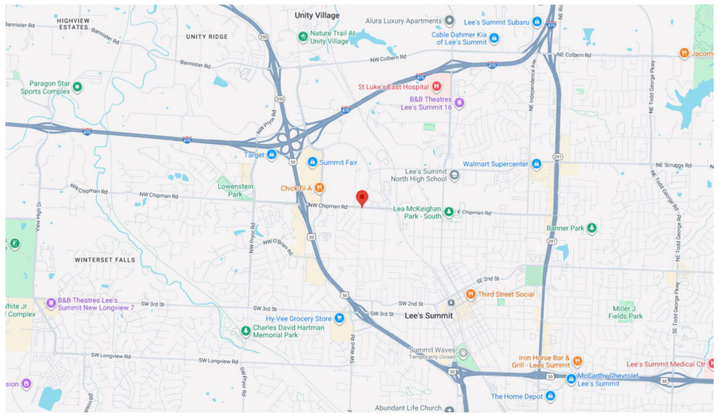
Valvoline Instant Oil Change

NW CHIPMAN ROAD & NW WARD ROAD
LEE'S SUMMIT, MO 64086



GC SHALL REFER TO ENERGY COMPLIANCE (COMCHECK) IN PROJECT SPECIFICATIONS MANUAL FOR MINIMUM ENVELOPE COMPONENTS

ABBREVIATIONS

AL.	ALUMINUM	EA.	EACH	G.C.	GENERAL CONTRACTOR	OA.	OVERALL	SPK.	SPEAKER
A.F.F.	ABOVE FINISHED FLOOR	E.C.	ELECTRICAL CONTRACTOR	GWB.	GYPSUM WALL BOARD	OD.	OUTSIDE DIAMETER	SQ.	SQUARE
		ELEC.	ELECTRICAL			OPNG.	OPENING	S.S.	STAINLESS STEEL
BD.	BOARD	EL.	ELEVATION	H.B.	HOSE BIBB	OPP.	OPPOSITE	STL.	STEEL
BLDG	BUILDING	EMER.	EMERGENCY	HC.	HANDICAPPED	O.C.	ON CENTER	STOR.	STORAGE
BLKG	BLOCKING	EQUIP.	EQUIPMENT	HM.	HOLLOW METAL			SUPP.	SUPPLIER
BRG	BEARING	EQ.	EQUAL	HORIZ.	HORIZONTAL	PLAM.	PLASTIC LAMINATE	SUSP.	SUSPENDED
		EXIST.	EXISTING	ID.	INSIDE DIAMETER	PR.	PAIR		
CAB.	CABINET	EXP.	EXPANSION	INST.	INSTALLER	PT.	PAINT	TEL.	TELEPHONE
CLG.	CEILING	EXT.	EXTERIOR	INSUL.	INSULATION	P.T.	PRESSURE TREATED	TEN.	TENANT \ OWNER \ FRANCHISEE
CMU.	CONCRETE MASONRY UNIT	E.J.	EXPANSION JOINT	INT.	INTERIOR	PWD.	PLYWOOD	TYP.	TYPICAL
COL.	COLUMN								
CON.	CONTRACTOR	FA.	FIRE ALARM	JT.	JOINT	QT.	QUARRY TILE	T.C.C.	TENANTS CABINET CONTRACTOR
CONC.	CONCRETE	FD.	FLOOR DRAIN	LAM.	LAMINATE			T.E.C.	TENANT'S ELECTRICAL CONTRACTOR
CONST.	CONSTRUCTION	FE.	FIRE EXTINGUISHER	LAV.	LAVATORY	RA.	RETURN AIR	T.G.C.	TENANTS GENERAL CONTRACTOR
CONT.	CONTINUOUS OR CONTINUE	FIN.	FINISH(ED)	LL.	LANDLORD	RE.	REFERENCE / REFER TO		
CPT.	CARPET(ED)	FLR.	FLOOR(ING))			RD.	ROOF DRAIN	U.O.N.	UNLESS OTHERWISE NOTED
CTR.	COUNTER	FOC.	FACE OF CONCRETE	MATL.	MATERIAL	REFR.	REFRIGERATOR		
CT.	CERAMIC TILE	FOF.	FACE OF FINISH	MAX.	MAXIMUM	REINF.	REINFORCE (D) (ING)	VCT.	VINYL COMPOSITION TILE
C.J.	CONTROL JOINT	FOM.	FACE OF MASONRY	MDF.	MEDIUM DENSITY FIBER BOARD	REQMTS.	REQUIREMENTS	VERT.	VERTICAL
C.O.	CASED OPENING	FOS.	FACE OF STUD	MECH.	MECHANICAL	REQ.	REQUIRED	VT.	VINYL TILE
		FRP.	FIBERGLASS REINFORCED PANEL	MFG.	MANUFACTURER	RES.	RESILIENT	V.I.F.	VERIFY IN FIELD
DIA.	DIAMETER	FTG.	FOOTING	MIN.	MINIMUM	R.O.	ROUGH OPENING		
DIM.	DIMENSION	FT.	FOOT OR FEET	MISC.	MISCELLANEOUS			WC.	WATER CLOSET
DISP.	DISPENSER	FURR.	FURRED (ING)	M.O.	MASONRY OPENING	SCH.	SCHEDULE	WD.	WOOD
DIV.	DIVISION	F.R.	FIRE RESISTANT	MTL.	METAL	SC.	SOLID CORE	WWF	WELDED WIRE FABRIC
DR.	DOOR					SEC.	SECTION	W/	WITH
DS.	DOWNSPOUT	GALV.	GALVANIZED	N.I.C.	NOT IN CONTRACT	SHTG.	SHEATHING	W/O	WITHOUT
DTL.	DETAIL	GA.	GAUGE	NOM.	NOMINAL	SH.	SHELF		
DWG.	DRAWING	GD.	GRADE OR GRADING	NTS.	NOT TO SCALE	SIM.	SIMILAR		
DWR.	DRAWER	GL.	GLASS			SPEC.	SPECIFICATION		
		GYP.	GYPSUM						

DRAWING SYMBOL KEY

- D# — DOOR NUMBER (SEE DOOR SCHEDULE)
- X — STOREFRONT TAG (SEE STOREFRONT OPENING SCHEDULE)
- X - # — FINISH TAG (SEE FINISH SCHEDULE)
- # — FIXTURE/EQUIPMENT TAG (SEE FIXTURE AND EQUIPMENT SCHEDULE)
- # — KEY NOTE
- # — REVISION TAG
- REVISION CLOUD (DENOTES AREA OR ITEM ON DRAWING AFFECTED BY REVISION)
- (ITEM DENOTED) (ELEVATION OF ITEM) — ELEVATION MARK
- DETAIL # / # / SHEET # — DETAIL SECTION
- DETAIL # / # / SHEET # — BUILDING AND WALL SECTION
- #—ELEVATION # / # / SHEET # — EXTERIOR ELEVATION TAGS
- #—ELEVATION # / # / SHEET # — INTERIOR ELEVATION TAGS

GENERAL NOTES

1. THESE NOTES SHALL APPLY UNLESS OTHERWISE INDICATED BY DRAWINGS OR SPECIFICATIONS.
2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE, & LOCAL CODE REQUIREMENTS, AND IN ACCORDANCE WITH ACCEPTED CONSTRUCTION INDUSTRY STANDARDS.
3. OWNER SHALL OBTAIN & PAY FOR BUILDING & SIGN PERMITS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL OTHER APPLICABLE PERMITS, INSPECTIONS AND APPROVALS.
4. PRIOR TO TURNING BUILDING OVER TO OWNER, REPAIR/REPLACE ALL MATERIALS, GLASS, OR ASSEMBLIES DAMAGED OR BROKEN DURING CONSTRUCTION.
5. SMOKE DETECTORS SHALL BE HARDWIRED INTO AN AC ELECTRICAL POWER SOURCE AND SHALL BE EQUIPPED WITH BATTERY BACK-UP. SMOKE DETECTORS SHALL BE TESTED FOR COMPLIANCE UPON COMPLETION OF WORK.
6. SEAL ALL PENETRATIONS THRU FLOOR DECK. ALSO REFER TO STRUCTURAL PENETRATION PLAN FOR LOCATIONS
7. FRAMER SHALL PROVIDE IN-WALL BLOCKING AS REQUIRED AT TOILET ACCESSORIES, CABINETS, COUNTERTOPS & ALL AREAS w/ WALL HUNG ITEMS OR AS ALSO CALLED OUT IN THESE DOCUMENTS.
8. FRAMER SHALL PROVIDE 2x_ FIRE BLOCKING @ ALL CONCEALED SPACES OF ALL STUD WALLS @ CEILING LEVEL AND @ 10' INTERVALS AND/OR AS OTHERWISE REQUIRED BY CODE.
9. PROVIDE KNOX-BOX IN ACCORDANCE W/ FIRE DEPARTMENT REQUIREMENTS.
10. ALL CONCRETE SLAB TO BUILDING JOINTS ARE TO BE PROVIDED WITH SEALANT AND BACKER ROD.
11. DIMENSIONS NOTED ON PLANS ARE TO THE OUTSIDE FACE OF WD. STUD FRAMING UNLESS NOTED OTHERWISE.
12. GENERAL CONTRACTOR SHALL PROVIDE ALL TEMPORARY UTILITIES NECESSARY/REQUIRED UNTIL PROJECT COMPLETION.

PROJECT DIRECTORY

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MEP ENGINEERS
HFA-AE
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PRODUCT SUBMITTALS

DIVISION 03 - CONCRETE		(REQUIRED)
03200	CONCRETE REINFORCEMENT	
03300	CAST-IN-PLACE CONCRETE	
DIVISION 04 - MASONRY		(NOT REQUIRED - AS SPECIFIED)
DIVISION 05 - METALS		(REQUIRED)
05120	STRUCTURAL STEEL	
05210	STEEL JOISTS	(WHERE OCCURS)
05310	STEEL DECK	
05500	METAL FABRICATIONS	
05600	MISCELLANEOUS METAL WORK	
DIVISION 06 - WOOD AND PLASTICS		(REQUIRED)
06175	OPEN WEB TRUSSES	
DIVISION 07 - THERMAL AND MOISTURE PROTECTION		(NOT REQUIRED - AS SPECIFIED)
DIVISION 08 - OPENINGS		(NOT REQUIRED - AS SPECIFIED)
DIVISION 09 - FINISHES		(NOT REQUIRED - AS SPECIFIED)
DIVISION 10 - SPECIALTIES		(NOT REQUIRED - AS SPECIFIED)
DIVISION 11 - EQUIPMENT		(NOT REQUIRED - AS SPECIFIED)
DIVISION 22 - PLUMBING		(NOT REQUIRED - AS SPECIFIED)
DIVISION 23 - HVAC		(NOT REQUIRED - AS SPECIFIED)
DIVISION 26 - ELECTRICAL		(NOT REQUIRED - AS SPECIFIED)
DIVISION 27 - COMMUNICATIONS		(NOT REQUIRED - AS SPECIFIED)
DIVISION 31 - EARTHWORK		(NOT REQUIRED - AS SPECIFIED)
DIVISION 32 - EXTERIOR IMPROVEMENTS		(NOT REQUIRED - AS SPECIFIED)
DIVISION 33 - UTILITIES		(NOT REQUIRED - AS SPECIFIED)

DEFERRED SUBMITTALS

1. PRE-FABRICATED WOOD TRUSSES

2. STEEL CANOPY

DRAWING INDEX AND ISSUANCE LOG

PERMIT SET

SHEET #	SHEET NAME	ISSUE: OWNER REVIEW SET 12/05/2025	PERMIT SET 12/22/2025	REVISION 1 01/26/2026	BID SET 02/02/2026	REVISION 2 02/11/2026
GENERAL						
CS-1	COVER SHEET	•	•	•	•	•
G-1.1	LIFE SAFETY PLAN	•	•		•	
G-2.1	ACCESSIBILITY STANDARDS	•	•		•	
G-3.1	OPERATIONS EQUIPMENT PLAN AND SCHEDULE	•	•		•	
CIVIL						
--	(REFER TO DRAWING INDEX ON SHEET C-0.0					
ARCHITECTURAL						
A-1.1	FLOOR PLAN - LOWER LEVEL	•	•		•	
A-1.2	FLOOR PLAN - UPPER LEVEL	•	•	•	•	
A-2.1	ROOF PLAN & DETAILS	•	•		•	
A-3.1	EXTERIOR ELEVATIONS	•	•		•	•
A-3.2	EXTERIOR ELEVATIONS	•	•		•	•
A-4.1	BUILDING SECTIONS	•	•		•	
A-5.1	WALL SECTIONS	•	•		•	
A-5.2	WALL SECTIONS	•	•		•	
A-5.3	STAIR SECTIONS AND DETAILS	•	•		•	
A-6.1	DOOR - SF SCHEDULES AND DETAILS	•	•		•	
A-6.2	DOOR DETAILS	•	•		•	
A-7.1	DETAILS AND INTERIOR ELEVATIONS	•	•	•	•	
A-7.2	INTERIOR ELEVATIONS	•	•		•	
A-8.1	REFLECTED CEILING PLANS	•	•		•	
A-9.1	PIT OPENING DETAILS	•	•		•	
A-10.1	DUMPSTER ENCLOSURE	•	•		•	
A-12.1	PLACARD PLACEMENT INFO	•	•		•	
SPCC-1	SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN	•	•		•	
STRUCTURAL						
S-1.1	GENERAL STRUCTURAL NOTES	•	•		•	
S-1.2	GENERAL STRUCTURAL NOTES	•	•		•	
S-1.3	SPECIAL INSPECTIONS	•	•		•	
S-2.1	FOUNDATION PLAN AND SECTIONS	•	•		•	
S-3.1	FLOOR FRAMING PLAN	•	•		•	
S-3.2	FLOOR PENETRATION PLAN	•	•		•	
S-4.1	FLOOR FRAMING DETAILS AND SECTIONS	•	•		•	
S-5.1	ROOF FRAMING PLAN	•	•		•	
S-5.2	ROOF FRAMING DETAILS AND SECTIONS	•	•		•	
MECHANICAL						
M-1.1	MECHANICAL PLANS	•	•		•	
M-2.1	MECHANICAL DETAILS	•	•		•	
PLUMBING						
P-1.1	WASTE AND VENT PLANS	•	•		•	
P-1.2	WATER PLANS	•	•		•	
P-2.1	PLUMBING DETAILS	•	•		•	
P-2.2	PLUMBING RISERS	•	•		•	
PP-4	PROCESS PIPING PLAN	•	•		•	
ELECTRICAL						
E-1.1	ELECTRICAL SITE PLAN	•	•		•	
E-2.1	LIGHTING PLANS	•	•		•	
E-2.2	POWER PLANS	•	•		•	
E-3.1	LOW VOLTAGE PLANS	•	•		•	
E-4.1	ELECTRICAL DETAILS	•	•		•	

THIS SET OF DRAWINGS IS BASED ON THE 2025 Q2 DESIGN STANDARDS

SPECIAL PHOTOGRAPHIC REQ.

THE FOLLOWING IS A LIST OF PHOTOGRAPHS THAT SHALL BE TAKEN BY THE GENERAL CONTRACTOR DURING THE COURSE OF CONSTRUCTION. THESE PHOTOS SHALL BE TAKEN AT APPROPRIATE INTERVALS AND SHALL BE DELIVERED TO VIDC CONSTRUCTION REPRESENTATIVES ON A WEEKLY BASIS AND SHALL BE TRANSMITTED ELECTRONICALLY VIA E-MAIL. THE PURPOSE OF THESE PHOTOGRAPHS IS TO DOCUMENT CONSTRUCTION. DISTRIBUTION AND/OR REVIEW OF SUCH PHOTOS TO/BY THE OWNER SHALL NOT IN ANY WAY BE MISCONSTRUED AS ACCEPTANCE OF COMPLETED WORK AND DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLY FULLY WITH THE REQUIREMENTS SET FORTH IN THE CONTRACT DOCUMENTS. FAILURE TO TAKE THESE PHOTOGRAPHS OR FOLLOW THESE PROCEDURES MAY RESULT IN REMOVAL OF IN-PLACE WORK, PHOTOGRAPHIC DOCUMENTATION, AND REPLACEMENT OF WORK AT THE SOLE EXPENSE OF THE GENERAL CONTRACTOR WITHOUT DETRIMENTALLY IMPACTING THE SCHEDULED DATE FOR COMPLETION.

GENERAL WEEKLY PHOTOS
- OVERALL SITE PHOTOS FROM SEVERAL CONSISTENT VANTAGE POINTS
- PHOTOS IN EACH ROOM FROM OPPOSITE SIDES OF EACH ROOM
- DETAILED PHOTOS OF ISSUES TO BE RESOLVED
- DETAILED PHOTOS OF WORK ACCOMPLISHED IN THE PAST WEEK

SPECIFIC DETAIL PHOTOS
- SITE UTILITIES PRIOR TO BACKFILLING
- ALL DOUBLE CLEANOUTS INCLUDING AREA SHOTS TO INDICATED LOCATIONS
- ALL TRENCHES DURING THE BACKFILL PROCESS
- ALL ASPHALT BASE, BASE COURSE, AND TOP COURSE THICKNESS
- ALL PAVING, FOUNDATION, AND SLAB POURS JUST PRIOR TO CONCRETE PLACEMENT
- PAVING, FOUNDATION, AND SLAB STEEL PLACEMENT IN VARIOUS LOCATIONS AROUND THE BUILDING
- UNDER SLAB WATERPROOFING & VAPOR BARRIER INSTALLATIONS
- FOUNDATION WATERPROOFING FROM MAT TO TOP OF WALL
- LIGHT POLE BASES PRIOR TO CONCRETE PLACEMENT INCLUDING STEEL AND BOLTS
- UNDERGROUND PLUMBING INSIDE THE BUILDING
- SUMP(S) IN PLACE PRIOR TO BACKFILL INCLUDING CONNECTIONS
- BACK FILL PROCESS FOR SUMP(S)
- GLASS INSTALLATION DETAILS AT ALL STAGES INCLUDING:
  FLASHING UNDER SILL RECEPTOR, SILL RECEPTOR IN PLACE, END DAMS SEALED ON SILL RECEPTOR, LAPS (IF REQUIRED) IN SILL RECEPTOR, SHIMS (UNDER SILL), PROPER JAMB AND HEAD GAPS
- ALL WALLS PRIOR TO SHEETROCK INSTALLATION SHOWING ALL BLOCKING, PLUMBING, STRUCTURAL CONNECTS AT BOTTOM AND TOP PLATES, WALL ANCHORS, ELECTRICAL CONDUIT, AND INSULATION AT A MINIMUM.
- RESTROOM PRIOR TO FINISHES TO SHOW WALLBOARD AND TILE BACKER.
- PAINT BUCKETS INDICATING MANUFACTURER AND PAINT TYPE SHOWN ON JOB SITE.

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STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE AT LEE'S SUMMIT, MO CONTEMPORANEOUSLY WITH ITS ISSUE DATE ON 12/05/25. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT
01/26/2026	REVISION 1
02/02/2026	BID SET
02/11/2026	REVISION 2

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2026.02.10 16:13:35-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

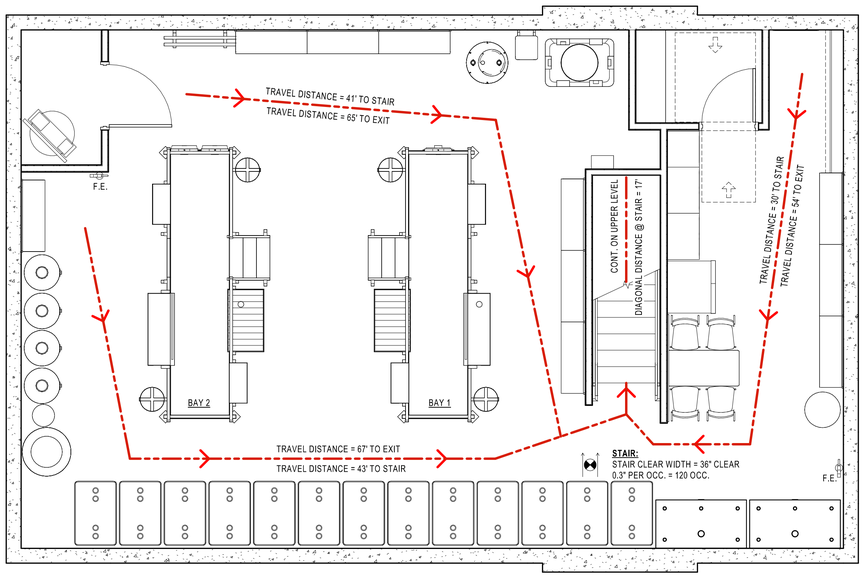
NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
COVER SHEET

SHEET #
CS-1

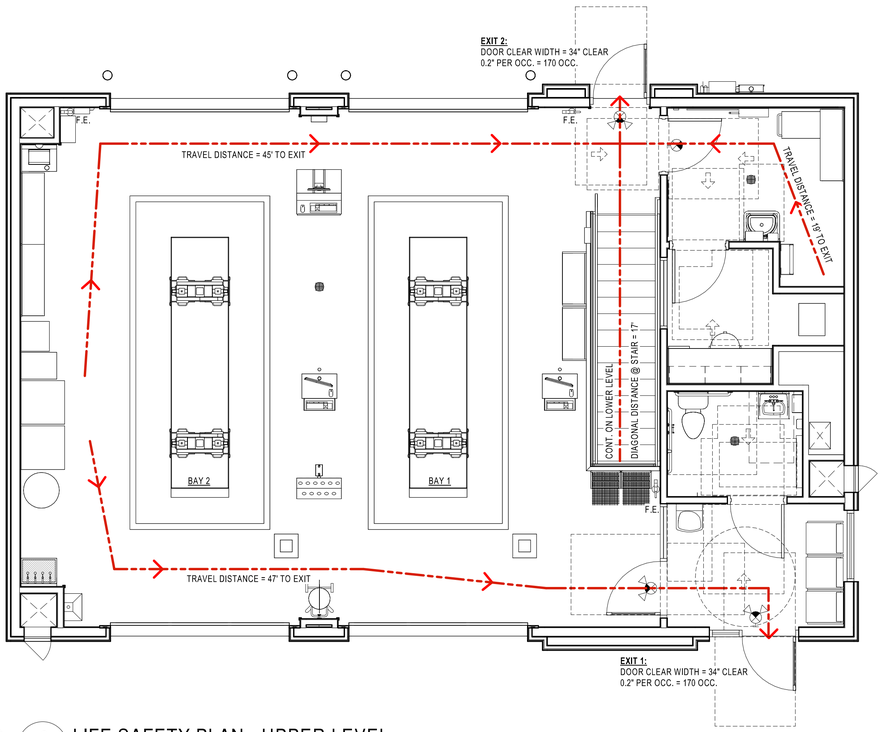
2/5/2026 12:45:13 PM C:\Users\dwayne.harris\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 28-Flat Roof Arch_V21_HFA.Dwayne.Harris.rvt CS-1 COVER SHEET REVISION 2



NORTH

1 G-1.1 LIFE SAFETY PLAN - LOWER LEVEL

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



NORTH

2 G-1.1 LIFE SAFETY PLAN - UPPER LEVEL

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

LEGEND

- MINIMUM 3'-0" WIDE CLEAR PATH OF EGRESS TRAVEL
- DIRECTIONAL EXIT SIGN
- EXIT SIGN W/ DUAL HEAD EMERGENCY LIGHTS
- EXIT SIGN
- F.E. FIRE EXTINGUISHER - MAX. 75' SEPARATION BETWEEN FIRE EXTINGUISHERS TYP.

NOTES

1. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL FIRE EXTINGUISHERS AS SCHEDULED WITH MOUNTING BRACKETS AND ACCESSORIES AT 4'-0" A.F.F. OR AS REQUIRED BY GOVERNMENTAL AUTHORITIES. MAXIMUM TRAVEL DISTANCE OF 75'-0" FOR PLACEMENT OR WHERE MORE STRINGENT PER LOCAL JURISDICTIONS. BOTTOM OF FIRE EXTINGUISHERS SHALL BE NO HIGHER THAN 27" AFF.
2. GENERAL CONTRACTOR TO PROVIDE ALL REQUIRED PLACARDS PER LOCAL JURISDICTIONS. PROVIDE LAMINATED VINYL ARROW SIGN AT EACH EXTINGUISHER. ALL EXTINGUISHERS SHALL CARRY AN EXPIRATION DATE OF ONE YEAR BEYOND THE DATE OF BUILDING TURNOVER. LOCATIONS SHOWN ON DRAWINGS ARE FOR GENERAL REPRESENTATION, G.C. SHALL COORDINATE ACTUAL PLACEMENT OF FIRE EXTINGUISHERS WITH FIRE MARSHALL.
3. VEHICLE FUEL SYSTEMS ARE NOT SERVICED IN THIS FACILITY. IN THE CASE A FUEL SYSTEM IS IN NEED OF REPAIR, EMPLOYEES ARE TO INSTRUCT VEHICLE OWNERS TO TAKE THE VEHICLE TO A LOCAL REPAIR STATION OFF PREMISES.
4. VEHICLES FUELED BY NONODORIZED GASES ARE NOT SERVICED IN THIS FACILITY.
5. PER BUILDING CODE TABLE 1006.2.1, THE MAXIMUM COMMON PATH OF TRAVEL IS 100'-0" FOR A S USE BASED ON THE OCCUPANT LOAD.
6. PER BUILDING CODE SECTION 903.2.9 GROUP S-1, AN AUTOMATIC SPRINKLER SYSTEM IS NOT REQUIRED BASED ON THIS BUILDING NOT MEETING ANY OF THESE CONDITIONS. ALSO, PER SECTION 903.2.9.1 REPAIR GARAGES, A SYSTEM IS NOT REQUIRED BASED ON ANY OF THESE CONDITIONS.

CODE INFORMATION

CODE: 2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL FIRE CODE
2017 NATIONAL ELECTRICAL CODE
2009 ICC/ANSI A117.1

OCCUPANCY CLASSIFICATION: S-1 STORAGE (REPAIR GARAGE)
CONSTRUCTION TYPE: V-B
ALLOWABLE BUILDING HEIGHT: 40 FT. AND ONE STORY ABOVE GRADE MAX.
ACTUAL BUILDING HEIGHT: ± 24' 0"
BUILDING ALLOWABLE AREA: 9,000 S.F./STORY
ACTUAL BUILDING AREA: 1,462 S.F. - UPPER LEVEL (EXTERIOR F.O. BUILDING)

OCCUPANT LOAD - LOWER LEVEL:

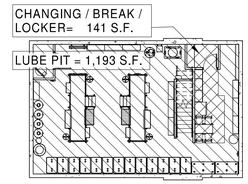
LUBE PIT (STORAGE/MECHANICAL):	1,193 S.F./300(NET)		= 4
CHANGING/BREAK/LOCKER (BUSINESS):	141 S.F./150(NET)		= 1
TOTAL OCCUPANT LOAD:	1,334 S.F.	(NET)	= 5 OCC.

OCCUPANT LOAD - UPPER LEVEL:

SERVICE BAYS/ MECHANICS ROOM (STORAGE):	1,155 S.F./300(NET)		= 4
OFFICE/ TOILET/ WAITING (BUSINESS):	184 S.F./150(NET)		= 2
TOTAL OCCUPANT LOAD:	1,339 S.F.(NET)		= 6 OCC.

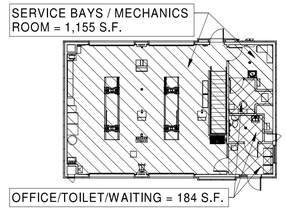
OCCUPANT LOAD - TOTAL:
LOWER LEVEL + UPPER LEVEL: 2,673 S.F. = 11 OCC.

AREA SUMMARY



AREA DIAGRAM - LOWER LEVEL

1,334 S.F. NET (INSIDE FACE OF EXTERIOR WALLS) GROSS AREA = FIRE AREA



AREA DIAGRAM - UPPER LEVEL

1,339 S.F. NET (INSIDE FACE OF EXTERIOR WALLS)
GROSS AREA = FIRE AREA

- S-1 (STORAGE) OCCUPANCY
- B (BUSINESS) OCCUPANCY

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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021046957
ARCHITECT

2025.12.22 08:59:19-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021046957
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

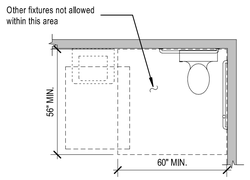
NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

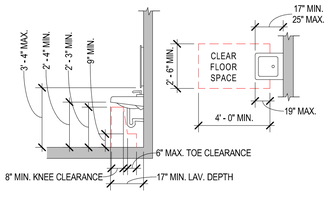
SHEET NAME
LIFE SAFETY PLAN

SHEET #
G-1.1

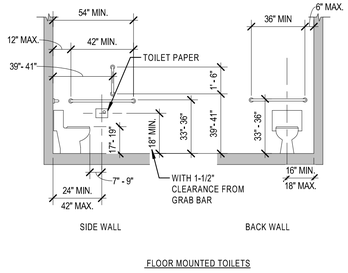
C:\Users\dwayne.hama\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 2B Flat Roof Arch_V24_HFA.Dwayne.Hama.rvt
12/19/2025 2:28:20 PM
G-1.1 LIFE SAFETY PLAN



PLAN CLEARANCES

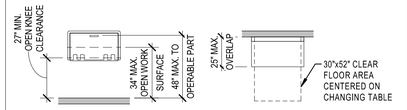


LAVATORY CLEARANCES

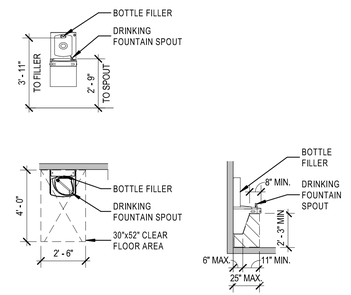


FLOOR MOUNTED TOILETS

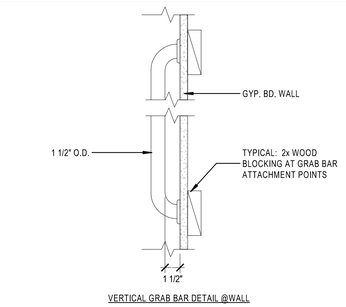
ACCESSIBILITY CLEARANCE



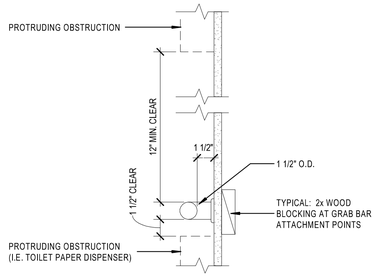
BABY CHANGING STATION



BOTTLE FILLING STATION AND DRINKING FOUNTAIN



VERTICAL GRAB BAR DETAIL @WALL



HORIZONTAL GRAB BAR DETAIL @WALL

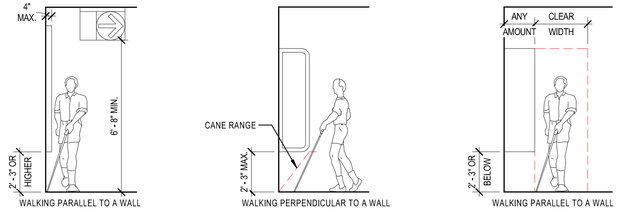
GRAB BAR NOTES:

1. GRAB BARS SHALL NOT ROTATE AND THERE ARE TO BE NO SHARP OR ABRASIVE ELEMENTS ON OR ADJACENT TO THEM.

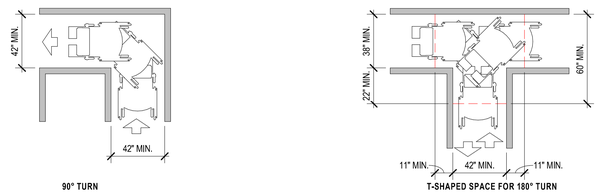
2. EDGES ARE TO HAVE A MINIMNUM 1/8" RADIUS.

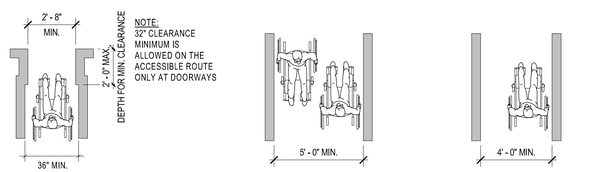
3. GRAB BAR BACKING AND ATTACHMENT SHALL BE CONSTRUCTED FOR 250 POUND POINT LOAD APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE OR SUPPORTING STRUCTURE.

REINFORCEMENT DETAIL

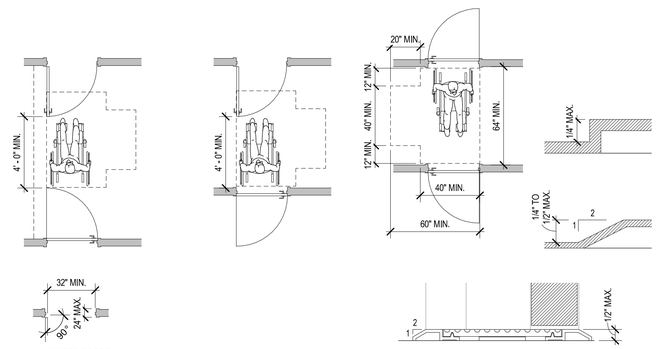


PROTRUDING OBJECTS

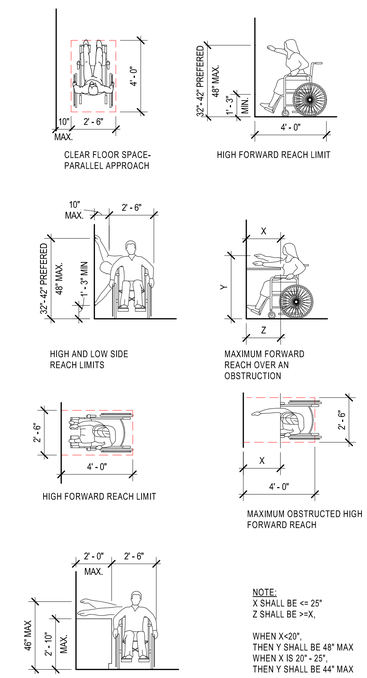




PATH OF TRAVEL



ACCESSIBLE DOOR REQUIREMENTS



NOTE:
X SHALL BE <= 25"
Z SHALL BE >=X,

WHEN X<20",
THEN Y SHALL BE 48" MAX
WHEN X IS 20" - 25",
THEN Y SHALL BE 44" MAX

ACCESSIBLE REACH

HFA
HFA-AE, L T D.
t 479.273.7780
1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
www.hfa-ae.com

STIPULATION FOR REUSE

THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE AT LEE'S SUMMIT, MO CONTEMPORANEOUSLY WITH ITS ISSUE DATE ON 12/05/25. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2025.12.22 08:59:24-05'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
ACCESSIBILITY STANDARDS

SHEET #
G-2.1

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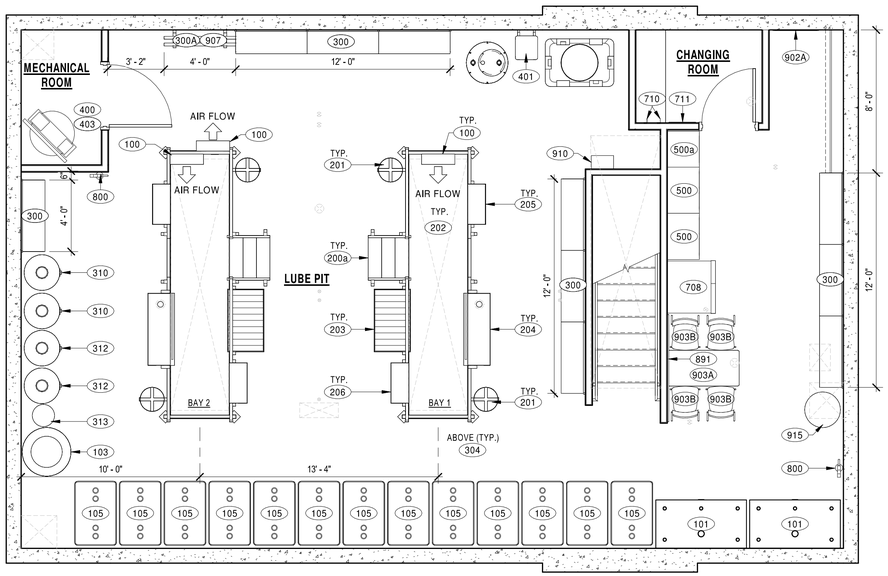
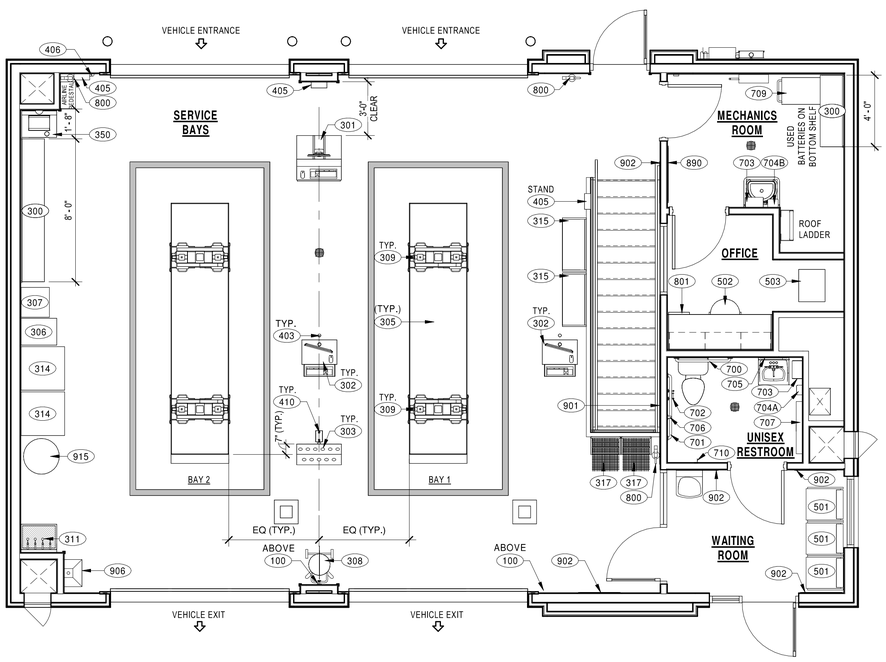
12/19/2025 2:36:17 PM
12-2-1 ACCESSIBILITY STANDARDS



1 G-3.1 OPERATIONS PLAN - LOWER LEVEL

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

NORTH



2 G-3.1 OPERATIONS PLAN - UPPER LEVEL

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

NORTH

EQUIPMENT SCHEDULE

ITEM #	DESCRIPTION	QUANTITY	MANUFACTURER	MODEL #	SUPPLIED BY	INSTALLED BY	COMMENTS
100	20" WORK STATION FAN	5	TPI	U18TE	GC	GC/DEVON	GC TO INSTALL UPPER LEVEL FANS. GC TO PROVIDE CATWALK FANS TO DEVON TO INSTALL ON CATWALKS IN LOWER LEVEL.
101	500 GAL TOTAL SINGLE WALL 1 COMPARTMENT TANK	2	NEWBERRY	FTSBS-0500-VAL	DEVON	GC	PER UL 142 SPECIFICATIONS GC SHALL RECEIVE, SET AND VENT TANKS
103	200 GAL TANK - WASTE ANTIFREEZE	1	ADVANCED ROTO LLC	VT-200-HD	DEVON	GC	
105	275 GAL TOTAL DOUBLE WALL TANK	13	ROTH	DWT 1000L	DEVON	GC	PER UL 2258 SPECIFICATIONS GC SHALL RECEIVE, SET AND VENT TANKS
200	CATWALK	2	DEVON INDUSTRIES	E-915-V	DEVON	DEVON	
200a	CATWALKS STEPS	2	DEVON INDUSTRIES	E-915-ST-V	DEVON	DEVON	
201	DRUM SUPPORT BRACKET	4	DEVON INDUSTRIES	E903-B	DEVON	DEVON	
202	DRIP CATCH PAN	2	DEVON INDUSTRIES	E-915-DPV-40	DEVON	DEVON	
203	OIL FILTER DISPENSER RACK	2	DEVON INDUSTRIES	E-304	DEVON	DEVON	
204	TECHNICIAN TOOL SHELF	2	DEVON INDUSTRIES	E500-2H	DEVON	DEVON	
205	UTILITY SHELF (2-TIER)	2	DEVON INDUSTRIES	E-300	DEVON	DEVON	M-307 MOLDED RUBBER BUMPER BOTH BOTTOM CORNERS
206	UTILITY SHELF (2-TIER)	2	DEVON INDUSTRIES	E-302	DEVON	DEVON	M-307 MOLDED RUBBER BUMPER BOTH BOTTOM CORNERS
207A	TECHNICIAN STEP STOOL - LOWER LEVEL	2	COTTERMAN	LOWER LEVEL: A2N2222A320B8C2P6 -D99990001	OWNER	OWNER	NOT SHOWN ON PLAN. ONE AT EACH CATWALK
207B	TECHNICIAN STEP STOOL - UPPER LEVEL	1	COTTERMAN	UPPER LEVEL: A1N2222A320B8C2P6 -D99990010	OWNER	OWNER	NOT SHOWN ON PLAN.ONE AT UPPER LEVEL
300	15" DEEP INVENTORY SHELVING	13	LOZIER		MIDWEST	GC	SEE PLANS TO DETERMINE LINEAR FOOTAGE NEEDED. 4 SHELVES PER SECTION
300A	INVENTORY SHELVING	1	DEVON INDUSTRIES	E-601 (1'-0" DEPTH)	DEVON	DEVON	48" LENGTH OF 2 BAR SHELVING SYSTEM
301	GREETER STATION	1	DEVON INDUSTRIES	C7030-DX-BLK	DEVON	DEVON	
302	PEDESTAL POST PODIUM	2	DEVON INDUSTRIES	CP09-2M	DEVON	DEVON	
303	LUBE DISPENSING CONSOLE - 12 OUTLETS	1	DEVON INDUSTRIES	E-101-12-SS	DEVON	DEVON	HOSE GUIDES INCLUDED W/ UNIT
304	ROLLING DRAIN PAN	2	DEVON INDUSTRIES	E203-32X	DEVON	DEVON	NOT SHOWN ON PLAN
305	PIT BULL SAFETY NET	2	PNC	PITBULL	DEVON	DEVON	
306	AUTOMATIC TRANSMISSION FLUID EXCHANGER	1	ADVANTAGE ENGINEERING COMPANY	MULTI-MODE	OWNER	OWNER	
307	ANTIFREEZE DRAIN AND FILL SYSTEM	1	ADVANTAGE ENGINEERING COMPANY	CE2000	OWNER	OWNER	
308	OIL EVACUATION MACHINE	1	JOHNDOW INDUSTRIES	JDI-20EV-BV	OWNER	OWNER	
309	ROLLING PIT JACK	4	DEVON	RPJ6K	DEVON	DEVON	PLUMB DEVON
310	105 GAL WINDSHIELD WASHER FLUID TANK	2	ADVANCED ROTO LLC	VT-105-HD-VWW	DEVON	DEVON	W/ PNUEMATIC PUMP
311	OIL DISPENSING BAR	1	DEVON	OB-24	DEVON	DEVON	4 OUTLET MODEL
312	105 GAL ANTIFREEZE TANK	2	ADVANCED ROTO LLC	VT-105-HD	DEVON	DEVON	W/ PNUEMATIC PUMP
313	GEAR OIL CANISTER	1			OWNER	OWNER	
314	A/C MACHINE	2	MAHLE ARCTIC PRO	ACX2180H	OWNER	OWNER	
315	BATTERY DISPLAY SHELVING 3'-0"	2			OWNER	OWNER	
317	WINDSHIELD WIPER DISPLAY	2			OWNER	OWNER	
350	DRUM TRANSFER PUMP	1	DEVON	DPOS	DEVON	DEVON	
400	AIR COMPRESSOR - 120 GAL VERTICAL TANK	1	CHAMPION	SINGLE PHASE CHP-R2-30A-S689	DEVON	DEVON	1PH 208V. VIBRATION ISOLATION DAMPERS SHALL BE INSTALLED BY DEVON. DEVON TO INSTALL CONDENSATE DRAIN TO DISCHARGE INTO LUBE PIT SUMP / CROCK BASIN.
401	AIR DRYER	1	CHAMPION	CGD25A1	DEVON	DEVON	
403	HOSE GUIDE ASSEMBLY	2	DEVON	SAB-02	DEVON	DEVON	
405	AUTOMATIC TIRE INFLATOR	3	HALTEC CORPORATION	89-XDA-VAV	HALTEC	HALTEC	(1) STAND; ALL OTHERS WALL MOUNTED; PEX PIPING
406	SERVICE BELL RINGER	1	MILTON	#805	OWNER	GC	100' HOSE
410	AIR HOSE STAND	1	DEVON	AHS-27	DEVON	DEVON	LOCATE IN FIELD BEHIND LUBE DISPENSING CONSOLE
500	LOCKERS	2			OWNER	GC	SECURE TO WALL PER MANUFACTURER'S RECOMMENDATIONS
500a	DIRTY UNIFORM CABINET	1			OWNER	GC	SECURE TO WALL PER MANUFACTURER'S RECOMMENDATIONS
501	WAITING ROOM CHAIRS	3	REALSPACE	ITEM # 184746	OWNER	OWNER	
502	ROLLING DESK CHAIR	1	REALSPACE	ITEM # 857562	OWNER	OWNER	
503	NETWORK RACK	1	NAVE POINT	00405913	OWNER	OWNER	
700	36" HORIZONTAL GRAB BAR	1	BOBRICK	B6806X36	GC	GC	
701	42" HORIZONTAL GRAB BAR	1	BOBRICK	B6806X42	GC	GC	
702	TOILET PAPER HOLDER	1	BOBRICK	B-685	GC	GC	
703	ELECTRIC HAND DRYER	2	EXCEL DRYER	XL-SB-H-110-120V	GC	GC	STAINLESS STEEL HAND DRYER (SURFACE MOUNTED): 44" A.F.F. TO AIR OUTLET.
704A	SOAP DISPENSER	1	GRAINGER	3WU72	GC	GC	SOAP DISPENSER (WALL MOUNTED): 48" A.F.F. MAX. TO OPERABLE CONTROL AND DISPENSER OPENING CENTERLINE
704B	SOAP DISPENSER	1	GRAINGER	3U515	GC	GC	SOAP DISPENSER (WALL MOUNTED): 48" A.F.F. MAX. TO OPERABLE CONTROL AND DISPENSER OPENING CENTERLINE
705	MIRROR	1	BOBRICK	B-165X1836	GC	GC	MOUNTING HEIGHT = 40" MAX TO BOTTOM EDGE OF THE REFLECTING SURFACE.
706	18" VERTICAL GRAB BAR	1	BOBRICK	B6806X18	GC	GC	
707	BABY CHANGING STATION	1	KOALA KARE	KB200-00 CREAM	GC	GC	
708	REFRIGERATOR	1	FRIGIDAIRE	FRSS2323AB	GC	GC	BLACK SIDE BY SIDE WITH ICE MAKER
709	MOBILE TOOL BOX ON WHEELS	1	GRAINGER	32H895	OWNER	OWNER	
710	COAT HOOK	3	BOBRICK	B-212	GC	GC	MOUNTING HEIGHT = 40" A.F.F.
711	MIRROR	1	GLACIER BAY	81172	GC	GC	MOUNTING HEIGHT = 48" TO BOTTOM EDGE OF THE REFLECTING SURFACE.
800	FIRE EXTINGUISHER	5	AMEREX	B456	GC	GC	GC TO CONFIRM THE TYPE, MODEL, QUANTITY, AND LOCATION WITH LOCAL FIRE MARSHAL PRIOR TO PROCUREMENT AND INSTALLATION.
801	FLOOR SAFE	1	FIREKING SECURITY GROUP	MB2014K-SG4440	OWNER	GC	SAFE TO BE PROVIDED W/ 5 KEYS
890	CORK BOARD - 36" X 48"	1			GC	GC	
891	CORK BOARD - 72" X 53"	1			GC	GC	
901	MURAL 9'-0"W X 5'-0"H	1	BRITTEN STUDIOS		OWNER	GC	
902	SNAP FRAME DISPLAY - 47 5/8" X 29 1/2"	5		VIOC - 2744	OWNER	GC	
902A	SNAP FRAME DISPLAY - 42 3/4" X 30 3/4"	1		VIOC - 2859	OWNER	GC	
903A	BREAK AREA TABLE	1	COSCO	ITEM # 728170	OWNER	GC	
903B	BREAK AREA CHAIRS	4	REALSPACE	ITEM # 192077	OWNER	GC	
906	ANTIFREEZE FUNNEL	1	DEVON	AFWASTE-PO	DEVON	DEVON	MOUNT ON WALL @ 30" A.F.F. SEE DETAIL 3/A-7.1.
907	GLOVE DRYING HOOKS	24	DEVON	DR03STBKL	DEVON	DEVON	
910	WALL MOUNT EYE WASH STATION	1	HONEYWELL	32-000462-000-H5	GC	GC	MOUNT ON WALL @ 48" A.F.F.
915	SPILL KIT – 55 GAL DRUM	2			OWNER	GC	

PREFERRED VENDORS

1. DAYTON
2. DEVON INDUSTRIES
3. COTTERMAN
4. BRW UNLIMITED SERVICES, INC.
5. RTI
6. FLUID EVACUATORS
7. CHAMPION
8. HALTEC CORPORATION
9. MILTON
10. GRAINGER
11. BOBRICK
12. KOALA KARE
13. AMANA
14. FRIGIDAIRE
15. AMEREX
16. BEST ACCESS DOORS
17. GCP APPLIED TECHNOLOGIES
    CONTACT: KELLY PANARIELLO
    PHONE #: 201.360.9052
    EMAIL: kelly.panariello@gcpat.com
18. OVERHEAD DOOR
    CONTACT: MIKE ROGERS
    2501 S. STATE HWY 121, SUITE 200
    LEWISVILLE, TX 75067
    PHONE #: 469.549.7136
    EMAIL: Mike_Rogers@overheaddoor.com
19. MIDWEST RETAIL SERVICES INC.
    CONTACT: WILL KALAL
    PHONE #: 614.647.5720
    EMAIL: wkalal@mw-rs.com

GENERAL NOTES

1. GC RESPONSIBLE TO OBTAIN FROM OWNER A DETAILED LIST OF ALL EQUIPMENT TO BE SUPPLIED BY OWNER, DEVON AND OWNERS VENDORS.
2. GC SHALL COORDINATE RECEIVING AND SAFELY STORING ALL EQUIPMENT DELIVERED TO SITE FROM OWNER, DEVON AND OWNERS VENDORS.
3. GC SHALL BECOME FAMILIAR WITH ALL EQUIPMENT MOUNTING REQUIREMENTS PRIOR TO CONSTRUCTION START.
4. GC TO PROVIDE SOLID BLOCKING IN WALLS AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT.
5. GC SHALL PROVIDE THE ELECTRICAL AND PLUMBING ROUGH INS AND FINAL CONNECTIONS FOR THE EQUIPMENT. REFER TO THE PLUMBING AND ELECTRICAL DRAWINGS.

HFA
HFA-AE, LTD.
t 479.273.7780
1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
www.hfa-ae.com

STIPULATION FOR REUSE

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12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048557
ARCHITECT

2025.12.22 08:59:29-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021048557
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

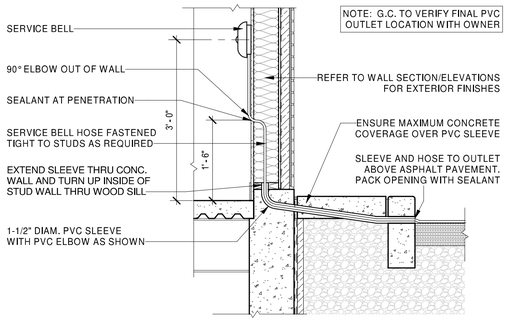
NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

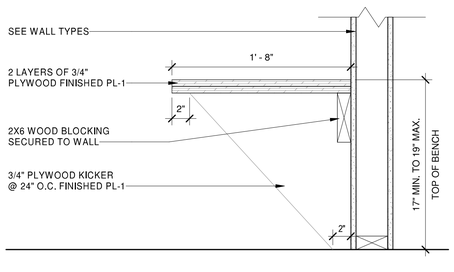
SHEET NAME
OPERATIONS EQUIPMENT PLAN AND SCHEDULE

SHEET #
G-3.1

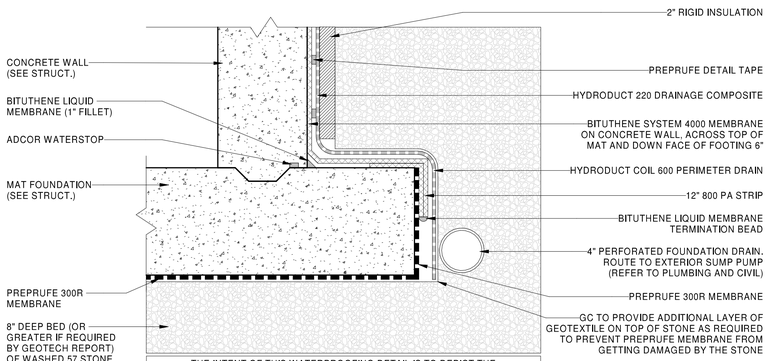
C:\Users\dwayne.harris\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 28-Flat Roof Arch_V24_HFA Dwayne Harris.rvt
12/19/2025 3:00:23 PM
G-3.1 OPERATIONS EQUIPMENT PLAN AND SCHEDULE



4 A-1.1 SERVICE BELL DETAIL
Scale: 3/4" = 1'-0"



3 A-1.1 BENCH DETAIL
Scale: 1 1/2" = 1'-0"



THE INTENT OF THIS WATERPROOFING DETAIL IS TO DEPICT THE MANUFACTURER'S STANDARD WATERPROOFING DETAIL. ALL PENETRATIONS THROUGH THE WATERPROOFING SYSTEM SHALL BE SEALED AS PER MANUFACTURER'S REQUIREMENTS TO MAINTAIN A FULL SYSTEM WARRANTY. REFER TO STRUCTURAL DRAWINGS FOR MAT FOUNDATION DESIGN AND DIMENSIONS.

NOTE: THIS WATERPROOFING DETAIL SHALL BE APPLIED AROUND THE ENTIRE PERIMETER OF THE LOWER LEVEL TO CREATE A SEALED WATERPROOFING SYSTEM AND PREVENT GROUND WATER INFILTRATION INTO THE BUILDING.

NOTE: THIS DETAIL IS WITHIN GCP'S WARRANTY SPECIFICATIONS AND IN NO WAY RELIEVES THE CONTRACTOR FROM FOLLOWING ALL MANUFACTURER SPECIFICATIONS.

2 A-1.1 WATERPROOFING DETAIL
Scale: 1 1/2" = 1'-0"

FLOOR PLAN KEY NOTES:

1. OIL- WATER SEPARATOR - SEE PLUMBING
2. LINE OF CHASE ABOVE
3. ROUTE PROCESS PIPING FROM DRUM TRANSFER PUMP @ UPPER LEVEL, DOWN IN CHASE TO LUBE BAR DRUM TRANSFER IN LUBE PIT. COORDINATE ROUNTING IN FIELD
4. MECHANICAL DUCT ABOVE. SEE MECHANICAL PLANS.
5. PROVIDE UNDERSLAB WATERPROOFING BENEATH ENTIRE LOWER LEVEL - SEE DETAIL 2/A-1.1
6. AUTO AIR DRYER, REFER TO OPERATIONS EQUIPMENT PLAN G-3.1 (COORDINATE LOCATION WITH PLUMBING DRAWINGS.)
7. OIL-WATER SEPARATOR PUMP AND BASIN - SEE PLUMBING
8. BUMP HAT STORAGE
9. GYPSUM BOARD NOT REQUIRED TO BE INSTALLED ON STUD FRAMING WHERE NOT VISIBLE BENEATH STAIR. SEE DETAIL 1/A-5.3.
10. TIRE ROTATION AIR LINE LOCATION. G.C. TO COORDINATE W/ VENDOR
11. CHANGING BENCH - SEE DETAIL 3/A-1.1
12. PROVIDE 5/8" CDX PLYWOOD IN LIEU OF GYPSUM WALL BOARD BEHIND SHELVING FROM FLOOR TO 8'-0" AFF

GENERAL NOTES

A. INTERIOR WALL SEPARATING THE SERVICE BAYS FROM THE WAITING/RESTROOM/OFFICE/MECHANICS ROOM, AND INTERIOR WALLS SURROUNDING THE RESTROOM, OFFICE AND MECHANICAL ROOM SHALL BE PROVIDED WITH SOUND BATT INSULATION FOR THE FULL HEIGHT OF THE WALLS. VAPOR BARRIER IS NOT REQUIRED IN THESE WALLS.

B. ALL EXTERIOR WALLS AND ROOF SHALL BE PROVIDED WITH INSULATION TO ACHIEVE A COMPLETELY INSULATED THERMAL ENVELOPE AS REQUIRED - REFER TO SHEET A-4.1. PROVIDE VAPOR BARRIER PER LOCAL CLIMATE REQUIREMENTS.

C. ALL GYPSUM BOARD IN SERVICE BAYS SHALL BE 5/8" HIGH ABUSE FIRE SHIELD BY NATIONAL GYPSUM.

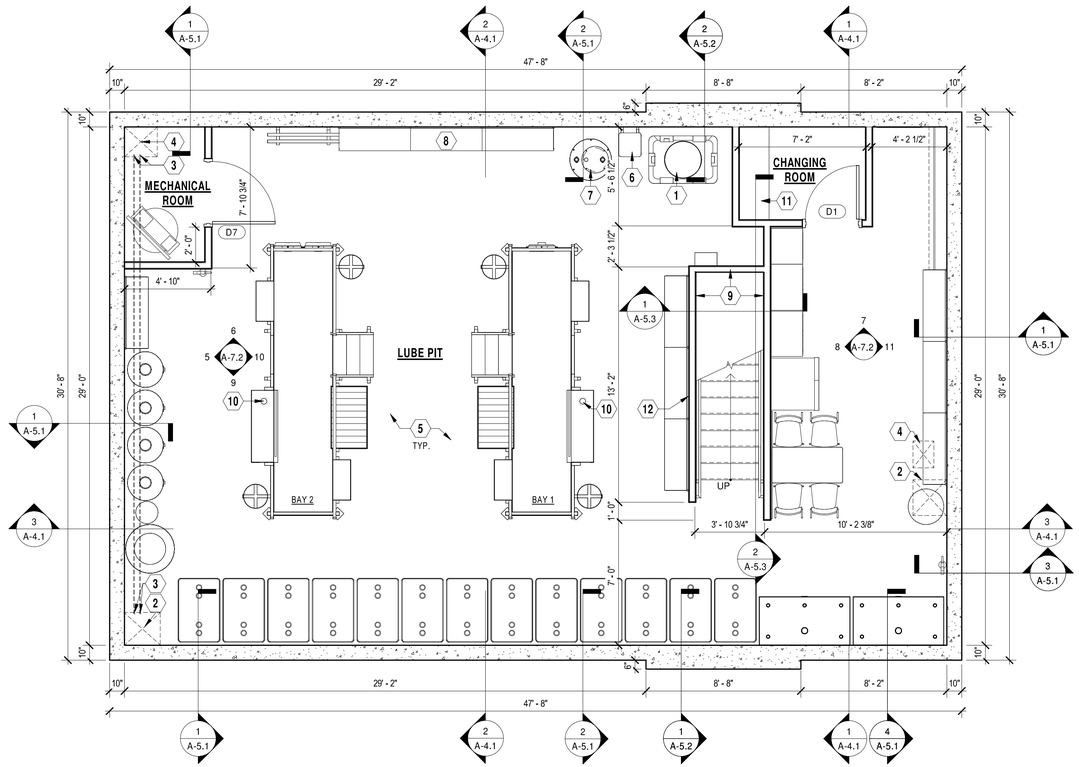
D. ALL WALLS EXTENDING TO UNDERSIDE OF PLYWOOD ROOF SHEATHING SHALL BE BRACED TO STRUCTURE AS REQUIRED. PROVIDE NECESSARY BLOCKING FOR STABLE, SECURE INSTALLATION.

E. REFER TO SHEET G-3.1 FOR EQUIPMENT SCHEDULES AND LOCATIONS.

F. DIMENSIONS FOR INTERIOR WALLS ON PLANS ARE TO ROUGH FRAMING (U.N.O.) EXTERIOR DIMENSIONS ARE TO FINISHED SURFACES AND OPENINGS.

G. REFER TO STRUCTURAL FOR FLOOR PENETRATION LOCATIONS

H. POLYETHYLENE VAPOR BARRIER TO BE USED ON WALL/ CEILING APPLICATIONS WHERE UNFACED BATT INSULATION IS USED.



NORTH

1 A-1.1 FLOOR PLAN - LOWER LEVEL
Scale: 1/4" = 1'-0"

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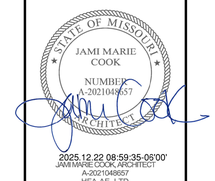
12/22/2025	PERMIT



PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
FLOOR PLAN - LOWER LEVEL

SHEET #
A-1.1

12/19/2025 3:01:15 PM
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A-1.1 FLOOR PLAN - LOWER LEVEL

FINISH SCHEDULE

ROOM	FLOOR	BASE	WALLS			CEILING/ EXPOSED STRUCTURE	REMARKS
			FULL HEIGHT	WAINSCOT BOTTOM	WAINSCOT TOP		
UPPER LEVEL							
WAITING ROOM	F-1	B-1	PR-3/PT-1 1	N/A	N/A	C-1	1
UNISEX RESTROOM	F-1	B-1	PR-3/PT-1/ FRP	N/A	N/A	C-1	FRP TO 4'-0" ABOVE FINISHED FLOOR.
OFFICE	F-1	B-1	PR-3/PT-5	N/A	N/A	C-1	
MECHANICS ROOM	F-1	B-1	PR-3/PT-5	N/A	N/A	PR-3/PT-5	
SERVICE BAYS	F-1	B-1	PR-3/PT-5	W-1	PR-3/PT-5	PR-3/PT-5	SEE INTERIOR ELEVATIONS FOR WAINSCOT
LOWER LEVEL							
MECHANICAL ROOM	F-2	B-1	PR-1/PT-5	N/A	N/A	PR-2/PT-5	B-1 ON STUD WALLS ONLY
LUBE PIT	F-2	B-1	PR-1/PT-5	N/A	N/A	PR-2/PT-5	PT-6 AS SHOWN ON INTERIOR ELEVATIONS; B-1 ON STUD WALLS ONLY
CHANGING ROOM	F-2	B-1	PR-1/PT-5	N/A	N/A	PR-2/PT-5	B-1 ON STUD WALLS ONLY

NOTES:

1. ANY MOISTURE PROBLEMS SUCH AS ROOF LEAKS, IMPROPER GRADING, ETC. MUST BE CORRECTED PRIOR TO PAINT APPLICATION.

2. CLEAN & PREPARE ALL SURFACES ACCORDING TO COATING MFG. RECOMMENDATIONS.

3. ALL GALVANIZED SURFACES SHALL BE CORROSION PROTECTED PER SPEC. RUSTED AREAS SHOULD BE PREPARED PER SSPC-SP2 OR SP3 HAND OR POWER TOOL CLEANING & PRIMED WITH PR-2 PRIOR TO APPLICATION OF SPECIFIED FINISH COATS.

