toilet Paper Dispenser
T.S.	Tube Steel
TYP.	Typical
U.B.C.	Uniform Building Code
U.O.N.	Unless Otherwise Noted
VERT.	Vertical
VEST.	Vestibule
V.P.	Veneer Plaster
W/	With
W.C.	Water Closet
WD.	Wood
W.H.	Water Heater
W/O	Without
WP.	Waterproof
WT.	Weight

BBL ARCHITECTS
ARCHITECTURE ■ PLANNING ■ INTERIOR DESIGN
200 North State Street
Lake Oswego, Oregon 97034

CONSTRUCTION DOCUMENTS

Date:	04/24/19
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MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

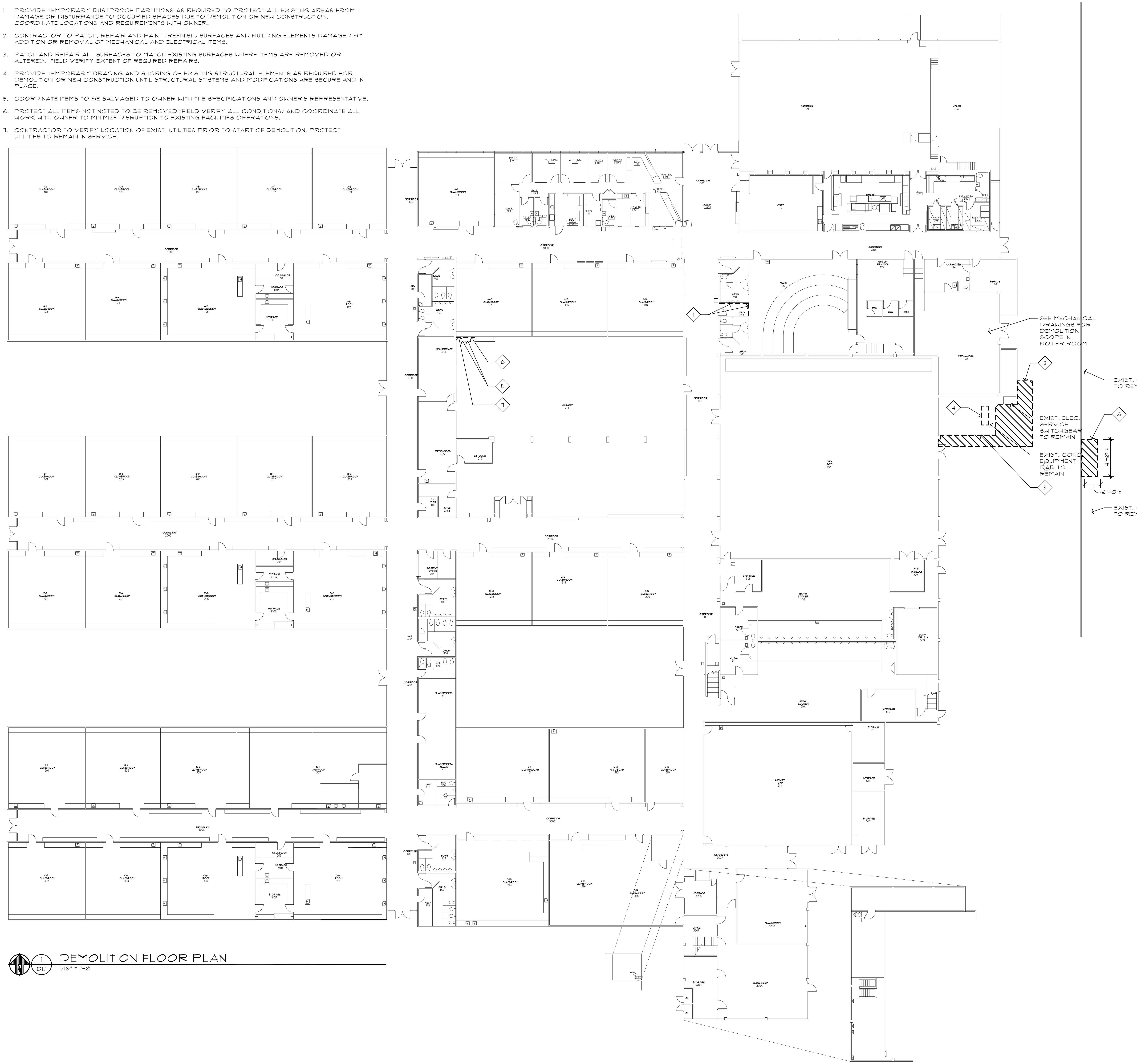
SHEET
G2

GENERAL DEMOLITION NOTES

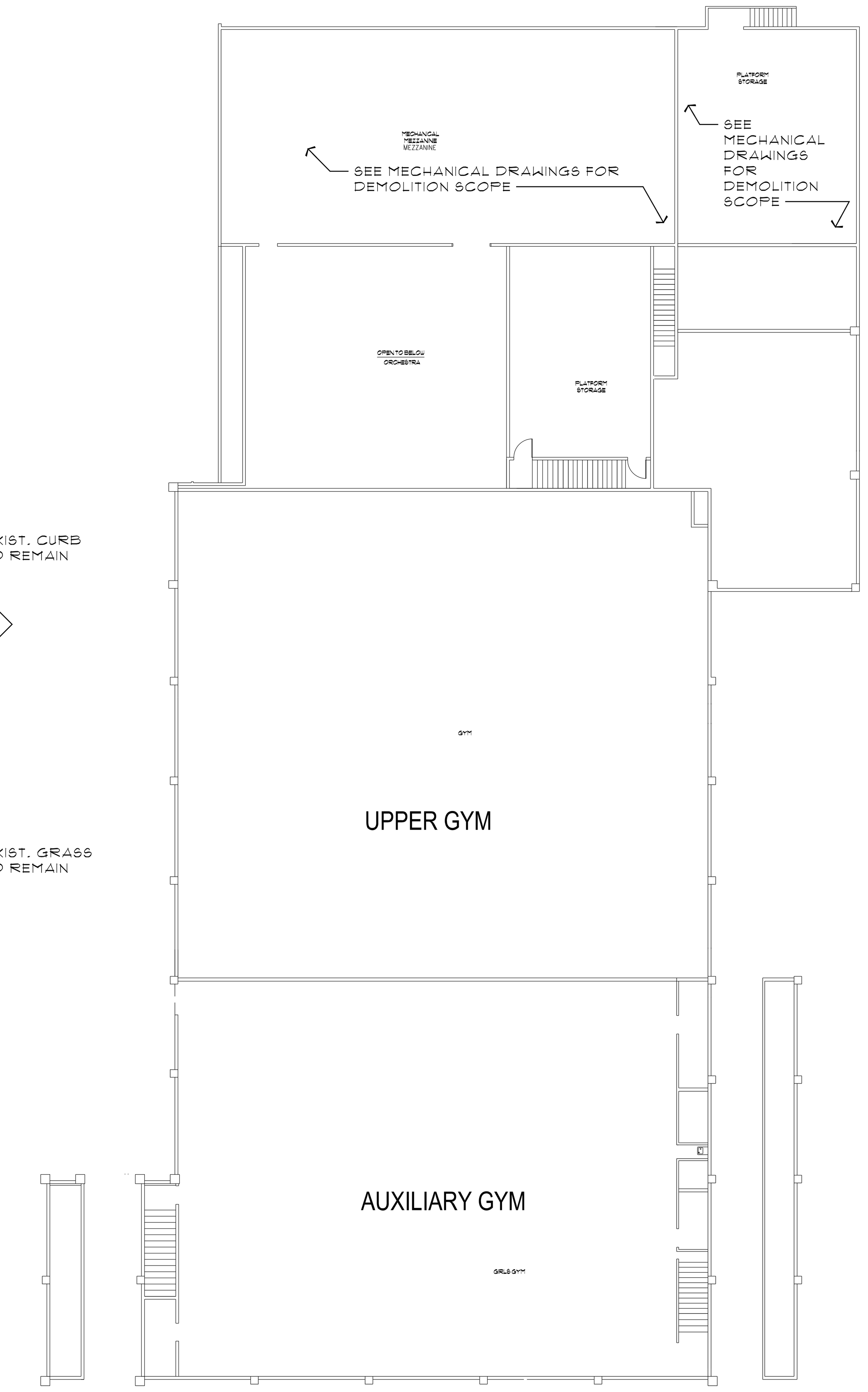
1. PROVIDE TEMPORARY DUSTPROOF PARTITIONS AS REQUIRED TO PROTECT ALL EXISTING AREAS FROM DAMAGE OR DISTURBANCE TO OCCUPIED SPACES DUE TO DEMOLITION OR NEW CONSTRUCTION. COORDINATE LOCATIONS AND REQUIREMENTS WITH OWNER.
2. CONTRACTOR TO PATCH, REPAIR AND PAINT (REFINISH) SURFACES AND BUILDING ELEMENTS DAMAGED BY ADDITION OR REMOVAL OF MECHANICAL AND ELECTRICAL ITEMS.
3. PATCH AND REPAIR ALL SURFACES TO MATCH EXISTING SURFACES WHERE ITEMS ARE REMOVED OR ALTERED. FIELD VERIFY EXTENT OF REQUIRED REPAIRS.
4. PROVIDE TEMPORARY BRACING AND SHORING OF EXISTING STRUCTURAL ELEMENTS AS REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION UNTIL STRUCTURAL SYSTEMS AND MODIFICATIONS ARE SECURE AND IN PLACE.
5. COORDINATE ITEMS TO BE SALVAGED TO OWNER WITH THE SPECIFICATIONS AND OWNER'S REPRESENTATIVE.
6. PROTECT ALL ITEMS NOT NOTED TO BE REMOVED (FIELD VERIFY ALL CONDITIONS) AND COORDINATE ALL WORK WITH OWNER TO MINIMIZE DISRUPTION TO EXISTING FACILITIES OPERATIONS.
7. CONTRACTOR TO VERIFY LOCATION OF EXIST. UTILITIES PRIOR TO START OF DEMOLITION. PROTECT UTILITIES TO REMAIN IN SERVICE.

DEMOLITION NOTES

1. REMOVE EXISTING GYP. BD. WALL FINISH.
2. EXISTING ASPHALT TO BE REMOVED - SAWCUT EDGE FOR CLEAN, STRAIGHT CUT.
3. EXISTING CONC. CURB TO BE REMOVED - PROTECT ADJACENT CONC. PAD.
4. EXIST. ELECTRICAL GENERATOR TO BE RELOCATED. SEE SHEET A1.1 AND ELECTRICAL DRAWINGS.
5. REMOVE EXIST. BOOKCASES. SALVAGE FOR REINSTALLATION.
6. REMOVE EXIST. GYPSUM WALL FINISH. REMOVE EXIST. TACKBOARD.
7. REMOVE EXIST. ACCESS PANEL. SALVAGE FOR REINSTALLATION.
8. EXISTING LAWN TO BE REMOVED.



1 D1.1 DEMOLITION FLOOR PLAN
1/16" = 1'-0"



2 D1.1 DEMOLITION FLOOR PLAN - MEZZANINE
1/16" = 1'-0"

CONSTRUCTION DOCUMENTS

BBL ARCHITECTS
ARCHITECTURE ■ PLANNING ■ INTERIOR DESIGN
200 North State Street
Lake Oswego, Oregon 97034

REGISTERED ARCHITECT
DOUGLAS A. PRUITT
LAKE OSWEGO
STATE OF OREGON

Date:	04/24/19
Proj No:	9652
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SHEET
D1.1

DEMOLITION REFLECTED CEILING PLAN

D1.2

1/16" = 1'-0"

GENERAL DEMOLITION NOTES

1. PROVIDE TEMPORARY DUSTPROOF PARTITIONS AS REQUIRED TO PROTECT ALL EXISTING AREAS FROM DAMAGE OR DISTURBANCE TO OCCUPIED SPACES DUE TO DEMOLITION OR NEW CONSTRUCTION. COORDINATE LOCATIONS AND REQUIREMENTS WITH OWNER.
2. CONTRACTOR TO PATCH, REPAIR AND PAINT (REFINISH) SURFACES AND BUILDING ELEMENTS DAMAGED BY ADDITION OR REMOVAL OF MECHANICAL AND ELECTRICAL ITEMS.
3. PATCH AND REPAIR ALL SURFACES TO MATCH EXISTING SURFACES WHERE ITEMS ARE REMOVED OR ALTERED. FIELD VERIFY EXTENT OF REQUIRED REPAIRS.
4. PROVIDE TEMPORARY BRACING AND SHORING OF EXISTING STRUCTURAL ELEMENTS AS REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION UNTIL STRUCTURAL SYSTEMS AND MODIFICATIONS ARE SECURE AND IN PLACE.
5. COORDINATE ITEMS TO BE SALVAGED TO OWNER WITH THE SPECIFICATIONS AND OWNER'S REPRESENTATIVE.
6. PROTECT ALL ITEMS NOT NOTED TO BE REMOVED (FIELD VERIFY ALL CONDITIONS) AND COORDINATE ALL WORK WITH OWNER TO MINIMIZE DISRUPTION TO EXISTING FACILITIES OPERATIONS.
7. CONTRACTOR TO VERIFY LOCATION OF EXIST. UTILITIES PRIOR TO START OF DEMOLITION. PROTECT UTILITIES TO REMAIN IN SERVICE.
8. ENTIRE CEILING IS NOT SHOWN. CEILING HAVE ONLY BEEN SHOWN WHERE ADJACENT TO WORK.

DEMOLITION NOTES

1. EXISTING GYPSUM BOARD CEILING TO BE REMOVED FOR MECHANICAL WORK. SEE MECHANICAL DRAWINGS.
2. EXISTING MECHANICAL EQUIPMENT TO BE REMOVED. SEE MECHANICAL DRAWINGS.

REGISTERED ARCHITECT • STATE OF OREGON • DOUGLAS A. PRUITT LAKE OSWEGO

Date:	04/24/19
Proj No:	9652
Drawn By:	SLK
Chkd By:	DAP
DSGN By:	DAP
Acad File:	

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE

BEAVERTON OREGON

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0577
WWW.MFIA-ENG.COM

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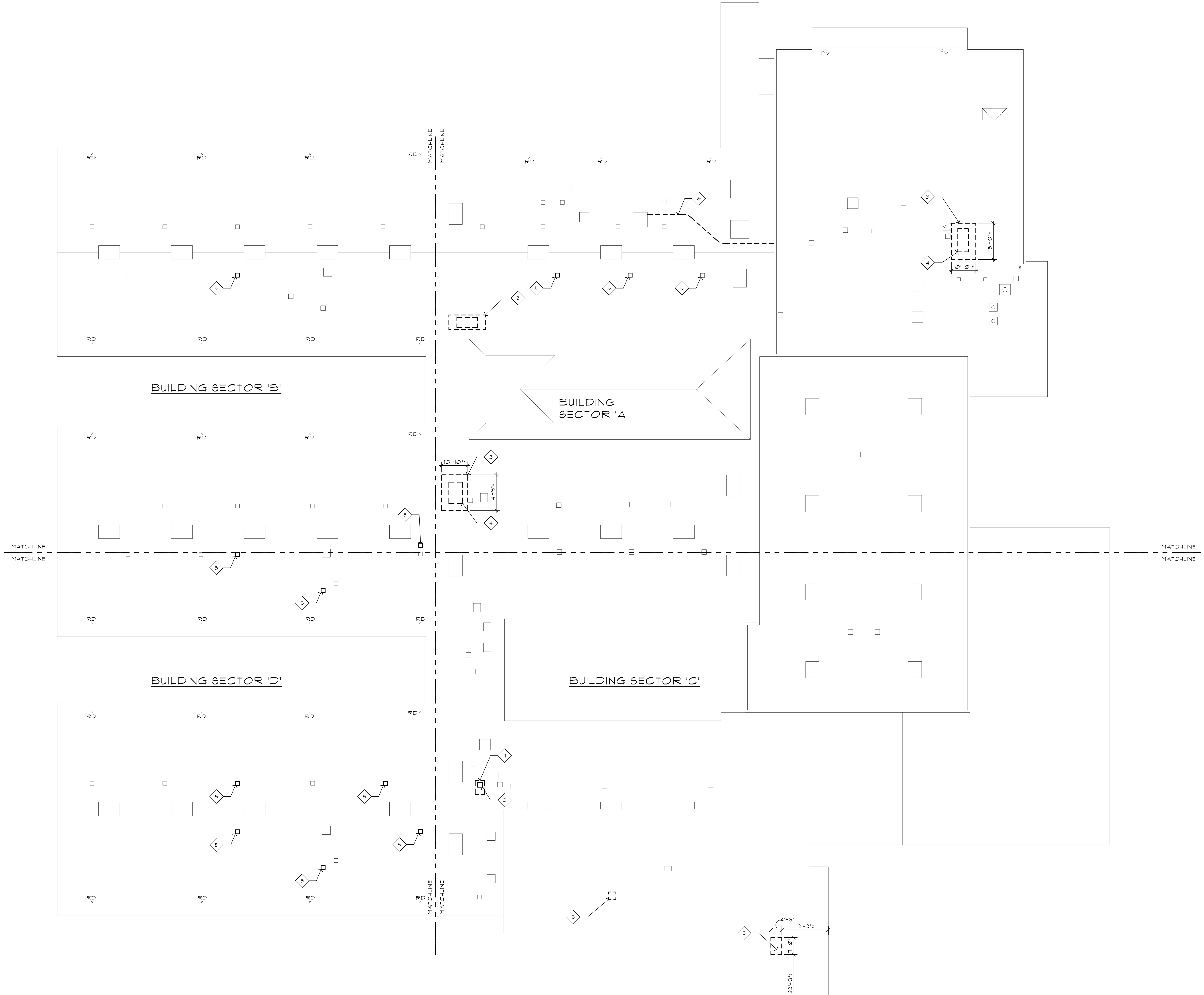
SHEET

D1.2



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

DEMOLITION NOTES

1. NOT USED.
2. REMOVE EXISTING CHILLER, ASSOCIATED PIPING, ELECTRICAL, AND CURB. PRIOR TO DEMOLITION, VERIFY THAT THERE IS PLYWOOD ROOF SHEATHING BENEATH THE CURB.
3. REMOVE PORTION OF EXISTING BUILT-UP ROOFING AND INSULATION TO THE ROOF DECK FOR NEW CURB.
4. REMOVE EXISTING CONDENSING UNITS, SHEET METAL CAP, AND CURB. SALVAGE CONDENSING UNITS FOR REINSTALLATION.
5. REMOVE EXISTING FAN.
6. REMOVE EXIST. GAS PIPING.
7. REMOVE EXISTING OUTSIDE AIR UNIT AND CURB - SEE MECHANICAL DRAWINGS - COORDINATE ROOFING REMOVAL WITH DISTRICT ROOFING CONTRACTOR. SALVAGE OUTSIDE AIR UNIT FOR REINSTALLATION.

GENERAL NOTES

1. THE ROOF IS BEING REPLACED BY A SEPARATE CONTRACTOR. ROOF DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER'S ROOFING CONTRACTOR.

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200 North State Street
Lake Oswego, Oregon 97034

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

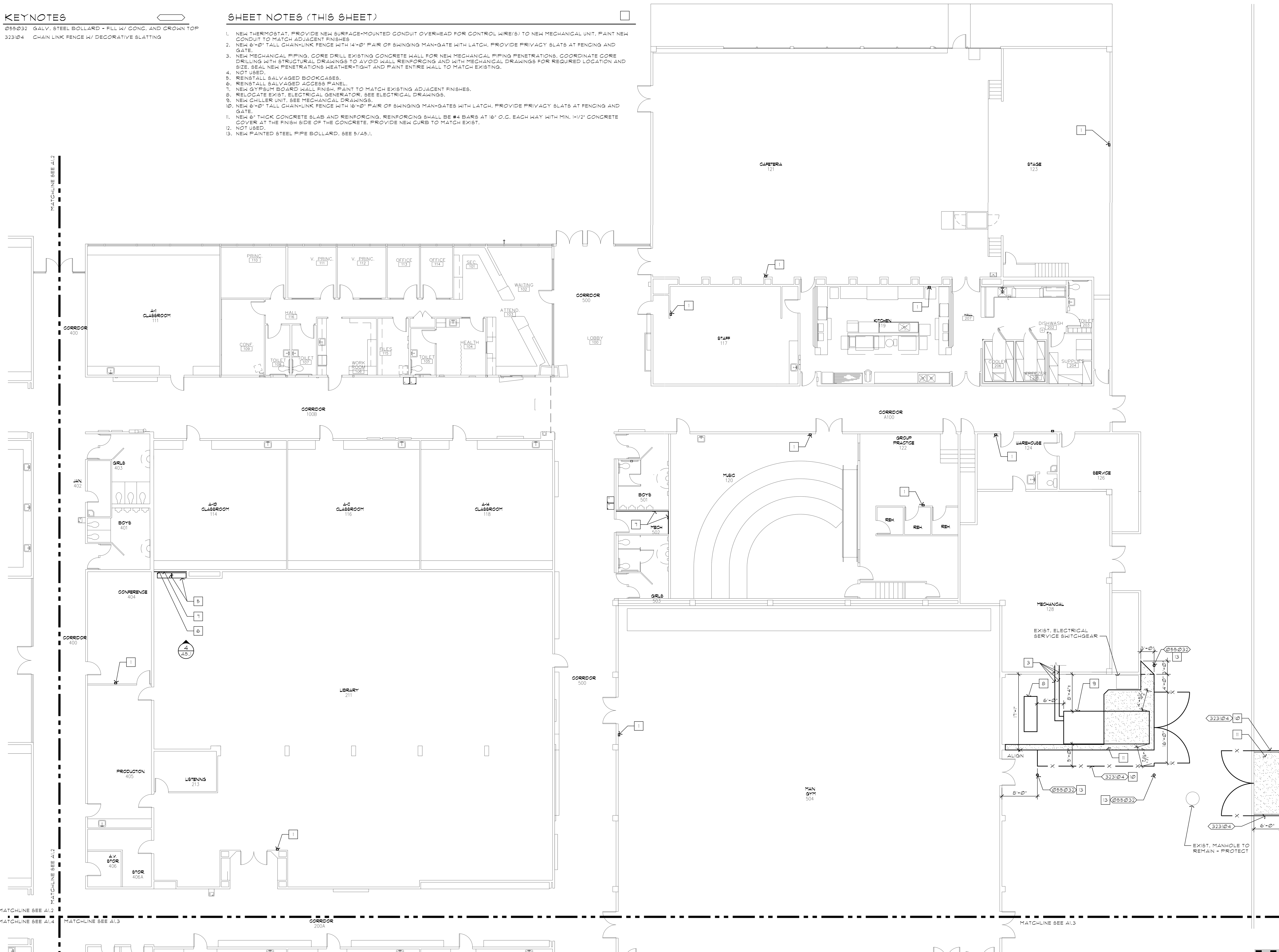
SHEET
D1.3

KEYNOTES

055032	GALV. STEEL BOLLARD - FILL W/ CONC. AND CROWN TOP
323104	CHAIN LINK FENCE W/ DECORATIVE SLATTING

SHEET NOTES (THIS SHEET)

1. NEW THERMOSTAT. PROVIDE NEW SURFACE-MOUNTED CONDUIT OVERHEAD FOR CONTROL WIRE(S) TO NEW MECHANICAL UNIT. PAINT NEW CONDUIT TO MATCH ADJACENT FINISHES
2. NEW 6'-0" TALL CHAIN-LINK FENCE WITH 14'-0" PAIR OF SWINGING MAN-GATE WITH LATCH. PROVIDE PRIVACY SLATS AT FENCING AND GATE.
3. NEW MECHANICAL PIPING. CORE DRILL EXISTING CONCRETE WALL FOR NEW MECHANICAL PIPING PENETRATIONS. COORDINATE CORE DRILLING WITH STRUCTURAL DRAWINGS TO AVOID WALL REINFORCING AND WITH MECHANICAL DRAWINGS FOR REQUIRED LOCATION AND SIZE. SEAL NEW PENETRATIONS WEATHER-TIGHT AND PAINT ENTIRE WALL TO MATCH EXISTING.
4. NOT USED.
5. REINSTALL SALVAGED BOOKCASES.
6. REINSTALL SALVAGED ACCESS PANEL.
7. NEW GYPSUM BOARD WALL FINISH. PAINT TO MATCH EXISTING ADJACENT FINISHES.
8. RELOCATE EXIST. ELECTRICAL GENERATOR. SEE ELECTRICAL DRAWINGS.
9. NEW CHILLER UNIT. SEE MECHANICAL DRAWINGS.
10. NEW 6'-0" TALL CHAIN-LINK FENCE WITH 16'-0" PAIR OF SWINGING MAN-GATES WITH LATCH. PROVIDE PRIVACY SLATS AT FENCING AND GATE.
11. NEW 6" THICK CONCRETE SLAB AND REINFORCING. REINFORCING SHALL BE #4 BARS AT 16" O.C. EACH WAY WITH MIN. 1-1/2" CONCRETE COVER AT THE FINISH SIDE OF THE CONCRETE. PROVIDE NEW CURB TO MATCH EXIST.
12. NOT USED.
13. NEW PAINTED STEEL PIPE BOLLARD. SEE 5/A5.1.



ENLARGED FLOOR PLAN - SECTOR 'A'
1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

REGISTERED ARCHITECT
DOUGLAS A. PRUITT
LAKE OSWEGO
STATE OF OREGON

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BEAVERTON OREGON

MFIA INC.

Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

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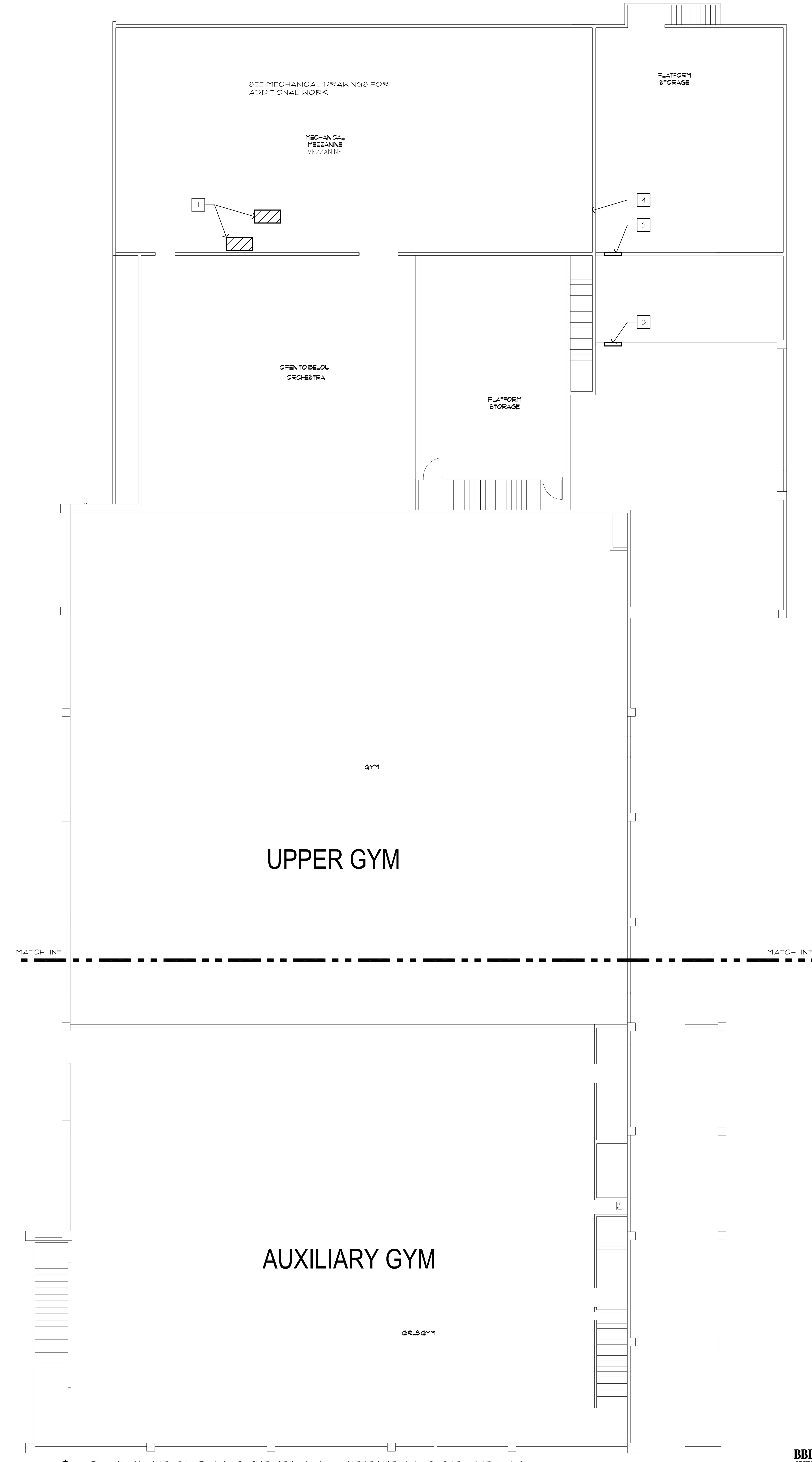
SHEET
A1.1

SHEET NOTES

1. PATCH HOLES IN FLOOR FROM REMOVED DUCTWORK WITH NEW PLYWOOD AND FRAMING AS REQUIRED
2. PATCH HOLE IN WALL FROM REMOVED DUCTWORK WITH WOOD FRAMING AND FIRE-TAPED ⅝" TYPE 'X' GYPSUM BOARD
3. PATCH HOLE IN 2-HOUR RATED AREA SEPARATION WALL FROM REMOVED CHILLED WATER LINES WITH 2-HOUR FIRE STOPPING
4. NEW DUCTWORK IN EXISTING DUCTWORK PENETRATION. SEAL NEW DUCTWORK TIGHT TO WALL



1 / A1.5 ENLARGED FLOOR PLAN - UPPER FLOOR AREAS
1/8" = 1'-0"

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2007 S.E. Ash St.
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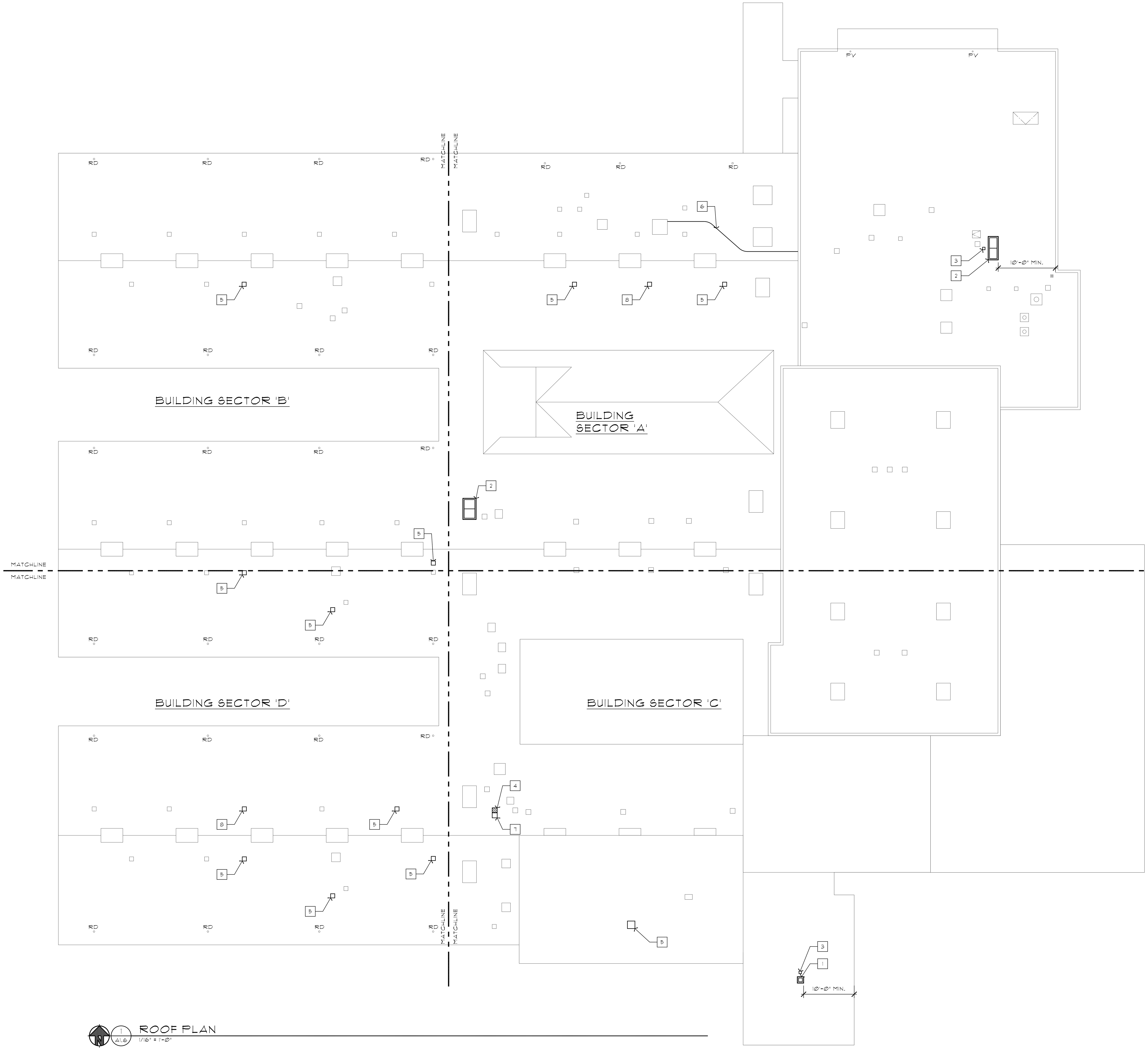


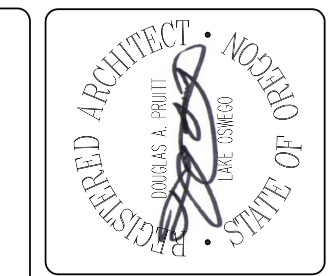
1 A1.6 ROOF PLAN
1/16" = 1'-0"

SHEET NOTES

1. NEW CURB FOR FUTURE MECHANICAL UNIT. PROVIDE STRUCTURAL FRAMING AS REQUIRED UNDER THE DECK FOR MECHANICAL UNIT SUPPORT. SEE 6/A5.1. ROOF PATCHING TO BE PERFORMED BY THE DISTRICT'S ROOFING CONTRACTOR UNDER A SEPARATE CONTRACT. COORDINATE WITH THE DISTRICT'S ROOFING CONTRACTOR.
2. INSTALL SALVAGED CONDENSING UNITS ON NEW CURB AND SHEET METAL CAP. SEE 3/A5.1. ROOF PATCHING/REPLACEMENT TO BE PERFORMED BY THE DISTRICT'S ROOFING CONTRACTOR UNDER A SEPARATE CONTRACT. COORDINATE WITH THE DISTRICT'S ROOFING CONTRACTOR.
3. NEW STAINLESS STEEL HOOD FOR MULTI-PIPE MECHANICAL AND ELECTRICAL PENETRATION. SEE 1/A5.1. ROOF PATCHING/REPLACEMENT TO BE PERFORMED BY THE DISTRICT'S ROOFING CONTRACTOR UNDER A SEPARATE CONTRACT. COORDINATE WITH THE DISTRICT'S ROOFING CONTRACTOR.
4. INFILL EXISTING ROOF DECK. SEE STRUCTURAL DRAWINGS.
5. REINSTALL SALVAGED EXHAUST FAN. SEE MECHANICAL DRAWINGS. COORDINATE REINSTALLATION WITH THE DISTRICT'S ROOFING CONTRACTOR.
6. NEW GAS PIPING ON ROOF BLOCKS OR SLEEPERS. COORDINATE WITH THE DISTRICT'S ROOFING CONTRACTOR.
7. INSTALL SALVAGED OUTSIDE AIR UNIT ON NEW WOOD CURB. ROOF PATCHING/REPLACEMENT TO BE PERFORMED BY THE DISTRICT'S ROOFING CONTRACTOR UNDER A SEPARATE CONTRACT. COORDINATE WITH THE DISTRICT'S ROOFING CONTRACTOR.

