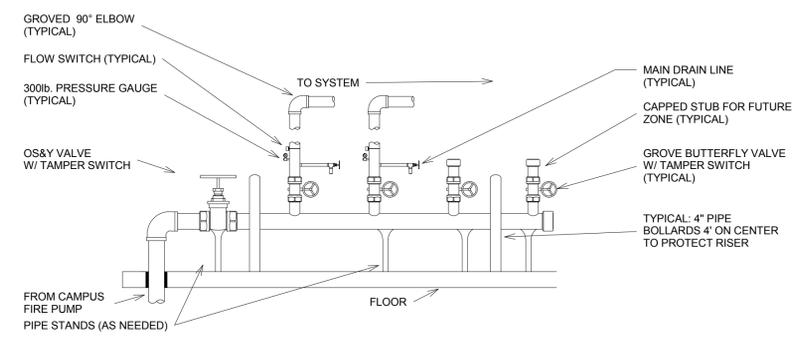
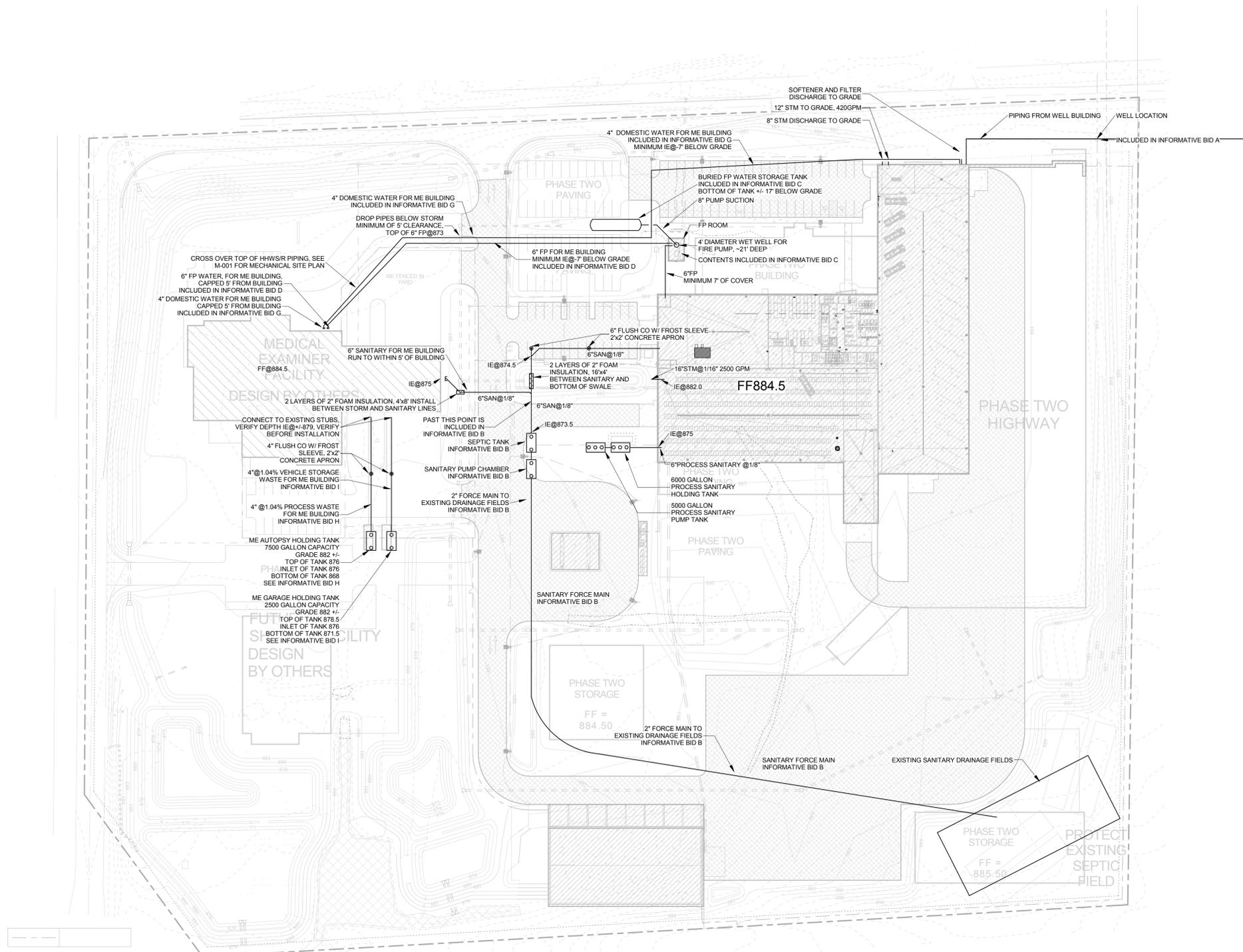


1 Fire Protection Office & Storage Plan  
FP201 SCALE: 1/8" = 1'-0"

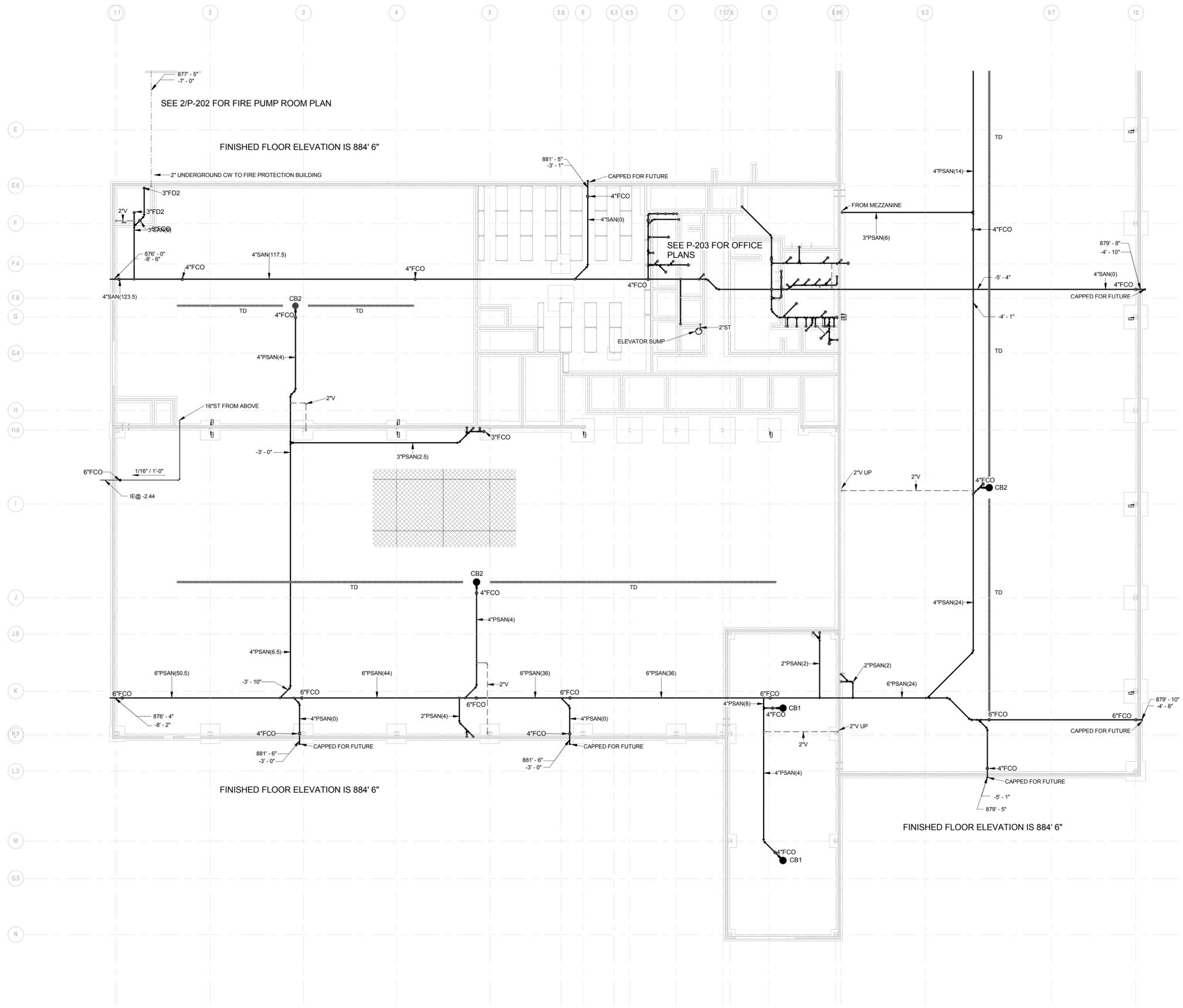


2 Control Riser Detail Assy.  
FP201 SCALE: NO SCALE

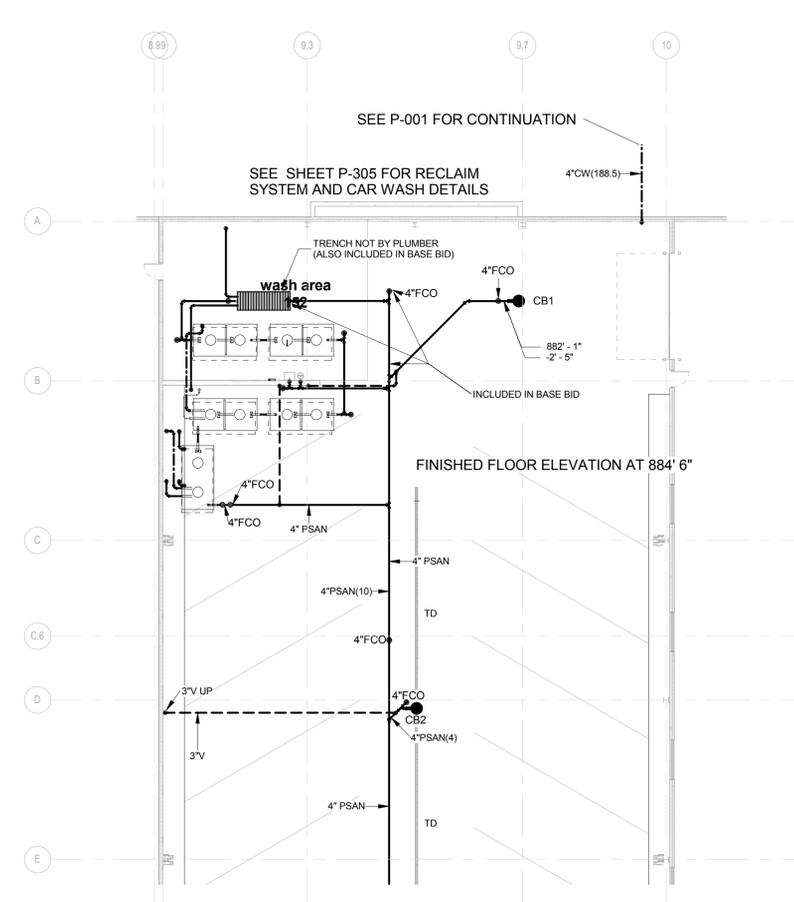


1 Plumbing Site Plan  
 P-001 SCALE: 1" = 60'-0"

Sheet List-Plumbing/FP	
Sheet Number	Sheet Name
FP200	Fire Protection Overall Plan
FP201	Fire Protection Office and Details
P-001	Plumbing Site Plan
P-200	Plumbing Overall Underground Plan
P-201	Plumbing Overall Above Ground Plan
P-202	Plumbing Mezzanine and Fire Pump Plan
P-203	Plumbing Office Plan
P-204	Plumbing Plan and Schedules
P-300	Plumbing Domestic Water Isometrics
P-301	Plumbing Domestic Water Isometrics, Schedules, and Details
P-302	Plumbing Waste and Vent Isometrics
P-303	Plumbing Locker Room Waste and Vent Isometrics
P-304	Plumbing Compressed Air Isometrics and Details
P-305	Car Wash Supplemental Drawing
P-306	Storm System Isometric



1 Overall Phase 1 Underground Plumbing Plan  
 P-200 SCALE: 1/16" = 1'-0"



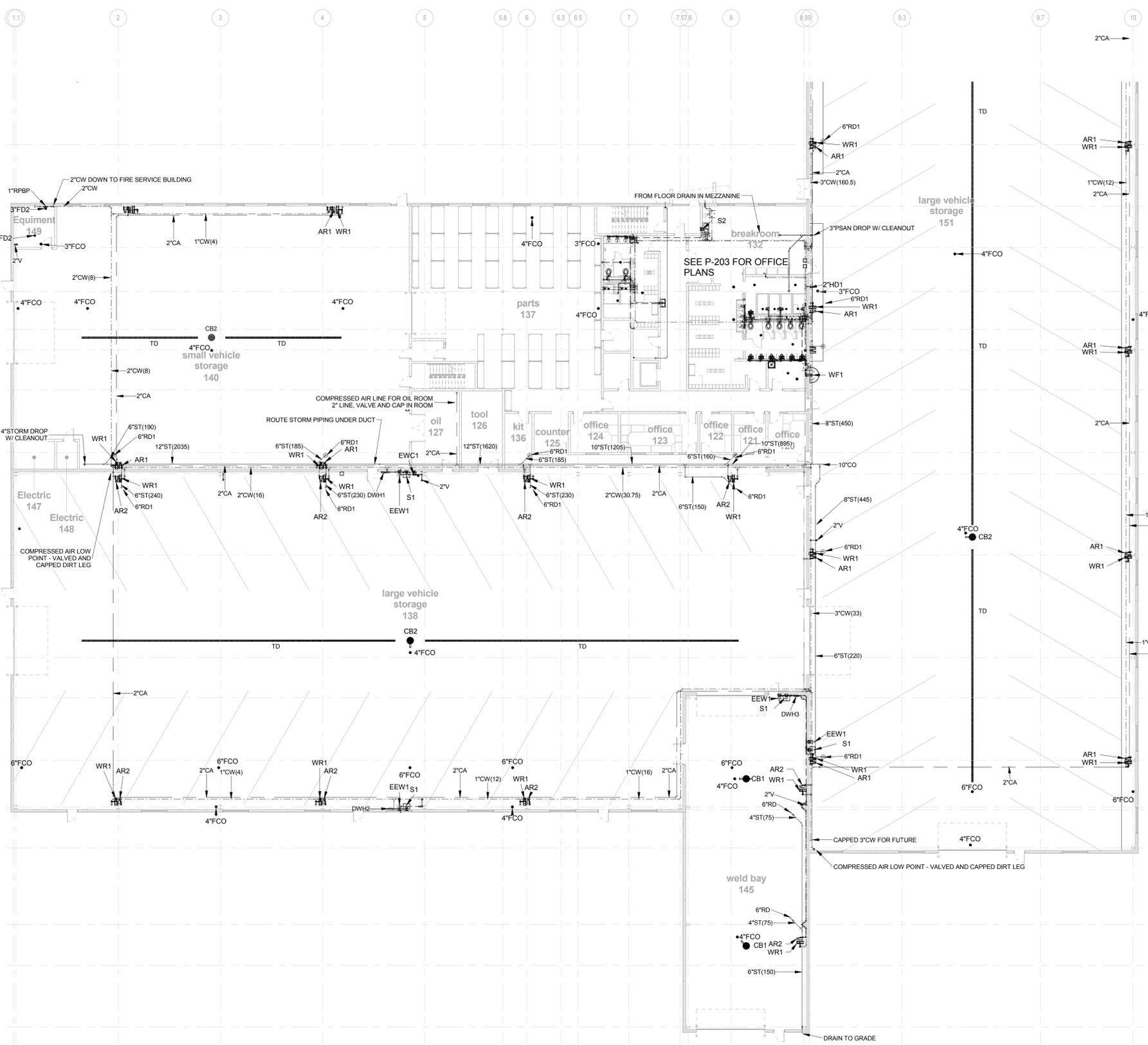
2 Phase 1 Underground Plumbing Continued  
 P-200 SCALE: 1/16" = 1'-0"

PLUMBING SYMBOLS AND ABBREVIATIONS

CW	COLD DOMESTIC WATER
HW	HOT DOMESTIC SUPPLY
HWC	HOT DOMESTIC RETURN
CHW	COLD HARD WATER
V	VENT
NG	NATURAL GAS
RD	RISER DOWN
RI	RISER UP
PT	P-TRAP
SV	SHUTOFF VALVE
CV	CHECK VALVE
BV	BALANCING VALVE
SAN	SANITARY PIPE
ST	STORM PIPE
RPZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
CWW	CLEARWATER WASTE
CWV	CLEARWATER VENT
FCO	FLOOR CLEAN OUT
WCO	WALL CLEAN OUT
CWF	FILTERED COLD WATER
M	WATER METER
VTR	VENT THROUGH ROOF
CE	CONNECTION TO EXISTING
NPCW	NON-POTABLE COLD WATER
NPHW	NON-POTABLE HOT WATER

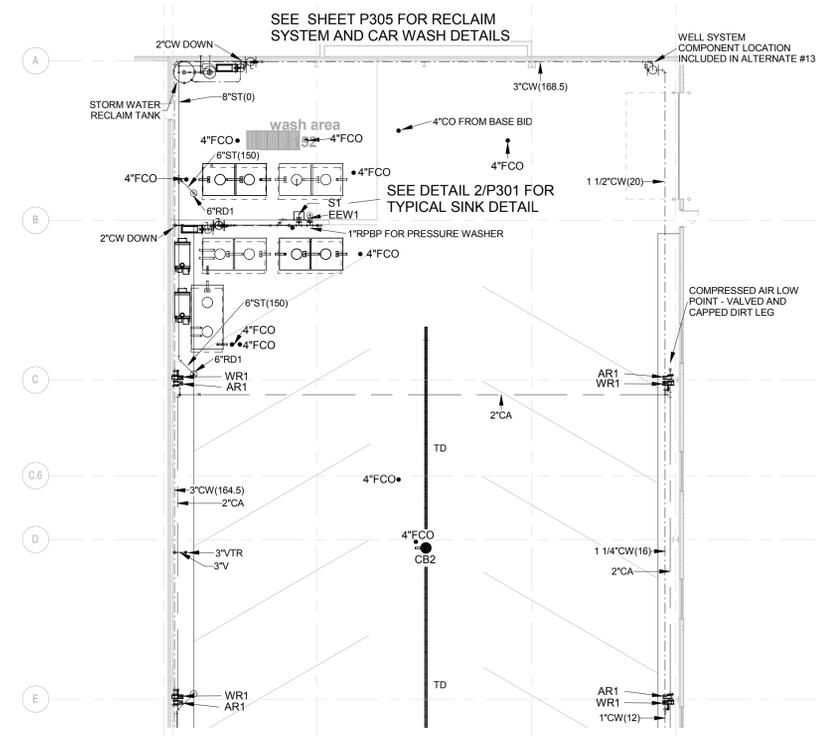
PIPE TAG NOMENCLATURE:

- 3" XSAN (21)**
- 1 - PIPE SIZE  
 2 - MODIFIER (E.G. X-EXISTING, F-FILTERED, S-SOFT)  
 3 - SYSTEM TYPE (E.G. SAN - SANITARY, CW - COLD WATER, ETC.)  
 4 - QUANTITY OF FLOW, SAN - DPU (DRAINAGE FIXTURE UNITS), CW - WSPU (WATER SERVICE FIXTURE UNITS), STORM - GPM (GALLONS PER MINUTE), GAS - CFH (CUBIC FEET PER HOUR)

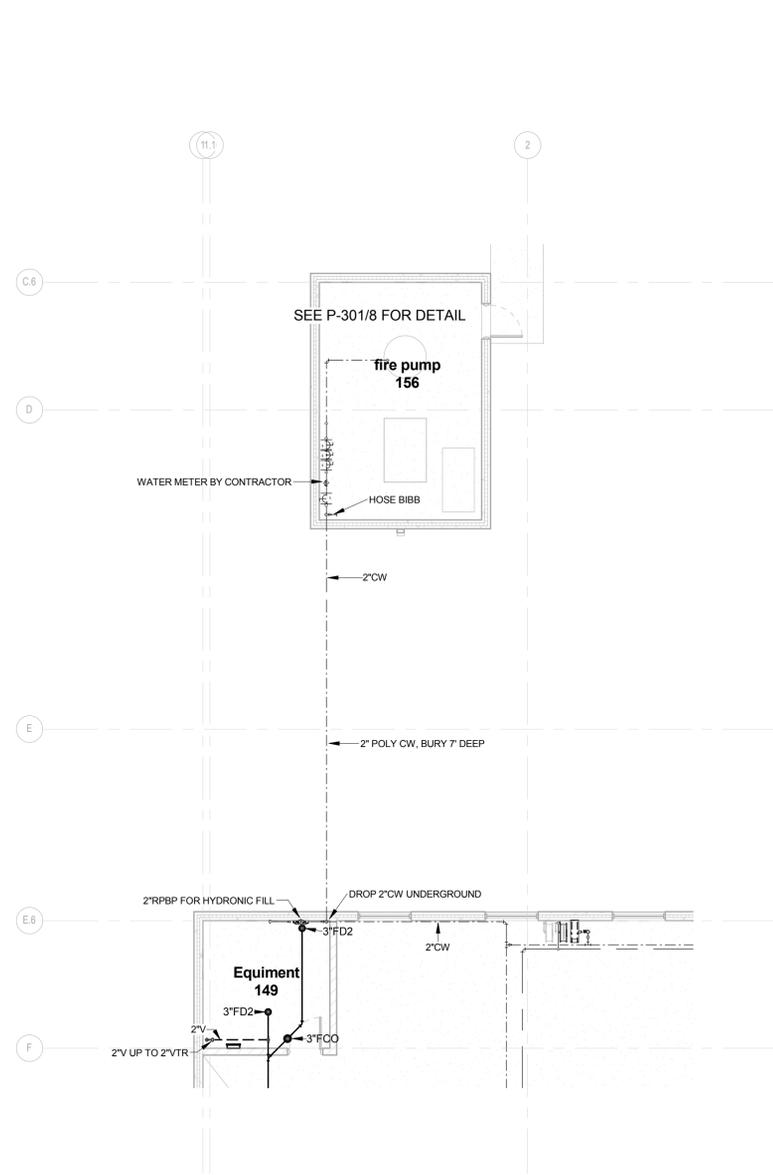


1 Overall Phase 1 Above Ground Plumbing Plan  
 P-201 SCALE: 1/16" = 1'-0"

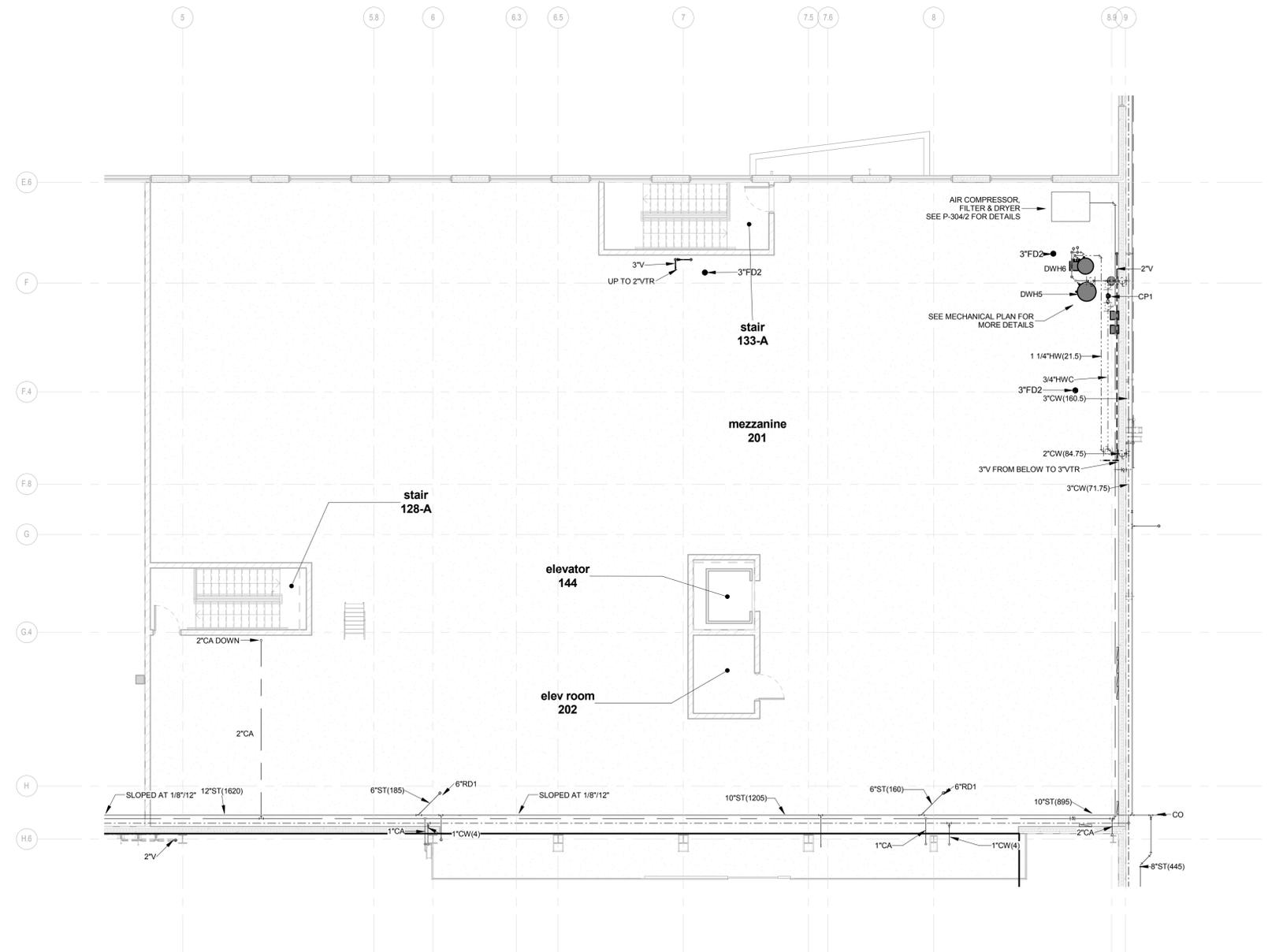
ALL EXPOSED PIPE IN TRUCK WASH AREA TO HAVE PVC JACKET PIPE INSULATION  
 SEE SPECIFICATIONS FOR DETAILS



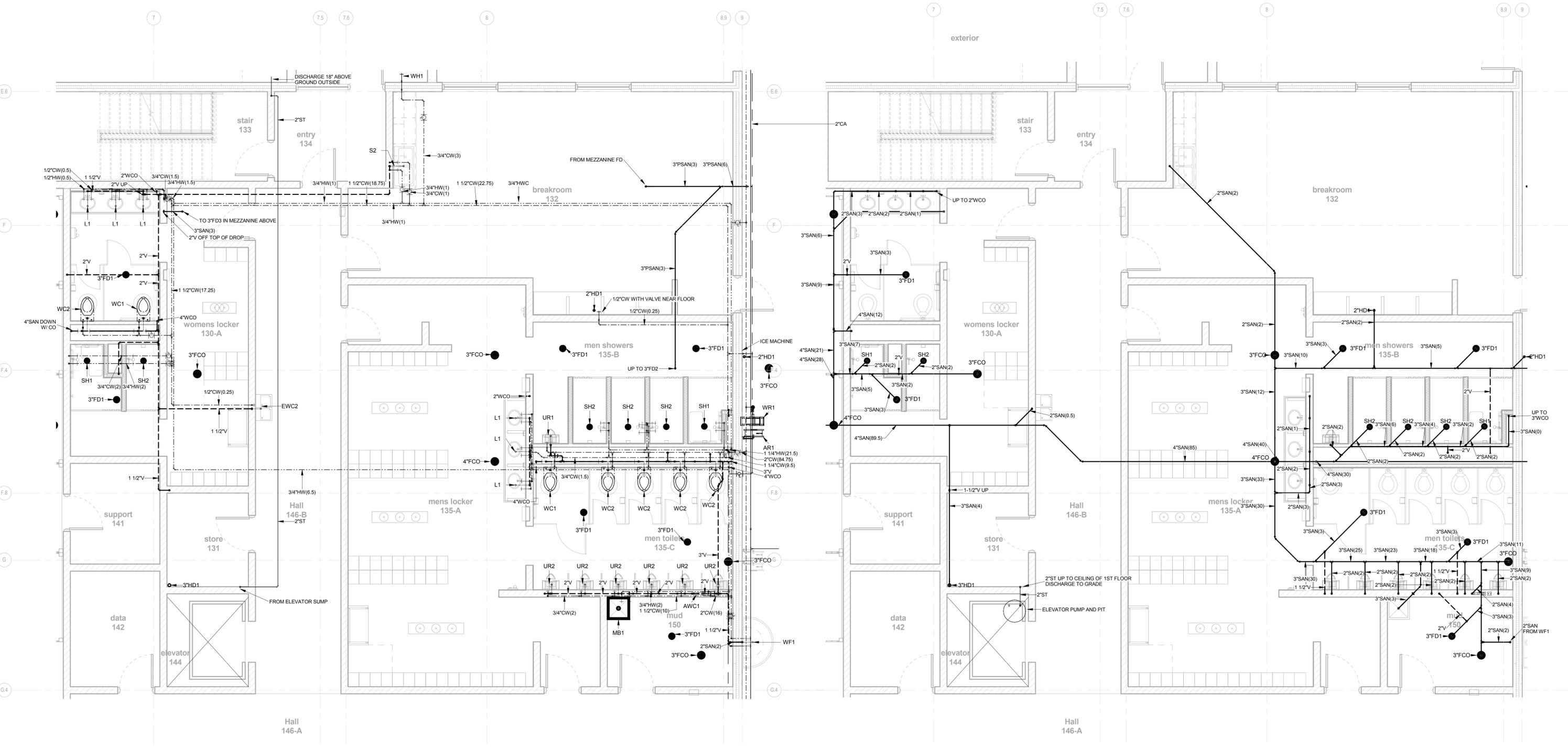
2 Phase 1 Above Ground Plumbing Continued  
 P-201 SCALE: 1/16" = 1'-0"



2 Fire Pump Room Plan  
P-202 SCALE: 1/8" = 1'-0"

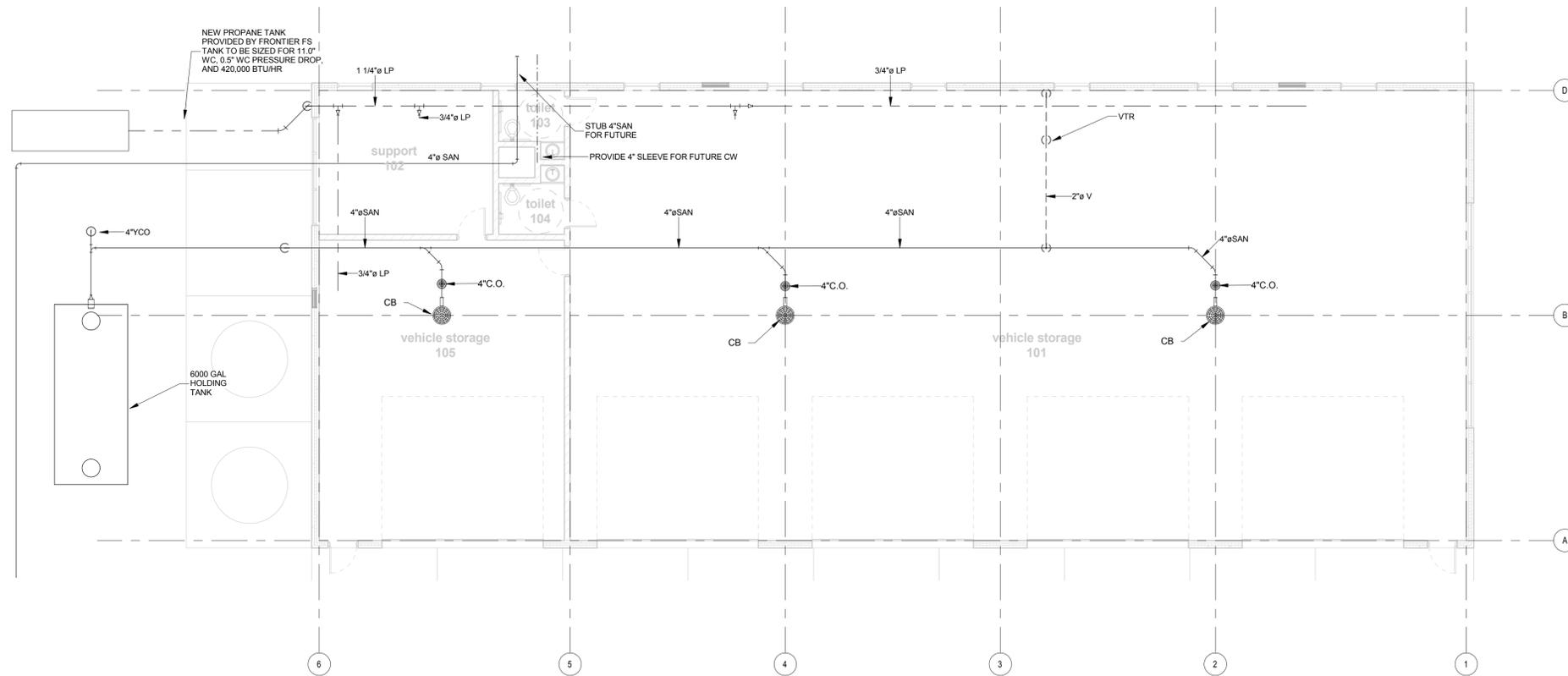


1 Plumbing Mezzanine Plan  
P-202 SCALE: 1/8" = 1'-0"

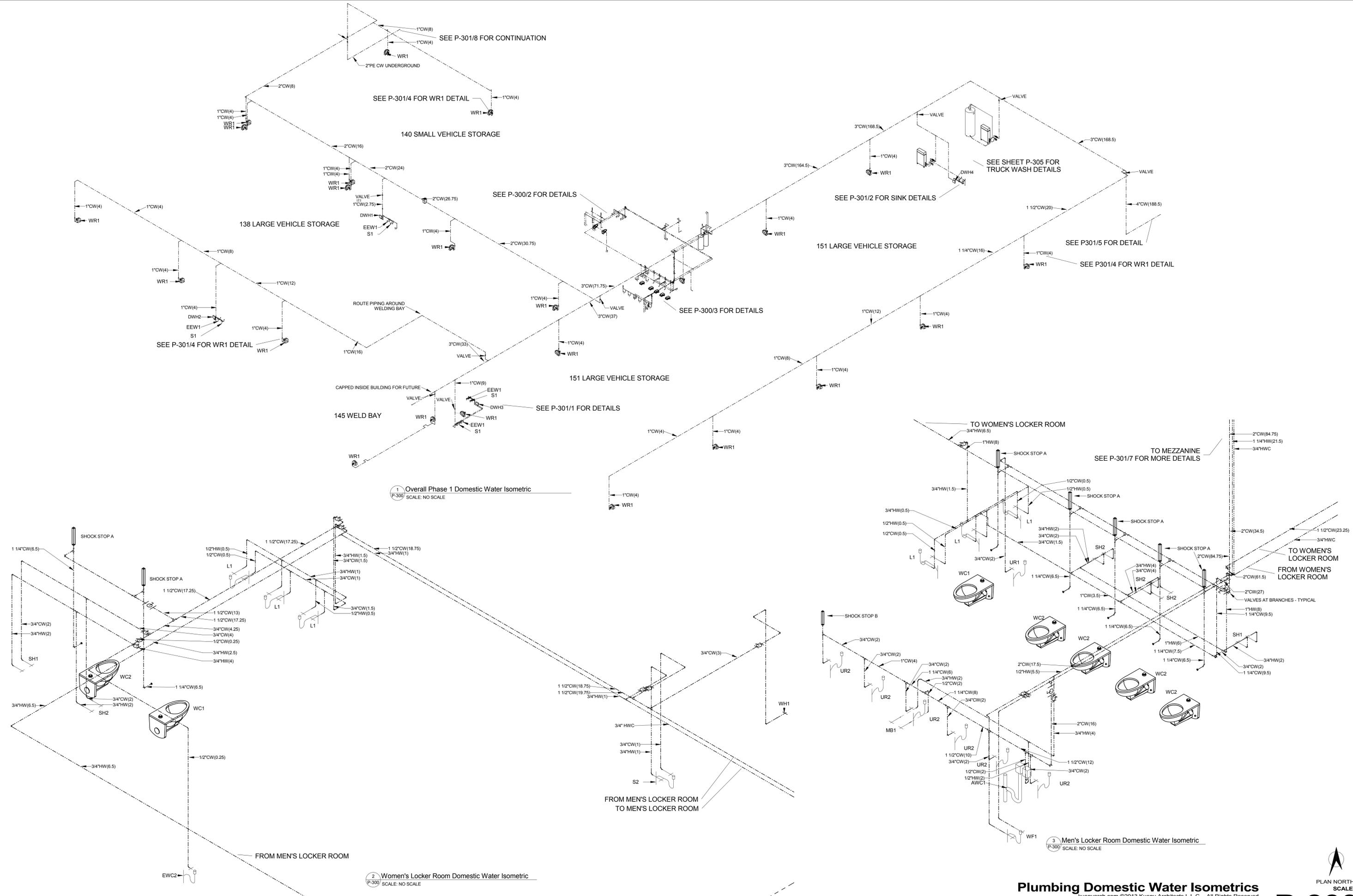


2 Phase 1 Office Above Ground Plumbing Plan  
 P-203 SCALE: 1/4" = 1'-0"

1 Phase 1 Office Underground Plumbing Plan  
 P-203 SCALE: 1/4" = 1'-0"

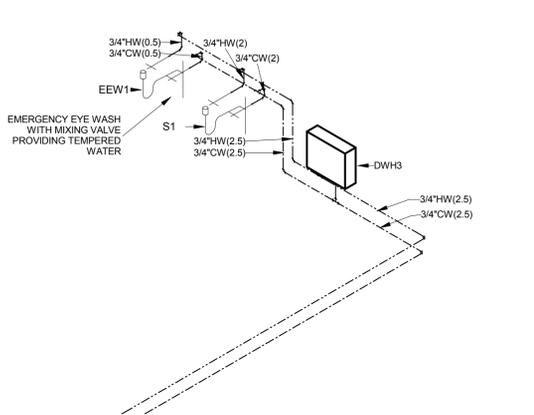


1 Satellite Building Plumbing Plan - Alt #1  
 P-204 SCALE: 1/8" = 1'-0"

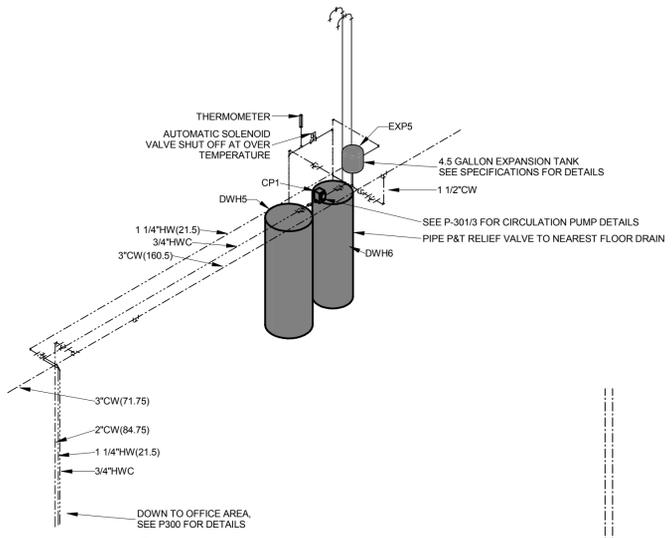


**Plumbing Domestic Water Isometrics**  
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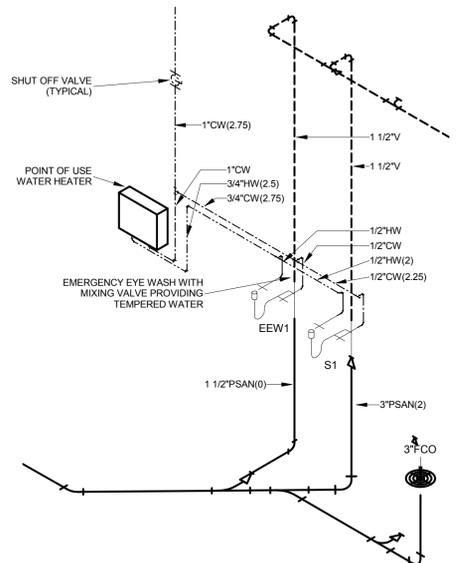




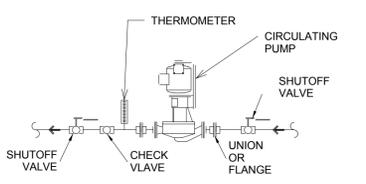
1 Welding Bay Domestic Water Isometric  
P-301 SCALE: NO SCALE



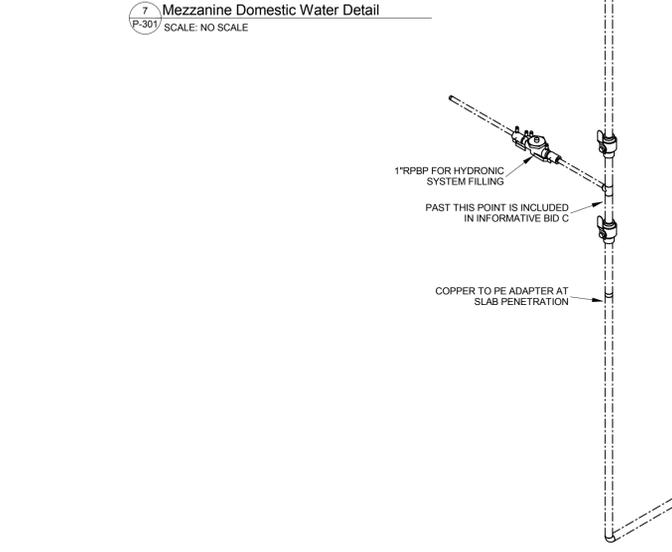
7 Mezzanine Domestic Water Detail  
P-301 SCALE: NO SCALE



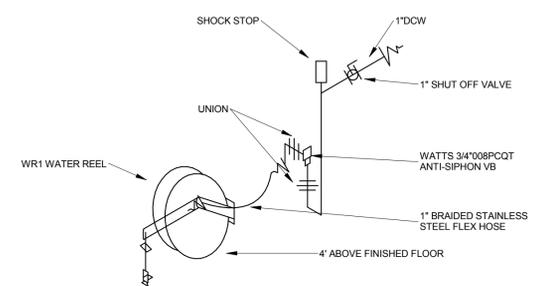
2 Typical Sink/Eyewash Isometric  
P-301 SCALE: NO SCALE