4. ALL SURFACES SHALL RECEIVE (2) APPLICATIONS OF TOP COAT, APPLIED ACCORDING TO MFG. RECOMMENDATIONS.

5. ENTIRE DOOR & FRAME SHALL BE PAINTED ONE COLOR AS NOTED

6. ALL WELDS SHALL BE GROUND SMOOTH PRIOR TO PRIME COAT.

7. ALL EXPOSED LINTELS SHALL BE PAINTED THE SAME COLOR AS THE DOOR FRAME AT MAN DOORS AND TO MATCH THE DESERT SAND METAL COLORS AT ALL OTHER EXPOSURES.

8. ALL EXPOSED STEEL AT STAIR, STAIR RAIL AND PIT OPENING SHALL BE PAINTED PT-4.

9. WALL FINISHES ON THE LOWER LEVEL SHALL EXTEND UP BETWEEN THE BEAM POCKETS TO THE UNDERSIDE OF THE METAL FLOOR DECK. WALL FINISHES ON THE UPPER LEVEL IN THE SERVICE BAYS AND THE MECHANICS ROOM SHALL EXTEND UP BETWEEN THE ROOF TRUSSES TO THE UNDERSIDE OF THE PLYWOOD ROOF SHEATHING.

10. ALL EXPOSED WOOD ROOF TRUSSES, BLOCKING, PLYWOOD ROOF SHEATHING, ETC. SHALL BE PAINTED PT-5.

FINISH LEGEND

MARK	COLOR	FINISH	MANUFACTURER	PRODUCT
PRIMERS:				
PR-1	TINTED TO MATCH		SHERWIN WILLIAMS	HEAVY DUTY BLOCK FILLER B42W150
PR-2	TINTED TO MATCH		SHERWIN WILLIAMS	PRO-CRYL PRIMER B66 -1300 SERIES
PR-3	TINTED TO MATCH		SHERWIN WILLIAMS	MULTI-PURPOSE LATEX PRIMER/SEALER B51-450 SERIES
PAINTS:				
PT-1	SW7012 (CREAMY)	GLOSS	SHERWIN WILLIAMS	WATER BASED ALKYD URETHANE ENAMEL B53
PT-2	SW7515 (HOMESTEAD BROWN)	GLOSS	SHERWIN WILLIAMS	SHER-CRYL HPA
PT-3	CEILING WHITE	GLOSS	SHERWIN WILLIAMS	WATER BASED ALKYD URETHANE ENAMEL B53
PT-4	VALVOLINE RED	GLOSS	SHERWIN WILLIAMS	WATER BASED ALKYD URETHANE ENAMEL B53 - Color to match Pantone 485 RED
PT-5	ULTRA WHITE	GLOSS	SHERWIN WILLIAMS	WATER BASED ALKYD URETHANE ENAMEL B53
PT-6	SW2936 (BLACK EMERALD)	GLOSS	SHERWIN WILLIAMS	WATER BASED ALKYD URETHANE ENAMEL B53
WALL PANELS:				
W-1	MAUNA LOA (1295)	SATIN SANDSTONE	CRANE COMPOSITES	FRP PANEL W/ MATCHING COLOR TRIMS – CLASS C
W-2	S-490N - LIGHT GRAY	SMOOTH	MARLITE	FRP PANEL W/ MATCHING COLOR TRIMS - CLASS C 1
PLASTIC LAMINATE:				
PL-1	DOVE GREY	MATTE	WILSONART	STANDARD HPL FINISH D92-60
FLOOR FINISH:				
F-1	SEE FINISH NOTE D		SIKA / SHERWIN WILLIAMS	SIKAGARD 200 HD WB AND SIKAGARD H 1001
F-2	SEE FINISH NOTE E		SIKA	SIKAGARD 300 KNS
BASE:				
B-1	BLACK	SMOOTH	ROPPE OR EQUAL	700 SERIES 4" RUBBER COVE BASE
CEILING FINISH:				
C-1	WHITE	MEDIUM TEXTURE	ARMSTRONG	24"X24" CIRRUS HIGH NRC SQUARE LAY-IN CEILING PANELS SET IN PRELUDE XL ITEM NO. 7301-WH EXPOSED TEE SUSPENSION SYSTEM.

FINISH NOTES

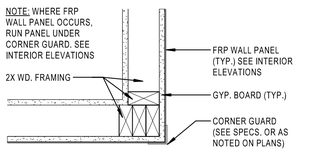
A. W-1 FINISH IS AVAILABLE THROUGH CRANE COMPOSITES. CONTACT: KEVIN BELLINGER @ (704) 904-4730. REFER TO DETAIL 4/A-7.1.

B. PROVIDE STANDARD FRP TRIMS & MOLDINGS IN COLORS TO MATCH FRP FOR FINISHES W-1. COMPLY w/ MANUFACTURERS INSTALLATION GUIDELINES USING ONLY APPROVED ADHESIVES AND SEALANTS.

C. INSIDE OF ACCESS CHASES SHALL BE PAINTED PT-6.

D. PROVIDE LIGHT BROOM FINISH. SIKAGARD 200 HD WB SHALL BE APPLIED TO HARDEN AND SEAL THE CONCRETE FLOOR SLAB IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. AFTER THE FLOOR SLAB HAS CURED, APPLY SIKAGARD H 1001 (3 COATS MIN.) IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE YELLOW CAUTION STRIPING AND BLUE END-OF-BAY MARKING INTEGRAL w/ FLOOR FINISH - SEE FLOOR PLAN. PAINT TO BE SHERWIN WILLIAMS, PROPARK WATERBORNE TRAFFIC PAINT - BLUE.

E. PROVIDE LIGHT BROOM FINISH. SIKAGARD 300 KNS SHALL BE INSTALLED WITH (3) COATS MINIMUM. TWO COATS AT INITIAL FINISH AND ONE COAT AFTER CLEANING, JUST PRIOR TO TURN OVER.



2 A-1.2 CORNER GUARD DETAIL
Scale: 1 1/2" = 1'-0"

FLOOR PLAN KEY NOTES:

1. YELLOW SAFETY STRIPE INTERGRAL W/FLOOR FINISH. REFER TO FINISH NOTE "D" & PIT OPENING PLAN DETAIL 1/A-9.1.
2. FRP FINISH THIS WALL (OR AREA). PROVIDE/INSTALL TRIM AS REQUIRED. REFER TO FINISH SCHEDULE.
3. PLASTIC LAMINATE COUNTERTOP AND WALL CABINETS. REFER TO INTERIOR ELEVATIONS & DETAILS 1 & 2/A-7.1
4. SMOKE DETECTOR. (COORDINATE LOCATION IN MECHANICS ROOM WITH OWNER)
5. PIPE BOLLARD (SEE PLANS FOR QUANTITY/LOCATION). REFER TO DETAIL 6/A-10.1.
6. WATER HEATER ON PLATFORM ABOVE SINK. REFER TO INTERIOR ELEVATIONS AND PLUMBING.
7. COMBINATION BOTTLE FILLING STATION AND DRINKING FOUNTAIN, REFER TO INTERIOR ELEVATIONS AND PLUMBING.
8. ELECTRICAL EQUIPMENT. REFER TO ELECTRICAL.
9. FURNISH AND INSTALL VESTIL OVERHEAD TRACK PROTECTOR - 24 1/4" HIGH =, MODEL #DSP-24 FROM NORTHERN TOOL + EQUIPMENT. SECURELY MOUNT TO FLOOR (EACH SIDE OF DOOR) TO COVER/ PROTECT VITECTOR ELECTRONIC EYES AND LIFTECH EQUIPMENT WITHOUT BLOCKING SIGHT LINE.
10. ROUTE LUBE BAR LINES DOWN IN SHAFT TO TANKS IN LUBE PIT.
11. PROVIDE SEALED CONCRETE APRONS IN FRONT OF OVERHEAD DOORS. REFER TO CIVIL FOR EXTENT OF PAVING AND FINISH MATERIAL.
12. EXTEND FLOOR FINISH (F-1) TO OUTER EDGE OF SLAB @ BAY DOORS.
13. PROVIDE PVC SLEEVE ROUTED THROUGH CONCRETE SIDEWALK AND WALL FOR SERVICE BELL RINGER HOSE. COORDINATE REQUIREMENTS WITH OWNER PRIOR TO SIDEWALK/ CURB INSTALLATION. SEE DETAIL 4/A1.1.
14. ANTIFREEZE FUNNEL DRAIN LINE TO BE ROUTED THROUGH WALL INTO ACCESS CHASE
15. PROVIDE 1 1/4" x 1 1/4" x 16 GA. STAINLESS STEEL CORNER GUARDS OVER FRP PANELS. GUARDS TO STOP AT TOP OF FRP. REFER TO DETAIL 2/A-1.2.
16. MECHANICAL DUCT. REFER TO MECHANICAL.
17. BLUE GUIDE SQUARE ON FLOOR - INTEGRAL WITH FLOOR FINISH. REFER TO FINISH NOTE "D" & PIT OPENING PLAN DETAIL 1/A-9.1.
18. LOCATION OF SIGNAGE ABOVE. REFER TO EXTERIOR ELEVATIONS AND SIGN SCHEDULE.
19. "OPEN" SIGNAGE. REFER TO EXTERIOR ELEVATIONS, SIGN SCHEDULE, AND ELECTRICAL.
20. EXTERIOR ACCESS DOOR. REFER TO EXTERIOR ELEVATIONS & DOOR SCHEDULE.
21. 2" Ø HOLE TO BE CORE DRILLED THRU FLOOR. G.C. TO COORDINATE LOCATIONS WITH OWNER.
22. ROYAL BLUE STRIPE INTEGRAL WITH FLOOR FINISH. REFER TO FINISH NOTE "D" & PIT OPENING PLAN DETAIL 1/A-9.1.
23. SLOPE CONCRETE TOPPING APPROXIMATELY 30" Ø AROUND FLOOR DRAIN (TYP.). SLOPE OF CONCRETE SHALL NOT EXCEED 1:48
24. 3/4" PLYWOOD ON ENTIRE WALL. PAINT PT-1 (BY G.C.).
25. AIR PRESSURE SHUT OFF VALVE LOCATION FOR AIR COMPRESSOR.
26. AIRLINE PEDESTAL (BY OWNER).
27. LINE OF METAL AWNING/CANOPY ABOVE. REFER TO DETAIL 5/A-5.2
28. INSTALL FIXED ALUMINUM ROOF ACCESS LADDER AND ROOF SCUTTLE AND LADDER UP SAFETY POST. INSTALL 5/8" PLYWOOD BEHIND ROOF ACCESS LADDER. SEE DETAIL 7/A-2.1. COORDINATE WITH STRUCTURAL DRAWINGS.
29. PROVIDE 5/8" CDX PLYWOOD IN LIEU OF GYPSUM WALL BOARD BEHIND SHELVING FROM FLOOR TO 8'-0" AFF

GENERAL NOTES

A. INTERIOR WALL SEPARATING THE SERVICE BAYS FROM THE WAITING/RESTROOM/OFFICE/MECHANICS ROOM, AND INTERIOR WALLS SURROUNDING THE RESTROOM, OFFICE AND MECHANICAL ROOM SHALL BE PROVIDED WITH SOUND BATT INSULATION FOR THE FULL HEIGHT OF THE WALLS. VAPOR BARRIER IS NOT REQUIRED IN THESE WALLS.

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G. REFER TO STRUCTURAL FOR FLOOR PENETRATION LOCATIONS

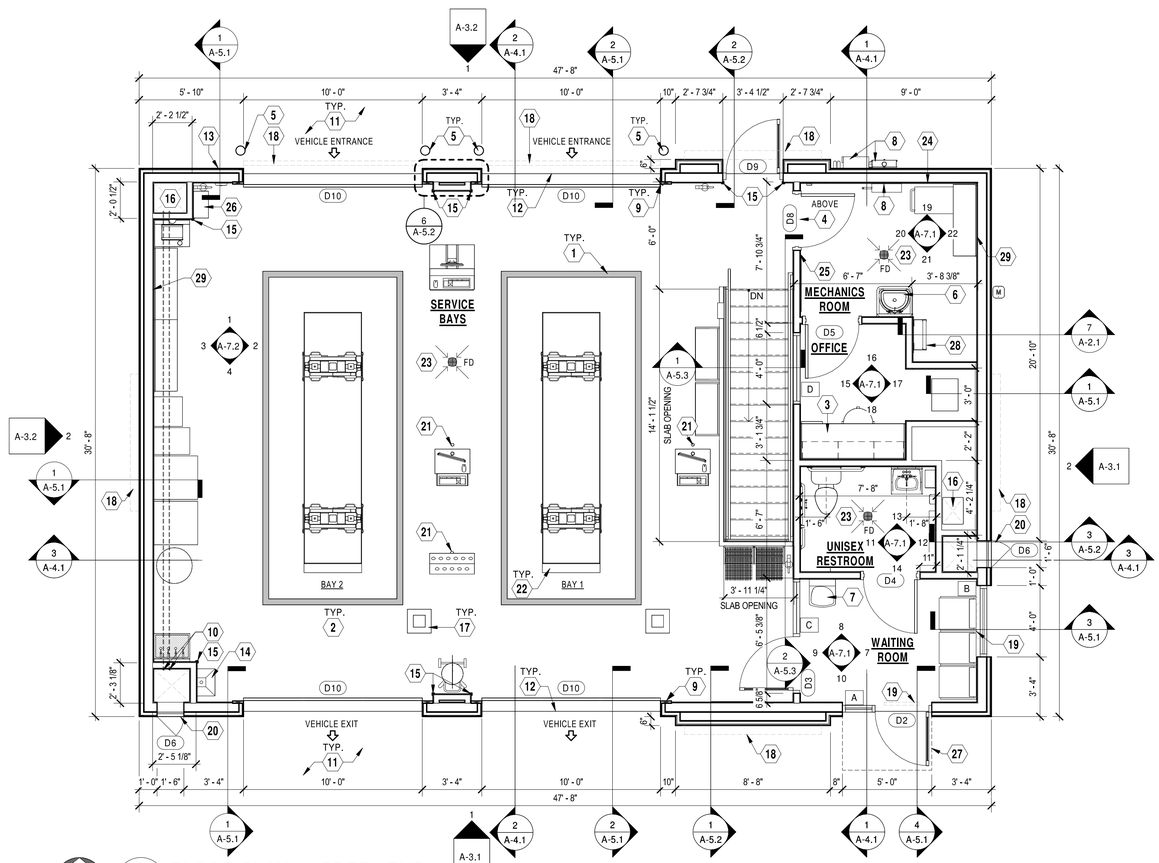
H. POLYETHYLENE VAPOR BARRIER TO BE USED ON WALL/ CEILING APPLICATIONS WHERE UNFACED BATT INSULATION IS USED.

KEY TO WALL TYPES

EXTERIOR WALL: EXTERIOR FINISH, OVER AIR/MOISTURE BARRIER, OVER PLYWOOD SHEATHING (PER STRUCTURAL), OVER 2x6 WALL STUDS (TYPE & SPACING PER STRUCTURAL). PROVIDE 5/8" HIGH ABUSE GYPSUM WALL BOARD ON INTERIOR FACE OVER POLYETHYLENE VAPOR BARRIER. INSULATE STUD CAVITY WITH BATT INSULATION.

INTERIOR WALL: 2x4 STUDS @ 16" O.C. (UNLESS OTHERWISE NOTED) w/ P.T. SILL PLATE AND DOUBLE TOP PLATES w/ 5/8" GYPSUM BOARD EACH SIDE. EXTEND WALL AND SECURE TO STRUCTURE. INSULATE STUD CAVITY WITH SOUND BATTS WHERE NOTED. INTERIOR WALLS IN THE LOWER LEVEL SHALL EXTEND UP TO THE UNDERSIDE OF THE METAL FLOOR DECK. INTERIOR WALLS AT THE UPPER LEVEL SURROUNDING THE SERVICE BAYS AND MECHANICS ROOM SHALL EXTEND UP TO THE UNDERSIDE OF THE PLYWOOD ROOF SHEATHING. ALL OTHER INTERIOR WALLS AT THE UPPER LEVEL SHALL EXTEND UP TO 6" ABOVE THE ACT CEILING.

NOTE: REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.



NORTH

1 A-1.2 FLOOR PLAN - UPPER LEVEL
Scale: 1/4" = 1'-0"

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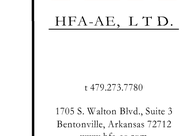

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PROJECT NUMBER
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SHEET NAME
FLOOR PLAN - UPPER LEVEL

SHEET #
A-1.2

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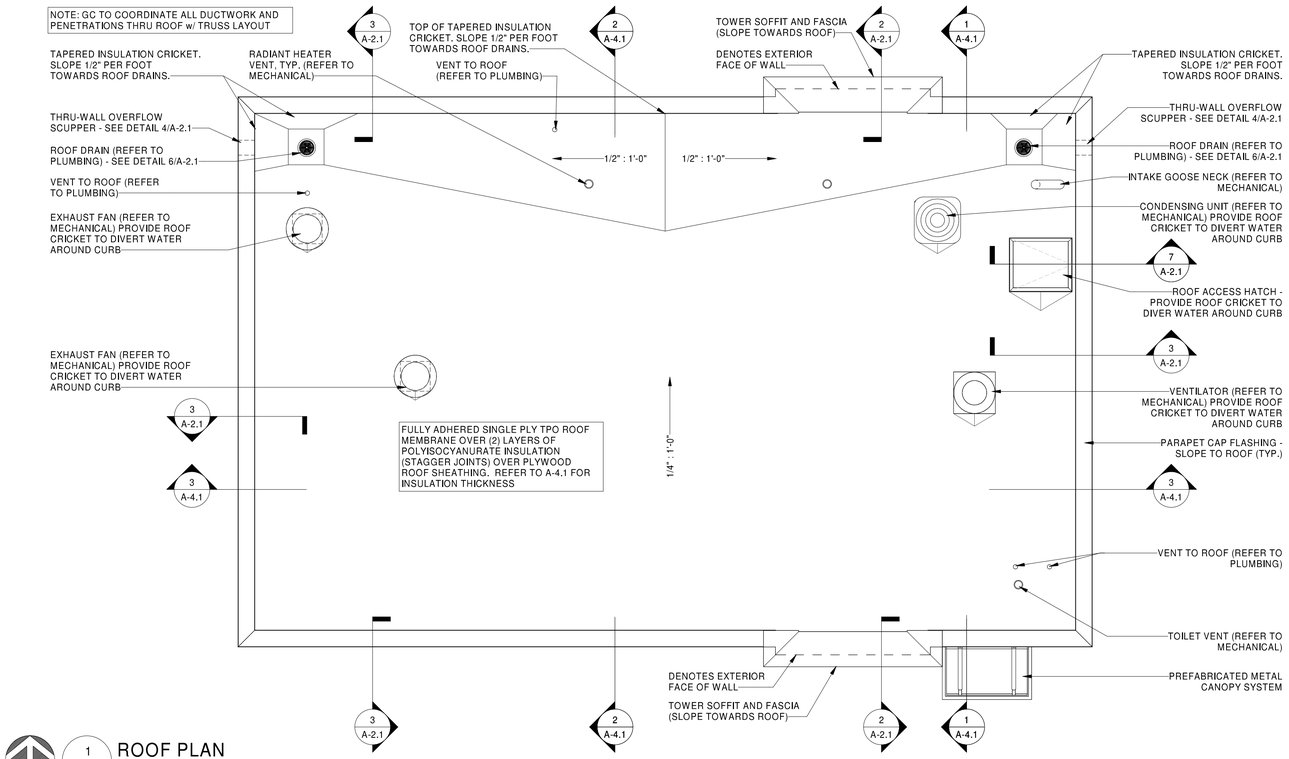
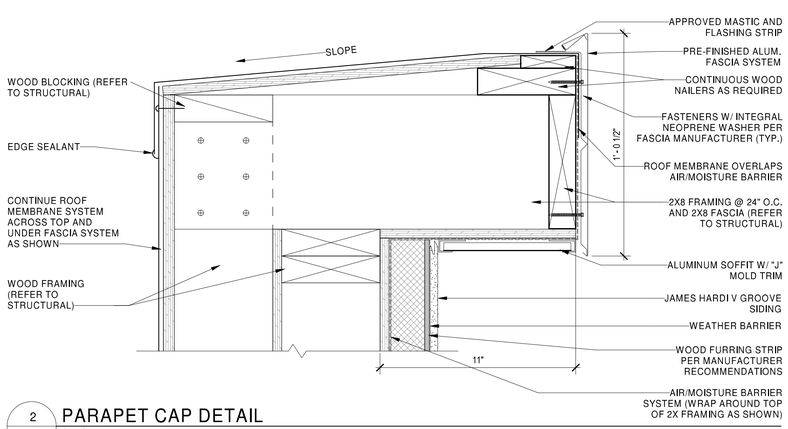
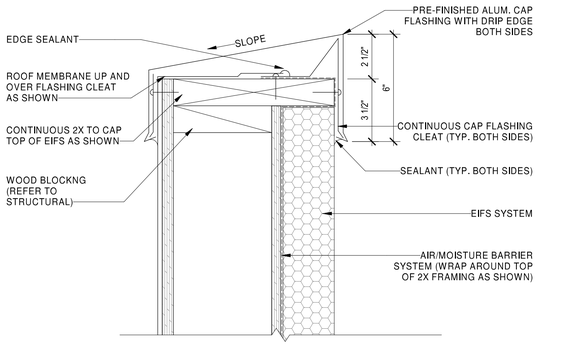
A1.2 FLOOR PLAN - UPPER LEVEL-REVISION 1



1 A-2.1 **ROOF PLAN**
Scale: 1/4" = 1'-0"



2 A-2.1 **PARAPET CAP DETAIL**
Scale: 3" = 1'-0"



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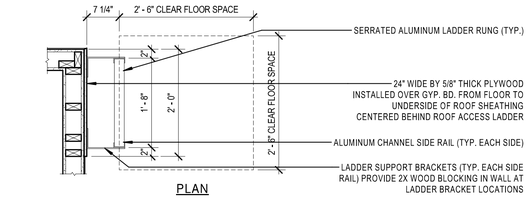
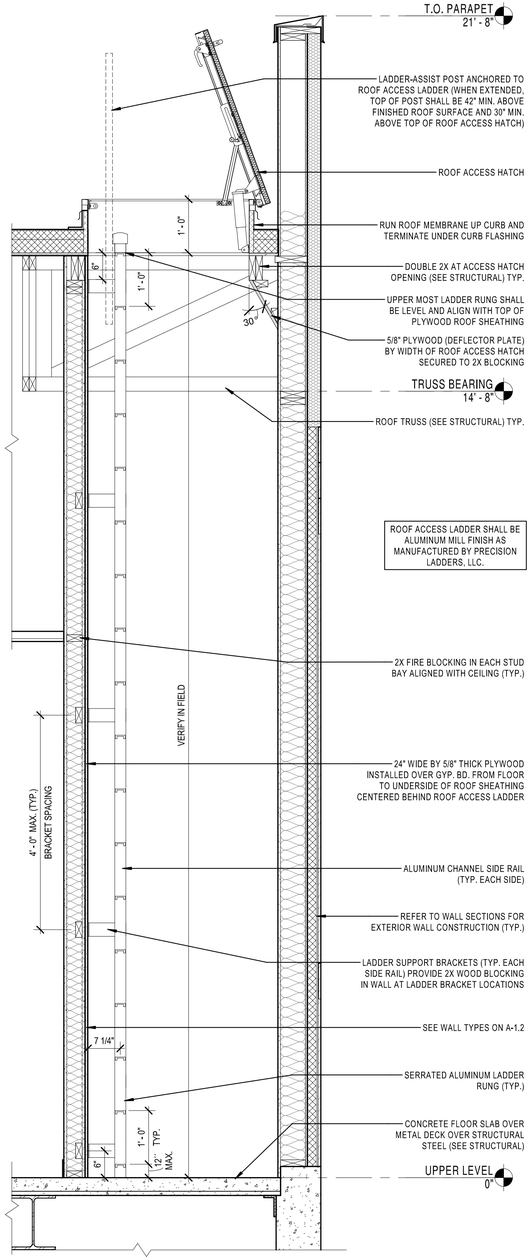
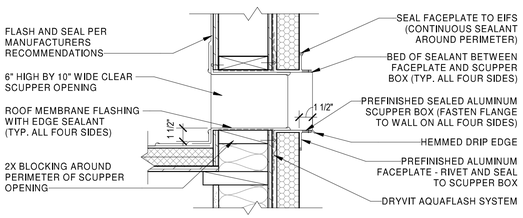


PLAN

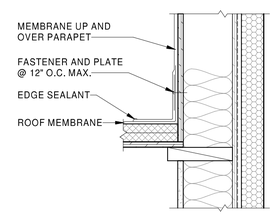


SECTION

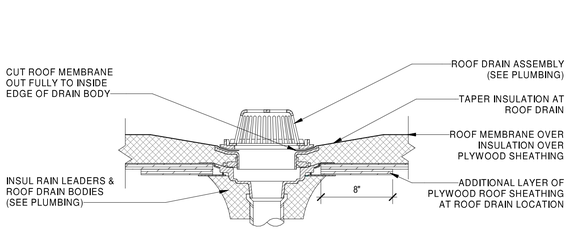
7 A-2.1 **ROOF HATCH AND LADDER**
Scale: 3/4" = 1'-0"



4 A-2.1 **SCUPPER DETAIL**
Scale: 1 1/2" = 1'-0"



5 A-2.1 **PARAPET TO ROOF DETAIL**
Scale: 1 1/2" = 1'-0"



6 A-2.1 **ROOF DRAIN DETAIL**
Scale: 1 1/2" = 1'-0"

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A-2005011993-F

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PROJECT NAME
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LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
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SHEET NAME
ROOF PLAN & DETAILS

SHEET #
A-2.1

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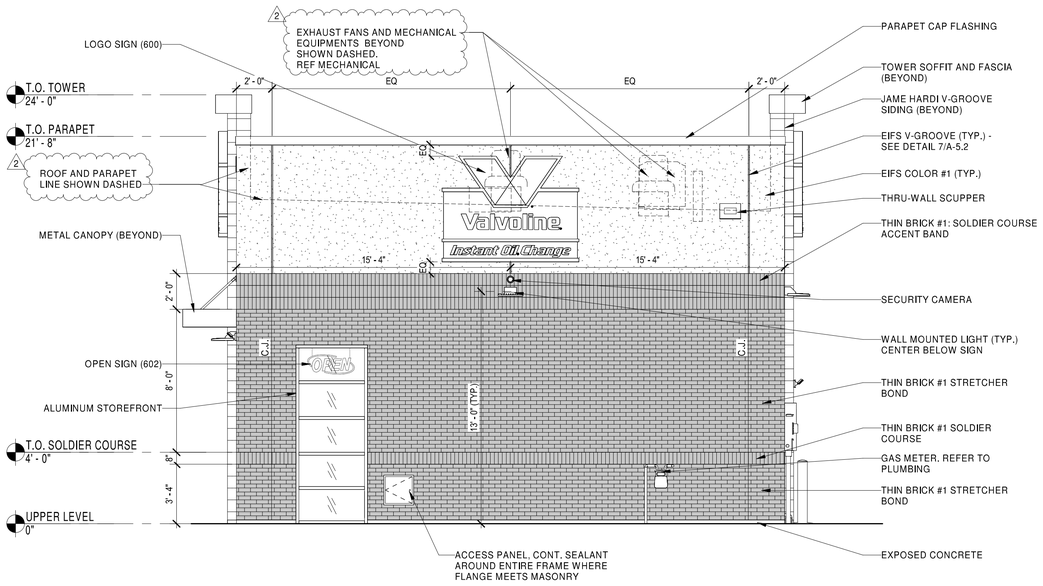
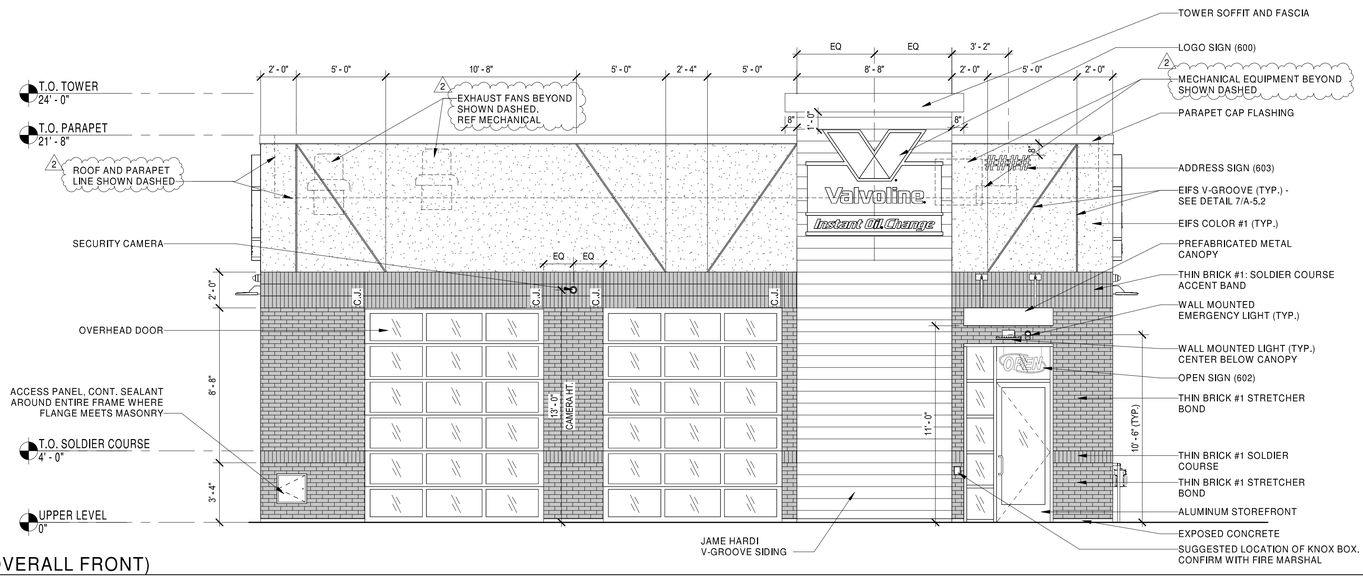
12/19/2025 3:03:32 PM
A-2.1 - ROOF PLAN & DETAILS



2 A-3.1 EXTERIOR ELEVATION (OVERALL RIGHT)
Scale: 1/4" = 1'-0"



1 A-3.1 EXTERIOR ELEVATION (OVERALL FRONT)
Scale: 1/4" = 1'-0"

ELEVATION NOTES

1. EIFS SHALL BE DRYVIT, CLASS PB DRAINAGE SYSTEM WITH FLUID APPLIED WATER RESISTIVE BARRIER BEHIND INSULATION BOARD.
2. SIGNAGE SHOWN ON THESE ELEVATIONS IS FOR GENERAL REFERENCE PURPOSES ONLY. ALL SIGNAGE SHALL BE APPLIED FOR & PERMITTED UNDER A SEPARATE SIGNAGE SUBMITTAL.
3. G.C. SHALL PROVIDE BLOCKING IN STUD WALL BEHIND EACH SIGN AS REQUIRED BY SIGN VENDOR - FIELD VERIFY REQUIREMENTS W/ VENDOR & OWNER'S REPRESENTATIVE.
4. ALL FLASHING, SOFFIT, FASCIA, BREAK METAL, ETC SHALL MATCH MANUFACTURER'S STANDARD DETAILS.
5. ALL MASONRY WITH CORNER EXPOSURES TO HAVE SAME PROFILE AS FACE OF THE STANDARD MASONRY PRODUCT. NO CUT SURFACE ARE TO BE EXPOSED
6. ALL EXTERIOR SECURITY CAMERAS SHALL BE INSTALLED OVER ELECTRICAL BOXES RECESSED FLUSH WITH THE EXTERIOR WALL FINISH - REFER TO ELECTRICAL FOR ADDITIONAL INFORMATION.

EXTERIOR FINISHES

EXPOSED CONCRETE:	RUBBED FINISH
THIN BRICK SYSTEM:	MODULAR PANEL SYSTEM WITH INTEGRAL DRAINAGE THIN BRICK #1: GLEN GERY "EBONITE VELOUR THIN BRICK"
FIBER CEMENT SIDING (TOWER):	JAMES HARDI V-GROOVE SIDING 8.25" PAINTED SW-7018 "DOVETAIL"
MORTAR:	LEHIGH STANDARD KIT - "CHARCOAL"
MASONRY SEALER:	ALL MASONRY SURFACES SHALL BE TREATED W/ SEALER.
EXTERIOR INSULATED FINISH SYSTEM :	DRYVIT (SANDPEBBLE FINE) COLOR #1: #104 DOVER SKY
PREFABRICATED METAL CANOPY:	AWNEX INC. - "SEATTLE" DESIGN COLOR: "BLACK"
PARAPET CAP FLASHING:	ALUMINUM BREAK METAL PREFINISHED TO MATCH PAC-CLAD "BLACK"
TOWER SOFFIT AND FASCIA:	PAC-CLAD SNAP EDGE EXTENDED FASCIA (12-1/2") PREFINISHED TO MATCH PAC-CLAD "BLACK"
THRU-WALL SCUPPER:	ALUMINUM BREAK METAL PREFINISHED TO MATCH DIMENSIONAL METALS, INC. - "BLACK"
STOREFRONT SYSTEM:	2x4 1/2" KAWNEER TRIFAB VG 451T SERIES BLACK ANODIZED ALUMINUM STOREFRONT SYSTEM W/ 1" INSULATED GLAZING.
O.H. DOOR FINISH:	PREFINISHED TO MATCH PAC-CLAD "BLACK"
ACCESS PANEL:	PREFINISHED TO MATCH PAC-CLAD "BLACK"

SIGNAGE SCHEDULE

NUMBER	DESCRIPTION	SIZE	ILLUMINATED	QUANTITY
600	LOGO SIGN	7'-8" x 5'-11" (45 SF)	INTERNALLY	4
	PROVIDED BY OWNER, INSTALLED BY SIGN CONTRACTOR			
601	LANE INDICATOR SIGN	10'-0" x 1'-0" (10 SF)	NO	2
	PROVIDED BY OWNER, INSTALLED BY SIGN CONTRACTOR			
602	OPEN SIGN	2'-7 1/2" x 11 1/2" (2.52 SF)	INTERNALLY	2
	PROVIDED BY OWNER, INSTALLED BY SIGN CONTRACTOR			
603	ADDRESS SIGN	VERTICALLY BRUSHED STAINLESS STEEL ADDRESS NUMBERS - 10" TALL ARIAL BOLD FONT	NO	1
	PROVIDED AND INSTALLED BY G.C.			
605	MONUMENT SIGN	REFER TO SHEET A-11.1	INTERNALLY	1
	PER LOCAL AND DEVELOPMENTAL RESTRICTIONS			

ALL SIGNAGE ARE PERMITTED SEPARATELY BY VENDOR.

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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT
02/02/2026	BID SET
02/11/2026	REVISION 2

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT
2026.02.10 16:13:40-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME
VALVOLINE INSTANT OIL CHANGE
NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
EXTERIOR ELEVATIONS

SHEET #
A-3.1

2/3/2026 12:46:11 PM
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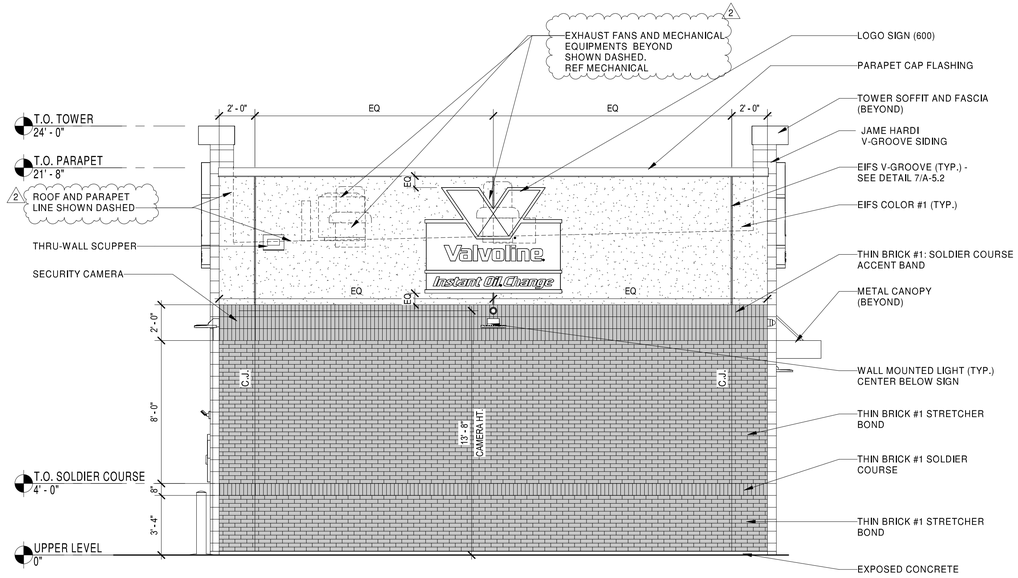
A-3.1 - EXTERIOR ELEVATIONS REVISION 2

ELEVATION NOTES

1. SEE SHEET A-3.1 FOR ELEVATION NOTES.
2. SEE SHEET A-3.1 FOR EXTERIOR FINISHES.
3. SEE SHEET A-3.1 FOR SIGNAGE SCHEDULE.



2 / A-3.2 EXTERIOR ELEVATION (OVERALL LEFT)
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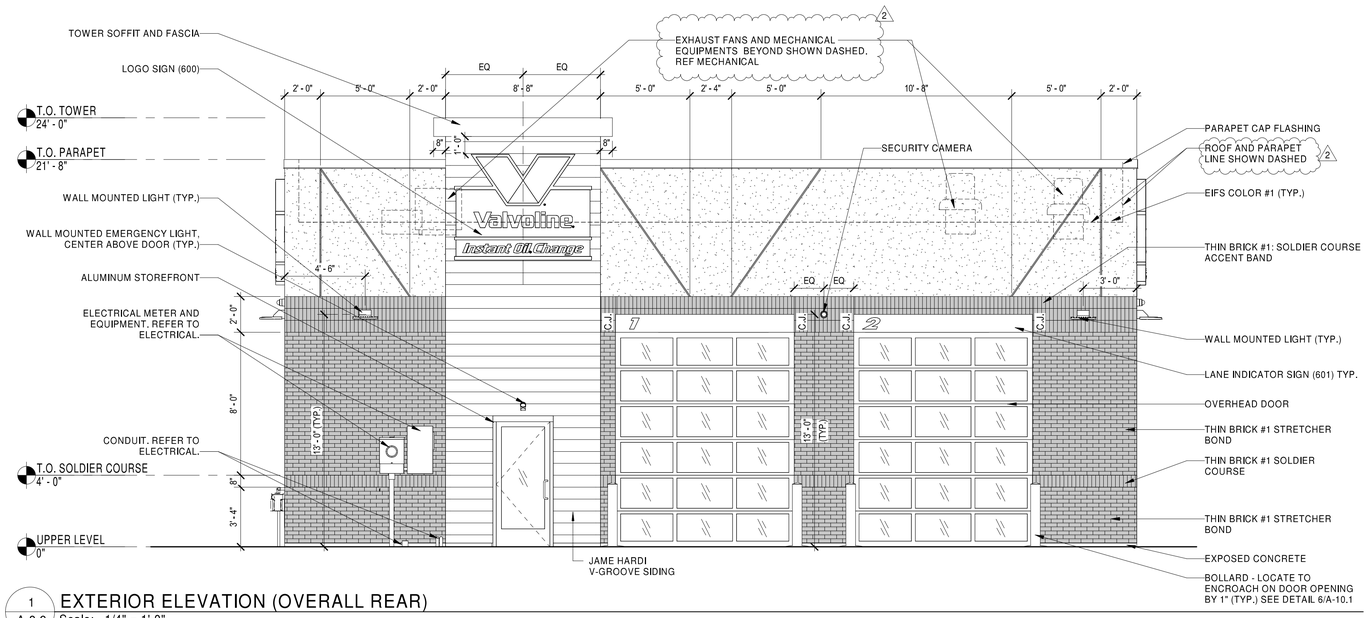

1 / A-3.2 EXTERIOR ELEVATION (OVERALL REAR)
Scale: 1/4" = 1'-0"

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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT
02/02/2026	BID SET
02/11/2026	REVISION 2

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2026.02.10 16:13:45-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME

EXTERIOR ELEVATIONS

SHEET #

A-3.2

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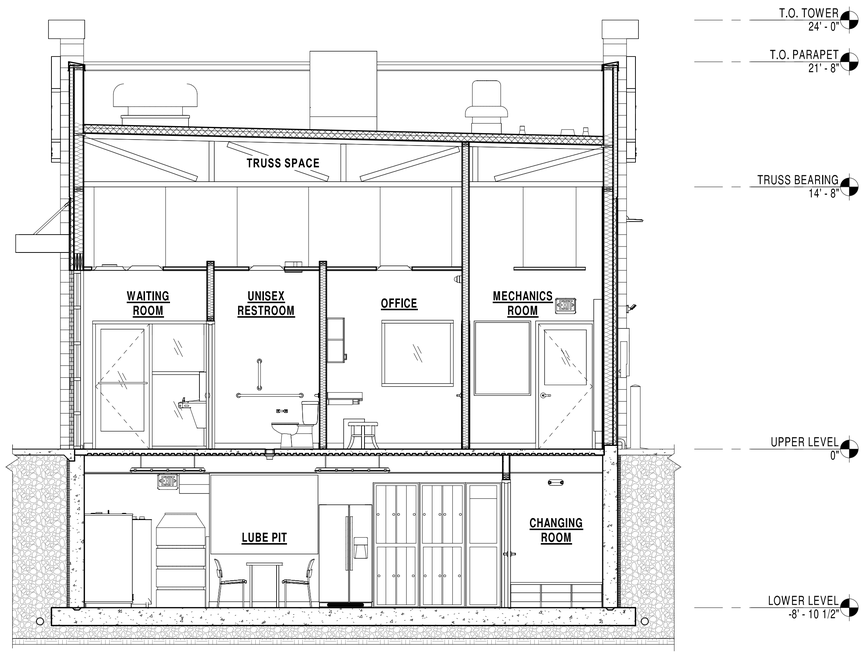
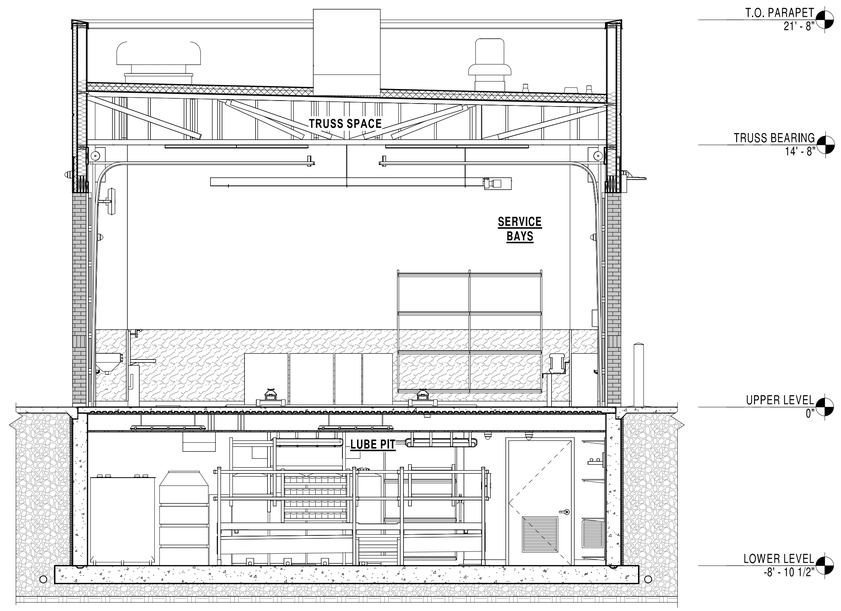
A-3.2 EXTERIOR ELEVATIONS #2 REVISION 2

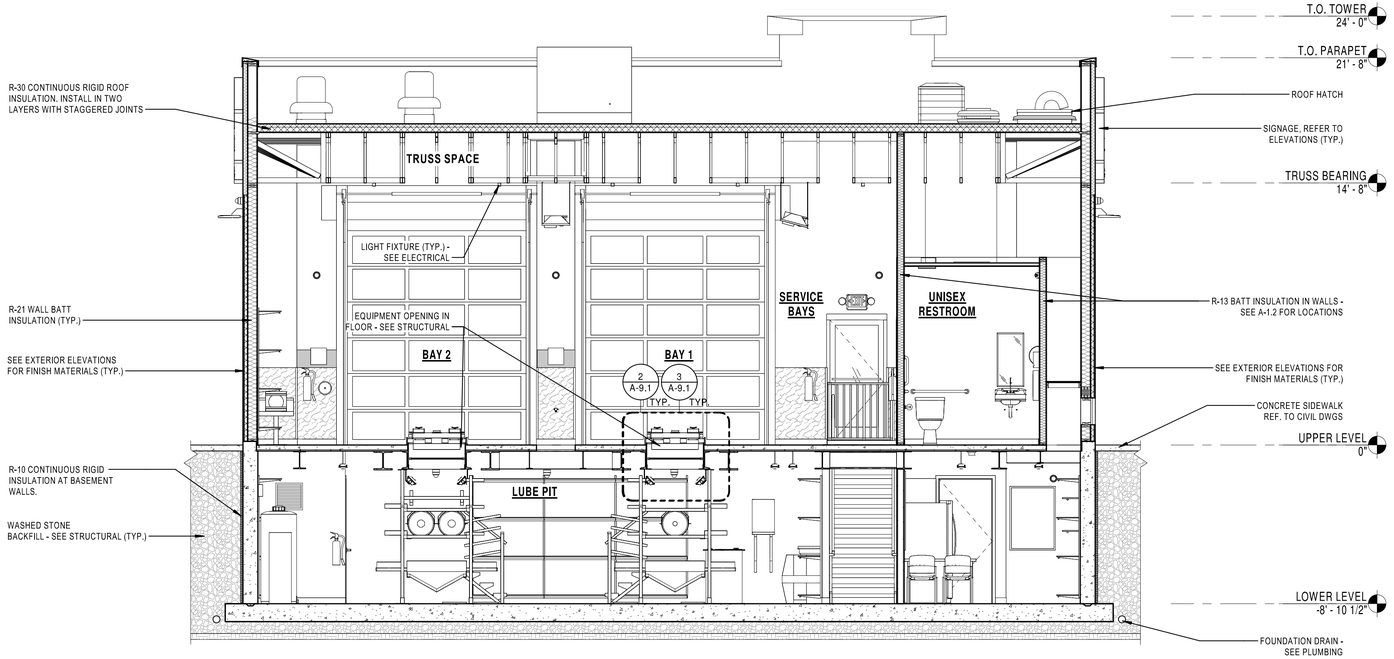


1 A-4.1 BUILDING SECTION
Scale: 1/4" = 1'-0"



2 A-4.1 BUILDING SECTION
Scale: 1/4" = 1'-0"

NOTE: REFER TO INTERIOR ELEVATIONS SHEETS AND WALL SECTIONS SHEETS FOR FURTHER INFORMATION ON ITEMS SHOWN/TAGGED BELOW (TYP.)



3 A-4.1 BUILDING SECTION
Scale: 1/4" = 1'-0"

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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2025.12.22 09:00:00-05'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
BUILDING SECTIONS

SHEET #
A-4.1

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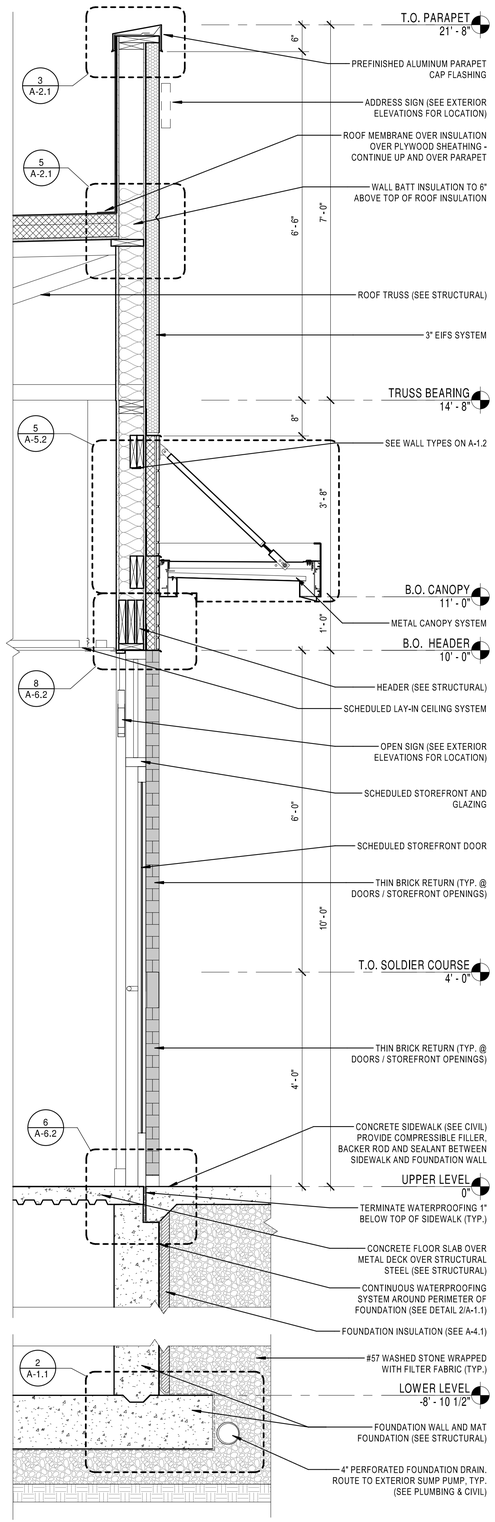
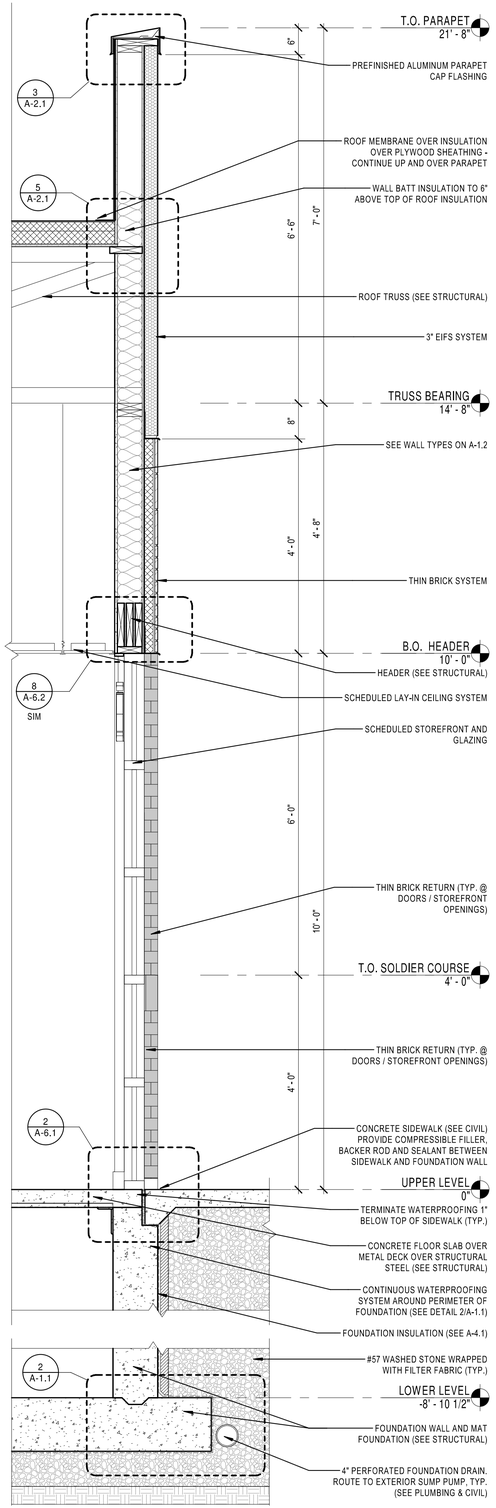
A-4.1 BUILDING SECTIONS



4 A-5.1 WALL SECTION - WAITING AREA
Scale: 3/4" = 1'-0"



3 A-5.1 WALL SECTION - WAITING AREA
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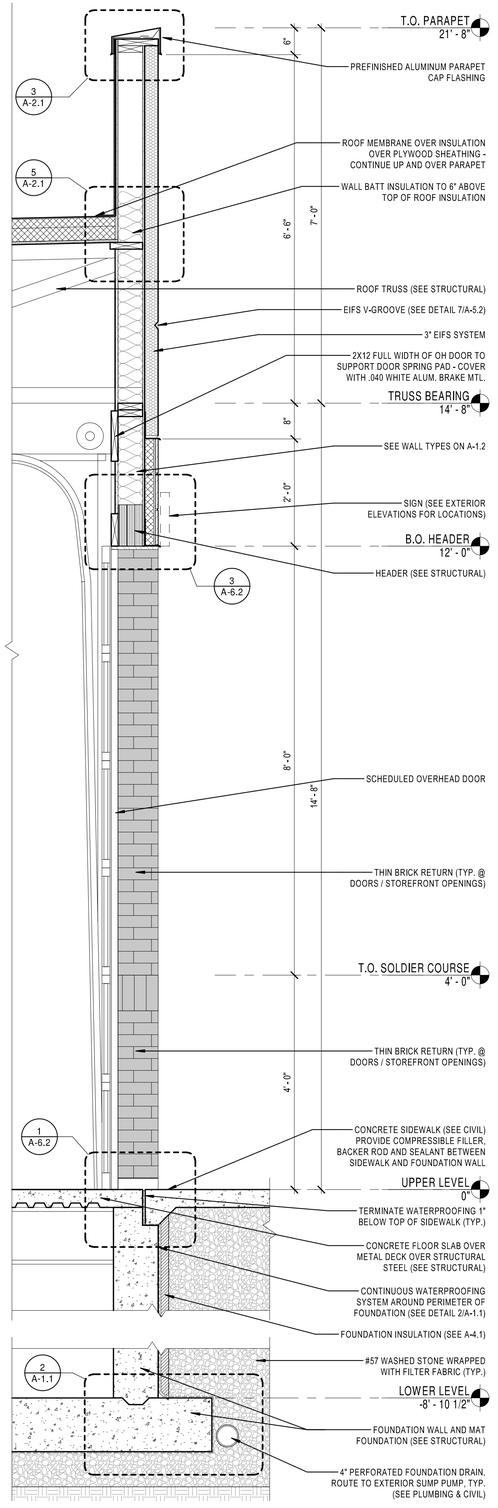
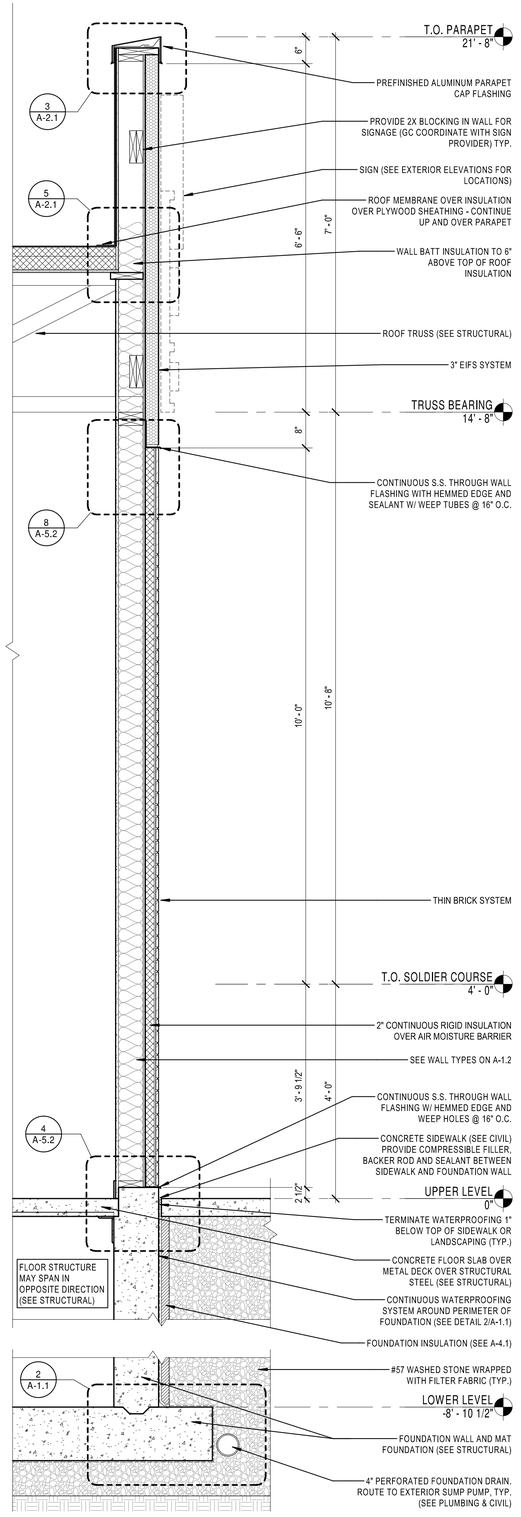


2 A-5.1 WALL SECTION - OVERHEAD DOOR
Scale: 3/4" = 1'-0"



1 A-5.1 WALL SECTION - TYP WALL
Scale: 3/4" = 1'-0"

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Date	Issued Record
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12/22/2025	PERMIT

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JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
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QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
WALL SECTIONS

SHEET #
A-5.1

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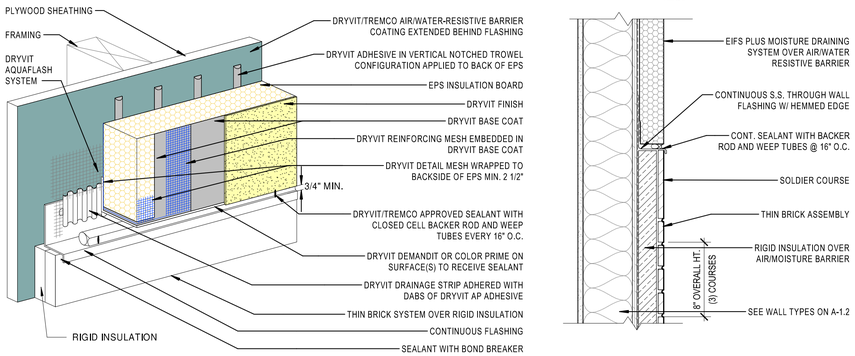
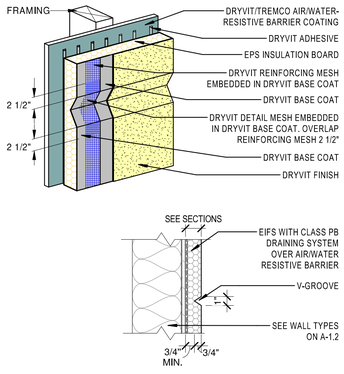


8 A-5.2 FLASHING DETAIL - BRICK/EIFS
Scale: 1 1/2" = 1'-0"



7 A-5.2 EIFS V-GROOVE DETAIL
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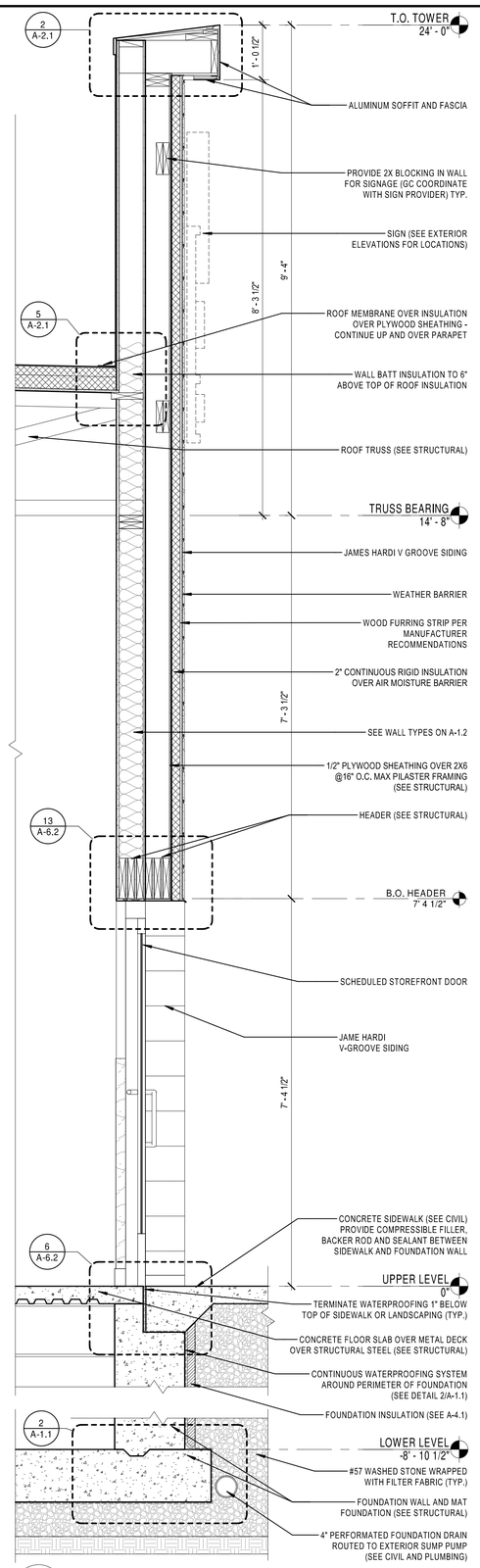
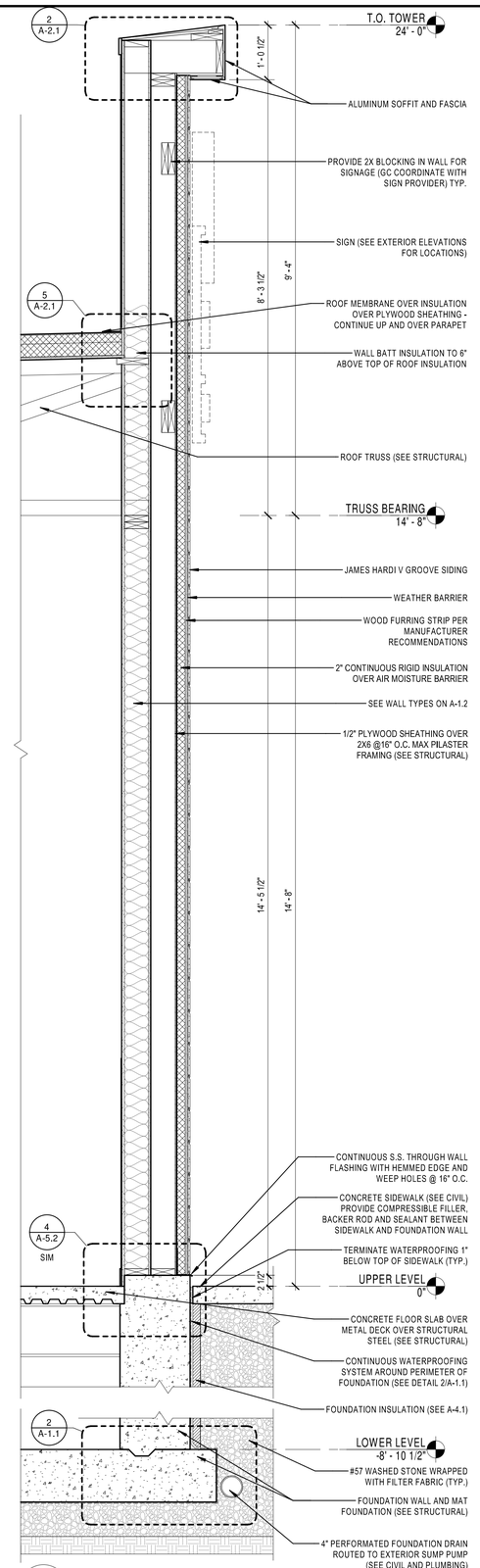