GENERAL NOTES

1. THE ROOF IS BEING REPLACED BY A SEPARATE CONTRACTOR. MECHANICAL AND SCREEN WORK SHALL BE COORDINATED WITH THE OWNER'S ROOFING CONTRACTOR.



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BEAVERTON OREGON

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

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SHEET
A1.6

SHEET NOTES (THIS SHEET)

1. NEW GYPSUM BOARD CEILING, PAINT TO MATCH EXISTING, FEATHER CEILING FINISH TO EXISTING CEILING FOR EVEN TRANSITION.

ENLARGED REFLECTED CEILING PLAN - SECTOR 'A'

1/8" = 1'-0"

1 A2.1

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BEAVERTON OREGON

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DSGN By: DAP
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Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0577
WWW.MFIA-ENG.COM

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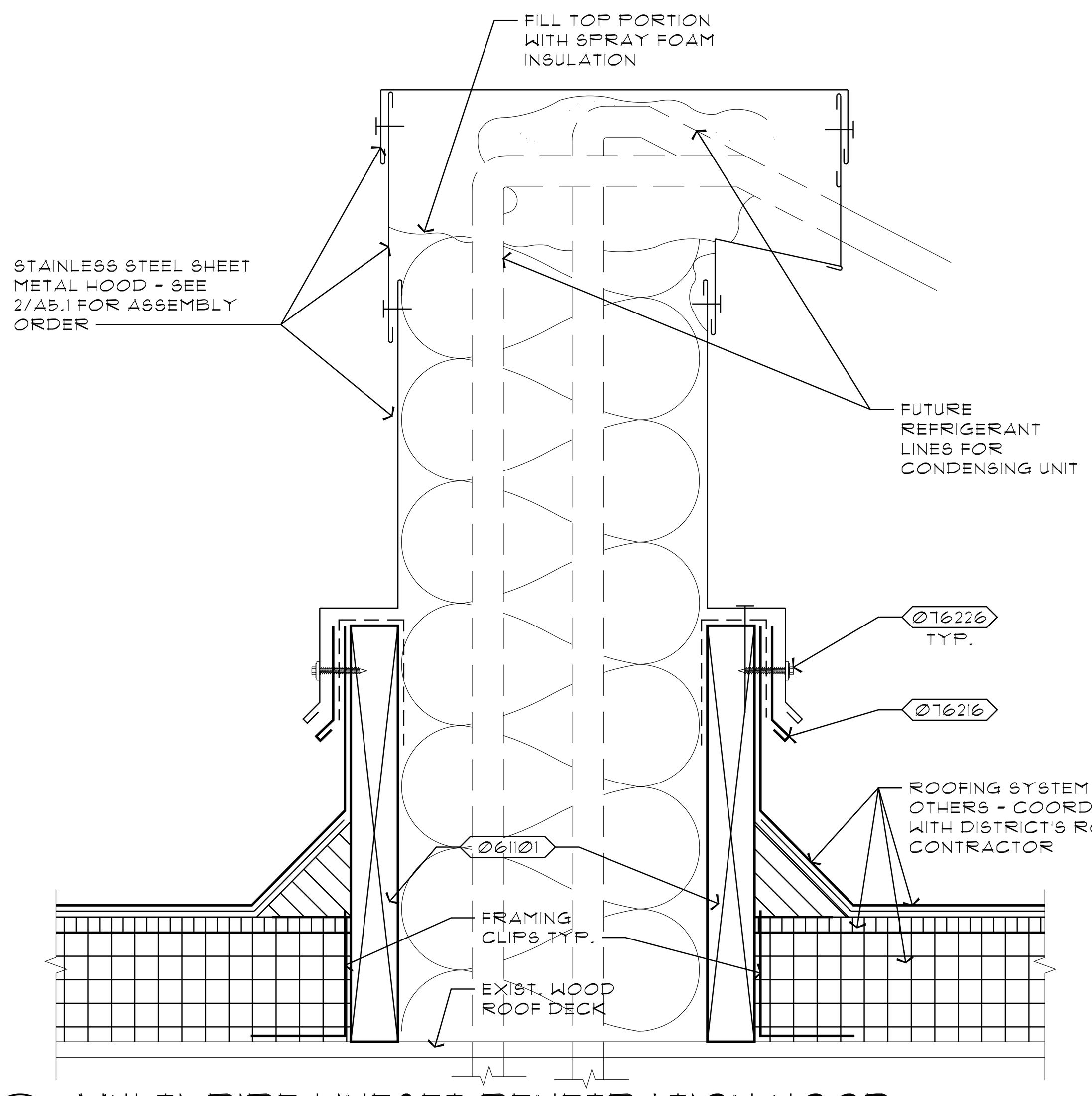
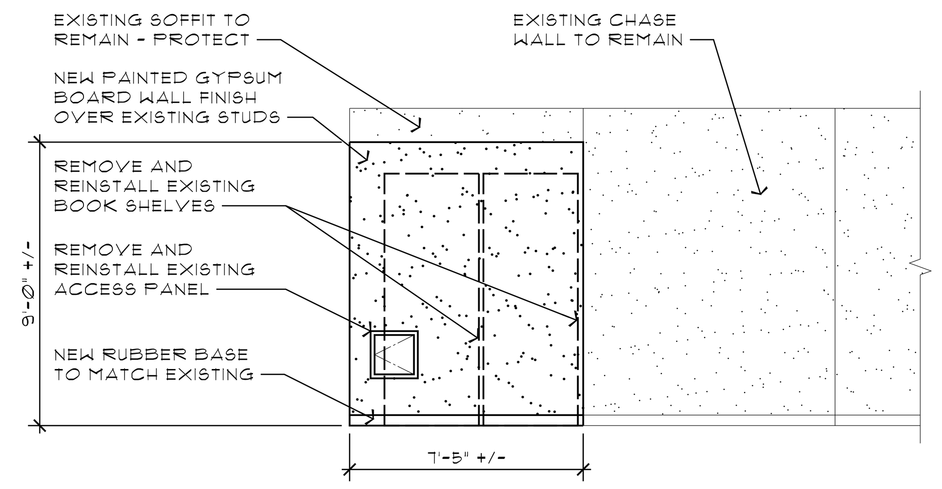
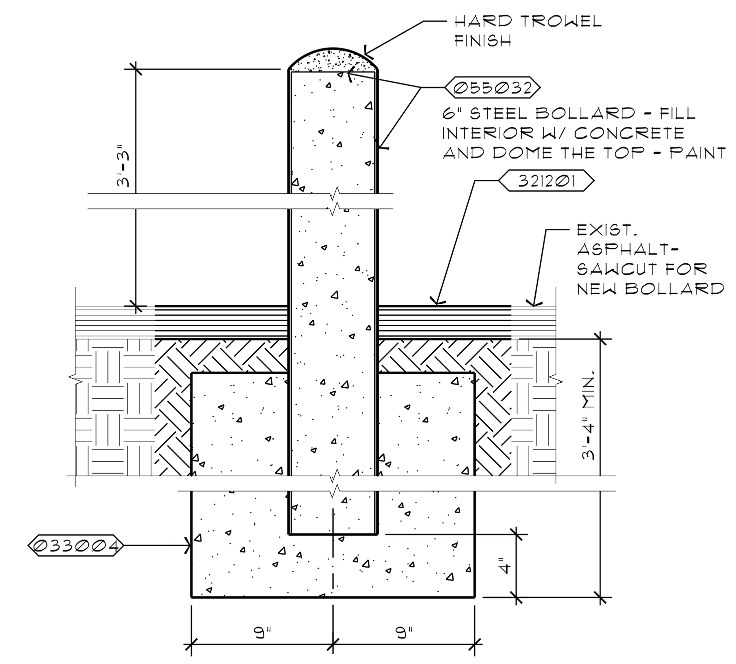


1 / A5.1 MULTI-PIPE LINESET PENETRATION HOOD
3" = 1'-0"



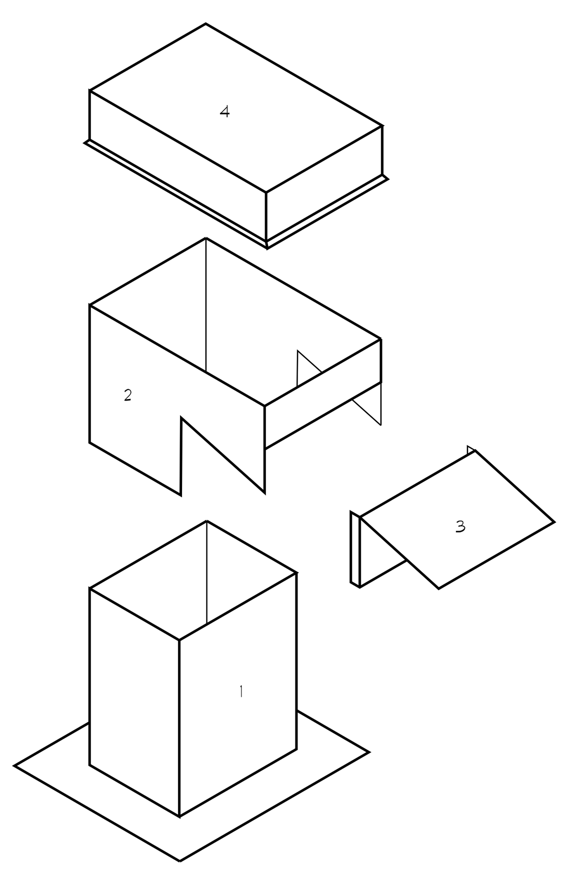
4 / A5.1 LIBRARY / INTERIOR ELEVATION
1/4" = 1'-0"



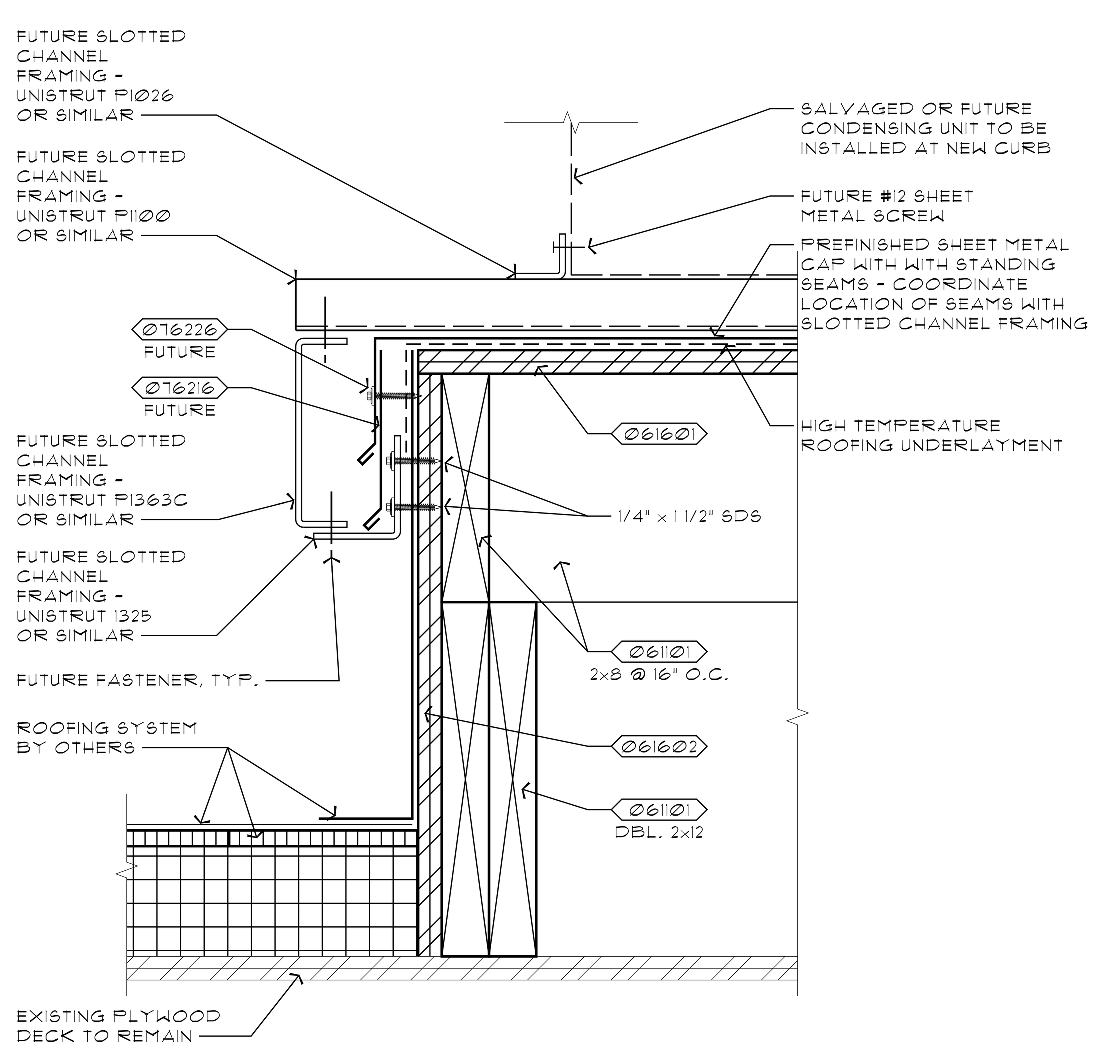
5 / A5.1 BOLLARD
3" = 1'-0"

KEYNOTES

033004	CONCRETE FOOTING
055032	GALV. STEEL BOLLARD - FILL W/ CONC. AND CROWN TOP
061101	WOOD FRAMING
061601	PLYWOOD ROOF SHEATHING
061602	PLYWOOD WALL SHEATHING
076216	PREFINISHED SHEET METAL FLASHING
076226	FASTENER W/ NEOPRENE WASHER
321201	ASPHALTIC CONCRETE



2 / A5.1 MULTI-PIPE LINESET FLASHING ASSEMBLY ORDER
1 1/2" = 1'-0"



3 / A5.1 CONDENSING UNIT CURB
3" = 1'-0"

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CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0577
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A5.1

GENERAL STRUCTURAL NOTES

THESE NOTES SHALL STIPULATE THE MINIMUM STANDARDS OF CONSTRUCTION, AND THE DRAWINGS SHALL GOVERN OVER THE NOTES IN ALL MATTERS SPECIFICALLY STATED. VERIFY DIMENSIONS AND EXISTING CONDITIONS, AND NOTIFY ARCHITECT OR ENGINEER OF DISCREPANCIES BEFORE PROCEEDING. THE CONTRACTOR IS RESPONSIBLE FOR SAFE CONDITIONS AT THE JOBSITE, AND FOR TEMPORARY SUPPORT OF THE BUILDING PRIOR TO THE COMPLETION OF THE VERTICAL AND LATERAL LOAD SYSTEMS. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE.

DESIGN LOADS:

OFFICE FLOOR LIVE LOAD = 50 PSF + PARTITIONS
CORRIDORS, STAIRS & EXITS LIVE LOAD = 100 PSF
ROOF LEVEL MECHANICAL ZONE LIVE LOAD = 50 PSF
ROOF LIVE LOAD = 20 PSF
GROUND SNOW LOAD = 20 PSF
MINIMUM ROOF SNOW LOAD = 14 PSF W/ DRIFTING PER IBC
 FLAT ROOF SNOW LOAD, P_f = 25 PSF
 SNOW EXPOSURE FACTOR, C_e = 0.9
 SNOW LOAD IMPORTANCE FACTOR, I_s = 1.0
 THERMAL FACTOR, C_t = 1.0
BASIC WIND SPEED = 130 MPH AND WIND EXPOSURE B PER 2014 OREGON VERSION INTERNATIONAL BUILDING CODE DESIGN PROVISIONS. (LRFD 3 SECOND GUST)
SEISMIC DESIGN CATEGORY D AND SITE CLASS D
 SEISMIC IMPORTANCE FACTOR, I_e = 1.25
 MAPPED SPECTRAL RESPONSE ACCELERATIONS S_s = 0.991 AND S_1 = 0.432
 SPECTRAL RESPONSE COEFFICIENTS S_{ds} = 0.729 AND S_{d1} = 0.451
 BASIC SEISMIC-FORCE RESISTING SYSTEM:
  TYPICAL CONCRETE SHEARWALLS
 RESPONSE MODIFICATION FACTOR, R = 3.5
 ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE
FOOTING DESIGN SOIL PRESSURE = 1500 PSF TOTAL LOAD MAXIMUM BEARING PRESSURE ASSUMED.

COORDINATE LOADS OF MECHANICAL EQUIPMENT, SPRINKLER SYSTEMS AND LOADS FROM OTHER TRADES NOT SHOWN ON THE STRUCTURAL DRAWINGS. LOADS OF GREATER THAN 100 POUNDS SHALL BE SUPPORTED VIA AN APPROVED SUPPORT DEVICE. PROVIDE ADDITIONAL FRAMING MEMBERS TO TRANSFER LOADS TO MAIN BEAMS, GIRDERS OR COLUMNS/WALLS FOR ALL LOADS IN EXCESS OF 250 POUNDS UNLESS APPROVED BY ENGINEER.

SPECIAL INSPECTION REQUIRED:

SPECIAL INSPECTION ACCORDING TO THE REQUIREMENTS OF SECTION 1704 OF THE INTERNATIONAL BUILDING CODE SHALL BE REQUIRED DURING THE CONSTRUCTION OF THE FOLLOWING:

BOLTS INSTALLED IN CONCRETE AND CMU: CAST-IN-PLACE - PRIOR TO AND DURING THE PLACEMENT OF CONCRETE OR GROUT AROUND BOLTS. MECHANICAL - INSPECTOR SHALL INSPECT PER REQUIREMENTS OF IBC 1704.13 THE HOLE DEPTH AND CLEANLINESS AND VERIFY ANCHOR INSTALLATION IS PER MANUFACTURER'S INSTRUCTIONS AND ICBO REPORT. ADHESIVE - INSPECTOR SHALL INSPECT PER THE REQUIREMENT OF IBC 1704.13 THE HOLE DEPTH AND CLEANLINESS; PRODUCT DESCRIPTION; ADHESIVE EXPIRATION DATE; AND VERIFY ANCHOR INSTALLATION IS PER MANUFACTURER'S INSTRUCTIONS AND ICBO REPORT.

WELDING: ALL STRUCTURAL WELDING INCLUDING WELDING OF REINFORCING STEEL. WELDING DONE IN APPROVED FABRICATOR'S SHOP IS ACCEPTED. PERIODIC INSPECTION ACCORDING TO IBC SECTION 1704.3.2 SHALL BE USED FOR DECKS, WELDED STUDS, AND SINGLE PASS WELDS NOT OTHERWISE INDICATED.

WOOD:

LUMBER GRADES SHALL BE AS FOLLOWS, EXCEPT AS NOTED ON DRAWINGS:

JOIST, RAFTERS & 4 INCH NOMINAL BEAMS	#2 GRADE DOUGLAS FIR
POSTS & 6 INCH NOMINAL BEAMS	#1 GRADE DOUGLAS FIR
2x4 FRAMING & STUDS	STUD GRADE DOUGLAS FIR
2x6 LARGER STUDS	#2 GRADE DOUGLAS FIR
BUCKS, BLOCKING AND BRIDGING	#3 GRADE DOUGLAS FIR
PLATES & SILLS ON CONCRETE	PR. TR. DOUGLAS FIR
2x6 DECKING	COMM. GRADE D.F. OR HEM-FIR

PROVIDE SOLID BLOCKING FOR JOIST AND RAFTERS AT ALL BEARING WALLS AND BEAMS. PROVIDE BRIDGING AND FIRE STOPPING AS REQUIRED BY CODE.

ROOF, WALL AND FLOOR SHEATHING SHALL BE APA RATED SHEATHING EXPOSURE 1 OR CDX OR EQUIVALENT ORIENTATED STRAND BOARD WITH EXTERIOR GLUE. SEE DRAWINGS FOR PANEL INDEX, INSTALLATION, AND NAILING REQUIREMENTS. NAILING INDICATED ON DRAWINGS TO BE WITH COMMON NAILS. SHEAR WALL SHEATHING SHALL BE INSTALLED WITH JOINTS BLOCKED UNLESS OTHERWISE NOTED. USE EXTERIOR TYPE PLYWOOD FOR EXPOSED LOCATIONS SUCH AS SOFFITS. ADHESIVE FOR FIELD GLUING PANELS TO FRAMING SHALL COMPLY WITH APA AFG-01 AND APPROVED FOR PANEL USE.

NAIL ALL MEMBERS WITH MINIMUM NAILING TO CONFORM TO TABLE 2304.9.1 OF THE IBC AND INCREASE WHERE INDICATED. FASTENERS AND HANGERS NOTED ON THE DRAWINGS ARE MODEL NUMBERS OF "SIMPSON STRONG-TIE COMPANY, INC." AND MAY BE REPLACED WITH EQUIVALENT MODELS BY OTHER COMPANIES HAVING EQUIVALENT PROPERTIES AND STRENGTHS. INSTALL ALL CONNECTORS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS WITH NAILING IN ALL AVAILABLE HOLES. SIMPSON OR EQUIVALENT STEEL FASTENERS ATTACHED TO ACQ-TREATED WOOD SHALL HAVE GALVANIZING CONFORMING TO ASTM G185 - SIMPSON PRODUCTS WITH THIS GALVANIZING ARE NOTED AS "ZMAX".

CUTTING OR NOTCHING OF BEAMS, JOISTS, RAFTERS AND COLUMNS NOT ALLOWED WITHOUT PRIOR APPROVAL. JOISTS AND RAFTERS MAY HAVE A CIRCULAR HOLE NOT EXCEEDING 15% OF DEPTH DRILLED AT CENTER OF MEMBER. STUDS IN BEARING WALLS MAY BE NOTCHED NOT EXCEEDING 25% OF DEPTH AT TOP AND BOTTOM 1/5 OF HEIGHT OR MAY HAVE A CIRCULAR HOLE NOT EXCEEDING 1/3 OF MEMBER DEPTH DRILLED AT CENTER AT ANY HEIGHT.

STRUCTURAL STEEL:

STRUCTURAL BEAMS SHALL CONFORM TO ASTM A992 GRADE 50 (BEAMS 27" AND DEEPER CAN BE ASTM A36.) MISCELLANEOUS SHAPES AND PLATES SHALL CONFORM TO ASTM A36. PIPE COLUMNS SHALL CONFORM TO ASTM A53. STEEL TUBES SHALL CONFORM TO ASTM A500 GRADE B (46 KSI). HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A325N. DETAIL AND FABRICATE ALL STEEL MEMBERS ACCORDING TO AISC STANDARDS. ALL WELDING SHALL CONFORM TO AWS STANDARDS. PROVIDE ONE SHOP COAT OF PRIMER ON ALL STEEL MEMBERS AFTER FABRICATION.

STEEL ERECTOR SHALL BE RESPONSIBLE TO CONFIRM THAT CONNECTIONS AND ERECTION METHODS COMPLY WITH OSHA STEEL ERECTION REQUIREMENTS

GALVANIZED STEEL:

ALL STEEL MEMBERS NOTED AS GALVANIZED, OR WHERE EXPOSED (LOCATED OUTSIDE OF BUILDING SKIN) SHALL BE SHOP GALVANIZED AFTER FABRICATION WITH 2.0 MIL ZINC COATING IN ACCORDANCE WITH ASTM A386.

GLULAM WOOD MEMBERS:

GLUE LAMINATED BEAMS SHALL BE ARCHITECTURAL APPEARANCE GRADE WHERE EXPOSED, AND INDUSTRIAL APPEARANCE GRADE WHERE CONCEALED, DOUGLAS FIR COMPLYING WITH CURRENT AITC 117 DESIGN STANDARD. FIBER STRESS IN BENDING SHALL BE F_b = 2400 PSI. F_v SHALL BE EQUAL TO 165 PSI. GLUE SHALL BE OF A WATERPROOF TYPE. MULTIPLE AND CANTILEVER SPAN BEAMS SHALL HAVE FULL STRESS CAPACITY AT TOP OF BEAM WHERE TOP IS STRESSED IN TENSION, AND SHALL BE COMBINATION 24F-V8. PROVIDE STANDARD CAMBER OF 2000 FOOT RADIUS FOR BEAMS NOT OTHERWISE NOTED.

DRILLED ANCHOR BOLTS AND DOWELS:

MECHANICAL ANCHORS: THREADED PORTION OF ANCHOR SHALL CONFORM TO ASTM A307 OR GREATER CAPACITY. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MINIMUM DEPTH OF EMBEDMENT SHALL CONFORM TO MANUFACTURER'S REQUIREMENTS BUT SHALL NOT BE LESS THAN 4.5 BOLT DIAMETERS WITHOUT PRIOR APPROVAL. SEE DRAWINGS FOR DEEPER EMBEDMENT IF REQUIRED. WHEN MANUFACTURER'S INSTALLATION INSTRUCTIONS SPECIFY A MINIMUM TORQUE AND THE ANCHOR HEAD BEARS AGAINST WOOD, AN OVERSIZED WASHER MAY BE NEEDED TO ACHIEVE THAT TORQUE. RECOMMENDED WASHER SIZES ARE AS FOLLOWS: 5" X 5" X 1/4" PL FOR 3/4" Φ BOLT, 4" X 4" X 1/4" PL FOR 5/8" Φ BOLT, AND 3" X 3" X 1/4" PL FOR 1/2" Φ BOLT. IN GROUTED MASONRY, ANCHORS SHALL BE INSTALLED ONLY IN FULLY GROUTED HOLLOW MASONRY CELLS. OBSERVE MINIMUM EDGE REQUIREMENTS OF ANCHOR FROM EDGE OF GROUTED ELEMENT.

APPROVED PRODUCTS FOR CONCRETE INCLUDE:
 SIMPSON STRONGBOLT STUD ANCHOR (ICC ESR-1771)

APPROVED PRODUCTS FOR MASONRY INCLUDE:
 HILTI KWIK-BOLT 3 ANCHOR (ICC ESR-1385)

ADHESIVE ANCHORS: THREADED STEEL ROD ANCHORS SHALL CONFORM TO ASTM A307 OR GREATER CAPACITY. REINFORCEMENT BARS SHALL BE GRADE 60 AND CONFORM TO ASTM A615 OR A706. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. MINIMUM DEPTH OF EMBEDMENT SHALL CONFORM TO MANUFACTURERS REQUIREMENTS BUT SHALL NOT BE LESS THAN 8 BOLT/DOWEL DIAMETERS WITHOUT PRIOR APPROVAL. SEE DRAWINGS FOR DEEPER EMBEDMENT IF REQUIRED.

APPROVED PRODUCTS FOR CONCRETE INCLUDE:
SIMPSON SET-XP (ICC ESR-2508)

APPROVED PRODUCTS FOR MASONRY INCLUDE:
 SIMPSON SET (ICC ESR-1772)

DRAWING INDEX

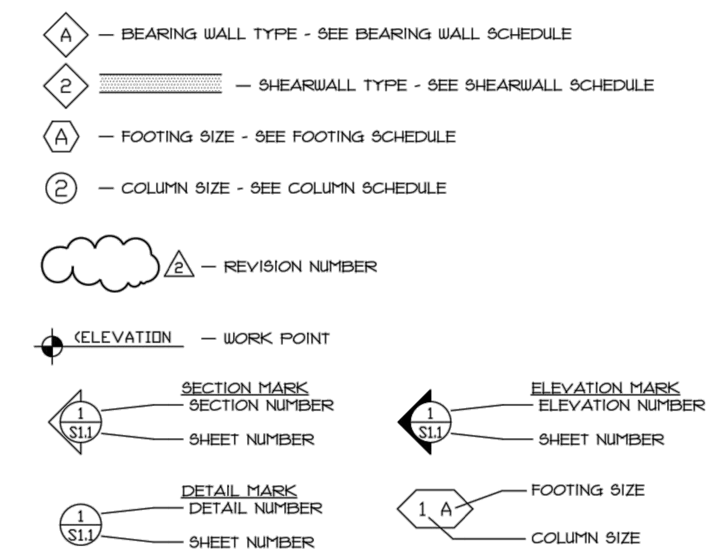
James G. Pierson, Inc.
STRUCTURAL ENGINEERS Since 1945
Consulting Structural Engineers
610 SW Alder Street, Suite 918
Portland, Oregon 97205
Tel: (503) 226-1286
Fax: (503) 226-3130
Email: mail@jgpierson.com
Web: www.jgpierson.com

ABBREVIATIONS

#	NUMBER OR POUNDS
&	AND
@	AT
℄	CENTER LINE
L	LINTEL
PL	PLATE
Φ	DIAMETER OR ROUND
☐	SQUARE
(E)	EXISTING
(N)	NEW
A.B.	ANCHOR BOLT
ADH.	ADHESIVE
ANCH.	ANCHOR
ARCH.	ARCHITECT
BD.	BOARD
BLD'G.	BUILDING
BLK'G.	BLOCKING
BOT.	BOTTOM
C.J.	CONTROL JOINT
CLG.	CEILING
CLR.	CLEAR
CTSK.	COUNTERSINK
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONT.	CONTINUOUS
C.S.	CLOSURE STRIP
CTRL.	CONTROL
c/c	CENTER TO CENTER
D.A.	DRILLED ANCHOR
DBL.	DOUBLE
DIA.	DIAMETER
DN.	DOWN
DTL.	DETAIL
DWG.	DRAWING
EA.	EACH
E.W.	EACH WAY
EL.	ELEVATION
ENG.	ENGINEER
EQ.	EQUAL
E.J.	EXPANSION JOINT
EXT.	EXTERIOR
F.B.	FLAT BAR
FLR.	FLOOR
FNDN.	FOUNDATION
F.O.C.	FACE OF CONCRETE
F.O.S.	FACE OF STUD
F.O.M.	FACE OF MASONRY
FTG.	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
GLB. or GL.	GLUE LAMINATED BEAM
G.S.B.	GYPSUM SHEATHING BOARD
G.W.B.	GYPSUM WALL BOARD
GYP.	GYPSUM
HNG'R.	HANGER
H.S.S.	HOLLOW STRUCTURAL SECTION
HORIZ.	HORIZONTAL

HT.	HEIGHT
HYD.	HYDROGEN
I.S.F.	INSIDE FACE
JST.	JOIST
JT.	JOINT
lbs.	POUNDS
LDGR.	LEDGER
LSL.	LAMINATED STRAND LUMBER
LVL.	LAMINATED VENEER LUMBER
L.H.	LOW HYDROGEN
M.B.	MACHINE BOLT
MBR.	MEMBER
MANUF.	MANUFACTURER
MAS.	MASONRY
MAX.	MAXIMUM
MIN.	MINIMUM
MISC.	MISCELLANEOUS
NTS	NOT TO SCALE
NO.	NUMBER
O/C	ON CENTER
OPP.	OPPOSITE
OPP. HD.	OPPOSITE HAND
OPN'G.	OPENING
O.S.B.	ORIENTED STRAND BOARD
O.S.F.	OUTSIDE FACE
PSL.	PARALLEL STRAND LUMBER
PEN.	PENETRATION
PLCS.	PLACES
PLY'D.	PLYWOOD
P.T. or PR. TR.	PRESSURE TREATED
REF.	REFERENCE
REINF.	REINFORCING
REQ'D.	REQUIRED
RF.	ROOF
S.J.	SAWCUT JOINT
SHT'G.	SHEATHING
SIM.	SIMILAR
STD.	STANDARD
STL.	STEEL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TBRSTRND.	TIMBERSTRAND
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF STEEL
TOT.	TOTAL
T.O.W.	TOP OF WALL
T.S.	STRUCTURAL TUBE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT
WT.	WEIGHT
WWF	WELDED WIRE FABRIC

LEGEND

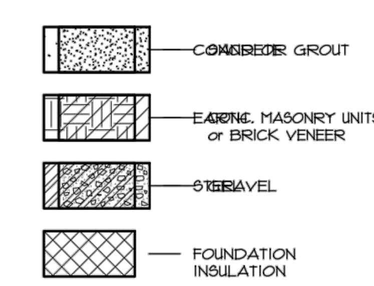


LINE DEFINITION

(ON FRAMING PLANS)

(SOLID WALL) - INDICATES WALLS ABOVE
(TINY DOTS) - INDICATES WALLS BELOW (NON-BEARING)
(DASHED) - INDICATES WALLS BELOW (BEARING)

MATERIAL DEFINITION



STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 18346PE OREGON March 19, 1996 PEDER R. GOLBERG
EXPIRES: 6-30-19

Date:	04/24/19
Proj No:	9652
Drawn By:	PRG
Chkd By:	PRG
DSGN By:	PRG
Acad File:	9652_HIGHLAND_S10