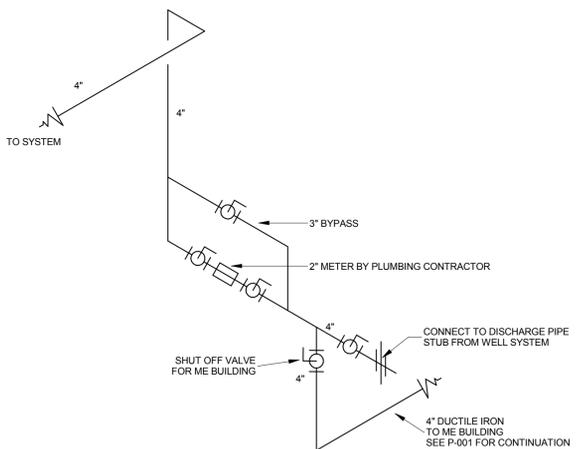
3 Circulating Pump Detail  
P-301 SCALE: NO SCALE



8 Fire Pump Room Detail  
P-301 SCALE: NO SCALE



4 Typical Water Reel Detail - WR1  
P-301 SCALE: NO SCALE



5 Well Connection Detail - INFORMATIVE BID G  
P-301 SCALE: NO SCALE

PLUMBING EXPANSION TANK SCHEDULE									
TAG	SERVES	PRESSURE PSIG		CONNECT. DIA.	TANK VOL.	MODEL	MFG	Weight	NOTES
		OPERATING	MAXIMUM						
EXP5	DOMESTIC HOT WATER	60	100	0" - 0 3/4"	2.1 gal	ST-12-C	Amtrol	21.00 lb	

INSTANTANEOUS WATER HEATER SCHEDULE									
MARK	WATTS	ELECTRICAL			FLOW	MFG	MODEL	NOTES	
		V	PH	HZ					
DWH1	24000 W	480 V	3	60 Hz	6 GPM	Eemax Inc.	ED024480T2T		
DWH2	24000 W	480 V	3	60 Hz	8 GPM	Eemax Inc.	ED024480T2T		
DWH3	24000 W	480 V	3	60 Hz	9 GPM	Eemax Inc.	ED024480T2T		
DWH4	24000 W	480 V	3	60 Hz	0 GPM	Eemax Inc.	ED024480T2T		

PLUMBING CIRCULATION PUMP SCHEDULE													
TAG	SERVES	FLOW	HEAD	RPM	ELECTRICAL					PUMP MATERIAL	MFG	MODEL	NOTES
					V	PH	HTZ	HP	AMPS				
CP1	Locker Rooms	5 GPM	15 ftH <sub>2</sub> O	3250	120 V	1	60 Hz	0.13 hp	1 A	STAINLESS STEEL	B&G	NBF-25	1,2

NOTES:  
1. PROVIDE 3 SPEED PUMP  
2. BRONZE PUMP BODY

GAS FIRED WATER HEATER SCHEDULE												
TAG	STORAGE VOLUME	BTU/HR INPUT	RECOVERY GPH	COMB AIR SIZE	VENT SIZE	EWT °F	LWT °F	TEMP RISE °F	Weight	MODEL	MFG	NOTES

### WATER CALCULATION WORKSHEET

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE FOR DANE COUNTY HIGHWAY BLDG

- TOTAL DEMAND OF BUILDING: WSFUS: 200 GPM: 142
- DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE: 0
- SIZE OF THE WATER METER (WHEN APPLICABLE): 2"
- DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE: 0
- LOW PRESSURE AT MAIN IN STREET OR WELL PRESSURE TANK: 50

#### CALCULATED WATER SERVICE PRESSURE LOSS

- LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK: 50
- WATER SERVICE: DIAMETER: 4" MATERIAL IS: DUCTILE IRON PRESSURE LOSS/100FT: 0.04 LENGTH OF SERVICE: 125 PRESSURE LOSS: 0.05  
SUBTOTAL: 49.95
- WATER METER TO BUILDING SHUT OFF: DIAMETER: 4" MATERIAL IS: DUCTILE IRON PRESSURE LOSS/100FT: 0.05 LENGTH OF SERVICE: 10 PRESSURE LOSS: 0.005  
SUBTOTAL: 49.945
- DETERMINE PRESSURE GAIN/LOSS DUE TO ELEVATION: 0
- AVAILABLE PRESSURE BEFORE BUILDING CONTROL/PRESSURE REDUCING VALVE: 49.945

#### CALCULATED PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

- |  | HOT WATER | COLD WATER |
|--|-----------|------------|
| AVAILABLE PRESSURE AFTER THE BUILDING PRESSURE REDUCING VALVE IF APPLICABLE  | 49.945    | 49.945     |
| PRESSURE LOSS OF WATER METER IF APPLICABLE   | 3.5       | 3.5        |
| SUBTOTAL   | 46.445    | 46.445     |
| PRESSURE AT CONTROLLING FIXTURE: SHOWER  | 15        | 15         |
| SUBTOTAL   | 31.445    | 31.445     |
| ELEVATION DIFFERENCE AT CONTROLLING FIXTURE: PRESSURE LOSS DUE TO ELEVATION DIFFERENCE:  | 0         | 0          |
| SUBTOTAL   | 31.445    | 31.445     |
| PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS, AND BACKFLOW PREVENTERS THAT SERVE THE CONTROLLING FIXTURE: | 10        | 10         |
| WATER SOFTENER AND FILTERS (10)  |           |            |
| SUBTOTAL   | 21.445    | 21.445     |
| DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET:   | 350       | 350        |
| WATER DISTRIBUTION PIPING MATERIAL IS:   | COPPER L  | COPPER L   |
| "A VALUE" - PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100FT):   | 4.084762  | 4.084762   |

#### WATER PIPE SIZING CHART

MATERIAL:	COPPER TYPE L	A = 4	PSI/100FT				
TYPE:	FLUSH VALVE	SYSTEM: COLD WATER					
TAG	PIPE SIZE	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
WSFU	-	4.5	8	26	136	356	698
GPM	-	14	24	38	77	119	169

#### WATER PIPE SIZING CHART

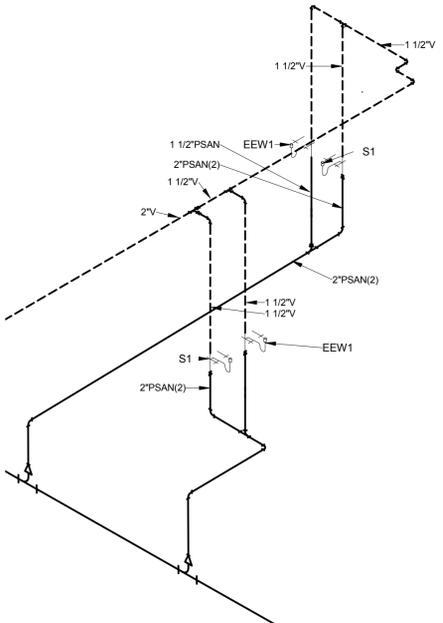
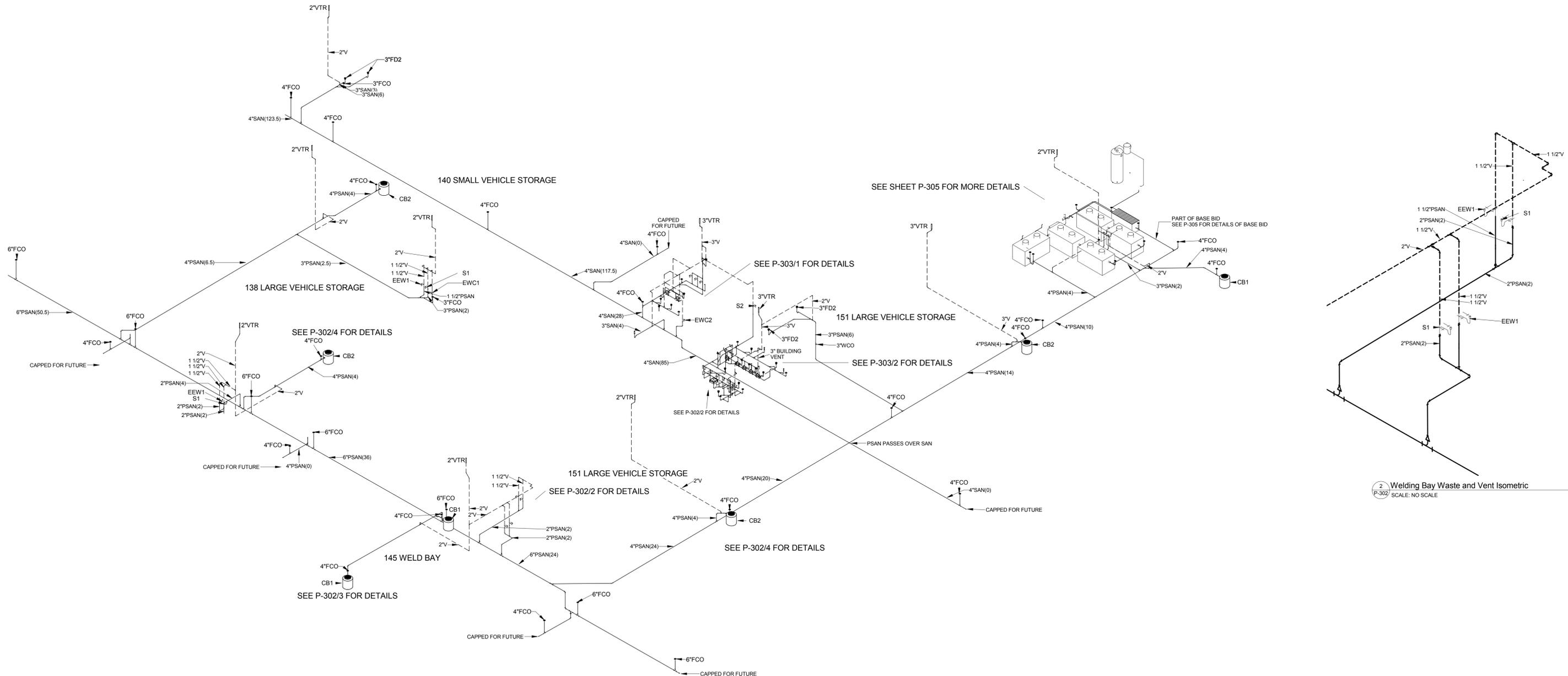
MATERIAL:	COPPER TYPE L	A = 4	PSI/100FT				
TYPE:	FLUSH TANK	SYSTEM: HOT WATER & COLD WATER					
TAG	PIPE SIZE	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
WSFU	2	7	16.5	33	66	225	469
GPM	2	6	12	21.5	34	108	119

## Plumbing Domestic Water Isometrics, Schedules, and Details

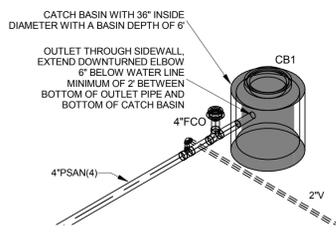
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PLAN NORTH  
SCALE: 12" = 1'-0"  
**P-301**

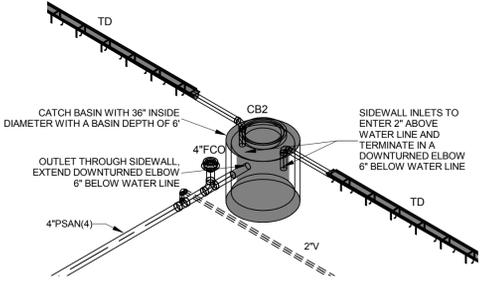
01/12/15



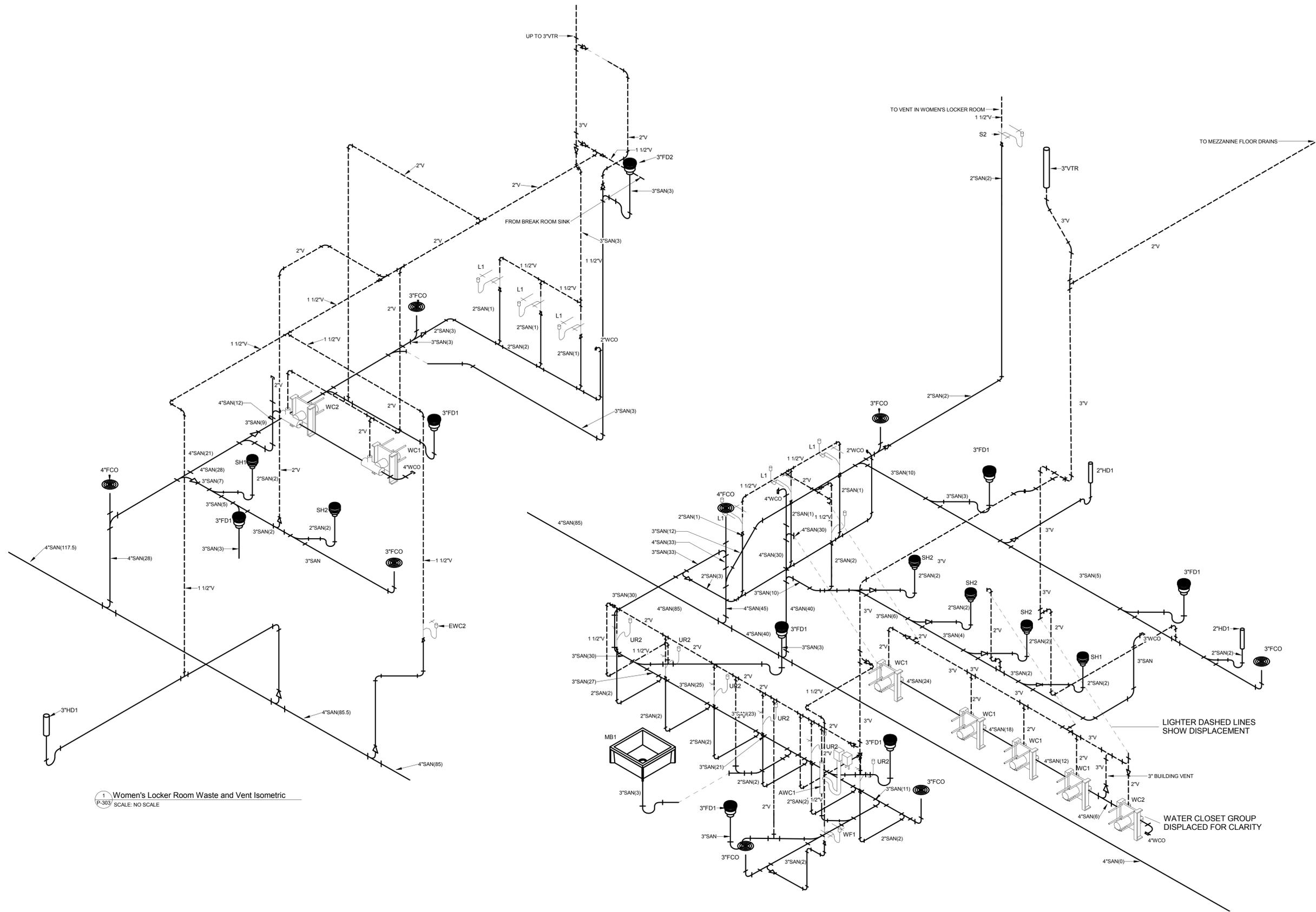
1 Overall Phase 1 Waste and Vent Isometric  
P-302 SCALE: NO SCALE



3 Garage Catch Basin 1 Detail (CB1)  
P-302 SCALE: NO SCALE



4 Garage Catch Basin 2 Detail (CB2)  
P-302 SCALE: NO SCALE



1 Women's Locker Room Waste and Vent Isometric  
 P-303 SCALE: NO SCALE

2 Men's Locker Room Sanitary Isometric  
 P-303 SCALE: NO SCALE

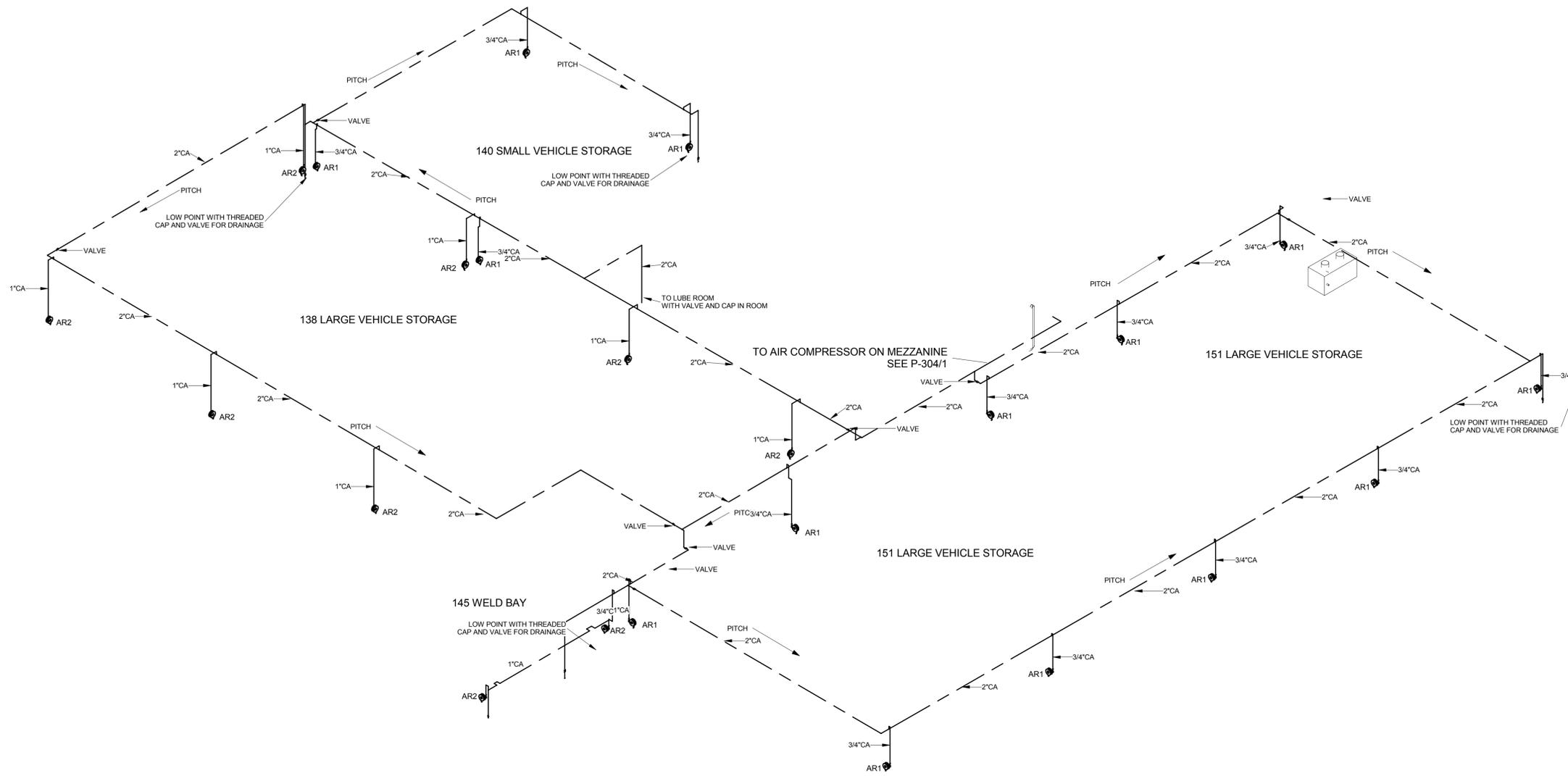
LIGHTER DASHED LINES SHOW DISPLACEMENT

WATER CLOSET GROUP DISPLACED FOR CLARITY

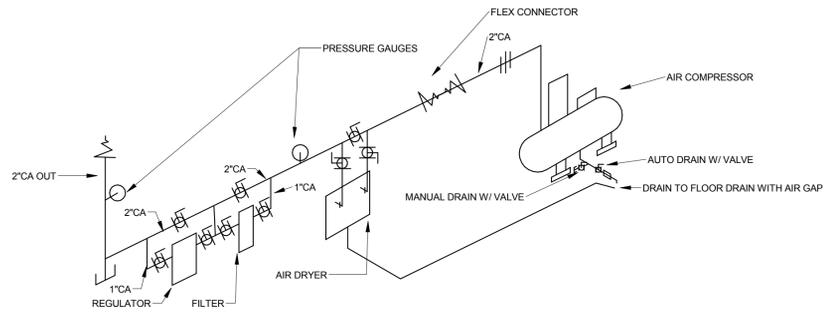
**Plumbing Locker Room Waste and Vent Isometrics**

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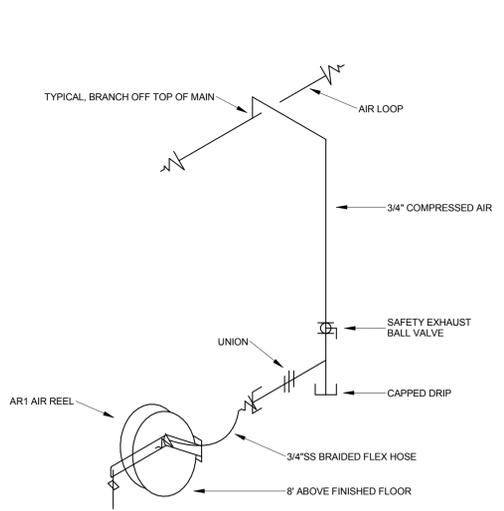
01/12/15



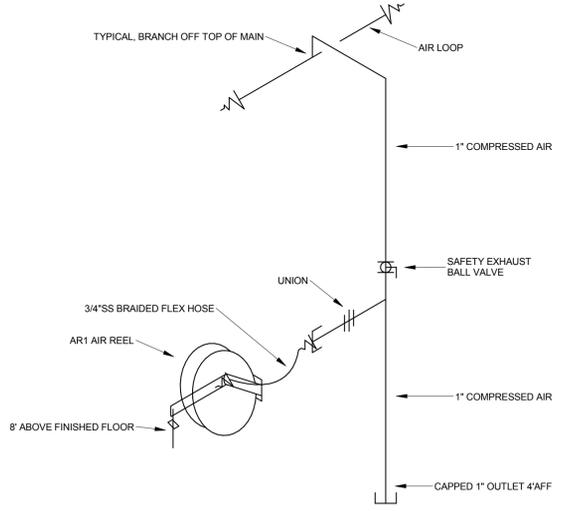
1 Compressed Air Overall Isometric  
P-304 SCALE: NO SCALE



2 Air Compressor Detail  
P-304 SCALE: NO SCALE



3 Typical Air Reel Detail - AR1  
P-304 SCALE: NO SCALE

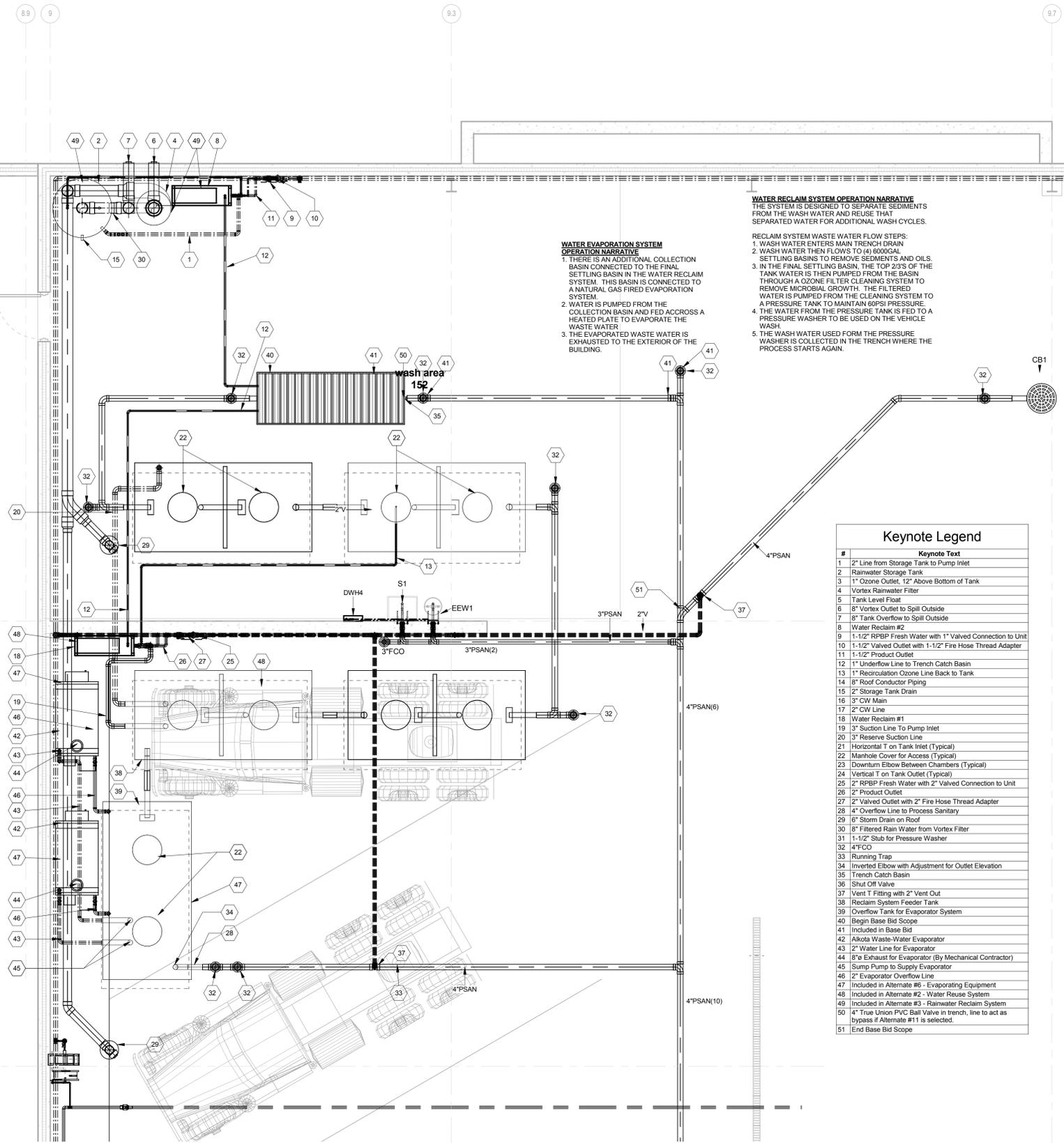


4 Typical Air Reel Detail - AR2  
P-304 SCALE: NO SCALE

**Plumbing Compressed Air Isometrics and Details**

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01/12/15



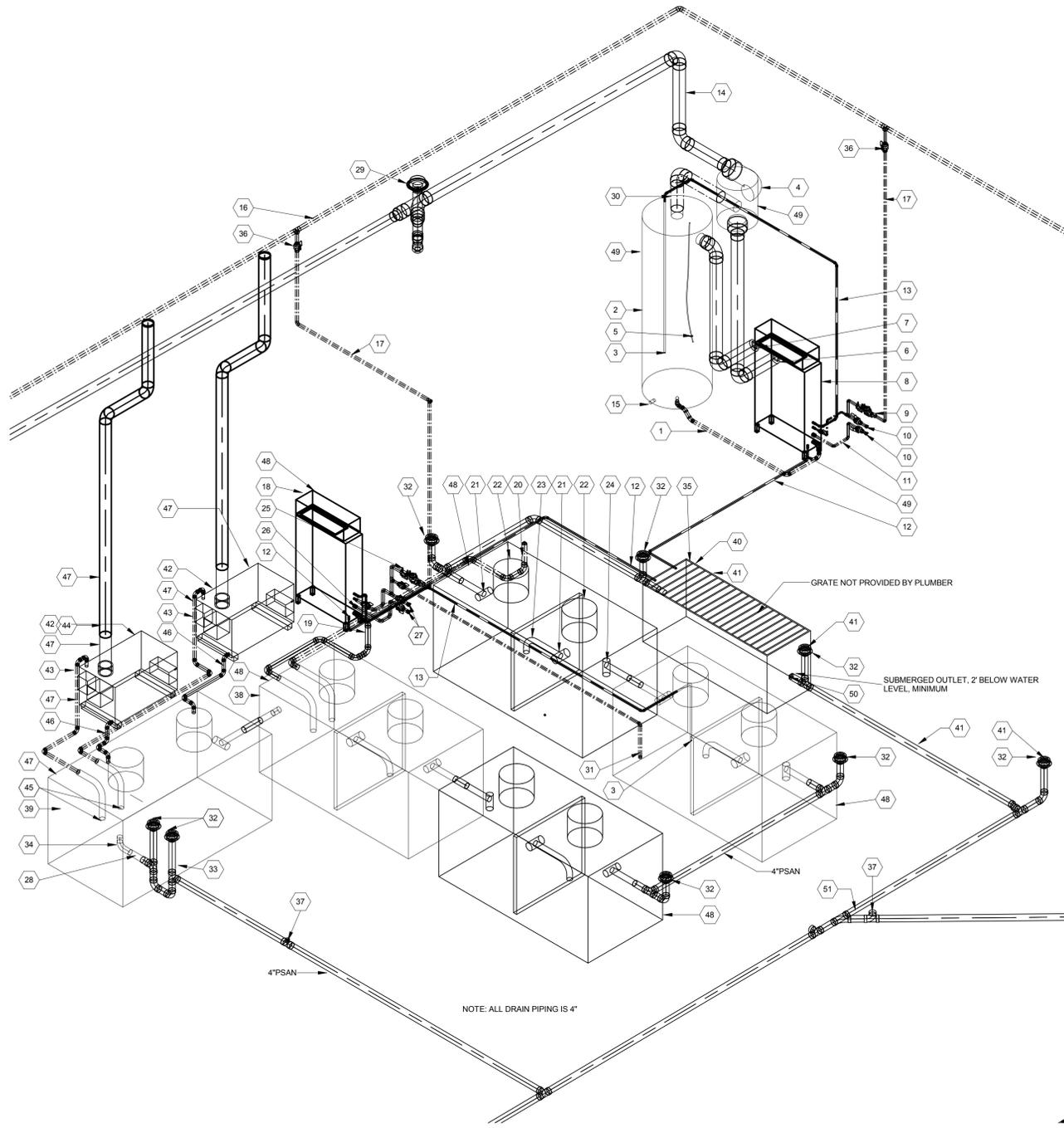
**WATER EVAPORATION SYSTEM OPERATION NARRATIVE**  
 1. THERE IS AN ADDITIONAL COLLECTION BASIN CONNECTED TO THE FINAL SETTLING BASIN IN THE WATER RECLAIM SYSTEM. THIS BASIN IS CONNECTED TO A NATURAL GAS FIRED EVAPORATION SYSTEM.  
 2. WATER IS PUMPED FROM THE COLLECTION BASIN AND FED ACROSS A HEATED PLATE TO EVAPORATE THE WASTE WATER.  
 3. THE EVAPORATED WASTE WATER IS EXHAUSTED TO THE EXTERIOR OF THE BUILDING.

**WATER RECLAIM SYSTEM OPERATION NARRATIVE**  
 THE SYSTEM IS DESIGNED TO SEPARATE SEDIMENTS FROM THE WASH WATER AND REUSE THAT SEPARATED WATER FOR ADDITIONAL WASH CYCLES.

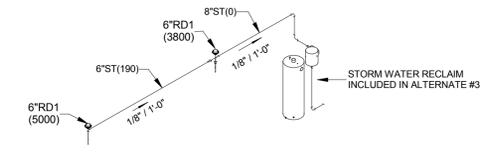
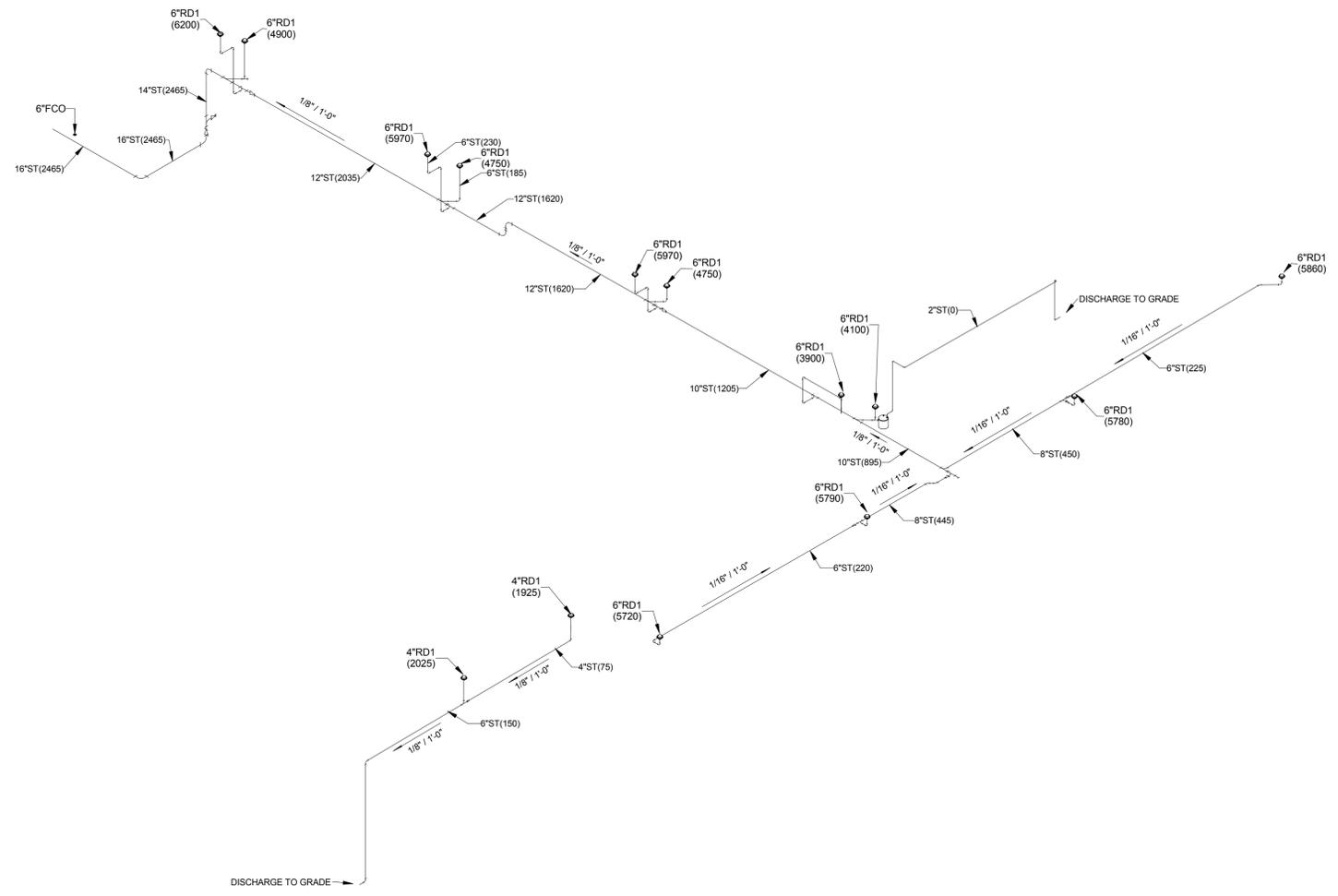
**RECLAIM SYSTEM WASTE WATER FLOW STEPS:**  
 1. WASH WATER ENTERS MAIN TRENCH DRAIN  
 2. WASH WATER THEN FLOWS TO (4) 500GAL. SETTLING BASINS TO REMOVE SEDIMENTS AND OILS.  
 3. IN THE FINAL SETTLING BASIN, THE TOP 2/3'S OF THE TANK WATER IS THEN PUMPED FROM THE BASIN THROUGH A OZONE FILTER CLEANING SYSTEM TO REMOVE MICROBIAL GROWTH. THE FILTERED WATER IS PUMPED FROM THE CLEANING SYSTEM TO A PRESSURE TANK TO MAINTAIN 60PSI PRESSURE.  
 4. THE WATER FROM THE PRESSURE TANK IS FED TO A PRESSURE WASHER TO BE USED ON THE VEHICLE WASH.  
 5. THE WASH WATER USED FROM THE PRESSURE WASHER IS COLLECTED IN THE TRENCH WHERE THE PROCESS STARTS AGAIN.