2 A-5.2 WALL SECTION - STOREFRONT AT TOWER
Scale: 3/4" = 1'-0"



1 A-5.2 WALL SECTION - TOWER
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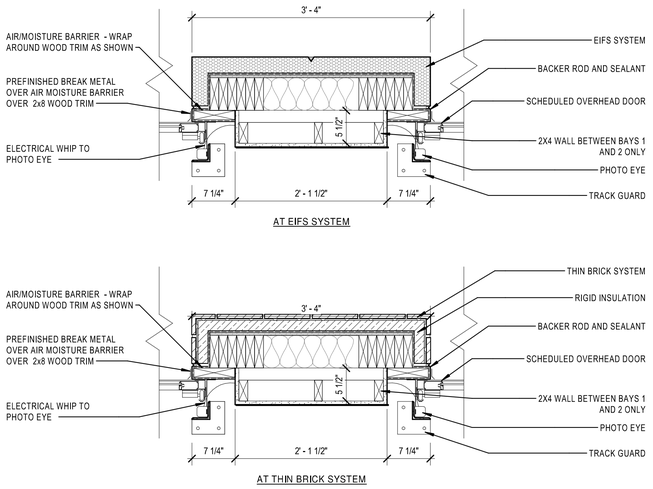
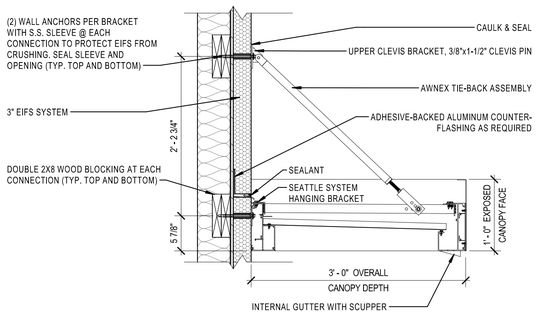


6 A-5.2 PIER DETAIL
Scale: 1" = 1'-0"



5 A-5.2 CANOPY DETAIL
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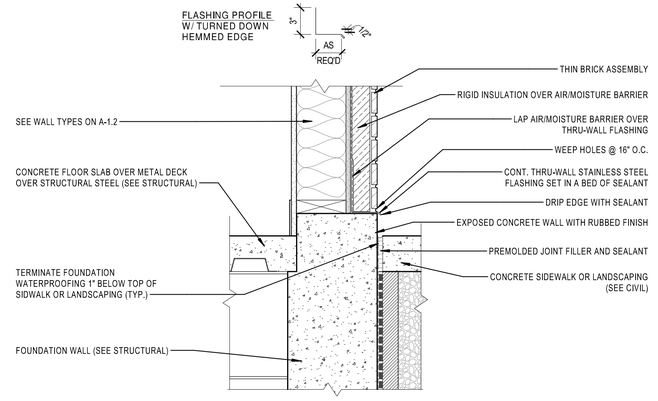

4 A-5.2 THRU WALL FLASHING DETAIL
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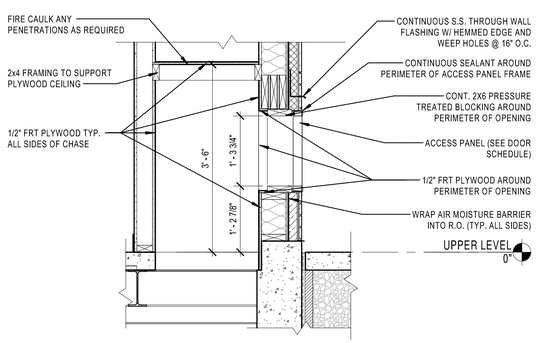

3 A-5.2 WALL SECTION - ACCESS PANEL
Scale: 3/4" = 1'-0"

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Date	Issued Record
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STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2025.12.22 09:00:10-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
WALL SECTIONS

SHEET #
A-5.2

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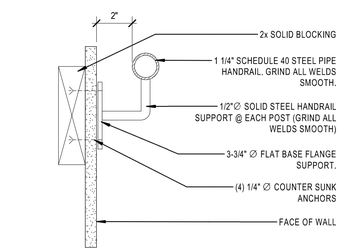
A-5.2 - WALL SECTIONS



4 A-5.3 **HANDRAIL BRACKET DETAIL**
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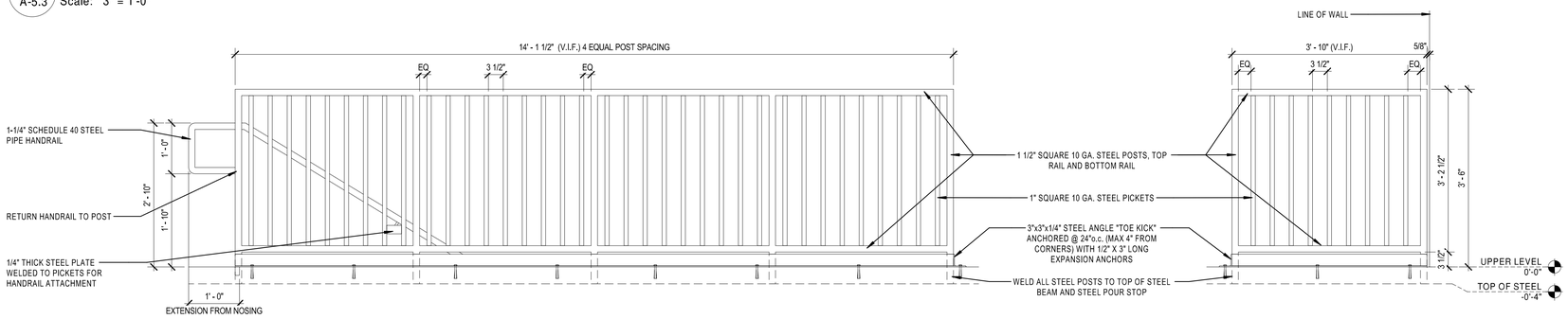

3 A-5.3 **GUARDRAIL ELEVATIONS AROUND STAIR**
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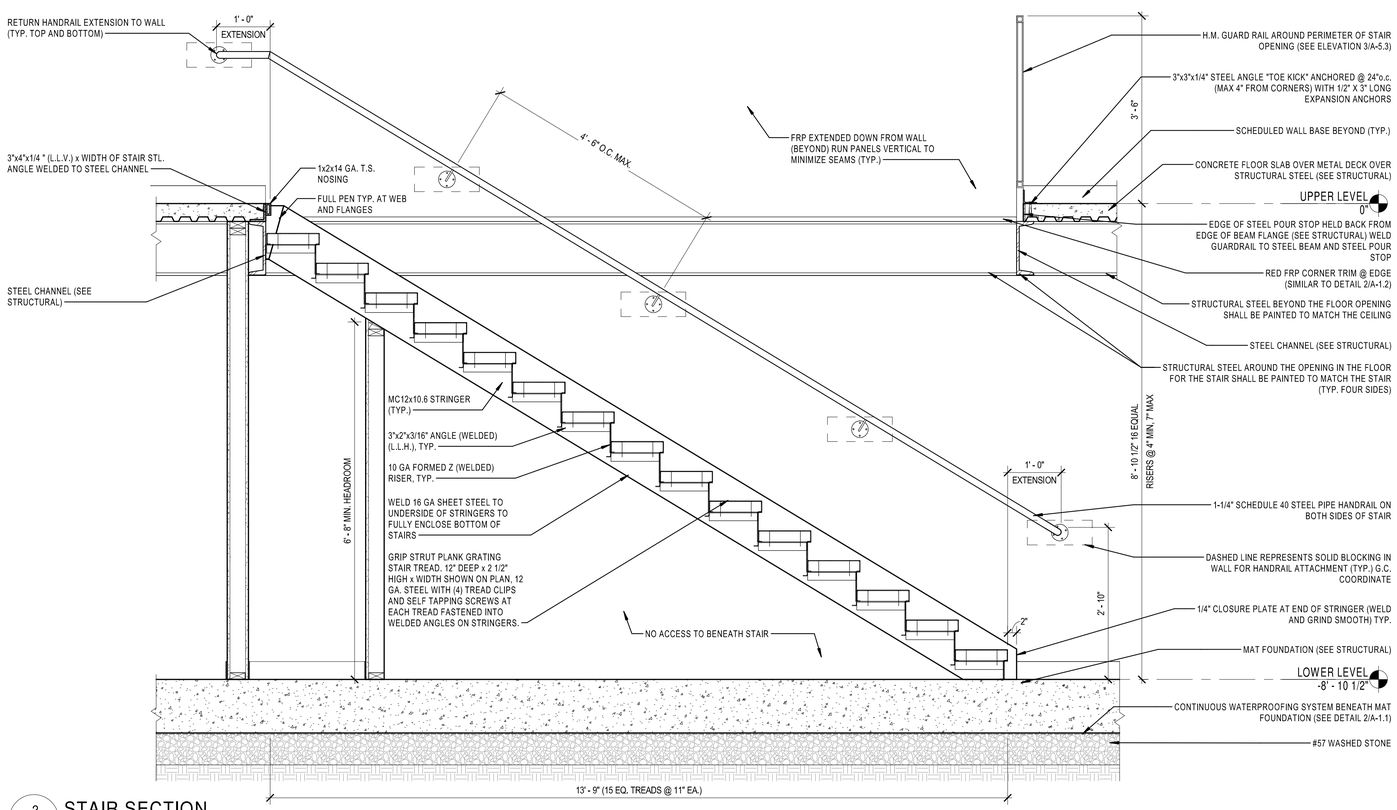

2 A-5.3 **STAIR SECTION**
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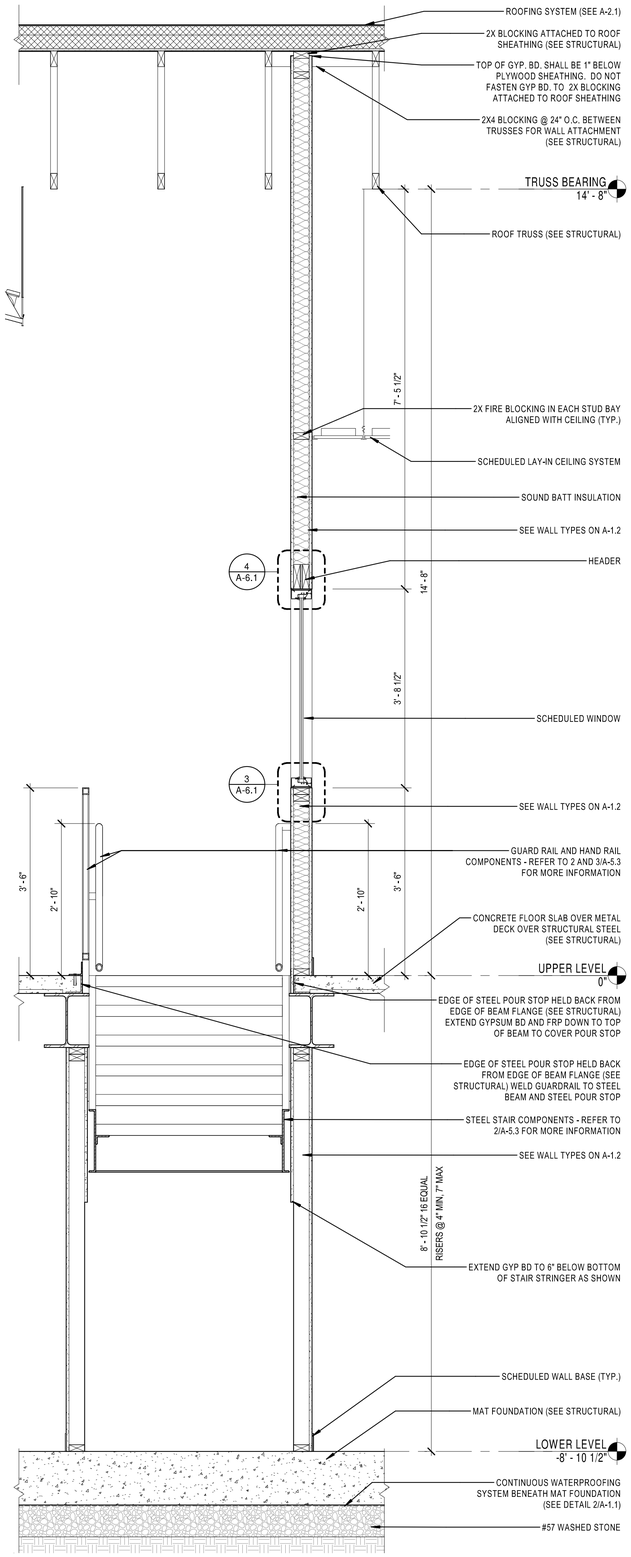

1 A-5.3 **STAIR SECTION**
Scale: 3/4" = 1'-0"

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12/22/2025	PERMIT

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NUMBER A-2021046857
ARCHITECT
2025.12.22 09:00:15-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021046857
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
STAIR SECTIONS AND DETAILS

SHEET #
A-5.3

C:\Users\dwayne.hams\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 2B Flat Roof Arch_V24_HFA Dwayne.Hams.rvt
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A-5.3 STAIR SECTIONS AND DETAILS

DOOR SCHEDULE

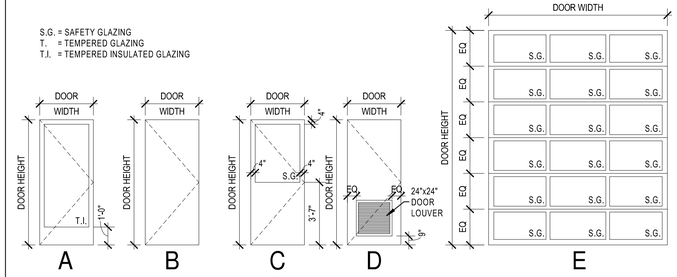
DOOR NO.	ROOM NAME	DOOR NOMINAL OPENING WIDTH	DOOR NOMINAL OPENING HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	DETAILS HEAD	DETAILS JAMB	DETAILS THRESHOLD	FIRE RATING	SET #	COMMENTS
D1	CHANGING ROOM	3' - 0"	7' - 0"	B	HM	PT-2	F2	HM	PT-2	23/A-6.2	22/A-6.2	21/A-6.2	--	H6	SEE NOTES 1 & 11
D2	WAITING ROOM	3' - 0"	7' - 10"	A	AL/GL	SEE SCHEDULE A-3.1	F1	ALUM.	SEE SCHEDULE A-3.1	8/A-6.2	7/A-6.2	6/A-6.2	--	H1	SEE NOTES 1,2,3,4,5,8,9 & 10
D3	WAITING ROOM	3' - 0"	7' - 0"	A	AL/GL	MATCH EXT. FINISH	F4	ALUM.	MATCH EXT. FINISH	18/A-6.2	17/A-6.2	16/A-6.2	--	H2	SEE NOTES 1 & 8
D4	UNISEX RESTROOM	3' - 0"	7' - 0"	B	HM	PT-2	F2	HM	PT-2	23/A-6.2	22/A-6.2	21/A-6.2	--	H6	SEE NOTES 1 & 11
D5	OFFICE	3' - 0"	7' - 0"	C	HM/GL	PT-2	F2	HM	PT-2	23/A-6.2	22/A-6.2	21/A-6.2	--	H5	SEE NOTES 1,10 & 11
D6	ACCESS CHASE	1' - 6"	1' - 6"	F	S. STEEL	S. STEEL	--	S. STEEL	S. STEEL	3/A-5.2	3/A-5.2	3/A-5.2	--	--	SEE NOTES 4,5,7,9 & 10
D7	MECHANICAL ROOM	3' - 6"	7' - 0"	D	HM	PT-2	F2	HM	PT-2	23/A-6.2	22/A-6.2	21/A-6.2	--	H4	SEE NOTES 1,11 & 12
D8	MECHANICS ROOM	3' - 0"	7' - 0"	C	HM/GL	PT-2	F2	HM	PT-2	23/A-6.2	22/A-6.2	21/A-6.2	--	H4	SEE NOTES 1 & 11
D9	SERVICE BAYS	3' - 0"	7' - 0"	A	AL/GL	SEE SCHEDULE A-3.1	F3	ALUM.	SEE SCHEDULE A-3.1	13/A-6.2	12/A-6.2	6/A-6.2	--	H1	SEE NOTES 1,2,3,4,5,8,9 & 10
D10	SERVICE BAYS	10' - 0"	12' - 0"	E	--	SEE SCHEDULE A-3.1	--	--	SEE SCHEDULE A-3.1	3/A-6.2	2/A-6.2	1/A-6.2	--	H3	SEE NOTES 6 & 9

STOREFRONT OPENING SCHEDULE

MARK	SIZE WxH	GLAZING	MATERIAL	TYPE	FINISH	HEAD	JAMB	SILL	COMMENTS
A	4' 11-1/2" x 9' 11-1/2"	1" INSULATED GLASS	ALUMINUM	F1	SEE SCHEDULE A-3.1	8/A-6.2	5/A-6.1	2/A-6.1	KAWNEER TRI-FAB 451-T
B	3' 11-1/2" x 9' 11-1/2"	1" INSULATED GLASS	ALUMINUM	F5	SEE SCHEDULE A-3.1	8/A-6.2	5/A-6.1	2/A-6.1	KAWNEER TRI-FAB 451-T
C	6'-4 3/4" x 7'-2"	1" INSULATED GLASS	ALUMINUM	F4	MATCH EXTERIOR FINISH	4/A-6.1	4/A-6.1 SIM	1/A-6.1	KAWNEER TRI-FAB 451-T
D	3' 11-1/2" x 3'-8"	1" INSULATED GLASS	ALUMINUM	F6	MATCH EXTERIOR FINISH	4/A-6.1	4/A-6.1 SIM	3/A-6.1	KAWNEER TRI-FAB 451-T

DOOR TYPES

S.G. = SAFETY GLAZING
T. = TEMPERED GLAZING
T.I. = TEMPERED INSULATED GLAZING



ALL TYPE "A", "B", AND "C" DOOR SHALL:
1. BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MIN.
2. THE MINIMUM OPENING FORCE TO PULL OR PUSH OPEN THE DOOR SHALL BE 5 POUNDS MAXIMUM.

NOTE: FOR ALL OVERHEAD DOOR PRODUCTS AND HARDWARE CONTACT THE VALVOLINE OVERHEAD DOOR NATIONAL ACCOUNT MANAGER:
CONTACT:
MIKE ROGERS
2501 S. STATE HWY 121, SUITE 200
LEWISVILLE, TX 75067
Mike_Rogers@overheaddoor.com
469-549-7136

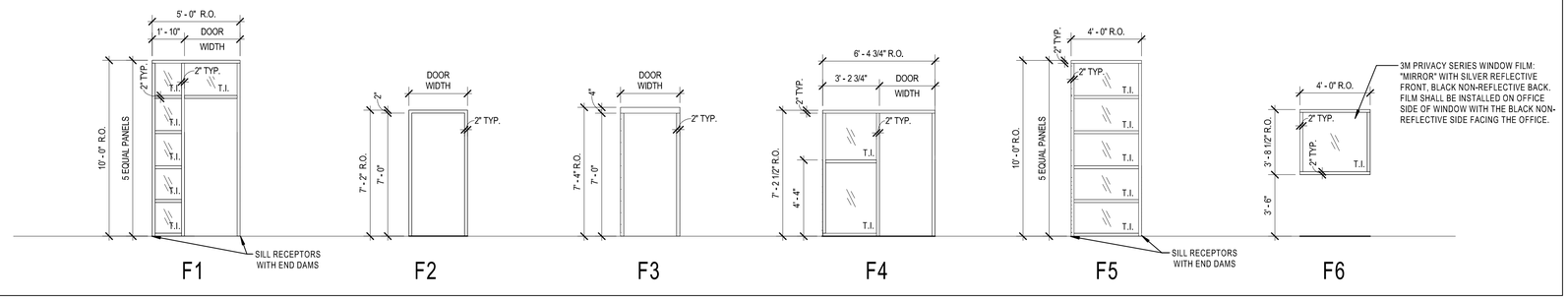
NOTE: CLOPAY BUILDING PRODUCTS AND DURASERV CORP ARE ACCEPTABLE ALTERNATES TO OVERHEAD DOOR PRODUCTS UTILIZING THE SAME DESIGN CRITERIA.
CLOPAY CONTACT:
CHRIS REMICK CSI,
CDT - BUSINESS DEVELOPMENT MANAGER
cremick@clopay.com t: 614-306-6968
DURASERV CONTACT:
CAMERON SMITH,
STRATEGIC SALES, NATIONAL ACCOUNTS
cameron.smith@duraservcorp.com t: 469-745-5568

DOOR REMARKS/ NOTES

1. ALL "MAN DOOR" HARDWARE SHALL BE HANDICAP ACCESSIBLE.
2. EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE OR EFFORT. LOCKING DEVICE MUST BE A TYPE THAT IS READILY DISTINGUISHABLE AS LOCKED. COMPLY W/ LOCAL BLDG.CODES.
3. PROVIDE A READILY VISIBLE, DURABLE SIGN ADJACENT TO DOOR & INSIDE BUILDING STATING: "THIS DOOR IS TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED" AS PER LOCAL BUILDING CODE. LETTERS SHALL BE MIN. 1" HIGH ON CONTRASTING BACKGROUND.
4. ALL CYLINDERS SHALL BE COMMERCIAL GRADE BEST LOCK WITH SMALL FORMAT INTERCHANGEABLE CORE.
5. PROVIDE 2 SETS OF KEYS PER DOOR. ALL EXTERIOR DOORS SHALL BE MASTER KEYED.
6. OVERHEAD DOORS SHALL BE OVERHEAD DOOR COMPANY MODEL #521 WITH 2" TRACK AND OVERHEAD DOOR BRAND OPERATOR. MOUNT DOOR WITH MAX. LIFT CLEARANCE. DOOR INSTALLER SHALL PROVIDE WEATHER STRIPPING. PROVIDE CLEAR GLAZING WITH THERMAL VALUES AS NOTED IN THE ENVELOPE COMPLIANCE CERTIFICATE. SEE ELECTRICAL PLAN FOR NUMBER OF PUSH BUTTONS AND LOCATION. PROVIDE LOW HEADROOM TRACKS AS REQUIRED. PROVIDE MOMENTARY PUSH BUTTONS AND LIFTMASTER CPS-U COMMERCIAL PHOTO EYES WITH PROTECTIVE STEEL GUARDS MOUNTED TO FLOOR FOR PHOTO EYE PROTECTION, G.C. TO CONTACT THE OVERHEAD DOOR NATIONAL ACCOUNT MANAGER FOR ALL OVERHEAD DOOR AND HARDWARE PROCUREMENT.
7. PIT ACCESS PANELS NOTED IN SCHEDULE: NYSTROM BUILDING PRODUCTS - MODEL: XTM18X18CS (STAINLESS STL.), WITH DRIP CAP, GASKET, ANCHORS, AND MORTISE PREPARATION. FURNISH AND INSTALL 1-1/8" MORTISE CYLINDER LOCK. (SEE NOTE 4).
8. STOREFRONT DOORS TYPE "A" SHALL BE KAWNEER MEDIUM STILE OR EQUAL.
9. REFER ALSO TO EXTERIOR FINISH SCHEDULE FOR EXTERIOR DOOR & FRAME FINISHES. CONTRACTOR TO BRING DISCREPANCIES TO ARCHITECT'S ATTENTION IMMEDIATELY.
10. OFFICE DOOR TO BE KEYED SEPARATELY. ALL EXTERIOR ACCESS DOORS, EXTERIOR MAN DOORS, AND EXTERIOR MECHANICAL ROOM DOOR SHALL BE KEYED ALIKE.
11. INTERIOR HOLLOW METAL DOOR FRAMES SHALL HAVE A THROAT SIZED TO ACCOMODATE THE SCHEDULED WALL THICKNESS.
12. INTERIOR HOLLOW METAL DOOR SHALL BE INSULATED.

STOREFRONT & DOOR FRAME TYPES

S.G. = SAFETY GLAZING
T. = TEMPERED GLAZING
T.I. = TEMPERED INSULATED GLAZING



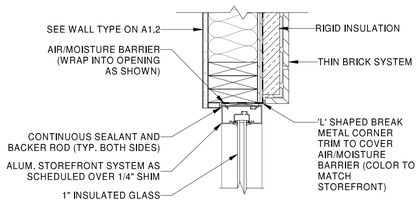
STOREFRONT NOTES

1. PROVIDE TEMPERED OR SAFETY GLAZING FOR GLAZING IN HAZARDOUS LOCATIONS SUCH AS: GLASS DOORS, ADJACENT TO WALKING SURFACES, ADJACENT TO DOORS, AS PER BUILDING CODE.
2. GLAZING ADJACENT A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" RADIUS OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE FLOOR OR WALKING SURFACE MUST BE TEMPERED GLAZING.
3. FIELD VERIFY ALL ROUGH OPENINGS PRIOR TO FABRICATION. SUBMIT SHOP DRAWINGS FOR APPROVAL.
4. PROVIDE SILL RECEPTOR W/ END DAMS WHERE SHOWN OR REQUIRED.
5. ALL GLASS SHALL BE CLEAR UNLESS OTHERWISE NOTED OR SPECIFIED.
6. VERIFY WIND SPEED AND IMPACT REQUIREMENTS PRIOR TO STOREFRONT AND DOOR PROCUREMENT
7. ALL GLASS SHALL BE 1" INSULATED WITH THERMAL VALUES AS NOTED IN THE ENVELOPE COMPLIANCE CERTIFICATE.
8. SPANDREL PANEL/FILM TO BE BLACK.

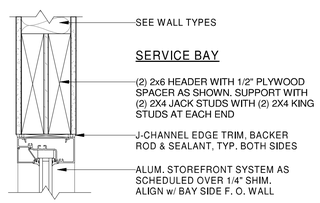
DOOR HARDWARE

ENTRY AND SERVICE BAYS	SET H1:	1 SET	OFFSET PIVOTS	KAWNEER	TOP, BOTTOM & INTERMEDIATE (FINISH TO MATCH DOOR)
		1 SET	WEATHER-STRIP	KAWNEER	SEALAIR
		1	CLOSER	NORTON	CLP 1601 SERIES ADA COMPLIANT - SET CLOSER TO OPEN 100 DEG. (FINISH TO MATCH DOOR)
		1	THRESHOLD	KAWNEER	4"x 1/2" OFFSET (FINISH TO MATCH DOOR)
		1 SET	PUSH/PULL	KAWNEER	CLASSIC CP-II, CO-12 (FINISH TO MATCH DOOR)
		1	DEADLOCK	ADAMS RITE	MS1850S
		1	EXIT INDICATOR	ADAMS RITE	4089 (FINISH TO MATCH DOOR)
		1	THUMB TURN	ADAMS RITE	4066 (FINISH TO MATCH DOOR)
		1	CYLINDER	BEST	1E74 - R708 1/2" TRIM RING (FINISH TO MATCH DOOR)
		1	DOOR SWEEP	NAT.GD.	101-VA-ALUMINUM
WAITING	SET H2:	1 SET	OFFSET PIVOTS	KAWNEER	TOP, BOTTOM & INTERMEDIATE (FINISH TO MATCH DOOR)
		1	CLOSER	NORTON	CLP 1601 SERIES ADA COMPLIANT - SET CLOSER TO OPEN 100 DEG. (FINISH TO MATCH DOOR)
		1	THRESHOLD	KAWNEER	4" x 1/2" OFFSET (FINISH TO MATCH DOOR)
		1 SET	PUSH/PULL	KAWNEER	CLASSIC CP-II, CO-12 (FINISH TO MATCH DOOR)
		1	DOOR STOP	KAWNEER	FLOOR MOUNTED (FINISH TO MATCH DOOR)
O.H. BAY DOORS	SET H3:				HARDWARE SET AS PER MANUFACTURER, SEE NATIONAL ACCOUNT INFORMATION AND DOOR REMARKS / NOTES.

MECHANICAL AND MECHANICS ROOM	SET H4:	1 1/2 PR.	HINGES	HAGER	BB1279 4.5 x 4.5 US26D
		1	LOCKSET	BEST	9K3ON 15D S3 x 626 - PASSAGE
		1	CLOSER	LCN	4040XP x AL
		1	DOOR STOP	TRIMCO	W1211 x US32D
OFFICE	SET H5:	1 1/2 PR.	HINGES	HAGER	BB1279 4.5 x 4.5 US26D
		1	LOCKSET	BEST	9K37AB 15D S3 x 626 - ENTRANCE (TYPE AS REQUIRED - 626)
		1	CYLINDER	BEST	4040XP x AL
		1	CLOSER	LCN	W1211 x US32D
		1	DOOR STOP	TRIMCO	
UNISEX RESTROOM AND CHANGING ROOM	SET H6:	1 1/2 PR.	HINGES	HAGER	BB1279 4.5 x 4.5 US26D
		1	LOCKSET	BEST	9K30L 15D S3 x 626 - PRIVACY
		1	CLOSER	LCN	4040XP x AL (OMIT AT DOOR D1)
		1	DOOR STOP	TRIMCO	W1211 x US32D (OMIT AT DOOR D4)



5 / A-6.1 EXTERIOR S.F. JAMB DETAIL
Scale: 1 1/2" = 1'-0"



4 / A-6.1 INTERIOR S.F. HEAD/ JAMB DETAIL
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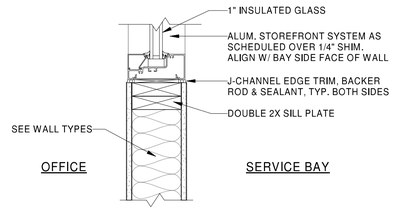

3 / A-6.1 INTERIOR S.F. SILL DETAIL
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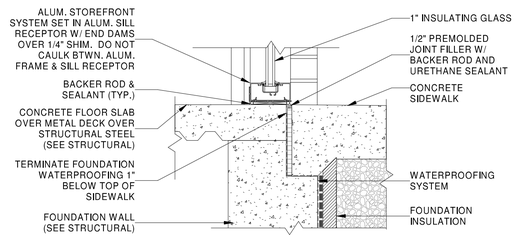

2 / A-6.1 EXTERIOR S.F. SILL DETAIL
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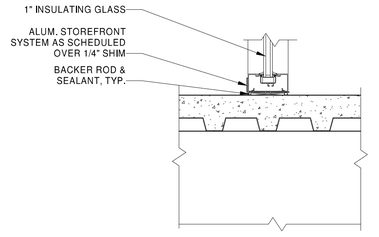

1 / A-6.1 INTERIOR S.F. SILL DETAIL
Scale: 1 1/2" = 1'-0"

HFA
HFA-AE, LTD.
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1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
www.hfa-ae.com

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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2025.12.22 09:00:20-05'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
DOOR - SF SCHEDULES AND DETAILS

SHEET #
A-6.1

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A & E - 22X34 SF SCHEDULES AND DETAILS
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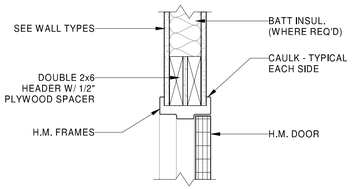

23 A-6.2 HOLLOW METAL DOOR HEAD DETAIL
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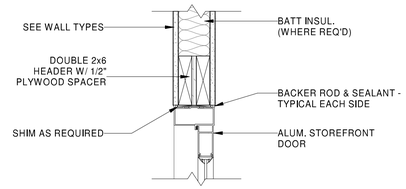

18 A-6.2 STOREFRONT DOOR HEAD DETAIL
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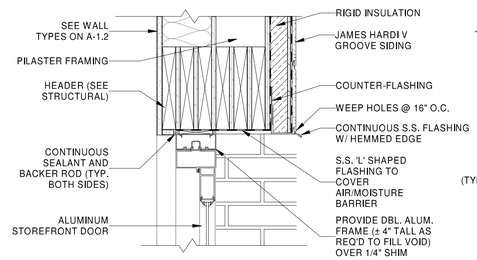

13 A-6.2 STOREFRONT DOOR HEAD DETAIL
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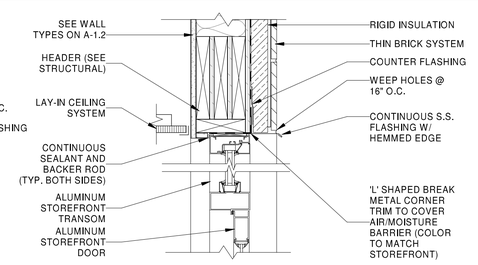

8 A-6.2 STOREFRONT DOOR HEAD DETAIL
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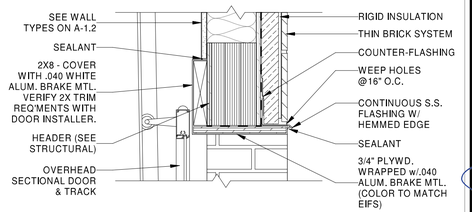

3 A-6.2 OVERHEAD DOOR HEAD DETAIL
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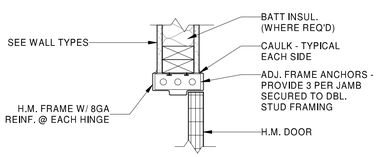

22 A-6.2 HOLLOW METAL DOOR JAMB DETAIL
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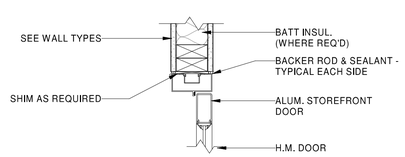

17 A-6.2 STOREFRONT DOOR JAMB DETAIL
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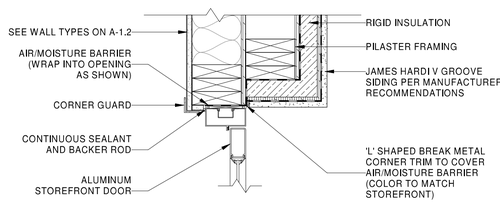

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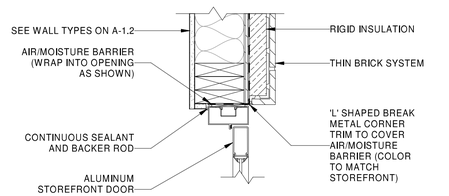

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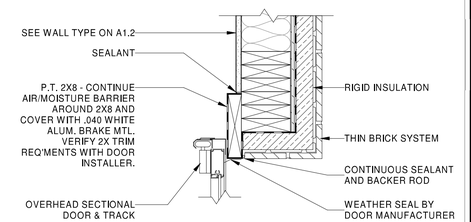

2 A-6.2 OVERHEAD DOOR JAMB DETAIL
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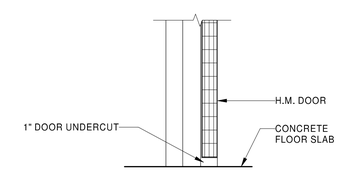

21 A-6.2 HOLLOW METAL DOOR SILL DETAIL
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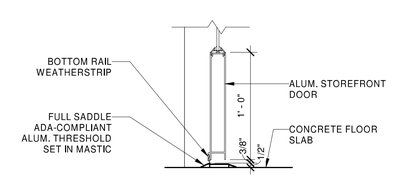

16 A-6.2 STOREFRONT DOOR SILL DETAIL
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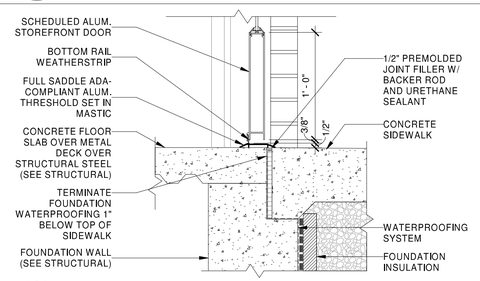
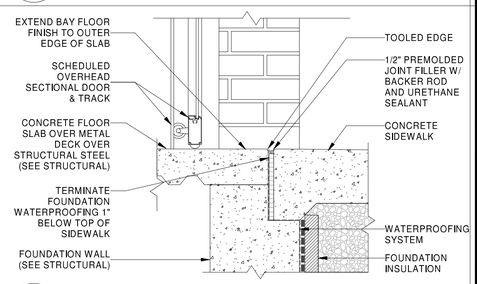


6 A-6.2 STOREFRONT DOOR SILL DETAIL
Scale: 1 1/2" = 1'-0"



1 A-6.2 OVERHEAD DOOR SILL DETAIL
Scale: 1 1/2" = 1'-0"

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Bentonville, Arkansas 72712
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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2025.12.22 09:00:25-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
DOOR DETAILS

SHEET #
A-6.2

12/19/2025 3:10:21 PM
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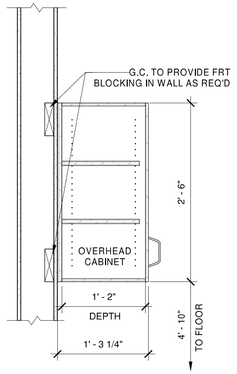

1 A-7.1 **UPPER CABINET DETAIL**
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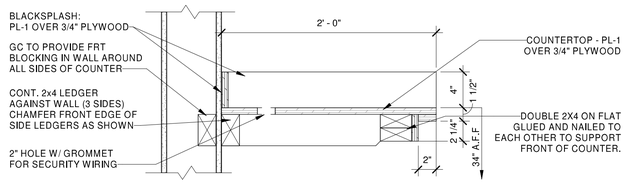

2 A-7.1 **COUNTERTOP DETAIL**
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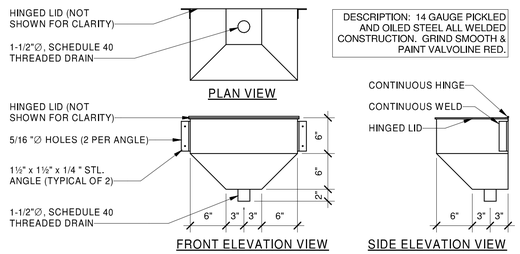

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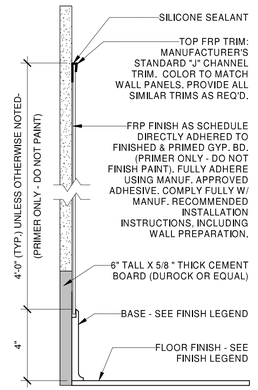

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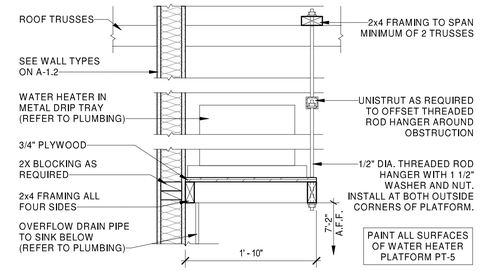

5 A-7.1 **WATER HEATER PLATFORM**
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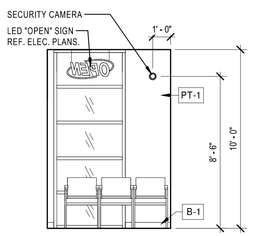

7 A-7.1 **WAITING ROOM**
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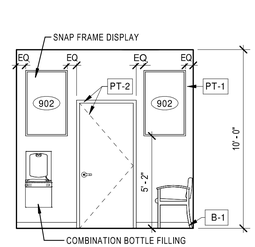

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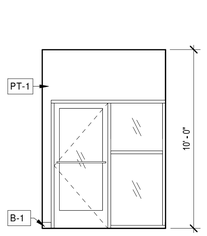
Scale: 1/4" = 1'-0"



9 A-7.1 **WAITING ROOM**
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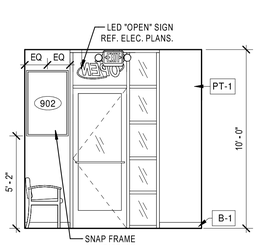

10 A-7.1 **WAITING ROOM**
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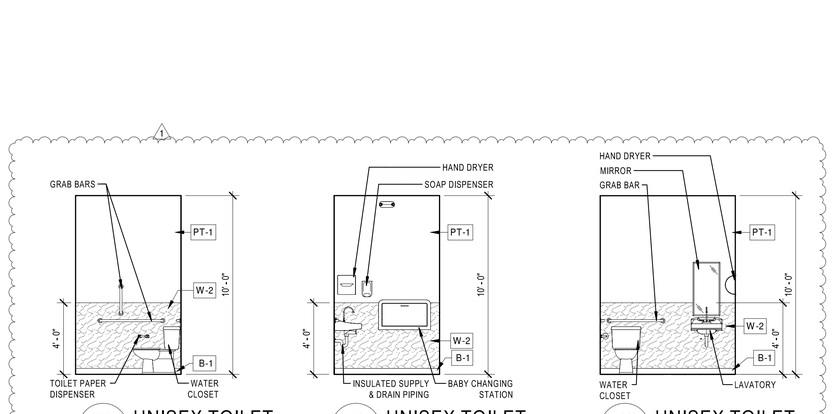

11 A-7.1 **UNISEX TOILET**
Scale: 1/4" = 1'-0"

12 A-7.1 **UNISEX TOILET**
Scale: 1/4" = 1'-0"

13 A-7.1 **UNISEX TOILET**
Scale: 1/4" = 1'-0"

14 A-7.1 **UNISEX TOILET**
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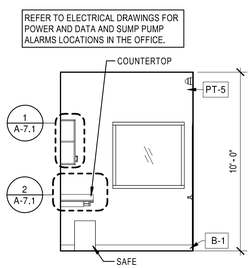
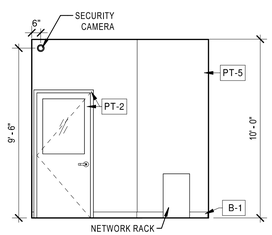


15 A-7.1 **OFFICE**
Scale: 1/4" = 1'-0"



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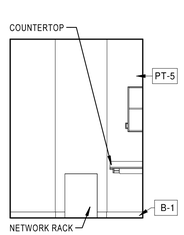

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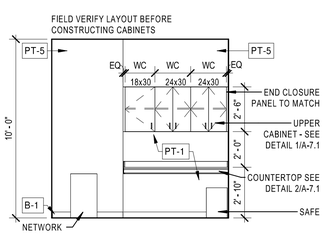

18 A-7.1 **OFFICE**
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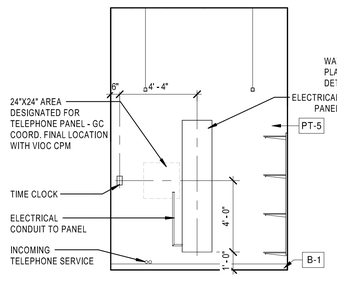
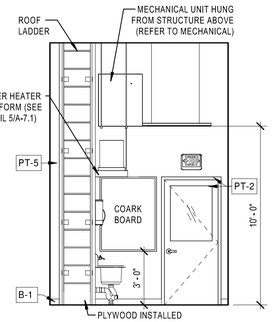


19 A-7.1 **MECHANICS ROOM**
Scale: 1/4" = 1'-0"



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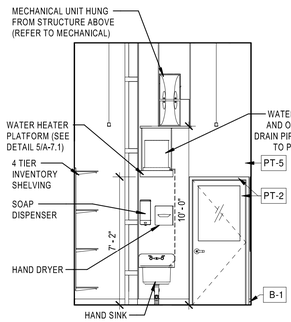
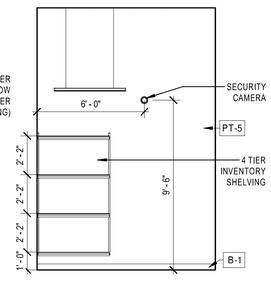
Scale: 1/4" = 1'-0"



21 A-7.1 **MECHANICS ROOM**
Scale: 1/4" = 1'-0"



22 A-7.1 **MECHANICS ROOM**
Scale: 1/4" = 1'-0"

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t 479.273.7780
1705 S. Walton Blvd., Suite 3
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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT
01/26/2026	REVISION 1

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-20210486
REGISTERED ARCHITECT
2026.02.24 14:06:00'
A-20210486
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
DETAILS AND INTERIOR ELEVATIONS

SHEET #
A-7.1

1/30/2026 11:52:37 AM
A-7.1 DETAILS AND INTERIOR ELEVATIONS REVISION 1
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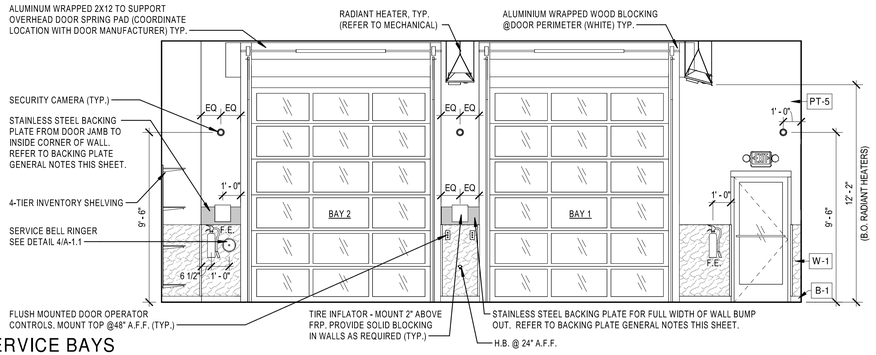

1 A-7.2 SERVICE BAYS
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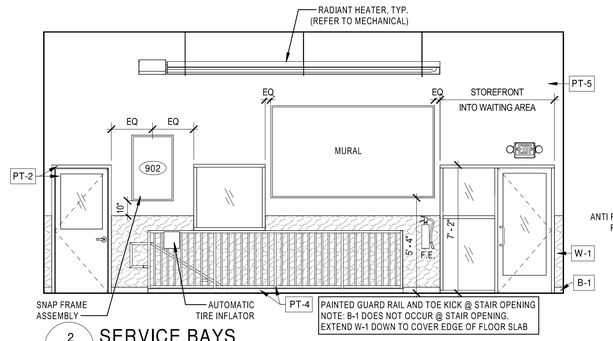

2 A-7.2 SERVICE BAYS
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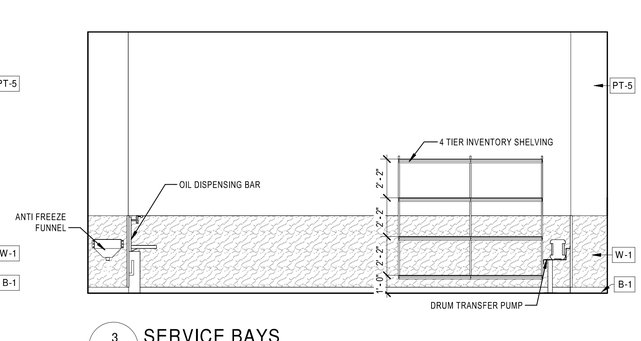

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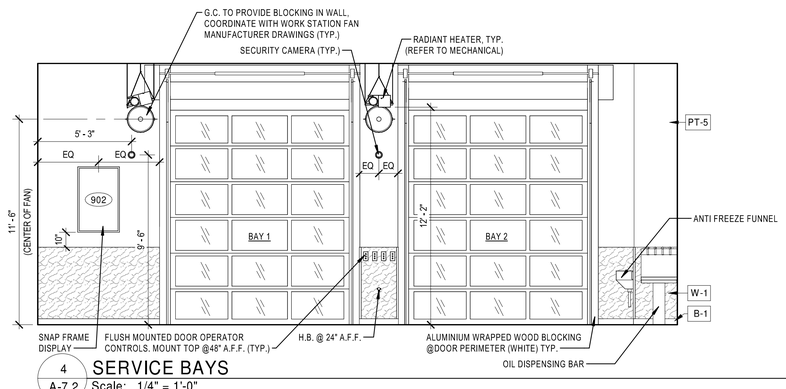

4 A-7.2 SERVICE BAYS
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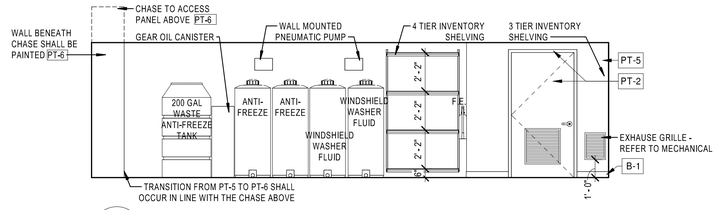

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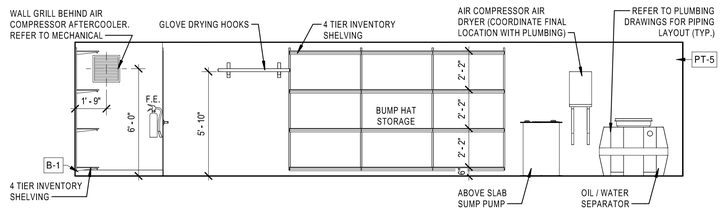

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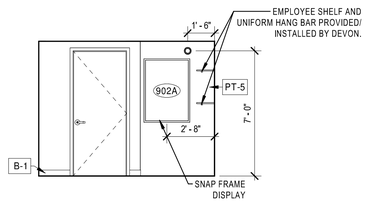

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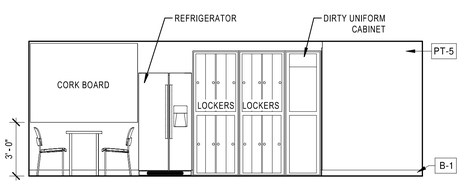
Scale: 1/4" = 1'-0"



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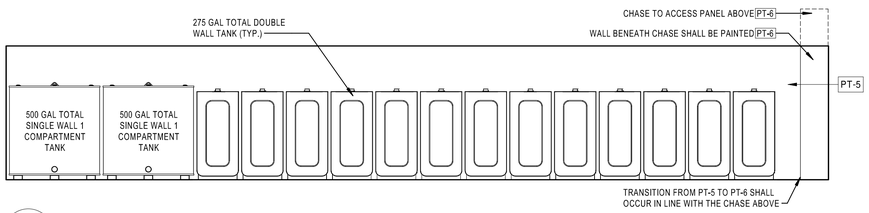

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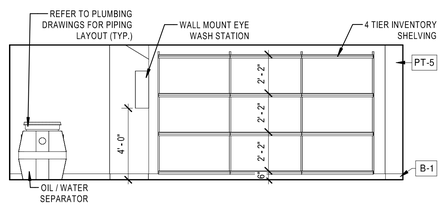

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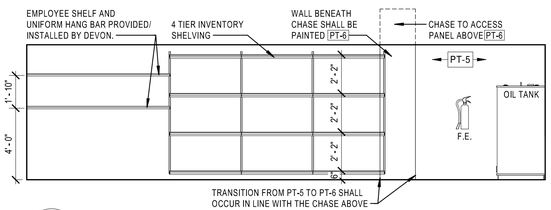

11 A-7.2 LUBE PIT
Scale: 1/4" = 1'-0"

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t 479.273.7780
1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
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Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021049657
ARCHITECT

2025.12.22 09:00:35-06'00'
JAMI MARIE COOK, ARCHITECT
A-2021049657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
INTERIOR ELEVATIONS

SHEET #
A-7.2

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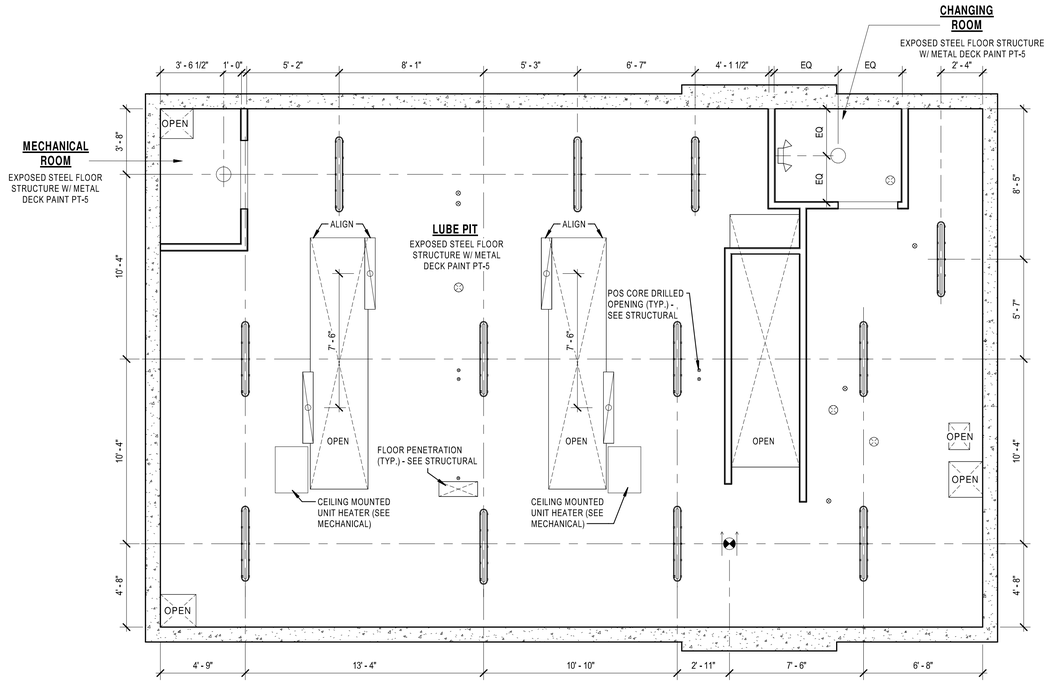
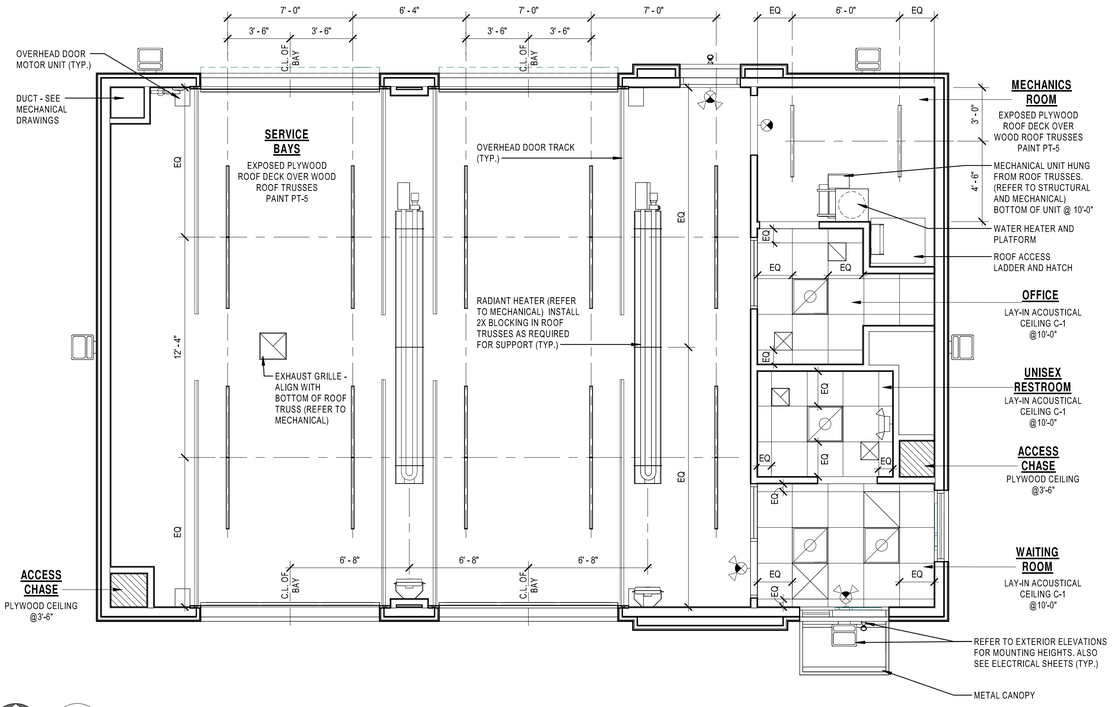


NORTH

1 / A-8.1 REFLECTED CEILING PLAN - LOWER LEVEL

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



NORTH

2 / A-8.1 REFLECTED CEILING PLAN - UPPER LEVEL

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

LEGEND

- 2X2 LED LIGHT INSTALLED IN CEILING GRID
- SURFACE MOUNTED LED SERVICE BAY LIGHT - REFER TO ELECTRICAL DRAWINGS FOR WHICH LIGHTS ARE EMERGENCY LIGHTS. INSTALL 2X BLOCKING ALIGNED WITH THE BOTTOM OF, AND BETWEEN ROOF TRUSSES AS REQUIRED FOR LIGHTS TO MOUNT TO.
- CABLE HUNG AT 10'-0" A.F.F. LED LIGHT - REFER TO ELECTRICAL DRAWINGS FOR WHICH LIGHTS ARE EMERGENCY LIGHTS.
- THREADED ROD HUNG LED LIGHT (MOUNT SUCH THAT BOTTOM OF LIGHT IS 12" BELOW METAL DECK) - REFER TO ELECTRICAL DRAWINGS FOR WHICH LIGHTS ARE EMERGENCY LIGHTS
- LUBE PIT LED UPLIGHT
- DIFFUSER - SEE MECHANICAL PLAN FOR SIZE
- RETURN AIR GRILLE - SEE MECHANICAL PLAN FOR SIZE
- EXHAUST GRILLE - SEE MECHANICAL PLAN FOR SIZE
- SURFACE MOUNTED DISC LIGHT
- DIRECTIONAL EXIT SIGN
- EXIT SIGN W/ DUAL HEAD EMERGENCY LIGHTS
- EXIT SIGN
- DUAL HEAD EMERGENCY LIGHT
- REMOTE EMERGENCY LIGHT
- FLOOR PENETRATION THRU SLAB ABOVE - COORDINATE ALL FLOOR SLAB PENETRATION SIZES AND LOCATIONS WITH STRUCTURAL, MECHANICAL AND PLUMBING PLANS.
- EXTERIOR WALL MOUNTED LED SITE LIGHT FIXTURE

NOTES

1. REFER TO ELECTRICAL PLAN FOR CAMERA, MOTION DETECTOR AND DOOR CONTACT LOCATIONS.
2. REFER TO STRUCTURAL, ELECTRICAL & MECHANICAL DRAWINGS FOR SPECIFIC INFORMATION.
3. COORDINATE LOWER LEVEL LIGHTING LOCATIONS w/ FLOOR PENETRATION LOCATIONS ABOVE. DO NOT INSTALL LIGHTING OR CONDUIT OVER PENETRATION LOCATIONS. VERIFY FIELD ADJUSTED MOUNTING LOCATIONS w/ OWNER PRIOR TO INSTALLATION.

HFA
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t 479.273.7780
1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
www.hfa-ae.com

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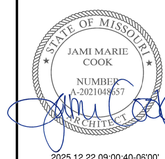

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JAMI MARIE COOK, ARCHITECT
A-2021048857
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

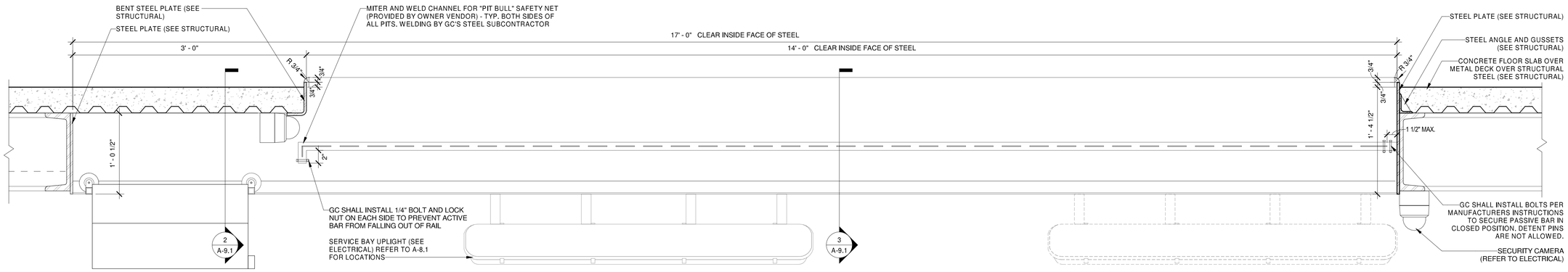
SHEET NAME
REFLECTED CEILING PLANS

SHEET #
A-8.1

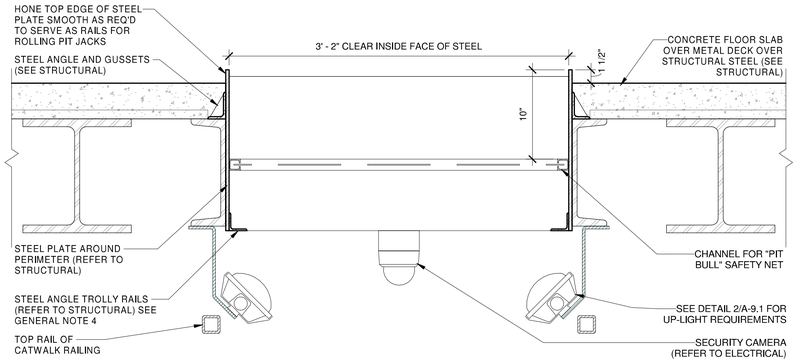
12/19/2025 3:11:55 PM C:\Users\dwayne.harris\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 28k Flat Roof Arch_V24_HFA.Dwayne.Harris.rvt
A-8.1 - REFLECTED CEILING PLANS

GENERAL NOTES

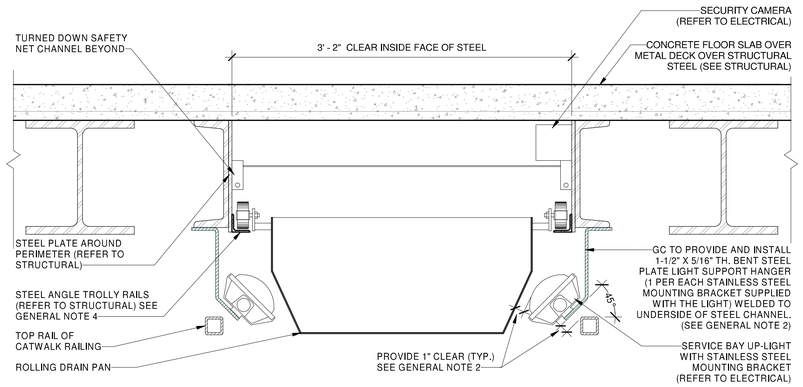
1. GRIND ALL WELDS SMOOTH AND FLUSH WITH SURFACE.
2. GC TO COORDINATE FINAL UP-LIGHT LOCATION WITH CATWALK AND ROLLING DRAIN PAN SUPPLIER/INSTALLER. THE INTENT IS THE LIGHT BE LOCATED TO PROVIDE AS MUCH UPWARD LIGHT AS POSSIBLE TOWARD THE UNDERSIDE OF THE VEHICLES WITHOUT INTERFERING WITH THE CATWALK AND ROLLING DRAIN PAN.
3. CONCRETE FLOOR TOPPING THICKNESS SHALL BE MEASURED AT EXTERIOR MAN DOOR AND MAY ADJUST SLIGHTLY AT OTHER LOCATIONS TO ACCOMMODATE CAMBER IN FLOOR STRUCTURE. SEE STRUCTURAL.
4. TROLLY RAILS SHALL BE INSTALLED SUCH THAT MAXIMUM WIDTH DIMENSION VARIATION SHALL NOT EXCEED 1/4".