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON
GENERAL STRUCTURAL NOTES

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
S1.0

James G. Pierson, Inc.
STRUCTURAL ENGINEERS
Since 1945
Consulting Structural Engineers
610 SW Alder Street, Suite 918
Portland, Oregon 97205
Tel: (503) 226-1286
Fax: (503) 226-3130
Email: mail@jgpierson.com
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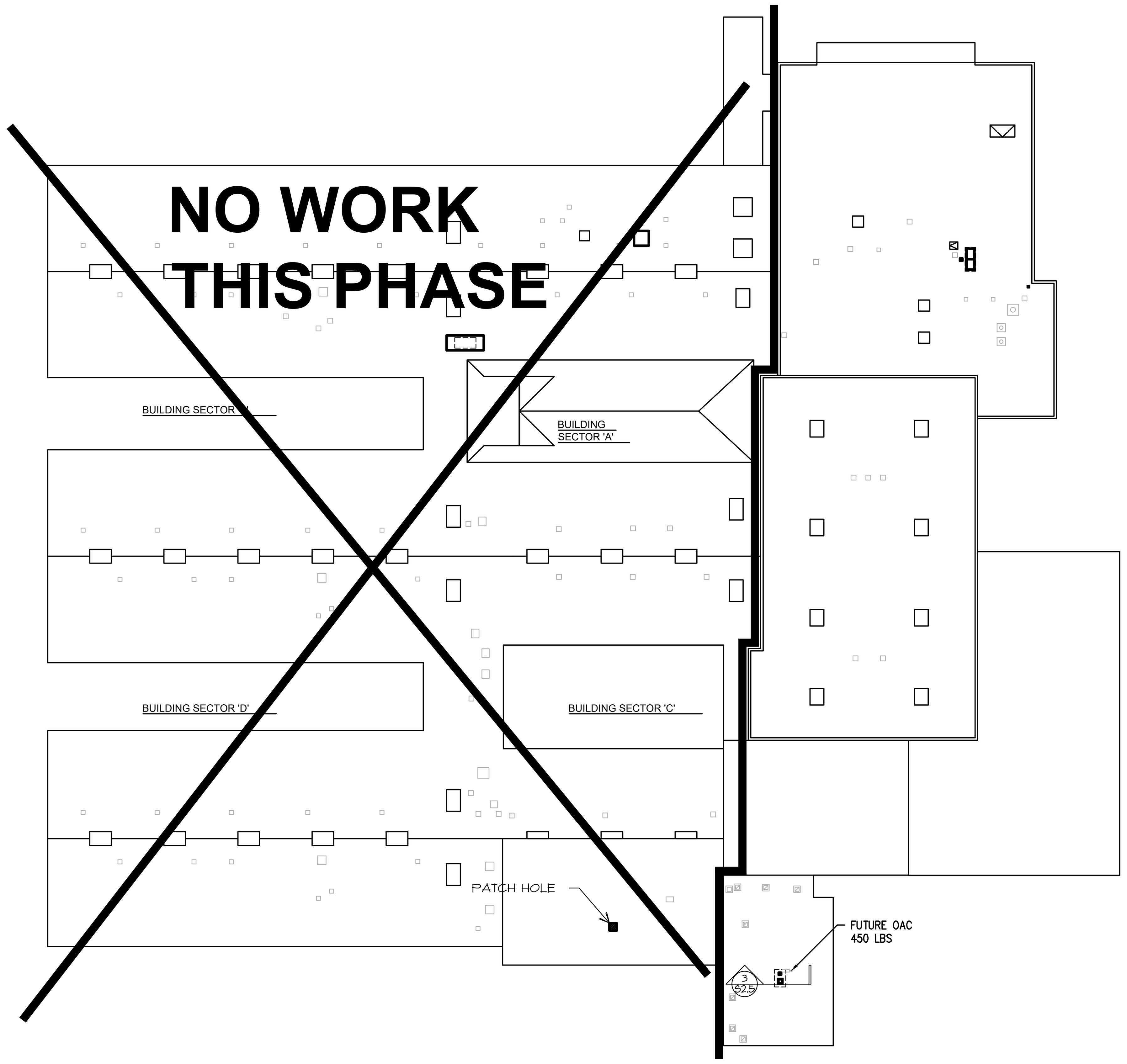
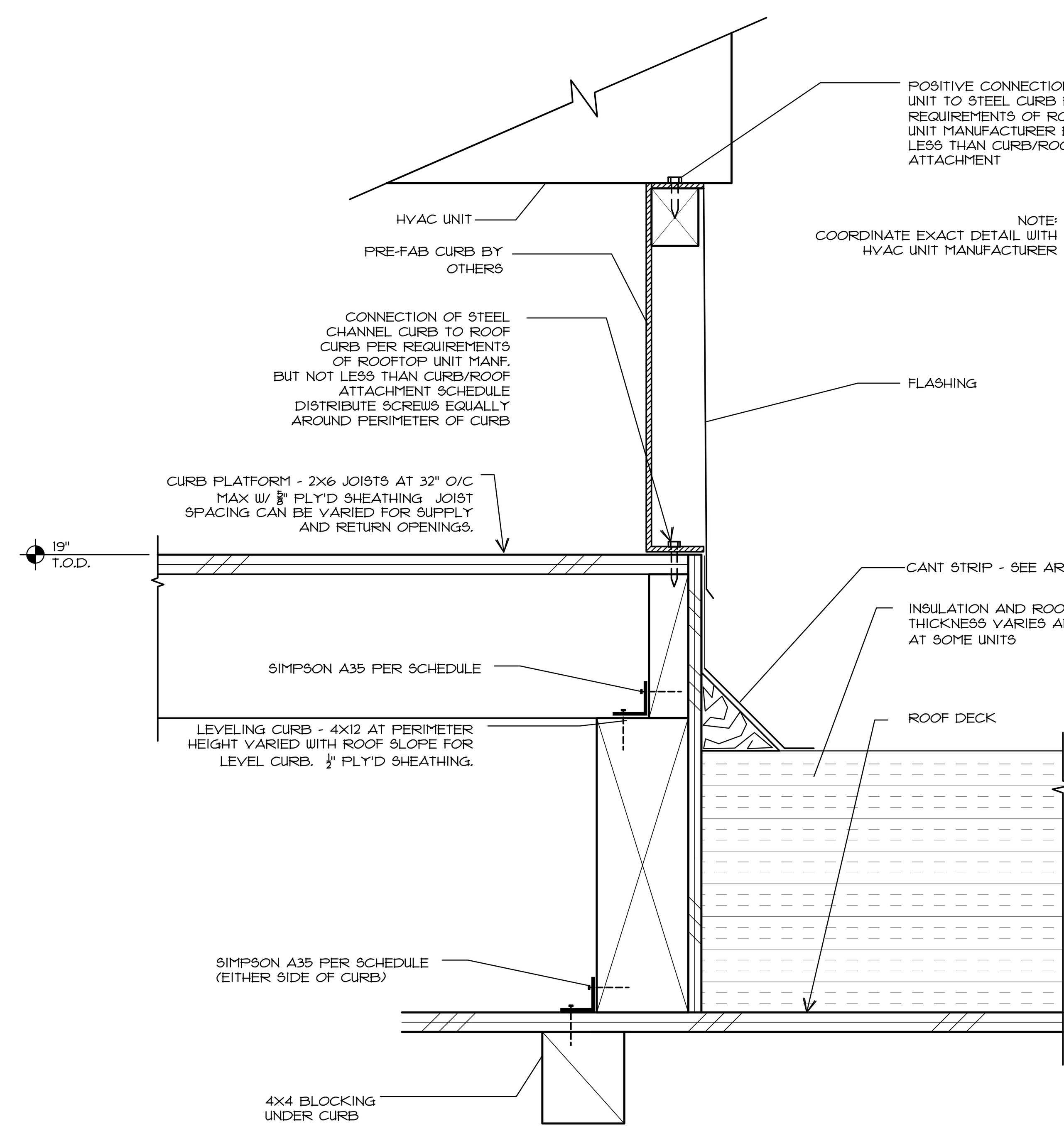


1 S2.5 ROOF PLAN
SCALE: 1/32"=1'-0"

NOT USED

2 S2.5 UPPER FLOOR PLAN AREAS
SCALE: 1/32"=1'-0"



MAXIMUM WEIGHT OF MECH. UNIT + CURB (POUNDS)	MINIMUM NUMBER OF SCREWS OR LAGS FROM UNIT CURB TO WOOD CURB	SIMPSON A35'S FOR LEVELING CURB TO ROOF STRUCTURE
1000	4	4
1500	6	6
2000	6	6
2500	8	8
3000	8	8
4700	10	10

CONNECTORS ARE TO BE INSTALLED THROUGH THE BOTTOM FLANGE OF THE STEEL CURB SECTION THROUGH THE ROOF PLYWOOD SHEATHING AND INTO A WOOD FRAMING MEMBER (OR WOOD BLOCKING) BELOW. VERTICAL SUPPORT OF THE WEIGHT OF THE MECHANICAL UNIT IS A SEPARATE CONSIDERATION, AND SHALL BE PROVIDED FOR BY ARRANGEMENT OF ROOF STRUCTURAL FRAMING NOT SHOWN SPECIFICALLY BY THIS TABLE OR DETAIL. APPROVED CONNECTORS INCLUDE THE FOLLOWING - LARGER SIZES MAY BE USED.

#14 X 2 1/2" MINIMUM LENGTH CUT THREAD WOOD SCREW
1/4" DIAMETER X 2 1/2" MINIMUM LENGTH STANDARD LAG SCREW
"SIMPSON" SDS1/4 X 2 1/2" MINIMUM LENGTH HEX HEAD WOOD SCREW

3 S2.5 SEISMIC CONNECTION FOR ROOFTOP MECH. UNIT
3" = 1'-0"

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
18346PE
OREGON
March 19, 1996
PEDER R. GOLBERG
EXPIRES: 6-30-19

Date: 04/24/19
Proj No: 9652
Drawn By: PRG
Chkd By: PRG
DSGN By: PRG
Acad File: 9652_HIGHLAND_S25

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

ROOF PLAN

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

MECHANICAL DEMO NOTES

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3. –
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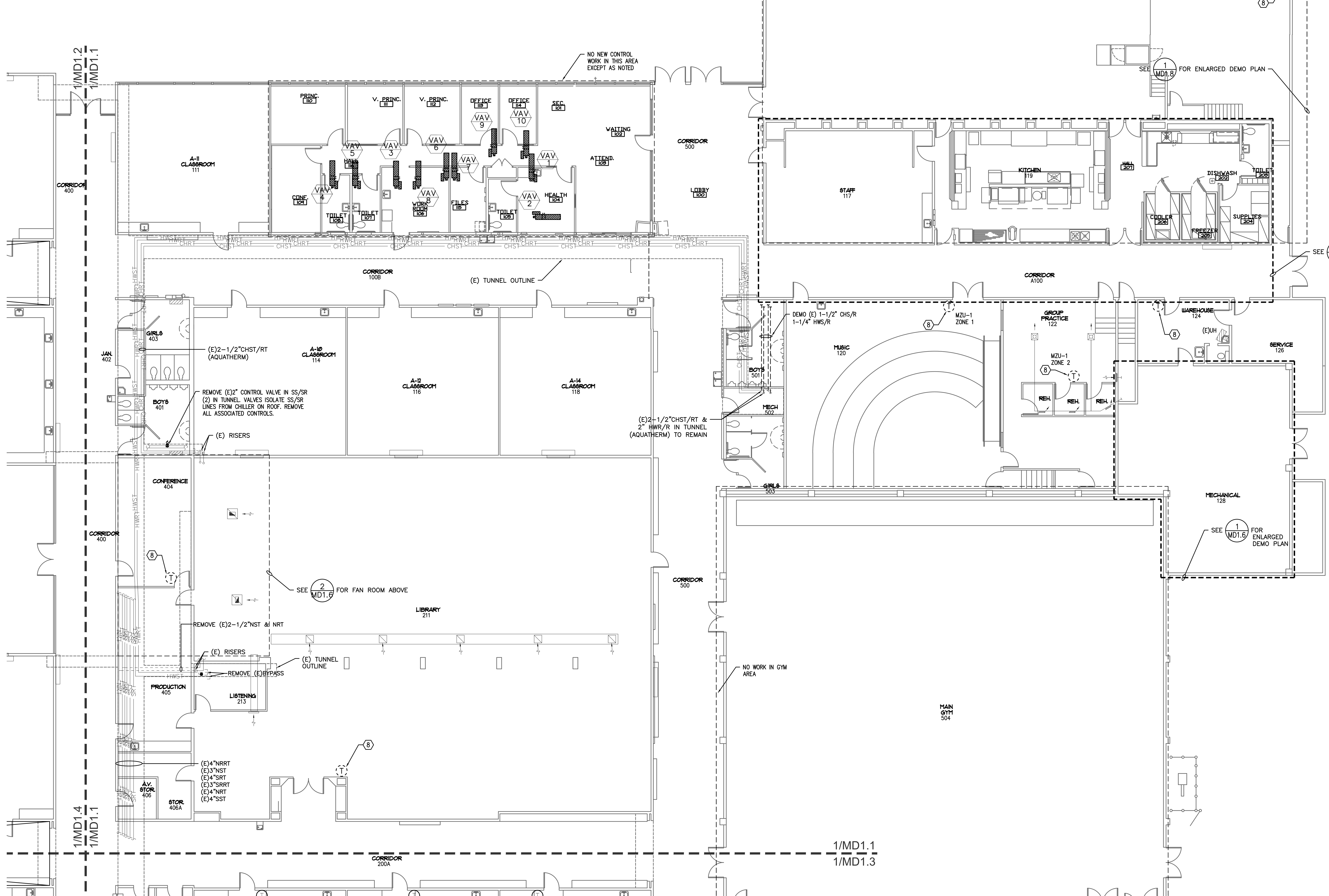

1 MD1.1 MECHANICAL DEMO PLAN – SECTOR 'A'
SCALE: 1/8"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
SCOTT W. MILLER
EXPIRES: 31DEC18

Date:	04/24/19
Proj No:	9652
Drawn By:	LKF
Chkd By:	SWM
DSGN By:	SWM
Acad File:	9652_HIGHLAND_MD11

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE

BEAVERTON OREGON

MECHANICAL DEMO PLAN – SECTOR 'A'

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

Consulting Engineers
2007 S.E. Ash St.
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FAX: (503) 234-0677
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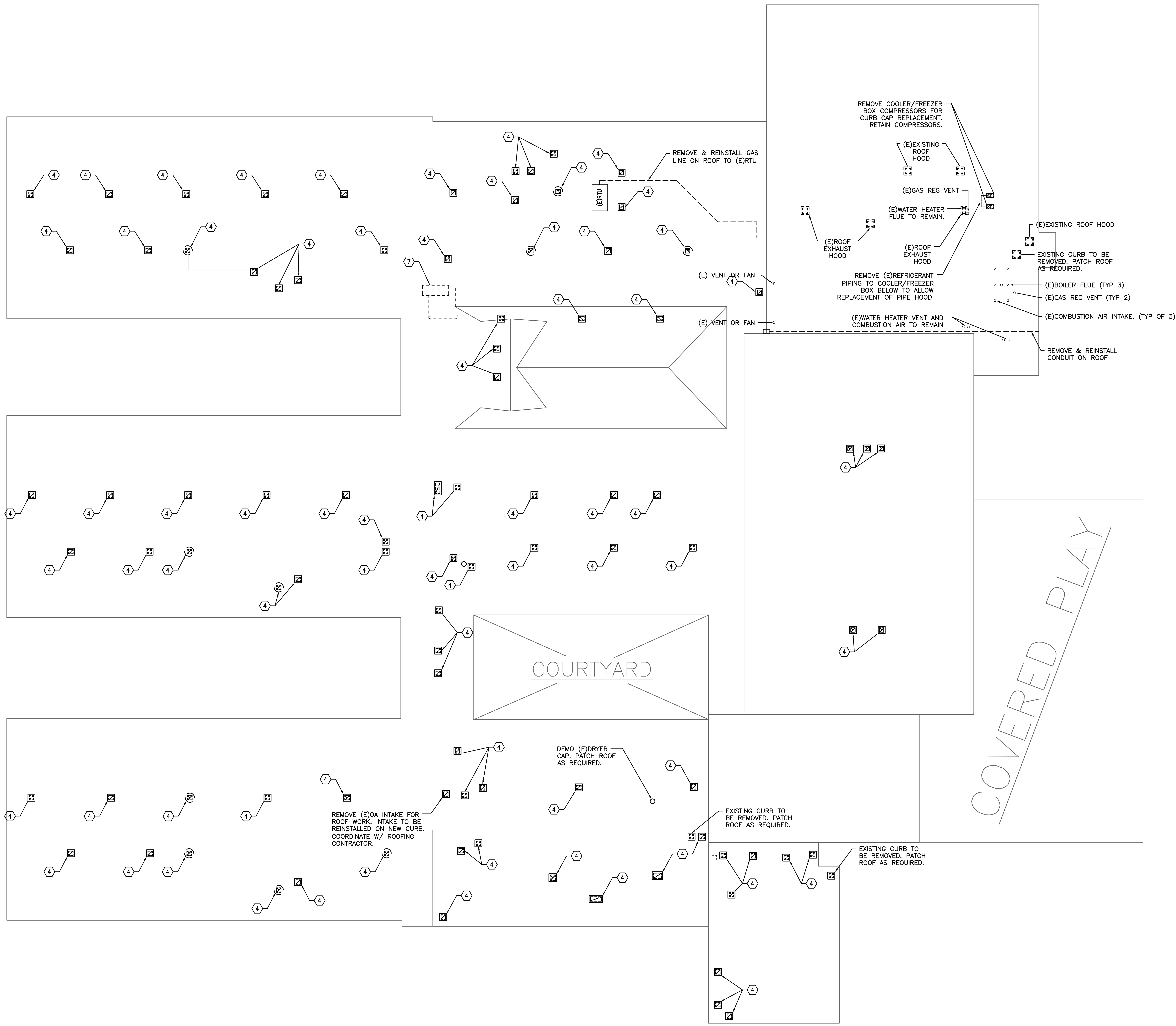
SHEET
MD1.1



1 MD1.5 OVERALL MECHANICAL DEMO ROOF PLAN
SCALE: 1/16"=1'-0"

MECHANICAL DEMO NOTES ⟨#⟩

1. –
2. (E) MECHANICAL UNIT TO BE REPLACED. SEE M2 SERIES DRAWINGS FOR DETAIL.
3. –
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CONSTRUCTION DOCUMENTS

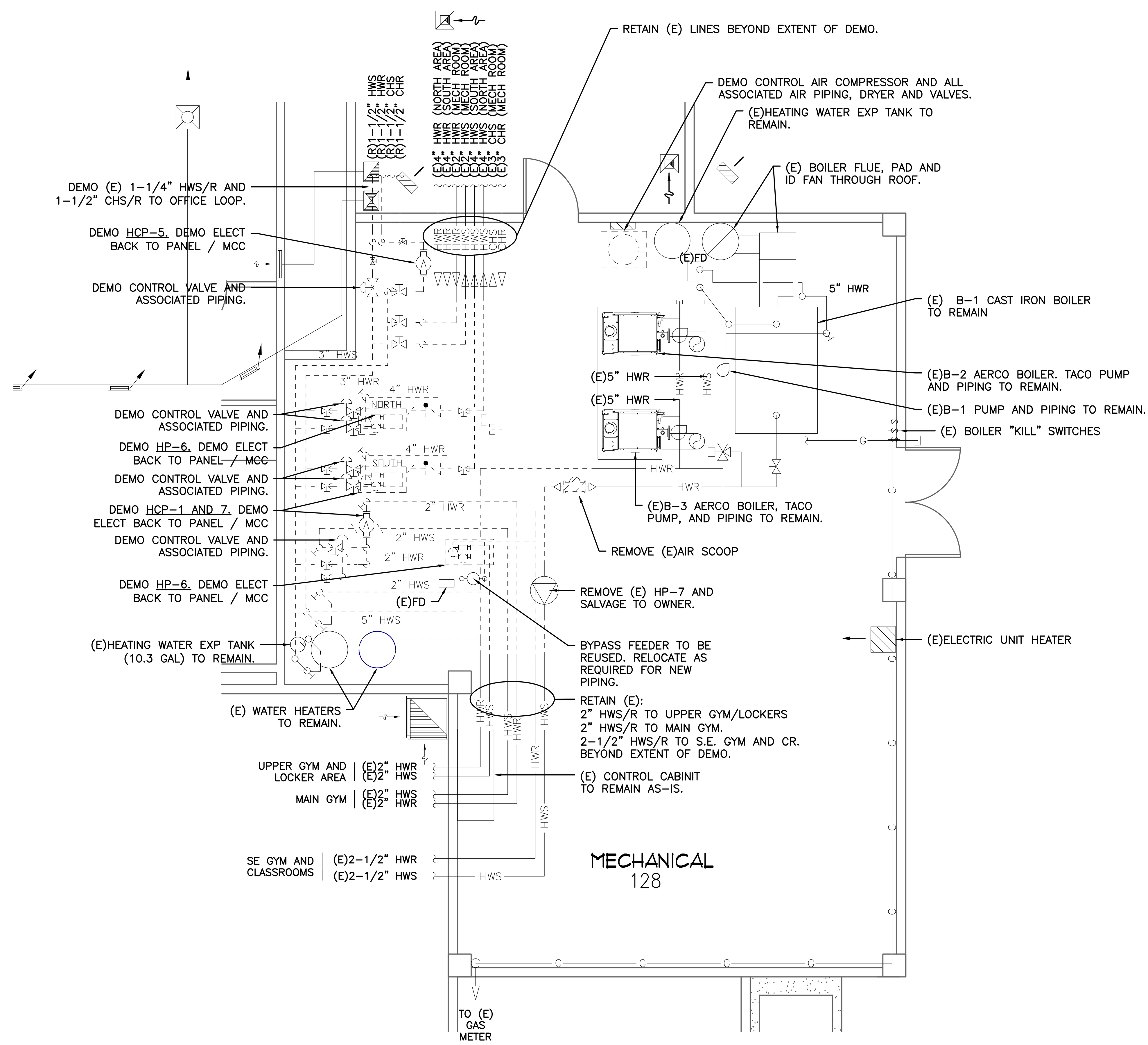
EXPIRES: 31DEC18

Date:	04/24/19
Proj No:	9652
Drawn By:	LKF
Chkd By:	SWM
DSGN By:	SWM
Acad File:	9652_HIGHLAND_M015

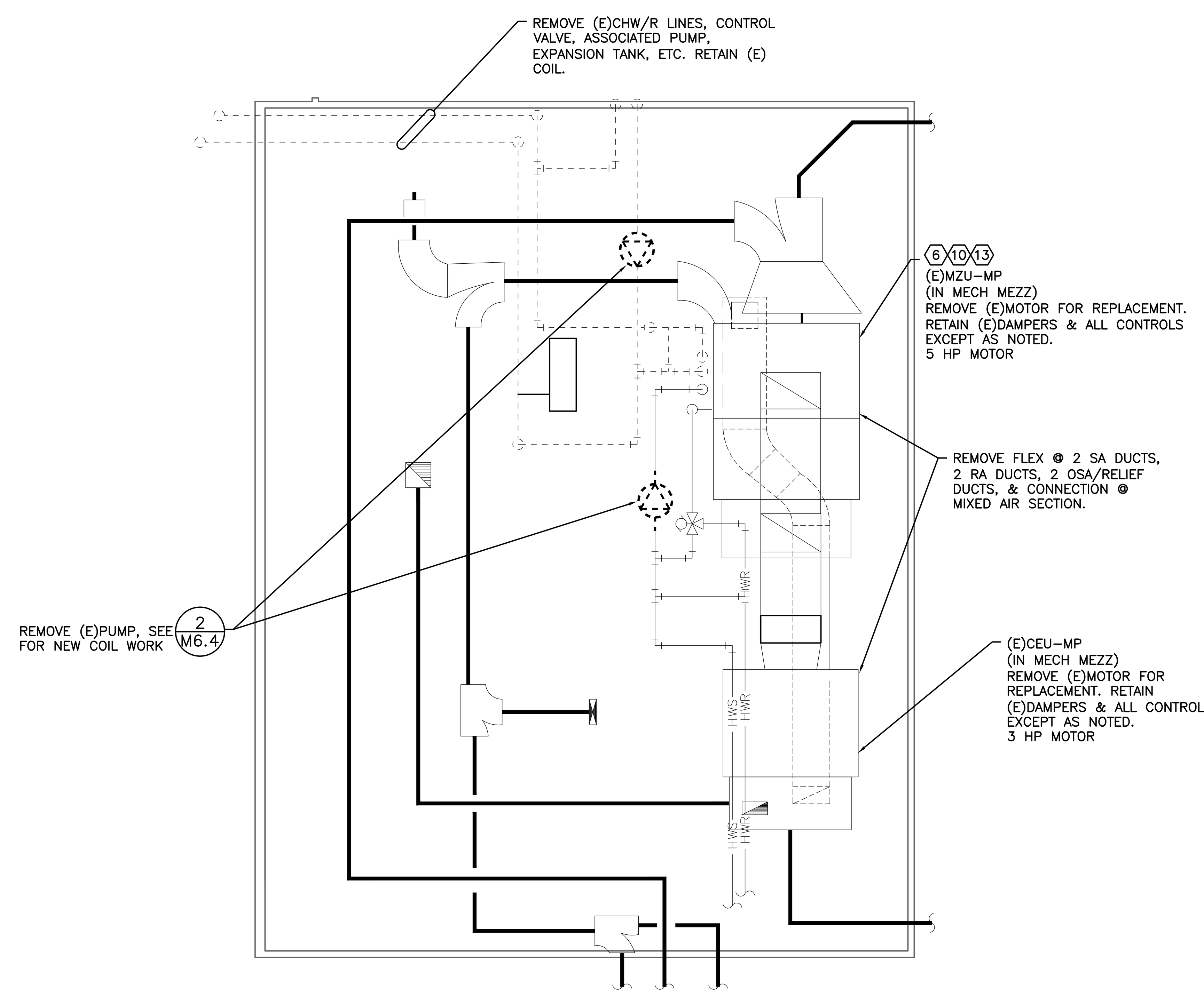
HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON
OVERALL MECHANICAL DEMO ROOF PLAN

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

SHEET
MD1.5



1 MD1.6 ENLARGED BOILER ROOM DEMO PLAN
SCALE: 1/4"=1'-0"



2 MD1.6 LIBRARY FAN ROOM DEMO PLAN
SCALE: 1/4"=1'-0"

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Portland, OR 97214
PHN: (503) 234-0548
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CONSTRUCTION DOCUMENTS

Date:	04/24/19
Proj No:	9652
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DSGN By:	SWM
Acad File:	9652_HIGHLAND_MD16

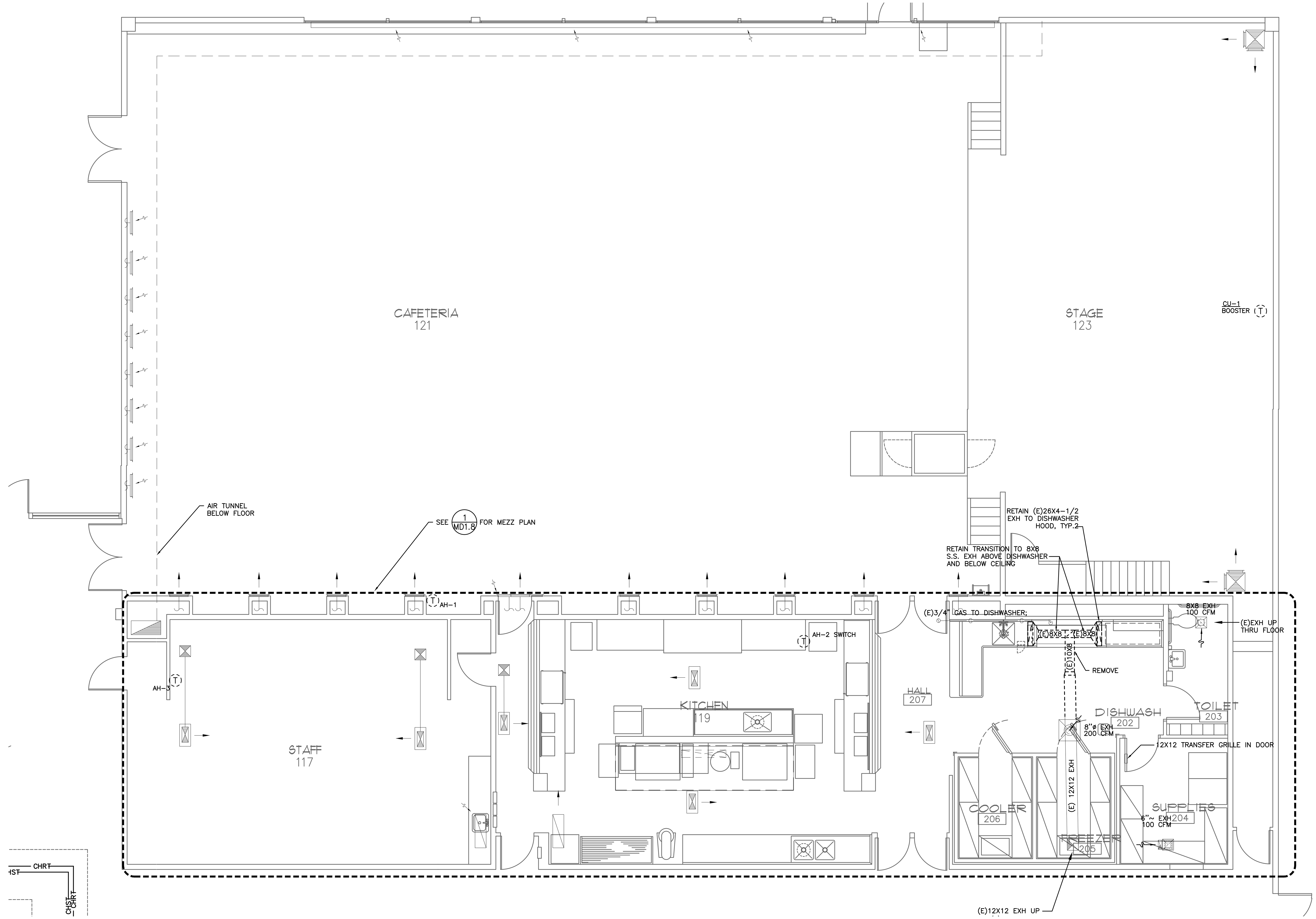
EXPIRES: 31DEC18

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

ENLARGED DEMO PLANS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
MD1.6



1 MD1.7 HVAC FLOOR PLAN – KITCHEN & MECHANICAL ROOM
SCALE: 1/4"=1'-0"

MECHANICAL DEMO NOTES (#)

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2. (E) MECHANICAL UNIT TO BE REPLACED. SEE M2 SERIES DRAWINGS FOR DETAIL.
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B. OWNER SHALL TAG ANY DEVICES PRIOR TO CONSTRUCTION OR PROVIDE A LIST OF (E) DEVICES THEY WISH THE CONTRACTOR TO SALVAGE & RETURN IN WORKING ORDER TO THEM.
C. DEMOLITION COORDINATION: THE CONTRACTOR IS RESPONSIBLE FOR ABATEMENT/HAZARDOUS MATERIAL REMOVAL AS PART OF DEMOLITION & NEW SYSTEM INSTALLATION. SECURE THE SERVICES OF A QUALIFIED ABATEMENT CONTRACTOR AS REQ–D FOR THIS PROJECT.

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

SCOTT W. MILLER
EXPIRES: 31DEC18

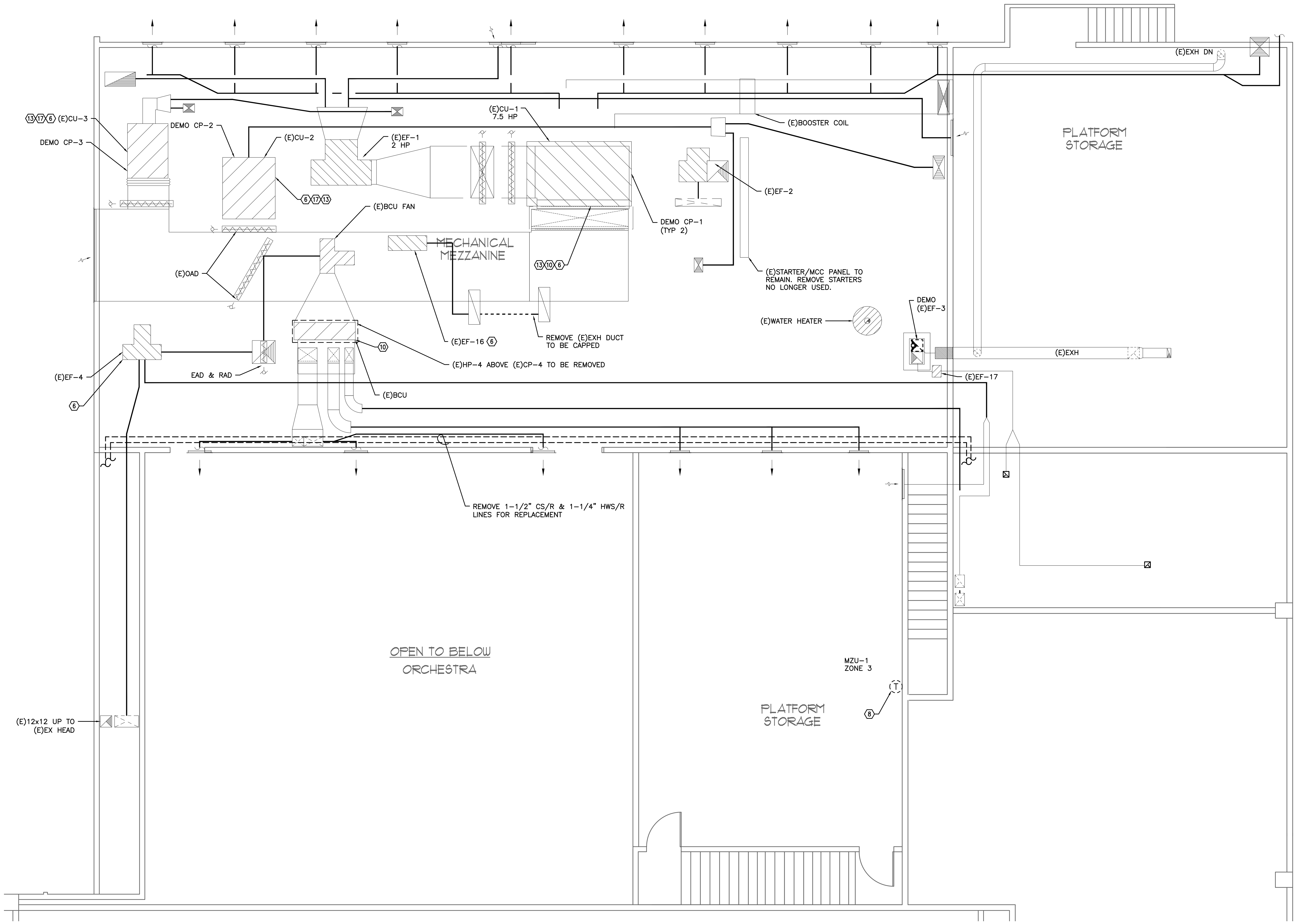
Date:	04/24/19
Proj No:	9652
Drawn By:	MG
Chkd By:	SWM
DSGN By:	SWM
Acad File:	9652_HIGHLAND_MD17

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

MECHANICAL DEMO PLAN – KITCHEN

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
MD1.7



1 / MD1.8 HVAC DEMOLITION ENLARGED FLOOR PLAN – MEZZANINE LEVEL
SCALE: 1/4"=1'-0"

MECHANICAL DEMO NOTES (#)

1. –
2. (E) MECHANICAL UNIT TO BE REPLACED. SEE M2 SERIES DRAWINGS FOR DETAIL.
3. –
4. REMOVE (E)RELIEF HEAD/EXH FAN FOR ROOF WORK. FAN/RELIEF HEAD TO BE REINSTALLED ON EXISTING CURB. COORDINATE W/ ROOFING CONTRACTOR.
5. –
6. EXISTING UNIT AND ASSOCIATED RETURN FAN TO REMAIN. SEE NEW WORK FOR REFURBISHMENT.
7. EXISTING ROOFTOP CHILLER AND PAD TO BE REMOVED FOR INSTALLATION OF NEW SYSTEM. REMOVE (E) CHILLED LINES UP TO POINT OF NEW CONNECTIONS. REMOVE ALL ASSOCIATED CONTROLS. SEE SECS FOR REQUIREMENTS RELATED TO CHARGE RECOVERY.
8. EXISTING THERMOSTAT TO BE REPLACED WITH NEW DIGITAL DEVICE. REPAIR WALL AROUND NEW SENSOR. IF LOCATION HAS SECONDARY STAT (NLL), REMOVE STAT AND PATCH WALL AS REQUIRED. SEE NEW WORK FOR REPLACEMENT SENSOR. IF EXISTING EQUIPMENT (ASSOCIATED STAT) IS NOT BEING REPLACED, SENSOR TO BE REMOVED AND COVER PLATE SHALL BE INSTALLED. SEE NEW WORK FOR DETAIL.
9. REMOVE UNIT CONTROLS FOR REPLACEMENT. UNIT TO BE REFURBISHED. SEE NEW WORK FOR DETAIL.
10. EXISTING HEATING COILS TO BE REUSED. PRESSURE TEST PRIOR TO END OF SCHOOL & RELAY RESULTS TO ENGINEER. REMOVE ASSOCIATED PUMP AND MODIFY (E)HEATING WATER VALVE INSTALLED PER 3/M6.4. PROVIDE NEW SERVICE VALVES TO COIL.
11. REMOVE DUCTWORK AS SHOWN FROM THIS POINT TO RA GRILLE FOR INSTALLATION OF NEW SYSTEM.
12. (E) EXHAUST FAN, AND ASSOCIATED DUCTWORK AND GRILLE/DIFFUSER TO BE REMOVED. PATCH ROOF AS REQUIRED.
13. RETAIN EXISTING CHILLED COIL. REMOVE ASSOCIATED PUMP AND PORTION OF CHILLED WATER LINES. PRESSURE TEST PRIOR TO END OF SCHOOL & RELAY RESULTS TO ENGINEER. REMOVE ASSOCIATED PUMP AND MODIFY (E)CHILLED WATER VALVE INSTALLED PER 2/M6.4. PROVIDE NEW SERVICE VALVES TO COIL. SEE NEW WORK FOR NEW COIL, INSTALLATION, AND DETAIL.
14. (E) LIGHTING CONTACTORS ON DIGITAL CONTROLS TO REMAIN AS IS.
15. –
16. EXISTING EXHAUST FAN TO BE REMOVED FOR REPLACEMENT. MAINTAIN (E) CURB UNLESS NOTED OTHERWISE.
17. EXISTING HEATING COILS TO BE REUSED. PRESSURE TEST PRIOR TO END OF SCHOOL & RELAY RESULTS TO ENGINEER. REMOVE ASSOCIATED PUMP FOR REPLACEMENT AND MODIFY (E)HEATING WATER VALVE, INSTALL PER 8/M6.4. PROVIDE NEW SERVICE VALVES TO COIL.