#	Keynote Text
1	2" Line from Storage Tank to Pump Inlet
2	Rainwater Storage Tank
3	1" Ozone Outlet, 12" Above Bottom of Tank
4	Vortex Rainwater Filter
5	Tank Level Float
6	8" Vortex Outlet to Spill Outside
7	8" Tank Overflow to Spill Outside
8	Water Reclaim #2
9	1-1/2" RFBP Fresh Water with 1" Valved Connection to Unit
10	1-1/2" Valved Outlet with 1-1/2" Fire Hose Thread Adapter
11	1-1/2" Product Outlet
12	1" Underflow Line to Trench Catch Basin
13	1" Resequation Ozone Line Back to Tank
14	8" Roof Conductor Piping
15	2" Storage Tank Drain
16	3" CW Main
17	2" CW Line
18	Water Reclaim #1
19	3" Suction Line To Pump Inlet
20	3" Reserve Suction Line
21	Horizontal T on Tank Inlet (Typical)
22	Manhole Cover for Access (Typical)
23	Downturn Elbow Between Chambers (Typical)
24	Vertical T on Tank Outlet (Typical)
25	2" RFBP Fresh Water with 2" Valved Connection to Unit
26	2" Product Outlet
27	2" Valved Outlet with 2" Fire Hose Thread Adapter
28	4" Overflow Line to Process Sanitary
29	8" Storm Drain on Roof
30	8" Filtered Rain Water from Vortex Filter
31	1-1/2" Stub for Pressure Washer
32	4"FCO
33	Running Trap
34	Inverted Elbow with Adjustment for Outlet Elevation
35	Trench Catch Basin
36	Shut Off Valve
37	Vent T Fitting with 2" Vent Out
38	Reclaim System Feeder Tank
39	Overflow Tank for Evaporator System
40	Begin Base Bid Scope
41	Included in Base Bid
42	Alkota Waste-Water Evaporator
43	2" Water Line for Evaporator
44	8"e Exhaust for Evaporator (By Mechanical Contractor)
45	Sump Pump to Supply Evaporator
46	2" Evaporator Overflow Line
47	Included in Alternate #6 - Evaporating Equipment
48	Included in Alternate #2 - Water Reuse System
49	Included in Alternate #3 - Rainwater Reclaim System
50	4" True Union PVC Ball Valve in trench, line to act as bypass if Alternate #11 is selected.
51	End Base Bid Scope

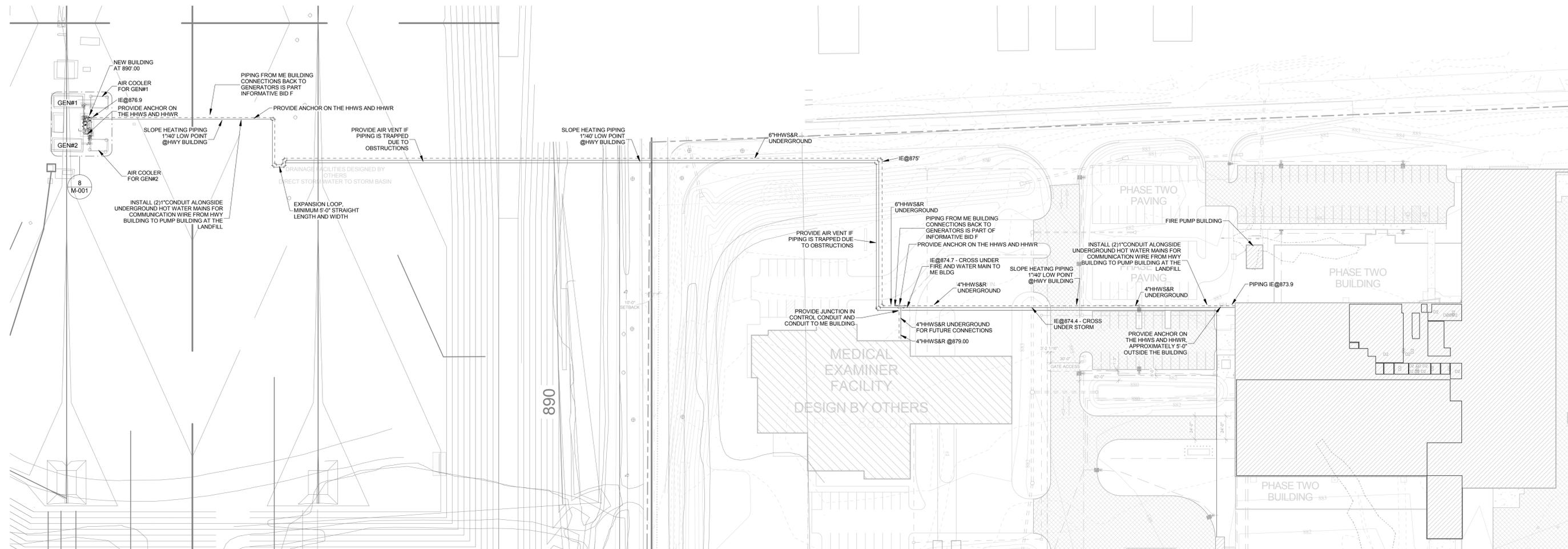
1 Car Wash Reclaim System Plan  
 P-305 SCALE: NO SCALE



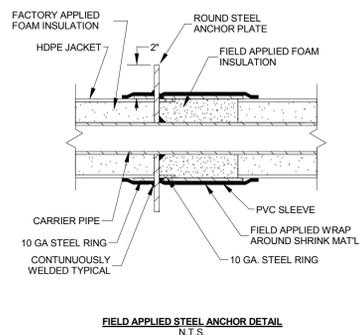
2 Car Wash Reclaim Water and Waste System Detail  
 P-305 SCALE: NO SCALE



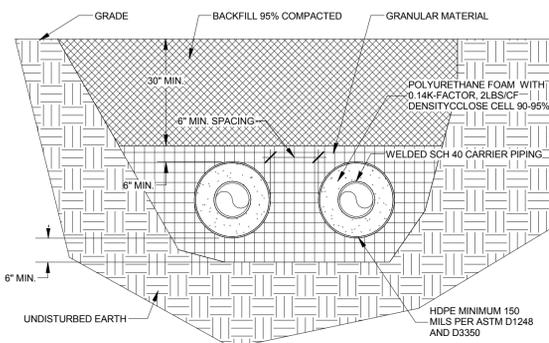
1 Storm Piping Isometric  
 P-306 SCALE: NO SCALE



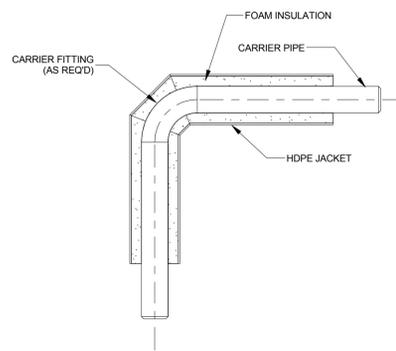
1 Mechanical Site Plan  
M-001 SCALE: 1" = 50'-0"



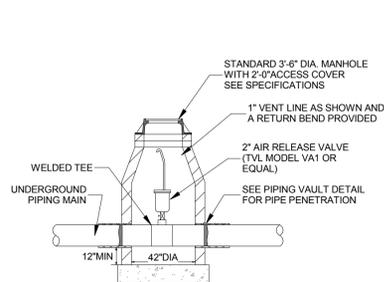
2 UNDERGROUND PIPING ANCHOR FLANGE  
M-001 SCALE: NO SCALE



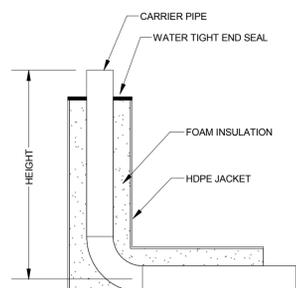
3 UNDERGROUND PIPING AND TRENCH SECTION  
M-001 SCALE: NO SCALE



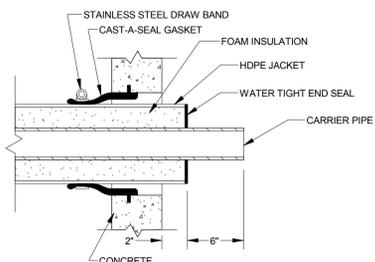
4 UNDERGROUND PIPING ELBOW  
M-001 SCALE: NO SCALE



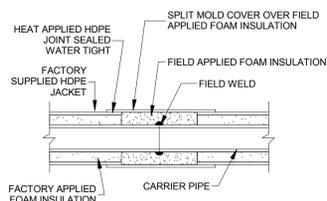
9 UNDERGROUND AIR VENT DETAIL  
M-001 SCALE: NO SCALE



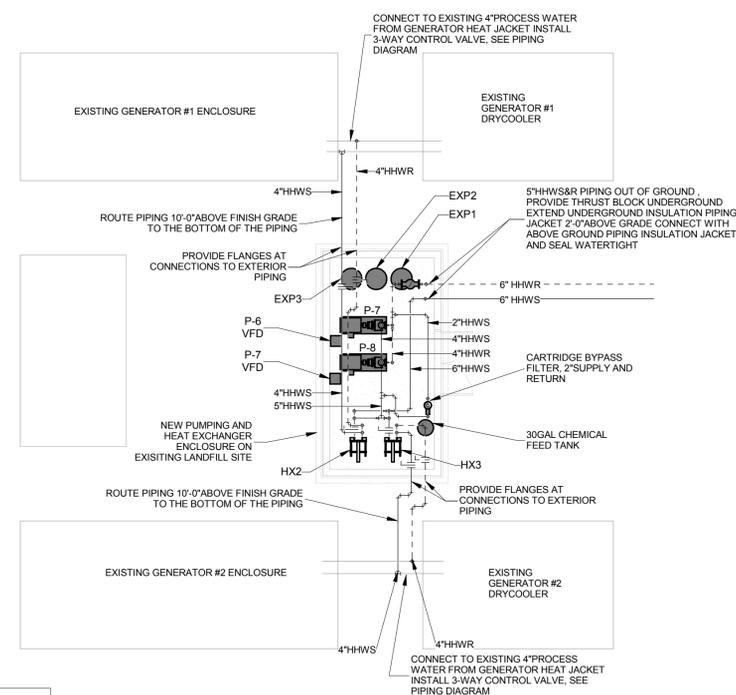
6 UNDERGROUND PIPING SLAB ON GRADE ENTRANCE  
M-001 SCALE: NO SCALE



7 UNDERGROUND PIPING VAULT ENTRANCE  
M-001 SCALE: NO SCALE



5 UNDERGROUND PIPING JOINT DETAIL  
M-001 SCALE: NO SCALE

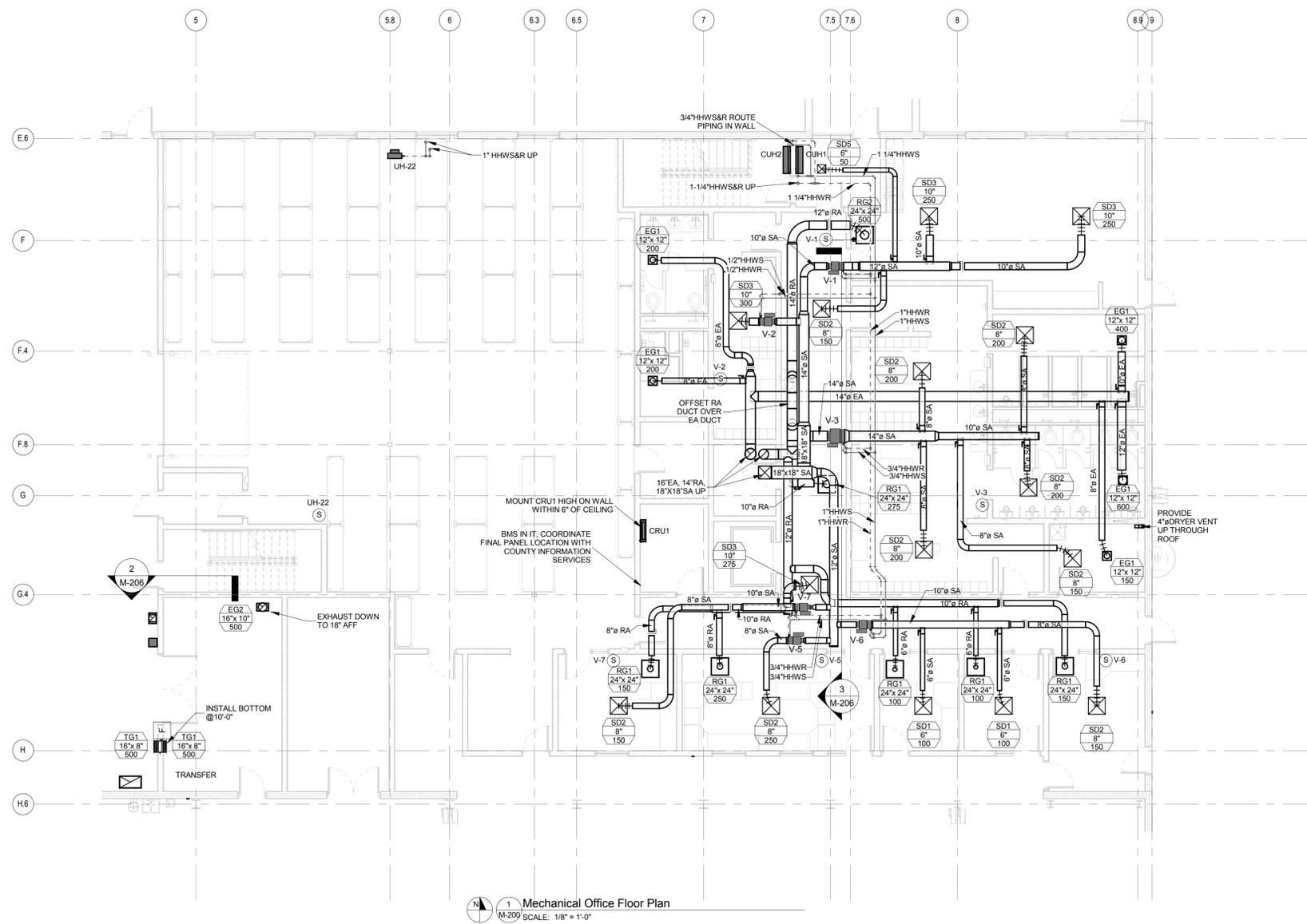


8 Generator Heat Exchanger Detail Plan Informative Bid F  
M-001 SCALE: 1/8" = 1'-0"

**DESCRIPTIONS OF ALTERNATES/INFORMATIVE BIDS AFFECTING MECHANICAL - SEE GENERAL SPECIFICATIONS FOR FURTHER DESCRIPTION**  
 ALT#4 - BID TO INSTALL THE RADIANT TUBING AND INSULATION FOR THE INFLOOR HEATING SYSTEM. THE TUBING WILL BE TERMINATED ABOVE THE SLAB FOR CONNECTION TO MANIFOLDS IN ALT#5  
 ALT#5 - BID TO PROVIDE INJECTION PUMP, CIRCULATION PUMP, DISTRIBUTION PIPING, AND MANIFOLDS FOR INFLOOR RADIANT HEATING SYSTEM. UNIT HEATERS SERVING VEHICLE BAYS WITH INFLOOR RADIANT HEAT ARE ELIMINATED IF INFLOOR RADIANT HEATING IS INSTALLED.  
 INFORMATIVE BID F - INFORMATIONAL BID FOR THE UNDERGROUND PIPING AND PUMPS ON THE WASTE HEAT SYSTEM THAT IS SHARED BY THE MEDICAL EXAMINER BUILDING AND THE HIGHWAY BUILDING.

Sheet List-Mechanical

Sheet Number	Sheet Name
M-001	Mechanical Site Plan
M-200	Mechanical Office Plan
M-201	Mechanical First Floor Plan
M-202	Mechanical Mezzanine Floor Plan
M-203	Mechanical Roof Plan
M-204	All Radiant Floor Plan - Storage
M-205	All Radiant Floor Plan - Office
M-206	Mech Detail Plans and Sections
M-207	Sat Shed Mech Plan
M-208	Mechanical Plans and Schedules
M-300	Mechanical Schedules
M-301	Mechanical Details
M-302	Mechanical Details

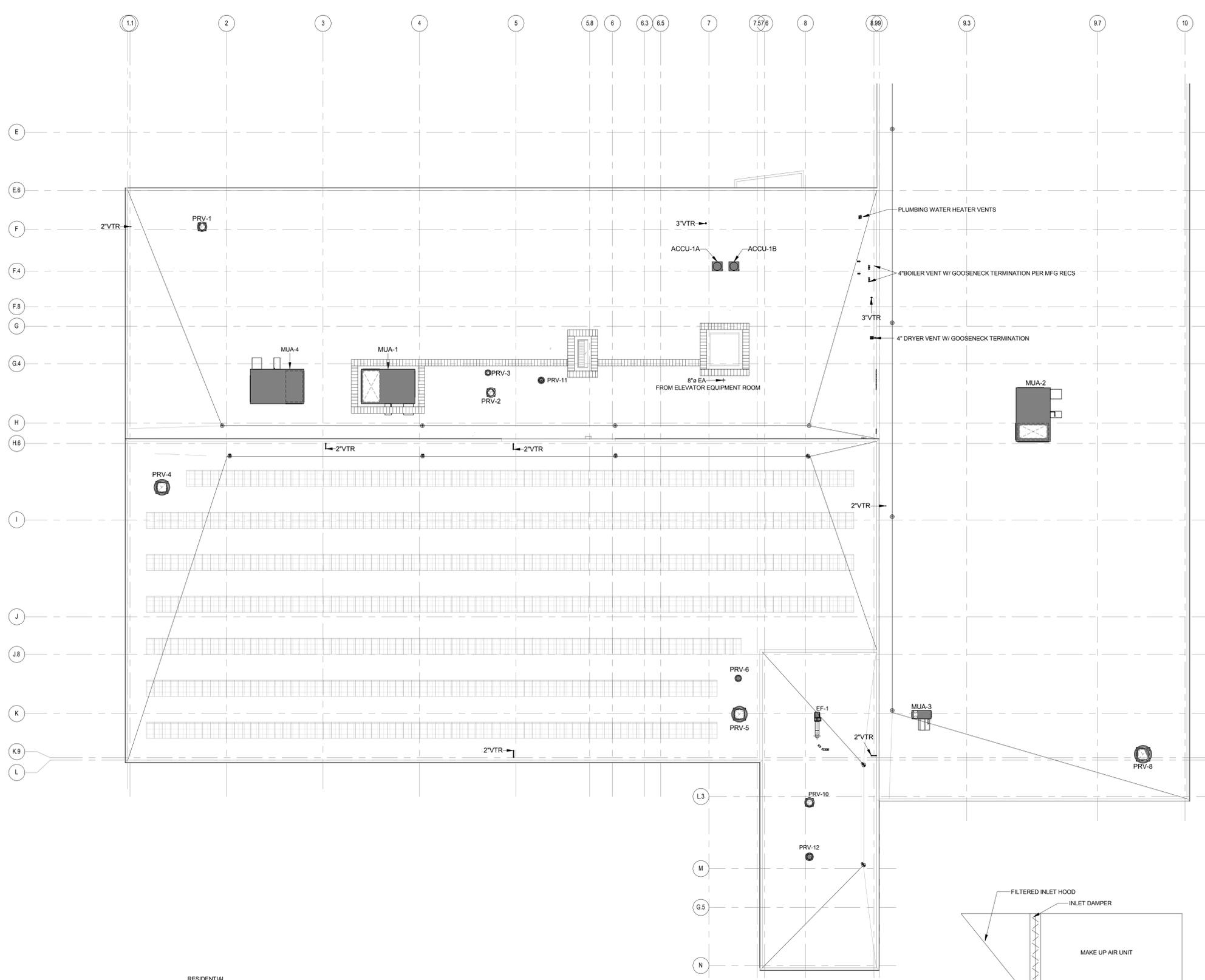


HVAC SYMBOLS AND ABBREVIATIONS	
12X10	12" WIDE X 10" DEEP DUCT
12X10	12" ROUND DUCT
---	LINED DUCT
└─┘	RECT ELBOW
└─┘	RECT ELBOW WITH TURNING VANES
└─┘	RECT ELBOW UP OR DOWN
⊖	THERMOSTAT
⊙	SENSOR
CO	CO SENSOR
NO2	NO2 SENSOR
CO2	CO2 SENSOR
NG	NATURAL GAS DETECTOR
P	CONTROL PANEL
S	WALL SWITCH
SD	SMOKE DETECTOR
TC	TIMECLOCK
VD	VOLUME DAMPER
⊠	MOTORIZED DAMPER
→	SUPPLY
←	RETURN
⤵	ROUND ELBOW
⤵	RECTANGULAR RADIUS ELBOW
	FLEX DUCT
⊙	ROUND TAP
12X10AL	12X10 ALUMINUM DUCT
12X10SS	12X10 STAINLESS STEEL DUCT
12X10BI	12X10 BLACK IRON DUCT
⊕	CONNECTION TO EXISTING
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
FSD	FIRE SMOKE DAMPER
FD	FIRE DAMPER
SD	SMOKE DAMPER
RD	RADIATION DAMPER
⊠ (RVD)	REMOTE OPERATED VOLUME DAMPER
MOD	MOTOR OPERATED DAMPER
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
RE	RELIEF AIR
OA	OUTSIDE AIR

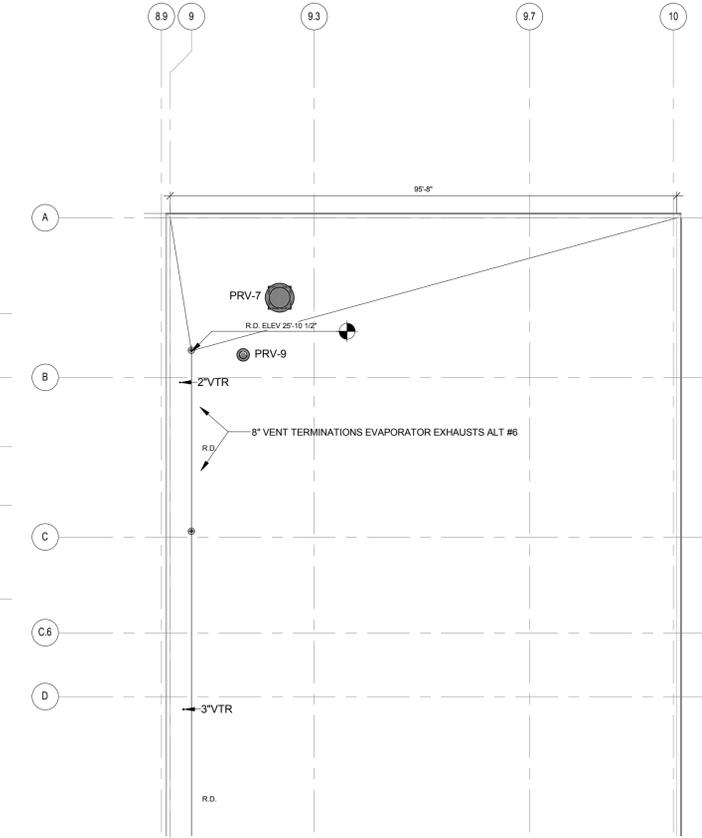
1 Mechanical Office Floor Plan  
 M-200 SCALE: 1/8" = 1'-0"



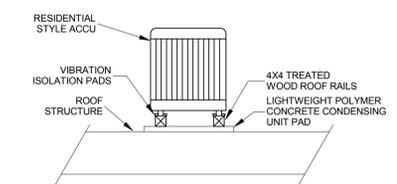




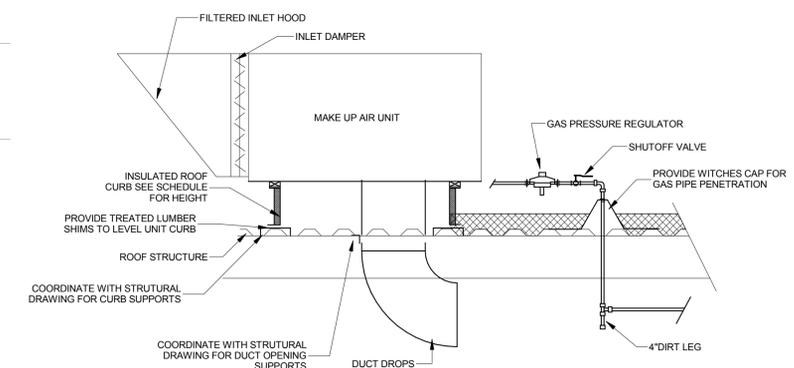
1 Mechanical Roof Plan  
 M-203 SCALE: 1/16" = 1'-0"



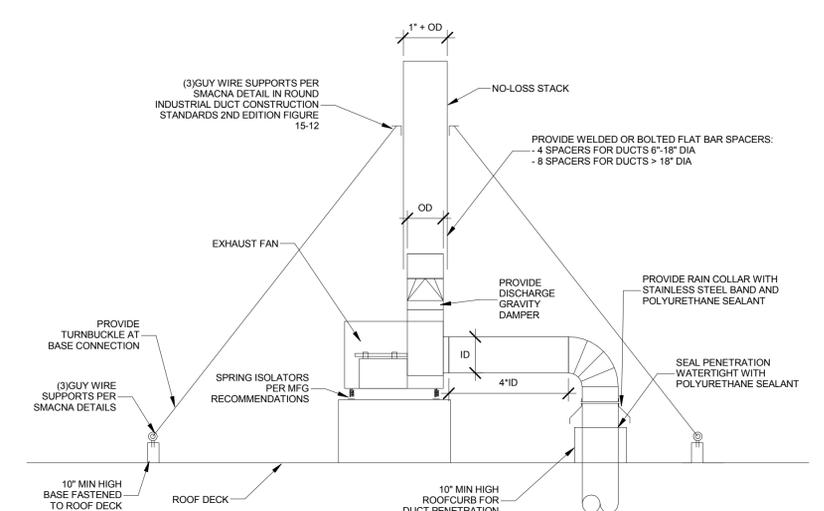
2 Mechanical Roof Plan Continued  
 M-203 SCALE: 1/16" = 1'-0"



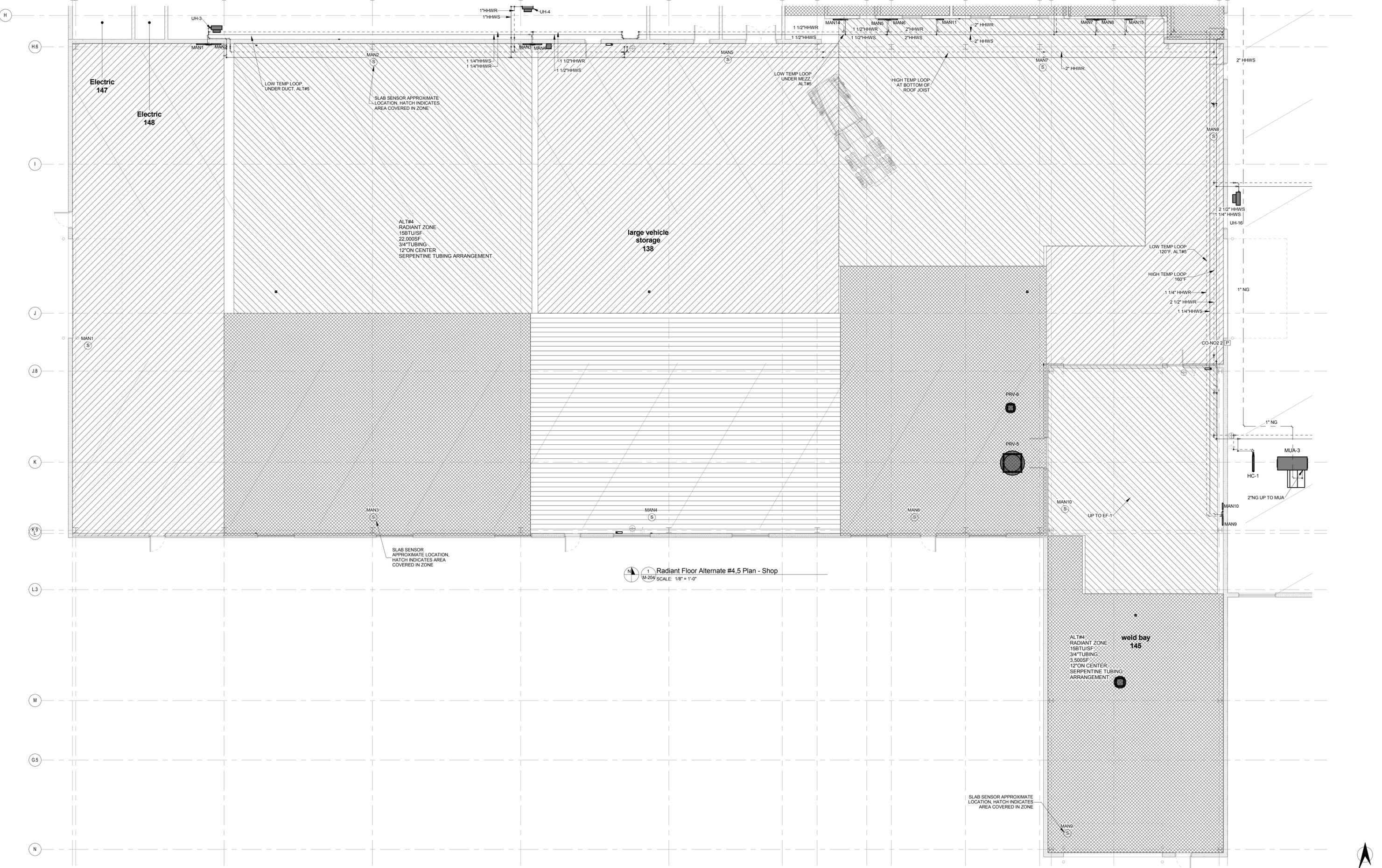
5 ROOF MOUNTED ACCU DETAIL  
 M-203 SCALE: NO SCALE



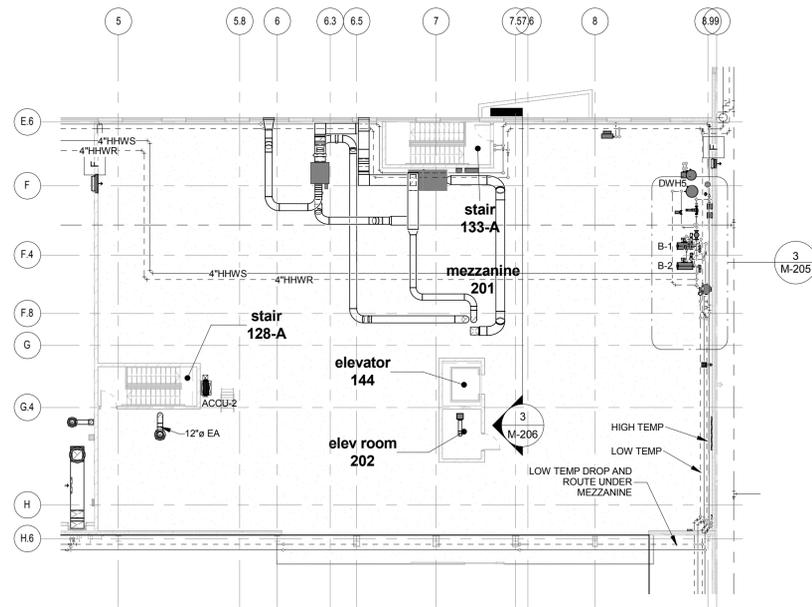
4 MUA DROP DETAIL  
 M-203 SCALE: NO SCALE



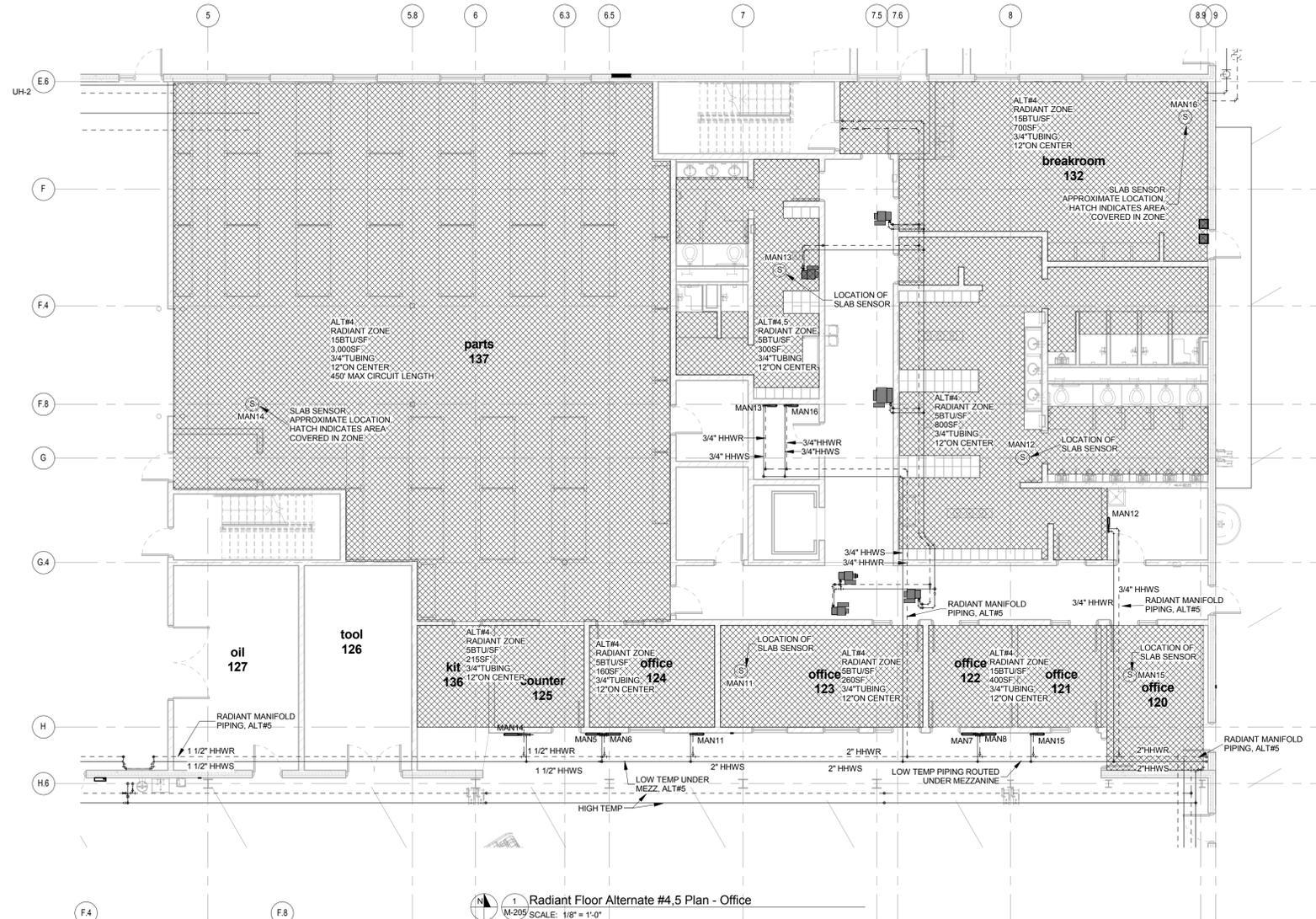
3 NO LOSS STACK UTILITY FAN DETAIL  
 M-203 SCALE: NO SCALE



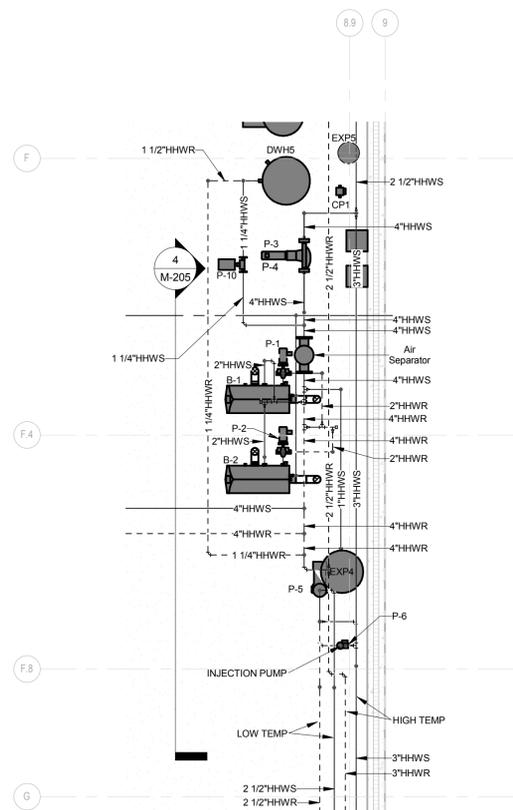
1 Radiant Floor Alternate #4.5 Plan - Shop  
 M-204 SCALE: 1/8" = 1'-0"



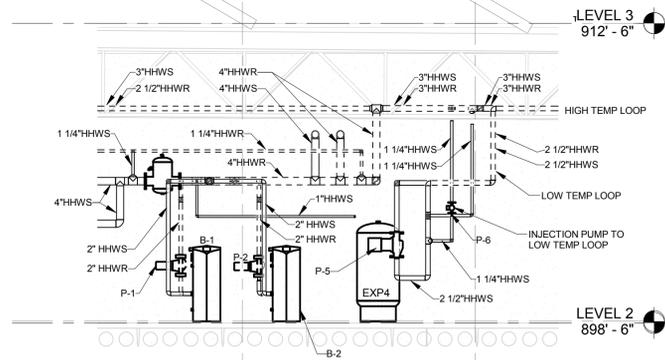
2 Radiant Alternate Mezzanine Plan ALT #5  
M-205 SCALE: 1/16" = 1'-0"



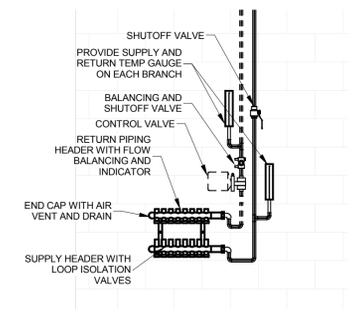
1 Radiant Floor Alternate #4.5 Plan - Office  
M-205 SCALE: 1/8" = 1'-0"



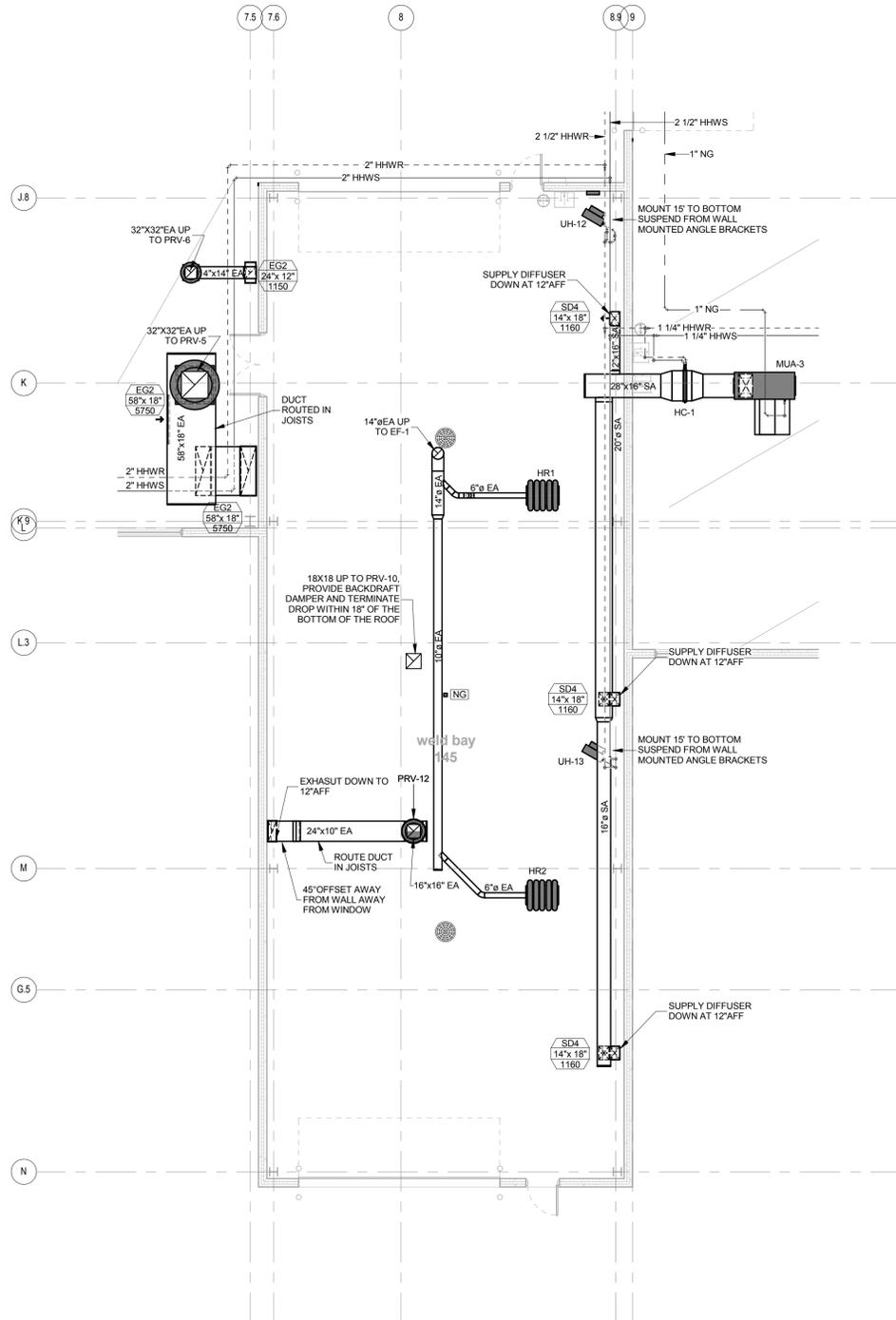
3 Radiant Boiler Area Plan ALT #3  
M-205 SCALE: 1/4" = 1'-0"



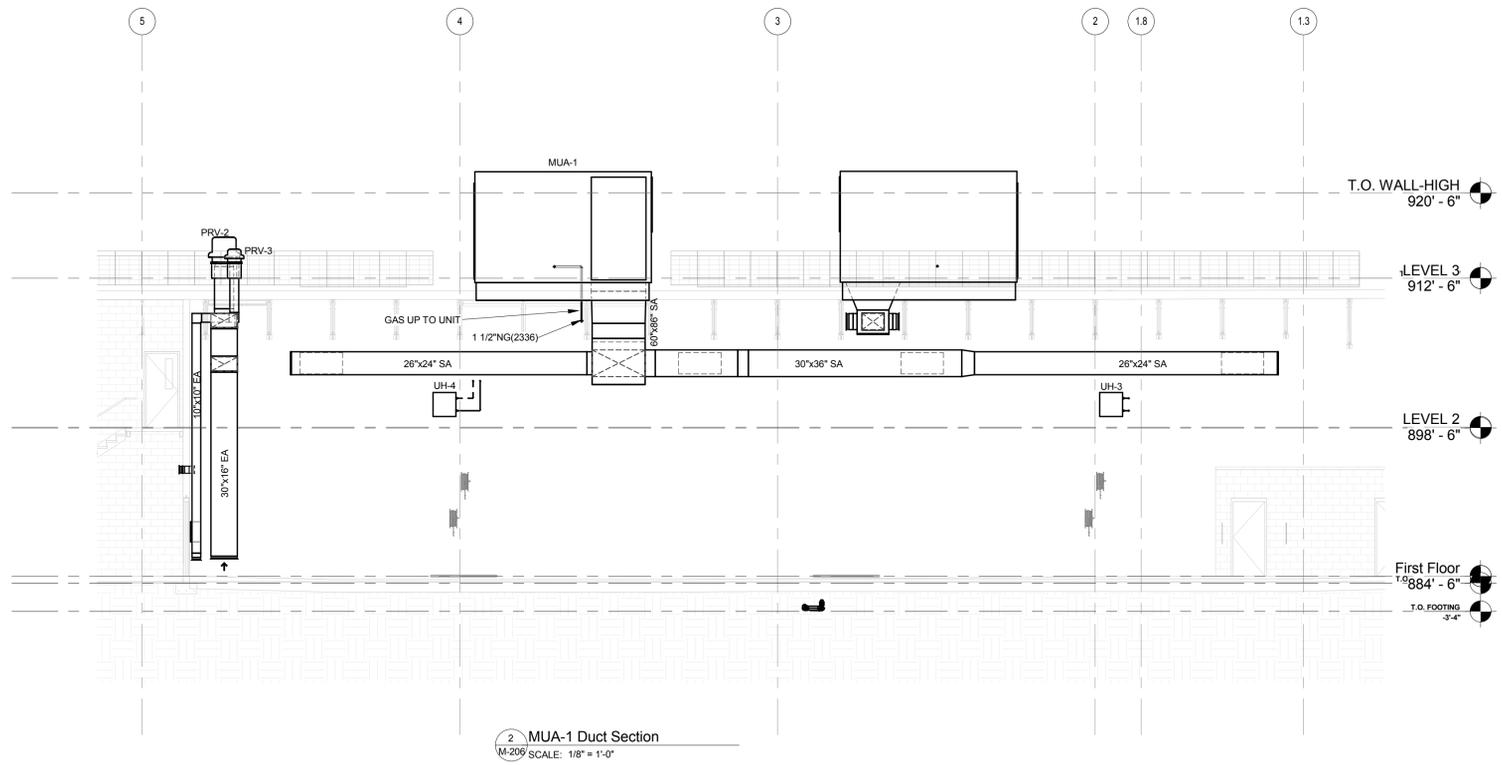
4 Radiant Alternate #5 Boiler Section Piping  
M-205 SCALE: 1/4" = 1'-0"



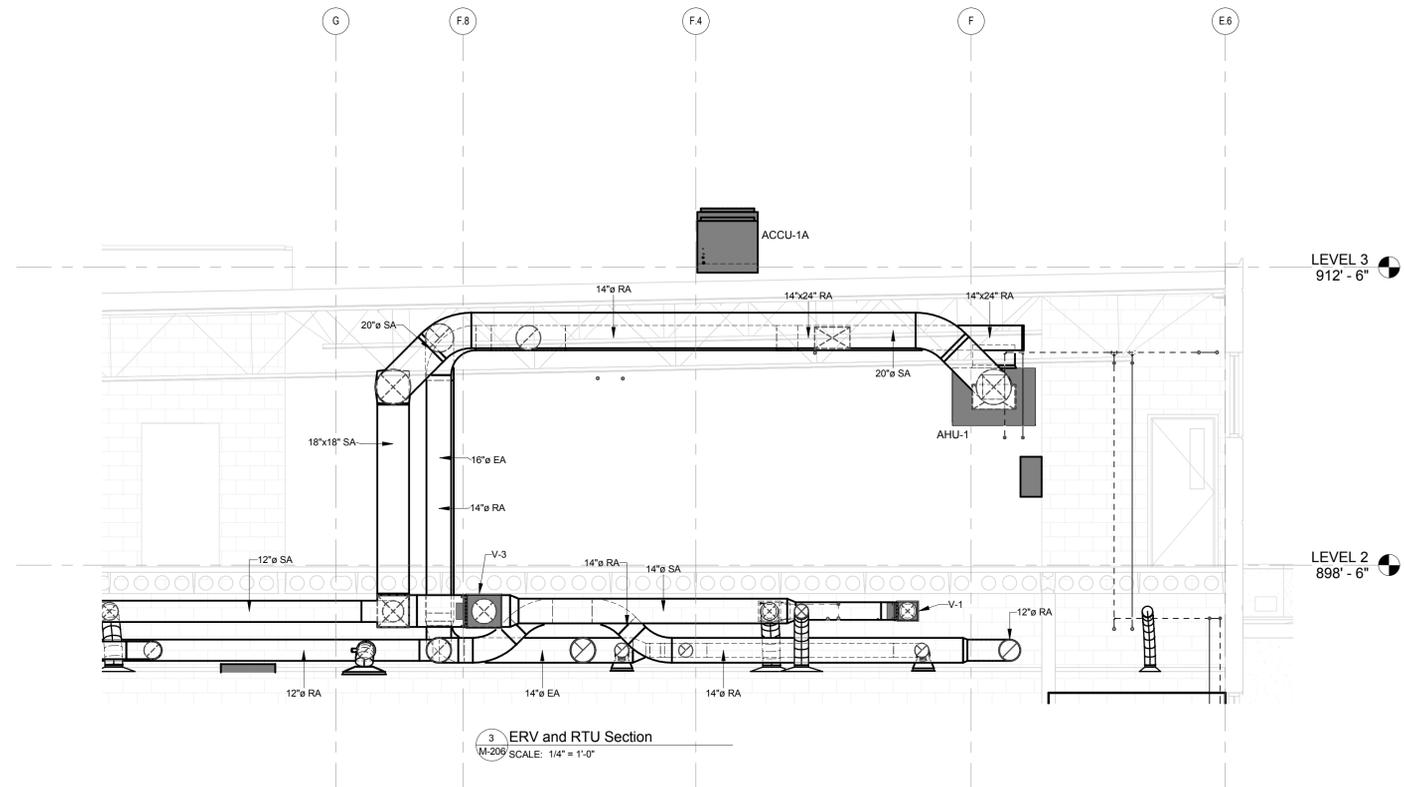
5 TYPICAL RADIANT MANIFOLD  
M-205 SCALE: NO SCALE