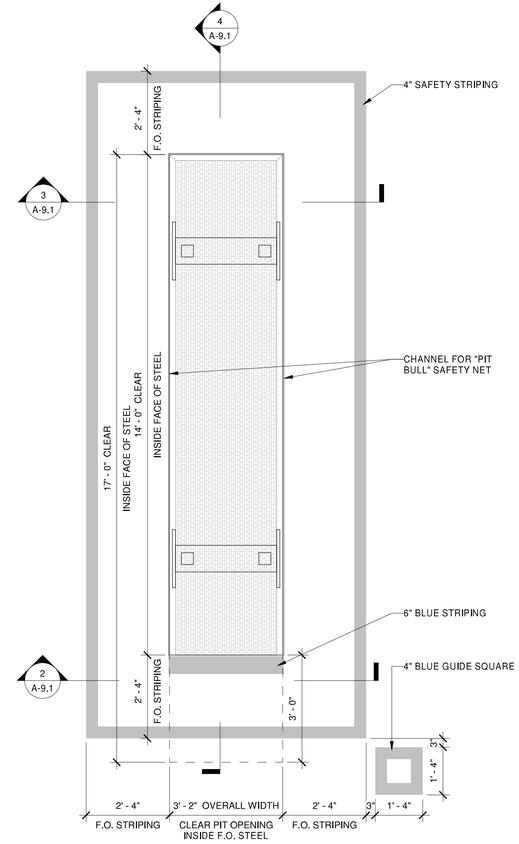
4 A-9.1 SECTION THRU FLOOR OPENING W/ LIFT
Scale: 1 1/2" = 1'-0"



3 A-9.1 SECTION THRU PIT FLOOR OPENING
Scale: 1 1/2" = 1'-0"



2 A-9.1 SECTION THRU PIT FLOOR OPENING
Scale: 1 1/2" = 1'-0"



1 A-9.1 PLAN DETAIL @ PIT OPENING
Scale: 1/2" = 1'-0"

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12/22/2025	PERMIT

2025.12.22 09:00:45-05'00'
JAMI MARIE COOK, ARCHITECT
A-2021048857
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
PIT OPENING DETAILS

SHEET #
A-9.1

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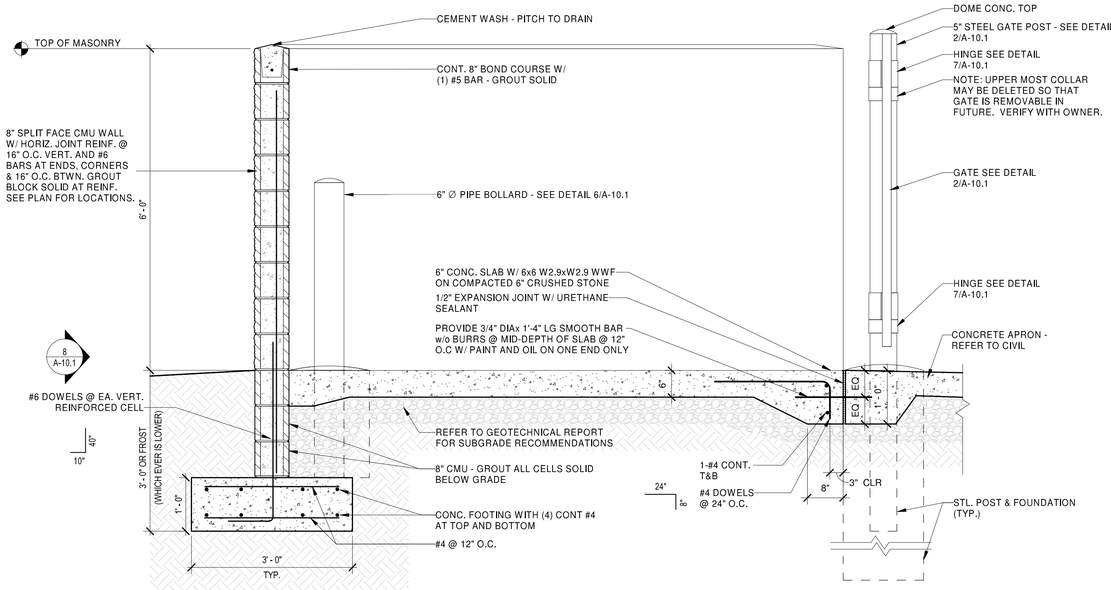
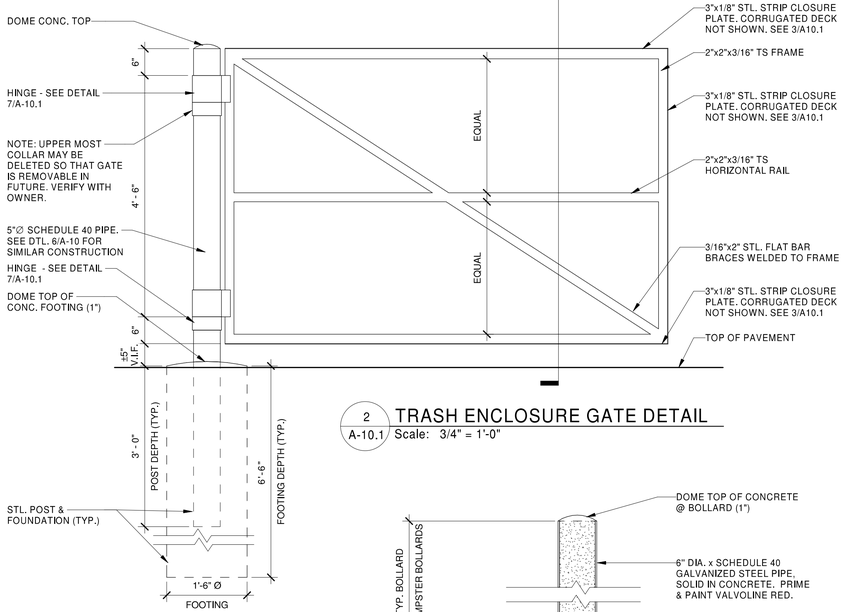
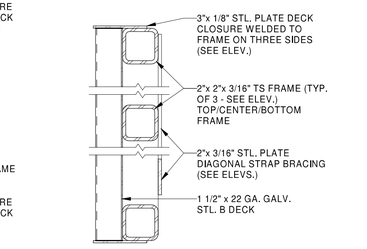


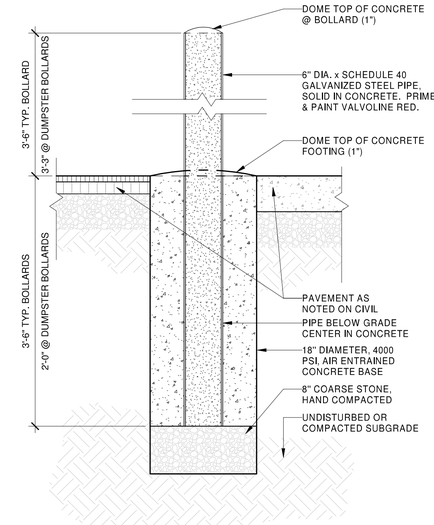
1 A-10.1 **SECTION @ TRASH ENCLOSURE**
Scale: 3/4" = 1'-0"



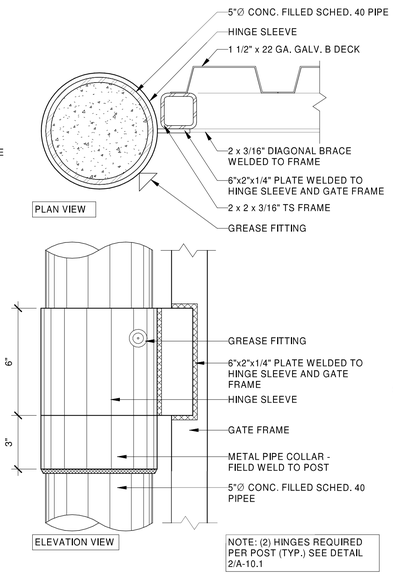
2 A-10.1 **TRASH ENCLOSURE GATE DETAIL**
Scale: 3/4" = 1'-0"



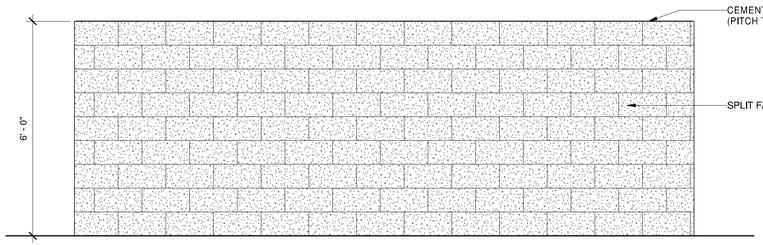
3 A-10.1 **GATE SECTION**
Scale: 3" = 1'-0"



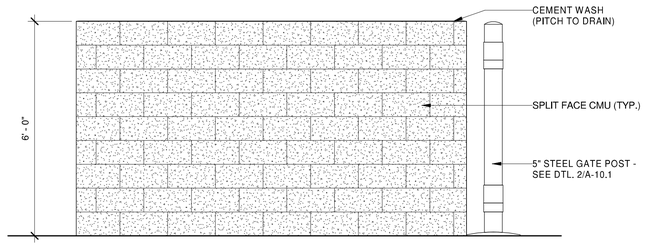
6 A-10.1 **BOLLARD DETAIL**
Scale: 1" = 1'-0"



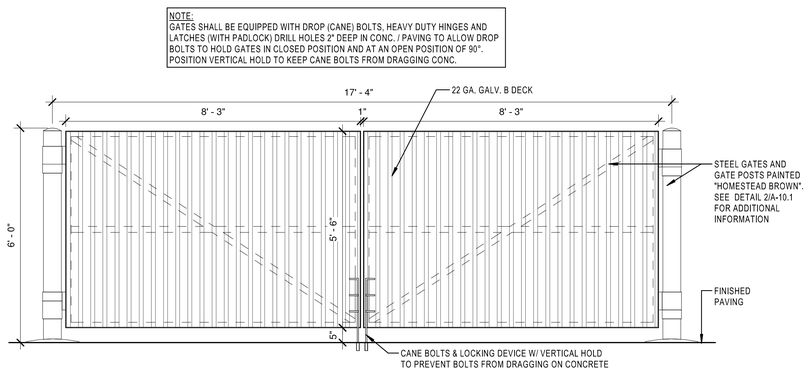
7 A-10.1 **HINGE DETAIL**
Scale: 3" = 1'-0"



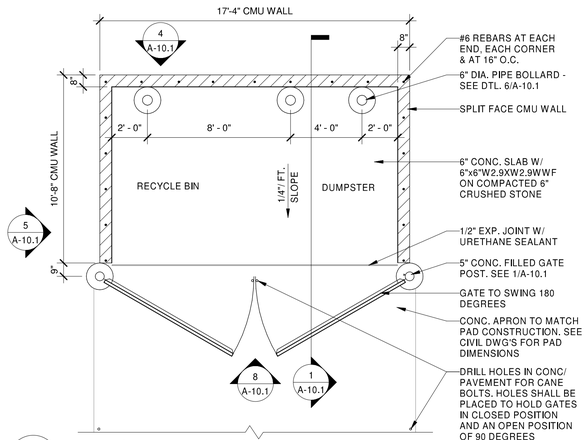
4 A-10.1 **DUMPSTER ENCLOSURE REAR ELEVATION**
Scale: 1/2" = 1'-0"



5 A-10.1 **TYP. DUMPSTER ENCLOSURE SIDE ELEVATION**
Scale: 1/2" = 1'-0"



8 A-10.1 **DUMPSTER ENCLOSURE FRONT ELEVATION**
Scale: 1/2" = 1'-0"



9 A-10.1 **DUMPSTER ENCLOSURE PLAN**
Scale: 1/4" = 1'-0"

EXTERIOR FINISHES

SPLIT FACE CMU AND MORTAR:
FIELD PAINT: PR-1 FOLLOWED BY TWO COATS OF FINISH PAINT AS FOLLOWS:
- SHERWIN WILLIAMS SW-7050 (USEFUL GRAY)

BOLLARDS / GUARD POSTS:
FIELD PAINT: PR-2 FOLLOWED BY TWO COATS OF PT-4 (VALVOLINE RED)

GATES & GATE POSTS:
FIELD PAINT: PR-2 FOLLOWED BY TWO COATS OF SHERWIN WILLIAMS SW-7069 (IRON ORE)

GENERAL NOTES:
- ALL MASONRY SURFACES SHALL BE TREATED W/ SEALER. REFER TO SPECS.
- ALL EXTERIOR TRASH ENCLOSURE STEEL SHALL BE GALVANIZED PRIOR TO PAINTING.

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Bentonville, Arkansas 72712
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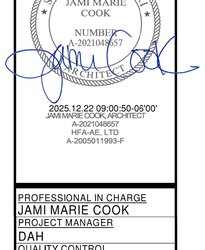

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JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
DUMPSTER ENCLOSURE

SHEET #
A-10.1

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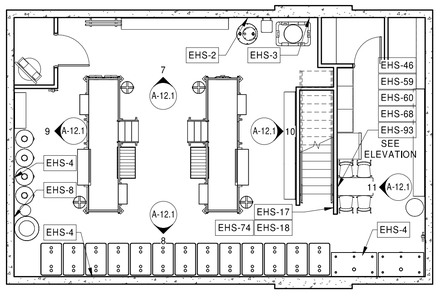
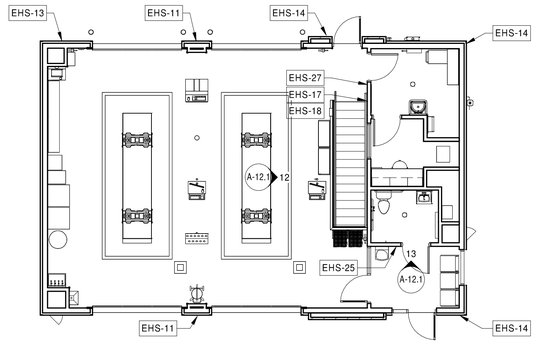
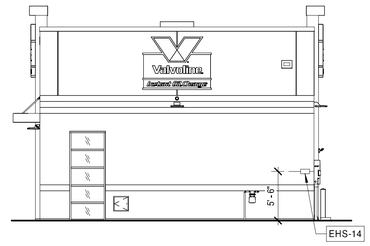
A-10.1 - DUMPSTER ENCLOSURE



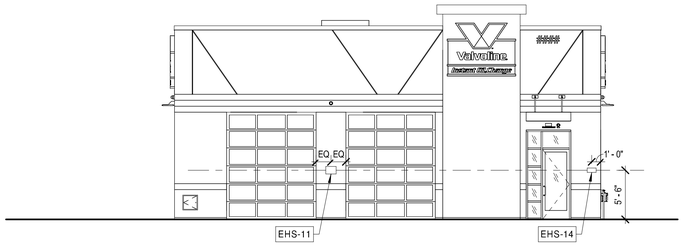
1 PLACARD PLACEMENT PLAN - LOWER LEVEL
Scale: 1/8" = 1'-0"



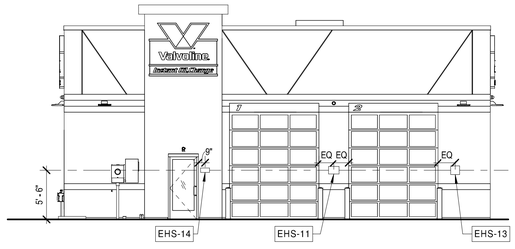
2 PLACARD PLACEMENT PLAN - UPPER LEVEL
Scale: 1/8" = 1'-0"



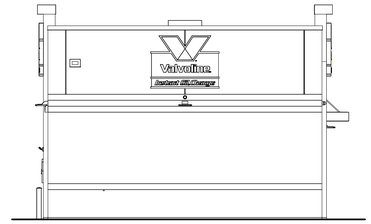
3 RIGHT - ELEVATION
Scale: 1/8" = 1'-0"



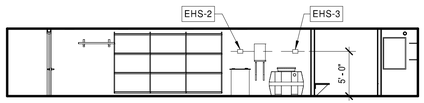
4 FRONT - ELEVATION
Scale: 1/8" = 1'-0"



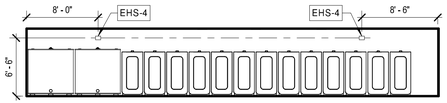
5 REAR - ELEVATION
Scale: 1/8" = 1'-0"



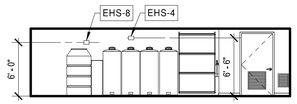
6 LEFT -ELEVATION
Scale: 1/8" = 1'-0"



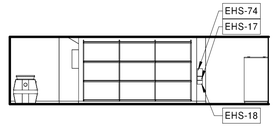
7 LUBE PIT
Scale: 1/8" = 1'-0"



8 LUBE PIT
Scale: 1/8" = 1'-0"



9 LUBE PIT
Scale: 1/8" = 1'-0"



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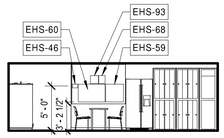
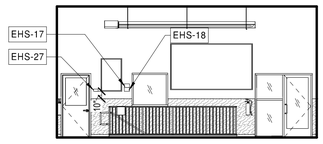


11 LUBE PIT
Scale: 1/8" = 1'-0"



12 SERVICE BAYS
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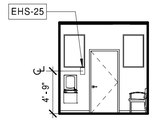

13 WAITING
Scale: 1/8" = 1'-0"

PLACARD PLACEMENT INFO FOR REFERENCE ONLY - COORDINATE ALL PLACARD PLACEMENT WITH VIOC CONSTRUCTION PROJECT MANAGER BEFORE INSTALLATION

SIGNAGE SCHEDULE

NUMBER	SIZE (HT. X WIDTH)	REMARKS
EHS-1	5" X 7"	GROUND WATER SUMP
EHS-2	5" X 7"	OIL/WATER SEPARATOR LIFT SUMP
EHS-3	5" X 7"	OIL/WATER SEPARATOR
EHS-4	5" X 7"	DANGER NO SMOKING, SPARKS, FLAME
EHS-8	5" X 7"	SPENT ANTIFREEZE FOR RECYCLING
EHS-10	6" X 10"	OHIO NO SMOKING (SIGN APPLIES TO OHIO ONLY) - COORD. LOCATIONS WITH OWNER.
EHS-11	10" X 14"	CAUTION OPEN FLOOR
EHS-13	11.75" X 12"	WE ACCEPT USED OIL FOR RECYCLING AT NO CHARGE (SIGN APPLIES TO NEW YORK ONLY) - COORD. LOCATIONS WITH OWNER.
EHS-14	6" X 12"	NO SMOKING FOR YOUR SAFETY
EHS-15	5" X 7"	DO NOT DOUBLE STACK BLOCKS
EHS-17	5" x 7"	PLEASE HOLD RAIL WHEN USING STAIRS
EHS-18	5" X 7"	PLEASE DO NOT LEAVE ITEMS ON STAIR LANDING
EHS-20	5" X 7"	OILY ABSORBENTS FOR ENERGY RECOVERY
EHS-25	9" X 6"	RESTROOM
EHS-26	6" X 6"	EXIT
EHS-27	3" X 6"	EMPLOYEES ONLY
EHS-30	9" X 6"	NOTICE THIS LOCATION MAKES AUDIO AND VIDEO RECORDINGS FOR SAFETY, SECURITY, AND QUALITY ASSURANCE PURPOSES
EHS-43	5" X 7"	ABANDONED USED OIL
EHS-46	5" X 7"	IT IS ILLEGAL TO REMOVE ANYTHING FROM THIS CONTAINER OR AREA WITHOUT WRITTEN AUTHORIZATION FROM ASHLAND INC.
EHS-47	3" X 5"	DRUG-FREE WORKPLACE IF YOU USE DRUGS PLEASE DON'T APPLY
EHS-59	24" X 24"	VIOC LIFTING DO'S AND DON'TS
EHS-60	24" X 36"	APPROVED INDUSTRIAL STRETCHES
EHS-68	11" X 8.5"	INJURY REPORTING PROCEDURES
EHS-69	24" X 24"	SIX-FINGER METHOD
EHS-74	10" X 7"	SNAILS ON STAIRS
EHS-90	3" X 5"	OHIO NO SMOKING (SIGN APPLIES TO OHIO ONLY) - COORD. LOCATIONS WITH OWNER.
EHS-93	10.75" X 10.75"	HAZARDOUS MATERIALS

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Bentonville, Arkansas 72712
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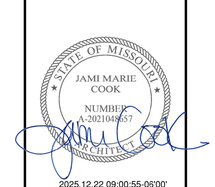

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JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
PLACARD PLACEMENT INFO

SHEET #
A-12.1

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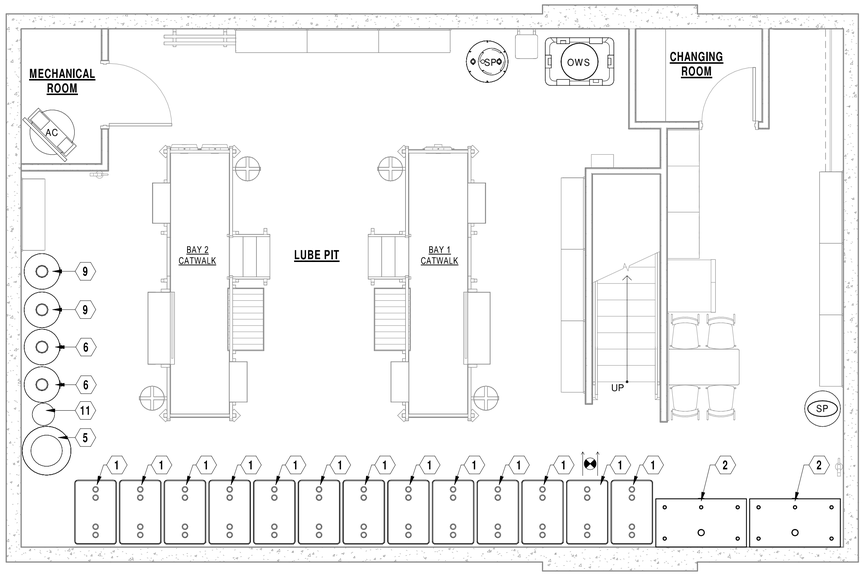
A1.0 | PLACARD PLACEMENT INFO

F.D.S.P.



LEGEND

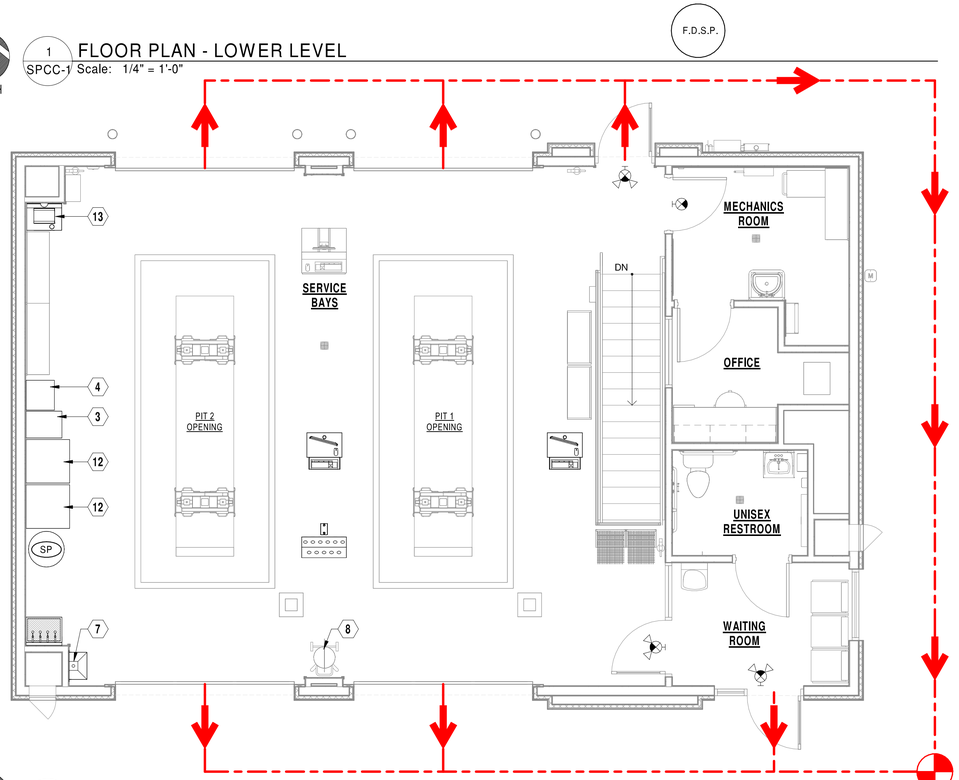
- DIRECTIONAL EXIT SIGN
- EXIT SIGN W/ DUAL HEAD EMERGENCY LIGHT
- EXIT SIGN
- FIRE EXTINGUISHER - MAX. 75' SEPARATION BETWEEN FIRE EXTINGUISHER TYP.
- FLOOR DRAIN
- OWS — OIL WATER SEPARATOR
- SP — SANITARY SUMP PUMP
- AC — AIR COMPRESSOR
- REGROUPING AREA
- EVACUATION ROUTE
- LUBE DISPENSING CONSOLE
- PEDESTAL POST PODIUM
- OIL DISPENSING BAR
- SP — SPILL KIT LOCATION
- F.D.S.P. — APPROXIMATE LOCATION OF FOUNDATION DRAIN MANHOLE STRUCTURE, WITH SUMP PUMPS INSIDE.

KEY NOTES:

1. 275 GALLON DOUBLE WALL 1 COMPARTMENT TANK, MATERIAL STORED: NEW OIL
2. 500 GALLON SINGLE WALL 1 COMPARTMENT TANK, MATERIAL STORED: USED OIL
3. AUTOMATIC TRANSMISSION FLUID EXCHANGER
4. ANTIFREEZE DRAIN AND FILL SYSTEM
5. 200 GALLON TANK, MATERIAL STORED: WASTE ANTIFREEZE
6. 105 GALLON TANK, MATERIAL STORED: NEW ANTIFREEZE
7. ANTIFREEZE FUNEL
8. OIL EVACUATION MACHINE
9. 105 GALLON TANK, MATERIAL: WINDSHIELD WASHIER FLUID
11. GEAR OIL CANISTER
12. A/C MACHINE
13. DRUM TRANSFER PUMP

NORTH

1 FLOOR PLAN - LOWER LEVEL
SPCC-1 Scale: 1/4" = 1'-0"



NORTH

2 FLOOR PLAN - UPPER LEVEL
SPCC-1 Scale: 1/4" = 1'-0"

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THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE AT LEE'S SUMMIT, MO CONTEMPORANEOUSLY WITH ITS ISSUE DATE ON 12/05/25. AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

Date	Issued Record
12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT

STATE OF MISSOURI
JAMI MARIE COOK
NUMBER A-2021048657
ARCHITECT

2025.12.22 09:01:00-05'00'
JAMI MARIE COOK, ARCHITECT
A-2021048657
HFA-AE, LTD
A-2005011993-F

PROFESSIONAL IN CHARGE
JAMI MARIE COOK
PROJECT MANAGER
DAH
QUALITY CONTROL
MND
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

SHEET #

SPCC-1

12/19/2025 3:15:02 PM
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SPCC-1.SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

GENERAL NOTES

1. THESE NOTES ARE GENERAL REQUIREMENTS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREINAFTER FOR USE ON THIS PROJECT.
3. IF MATERIALS, QUANTITIES, STRENGTHS OR SIZES INDICATED BY THE DRAWINGS OR SPECIFICATIONS ARE NOT IN AGREEMENT WITH THESE NOTES, THE CONTRACTOR SHALL CONTACT THE ARCHITECT/ENGINEER FOR CLARIFICATION.
4. TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON THE PLANS, BUT APPLY UNLESS NOTED OTHERWISE.
5. SHOP DRAWINGS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION TO THE ENGINEER/ARCHITECT.
6. SHOP DRAWINGS PREPARED BY THE CONTRACTORS, SUPPLIERS, ETC., WILL BE REVIEWED BY THE ENGINEER/ARCHITECT ONLY FOR CONFORMANCE WITH DESIGN CONCEPT. NO WORK AFFECTED BY THE SHOP DRAWINGS SHALL BE STARTED WITHOUT SUCH REVIEW.
7. THE GENERAL CONTRACTOR SHALL COORDINATE ALL REVISIONS, CORRECTIONS, AND COMMENTS INDICATED ON THE SHOP DRAWINGS BY THE ARCHITECT/ENGINEER.
8. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR AND SHALL CONFORM TO THOSE SHOWN ON THE ARCHITECTURAL DRAWINGS.
9. THE STRUCTURAL CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTIONS OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.
10. ANY SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ENGINEER ARE SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. THEY DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
11. ALL STRUCTURES ARE DESIGNED TO BE STABLE AND SELF-SUPPORTING AT THE COMPLETION OF CONSTRUCTION. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE STABILITY AND SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL IS NOT INDICATED ON THE DRAWINGS AND, IF PROVIDED, SHALL BE REMOVED, AS CONDITIONS PERMIT AND REMAIN THE PROPERTY OF THE CONTRACTOR.
12. ALL MATERIALS AND EQUIPMENT FURNISHED WILL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
14. COORDINATE WITH THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR MISCELLANEOUS STEEL ITEMS, LINTELS, METAL PAN STAIRS, SIZE AND LOCATION OF FLOOR SLOPES, DEPRESSED AREAS, FINISH FILLS, CHAMFERS, GROOVES, RAILING SLEEVES, ROOF EDGES, INSERTS, ETC.
15. COORDINATE WITH CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR PIPE SLEEVES, FLOOR DRAINS, ROOF DRAINS, INSERTS, HANGERS, TRENCHES, PITS, WALL AND SLAB OPENINGS, CONDUIT RUNS IN WALLS AND SLABS, SIZE AND LOCATION OF MACHINE OR EQUIPMENT SUPPORTS, BASE AND ANCHOR BOLTS, RAILING, ETC.
16. COORDINATE WITH SITE, ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND CIVIL DRAWINGS FOR RETAINING WALLS, PADS, PAVEMENT AND OTHER SITE STRUCTURES.
17. EARTHWORK, FOUNDATION DRAINS, WATERPROOFING, PERIMETER INSULATION, MASONRY AND OTHER REQUIRED NON-STRUCTURAL ITEMS ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE WITH CIVIL/SITE AND ARCHITECTURAL DRAWINGS.
18. SEE SHEET S-1.3 FOR SPECIAL INSPECTIONS
19. GOVERNING CODES AND SPECIFICATIONS

IBC	-INTERNATIONAL BUILDING CODE, 2018 EDITION
ASCE 7	-MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2016 EDITION
ACI 318	-BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2014 EDITION
ACI 301	-SPECIFICATIONS FOR STRUCTURAL CONCRETE, 2016 EDITION
ACI 305R	-HOT WEATHER CONCRETING, 2010 EDITION
ACI 306R	-COLD WEATHER CONCRETING, 2016 EDITION
ACI SP-66	-ACI DETAILING MANUAL, 2004
AISC 360	-STEEL CONSTRUCTION MANUAL, 15TH EDITION
AWS D1.1	-STRUCTURAL WELDING CODE - STEEL, 2018 EDITION
AWS D1.4	-STRUCTURAL WELDING CODE - REINFORCING STEEL, 2018 EDITION
AWC NDS	-NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2018 SUPPLEMENT, 2018 EDITION
APA PDS	-PANEL DESIGN SPECIFICATION, 2013 EDITION

20. DESIGN LOADS

A. LIVE LOADS: (REDUCIBLE PER GOVERNING CODE)

	UNIFORM (PSF)	CONCENTRATED (LBS)
a. ROOF	20	300
b. BASEMENT (SLAB ON GRADE)	100	2,000

c. FIRST FLOOR:
LOAD CASE 1
100 PSF LIVE LOAD

LOAD CASE 2
SIMULTANEOUS DETAIL 3/S-3.1 TRUCK LOADING
- TRUCKS IN ALL BAYS.
- TRUCKS WAITING OUTSIDE IN ALL LANES, WITH FRONT AXLE LOADS 5 FT FROM FACE OF FOUNDATION WALL.
- SERVICED TRUCK TO BE COMPLETELY OFF FLOOR SLAB BEFORE WAITING TRUCK ENTERS.
- 100 PSF ALL OTHER AREAS.

B. SNOW LOADS:

a. GROUND SNOW LOAD, P/g	20 PSF
b. FLAT ROOF SNOW LOAD, P/f	13.6 PSF
c. SNOW EXPOSURE FACTOR, C/e	1.0
d. SNOW LOAD IMPORTANCE FACTOR, I/s	1.0
e. THERMAL FACTOR, C/t	1.0

C. WIND LOADS:

a. ULTIMATE DESIGN WIND SPEED (3-SECOND GUST), MPH	109
b. RISK CATEGORY	II
c. WIND EXPOSURE	C
d. DESIGN WIND PRESSURE FOR COMPONENTS AND CLADDING SHALL BE COMPUTED PER GOVERNING BUILDING CODE USING EXPOSURE	C (SEE DIAGRAM ON SHEET S-1.2)
e. INTERNAL PRESSURE COEFFICIENT (ENCLOSED)	+/- 0.18

D. SEISMIC LOAD:

a. RISK CATEGORY	- II
b. IMPORTANCE FACTOR (Ie)	- 1.0
c. MAPPED SPECTRAL RESPONSE ACCELERATION AT SHORT PERIOD (Ss)	- 0.099
d. MAPPED SPECTRAL RESPONSE ACCELERATION AT ONE-SECOND PERIOD (S1)	- 0.068
e. SITE CLASS	- D
f. SPECTRAL RESPONSE PARAMETER AT SHORT PERIOD (SDs)	- 0.106
g. SPECTRAL RESPONSE PARAMETER AT ONE-SECOND PERIOD (SD1)	- 0.109
h. SEISMIC DESIGN CATEGORY	- B
i. DESIGN BASE SHEAR	- 2.5 KIPS
j. SEISMIC RESPONSE COEFFICIENT (Cs)	- 0.016
k. BASIC SEISMIC FORCE RESISTING SYSTEM: A15 -LIGHT FRAME WOOD WALLS WITH WOOD STRUCTURAL PANELS (R= 6 1/2, Ω=3, Cd=4) DESIGN BY EQUIVALENT LATERAL FORCE PROCEDURE	

CAST-IN-PLACE CONCRETE

1. SPECIFICATIONS AND STANDARDS:
   CONCRETE WORK, DETAILING, FABRICATION AND PLACING OF BARS AND CONCRETE SHALL BE GOVERNED BY THE APPLICABLE VERSION OF:
   A. ACI 301, ACI 315, AND ACI 318.
   B. CRSI RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS.
   C. ACI 306 AND ACI 305 FOR COLD AND HOT WEATHER CONCRETING, RESPECTIVELY. THE CONTRACTOR SHALL AT ALL TIMES HAVE A COPY OF THE RELEVANT SPECIFICATIONS QUOTED ABOVE ON THE SITE AND THE SUPERVISORY PERSONNEL SHALL BE THOROUGHLY FAMILIAR WITH THE CONTENTS THEREOF.
2. CONTINGENCIES:
   A. LEAN CONCRETE UNDER FOUNDATIONS FOR EARTH FILL DUE TO ACCIDENTAL OVEREXCAVATION OR SOFT SPOTS.
3. CONCRETE REQUIREMENTS AND LOCATION IN JOB:

CLASS	LOCATION	f'c	MAX W/C RATIO	SPECIAL REQUIREMENTS
1	FOOTINGS, WALLS, SLAB ON GRADE AND TOPPING SLABS	4000 PSI	0.45	
2	EXTERIOR CONCRETE	4500 PSI	0.45	6% +/- 1.5% AIR CONTENT

   SUBMIT CONCRETE MIXES FOR APPROVAL IN ACCORDANCE WITH ACI 301 BEFORE PLACING ANY CONCRETE. ALL MIXES SHALL INCLUDE ASTM C150 PORTLAND CEMENT AND ALL AGGREGATE SHALL CONFORM TO ASTM C33. CONCRETE TESTING PER ACI 318 SECTION 26.12
4. REINFORCING REQUIREMENTS:
   A. BARS: ASTM A615, GRADE 60.
   B. WELDED WIRE REINFORCING: ASTM A1064 PROVIDED IN FLAT SHEETS OR ROLLS.
5. POST INSTALLED WEDGE ANCHORS:
   A. THE ENTIRE ANCHOR SHALL BE STAINLESS STEEL.
   B. THE ENTIRE ANCHOR SYSTEM SHALL BE EVALUATED TO COMPLY WITH THE APPLICABLE VERSION OF IBC AND BE CERTIFIED BY AN ICC-ES EVALUATION REPORT. THE ANCHOR SYSTEM SHALL MEET THE REQUIREMENTS OF ACI 355.2, EVALUATED FOR USE IN CRACKED CONCRETE.
   C. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS OR COMPARABLE PRODUCT CAPABLE OF RESISTING LOADS EQUIVALENT TO THE BASIS OF DESIGN PRODUCT WHEN USED WITH THE SAME EMBEDMENT, ORIENTATION, EDGE DISTANCE, AND SPACING. BASIS OF DESIGN: HILTI KWIK BOLT 3
6. POST INSTALLED SCREW ANCHORS
   A. THE ANCHOR SHALL COMPLY WITH THE APPLICABLE VERSION OF IBC AND BE CERTIFIED BY AN ICC-ES EVALUATION REPORT. THE ANCHOR SHALL BE SUITABLE FOR CRACKED CONCRETE.
   B. INTERIOR USE ONLY. THE ENTIRE ANCHOR SHALL BE CARBON STEEL WITH ZINC PLATING EQUIVALENT TO DIN EN 4042 (8µm MIN).
   C. PRE-DRILL HOLES WITH STANDARD AISI DRILL BIT PER THE MANUFACTURER'S INSTALLATION GUIDELINES. INSTALL THE ANCHOR WITH AN IMPACT WRENCH.
   D. PROVIDE ANCHORS WITH A DIAMETER AND LENGTH MARKING ON THE HEAD AS INDICATED ON THE DRAWINGS.
7. POST INSTALLED ADHESIVE ANCHORS AND DOWELS:
   A. THE ENTIRE ANCHOR SYSTEM SHALL BE EVALUATED TO COMPLY WITH THE APPLICABLE VERSION OF IBC AND BE CERTIFIED BY AN ICC-ES EVALUATION REPORT. THE ANCHOR SYSTEM SHALL MEET THE REQUIREMENTS OF ACI 355.4, EVALUATED FOR USE IN CRACKED CONCRETE.
   B. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS OR COMPARABLE PRODUCT CAPABLE OF RESISTING LOADS EQUIVALENT TO THE BASIS OF DESIGN PRODUCT WHEN USED WITH THE SAME EMBEDMENT, ORIENTATION, EDGE DISTANCE, AND SPACING. BASIS OF DESIGN: HILTI HIT-HY 200 WITH ASTM F1554 Gr. 36; ASTM A307; ASTM A193 B7; ASTM F593 SS. ANCHORS SHALL BE HOT DIP GALVANIZED OR STAINLESS STEEL. SUBMIT PROPOSED SUBSTITUTION FOR APPROVAL WITH ACCOMPANYING ICC-ES REPORT.
   C. THE FOLLOWING PARAMETERS HAVE BEEN USED IN THE DESIGN:
      1) MINIMUM AGE OF CONCRETE: 21 DAYS
      2) CONCRETE TEMPERATURE RANGE: VERIFY ALLOWABLE BASE TEMPERATURE WITH MANUFACTURER
      3) SHALL BE PROVIDED THAT INDICATES ANCHOR DOES NOT HAVE REDUCED CAPACITY COMPARED TO A DRY HOLE.
      4) TYPE OF LIGHTWEIGHT CONCRETE (IF APPLICABLE): LIGHTWEIGHT AGGREGATE OR SAND
      5) HOLE DRILLING AND PREP: ROTARTY HAMMER DRILL WITH HOLE CLEANING PER MANUFACTURER INSTRUCTIONS.
   D. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT.
8. WALLS:
   A. CLASS B TENSION LAP SPLICES FOR HORIZONTAL AND VERTICAL WALL REINFORCING UNLESS NOTED.
   B. STAGGER SPLICES IN WALLS SO THAT NO MORE THAN 1/3 OF THE REINFORCING IS SPLICED IN ANY GIVEN CROSS-SECTION. STAGGER SPLICES 40 DIAMETERS.
   C. CONTRACTION JOINTS IN WALLS: MAXIMUM SPACING OF 30'-0" c/c.
   D. USE WATERSTOPS AT ALL BASEMENT WALL HORIZONTAL AND VERTICAL JOINTS.
9. SPLICES:
   A. LAP IN ACCORDANCE WITH THE ACI CODE AND THE TABLE SHOWN BELOW.

LAP SPLICE SCHEDULE

BAR SIZE	LAP CLASS	TOP BAR f'c<4000	TOP BAR f'c≥4000 PSI	OTHER BAR f'c<4000 PSI	OTHER BAR f'c≥4000 PSI
#3	A	22"	19"	17"	15"
	B	28"	24"	22"	19"
#4	A	29"	25"	22"	19"
	B	37"	32"	29"	25"
#5	A	36"	31"	28"	24"
	B	47"	40"	36"	31"
#6	A	43"	37"	33"	29"
	B	56"	48"	43"	37"
#7	A	62"	54"	48"	42"
	B	81"	70"	62"	54"
#8	A	71"	62"	55"	47"
	B	93"	80"	71"	62"
#9	A	80"	70"	62"	54"
	B	104"	91"	80"	70"
#10	A	91"	78"	70"	60"
	B	118"	102"	91"	78"
#11	A	100"	87"	77"	67"
	B	130"	113"	100"	87"

NOTES:
1. SPLICES IN BEAM, JOIST OR SLAB REINFORCING ARE NOT PERMITTED UNLESS SPECIFICALLY SHOWN OTHERWISE OR APPROVED BY THE STRUCTURAL ENGINEER.
2. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.
3. ALL LAP SPLICES SHALL BE CLASS B UNLESS OTHERWISE NOTED.
4. VALUES ARE FOR NORMAL WEIGHT CONCRETE NON-EPOXY COATED BARS.

   B. LAP WELDED WIRE REINFORCING 1 SPACE + 2" AT ALL EDGES AND ENDS OF SHEETS.
10. OPENINGS:
    A. OPENINGS SHOWN ARE FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS WITH ARCHITECTURAL, MECHANICAL AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH THE WORK.
    B. IF ANY OPENING NOT SHOWN ON THE PLAN IS REQUIRED, APPROVAL MUST BE SECURED FROM THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH THE WORK.
11. COVER
    A. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
       1) UNFORMED SURFACE IN CONTACT WITH THE GROUND: 3"
       2) FORMED SURFACES EXPOSED TO EARTH OR WEATHER: 1 1/2" FOR #5 OR SMALLER, 2" FOR #6 OR LARGER.
       3) FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER: WALLS & SLABS: 3/4", BEAMS & COLUMNS (TO TIES OR STIRRUPS): 1-1/2".
12. MISCELLANEOUS:
    A. DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL BOTH ADJACENT FLOORS ARE IN PLACE. WHERE FILL IS ON BOTH SIDES OF A FOUNDATION WALL, PLACE THE FILL EVENLY ON BOTH SIDES OF THE WALL.
    B. CONSTRUCTION JOINTS PERMITTED ONLY WHERE SHOWN OR AS APPROVED BY THE STRUCTURAL ENGINEER.
    C. PROVIDE ONE #4x3'-0" DIAGONAL REINFORCING BAR AT MID-DEPTH OF SLAB AT ALL RE-ENTRANT CORNERS OF SLABS ON GRADE AND SLABS ON METAL DECK.
    D. PROVIDE SLAB BOLSTERS TO CORRECTLY LOCATE WELDED WIRE REINFORCING @MID-DEPTH OF CONCRETE SLABS ON METAL DECK.
    E. SUBMIT STEEL REINFORCING SHOP DRAWINGS THAT DETAIL FABRICATION, BENDING AND PLACEMENT PRIOR TO FABRICATION.

STRUCTURAL STEEL FRAMING

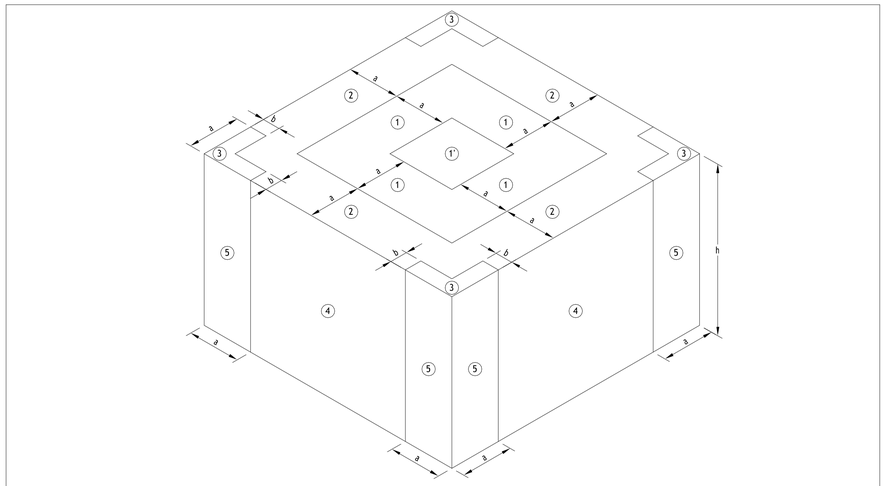
1. SPECIFICATIONS AND STANDARDS:
   UNLESS SPECIFICALLY SHOWN OTHERWISE, DESIGN, FABRICATION AND ERECTION SHALL BE GOVERNED BY
   A. ANSI/AISC 360 - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
   B. AISC 303 - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
   C. AWS STANDARD WELDING SYMBOLS.
   D. AWS D1.1 STRUCTURAL WELDING CODE - STEEL. WELDING SHALL BE PERFORMED ONLY BY OPERATORS QUALIFIED, BY THE AWS STANDARD QUALIFICATION PROCEDURE, TO PERFORM THE PARTICULAR TYPE OF WORK REQUIRED.
   E. RCSC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
2. TESTING:
   A. WELDS: VISUAL TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY ON ALL CRITICAL WELDS AND ON 25% OF NONCRITICAL WELDS. INADEQUATE WELDS SHALL BE STRENGTHENED OR CUT OUT AND REPLACED AS DIRECTED. CRITICAL WELDS SHALL BE DEFINED AS ALL FULL PENETRATION WELDS, ALL WELDS IN MOMENT CONNECTIONS AND AS NOTED AS CRITICAL WELDS ON THE STRUCTURAL DETAILS.
   B. STRUCTURAL STEEL: PROVIDE MILL REPORTS FOR PROPERLY IDENTIFIED MATERIALS ON REQUEST.
   C. A325 AND A490 BOLTS: PROVIDE BOLT INSPECTION AS DETAILED IN SECTION 9 OF SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS.
3. MATERIALS:
   A. "W" SHAPES: ASTM A992 Fy = 50 KSI, ASTM A572 Fy = 50 KSI.
   B. CHANNELS: ASTM A36.
   C. ANGLES, PLATES AND BARS: ASTM A36.
   D. WELDING ELECTRODES: AWS A5.1 OR A5.5 SERIES E70.
   E. BOLTS: ASTM A325.
   F. ANCHOR RODS: ASTM F1554 GRADE 36.
   G. PAINT AND PROTECTION - NONE EXCEPT AS NOTED BELOW:
      1) INTERIOR MEMBERS EXPOSED TO VIEW IN THE FINISHED STRUCTURE - PRIME COAT, TOUCH UP AFTER ERECTION.
      2) MEMBERS EXPOSED TO WEATHER IN FINISHED STRUCTURE, SHELF ANGLES AND LINTELS IN EXTERIOR WALLS - GALVANIZED PER ASTM A123 AFTER FABRICATION.
   H. SHRINKAGE-RESISTANT GROUT: ASTM C1107, NON-METALLIC AGGREGATE, NON-CORROSIVE, NON-STAINING, F'C= 5,000 PSI MIN.
4. CONNECTION REQUIREMENTS:
   A. CONNECTIONS SHOWN AND DETAILED ON THE DRAWINGS MAY BE REDESIGNED BY THE STRUCTURAL STEEL CONTRACTOR FOR EQUAL FORCES PROVIDED THE SAME ARRANGEMENT OF MEMBERS IS USED AND THE OVERALL SIZE OF THE CONNECTION DOES NOT EXCEED THAT OF THE CONNECTION DETAILED.
   B. OBTAIN APPROVAL FROM STRUCTURAL ENGINEER FOR TYPES OF CONNECTIONS BEFORE FABRICATION.
   C. ALL BOLTED CONNECTIONS TO BE SHEAR/BEARING TYPE WITH BOLTS IN THE SNUG TIGHT CONDITION UNLESS NOTED OTHERWISE.
5. MISCELLANEOUS REQUIREMENTS:
   A. ROUND PENETRATIONS ARE PERMITTED IN THE WEB OF WIDE-FLANGE MEMBERS THAT MEET ALL OF THE FOLLOWING CRITERIA. CONTACT SMBH FOR PENETRATIONS THAT DO NOT MEET THESE CRITERIA.
      1) OPENING DIAMETER IS LESS THAN OR EQUAL TO 0.15 TIMES THE DEPTH OF THE BEAM.
      2) EDGE OF OPENING IS A MINIMUM OF 0.15 TIMES THE DEPTH OF THE BEAM FROM THE TOP AND BOTTOM OF THE BEAM.
      3) OPENINGS ARE NOT PERMITTED WITHIN 1.0 TIMES THE DEPTH OF THE BEAM AWAY FROM THE ENDS.
      4) OPENINGS ARE NOT PERMITTED WITHIN 0.5 TIMES THE DEPTH OF THE BEAM AWAY FROM AN INFILL BEAM CONNECTION.
      5) EDGES OF ADJACENT OPENINGS ARE AT LEAST 2X THE LARGEST OPENING DIAMETER APART.
   B. STEEL FRAMING INTENDED TO SUPPORT EQUIPMENT OR MECHANICAL/ELECTRICAL/PLUMBING OPENINGS IS SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS WITH MECHANICAL AND OTHER REQUIREMENTS BEFORE PROCEEDING WITH THE WORK. CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF STEEL ANGLE FRAMES FOR OPENINGS THAT ARE SHOWN ON THE MECHANICAL AND ARCHITECTURAL DRAWINGS.
   C. STEEL BELOW GRADE TO BE PROTECTED BY A MINIMUM OF 3" OF CONCRETE OR 4" OF MASONRY.
   D. 1/4" THICK SETTING PLATES FOR ALL BEAMS BEARING ON MASONRY OR CONCRETE WHICH DO NOT REQUIRE A BEARING PLATE.
   E. UNLESS NOTED OTHERWISE, FIREPROOFING IS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRERATING REQUIREMENTS, METHODS AND MATERIALS.
   F. SUBMIT SHOP DRAWINGS TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

053100 - STEEL DECKING

1. SPECIFICATIONS AND STANDARDS:
   A. DESIGN FABRICATION AND ERECTION OF STEEL DECK SHALL BE GOVERNED BY THE CURRENT EDITION OF THE AMERICAN IRON AND STEEL INSTITUTE, SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
   B. PROPERTIES OF THE STRUCTURAL STEEL DECK SHALL BE COMPUTED IN ACCORDANCE WITH THE REFERENCE STANDARD. THE PROPERTIES SHALL BE PUBLISHED IN THE MANUFACTURER'S CATALOG.
   C. AWS STANDARD WELDING SYMBOLS.
   D. AWS D1.3 SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES.
   E. WELDING SHALL BE PERFORMED ONLY BY OPERATORS QUALIFIED, BY THE AWS STANDARD QUALIFICATION PROCEDURE, TO PERFORM THE PARTICULAR TYPE OF WORK REQUIRED.
2. PRODUCTS:
   A. NON-COMPOSITE FORM DECK:
      1) GALVANIZED STEEL DECK: ASTM A653, STRUCTURAL STEEL (SS), GRADE 33 MIN, G60 ZINC COATING.
3. CONNECTIONS:
   A. NON-COMPOSITE FLOOR DECK
      1) ANCHOR STEEL DECK TO STEEL SUPPORTING MEMBERS WITH 5/8" DIAMETER PUDDLE WELDS AT A MAXIMUM AVERAGE SPACING OF 12 INCHES UNLESS SHOWN OTHERWISE.
      2) FOR DECK SPANS GREATER THAN FIVE FEET, SIDE LAP FASTENERS SHALL BE SPACED AT INTERVALS NOT EXCEEDING 36 INCHES, UNLESS NOTED, USING #10 SCREWS, 5/8" DIAMETER PUDDLE WELDS, OR 1" LONG FILLET WELDS. MINIMUM 1 SIDELAP CONNECTION PER SPAN.
      3) MECHANICAL FASTENERS MAY BE USED IN LIEU OF WELDING TO FASTEN DECK. SUBMIT SUBSTITUTION REQUEST WITH PRODUCT DATA, ATTACHMENT PATTERN AND PERFORMANCE DATA INDICATING DIAPHRAGM CAPACITY MEETS OR EXCEEDS THAT OF THE SPECIFIED WELD PATTERN.
   B. WELDING ELECTRODES: AWS A5.1, A5.5 OR A5.18 SERIES E60.
4. ERECTION AND FABRICATION
   A. MINIMUM BEARING: 2 INCHES UNLESS OTHERWISE SHOWN.
   B. NON-COMPOSITE FLOOR DECKS SHALL BE EITHER LAPPED OR BUTTED OVER SUPPORTS.
   C. FABRICATE DECK UNITS IN LENGTHS TO SPAN THREE OR MORE SUPPORT SPACINGS.
   D. MINIMUM UNSHORED SPANS (SINGLE SPAN / DOUBLE SPAN / TRIPLE SPAN):
      1) NON-COMPOSITE DECK: SLAB OR 5'-7"/6'-11"/6'-11" FOR 1" X 20 GA, 4" NW SLAB.
   E. DO NOT SUSPEND POINT LOADS FROM DECK INCLUDING HANGERS FOR: CEILINGS, PIPES, DUCTS, EQUIPMENT, ETC. CONTRACTOR INSTALLING SUCH POINT LOADS SHALL PROVIDE SUB-FRAMING TO TRANSFER LOAD TO STRUCTURE SUPPORTING DECK.
   F. DECK SUPPLIER TO PROVIDE DECK CLOSURE WHERE REQUIRED FOR CONCRETE PLACEMENT.
5. OPENINGS IN STEEL DECK.
   A. OPENINGS CUT IN THE STEEL DECK SHALL BE REINFORCED OR SHALL BE SUPPORTED ON STEEL ANGLE FRAMES. COORDINATE SIZES AND LOCATIONS WITH THE MECHANICAL AND ARCHITECTURAL DRAWINGS.
   B. OPENINGS IN STEEL DECK EQUAL TO OR LESS THAN 12"x12" SHALL BE REINFORCED WITH A 24"x24" - 16 GAGE PLATE SCREWED OR WELDED TO THE DECK RIBS ON ALL SIDES OF THE OPENING.
   C. OPENINGS IN CONCRETE SLABS ON STEEL FLOOR DECK GREATER THAN 12"x12" SHALL BE SUPPORTED ON STEEL ANGLE FRAMES UNLESS ALL OF THE FOLLOWING CRITERIA ARE SATISFIED:
      1) OPENING SIZE IS LESS THAN OR EQUAL TO 24"x24".
      2) THE STEEL DECK IS CUT AFTER THE CONCRETE HAS HARDENED.
      3) THE CONCRETE SLAB IS REINFORCED WITH (1) #4 x 6'-0" LONG ON EACH SIDE OF THE OPENING.

ROUGH CARPENTRY

1. SPECIFICATIONS AND STANDARDS:
   A. DESIGN AND DETAILING OF CONNECTIONS SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION RECOMMENDED PRACTICE BY THE AMERICAN FOREST AND PAPER ASSOCIATION.
2. MATERIALS:
   A. ONLY USE DIMENSIONAL LUMBER - SPRUCE-PINE-FIR #1/#2 OR BETTER: E = 1,400,000 PSI. Fb = 875 PSI. Fv = 135 PSI. Fc = 1150 PSI. DIMENSIONAL LUMBER FOR PRESSURE TREATED AND FRT STRESSES - BEFORE TREATMENT - SOUTHERN PINE #1 OR BETTER E = 1,600,000 PSI. Fb = 1250 PSI (2x8), Fv = 175 PSI. Fc = 1500 PSI (2x8).
   B. LAMINATED VENEER LUMBER (LVL): PLANT MANUFACTURED OF 1/10" TO 1/8" DOUGLAS FIR OR SOUTHERN PINE VENEERS GLUED IN A CONTINUOUS PROCESS WITH ALL GRAIN PARALLEL TO THE LENGTH OF THE MEMBER. DESIGN IN ACCORDANCE WITH THE REFERENCE STANDARD IN 1A ABOVE.
   C. NAILS: COMMON WIRE NAILS: ASTM F1667.
   D. STEEL CONNECTION MATERIALS: ASTM A36.
   E. BOLTS: ASTM A307 WITH 2 WASHERS.
   F. WOOD SCREWS: ASME B18.6.1.
   G. LAG BOLTS: ASME B18.2.1.
   H. METAL FRAMING ANCHORS AND CONNECTORS: 16 OR 18 GA. GALVANIZED STEEL (ASTM A653, G60) SIZED FOR FULL LOAD CARRYING CAPACITY OF SUPPORTED MEMBER. NOMENCLATURE BASED ON ANCHORS MANUFACTURED BY SIMPSON STRONG-TIE CO. INC.
   I. ALL SHEATHING TO HAVE EXTERIOR GLUE.
   J. PRESERVATIVE TREATMENT
      1) AWPA U1.
      2) PRESSURE-TREAT ABOVE-GROUND ITEMS WITH WATER-BORNE PRESERVATIVES, CATEGORY UC3b.
      3) PRESSURE-TREAT MEMBERS IN CONTACT WITH GROUND WITH WATER-BORNE PRESERVATIVES, CATEGORY UC4a.
      4) STEEL FASTENERS AND CONNECTION MATERIALS IN CONTACT WITH PRESERVATIVE TREATED MATERIAL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A153.
3. CONSTRUCTION REQUIREMENTS:
   A. MAKE ALL CUTS TRUE AND SQUARE FOR FULL BEARING AT STRUCTURAL JOINTS.
   B. SPLICE WALL TOP PLATES ONLY AT STUDS. STAGGER SPLICES AT LEAST TWO STUDS SPACES. OVERLAP DOUBLE TOP PLATES AT CORNERS AND INTERSECTIONS WITH BEARING PARTITIONS.
   C. CONNECT ALL FRAMING SECURELY TOGETHER WITH NAILS, SPIKES, OR FRAMING ANGLES.
   D. ANCHOR WALL SILL PLATES TO FOUNDATION PER WOOD WALL SCHEDULE. THERE SHALL BE A MINIMUM OF TWO ANCHORS PER SECTION OF PLATE WITH ONE ANCHOR LOCATED WITHIN TWELVE INCHES FROM THE ENDS OF EACH SECTION OF PLATE.
   E. DOUBLE TOP PLATE CONNECTIONS
      1) AT LAP JOINTS AT CORNERS AND WALL INTERSECTIONS: OVERLAP UPPER TOP PLATE OF INTERSECTING WALL OVER LOWER PLATE OF WALL INTERSECTED. SIMILAR OVERLAPPING OF TOP PLATE IS REQUIRED AT CORNERS. THE REQUIRED FASTENING IS (2) 16D NAILS.
      2) ATTACH UPPER TOP PLATE TO LOWER TOP PLATE WITH (1) 16D NAIL EVERY 16".
      3) TOP PLATE SPLICES: SPLICES OF DOUBLE TOP PLATES TO HAVE AT LEAST 24" OF OVERLAP ON EACH SIDE OF END JOINT, AND BE FASTENED WITH MINIMUM OF (8) 16D NAILS, ON E

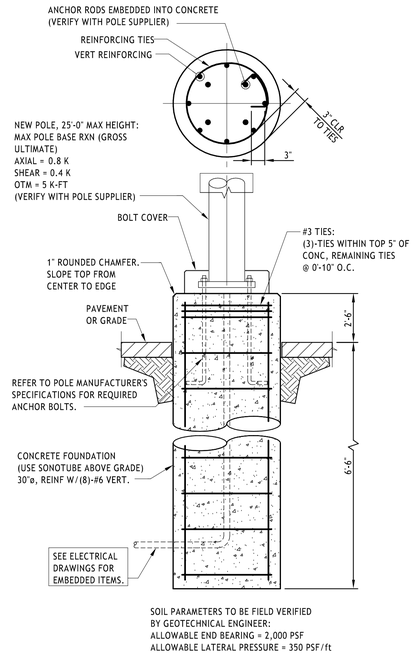


SCHEMATIC ELEVATION

WIND PRESSURE (ASCE 7-16) FOR COMPONENTS & CLADDING

EFFECTIVE AREA A (S.F.)	ZONE 1		ZONE 1'		ZONE 2			ZONE 3			ZONE 4		ZONE 5	
	PRESSURE (PSF)	SUCTION (PSF)	PRESSURE (PSF)	SUCTION (PSF)	PRESSURE (PSF)	SUCTION (PSF)	OVERHANG (PSF)	PRESSURE (PSF)	SUCTION (PSF)	OVERHANG (PSF)	PRESSURE (PSF)	SUCTION (PSF)	PRESSURE (PSF)	SUCTION (PSF)
A ≤ 10	16.00	-41.80	16.00	-24.00	24.00	-55.10	-51.10	24.00	-55.10	-51.10	24.00	-26.00	24.00	-32.00
10 < A ≤ 20	16.00	-39.00	16.00	-24.00	22.90	-51.60	-46.40	22.90	-51.60	-46.40	22.90	-24.90	22.90	-29.90
20 < A ≤ 50	16.00	-35.40	16.00	-24.00	21.50	-46.90	-40.10	21.50	-46.90	-40.10	21.50	-23.50	21.50	-27.10
50 < A ≤ 100	16.00	-32.60	16.00	-24.00	20.50	-43.30	-35.40	20.50	-43.30	-35.40	20.50	-22.50	20.50	-24.90

NOTES:
1. VALUES LISTED IN THE ABOVE TABLE ARE BASED UPON A PARTIAL ENCLOSED BUILDING USING THE SPECIFIED WIND LOADING AS INDICATED IN THE 'DESIGN LOADS' SECTION OF THE GENERAL NOTES.
2. PRESSURE (POSITIVE) AND SUCTION (NEGATIVE) VALUES SIGNIFY LOADING ACTING TOWARDS AND AWAY FROM THE BUILDING SURFACES, RESPECTIVELY (FULL HEIGHT, UNLESS NOTED.)
3. VALUES LISTED IN THE ABOVE TABLE ARE ULTIMATE WIND PRESSURES. TO OBTAIN ALLOWABLE STRESS DESIGN WIND VALUES, MULTIPLY THE VALUES SHOWN IN THE ABOVE TABLE BY 0.6.
4. EDGE STRIP 'a' AND 'b' PER BLDG DIMENSIONS/BUILDING CODE PROVISIONS.
5. SUCTION VALUES LISTED IN ROOF ZONES 1, 1', 2 & 3 INDICATE GROSS UPLIFT PRESSURES.