GENERAL DEMO NOTES

A. CONTRACTOR TO COORDINATE WITH ASBESTOS CONTRACTOR/ COMPANY FOR ALL ASBESTORS REMOVAL AND VERIFY THAT THE ABATEMENT IS ACCEPTABLE FOR ALL NEW WORK THAT NEEDS TO BE COMPLETED.
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HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

MECHANICAL DEMO PLAN

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

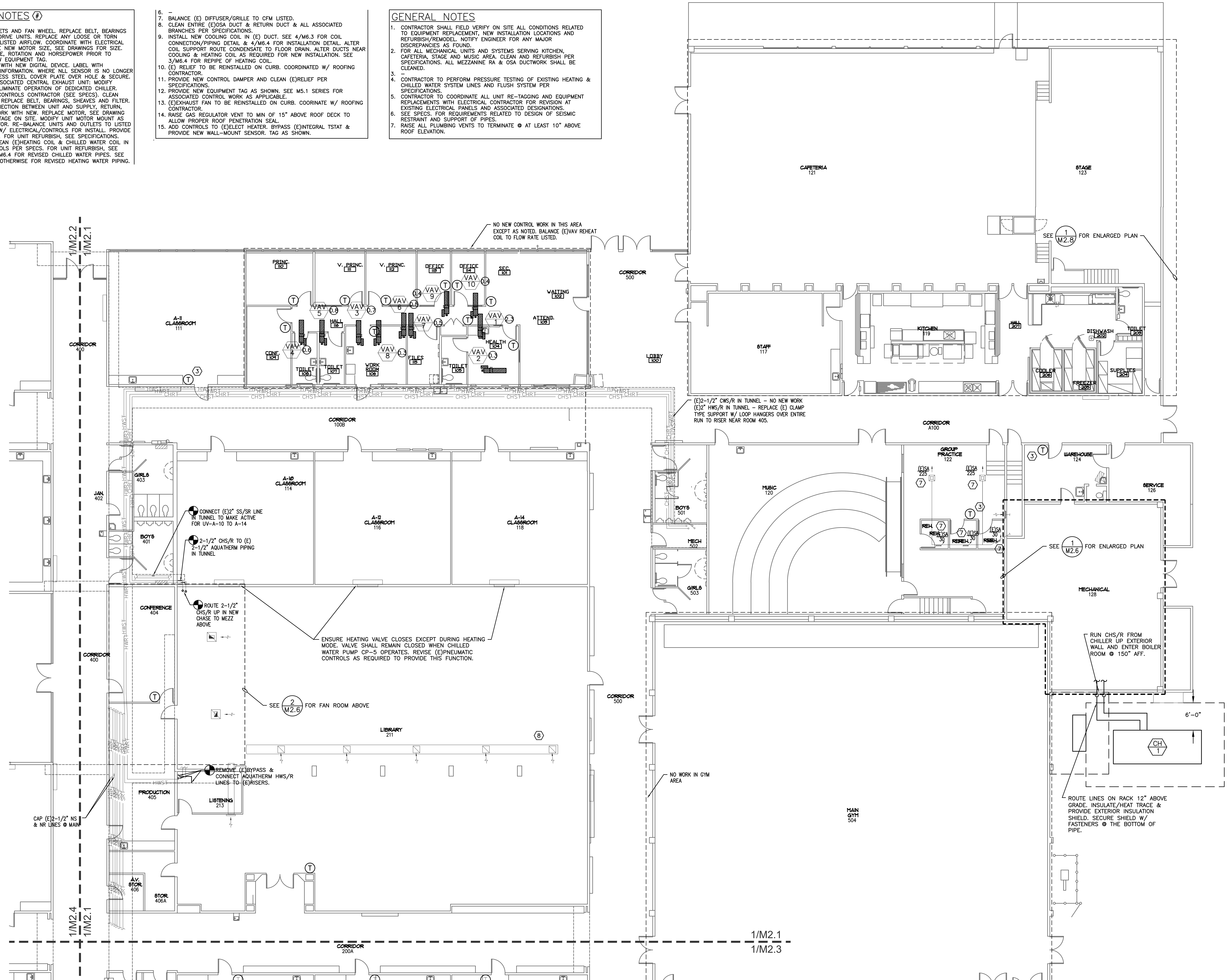
SHEET
MD1.8

MECHANICAL NOTES

1. –
2. FANS: CLEAN FAN CABINETS AND FAN WHEEL. REPLACE BELT, BEARINGS AND SHEAVES AT BELT DRIVE UNITS. REPLACE ANY LOOSE OR TORN LINER. RE-BALANCE TO LISTED AIRFLOW. COORDINATE WITH ELECTRICAL AND CONTROLS. PROVIDE NEW MOTOR SIZE, SEE DRAWINGS FOR SIZE. CONFIRM VOLTAGE, PHASE, ROTATION AND HORSEPOWER PRIOR TO SUBMITTAL. PROVIDE NEW EQUIPMENT TAG.
3. REPLACE ZONE SENSOR WITH NEW DIGITAL DEVICE. LABEL WITH ASSOCIATED EQUIPMENT INFORMATION. WHERE NLL SENSOR IS NO LONGER USED PROVIDE A STAINLESS STEEL COVER PLATE OVER HOLE & SECURE.
4. MULTIZONE UNIT AND ASSOCIATED CENTRAL EXHAUST UNIT: MODIFY (E)UNIT CONTROLS TO ELIMINATE OPERATION OF DEDICATED CHILLER. COORD. W/ APPROVED CONTROLS CONTRACTOR (SEE SPECS). CLEAN CABINETS, FAN WHEELS. REPLACE BELT, BEARINGS, SHEAVES AND FILTER. REPLACE (E) FLEX CONNECTION BETWEEN UNIT AND SUPPLY, RETURN, RELIEF, & OSA DUCT WORK WITH NEW. REPLACE MOTOR, SEE DRAWING FOR SIZE. CONFIRM VOLTAGE ON SITE. MODIFY UNIT MOTOR MOUNT AS REQUIRED FOR NEW MOTOR. RE-BALANCE UNITS AND OUTLETS TO LISTED AIRFLOWS. COORDINATE W/ ELECTRICAL/CONTROLS FOR INSTALL. PROVIDE NEW EQUIP. TAG SHOWN. FOR UNIT REFURBISH, SEE SPECIFICATIONS.
5. PRESSURE TEST AND CLEAN (E)HEATING COIL & CHILLED WATER COIL IN AH. MODIFY UNIT CONTROLS PER SPECS. FOR UNIT REFURBISH, SEE SPECIFICATIONS. SEE 2/M6.4 FOR REVISED CHILLED WATER PIPES. SEE 3/M6.4 UNLESS NOTED OTHERWISE FOR REVISED HEATING WATER PIPING.
6. –
7. BALANCE (E) DIFFUSER/GRILLE TO CFM LISTED.
8. CLEAN ENTIRE (E)OSA DUCT & RETURN DUCT & ALL ASSOCIATED BRANCHES PER SPECIFICATIONS.
9. INSTALL NEW COOLING COIL IN (E) DUCT. SEE 4/M6.3 FOR COIL CONNECTION/PIPING DETAIL & 4/M6.4 FOR INSTALLATION DETAIL. ALTER COIL SUPPORT ROUTE CONDENSATE TO FLOOR DRAIN. ALTER DUCTS NEAR COOLING & HEATING COIL AS REQUIRED FOR NEW INSTALLATION. SEE 3/M6.4 FOR REPIPE OF HEATING COIL.
10. (E) RELIEF TO BE REINSTALLED ON CURB. COORDINATED W/ ROOFING CONTRACTOR.
11. PROVIDE NEW CONTROL DAMPER AND CLEAN (E)RELIEF PER SPECIFICATIONS.
12. PROVIDE NEW EQUIPMENT TAG AS SHOWN. SEE M5.1 SERIES FOR ASSOCIATED CONTROL WORK AS APPLICABLE.
13. (E)EXHAUST FAN TO BE REINSTALLED ON CURB. COORINATE W/ ROOFING CONTRACTOR.
14. RAISE GAS REGULATOR VENT TO MIN OF 15" ABOVE ROOF DECK TO ALLOW PROPER ROOF PENETRATION SEAL.
15. ADD CONTROLS TO (E)ELECT HEATER. BYPASS (E)INTEGRAL TSTAT & PROVIDE NEW WALL-MOUNT SENSOR. TAG AS SHOWN.

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ON SITE ALL CONDITIONS RELATED TO EQUIPMENT REPLACEMENT, NEW INSTALLATION LOCATIONS AND REFURBISH/REMODEL. NOTIFY ENGINEER FOR ANY MAJOR DISCREPANCIES AS FOUND.
2. FOR ALL MECHANICAL UNITS AND SYSTEMS SERVING KITCHEN, CAFETERIA, STAGE AND MUSIC AREA. CLEAN AND REFURBISH PER SPECIFICATIONS. ALL MEZZANINE RA & OSA DUCTWORK SHALL BE CLEANED.
3. –
4. CONTRACTOR TO PERFORM PRESSURE TESTING OF EXISTING HEATING & CHILLED WATER SYSTEM LINES AND FLUSH SYSTEM PER SPECIFICATIONS.
5. CONTRACTOR TO COORDINATE ALL UNIT RE-TAGGING AND EQUIPMENT REPLACEMENTS WITH ELECTRICAL CONTRACTOR FOR REVISION AT EXISTING ELECTRICAL PANELS AND ASSOCIATED DESIGNATIONS.
6. SEE SPECS. FOR REQUIREMENTS RELATED TO DESIGN OF SEISMIC RESTRAINT AND SUPPORT OF PIPES.
7. RAISE ALL PLUMBING VENTS TO TERMINATE @ AT LEAST 10" ABOVE ROOF ELEVATION.



1 M2.1 MECHANICAL PLAN – SECTOR 'A'
SCALE: 1/8"=1'-0"

CONSTRUCTION DOCUMENTS

EXPIRES: 31DEC18

Date:	04/24/19
Proj No:	9652
Drawn By:	LKF
Chkd By:	SWM
DSGN By:	SWM
Acad File:	9652_HIGHLAND_M21

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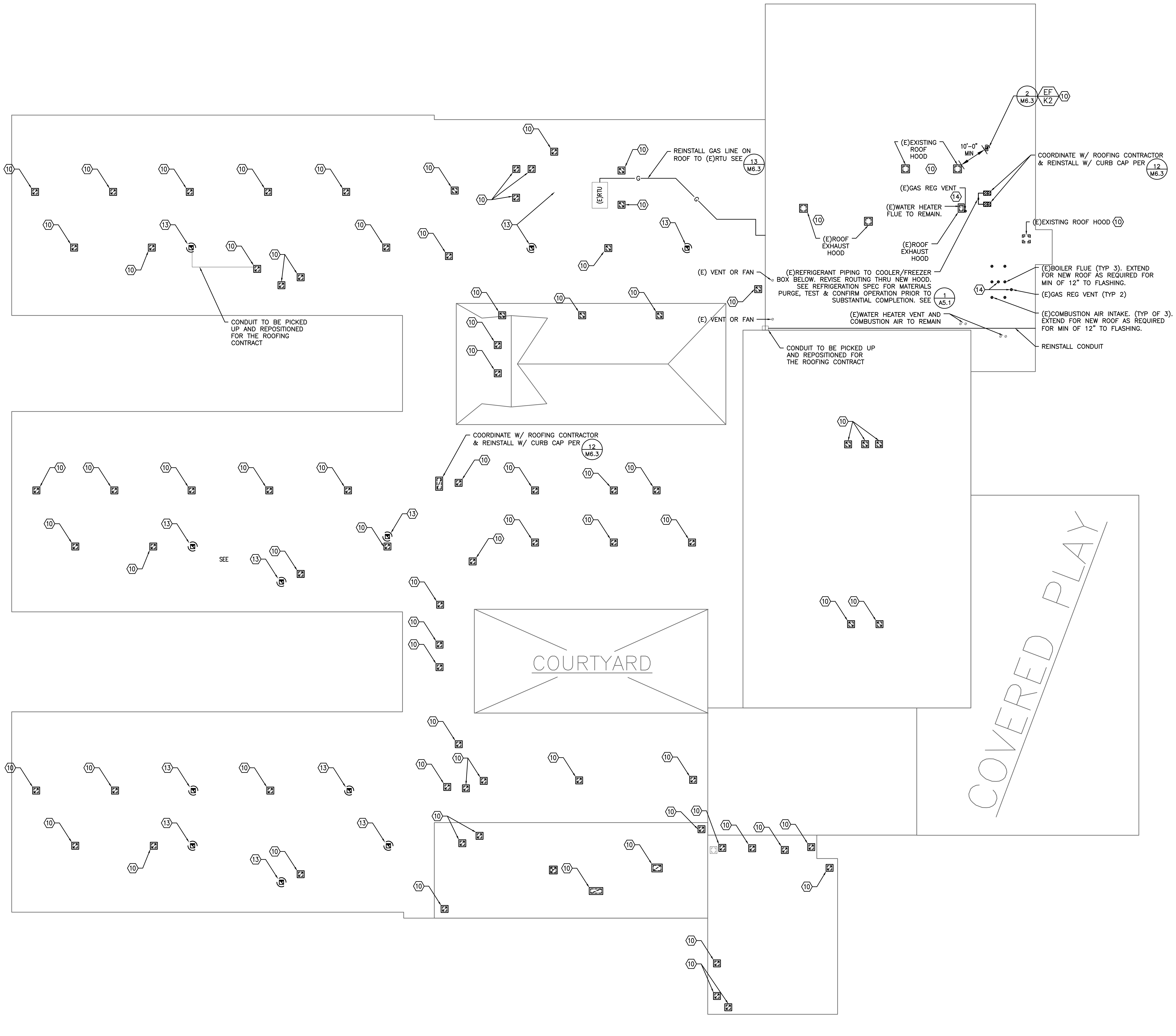
7000 SW WILSON AVENUE
BEAVERTON OREGON

MECHANICAL PLAN – SECTOR 'A'

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
M2.1



1/M2.5 OVERALL MECHANICAL ROOF PLAN
SCALE: 1/16"=1'-0"

MECHANICAL NOTES (#)

1. –
2. FANS: CLEAN FAN CABINETS AND FAN WHEEL. REPLACE BELT, BEARINGS AND SHEAVES AT BELT DRIVE UNITS. REPLACE ANY LOOSE OR TORN LINER. RE–BALANCE TO LISTED AIRFLOW. COORDINATE WITH ELECTRICAL AND CONTROLS. PROVIDE NEW MOTOR SIZE, SEE DRAWINGS FOR SIZE. CONFIRM VOLTAGE, PHASE, ROTATION AND HORSEPOWER PRIOR TO SUBMITTAL. PROVIDE NEW EQUIPMENT TAG.
3. REPLACE ZONE SENSOR WITH NEW DIGITAL DEVICE. LABEL WITH ASSOCIATED EQUIPMENT INFORMATION. WHERE NLL SENSOR IS NO LONGER USED PROVIDE A STAINLESS STEEL COVER PLATE OVER HOLE & SECURE.
4. MULTIZONE UNIT AND ASSOCIATED CENTRAL EXHAUST UNIT: MODIFY (E)UNIT CONTROLS TO ELIMINATE OPERATION OF DEDICATED CHILLER. COORD. W/ APPROVED CONTROLS CONTRACTOR (SEE SPECS). CLEAN CABINETS, FAN WHEELS. REPLACE BELT, BEARINGS, SHEAVES AND FILTER. REPLACE (E) FLEX CONNECTION BETWEEN UNIT AND SUPPLY, RETURN, RELIEF, & OSA DUCT WORK WITH NEW. REPLACE MOTOR, SEE DRAWING FOR SIZE. CONFIRM VOLTAGE ON SITE. MODIFY UNIT MOTOR MOUNT AS REQUIRED FOR NEW MOTOR. RE–BALANCE UNITS AND OUTLETS TO LISTED AIRFLOWS. COORDINATE W/ ELECTRICAL/CONTROLS FOR INSTALL. PROVIDE NEW EQUIP. TAG SHOWN. FOR UNIT REFURBISH, SEE SPECIFICATIONS.
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6. –
7. BALANCE (E) DIFFUSER/GRILLE TO CFM LISTED.
8. CLEAN ENTIRE (E)OSA DUCT & RETURN DUCT & ALL ASSOCIATED BRANCHES PER SPECIFICATIONS.
9. INSTALL NEW COOLING COIL IN (E) DUCT. SEE 4/M6.3 FOR COIL CONNECTION/PIPING DETAIL & 4/M6.4 FOR INSTALLATION DETAIL. ALTER COIL SUPPORT ROUTE CONDENSATE TO FLOOR DRAIN. ALTER DUCTS NEAR COOLING & HEATING COIL AS REQUIRED FOR NEW INSTALLATION. SEE 3/M6.4 FOR REPIPE OF HEATING COIL.
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12. PROVIDE NEW EQUIPMENT TAG AS SHOWN. SEE M5.1 SERIES FOR ASSOCIATED CONTROL WORK AS APPLICABLE.
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GENERAL NOTES

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3. –
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6. SEE SPECS. FOR REQUIREMENTS RELATED TO DESIGN OF SEISMIC RESTRAINT AND SUPPORT OF PIPES.
7. RAISE ALL PLUMBING VENTS TO TERMINATE @ AT LEAST 10" ABOVE ROOF ELEVATION.

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

CONSTRUCTION DOCUMENTS

EXPIRES: 31DEC18

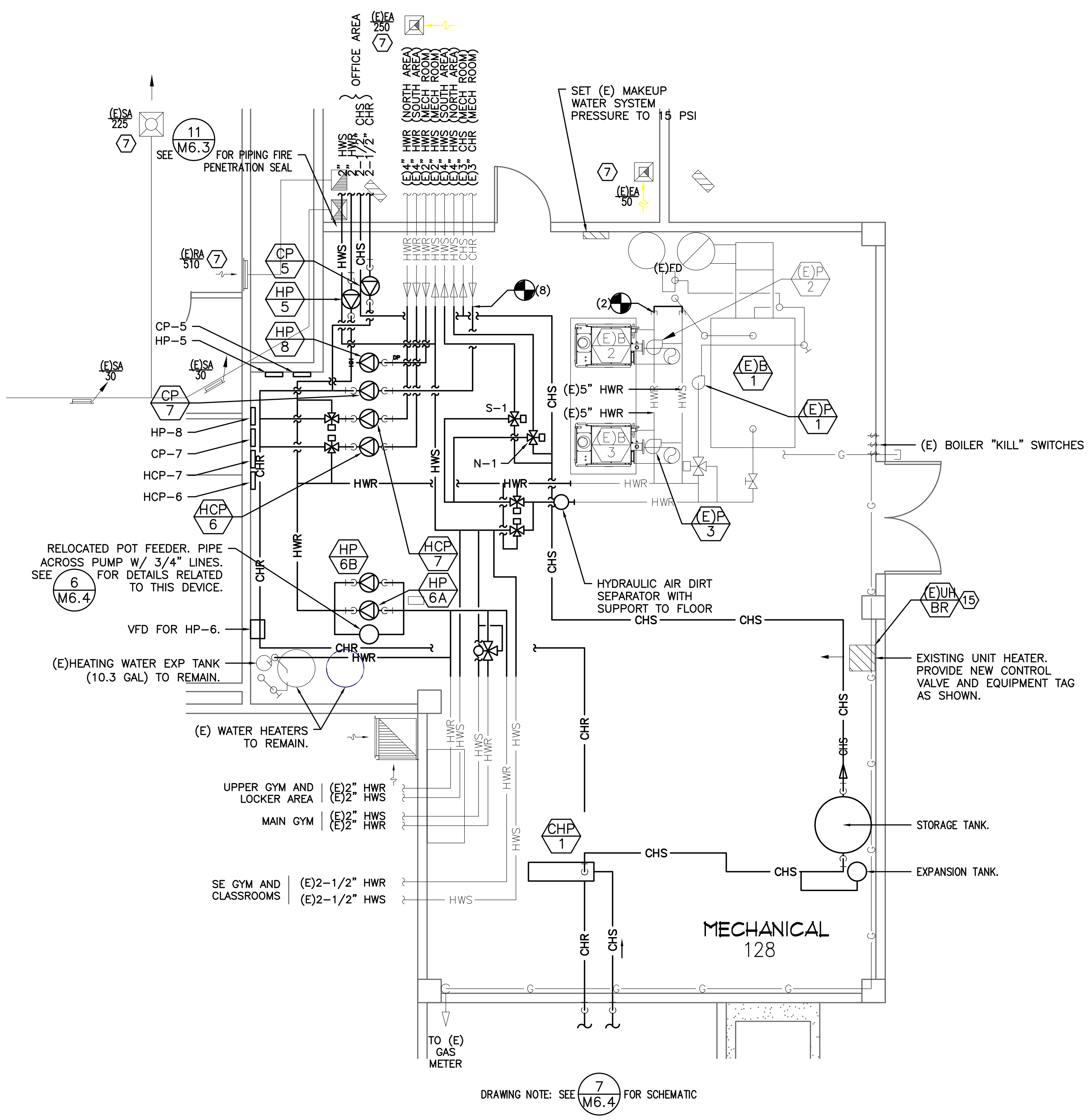
Date:	04/24/19
Proj No:	9652
Drawn By:	LKF
Chkd By:	SWM
DSGN By:	SWM
Acad File:	9652_HIGHLAND_M25

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

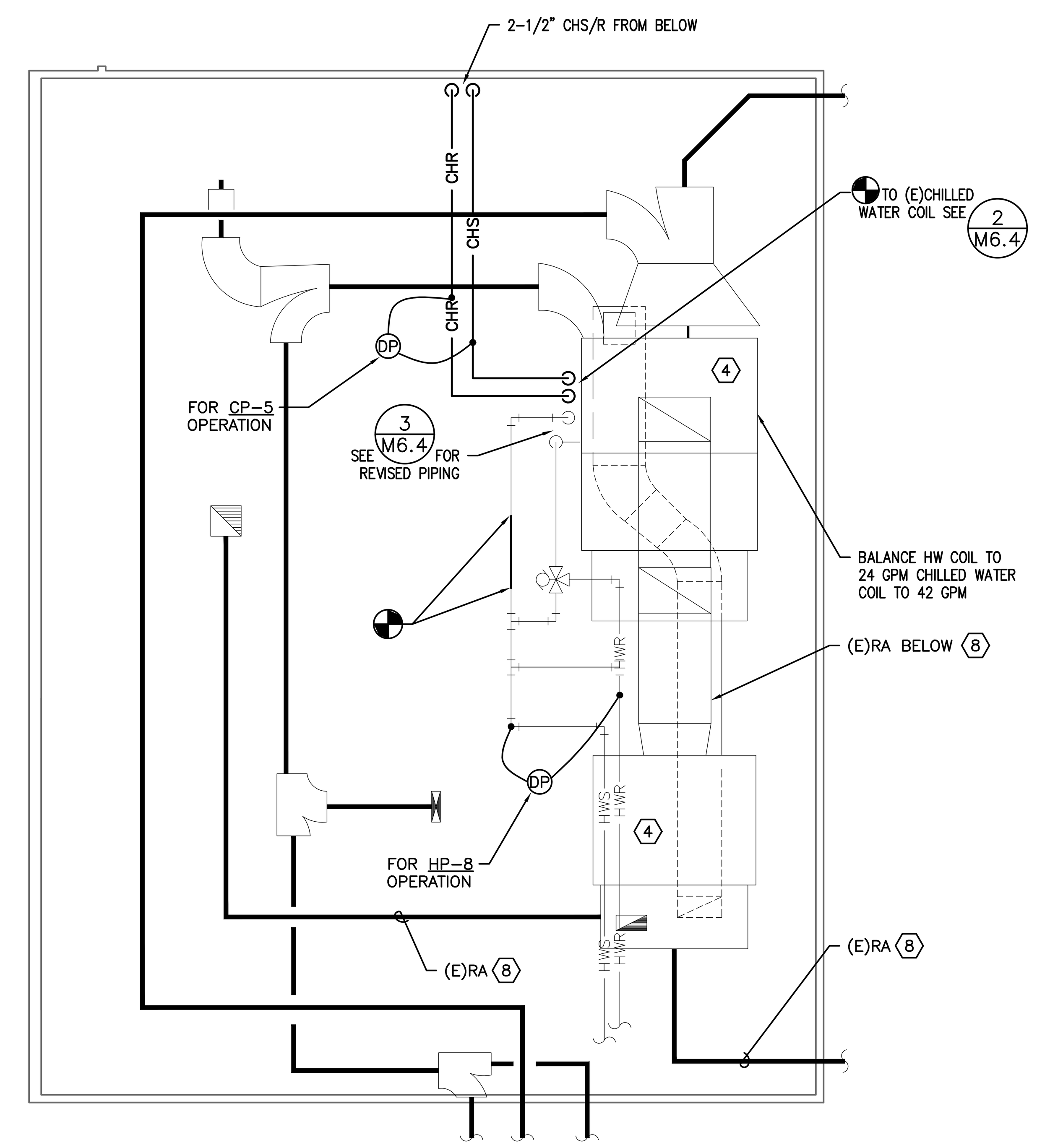
OVERALL MECHANICAL ROOF PLAN

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
M2.5



1/M2.6 ENLARGED BOILER ROOM PLAN
SCALE: 1/4"=1'-0"



2/M2.6 LIBRARY FAN ROOM PLAN
SCALE: 1/4"=1'-0"

MECHANICAL NOTES (#)

1. –
2. FANS: CLEAN FAN CABINETS AND FAN WHEEL. REPLACE BELT, BEARINGS AND SHEAVES AT BELT DRIVE UNITS. REPLACE ANY LOOSE OR TORN LINER. RE–BALANCE TO LISTED AIRFLOW. COORDINATE WITH ELECTRICAL AND CONTROLS. PROVIDE NEW MOTOR SIZE, SEE DRAWINGS FOR SIZE. CONFIRM VOLTAGE, PHASE, ROTATION AND HORSEPOWER PRIOR TO SUBMITTAL. PROVIDE NEW EQUIPMENT TAG.
3. REPLACE ZONE SENSOR WITH NEW DIGITAL DEVICE. LABEL WITH ASSOCIATED EQUIPMENT INFORMATION. WHERE NLL SENSOR IS NO LONGER USED PROVIDE A STAINLESS STEEL COVER PLATE OVER HOLE & SECURE.
4. MULTIZONE UNIT AND ASSOCIATED CENTRAL EXHAUST UNIT: MODIFY (E)UNIT CONTROLS TO ELIMINATE OPERATION OF DEDICATED CHILLER. COORD. W/ APPROVED CONTROLS CONTRACTOR (SEE SPECS). CLEAN CABINETS, FAN WHEELS. REPLACE BELT, BEARINGS, SHEAVES AND FILTER. REPLACE (E) FLEX CONNECTION BETWEEN UNIT AND SUPPLY, RETURN, RELIEF, & OSA DUCT WORK WITH NEW. REPLACE MOTOR, SEE DRAWING FOR SIZE. CONFIRM VOLTAGE ON SITE. MODIFY UNIT MOTOR MOUNT AS REQUIRED FOR NEW MOTOR. RE–BALANCE UNITS AND OUTLETS TO LISTED AIRFLOWS. COORDINATE W/ ELECTRICAL/CONTROLS FOR INSTALL. PROVIDE NEW EQUIP. TAG SHOWN. FOR UNIT REFURBISH, SEE SPECIFICATIONS.
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15. ADD CONTROLS TO (E)ELECT HEATER. BYPASS (E)INTEGRAL TSTAT & PROVIDE NEW WALL–MOUNT SENSOR. TAG AS SHOWN.

GENERAL NOTES

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Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

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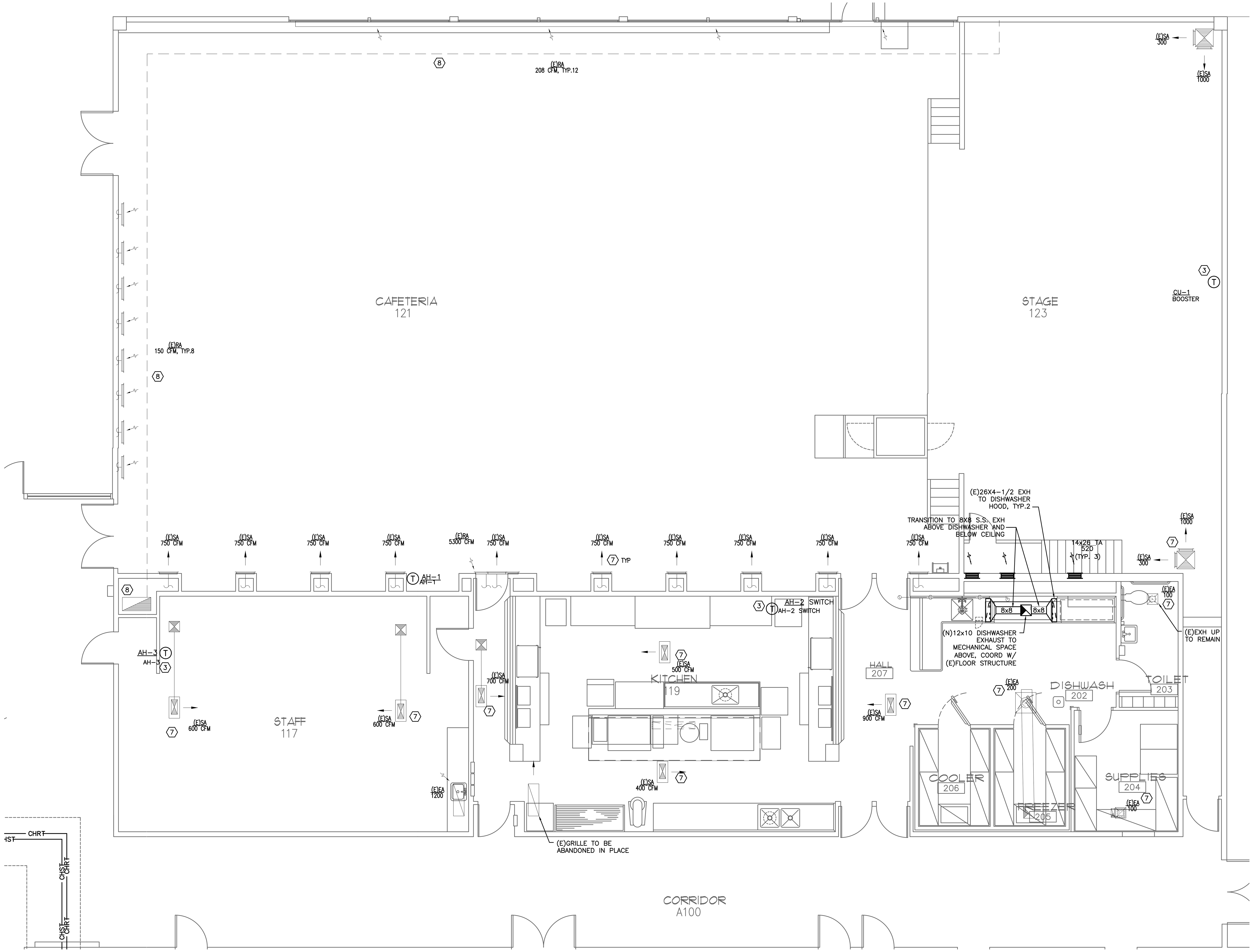
Acad File:	9652_HIGHLAND_M26

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON
OREGON

ENLARGED PLANS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
M2.6



1 M2.7 HVAC FLOOR PLAN – KITCHEN & CAFETERIA ROOM
SCALE: 1/4"=1'-0"

MECHANICAL NOTES (#)

1. –
2. FANS: CLEAN FAN CABINETS AND FAN WHEEL. REPLACE BELT, BEARINGS AND SHEAVES AT BELT DRIVE UNITS. REPLACE ANY LOOSE OR TORN LINER. RE–BALANCE TO LISTED AIRFLOW. COORDINATE WITH ELECTRICAL AND CONTROLS. PROVIDE NEW MOTOR SIZE, SEE DRAWINGS FOR SIZE. CONFIRM VOLTAGE, PHASE, ROTATION AND HORSEPOWER PRIOR TO SUBMITTAL. PROVIDE NEW EQUIPMENT TAG.
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15. ADD CONTROLS TO (E)ELECT HEATER. BYPASS (E)INTEGRAL TSTAT & PROVIDE NEW WALL–MOUNT SENSOR. TAG AS SHOWN.

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ON SITE ALL CONDITIONS RELATED TO EQUIPMENT REPLACEMENT, NEW INSTALLATION LOCATIONS AND REFURBISH/REMODEL. NOTIFY ENGINEER FOR ANY MAJOR DISCREPANCIES AS FOUND.
2. FOR ALL MECHANICAL UNITS AND SYSTEMS SERVING KITCHEN, CAFETERIA, STAGE AND MUSIC AREA. CLEAN AND REFURBISH PER SPECIFICATIONS. ALL MEZZANINE RA & OSA DUCTWORK SHALL BE CLEANED.
3. –
4. CONTRACTOR TO PERFORM PRESSURE TESTING OF EXISTING HEATING & CHILLED WATER SYSTEM LINES AND FLUSH SYSTEM PER SPECIFICATIONS.
5. CONTRACTOR TO COORDINATE ALL UNIT RE–TAGGING AND EQUIPMENT REPLACEMENTS WITH ELECTRICAL CONTRACTOR FOR REVISION AT EXISTING ELECTRICAL PANELS AND ASSOCIATED DESIGNATIONS.
6. SEE SPECS. FOR REQUIREMENTS RELATED TO DESIGN OF SEISMIC RESTRAINT AND SUPPORT OF PIPES.
7. RAISE ALL PLUMBING VENTS TO TERMINATE @ AT LEAST 10" ABOVE ROOF ELEVATION.