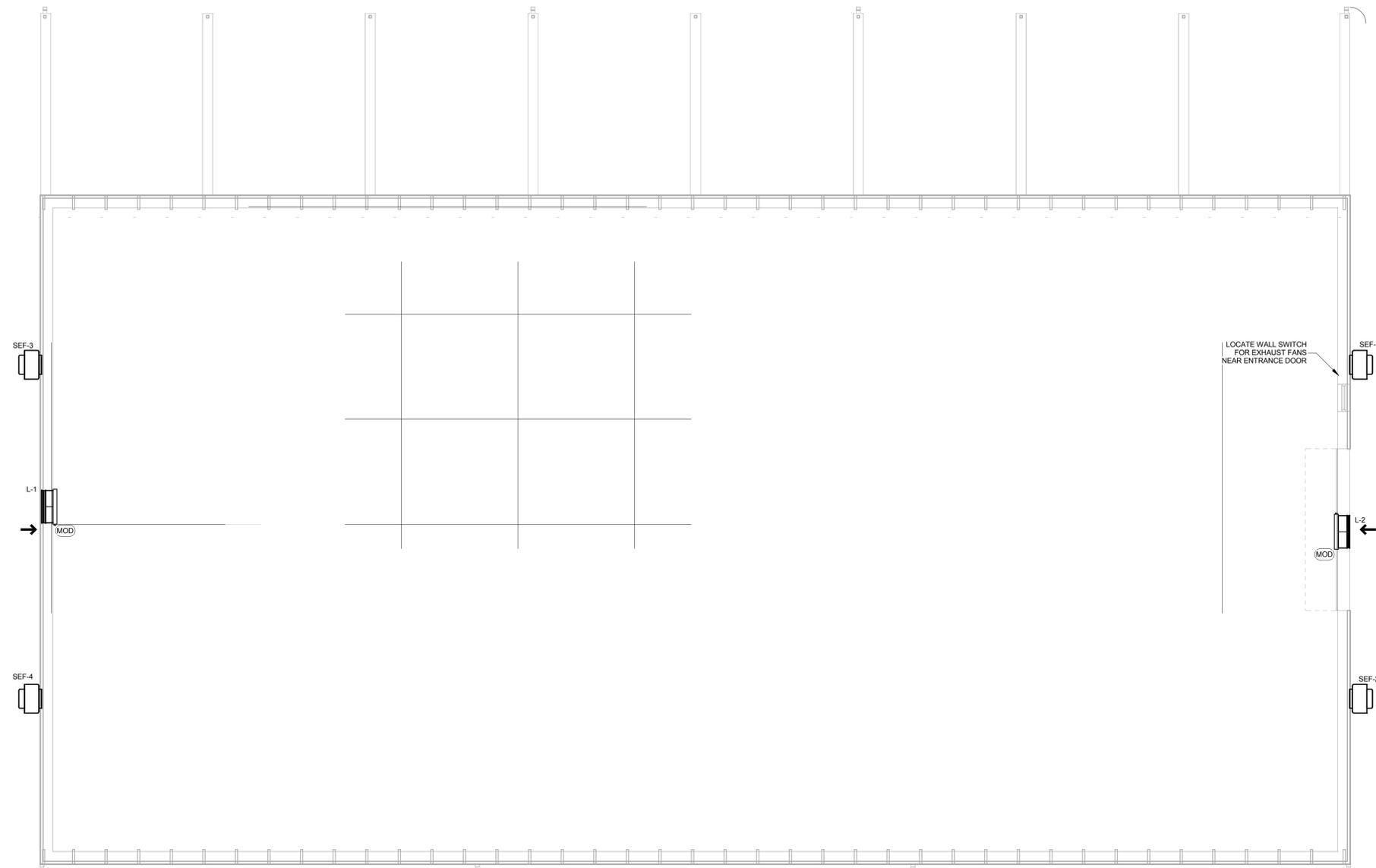
1 Weld Shop Mechanical Plan  
M-206 SCALE: 1/8" = 1'-0"



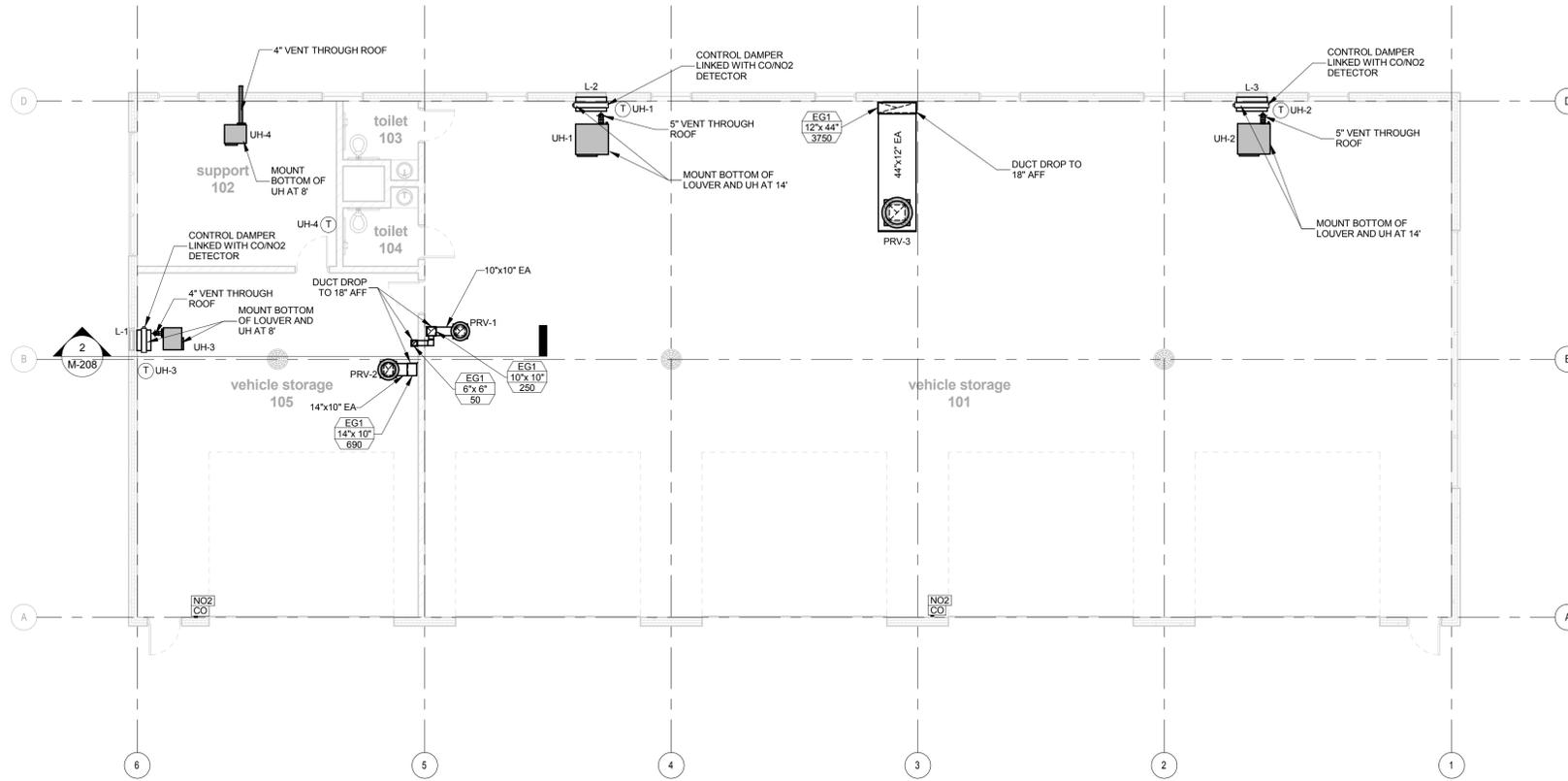
2 MUA-1 Duct Section  
M-206 SCALE: 1/8" = 1'-0"



3 ERV and RTU Section  
M-206 SCALE: 1/4" = 1'-0"



1 Mechanical Salt Shed Plan  
 M-207 SCALE: 1/8" = 1'-0"



1 Satellite Building HVAC Plan - Ait #1  
M-208 SCALE: 1/8" = 1'-0"

HVAC SYMBOLS AND ABBREVIATIONS

12X10	12" WIDE X 10" DEEP DUCT
12X10	12" ROUND DUCT
---	LINED DUCT
⊥	RECT ELBOW
⊥	RECT ELBOW WITH TURNING VANES
⊥	RECT ELBOW UP OR DOWN
⊕	THERMOSTAT
⊕	SENSOR
⊕	CO SENSOR
⊕	NO2 SENSOR
⊕	CO2 SENSOR
⊕	CONTROL PANEL
⊕	WALL SWITCH
⊕	SMOKE DETECTOR
⊕	TIMECLOCK
⊕	VOLUME DAMPER
⊕	MOTORIZED DAMPER
⊕	SUPPLY
⊕	RETURN
⊕	ROUND ELBOW
⊕	RECTANGULAR RADIUS ELBOW
⊕	FLEX DUCT
⊕	ROUND TAP
12X10AL	12X10 ALUMINUM DUCT
12X10SS	12X10 STAINLESS STEEL DUCT
12X10BI	12X10 BLACK IRON DUCT
⊕	CONNECTION TO EXISTING
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
(FSD)	FIRE SMOKE DAMPER
(FD)	FIRE DAMPER
(SD)	SMOKE DAMPER
(RD)	RADIATION DAMPER
(RVD)	REMOTE OPERATED VOLUME DAMPER
MOD	MOTOR OPERATED DAMPER
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
RE	RELIEF AIR
OA	OUTSIDE AIR

**SATELLITE BLDG HVAC GENERAL NOTES**

- ALL DUCTWORK IS DIAGRAMMATIC AND COORDINATED TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY STRUCTURE AND LOCATION OF OTHER TRADED PRIOR TO FABRICATION.
- LIMIT FLEX RUNS TO MAXIMUM OF 5'-0" AND ROUTE AS STRAIGHT AS POSSIBLE
- INSTALL ALL EQUIPMENT PER LOCAL AND STATE CODES AND PER MANUFACTURERS RECOMMENDATIONS
- SYSTEM SHALL BE BALANCED BY THE INSTALLING CONTRACTOR. BALANCE AIR FLOWS FOR GRILLES AND EQUIPMENT TO +/- 10% OF SCHEDULED AIRFLOWS. INCLUDE SYSTEM MANUFACTURER, MODEL, SERIAL, RPM, HORSEPOWER, VOLTAGE, AMPERAGE, ETC IN REPORTS. SUBMIT THE BALANCING REPORTS TO THE DESIGN PROFESSIONAL BEFORE A COMPLIANCE STATEMENT CAN BE SUBMITTED.
- GAS PIPING SHALL BE SCHEDULE 40 BLACK IRON. PIPE 2" AND SMALLER SHALL HAVE THREADED PIPE CONNECTIONS AND FITTINGS. PIPE 2-1/2" AND LARGER SHALL HAVE WELDED CONNECTIONS AND FITTINGS. PROVIDE GAS REGULATORS AS NECESSARY.
- OUTSIDE AIR INTAKES SHALL BE MINIMUM OF 10'-0" FROM ANY BUILDING EXHAUST, FLUES, PLUMBING VENTS AND LOT LINE.
- LOW VOLTAGE WIRING SHALL BE BY HVAC CONTRACTOR
- COORDINATE DIFFUSER LAYOUT WITH LIGHTING LAYOUT
- CONTRACTORS NEED PRIOR APPROVAL FOR QUOTING ALTERNATIVE EQUIPMENT. ALTERNATIVE EQUIPMENT MAY REQUIRE OPTIONAL ACCESSORIES TO MATCH BASE BID EQUIPMENT. CONTRACTORS ARE RESPONSIBLE FOR FURNISHING ALL SUCH ITEMS.
- ROOMS WITHOUT RETURN AIR GRILLES OR TRANSFER GRILLES, SHALL HAVE DOORS UNDER CUT 1" BY GENERAL CONTRACTOR FOR RETURN AIR.
- DUCT SIZES LISTED ON PLANS ARE THE REQUIRED CLEAR INSIDE DIMENSION.
- THE CONTRACTOR SHALL PROVIDE THE OWNER WITH WRITTEN INSTRUCTIONS FOR THE OPERATION AND MAINTENANCE OF THE SYSTEM AND EQUIPMENT
- THERMOSTAT LOCATIONS SHALL BE REVIEWED BY OWNER, TENANT & CONTRACTOR BEFORE INSTALLATION. CONTROLS SHALL BE LOCATED 48" ABOVE FINISHED FLOOR
- UNITS SHALL BE SUSPENDED WITH NON-COMBUSTIBLE HANGERS

**SATELLITE BLDG CONTROLS**

- UH-1.2.3.4  
PROVIDE A SEVEN DAY PROGRAMMABLE THERMOSTAT WITH OCCUPIED/UNOCCUPIED CYCLES.  
OCCUPIED - HEATING SHALL MAINTAIN OCCUPIED SETPOINT  
- FAN SHALL CYCLE ON/OFF TO PROVIDE HEATING.
- PRV-1  
FAN TO RUN CONTINUOUSLY
- PRV-2.3  
FAN OPERATED ON ALARM CONDITION OF CO/NO2 SENSOR. CONTROL DAMPERS ON LOUVER SHALL ALSO OPEN ON ALARM CONDITIONS

**SATELLITE BLDG ROOF EXHAUST FAN SCHEDULE**

TAG	SERVES	AIRFLOW	TSP	MOTOR			ELECTRICAL		MOUNTING LOCATION	ROOF OPENING		MODEL	MFG	WEIGHT	NOTES
				HP	BHP	RPM	V	PH		HZ	WIDTH				
PRV-1	105 VEHICLE STORAGE ALARM	300 CFM	0.50 in-wg	0.17 hp	0.08 hp	1725	115 V	1	60 Hz	Roof Mounted	12 1/2" x 12 1/2"	G-095-VG	Greenheck Fan	66.10 lb	1,2
PRV-2	VEHICLE STORAGE CONTINUOUS	690 CFM	0.50 in-wg	0.25 hp	0.12 hp	1725	115 V	1	60 Hz	Roof Mounted	14 1/2" x 14 1/2"	G-099-VG	Greenheck Fan	76.50 lb	1,2
PRV-3	101 VEHICLE STORAGE ALARM	3750 CFM	0.50 in-wg	1.00 hp	0.79 hp	1725	230 V	1	60 Hz	Roof Mounted	20 1/2" x 20 1/2"	GB-200-10	Greenheck Fan	152.80 lb	1,2

- PROVIDE 18" ROOFCURB
- PROVIDE DISCONNECT AND GRAVITY BACKDRAFT DAMPERS
- GREENHECK, COOK, OR PENN

**SATELLITE BLDG UNIT HEATER SCHEDULE**

TAG	SPACE	AIRFLOW	TYPE	BTU IN	BTU OUT	FAN HP	V	φ	HZ	AMPS	MOCP	MODEL	MFG	WEIGHT	NOTES
UH-1	101 VEHICLE STORAGE 101	1921 CFM	PROPANE	150000 Btu	124500 Btu	0.2 hp	115 V	1	60 Hz	4 A	15 A	UDAP 150	REZNOR	170.00 lb	1,2,3
UH-2	101 VEHICLE STORAGE 101	1921 CFM	PROPANE	150000 Btu	124500 Btu	0.2 hp	115 V	1	60 Hz	4 A	15 A	UDAP 150	REZNOR	170.00 lb	1,2,3
UH-3	105 VEHICLE STORAGE	961 CFM	PROPANE	75000 Btu	62250 Btu	0.1 hp	115 V	1	60 Hz	4 A	15 A	UDAP 75	REZNOR	100.00 lb	1,2,3
UH-4	102 SUPPORT	961 CFM	PROPANE	145000 Btu	37350 Btu	0.1 hp	115 V	1	60 Hz	2 A	15 A	UDAP 45	REZNOR	60.00 lb	1,2

- MODINE, REZNOR, STERLING, OR TRANE
- PROVIDE PROPANE CONVERSION KIT
- PROVIDE STAINLESS STEEL HEAT EXCHANGERS

**SATELLITE BLDG LOUVER SCHEDULE**

TAG	AIRFLOW	VELOCITY	PRESSURE DROP	HEIGHT	LENGTH	WIDTH	Model	MFG	NOTES
L-1	690 CFM	420 FPM	0.03 in-wg	2'-0"	2'-0"	0'-6"	ESD-603	Greenheck	1
L-2	1875 CFM	440 FPM	0.03 in-wg	2'-10"	3'-0"	0'-6"	ESD-603	Greenheck	1
L-3	1875 CFM	440 FPM	0.03 in-wg	2'-10"	3'-0"	0'-6"	ESD-603	Greenheck	1

1.Architect to select color

**SATELLITE BLDG GRILLES REGISTERS AND DIFFUSERS SCHEDULE**

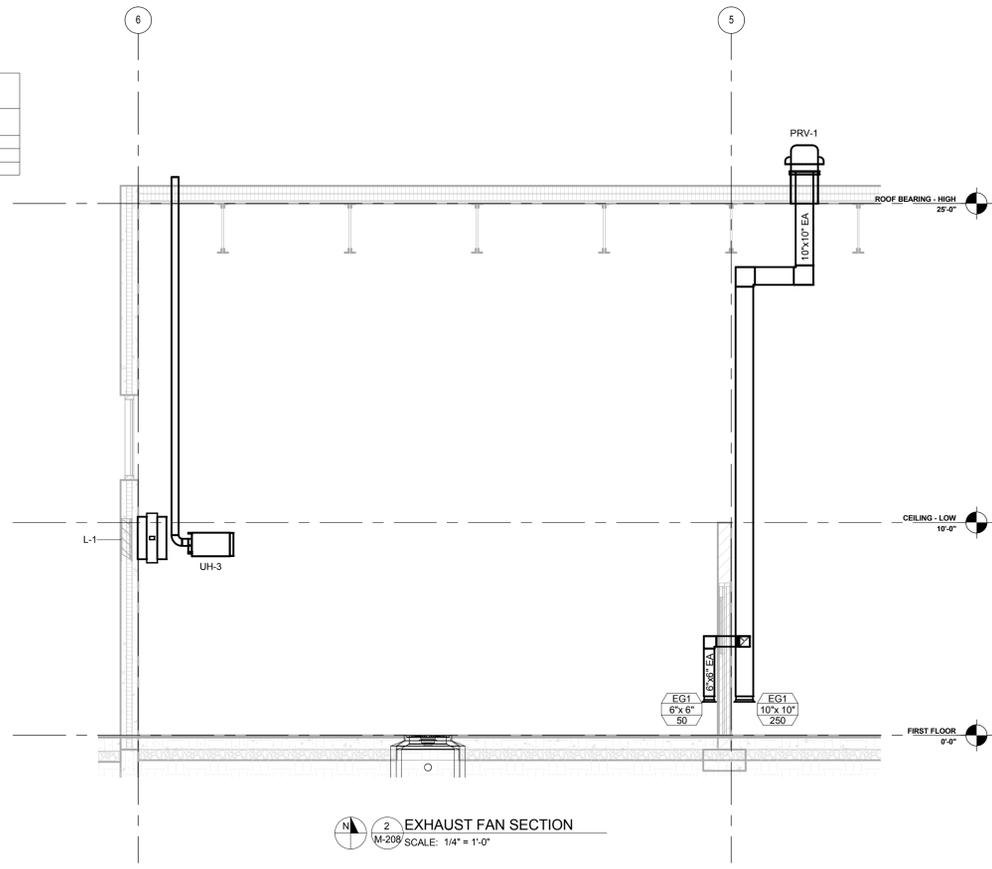
TAG	TYPE	MOUNT	AIR FLOW CFM	NECK SIZE	FACE SIZE	MODEL	MFG	NOTES
EG1	Exhaust Air	DUCT	AS SHOWN			NA	PRICE	

**SATELLITE BLDG MECH EQ STARTERS & DISCONNECTS**

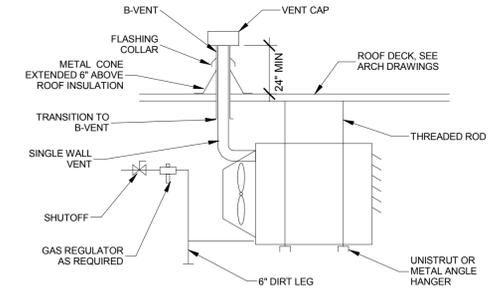
TAG	SERVES	DISCONNECTS				STARTERS				NOTES
		FURNISHED BY	INSTALLED BY	LOCATION	TYPE	FURNISHED BY	INSTALLED BY	LOCATION	TYPE	
PRV-1	105 VEHICLE STORAGE ALARM	HVAC	HVAC	PRE-WIRED	NEMA 1	ELECTRICAL	ELECTRICAL	SEE E-PLANS	STARTER W/ 24V RELAY	
PRV-2	VEHICLE STORAGE CONTINUOUS	HVAC	HVAC	PRE-WIRED	NEMA 1	ELECTRICAL	ELECTRICAL	SEE E-PLANS	STARTER W/ 24V RELAY	
PRV-3	101 VEHICLE STORAGE ALARM	HVAC	HVAC	PRE-WIRED	NEMA 1	ELECTRICAL	ELECTRICAL	SEE E-PLANS	STARTER W/ 24V RELAY	
UH-1	101 VEHICLE STORAGE ALARM	ELECTRICAL	ELECTRICAL	NEAR UNIT	NEMA 1	HVAC	HVAC	PRE-WIRED	CONTROL BOARD	
UH-2	101 VEHICLE STORAGE ALARM	ELECTRICAL	ELECTRICAL	NEAR UNIT	NEMA 1	HVAC	HVAC	PRE-WIRED	CONTROL BOARD	
UH-3	105 VEHICLE STORAGE ALARM	ELECTRICAL	ELECTRICAL	NEAR UNIT	NEMA 1	HVAC	HVAC	PRE-WIRED	CONTROL BOARD	
UH-4	102 SUPPORT	ELECTRICAL	ELECTRICAL	NEAR UNIT	NEMA 1	HVAC	HVAC	PRE-WIRED	CONTROL BOARD	

**SATELLITE BLDG DUCT CONSTRUCTION SCHEDULE**

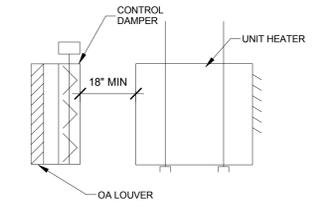
SYSTEM TYPE	SYSTEM LOCATION	MATERIAL	SMACNA PRESSURE CLASS	SMACNA SEAL CLASS	INSULATION TYPE	R-VALUE	INSULATION THICKNESS	NOTES
EXHAUST AIR	ALL	GALVANIZED	2"	B				



2 EXHAUST FAN SECTION  
M-208 SCALE: 1/4" = 1'-0"



3 UNIT HEATER DETAIL  
M-208 SCALE: NO SCALE



4 MAKE UP AIR LOUVER W/ UNIT HEATER DETAIL  
M-208 SCALE: NO SCALE

ROOF EXHAUST FAN SCHEDULE																
TAG	SERVES	AIRFLOW	ESP	MOTOR			ELECTRICAL			MOUNTING LOCATION	ROOF OPENING		MODEL	MFG	WEIGHT	NOTES
				HP	BHP	RPM	V	PH	HZ		WIDTH	HEIGHT				
PRV-1	SMALL VEHICLE 140	4500 CFM	0.50 in-wg	1.50 hp	1.12 hp	1725	460 V	3	60 Hz	Roof Mounted	20 1/2"	20 1/2"	GB-200-15	GREENHECK	160.00 lb	1,2
PRV-2	SMALL VEHICLE 140	4500 CFM	0.50 in-wg	1.50 hp	1.12 hp	1725	460 V	3	60 Hz	Roof Mounted	20 1/2"	20 1/2"	GB-200-15	GREENHECK	160.00 lb	1,2
PRV-3	SMALL VEHICLE 140	4500 CFM	0.50 in-wg	1.07 hp	0.09 hp	1725	115 V	1	60 Hz	Roof Mounted	12 1/2"	12 1/2"	G-095-VG	GREENHECK	66.10 lb	1,2
PRV-4	LARGE VEHICLE 138	11500 CFM	0.50 in-wg	3.00 hp	2.66 hp	1725	460 V	3	60 Hz	Roof Mounted	38 1/2"	38 1/2"	GB-330-30	GREENHECK	298.30 lb	1,2
PRV-5	LARGE VEHICLE 138	11500 CFM	0.50 in-wg	3.00 hp	2.66 hp	1725	460 V	3	60 Hz	Roof Mounted	38 1/2"	38 1/2"	GB-330-30	GREENHECK	298.30 lb	1,2
PRV-6	LARGE VEHICLE 138	11500 CFM	0.50 in-wg	0.25 hp	0.21 hp	1725	115 V	1	60 Hz	Roof Mounted	14 1/2"	14 1/2"	GB-121-4	GREENHECK	88.90 lb	1,2
PRV-7	LARGE VEHICLE 122A	16250 CFM	0.50 in-wg	5.00 hp	3.70 hp	1725	460 V	3	60 Hz	Roof Mounted	44 1/2"	44 1/2"	GB-420-50	GREENHECK	423.90 lb	1,2
PRV-8	LARGE VEHICLE 122A	16250 CFM	0.50 in-wg	5.00 hp	3.70 hp	1725	460 V	3	60 Hz	Roof Mounted	44 1/2"	44 1/2"	GB-420-50	GREENHECK	423.90 lb	1,2
PRV-9	LARGE VEHICLE 122A	16250 CFM	0.50 in-wg	0.33 hp	0.32 hp	1725	115 V	1	60 Hz	Roof Mounted	14 1/2"	14 1/2"	GB-131-3	GREENHECK	92.50 lb	1,2
PRV-10	WELD BAY 145	3500 CFM	0.25 in-wg	0.75 hp	0.51 hp	1725	460 V	3	60 Hz	Roof Mounted	20 1/2"	20 1/2"	CUBE-200-7	GREENHECK	171.00 lb	1,2
PRV-11	OIL	500 CFM	0.50 in-wg	0.25 hp	0.08 hp	1725	115 V	1	60 Hz	Roof Mounted	14 1/2"	14 1/2"	G-099-VG	GREENHECK	76.50 lb	1,2,3
PRV-12	WELD BAY 145	1750 CFM	0.50 in-wg	0.50 hp	0.38 hp	1725	115 V	1	60 Hz	Roof Mounted	18 1/2"	18 1/2"	CUBE-141-5	GREENHECK	126.10 lb	1,2

- NOTES:  
1. PROVIDE 18" INSULATED ROOFCURB ON FANS  
2. PROVIDE DISCONNECT AND GRAVITY BACKDRAFT DAMPERS  
3. PROVIDE EXPLOSION PROOF CONSTRUCTION WITH ALUMINUM RUB RING

UTILITY EXHAUST FAN SCHEDULE															
TAG	SERVES	AIRFLOW	ESP	FAN RPM	MOTOR			ELECTRICAL			MOUNTING LOCATION	MODEL	MFG	WEIGHT	NOTES
					HP	BHP	RPM	V	PH	HZ					
EF-1	VEHICLE SOURCE	1200 CFM	3.25 in-wg	2433.2	1.50 hp	1.05 hp	1725	460 V	3	60 Hz	ROOF	12-BISW-21-10-1-15	GREENHECK	244.00 lb	1,2,3

- NOTES:  
1. PROVIDE DISCONNECT  
2. PROVIDE BACKDRAFT DAMPER  
3. PROVIDE BASE ROOF RAILS, SPRING ISOLATORS, FLEXIBLE CANVAS CONNECTIONS, NO LOSS STACK DISCHARGE, AND ROOFCURB FOR DUCT PENETRATION

SIDEWALL CENTRIFUGAL EXHAUST FAN SCHEDULE																
TAG	SERVES	AIRFLOW	TSP	MOTOR			ELECTRICAL			WALL OPENING		MODEL	MFG	WEIGHT	NOTES	
				HP	BHP	RPM	V	PH	HZ	WIDTH	HEIGHT					
SEF-1	SALT SHED	4000 CFM	0.25 in-wg	0.50 hp	0.45 hp	1725	115 V	1	60 Hz	1" - 6"	1" - 6"	CWB-240-5	GREENHECK	137.20 lb	1,2,3	
SEF-2	SALT SHED	4000 CFM	0.25 in-wg	0.50 hp	0.45 hp	1725	115 V	1	60 Hz	1" - 6"	1" - 6"	CWB-240-5	GREENHECK	137.20 lb	1,2,3	
SEF-3	SALT SHED	4000 CFM	0.25 in-wg	0.50 hp	0.45 hp	1725	115 V	1	60 Hz	1" - 6"	1" - 6"	CWB-240-5	GREENHECK	137.20 lb	1,2,3	
SEF-4	SALT SHED	4000 CFM	0.25 in-wg	0.50 hp	0.45 hp	1725	115 V	1	60 Hz	1" - 6"	1" - 6"	CWB-240-5	GREENHECK	137.20 lb	1,2,3	

- NOTES:  
1. PROVIDE SIDEWALL MOUNTING PLATE  
2. PROVIDE DISCONNECT  
3. PROVIDE BACKDRAFT DAMPER

CEILING EXHAUST FAN SCHEDULE													
TAG	SERVES	AIR FLOW	ESP	RPM	SONES	ELECTRICAL			MODEL	MFG	WEIGHT	NOTES	
						V	PH	HZ					
CEF-1	ELEVATOR EQUIPMENT	200 CFM	0.38 in-wg	971	3.2	115 V	1	60 Hz	0.111 hp	SP-A250	GREENHECK	25.00 lb	1,2

- NOTES:  
1. PROVIDE GOOSENECK TERMINATION ON ROOF  
2. PROVIDE BACKDRAFT DAMPER AND SPEED CONTROLLER

MAKE UP AIR UNIT SCHEDULE																	
MARK	SERVES	UNIT AIRFLOW	ESP	TSP	FAN RPM	BTU/H IN		BTU/H OUT		LAT @ 10' EAT	ELECTRICAL			MODEL	MFG	WEIGHT	NOTES
						V	PH	HZ	MOTOR HP		BRAKE HP						
MUA-1	LARGE VEHICLE 140	22000 CFM	0.50 in-wg	1.83 in-wg	761	2,335,500	2,148,300	90 °F	480	3	60	15 hp	9.37 hp	R340	ABSOLUTEAIRE	5100 lb	1,2,3,5
MUA-2	LARGE VEHICLE 151	32500 CFM	0.25 in-wg	1.43 in-wg	740	3,100,000	2,821,000	70 °F	480	3	60	15 hp	R344	ABSOLUTEAIRE	5600 lb	1,2,3,5	
MUA-3	WELDING 145	3500 CFM	0.50 in-wg	1.70 in-wg	1112	290,000	266,800	60 °F	480	3	60	3 hp	1.80 hp	V212	ABSOLUTEAIRE	775 lb	1,2,3,5
MUA-4	SMALL VEHICLE 138	10000 CFM	0.25 in-wg	1.43 in-wg	1132	1,180,000	1,085,000	90 °F	480	3	60	5 hp	R327	ABSOLUTEAIRE	3300 lb	1,2,3,4,5,6	

- NOTES:  
1. PROVIDE 20" INSULATED ROOFCURB  
2. PROVIDE ALUMINUM BANK FILTER SECTION, FILTERED INTAKE HOOD  
3. PROVIDE LOW LEAKAGE INLET DAMPER  
4. PROVIDE VFD IN LOCATION SHOWN ON THE PLANS WITH BUILDING PRESSURE CONTROL  
5. PROVIDE CONTROL PANEL WITH DISCHARGE AIR TEMPERATURE SELECTOR  
6. MINIMUM AIRFLOW TO BE 5000CFM

HYDRONIC HEATING COILS																
TAG	SERVES	AIRFLOW	apd	GPM	Water Pressure	COIL ROWS	DUCT HEIGHT	DUCT WIDTH	BTU/H OUT	EAT °F	LAT °F	EWT °F	LWT °F	MFG	Model	NOTES
HC-1	MUA-3	3500 CFM	0.14 in-wg	19 GPM	1.81 RH20	2	27"	36"	285530.0 Btu/h	35 °F	113 °F	180 °F	150 °F	TRANE	DDW527	

AIR HANDLING UNIT SCHEDULE																							
TAG	Design Supply Air Flow	OUTSIDE AIR	ESP	TSP	DX COOLING COIL				ELECTRICAL							OPERATING WEIGHT	MODEL	MFG	NOTES				
					EAT	LAT	DB	WB	TOTAL	SENS	TYPE	ROWS	V	PH	FREQ					FLA	MOCPP	MCA	HP
AHU-1	2400 CFM	150 CFM	1.50 in-wg	2.75 in-wg	79 °F	67 °F	57 °F	57 °F	92320.0 Btu/h	64080.0 Btu/h	DX coil - 14 FPI	6	460 V	3	60 Hz	3 A	15 A	4 A	2.0	708.72 lb	UCCAA06C	TRANE	1,2,3,4,5

- NOTES:  
1. PROVIDE VFD ON SUPPLY FAN  
2. PROVIDE MIXING BOX WITH ECONOMIZER DAMPERS AND MERV 8 FILTERS  
3. PROVIDE RETURN AIR DUCT SMOKE DETECTOR  
4. PROVIDE INTERTWINED DUCT CIRCUIT COIL  
5. PROVIDE CANVAS DUCT CONNECTIONS ON SUPPLY, RETURN AND OUTSIDE AIR

VAV BOX WITH HOT WATER REHEAT SCHEDULE																	
TAG	SERVES	INLET SIZE	VEL	APD	AIRFLOW			REHEAT COIL			WPD	MODEL	MFG	NOTES			
					MAX	MIN	HEATING	DELTA T	CAPACITY	EWT					EAT	LAT	FLOW
V-1	BREAKROOM 132	8" (203mm)	1580 FPM	0.29 in-wg	550 CFM	180 CFM	250 CFM	31 °F	15360 Btu/h	180 °F	55 °F	112 °F	1.0 GPM	0.04 psi	DESV	TITUS	1,2,3
V-2	WOMENS LOCKER ROOM	8" (203mm)	860 FPM	0.10 in-wg	300 CFM	0 CFM	250 CFM	31 °F	15360 Btu/h	180 °F	55 °F	112 °F	1.0 GPM	0.04 psi	DESV	TITUS	1,2,3
V-3	MENS LOCKER ROOM	14" (356mm)	890 FPM	0.11 in-wg	950 CFM	0 CFM	750 CFM	50 °F	40670 Btu/h	180 °F	55 °F	105 °F	2.0 GPM	0.06 psi	DESV	TITUS	1,2,3
V-5	OFFICE 123	8" (154mm)	1270 FPM	0.17 in-wg	250 CFM	75 CFM	100 CFM	33 °F	8250 Btu/h	180 °F	55 °F	131 °F	0.5 GPM	0.07 psi	DESV	TITUS	1,2,3
V-6	OFFICE 120, 121, 122	8" (203mm)	1000 FPM	0.13 in-wg	350 CFM	125 CFM	200 CFM	28 °F	13890 Btu/h	180 °F	55 °F	119 °F	1.0 GPM	0.04 psi	DESV	TITUS	1,2,3
V-7	OFFICE 124	4" (102mm)	1720 FPM	0.03 in-wg	150 CFM	50 CFM	100 CFM	33 °F	8250 Btu/h	180 °F	55 °F	131 °F	0.5 GPM	0.03 psi	DESV	TITUS	1,2,3

- NOTES:  
1. PROVIDE LOW VOLTAGE TRANSFORMER FOR EACH ZONE DAMPER  
2. PROVIDE DUCT TRANSITIONS TO ZONE DAMPERS AS REQUIRED  
3. MINIMUM 2 ROW HEATING COIL

ENERGY RECOVERY VENTILATOR SCHEDULE																										
TAG	SERVES	SA FLOW	SA ESP	SA SUMMER				SA WINTER				EA FLOW	EA DB	EA O.S	ENTHALPY EFFECT TOTAL%	SA HP	EA HP	V	PH	MCA	MOCPP	WEIGHT LBS	MFG	MODEL	NOTES	
				DB	WB	WB	WB	DB	WB	DB	WB															
ERV-1	AHU-VEXHAUST	1350 CFM	1.05	79	71	47.2	38.4	90	77	-11	-13	0 CFM	70	0.5	54	68	1.5	11.5	208 V	3	11.9	1.5	414	RENEVAIRE	HEZXINH	1,2,3

- NOTES:  
1. PROVIDE DISCONNECT  
2. PROVIDE SEPARATE STARTERS FOR SUPPLY AND EXHAUST FANS  
3. PROVIDE CONTROL DAMPERS ON DUCT CONNECTIONS AS SHOWN ON PLANS

AIR COOLED CONDENSING UNIT SCHEDULE												
TAG	SERVES	NOMINAL TONS	ELECTRICAL INFORMATION				MODEL	MFG	WEIGHT	NOTES		
			V	PH	HZ	MCA					MOCPP	
ACCUJ-1A	AHU-1	4	460 V	3	60 Hz	8 A	15 A	4TTA3048D4	TRANE	225.00 lb	3	
ACCUJ-1B	AHU-1	4	460 V	3	60 Hz	8 A	15 A	4TTA3048D4	TRANE	225.00 lb	3	
ACCUJ-2	CRU1	1	208 V	1	60 Hz	12 A	15 A	GE12NA	Mitsubishi Electric	77.00 lb	1,2	

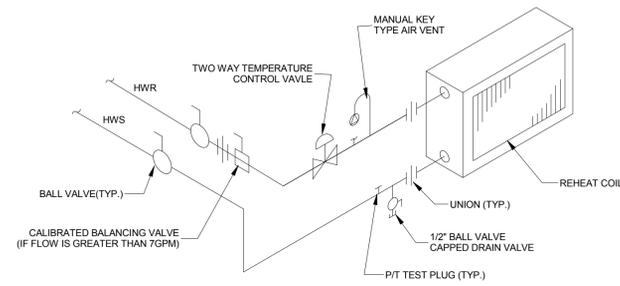
- NOTES:  
1. MOUNT ON ANGLE BRACKETS MOUNTED ON THE WALL  
2. COORDINATE WITH E/C FOR POWER WIRING FROM ACCU-2 TO CRU-1  
3. PROVIDE LIGHT WEIGHT CONCRETE PAD, 4" TREATED 4X4'S, AND NEOPRENE ISOLATION PADS FOR MOUNTING ON THE ROOF

SPLIT SYSTEM COOLING UNIT SCHEDULE													
TAG	SERVES	Unit Airflow	ELECTRICAL				MCA	COOLING CAPACITY (BTU/H)	MFG	Model	Weight	NOTES	
			V	PH	HZ	WATTS							
CRU1	DATA ROOM	364 CFM	208 V	1	60 Hz	8 W	12000	Power From Outdoor	12000	Mitsubishi Electric	GE12NA	20.00 lb	1,2,3

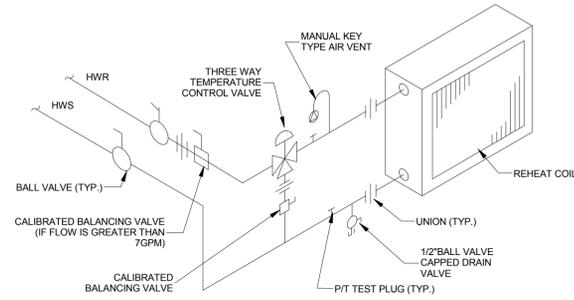
- NOTES:  
1. PROVIDE WALL BRACKET FOR REMOTE CONTROL  
2. PIPE CONDENSATE TO NEAREST DRAIN WITH 3/4" PVC DRAIN PIPING  
3. MOUNT HIGH ON WALL COORDINATE FINAL LOCATION WITH OWNER'S REPRESENTATIVE

HYDRONIC UNIT HEATERS																	
TAG	SERVES	AIRFLOW	BTU/hr OUT	Air Delta T	WATER			ELECTRICAL			MFG	MODEL	WEIGHT	NOTES			
					FLOW	PD	EWT	LWT	V	PH					HTZ		
CUH1	VESTIBULE	275 CFM	0	-460 °F	1.0 GPM	0.00 RH20	180 °F	160 °F	120 V	1	60 Hz	1 A	0.010 hp	RITTLING	RS-02	85.00 lb	1,3
CUH2	STAIR	275 CFM	0	-460 °F	1.0 GPM	0.00 RH20	180 °F	160 °F	120 V	1	60 Hz	1 A	0.010 hp	RITTLING	RS-02	85.00 lb	1,3
UH-1	SMALL VEHICLE 140	1775 CFM	69400	36 °F	6.0 GPM	0.43 RH20	180 °F	150 °F	115 V	1	60 Hz	2 A	0.125 hp	RITTLING	RH-121	90.00 lb	1
UH-2	SMALL VEHICLE 140	1775 CFM	69400	36 °F	6.0 GPM	0.43 RH20	180 °F	150 °F	115 V	1	60 Hz	2 A	0.125 hp	RITTLING	RH-121	90.00 lb	1
UH-3	SMALL VEHICLE 140	1775 CFM	69400	36 °F	6.0 GPM	0.43 RH20	180 °F	150 °F	115 V	1	60 Hz	2 A	0.125 hp	RITTLING	RH-121	90.00 lb	1
UH-4	SMALL VEHICLE 140	1775 CFM	69400	36 °F	6.0 GPM	0.43 RH20	180 °F	150 °F	115 V	1	60 Hz	2 A	0.125 hp	RITTLING	RH-121	90.00 lb	1
UH-5	LARGE VEHICLE 138	2500 CFM	102600	38 °F	9.0 GPM	1.02 RH20	180 °F	150 °F	115 V	1	60 Hz	2 A	0.250 hp	RITTLING	RH-165	110.00 lb	1,2
UH-6	LARGE VEHICLE 138	2500 CFM	102600	38 °F	9.0 GPM	1.02											