SOIL PARAMETERS TO BE FIELD VERIFIED BY GEOTECHNICAL ENGINEER:
ALLOWABLE END BEARING = 2,000 PSF
ALLOWABLE LATERAL PRESSURE = 350 PSF/ft

TYP LIGHT POLE BASE

NO SCALE

ABBREVIATIONS

#	NUMBER
#	POUND (S)
#/FT	POUNDS PER LINEAL FOOT
CL	CENTERLINE
PL	PLATE
Ø	DIAMETER
AB	ANCHOR BOLT
ADD'L	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
ANC	ANCHOR
APPROX	APPROXIMATELY
ARCH	ARCHITECT(URAL)
B PL	BASE PLATE
B, BOT	BOTTOM
BLDG	BUILDING
BLK	BLOCK
BLK'G	BLOCKING
BM	BEAM
BRG	BEARING
BRK	BRICK
BS	BOTH SIDES
BSMT	BASEMENT
BTWN	BETWEEN
c/c	CENTER-TO-CENTER
CB	CONCRETE BEAM
CE	CONTINUOUS END
CFMF	COLD FORMED METAL FRAMING
CJ	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (ION)
CONST	CONTRUCT (ION)
CONT	CONTINUOUS (ATION)
CONTR	CONTRACTOR
CTR	CENTER
CW	CURTAIN WALL
CY	CUBIC YARDS
DA	DRILLED ANCHOR
DBL	DOUBLE
DBLS	DOUBLE TIES
DE	DISCONTINUOUS END
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DR	DISTRIBUTION RIB
DWG	DRAWING
DWL	DOWEL
E	EAST
E-, EXTG	EXISTING
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEV	ELEVATOR
EMBED	EMBEDDED (MENT)
ENGR	ENGINEER
EOS	EDGE OF SLAB
EQ	EQUAL
ES	EACH SIDE
EW	EACH WAY
EXP	EXPANSION
EXT	EXTERIOR
FAB	FROM ADJACENT BEAM
FABR	FABRICATE (OR)
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FIN	FINISHED
FL	FULL LENGTH
FLR	FLOOR
FND	FOUNDATION
FOM	FACE OF MASONRY
FOS	FACE OF SHEATHING
FOV	FACE OF VENEER
FOW	FACE OF WALL
FS	FAR SIDE
FT	FEET, FOOT
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERAL
GR	GRADE
GRND	GROUND
GRTG	GRATING
H, HORIZ	HORIZONTAL
HD	HEADED
HK	HOOK
HS	HIGH-STRENGTH
HVAC	HEATING VENTILATING AIR CONDITIONING
ID	INSIDE DIAMETER (DIMENSION)
IF	INSIDE FACE
IN	INCH
INT	INTERIOR, INTERMEDIATE
JST	JOIST
JT	JOINT
KP	KIP (1000 POUNDS)
KSF	KIPS PER SQUARE FOOT
LAT	LATERAL
LBS, #	POUNDS
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LOC	LOCATION
LSH	LONG SIDE HORIZONTAL
LSL	LONG SLOTTED HOLES
LSV	LONG SIDE VERTICAL
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
MAS	MASONRY
MAT'L	MATERIAL
MAX	MAXIMUM
MBR	MEMBER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURE (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MPH	MILES PER HOUR
MTL	METAL
N	NORTH
N/A	NOT APPLICABLE
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO, #	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NSH	NORMAL SLOTTED HOLES
NTS	NOT TO SCALE
o/o	OUT-TO-OUT
OC	ON CENTER (S)
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE (HAND)
OPT	OPTIONAL
ORIG	ORIGINAL
OSB	ORIENTED STRAND BOARD
OSL	OUT STANDING LEG
OVHD	OVERHEAD
OVS	OVERSIZED ROUND HOLES
PAF	POWDER ACTUATED FASTENER (S)
PEMB	PRE-ENGINEERED METAL BUILDING
PLF	POUND PER LINEAR FOOT
PLWD	PLYWOOD
PNL	PANEL
PREL	PRELIMINARY
PROJ	PROJECT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
QTY	QUANTITY
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCE (ING), (ED)
REQ	REQUIRE (MENTS)
REQD	REQUIRED
REV	REVIS (ION), (ED)
RF	ROOF
RM	ROOM
RTU	ROOF TOP UNIT
S	SOUTH
SC	SLIP-CRITICAL
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLOPE (D)
SP	SPACE (S), (ED)
SPEC	SPECIFICATION (S)
SPL	SPLICE
SQ	SQUARE
SS	STAINLESS STEEL
SSL	SHORT SLOTTED HOLES
SSR	SHEAR STUD RAILS
STA	STATION
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURE (AL)
SVC	SERVICE
SW	SHORT WAY
SYM	SYMMETRICAL
T	TOP
T&B	TOP AND BOTTOM
T/	TOP OF
TEMP	TEMPERATURE, TEMPORARY
THD	THREADED
THK	THICK (NESS)
TOS	TOP OF STEEL
TOSL	TOP OF SLAB
TOT	TOTAL
TYP	TYPICAL
UN	UNLESS NOTED
UNO	UNLESS NOTED OTHERWISE
V	VERTICAL
VERT	VERTICAL
W	WEST
W/	WITH
W/C	WATER/CEMENT RATIO
W/O	WITHOUT
WD	WOOD
WL	WIND LOAD
WP	WORK (ING) POINT
WT	WEIGHT
WWR	WELDED WIRE REINFORCING
XX	EXTRA STRONG
XXS	DOUBLE EXTRA STRONG

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12/22/2025	PERMIT

Garrett David Small

GARRETT DAVID SMALL
PROFESSIONAL ENGINEER
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A-2005011725-F

PROFESSIONAL IN CHARGE
GBB
PROJECT MANAGER
GBB
QUALITY CONTROL
AHM
DRAWN BY
JMM

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME

GENERAL STRUCTURAL NOTES

SHEET #

S-1.2

12/16/2025 9:44:19 AM C:\Users\jessa.mendoza\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 28-Flat Roof Stnr_V24_HFA.Jessa.Mendoza.rvt S-1.2-GENERAL STRUCTURAL NOTES

SPECIAL INSPECTIONS

PER THE IBC SECTION 1704, SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING ITEMS:

1. EXPANSION AND EPOXY ADHESIVE ANCHORS:
   a. RECORD PRODUCT DESCRIPTION INCLUDING THE ADHESIVE PRODUCT NAME AND EXPIRATION DATE, ADHESIVE MIXING PROCEDURE AND USE OF PROPER NOZZLES FOR ALL CARTRIDGES. (PERIODIC)
   b. VERIFY ANCHOR OR REINFORCEMENT BAR MATERIAL, GRADE, DIAMETER, LENGTH, AND CLEANLINESS. (PERIODIC)
   c. VERIFY DRILL BIT DIAMETER, INCLUDING VERIFICATION OF DIAMOND-CORE AND CARBIDE-TIPPED DRILL BIT COMPLIANCE WITH ANSI B212.15. (PERIODIC)
   d. VERIFY DEPTH AND CLEANLINESS OF HOLES. (PERIODIC)
   e. VERIFY CONCRETE COMPRESSIVE STRENGTH BY ASTM C42 METHODS. (PERIODIC)
   f. VERIFY PHYSICAL PROPERTIES OF THE CONCRETE MASONRY WALL CONSTRUCTION COMPONENTS. (PERIODIC)
   g. VERIFY SUBSTRATE TEMPERATURE AT TIME OF ANCHOR INSTALLATION. (PERIODIC)
   h. VERIFY ACTUAL GEL TIME WHEN INSTALLED ANCHORS ARE NOT DISTURBED. (PERIODIC)
   i. VERIFY THAT THE ANCHOR INSTALLATION AND LOCATION, INCLUDING SPACING AND EDGE DISTANCE, ARE IN COMPLIANCE WITH THE MANUFACTURER'S SPECIFICATIONS. (PERIODIC)

2. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:
   a. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED CONSTRUCTION DOCUMENTS.
   b. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN CHARGE.
   c. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
   d. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
   e. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL PROVIDE STATEMENT OF SPECIAL INSPECTIONS ACKNOWLEDGING THE REQUIREMENTS OF IBC SECTION 1710.

PART 1: SCHEDULE OF SPECIAL INSPECTIONS					
	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCED STANDARD[A]	IBC SECTION	REMARKS
IBC 1705.2 STEEL CONSTRUCTION					
FABRICATOR AND ERECTOR DOCUMENTS (VERIFY REPORTS AND CERTIFICATES AS LISTED IN AISC 360, CHAPTER N, PARAGRAPH 3.2 FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS	EACH SUBMITTAL		AISC 360-16	1705.2	
MATERIAL VERIFICATION OF STRUCTURAL STEEL		X	AISC 360-16	1705.2	
EMBEDMENTS (VERIFY DIAMETER, GRADE, TYPE, LENGTH, EMBEDMENT. SEE 1705.3 FOR ANCHORS)		X	AISC 360-16	1705.2	
VERIFY MEMBER LOCATIONS, BRACES, STIFFENERS, AND APPLICATION OF JOINT DETAILS AT EACH CONNECTION COMPLY WITH CONSTRUCTION DOCUMENTS		X	AISC 360-16	1705.2	

TABLE N5.4-1 (AISC 360-16, PER 1705.2.1)					
INSPECTION TASKS PRIOR TO WELDING OF STRUCTURAL STEEL					
WELDING PROCEDURE SPECIFICATIONS (WPSS) AVAILABLE	X	-	AISC 360-16	1705.2.1	
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X	-			
MATERIAL IDENTIFICATION (TYPE/GRADE)	-	X			
WELDER IDENTIFICATION SYSTEM	-	X			
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY):	-	N/A			
- JOINT PREPARATION					
- DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)					
- CLEANLINESS (CONDITION OF STEEL SURFACES)					
- TACKING (TACK WELD QUALITY AND LOCATION)					
- BACKING TYPE AND FIT					
CONFIGURATION AND FINISH OF ACCESS HOLES	-	N/A			
FIT-UP OF FILLET WELDS:	-	X			
- DIMENSIONS (ALIGNMENT, GAPS AT ROOT)					
- CLEANLINESS (CONDITION OF STEEL SURFACES)					
- TACKING (TACK WELD QUALITY AND LOCATION)					

TABLE N5.4-2 (AISC 360-16, PER 1705.2.1)					
INSPECTION TASKS DURING WELDING OF STRUCTURAL STEEL					
USE OF QUALIFIED WELDERS	-	X	AISC 360-16	1705.2.1	
CONTROL AND HANDLING OF WELDING CONSUMABLES:	-	X			
- PACKAGING					
- EXPOSURE CONTROL					
NO WELDING OVER CRACKED TACK WELDS	-	X			
ENVIRONMENTAL CONDITIONS:	-	X			
- WIND SPEED WITHIN LIMITS					
- PRECIPITATION AND TEMPERATURE					
WPS FOLLOWED:	-	X			
- SETTINGS ON WELDING EQUIPMENT					
- TRAVEL SPEED					
- SELECTED WELDING MATERIALS					
- SHIELDING GAS TYPE/FLOW RATE					
- PREHEAT APPLIED					
- INTERPASS TEMPERATURE MATINTAINED					
- PROPER POSITION (F, V, H, OH)					
WELDING TECHNIQUES:	-	X			
- INTERPASS AND FINAL CLEANING					
- EACH PASS WITHIN PROFILE LIMITATIONS					
- EACH PASS MEETS QUALITY REQUIREMENTS					

TABLE N5.4-3 (AISC 360-16, PER 1705.2.1)					
INSPECTION TASKS AFTER WELDING OF STRUCTURAL STEEL					
WELDS CLEANED	-	X	AISC 360-16	1705.2.1	
SIZE, LENGTH, AND LOCATION OF WELDS	X	-			
WELDS MEET VISUAL ACCEPTANCE CRITERIA:	X	-			
- CRACK PROHIBITION					
- WELD/BASE-METAL FUSION					
- CRATER CROSS SECTION					
- WELD PROFILES					
- WELD SIZE					
- UNDERCUT					
- POROSITY					
ARC STRIKES	X	-			
K-AREA	X	-			
BACKING REMOVED AND WELD TABS REMOVED	N/A	-			
REPAIR ACTIVITIES	X	-			
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	-			
CJP GROOVE WELD NDT:					
- UT TESTING ON ALL BUTT, T- & CORNER JOINTS IN MATERIALS 5/16" THICK OR GREATER (RISK CATEGORY III OR IV ONLY)	N/A		AISC 360-16 N5.5B	1705.2.1	
- UT TESTING ON 10% OF BUTT, T- & CORNER JOINTS IN MATERIALS 5/16" THICK OR GREATER (RISK CATEGORY II ONLY)	N/A				

TABLE N5.4-3 (AISC 360-16, PER 1705.2.1)					
INSPECTION TASKS AFTER WELDING OF STRUCTURAL STEEL					
ACCESS HOLE NDT:					
- MT OR PT TESTING OF ALL THERMALLY CUT SURFACES OF ACCESS HOLES (WHEN FLANGE THICKNESS > 2" OF ROLLED SHAPES OR WEB THICKNESS > 2" FOR BUILT-UP SHAPES)	N/A		AISC 360-16 N5.5C	1705.2.1	
OTHER NDT:					
- WELDED JOINTS SUBJECT TO FATIGUE WHEN REQUIRED BY AISC 360, APPX 3, TABLE A-3.1	N/A		AISC 360-16	1705.2.1	
-FABRICATOR'S NDT REPORTS WHEN FABRICATOR PERFORMS NDT	N/A		AISC 360-16	1705.2.1	

TABLE N5.6-1 (AISC 360-16, PER 1705.2.1)					
INSPECTION TASKS PRIOR TO BOLTING OF STRUCTURAL STEEL					
MANUFACTURER CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	X	-	AISC 360-16	1705.2.1	
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	-	X			
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	-	X			
PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	-	X			
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	-	X			
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	-	X			
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	-	X			

TABLE N5.6-2 (AISC 360-16, PER 1705.2.1)					
INSPECTION TASKS DURING BOLTING OF STRUCTURAL STEEL					
FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	-	X	AISC 360-16	1705.2.1	
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	-	N/A			
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	-	X			
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	-	N/A			

TABLE N5.6-3 (AISC 360-16, PER 1705.2.1)					
INSPECTION TASKS AFTER BOLTING OF STRUCTURAL STEEL					
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	X	-	AISC 360-16	1705.2.1	

TABLE N6.1 (AISC 360-10, PER 1705.2.1)					
INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT					
PLACEMENT AND INSTALLATION OF STEEL DECK	N/A	-	AISC 360-16	1705.2.1	
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	N/A	-			
DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	N/A	-			
1705.2.2 COLD-FORMED STEEL DECK					
MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK, INCLUDING IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS AND MANUFACTURER'S CERTIFIED TEST REPORTS	-	X	1705.2.2		
CONNECTION OF COLD-FORMED STEEL DECK TO SUPPORTING STRUCTURE:					
-WELDING	-	X			
-OTHER FASTENERS: VERIFY FASTENERS ARE IN CONFORMANCE WITH APPROVED SUBMITTAL AND VERIFY INSTALLATION IS IN CONFORMANCE WITH APPROVED SUBMITTAL AND MANUFACTURER'S RECOMMENDATIONS	-	X			

TABLE 1705.2.3					
OPEN-WEB STEEL JOISTS AND JOIST GIRDERS					
1. INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS			SJI 2207.1	1705.2.3	
A. END CONNECTIONS	-	N/A			
B. BRIDGING - HORIZONTAL AND DIAGONAL					
1. STANDARD BRIDGING	-	N/A			
2. BRIDGING THAT DIFFERS FROM SJI SPECIFICATIONS	-	N/A			
1705.2.4 COLD-FORMED STEEL TRUSSES SPANNING 60 FEET OR GREATER					
COLD-FORMED STEEL TRUSSES SPANNING 60 FEET OR GREATER - VERIFY TEMPORARY AND PERMANENT RESTRAINT/BRACING MEMBERS ARE INSTALLED IN ACCORDANCE WITH APPROVED TRUSS SUBMITTAL	-	N/A		1705.2.4	

PART I: SCHEDULE OF SPECIAL INSPECTIONS					
IBC TABLE 1705.3					
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION					
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARDS[A]	IBC SECTION	REMARKS
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT.	-	X	ACI 318 CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4000	
2. INSPECTION OF REINFORCING STEEL WELDING			AWS D1.4, ACI 318: 26.6.4	-	
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;	-	N/A			
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"	-	N/A			
C. INSPECT ALL OTHER WELDS	N/A	-			
3. INSPECTION OF ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-	
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.			ACI 318: 17.8.2	-	
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	-			
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A	-	X			
5. VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3	
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C 172	1908.10	
			ASTM C 31		
			ACI 318: 26.4, 26.12		
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8	
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3, 26.5.5	1908.9000	
9. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	N/A	ACI 318: 26.11.2	-	
10. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2(B)	-	
A. WHERE APPLICABLE, SEE ALSO SECTION 1705.12, SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE. REFERENCE CODE IS ACI 318-14					
B. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.					

PART I: SCHEDULE OF SPECIAL INSPECTIONS			
IBC 1705.5 WOOD CONSTRUCTION			
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	REMARKS
1. INSPECTION OF THE FABRICATION PROCESS OF WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH SECTION 1704.2.5	-	X	
2. FOR HIGH-LOAD DIAPHRAGMS, VERIFY GRADE AND THICKNESS OF STRUCTURAL PANEL SHEATHING AGREE WITH APPROVED BUILDING PLANS	-	N/A	
3. FOR HIGH-LOAD DIAPHRAGMS, VERIFY NOMINAL SIZE OF FRAMING MEMBERS AT ADJOINING PANEL EDGES, NAIL OR STAPLE DIAMETER AND LENGTH, NUMBER OF FASTENER LINES, AND THAT SPACING BETWEEN FASTENERS IN EACH LINE AND AT EDGE MARGINS AGREE WITH APPROVED BUILDING PLANS	-	N/A	
4. METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER: VERIFY TEMPORARY AND PERMANENT RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	-	N/A	

PART I: SCHEDULE OF SPECIAL INSPECTIONS			
IBC TABLE 1705.6			
REQUIRED VERIFICATION AND INSPECTION OF SOILS			
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED	REMARKS
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X	
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS.	-	X	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-	
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY.	-	X	

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12/22/2025	PERMIT

PROFESSIONAL IN CHARGE
GBB
PROJECT MANAGER
GBB
QUALITY CONTROL
AHM
DRAWN BY
JMM

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

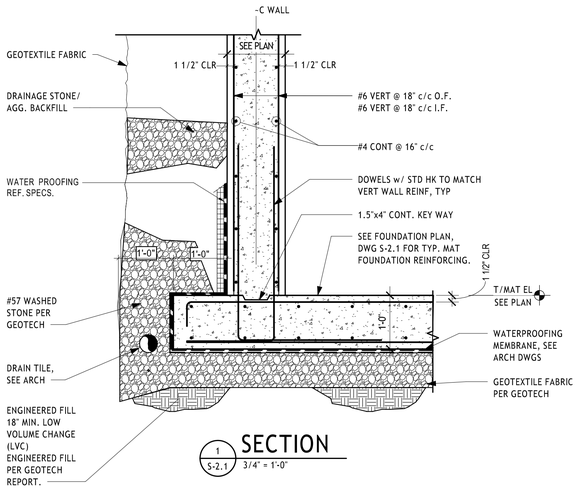
NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

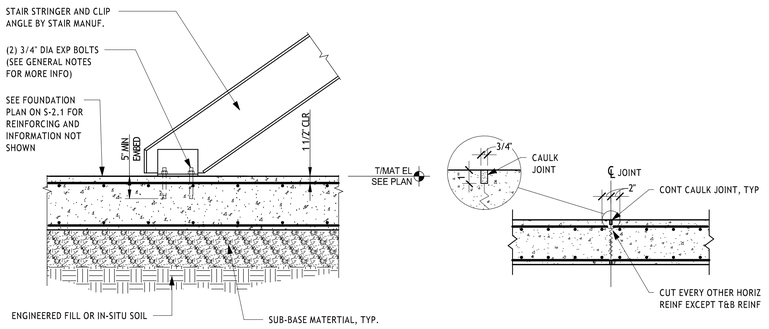
SHEET NAME
SPECIAL INSPECTIONS

SHEET #
S-1.3

12/16/2025 10:23:05 AM C:\Users\jesus.mendoza\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 28-Flat Roof Strc_124_HFA_Jesus Mendoza.rvt S-1.3-SPECIAL INSPECTIONS

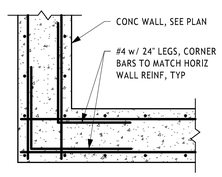


1 S-2.1 **SECTION**
3/4" = 1'-0"

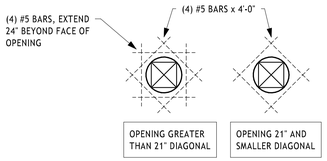


2 S-2.1 **SECTION**
3/4" = 1'-0"

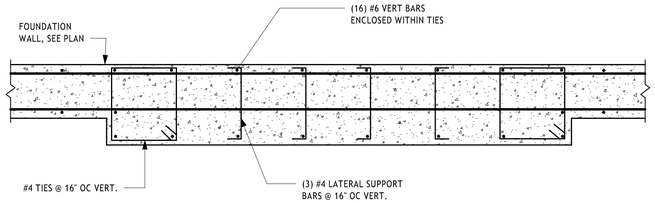
3 S-2.1 **DETAIL**
3/4" = 1'-0"



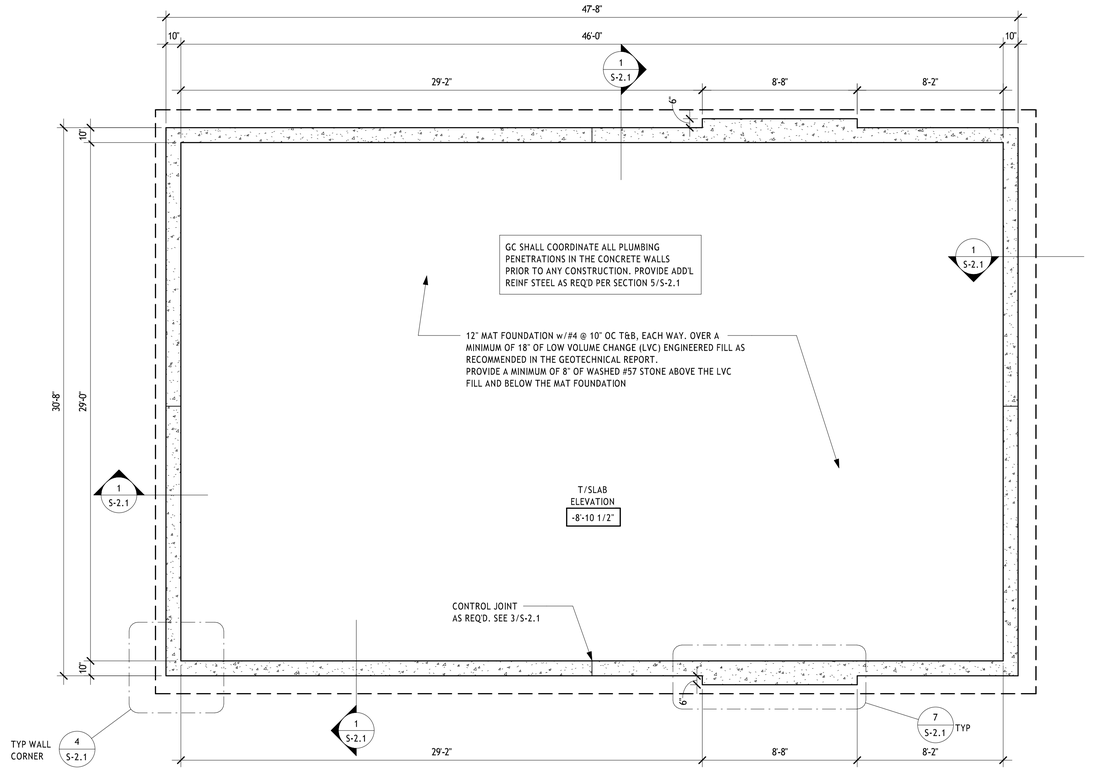
4 S-2.1 **DETAIL**
3/4" = 1'-0"



5 S-2.1 **DETAIL**
3/4" = 1'-0"



7 S-2.1 **TYP MID-WALL PILASTER**
3/4" = 1'-0"



FOUNDATION PLAN
1/4" = 1'-0"

1. VERIFY LOCATIONS OF COLUMNS, WALLS, OPENINGS, ETC. WITH ARCHITECTURAL DRAWINGS BEFORE PLACING FOUNDATIONS.
2. TOP OF SLAB/MAT ELEVATION AS NOTED ON PLAN. REFERENCE ELEVATION 0'-0" EQUALS TOP OF SLAB AT FIRST FLOOR FRAMING.
3. MAT FOUNDATION DESIGN IS BASED ON THE SOIL INVESTIGATION: REPORT ISSUED BY ECS MIDWEST, LLC. PROJECT NUMBER 16:15951, DATED OCTOBER 16, 2025.
4. DESIGN SOIL BEARING PRESSURE 2,000 PSF. ANY SOFT SPOTS OR VARIATIONS IN SUBSURFACE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. THE DESIGN BEARING CAPACITY SHALL BE FIELD VERIFIED BY AN INDEPENDENT TESTING AGENCY SPECIALIZING IN SOILS INVESTIGATIONS.
5. PRIOR TO THE CONTRACTOR REQUESTING A BUILDING DEPT FOUNDATION INSPECTION, THE SOILS ENGINEER SHALL ADVISE THE BUILDING OFFICIAL, IN WRITING, THAT:
   A. THE BUILDING PAD WAS PREPARED ACCORDING TO THE SOILS REPORT.
   B. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.
   C. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACK FILLED AND COMPACTED.
6. MAT FOUNDATION SHALL BE DIRECTLY AND ENTIRELY SUPPORTED BY:
   A. 18" MIN LOW VOLUME CHANGE (LVC) ENGINEERED FILL
   B. 8" MIN #57 WASHED STONE ABOVE LVC FILL.
7. LOCATE EXISTING UNDERGROUND UTILITIES IN AREA OF CONSTRUCTION. COORDINATE WITH UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL ACTIVE LINES.
8. WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL BE LOWERED BY AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2'-0" BELOW THE EXCAVATION.
9. DO NOT BACKFILL AGAINST THE FOUNDATION WALLS UNTIL BOTH LEVELS OF THE FLOOR SLAB ARE IN PLACE OR PROVIDE TEMPORARY SUPPORT. WHERE FILL IS ON BOTH SIDES OF A WALL, INSTALL THE FILL UNIFORMLY ON BOTH SIDES OF THE WALL. BRACING. BACKFILL USING #57 STONE WITH GEOTEXTILE FABRIC WHERE REQUIRED PER GEOTECH REPORT
10. ALL FOUNDATION PLAN DIMENSIONS ARE TO FACE OF CONCRETE UNLESS NOTED.
11. REFERENCE: GENERAL STRUCTURAL NOTES - S-1.1 & S-1.2

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STATE OF MISSOURI
GARRETT DAVID SMALL
NUMBER PE-2024001657
PROFESSIONAL ENGINEER

Garrett David Small

GARRETT DAVID SMALL
NUMBER PE-2024001657
PROFESSIONAL ENGINEER
HFA-AE, LTD
A-2005011725-F

PROFESSIONAL IN CHARGE
GBB
PROJECT MANAGER
GBB
QUALITY CONTROL
AHM
DRAWN BY
JMM
PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062
SHEET NAME
FOUNDATION PLAN AND SECTIONS
SHEET #
S-2.1

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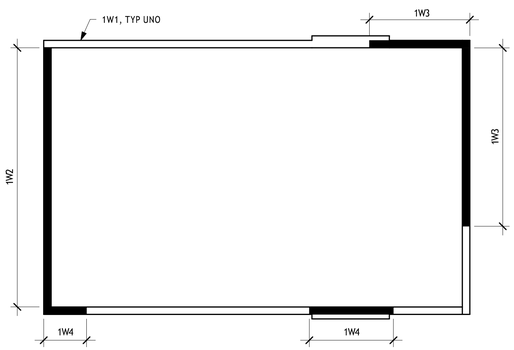
S-2.1 - FOUNDATION PLAN AND SECTIONS

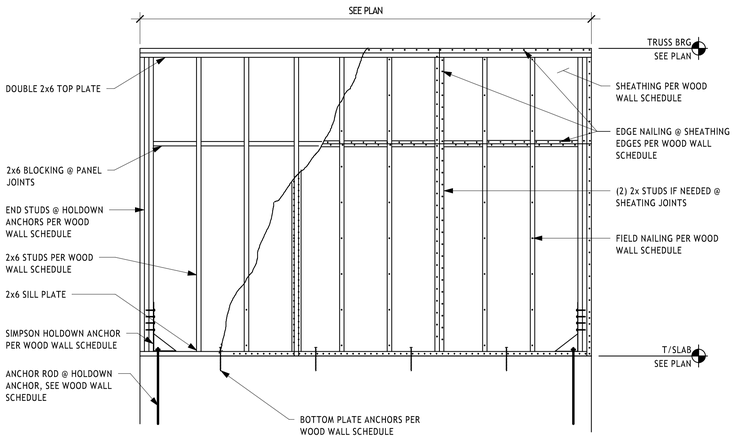
WOOD WALL SCHEDULE

MARK	STUD SIZE	STUD SPACING c/c	SHEAR WALL	SHEAR WALL INFORMATION				SILL PLATE ANCHORAGE
				END STUDS	SHEATHING TYPE	SHEATHING FASTENING	SIMPSON HOLDOWN ANCHOR	
1W1	2x6	16"	NO	---	15/32" APA RATED PLYWOOD SHEATHING	10d NAILS @ 6" c/c EDGE NAILING & 12" c/c FIELD NAILING	---	5/8"Ø HILTI KWIK HUS-EZ @ 48" c/c w/ 5" EMBED INTO CONC
1W2	2x6	16"	YES	(2)2x6	15/32" APA RATED PLYWOOD SHEATHING STRUCTURAL I	10d NAILS @ 6" c/c EDGE NAILING & 12" c/c FIELD NAILING	SIMPSON HD5B w/ 5/8"Ø AB CAST INTO CONC WALL. SEE DETAILS 8 & 9 ON S-4.1 FOR MINIMUM EMBEDMENT.	5/8"Ø HILTI KWIK HUS-EZ @ 24" c/c w/ 5" EMBED INTO CONC
1W3	2x6	16"	YES	(3)2x6	15/32" APA RATED PLYWOOD SHEATHING STRUCTURAL I	10d NAILS @ 4" c/c EDGE NAILING & 12" c/c FIELD NAILING	SIMPSON HD9B w/ 7/8"Ø AB CAST INTO CONC WALL. SEE SECTIONS 8 & 9 ON S-4.1 FOR MINIMUM EMBEDMENT.	5/8"Ø HILTI KWIK HUS-EZ @ 24" c/c w/ 5" EMBED INTO CONC
1W4	2x6	16"	YES	(4)2x6	15/32" APA RATED PLYWOOD SHEATHING STRUCTURAL I	10d NAILS @ 2" c/c EDGE NAILING & 12" c/c FIELD NAILING (SEE NOTE #11)	SIMPSON HD12 w/ 1"Ø AB CAST INTO CONC WALL. SEE DETAILS 8 & 9 ON SHEET S-4.1 FOR MINIMUM EMBEDMENT.	5/8"Ø HILTI KWIK HUS-EZ @ 24" c/c w/ 5" EMBED INTO CONC

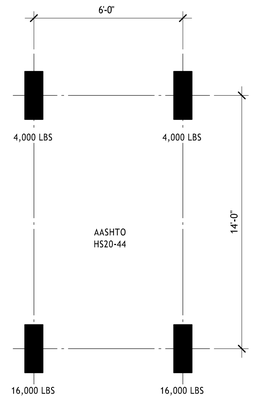
1. BLOCK ALL SHEATHING PANEL EDGES IN SHEAR WALLS.
2. MINIMUM EDGE DISTANCE FOR NAILING TO MEMBERS SHALL BE 1/2".
3. ALL 1/2" AND/OR 15/32" PLYWOOD SHALL BE 4 PLY MINIMUM.
4. SHEATHING SHALL BE APPLIED HORIZONTALLY. MINIMUM PANEL WIDTH SHALL BE 24".
5. AT ADJOINING PANEL EDGES, NAILS AT EACH SIDE SHALL BE STAGGERED.
6. 10d NAILS SHALL BE 3"x0.148" COMMON NAILS, 1 1/2" MIN PENETRATION.
7. 3" x 3" x 0.229" MIN. GALVANIZED PLATE WASHERS REQUIRED ON ALL ANCHOR BOLTS. THE WASHER SHALL BE LOCATED WITHIN 1/2" OF SHEATHING.
8. SILL BOLT HOLES SHALL BE A MINIMUM OF 1/32" TO A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER.
9. SEE TYP SHEAR WALL ELEVATION ON THIS SHEET FOR TYPICAL DETAILS.
10. OSB SHEATHING IS NOT AN ACCEPTABLE ALTERNATE TO THE SPECIFIED PLYWOOD SHEATHING.
11. THE WIDTH OF THE NAILED FACE OF A COMMON FRAMING MEMBER OR BLOCKING AT ADJOINING PANEL EDGES SHALL BE 3" NOMINAL OR GREATER AND NAILING SHALL BE STAGGERED AT ALL PANEL EDGES.



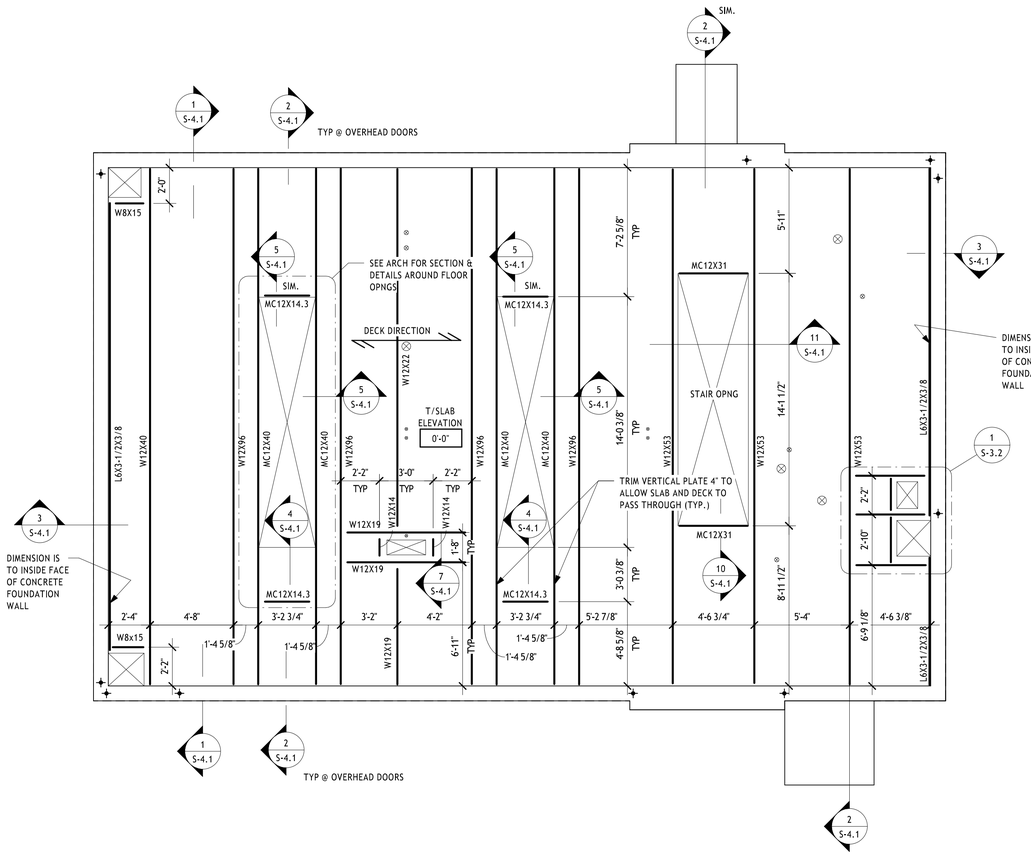
1 S-3.1 WOOD WALL KEY PLAN



2 S-3.1 TYPICAL SHEAR WALL ELEVATION
1/2" = 1'-0"



3 S-3.1 AASHTO LOADING DIAGRAM
NO SCALE



FLOOR FRAMING PLAN
1/4" = 1'-0"

1. REFER TO GENERAL NOTES SHEET S-1.1 & S-1.2 FOR DESIGN LIVE LOADS AND SEE DIAGRAM 3/S-3.1.
2. FINISHED FLOOR ELEVATION 0'-0" UNLESS NOTED.
3. FLOOR CONSTRUCTION: 4" TOTAL THICKNESS CONCRETE SLAB ON 1Cx20 GAGE GALVANIZED NONCOMPOSITE METAL DECK w/ 6x6-W2.1xW2.1 WWF.
4. SEE 1/S-3.1 FOR WOOD WALL KEY PLAN WITH TYPES AND LOCATIONS.
5. SYMBOL LEGEND:
   - INDICATES OPENINGS IN THE SLAB ON PLAN, SEE S-3.2
   - INDICATES SIMPSON HOLDDOWN ANCHOR AT ENDS OF SHEAR WALLS. SEE WOOD WALL SCHEDULE & SECTIONS 8 & 9 ON SHEET S-4.1.
   - INDICATES TYPICAL FLOOR CONSTRUCTION - SEE NOTES.

FLOOR OPENINGS

OWNER AND THE CONTRACTOR SHALL REVIEW AND COORDINATE ALL OF THE FLOOR OPENING SIZES AND LOCATIONS PRIOR TO ANY CONSTRUCTION. SEE S-3.2 FOR OPENING SIZE AND DIMENSIONS

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STATE OF MISSOURI
GARRETT DAVID SMALL
NUMBER PE-2024001657
PROFESSIONAL ENGINEER

Garrett David Small
Digitally signed by Garrett David Small
DN: cn=Garrett David Small, o=HFA-AE, LTD, ou=Engineer, email=gsmall@hfa-ae.com, c=US
Date: 2025.12.22 15:47:00 -06'00'

GARRETT DAVID SMALL
NUMBER PE-2024001657
PROFESSIONAL ENGINEER
HFA-AE, LTD
A-2005011725-F

PROFESSIONAL IN CHARGE: GBB
PROJECT MANAGER: GBB
QUALITY CONTROL: AHM
DRAWN BY: JMM

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER: 06-24-20062

SHEET NAME

FLOOR FRAMING PLAN

SHEET #

S-3.1

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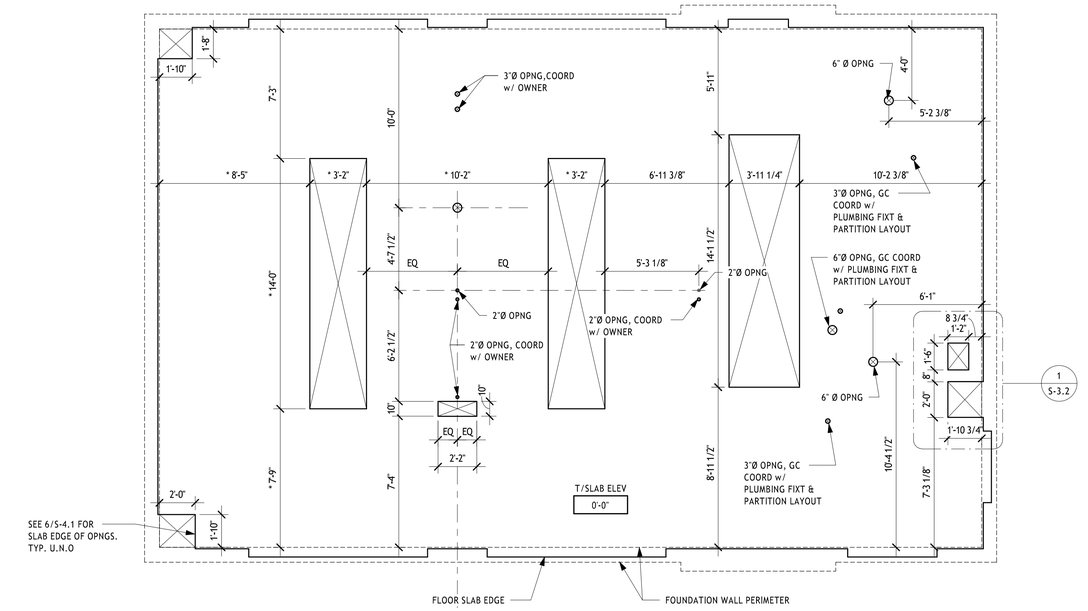
PIPE PENETRATION

ALL PLUMBING & PROCESS PIPING PENETRATIONS SHOWN HEREIN ARE FOR REFERENCE PURPOSES ONLY AND SHALL NOT BE CONSIDERED ALL INCLUSIVE. OTHER PENETRATIONS FOR PLUMBING FIELD ADJUSTMENTS, PROCESS PIPING AND ELECTRICAL PENETRATIONS MAY BE REQUIRED AND SHALL BE INCLUDED IN THE BID. THE OWNER, CONTRACTOR, PLUMBING CONTRACTOR & PROCESS PIPING CONTRACTOR SHALL REVIEW & COORDINATE ALL REQUIRED PENETRATIONS, SIZES & LOCATIONS IN THE FIELD.

FLOOR OPENINGS

GC TO COORDINATE AND VERIFY ALL OPENINGS AND PENETRATIONS PRIOR TO FABRICATION AND INSTALLATION OF STEEL. PAY PARTICULAR ATTENTION TO ORIENTATION OF FLOOR PLAN AND OPENINGS.

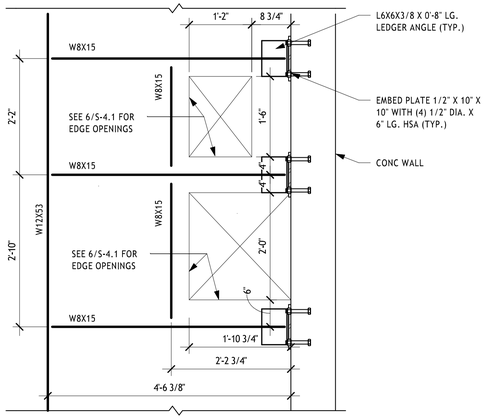


FLOOR PENETRATION PLAN

1/4" = 1'-0"

1. SYMBOL LEGEND:

   * CLEAR OPENING: CONTRACTOR SHALL ALLOW FOR THE STEEL PLATES PER ARCH DWGS. DIMENSIONS ON THIS STRING ARE TO THE FINISHED OPENING.



1 S-3.2 PLAN

3/4" = 1'-0"

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12/22/2025	PERMIT

STATE OF MISSOURI
GARRETT DAVID SMALL
NUMBER PE-2024001657
PROFESSIONAL ENGINEER

Garrett David Small

Digitally signed by Garrett David Small
DN: C=US, E=gsmall.hfa@gmail.com, O=Engineer, CN=Garrett David Small, SN=Small, GN=Garrett David, SERIALNUMBER=IDCAS.MO-2024001657, 2.5.4.65=8d6f2c4e9b0c1e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e4e

GARRETT DAVID SMALL
PROFESSIONAL ENGINEER
PE-2024001657
HFA-AE, LTD
A-2005011725-F

PROFESSIONAL IN CHARGE	GBB
PROJECT MANAGER	GBB
QUALITY CONTROL	AHM
DRAWN BY	JMM

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

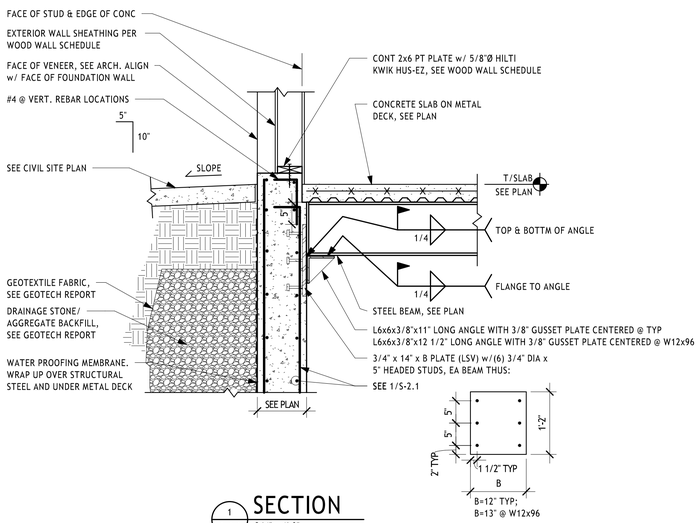
SHEET NAME

FLOOR PENETRATION PLAN

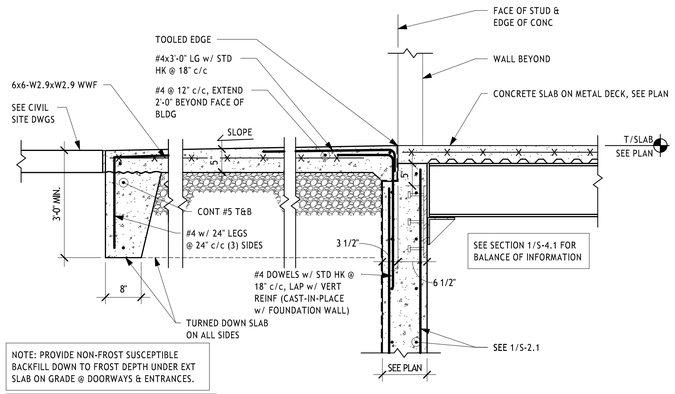
SHEET #

S-3.2

12/16/2025 9:44:35 AM C:\Users\jesus.mendoza\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 2BI-Flat Roof Shc_V24_HFA.Jesus.Mendoza.rvt S-3.2 - FLOOR PENETRATION PLAN



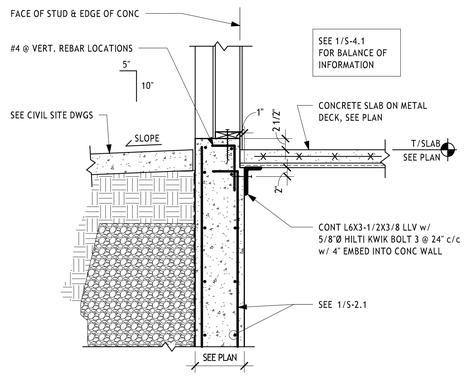
1 S-4.1 **SECTION**
3/4" = 1'-0"



NOTE: PROVIDE NON-FROST SUSCEPTIBLE BACKFILL DOWN TO FROST DEPTH UNDER EXT SLAB ON GRADE @ DOORWAYS & ENTRANCES.

TYPICAL SLAB-ON-GRADE AT ENTRY/EXIT DOORS AND SERVICE BAY DOORS:
COORDINATE W/ CIVIL DRAWINGS AND GEOTECHNICAL REPORT.

2 S-4.1 **SECTION**
3/4" = 1'-0"



3 S-4.1 **SECTION**
3/4" = 1'-0"

4 S-4.1 **SECTION**
1 1/2" = 1'-0"

NOTE: PLATES SHALL BE CONTINUOUS & WELDED AT ALL JOINTS & FLOOR OPNG CORNERS w/ 1/4" FILLET WELDS, GRIND SMOOTH WHERE REQUIRED.

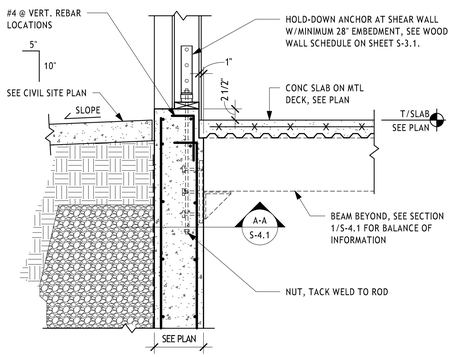
5 S-4.1 **SECTION**
1 1/2" = 1'-0"

6 S-4.1 **SECTION**
1 1/2" = 1'-0"

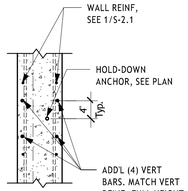
* W8 BEAM TO W8 BEAM: PL 3/8x4 1/2x6" w/ (2) 3/4" DIA BOLTS
* W12 BEAM TO W12 BEAM: PL 3/8x4 1/2x9" w/ (3) 3/4" DIA BOLTS

* W8 BEAM TO W12 BEAM: PL 3/8x4 1/2x6" w/ (2) 3/4" BOLTS

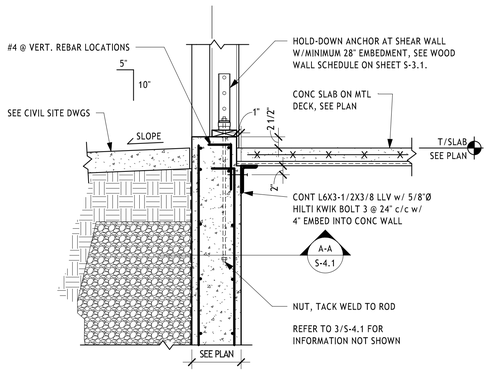
7 S-4.1 **SECTION**
1 1/2" = 1'-0"



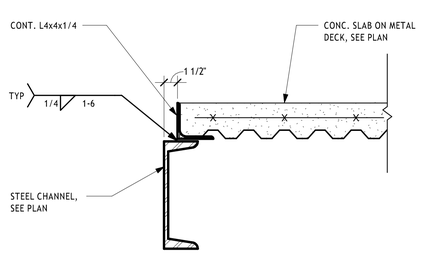
8 S-4.1 **HOLD-DOWN DETAIL**
3/4" = 1'-0"



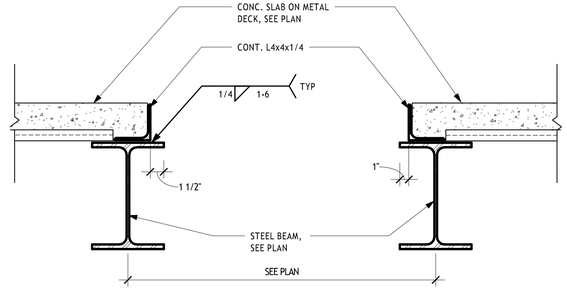
VIEW A-A



9 S-4.1 **HOLD-DOWN DETAIL**
3/4" = 1'-0"



10 S-4.1 **SECTION AT STAIRS**
1 1/2" = 1'-0"



11 S-4.1 **SECTIONS AT STAIRS**
1 1/2" = 1'-0"

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DN: C=US, E=gsmall@hfa-ae.com, O=HFA-AE, LTD., OU=Civil and Structural, L=Bentonville, S=Arkansas, SERIALNUMBER=ARA2022052601165745, CN=Garrett David Small
Date: 2025.12.22 14:37:07 -06'00'

GARRETT DAVID SMALL
PROFESSIONAL ENGINEER
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HFA-AE, LTD
A-2005011725-F

PROFESSIONAL IN CHARGE
GBB
PROJECT MANAGER
GBB
QUALITY CONTROL
AHM
DRAWN BY
JMM

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
FLOOR FRAMING DETAILS AND SECTIONS

SHEET #
S-4.1

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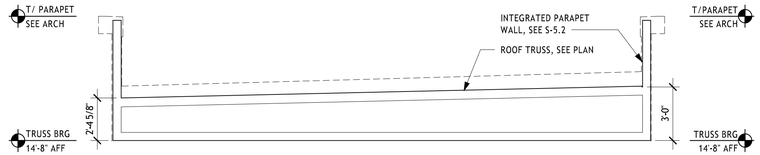
S-4.1 - FLOOR FRAMING DETAILS AND SECTIONS

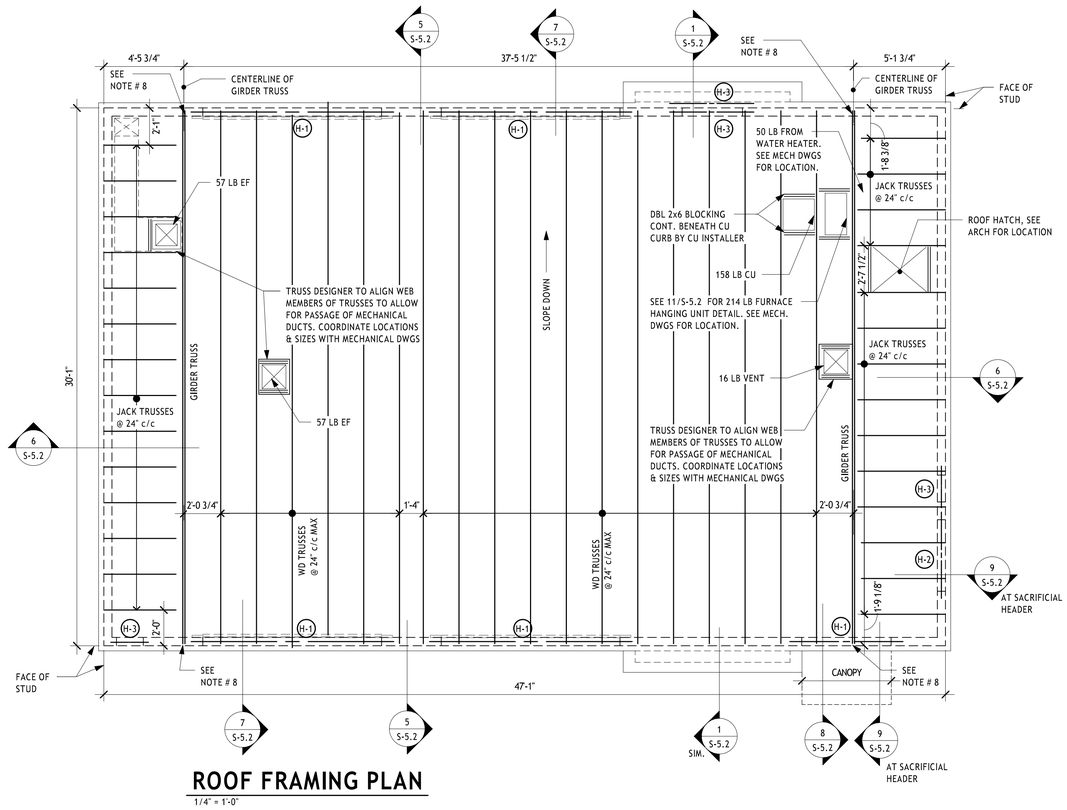
HEADER SCHEDULE

MARK	SIZE	BRG/REMARKS
H-1	(3) 1-3/4"x 9-1/4" LVL + 1/4" PW	SEE 3/S-5.2 & 4/S-5.2
H-2	(3) 2x10 + (2) 1/2" PW	SEE 3/S-5.2 & 4/S-5.2
H-3	(3) 2x6 + (2) 1/2" PW	SEE 3/S-5.2 & 4/S-5.2

ALL HEADERS SHALL HAVE A MINIMUM BEARING @ EACH END AS INDICATED IN HEADER BEARING DETAIL 4/S-5.2.



TRUSS DIAGRAM



ROOF FRAMING PLAN

1/4" = 1'-0"

1. DESIGN LIVE LOADS: ROOF SNOW LOAD BASED ON 20 PSF GROUND SNOW LOAD.
2. TRUSS BEARING ELEVATION = 14'-8" AFF.
3. ROOF CONSTRUCTION: 19/32" (5/8" NOMINAL) APA RATED SHEATHING WITH EDGE CLIPS. PANEL INDEX 32/16. INTERIOR WITH EXTERIOR GLUE. EXPOSURE 1. INSTALL WITH 10d NAILS AT 6" c/c AT SUPPORTED PANEL EDGES, 10d NAILS AT 12" c/c AT INTERMEDIATE SUPPORTS AND 10d NAILS AT 4" o.c. AT ROOF BOUNDARIES.
4. VERIFY ALL WOOD TRUSS DIMENSIONS AND GEOMETRIES WITH ARCHITECTURAL AND MECHANICAL DRAWINGS PRIOR TO DESIGNING AND FABRICATING TRUSSES.
5. SPACE WOOD TRUSSES AT 2'-0" ON CENTER, TYPICAL UNLESS NOTED.
6. WOOD TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING LOADS:

LOAD	BOTTOM CHORD	TOP CHORD
DEAD	10 PSF	10 PSF
LIVE	10 PSF	20 PSF
WIND		*PER ASCE 7

SEE PLAN FOR ADDITIONAL LOADS. TRUSSES SHALL BE DESIGNED FOR UNBALANCED AND DRIFTED SNOW IN ACCORDANCE WITH THE GOVERNING BUILDING CODE. GIRDER TRUSSES SHALL BE DESIGNED FOR REACTIONS FROM SUPPORTED MEMBERS.
*10 PSF DEAD LOAD TO BE USED IN COMBINATION WITH WIND UPLIFT.

7. WOOD TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING MAXIMUM DEFLECTION TOTAL LOAD = SPAN/240; LIVE LOAD = SPAN/360.
8. WOOD TRUSSES WITH PARAPETS SHALL BE DESIGNED FOR THE FOLLOWING MAXIMUM DEFLECTION:
   - L/240 FOR WIND LOAD AT BRICK WALL FINISH LOCATIONS,
   - L/120 FOR WIND LOAD AT WALL EIFS LOCATIONS.
9. PROVIDE (3) 2x6 STUDS, NAILS AND GLUED TOGETHER AT ALL GIRDER TRUSS BEARING LOCATIONS.
10. REFERENCES: GENERAL STRUCTURAL NOTES - S-1.1 & S-1.2.
11. SYMBOL LEGEND:

(H-#) - INDICATES HEADER TYPE. SEE SCHEDULE ON SHEET S-5.1.

- INDICATES FRAMED OPENING. PROVIDE (2) 2x6 BLOCKING UNDER ROOF TOP UNITS AND AROUND ALL OPENINGS THROUGH THE ROOF DECK. PROVIDE 2x4 WEB STIFFENERS WHERE (2) 2x6 BLOCKING DOES NOT ALIGN WITH TRUSS TOP CHORD PANEL POINT.

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SHEET NAME
ROOF FRAMING PLAN

SHEET #
S-5.1

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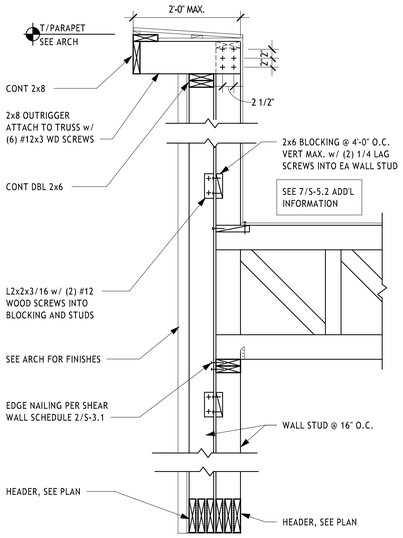
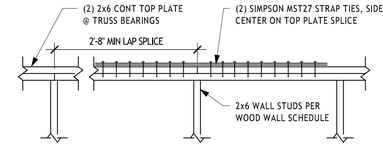
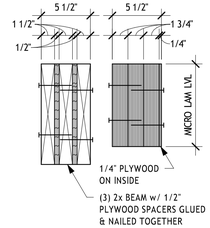
S-5.1 - ROOF FRAMING PLAN



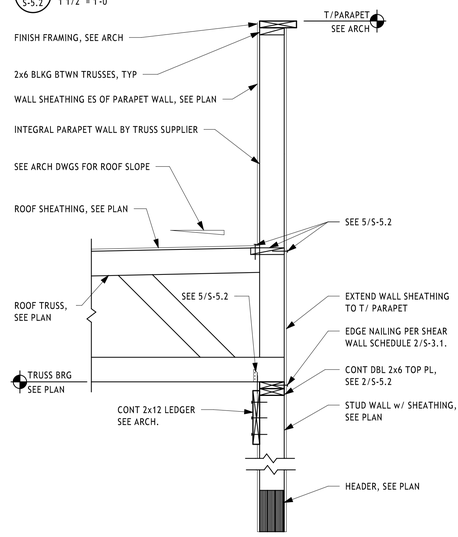
1 S-5.2 **DETAIL**
3/4" = 1'-0"



2 S-5.2 **TYP. TOP PLATE SPLICE DETAIL**
3/4" = 1'-0"



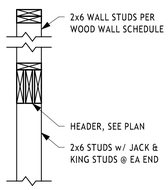
BEAM NOTES:
1. ALL THREE MEMBERS ARE TO BE CONTINUOUS AT ALL LOCATIONS.
2. FABRICATION: GLUE & NAIL AT T&B @ 12" c/c ON EA SIDE w/ 16d COMMON NAILS. STAGGER NAILS 6" ON OPP SIDES.
3. SEE PLAN & HEADER SCHEDULE FOR SIZES & LOCATIONS.
4. ALL HEADERS ARE LAMINATED TOGETHER w/ PLYWOOD (PW) TO FORM A 5-1/2" WIDE SECTION.