CONSTRUCTION DOCUMENTS

SCOTT W. MILLER
EXPIRES: 31DEC18

Date:	04/24/19
Proj No:	9652
Drawn By:	MG
Chkd By:	SWM
DSGN By:	SWM
Acad File:	9652_HIGHLAND_M27

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

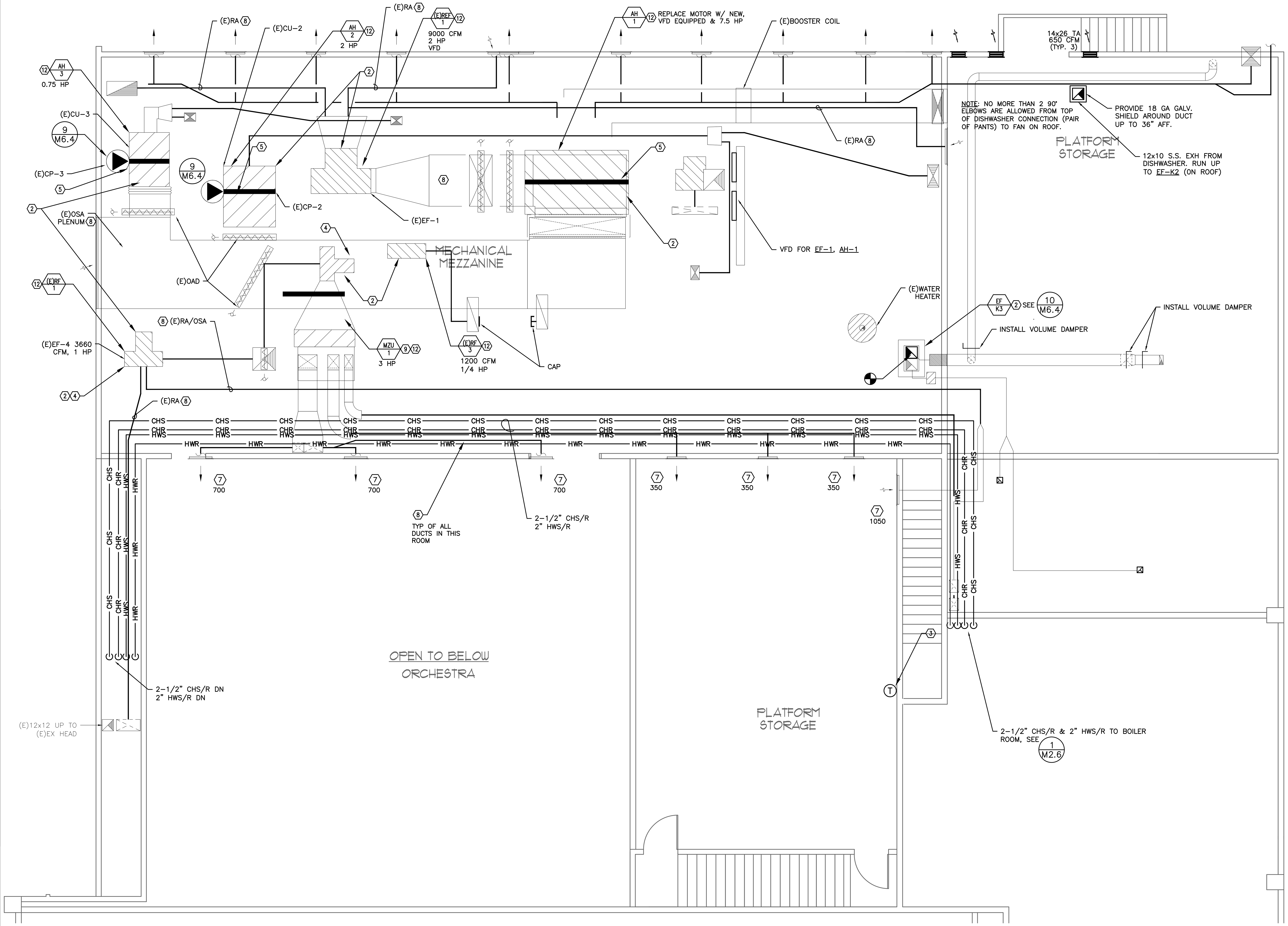
MECHANICAL NEW WORK PLAN – KITCHEN & CAFETERIA

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

MFIA INC. Consulting Engineers 2007 S.E. Ash St. Portland, OR 97214 PHN: (503) 234-0548 FAX: (503) 234-0677 WWW.MFIA-ENG.COM

CONTACT: Laura Froelke

SHEET
M2.7



1 M2.8 HVAC FLOOR PLAN – MEZZANINE LEVEL
SCALE: 1/4"=1'-0"

MECHANICAL NOTES (#)

1. –
2. FANS: CLEAN FAN CABINETS AND FAN WHEEL. REPLACE BELT, BEARINGS AND SHEAVES AT BELT DRIVE UNITS. REPLACE ANY LOOSE OR TORN LINER. RE-BALANCE TO LISTED AIRFLOW. COORDINATE WITH ELECTRICAL AND CONTROLS. PROVIDE NEW MOTOR SIZE, SEE DRAWINGS FOR SIZE. CONFIRM VOLTAGE, PHASE, ROTATION AND HORSEPOWER PRIOR TO SUBMITTAL. PROVIDE NEW EQUIPMENT TAG.
3. REPLACE ZONE SENSOR WITH NEW DIGITAL DEVICE. LABEL WITH ASSOCIATED EQUIPMENT INFORMATION. WHERE NLL SENSOR IS NO LONGER USED PROVIDE A STAINLESS STEEL COVER PLATE OVER HOLE & SECURE.
4. MULTIZONE UNIT AND ASSOCIATED CENTRAL EXHAUST UNIT: MODIFY (E)UNIT CONTROLS TO ELIMINATE OPERATION OF DEDICATED CHILLER. COORD. W/ APPROVED CONTROLS CONTRACTOR (SEE SPECS). CLEAN CABINETS, FAN WHEELS. REPLACE BELT, BEARINGS, SHEAVES AND FILTER. REPLACE (E) FLEX CONNECTION BETWEEN UNIT AND SUPPLY, RETURN, RELIEF, & OSA DUCT WORK WITH NEW. REPLACE MOTOR, SEE DRAWING FOR SIZE. CONFIRM VOLTAGE ON SITE. MODIFY UNIT MOTOR MOUNT AS REQUIRED FOR NEW MOTOR. RE-BALANCE UNITS AND OUTLETS TO LISTED AIRFLOWS. COORDINATE W/ ELECTRICAL/CONTROLS FOR INSTALL. PROVIDE NEW EQUIP. TAG SHOWN. FOR UNIT REFURBISH, SEE SPECIFICATIONS.
5. PRESSURE TEST AND CLEAN (E)HEATING COIL & CHILLED WATER COIL IN AH. MODIFY UNIT CONTROLS PER SPECS. FOR UNIT REFURBISH, SEE SPECIFICATIONS. SEE 2/M6.4 FOR REVISED CHILLED WATER PIPES. SEE 3/M6.4 UNLESS NOTED OTHERWISE FOR REVISED HEATING WATER PIPING.
6. –
7. BALANCE (E) DIFFUSER/GRILLE TO CFM LISTED.
8. CLEAN ENTIRE (E)OSA DUCT & RETURN DUCT & ALL ASSOCIATED BRANCHES PER SPECIFICATIONS.
9. INSTALL NEW COOLING COIL IN (E) DUCT. SEE 4/M6.3 FOR COIL CONNECTION/PIPING DETAIL & 4/M6.4 FOR INSTALLATION DETAIL. ALTER COIL SUPPORT ROUTE CONDENSATE TO FLOOR DRAIN. ALTER DUCTS NEAR COOLING & HEATING COIL AS REQUIRED FOR NEW INSTALLATION. SEE 3/M6.4 FOR REPIPE OF HEATING COIL.
10. (E) RELIEF TO BE REINSTALLED ON CURB. COORDINATED W/ ROOFING CONTRACTOR.
11. PROVIDE NEW CONTROL DAMPER AND CLEAN (E)RELIEF PER SPECIFICATIONS.
12. PROVIDE NEW EQUIPMENT TAG AS SHOWN. SEE M5.1 SERIES FOR ASSOCIATED CONTROL WORK AS APPLICABLE.
13. (E)EXHAUST FAN TO BE REINSTALLED ON CURB. COORINATE W/ ROOFING CONTRACTOR.
14. RAISE GAS REGULATOR VENT TO MIN OF 15" ABOVE ROOF DECK TO ALLOW PROPER ROOF PENETRATION SEAL.
15. ADD CONTROLS TO (E)ELECT HEATER. BYPASS (E)INTEGRAL TSTAT & PROVIDE NEW WALL-MOUNT SENSOR. TAG AS SHOWN.

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY ON SITE ALL CONDITIONS RELATED TO EQUIPMENT REPLACEMENT, NEW INSTALLATION LOCATIONS AND REFURBISH/REMODEL. NOTIFY ENGINEER FOR ANY MAJOR DISCREPANCIES AS FOUND.
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6. SEE SPECS. FOR REQUIREMENTS RELATED TO DESIGN OF SEISMIC RESTRAINT AND SUPPORT OF PIPES.
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2007 S.E. Ash St.
Portland, OR 97214
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FAX: (503) 234-0677
WWW.MFIA-ENG.COM
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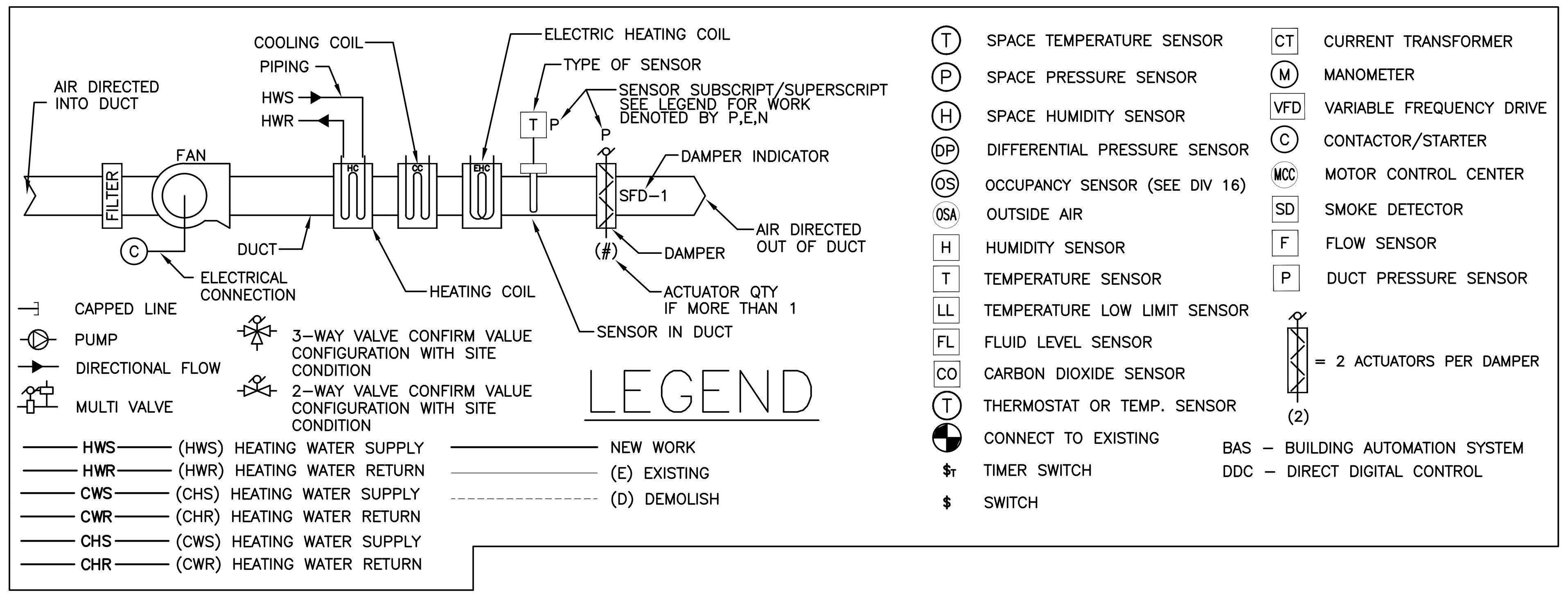
MECHANICAL NEW WORK PLAN – MEZZANINE LEVEL

MFIA INC.

Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
M2.8



EQUIPMENT ABBREVIATIONS :

P – PUMP
SP – SUMP PUMP
BP – BOOSTER PUMP
HWP – HEATING WATER PUMP
CHP – CHILLED WATER PUMP
CWP – CONDENSING WATER PUMP
CSP – COOLING TOWER SUMP PUMP
HWRP– DOMESTIC HOT WATER RECIRCULATION
VFD – VARIABLE FREQUENCY DRIVE
CT – CONTACTOR
CC – CONTROL COMPRESSOR
CH – CHILLER
B – BOILER
EF – EXHAUST FAN
RF – RETURN/RELIEF FAN
AH – AIR HANDLER
VAV – VARIABLE AIR VOLUME DAMPER BOX
AD – AREA DAMPER
SD – SMOKE DAMPER
SFD – FIRE SMOKE COMBO DAMPER
H – HUMIDIFIER
V – VALVE
WH – WATER HEATER
BAS – BUILDING AUTOMATION SYSTEM
CW – COLD WATER
MZU – MULTI ZONE UNIT
CEU – CABINET EXH. UNIT
HVU – HEATING VENTILATION UNIT
CFU – CEILING FAN UNIT
REU – ROOF EXH. UNIT
HC – HEATING COIL
ST – STEAM
CD – CONDENSATE RETURN
HWS – HEATING WATER SUPPLY
HWR – HEATING WATER RETURN

PLUMBING ABBREVIATIONS:

HWS – HEATING WATER SUPPLY
HWR – HEATING WATER RETURN
HW – DOMESTIC HOT WATER
CW – DOMESTIC COLD WATER
GPM – GALLONS PER MINUTE
DB – DOUBLE VALVE OPERATOR

AIR FLOW ABBREVIATIONS

OSA – OUTSIDE AIR
RA – RETURN AIR
SA – SUPPLY AIR
EXH – EXHAUSTED AIR

CONTROLS FOR CHILLER SEE 1/M5.1

POINT DESCRIPTION	INPUT		OUTPUT		ALARM	TREND
	DIGITAL	ANALOG	DIGITAL	ANALOG		
CHILLER ENABLE/DISABLE *			X			X
CHILLER RESET SIGNAL *		X				
CHILLED WATER PUMP START/STOP			X			X
CHILLED WATER PUMP STATUS	X				X	X
CHILLED WATER PUMP SPEED				X		
CHILLER ALARM *		X			X (1)	
CHILLED SUPPLY WATER TEMPERATURE *		X				X
CHILLED RETURN WATER TEMPERATURE *		X				X
CHILLED WATER FLOW		X				

* VIA BACNET INTEGRATION
(1) ALARM CODE TO BE SHOWN

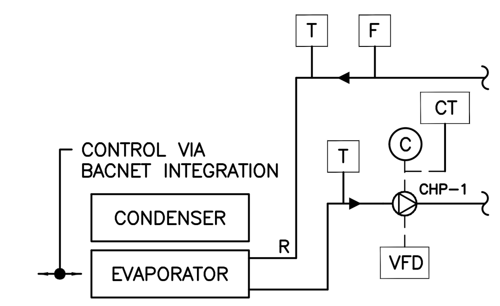
BOILER ROOM CONTROLS*, SEE 5/M5.1

POINT DESCRIPTION	INPUT		OUTPUT		ALARM	TREND
	DIGITAL	ANALOG	DIGITAL	ANALOG		
CIRC WATER PUMP START/STOP (TYP 8)			X			X
CIRC WATER PUMP STATUS (TYP 8)	X				X	X
CIRC WATER PUMP SPEED (TYP 8)				X		
VALVES S-1, S-2, N-1, N-2			X			X
VALVES #1				X		X
TEMP SENSORS (4)		X				
DP (TYP OF 7)				X		

* – ADDED POINTS TO (E)POINTS

NOT USED

4 M5.1 UNIT VENTILATOR DIAGRAM
SCHEMATIC



SEE FLOOR PLAN FOR DP SENSOR LOCATION.

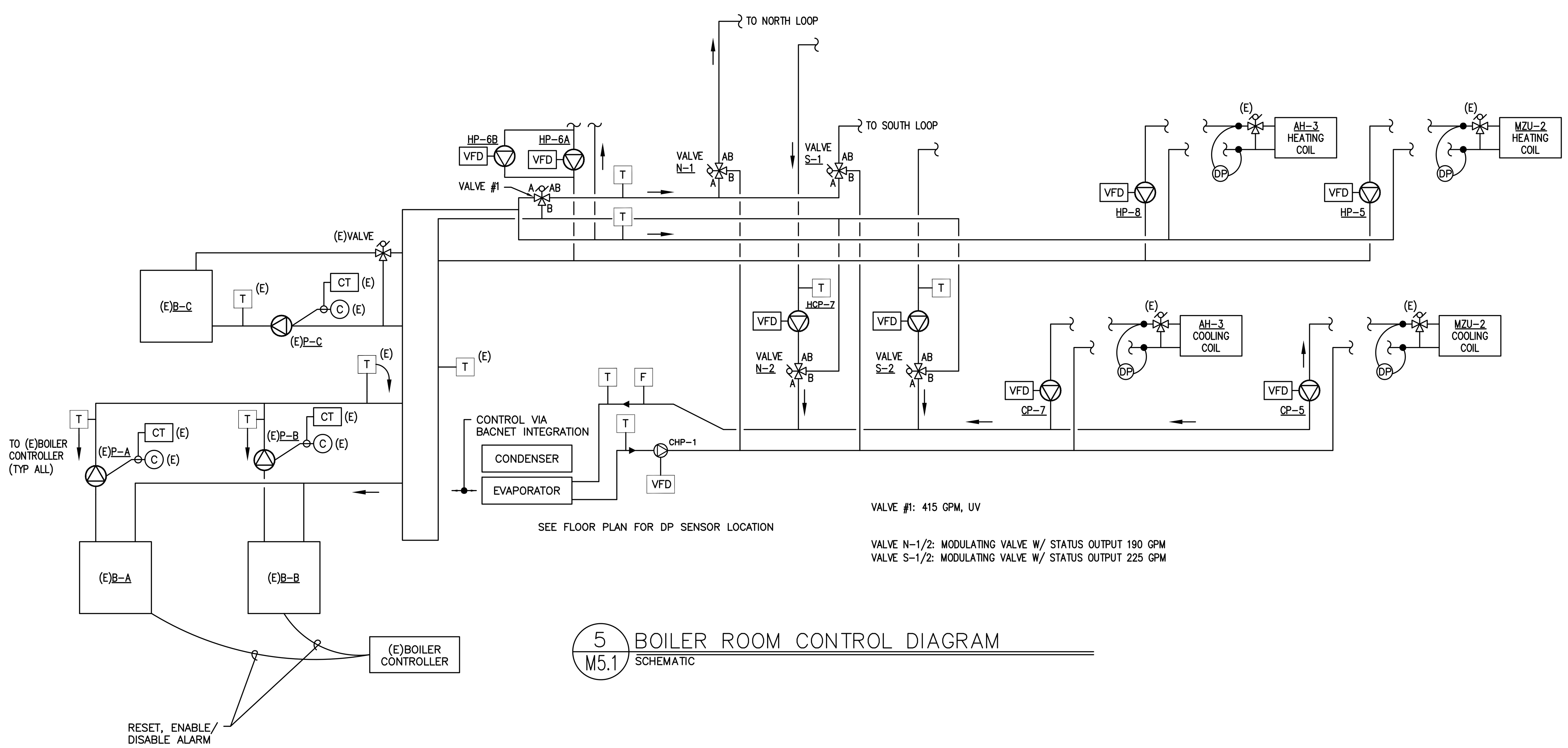
1 M5.1 CHILLER CONTROL DIAGRAM
SCHEMATIC

SEE SCHEDULE

2 M5.1 MINI SPLIT CONTROL DIAGRAM
SCHEMATIC

NOT USED

3 M5.1 FAN COIL UNIT
SCHEMATIC



SEE FLOOR PLAN FOR DP SENSOR LOCATION

VALVE #1: 415 GPM, UV

VALVE N-1/2: MODULATING VALVE W/ STATUS OUTPUT 190 GPM
VALVE S-1/2: MODULATING VALVE W/ STATUS OUTPUT 225 GPM

5 M5.1 BOILER ROOM CONTROL DIAGRAM
SCHEMATIC

MFIA INC. Consulting Engineers 2007 S.E. Ash St. Portland, OR 97214 PHN: (503) 234-0548 FAX: (503) 234-0677 WWW.MFIA-ENG.COM
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7000 SW WILSON AVENUE
BEAVERTON OREGON

MECHANICAL CONTROLS

Date: 04/24/19
Proj No: 9652
Drawn By: LKF
Chkd By: SWM
DSGN By: SWM
Acad File: 9652_HIGHLAND_M51

EXPIRES: 31DEC18

SHEET
M5.1

MECHANICAL LEGEND

SUPPLY AIR DIFFUSER	
RETURN AIR DIFFUSER	
EXHAUST AIR DIFFUSER	
DIRECTIONAL AIR FLOW	
MANUAL VOLUME DAMPER	
SUPPLY AIR DUCT UP & DOWN	
RETURN AIR DUCT UP & DOWN	
EXHAUST OR OUTSIDE AIR DUCT UP & DOWN	
SUPPLY AIR DUCT UP & DOWN	
RETURN AIR DUCT UP & DOWN	
EXHAUST OR OUTSIDE AIR DUCT UP & DOWN	
VAV TERMINAL UNIT W/ REHEAT COIL	
(D)	DEMOLISH
(E)	EXISTING
CONNECT TO EXISTING	
(T) F-?	THERMOSTAT
(S)	TEMPERATURE SENSOR
?	NOTE
XX ?	EQUIPMENT DESIGNATOR
GATE VALVE	
CHECK VALVE	
BALANCING VALVE	
THERMOMETER	
DIRECTION OF FLOW	
PUMP	
STRAINER	
PRESSURE GUAGE	
PETE'S PLUG	
DOUBLE CHECK ASSEMBLY	
PRESSURE REDUCING VALVE	
UNION	
2-WAY CONTROL VALVE	
3-WAY CONTROL VALVE	
CAP	
MOTORIZED DAMPER	
BALL SHUT OFF VALVE	
FIRE DAMPER	
FIRE / SMOKE DAMPER	
SMOKE DAMPER	

AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
B.D.	BOTTOM OF DUCT
BHP	BRAKE HORSEPOWER
BOG	BOTTOM OF GRILLE
BTU	BRITISH THERMAL UNITS
CFM	CUBIC FEET PER MINUTE
CONN.	CONNECTION
CONT.	CONTINUATION
CW	DOMESTIC COLD WATER
DB	DRY BULB
DIA.	DIAMETER
DIST.	DISTRIBUTION
EXH	EXHAUST AIR
EDB	ENTERING DRY BULB TEMPERATURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
FF	FINISH FLOOR
FIXT.	FIXTURE
F.O.B.	FLAT ON BOTTOM
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT.	FEET / FOOT
GA.	GAUGE
GEXH	GREASE EXHAUST AIR DUCT
GPM	GALLONS PER MINUTE
H	HEIGHT
HP	HORSEPOWER
I.D.	INSIDE DIAMETER
IN.	INCHES
L	LENGTH
LBS.	POUNDS
LDB	LEAVING DRY BULB
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MA	MAKE UP AIR
MAX.	MAXIMUM
MBH	THOUSANDS OF BTUs PER HOUR
MD	MOTORIZED DAMPER
MIN.	MINIMUM
MVD	MANUAL VOLUME DAMPER
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
N.I.M.	NOT IN MECHANICAL
NO.	NUMBER
N.O.	NORMALLY OPEN
O.A.	OUTSIDE AIR
P	PERSON
PSI	POUNDS PER SQUARE INCH
P/T	PRESSURE / TEMPERATURE
R.A.	RETURN AIR
RECT.	RECTANGULAR
REQ'D	REQUIRED
S.A.	SUPPLY AIR
S.P.	STATIC PRESSURE
SQ.	SQUARE
TEMP.	TEMPERATURE
TYP.	TYPICAL
VAV	VARIABLE AIR VOLUME
W	WIDTH
WB	WET BULB
WPD	WATER PRESSURE DROP
ø	DIAMETER

HWS	(HWS) HEATING WATER SUPPLY
HWR	(HWR) HEATING WATER RETURN
	(HWRR) HEATING WATER REVERSE RETURN
CHS	(CHS) CHILLED WATER SUPPLY
CHR	(CHR) CHILLED WATER RETURN
PC	PUMPED CONDENSATE
S	(HPS) HIGH PRESSURE STEAM
V4 V4	(HT) HEAT TRACED DOMESTIC HOT WATER
CHST	(CHST) CHILLED WATER SUPPLY IN TUNNEL
CHRT	(CHRT) CHILLED WATER RETURN IN TUNNEL
SST	(SST) SOUTH ZONE HEATING WATER SUPPLY IN TUNNEL
SRT	(SRT) SOUTH ZONE HEATING WATER RETURN IN TUNNEL
NST	(NST) NORTH ZONE HEATING WATER SUPPLY IN TUNNEL
NRT	(NRT) NORTH ZONE HEATING WATER RETURN IN TUNNEL
NRRT	(NRRT) NORTH ZONE HEATING WATER REVERSE RETURN IN TUNNEL
SRRT	(SRRT) SOUTH ZONE HEATING WATER REVERSE RETURN IN TUNNEL

PUMPS

MARK NUMBER	CHP 1	HP 6A	HP 6B	HCP 7	HCP 6	HP 8	HP 5	CP 5	CP 7	CP 3	CP 2
TYPE	BASE	IN-LINE SPLIT COUPLE									
APPLICATION	CHILLER	GYM/LR	GYM/LR	N UV	S UV	MEZZ HEAT	OFF & LIB	LIB COOL	MEZZ COOL	AH-3 HEAT	AH-2 HEAT
FLOW RATE (GPM)	545	120	120	170	200	70	35	42	136	5	31
HEAD (FT)	45	55	55	85	85	45	30	30	35	12	12
EFFICIENCY	81	62	62	68	70	61	48	52	67	N/A	N/A
BRAKE HP	7.8	2.8	2.8	5.5	6.25	1.3	0.56	0.64	1.8	N/A	N/A
MOTOR HP	10	5	5	15	15	3	1	1	3	1/6	1/6
MOTOR RPM	1750	1750	1750	1750	1750	1750	1750	1750	1750	3250	3250
VFD	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO
DESIGN WEIGHT (LBS)	400	260	260	385	435	245	200	200	245	15	15
% GLYCOL	20	20	20	20	20	20	20	20	20	20	20
VOLTAGE/PH	480/3	480/3	480/3	480/3	480/3	480/3	480/3	480/3	480/3	120/1	120/1
BASIS OF DESIGN (B&G)	1510 4BC	80SC 2.5x2.5x9 1/2B	80SC 2.5x2.5x9 1/2B	80SC 2.5x2.5x9 1/2B	80SC 3x3x9.5B	80SC 2.5x2.5x7	80SC 1.5x1.5x7B	80SC 1.5x1.5x7B	80SC 2.5x2.5x7	PL-36	PL-45

MZU CHILLED WATER COIL

MARK NUMBER	CC MZU-1
SYSTEM	MZU-1
CFM	3950
STATIC PRESS ("WC) (MAX)	0.35
VELOCITY (FPM)	511
ENTERING AIR TEMP (°F)(DB/WB)	77/63
LEAVING AIR TEMP (°F)(DB/WB)	55/53
SENSIBLE CAPACITY (MBH)	89
TOTAL CAPACITY (MBH)	101
APPROX COIL SIZE WxH (IN)(2)	57x23
COIL ROWS	4
FINS PER INCH	11
PERCENT GLYCOL	20%
FLOW RATE GPM(1)	25
(E) CONNECTION SIZE (2)	1-1/2
VALVE TYPE	3-WAY

CHILLER

MARK NUMBER		CH 1
NOMINAL TONS *		170
DESCRIPTION		AIR COOLED SCROLL
CHILLED WATER	FULL FLOW (GPM)	545
	MIN / MAX FLOW (GPM)	150/625
	ENT. WATER (° F.)	54
	LVG. WATER (° F.)	44
	MAX PD @ FULL FLOW (FT H2O)	18.0
MIN FULL LOAD EFFICIENCY (EER)		9.7
MIN IPLV (EER)		16.1
REFRIGERANT		410A
% GLYCOL		20
ELECTRIC		480-3 SINGLE CON.
MCA		376
MOCP		400
DESIGN WEIGHT (LBS)		8675
DESIGN BASIS		YORK YLAA SERIES

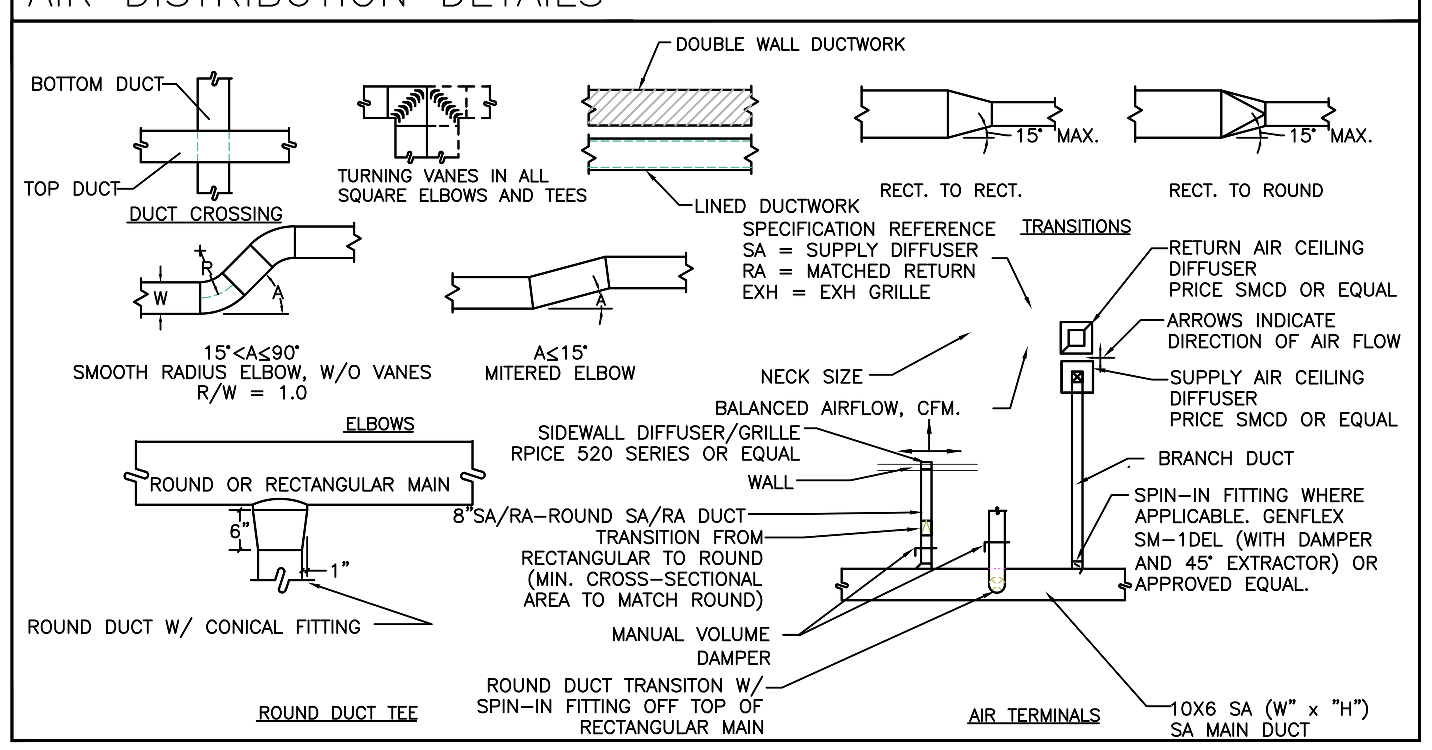
NOTE: CHILLER TO BE PRE-PURCHASED BY OWNER, SEE SPEC SECTION 011100
* – MINIMUM CAPACITY ARI CONDITIONS

EXHAUST FANS

MARK NUMBER	EF K2 (2)(4)	EF K3
EXISTING CURB SIZE IF RE-USED (1)	N/A	N/A
AREA SERVED	DISHWASHER	RR/SUPP
TYPE	ROOF	UTILITY SET
CFM	600	400
TOTAL SP. (IN H2O)	0.716	0.3
FAN RPM	1725	853
MOTOR HP	1/6	1/4
CONTROLLED BY	DDC/SWITCH	DDC
INTERLOCK WITH	DISHWASHER	AH-2
VFD	NO	–
BACK DRAFT DAMPER / 2-POSITION CTRL DAMPER	MOTORIZED	MOTORIZED
ISOLATION	— RUBBER IN SHEAR —	
DESIGN WEIGHT (LBS)	26	169
MAX. INLET SONES	10.7	3.4
BASIS OF DESIGN: GREENHECK	G-095-VG	USF-110-BI

1. NEW EXHAUST ON EXISTING CURB. CONTRACTOR TO VERIFY SIZE ON SITE PRIOR TO ORDER AND INSTALLATION.
2. PROVIDE W/ EC MOTOR FOR SPEED CONTROL.
3. FAN TO OPERATE @ LOW SPEED WHEN HOOD SWITCH IS OFF TO BALANCE AH-2, OPERATE @ HIGH SPEED WHEN HOOD SWITCH IS ON.
4. DISABLE (E)EF-K3 OPERATION WHEN EF-K2 IS ON.