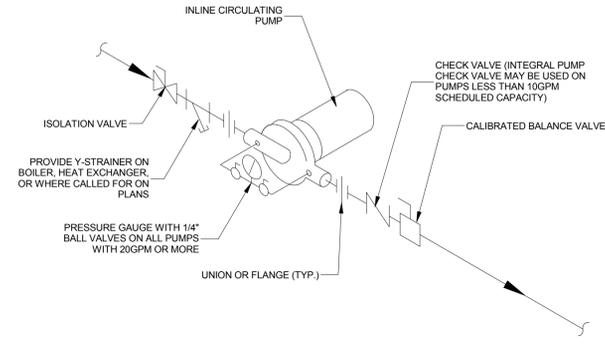




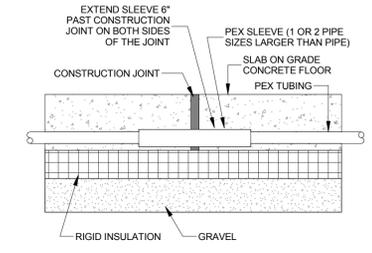
1 2-WAY REHEAT COIL  
M-302 SCALE: NO SCALE



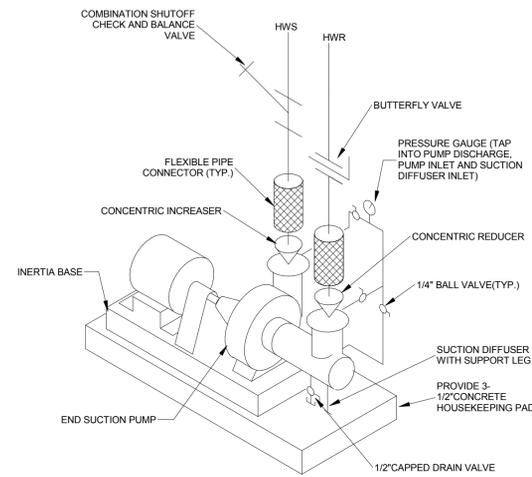
2 3-WAY REHEAT COIL  
M-302 SCALE: NO SCALE



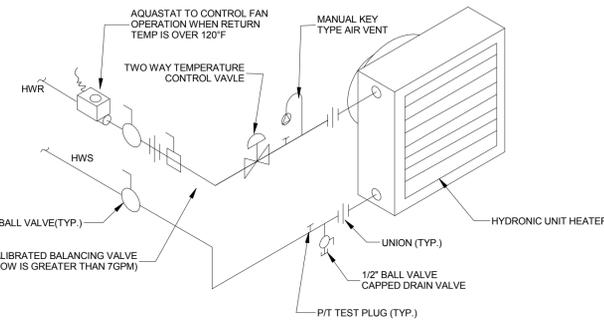
5 INLINE PUMP DETAIL  
M-302 SCALE: NO SCALE



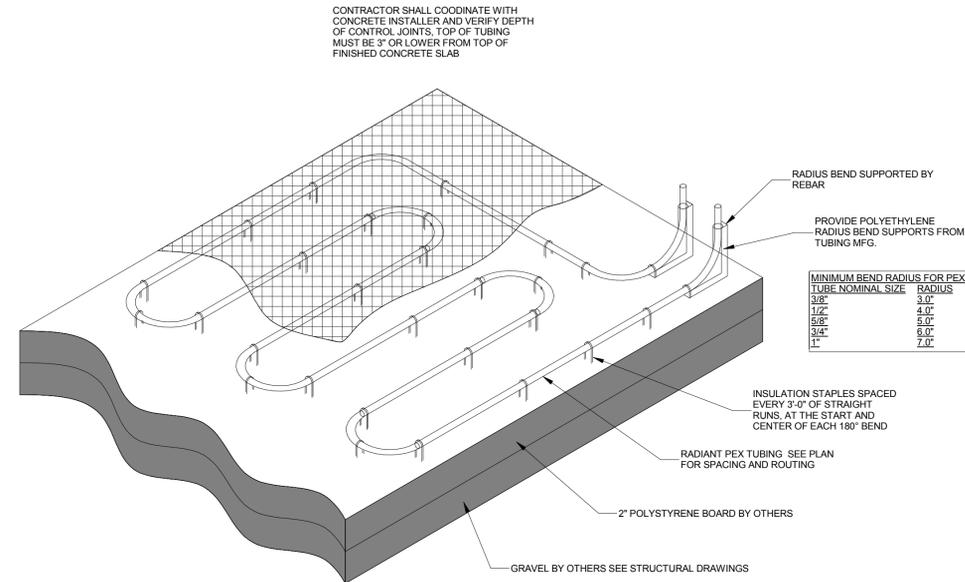
11 SLAB ON GRADE RADIANT TUBING CONSTRUCTION JOINT  
M-302 SCALE: NO SCALE



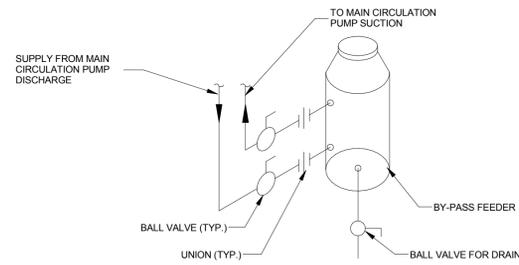
3 BASE MOUNTED PUMP DETAIL  
M-302 SCALE: NO SCALE



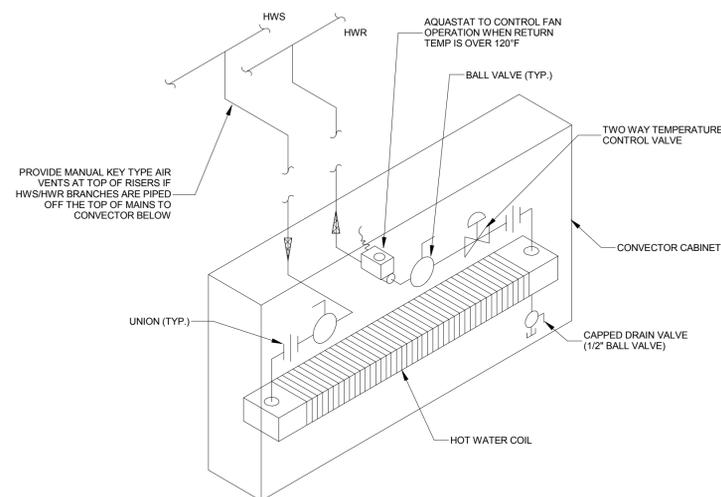
4 HYDRONIC UNIT HEATER  
M-302 SCALE: NO SCALE



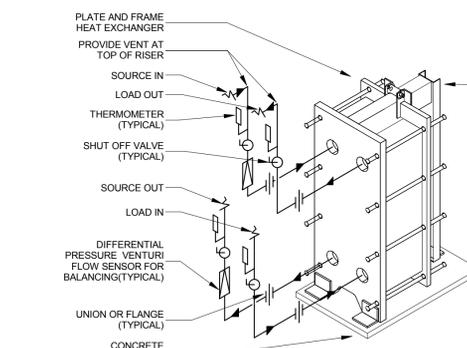
6 SLAB ON GRADE RADIANT TUBING  
M-302 SCALE: NO SCALE



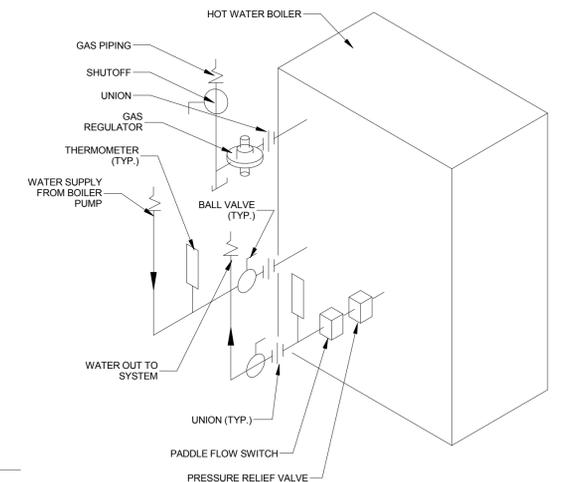
8 CHEMICAL FEEDER  
M-302 SCALE: NO SCALE



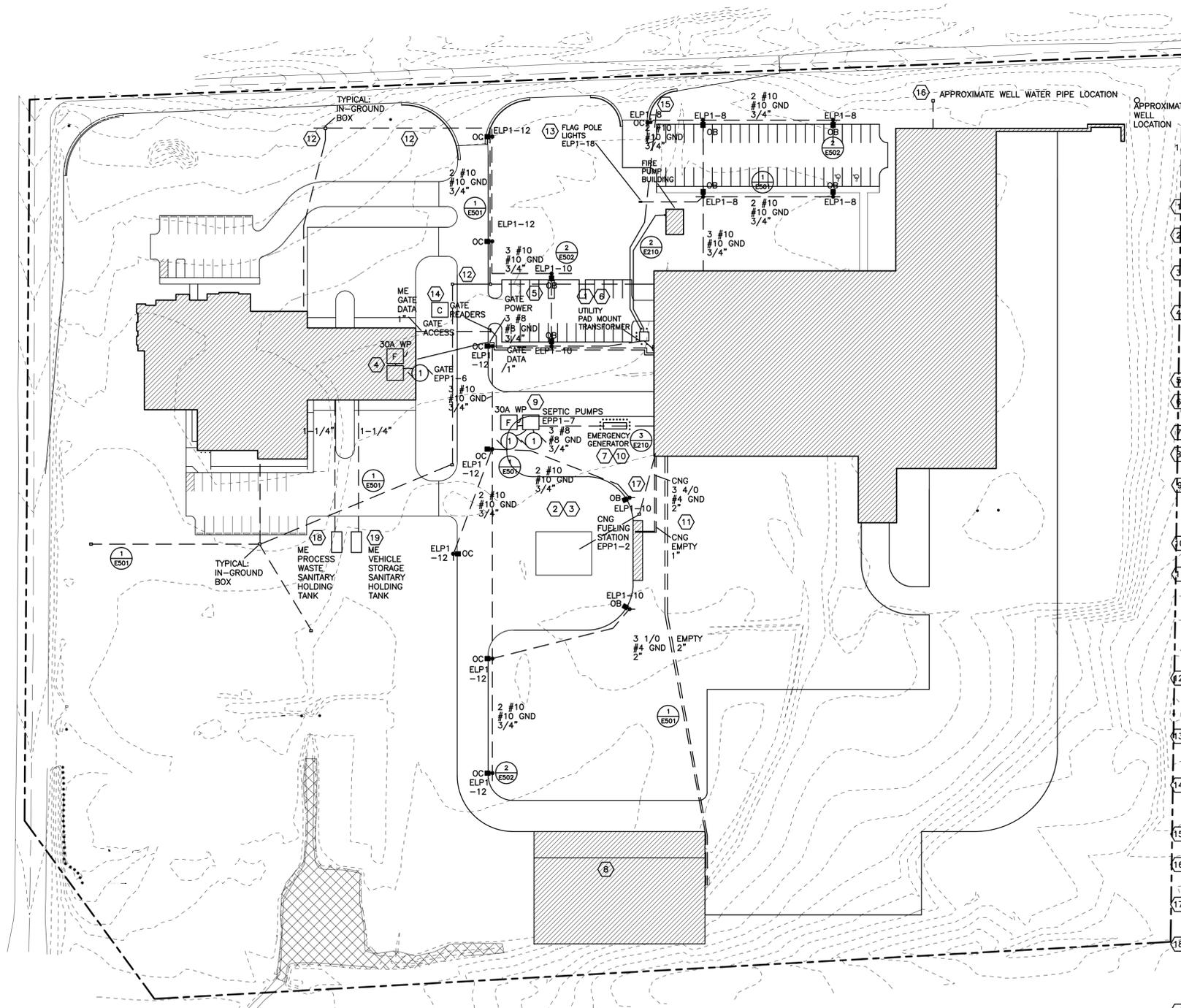
7 CABINET HYDRONIC UNIT HEATER  
M-302 SCALE: NO SCALE



9 PLATE AND FRAME HEAT EXCHANGER DETAIL  
M-302 SCALE: NO SCALE



10 Boiler Piping Detail  
M-302 SCALE: NO SCALE

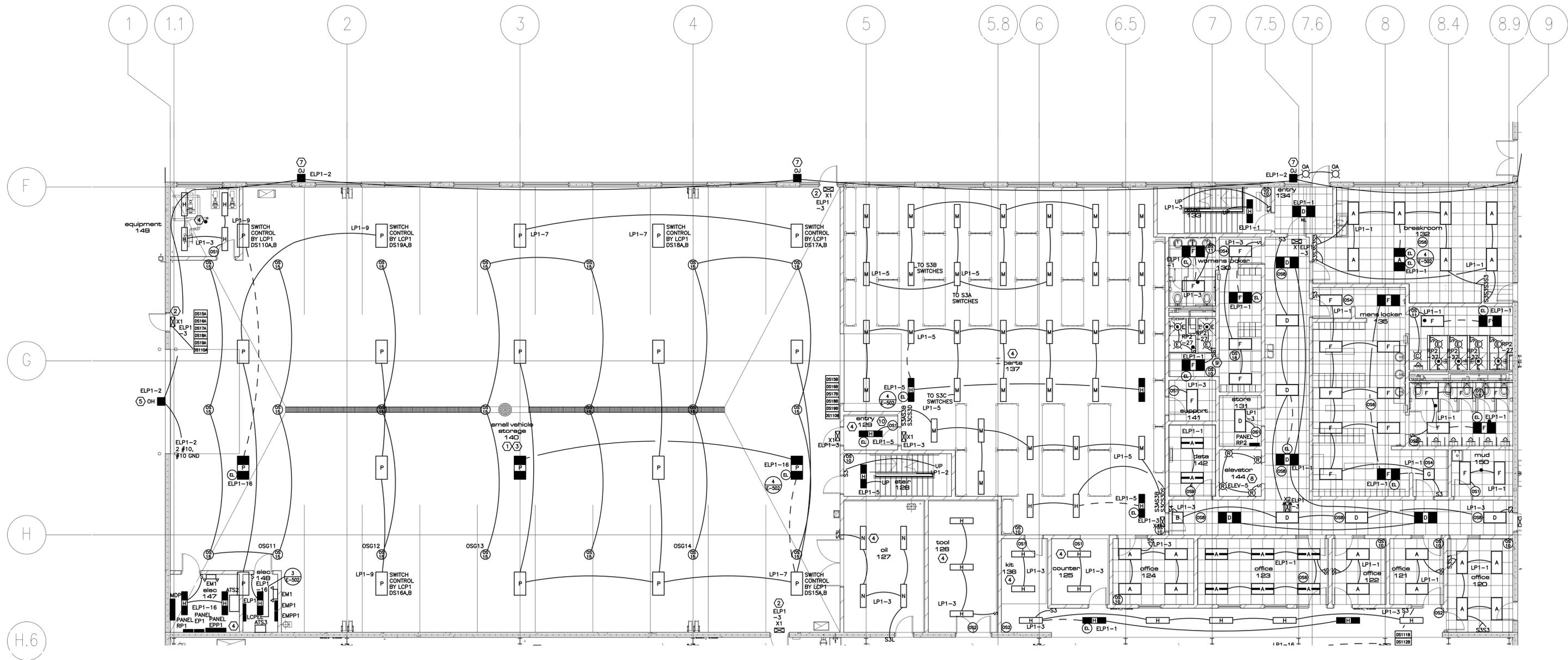


GENERAL SHEET NOTES

SEE DRAWING NOTES AND BIDDING NOTES ON SHEET E-506 FOR BASE BID AND ALTERNATE BIDS.

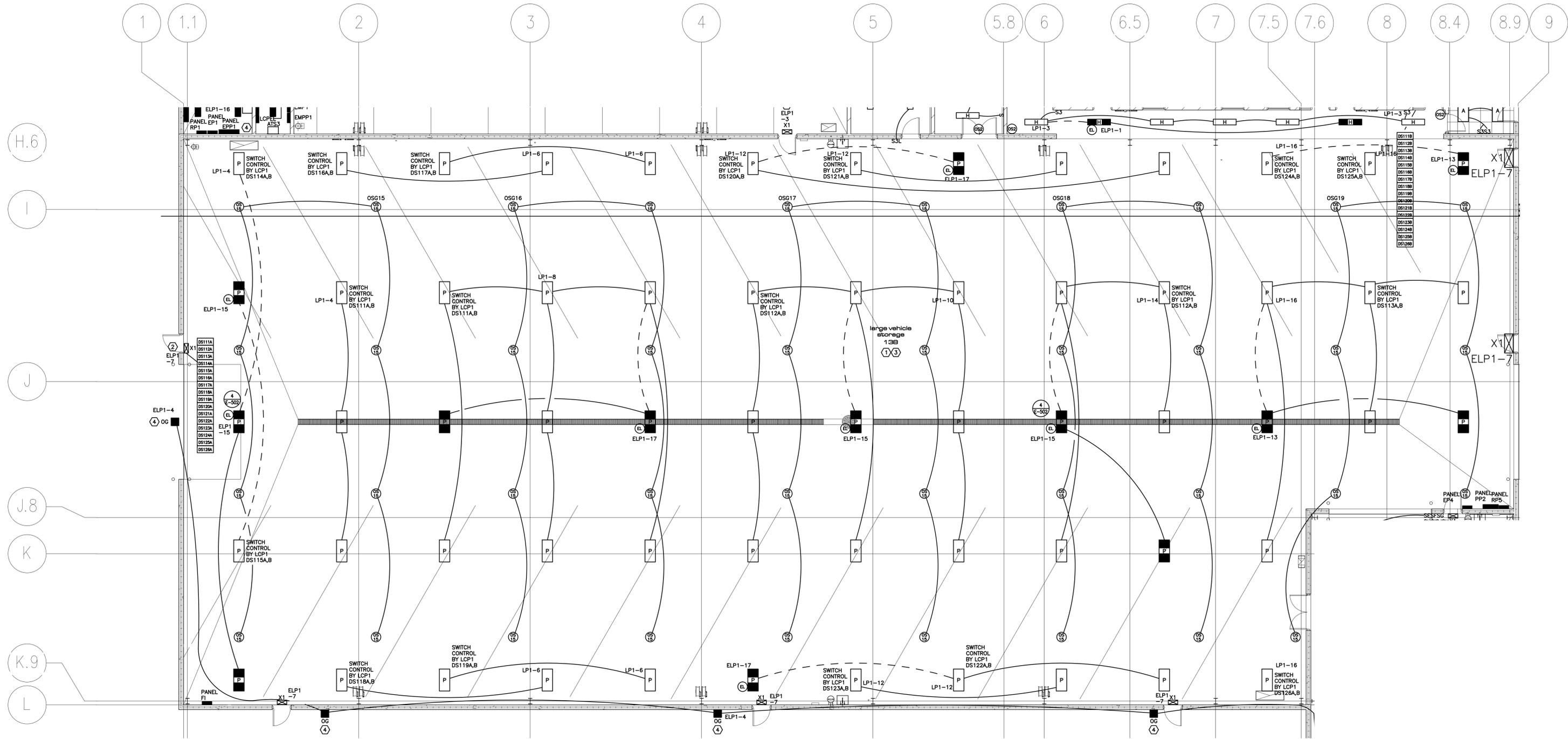
SHEET NOTES

- 1 APPROXIMATE UTILITY PAD MOUNT TRANSFORMER LOCATION SHOWN. VERIFY LOCATION. COORDINATE ALL SERVICE WORK WITH UTILITY.
- 2 FUEL ISLAND AREA: 20' AREA AROUND GAS PUMPS AND 5' AREA AROUND UNDERGROUND TANK FILL OPENING OR VENT ARE CLASS 1, DIVISION 1 OR DIVISION 2 LOCATIONS. ELECTRICAL CONTRACTOR TO VERIFY CLASSIFIED LOCATIONS AND KEEP CONDUITS AND EQUIPMENT AWAY FROM THESE AREAS.
- 3 ALL FUEL ISLAND EQUIPMENT (PUMPS, CANOPY LIGHTS, CARD READERS, SYSTEMS AND/OR ANY OTHER ASSOCIATED DEVICES) WIRING AND CONDUIT BY FUEL SYSTEMS CONTRACTOR UNDER ALTERNATE BID #2. ELECTRICAL CONTRACTOR TO PROVIDE FUEL ISLAND PANEL FI, TRANSFORMER AND FEEDER UNDER BASE BID.
- 4 PROVIDE DISCONNECT AND POWER CONNECTION TO GATE. PROVIDE POWER CONDUIT FROM BUILDING TO GATE CONTROL BOX. PROVIDE EMPTY 1" CONTROL CONDUIT FROM JOIST AREA IN BUILDING TO GATE CONTROL BOX. PROVIDE 3/4" CONTROL CONDUIT FROM GATE CONTROL BOX TO EACH CARD READER (ONE FOR HIGHWAY BUILDINGS, ONE FOR THE BUILDING). PROVIDE 1" CONTROL CIRCUIT FROM GATE CONTROL BOX TO ME BUILDING. KEEP CONTROL CONDUITS AT LEAST 2' FROM ANY POWER CONDUITS. OUTDOOR CARD READER STANDS BY GENERAL CONTRACTOR.
- 5 PROVIDE 3 4" PVC CONDUITS WITH PULL STRING FROM DATA 142 TO IN-GROUND BOX.
- 6 GENERAL CONTRACTOR TO PROVIDE CONCRETE PAD AND BOLLARDS FOR ALLIANT ENERGY PAD MOUNT TRANSFORMER AS REQUIRED.
- 7 GENERAL CONTRACTOR TO PROVIDE CONCRETE PAD AND BOLLARDS FOR GENERATOR AS REQUIRED.
- 8 SALT STRUCTURE: PROVIDE POWER CONDUCTORS AND ALL SALT STRUCTURE ELECTRICAL AS SHOWN ON SHEET E-209. STUB EMPTY 2" CONDUIT UP TO 4' AFG APPROXIMATELY 3' NORTH OF PANEL SS ON SALT SHED AND CAP.
- 9 SEPTIC SYSTEM - INFORMATIONAL BID B: PROVIDE CIRCUIT BREAKER IN PANEL EPP1. FEEDER AND WP FUSED DISCONNECT AT SEPTIC SYSTEM CONTROL PANEL. PROVIDE CONDUIT AND CIRCUITS TO TWO 1 HP SEPTIC PUMPS. SEPTIC SYSTEM CONTROL PANEL AND PUMPS PROVIDED AND MOUNTED BY PLUMBING CONTRACTOR. VERIFY LOCATIONS. PROVIDE 1" EMPTY CONDUIT FROM SEPTIC PANEL TO UNDERGROUND TANK FOR FLOAT CONTROL WIRING BY PLUMBING CONTRACTOR.
- 10 PROVIDE CONDUITS, CIRCUITS AND CONTROL WIRING AS REQUIRED BY GENERATOR MANUFACTURER. SEE SHEET E-210, DETAIL 3 FOR AN EXPLODED VIEW OF THE GENERATOR AREA.
- 11 CNG AREA: AREA INSIDE DISPENSER ENCLOSURE IS A CLASS 1 DIVISION 1 LOCATION. 5' AREA AROUND DISPENSER IS A CLASS 1, DIVISION 2 LOCATION. KEEP 20' AWAY FROM TANKS. ELECTRICAL CONTRACTOR TO VERIFY CLASSIFIED LOCATIONS AND KEEP OTHER CONDUITS AND EQUIPMENT AWAY FROM THESE AREAS. PROVIDE CIRCUIT BREAKER IN PANEL EPP1 AND FEEDER TO CNG PANEL. PROVIDE TERMINATION IN CNG ELECTRICAL PANEL. ALSO PROVIDE EMPTY 1" TO CNG PANEL FROM BOTTOM OF JOIST AREA INSIDE BUILDING. PROVIDE PULL STRING IN EMPTY CONDUIT. VERIFY LOCATION WITH CNG CONTRACTOR. CNG ELECTRICAL PANEL PROVIDED WITH CNG EQUIPMENT BY CNG CONTRACTOR. ELECTRICAL SHALL BE CLASS 1 DIVISION 1 (GALVANIZED RIGID STEEL CONDUIT, CLASS 1 DIV. 1 FITTINGS AND SEAL OFFS AS REQUIRED).
- 12 PROVIDE 3 4" PVC CONDUITS WITH PULL STRING AND IN-GROUND BOXES FOR SYSTEMS USE AS SHOWN. PROVIDE STUBS FROM IN-GROUND BOXES AS SHOWN. PROVIDE 12" WIDE, 12" DEEP CONCRETE PAD AROUND ALL IN-GROUND BOXES. IN-GROUND BOXES SUPPLIED BY SYSTEMS CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. STUB 4" CONDUITS 5" OUT FROM BUILDING. HIGHWAY FACILITY ELECTRICAL CONTRACTOR TO CONNECT TO STUBBED OUT 4" CONDUITS.
- 13 FLAG POLE PROVIDED WITH TWO UP LIGHTS MOUNTED TO POLE AND PREWIRED TO HAND HOLE BY FLAG POLE MANUFACTURER. ELECTRICAL CONTRACTOR TO PROVIDE CIRCUIT AND CONNECT TO PREWIRED LIGHTS. ELECTRICAL CONTRACTOR TO ALSO PROVIDE A GROUND ROD AND CONDUCTOR TO GROUND FLAG POLE. PROVIDE PVC CONDUIT IN FLAG POLE BASE FOR GROUND CONDUCTOR. VERIFY LOCATION.
- 14 PROVIDE 1" CONDUIT FROM GATE CONTROL BOX TO JOIST AREA IN MAIN BUILDING. PROVIDE 3/4" CONDUIT FROM GATE CONTROL BOX TO EACH CARD READER (DUAL HEIGHT CARD READERS). VERIFY LOCATION OF CARD READERS WITH SYSTEMS CONTRACTOR. CARD READER STAND BY SYSTEMS CONTRACTOR. CARD READER CONCRETE BASE BY GENERAL CONTRACTOR.
- 15 PRIMARY UNDERGROUND ELECTRICAL LINE BY ALLIANT ENERGY. ELECTRICAL CONTRACTOR TO STUB 4" PRIMARY CONDUITS OUT FROM UTILITY TRANSFORMER PAD. ALL OTHER PRIMARY WORK BY ALLIANT ENERGY.
- 16 PROVIDE 1 4" PVC CONDUIT WITH PULL STRING AND IN-GROUND BOX FOR SYSTEMS USE AS SHOWN. STUB 4" UP TO JOIST AREA IN VEHICLE AREA 151. PROVIDE 12" WIDE, 12" DEEP CONCRETE PAD AROUND ALL IN-GROUND BOXES.
- 17 PROVIDE 1 4" PVC CONDUIT WITH PULL STRING AND IN-GROUND BOX FOR SYSTEMS USE AS SHOWN. STUB 4" UP TO JOIST AREA IN VEHICLE STORAGE 138. PROVIDE 12" WIDE, 12" DEEP CONCRETE PAD AROUND ALL IN-GROUND BOXES.
- 18 MEDICAL EXAMINER PROCESS WASTE SANITARY HOLDING TANK - INFORMATIONAL BID H: PROVIDE UP TO 1-1/4" CONDUIT FROM LEVEL CONTROLS INSIDE MEDICAL EXAMINER BUILDING TO SANITARY HOLDING TANK LEVEL SENSOR. PROVIDE PVC BOX IN TANK MANHOLE ACCESS PIT AND CONNECTION TO LEVEL CONTROL SENSOR AS REQUIRED. PULL LOW VOLTAGE CABLE AND TERMINATE AS REQUIRED. LOW VOLTAGE CABLE PROVIDED BY PLUMBING CONTRACTOR. RUN CONDUIT TO ONE SIDE OF SEWER LINE. VERIFY CONDUIT SIZE AND LOCATIONS WITH PLUMBING CONTRACTOR.
- 19 MEDICAL EXAMINER VEHICLE STORAGE SANITARY HOLDING TANK - INFORMATIONAL BID I: PROVIDE UP TO 1-1/4" CONDUIT FROM LEVEL CONTROLS INSIDE MEDICAL EXAMINER BUILDING TO SANITARY HOLDING TANK LEVEL SENSOR. PROVIDE PVC BOX IN TANK MANHOLE ACCESS PIT AND CONNECTION TO LEVEL CONTROL SENSOR AS REQUIRED. PULL LOW VOLTAGE CABLE AND TERMINATE AS REQUIRED. LOW VOLTAGE CABLE PROVIDED BY PLUMBING CONTRACTOR. RUN CONDUIT TO ONE SIDE OF SEWER LINE. VERIFY CONDUIT SIZE AND LOCATIONS WITH PLUMBING CONTRACTOR.



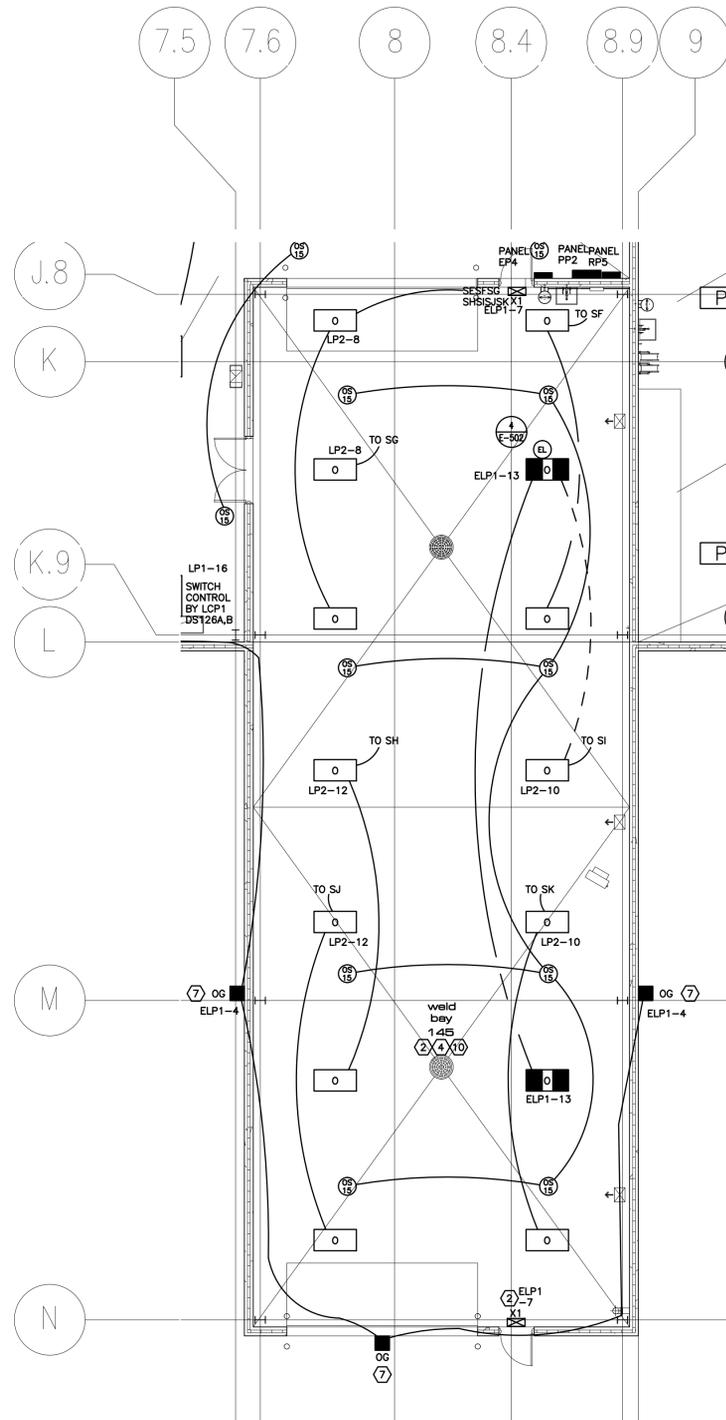
SHEET NOTES

- ① CNG VEHICLES WILL BE STORED IN THE SMALL VEHICLE STORAGE 140. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
- ② TYPICAL: MOUNT EXIT LIGHTS AT 10' AFF IN HIGH BAY AREAS.
- ③ HANG TYPE P LIGHTS IN SMALL VEHICLE STORAGE 140 APPROXIMATELY 2' BELOW JOISTS WITH AIRCRAFT CABLE OR CHAIN. HANG LIGHTS LEVEL AT THE SAME DISTANCE BELOW THE JOIST AND FOLLOW THE SLOPE OF THE JOISTS.
- ④ TYPICAL: CHAIN MOUNT TYPE H AND N LIGHTS 1' BELOW THE CEILING.
- ⑤ CENTER TYPE OH LIGHT 19' AFG.
- ⑥ NO NOTE.
- ⑦ CENTER TYPE OH LIGHT 18' AFG.
- ⑧ VERIFY ALL ELECTRICAL EQUIPMENT AND DEVICE LOCATIONS IN ELEVATOR SHAFT AND MACHINE ROOM WITH ELEVATOR CONTRACTOR.
- ⑨ WIRE SWITCH AND OCCUPANCY SENSOR ON CIRCUIT LP1-3. IF NORMAL POWER IS LOST, EMERGENCY LIGHTING UNIT TO TURN ON TYPE F LIGHT ON CIRCUIT ELP1-1.
- ⑩ WIRE OCCUPANCY SENSOR ON CIRCUIT LP1-5. IF NORMAL POWER IS LOST, EMERGENCY LIGHTING UNIT TO TURN ON TYPE H LIGHT ON CIRCUIT ELP1-5.

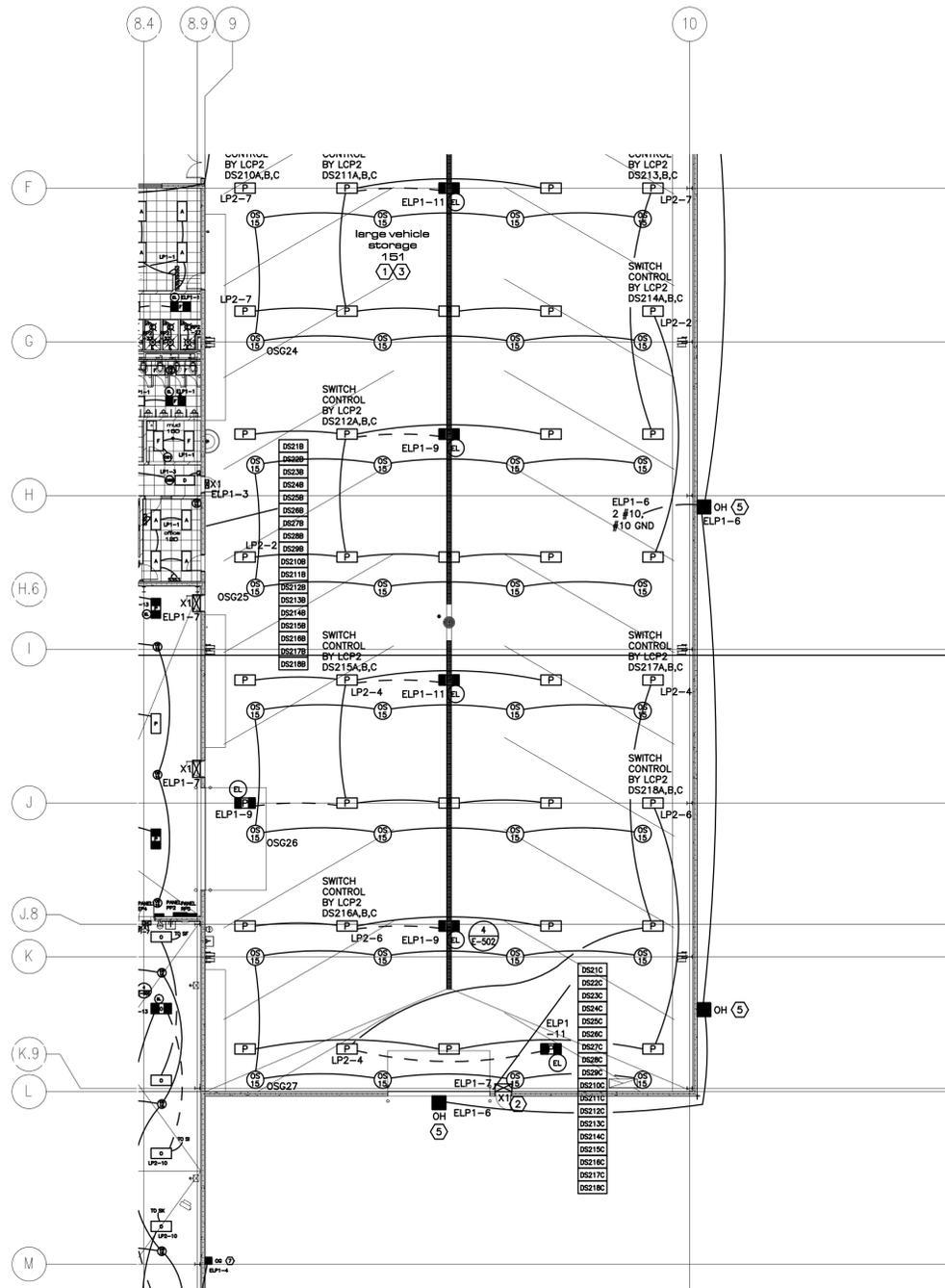


SHEET NOTES

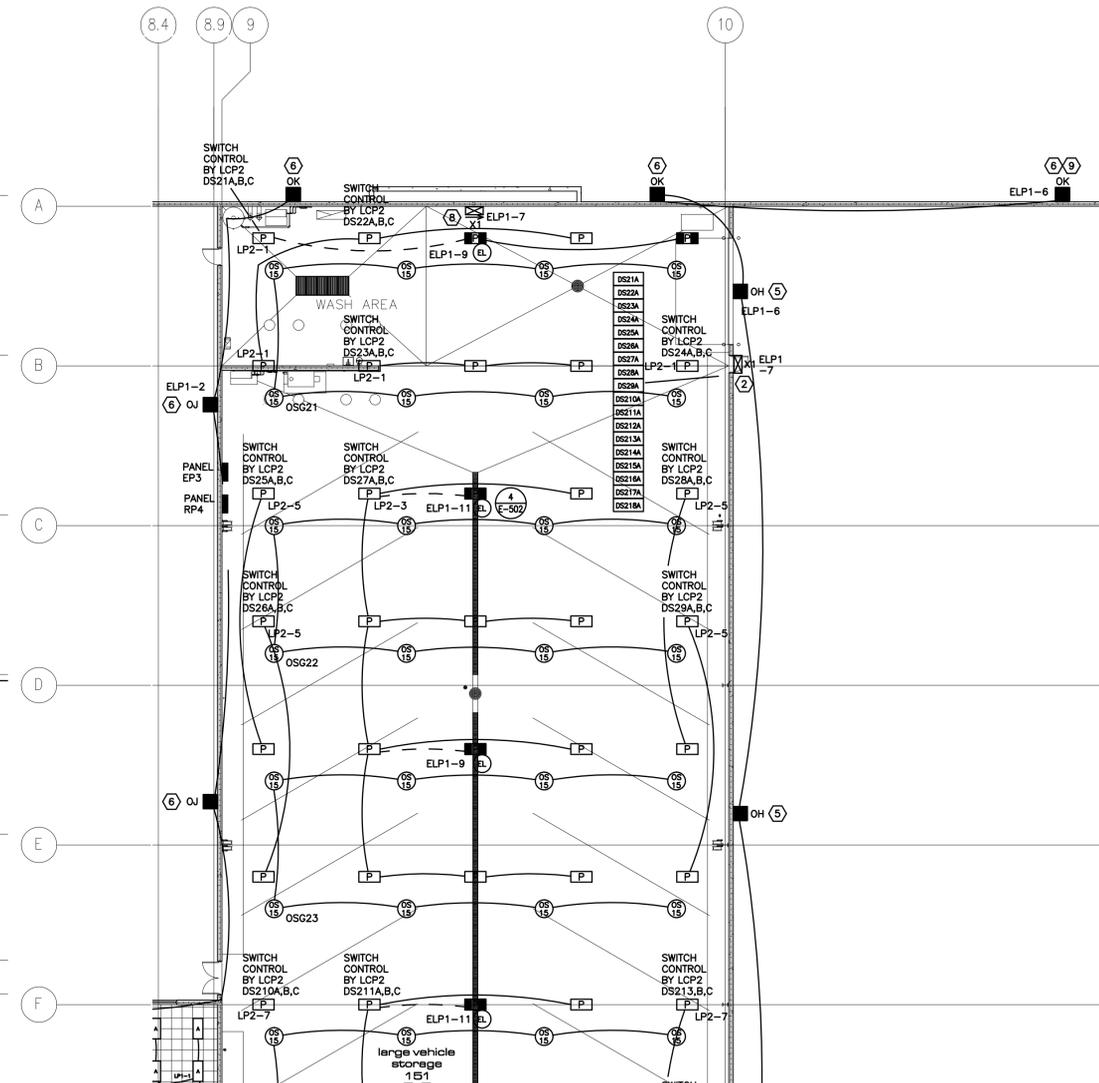
- ① CNG VEHICLES WILL BE STORED IN THE LARGE VEHICLE STORAGE 138. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2. THIS INCLUDES THE MEZZANINE AREA OPEN TO LARGE VEHICLE STORAGE 138. LARGE VEHICLE STORAGE 138 MAY BE A VEHICLE REPAIR IN THE FUTURE. UP TO A LEVEL OF 18" AFF. THE LARGE VEHICLE STORAGE 138 AREA IS CONSIDERED A FUTURE CLASS 1, DIVISION 2 LOCATION. PROVIDE EXPLOSION PROOF FITTINGS, SEAL OFFS AND RIGID CONDUIT AS REQUIRED BY CODE. SEALS ARE NOT REQUIRED ON CONDUITS THAT PASS UNBROKEN THRU THE CLASS 1 AREA PER NEC SECTION 511 IF THE CONDUIT EXTENDS MORE THAN 12" ABOVE THE CLASSIFIED AREA.
- ② TYPICAL: MOUNT EXIT LIGHTS AT 10' AFF IN HIGH BAY AREAS.
- ③ PROVIDE UNISTRUT BETWEEN JOISTS AND MOUNT TYPE P LIGHTS BETWEEN JOISTS IN LARGE VEHICLE STORAGE 138. BOTTOM OF LIGHT FIXTURE TO BE EVEN OR SLIGHTLY ABOVE THE BOTTOM OF THE JOISTS FOR CRANE CLEARANCE.
- ④ CENTER TYPE OG LIGHT 26" AFF.
- ⑤ NO NOTE.