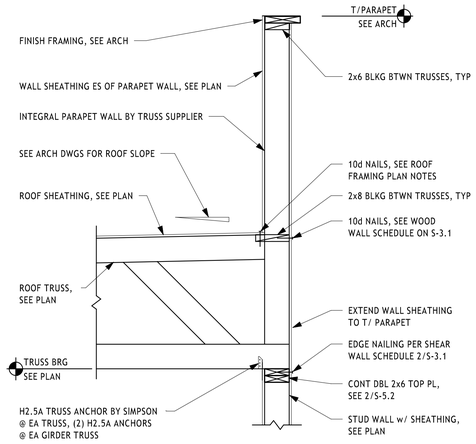
3 S-5.2 **TYP. HEADER DETAIL**
1 1/2" = 1'-0"

NOTE: FOR HEADERS SPANNING GREATER THAN 8'-0", PROVIDE (2) 2x6 JACK STUDS & (4) 2x6 KING STUDS @ EA END. SEE ARCH WALL SECTIONS FOR HEADER LOCATIONS.

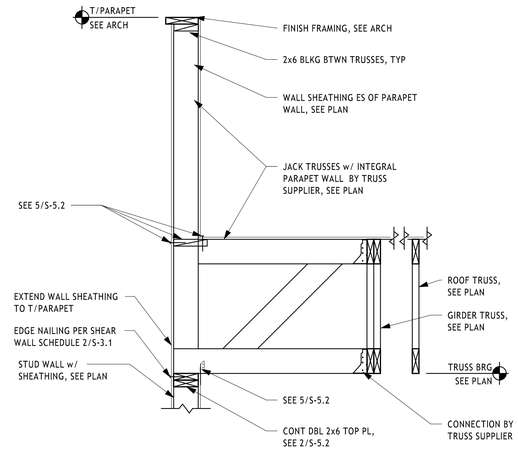
4 S-5.2 **TYP. JAMB DETAIL**
3/4" = 1'-0"



A-A



5 S-5.2 **SECTION**
3/4" = 1'-0"



6 S-5.2 **SECTION**
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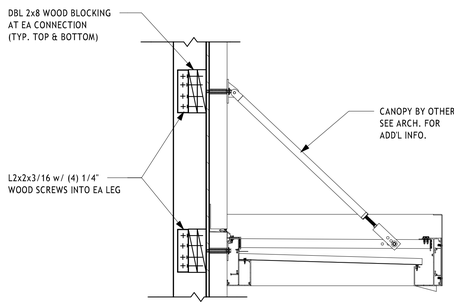
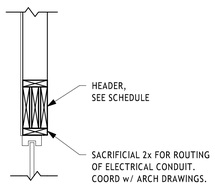
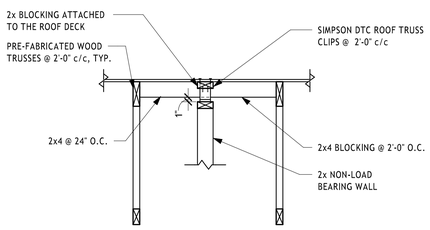


8 S-5.2 **CANOPY DETAIL**
1" = 1'-0"

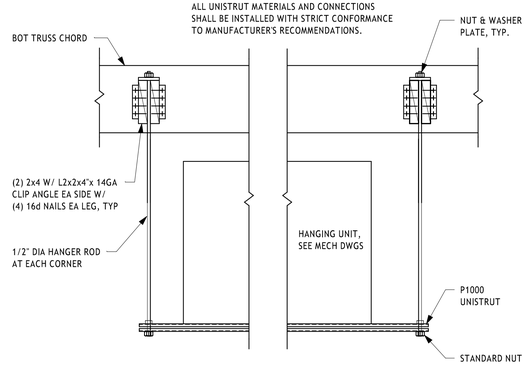


HEADER ABOVE ENTRANCE AND AT WAITING ROOF STOREFRONT

9 S-5.2 **SECTION**
3/4" = 1'-0"



10 S-5.2 **TYP. NON-LOAD BEARING WALL TO ROOF DETAIL**
3/4" = 1'-0"



11 S-5.2 **HUNG UNIT DETAIL**
1" = 1'-0"

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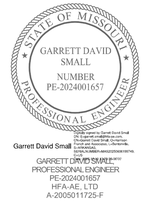

Garrett David Small
Digitally signed by Garrett David Small
DN: cn=Garrett David Small, o=HFA-AE, LTD, ou=Project Lead, email=gsmall@hfa-ae.com, c=US
Date: 2025.12.05 09:19:56 -06'00'
GARRETT DAVID SMALL
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PROJECT NUMBER
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SHEET NAME

ROOF FRAMING DETAILS AND SECTIONS

SHEET #
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S-5.2 - ROOF FRAMING DETAILS AND SECTIONS

MECHANICAL GENERAL NOTES

A. ALL RECTANGULAR, ROUND AND FLEXIBLE DUCTS SHALL BE SIZED AS SHOWN ON THESE DRAWINGS. MINIMUM INTERNAL DIMENSIONS ARE GIVEN.

B. ALL SUPPLY & RETURN AIR DUCTS ARE SIZED FOR AIR VOLUME AND STATIC PRESSURE DROP WITHOUT INTERIOR INSULATION.

C. INSTALL TURNING VANES IN ALL 90° DUCT ELBOWS AND AT ALL DUCT "TEES".

D. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED ACCORDING TO THE MOST RECENTLY PUBLISHED ASHRAE AND SMACNA STANDARDS.

E. RECTANGULAR METAL DUCT SHALL BE MILD GALVANIZED STEEL UNLESS NOTED OTHERWISE OR APPROVED BY OWNER.

F. MANUFACTURERS MINIMUM CLEARANCE RECOMMENDATIONS SHALL BE MAINTAINED ON ALL EQUIPMENT AND DUCTWORK.

G. THE CONTRACTOR SHALL CAREFULLY COORDINATE THE LOCATION OF ALL DUCTS, GRILLES, DIFFUSERS, ETC. WITH THE CEILING GRIDS AND THE PLUMBING AND FRAMING CONTRACTORS.

H. ALL CONTROL WIRING SHALL BE BY THE HVAC CONTRACTOR.

I. EXHAUST FANS SHALL BE FURNISHED WITH BIRDSCREENS, BACKDRAFT DAMPERS AND DISCONNECTS WHERE APPLICABLE AND ACCORDING TO THE SCHEDULE.

J. CONTRACTOR TO BALANCE SYSTEM PER SMACNA, NEBB, OR AABC STANDARDS.

K. THE CONTRACTOR SHALL CAREFULLY COORDINATE ALL THERMOSTAT LOCATIONS WITH INTERIOR FINISHES. VERIFY LOCATIONS WITH INTERIOR ELEVATIONS.

L. THE CONTRACTOR SHALL COOPERATE FULLY BETWEEN ALL OTHER TRADES.

M. THE SUBMISSION OF A BID OR PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND/OR LABOR DUE TO DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED, UNLESS THESE DIFFICULTIES COULD NOT HAVE BEEN FORESEEN EVEN THOUGH PROPER EXAMINATION HAD BEEN MADE.

N. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL CONDENSATE PIPING. REFER TO PLUMBING PLANS.

O. ALL ROOF CURBS FOR FANS, ETC. SHALL BE A MINIMUM OF 12" HIGH.

P. PROPERLY SECURE ALL FANS TO CURBS & DUCTWORK. PROVIDE NECESSARY GASKET ON CURBS TO PREVENT WATER RETENTION.

Q. ALL POWER WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR.

MECHANICAL LEGEND

NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR IN THESE DOCUMENTS.

	SUPPLY AIR DIFFUSER
	RETURN/EXHAUST AIR GRILLE
	SUPPLY AIR DUCT; UP, DOWN
	RETURN/EXHAUST AIR DUCT: UP, DOWN
	DUCTWORK TRANSITION: CONCENTRIC, ECCENTRIC
	BALANCING DAMPER
	FLEXIBLE DUCTWORK
	ELBOW WITH TURNING VANES
T	THERMOSTAT
EF-# F-# CU-# RH-# TF-# EDH-#	MECHANICAL EQUIPMENT TAGS
SD-# ### CFM	AIR DEVICE TAG AIR FLOW

MECHANICAL ABBREVATIONS

AFF	ABOVE FINISH FLOOR
APP'D	APPROVED
A/C	ABOVE CEILING
A/G	ABOVE GRADE
BLDG	BUILDING
B/G	BELOW GRADE
BFF	BELOW FINISH FLOOR
BTU	BRITISH THERMAL UNIT
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CONN	CONNECTION
CU	CONDENSING UNIT
DEPT	DEPARTMENT
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
E.C.	ELECTRICAL CONTRACTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ELEC	ELECTRICAL
EQPM	EQUIPMENT
ETR	EXISTING TO REMAIN
EWH	ELECTRIC WATER HEATER
FT	FEET
G.C.	GENERAL CONTRACTOR
HR	HOUR
IECC	INTERNATIONAL ENERGY CONSERVATION CODE
IMC	INTERNATIONAL MECHANICAL CODE
IN	INCH
KW	KILOWATT
MAX	MAXIMUM
MBH	1,000 BTU PER HOUR
MECH	MECHANICAL
MIN	MINIMUM
M.C.	MECHANICAL CONTRACTOR
NEC	NATIONAL ELECTICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OA	OUTSIDE AIR
OC	ON CENTER
O/H	OVERHEAD
PLBG	PLUMBING
PSI	POUNDS PER SQUARE INCH
P.C.	PLUMBING CONTRACTOR
RA	RETURN AIR
REQ'D	REQUIRED
RG	RETURN GRILLE
RH	RADIANT HEATER
RL	REFRIGERANT LIQUID LINE
RS	REFRIGERANT SUCTION LINE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SCH	SCHEDULE
SD	SUPPLY DIFFUSER
SF	SQUARE FEET
SG	SUPPLY GRILLE
SQ	SQUARE
TF	TRANSFER FAN
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
U/G	UNDERGROUND
V.I.F	VERIFY IN FIELD
W/	WITH
W.C.	WATER COLUMN

KEYNOTES

1. MOUNT FURNACE PER MANUFACTURER'S RECOMMENDATIONS. CONCENTRIC VENT LINE FOR COMBUSTION AIR INTAKE / EXHAUST FROM GAS FIRED EQUIPMENT TO ROOF TERMINATION KIT. LOCATE A MINIMUM OF 10'-0" AWAY FROM ANY FRESH AIR INTAKE. ROUTE PIPING WITH MINIMAL AMOUNT OF BENDS AND MINIMUM LENGTH AS REQUIRED BY RESPECTIVE UNIT MANUFACTURER'S REQUIREMENTS. SEE PLUMBING PLANS FOR GAS AND CONDENSATE PIPING.
2. INSTALL LINE-SET AND 4-CONDUCTOR CONTROL WIRING FROM ROOF-MOUNTED CONDENSING UNIT TO FURNACE. DOUBLE INSULATE AND PROTECT EXTERIOR LINE-SET USING 2" FOAM WRAP AND SCH.40 PVC CONDUIT TO ROOF PENETRATION. INSULATE BOTH LIQUID AND SUCTION LINES INSIDE BUILDING USING 1" FOAM WRAP. PROVIDE ADDITIONAL REFRIGERANT WHERE LENGTH OF LINE-SET EXCEEDS FACTORY CHARGE CAPACITY. MAKE FINAL CONNECTIONS. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR SEALING ALL BUILDING PENETRATIONS FOR MECHANICAL EQUIPMENT WATERTIGHT. COORDINATE EXACT INSTALLATION LOCATION OF CONDENSING UNIT WITH ARCHITECTURAL SHEETS. COORDINATE WITH OTHER TRADES
3. REFRIGERANT LINES. SIZE PER MANUFACTURERS RECOMMENDATIONS.
4. 6"ø O.A. INTAKE UP TO GOOSENECK ON ROOF WITH BIRD/RODENT SCREEN, 100 CFM. ROUTE TO REAR ROOF SLOPE, REFER TO ARCHITECTURAL ROOF PLAN.
5. BALANCING DAMPER, TYPICAL.
6. EF-1 IN CEILING. PROVIDE FLEXIBLE CONNECTION AT FAN. FAN SHALL BE INTERLOCKED WITH RESTROOM LIGHTS. INTERLOCK BY E.C.
7. EXTEND 8" EXHAUST AIR DUCT UP THROUGH ROOF TO VENT CAP.
8. 16"x16" UP TO ROOFTOP INTAKE VENTILATOR GREENHECK MODEL GRSI-16 OR EQUAL. PROVIDE FLEXIBLE CONNECTION TO FAN. PROVIDE TURNING VANES AT ELBOWS.
9. TRANSFER AIR FAN TF-1, HANG FROM STRUCTURE ABOVE WITH UNISTRUT, THREADED RODS AND VIBRATION ISOLATION PROTECTION. PROVIDE FLEXIBLE CONNECTORS. TF-1 SHALL BE INTERLOCKED WITH EF-2. SEE ELECTRICAL DRAWING E-2.1 FOR CONTROL DIAGRAM AND SEQUENCE OF OPERATIONS. INTERLOCK BY E.C.
10. 18"x14" SUPPLY AIR DUCT DOWN THROUGH CHASE TO LOWER LEVEL BELOW.
11. EXTEND 18"x14" SUPPLY DUCT FROM FLOOR ABOVE.
12. SG-2 TO BE INSTALLED LEVEL WITH BOTTOM OF STRUCTURE.
13. RADIANT HEATER, MOUNT TO ROOF STRUCTURE 12'-2" AFF, ENSURE PROPER CLEARANCE FROM GARAGE DOORS AND COMBUSTIBLE MATERIALS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. RH-1 SHALL BE TILTED TOWARDS THE PIT OPENING PER DETAIL 4/M-2.1. RH-2 SHALL BE LEVEL.
14. FIELD LOCATED FAN CENTER RELAY IN AN ACCESSIBLE LOCATION CONCEALED FROM VIEW TO THE EXTENT PRACTICABLE.
15. UPPER LEVEL EXHAUST FAN, EF-3, SHALL BE INTERLOCKED WITH LOWER LEVEL EXHAUST FAN, EF-2, TO RUN DURING OCCUPIED HOURS. SEE ELECTRICAL DRAWING E-2.1 FOR CONTROL DIAGRAM AND SEQUENCE OF OPERATIONS. INTERLOCK BY E.C.
16. PROVIDE ONE THERMOSTAT TO CONTROL RH-1, RH-2.
17. EF-2 FAN MOTOR SHALL BE INTERLOCKED WITH PIT LIGHTING SWITCH. SEE ELECTRICAL DRAWING E-2.1 FOR CONTROL DIAGRAM AND SEQUENCE OF OPERATIONS. INTERLOCK BY E.C.
18. ROUTE EXHAUST DUCT UP THEN HORIZONTAL ABOVE CEILING.
19. 18"x10" EXHAUST DUCT UP IN CHASE FROM LUBE PIT BELOW.
20. PROVIDE AIR FLOW SWITCH IN PIT EXHAUST DUCTWORK IN ACCESSIBLE LOCATION. SEE ELECTRICAL DRAWING E-2.1 FOR CONTROL DIAGRAM AND SEQUENCE OF OPERATIONS. AIR SWITCH TO BE CLEVELAND CONTROLS MODEL #AFS-222 OR EQUAL.
21. 10"x18" EXHAUST DUCT UP IN CHASE TO UPPER LEVEL.
22. THERMOSTAT WIRING IN 1/2" CONDUIT. CONDUIT BY E.C. ALL T-STATS TO BE LOW VOLTAGE PROGRAMMABLE STATS MOUNTED AT 48" AFF, TYPICAL. RADIANT HEATER THERMOSTAT TO BE SPACE RAY PART #43240030
23. PROVIDE MANUFACTURER'S CONCENTRIC VENT KIT. 4"Ø TYPE "B" FLUE AND 4"Ø COMBUSTION AIR INTAKE FROM HEATER TO CONCENTRIC ADAPTER. 6"Ø CONCENTRIC VENT UP THRU ROOF. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. SEE DETAIL 5/M2.1 FOR ADDITIONAL DETAILS.
24. SURFACE MOUNT CEILING HEATER TIGHT TO UNDERSIDE OF SLAB PER THE MAUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE FINAL LOCATION IN FIELD WITH ALL TRADES. PROVIDE MINIMUM 48" CLEAR BELOW HEATER DISCHARGE. PROVIDE ONE THERMOSTAT TO CONTROL ECH-1 & ECH-2.
25. SEE PLUMBING SHEETS FOR GAS CONNECTION BY P.C.
26. TERMINATE EXHAUST DUCTWORK WITH WALL MOUNTED 12"x20" EXHAUST GRILL LOCATED WITHIN 12" AFF.
27. PROVIDE TRANSFER GRILLES ON BOTH SIDES OF WALL. TRANSFER DUCT SHALL BE LINED.
28. 18" x 10" EXHAUST DUCT UP TO ROOFTOP EXHAUST FAN

LOWER LEVEL EXHAUST CALCULATIONS

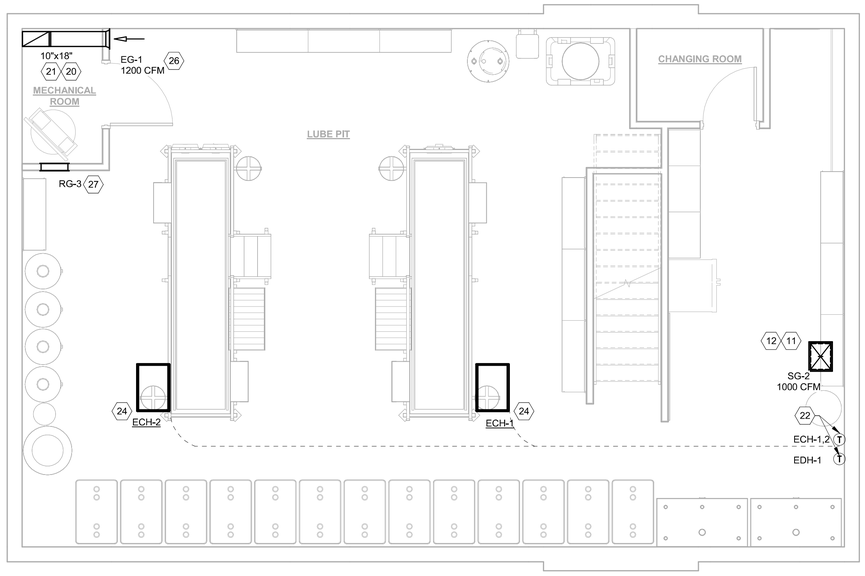
CALCULATIONS TO COMPLY WITH IMC SECTION 403.3 FOR REPAIR GARAGES 0.75 CFM/SF

MORE STRINGENT NEC TABLE 511.3(C) FOR MINOR REPAIR GARAGES 1.00 CFM/SF
1,193 SF x 1 = 1,193 CFM REQUIRED. 1,200 CFM EXHAUST PROVIDED.

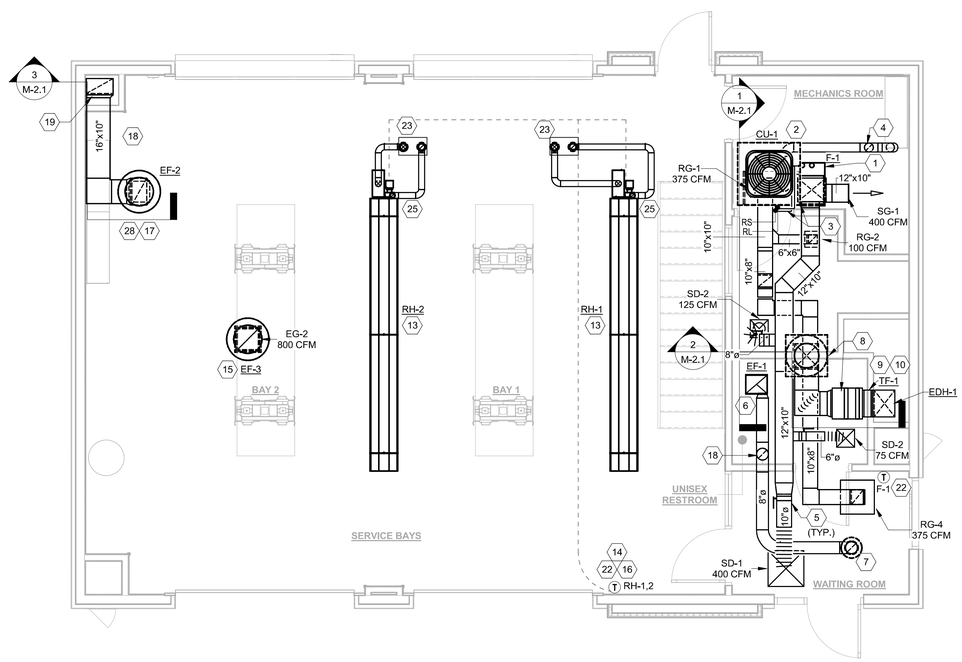
UPPER LEVEL EXHAUST CALCULATIONS

CALCULATIONS TO COMPLY WITH IMC SECTION 403.3 FOR REPAIR GARAGES 0.75 CFM/SF

1,040 SF x 0.75 CFM/SF = 780 CFM REQUIRED.



2 M-1.1 LOWER LEVEL MECHANICAL PLAN
Scale: 1/4" = 1'-0"



1 M-1.1 UPPER LEVEL MECHANICAL PLAN
Scale: 1/4" = 1'-0"

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t 479.273.7780

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Date	Issued Record
12/05/2025	OWNER REVIEW SET
15/22/2025	PERMIT SET

STATE OF MISSOURI
JOHN KENNETH RALEY
NUMBER PE-2018039253
PROFESSIONAL ENGINEER

2025.12.22 10:05:11-06'00'

JOHN KENNETH RALEY, P.E.
PE-2018039253
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE
JOHN KENNETH RALEY
PROJECT MANAGER
JPJ
QUALITY CONTROL
JPJ
DRAWN BY
AAMA

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME

MECHANICAL PLANS

SHEET #

M-1.1

C:\Users\aline.maldonado\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 2B-Flat Roof Mep_ CHI_HFA.Aline.Maldonado.rvt
12/16/2025 10:26:26 AM
M- 1 MECHANICAL PLANS

SPLIT SYSTEM SCHEDULE

NOTES:
1. CRANKCASE HEATER
2. CYCLE PROTECTOR
3. R-454B REFRIGERANT
4. RETURN AIR FILTERS
5. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY AND RETURN DUCTS.
6. CONCENTRIC VENT KIT
7. 7-DAY PROGRAMMABLE THERMOSTAT
8. 5-YEAR COMPRESSOR WARRANTY
9. DRAIN PAN
10. 15 SEER

TAG	MANUFACTURER	MODEL	NOMINAL TONNAGE	SUPPLY AIR	OUTSIDE AIR	ESP	HP	ELECTRICAL				COOLING CAPACITY		HEATING CAPACITY		WEIGHT	NOTES
								VOLTAGE	MCA	MOCP	PHASE	TOTAL MBH	SENSIBLE MBH	INPUT MBH	OUTPUT MBH		
CU-1	CARRIER	26SCA536W003	3			--		208 V	17.6	30	1	33.69	23.06	--	--	177	1,2,3,8,10
F-1	CARRIER	59SC6A060M17**16	3	1000 CFM	100 CFM	0.50 in-wg	1/2	120 V	10.1	15	1	33.69	23.06	60	58	179	3,4,5,6,7,9,10

FAN SCHEDULE

NOTES:
1. BACKDRAFT DAMPER
2. FAN SPEED CONTROLLER
3. TIME DELAY SWITCH
4. TERMINATE WITH ROOF CAP
5. RC-75 SET (4) - ISOLATORS
6. ELECTRIC DISCONNECT
7. INLET & OUTLET FLEXIBLE CONNECTIONS
8. FLOOR SPRING ISOLATION
9. EPOXY POWDER WITH UV COATING
10. INSULATED ROOF CURB
11. ALUMINUM BIRD SCREEN
12. DAMPER TRAY

TAG	MANUFACTURER	MODEL	AREA SERVED	LOCATION	CFM	ESP	FAN TYPE	DRIVE TYPE	SONES	RPM	HP	ELECTRICAL		WEIGHT	NOTES
												VOLTAGE	PHASE		
EF-1	COOK	GEMINI GC-148	TOILET ROOM	CEILING MOUNTED	100	0.375 in-wg	CABINET	DIRECT	2.0	974	FRACT.	115 V	1	16 LBS	1,2,3,4
EF-2	COOK	120C17D (VF)	LOWER LEVEL	ROOF	1200	0.500 in-wg	DOWNBLAST CENT.	DIRECT	10.1	1407	1/2	115 V	1	37 LBS	1,2,6,9,10,11,12
EF-3	COOK	120C17D (VF)	PIT LEVEL	ROOF	800	0.500 in-wg	DOWNBLAST CENT.	DIRECT	6.7	1152	1/2	115 V	1	37 LBS	1,2,9,10,11,12
TF-1	COOK	120SQN17D(VF)	LOWER LEVEL	CEILING MOUNTED	1000	0.500 in-wg	INLINE CENT.	DIRECT	8.3	1339	1/2	115 V	1	78 LBS	1,2,5,6,7,8

FAN SCHEDULE (OPTIONAL ALTERNATE)

NOTES:
1. BACKDRAFT DAMPER
2. FAN SPEED CONTROLLER
3. TIME DELAY SWITCH
4. TERMINATE WITH ROOF CAP
5. RC-75 SET (4) ISOLATORS
6. ELECTRIC DISCONNECT
7. INLET & OUTLET FLEXIBLE CONNECTIONS
8. FLOOR SPRING ISOLATION
9. EPOXY POWDER WITH UV
10. INSULATED ROOF CURB
11. ALUMINUM BIRD SCREEN
12. DAMPER TRAY

TAG	MANUFACTURER	MODEL	AREA SERVED	LOCATION	CFM	ESP	FAN TYPE	DRIVE TYPE	SONES	RPM	HP	ELECTRICAL		WEIGHT	NOTES
												VOLTAGE	PHASE		
EF-1	GREENHECK	SP-B150	TOILET ROOM	CEILING MOUNTED	100	0.375 in-wg	CABINET	DIRECT	1.5	753	FRAC.	115	1	15 LBS	1,2,3,4,5
EF-2	GREENHECK	G-120-VG	LOWER LEVEL	ROOF MOUNTED	1200	0.500 in-wg	DOWNBLAST CENT.	DIRECT	10.3	1304	1/2	115	1	49 LBS	1,2,6,9,10,11,12
EF-3	GREENHECK	G-120-VG	UPPER LEVEL	ROOF MOUNTED	800	0.500 in-wg	DOWNBLAST CENT.	DIRECT	7.5	1101	1/2	115	1	49 LBS	1,2,6,9,10,11,12
TF-1	GREENHECK	SQ-120-VG	LOWER LEVEL	CEILING MOUNTED	1000	0.500 in-wg	INLINE CENT.	DIRECT	5.4	1267	1/2	115	1	60 LBS	1,2,5,6,7,8

GAS FIRED RADIANT HEATER SCHEDULE

TAG	MANUFACTURER	MODEL	AREA SERVED	MOUNTING	MBH INPUT	AIR SUPPLY SIZE	FLUE SIZE	ELECTRICAL		
								VOLTAGE	PHASE	FLA
RH-1	SPACE-RAY	LTU 75-30-N5 (30')	SERVICE BAY	CEILING HUNG	75	4"Ø	4"Ø	120 V	1	2.6
RH-2	SPACE-RAY	LTU 75-30-N5 (30')	SERVICE BAY	CEILING HUNG	75	4"Ø	4"Ø	120 V	1	2.6

AIR DEVICE SCHEDULE

TAG	MANUF.	MODEL	TYPE	MOUNTING	FACE SIZE	NECK SIZE	THROW
EG-1	TITUS	55FL	EXHAUST GRILLE	SURFACE	12"x20"	10"x18"	N/A
EG-2	TITUS	55FL	EXHAUST GRILLE	SURFACE	18"x18"	16"x16"	N/A
RG-1	TITUS	350RL	DUCT MOUNTED RETURN GRILLE	DUCT	14" X 14"	12" X 12"	N/A
RG-2	TITUS	PAR-AA	ARCHITECTURAL CEILING - RETURN	LAY-IN	12"x12"	6"x6"	N/A
RG-3	TITUS	23RL	RETURN GRILLE	SURFACE	20"x20"	18"x18"	N/A
RG-4	TITUS	PAR-AA	ARCHITECTURAL CEILING - RETURN	LAY-IN	24"x24"	10"x10"	N/A
SD-1	TITUS	OMNI-AA	ARCHITECTURAL CEILING DIFFUSER - SUPPLY	LAY-IN	24"x24"	10"ø	4-WAY
SD-2	TITUS	OMNI-AA	ARCHITECTURAL CEILING DIFFUSER - SUPPLY	LAY-IN	12"x12"	6"ø	4-WAY
SG-1	TITUS	300FL	DUCT MOUNTED SUPPLY GRILLE	DUCT	14" X 12"	12"x10"	ADJUSTABLE
SG-2	TITUS	272FL	SURFACE MOUNTED SUPPLY GRILLE	SURFACE	20"x16"	18"x14"	ADJUSTABLE

ELECTRIC DUCT HEATER SCHEDULE

NOTES:
1. THERMOSTAT
2. CONTROL OPTION G

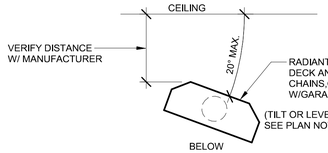
TAG	MANUFACTURER	MODEL	AREA SERVED	DUCT SIZE	ELECTRICAL				
					KW	VOLTAGE	PHASE	STAGES	NOTES
EDH-1	INDEECO	QUA	PIT	14x18	30	208 V	3	2	1 & 2

ELECTRIC CEILING HEATER SCHEDULE

NOTES:
1. REMOTE THERMOSTAT
2. ALUMINUM FRONT GRILLE
3. SURFACE MOUNTING BOX FOR ALUMINUM FRONT GRILLE
4. DISCONNECT
5. SURFACE MOUNTING SLEEVE FIF-FSM-N
6. 208/240V PRIMARY TRANSFORMER 24V SEC. TRANSFORMER RELAY FIR-FTR4-Z

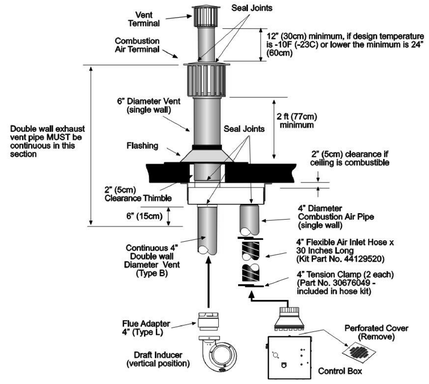
TAG	MANUFACTURER	MODEL	AREA SERVED	ELECTRICAL					
				KW	AMPS	VOLTAGE	PHASE	WEIGHT	NOTES
ECH-1	INDEECO	931IF-F4008-N	PIT LEVEL	4.0	19.2	208 V	1	23 LBS	ALL
ECH-2	INDEECO	931IF-F4008-N	PIT LEVEL	4.0	19.2	208 V	1	23 LBS	ALL

SEQUENCE OF OPERATION - HEATING
1. SERVICE BAY - RADIANT HEATERS SHALL BE CYCLED FROM THERMOSTATS AS SHOWN ON PLAN.
2. EXHAUST FAN (EF-2) AND TRANSFER FAN (TF-1) SHALL BE ENERGIZED WHENEVER THE LIGHTS IN THE BASEMENT ARE TURNED ON. INTERLOCK BY ELECTRICAL CONTRACTOR, SEE ELEC. SHEETS.

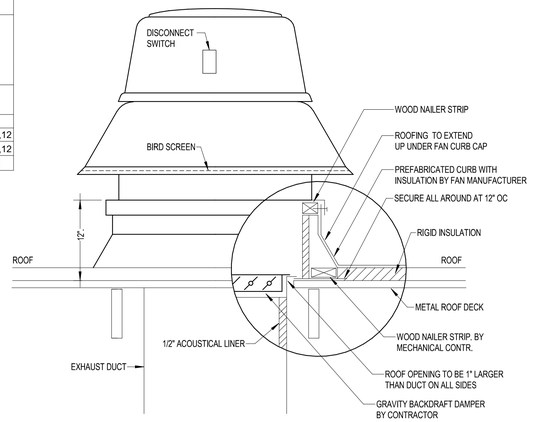


NOTE:
RH-1 SHALL BE MOUNTED TO TILT IN TOWARD THE SERVICE BAY. HEATERS SHALL BE MOUNTED IN ACCORDANCE TO MFG. INSTRUCTIONS.HEATERS SHALL BE CYCLED FROM THERMOSTAT AS SHOWN ON PLAN.

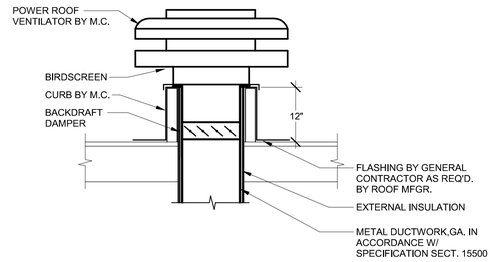
4 RADIANT HEATER DETAIL
M-2.1 Scale: NO SCALE



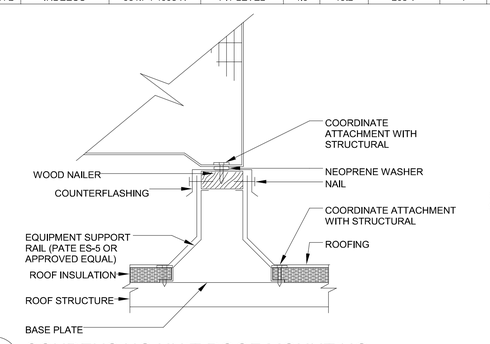
5 CONCENTRIC VENT THROUGH ROOF DETAIL
M-2.1 Scale: NO SCALE



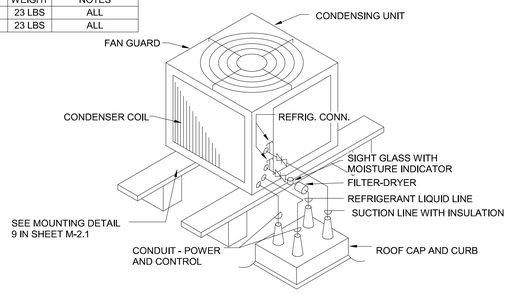
6 EXHAUST FAN DETAIL
M-2.1 Scale: NO SCALE



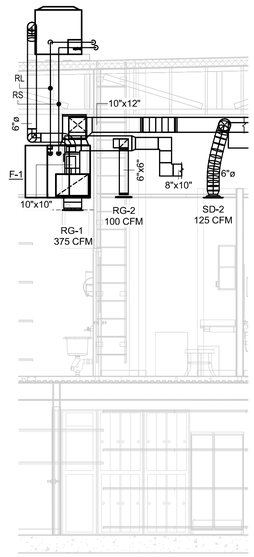
7 ROOF VENTILATOR DETAIL
M-2.1 Scale: NO SCALE



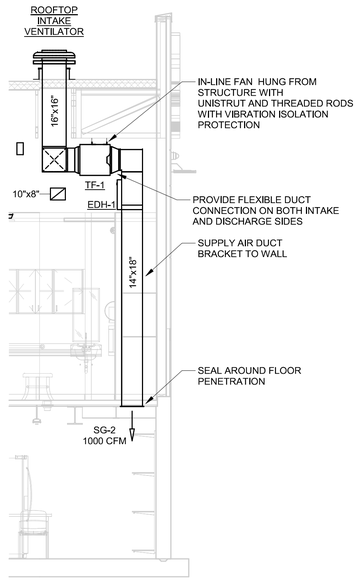
9 CONDENSING UNIT ROOF MOUNTING
M-2.1 Scale: 1/8" = 1'-0"



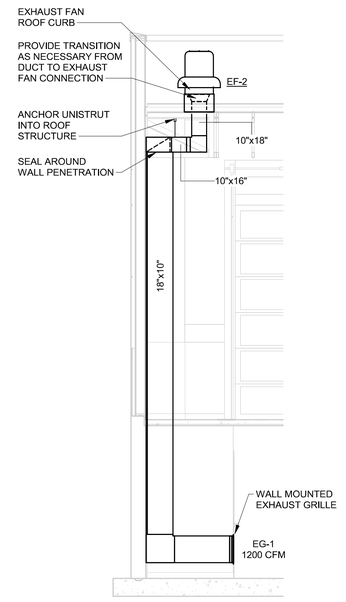
8 CONDENSING UNIT DETAIL
M-2.1 Scale: 3/16" = 1'-0"



1 MECHANICAL ELEVATION
M-2.1 Scale: 1/4" = 1'-0"



2 SECTION AT LOWER LEVEL TRANSFER FAN
M-2.1 Scale: 1/4" = 1'-0"



3 SECTION AT LOWER LEVEL EXHAUST FAN
M-2.1 Scale: 1/4" = 1'-0"

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Date	Issued Record
12/05/2025	OWNER REVIEW SET
15/22/2025	PERMIT SET

STATE OF MISSOURI — JOHN KENNETH RALEY — NUMBER PE-2018039253 — PROFESSIONAL ENGINEER

2025.12.22 10:05:44-06'00'

JOHN KENNETH RALEY, P.E.
PE-2018039253
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE
JOHN KENNETH RALEY
PROJECT MANAGER
JPJ
QUALITY CONTROL
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DRAWN BY
AAMA

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
MECHANICAL DETAILS

SHEET #
M-2.1

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M-2.1 MECHANICAL DETAILS

PLUMBING FIXTURE SCHEDULE

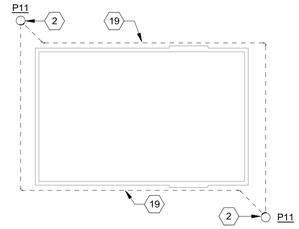
TAG	TYPE	CONNECTION SIZE				DESCRIPTION
		CW	HW	SAN	VENT	
P1	WATER CLOSET	1/2"	--	4"	2"	AMERICAN STANDARD, CADET FLOWISE #2467.100, ADA COMPLIANT, 1.1 GPF PRESSURE ASSISTED SIPHON JET FLUSH TANK WASTER CLOSET WITH TRIP LEVER LOCATED ON THE OPEN SIDE, FLOOR MOUNTED, ELONGATED BOWL, W/ 3/8" ANGLE SUPPLY W/ STOP, CHINA BOLT CAPS AND WHITE OPEN FRONT PLASTIC SEAT. MOUNT TOP OF SEAT A MAXIMUM OF 19" ABOVE FINISHED FLOOR, SUBSTITUTIONS ALLOWED.
P2	LAVATORY	1/2"	1/2"	1-1/4"	1-1/4"	AMERICAN STANDARD LUCERNE #0355.012, WALL HANGER, 4" CENTERS. RELIANT FAUCET #7385.053, W/ LEVER HANDLE, 0.5 GPM FLOW RESTRICTOR, GRID DRAIN. CHROME FITTINGS. PROVIDE TRAP WRAP FOR BARRIER FREE PROTECTION.
P3	WATER COOLER	1/2"	--	1-1/2"	1-1/2"	OASIS VERSACOOLER II WITH VERSAFILTER, MODEL PG8SBF, 8.0 GPH OF 50°F WATER AT 90°F AMBIENT AND 80°F INLET WATER PER ASHRAE 18 TESTING. INCLUDES BOTTLE FILLER INDEPENDENT PUSH BUTTON MANUAL ACTIVATION; BOTTLE FILLER ALCOVE AND CABINET FINISH SHALL BE STAINLESS STEEL. SHALL COMPLY WITH ANSI 117.1 AND ADA. 115V, 5 AMPS, 60 HZ, COORDINATE WITH ELECTRICAL.
P4	SERVICE SINK	3/4"	3/4"	3"	1-1/2"	24"x20" ACID RESISTANT, ENAMELED CAST IRON SERVICE SINK WITH BLANK BACK, STAINLESS STEEL RIM GUARD, WALL HANGER SUPPORTS, FAUCET WITH VALVE UNITS, VACUUM BREAKER, WALL BRACE, THREADED SPOUT AND PAIL HOOK AND 3" ENAMELED INSIDE TRAP STANDARD WITH STRAINER, CLEANOUT AND SUPPORT. PROVIDE COMPLETE WITH GUARDIAN MODEL G1100 'EYESAFE' FAUCET MOUNTED EYEWASH WITH ADJUSTABLE AERATED OUTLET HEADS.
P5	RESTROOM FLOOR DRAIN	--	--	3"	1-1/2"	JAY R. SMITH 2005-A-PB-U, 6" DIA. ADJUSTABLE FOR VARYING HTS., POLISHED BRONZE STRAINER, VANDAL PROOF SCREWS.
P6	FLOOR DRAIN	--	--	3"	1-1/2"	JAY R. SMITH 2005-A-B-PB-U, 8" DIA., POLISHED BRONZE STRAINER, VANDAL PROOF SCREWS.
P7	HOSE BIBB	1/2"	--	--	--	WOODFORD MODEL 24C ANTI-SIPHON PROTECTED WALL FAUCET.
P8	WATER HEATER	3/4"	3/4"	--	--	LOCHINVAR ELECTRIC WATER HEATER JUNIOR MODEL JRC010DS 1.65 KW, 10 GALLON STORAGE, 13.75 AMP, 120 VOLT, SINGLE PHASE, SET TEMP. AT 110°F. PROVIDE WITH DRAIN PAN MINIMUM 4" LARGER THAN OVERALL DIAMETER OF WATER HEATER. RUN PAN OVERFLOW LINE TO SINK BELOW.
P9	CLEANOUT	--	--	LINE SIZE	--	PVC END CAP
P10	BACKWATER VALVE	--	--	4"	--	SPEARS SML-4XP-A 4" PVC UTILITY BACKWATER VALVE SOC EPDM.
P11	SUMP PUMP (FOUNDATION DRAINS)	--	--	2"	--	ONE (1) ZOELLER M267, PACO, OR PEERLESS: 115 VOLT, SINGLE PHASE, SUBMERSIBLE SUMP PUMP, AUTOMATIC, W/ 2" VERTICAL DISCHARGE, 1/2 HP, VORTEX IMPELLER, CAPABLE OF DISCHARGING 2" SOLIDS, CAST IRON CHECK VALVE, 3" VENT OPENING IN LID, W/ VENT FLANGE, PROVIDE AUDIBLE/VISUAL ALARM LOCATED IN OFFICE TO NOTIFY OWNER IN THE EVENT OF PUMP FAILURE.
P12	OIL-WATER SEPARATOR	--	--	4"	3"	STRIEM OS-75 OIL WATER SEPARATOR. 110 GALLON CAPACITY, 50GPM FLOW RATE, FLOOR MOUNTED.
P13	SUMP PUMP (LUBE PIT)	--	--	--	--	WEIL PUMP 1408 SUBMERSIBLE SUMP PUMP, 1-1/4" DISCHARGE, 1/3 HP, 120V, 1Ø, 10 GPM AT 25 FT TOTAL HEAD. PROVIDE WEIL OIL-SMART SYSTEM MODEL 1408- OSS.
P14	LUBE PIT SUMP / CROCK BASIN	--	--	--	--	AK INDUSTRIES INC. - FIBERGLASS BASIN, BASIN PART GB-24-100, AND 1/4" STEEL COVER #LB-2401. PROVIDE GEL-COAT EXTERIOR FINISH FOR ABOVE GRADE INSTALLATION. SIZE BASIN HEIGHT AS NECESSARY AND FURNISH WITH AKP10185 4" PVC HUB TO ALLOW FOR 1/8" / 12" SLOPING FROM STRIEM OS-75 OUTPUT.
P15	ICE MAKER BOX	1/2"	--	--	--	OATEY 38823 OR EQUAL.
P16	BALL VALVE	--	--	4"	--	SPEARS 2622-040 4" PVC UTILITY BALL VALVE SOC EPDM
P17	ROOF DRAIN	--	--	3"	--	ZURN Z121-3NH-DP

KEYNOTES

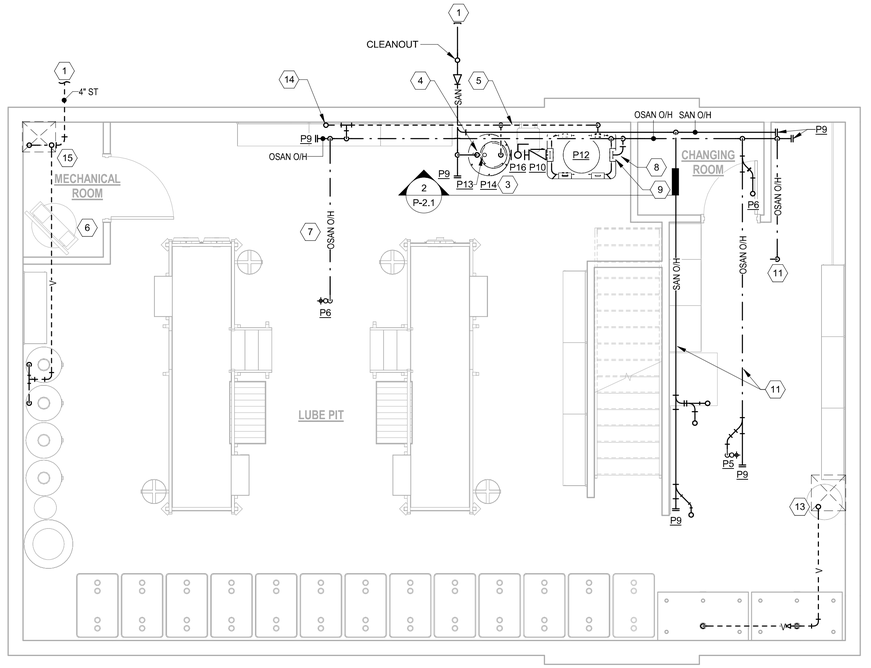
1. REFER TO CIVIL SITE PLAN FOR PIPE CONTINUATION AND PIPE SIZE AFTER CLEANOUT.
2. SUMP PUMP FOR FOUNDATION DRAINS. REFER TO PLUMBING FIXTURE SCHEDULE ON THIS SHEET AND DETAIL 4 IN SHEET P-2.1. COORDINATE SIZE & LOCATION OF TANK & DISCHARGE SIDE TO STORM SEWER / CIVIL DRAWINGS. VENT PER MANUFACTURER'S INSTRUCTIONS.
3. SUMP PUMP/OIL SEPARATOR IN LUBE PIT, REFER TO DETAIL 2 ON SHEET P-2.1.
4. DISCHARGE FROM LUBE PIT SUMP PUMP.
5. ALL WASTE VENT PIPING SHALL BE PVC IF ALLOWED BY CODE. CAP GOOSENECK FITTING.
6. AIR COMPRESSOR.
7. ROUTE OSAN LINE BETWEEN BAYS SO THERE IS NO INTERFERENCE WITH CATWALK STAIRS. COORDINATE FINAL ROUTING WITH PROCESS PIPING PLAN AND VERIFY FINAL LOCATION WITH CONSTRUCTION MANAGER IN CASE OF CONFLICT.
8. ROUTE OSAN DOWN TO OIL WATER SEPARATOR. SEE DETAIL 2 ON SHEET P-2.1.
9. PROVIDE AND INSTALL FABRICATED GALVANIZED STEEL DRAIN PAN FOR WATER METER AND BACKFLOW ASSEMBLIES. ROUTE AND SLOPE DRAIN FROM PAN TO COMMERCIAL UTILITY SINK SUMP PUMP COORDINATE PAN MOUNTING HEIGHT WITH LOCAL BACKFLOW INSTALLATION REQUIREMENTS.
10. ROUTE CONDENSATE PIPING FOR FURNACE UNIT TO SERVICE SINK. DISCHARGE THRU AIR GAP.
11. INSTALL SANITARY PIPING AS HIGH AS POSSIBLE TO INSURE MAXIMUM CLEARANCE WHILE MAINTAINING PROPER SLOPE. COORDINATE FINAL ROUTING WITH PROCESS PIPING PLAN AND VERIFY FINAL LOCATION WITH CONSTRUCTION MANAGER IN CASE OF CONFLICT. SANITARY PIPING TO BE ROUTED TIGHT TO STRUCTURE AND ABOVE THE BOTTOM OF THE STEEL FLOOR BEAMS.
12. PROVIDE WATERLESS SURESEAL TRAP SEALER FOR FLOOR DRAIN. VERIFY WITH LOCAL AUTHORITY HAVING JURISDICTION WHETHER THIS IS AN ACCEPTABLE WAY TO SEAL FLOOR DRAIN TRAPS.
13. 3" BLACK STEEL SCHEDULE 40 VENT PIPING UP.
14. 3" PVC SCHEDULE 40 VENT PIPING UP.
15. 3" SCHEDULE 40 GALVANIZED VENT PIPING UP.
16. 3" BLACK STEEL SCH. 40 VTR FROM OIL TANK P.C. SHALL COORDINATE WORK WITH G.C. SUCH THAT ROOF PENETRATION IS IN-PLACE PRIOR TO ROOFING.
17. 3" SCHEDULE 40 PVC VTR. P.C. SHALL COORDINATE WORK WITH G.C. SUCH THAT ROOF PENETRATION IS IN-PLACE PRIOR TO ROOFING.
18. 3" SCHEDULE 40 GALV. VTR FROM WINDOW WASHER TANK. P.C. SHALL COORDINATE WORK WITH G.C. SUCH THAT ROOF PENETRATION IS IN-PLACE PRIOR TO ROOFING. P.C. SHALL MAKE FINAL CONNECTIONS AFTER TANK INSTALLATION.
19. 4" PERFORATED FOUNDATION DRAINS. DRAIN LINES SHALL BE INSTALLED LEVEL AROUND THE PERIMETER OF THE BUILDING, AND THEN PITCH DOWN AT 1% TOWARDS THE MANHOLE. REFER TO ARCHITECTURAL WALL SECTIONS AND CIVIL PLANS.
20. ROUTE WATER HEATER DRAIN PAN DISCHARGE LINE AND T&P RELIEF VALVE DISCHARGE LINE, SEPARATELY, DOWN TO COMMERCIAL UTILITY SINK. DISCHARGE THROUGH AIR GAP.
21. GC SHALL COORDINATE INSTALLATION OF ROOF DRAIN PIPING WITH TRUSS MANUFACTURER. ROOF DRAIN PIPING SHALL BE RUN WITHIN (NOT BELOW) THE ROOF TRUSSES.

PLUMBING ABBREVATIONS

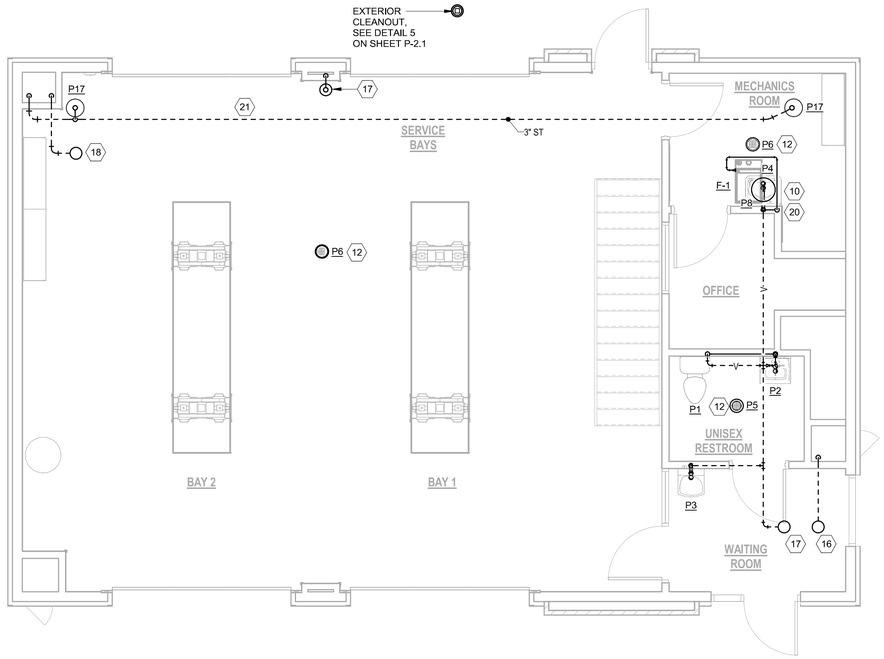
AAV	AIR ADMITTANCE VALVE	MAX	MAXIMUM
AFF	ABOVE FINISH FLOOR	MBH	1,000 BTU PER HOUR
AFG	ABOVE FINISH GRADE	MECH	MECHANICAL
APP'D	APPROVED	MIN	MINIMUM
A/C	ABOVE CEILING	M.C.	MECHANICAL CONTRACTOR
A/G	ABOVE GRADE	OC	ON CENTER
BLDG	BUILDING	O/H	OVERHEAD
B/G	BELOW GRADE	OPD	OVERPRESSURE DEVICE
BFF	BELOW FINISH FLOOR	OSAN	OIL LADEN SANITARY
BFP	BACKFLOW PREVENTER	PLBG	PLUMBING
BTU	BRITISH THERMAL UNIT	PRV	PRESSURE REDUCING VALVE
CFH	CUBIC FEET PER HOUR		
CO	CLEANOUT	PSI	POUNDS PER SQUARE INCH
CONN	CONNECTION	PVC	POLYVINYL CHLORIDE
CPVC	CHLORINATED PVC	P.C.	PLUMBING CONTRACTOR
CW	COLD WATER	RD	ROOF DRAIN
DEPT	DEPARTMENT	REQ'D	REQUIRED
DFU	DRAINAGE FIXURE UNIT	RH	RADIANT HEATER
DN	DOWN	RL	RAIN LEADER
DOM	DOMESTIC	RPZ	REDUCED PRESSURE ZONE DEVICE
DWG	DRAWING		
E.C.	ELECTRICAL CONTRACTOR	ROOF TOP UNIT	
ELEC	ELECTRICAL	RTU	
EQPM	EQUIPMENT	SAN	SANITARY
ETR	EXISTING TO REMAIN	SCH	SCHEDULE
EWH	ELECTRIC WATER HEATER	SF	SQUARE FEET
FCO	FLOOR CLEANOUT	SOV	SHUT-OFF VALVE
FD	FLOOR DRAIN	ST	STORM SEWER
FDC	FIRE DEPT. CONN.	SQ	SQUARE
FT	FEET	T&P	TEMPERATURE & PRESSURE
FP	FIRE PROTECTION	TMV	THERMOSTATIC MIXING VALVE
G	NATURAL GAS	TP	TRAP PRIMER
G.C.	GENERAL CONTRACTOR	TYP	TYPICAL
GCO	GRADE CLEANOUT	UNO	UNLESS NOTED OTHERWISE
GPM	GALLONS PER MINUTE	U/G	UNDERGROUND
GPR	GAS PRESSURE REGULATOR	V	VENT
		V.I.F	VERIFY IN FIELD
HB	HOSE BIBB	VTR	VENT THRU ROOF
HR	HOUR	W/	WITH
HW	HOT WATER	W.C.	WATER COLUMN
I.A.W.	IN ACCORDANCE WITH	WCO	WALL CLEANOUT
IE	INVERT ELEVATION	WH	WALL HYDRANT
IN	INCH	WHA	WATER HAMMER ARRESTOR
IW	INDIRECT WASTE		
KW	KILOWATT		



3 P-1.1 FOUNDATION DRAINAGE PLAN
Scale: 1/16" = 1'-0"



2 P-1.1 LOWER LEVEL WASTE AND VENT PLAN
Scale: 1/4" = 1'-0"



1 P-1.1 UPPER LEVEL WASTE AND VENT PLAN
Scale: 1/4" = 1'-0"

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PROFESSIONAL IN CHARGE
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PROJECT MANAGER
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DRAWN BY
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PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
WASTE AND VENT PLANS

SHEET #
P-1.1

12/22/2025 9:44:05 AM C:\Users\alina.maldonado\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - ZB-Flat Roof Mep_V24_HFA.Alina.Maldonado.rvt P-1.1 WASTE AND VENT PLANS

PLUMBING GENERAL NOTES

A. THE EQUIPMENT ROUGH-IN ITEMS AND THEIR DIMENSIONED LOCATIONS FOR ALL CONNECTIONS ARE ACCURATE TO THE BEST OF THE ENGINEER'S KNOWLEDGE. IN SOME INSTANCES, THE OWNER OR SUPPLIER MAY MAKE SUBSTITUTIONS OR THE EQUIPMENT ITEMS MAY VARY FROM WHAT IS SHOWN. THEREFORE, THESE ITEMS AND DIMENSIONS SHALL BE VERIFIED WITH THE EQUIPMENT SUPPLIER, OWNER AND/OR EQUIPMENT ROUGH-IN DRAWINGS. THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED, PRIOR TO CONSTRUCTION, OF ANY DEVIATIONS FROM WHAT IS SHOWN OR IMPLIED ON THESE DRAWINGS. FAILURE OF THE APPROPRIATE CONTRACTOR TO VERIFY ROUGH-INS OR THEIR LOCATIONS SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATION AND/OR ADDITIONAL ROUGH-INS DIRECTLY UPON THE CONTRACTOR.

B. CONTRACTOR SHALL SUPPLY TO THE ARCHITECT SIX COPIES OF SHOP DRAWINGS FOR APPROVAL SO THE QUALITY OF INTENDED MATERIALS OR EQUIPMENT CAN BE REVIEWED BEFORE INSTALLATION.

C. DO NOT SCALE THIS DRAWING. SEE ARCHITECTURAL FLOOR PLAN FOR BUILDING DIMENSIONS.

D. THE SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR HAS FAMILIARIZED HIMSELF WITH THE PLANS AND BUILDING SITE. CLAIMS MADE SUBSEQUENT TO THE PROPOSAL FOR MATERIALS AND LABOR BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED, IF THEY COULD HAVE BEEN FORESEEN HAD PROPER EXAMINATION BEEN MADE.

E. WASTE AND VENT PIPING SHALL BE CAST IRON. CONTRACTOR MAY USE SCHEDULE 40 OR 80, TYPE 1, GRADE 1, POLYVINYL CHLORIDE COMPOUNDS AS DEFINED AND DESCRIBED IN TENTATIVE SPECIFICATIONS FOR RIGID PVC (ASTM DESIGNATION: D1784- 75), OR SCHEDULE 40 OR 30 ACRYLONITRILE-BUTADIENE-STYRENE COMPOUND AS DEFINED AND DESCRIBED IN STANDARD SPECIFICATIONS FOR ABS (ASTM DESIGNATION: D1788-73) IN LIEU OF CAST IRON WASTE AND VENT PIPING IF PERMITTED BY LOCAL CODES OR OTHERWISE NOTED.

F. FURNISH AND INSTALL SHUT OFF OR BALL VALVE AND UNION ON ALL EQUIPMENT HOT AND COLD WATER LINES. PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO EQUIPMENT. COORDINATE WITH EQUIPMENT SUPPLIER FOR EXACT REQUIREMENTS.

G. FURNISH AND INSTALL 1" (MIN.) FIBERGLASS INSULATION WITH AN ALL SERVICE JACKET ON ALL HOT AND COLD WATER PIPING ABOVE SLAB. PIPING RUNNING WITHIN INTERIOR WALLS OR EXPOSED UNDER EQUIPMENT IS EXCLUDED FROM THIS REQUIREMENT. PIPING IN EXTERIOR WALLS SHALL BE INSULATED AND INSTALLED ON THE HEATED SIDE OF WALL INSULATION. CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER IF FREEZING CONDITIONS WARRANT RUNNING PIPING UNDER SLAB.

H. WATER PIPING ABOVE SLAB SHALL BE TYPE "L" HARD TEMPER COPPER.

I. ALL PLUMBING SHALL MEET STATE AND LOCAL CODES.

J. ALL VENT PIPE TO BE COMPATIBLE WITH STRUCTURE.

K. VERIFY SERVICE POINTS AND METERING LOCATIONS FOR PROJECT WITH LOCAL UTILITIES AND/OR LANDLORD (DOMESTIC WATER, FIRE PROTECTION, SANITARY SEWER, GAS). VERIFY SEWER INVERT AT CONNECTION POINT TO DETERMINE DEPTH OF HIGHEST PLUMBING FIXTURE. NOTIFY ENGINEER IMMEDIATELY IF INVERT IS TOO SHALLOW.

L. THE CONTRACTOR SHALL COOPERATE FULLY AMONG THE TRADES.

M. FURNISH AND INSTALL CONDENSATE PIPING FROM ALL MECHANICAL EQUIPMENT AS REQUIRED. ANY PIPING ABOVE THE CEILING OR IN A LOCATION WHERE MOISTURE CONDENSING ON THE PIPE COULD DRIP AND CAUSE DAMAGE SHALL BE INSULATED. USE 1/2" FIBERGLASS W/ALL SERVICE JACKET. PIPE FULL SIZE TO DRAIN (OR AS REQ'D BY CODE) WITH REQUIRED AIR GAP.

N. THE CONTRACTOR SHALL MAKE AN ON-SITE INSPECTION OF THE EXISTING BUILDING AND/OR BUILDING SITE BEFORE SUBMITTING A BID. ANY ALTERNATE METHODS OF INSTALLATION OF "AS EQUAL" EQUIPMENT SHALL BE VERIFIED WITH THE OWNER PRIOR TO INSTALLATION.