AIR DISTRIBUTION DETAILS



VENTILATION AIR SCHEDULE -

ROOM NUMBER AND NAME	AREA (SQ. FT.)	OCCUPANT LOAD (#/1000 SQ. FT.)	NUMBER OF OCCUPANTS	OUTSIDE AIR REQUIREMENT (CFM/P)	OUTSIDE AIR REQUIREMENT (CFM/SQ FT.)	OUTSIDE AIR REQUIRED (CFM)	ZONE OSA (CFM)	SUPPLY AIR (CFM)	PRIMARY OSA FRACTION	RETURN AIR (CFM)	EXHAUST AIR (CFM)	Zone Ventilation Efficiency	Corrected OSA CFM	AIR SYSTEMS
	Az		Pz	Rp	Ra	Vbz	Voz	Vpz	Zp			Evz		
CLASSROOM UNIT VENTILATORS														
A WING STD CLASSROOM	1137	35	40	10	0.12	536	536	1500	0.36	1500	0	1.00	536	UV
B WING STD CLASSROOM	1137	35	40	10	0.12	536	536	1500	0.36	1500	0	1.00	536	UV
C WING STD CLASSROOM	1137	35	40	10	0.12	536	536	1500	0.36	1500	0	1.00	536	UV
C-7	1547	35	55	10	0.12	736	736	3000	0.25	3000	0	1.00	736	UV
C-10	1298	20	26	10	0.18	494	494	1000	0.49	1000	0	1.00	494	UV/FCU
SCI PREP														
110B	1000	25	25	10	0.18	430	430	750	0.57	1000	0	1.00	430.00	UV-110B
210B	1000	25	25	10	0.18	430	430	750	0.57	1000	0	1.00	430.00	UV-210B
310B	1000	25	25	10	0.18	430	430	750	0.57	1000	0	1.00	430.00	UV-310B
SE CLASSROOMS														
ART C-10	1298	35	46	10	0.12	616	616	2244	0.27	2244	0	1.00	616	FCU/UV=C-10
TOTAL	**1298**		**46**			**616**	**616**	**2244**		**2244**	**0**	**1.00**	**616**	
							Vou	**Vps**				**Ev**		
CLASSROOM C-12	781	35	28	10	0.12	374	374	1350	0.28	1350	0	0.93	402	CU-6
COMPUTER C-14	935	25	24	10	0.12	352	352	2150	0.16	2150	0	1.03	411	CU-6
TOTAL	**1716**		**52**			**726**	**726**	**3500**		**3500**	**0**	**0.93**	**813**	
							Vou	**Vps**				**Ev**		
CLASSROOM 320A	821	35	29	10	0.06	339	339	1000	0.34	1000	0	0.86	396	HVU-CEU-2
DRAMA 320A	1146	35	41	10	0.06	479	479	1500	0.32	1500	0	0.88	559	HVU-CEU-2
STORAGE	239	0	0	0	0.12	29	29	750	0.04	1000	0	1.16	33	RTU-1
OFFICE	106	5	1	5	0.06	11	11	1000	0.01	1000	0	1.18	13	RTU-1
TOTAL	**4963**		**147**			**1936**	**1936**	**9900**		**10150**	**0**	**0.86**	**2226**	
							Vou	**Vps**				**Ev**		
COUNSELOR														
CLASSROOM 3	294	5	2	5	0.06	28	28	750	0.04	750	0	1.00	28	UV-CL-3
CLASSROOM 4	294	5	2	5	0.06	28	28	750	0.04	750	0	1.00	28	UV-CL-4
TOTAL	**588**		**4**			**55**	**55**	**1500**		**1500**	**0**	**1.00**	**55**	
							Vou	**Vps**				**Ev**		
(E)AH-1														
CAFETERIA/FAST FOOD DINING	5400	100	540	7.5	0.18	5022	5022	9500	0.53	9500	0	1.00	5022	AH-1
TOTAL	**5400**		**540**			**5022**	**5022**	**9500**		**9500**	**0**	**1.00**	**5022**	
							Vou	**Vps**				**Ev**		
(E)AH-2														
KITCHEN	1290	0	0	0	0.7	903	903	2500	0.36	2500	0	1.00	903	AH-2
TOTAL	**1290**		**0**			**903**	**903**	**2500**		**2500**	**0**	**1.00**	**903**	
							Vou	**Vps**				**Ev**		
(E)AH-3														
STAFF LOUNGE	713	70	50	7.5	0.18	503	503	1200	0.42	1200	0	1.00	503	AH-3
TOTAL	**713**		**50**			**503**	**503**	**1200**		**1200**	**0**	**1.00**	**503**	
							Vou	**Vps**				**Ev**		
(E)MZU-1														
MUSIC	1600	35	56	10	0.12	752	752	2100	0.36	2100	0	1.05	1035	MZU-1
ORCHESTRA	775	35	28	10	0.12	373	373	1050	0.36	1050	0	1.05	513	MZU-1
PRACTICE	775	35	28	10	0.12	373	373	550	0.68	550	0	0.73	513	MZU-1
TOTAL	**3150**		**112**			**373**	**1498**	**3700**		**3700**	**0**	**0.73**	**2061**	
							Vou	**Vps**				**Ev**		
(E)MZU-2														
LIBRARY	7145	12.5	90	10	0.12	1757	1757	7095	0.25	7095	0	1.16	2418	MZU-2
TOTAL	**7145**		**90**			**1757**	**1757**	**7095**		**7095**	**0**	**1.16**	**2418**	
							Vou	**Vps**				**Ev**		
(E)HVU/CEU-2														
N CR 120A	931	35	33	10	0.12	442	442	1050	0.42	1050	0	0.97	663	HVU/CEU-2
S CR 120A	1142	35	40	10	0.12	537	537	1500	0.36	1500	0	1.03	806	HVU/CEU-2
OFFICE	106	5	1	5	0.06	11	11	100	0.11	100	0	1.27	17	HVU/CEU-2
STORAGE	1200	0	0	0	0.06	72	72	100	0.72	100	0	0.67	108	HVU/CEU-2
TOTAL	**3379**		**74**			**1062**	**1062**	**2750**		**2750**	**0**	**0.67**	**1594**	
							Vou	**Vps**				**Ev**		
(E)HVU/CEU-1														
WRESTLING/FITNESS	2830	10	29	20	0.06	750	750	4800	0.16	4800	0	1.00	750	HVU/CEU-1
TOTAL	**2830**		**29**			**750**	**750**	**4800**		**4800**	**0**	**1.00**	**750**	
							Vou	**Vps**				**Ev**		

EXISTING AIR HANDLER SCHEDULE

SYSTEM		(E) CU-1	(E) CU-2	(E) CU-3	(E) BCU
NEW EQUIPMENT TAG		AH 1	AH 2	AH 3	MZU 1
SERVING		CAFETORIUM	KTCHEN	STAFF LOUNGE	MUSIC
LOCATION		MECHANICAL MEZZANINE ABOVE KITCHEN			
COOLING COIL	SYSTEM	AH-1	AH-2	AH-3	AH-4
	STATUS	EXISTING	EXISTING	EXISTING	NEW (4)
	CFM	10,100	2,500	1,200	SEE SCHEDULE
	STATIC PRESS ("WC) (MAX)	–	–	–	
	VELOCITY (FPM)	–	–	–	
	ENTERING AIR TEMP (°F)(DB/WB)	83.5/65	92/68	92/68	
	LEAVING AIR TEMP (°F)(DB/WB)	55/53	55/53	55/53	
	SENSIBLE CAPACITY (MBH)	–	–	–	
	TOTAL CAPACITY (MBH)	–	–	–	
	APPROX COIL SIZE WxH (IN)**	–	–	–	
	COIL ROWS	–	–	–	
	FINS PER INCH	–	–	–	
	PERCENT GLYCOL	20%	20%	20%	
	TOTAL CAPACITY MBH*	354	113.6	54.5	
	FLOW RATE GPM*	70	22	11	
	CONNECTION SIZE **				
	VALVE TYPE	2-WAY	2-WAY	3-WAY	2-WAY
HEATING COIL	SYSTEM	AH-1	AH-2	AH-3	MZU-1
	STATUS	EXISTING	EXISTING	EXISTING	EXISTING
	MAX AIRFLOW (CFM)	10,100	2,500	1,200	3,690
	STATIC PRESS ("WC) (MAX)	0.3	0.3	0.3	0.3
	HEATING AIRFLOW (CFM)	10,100	2,500	1,200	
	VELOCITY (FPM)	486	500	430	
	INLET WATER TEMP. °F	140			
	OUTLET WATER TEMP. °F	110			
	INLET AIR TEMP.	45	20	20	50
	OUTLET AIR TEMP.	95	95	95	95
	PERCENT GLYCOL	20%	20%	20%	20%
	TOTAL CAPACITY MBH	545	201	98	180
	FLOW RATE GPM	27	10	5	9
	CONNECTION SIZE **	2"	1-1/2"	1-1/2"	–
	VALVE TYPE	2-WAY	2-WAY	3-WAY	2-WAY
	APPROX COIL SIZE WxH (IN)**	90x33.25	34x21.25	24x16.75	–
RA FAN VFD		YES	–	NO	NO
SA FAN VFD		YES	NO	NO	NO
RA FAN HP (1)		2.0	1.5	0.5	1.0
SA FAN HP (1)(2)		7.5	2	0.75	3.0
ASSOCIATED RA FAN (3)		REF-1	RF-2	RF-3	RF-1

* EWT=45°F; LWT=55°F
** CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS AND SIZE PRIOR TO SUBMITTAL AND INSTALLATION. SEE SPECS FOR DETAIL.
(1) CONFIRM HP ON SITE & MATCH (E). MATCH (E) SPEED & VOLTAGE
(2) PROVIDE SHAFT GROUNDING FOR FANS 5.0 OR LARGER W/ VFD
(3) BALANCE ASSOCIATED RA FAN TO MATCH SA FAN W/ OFFSET TO MAINTAIN SPACE PRESSURE @ 0.02" WC
(4) PROVIDE CASED COIL W/ INTEGRAL CONDENSATE PAN FOR INLINE INSTALLATION IN DUCT.

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

SCOTT W. MILLER — EXPIRES: 31DEC18

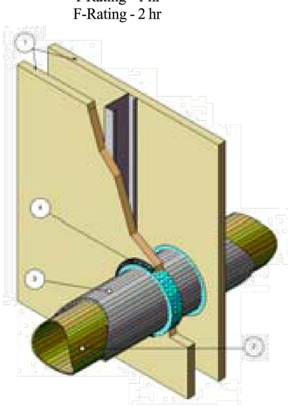
Date: 04/24/19
Proj No: 9652
Drawn By: LKF
Chkd By: SWM
DSGN By: SWM
Acad File: 9652_HIGHLAND_M61

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON
MECHANICAL SCHEDULES

CONSTRUCTION DOCUMENTS

SHEET M6.1

Design No. FS 119 W
August 1, 2003
FIRE PENETRATION SEAL (Mechanical)
Penetrating Item Type A
T-Rating - 1 hr
F-Rating - 2 hr



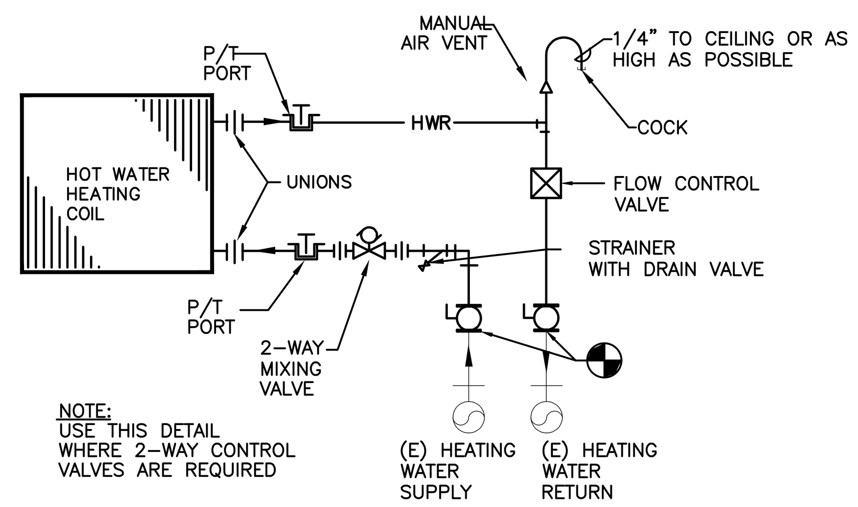
1. GYPSUM WALL ASSEMBLY: The framed opening in the wall shall be 7-1/2 in. wider and higher than the diameter of the penetrating item such that, when the penetrating item is centered in the opening, a 3-3/4 in. clearance is present between the penetrating item and the framing on all four sides. Two hour fire-rated wall assembly shall include one of the following features:
   A. Max. diameter of opening in gypsum wallboard layers is to be 22-1/2 in. for steel stud wall assemblies. When steel studs are used and the diameter of the opening exceeds the width of the stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs, and screw-attached to the steel studs at each end. Min. 25 GA galvanized steel studs spaced 24 in. o.c. measuring 3-5/8 in. wide with 1-1/4-in. legs. Studs attached with min. #6 x 3/8-in. steel stud framing screws to channel shaped floor and ceiling runners measuring 1/2-in. deep by 3-5/8-in wide, which are secured to floor and ceiling with 1-in. long concrete fasteners spaced max. 18-in. o.c. Studs and runners covered with two layers of 5/8 in. thick, Type X gypsum wallboard on each face. The base layer of gypsum wallboard fastened to steel studs with #6 1-1/8 in. bugle head phillips drywall screws spaced 12 in. o.c. The face layer of gypsum wallboard fastened with #6, 1-5/8 in. long bugle head phillips drywall screws spaced 8 in. o.c. Joint Tape and Compound - vinyl or casein, dry or premixed joint compound applied to face layers of gypsum wallboard in two coats to all exposed screw heads and gypsum wallboard joints. A min. 2-in. wide paper, plastic or fiberglass tape embedded in first layer of compound over joints in gypsum wallboard.
   B. Max. diameter of opening in gypsum wallboard layers is to be 14-1/2 in. for wood stud wall assemblies. Wood studs are to consist of min. nom. 2 x 4 lumber. spaced 16 in. o.c. Studs attached with min. 16d common nails to 2 x 4 lumber floor and ceiling runners, which are secured to floor and ceiling with 3-in. concrete fasteners spaced max. 18-in. o.c. Studs and runners covered with two layers of 5/8 in. thick, Type X gypsum wallboard on each face. The base layer of gypsum wallboard fastened to wood studs with #6 1-1/8 in. bugle head phillips drywall screws 12 in. o.c. The face layer of gypsum wallboard fastened with #6 1-5/8 in. long bugle head phillips drywall screws spaced 8 in. o.c. Joint Tape and Compound - vinyl or casein, dry or premixed joint compound applied to face layers of gypsum wallboard in two coats to all exposed screw heads and gypsum wallboard joints. A min. 2-in. wide paper, plastic or fiberglass tape embedded in first layer of compound over joints in gypsum wallboard.
2. PENETRATING ITEM: One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the through opening. The penetrating item is to be rigidly supported on both sides of the wall assembly. The following types and sizes of metallic pipes, conduit or tubing may be used:
   A. Steel Pipe: Schedule 10 (or heavier) nom. 24 in. diameter (or smaller) steel pipe.
   B. Conduit: Nom. 4 in. diameter (or smaller) electrical metallic tubing or steel conduit.
   C. Copper Tubing: Type L (or heavier) nom. 6 in. diameter (or smaller) copper tubing.
   D. Copper Pipe: Nom. 6 in. diameter (or smaller) Regular (or heavier) copper pipe.
3. PIPE COVERING MATERIALS: Nom. 1 in. thick hollow cylindrical heavy density (min. 3.5 pcf) glass fiber units, jacketed on the outside with an all service jacket. Longitudinal joints shall be tightly butted and sealed with metal fasteners or factory applied self-sealing lap tape. Transverse joints shall be secured with metal fasteners or with butt tape supplied with the product. A nom. annular space of 3/4 in. is required within the fire stop system. Any listed pipe covering material meeting the above specifications with a flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
4. FILL, VOID OR CAVITY MATERIAL: Min. of 1-1/4 in. thickness of sealant fill material is to be applied within the annulus on both faces of the wall through-penetration. Additional fill material is to be installed such that a min. 1/4 in. crown is formed around the penetrating item.

Listed Manufacturer:
3M –
Firestopping
Firestopping Sealant
3M Fire Barrier™ 2000 Silicone Joint Sealant
3M Fire Barrier™ 2000+ Silicone Joint Sealant

11 / M6.3 PIPING FIRE PENETRATION SEAL
DETAIL

NOT USED

8 / M6.3 NEW ROOF MOUNT EXHAUST FAN ON (E) CURB
SCALE: DETAIL

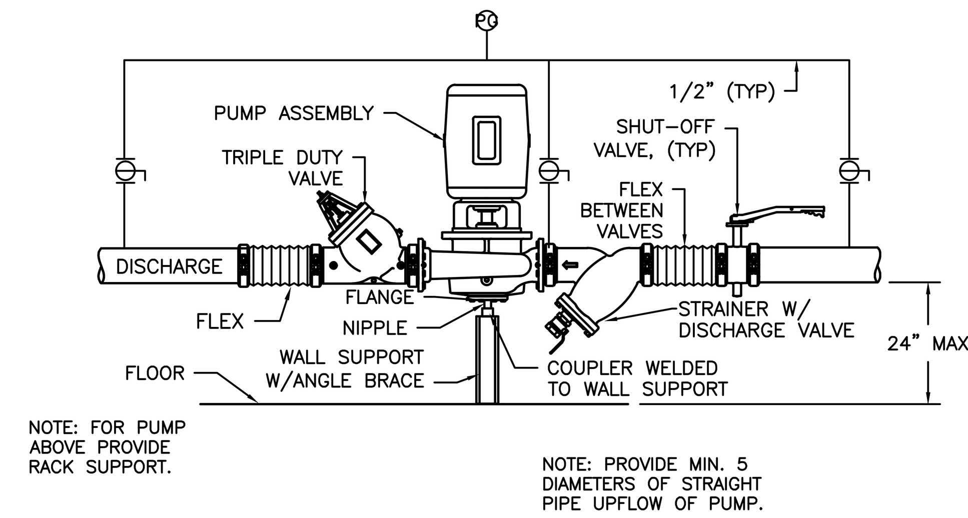


2-WAY CONTROL VALVE

9 / M6.3 COIL PIPING DIAGRAM
SCALE: DETAIL

NOT USED

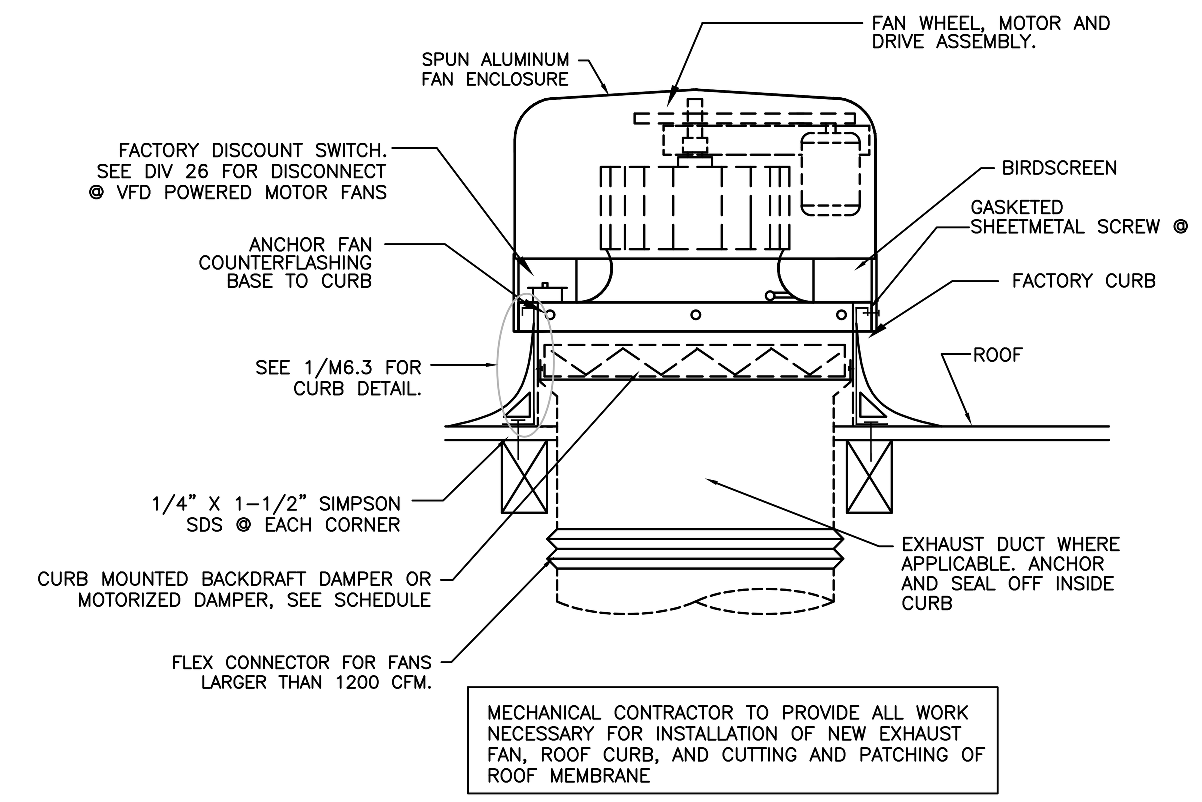
5 / M6.3 NOT USED
SCALE: DETAIL



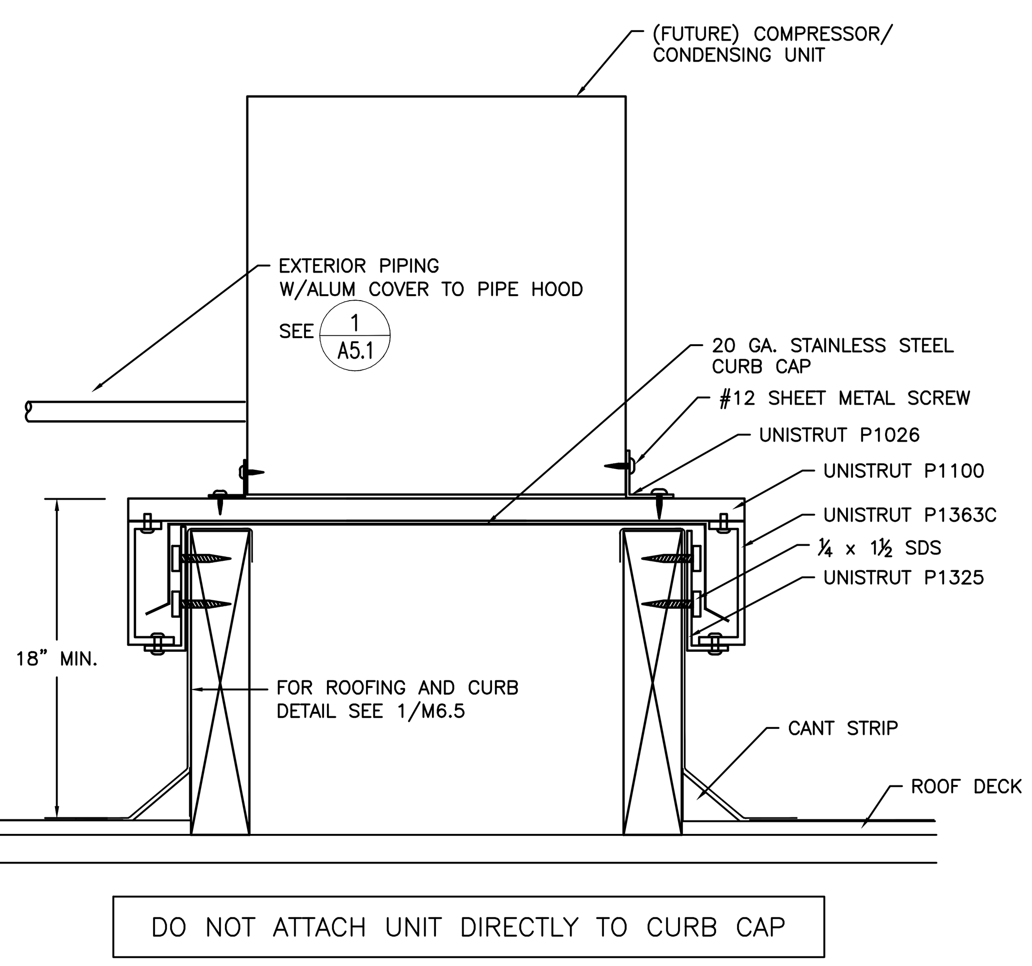
6 / M6.3 IN-LINE PUMP
SCALE: DETAIL

NOT USED

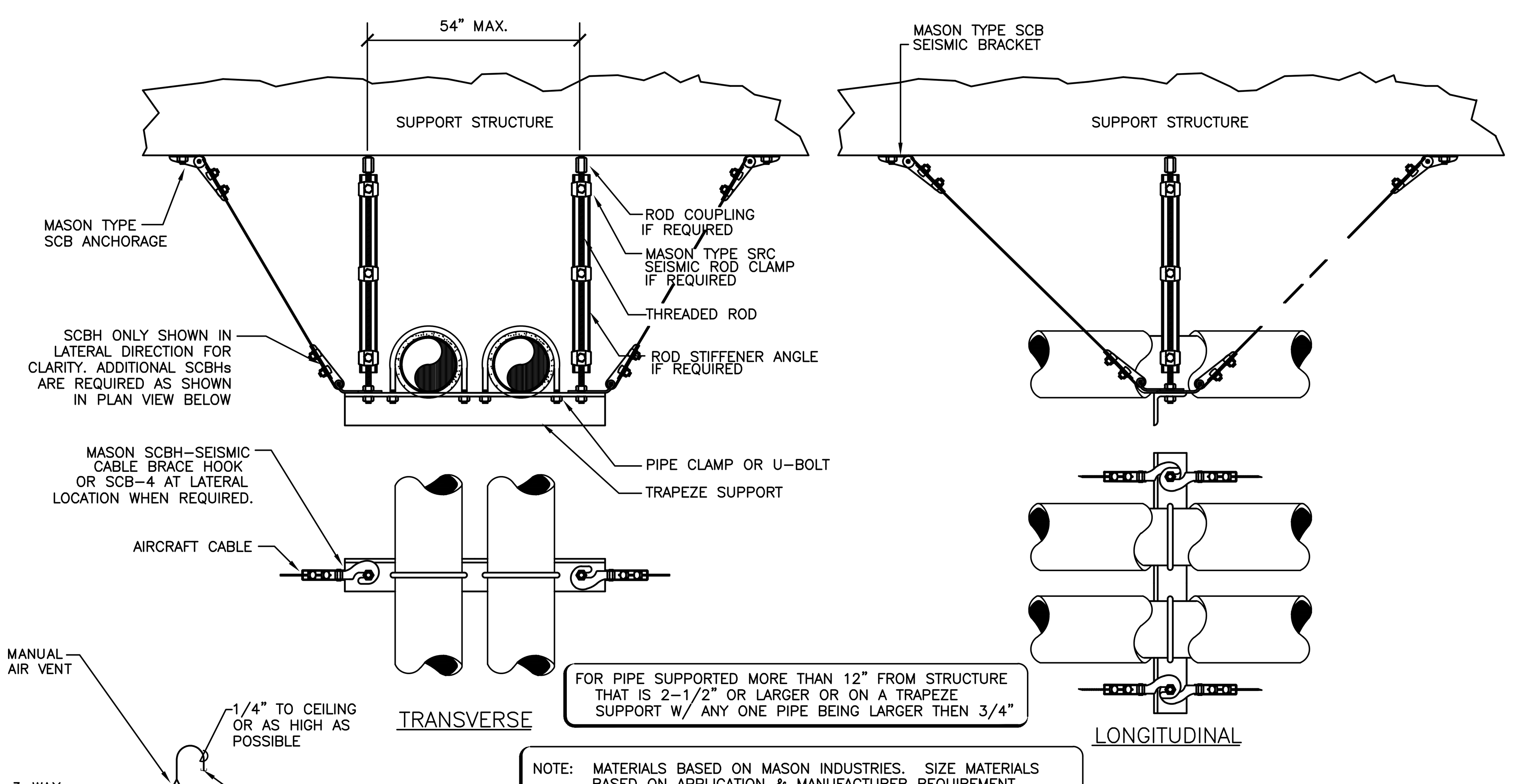
1 / M6.3 EX FAN CURB DETAIL
SCALE: DETAIL



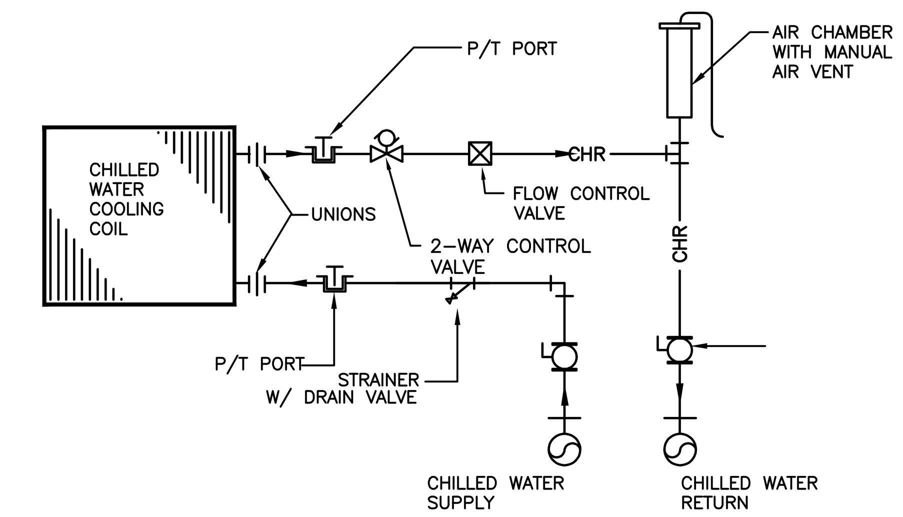
2 / M6.3 ROOF MOUNT EXH FAN – NEW
DETAIL



12 / M6.3 CONDENSING UNIT ON CURB
SCALE: DETAIL

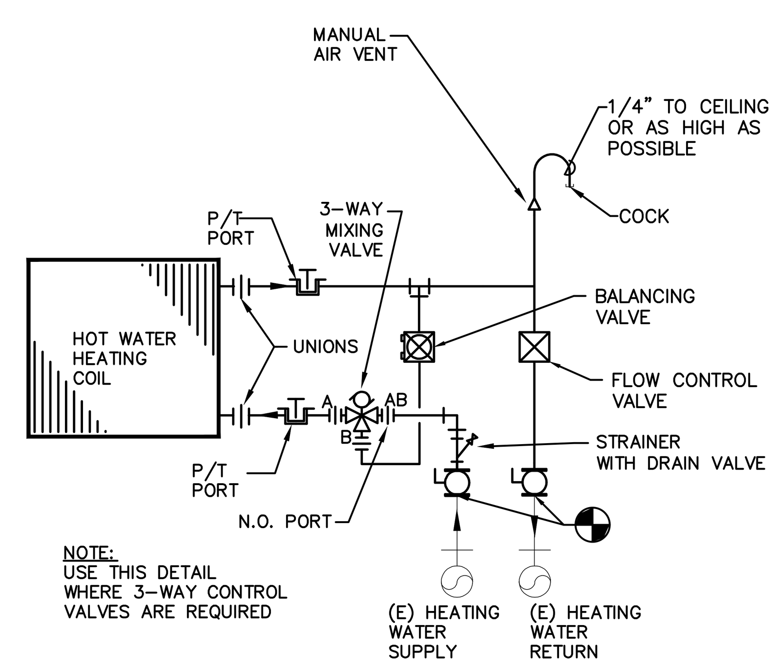


7 / M6.3 SEISMIC PIPE SUPPORT
SCALE: DETAIL



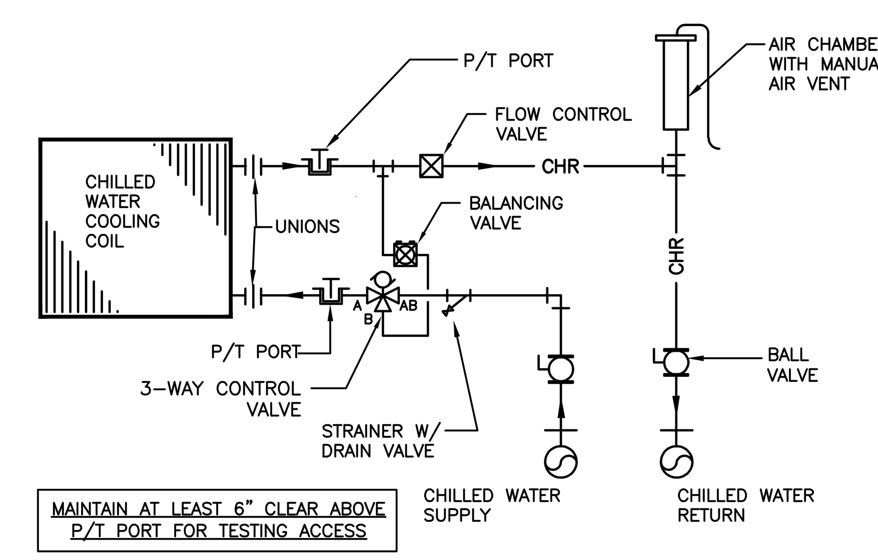
2-WAY COIL

3 / M6.3 2-WAY CHILLED WATER COIL
SCALE: DETAIL

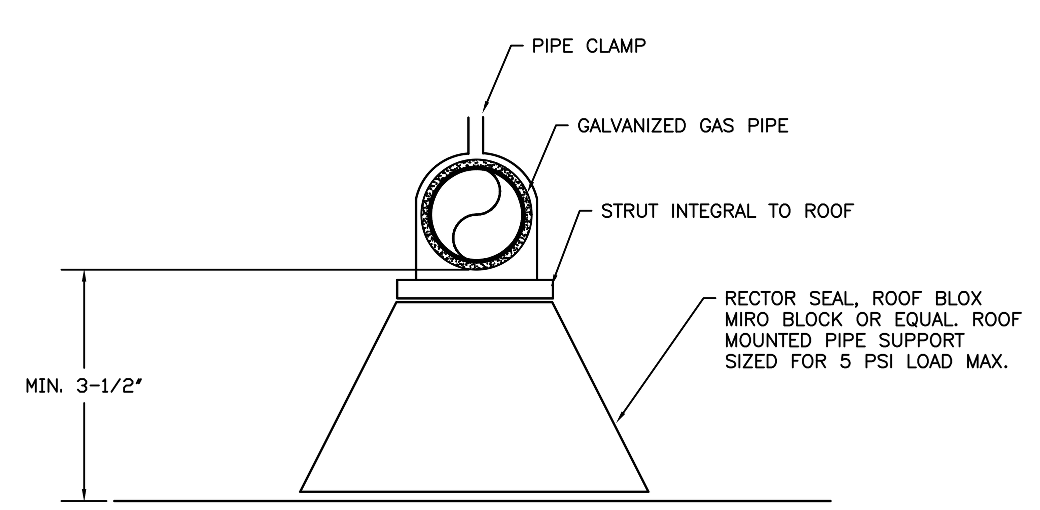


3-WAY MIXING VALVE

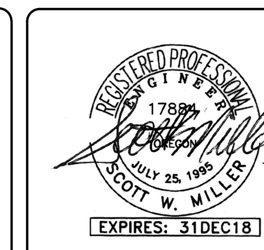
10 / M6.3 COIL PIPING DETAIL
SCALE: DETAIL



4 / M6.3 3-WAY CHILLED WATER COIL
SCALE: DETAIL



13 / M6.3 ROOF MOUNTED GAS PIPE
SCALE: DETAIL



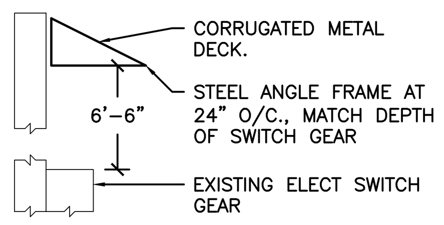
Date:	04/24/19
Proj No:	9652
Drawn By:	LKF
Chkd By:	SWM
DSGN By:	SWM
Acad File:	9652_HIGHLAND_M63