**1** Weld Bay 145 Lighting Plan  
1/8" = 1'-0"



**2** South Large Vehicle 151 Lighting Plan  
1/8" = 1'-0"

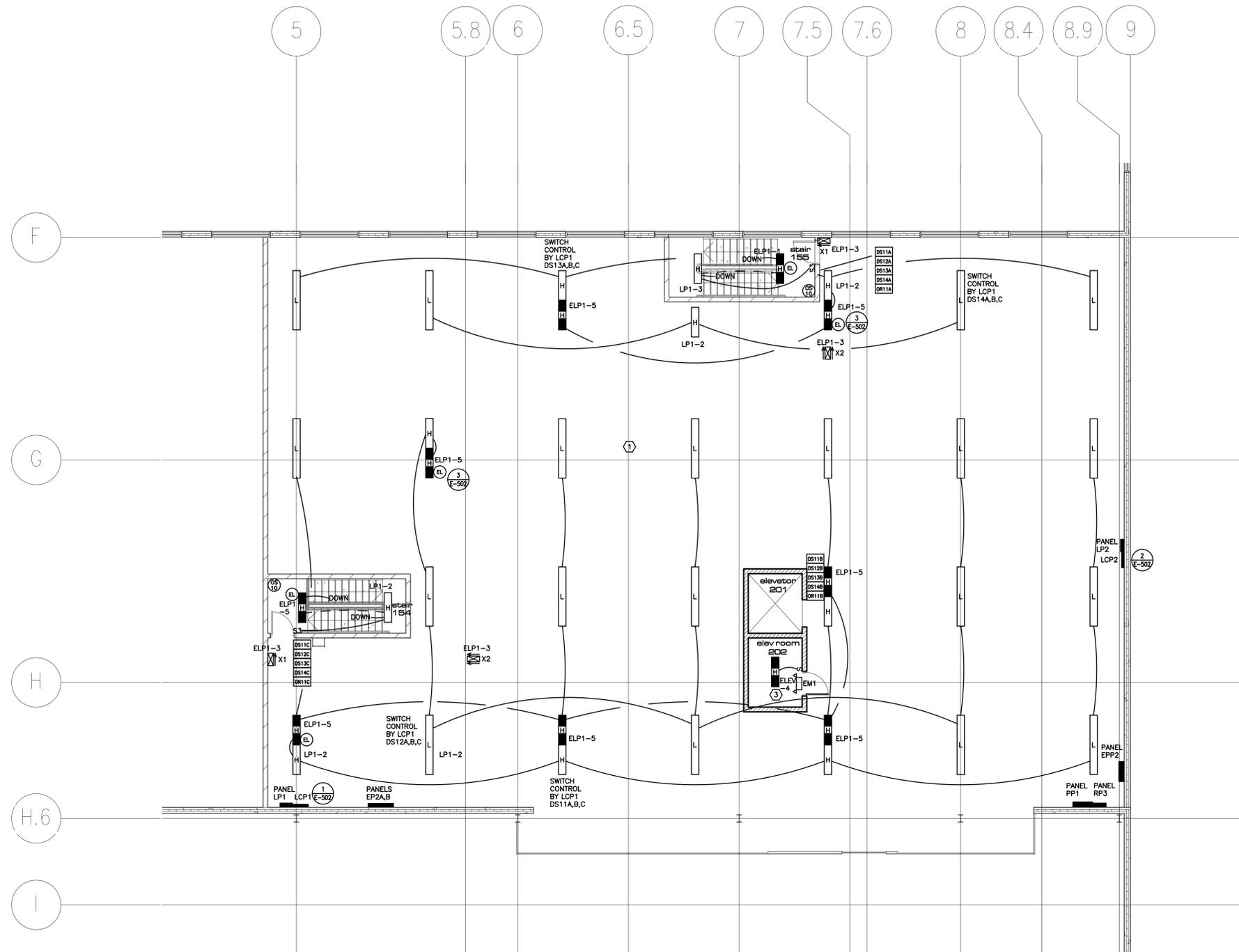


**3** North Large Vehicle 151 Lighting Plan  
1/8" = 1'-0"



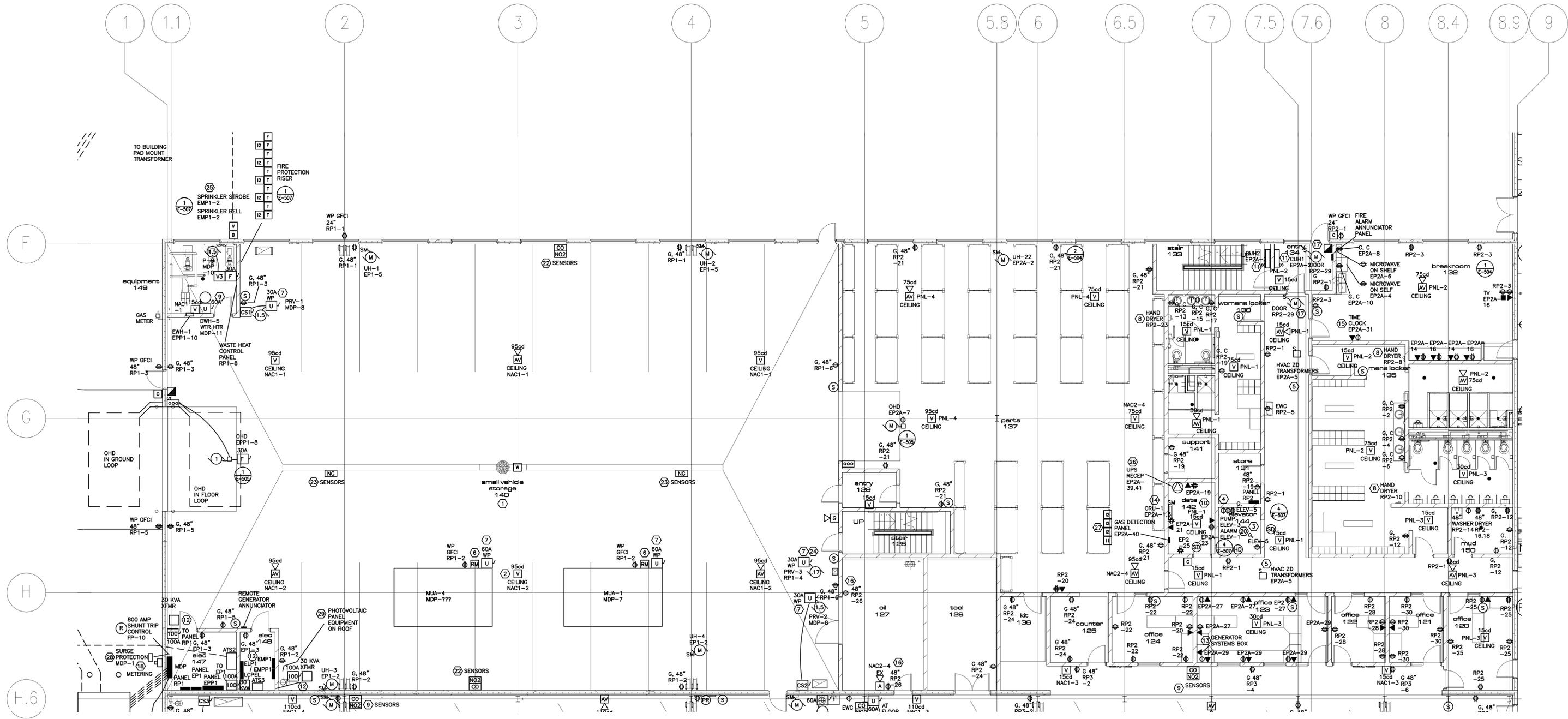
SHEET NOTES

- 1 CNG VEHICLES WILL BE STORED IN LARGE VEHICLE STORAGE 151. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
- 2 TYPICAL: MOUNT EXIT LIGHTS AT 10' AFF IN HIGH BAY AREAS.
- 3 HANG TYPE P LIGHTS IN LARGE VEHICLE STORAGE 151 APPROXIMATELY 2' BELOW JOISTS WITH AIRCRAFT CABLE OR CHAIN. HANG LIGHTS LEVEL AT THE SAME DISTANCE BELOW THE JOIST AND FOLLOW THE SLOPE OF THE JOISTS.
- 4 PROVIDE UNISTRUT BETWEEN JOISTS AND MOUNT TYPE O LIGHTS BETWEEN JOISTS IN WELD BAY 145. BOTTOM OF LIGHT FIXTURE TO BE EVEN OR SLIGHTLY ABOVE THE BOTTOM OF THE JOISTS FOR CRANE CLEARANCE.
- 5 CENTER TYPE OH LIGHT 18' AFG.
- 6 CENTER TYPE OK LIGHT 18' AFG.
- 7 CENTER TYPE OG LIGHT 26' AFG.
- 8 MOUNT EXIT LIGHT JUST BELOW GLASS.
- 9 PROVIDE LIGHT AND WIRING ON SCREEN WALL. PROVIDE WEATHERPROOF BOX ON SOUTH SIDE OF WALL OPPOSITE LIGHT. SURFACE MOUNT CONDUIT ON SOUTH SIDE OF WALL FROM BELOW GRADE STRAIGHT UP TO BOX. DO NOT RUN CONDUIT HORIZONTALLY ACROSS SCREEN WALL.
- 10 WELD BAY 145 LIGHTING HAS THREE LIGHTING CIRCUITS. USE LIGHTOLIER ITRSP4U FOUR RELAY PACK (OR EQUAL) TO SWITCH ROOM LIGHTING CIRCUITS. USE SPARE RELAY CONTACT TO TURN ON/OFF PRV-12 THRU RELAY R7. SEE SHEET E-207 FOR PRV-12.



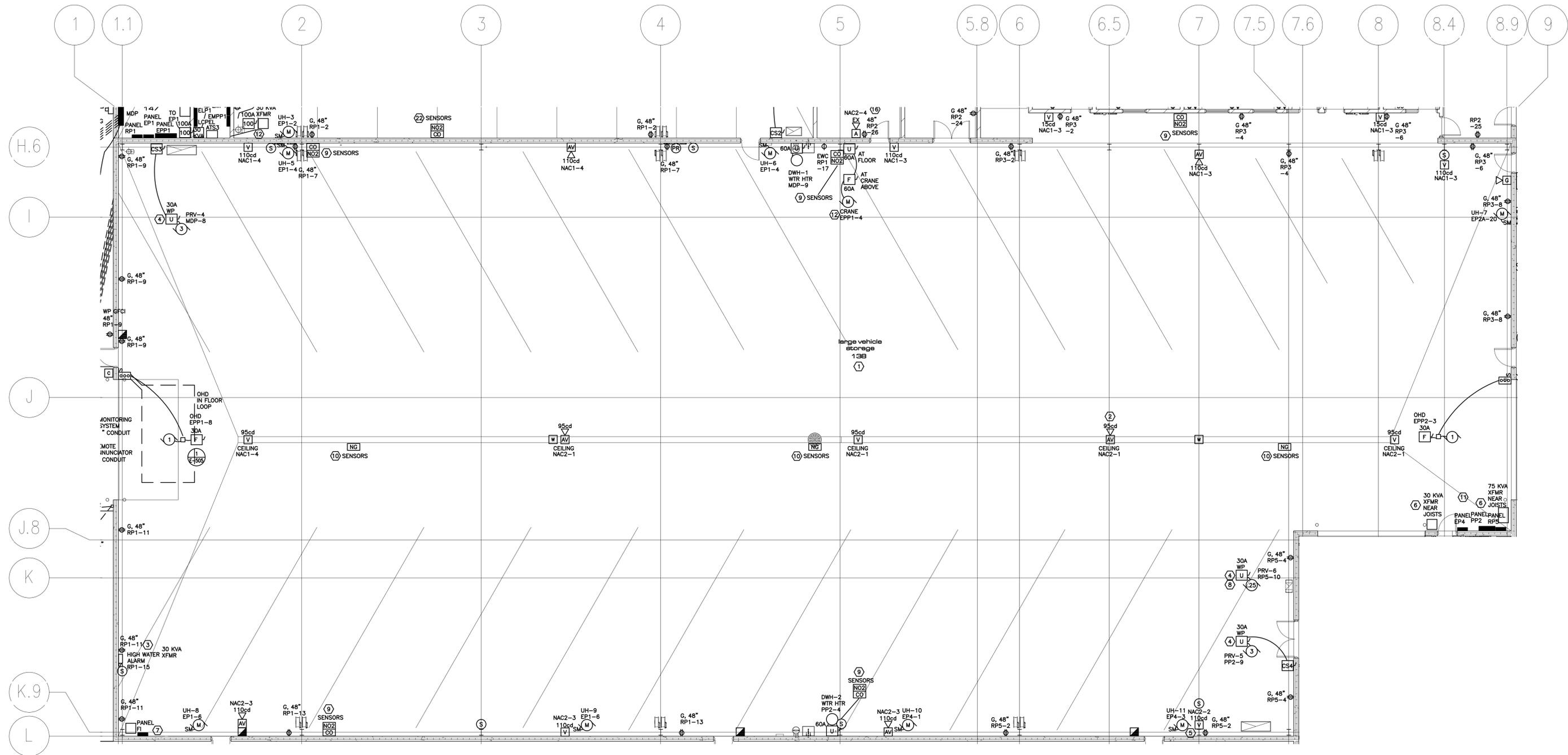
SHEET NOTES

- ① ONE VEHICLES WILL BE STORED IN THE LARGE VEHICLE STORAGE 138. THE MEZZANINE AREA IS OPEN TO LARGE VEHICLE STORAGE 138. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
- ② TYPICAL: MOUNT TYPE H AND L LIGHTS TO BOTTOM OF JOISTS.
- ③ VERIFY ALL ELECTRICAL EQUIPMENT LOCATIONS IN ELEVATOR SHAFT AND MACHINE ROOM WITH ELEVATOR CONTRACTOR.



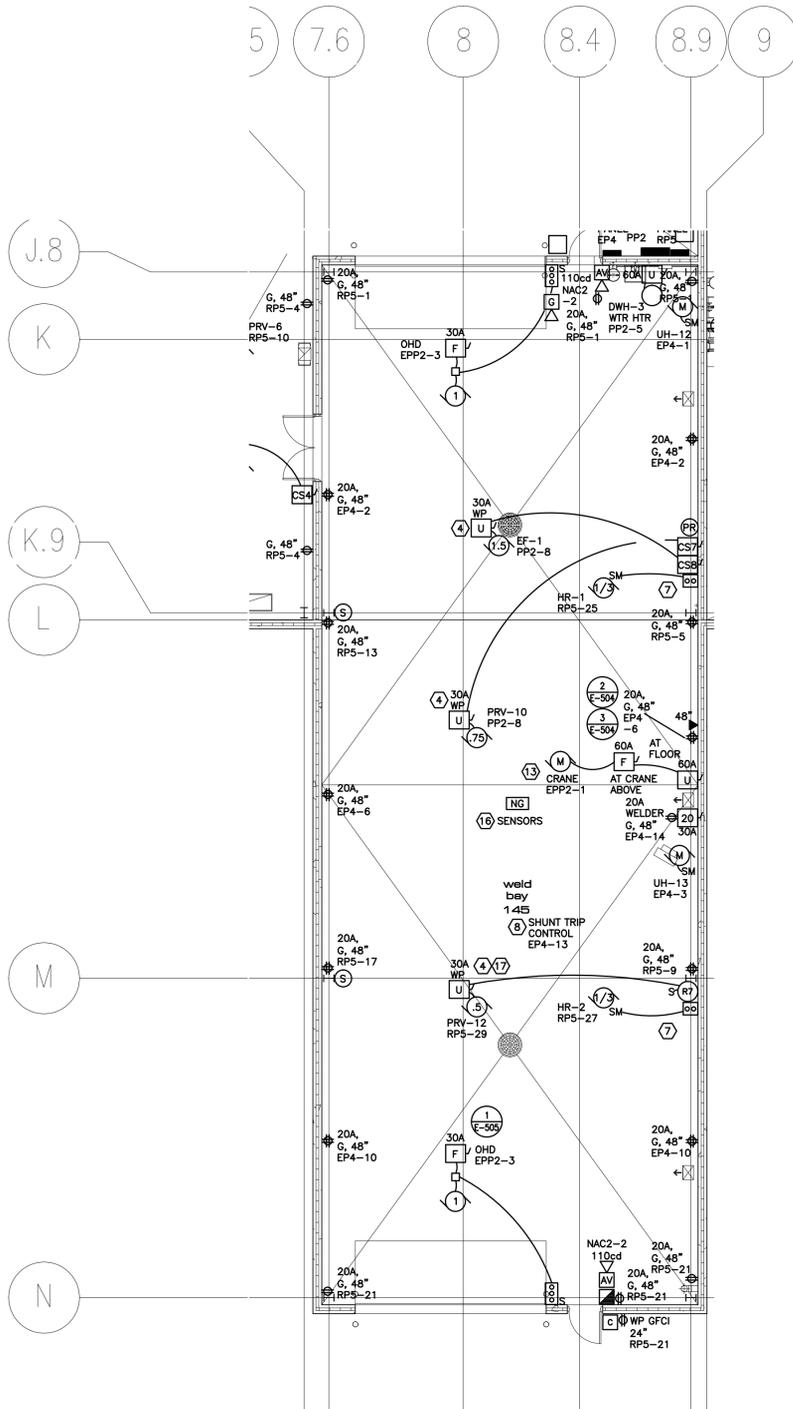
SHEET NOTES

- ① CNG VEHICLES WILL BE STORED IN THE SMALL VEHICLE STORAGE 140. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
- ② TYPICAL: CEILING MOUNT STROBE AND HORN/STROBES SHALL BE MOUNTED LOWER THAN LIGHTS OR OTHER OBSTRUCTIONS (MAINTAIN LINE OF SIGHT).
- ③ VERIFY ALL ELECTRICAL EQUIPMENT AND DEVICE LOCATIONS IN ELEVATOR SHAFT AND MACHINE ROOM WITH ELEVATOR CONTRACTOR.
- ④ PROVIDE ONE DUPLEX CIRCUIT WITH TWO CIRCUITS FOR SUMP AND ALARM. GENERAL GFCI RECEPTACLE MUST BE WITHIN 3' OF NON-GFCI RECEPTACLES.
- ⑤ PROVIDE 120V POWER TO VAV BOX TRANSFORMERS AT LOCATIONS SHOWN. EACH VAV BOX REQUIRES A TRANSFORMER. EACH LOCATION HAS UP TO FOUR VAV BOXES. TRANSFORMERS PROVIDED BY HVAC CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR. LOW VOLTAGE SECONDARY WIRING BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE PRIMARY AND SECONDARY FUSING AS REQUIRED.
- ⑥ INTERLOCK MUA UNIT WITH FIRE ALARM. MUA UNIT TO SHUTDOWN IF FIRE ALARM SYSTEM IS IN ALARM.
- ⑦ DISCONNECT PROVIDED ON HVAC EQUIPMENT BY HVAC CONTRACTOR.
- ⑧ PROVIDE EXCEL DRYER, INC. ENERGY EFFICIENT "XLERATOR" MODEL XL-W HAND DRYER WITH OPTIONAL RECESS KIT TO MEET ADA PROTRUSION REQUIREMENT OR EQUAL. FINISH SHALL BE WHITE. "XLERATOR" HAND DRYER HAS AN AUTOMATIC (SENSOR). PRODUCES 14,000 LFM OF AIR FLOW AT HANDS 4" BELOW AIR OUTLET, REQUIRES 1500 WATTS (12.5 AMPS, 120V), HAS A FIVE YEAR WARRANTY AND IS "GREENSPEC" LISTED. ANY "EQUAL" HAND DRYER SHALL MEET OR EXCEED THE SPECIFIED UNIT. MOUNT HAND DRYER 37" AFF (BOTTOM OF RECESSED BOX 26-1/2" AFF).
- ⑨ PUMP P-9 MOTOR STARTER PROVIDED BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR TO INSTALL. ELECTRICAL CONTRACTOR TO PROVIDE DISCONNECT AND POWER WIRING. VERIFY BEST LOCATION. LOW VOLTAGE WIRING BY HVAC CONTRACTOR.
- ⑩ PROVIDE 3 4" PVC CONDUIT WITH PULL STRING FROM DATA 142 TO OUTDOOR IN-GROUND BOX PROVIDED BY OTHERS WEST OF BUILDING. SEE SHEET E-101 FOR IN-GROUND BOX LOCATION. VERIFY CONDUIT LOCATION IN DATA 142 WITH SYSTEMS CONTRACTOR.
- ⑪ PROVIDE A LIGHT SWITCH AS A DISCONNECT FOR CUH-1 AND CUH-2.
- ⑫ WALL MOUNT DISCONNECTS ABOVE ELECTRICAL ROOMS. MOUNT TRANSFORMERS NEAR BOTTOM OF JOISTS.
- ⑬ PROVIDE SYSTEMS BOX WITH 1" CONDUIT TO GENERATOR MONITORING CONNECTION.
- ⑭ CRU-1 RECEIVES POWER THRU ACCU-1 ON ROOF.
- ⑮ VERIFY TIME CLOCK SYSTEMS BOX AND RECEPTACLE MOUNTING HEIGHT AND LOCATION WITH SYSTEMS CONTRACTOR.
- ⑯ PROVIDE CLASS 1, DIV 1 RECEPTACLES IN OIL ROOM. VERIFY LOCATION WITH FLUID SYSTEMS CONTRACTOR.
- ⑰ PROVIDE 120V POWER TO ADA DOOR OPERATORS. BATTERY OPERATED, WIRELESS DOOR PUSH BUTTONS INSTALLED BY DOOR CONTRACTOR.
- ⑱ PROVIDE PAD MOUNTED OUTDOOR METERING PER ALLIANT ENERGY REQUIREMENTS.
- ⑲ NO NOTE.
- ⑳ ELEVATOR: NO ELECTRICAL CONTRACTOR ALTERNATE BID. ELECTRICAL CONTRACTOR TO PROVIDE ALL ELECTRICAL AND FIRE ALARM FOR ELEVATOR PER DRAWINGS UNDER BASE BID.
- ㉑ NO NOTE.
- ㉒ TYPICAL: CO NO2 SENSORS ARE LOW VOLTAGE THRU GAS DETECTION PANEL. LOW VOLTAGE WIRING BY GAS DETECTION CONTRACTOR. PROVIDE BOXES AND 1/2" EMT CONDUIT UP TO BOTTOM OF JOISTS. CO SENSOR LOCATED APPROXIMATELY 5' AFF. NO2 SENSOR LOCATED APPROXIMATELY 18" BELOW CEILING. VERIFY LOCATIONS.
- ㉓ NG SENSORS ARE LOW VOLTAGE THRU GAS DETECTION PANEL. LOW VOLTAGE WIRING BY GAS DETECTION CONTRACTOR. PROVIDE BOX WITH 1/2" BUSHING FOR NG SENSOR.
- ㉔ PRV-3 RUNS CONTINUOUSLY.
- ㉕ PROVIDE 120V WEATHERPROOF STROBE (AMSECO SLB120-75C) AND BACK BOX (AMSECO SBX-1). VERIFY LOCATION WITH FIRE DEPARTMENT.
- ㉖ PROVIDE A 30 AMP, L6-30R RECEPTACLE FOR UPS. VERIFY MOUNTING HEIGHT AND LOCATION WITH SYSTEMS CONTRACTOR.
- ㉗ FIRE ALARM SYSTEM TO MONITOR HIGH LEVEL CO, NO2, AND NG GAS DETECTION RELAY CONTACTS IN ROOMS 138, 140, AND 145 (SEVEN RELAY CONTACTS TOTAL). FIRE ALARM PANEL AND ANNUNCIATOR PANEL TO DISPLAY SMALL VEHICLE 140 HIGH CO LEVEL, SMALL VEHICLE 140 HIGH NO2 LEVEL, SMALL VEHICLE 140 HIGH NG LEVEL, LARGE VEHICLE 138 HIGH CO LEVEL, LARGE VEHICLE 138 HIGH NO2 LEVEL, LARGE VEHICLE 138 HIGH NG LEVEL, AND/OR WELD BAY 145 HIGH NG LEVEL.
- ㉘ PROVIDE EMERSON 570YC12ARC61S SURGE PROTECTION DEVICE (125KA MODE/250KA PHASE, DISCONNECT SWITCH) OR EQUAL.
- ㉙ PHOTOVOLTAIC PANELS AND DISTRIBUTION SYSTEM - ALTERNATE BID #8: PROVIDE 225 AMP CIRCUIT BREAKER (MUST BE LISTED AS A BACK FED DEVICE) IN PANEL MDP. PROVIDE FEEDER TO SOLAR PANEL EQUIPMENT ON ROOF. PROVIDE THREE 4" CONDUIT SLEEVES THRU ROOF FOR SOLAR PANEL CONTROLS. VERIFY LOCATION WITH SOLAR CONTRACTOR.



SHEET NOTES

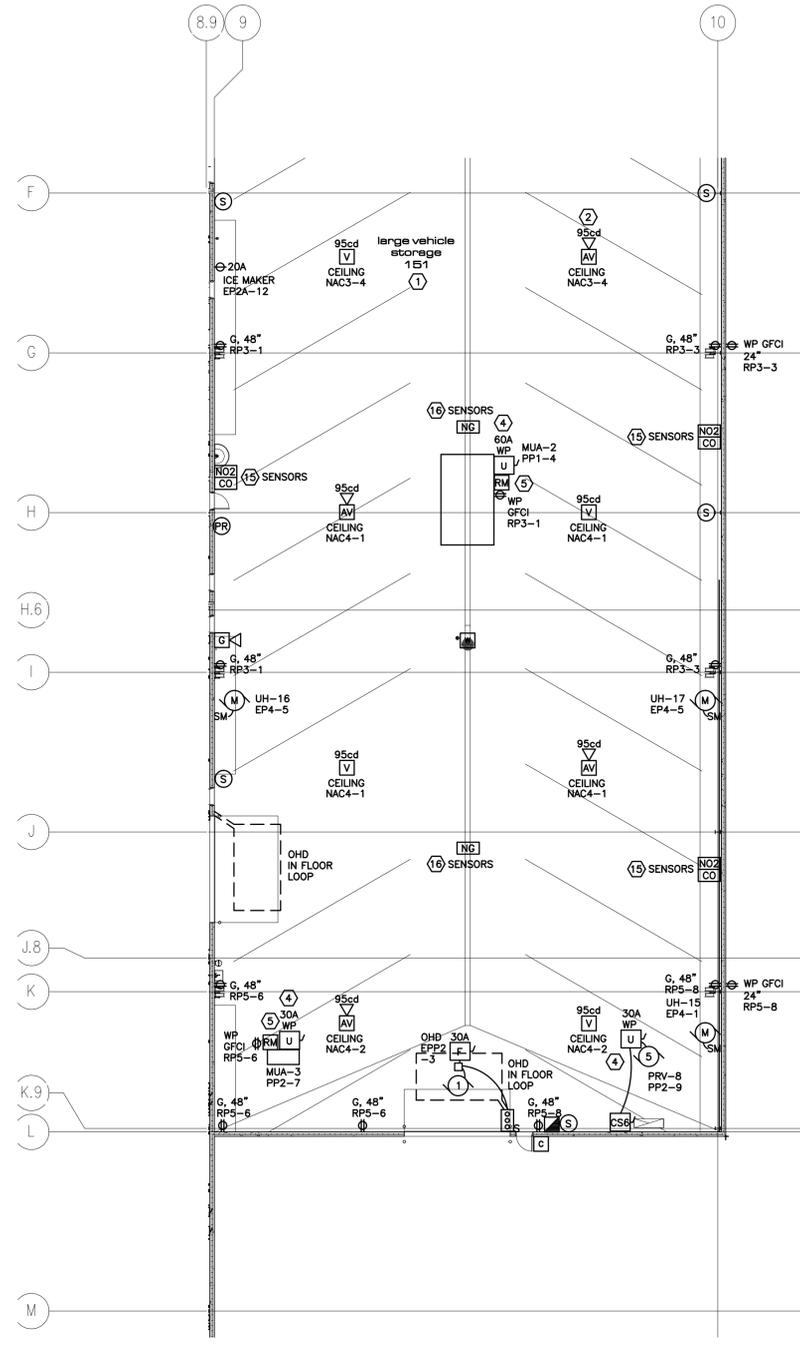
- (1) OHS VEHICLES WILL BE STORED IN THE LARGE VEHICLE STORAGE 138. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2. THIS INCLUDES THE MEZZANINE AREA OPEN TO LARGE VEHICLE STORAGE 138. UP TO A LARGE VEHICLE STORAGE 138 MAY BE A VEHICLE REPAIR IN THE FUTURE. UP TO A LEVEL OF 18" AFF. THE LARGE VEHICLE STORAGE 138 AREA IS CONSIDERED A FUTURE CLASS 1, DIVISION 2 LOCATION. PROVIDE EXPLOSION PROOF FITTINGS, SEAL OFFS AND RIGID CONDUIT AS REQUIRED BY CODE. SEALS ARE NOT REQUIRED ON CONDUITS THAT PASS UNBROKEN THRU THE CLASS 1 AREA PER NEC SECTION 511 IF THE CONDUIT EXTENDS MORE THAN 12" ABOVE THE CLASSIFIED AREA.
- (2) TYPICAL: CEILING MOUNT STROBE AND HORN/STROBES SHALL BE MOUNTED LOWER THAN LIGHTS OR OTHER OBSTRUCTIONS (MAINTAIN LINE OF SIGHT).
- (3) PROVIDE CIRCUIT FOR PROCESS SANITARY TANK HIGH WATER ALARM. PROVIDE SWITCH OR HARDWARE CONTROL PANEL AS REQUIRED. EXTEND CONDUIT AND CONTROL WIRING TO TANK FLOAT. MAKE CONNECTION TO FLOAT WIRING IN TANK MANHOLE AS REQUIRED. TANK IS 25' FROM BUILDING.
- (4) DISCONNECT PROVIDED ON HVAC EQUIPMENT BY HVAC CONTRACTOR.
- (5) PROVIDE CONDUIT THRU ROOF FOR RADIO ANTENNA. RADIO ANTENNA WIRING BY SYSTEMS CONTRACTOR. VERIFY CONDUIT SIZE AND LOCATION. ROOFING CONTRACTOR TO PROVIDE BOOT OR POCKET AS REQUIRED.
- (6) MOUNT TRANSFORMER NEAR JOIST AREA AND BELOW TOP 18" OF CEILING SPACE.
- (7) BUILDING ELECTRICAL CONTRACTOR TO PROVIDE PANEL F1, TRANSFORMER AND FEEDER IN BASE BID. FUEL ISLAND CONTRACTOR TO PROVIDE ALL FUEL ISLAND EQUIPMENT AND RUN ALL CONDUIT AND CIRCUITS FROM PANEL F1 AS REQUIRED UNDER ALTERNATE BID #2.
- (8) PRV-6 RUNS CONTINUOUSLY.
- (9) TYPICAL: CO NO2 SENSORS ARE LOW VOLTAGE THRU GAS DETECTION PANEL. LOW VOLTAGE WIRING BY GAS DETECTION CONTRACTOR. PROVIDE BOXES AND 1/2" EMT CONDUIT UP TO BOTTOM OF JOISTS. CO SENSOR LOCATED APPROXIMATELY 5' AFF. NO2 SENSOR LOCATED APPROXIMATELY 18" BELOW CEILING. VERIFY LOCATIONS.
- (10) NG SENSORS ARE LOW VOLTAGE THRU GAS DETECTION PANEL. LOW VOLTAGE WIRING BY GAS DETECTION CONTRACTOR. PROVIDE BOX WITH 1/2" BUSHING FOR NG SENSOR. MOUNT BOX TO SIDE OF JOIST SO BOX AND SENSOR ARE NO LOWER THAN BOTTOM OF JOISTS (TO CLEAR CRANE).
- (11) GENERAL CONTRACTOR TO PROVIDE GUARDS OR RAILS IN FRONT OF ELECTRICAL EQUIPMENT.
- (12) VEHICLE PARKING CRANE: ELECTRICAL CONTRACTOR TO PROVIDE FEEDER INCLUDING DISCONNECT AT CRANE IN BASE BID. PROVIDE FINAL CONNECTION FROM CRANE DISCONNECT TO CRANE UNDER ALTERNATE BID #7.



**1** Weld Bay 145 Power and Systems Plan  
1/8" = 1'-0"

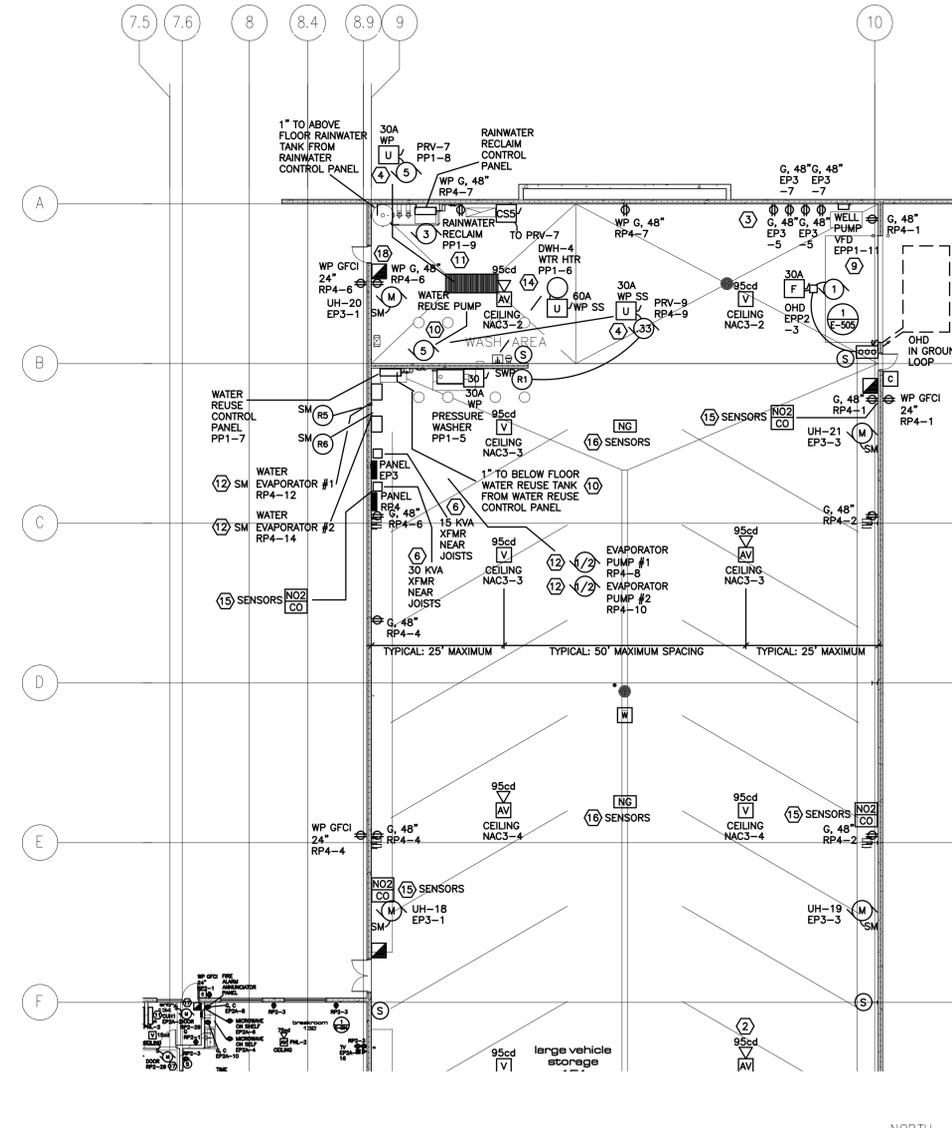
SHEET NOTES

- 1) CNG VEHICLES WILL BE STORED IN LARGE VEHICLE STORAGE 151. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
- 2) TYPICAL: CEILING MOUNT STROBE AND HORN/STROBES SHALL BE MOUNTED LOWER THAN LIGHTS OR OTHER OBSTRUCTIONS (MAINTAIN LINE OF SIGHT).
- 3) VERIFY LOCATION OF RECEPTACLES FOR WATER SOFTENER AND WATER TREATMENT.
- 4) DISCONNECT PROVIDED ON HVAC EQUIPMENT BY HVAC CONTRACTOR.
- 5) INTERLOCK MUA UNIT WITH FIRE ALARM. MUA UNIT TO SHUTDOWN IF FIRE ALARM SYSTEM IS IN ALARM.
- 6) MOUNT TRANSFORMER NEAR JOIST AREA AND BELOW TOP 18" OF CEILING SPACE.
- 7) TYPICAL: 120V RAISE/LOWER SWITCHES FOR HOSE REELS PROVIDED BY THE HVAC CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- 8) INTERLOCK WELDER RECEPTACLE AND ALL OTHER WELD BAY 145 RECEPTACLE SHUNT TRIP CIRCUIT BREAKERS IN PANELS RPS AND EP4 WITH CO/NO2/NG SENSORS IN WELD BAY. PROVIDE INTERFACE RELAYS AS REQUIRED.



**2** South Large Vehicle 151 Power and Systems Plan  
1/16" = 1'-0"

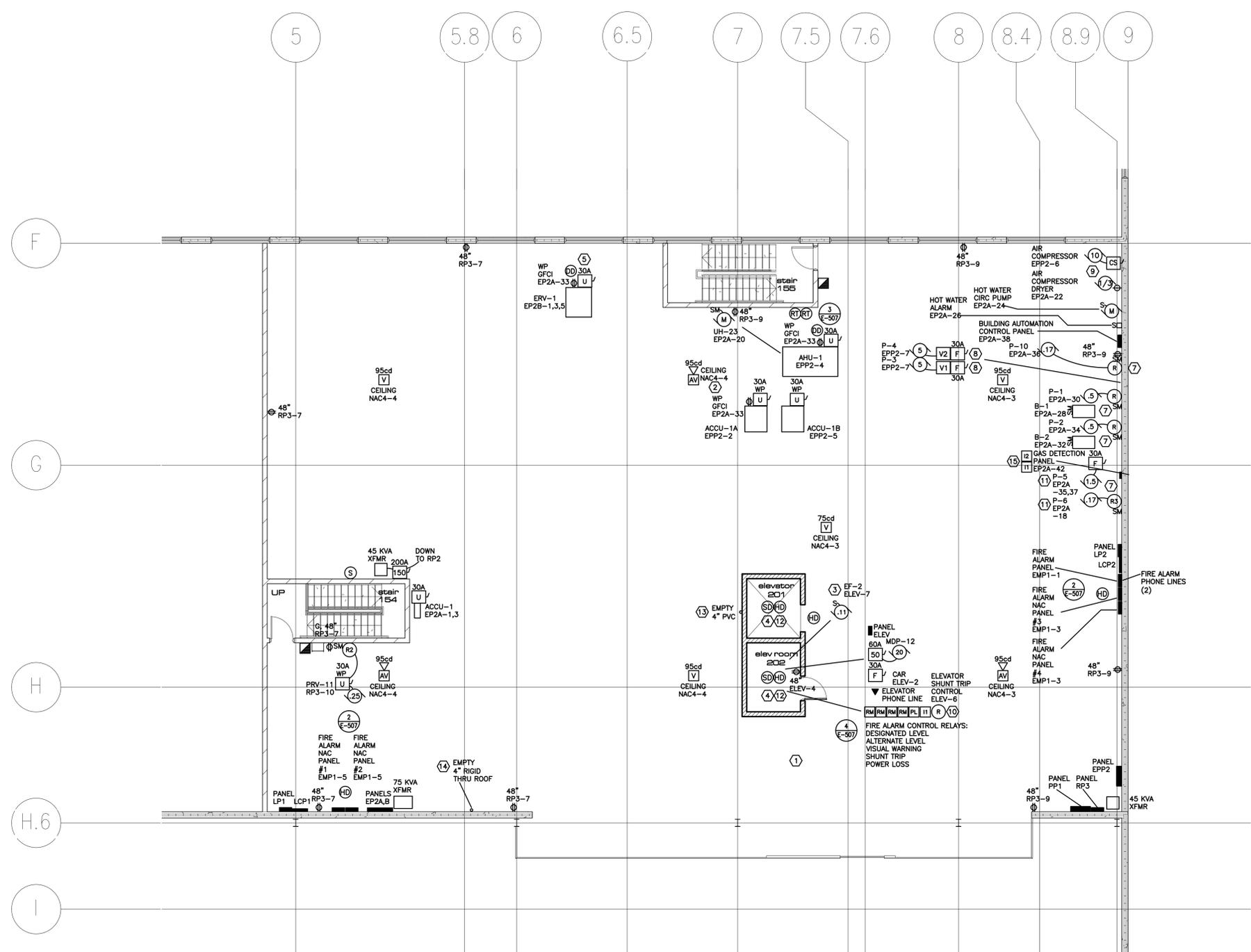
- 9) INFORMATIONAL BID A - WELL: PROVIDE CIRCUIT BREAKER IN PANEL EPP1 AND FEEDER TO WELL VARIABLE FREQUENCY DRIVE (VFD) WITH DISCONNECT. PROVIDE JB OR TROUGH AT WELL VFD WITH INSULATED CONNECTORS AND TAP FEEDER SIZE DOWN IF FEEDER CONDUCTORS ARE TOO LARGE FOR VFD LUGS. WELL VFD UNIT BY PLUMBING CONTRACTOR. WIRING FROM VFD UNIT TO WELL PUMP BY WELL CONTRACTOR.
- 10) WATER REUSE SYSTEM (RECLAIM #1) - ALTERNATE BID #2: PROVIDE CIRCUIT BREAKER IN PANEL PP1 AND CIRCUIT TO WATER REUSE SYSTEM CONTROL PANEL. PROVIDE WIRING TO 5 HP WATER REUSE SYSTEM PUMP FROM CONTROL PANEL. WATER REUSE SYSTEM CONTROL PANEL WITH DISCONNECT AND MOTOR STARTER BY WATER REUSE SYSTEM CONTRACTOR.
- 11) RAINWATER RECLAIM SYSTEM (RECLAIM #2) - ALTERNATE BID #3: PROVIDE CIRCUIT BREAKER IN PANEL PP1 AND CIRCUIT TO RAINWATER RECLAIM SYSTEM CONTROL PANEL. PROVIDE WIRING TO 3 HP RAINWATER RECLAIM SYSTEM PUMP FROM CONTROL PANEL. RAINWATER RECLAIM SYSTEM CONTROL PANEL WITH DISCONNECT AND MOTOR STARTER BY RAINWATER RECLAIM SYSTEM CONTRACTOR.
- 12) WATER EVAPORATOR #1 AND #2 - ALTERNATE BID #6: PROVIDE CIRCUIT BREAKER IN PANEL RP4 AND CIRCUIT TO WATER EVAPORATOR #1 AND TO WATER EVAPORATOR #2. PROVIDE A 30 AMP MANUAL SWITCH AS A DISCONNECT. VERIFY LOCATION WITH WATER EVAPORATOR CONTRACTOR. PROVIDE CIRCUIT BREAKER IN PANEL RP4 AND CIRCUIT TO WATER EVAPORATOR #1 PUMP AND TO WATER EVAPORATOR #2 PUMP. PROVIDE A 30 AMP MANUAL SWITCH AS A DISCONNECT. PROVIDE RELAY WITH LOW VOLTAGE COIL. RELAY TO SWITCH SUMP PUMP ON AND OFF DEPENDING ON LEVEL CONTROLS. ELECTRICAL CONTRACTOR TO PROVIDE A 1" CONDUIT FROM THE EVAPORATOR CONTROL PANEL TO THE LEVEL CONTROLS IN THE SUMP FOR EACH EVAPORATOR. LOW VOLTAGE WIRING FROM CONTROL PANEL TO THE RELAY AND LEVEL CONTROLS ARE BY THE ELECTRICAL CONTRACTOR. PROVIDE CONDUIT FROM EACH EVAPORATOR CONTROL PANEL TO SUMP LOW WATER FLOAT SWITCH. WIRE SUMP LOW WATER FLOAT SWITCH IN SERIES WITH LEVEL CONTROLS. SUMP PUMP IS NOT TO RUN IF SUMP WATER LEVEL IS TOO LOW. ALL LOW VOLTAGE WIRING SHALL BE IN CONDUIT. ONE EXHAUST BLOWER MOTOR IS APPROXIMATELY 20' ABOVE EACH EVAPORATOR. PROVIDE 120V WIRING FROM EVAPORATOR CONTROL PANEL TO EXHAUST BLOWER MOTOR AT EACH UNIT.