O. PLUMBING CONTRACTOR SHALL VERIFY WITH THE LOCAL HEALTH DEPARTMENT AND/OR WATER COMPANY AS TO THE METER AND VALVING ARRANGEMENTS OF THE DOMESTIC WATER SERVICE LINE WHICH ENTERS THE BUILDING. SHOULD A BACKFLOW PREVENTER ASSEMBLY AND/OR PRESSURE REDUCING VALVE ASSEMBLY BE REQUIRED, THE PLUMBER SHALL FURNISH AND INSTALL SAME PER LOCAL AND STATE REQUIREMENTS. THE BACKFLOW ASSEMBLY SHALL BE A "WATTS" SERIES #909, OR APPROVED EQUAL MEETING ASSE STANDARDS 1013, 1015 AND 1020. IF WATER PRESSURE IS 65 PSI OR ABOVE, THE PRESSURE REDUCING VALVE ASSEMBLY SHALL BE A "WATTS" SERIES #U5 SET AT 50 LBS. DELIVERY PRESSURE UNLESS OTHERWISE NOTED.

P. THE POTABLE WATER SUPPLY SHALL BE PROTECTED AGAINST BACKFLOW AND SIPHONAGE BOTH NATURAL AND INDUCED. ALL EQUIPMENT CONNECTED TO THE POTABLE WATER SYSTEM CAPABLE OF POLLUTING OR CONTAMINATING THE POTABLE WATER DISTRIBUTION SYSTEM OR ANY PART THEREOF BY MEANS OF A REVERSAL OF FLOW, PRESSURE DROP, PRESSURE LOSS, INDUCED VACUUM OR BY INJECTION BECAUSE OF ANY PRIMARY OR AUXILIARY PUMPING SYSTEM CONNECTED THERETO MUST BE ISOLATED AND CONTAINED BY MEANS OF APPROVED BACKFLOW DEVICES SUCH AS CHECK VALVES, AIR GAPS, OR VACUUM BREAKERS. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL THESE DEVICES PER LOCAL CODE REQUIREMENTS.

Q. ALL ROOF PENETRATIONS FOR ROOF DRAINS AND PLUMBING/GAS/REFRIGERANT PIPING SHALL BE MADE IN ACCORDANCE WITH ROOF SYSTEM MANUFACTURER'S GUIDELINES. COORDINATE WITH ARCHITECTURAL DETAILS AND/OR LANDLORD FOR ROOF SYSTEM USED.

R. THE WATER PIPING SYSTEM SHALL BE FLUSHED AND STERILIZED IN ACCORDANCE WITH CODE REQUIREMENTS.

S. THE HOT AND COLD WATER SUPPLY BRANCHES FOR ALL EQUIPMENT HAVING QUICK CLOSING VALVES OF ANY TYPE SHALL HAVE WATER HAMMER ARRESTORS INSTALLED ON THE HIGH POINT AT THE END OF EACH BRANCH.

T. HOLD TOP OF FLOOR DRAINS FLUSH WITH FINISHED FLOOR.

U. WATER PIPING BELOW SLAB SHALL BE TYPE "K" SOFT TEMPER COPPER. NO JOINTS ALLOWED BELOW SLAB.

V. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL INDIRECT WASTE PIPING REQUIRED FROM EQUIPMENT TO FLOOR DRAINS, OPEN RECEPTACLES OR FLOOR SINKS. PIPING SHALL COMPLY WITH STATE AND LOCAL CODES. COORDINATE WITH ALL EQUIPMENT SUPPLIERS AND SIZE AS REQUIRED BY PIECE OF EQUIPMENT SERVED. HOLD PIPING TIGHT TO WALL WHERE APPLICABLE.

W. VTR'S SHALL EXTEND 1" ABOVE WALL HEIGHT WHEN PARAPET ROOF CONSTRUCTION IS INDICATED. COORDINATE WITH ARCHITECTURAL PLANS.

X. PLUMBING CONTRACTOR SHALL INSTALL ALL SOIL AND WASTE PIPING WITH A MINIMUM SLOPE OF 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY THE STATE OR LOCAL ADMINISTRATIVE AUTHORITY.

Y. ALL INSTALLED SYSTEMS, DEVICES AND RELATED ITEMS SHALL BE TESTED IN PLACE ON SITE. REPLACE ANY AND ALL CONTRACTOR SUPPLIED DEFECTIVE DEVICES, ITEMS OR SYSTEMS AT CONTRACTOR'S OWN EXPENSE BEFORE COMPLETION OF PROJECT.

Z. MATERIALS, EQUIPMENT, ASSEMBLIES AND SYSTEMS SHALL MEET ALL PERTINENT REQUIREMENTS OF NATIONALLY RECOGNIZED TESTING ORGANIZATION SUCH AS THE UL, ASTM, ASSE, AWWA, AGA AND NFPA AS WELL AS THE MOST RECENT VERSION OF THE STATE CODE AND LOCAL AMENDMENTS.

AA. CONTRACTOR SHALL GUARANTEE ALL WORK FOR WHICH MATERIALS ARE FURNISHED, FABRICATED OR FIELD ERECTED, ALL FACTORY ASSEMBLED EQUIPMENT FOR WHICH NO SPECIFIC MANUFACTURER'S GUARANTEE IS FURNISHED AND ALL WORK IN CONNECTION WITH THE INSTALLATION OF MANUFACTURER'S GUARANTEED EQUIPMENT. THIS CONTRACTOR'S GUARANTEE SHALL EXIST FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL OWNER ACCEPTANCE OF THE WORK (U.N.O.) AND SHALL APPLY TO ALL DEFECTS IN MATERIALS AND/OR WORKMANSHIP OF ANY KIND.

BB. ALL PERMITS AND FEES REQUIRED FOR THE WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR AND INCLUDED IN THE BID PRICE.

CC. WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN PERMISSION OF THE OWNER.

DD. ALL EQUIPMENT, FIXTURES AND MATERIALS SHALL BE NEW AND UNUSED, AND INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S RECOMMENDATIONS (U.N.O.). PROVIDE COMPLETE WITH ALL TRIM, STOPS, HANGERS, CARRIERS, SUPPORTS, ETC. INCLUDING PROVISION FOR THE HANDICAPPED, IF REQUIRED. WHERE FIXTURES ARE ACCESSIBLE TO THE HANDICAPPED, FIXTURES MUST COMPLY WITH ALL FEDERAL A.D.A. REGULATIONS.

KEYNOTES

1. REFER TO SITE PLAN FOR CONTINUATION.
2. 1/2" CW UP TO ICE MAKER BOX.
3. COORDINATE WITH WASTE PIPING FROM FLOOR DRAINS ABOVE.
4. WATTS DOUBLE CHECK BACKFLOW PREVENTER ASSEMBLY APPROVED BY LOCAL CODE OFFICIAL. INSTALL AT A HEIGHT DETERMINED BY WATER COMPANY & ACCESSIBLE FOR MAINTENANCE (IF REQUIRED). PROVIDE DRAIN WITH FACTORY AIR GAP ROUTED TO SUMP PUMP.
5. PROVIDE AMTROL ST-5 EXPANSION TANK ON SUPPLY TO WATER HEATER DOWNSTREAM OF ANY VALVES PER MANUFACTURER REQUIREMENTS. SEE DETAIL 6 ON SHEET P-2.1.
6. INSTALL WATER CLOSET WITH CLOSET BOLTS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
7. 1" SHUTOFF VALVE.
8. 1/2" CW UP TO UPPER LEVEL. VERIFY FINAL LOCATION WITH CONSTRUCTION MANAGER IN CASE OF CONFLICT.
9. SYMMONS MAXLINE MODEL 5-210-CK TEMPERING VALVE (OR EQUAL) FOR SINK. VALVE SHALL BE ASSE 1070 COMPLIANT.
10. DOMESTIC WATER SERVICE. WATER METER ON SITE BY SITE CONTRACTOR. VERIFY IN FIELD. COORDINATE WITH G.C. AND UTILITY COMPANY.
11. HOSE BIB AT 24" AFF.
12. HOSE BIB AT 60" AFF.
13. 1/2" GAS TO FURNACE (F-1), PROVIDE SHUTOFF VALVE, UNION AND DIRTLEG. COORDINATE WITH M.C.
14. GAS METER & PRIMARY REGULATOR BY LOCAL GAS COMPANY, AT 7" WATER COLUMN. EXTEND PIPING FROM METER WITH 1-1/4" VALVED GAS LINE UP INTO JOIST SPACE.
15. GAS PIPING THRU EXTERIOR WALL 6" BELOW TOP OF SILL. COORDINATE WITH ARCHITECTURAL PLANS.
16. GAS PIPING UP IN WALL, THEN HORIZONTAL ABOVE BOTTOM OF ROOF TRUSSES.

PLUMBING LEGEND

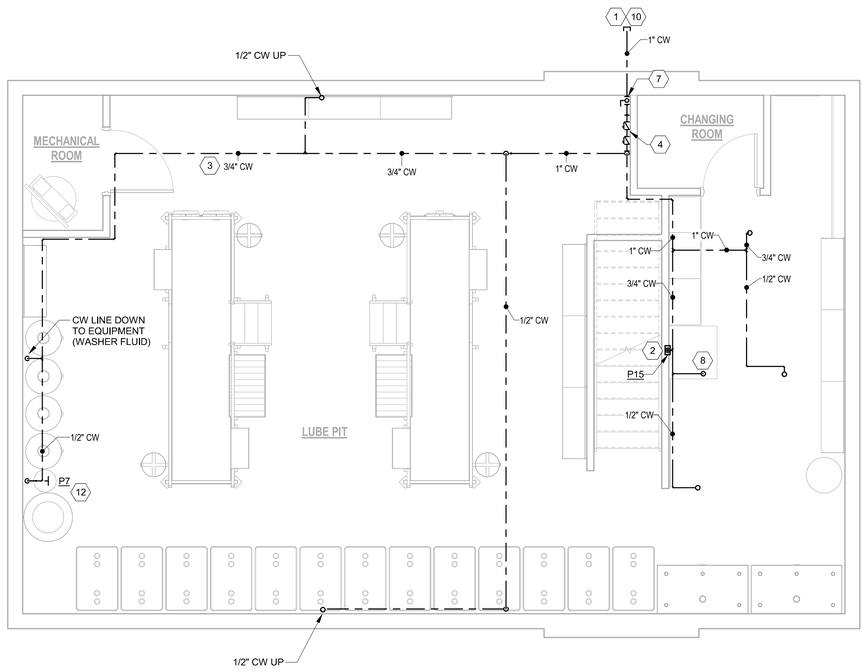
NOTE: ALL SYMBOLS SHOWN MAY NOT APPEAR IN THESE DOCUMENTS.

———SAN———	WASTE PIPING
——·—OSAN—·——	OIL LADEN SOIL AND WASTE PIPING
- - - - - - -V- - - - - - -	VENT PIPING
— — —CW— — —	COLD WATER PIPING
— — — HW- — — —	HOT WATER PIPING
	UNION
	BALL VALVE
P#	PLUMBING FIXTURE TAG
	PIPE UP
	PIPE DOWN
	CLEANOUT
	BACKFLOW PREVENTER
	HOSE BIB
	MIXING VALVE
	REDUCER

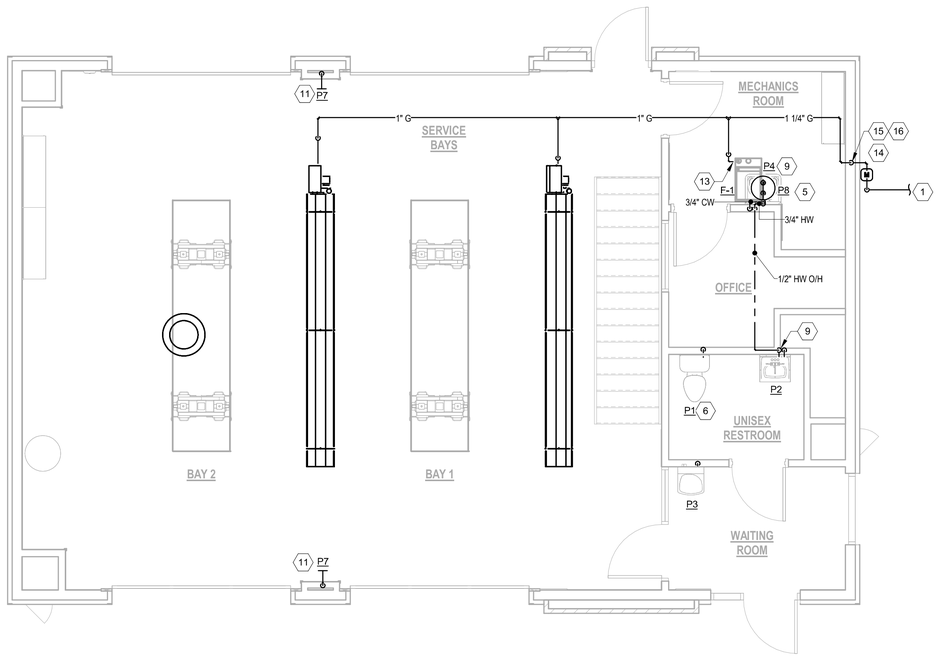
GAS LOAD SUMMARY

NOTE: 1 CFH = 1 MBH = 1,000 BTU/HR

TAG	MANUFACTURER / MODEL	QTY	GAS INPUT (CFH)
F-1	CARRIER / 59SC6A060M17**16	1	60
RH-1	SPACE-RAY / LTU 75-30-N5 (30')	1	75
RH-2	SPACE-RAY / LTU 75-30-N5 (30')	1	75
TOTAL CONNECTED GAS LOAD:			210



2 P-1.2 LOWER LEVEL WATER PLAN
Scale: 1/4" = 1'-0"



1 P-1.2 UPPER LEVEL WATER AND GAS PLAN
Scale: 1/4" = 1'-0"

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Bentonville, Arkansas 72712
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Date	Issued Record
12/05/2025	OWNER REVIEW SET
15/22/2025	PERMIT SET

STATE OF MISSOURI
JOHN KENNETH RALEY
NUMBER PE-2018039253
PROFESSIONAL ENGINEER

2025.12.22 10:06:59-06'00'

JOHN KENNETH RALEY, P.E.
PE-2018039253
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE
JOHN KENNETH RALEY
PROJECT MANAGER
JPJ
QUALITY CONTROL
JPJ
DRAWN BY
AAMA

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

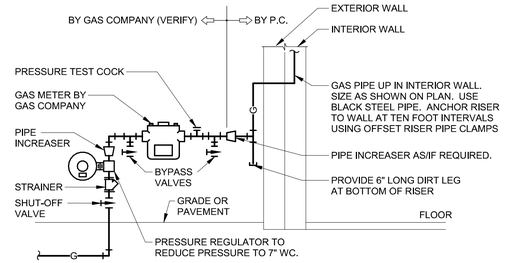
NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
WATER AND GAS PLANS

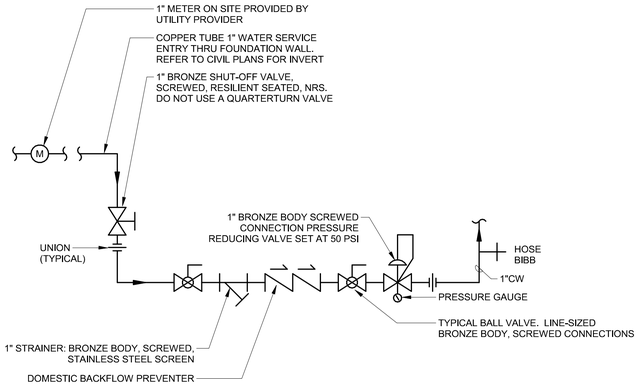
SHEET #
P-1.2

C:\Users\alma.mallovado\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 28 Flat Roof Mtn_V24_HFA Alma Mallovado.rvt
12/16/2025 10:26:49 AM
P-1.2 WATER AND GAS PLANS



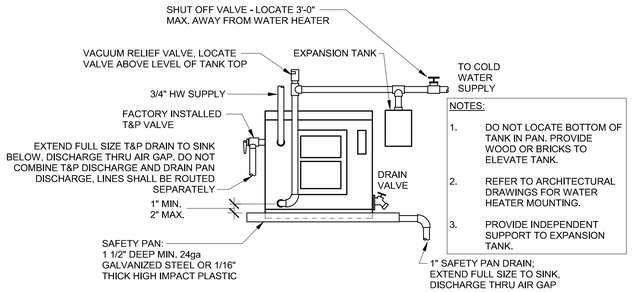
VERIFY REQUIREMENTS FOR METERING AND PIPING WITH GAS COMPANY. INSTALL OTHER UTILITIES MINIMUM TEN FEET FROM GAS LINE. PLUMBING CONTRACTOR SHALL PAY ALL GAS COMPANY FEES FOR INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS PER PLUMBING SPECS. GAS COMPANY SHALL EXCAVATE, BACKFILL, AND REPAIR ANY PAVING OR SOD FOR GAS SERVICE LINE INSTALLATION FROM MAIN TO BUILDING.

8 GAS SERVICE ENTRY
P-2.1 Scale: NO SCALE



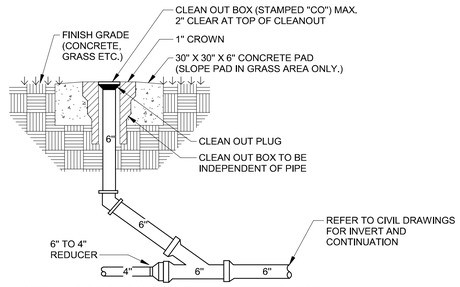
PIPING ARRANGEMENT SHOWN IN SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. PROVIDE DOMESTIC WATER BACKFLOW PREVENTER OF TYPE AND MANUFACTURER APPROVED BY LOCAL AUTHORITIES. INSTALL AT REQUIRED HEIGHT AND WITH REQUIRED CLEARANCES AND WITH BACKFLOW PREVENTER IN HORIZONTAL UPRIGHT POSITION. PROVIDE ANY REQUIRED CERTIFICATION OF TEST OF BACKFLOW PREVENTER TO LOCAL AUTHORITIES. ALL ITEMS SHALL BE APPROVED FOR DOMESTIC WATER SERVICE. INSTALL BACKFLOW PREVENTER SO IT CAN BE EASILY SERVICED AND TESTED. SUPPORT ASSEMBLY FROM WALL BRACKET OR FLOOR STAND.

7 DOMESTIC WATER SERVICE ENTRY
P-2.1 Scale: NO SCALE



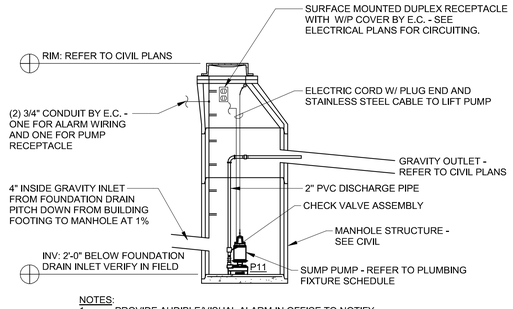
NOTES:
1. DO NOT LOCATE BOTTOM OF TANK IN PAN. PROVIDE WOOD OR BRICKS TO ELEVATE TANK.
2. REFER TO ARCHITECTURAL DRAWINGS FOR WATER HEATER MOUNTING.
3. PROVIDE INDEPENDENT SUPPORT TO EXPANSION TANK.

6 WATER HEATER SCHEMATIC
P-2.1 Scale: NO SCALE



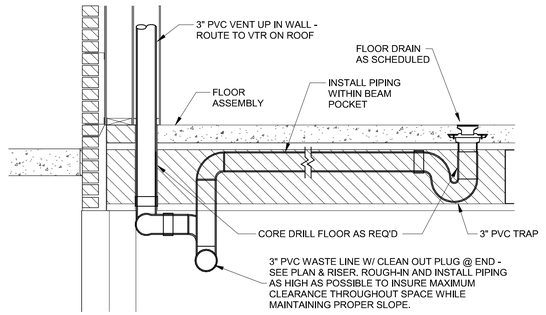
NOTE: ALL CLEANOUTS SHALL BE FLUSH WITH THE ELEVATION OF THE SURFACE IT IS BEING INSTALLED ON WHETHER IT BE GRASS OR CONCRETE. INSTALL PER ALL APPLICABLE CODES.

5 EXTERIOR CLEANOUT DETAIL
P-2.1 Scale: NO SCALE

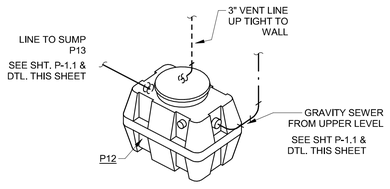


NOTES:
1. PROVIDE AUDIBLE/VISUAL ALARM IN OFFICE TO NOTIFY OWNER IN THE EVENT OF PUMP FAILURE OR HIGH LEVEL.
2. REFER TO CIVIL PLANS FOR FINAL SUMP PUMP MANHOLE LOCATION AND ADDITIONAL INFORMATION

4 FOUNDATION SUMP PUMP MANHOLE
P-2.1 Scale: NO SCALE



3 FLOOR DRAIN WASTE VENT DETAIL
P-2.1 Scale: NO SCALE

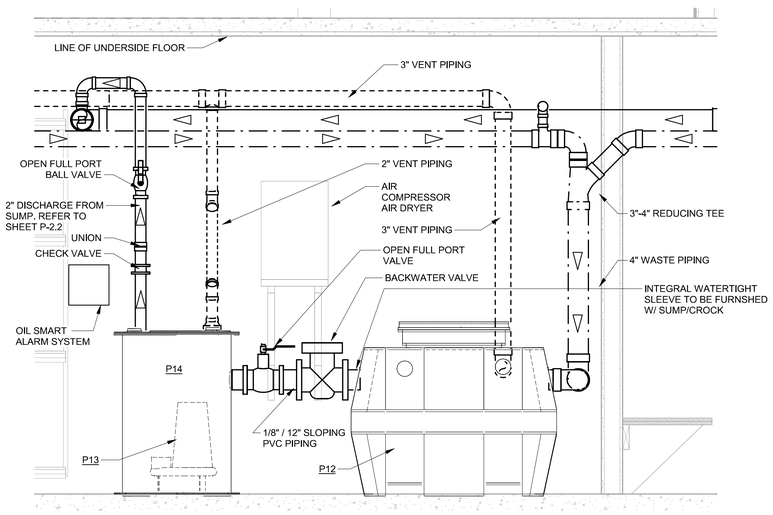


NOTE: OIL WATER SEPARATOR IS DESIGNED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND REQUIREMENTS BASED ON ANTICIPATED CONDITIONS OF USE PER IPC SECTION 1003.2.

COORDINATE WITH CIVIL PLANS IF LOCATED IN ANY TRAFFIC OCCUPIED AREA PROVIDE C2-HP : H20 RATED PICKABLE CAST IRON COVER.

OIL WATER SEPARATOR SIZING			
QTY.	DESCRIPTION	GPM	TOTAL GPM
1	SERVICE SINK	5	5
3	FLOOR DRAIN/ FLOOR SINK	1	3
		TOTAL:	8
TOTAL GPM REQUIRED = 8 GPM CAPACITY OF OIL SEPARATOR = 50 GPM (110 GAL)			

1 OIL SEPARATOR DETAIL
P-2.1 Scale: 3/8" = 1'-0"



2 SUMP PUMP OIL SEPARATOR SCHEMATIC
P-2.1 Scale: 3/4" = 1'-0"

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15/22/2025	PERMIT SET

STATE OF MISSOURI JOHN KENNETH RALEY NUMBER PE-2010030253 PROFESSIONAL ENGINEER

2025.12.22 10:07:34-06'00'

JOHN KENNETH RALEY, P.E.
PE-2010030253
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE
JOHN KENNETH RALEY
PROJECT MANAGER
JPJ
QUALITY CONTROL
JPJ
DRAWN BY
AAMA

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
PLUMBING DETAILS

SHEET #
P-2.1

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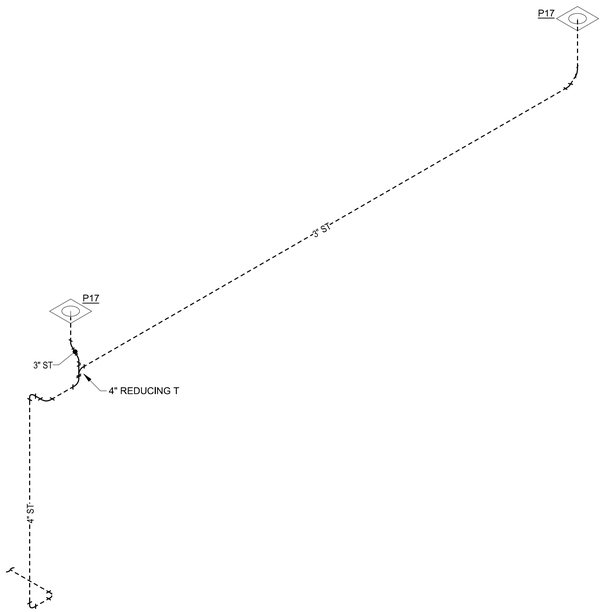
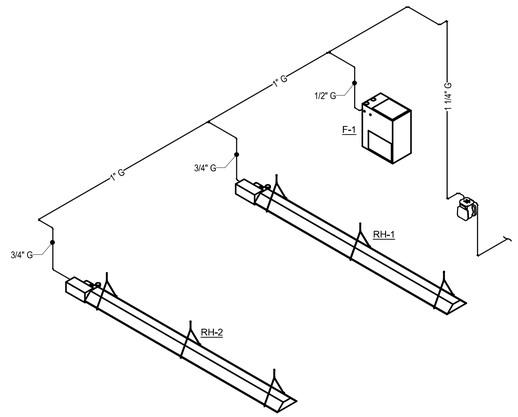
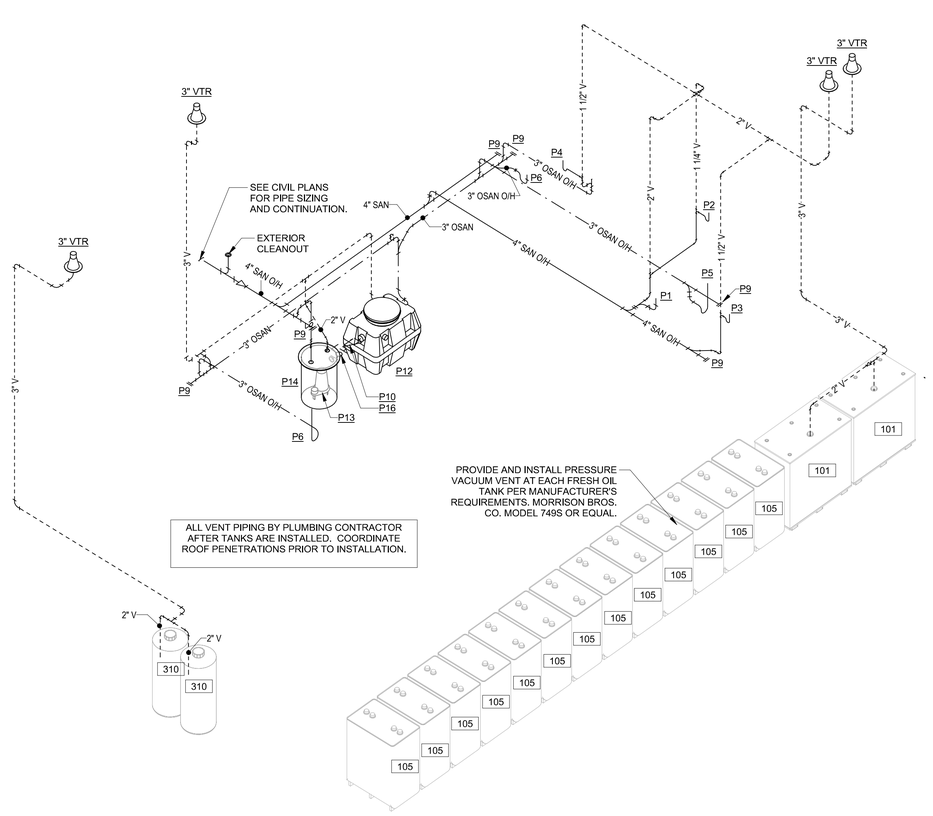




4 P-2.2 NATURAL GAS RISER
Scale:

3. P-2.2 STORM WATER RISER
Scale:



2 P-2.2 DOMESTIC WATER RISER
Scale:

1 P-2.2 WASTE AND VENT RISER
Scale:

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2025.12.22 10:08:00-06'00'

JOHN KENNETH RALEY, P.E.
PE-2010039253
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE
JOHN KENNETH RALEY
PROJECT MANAGER
JPJ
QUALITY CONTROL
JPJ
DRAWN BY
AAMA

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
PLUMBING RISERS

SHEET #
P-2.2

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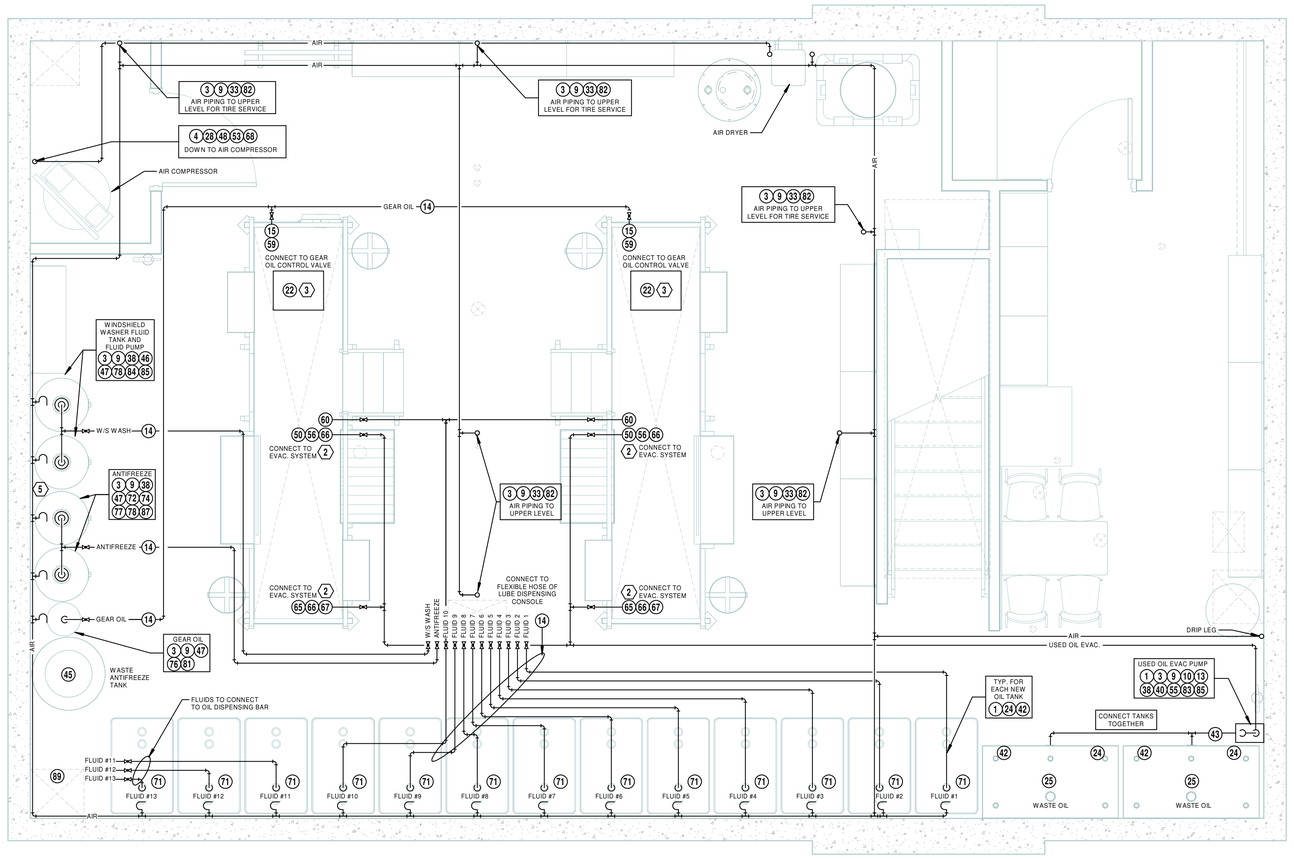

NORTH

1 / PP-4 PROCESS PIPING PLAN - LOWER LEVEL

Scale: 3/8" = 1'-0"

COORDINATE NUMBER OF TANKS AND LOCATION OF WASTE TANKS WITH A-1.1 SHEET THIS PLAN FOR REFERENCE ONLY

#	DESCRIPTION	QUANTITY	MFGR	PART #
1	5 : 1 MOTOR OIL PUMP - STUB	13	ALEMITE	9968
2				
3	MALE ADAPTER 1/2"	50	ALEMITE	51888
4	AIR LINE FILTER / MOISTURE SEPARATOR	1	ALEMITE	5612-2
5	CAMLOCK ADAPTER 2" M x 2" M	1	ALEMITE	A-200AL
6	MOTOR OIL CONTROL VALVE - METERED	18	ALEMITE	3670-B
7				
8				
9	BALL VALVE 1/2" F	17	JOMAR	FBV3-8LF
10	AIR HOSE 3/8" I.D. x 3' 1/4"	1	DEVON	H20106RD-250R
11				
12				
13	MOTOR OIL CONNECTING HOSE - 1/2" I.D. x 5' W-1/2" M/M	14	DEVON	8-1-72-MRMS
6 14	OIL DISTRIBUTION LINE 5/8" O.D. SEAMLESS STEEL .035 WALL	AS REQ'D.	WEBCO	T78-0018
15	OIL DELIVERY HOSE - 1/2" I.D. x 18' 1/2" M x M	26	DEVON	8-1-216-MRMS
16				
17				
18				
19				
20				
21				
3 22	ROLLING OIL DRAIN PAN	SEE G-3.1	SEE G-3.1	SEE G-3.1
23	DOUBLE TAP BUSHING	15	DEVON	40-200x150DT
24	GAUGE, TANK 2"	15	HUSKY	7600 99"
1 4 25	WASTE OIL TANK 500 GAL SINGLE COMPARTMENT	SEE G-3.1	SEE G-3.1	SEE G-3.1
26				
27				
28	AIR COMPRESSOR	1	SEE G-3.1	SEE G-3.1
29				
30				
31				
32				

#	DESCRIPTION	QUANTITY	MFGR	PART #
33	3/8" ID x 25' AIR HOSE 1/4" MBE	6	CHAMPION	A-CH-4-25-PR1425-R
34				
35				
36	VALVE, HIGH PRESSURE 1/2"	43	DEVON	D-8CSV
37				
38	REGULATOR W/ GAUGE 1/4" F	20	ALEMITE	7936
39				
40	USE OIL EVACUATION PUMP 1" 1:1 DIAPHRAGM	1	ALEMITE	8323
41				
42	FILL CAP HINGED 2"	15	DEVON	03-200M
43	WASTE OIL DRAIN LINE 2' BLK. STEEL PIPE	1	DEVON	2FLEK
44	ANTIFREEZE SINK	SEE G-3.1	SEE G-3.1	SEE G-3.1
45	TANK 200 GAL POLY. (WASTE ANTIFREEZE)	SEE G-3.1	SEE G-3.1	SEE G-3.1
46				
47	AIR HOSE 3/8" x 7' LONG	1	DEVON	H20106RD-250R
48	AUTO DRAIN - MOISTURE SEPARATOR	1	ALEMITE	3345747-1
49				
50	EVAC HOSE W/ WANDS	3	DEVON	REAR END
51				
52				
53	BALL VALVE - 3/4"	2	DEVON	FBV3-12
54				
55	HOSE ASSEMBLY 1" MBE 1" ID x 5' LG.	1	DEVON	16-FMH-48-MRFJ
56	REDUCING BUSHING 1" MPT x 1/2" FPT AT EVAC WAND	3	DEVON	BHB-010X8
57				
58	SUCTION TUBE	14	DEVON	NONE
59	GEAR LUBE CONTROL VALVE	3	ALEMITE	3673
60	A.T.F. CONTROL VALVE	5	ALEMITE	3671-B
61				
62	NIPPLE, BLK. STEEL 1 1/2" x 2" LG.	13	DEVON	XNIP-015XCL
63				
64				

#	DESCRIPTION	QUANTITY	MFGR	PART #
65	HOSE ASSEMBLEY 1" MBE SINGLE WIRE - WASTE OIL PANS	3	DEVON	APB-1D
66	BALL VALVE 1" FPT	18	JOMAR	FBV3010LF
67	CAMLOCK COUPLER / ADAPTER ASSEMBLY	3	DEVON	F-100AL
68				
69				
70				
1 4 71	NEW OIL TANK 275 GAL SINGLE COMPARTMENT	SEE G-3.1	SEE G-3.1	SEE G-3.1
72	DIAPHRAGM PUMP	1	GRACO	241906
73				
74	WALL MOUNT BRACKET FOR ANTIFREEZE PUMP	1	DEVON	APB-1D
75	HOSE FOR ANTIFREEZE AND WINDSHIELD WASHER	4	DEVON	H2020106BU-250R
76	COVER - GEAR OIL PUMP	1	ALEMITE	9960-A
77	CONNECTION HOSE FOR ANTIFREEZE AND WINDSHIELD WASHER	2	DEVON	8-72-HOWR12MR8MS
78	SUCTION HOSE FOR ANTIFREEZE AND WINDSHIELD WASHER	4	DEVON	12-SF60-72-E-D-KC
79	BIBB FOR ANTIFREEZE AND WINDSHIELD WASHER	4	GRACO	8009
80				
81	SUCTION TUBE FOR GEAR OIL PUMP	1	ALEMITE	9960-A
82	HOSE STOP	8	GRACO	218341
83	"Y" STRAINER FOR WASTE OIL PUMP	1	DEVON	B010
84	WINDSHIELD WASHER PUMP UL LISTED FOR METHANOL	1	ALEMITE	8327
85	WALL MOUNT BRACKET FOR WASTE OIL PUMP	1	DEVON	APB-1D
86				
87	ANTIFREEZE TANK; WITH PNEUMATIC PUMP	SEE G-3.1	SEE G-3.1	SEE G-3.1
88	ANTIFREEZE SUCTION TUBE 1" I.D. TO LENGTH	2	DEVON	SCH80PE12
89	PVC DRAIN FROM ANTIFREEZE SINK TO TANK	AS REQ'D	DEVON	NONE
90				
91	500 GAL 1 COMPARTMENT TANK	SEE G-3.1	SEE G-3.1	SEE G-3.1

GENERAL NOTES:

1. EQUIPMENT INSTALLER TO INSTALL NON-VENTED 1-1/2" TANK TRUCK HOSE FROM ANTIFREEZE SINK TO USED ANTI FREEZE TANK.
2. TEFLON TAPE AND SEALANT USED ON FLUID AND EQUIPMENT THREADS SHALL BE LISTED AS APPROVED FOR THE FLUID BEING CONVEYED.
3. AIR DISTRIBUTION TRUNK LINE TO BE SLOPED TOWARDS AIR FLOW DIRECTION.
4. EQUIPMENT INSTALLER TO SUPPLY AND ATTACH PIPING/TUBING FOR WINDSHIELD WASH SYSTEM. PLUMBER TO ATTACH WATER SUPPLY AND APPROPRIATED WATER FLOW VALVE (PER AREA CODE)
5. PRESSURE TEST FLUID AND AIR PIPING AND TANKS BY PRESSURIZING W/ AIR TO 2-4 PSI MAX AND HOLDING THAT PRESSURE FOR TWO HOURS. TEST IS SATISFACTORY IF THERE IS NO PRESSURE LOSS DURING THE TWO HOUR TEST. PRESSURE TESTS ARE TO BE PERFORMED IN THE PRESENCE OF AN OWNER'S RESPONSIBILITY.
6. EQUIPMENT INSTALLER TO FURNISH ALL FLUID AND AIR TUBING AND FITTINGS.
7. WARNING HIGH PRESSURE OIL LINE TUBING MUST BE CAPABLE OF 1,000 PSI MAX. WORKING PRESSURE.
8. ALL CORE DRILLING WILL BE PROVIDED BY GENERAL CONTRACTOR.

KEYED NOTES:

1. UNLESS OTHERWISE SPECIFIED BULK OIL TANKS SHALL BE INSTALLED APPROXIMATELY AS SHOWN ON DRAWING AND SET IN PLACE BY G.C.
2. EQUIPMENT SUPPLIER TO SUPPLY AND INSTALL. 43 5

   FOR USED OIL EXTRACTION FROM USED OIL TANKS TO RECYCLER COMPANY.
3. ROLLING DRAIN PROVIDED BY DEVON. HARDWARE REQUIRED TO CONNECT EVAC HOSE TO EACH DRAIN PAN - BY ALEMITE: 2 EA. 1" MBE ADAPTER (336843); 2 EA. 1" BALL VALVE (SWA300); 1 EA. 1' SUCTION HOSE (SWA279): - INSTALLER PROVIDE: 1 EA. 1 1/2" MPT x 1"FPT REDUCING BUSHING; 1 EA. 1" MALE CAMLOCK ADAPTER; 1 EA. 1"CAMLOCK DUST CAP; 1 EA. 1" FPT CAMLOCK COUPLER; 1 EA. 1" CAMLOCK DUST PLUG.
4. BULK OIL TANKS
   A. G.C. - RECEIVE AND UNLOAD TANKS INSPECT FOR DAMAGE THEN SET IN PLACE
   B. PLUMBER - INSTALL VENTS COMPLETE
   C. PLUMBER - WASTE OIL VENT TO BE DEDICATED, DO NOT TIE INTO NEW OIL VENTS. - NEW OIL VENT CAN BE MANIFOLDED AT CEILING OR HIGHER (LOCAL CODE REQ.)
5. G.C. TO PROVIDE ELECTRICAL CIRCUITS TO J.B.'S FOR OPENER MOTORS & CONTROLS
6. FLUSH OIL AND GREASE TUBING WITH A CLEANING SOLUTION BEFORE CONTROL VALVES ARE INSTALLED. AFTER CLEANING BLOW ALL LINES CLEAN W/ COMPRESSED AIR

DESIGN CRITERIA:

LUBRICATION OIL PIPING:

A. FURNISH AND INSTALL STAINLESS STEEL SEAMLESS HYDRAULIC LINE TUBING. SIZE BASED ON KEYED NOTES.

   MEETS S.A.E. STANDARDS.

LUBRICATION OIL PIPE FITTINGS:

A. FURNISH AND INSTALL O-RING SEAL STEEL HYDRAULIC TUBE COMPRESSION FITTINGS. MEETS S.A.E. STANDARDS. TEFLON BACKUP WASHER; O-RING SEALS THE TUBE, SEAL IS NOT DEPENDENT UPON THE TIGHTNESS OF THE NUT. SIZE BASED ON PIPING SIZES.

COMPRESSED AIR PIPING:

A. FURNISH AND INSTALL ALUMINUM TUBING. SIZE BASED ON KEYED NOTES.

WASTE OIL EVACUATION PIPING AND FITTINGS:

A. FURNISH AND INSTALL SCHEDULE 40 BLACK STEEL PIPING WITH THREADED JOINTS. SIZE BASED ON KEYED NOTES.
B. ALL THREADED FITTINGS TO BE CAST OR DUCTILE IRON.

WASTE OIL PIPING AT CATWALKS:

A. FURNISH AND INSTALL 1" STAINLESS STEEL PIPING WITH COMPRESSION FITTINGS.

PIPING INSTALLATION:

A. HORIZONTAL PIPING SHALL BE RUN PARALLEL TO OR AT RIGHT ANGLES TO WALLS; RISERS SHALL BE INSTALLED PERPENDICULAR TO FLOORS AND CEILING.
B. CHANGES IN DIRECTIONS SHALL BE MADE WITH FITTINGS.
C. NO DIRECT CONNECTION BETWEEN DISSIMILAR METALS IS PERMITTED. PROVIDE DIELECTRIC UNIONS AND FITTINGS AS REQUIRED FOR THE TYPE OF PIPE JOINTS BEING INSTALLED.

PIPING SUPPORTS AND HANGERS:

A. FURNISH AND INSTALL ALL INSERTS, BEAM CLAMPS, AND EXPANSION SHIELDS REQUIRED. PROVIDE UNISTRUT OR EQUAL CHANNELS, ATTACHED WITH AT LEAST 2 BOLTS, FOR PROPER SUPPORT.
B. HANGERS SHALL BE EITHER TRAPEZE, SPLIT RING, OR CLEVIS TYPE ON ADJUSTABLE RODS. HANGERS IN DIRECT CONTACT WITH COPPER TUBING SHALL BE COPPER PLATED. ALL THREAD RODS SHALL BE CADMIUM PLATED.
C. ANCHOR PIPING AT CHANGES IN DIRECTION OR WHERE BRANCH LINES CONNECT TO A MAIN.

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12/22/2025	PERMIT

FOR INFORMATION ONLY

PROFESSIONAL IN CHARGE-FULL NAME
PROJECT MANAGER
DAH
QUALITY CONTROL
JJ
DRAWN BY
DAH

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
PROCESS PIPING PLAN

SHEET #
PP-4

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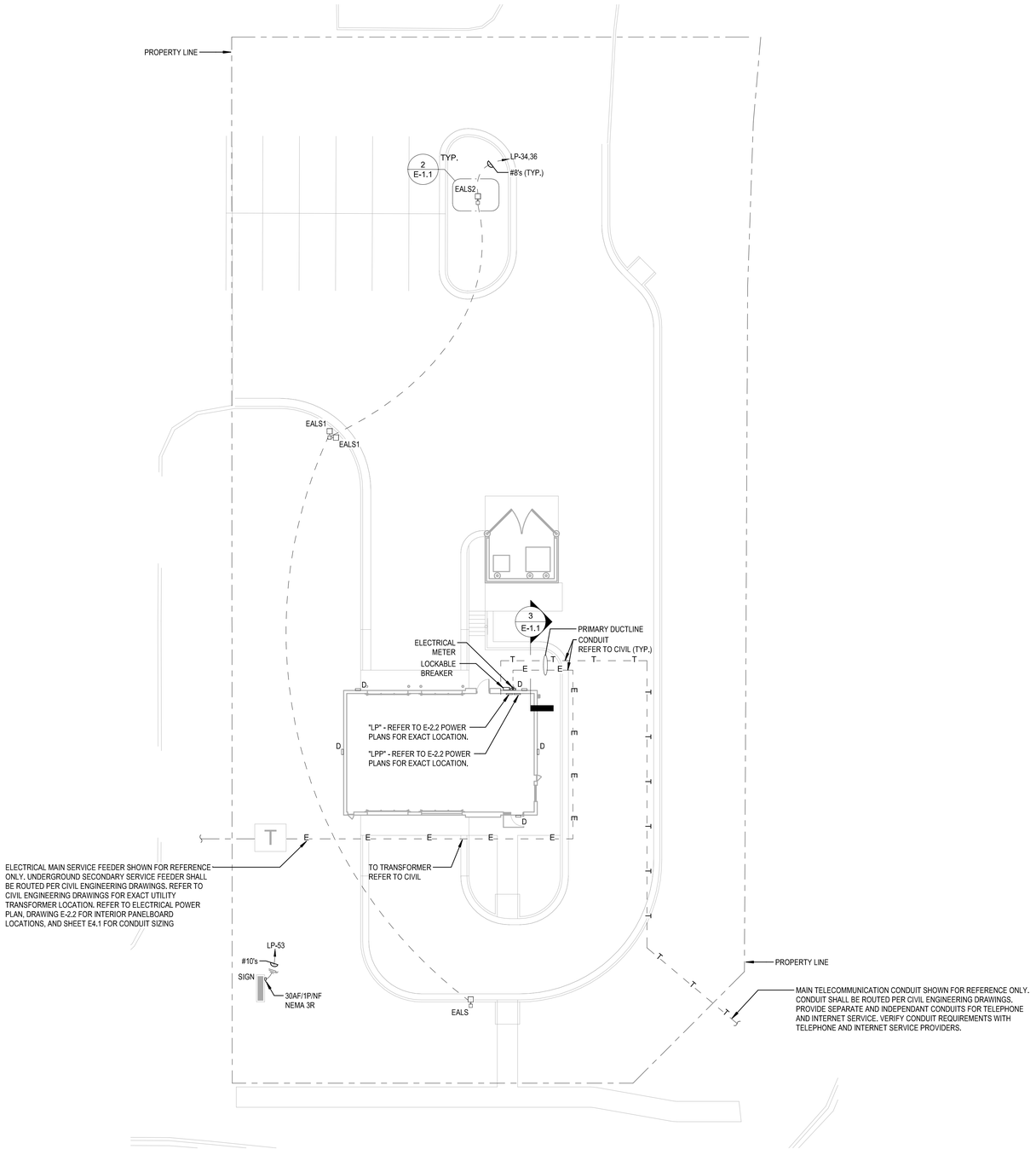
PP-4 PROCESS PIPING PLAN



1 E-1.1 ELECTRICAL SITE PLAN
Scale: 1" = 15'-0"

GENERAL ELECTRICAL SITE PLAN NOTES:

A. COORDINATE EXACT LOCATION OF ALL UNDERGROUND ELECTRICAL WORK WITH CIVIL ENGINEERING DRAWINGS/DOCUMENTS, ALL OTHER SITE UTILITIES, AND SITE CONTRACTOR(S).

B. ALL DIRECT BURIED CONDUIT FOR SITE LIGHTING SHALL BE SCHEDULE 40 PVC, UNLESS NOTED OTHERWISE. ALL ELBOWS UP TO SITE LIGHTING POLES SHALL BE RIGID GALVANIZED STEEL (RGS). SEE POLE BASE DETAIL ON THIS DRAWING FOR ADDITIONAL INFORMATION.

C. THIS CONTRACTOR SHALL INCLUDE IN HIS BID ALL ELECTRIC UTILITY COMPANY CHARGES ASSOCIATED WITH PROVIDING SERVICE TO THE BUILDING, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: TRANSFORMERS, CONCRETE PADS/VAULTS, CABLES, DUCTS, TRENCHING, BACKFILL, CONCRETE ENCASEMENT, METERING, GROUNDING, ALL ANCILLARY EQUIPMENT & DEVICES, ETC., AND ASSOCIATED LABOR FOR A COMPLETE INSTALLATION PER N.E.C. AND ELECTRIC UTILITY COMPANY REQUIREMENTS.

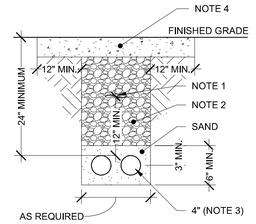
D. ROCK AND/OR ADVERSE SOIL CONDITIONS MAY BE PRESENT ON SITE. THE ELECTRICAL CONTRACTOR SHALL COORDINATE INSTALLATION REQUIREMENTS FOR ALL BELOW GRADE WORK WITH GEOTECHNICAL REPORT, AND SHALL INCLUDE IN HIS BID ANY WORK RELATED TO GEOTECHNICAL CONSIDERATIONS AS IT MAY PERTAIN TO THE INSTALLATION OF ALL SITE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO: DUCTBANKS, FOUNDATIONS/FOOTERS, CONCRETE SLABS/PADS, VAULTS, DIRECT BURIED CABLES OR CONDUITS, SITE LIGHTING POLE BASES, ETC.

E. **ELECTRICAL RACEWAYS SHALL BE IN ACCORDANCE WITH SPECIFICATION 26053 SECTION 3.0 UNLESS NOTED OTHERWISE.**

LIGHTING FIXTURE SCHEDULE

MARK	SYMBOL	MANUFACTURER MODEL	CATALOG NUMBER	LAMPS		DESCRIPTION	MOUNTING HEIGHT
				WATTS	TYPE		
EALS		LITHONIA LED AREA LIGHT	RSX1-LED-P4-40K-R3-MVOLT-SPA-DDBXD	133W	LED	AREA LIGHT	POLE MOUNT AT 27'-6" AFF. SSS-25'-4G-DM-19AS-DDBXD
EALS1		LITHONIA LED AREA LIGHT	RSX1-LED-P4-40K-R4-MVOLT-SPA-DDBXD	133W	LED	AREA LIGHT	POLE MOUNT AT 27'-6" AFF. SSS-25'-4G-DM-19AS-DDBXD
EALS2		LITHONIA LED AREA LIGHT	RSX1-LED-P4-40K-R5-MVOLT-SPA-DDBXD	133W	LED	AREA LIGHT	POLE MOUNT AT 27'-6" AFF. SSS-25'-4G-DM-19AS-DDBXD
D		LITHONIA WALLPACK	DSXW1-LED-P7-40K-80CRI - TFTM-MVOLT-DDBXD	73W	LED	WALLPACK	SURFACE MOUNT

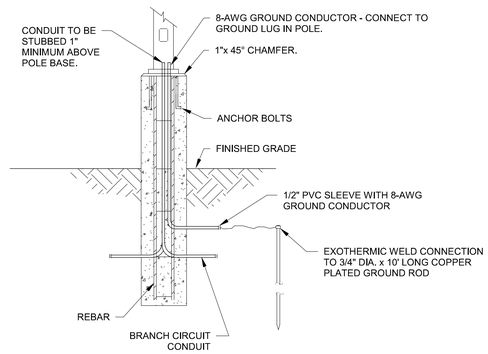
GC SHALL PURCHASE ALL LIGHTING FIXTURES, CONTACTOR PANELS, SENSORS CONTROLS, ETC. FROM WB LIGHTING (VIOCSUPPORT@WBLIGHT.COM) AND PROVIDE TO EC FOR INSTALLATION.



NOTES:

1. RED UNDERGROUND METALLIC DETECTABLE WARNING TAPE STATING "BURIED ELECTRICAL LINE BELOW".
2. SELECT BACKFILL TO 95% ORIGINAL COMPACTION DENSITY.
3. ALL CONDUITS SHALL BE SCHEDULE 40 PVC WITH INSIDE DIAMETER AS INDICATED.
4. CONCRETE REPAIR SECTION. COORDINATE EXACT TRENCHING REQUIREMENTS WITH UTILITY, SITE CONDITIONS AND CIVIL DRAWINGS.

3 E-1.1 DIRECT BURIED CONDUIT
Scale: NOT TO SCALE



POLE BASE NOTES:
1. REFER TO DETAIL ON STRUCTURAL DRAWINGS FOR FOOTING DEPTH, CONCRETE TYPE, AND REINFORCEMENT.
2. POLE BASE SHALL BE UTILIZED FOR LUMINAIRES.

2 E-1.1 POLE BASE DETAIL
Scale: NOT TO SCALE

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12/05/2025	OWNER REVIEW SET
12/22/2025	PERMIT SET

STATE OF MISSOURI
CHRISTOPHER A. RICHARDSON
NUMBER PE-2025000028
PROFESSIONAL ENGINEER

Digitally signed by Christopher Allen Richardson
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Date: 2025.12.05 09:13:29-06'00'

CHRISTOPHER A. RICHARDSON, P.E.
PE-2025000028
HFA-AE, LTD
E-20050117ZS-F

PROFESSIONAL IN CHARGE
CAR
PROJECT MANAGER
IN
QUALITY CONTROL
IN
DRAWN BY
AJ

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
ELECTRICAL SITE PLAN

SHEET #
E-1.1

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E-1.1 ELECTRICAL SITE PLAN

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	VOLT/WATTS	LAMPS	DESCRIPTION
A	LITHONIA	FEM-L48-8000LM-LPAFL-MD-MVOLT-GZ10-40K-80CRI-STSL WITH (4) FEMSMB	120/50.5	LED 7865 LUMENS 4000K	MEDIUM BEAM OPTICS 4FT SURFACE LED FIXTURE, FIBERGLASS HOUSING, INJECTION MOLDED FROSTED SHALLOW ACRYLIC LENS (0.080"), 4.2" DEEP, SUITABLE FOR WET LOCATIONS. PROVIDED WITH STAINLESS STEEL LATCHES AND (4) TOTAL STAINLESS STEEL MOUNTING BRACKETS.
A1	LITHONIA	CSVT-L48-6000L-MVOLT-40K-80CRI-STSL	120/49	LED 6213 LUMENS 4000K	4FT SURFACE LED FIXTURE, FIBERGLASS HOUSING, INJECTION MOLDED FROSTED ACRYLIC LENS, 3.8" DEEP, SUITABLE FOR WET LOCATIONS. PROVIDED WITH STAINLESS STEEL LATCHES
A1E	LITHONIA	CSVT-L48-6000L-MVOLT-40K-80CRI-IE7WCPHE-STSL	120/49	LED 6213 LUMENS 4000K	4FT SURFACE LED FIXTURE, FIBERGLASS HOUSING, INJECTION MOLDED FROSTED ACRYLIC LENS, 3.8" DEEP, SUITABLE FOR WET LOCATIONS. PROVIDED WITH STAINLESS STEEL LATCHES; 7W, CA TITLE 20 COMPLIANT BATTERY PACK
B	LITHONIA	TZL1N-L96-10000LM-FST-MVOLT-40K-80CRI-WH	120/68	LED 10000 LUMENS 4000K	8FT LED FIXTURE W/ BAKED WHITE ENAMEL, SURFACE MOUNTED, SNAP ON FROSTED DIFFUSER. DIRECT MOUNT TO CEILING
B1	LITHONIA	ZL1N-L48-5000LM-FST-MVOLT-40K-80CRI-WH	120/68	LED 5000 LUMENS 4000K	4FT LED FIXTURE W/ BAKED WHITE ENAMEL, SURFACE MOUNTED, SNAP ON FROSTED DIFFUSER. DIRECT MOUNT TO CEILING.HUNG VIA AIRCFRACT CABLE WITH Y HANGER PART NO ZACVH.
B1E	LITHONIA	ZL1N-L48-5000LM-FST-MVOLT-40K-80CRI-E10WLCP-WH WITH HC36 M12	120/68	LED 5000 LUMENS 4000K	4FT LED FIXTURE W/ 10 WATT EMERGENCY BATTERY PACK CA TITLE 20 COMPLIANT, BAKED WHITE ENAMEL, SURFACE MOUNTED SNAP ON FROSTED DIFFUSER. DIRECT MOUNT TO CEILING. ADD 36" CHAIN HANGER KIT. HUNG VIA AIRCRAFT CABLE WITH Y HANGER PART NO ZACVH.
BE	LITHONIA	TZL1N-L96-10000LM-FST-MVOLT-40K-80CRI-E10WLCP-WH	120/68	LED 10000 LUMENS 4000K	8FT LED FIXTURE W/ BAKED WHITE ENAMEL, SURFACE MOUNTED, SNAP ON FROSTED DIFFUSER. DIRECT MOUNT TO CEILING; 10W CA TITLE 20 COMPLIANT BATTERY PACK.
D	LITHONIA	DSXW1-LED-P4-40K-80CRI-TFTM-MVOLT-DDBXD	120/29	LED 7241 LUMENS 4000K	DARK BRONZE FINISH, WIDTH: 13-3/4", DEPTH: 4", HEIGHT: 6-3/8", WEIGHT: 12LBS
E	LITHONIA	EXRG-HO-M6-RD	120/2	INCLUDED	EMERGENCY/EXIT LIGHT, (2) AIMABLE EMERGENCY HEADS (1.5W LED) WITH BATTERY PACK & REMOTE HEAD CAPABILITY
E1	LITHONIA	EXRG EL M6	120/0.62	INCLUDED	EMERGENCY EXIT LIGHT WITH BATTERY PACK. UNIVERSAL ARROWS AND MOUNTING
E2	LITHONIA	ELM2L	120/2.4	INCLUDED	INTEGRAL AIMABLE LED HEADS, EMERGENCY LIGHT WITH BATTERY PACK
E3	LITHONIA	ERE B SGL WP RD	3.6/1	LED	AIMABLE REMOTE EMERGENCY LIGHT (1 HEAD) IN BLACK FINISH. MUST CONNECT 12V DC WIRING TO TYPE LT-EC FOR BATTERY POWER.
F1	LITHONIA	CPANL 2X2 ALO1 SWW7 M4	120/31/41	LED ADJUSTABLE LUMENS 4000K	2X2 FLAT PANEL LENS, INTERIOR T-BAR CEILING.SET LUMENS IN OFFICE/ WAITING ROOM AT 4400 LUMENS, RESTROOM AT 3300 LUMENS.
G	NUVO	62-1680	120/13	LED 1000 LUMENS 4000K	SURFACE MOUNTED DISC LIGHT WITH OCCUPANCY SENSOR. 7.5" DIAMETER BY 1.5" DEPTH

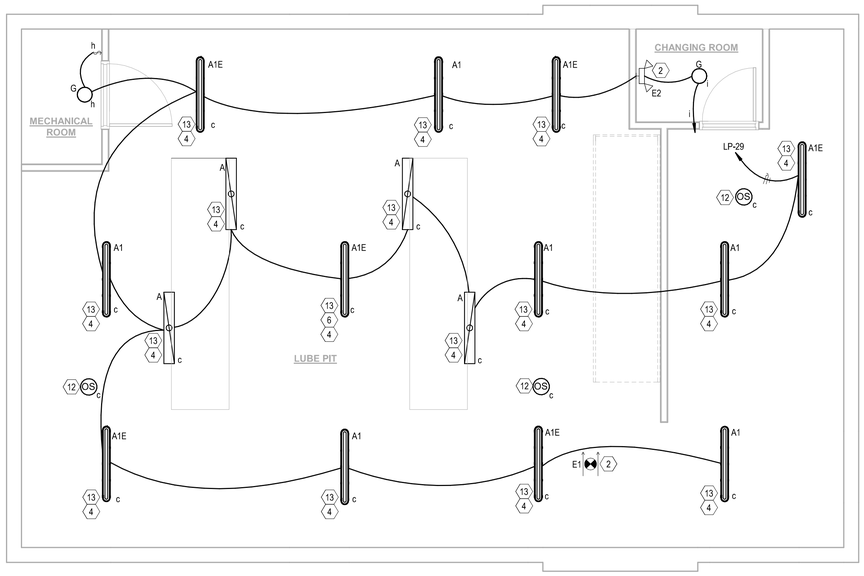
GC SHALL PURCHASE ALL LIGHTING FIXTURES, CONTRACTOR PANELS, SENSORS CONTROLS, ETC, FROM WB LIGHTING (VIOCSUPPORT@WBLIGHT.COM) AND PROVIDE TO EC FOR INSTALLATION.