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON
MECHANICAL DETAILS

CONSTRUCTION DOCUMENTS

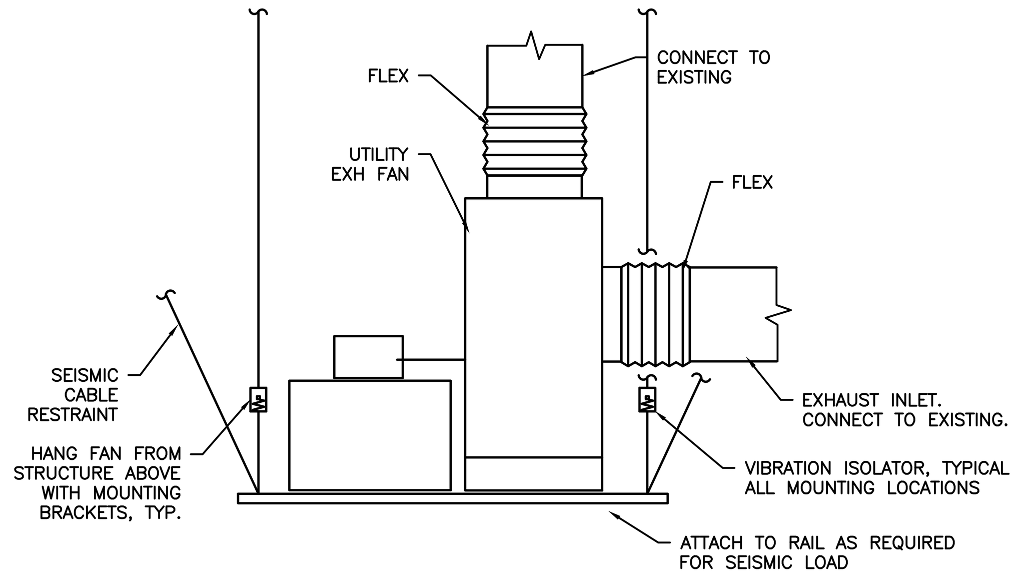
MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

SHEET
M6.3

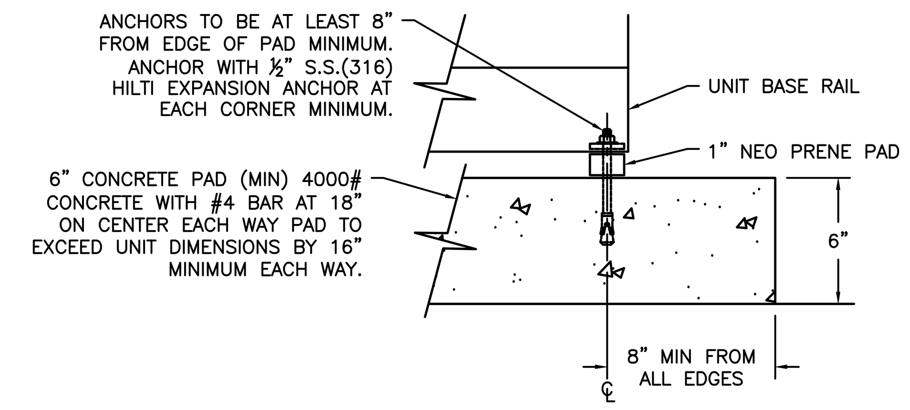


BOILER ROOM WALL

8 M6.4 ROOF ABOVE SWITCH GEAR
SCALE: DETAIL



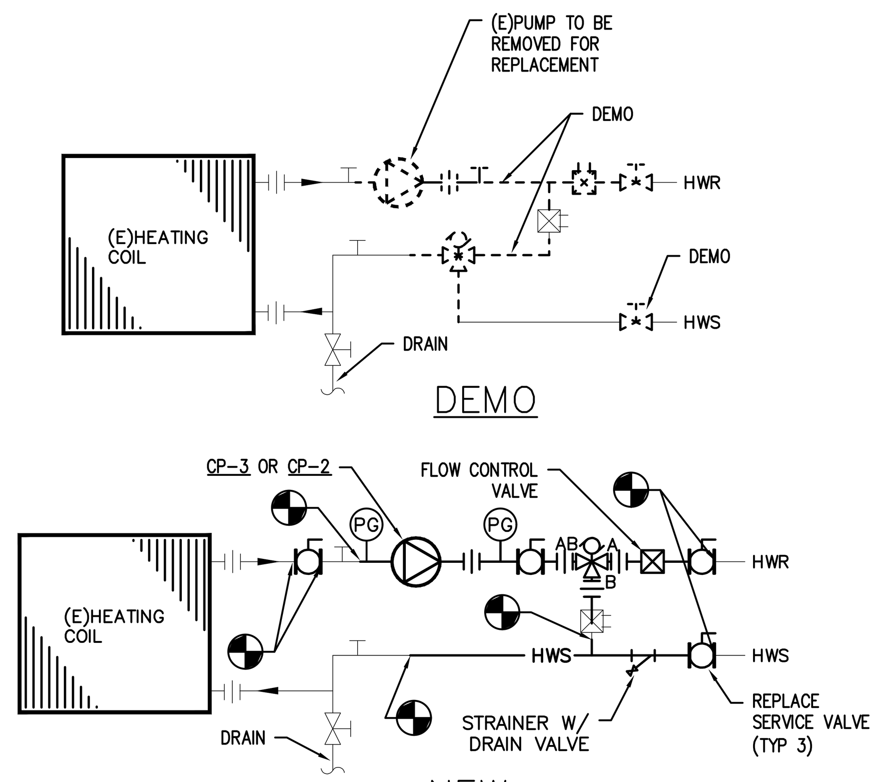
10 M6.4 UTILITY EXHAUST FAN EF-1
NTS



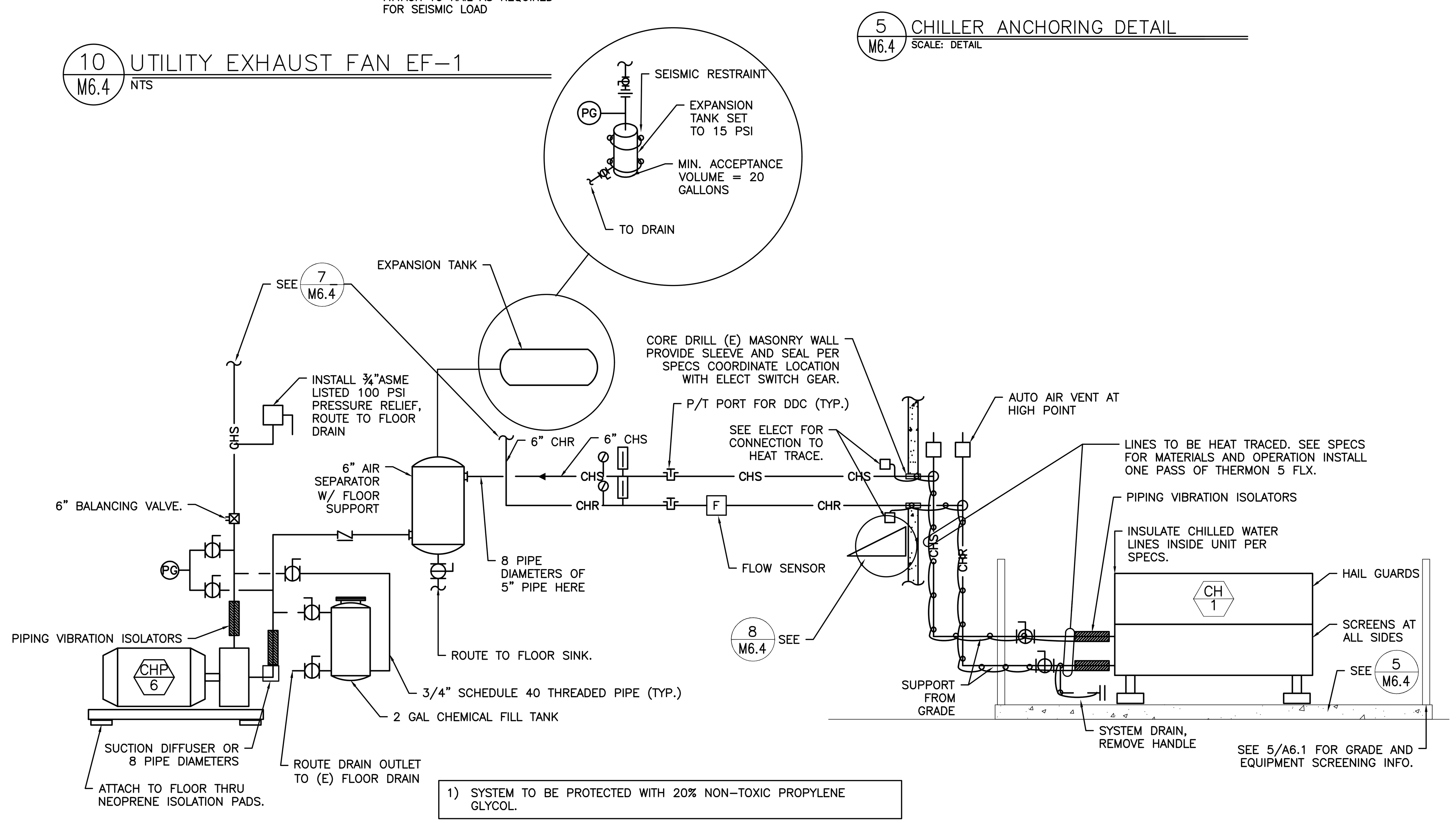
5 M6.4 CHILLER ANCHORING DETAIL
SCALE: DETAIL

NOT USED

1 M6.4 UNIT VENTILATOR PIPING
SCALE: DETAIL

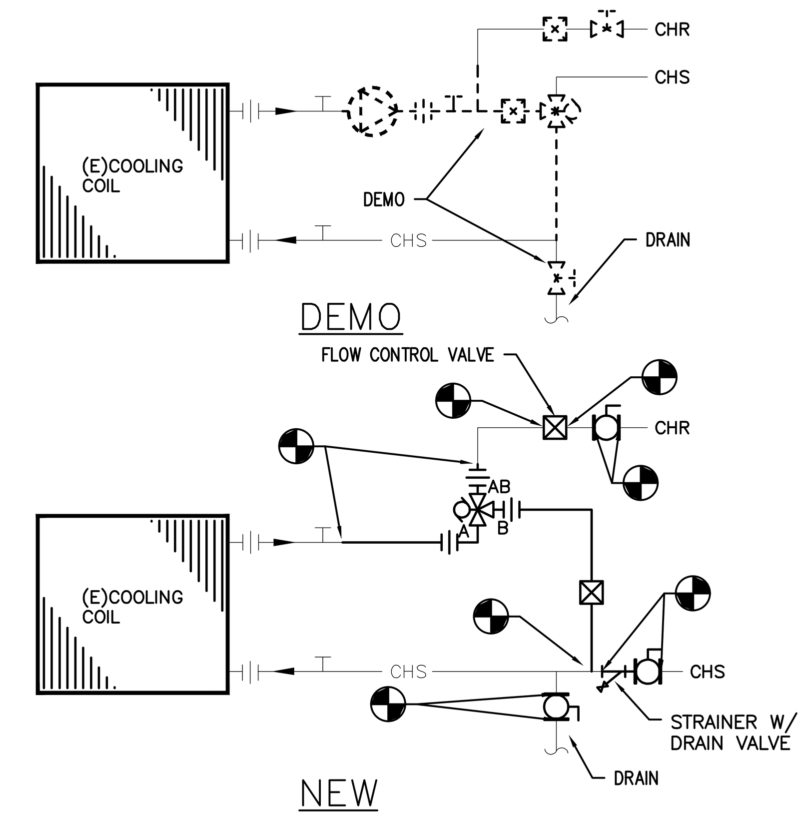


9 M6.4 HEATING COIL PIPING DETAIL
SCALE: DETAIL

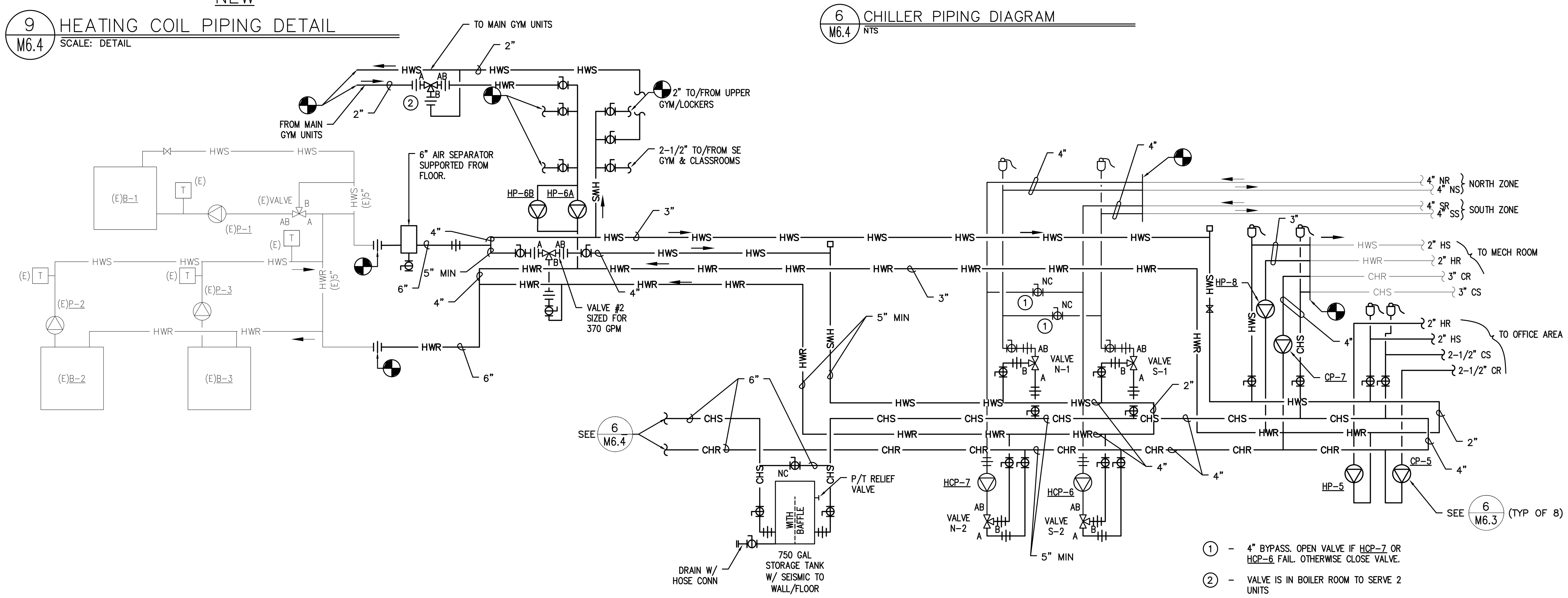


1) SYSTEM TO BE PROTECTED WITH 20% NON-TOXIC PROPYLENE GLYCOL.

6 M6.4 CHILLER PIPING DIAGRAM
NTS



2 M6.4 CHILLED COIL PIPING DETAIL
SCALE: DETAIL

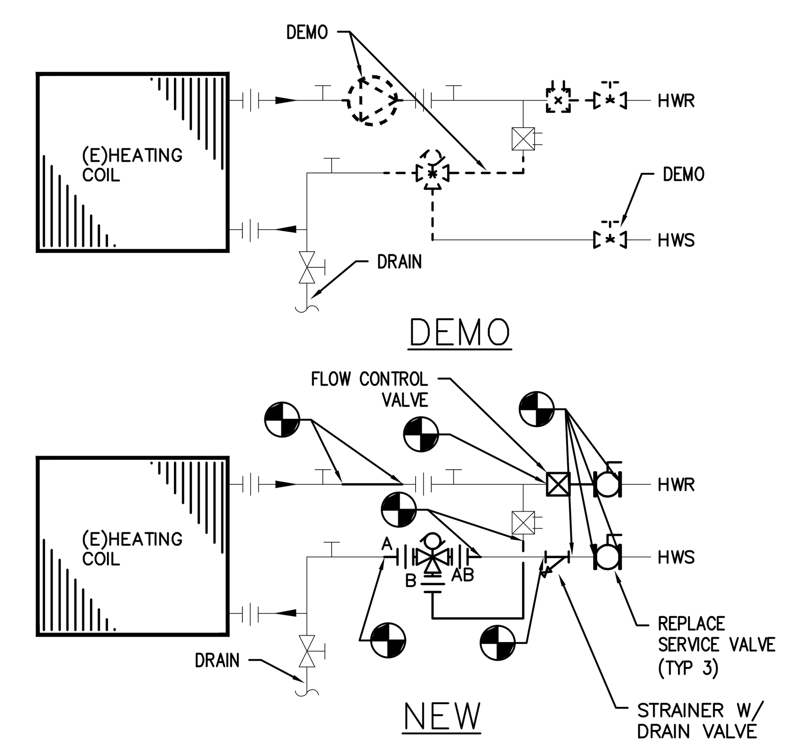


① - 4" BYPASS. OPEN VALVE IF HCP-7 OR HCP-6 FAIL. OTHERWISE CLOSE VALVE.

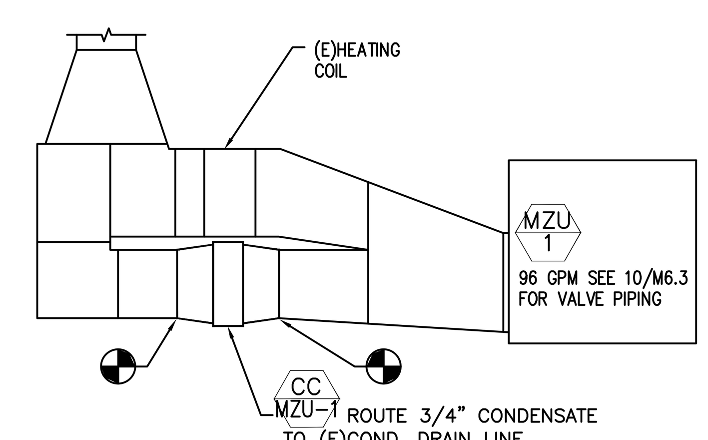
② - VALVE IS IN BOILER ROOM TO SERVE 2 UNITS

NOTE: PUMPS 6A & 6B ARE REDUNDANT

7 M6.4 BOILER ROOM PIPING DIAGRAM
NTS



3 M6.4 HEATING COIL PIPING DETAIL
SCALE: DETAIL



4 M6.4 MZU DETAIL
SCALE: DETAIL

MFIA INC. Consulting Engineers 2007 S.E. Ash St. Portland, OR 97214 PHN: (503) 234-0548 FAX: (503) 234-0677 WWW.MFIA-ENG.COM
CONTACT: Laura Froelke

CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER 17899 OREGON SCOTT W. MILLER
EXPIRES: 31DEC18

Date:	04/24/19
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Acad File:	9652_HIGHLAND_M64

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SHEET
M6.4

ELECTRICAL SYMBOL LIST

LIGHTING SYMBOLS

- LIGHT FIXTURE, RECESSED
- LIGHT FIXTURE, RECESSED – EMERGENCY
- LIGHT FIXTURE, SURFACE MOUNT
- LIGHT FIXTURE, SURFACE MOUNT – EMERGENCY
- LIGHT FIXTURE, STRIP
- LIGHT FIXTURE, STRIP – EMERGENCY
- DOWNLIGHT FIXTURE, RECESSED
- DOWNLIGHT FIXTURE, RECESSED, WALLWASH
- DOWNLIGHT FIXTURE, RECESSED – EMERGENCY
- LIGHT FIXTURE, WALL MOUNT
- LIGHT FIXTURE, CEILING MOUNT
- RECESSED LIGHT FIXTURE, WALL MOUNT
- LIGHT FIXTURE, WALL MOUNT
- LIGHT FIXTURE, WALL SCONCE
- LIGHT FIXTURE, TRACK W/ HEADS AS SHOWN ON PLAN
- EXIT SIGN, UNIVERSAL MOUNT, W/ DIRECTIONAL ARROW
- EXIT SIGN, WALL MOUNT, +8'–0" A.F.F.
- EMERGENCY LIGHT W/ BATTERY PACK, +8'–0" A.F.F.
- FLOOD LIGHT
- AREA LUMINAIRE
- AREA LUMINAIRE W/STANDBY LAMP
- AREA LUMINAIRE, WALL MOUNT
- AREA LUMINAIRE, POLE MOUNT

SWITCH SYMBOLS

- SWITCH, SINGLE–POLE +48" A.F.F.
- SWITCH, DOUBLE–POLE +48" A.F.F.
- SWITCH, 3–WAY +48" A.F.F.
- SWITCH, 4–WAY +48" A.F.F.
- SWITCH, MOMENTARY +48" A.F.F.
- SWITCH, DIMMER +48" A.F.F.
- SWITCH, SPST, W/PILOT LIGHT +48" A.F.F.
- SWITCH, 3–WAY, W/PILOT LIGHT +48" A.F.F.
- SWITCH, KEY–OPERATED +48" A.F.F.
- SWITCH, TIMED +48" A.F.F.
- SWITCH, LOW–VOLTAGE/DIGITAL +48" A.F.F.
- SWITCH, OCCUPANCY SENSOR +48" A.F.F.
- PHOTOCELL CONTROL
- OCCUPANCY SENSOR – CEILING MTD

WIRING SYMBOLS

2A–9, #10
- PANEL & CIRCUIT NUMBER
- HOMERUN TO PANEL
- CONDUCTOR SIZE (IF OTHER THAN #12)
- PHASE CONDUCTOR
- NEUTRAL CONDUCTOR
- GROUND CONDUCTOR
- CONCEALED CONDUIT

1–1/4"C
- CONDUIT SIZE
- CONDUIT (UNDER SLAB OR FLOOR)
- FLEXIBLE CONNECTION
- CONDUIT, STUBBED & CAPPED

POWER SYMBOLS

- RECEPTACLE, SINGLE +18" A.F.F. (U.O.N)
- RECEPTACLE, DUPLEX +18" A.F.F.
- RECEPTACLE, QUAD +18" A.F.F.
- RECEPTACLE, DUPLEX +6" ABV COUNTER
- RECEPTACLE, DUPLEX +18" A.F.F. (ONE OUTLET SWITCHED)
- RECEPTACLE, DUPLEX +18" A.F.F. (BOTH OUTLETS SWITCHED)
- RECEPTACLE, DUPLEX, PEDESTAL MOUNT
- RECEPTACLE, DUPLEX, FLUSH FLOOR MOUNT
- OR: RECEPTACLE, SPECIAL (COORDINATE WITH EQUIPMENT SERVED)
- 12": PLUGMOLD RACEWAY LENGTH & OUTLET CENTERS AS INDICATED ON PLAN
- POWER POLE
- MAGNETIC MOTOR STARTER
- MAGNETIC CONTACTOR
- RELAY
- TIME CLOCK CONTROL
- PUSHBUTTON STATION
- JUNCTION BOX
- JUNCTION BOX, EMERGENCY CIRCUIT
- THERMOSTAT
- TRANSFORMER
- DISCONNECT, NON–FUSED
- DISCONNECT, FUSED
- ELECTRICAL CONNECTION
- ELECTRICAL CONNECTION, SINGLE MOTOR
- ELECTRICAL CONNECTION, MULTI–MOTOR
- EXISTING RECEPTACLE
- ELECTRICAL DISTRIBUTION PANEL, RECESSED
- ELECTRICAL DISTRIBUTION PANEL, SURFACE
- MISCELLANEOUS PANEL, RECESSED
- MISCELLANEOUS PANEL, SURFACE
- FLUSH FLOOR BOX (W/ DEVICES AS SHOWN ON PLAN)
- 200W: ELECTRIC BASEBOARD HEATER (WATTAGE NOTED)

SIGNAL SYMBOLS

- TELEPHONE OUTLET +18" A.F.F.
- DATA OUTLET +18" A.F.F.
- DATA/TELEPHONE OUTLET +18" A.F.F.
- TELEPHONE OUTLET, PEDESTAL MOUNT
- CLOCK
- SIGNAL BELL
- SIGNAL BUZZER
- SIGNAL HORN
- VISUAL ALARM SIGNAL (COLOR AS INDICATED ON PLAN)
- P.A. SPEAKER
- P.A. CALL SWITCH
- CATV OUTLET (LOCATE AS SHOWN ON PLANS)
- CCTV CAMERA
- INTRUSION SENSOR

FIRE ALARM SYMBOLS

- FIRE ALARM MANUAL PULL STATION, +48" A.F.F.
- MAGNETIC DOOR HOLDER
- SMOKE DETECTOR, DUCT, IONIZATION TYPE W/SAMPLING TUBE
- SMOKE DETECTOR, DUCT, PHOTO TYPE W/SAMPLING TUBE
- SMOKE DETECTOR, IONIZATION TYPE
- SMOKE DETECTOR, PHOTO TYPE
- HEAT DETECTOR, RATE–OF–RISE OR FIXED TEMP.
- FIRE MAIN FLOW DETECTION SWITCH
- FIRE MAIN TAMPER DETECTION SWITCH
- FIRE ALARM BELL, +80" A.F.F., U.O.N.
- FIRE ALARM HORN, +80" A.F.F.
- FIRE ALARM HORN/STROBE, +80" TO 96" A.F.F.
- OR: FIRE ALARM STROBE, +80" TO 96" A.F.F.
- IM: FIRE ALARM INPUT MODULE
- OM: FIRE ALARM OUTPUT MODULE
- FACP: FIRE ALARM CONTROL PANEL
- FARA: FIRE ALARM REMOTE ANNUNCIATOR
- FIRE ALARM STAND ALONE SMOKE DETECTOR
- CO: CARBON MONOXIDE ALARM

ONE–LINE DIAGRAM SYMBOLS

- PANEL 'A': ELECTRICAL DISTRIBUTION PANELBOARD (MLO)
- PANEL A: ELECTRICAL DISTRIBUTION PANELBOARD (MCB)
- SUB–FEED CIRCUIT BREAKER
- 200/3: CIRCUIT BREAKER (TRIP RATING & POLES AS INDICATED ON PLAN)
- MAIN SWITCH (RATING & POLES AS INDICATED ON PLAN)
- 200/3: FUSE (RATING & CLASS AS INDICATED ON PLAN)
- 200/3: TRANSFER SWITCH (MANUAL OR AUTOMATIC)
- 400/3, GEN: GENERATOR (RATING AS INDICATED ON PLAN)
- 480V, T1, 75KVA, 3Ø, 208/120V: TRANSFORMER (RATING AS INDICATED ON PLAN)
- 200A RK1: FUSE (RATING & CLASS AS INDICATED ON PLAN)
- GROUND #2/0 CU: GROUND SYSTEM (SIZE AS INDICATED ON PLAN)
- WATER PIPE GROUND ELECTRODE
- SURGE PROTECTION DEVICE (SPD)
- M: UTILITY METER & METER BASE
- VERT: UTILITY METER CURRENT TRANSFORMER
- X OR X: FEEDER NO. (SEE FEEDER SCHEDULE)
- MOTOR STARTER
- 'NEMA' SIZE (AS INDICATED ON PLAN)
- '1', OL: STARTER TYPE (AS INDICATED ON PLAN)
- 15, NAME 1: MOTOR (HORSEPOWER AS INDICATED ON PLAN)
- V: VOLTMETER (SCALE AS INDICATED ON PLANS)
- A: AMMETER (SCALE AS INDICATED ON PLANS)
- W: WATTMETER (SCALE AS INDICATED ON PLANS)
- CURRENT TRANSFORMER (RATING AS INDICATED ON PLANS)
- POTENTIAL TRANSFORMER (RATING AS INDICATED ON PLANS)
- X: INSTRUMENT SWITCH (TYPE AS INDICATED ON PLANS)

ABBREVIATIONS

'A', 'AE'	LIGHT FIXTURE TYPE (SEE FIXTURE LIST)
A.F.F.	ABOVE FINISHED FLOOR
A.T.S.	TRANSFER SWITCH, AUTOMATIC
C	CONDUIT
C.O.	CONDUIT ONLY
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
C.T.	CURRENT TRANSFORMER
(E)	EXISTING
E.L.	EMERGENCY LIGHT
E.L.C.	EXTERIOR LIGHTING CONTROL
FACP	FIRE ALARM CONTROL PANEL
G.F.I.	GROUND FAULT INTERRUPTER
GND	GROUND
H.I.D.	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HTR	HEATER
I.G.	ISOLATED GROUND
I R	INFRARED
JB	JUNCTION BOX
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MLO	MAIN LUGS ONLY
M.T.S.	TRANSFER SWITCH, MANUAL
(N)	NEW
N.I.C.	NOT IN CONTRACT
N.L.	NIGHT LIGHT
OL	OVERLOAD
O.L.C.	OFFICE LIGHTING CONTROL
P	POLE
P.A.	PUBLIC ADDRESS
PH	PHASE
PRI	PRIMARY
RTU	REMOTE TELEMETRY UNIT
SEC	SECONDARY
T.R.	TAMPER RESISTANT
U.G.	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
W.G.	WIRE GUARD
W.P.	WEATHER–PROOF
W.R.	WEATHER RESISTANT
W.T.	WATERTIGHT
X.P.	EXPLOSION PROOF

NOTATIONS

- X: DRAWING NOTE
- DETAIL REFERENCE: TOP=DETAIL NO., BOTTOM=SHEET NO.
- X: MECHANICAL EQUIPMENT MARK NO. (SEE EQUIPMENT SCHEDULE)
- X: EQUIPMENT NO. (SEE EQUIPMENT SCHEDULE)
- X: EQUIPMENT NO. (SEE EQUIPMENT SCHEDULE)
- X: FEEDER NO. (SEE FEEDER SCHEDULE)
- X/X: FIXTURE REFERENCE: TOP=TYPE, BOTTOM=LAMP QTY & WATTS

NOTES:

1. SOME OF THE SYMBOLS AND ABBREVIATIONS ON THIS LIST MAY NOT APPLY TO THIS PROJECT.
2. MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE UNLESS OTHERWISE NOTED.
3. MOUNTING HEIGHTS INDICATED SHALL BE USED UNLESS OTHERWISE NOTED ON THE PLANS.

REGISTERED PROFESSIONAL ENGINEER 16,597 OREGON JULY 20, 1993 ROBERT L. CONNELL
EXPIRES 12-31-2019

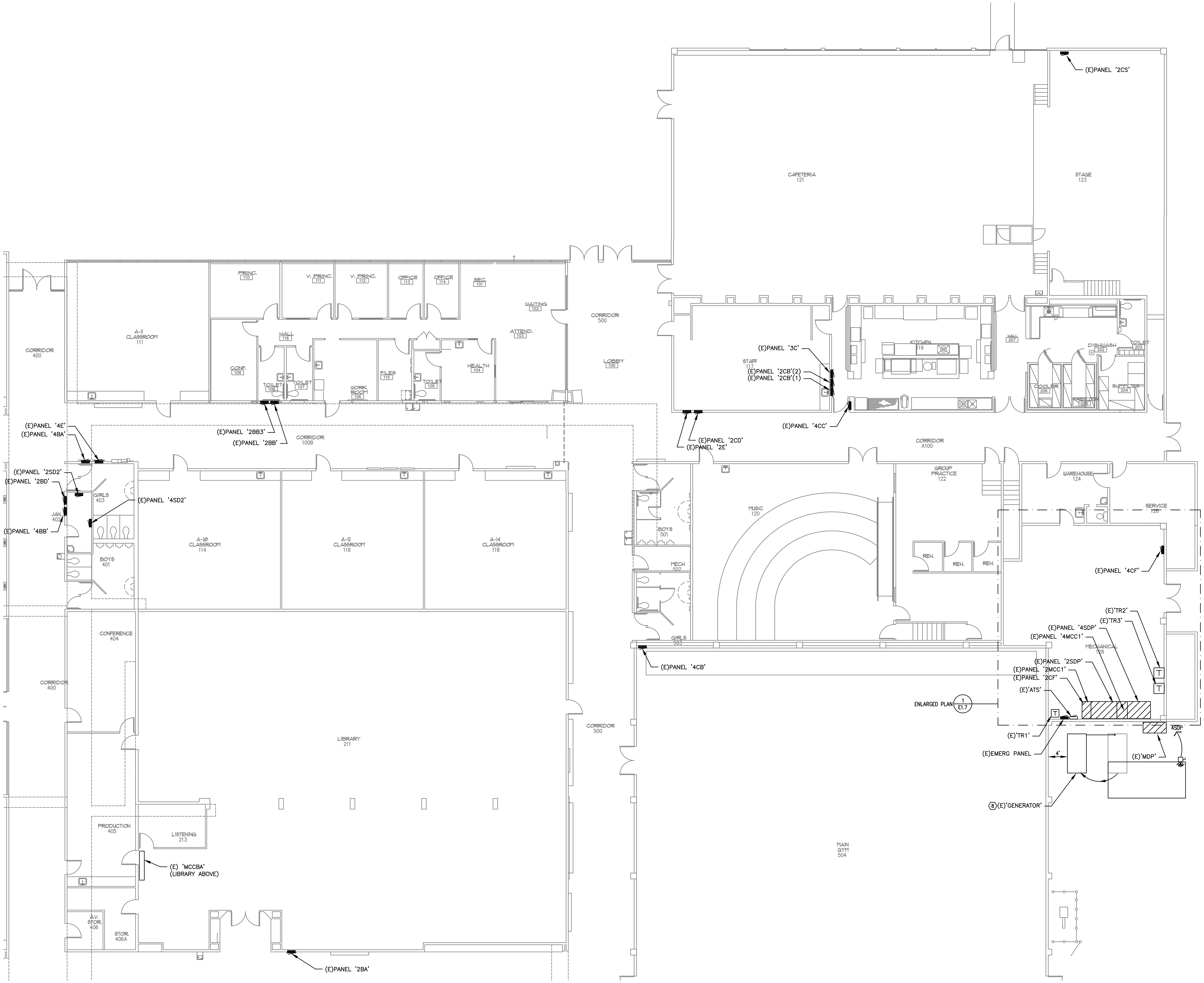
Date: 04–24–2019
Proj. No: 9562
Drawn By: PRS
Chkd By: RLC
DSGN By: RLC
Acad File: 9652_HIGHLAND_E

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON
ELECTRICAL SYMBOLS

CONSTRUCTION DOCUMENTS

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
E1.0



1 E1.1 ELECTRICAL PLAN – SECTOR 'A'
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

A. PROVIDE NEW LABELS IN EACH PANEL SERVING MECHANICAL EQUIPMENT THAT IS RECEIVING NEW EQUIPMENT TAGS PER THE MECHANICAL DRAWINGS.

B. DISABLE ELECTRICAL CIRCUITS BY DISCONNECTION OF BOTH ENDS AND MAKE SAFE WITH WIRE NUTS OR OTHER APPROVED METHODS. REMOVE CONDUIT TO CONCEALED LOCATIONS. REMOVE WIRE TO PANEL OR J-BOX IF CIRCUIT IS USED FOR OTHER DEVICES.

KEYED NOTES:

1. DISCONNECT ELECTRICAL CONNECTION TO UNIT VENTILATOR OR FAN COIL UNIT. RECONNECT TO NEW UNIT THROUGH CONTROLS PROVIDED BY MECHANICAL CONTRACTOR. PROVIDE ADDITIONAL CONDUIT AND CONDUCTORS TO MATCH EXISTING AND ACCESSORIES FOR A COMPLETE AND OPERABLE SYSTEM. REPLACE EXISTING CIRCUIT BREAKER SERVING EXISTING UNIT VENTILATOR WITH A 15A 1P AND CONNECT TO EXISTING CONDUCTORS.
2. DISCONNECT ELECTRICAL CONNECTION TO ALL MECHANICAL EQUIPMENT SCHEDULED FOR DEMOLITION. REMOVE ALL CONDUIT AND CONDUCTORS BACK TO SOURCE. LABEL CIRCUIT BREAKERS OR MCC STARTERS AS SPARE.
3. DISCONNECT AND RECONNECT ELECTRICAL CONNECTION AS REQUIRED TO ALLOW MECHANICAL WORK. COORDINATE WITH MECHANICAL CONTRACTOR.
4. DISCONNECT EXISTING MOTOR SCHEDULES FOR REPLACEMENT AND CONNECT NEW MOTOR. COORDINATE WITH MECHANICAL.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. DISCONNECT AND RELOCATE EXISTING GENERATOR. EXTEND FEEDER, TRANSFER CONTROLS, HEATER CIRCUITING, ETC. ABOVE GROUND TO NEW LOCATION.
9. DISCONNECT ELECTRICAL CONNECTION SERVING MECHANICAL UNIT MOTOR. RECONNECT ELECTRICAL CONNECTION THRU NEW CONTACTOR/STARTER SUPPLIED BY MECHANICAL CONTRACTOR. PROVIDE CONDUIT, CONDUCTORS AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE WITH MECHANICAL CONTRACTOR.

CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER 16,597 OREGON JULY 20, 1993 ROBERT L. CONNELL
EXPIRES 12-31-2019

Date:	04-24-2019
Proj No:	9562
Drawn By:	PRS
Chkd By:	RLC
DSGN By:	RLC
Acad File:	9652_HIGHLAND_E

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON
ELECTRICAL PLAN – SECTOR 'A'

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

B A C D C

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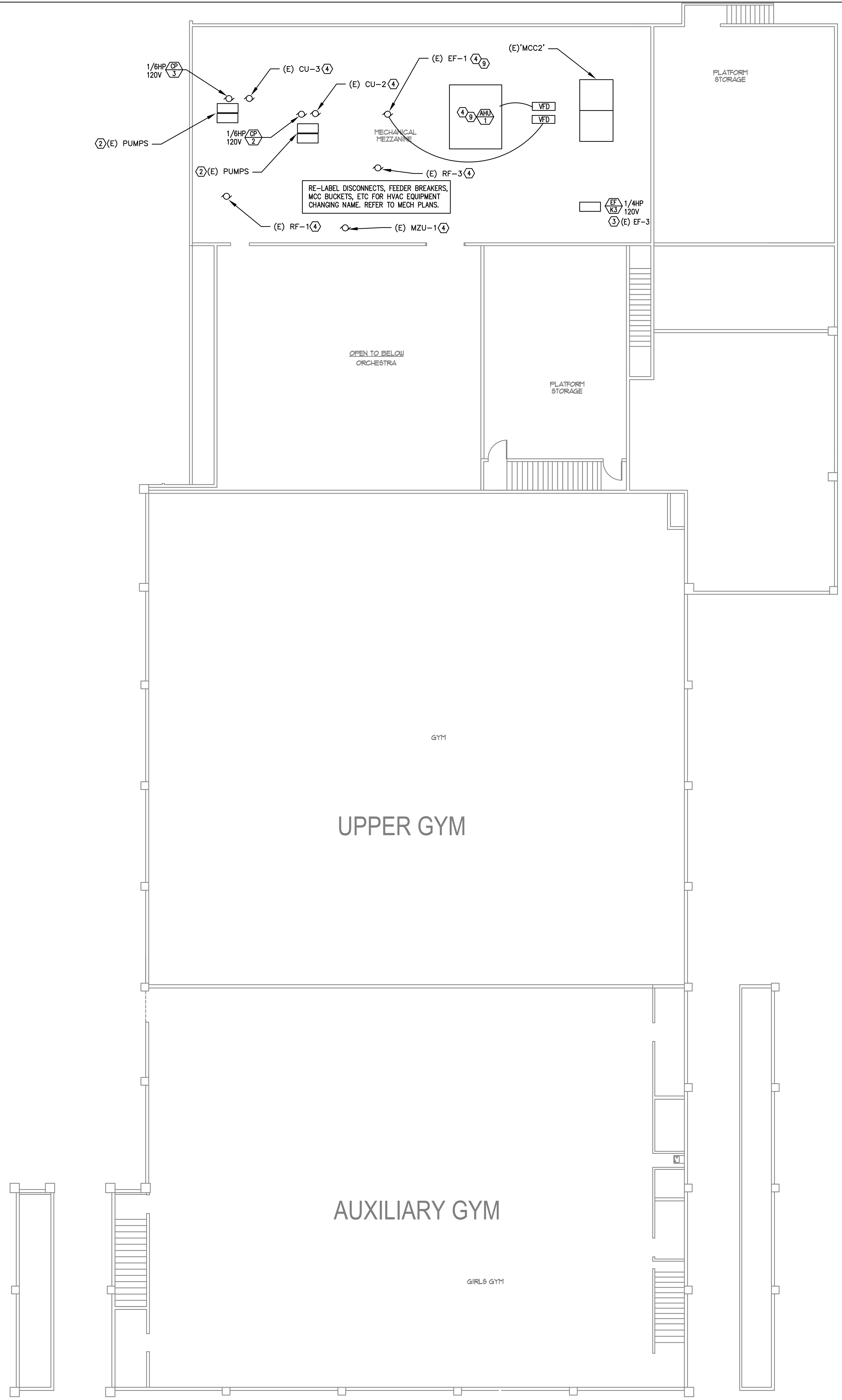


1 E1.5 ELECTRICAL PLAN UPPER – SECTORS 'A' & 'C'
SCALE: 1/8" = 1'-0"

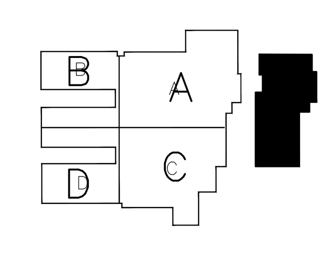
GENERAL NOTES:

A. PROVIDE NEW LABELS IN EACH PANEL SERVING MECHANICAL EQUIPMENT THAT IS RECEIVING NEW EQUIPMENT TAGS PER THE MECHANICAL DRAWINGS.

B. DISABLE ELECTRICAL CIRCUITS BY DISCONNECTION OF BOTH ENDS AND MAKE SAFE WITH WIRE NUTS OR OTHER APPROVED METHODS. REMOVE CONDUIT TO CONCEALED LOCATIONS. REMOVE WIRE TO PANEL OR J–BOX IF CIRCUIT IS USED FOR OTHER DEVICES.

KEYED NOTES:

1. DISCONNECT ELECTRICAL CONNECTION TO UNIT VENTILATOR OR FAN COIL UNIT. RECONNECT TO NEW UNIT THROUGH CONTROLS PROVIDED BY MECHANICAL CONTRACTOR. PROVIDE ADDITIONAL CONDUIT AND CONDUCTORS TO MATCH EXISTING AND ACCESSORIES FOR A COMPLETE AND OPERABLE SYSTEM. REPLACE EXISTING CIRCUIT BREAKER SERVING EXISTING UNIT VENTILATOR WITH A 15A 1P AND CONNECT TO EXISTING CONDUCTORS.
2. DISCONNECT ELECTRICAL CONNECTION TO ALL MECHANICAL EQUIPMENT SCHEDULED FOR DEMOLITION. REMOVE ALL CONDUIT AND CONDUCTORS BACK TO SOURCE. LABEL CIRCUIT BREAKERS OR MCC STARTERS AS SPARE.
3. DISCONNECT AND RECONNECT ELECTRICAL CONNECTION AS REQUIRED TO ALLOW MECHANICAL WORK. COORDINATE WITH MECHANICAL CONTRACTOR.
4. DISCONNECT EXISTING MOTOR SCHEDULES FOR REPLACEMENT AND CONNECT NEW MOTOR. COORDINATE WITH MECHANICAL.
5. NOT USED.
6. NOT USED.
7. NOT USED.
8. DISCONNECT AND RELOCATE EXISTING GENERATOR. EXTEND FEEDER, TRANSFER CONTROLS, HEATER CIRCUITING, ETC. ABOVE GROUND TO NEW LOCATION.
9. DISCONNECT ELECTRICAL CONNECTION SERVING MECHANICAL UNIT MOTOR. RECONNECT ELECTRICAL CONNECTION THRU NEW CONTACTOR/STARTER SUPPLIED BY MECHANICAL CONTRACTOR. PROVIDE CONDUIT, CONDUCTORS AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE WITH MECHANICAL CONTRACTOR.



CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER 16,597 OREGON JULY 20, 1993 ROBERT L. CONNELL
EXPIRES 12-31-2019

Date:	04–24–2019
Proj No:	9562
Drawn By:	PRS
Chkd By:	RLC
DSGN By:	RLC
Acad File:	9652_HIGHLAND_E

HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON
ELECTRICAL PLAN UPPER – SECTORS 'A' & 'C'

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234–0548
FAX: (503) 234–0677
WWW.MFIA–ENG.COM

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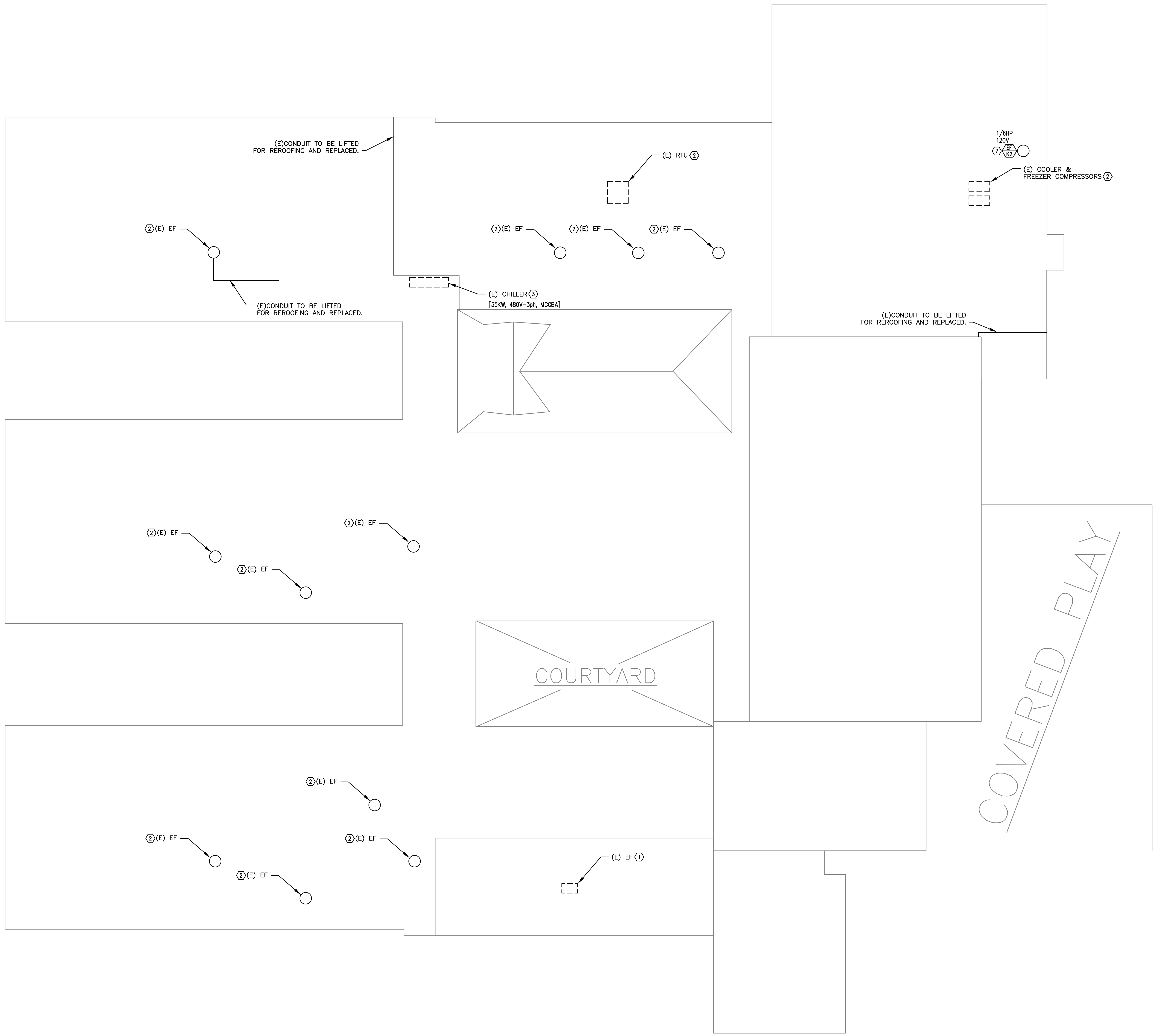

1 E1.6 ELECTRICAL PLAN – ROOF
SCALE: 1/16" = 1'-0"

GENERAL NOTES:

A. PROVIDE NEW LABELS IN EACH PANEL SERVING MECHANICAL EQUIPMENT THAT IS RECEIVING NEW EQUIPMENT TAGS PER THE MECHANICAL DRAWINGS.

B. DISABLE ELECTRICAL CIRCUITS BY DISCONNECTION OF BOTH ENDS AND MAKE SAFE WITH WIRE NUTS OR OTHER APPROVED METHODS. REMOVE CONDUIT TO CONCEALED LOCATIONS. REMOVE WIRE TO PANEL OR J–BOX IF CIRCUIT IS USED FOR OTHER DEVICES.

KEYED NOTES:

1. REMOVE ELECTRICAL CONNECTION TO EXISTING HVAC BACK TO SOURCE. REMOVE ALL ASSOCIATED CONDUIT, CONDUCTORS AND STARTER. LABEL CIRCUIT BREAKER OR MCC BUCKET AS SPARE.
2. DISCONNECT ELECTRICAL CONNECTION TO EXISTING UNIT FOR RE–ROOFING. RECONNECT UNIT AFTER REINSTALLATION.
3. REMOVE ELECTRICAL CONNECTION TO CHILLER BACK TO SOURCE. REMOVE ALL ASSOCIATED CONDUIT AND CONDUCTORS. RELABEL MCC BUCKET AS SPARE.
4. NOT USED.
5. NOT USED.
6. DISCONNECT AND RECONNECT ELECTRICAL CONNECTION AS REQUIRED TO ALLOW MECHANICAL WORK. COORDINATE WITH MECHANICAL CONTRACTOR.
7. DISCONNECT ELECTRICAL CONNECTION TO EXISTING FAN SCHEDULED FOR DEMOLITION. EXTEND TO NEW FAN.
8. PROVIDE NEW CIRCUIT BREAKER IN EXISTING PANEL AND CONNECT.

CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER
16,597
OREGON
JULY 20, 1993
ROBERT L. CONNELL
EXPIRES 12-31-2019

Date:	04–24–2019
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HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

ELECTRICAL PLAN – ROOF

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234–0548
FAX: (503) 234–0677
WWW.MFIA–ENG.COM

SHEET
E1.6

GENERAL NOTES:

A. PROVIDE NEW LABELS IN EACH PANEL SERVING MECHANICAL EQUIPMENT THAT IS RECEIVING NEW EQUIPMENT TAGS PER THE MECHANICAL DRAWINGS.

B. DISABLE ELECTRICAL CIRCUITS BY DISCONNECTION OF BOTH ENDS AND MAKE SAFE WITH WIRE NUTS OR OTHER APPROVED METHODS. REMOVE CONDUIT TO CONCEALED LOCATIONS. REMOVE WIRE TO PANEL OR J–BOX IF CIRCUIT IS USED FOR OTHER DEVICES.

KEYED NOTES:

1. DISCONNECT ELECTRICAL CONNECTION TO ALL MECHANICAL EQUIPMENT SCHEDULED FOR DEMOLITION. REMOVE ALL CONDUIT AND CONDUCTORS BACK TO SOURCE. LABEL CIRCUIT BREAKERS OR MCC STARTERS AS SPARE.

2. PROVIDE 5W/FT FREEZE PROTECTION CABLE WITHIN THE INSULATION OF THE CHILLED WATER SUPPLY AND RETURN LINES BETWEEN THE CHILLER AND THE BUILDING. APPROXIMATELY 40' PER LINE. SELF–REGULATING TRACING CABLE WITH BRAIDED TINNED COPPER UNDER TPR OUTER JACKET AND ALL NECESSARY ACCESSORIES INCLUDING CONTROLS, BULB–STAT WITH 3' CAPILLARY, JUNCTION/POWER CONNECTION KIT, POWER TERMINATION KIT, END SEAL CAPS, ETC. CHROMALOX SRF EQUIVALENT RAYCHEM, THERMON OR APPROVED SUBSTITUTE.

3. CONNECT HEAT TRACE PANEL. VERIFY REQUIREMENTS WITH SUPPLIER. 277V.

4. PROVIDE NEW DEDICATED ELECTRICAL CONNECTION FOR MAIN BAS CONTROLS PANEL. COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND REQUIREMENTS. FIELD LOCATE CLOSEST AVAILABLE SOURCE AND FIELD VERIFY AVAILABLE CAPACITY. PROVIDE CONDUIT, CONDUCTORS AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.

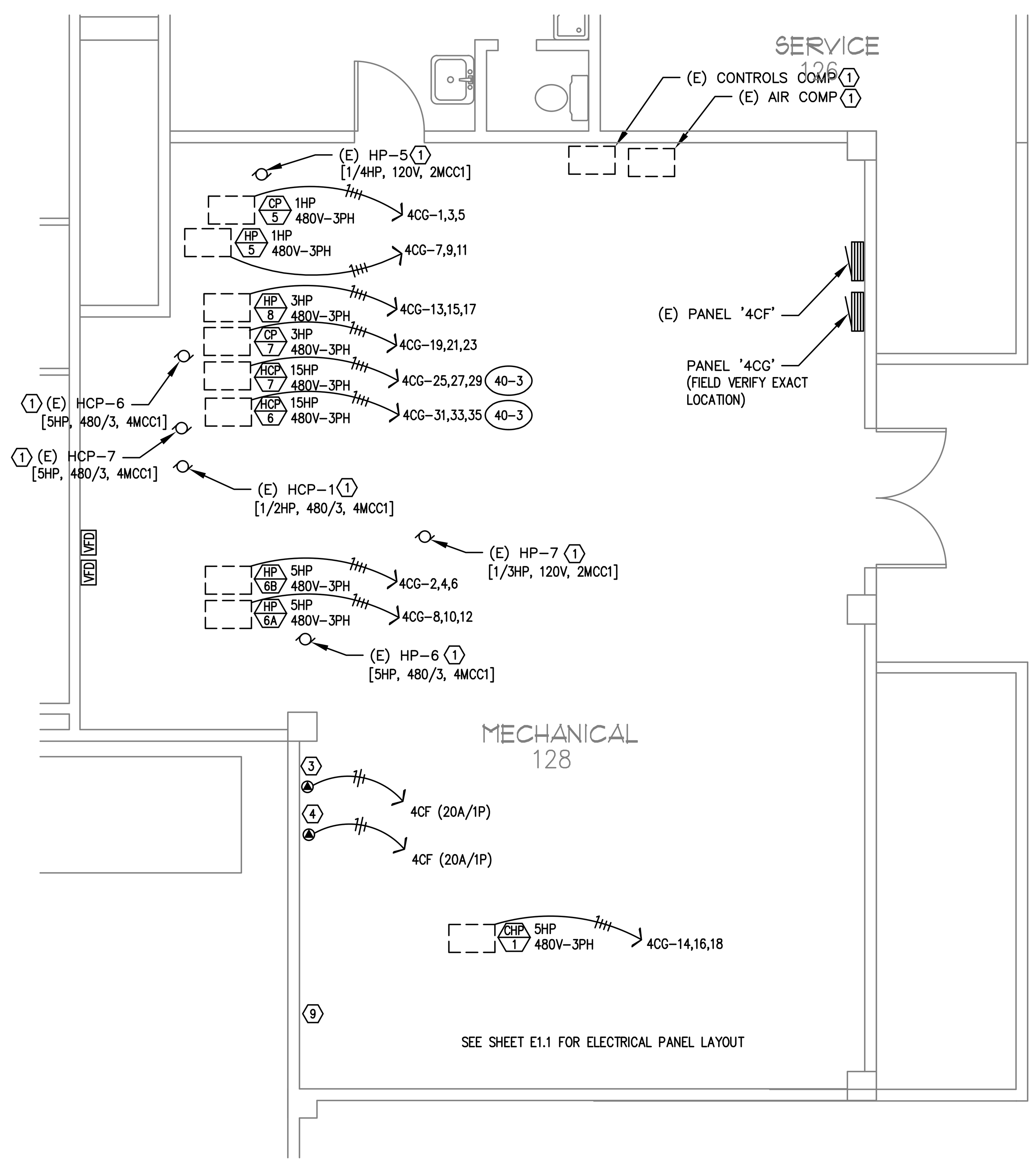
5. PROVIDE NEW CIRCUIT BREAKER IN EXISTING PANEL AND CONNECT.

6. NOT USED.

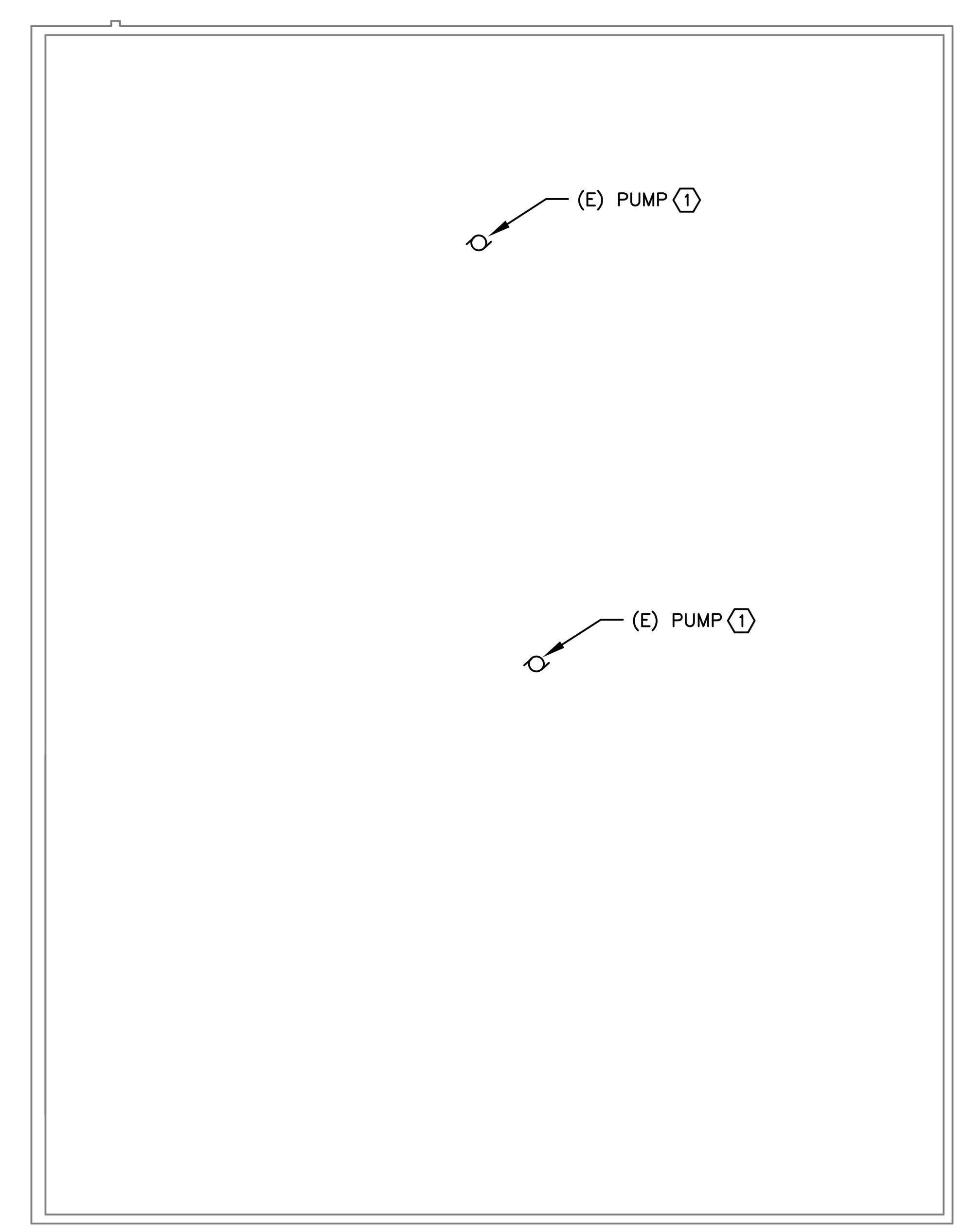
7. NOT USED.

8. DISCONNECT ELECTRICAL CONNECTION SERVING MECHANICAL UNIT MOTOR. RECONNECT ELECTRICAL CONNECTION THRU NEW CONTACTOR/STARTER SUPPLIED BY MECHANICAL CONTRACTOR. PROVIDE CONDUIT, CONDUCTORS AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. COORDINATE WITH MECHANICAL CONTRACTOR.

9. DISCONNECT EXISTING CONTROL WIRING BETWEEN PNEUMATIC CONTROL PANEL AND MCC, AND REMOVE BACK TO MCC.



1 E1.7 ELECTRICAL PLAN – BOILER ROOM
SCALE: 1/8" = 1'-0"



2 E1.7 ELECTRICAL PLAN – LIBRARY FAN ROOM
SCALE: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER 16,597 OREGON JULY 20, 1993 ROBERT L. CONNELL
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HIGHLAND PARK MIDDLE SCHOOL – BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

ELARGED ELECTRICAL PLANS

M FI A INC.

Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234–0548
FAX: (503) 234–0677
WWW.MFIA-ENG.COM

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HIGHLAND PARK MIDDLE SCHOOL - BEAVERTON, OR MDP (277/480V 3-PHASE 4-WIRE) 1200A BUS								4/24/2019
LOAD:	LIGHTS	RECEPT	HEAT	KITCHEN	EQUIP	MOTORS	MISC	LARGEST MOTOR
PEAK DEMAND KW							193,000	
NEW CHILLER						312,456		
PANEL 4CG	0	0	0	0	0	64,818	0	
REMOVED CHILLER						-35,000		
REMOVED FROM MCC						-17,451		
SUBTOTAL	0	0	0	0	0	324,823	193,000	0
X-FACTOR	1.25	1 + .5	1	0.65	1	1	1.25	0.25
CODE LOAD:	0	0	0	0	0	324,823	241,250	0

CONN LOAD:	518	KVA

VOLTS:	480	3ph
TOTAL CALC:	566	KVA
CALC AMPS:	681	AMPS

MFIA PANEL SCHEDULE

panel	mounting	location	connected load amps
4CG	SURFACE	BOILER RM	78
voltage	**phase**	**bus & main**	**calculated load amps**
277/480V	3	225A MLO	83

C	service	va	a/p	no.	a b c	no.	a/p	va	service	C
6	CP-5	499	15/3	1	*	2	15/3	2105	HP-6A	6
6	*	499	*	3	*	4	*	2105	*	6
6	*	499	*	5	*	6	*	2105	*	6
6	HP-5	499	15/3	7	*	8	15/3	2105	HP-6B	6
6	*	499	*	9	*	10	*	2105	*	6
6	*	499	*	11	*	12	*	2105	*	6
6	HP-8	1330	15/3	13	*	14	15/3	2105	CHP-1	6
6	*	1330	*	15	*	16	*	2105	*	6
6	*	1330	*	17	*	18	*	2105	*	6
6	CP-7	1330	15/3	19	*	20			BLANK	
6	*	1330	*	21	*	22			BLANK	
6	*	1330	*	23	*	24			BLANK	
6	HCP-7	5817	40/3	25	*	26			BLANK	
6	*	5817	*	27	*	28			BLANK	
6	*	5817	*	29	*	30			BLANK	
6	HCP-6	5817	40/3	31	*	32			BLANK	
6	*	5817	*	33	*	34			BLANK	
6	*	5817	*	35	*	36			BLANK	
	BLANK			37	*	38			BLANK	
	BLANK			39	*	40			BLANK	
	BLANK			41	*	42			BLANK	

		NOTES:	
Phase A	21606 VA		line-line voltage
Phase B	21606 VA		480
Phase C	21606 VA		largest motor (va)
Total Connected	64818 VA		17451

load code:	ph. A	ph. B	ph. C		total	factor	calculated load (va)
1. LIGHTS=	0	0	0	VA	0	1.25	0
2. RECEPT.=	0	0	0	VA	0	1 + 0.5	0
3. HEATING=	0	0	0	VA	0	1.00	0
4. KITCHEN=	0	0	0	VA	0	1.00	0
5. EQUIP.=	0	0	0	VA	0	1.00	0
6. MOTORS=	21606	21606	21606	VA	64818	*	69181
7. MISC=	0	0	0	VA	0	1.00	0
(* 125% of the largest motor + 100% of the balance)						TOTAL =	69181

NOTE: UPDATE CIRCUIT DIRECTORY AT ALL PANELS AFFECTED DURING THIS UPGRADE TO REFLECT REMOVED, RENAMED, OR NEW CIRCUITS.

CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER
16,597
OREGON
JULY 20, 1993
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HIGHLAND PARK MIDDLE SCHOOL - BEAVERTON SCHOOL DISTRICT
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ELECTRICAL SCHEDULES

MFIA INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
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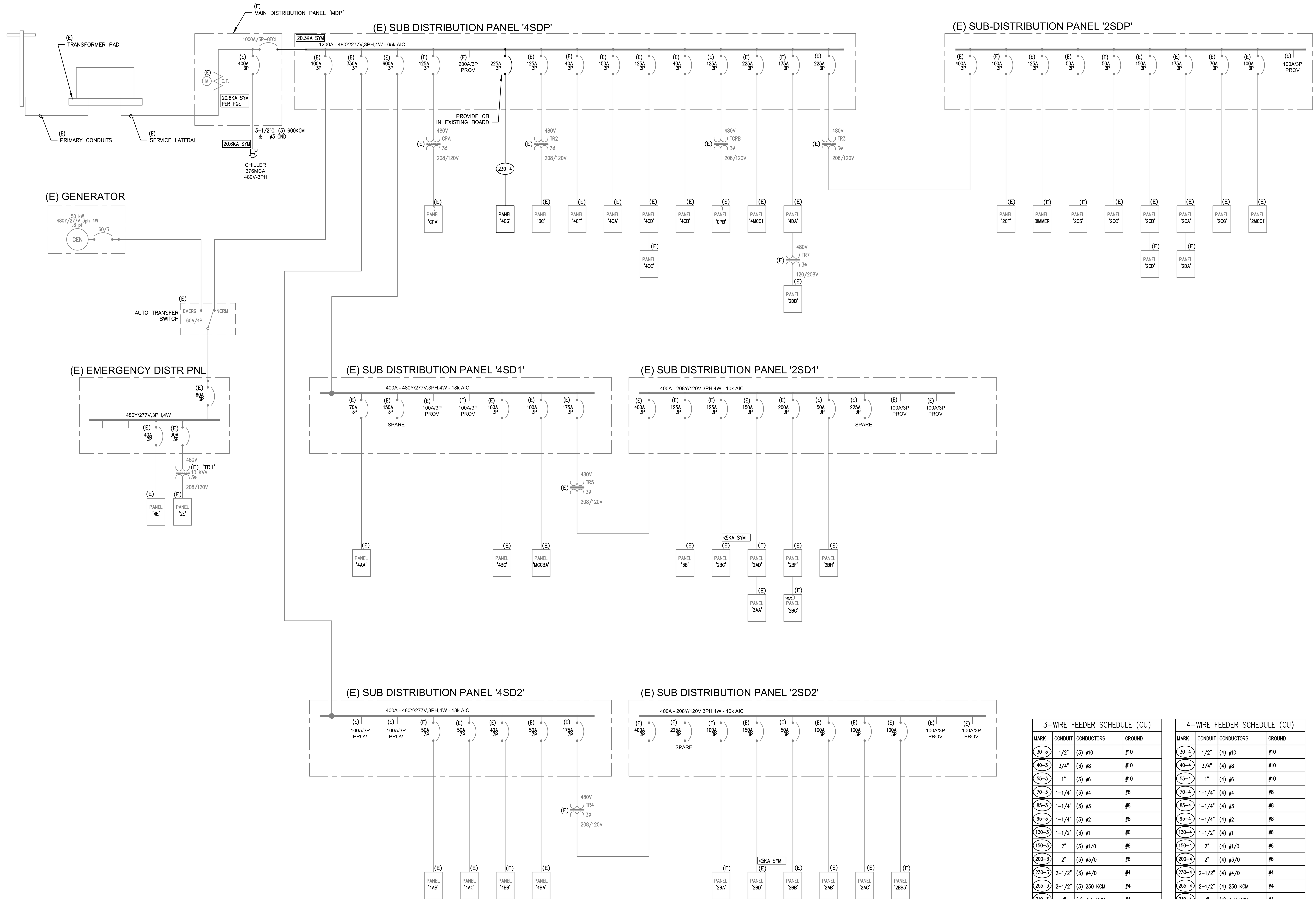

1 E5.1 ELECTRICAL ONE-LINE DIAGRAM
480Y/277v, 3ph, 4w & 208/120v, 3ph, 4w

3-WIRE FEEDER SCHEDULE (CU)			
MARK	CONDUIT	CONDUCTORS	GROUND
30-3	1/2"	(3) #10	#10
40-3	3/4"	(3) #8	#10
55-3	1"	(3) #6	#10
70-3	1-1/4"	(3) #4	#8
85-3	1-1/4"	(3) #3	#8
95-3	1-1/4"	(3) #2	#8
130-3	1-1/2"	(3) #1	#6
150-3	2"	(3) #1/0	#6
200-3	2"	(3) #3/0	#6
230-3	2-1/2"	(3) #4/0	#4
255-3	2-1/2"	(3) 250 KCM	#4
310-3	3"	(3) 350 KCM	#4
380-3	3-1/2"	(3) 500 KCM	#3
420-3	3-1/2"	(3) 600 KCM	#3
620-3	(2) 3"	EA/W (3) 350 KCM	EA/W #1
760-3	(2) 4"	EA/W (3) 500 KCM	EA/W #1/0
840-3	(2) 4"	EA/W (3) 600 KCM	EA/W #1/0

4-WIRE FEEDER SCHEDULE (CU)			
MARK	CONDUIT	CONDUCTORS	GROUND
30-4	1/2"	(4) #10	#10
40-4	3/4"	(4) #8	#10
55-4	1"	(4) #6	#10
70-4	1-1/4"	(4) #4	#8
85-4	1-1/4"	(4) #3	#8
95-4	1-1/4"	(4) #2	#8
130-4	1-1/2"	(4) #1	#6
150-4	2"	(4) #1/0	#6
200-4	2"	(4) #3/0	#6
230-4	2-1/2"	(4) #4/0	#4
255-4	2-1/2"	(4) 250 KCM	#4
310-4	3"	(4) 350 KCM	#4
380-4	3-1/2"	(4) 500 KCM	#3
420-4	3-1/2"	(4) 600 KCM	#3
620-4	(2) 3"	EA/W (4) 350 KCM	EA/W #1
760-4	(2) 4"	EA/W (4) 500 KCM	EA/W #1/0
840-4	(2) 4"	EA/W (4) 600 KCM	EA/W #1/0
1260-4	(3) 4"	EA/W (4) 600 KCM	EA/W #3/0

CONSTRUCTION DOCUMENTS

REGISTERED PROFESSIONAL ENGINEER
16,597
OREGON
JULY 20, 1993
ROBERT L. CONNELL
EXPIRES 12-31-2019

Date: 04-24-2019
Proj No: 9562
Drawn By: PRS
Chkd By: RLC
DSGN By: RLC
Acad File: 9652_HIGHLAND_E

HIGHLAND PARK MIDDLE SCHOOL - BEAVERTON SCHOOL DISTRICT
7000 SW WILSON AVENUE
BEAVERTON OREGON

ELECTRICAL ONE-LINE DIAGRAM

MFIA INC.

Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM

SHEET
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