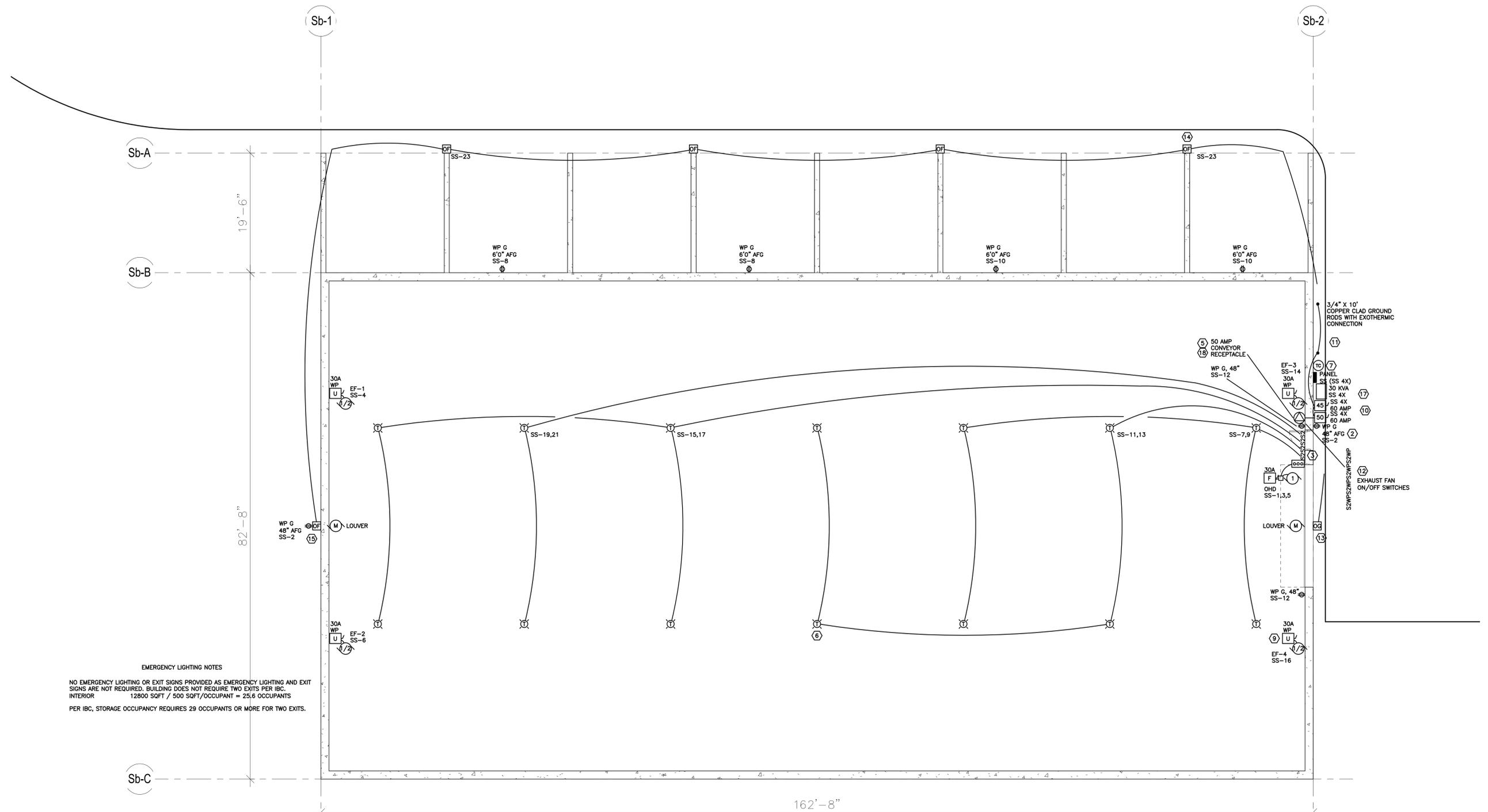
**3** North Large Vehicle 151 Power and Systems Plan  
1/16" = 1'-0"

- 13) WELD BAY CRANE: NO ELECTRICAL CONTRACTOR ALTERNATE BID. ELECTRICAL CONTRACTOR TO PROVIDE ALL ELECTRICAL FOR WELD BAY CRANE UNDER BASE BID.
- 14) ALL CONDUIT IN WASH AREA SHALL BE PVC OR RIGID GALVANIZED CONDUIT. PROTECT PVC CONDUIT AS REQUIRED PER CODE.
- 15) TYPICAL: CO NO2 SENSORS ARE LOW VOLTAGE THRU GAS DETECTION PANEL. LOW VOLTAGE WIRING BY GAS DETECTION CONTRACTOR. PROVIDE BOXES AND 1/2" EMT CONDUIT UP TO BOTTOM OF JOISTS. CO SENSOR LOCATED APPROXIMATELY 5' AFF. NO2 SENSOR LOCATED APPROXIMATELY 18" BELOW CEILING. VERIFY LOCATIONS.
- 16) NG SENSORS ARE LOW VOLTAGE THRU GAS DETECTION PANEL. LOW VOLTAGE WIRING BY GAS DETECTION CONTRACTOR. PROVIDE BOX WITH 1/2" BUSHING FOR NG SENSOR. MOUNT BOX TO SIDE OF JOIST SO BOX AND SENSOR ARE NO LOWER THAN BOTTOM OF JOISTS (TO CLEAR CRANE).
- 17) PRY-12 WIRED THRU RELAY R7 CONTACT. RELAY R7 COIL WIRED ON CIRCUIT RPS-29 THRU EXTRA CONTACT ON OCCUPANCY SENSOR QUAD RELAY POWER PACK.
- 18) PROVIDE WEATHERPROOF MANUAL PULL STATION OR A MANUAL PULL STATION MOUNTED INSIDE A WEATHERPROOF BACK BOX WITH POLYCARBONATE COVER (STI S11-1 SERIES OR EQUAL).





- SHEET NOTES
- 1 CNG VEHICLES WILL BE STORED IN THE LARGE VEHICLE STORAGE 138. THE MEZZANINE AREA IS OPEN TO LARGE VEHICLE STORAGE 138. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
  - 2 TYPICAL: CEILING MOUNT STROBE AND HORN/STROBES SHALL BE MOUNTED LOWER THAN LIGHTS OR OTHER OBSTRUCTIONS (MAINTAIN LINE OF SIGHT).
  - 3 HVAC CONTRACTOR TO PROVIDE REVERSE ACTING LINE VOLTAGE THERMOSTAT FOR EF-2. ELECTRICAL CONTRACTOR TO INSTALL AND WIRE THERMOSTAT TO EF-2. EF-2 PROVIDED WITH SPEED SWITCH BY HVAC CONTRACTOR. WIRE 120V SPEED SWITCH AS REQUIRED.
  - 4 VERIFY ALL ELECTRICAL EQUIPMENT LOCATIONS IN ELEVATOR SHAFT AND MACHINE ROOM WITH ELEVATOR CONTRACTOR.
  - 5 DISCONNECT PROVIDED ON HVAC EQUIPMENT BY HVAC CONTRACTOR.
  - 6 PROVIDE 3/4" CONDUIT FROM BOTTOM OF JOIST AREA TO FIRE ALARM PANEL FOR PHONE LINES. PHONE LINES BY SYSTEMS CONTRACTOR.
  - 7 PUMP RELAY PROVIDED BY HVAC CONTRACTOR. HVAC CONTRACTOR TO PROVIDE LOW VOLTAGE CONTROL WIRING. ELECTRICAL CONTRACTOR TO INSTALL AND PROVIDE POWER WIRING. ELECTRICAL CONTRACTOR TO PROVIDE MANUAL SWITCH AS A DISCONNECT. VERIFY BEST LOCATION FOR DISCONNECT.
  - 8 PUMP P-3 VFD (V1) AND P-4 VFD (V2) PROVIDED BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR TO INSTALL AND PROVIDE FUSED DISCONNECTS AND POWER WIRING. FUSE SIZE PER VFD MANUFACTURER. VERIFY BEST LOCATION. LOW VOLTAGE WIRING AND VFD PROGRAMMING BY HVAC CONTRACTOR.
  - 9 AIR COMPRESSOR PROVIDED WITH COMBINATION STARTER OR DISCONNECT AND STARTER. ELECTRICAL CONTRACTOR TO PROVIDE POWER TO UNIT.
  - 10 PROVIDE RELAY AS REQUIRED TO INTERFACE FIRE ALARM WITH ELEVATOR SHUNT TRIP CIRCUIT BREAKER.
  - 11 RADIANT FLOORING PUMPS P-5 AND P-6 - ALTERNATE BID #5: ADD OR DEDUCT TO ADD PUMPS P-4 AND P-5 AND DEDUCT UNIT HEATERS IN LARGE VEHICLE STORAGE 138. WELD BAY 145 AND PARTS 137. PROVIDE CIRCUIT BREAKER AND FROM PANEL EP2 AND FUSE DISCONNECT FOR PUMP P-5. PUMP P-5 HAS AN ECM MOTOR WITH BUILT IN SPEED CONTROL. LOW VOLTAGE SPEED CONTROL BY HVAC CONTRACTOR. PROVIDE CIRCUIT BREAKER IN PANEL EP2 AND MANUAL SWITCH, RELAY AND CIRCUIT TO PUMP P-5. LOW VOLTAGE RELAY COIL WIRING BY HVAC CONTRACTOR. ALTERNATE #5 INCLUDES THE DEDUCT OF UNIT HEATERS UH-5 (CIRCUIT EP1-4), UH-6 (CIRCUIT EP1-4), UH-7 (CIRCUIT EP2-20), UH-8 (CIRCUIT EP1-6), UH-9 (CIRCUIT EP1-6), UH-10 (CIRCUIT EP4-1), UH-11 (CIRCUIT EP4-3), UH-12 (CIRCUIT EP4-1), UH-13 (CIRCUIT EP4-3) AND UH-22 (CIRCUIT EP2A-2).
  - 12 ELEVATOR: NO ELECTRICAL CONTRACTOR ALTERNATE BID. ELECTRICAL CONTRACTOR TO PROVIDE ALL ELECTRICAL AND FIRE ALARM FOR ELEVATOR PER DRAWINGS UNDER BASE BID.
  - 13 PROVIDE 4" PVC CONDUIT FROM BOTTOM OF JOISTS DOWN TO DATA ROOM. VERIFY LOCATION WITH SYSTEMS CONTRACTOR. PVC CONDUIT MUST BE BELOW TOP 18" OF CEILING SPACE ON THE MEZZANINE.
  - 14 PROVIDE 4" RIGID GALVANIZED CONDUIT FROM 2'6" BELOW THE CEILING DECK TO 2' ABOVE THE ROOF FOR ANTENNA. VERIFY LOCATION.
  - 15 FIRE ALARM SYSTEM TO MONITOR HIGH LEVEL CO, NO2, NG GAS DETECTION RELAY CONTACTS IN ROOM 151 (THREE RELAY CONTACTS TOTAL). FIRE ALARM PANEL AND ANNUNCIATOR PANEL TO DISPLAY LARGE VEHICLE 151 HIGH CO LEVEL, LARGE VEHICLE 151 HIGH NO2 LEVEL, AND/OR LARGE VEHICLE 151 HIGH NG LEVEL.



**EMERGENCY LIGHTING NOTES**  
 NO EMERGENCY LIGHTING OR EXIT SIGNS PROVIDED AS EMERGENCY LIGHTING AND EXIT SIGNS ARE NOT REQUIRED. BUILDING DOES NOT REQUIRE TWO EXITS PER IBC.  
 INTERIOR 12800 SQFT / 500 SQFT/OCCUPANT = 25.6 OCCUPANTS  
 PER IBC, STORAGE OCCUPANCY REQUIRES 29 OCCUPANTS OR MORE FOR TWO EXITS.

PANEL SS - SALT SHED

NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1							WEST, EAST EXTERIOR RECEPTACLES	2
3	OVERHEAD DOOR	15/3	1.73	B	1.18	20/1	NORTHWEST EXHAUST FAN EF-1	4
5							SOUTHWEST EXHAUST FAN EF-2	6
7	EAST INTERIOR LIGHTS	20/2	1.91	A	.36	20/1	NORTHWEST EXTERIOR RECEPTACLES	8
9							NORTHEAST EXTERIOR RECEPTACLES	10
11	EAST INTERIOR LIGHTS	20/2	1.91	C	.36	20/1	EAST RECEPTACLES	12
13							NORTHEAST EXHAUST FAN EF-3	14
15	WEST INTERIOR LIGHTS	20/2	1.91	B	1.18	20/1	SOUTHEAST EXHAUST FAN EF-4	16
17							SPARE	18
19	WEST INTERIOR LIGHTS	20/2	.96	A	-	20/1	SPARE	20
21							SPARE	22
23	EXTERIOR LIGHTS, TIME CLOCK	20/1	.32	C	-	20/1	SPARE	24
25	SPARE	20/1	-	A	-	20/1	SPARE	26
27	SPARE	20/1	-	B	-	20/1	SPARE	28
29	SPARE	20/1	-	C	-	20/1	SPARE	30

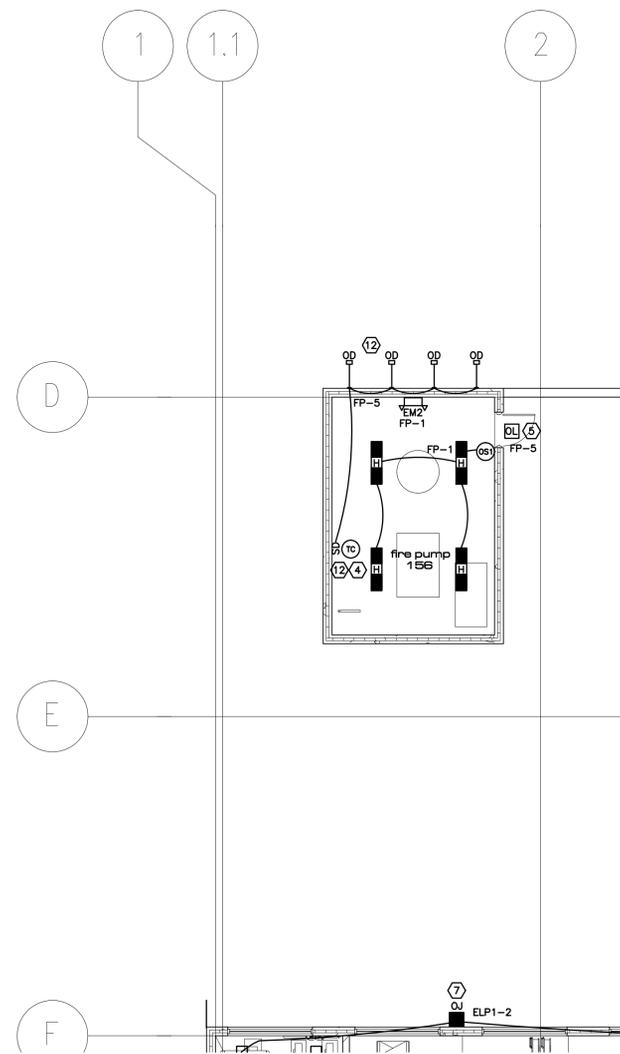
MAIN CIRCUIT BREAKER 22 KAIR MINIMUM  
 BRANCH CIRCUIT BREAKERS 10 KAIR MINIMUM

SHEET NOTES

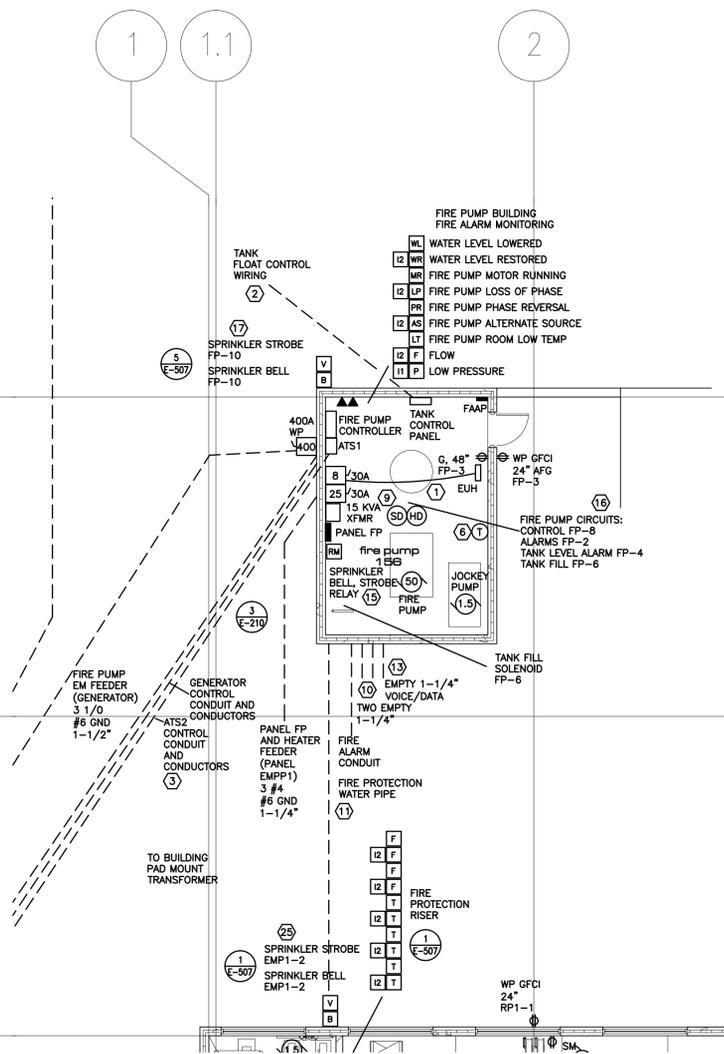
- GENERAL NOTE: CNG VEHICLES MAY BE USED IN THE SALT SHED IN THE FUTURE. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
- TYPICAL: RECEPTACLES SHALL BE WEATHERPROOF GFCI RECEPTACLE IN A CAST ALUMINUM FS BOX WITH CAST ALUMINUM IN-USE COVER (RED DOT CKMGV OR EQUAL).
- LIGHT SWITCHES SHALL BE IN CAST ALUMINUM FS BOXES WITH WEATHERPROOF CAST ALUMINUM SWITCH COVER (RED DOT CCT OR EQUAL).
- GENERAL NOTE: ALL ABOVE GRADE EXTERIOR CONDUIT SHALL BE GALVANIZED RIGID STEEL. PVC CONDUIT MAY BE USED BELOW GRADE PER LOCAL CODE. PVC CONDUIT MAY BE USED INSIDE THE SALT DOME WHERE IT IS NOT SUBJECT TO DAMAGE AND IS ALLOWED BY LOCAL CODE. PROVIDE PROTECTION OR USE GALVANIZED RIGID CONDUIT.
- PROVIDE HUBBELL RECEPTACLE #CS8169, 50A, 480V, 3 PH, 4 W IN FD BOX WITH HUBBELL #7770 COVER FOR CONVEYOR.
- TYPICAL: MOUNT TYPE T LIGHTS FROM JOISTS. USE STAINLESS STEEL HARDWARE AND STAINLESS STEEL SAFETY CHAIN OR CABLE. PROVIDE WOOD BLOCKING AS REQUIRED.
- PROVIDE INTERMATIC ET8015C, 7 DAY, 30 AMP SPST CONTACT, ASTRONOMICAL TIME CLOCK WITH BATTERY BACK UP. PROGRAM RELAY CONTACT FOR DUSK TO DAWN OPERATION OF SALT SHED EXTERIOR LIGHTING. MOUNT INSIDE A STAINLESS STEEL ENCLOSURE.
- GENERAL NOTE: PANELS SHALL HAVE STAINLESS STEEL NEMA 4X ENCLOSURES OR BE MOUNTED INSIDE STAINLESS STEEL NEMA 4X ENCLOSURES.
- TYPICAL: VERIFY EXHAUST FAN LOCATION AND HEIGHT ON SALT SHED DRAWINGS. EXHAUST FAN PROVIDED WITH DISCONNECT BY HVAC CONTRACTOR.
- PROVIDE PVC SLEEVES THRU CONCRETE WALL FOR CONDUITS ENTERING SALT SHED. CONDUITS TO ENTER THE SALT SHED AT LEAST 7" AFG. CAULK AS REQUIRED.
- GROUND MAIN DISCONNECTS AND TRANSFORMER TO CODE. CONNECT GROUND CONDUCTOR TO GROUND RODS, REBAR AND ANY BUILDING STEEL WITH EXOTHERMIC CONNECTION. PROVIDE CONNECTION TO WATER PIPE IF PRESENT.
- PROVIDE TWO POLE 20 AMP LIGHT SWITCHES IN SINGLE OR DOUBLE GANG CAST ALUMINUM FS BOXES WITH WEATHERPROOF CAST ALUMINUM SWITCH COVER (RED DOT CCT OR EQUAL) AS ON/OFF SWITCHES FOR EXHAUST FANS. HVAC CONTRACTOR TO WIRE LOW VOLTAGE THRU ONE SET OF CONTACTS TO TURN ON LOW VOLTAGE LOUVER DAMPERS (TURNING ON EF-1 AND/OR EF-2 SHALL TURN ON THE EAST DAMPER. TURNING ON EF-3 AND/OR EF-4 SHALL TURN ON THE WEST DAMPER). PROVIDE SEPARATE CONDUIT FROM BOXES UP TO BOX AT CEILING AREA FOR LOW VOLTAGE LOUVER DAMPER CONTROL.
- MOUNT TYPE OH LIGHT APPROXIMATELY 30' AFG.
- MOUNT NORTH TYPE OF LIGHTS CENTERED APPROXIMATELY 17' AFG.
- MOUNT WEST TYPE OF LIGHT APPROXIMATELY 17' AFG.
- GENERAL NOTE: ALL SALT SHED LIGHT SWITCHES AND RECEPTACLES SHALL BE 20 AMP INDUSTRIAL GRADE UNLESS NOTED OTHERWISE.
- GENERAL CONTRACTOR TO PROVIDE BOLLARDS OR GUARD RAIL IN FRONT OF ELECTRICAL EQUIPMENT. MAINTAIN 3' 6" WORKING SPACE CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT.
- GENERAL CONTRACTOR TO PROVIDE BOLLARDS IN FRONT OF CONVEYOR PLUG.

BIDDING SHEET NOTES

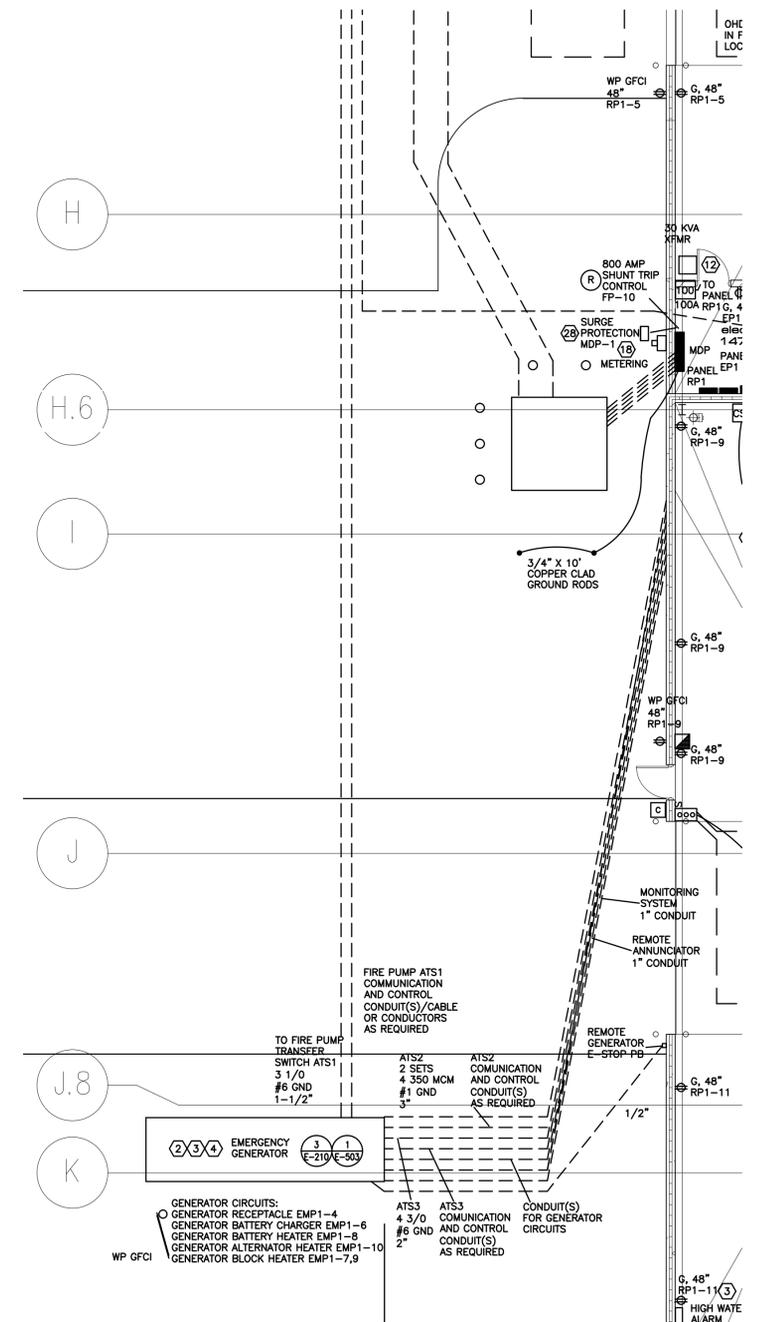
- SALT STRUCTURE IS ALTERNATE BID #5. SEE NOTES ON SHEET E-101 AND E-505 FOR ELECTRICAL WORK DONE UNDER BASE BID AND ALTERNATE BID #5.



**1** Fire Pump Building Lighting Plan  
1/8" = 1'-0"



**2** Fire Pump Building Power and Systems Plan  
1/8" = 1'-0"



**3** Generator Layout  
1/8" = 1'-0"



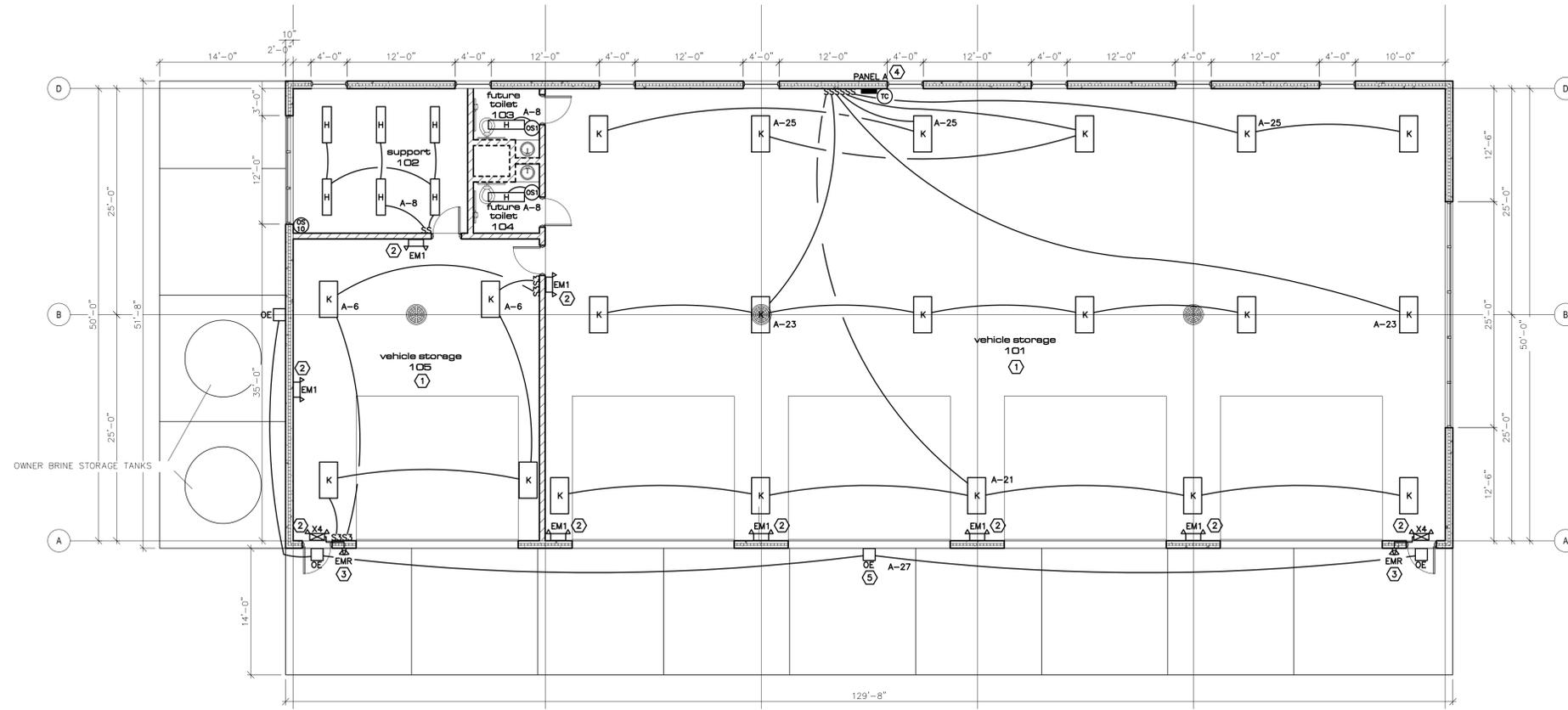
**FIRE PUMP BUILDING SHEET NOTES**

- 1 FIRE PUMP ROOM AND BUILDING SHALL BE WIRED TO ALL APPLICABLE CODES INCLUDING THE NATIONAL ELECTRICAL CODE ARTICLE 695 (FIRE PUMPS) AND NFPA 20 AND 110.
- 2 PROVIDE CONDUIT AND WIRING FROM TANK CONTROL PANEL TO FLOATS IN TANK. VERIFY TANK LOCATION ON PLUMBING PLANS. CONNECT WIRING TO TANK CONTROL PANEL PER TANK CONTROL DRAWING.
- 3 800 AMP OPTIONAL EMERGENCY POWER AUTOMATIC TRANSFER SWITCH AT2 SHALL BE INTERLOCKED WITH FIRE PUMP AUTOMATIC TRANSFER SWITCH AT1. AS FIRE PUMP AT1 IS MOVING FROM NORMAL POWER TO ALTERNATE EMERGENCY POWER, AT2 WILL MOVE TO A NEUTRAL POSITION TO REMOVE OPTIONAL EMERGENCY LOADS FROM THE EMERGENCY GENERATOR.
- 4 ASTRONOMICAL TIME CLOCK FOR EXTERIOR LIGHTING SHALL BE AN INTERMATIC ETB215C WITH TWO INDEPENDANT CONTACTS AND BATTERY BACK UP OR EQUAL. WIRE SIGN FLOOD LIGHTS THRU ONE CONTACT AND ENTRANCE LIGHT OVER DOOR ON ANOTHER CONTACT. PROGRAM SIGN FLOOD CONTACT FOR DUSK TO DAWN OR DUSK TO TIME OPERATION PER OWNER. PROGRAM ENTRANCE LIGHT FOR DUSK TO DAWN OPERATION.
- 5 CENTER TYPE OIL LIGHT APPROXIMATELY 12' AFG.
- 6 PROVIDE A THERMOSTAT FOR FIRE ALARM LOW ROOM TEMPERATURE (TEMP ALERT MODEL TA-2HL OR EQUAL MOUNTED IN A HINGED COVER ENCLOSURE).
- 7 GENERAL NOTE: ALL FIRE ALARM AND CONTROL WIRING SHALL BE IN GALVANIZED RIGID CONDUIT.
- 8 GENERAL NOTE: GENERATOR POWER AND CONTROL WIRING SHALL BE INDEPENDENT OF ALL OTHER WIRING AND SHALL BE ENCASED IN 2" OF CONCRETE, BE PROTECTED BY A MINIMUM 2 HOUR RATED ASSEMBLY OR BE A LISTED ELECTRICAL CIRCUIT PROTECTIVE SYSTEM WITH A MINIMUM 2 HOUR RATING PER NEC.
- 9 PROVIDE A SEALED, WALL MOUNT 15 KVA TRANSFORMER WITH 2 5% FULL CAPACITY TAPS.
- 10 PROVIDE TWO EMPTY 1-1/4" CONDUITS FROM BOTTOM OF JOIST IN FIRE PUMP BUILDING TO BOTTOM OF JOISTS INSIDE MAIN BUILDING AND CAP. PROVIDE PULL STRINGS.
- 11 GROUND WATER PIPE AT ENTRY TO BUILDING. JUMP GROUND AROUND ANY METER OR VALVE AT ENTRY TO BUILDING.

- 12 MOUNT TYPE OD SIGN FLOOD LIGHTS APPROXIMATELY 2' ABOVE TOP OF SIGN LETTERS. ADJUST ANGLE OF LIGHTS TO SIGN LETTERS FOR BEST COVERAGE. PROVIDE 0-10VDC LED DRIVER DIMMER CONTROL FOR SIGN FLOODS (LEVITON ILLUMATECH SERIES OR EQUAL).
- 13 PROVIDE AN EMPTY 1-1/4" CONDUIT FROM BOTTOM OF JOISTS IN FIRE PUMP BUILDING TO BOTTOM OF JOISTS INSIDE MAIN BUILDING FOR VOICE/DATA. PROVIDE PULL STRINGS.
- 14 PROVIDE 3/4" CONDUIT TO BOTTOM OF JOISTS FROM FIRE PUMP CONTROL EQUIPMENT OR SYSTEMS BOXES AS REQUIRED. VERIFY SYSTEMS BOX LOCATIONS WITH FIRE PUMP CONTRACTOR.
- 15 PROVIDE 120V CIRCUIT TO FIRE PUMP BUILDING SPRINKLER BELL AND STROBE THRU SUPERVISED CONTROL RELAY. PROVIDE INTERFACE RELAY IF NEEDED.
- 16 PROVIDE CONTROL CIRCUITS AS REQUIRED. VERIFY LOCATIONS WITH FIRE PROTECTION CONTRACTOR.
- 17 PROVIDE 120V WEATHERPROOF STROBE (AMSECO SLB120-75C) AND BACK BOX (AMSECO SBX-1). VERIFY LOCATION WITH FIRE DEPARTMENT.
- 18 PROVIDE CT METERING PER ALLIANT ENERGY REQUIREMENTS.

**GENERATOR SHEET NOTES**

- 1 GENERATOR CONDUIT SIZE AND LAYOUT FOR ATS CONTROL AND COMMUNICATION WILL VARY WITH MANUFACTURERS. VERIFY CONDUIT SIZES AND LAYOUT.
- 2 GENERATOR ENCLOSURE MUST BE 20' FROM UTILITY PAD MOUNT TRANSFORMER OR METERING.
- 3 INFORMATIONAL BID E - GENERATOR PRICE: PROVIDE A PRICE FOR THE GENERATOR ONLY. PRICE DOES NOT INCLUDE LABOR OR OTHER GENERATOR EQUIPMENT (TRANSFER SWITCHES, ETC...).
- 4 GENERAL CONTRACTOR TO PROVIDE BOLLARDS AROUND GENERATOR PER SHEET E-101.



1 Satellite Building Lighting Plan  
1/8" = 1'-0"

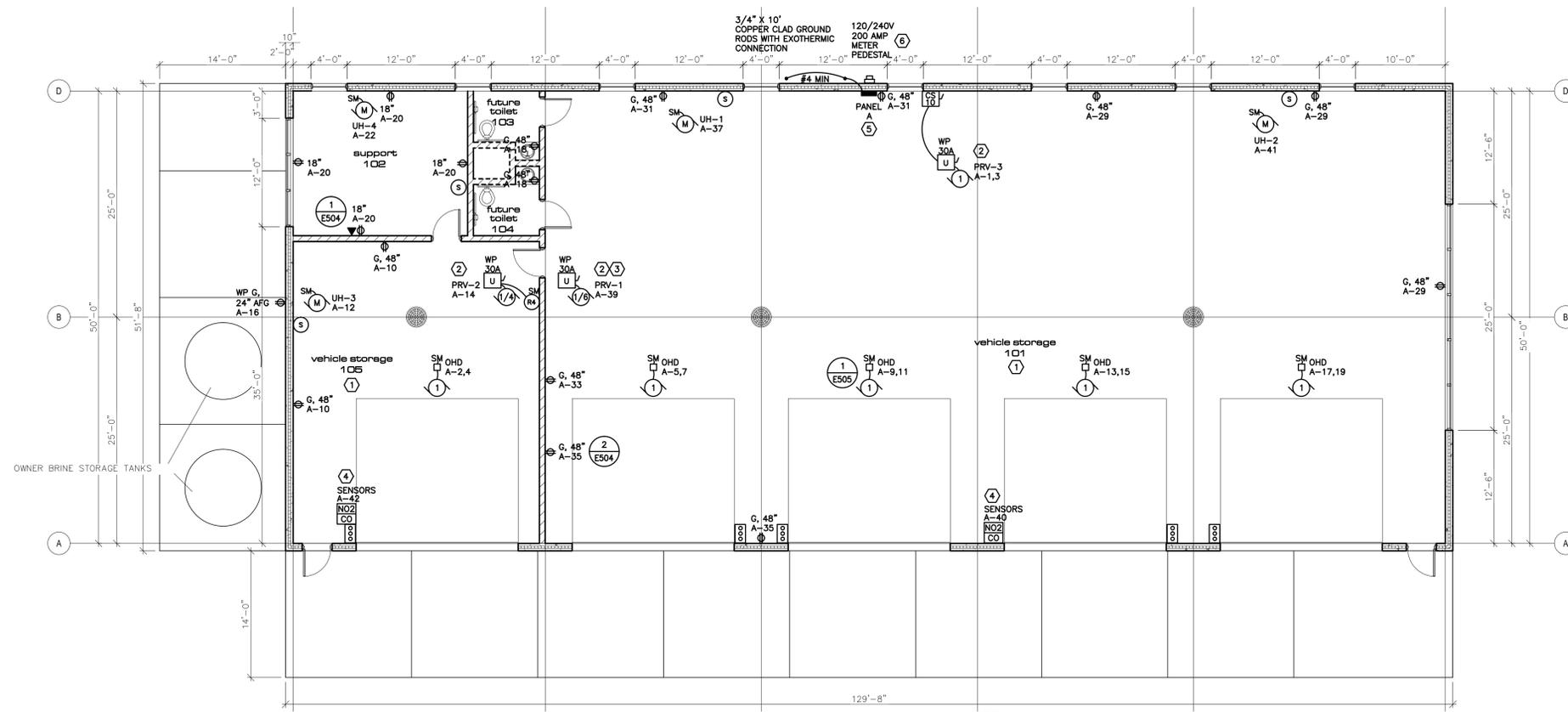
- LIGHTING NOTES**
- CNG VEHICLES MAY BE STORED IN THE VEHICLE STORAGE AREAS IN THE FUTURE. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
  - MOUNT TYPE X4 AND EM1 EMERGENCY LIGHTS WITH CENTER OF EMERGENCY LIGHT 10' AFF.
  - MOUNT TYPE EMR LIGHT FIXTURE 8'6" AFG.
  - ASTRONOMICAL TIME CLOCK FOR EXTERIOR LIGHTING SHALL BE AN INTERMATIC ET8015C WITH BATTERY BACK UP OR EQUAL. SET ASTRONOMICAL CLOCK FOR DUSK TO DAWN OPERATION.
  - TYPICAL: CENTER TYPE OA LIGHTS APPROXIMATELY 21'11" AFF TO CENTER THE LIGHTS IN THE SPACE ABOVE THE OVERHEAD DOORS.
  - GENERAL NOTE: SET ROOM 102, 103 AND 104 OCCUPANCY SENSOR TIME DELAY TO 5 MINUTES.
  - GENERAL NOTE: SET ROOM 101 AND 105 LIGHT FIXTURE OCCUPANCY SENSOR TIME DELAY TO 10 MINUTES.

**EMERGENCY LIGHTING NOTES**

MINIMAL EMERGENCY LIGHTING AND EXITS SIGNS PROVIDED. EMERGENCY LIGHTING AND EXIT SIGNS NOT REQUIRED AS EACH SPACE AND THE BUILDING AS A WHOLE DOES NOT REQUIRE TWO EXITS PER IBC.