LIGHTING KEY NOTES

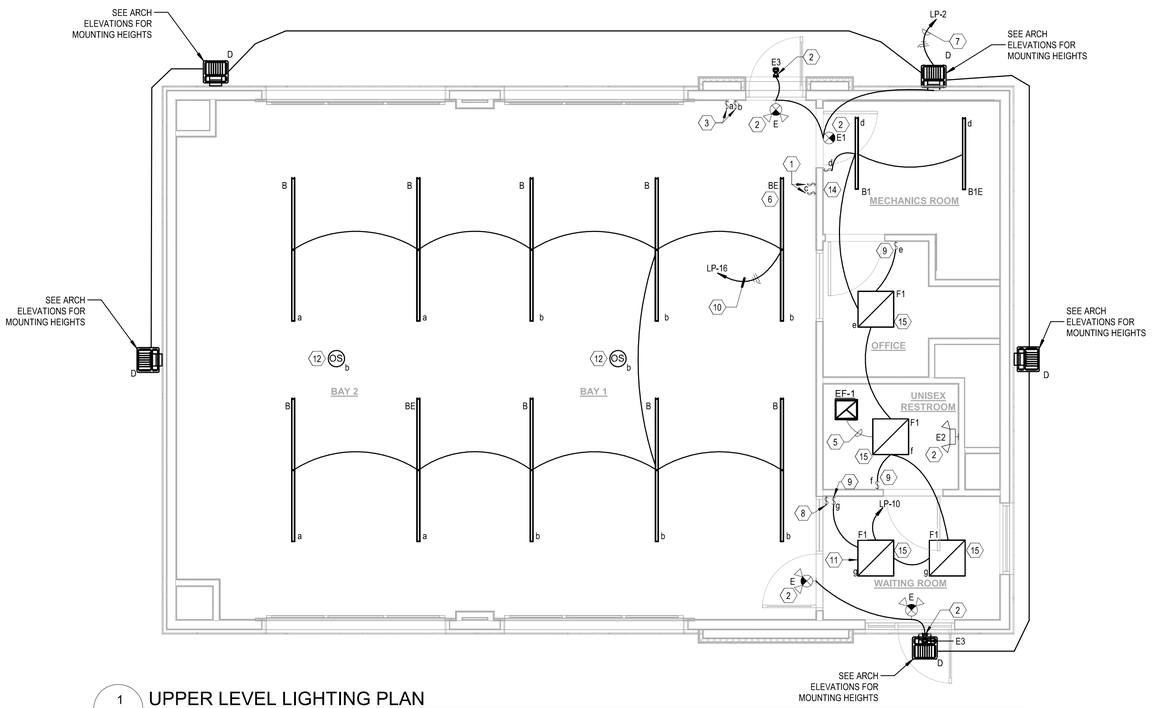
X	
1	WIRE LOW VOLTAGE PUSHBUTTON WALLPOD TO LOWER LEVEL TYPE 'A' FIXTURES AND CONTACTOR CONTROLLING EF-2 AND TF-1. DEVICE SHALL BE ACUITY BRANDS #sPODMA-GY. PROVIDE MANUAL SINGLE POLE SWITCH AS SHOWN FOR FANS. BOTH PUSHBUTTON AND MANUAL SWITCH SHALL BE MOUNTED IN SINGLE BOX.
2	CONNECT TO NON-SWITCHED CONDUCTORS.
3	LOW VOLTAGE PUSHBUTTON WALLPOD. DEVICE SHALL BE ACUITY BRANDS #sPODMA-GY. REFER TO LIGHTING CONTROL DETAIL ON E-4.1.
4	REFER TO ARCHITECTURAL FOR ADDITIONAL DETAILS, REQUIREMENTS, AND MOUNTING INFORMATION.
5	CONNECT TO EXHAUST FAN, SWITCH W/LIGHTS.
6	NIGHT LIGHT, FIXTURE TO REMAIN UNSWITCHED.
7	WIRE VIA LIGHTING CONTROLS SYSTEM. REFER TO DETAIL ON DRAWING E-4.1.
8	REFER TO NOTE 22 ON SHEET E-2.2.
9	OCCUPANCY SENSOR, EQUAL TO SENSOR SWITCH #WSX, PASSIVE INFRARED (PIR) SENSOR (LINE VOLTAGE), WALL MOUNTED, VERIFY COLOR W/ OWNER.
10	LUMINAIRES CONNECTED TO THIS CIRCUIT TO BE CONTROLLED VIA DEDICATED DAYLIGHT PHOTOCONTROL SENSORS.
11	COORDINATE FIXTURE MOUNTING WITH STRUCTURAL FRAMING PRIOR TO ORDERING.
12	LOW VOLTAGE CEILING MOUNTED OCCUPANCY SENSOR WITH MANUAL DIMMING. UPPER LEVEL SENSORS TO ALSO INCLUDE DAYLIGHT SENSING CONTROL AND AUTO DIMMING. DEVICES SHALL BE ACUITY BRANDS #CM-PDT-10 FOR LOWER LEVEL AND #CM-PDT-9-ADC FOR UPPER LEVEL. PROVIDE FULLY OPERATIONAL SYSTEM & TRAINING AS REQUIRED. REFER TO LIGHTING CONTROL DETAILS ON E-4.1.
13	ALL PRODUCT PROCESS & PLUMBING PIPING SHALL BE COORDINATED WITH LIGHT FIXTURES. PIPING/PRODUCT LINES TAKE PRECEDENCE OVER LIGHT LOCATIONS WHERE NECESSARY. COORDINATE IN FIELD, W/OWNER'S REP.
14	LOCATION OF PIT LIGHTING AND AIR FLOW CONTACTS, RELAYS, EQUIPMENT, ETC. REFER TO DETAIL 3 THIS SHEET FOR ADDITIONAL DETAILS AND REQUIREMENTS.
15	SET LUMENS IN OFFICE/WAITING ROOM AT 4400. SET LUMENS IN RESTROOM AT 3300.

NOTES:

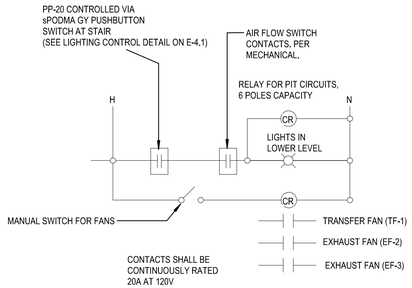
(1) E.C. SHALL COORDINATE CEILING MOUNTED DEVICES AND ELECTRICAL CONDUIT ROUTING WITH PROCESS PIPING INSTALLER PRIOR TO ROUGH-IN. NO CONDUITS TO BE ABOVE OIL TANKS.
(2) ELECTRICAL RACEWAYS SHALL BE IN ACCORDANCE WITH SPECIFICATION 26053 SECTION 3.0 UNLESS NOTED OTHERWISE.



2 E-2.1 LOWER LEVEL LIGHTING PLAN
Scale: 1/4" = 1'-0"



1 E-2.1 UPPER LEVEL LIGHTING PLAN
Scale: 1/4" = 1'-0"



3 E-2.1 LUBE PIT LIGHT SWITCH DETAIL
Scale: NOT TO SCALE

SEQUENCE OF OPERATIONS:

- SWITCH AT STAIR TO CONTROL LOWER LEVEL LIGHTING VIA OCCUPANCY SENSORS SHOWN ON PLAN.
- ROUTE PIT LIGHTING CIRCUIT THROUGH AIR FLOW SWITCH CONTACTS AND RELAYS.
- EXHAUST FAN (EF-2) AND TRANSFER FAN (TF-1) CONTACTORS SHALL BE INTERLOCKED WITH AIR FLOW SWITCH CONTACTS.
- IN THE EVENT THAT EITHER FAN STOPS OPERATING, POWER WILL BE DISABLED TO THE LOWER LEVEL LIGHTING CIRCUIT. THIS IS TO NOTIFY OCCUPANTS THAT AIR FLOW HAS STOPPED AND THEY ARE TO EXIT THE PIT AREA.
- THIS DIAGRAM IS SHOWN FOR DIAGRAMATIC INFORMATION ONLY. CONTRACTOR TO ENSURE CONNECTIONS AND SEQUENCE OF OPERATION ARE FUNCTIONAL AND FOLLOW HVAC MANUFACTURER'S STANDARDS. COORDINATE EQUIPMENT REQUIREMENTS WITH MECHANICAL AND CONTROLS TRADES PRIOR TO ROUGH INS.

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12/22/2025	PERMIT SET

STATE OF MISSOURI
CHRISTOPHER A RICHARDSON
NUMBER PE-2025000028
PROFESSIONAL ENGINEER

Christopher Allen Richardson Digitally signed by Christopher Allen Richardson
DN: C=US, E=christopher@hfa-ae.com, O=HFA-AE, LTD, CN=Christopher Allen Richardson, T=Architect Friend and Relationship Manager, OU=Architecture
Reason: I AM APPROVING THIS DOCUMENT
Date: 2025.12.22 09:19:29-06'00'

CHRISTOPHER A. RICHARDSON, P.E.
PE-2025000028
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE
CAR
PROJECT MANAGER
IN
QUALITY CONTROL
IN
DRAWN BY
AJ

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME
LIGHTING PLANS

SHEET #
E-2.1

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E-2.1-LIGHTING PLANS

POWER KEY NOTES

X	
1	TIME CLOCKS/CONTACTORS - REFER TO DIAGRAMS ON SHEET E-4.1.
2	ROUTE THROUGH TIME SWITCH FOR CONTROL OF LIGHTS/SIGNS.
3	MAKE CONNECTION TO BOX SIGN(S) PROVIDED BY OWNER. INSTALL J-BOX(ES) VERIFY MOUNTING HEIGHT AND EXACT LOCATION W/SIGN SUPPLIER.
4A	DOOR OPERATOR: BAY DOOR 1A. G.C. TO PROVIDE 3/4" CONDUIT TO EACH DOOR OPERATOR PUSH BUTTONS AND PHOTO EYE. A SINGLE JUNCTION BOX SHALL BE SHARED FOR EXIT/ENTRANCE DOORS AT CORRESPONDING BAY. VERIFY HEIGHT WITH ARCHITECTURAL DRAWINGS.
4B	DOOR OPERATOR: BAY DOOR 1B. G.C. TO PROVIDE 3/4" CONDUIT TO EACH DOOR OPERATOR PUSH BUTTONS AND PHOTO EYE. A SINGLE JUNCTION BOX SHALL BE SHARED FOR EXIT/ENTRANCE DOORS AT CORRESPONDING BAY. VERIFY HEIGHT WITH ARCHITECTURAL DRAWINGS.
5A	DOOR OPERATOR: BAY DOOR 2A. G.C. TO PROVIDE 3/4" CONDUIT TO EACH DOOR OPERATOR PUSH BUTTONS AND PHOTO EYE. A SINGLE JUNCTION BOX SHALL BE SHARED FOR EXIT/ENTRANCE DOORS AT CORRESPONDING BAY. VERIFY HEIGHT WITH ARCHITECTURAL DRAWINGS.
5B	DOOR OPERATOR: BAY DOOR 2B. G.C. TO PROVIDE 3/4" CONDUIT TO EACH DOOR OPERATOR PUSH BUTTONS AND PHOTO EYE. A SINGLE JUNCTION BOX SHALL BE SHARED FOR EXIT/ENTRANCE DOORS AT CORRESPONDING BAY. VERIFY HEIGHT WITH ARCHITECTURAL DRAWINGS.
6	FOUNDATION SUMP PUMP (120V, 1/2 HP) ENCLOSURE - SEE PLUMBING & CIVIL DRAWINGS FOR DETAIL AND EXACT LOCATION. PROVIDE DUPLEX RECEPTACLE WITH WET LOCATION IN-USE COVER INSIDE ENCLOSURE APPROXIMATELY 6" FROM TOP. SEE DETAIL ON SHEET P-2.1. IN ADDITION, PROVIDE 3/4" CONDUIT INTO ENCLOSURE FOR WIRING OF REMOTE PUMP ALARM. COORDINATE WITH P.C.
7	PROVIDE LOCAL 240V, 30A, 2-POLE, NEMA 3R DISCONNECT FOR CONDENSING UNIT. ENSURE NEC ART. 110.26 WORKING SPACE AND EQUIPMENT CLEARANCES ARE MET.
8	PROVIDE CAT6 CABLE TO MONITOR AND CREDIT CARD MACHINE. REFER TO RISER DIAGRAM THIS SHEET.
9	DATA LINE. CAT6 8 CONDUCTOR TWISTED PAIR CABLE. CABLE IS RUN PIN TO PIN, 3'-0" PIGTAIL TERMINATED WITH RJ11 CONNECTORS AT BOTH ENDS. PROVIDE COMMUNICATION CONDUIT BETWEEN PODIUMS AND COMPUTER CONSOLE. REFER TO RISER DIAGRAM ON THIS SHEET.
10	PROVIDE CAT6 DATA LINE 8 CONDUCTOR TWISTED PAIR CABLE TO CENTRAL COMPUTER IN OFFICE. REFER TO RISER DIAGRAM ON THIS SHEET.
11	SINGLE PAIR TELEPHONE CABLE TO TELEPHONE PANEL. REFER TO RISER DIAGRAM ON THIS SHEET.
12	PROVIDE CAT6 CABLE TO TELEPHONE PANEL. REFER TO RISER DIAGRAM ON THIS SHEET.
13	GENERAL SERVICE G.F.C.I. RECEPTACLE. COORDINATE MOUNTING LOCATION WITH ALL TRADES PRIOR TO ROUGH-IN.
14	COORDINATE MOUNTING HEIGHT WITH BULK TANKS. MOUNT AT 7'-0" A.F.F.
15	COORDINATE MOUNTING HEIGHT WITH WATER COOLER SUPPLIER. MINIMUM MOUNTING HEIGHT 17" A.F.F.
16	COORDINATE MOUNTING HEIGHT WITH SHELVING. MOUNT 48" A.F.F. ±.
17	G.F.C.I. TYPE RECEPTACLE MOUNTED AT CEILING.
18	MOUNT RECEPTACLE IN P.O.S. PODIUM.
19	PEDESTAL POST PODIUM - PROVIDE (POWER, DATA, SECURITY) UP FROM FLOOR BELOW THROUGH 4" PODIUM BASE. ENSURE PHYSICAL SEPARATION IS PROVIDED BETWEEN POWER AND LOW VOLTAGE CABLES.
20	GREETER STATION - PROVIDE (4) 1" CONDUITS (POWER, DATA, SECURITY) UP FROM FLOOR BELOW AND INTO ENCLOSURE. MOUNT BOXES FOR POWER AND DATA OUTLETS ON INSIDE OF ENCLOSURE. COORDINATE STUB UP LOCATION IN FIELD WITH OWNER.
21	20A DUPLEX RECEPTACLE (GFCI) MOUNTED AT 12" BELOW CEILING FOR INSTALLATION OF WALL MOUNTED AIR CIRCULATION FANS. CONTROL THRU WALL SWITCH AS INDICATED.
22	RECEPTACLE MOUNTED AT CEILING. PROVIDE SWITCH TO CONTROL RECEPTACLES ONLY FOR OWNER SIGNAGE.
23	20A DUPLEX RECEPTACLE (GFCI) MOUNTED AT UNDERSIDE OF THE FLOOR FOR INSTALLATION OF CEILING OR CATWALK MOUNTED AIR CIRCULATION FANS.
24	(2) QUAD RECEPTACLES AT +60" A.F.F. FOR TOOL BATTERY CHARGERS.
25	RECEPTACLE AT 24" A.F.F. FOR BELL RINGER. RUN CONDUIT THROUGH WALL & UNDER SIDEWALK THROUGH CURB IN CUE LANE APPROXIMATELY 50' FROM BUILDING. REFER TO SERVICE BELL DETAIL ON CIVIL DRAWINGS AND COORDINATE ROUTING WITH VIOC CONSTRUCTION MANAGER.
26	TRANSFER FAN TF-1 (120V, 1/2 HP). PROVIDE LOCAL DISCONNECT.
27	EXHAUST FAN EF-2 (120V, 1/2 HP). PROVIDE LOCAL DISCONNECT.
28	EXHAUST FAN EF-3 (120V, 1/2 HP). PROVIDE LOCAL DISCONNECT. (NOTE: EF-3 TO BE RUNNING DURING ALL HOURS OF BUILDING OPERATION.)
29	J-BOXES IN ACCESSIBLE LOCATION FOR CONTROL RELAYS, CONNECTION TO EF-2, TF-1 & LOWER LEVEL LIGHTS.
30	THESE LOCATIONS ARE FOR REFERENCE ONLY & SHALL BE INSTALLED AT LOCATIONS SHOWN ON MECHANICAL DRAWINGS.
31	AIR COMPRESSOR (208V-1PH) PROVIDE 60A-2P NON-FUSED DISCONNECT LOCATED ON/AT UNIT
32	DOOR OPENER MOTOR(S). THESE LOCATIONS ARE FOR REFERENCE ONLY. PROVIDE CONNECTION TO DOOR PUSH-BUTTON.
33	PROVIDE CONNECTION TO GAS RADIANT HEATER PER MANUFACTURER REQUIREMENTS. COORDINATE THERMOSTAT LOCATION WITH MECHANICAL DRAWINGS.
34	THERMOSTAT FOR EQUIPMENT AS INDICATED. PROVIDE J-BOX & CONDUIT TO RESPECTIVE THERMOSTAT. THERMOSTAT SHALL BE LOW VOLTAGE PROGRAMMABLE.
35	RECEPTACLE FOR AIR DRYER #401.
36	PROVIDE SEPARATE 120V POWER FOR OIL/WATER SEPARATOR SUMP PUMP ALARM. COORDINATE WITH PLUMBING CONTRACTOR AND MFR. INSTRUCTIONS.
37	INTERIOR SUMP PUMP FOR OIL/WATER SEPARATOR. PROVIDE SEPARATE 120V POWER FOR OIL/WATER SEPARATOR SUMP PUMP ALARM. COORDINATE WITH PLUMBING CONTRACTOR AND MFR. INSTRUCTIONS.
38	CONNECTION FOR SUMP PUMP. VERIFY CONNECTION REQUIREMENTS WITH MANUFACTURER
39	PROVIDE 120V POWER FOR EACH FOUNDATION SUMP PUMP ALARM EQUIPMENT. PROVIDE LOW VOLTAGE WIRING TO BOTH OUTDOOR SUMP ENCLOSURES. COORDINATE WITH PLUMBING CONTRACTOR.
40	HEATERS SHALL BE CIRCUITED SUCH THAT THEY ARE CONTROLLED VIA FAN CENTER RELAY PART NO. 30169000 WHICH ALLOWS FOR THERMOSTAT CONTROL.

GENERAL ELECTRICAL NOTES

A. ELECTRICAL CONTRACTOR SHALL GUARANTEE COMPLETE SYSTEM FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE BY OWNER. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED IMMEDIATELY UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.

B. VERIFY ALL POWER AND TELEPHONE REQUIREMENTS FROM PROPERTY LINE OR POINT OF SERVICE TO BUILDING WITH RESPECTIVE UTILITY COMPANIES. INCLUDE ALL COSTS TO FURNISH A COMPLETE POWER AND TELEPHONE SYSTEM. EXACT LOCATION OF SERVICE ENTRANCE SHALL BE APPROVED BY UTILITY COMPANY.

C. CONTRACTORS SHALL HOLD A VALID STATE AND OR CITY CONTRACTORS LICENSE AS REQUIRED.

D. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL REQUIRED TO INSTALL UNDERGROUND ELECTRICAL SERVICE TO MAIN SWITCH (IF REQUIRED) AT METER BASE. CONTRACTOR SHALL PAY FOR ALL COSTS INCURRED IN SUPPLYING NEW ELECTRICAL SERVICE TO BUILDING INCLUDING ALL FEES, PERMITS AND WORK TO BE PERFORMED BY UTILITY COMPANY.

E. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL POWER AND CONTROL WIRES, PRIMARY & SECONDARY CONDUITS, CONDUCTORS, TRENCHING, BACKFILL, CONCRETE PADS, OUTLETS, ETC. REQUIRED BY SERVING UTILITY COMPANIES. VERIFY LOCATION, ROUTE AND TERMINATION REQUIREMENTS WITH UTILITY COMPANIES AND THEIR REQUIREMENTS SHALL BE DEEMED PART OF THE CONTRACTORS BID.

F. PROVIDE ALL MATERIALS AND LABOR REQUIRED TO RENDER MECHANICAL AND OTHER EQUIPMENT COMPLETE AND OPERATIVE. VERIFY REQUIREMENTS AND LOCATION OF EQUIPMENT AND CONTROLS FOR EACH PIECE OF EQUIPMENT WITH APPROPRIATE SUB-CONTRACTOR PRIOR TO ROUGH-IN. IF SEQUENCE OF CONTROLS IS CHANGED FROM DESIGN AS INDICATED, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR ADDITIONS AND DELETIONS.

G. BUILDING REQUIRES INCOMING TELEPHONE LINES. TELEPHONE COMPANY TO WIRE BUILDING WITH 6 PAIR TWISTED CABLE FROM TELEPHONE PANEL TO EACH OUTLET WITH A RJ-21X JACK. PROVIDE #6 GROUND FROM TELEPHONE PANEL TO PANEL "LP". TELEPHONE COMPANY SHALL PROVIDE ALL LABOR & MATERIAL REQUIRED TO INSTALL COMPLETE TELEPHONE SYSTEM WITH DIAL TONE IN BUILDING, (TELEPHONE HANDSETS BY OWNER) CONTRACTOR SHALL PAY FOR ALL COSTS INCURRED IN SUPPLYING NEW TELEPHONE SERVICE TO BUILDING INCLUDING ALL FEES, PERMITS AND WORK TO BE PERFORMED BY UTILITY COMPANY.

H. ALL MATERIALS AND EQUIPMENT SHALL BE NEW, FREE FROM DEFECTS AND THE BEST GRADE AND MANUFACTURE THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT, AND LISTED BY UNDERWRITERS LABORATORY AND BEAR THE INSPECTION LABEL WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH THE APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND NSFU.

I. FURNISH AND INSTALL AS SHOWN ON DRAWINGS EQUAL TO: PANELBOARDS: SQUARE D TYPE NQO/QO WITH FULL SIZED BOLT-ON TYPE BREAKERS AND COPPER BUSSING, TANDEM OR PIGGY BACK BREAKERS ARE NOT ALLOWED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND MOTOR CONTROL CENTERS: SQUARE D CLASS 8998

J. MOUNTING HEIGHTS GIVEN ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET.

K. ALL EXTERIOR EQUIPMENT SHALL BE WEATHERPROOF.

L. FURNISH AND INSTALL ALL LIGHT FIXTURES COMPLETE WITH LAMPS, DIFFUSERS, WIRE GUARDS, OR OTHER ACCESSORIES AS INDICATED ON DRAWINGS. ALL FIXTURES SHALL BE SUBSTANTIALLY SUPPORTED FROM STRUCTURE ABOVE AND SHALL BE PROVIDED WITH ALL NECESSARY HANGER, SUPPORT, AND ACCESSORY DEVICES REQUIRED.

M. TIME SWITCH SHALL BE 7 DAY, 24 HOUR, SPRING RESERVE AND FOR BUILDING LIGHTS, SIGNAGE, AND SITE LIGHTING.

N. LOCATE THERMOSTATS AS PER MECHANICAL PLAN IN OFFICE AREA. FURNISH AND WIRE BYPASS TIMER AND TIME SWITCH PER MECHANICAL PLANS.

O. INSTALL GROUND WIRE IN ALL BRANCH CIRCUITS. CONNECT SERVICE GROUND AT MAIN SERVICE PANEL TO BUILDING STEEL, TO MAIN COLD WATER METAL PIPE AND TO 5/8" X 8'-0" COPPERWELD GROUND WELD.

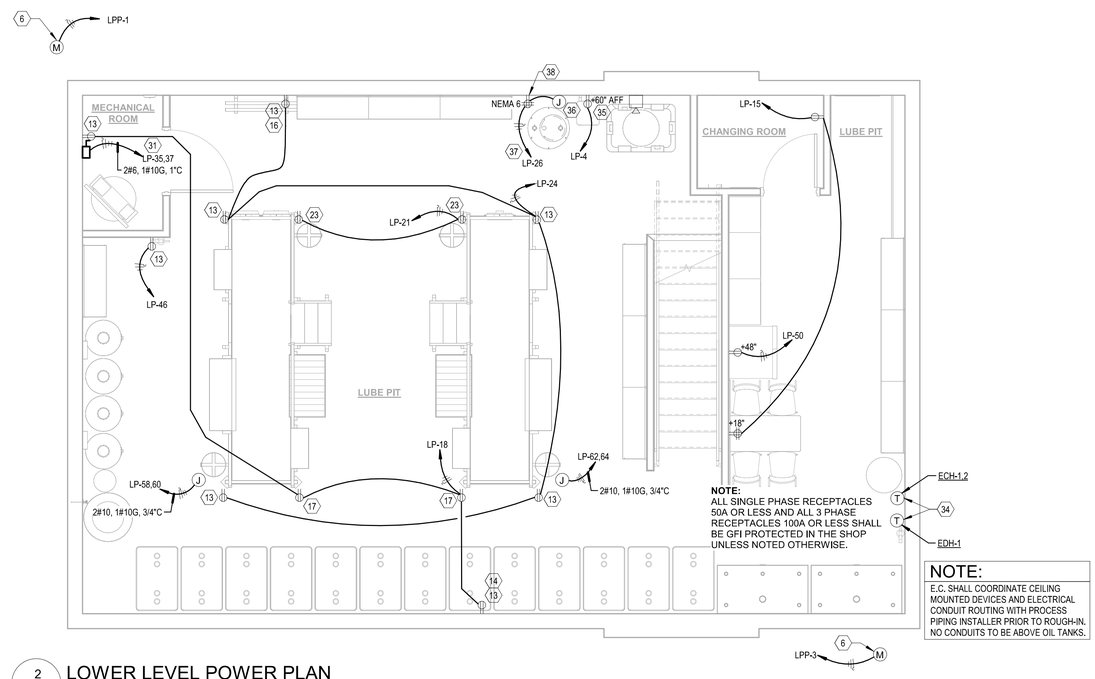
P. ALL POWER AND CONTROL WIRING FOR THE BAY DOORS SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

Q. ELECTRICAL RACEWAYS SHALL BE IN ACCORDANCE WITH SPECIFICATION 26053 SECTION 3.0 UNLESS NOTED OTHERWISE.

SPECIAL NOTE:

OUTLETS & SWITCHES SHALL BE MOUNTED IN LOWER PORTION OF "FRP" WALL FINISH, TOP OF "FRP" IS AT 52" A.F.F.

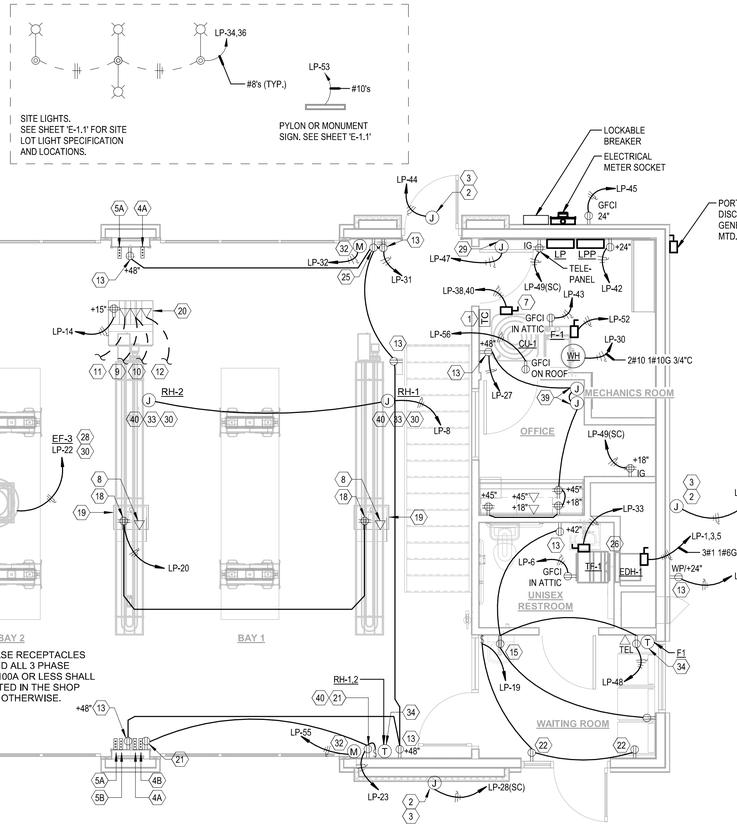
ALL ELECTRICAL DEVICES, SWITCHES, OUTLETS, ETC. SHALL BE GRAY WITH STAINLESS STEEL COVERPLATES.



NOTE:

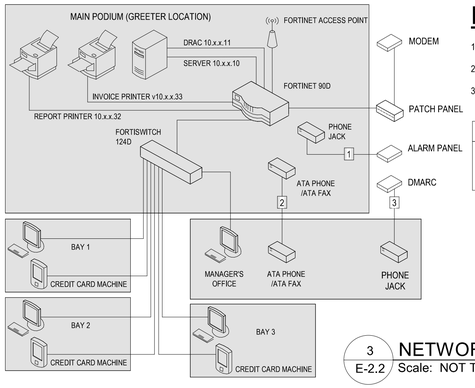
E.C. SHALL COORDINATE CEILING MOUNTED DEVICES AND ELECTRICAL CONDUIT ROUTING WITH PROCESS PIPING INSTALLER PRIOR TO ROUGH-IN. NO CONDUITS TO BE ABOVE OIL TANKS.

2 / E-2.2 LOWER LEVEL POWER PLAN
Scale: 1/4" = 1'-0"



1 / E-2.2 UPPER LEVEL POWER PLAN
Scale: 1/4" = 1'-0"

NETWORK WIRING DIAGRAM

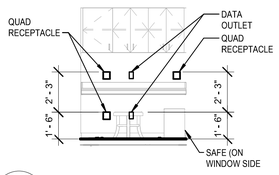


1. CAT6 CABLE WITH TWO MALE RJ45 CONNECTIONS.
2. CAT6 CABLE WITH TWO PHONE JACKS ON EACH END LABELED ATA PHONE & ATA FAX.
3. CAT6 CABLE WITH PHONE JACK IN OFFICE AND EXTRA LOOPED CABLE AT DMARC.

WIRING DIAGRAM NOTE:

THIS DIAGRAM IS TYPICAL FOR THE VIOC PROGRAM. NUMBER OF BAYS MAY VARY BY SITE.

3 / E-2.2 NETWORK WIRING
Scale: NOT TO SCALE



5 / E-2.2 OFFICE ELEVATION
Scale: 1/4" = 1'-0"

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Date	Issued Record
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12/22/2025	PERMIT SET

STATE OF MISSOURI
CHRISTOPHER A. RICHARDSON NUMBER PE-2025000028
PROFESSIONAL ENGINEER
Christopher Allen Richardson
CHRISTOPHER A. RICHARDSON, P.E.
PE-2025000028
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE: CAR
PROJECT MANAGER: IN
QUALITY CONTROL: IN
DRAWN BY: AJ

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER: 06-24-20062

SHEET NAME: POWER PLANS

SHEET #: E-2.2

C:\Users\amanda.jacobs\Documents\2024 Revit Projects\06-24-20062 - Lee Summit MO - 2B-Flat Roof Exc_V24_HFA.Amanda.Jacobs.rvt
12/18/2025 11:43:04 PM
E-2.2-POWER PLANS

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
P1	12"X12"X4" MINIMUM PULL BOX
P2	12"X12"X6" MINIMUM PULL BOX

NOTE: CONDUIT ONLY REQUIRED IN WALL, WHERE EXPOSED TO PHYSICAL DAMAGE, OR AS REQUIRED BY LOCAL CODES AND AHJ.

KEY NOTES

X	
1	MOUNT TO BOTTOM SIDE OF PIT OPENING, AT EDGE OF OPENING. "PIT" CAMERAS ARE TO BE PLACED AT THE DECK AT OPEN END OF THE PIT FOR BEST VIEW (SEE CPM FOR FINAL LOCATION). PIT CAMERAS SHALL BE WIRED TO NETWORK RACK LOCATED IN OFFICE.
2	PROVIDE AUDIBLE/VISUAL ALARM TO ACTIVATE IN THE EVENT OF SUMP PUMP FAILURE. VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH OWNER PRIOR TO ANY ROUGH-INS. CONTRACTOR SHALL PROVIDE CONDUIT TO SUMP LOCATION PER MANUFACTURER'S REQUIREMENTS. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT VENDOR. BRAND:# WEIL 1408-OSS.
3	SPARE CONDUIT WITH PULLSTRING FOR FUTURE STARLINK TO CONNECT AT NETWORK RACK (503). CAP CONDUIT AT BOTH ENDS. COORDINATE LOCATION AND ROUTING IN FIELD. LENGTH OF CONDUIT RUN SHALL NOT EXCEED 75 FT.
4	LOWER LEVEL MONITORS TO CONNECT TO UPPER LEVEL PEDESTAL POST PODIUM MONITOR WITH 35 FT RAPID RUN CABLE.
5	ALL EXTERIOR SECURITY CAMERAS SHALL BE MOUNTED ON JUNCTION BOXES THAT ARE RECESSED. ENSURE JUNCTION BOX LOCATIONS ARE PROPERLY COORDINATED/ SUPPORTED
6	CAMERAS ARE TO BE PLACED WITH UNRESTRICTED VIEWING.
7	PROVIDE AUDIBLE/VISUAL ALARM TO ACTIVATE IN THE EVENT OF SUMP PUMP FAILURE. VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH OWNER PRIOR TO ANY ROUGH-INS. CONTRACTOR SHALL PROVIDE CONDUIT TO SUMP LOCATION PER MANUFACTURER'S REQUIREMENTS. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT VENDOR. BRAND:SJE RHOMBUS TANK ALERT XT MODEL# 1009923.
8	REFER TO POWER PLAN, DRAWING E-2.2, FOR ADDITIONAL WIRING DETAILS AND REQUIREMENTS.
9	SURGE PROTECTOR, POE, AND POWER PANEL TO BE INSTALLED INSIDE THE NETWORK RACK. SECURITY CABINET TO BE INSTALLED UNDER COUNTER TOP IN UPSTAIRS OFFICE.
10	PROVIDE LOW VOLTAGE WIRE FROM THIS LOCATION TO OFFICE FOR LOW VOLTAGE EMISSION TESTING EQUIPMENT CONNECTIONS. CONDUIT ONLY REQUIRED IN WALL, WHERE EXPOSED TO PHYSICAL DAMAGE, OR AS REQUIRED BY LOCAL CODES AND AHJ.
11	TWO BOXES ARE FOR POS DEVICES. ALL BOXES SHALL SHARE CONDUIT ROUTED BACK TO THE OFFICE.
12	PROVIDE LOW VOLTAGE CONDUIT FROM SECURITY KEY PAD TO THE MAIN ALARM PANEL LOCATED ON THE PLYWOOD BACKBOARD IN UTILITY ROOM. CONDUIT ONLY REQUIRED IN WALL, WHERE EXPOSED TO PHYSICAL DAMAGE, OR AS REQUIRED BY LOCAL CODES AND AHJ.
13	CONDUIT FROM LOWER LEVEL TO UNDERSIDE OF INTERNET/PHONE BOARD.
14	INTERNET AND COAXIAL CABLING TO UNDERSIDE OF MAIN ALARM PANEL.

LOV VOLTAGE DEVICE LEGEND

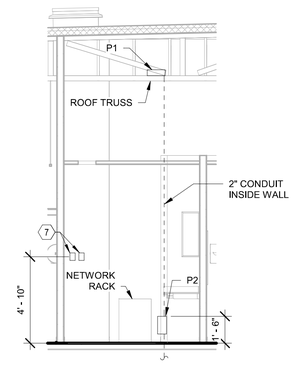
SYMBOL	DESCRIPTION	SUPPLIER
APW	ACCESS POINT - WALL MOUNTED	
APC	ACCESS POINT - CEILING MOUNTED	
C	CAMERA - CEILING MOUNTED	
W	CAMERA - WALL MOUNTED	
FEX	CELLULAR BACKUP - WALL MOUNTED	
POE	POWER OVER ETHERNET	
WR	WIRELESS ROUTER	
MON	MONITOR	
SP	SURGE PROTECTOR	
MAP	MAIN ALARM PANEL	
KP	KEYPAD	
MD	MOTION DETECTOR	
S	SIREN	
DC	DOOR CONTACT	
TEL	TELEPHONE CONNECTOR	
SC	SECURITY CABINET ASSEMBLY	
SCN	WIDESCREEN MONITOR UNIVERSAL POWER CORD DVI SPLITTER DIGITAL VIDEO CABLE 35FT RAPIDRUN RUNNER AUDIO LEAD MONITOR MOUNTING ARM	ZONES

CONTACT INFORMATION:

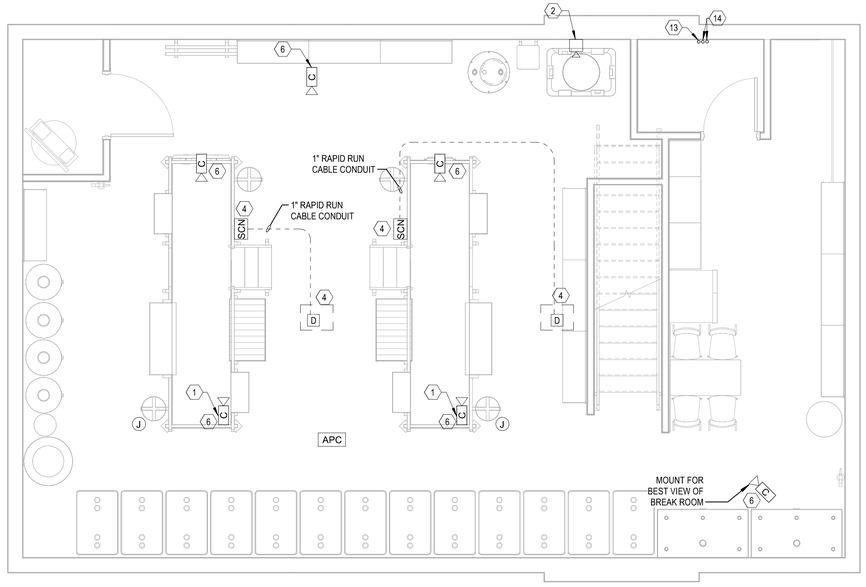
VRA Construction Project Manager

NOTE:
All equipment supplied by authorized VRS technology vendor.

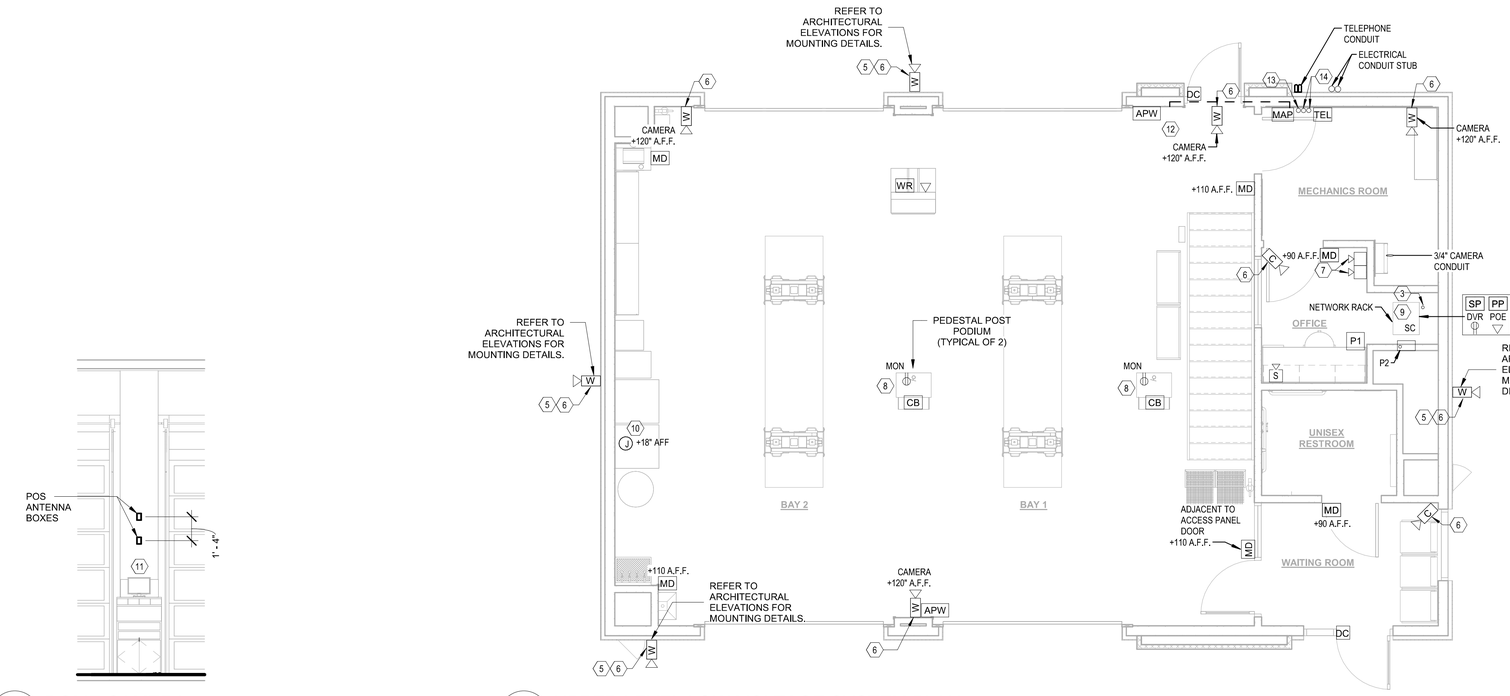
VRS authorized technology installer will ship, install and activate all Security and Surveillance equipment.



3 E-3.1 OFFICE SIDE ELEVATION
Scale: 1/4" = 1'-0"



2 E-3.1 LOWER LEVEL LOW VOLTAGE SYSTEM PLAN
Scale: 1/4" = 1'-0"



4 E-3.1 DOME CAMERA
Scale: 1/4" = 1'-0"

1 E-3.1 UPPER LEVEL LOW VOLTAGE SYSTEM PLAN
Scale: 1/4" = 1'-0"

GENERAL NOTES

A. ALL LOW VOLTAGE DEVICES SHOWN SHALL BE SUPPLIED AND INSTALLED BY OWNER VENDOR. GC SHALL COORDINATE AS NECESSARY.
B. GC SHALL PROVIDE POINT TO POINT WIRING BETWEEN ALL LOW VOLTAGE DEVICES AND LABEL EACH END ACCORDINGLY PER DEVICE RUN. PROVIDE 6FT . CABLE LOOP AT EACH END. REFER TO LOW VOLTAGE WIRING DIAGRAM. INSTALLATION OF DEVICES AND FINAL CONNECTIONS BY OTHERS.
C. GC TO RUN LOW VOLTAGE WIRING EXPOSED UNLESS ROUTED IN WALLS, WHERE EXPOSED TO PHYSICAL DAMAGE, OR AS REQUIRED BY LOCAL CODES AND AHJ, MINIMUM CONDUIT SIZE SHALL BE 3/4"C. EXPOSED RUNS SHALL UTILIZE APPLICABLE WIRE HANGES, SADDLES, CABLE TRAYS, ETC, IN A NEAT WORK-MAN-LIKE MANNER. EXPOSED RUNS SHALL BE PARALLEL AND PERPENDICULAR TO PERIMETER WALLS IN ATTIC AND PIT SPACE BASED ON FIELD CONDITIONS.
D. ELECTRICAL RACEWAYS SHALL BE IN ACCORDANCE WITH SPECIFICATION 26053 SECTION 3.0 UNLESS NOTED OTHERWISE.
E. DIVIDERS SHALL BE UTILIZED IN INSTANCES WHERE POWER AND LOW VOLTAGE WIRING SHARE THE SAME PULL BOX.
F. CONTRACTOR SHALL PROVIDE RECESSED DOUBLE-GANG BOX FOR FUTURE CAMERA INSTALLATION BY OTHERS. COORDINATE FINAL BOX LOCATION WITH OWNER CAMERA VENDOR.

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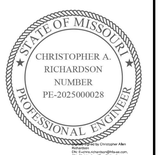

CHRISTOPHER A. RICHARDSON, P.E.
PE-2025000028
HFA-AE, LTD
E-2005011726-F

PROFESSIONAL IN CHARGE
CAR
PROJECT MANAGER
IN
QUALITY CONTROL
IN
DRAWN BY
AJ

PROJECT NAME

Valvoline Instant Oil Change

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER
06-24-20062

SHEET NAME

LOW VOLTAGE PLANS

SHEET #

E-3.1

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E-3.1 LOW VOLTAGE PLANS

Branch Panel: LP

Location: MECHANICS ROOM
Supply From: SERV. DISC.
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65,000 SERIES RATED/10,000 FULLY RATED
Mains Type: MLO
Mains Rating: 400 A
MCB Rating:

NOTE	CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	NOTE
	1	Electric Duct Heater EDH-1	110 A	3	10000 / 102			1	20 A	Exterior Bldg Lighting	2	
	3					10000 / 180		1	20 A	Air Dryer	4	
	5						10000 / 180	1	20 A	Attic Maintenance Rec	6	
	7	Spare	20 A	2	0 / 216			1	20 A	RH-1 / RH-2 (6)	8	
	9					0 / 248		1	20 A	R.R. / Office / Waiting Lighting	10	
	11	Spare	20 A	2			0 / 360	1	20 A	Exterior Cameras	12	
	13				0 / 360			1	20 A	Greeter Station Rec (8)	14	
	15	Break Area Rec	20 A	1		540 / 680		1	20 A	Upper Level Lighting	16	
	17	Service Bay Rec (8)	20 A	1			540 / 720	1	20 A	Lower Level Rec (8)	18	
	19	Open Signs (6)	20 A	1	600 / 720			1	20 A	Point of Sale Rec (8)	20	
	21	Lower Level Circ./Fans (8)	20 A	1		800 / 860		1	20 A	Exhaust Fan EF-3 (6)	22	
	23	Upper Level Circ./Fans (8)	20 A	1			800 / 900	1	20 A	Lube Pit - Interior Cameras	24	
	25	Exhaust Fan EF-2 (6)	20 A	1	860 / 960			1	20 A	Sump Pump & Alarm @ Lwr Lvl (6,8)	26	
	27	Office Rec	20 A	1		1260 / 1500		1	20 A	Tower Signage (6)	28	
	29	Lower Level Lighting	20 A	1			1043 / 2063	1	25 A	Water Heater (6)	30	
	31	Service Bay Rec (8)	20 A	1	1080 / 1180			1	20 A	Door Opener - Bay 1 (6)	32	
	33	Transfer Fan TF-1	20 A	1		1176 / 266		2	20 A	Site Lighting	34	
	35	Air Compressor	50 A	2			3200 / 266				36	
	37				3200 / 1830			2	30 A	Condensing Unit CU-1	38	
	39	LPP	50 A	2		1180 / 1830					40	
	41						1180 / 180	1	20 A	General Purpose Rec	42	
	43	Attic Maintenance Rec	20 A	1	180 / 500			1	20 A	Bldg Signage (6)	44	
	45	Exterior Rec	20 A	1		180 / 500		1	20 A	C.O. @ Pneumatic Pumps (6,8)	46	
	47	Lighting Controls	20 A	1			500 / 720	1	20 A	Waiting Area Rec (8)	48	
	49	Tele / Security / Network Rec	20 A	1	720 / 1000			1	20 A	Break Area Refrigerator (8)	50	
	51	Tool Charger Rec (8)	20 A	1		720 / 1176		1	15 A	Furnace F-1	52	
	53	Monument Sign	20 A	1			1000 / 1180	1	20 A	Door Opener - Bay 2 (6)	54	
	55	Door Opener - Bay 1 (6)	20 A	1	1180 / 180			1	20 A	Receptacle	56	
	57	Door Opener - Bay 2 (6)	20 A	1		1180 / 2000		2	30 A	ECH-1 (6)	58	
	59	Spare	20 A	1			0 / 2000				60	
	61	Spare	20 A	1	0 / 2000			2	30 A	ECH-2 (6)	62	
	63	Space	--	1		0 / 2000					64	
	65	Space	--	1			0 / 0	1	--	Space	66	
	67	Space	--	1	0 / 0			1	--	Space	68	
	69	Space	--	1		0 / 0		1	--	Space	70	
	71	Space	--	1			0 / 0	1	--	Space	72	
	73				0 / 0						74	
S	75	125A (MAXIMUM) Space	--	--		0 / 0		3	35 A	Spare	76	
	77						0 / 0				78	
			Total Load:		26868 VA	28264 VA	26832 VA					
			Total Amps:		223.9 A	235.6 A	223.6 A					

Legend:

S - SUBFEED BREAKER/SPACE

N.E.C.	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
210.20(A)	Lighting	2875 VA	125.00%	3593 VA		
	Lighting - Exterior	2058 VA	125.00%	2573 VA		
220.44	Receptacle	9140 VA	100.00%	9140 VA		
	Equipment	6400 VA	100.00%	6400 VA		
220.60	HVAC	37196 VA	100.00%	37196 VA	**Total Conn. Load:**	81964 VA
220.5	Motor	7080 VA	104.17%	7375 VA	**Total Est. Demand:**	83557 VA
	Water Heater	2063 VA	100.00%	2063 VA	**Total Conn.:**	228 A
	Other	8540 VA	100.00%	8540 VA	**Total Est. Demand:**	232 A

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FAULT CALCULATIONS

SOURCE	DESTINATION	TRANSFORMER (T) / FEEDER (F)	WIRE SIZE / BUS SIZE	CONDUCTOR TYPE	WIRE COMP / BUSWAY (3/C) / (4C/C) / (BD)	CONDUIT / BUS TYPE	WIRE LENGTH (FT)	WIRES PER PHASE (IF PARALLELED)	PHASE (1 / 3)	VOLTAGE (L-L) SECONDARY	VOLTAGE (L-N) SECONDARY	XFRMR SIZE	PRIMARY VOLTAGE	SECONDARY VOLTAGE	%Z	AIC @ SOURCE	AIC @ DESTINATION
UTIL-P	*UTIL-S*	T							3	---	---	150	---	208	1.9	-----	*21914.241*
UTIL-S	*MAIN DS*	F	3/0	COPPER	3CC	PVC	131	2	3	208	120	---	---	---	--	21914.2411	*11978.61907*
MAIN DS	*LP*	F	3/0	COPPER	3CC	PVC	10	2	3	208	120	---	---	---	--	11978.61907	*11577.91149*
LP	*LPP*	F	6	COPPER	3SC	PVC	5	1	3	208	120	---	---	---	--	11577.91149	*9661.373694*
----	---	--	---	-----	--	---	--	--	--	---	---	---	---	---	--	-----	-----

Branch Panel: LPP

Location: MECHANICS ROOM
Supply From: LP OR PORTABLE GEN.
Mounting: Surface
Enclosure: Type 1

Volts: 120/240 Single
Phases: 1
Wires: 3

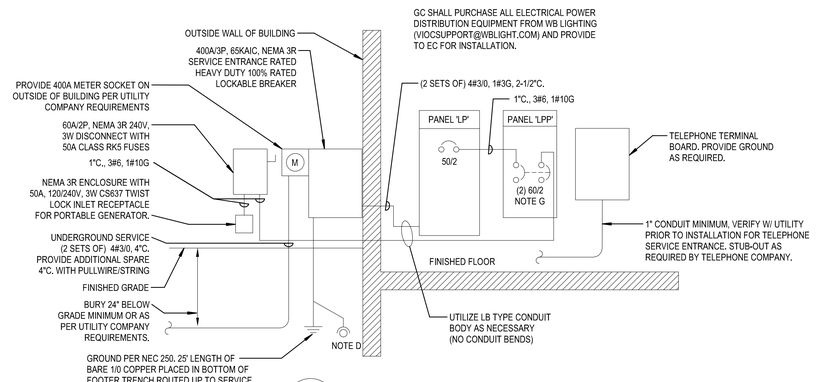
A.I.C. Rating: 65,000 SERIES RATED/10,000 FULLY RATED
Mains Type: (2) MCB INTERLOCKED
Mains Rating: 60 A
MCB Rating: 60A

NOTE	CKT	Circuit Description	Trip	Poles	B		C		Poles	Trip	Circuit Description	CKT	NOTE
	1	Foundation Drain Sump Pump (6,8)	20 A	1	1180	0			1	20 A	Spare	2	
	3	Foundation Drain Sump Pump (6,8)	20 A	1			1180	0	1	20 A	Spare	4	
	5	Spare	20 A	1	0	0			1	20 A	Spare	6	
	7	Spare	20 A	1			0	0	1	20 A	Spare	8	
	9	Spare	20 A	1	0	0			1	20 A	Spare	10	
	11	Spare	20 A	1			0	0	1	20 A	Spare	12	
				Total Load:	1180 VA								
				Total Amps:	11 A								

Legend:

S - SUBFEED BREAKER/SPACE

N.E.C.	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
210.20(A)	Lighting	0 VA	0.00%	0 VA		
	Lighting - Exterior	0 VA	0.00%	0 VA		
220.44	Receptacle	0 VA	0.00%	0 VA		
	Equipment	0 VA	0.00%	0 VA		
220.60	HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	2360 VA
220.5	Motor	2360 VA	112.50%	2655 VA	**Total Est. Demand:**	2655 VA
	Water Heater	0 VA	0.00%	0 VA	**Total Conn.:**	11 A
	Other	0 VA	0.00%	0 VA	**Total Est. Demand:**	13 A



2 E-4.1 ELECTRICAL SERVICE ENTRANCE RISER.
Scale: NOT TO SCALE

PANEL NOTES

1. PROVIDE ISOLATED GROUND OUTLET AND POWER FOR COMPUTER TERMINAL. PULL RECEPTACLE AND EQUIPMENT GROUND WIRES.
2. PROVIDE ISOLATED GROUND OUTLET AND POWER FOR PRINTER. PULL RECEPTACLE AND EQUIPMENT GROUND WIRES.
3. SEE SITE PLAN FOR LOCATION OF LOT SIGNS AND LOT LIGHTING.
4. ALL WIRING SHALL BE COPPER. MINIMUM SIZE SHALL BE #12.
5. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY A.I.C. RATING OF PANEL WITH UTILITY COMPANY REQUIREMENTS. PANEL SHALL MEET OR EXCEED THESE REQUIREMENTS SITE.
6. INSTALL LOCKING DEVICE (LOCK-OFF FOR MAINTENANCE). LOCKING DEVICE SHALL BE UL LISTED AND COMPATIBLE WITH PANELBOARD MANUFACTURER.
7. BREAKERS NOT IN USE TO BE SUPPLIED WITH 20 AMP SPARE CIRCUIT BREAKER AS SHOWN.
8. GFI BREAKER FOR PERSONAL PROTECTION (5mA).

RISER NOTES

A. E.C. SHALL VERIFY FAULT CURRENT AVAILABLE WITH UTILITY COMPANY AND CALCULATE EXACT A.I.C. RATINGS REQUIRED. PROVIDE FIELD MARKING ON SERVICE DISCONNECT PER N.E.C. 110.24 (A).
B. ALL CONDUCTORS SHALL BE COPPER.
C. ELECTRICAL EQUIPMENT SHALL BE FIELD OR FACTORY MARKED WITH ARC-FLASH HAZARD WARNING PER N.E.C. 110.16.
D. PROVIDE BONDING BAR NEAR THE GROUNDING ELECTRODE CONDUCTOR PER N.E.C. 250.94. THE BONDING BAR SHALL BE CONNECTED TO THE GROUNDING ELECTRODE CONDUCTOR WITH A 6-AWG COPPER CONDUCTOR.
E. INCOMING ELECTRICAL SERVICE NOT TO PENETRATE BUILDING FOUNDATION.
F. **ELECTRICAL RACEWAYS SHALL BE IN ACCORDANCE WITH SPECIFICATION 26053 SECTION 3.0 UNLESS NOTED OTHERWISE.**
G. THE TWO 60A BREAKERS ARE FACTORY INSTALLED AND INTERLOCKED PREVENTING TWO SOURCES OF POWER BEING TURNED ON AT THE SAME TIME.

ELECTRICAL SYMBOLS

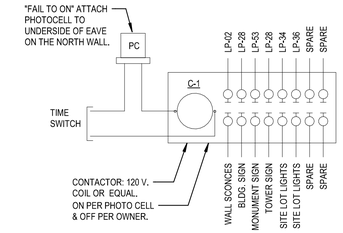
SYMBOL	DESCRIPTION
	RECESSED LED LIGHT FIXTURE-LETTER INDICATES TYPE
	SURFACE MOUNTED LED LIGHT FIXTURE
	EXIT SIGN WITH EMERGENCY HEADS
	EMERGENCY BATTERY PACK LIGHT FIXTURE
	WALL MOUNTED LIGHT FIXTURE
$	LIGHT SWITCH SINGLE POLE, ADDITION OF NUMBERS INDICATES: 3 - 3-WAY SWITCH
$ M	MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
	DUPLEX RECEPTACLE, 3-WIRE GROUNDING TYPE, ADDITION OF LETTERS INDICATE: WP - WEATHERPROOF RECEPTACLE GFI - GROUND FAULT INTERRUPTER RECEPTACLE
	QUADRUPLEX RECEPTACLE, 3-WIRE GROUNDING TYPE, ADDITION OF LETTERS INDICATE: WP - WEATHERPROOF RECEPTACLE GFI - GROUND FAULT INTERRUPTER RECEPTACLE IG - ISOLATED GROUND RECEPTACLE WITH ISOLATED GROUNDING CONDUCTOR
	DATA OUTLET - PROVIDE 3/4" O.C. TO ABOVE CEILING.
J	JUNCTION BOX
	DISCONNECT SWITCH
	MOTOR
#10 / XX-XX(SC)	WIRING CONCEALED IN WALL OR CEILING. NO. OF SLASHES EQUALS NO. OF CONDUCTORS. DASH IS GROUND, SHORT SLASH IS NEUTRAL, OTHERS ARE PHASE CONDUCTORS. NO SLASHES INDICATE 3 #12. WIRE SIZE IF OTHER THAN #12 / SHARED CIRCUIT / CIRCUIT NO. / PANEL BOARD
C	SECURITY CONTACTOR @ DOOR
	SPECIAL OUTLET OR CONNECTION.
FACP	FIRE ALARM CONTROL PANEL
S	CEILING MOUNTED SMOKE/CO DETECTOR
F	FIRE ALARM AUDIO/VISUAL SIGNALING DIVICE
F	FIRE ALARM VISUAL SIGNALING DIVICE
F	FIRE ALARM MANUAL PULLSTATION DEVICE

NOTES: LIGHTING CONTACTOR CONTROL DIAGRAMS

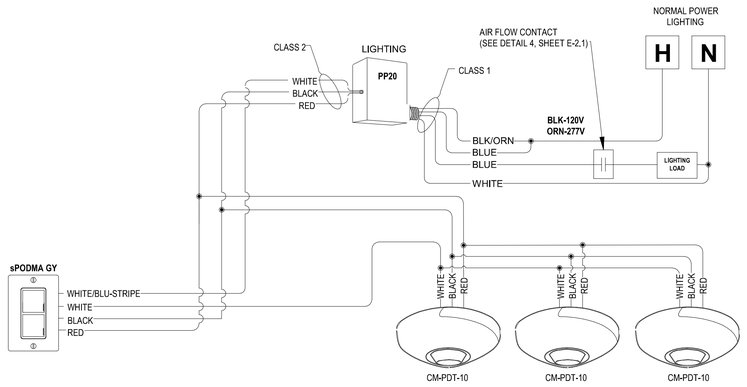
A. LOADS TO BE AUTOMATICALLY CONTROLLED, INCLUDE ALL EXTERIOR BUILDING SIGNS AND EXTERIOR LOT LIGHTS.

B. TIME SWITCH TO BE INTERMATIC ET2145C SERIES, ELECTRONIC, 120V, 7 DAY PROGRAMMABLE.

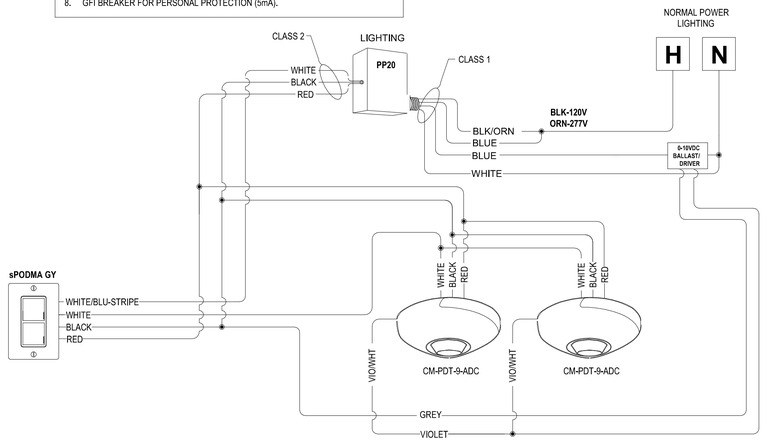
C. LIGHTING CONTACTORS TO BE ELECTRICALLY HELD TYPE, 120V COIL CONTROL, WITH NEMA 1 ENCLOSURE, SILVER ALLOY DOUBLE BREAK 250 VOLT RATED CONTACTS, HEAVY-DUTY AND U.L. LISTED.



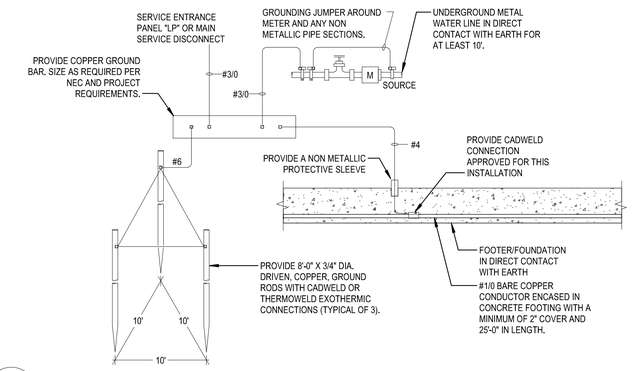
1 E-4.1 EXTERIOR LIGHTING CONTROL DIAGRAMS
Scale: NOT TO SCALE



4 E-4.1 LIGHTING CONTROL DIAGRAM-LOWER LEVEL
Scale: NOT TO SCALE



5 E-4.1 LIGHTING CONTROL DIAGRAM-UPPER LEVEL
Scale: NOT TO SCALE



3 E-4.1 SERVICE GROUNDING ELECTRODE SYSTEM WIRING DIAGRAM
Scale: NOT TO SCALE

HFA
HFA-AE, LTD.
t 479.273.7780
1705 S. Walton Blvd., Suite 3
Bentonville, Arkansas 72712
www.hfa-ae.com

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CHRISTOPHER A. RICHARDSON NUMBER PE-2025000028
PROFESSIONAL ENGINEER
Digitally signed by Christopher Allen Richardson
Date: 2026.12.22 09:11:10 -06'00'
CHRISTOPHER A. RICHARDSON, P.E.
PE-2025000028
HFA-AE, LTD
E-2005011725-F

PROFESSIONAL IN CHARGE: CAR
PROJECT MANAGER: IN
QUALITY CONTROL: IN
DRAWN BY: AJ

PROJECT NAME

VALVOLINE INSTANT OIL CHANGE

NW CHIPMAN RD & NW WARD RD
LEE'S SUMMIT, MO, 64086

PROJECT NUMBER: 06-24-20062

SHEET NAME: ELECTRICAL DETAILS

SHEET #: E-4.1

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E-4.1 ELECTRICAL DETAILS