VEHICLE 101	5000 SQFT	500 SQFT/OCCUPANT	10 OCCUPANTS
SUPPORT 102	310 SQFT	100 SQFT/OCCUPANT	3.1 OCCUPANTS
VEHICLE 101	118 SQFT	500 SQFT/OCCUPANT	236 OCCUPANTS
VEHICLE 101	913 SQFT	500 SQFT/OCCUPANT	1,826 OCCUPANTS
			15,162 OCCUPANTS

PER IBC, STORAGE OCCUPANCY REQUIRES 29 OCCUPANTS AND BUSINESS OCCUPANCY REQUIRES 49 OCCUPANTS OR MORE FOR TWO EXITS.



2 Satellite Building Power and Systems Plan  
1/8" = 1'-0"

- POWER AND SYSTEMS NOTES**
- CNG VEHICLES MAY BE STORED IN THE VEHICLE STORAGE AREAS IN THE FUTURE. KEEP ALL WIRING BELOW THE TOP 18" OF CEILING SPACE WHERE POSSIBLE. ANY ELECTRICAL WORK WITHIN 18" OF THE CEILING SHALL BE CLASS 1, DIVISION 2.
  - DISCONNECT PROVIDED ON EQUIPMENT BY HVAC CONTRACTOR.
  - PRV-1 RUNS CONTINUOUSLY.
  - TYPICAL: PROVIDE 120V POWER TO TRANSFORMERS, SWITCH AS DISCONNECT, CONDUIT AND BOXES AS REQUIRED AT ALL CO/NO2 LOCATIONS. LOW VOLTAGE TRANSFORMERS, CO SENSOR, NO2 SENSOR AND LOW VOLTAGE WIRING BY HVAC CONTRACTOR. CO SENSOR LOCATED APPROXIMATELY 5' AFF. NO2 SENSOR LOCATED APPROXIMATELY 18" BELOW CEILING. VERIFY ALL LOCATIONS.
  - PROVIDE #4 MINIMUM FROM PANEL A TO GROUND RODS, REBAR AND BUILDING STEEL WITH EXOTHERMIC CONNECTION TO CODE. NO METAL WATER PIPE IS RUN TO THE BUILDING.
  - COORDINATE ELECTRICAL SERVICE WITH ADAMS-COLUMBIA ELECTRIC COOPERATIVE. ADAMS-COLUMBIA ELECTRIC COOPERATIVE TO PROVIDE UNDERGROUND SERVICE LATERAL TO METER PEDESTAL.

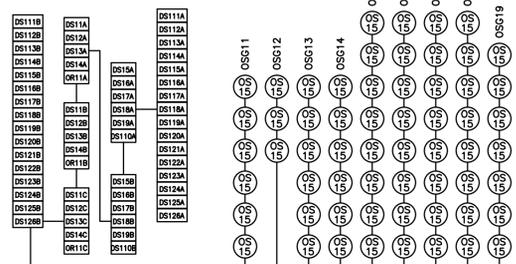
- GENERAL SHEET NOTES**
- ALL SATELLITE BUILDING ELECTRICAL WORK AND MATERIALS ARE ALTERNATE BID #6.
  - SEE ARCHITECTURAL PLANS FOR SITE PLAN.

**PANEL A**

NO.	DESCRIPTION	BKR	KW	PHASE	W/GRD BAR	SQUARE D	NQ SURFACE	NO.
1	N VEHICLE STORAGE 101 PRV-3	15/2	1.92	A	1.92	15/2	VEHICLE STORAGE 105 OHD	2
3				B				4
5	W VEHICLE STORAGE 101 OHD	15/2	1.92	A	.94	20/1	VEHICLE STORAGE 105 LIGHTS	6
7				B	.38	20/1	SUPPORT, STORAGE ROOM LIGHTS	8
9	W CENTER VEHICLE STORAGE 101	15/2	1.92	A	.36	20/1	VEHICLE STORAGE 105 RECEPTACLES	10
11	OHD			B	.48	15/1	VEHICLE STORAGE 105 UH-3	12
13	E CENTER VEHICLE STORAGE 101	15/2	1.92	A	.70	15/1	VEHICLE STORAGE 105 PRV-2	14
15	OHD			B	.18	20/1	WEST EXTERIOR RECEPTACLE	16
17	E VEHICLE STORAGE 101 OHD	15/2	1.92	A	.36	20/1	STORAGE 103, 104 RECEPTACLES	18
19				B	.72	20/1	SUPPORT 102 RECEPTACLES	20
21	S VEHICLE STORAGE 101 LIGHTS	20/1	1.20	A	.24	15/1	SUPPORT 102 UH-4	22
23	CENTER VEHICLE STORAGE 101 LTS	20/1	1.33	B	-	20/1	SPARE	24
25	N VEHICLE STORAGE 101 LIGHTS	20/1	1.31	A	-	20/1	SPARE	26
27	EXTERIOR LIGHTS, TIME CLOCK	20/1	.16	B	-	20/1	SPARE	28
29	NE, E VEHICLE STORAGE 101 RECEP	20/1	.54	A	-	20/1	SPARE	30
31	NW VEHICLE STORAGE 101 RECEP	20/1	.36	B	-	20/1	SPARE	32
33	W VEHICLE STORAGE 101 RECEP	20/1	.18	A	-	20/1	SPARE	34
35	SW VEHICLE STORAGE 101 RECEP	20/1	.36	B	-	20/1	SPARE	36
37	NW VEHICLE STORAGE 101 UH-1	15/1	.48	A	-	20/1	SPARE	38
39	W VEHICLE STORAGE 101 PRV-1	15/1	.53	B	.18	15/1	VEHICLE STORAGE 101 CO/NO2 SENSORS	40
41	NE VEHICLE STORAGE 101 UH-2	15/1	.48	A	.18	15/1	VEHICLE STORAGE 105 CO/NO2 SENSORS	42

MAIN CIRCUIT BREAKER 22 KAIR MINIMUM  
BRANCH CIRCUIT BREAKERS 10 KAIR MINIMUM





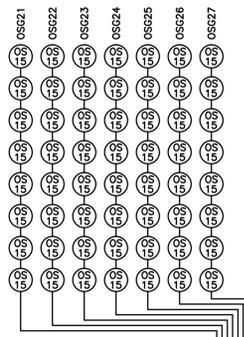
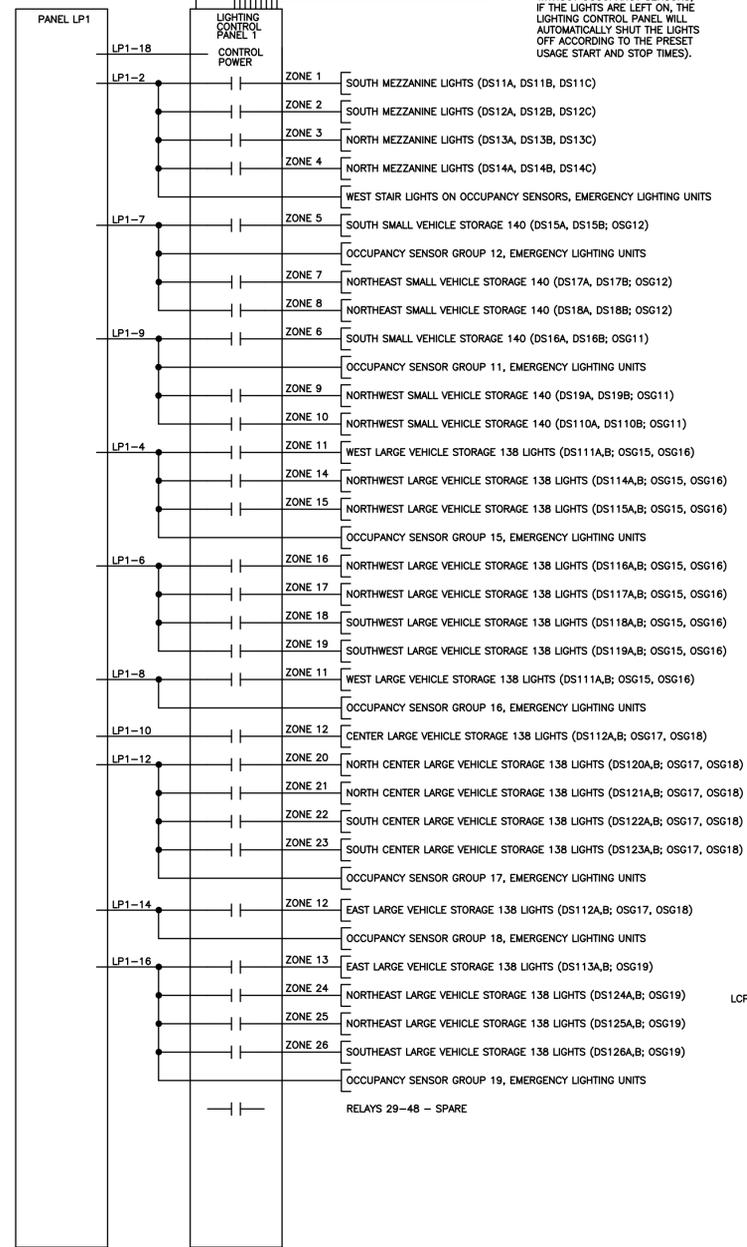
**DSXY** DIGITAL SWITCH  
**ORXY** OVERRIDE SWITCH

X=LIGHTING CONTROL PANEL #  
 Y=SWITCH #

DIGITAL SWITCHES ARE MOMENTARY SWITCHES USED FOR MANUAL ON/OFF CONTROL.

IN AREAS WITH OCCUPANCY SENSOR INPUTS TO THE LIGHTING CONTROL PANEL, THE OCCUPANCY SENSORS WILL SWITCH THE LIGHTS ON AND OFF AS LONG AS THE DIGITAL SWITCH HAS ENABLED THE RELAY OUTPUT.

OVERRIDE SWITCHES ALLOW TWO HOURS OF ADDITIONAL LIGHT AFTER A PRESET TIME HAS EXPIRED (IN MEZZANINE AREAS WITHOUT OCCUPANCY SENSORS, IF THE LIGHTS ARE LEFT ON, THE LIGHTING CONTROL PANEL WILL AUTOMATICALLY SHUT THE LIGHTS OFF ACCORDING TO THE PRESET USAGE START AND STOP TIMES).

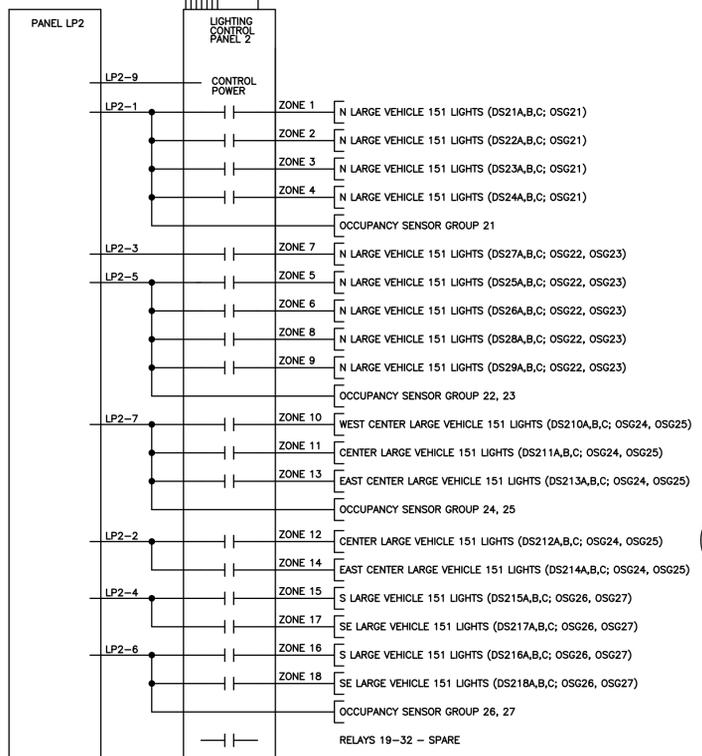


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IN AREAS WITH OCCUPANCY SENSOR INPUTS TO THE LIGHTING CONTROL PANEL, THE OCCUPANCY SENSORS WILL SWITCH THE LIGHTS ON AND OFF AS LONG AS THE DIGITAL SWITCH HAS ENABLED THE RELAY OUTPUT.



**LCP2:** LEVITON GREENMAX 32 RELAY CONTROL PANEL ENCLOSURE WITH 32 STANDARD 20 AMP RELAYS, 16 INPUTS AND LED ANNUNCIATED DIGITAL SWITCHES OR EQUAL. INCLUDE HANDHELD DISPLAY UNIT FOR EACH LIGHTING CONTROL PANEL AND ALL ACCESSORIES AS REQUIRED FOR A COMPLETE WORKING SYSTEM.

OVERRIDE AND MOMENTARY SWITCHES SHALL BE LED ANNUNCIATED DIGITAL SWITCHES OR EQUAL. OVERRIDE SWITCHES TO ALLOW TWO ADDITIONAL HOURS OF LIGHT AFTER PRESET TIME.

ALL DIGITAL AND OVERRIDE SWITCHES SHALL BE LABELED OR ENGRAVED BY THE MANUFACTURER.

FACTORY TECHNICIAN TO PROGRAM LIGHT PANEL ON/OFF TIMES TO ACCOMMODATE BUILDING FUNCTIONS. COORDINATE WITH WITH OWNER.

VEHICLE STORAGE AREAS SHALL BE PROGRAMMED TO TURN LIGHTS ON AND OFF WITH OCCUPANCY SENSOR INPUTS AND MOMENTARY DIGITAL SWITCHES. DIGITAL SWITCHES ARE USED TO ENABLE OR DISABLE LIGHTS. OCCUPANCY SENSORS TURN LIGHTS ON WHEN OCCUPANTS ARE SENSED AND THE DIGITAL SWITCHES HAVE ENABLED THE LIGHTS.

INCLUDE TWO 2 HOUR TRAINING SESSIONS BY FACTORY TRAINED TECHNICIAN FOR OWNER'S PERSONNEL TO COVER ALL LIGHTING CONTROL PANELS.

2

LIGHTING CONTROL PANEL LCP2

**LCP1:** LEVITON GREENMAX 48 RELAY CONTROL PANEL ENCLOSURE WITH 48 STANDARD 20 AMP RELAYS, 16 INPUTS AND LED ANNUNCIATED DIGITAL SWITCHES OR EQUAL. INCLUDE HANDHELD DISPLAY UNIT FOR EACH LIGHTING CONTROL PANEL AND ALL ACCESSORIES AS REQUIRED FOR A COMPLETE WORKING SYSTEM.

OVERRIDE AND MOMENTARY SWITCHES SHALL BE LED ANNUNCIATED DIGITAL SWITCHES OR EQUAL. OVERRIDE SWITCHES TO ALLOW TWO ADDITIONAL HOURS OF LIGHT AFTER PRESET TIME.

ALL DIGITAL AND OVERRIDE SWITCHES SHALL BE LABELED OR ENGRAVED BY THE MANUFACTURER.

FACTORY TECHNICIAN TO PROGRAM LIGHT PANEL ON/OFF TIMES TO ACCOMMODATE BUILDING FUNCTIONS. COORDINATE WITH WITH OWNER.

VEHICLE STORAGE AREAS SHALL BE PROGRAMMED TO TURN LIGHTS ON AND OFF WITH OCCUPANCY SENSOR INPUTS AND MOMENTARY DIGITAL SWITCHES. DIGITAL SWITCHES ARE USED TO ENABLE OR DISABLE LIGHTS. OCCUPANCY SENSORS TURN LIGHTS ON WHEN OCCUPANTS ARE SENSED AND THE DIGITAL SWITCHES HAVE ENABLED THE LIGHTS.

INCLUDE TWO 2 HOUR TRAINING SESSIONS BY FACTORY TRAINED TECHNICIAN FOR OWNER'S PERSONNEL TO COVER ALL LIGHTING CONTROL PANELS.

1

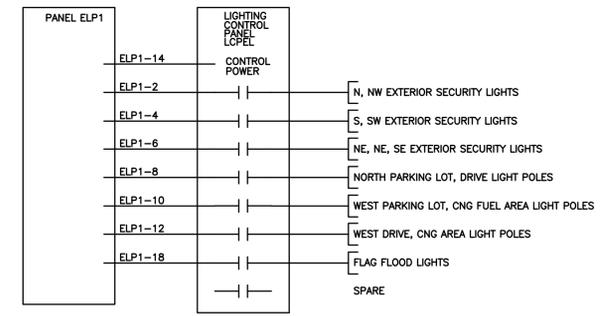
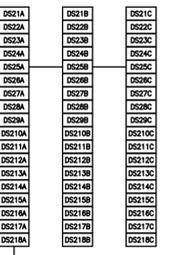
LIGHTING CONTROL PANEL LCP1

**DSXY** DIGITAL SWITCH

X=LIGHTING CONTROL PANEL #  
 Y=SWITCH #

DIGITAL SWITCHES ARE MOMENTARY SWITCHES USED FOR MANUAL ON/OFF CONTROL.

IN AREAS WITH OCCUPANCY SENSOR INPUTS TO THE LIGHTING CONTROL PANEL, THE OCCUPANCY SENSORS WILL SWITCH THE LIGHTS ON AND OFF AS LONG AS THE DIGITAL SWITCH HAS ENABLED THE RELAY OUTPUT.



**ELP1:** LEVITON GREENMAX 8 RELAY CONTROL PANEL ENCLOSURE WITH 8 STANDARD 20 AMP RELAYS AND 8 INPUTS OR EQUAL. INCLUDE HANDHELD DISPLAY UNIT FOR EACH LIGHTING CONTROL PANEL AND ALL ACCESSORIES AS REQUIRED FOR A COMPLETE WORKING SYSTEM.

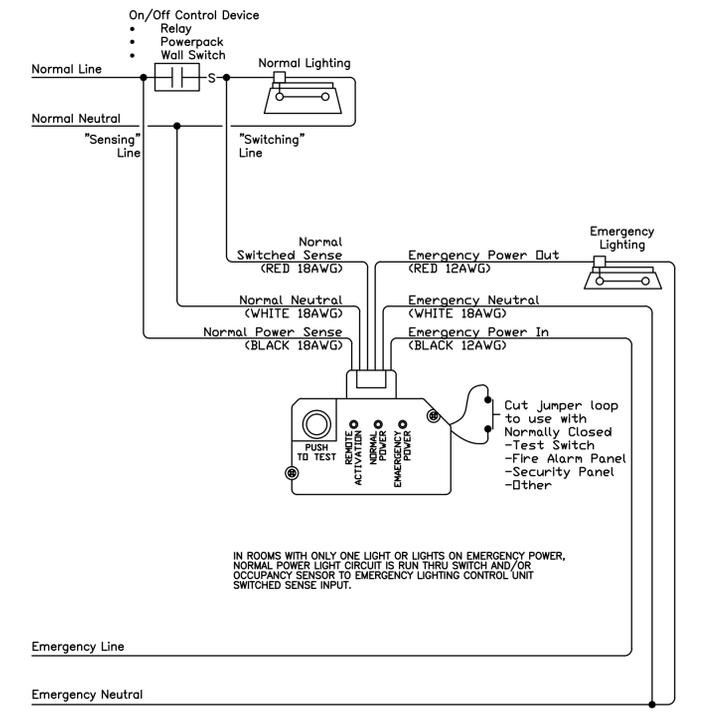
FACTORY TECHNICIAN TO PROGRAM LIGHT PANEL ON/OFF TIMES TO ACCOMMODATE BUILDING FUNCTIONS. COORDINATE WITH WITH OWNER.

EXTERIOR LIGHTING CIRCUITS SHALL BE CONTROLLED BY THE LIGHTING CONTROL PANEL ASTRONOMICAL CLOCK FOR DUSK TO DAWN OR DUSK TO TIME OPERATION. VERIFY CONTROL TIMES WITH OWNER.

INCLUDE TWO 2 HOUR TRAINING SESSIONS BY FACTORY TRAINED TECHNICIAN FOR OWNER'S PERSONNEL TO COVER ALL LIGHTING CONTROL PANELS.

3

LIGHTING CONTROL PANEL LCP1



IN ROOMS WITH ONLY ONE LIGHT OR LIGHTS ON EMERGENCY POWER, NORMAL POWER LIGHT CIRCUIT IS RUN THRU SWITCH AND/OR OCCUPANCY SENSOR TO EMERGENCY LIGHTING CONTROL UNIT SWITCHED SENSE INPUT.

4

TYPICAL EMERGENCY LIGHTING CONTROL UNIT



PANEL MDP

1200A MLO 108" SPACE 480V 3 PHASE 4 WIRE COPPER BUS W/GRD BUS SQUARE D HCR-U I-LINE		CIRCUIT BREAKERS: 65 KAIC MINIMUM	
NO.	DESCRIPTION	BKR	KW
1	SURGE PROTECTION DEVICE (SPD)	60/3	4.5*
2	PANEL PP1	400/3	116.79 6.0*
3	PANEL PP2	400/3	74.40 6.0*
4	PANEL LP1	125/3	22.27 4.5*
5	PANEL LP2	125/3	17.75 4.5*
6	PANEL RP1 TRANSFORMER	45/3	6.89 4.5*
7	LARGE VEHICLE STORAGE 138 MUA-1	40/3	17.46 4.5*
8	SMALL VEHICLE STORAGE 140 PRV-1, 2, LARGE VEHICLE STORAGE 138 PRV-4	20/3	8.98 4.5*
9	NORTH LARGE VEHICLE STORAGE 138 INSTANT WATER HEATER	40/3	24.00 4.5*
10	WASTE HEAT EXCHANGER PUMP P-9	15/3	3.99 4.5*
11	PUMP ROOM 149 INSTANT WATER HEATER	40/3	24.00 4.5*
12	ELEVATOR	70/3	33.26 4.5*
13	SOLAR PANELS (CIRCUIT BREAKER MUST BE LISTED AS BACK FEED DEVICE) - ALTERNATE BID #8 ***	225/3	- 4.5*
14	EMERGENCY LOADS ATS3 - PANEL EMP1	200/3	23.72 4.5*
15	OPTIONAL POWER ATS2 - PANEL EPP1	800/3	343.79 9.0*
16	SMALL VEHICLE STORAGE 140 MUA-4	15/3	6.32 4.5*
17	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
18	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
19	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
20	MAIN CIRCUIT BREAKER	1200/3	723.62 15.0*
TOTAL CIRCUIT BREAKER MOUNTING SPACE AVAILABLE		108"	
TOTAL CIRCUIT BREAKER MOUNTING SPACE USED		94.5"	
TOTAL CIRCUIT BREAKER SPACE REMAINING		13.5"	
TOTAL CONNECTED KW		723.62	

PROVIDE LABEL ON PANEL: "EMERGENCY POWER 550KW, 480V, 3 PHASE, 4 WIRE DIESEL FUELED EMERGENCY GENERATOR LOCATED OUTSIDE ON SOUTHEAST SIDE OF BUILDING"

\*\*\* SOLAR PANEL CIRCUIT BREAKER SHOULD BE LOCATED AS FAR AWAY FROM THE MAIN CIRCUIT BREAKER AS POSSIBLE.

PANEL PP1 - OFFICE, EAST BUILDING AREAS

400A MLO 63" SPACE 480V 3 PHASE 3 WIRE COPPER BUS W/GRD BUS SQUARE D HCM I-LINE		CIRCUIT BREAKERS: 35 KAIC MINIMUM	
NO.	DESCRIPTION	BKR	KW
1	PANEL RP2 TRANSFORMER	70/3	27.06 4.5*
2	PANEL RP3 TRANSFORMER	70/3	5.02 4.5*
3	PANEL RP4 TRANSFORMER	45/3	9.16 4.5*
4	LARGE VEHICLE STORAGE 151 MUA-2	40/3	17.46 4.5*
5	NORTH LARGE VEHICLE STORAGE 151 PRESSURE WASHER	40/3	17.46 4.5*
6	NORTH LARGE VEHICLE STORAGE 151 INSTANT WATER HEATER	40/3	24.00 4.5*
7	NORTH LARGE VEHICLE STORAGE 151 WATER REUSE - ALTERNATE BID #2	20/3	6.32 4.5*
8	NORTH LARGE VEHICLE STORAGE 151 PRV-7	15/3	6.32 4.5*
9	NORTH LARGE VEHICLE STORAGE 151 RAINWATER RECLAIM - ALTERNATE BID #3	20/3	3.99 4.5*
10	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
11	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
12	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
13	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
14	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
TOTAL SPACE AVAILABLE		63"	
TOTAL SPACE USED		40.5"	
TOTAL SPACE REMAINING		22.5"	

PANEL PP2 - WELD SHOP

400A MLO 63" SPACE 480V 3 PHASE 3 WIRE COPPER BUS W/GRD BUS SQUARE D HCM I-LINE		CIRCUIT BREAKERS: 35 KAIC MINIMUM	
NO.	DESCRIPTION	BKR	KW
1	PANEL RP5 TRANSFORMER	110/3	8.28 4.5*
2	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
3	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
4	SE LARGE VEHICLE STORAGE 138 INSTANT WATER HEATER	40/3	24.00 4.5*
5	N WELD BAY 145 INSTANT WATER HEATER	40/3	24.00 4.5*
6	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
7	WELD BAY 145 MAU-3	15/3	3.99 4.5*
8	WELD BAY 145 PRV-10, SOURCE CAPTURE EF-1	15/3	3.82 4.5*
9	SOUTHEAST LARGE VEHICLE STORAGE 138 PRV-5, SOUTH LARGE VEHICLE STORAGE 151 PRV-8	20/3	10.31 4.5*
10	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
11	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
12	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
13	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
14	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
TOTAL SPACE AVAILABLE		63"	
TOTAL SPACE USED		27"	
TOTAL SPACE REMAINING		36"	

PANEL EPP1 - OPTIONAL EMERGENCY POWER PANEL

800A MCB 72" SPACE 277/480Y 3 PHASE 4 WIRE COPPER BUS W/GRD BUS SQUARE D HCP I-LINE		CIRCUIT BREAKERS: 65 KAIC MINIMUM	
NO.	DESCRIPTION	BKR	KW
1	PANEL EPP2	400/3	109.24 6.0*
2	CNG FUELING STATION	225/3	116.73 4.5*
3	FUEL ISLAND PANEL F1 TRANSFORMER	45/3	15.00 4.5*
4	LARGE VEHICLE 138 CRANE	60/3	18.79 4.5*
5	SALT SHED	100/3	37.35 4.5*
6	NW GATE	15/3	1.75 4.5*
7	SEPTIC PUMPS	15/3	6.09 4.5*
8	WEST BUILDING OVERHEAD DOORS	15/3	3.49 4.5*
9	PANEL EP1 TRANSFORMER	45/3	2.28 4.5*
10	EQUIPMENT 149 EWH-1	25/1	4.80 1.5*
11	WELL	70/3	28.27 4.5*
12	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- 4.5*
13	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- 4.5*
14	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- 4.5*
15	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- 4.5*
16	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- 4.5*
17	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- 3.0*
TOTAL SPACE AVAILABLE		72.0*	
TOTAL SPACE USED		48.0*	
TOTAL SPACE REMAINING		24.0*	

PROVIDE LABEL ON PANEL: "OPTIONAL STANDBY PANEL EPP1 FED BY PANEL MDP AND EMERGENCY STANDBY GENERATOR THRU OPTIONAL EMERGENCY AUTOMATIC TRANSFER SWITCH ATS2. EMERGENCY POWER 550KW, 480V, 3 PHASE, 4 WIRE DIESEL FUELED EMERGENCY GENERATOR LOCATED OUTSIDE ON SOUTHEAST SIDE OF BUILDING"

PANEL EPP2 - OPTIONAL EMERGENCY POWER PANEL

400A MLO 63" SPACE 277/480Y 3 PHASE 4 WIRE COPPER BUS W/GRD BUS SQUARE D HCM I-LINE		CIRCUIT BREAKERS: 35 KAIC MINIMUM	
NO.	DESCRIPTION	BKR	KW
1	WELD BAY 145 CRANE	40/3	11.72 4.5*
2	OFFICE ACCU-1A	15/3	6.65 4.5*
3	WELD BAY, EAST BUILDING OVERHEAD DOORS	30/3	8.73 4.5*
4	OFFICE AHU-1	15/3	2.83 4.5*
5	OFFICE ACCU-1B	15/3	6.65 4.5*
6	AIR COMPRESSOR	25/3	11.64 4.5*
7	BOILER PUMPS P-3, P-4	25/3	12.64 4.5*
8	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
9	PANEL EP2A,B TRANSFORMER	70/3	37.82 4.5*
10	PANEL EP3 TRANSFORMER	30/3	4.44 4.5*
11	PANEL EP4 TRANSFORMER	45/3	6.12 4.5*
12	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
13	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
14	SPACE FOR 250 AMP FRAME CIRCUIT BREAKER	-	- -
TOTAL SPACE AVAILABLE		63"	
TOTAL SPACE USED		45"	
TOTAL SPACE REMAINING		18"	

GENERAL PANEL NOTES

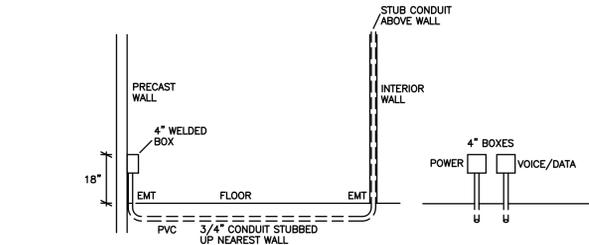
- PROVIDE HANDLE CLAMP ON CIRCUIT BREAKERS FOR ALL FIRE ALARM, EMERGENCY LIGHTING, SECURITY, PHONE AND CO/NO2 CIRCUITS.
- ALL PANELS SHALL HAVE COPPER NEUTRAL AND GROUND BAR UNLESS NOTED OTHERWISE.

PANEL LP1 - OFFICE, SMALL VEHICLE, LARGE VEHICLE, MEZZANINE AREA

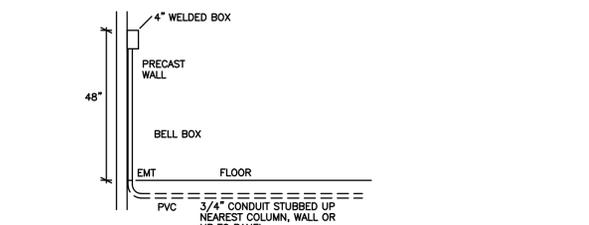
125 MLO 30 POLE 277/480Y 3 PH 4 W 125 AMP COPPER BUSS W/GRD BAR SQUARE D NF SURFACE		CIRCUIT BREAKERS: 35 KAIC MINIMUM	
NO.	DESCRIPTION	BKR	KW
1	OFFICE 120-122,MENS LOCKER,BREAKLS	20/1	1.61 A 2.21 20/1
3	MEZZANINE, W STAIR LIGHTS	20/1	2.15 B 1.11 20/1
5	W LARGE VEHICLE STORAGE 138 LIGHTS	20/1	1.60 C 1.80 20/1
7	W LARGE VEHICLE STORAGE 138 LIGHTS	20/1	2.22 A 1.55 20/1
9	W LARGE VEHICLE STORAGE 140 LIGHTS	20/1	1.55 B 1.80 20/1
11	CENTER LARGE VEHICLE STORAGE 138 LTS	20/1	- C 1.80 20/1
13	E LARGE VEHICLE STORAGE 138 LIGHTS	20/1	- A .89 20/1
15	E LARGE VEHICLE STORAGE 138 LIGHTS	20/1	- B 1.80 20/1
17	E LARGE VEHICLE STORAGE 138 LIGHTS	20/1	- C .18 15/1
19	LIGHTING CONTROL PANEL LCP1	20/1	- A - 20/1
21	SPARE	20/1	- B - 20/1
23	SPARE	20/1	- C - 20/1
25	SPARE	20/1	- A - 20/1
27	SPARE	20/1	- B - 20/1
29	SPARE	20/1	- C - 20/1

PANEL LP2 - LARGE VEHICLE STORAGE, WELD BAY

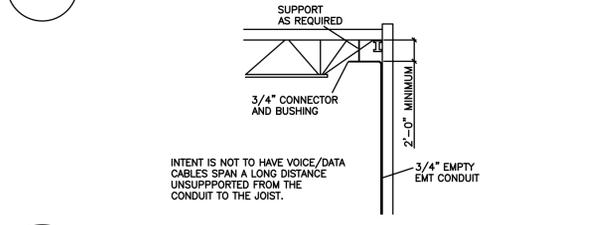
125 MLO 30 POLE 277/480Y 3 PH 4 W 125 AMP COPPER BUSS W/GRD BAR SQUARE D NF SURFACE		CIRCUIT BREAKERS: 35 KAIC MINIMUM	
NO.	DESCRIPTION	BKR	KW
1	N LARGE VEHICLE STORAGE 151 LIGHTS	20/1	1.77 A 1.99 20/1
3	N LARGE VEHICLE STORAGE 151 LIGHTS	20/1	2.22 B 1.99 20/1
5	N LARGE VEHICLE STORAGE 151 LIGHTS	20/1	1.77 C 1.55 20/1
7	N LARGE VEHICLE STORAGE 151 LIGHTS	20/1	1.99 A 1.79 20/1
9	N WELD BAY 145 LIGHTS	15/1	.18 B 1.07 20/1
11	SE WELD BAY 145 LIGHTS	20/1	- C 1.43 20/1
13	SW WELD BAY 145 LIGHTS	20/1	- A - 20/1
15	SPARE	20/1	- B - 20/1
17	SPARE	20/1	- C - 20/1
19	SPARE	20/1	- A - 20/1
21	SPARE	20/1	- B - 20/1
23	SPARE	20/1	- C - 20/1
25	SPARE	20/1	- A - 20/1
27	SPARE	20/1	- B - 20/1
29	SPARE	20/1	- C - 20/1



1 TYPICAL: OFFICE RECEPTACLE/SYSTEMS AT PRECAST WALL



2 TYPICAL: SHOP/STORAGE RECEPTACLE/SYSTEMS AT PRECAST WALL



3 TYPICAL: HIGH BAY LOW VOLTAGE CONDUIT DETAIL

PANEL RP1 – WEST LARGE VEHICLE 138, SMALL VEHICLE STORAGE 140

100 MCB	30 POLE	120/208Y	3 PH 4 W	100 AMP COPPER BUSS	W/GRD BAR	SQUARE D NQ SURFACE		
MAIN CIRCUIT BREAKER: 22 KAIC MINIMUM								
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM								
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1	N SMALL VEHICLE STOR. 140, EXT. RECEP	20/1	.54	A	.90	20/1	S SMALL VEHICLE 140, EXT. RT RECP	2
3	NW SMALL VEHICLE STOR. 140, EXT. RECEP	20/1	.54	A	.90	20/1	S SMALL VEHICLE 140, EXT. RT RECP	4
5	SW SMALL VEHICLE STOR. 140, EXT. RECEP	20/1	.54	C	.90	20/1	E SMALL VEHICLE STORAGE 140 RECP	6
7	NW LARGE VEHICLE STOR. 138 RECP	20/1	.36	A	.36	20/1	WASTE HEAT CONTROL PANEL	8
9	NW LARGE VEHICLE STOR. 138 RECP	20/1	.72	B	—	20/1	SPARE	10
11	SW LARGE VEHICLE STOR. 138 RECP	20/1	.54	C	—	20/1	SPARE	12
13	SW LARGE VEHICLE STOR. 138 RECP	20/1	.36	A	—	20/1	SPARE	14
15	TANK HIGH WATER ALARM	20/1	.60	B	—	20/1	SPARE	16
17	LARGE VEHICLE STORAGE 138 EWC	20/1G	.72	C	—	20/1	SPARE	18
19	SPARE	20/1	—	A	—	20/1	SPARE	20
21	SPARE	20/1	—	B	—	20/1	SPARE	22
23	SPARE	20/1	—	C	—	20/1	SPARE	24
25	SPARE	20/1	—	A	—	20/1	SPARE	26
27	SPARE	20/1	—	B	—	20/1	SPARE	28
29	SPARE	20/1	—	C	—	20/1	SPARE	30

PANEL RP2 – OFFICE, PARTS AREA

225 MLO	42 POLE	120/208Y	3 PH 4 W	225 AMP COPPER BUSS	W/GRD BAR	SQUARE D NQ SURFACE		
MAIN CIRCUIT BREAKER: 22 KAIC MINIMUM								
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM								
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1	ENTRY 134, HALL, EXT. RECEP	20/1	1.08	A	1.00	20/1	MENS LOCKER N SINK RECEP	2
3	N,W,E BREAKROOM RECP	20/1	.72	B	1.00	20/1	MENS LOCKER CENTER SINK RECEP	4
5	OFFICE HALL EWC	20/1G	.72	C	1.00	20/1	MENS LOCKER S SINK RECEP	6
7	SPARE	20/1	—	A	1.50	20/1G	N MEN'S LOCKER HAND DRYER	8
9	SPARE	20/1	—	B	1.50	20/1G	S MEN'S LOCKER HAND DRYER	10
11	SPARE	20/1	—	C	.72	20/1	GENERAL MENS LOKR,MUD RM RECP	12
13	W WOMENS LOCKER COUNTER RECP	20/1	1.00	A	1.18	20/1	MUD ROOM WASHER RECP	14
15	CENTER WOMENS LOCKER COUNTER RECP	20/1	1.00	B	4.16	30/2	MUD ROOM DRYER RECP	16
17	E WOMENS LOCKER COUNTER RECP	20/1	.60	B	—	20/1	SPARE	18
19	WOMENS LOCKR,STORE131,SUP.141RECP	20/1	.54	A	.54	20/1	S PARTS137,E PARTS OFFICE 124 RECP	20
21	PARTS 137 GENERAL RECEPTACLES	20/1	1.08	B	.90	20/1	PARTS OFFICE 124 RECP	22
23	WOMEN'S LOCKER HAND DRYER	20/1G	1.50	C	.72	20/1	TOOL, KIT, COUNTER RECP	24
25	OFFICE 120 RECEPTACLES	20/1	.90	A	.36	20/1G	OIL ROOM RECEPTACLES	26
27	MEN, WOMEN'S SHOWER LIGHTS	20/1	.30	B	.72	20/1	OFFICE 122 RECEPTACLES	28
29	ENTRY ADA DOORS	20/1	1.20	C	.72	20/1	OFFICE 121 RECEPTACLES	30
31	SPARE	20/1	—	A	—	20/1	SPARE	32
33	SPARE	20/1	—	B	—	20/1	SPARE	34
35	SPARE	20/1	—	C	—	20/1	SPARE	36
37	SPARE	20/1	—	A	—	20/1	SPARE	38
39	SPARE	20/1	—	B	—	20/1	SPARE	40
41	SPARE	20/1	—	C	—	20/1	SPARE	42

PANEL RP3 – MEZZ., NE LARGE VEHICLE STORAGE 138, CENTRAL LARGE VEHICLE STORAGE 151

150 MCB	42 POLE	120/208Y	3 PH 4 W	225 AMP COPPER BUSS	W/GRD BAR	SQUARE D NQ SURFACE		
MAIN CIRCUIT BREAKER: 22 KAIC MINIMUM								
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM								
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1	W LARGE VEHICLE 151, MUA-2 RECP	20/1	.54	A	.36	20/1	NORTH CENTER VEHICLE 138 RECP	2
3	E LARGE VEHICLE 151, EXT RECP	20/1	.54	B	.36	20/1	NE LARGE VEHICLE 138 RECP	4
5	SPARE	20/1	—	C	.36	20/1	NE LARGE VEHICLE 138 RECP	6
7	W MEZZANINE RECEPTACLES	20/1	.90	A	.36	20/1	NE LARGE VEHICLE 138 RECP	8
9	E MEZZANINE RECEPTACLES	20/1	.90	B	.70	15/1	MEZZANINE RM PRV-11	10
11	SPARE	20/1	—	C	—	20/1	SPARE	12
13	SPARE	20/1	—	A	—	20/1	SPARE	14
15	SPARE	20/1	—	B	—	20/1	SPARE	16
17	SPARE	20/1	—	C	—	20/1	SPARE	18
19	SPARE	20/1	—	A	—	20/1	SPARE	20
21	SPARE	20/1	—	B	—	20/1	SPARE	22
23	SPARE	20/1	—	C	—	20/1	SPARE	24
25	SPARE	20/1	—	A	—	15/1	SPARE	26
27	SPARE	20/1	—	B	—	20/1	SPARE	28
29	SPARE	20/1	—	C	—	20/1	SPARE	30
31	SPARE	20/1	—	A	—	20/1	SPARE	32
33	SPARE	20/1	—	B	—	20/1	SPARE	34
35	SPARE	20/1	—	C	—	20/1	SPARE	36
37	SPARE	20/1	—	A	—	20/1	SPARE	38
39	SPARE	20/1	—	B	—	20/1	SPARE	40
41	SPARE	20/1	—	C	—	20/1	SPARE	42

PANEL RP4 – NORTH LARGE VEHICLE STORAGE 151

100 MCB	30 POLE	120/208Y	3 PH 4 W	100 AMP COPPER BUSS	W/GRD BAR	SQUARE D NQ SURFACE		
MAIN CIRCUIT BREAKER: 22 KAIC MINIMUM								
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM								
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1	NE VEHICLE 151, EXT RECP	20/1	.54	A	.36	20/1	NE VEHICLE 151 RECEPTACLES	2
3	SPARE	20/1	—	B	.54	20/1	NW VEHICLE 151, EXT RECEPTACLES	4
5	SPARE	20/1	—	C	.54	20/1	NW VEHICLE 151, EXT RECEPTACLES	6
7	N VEHICLE 151 RECEPTACLES	20/1	.36	A	1.18	20/1	EVAP. SUBMERSIBLE PUMP #1(ALT BID#6)	8
9	N VEHICLE 151 PRV-9	20/1	.86	B	1.18	20/1	EVAP. SUBMERSIBLE PUMP #2(ALT BID#6)	10
11	SPARE	20/1	—	C	1.80	20/1	WATER EVAPORATOR #1 (ALT BID #6)	12
13	SPARE	20/1	—	A	1.80	20/1	WATER EVAPORATOR #2 (ALT BID #6)	14
15	SPARE	20/1	—	B	—	20/1	SPARE	16
17	SPARE	20/1	—	C	—	20/1	SPARE	18
19	SPARE	20/1	—	A	—	20/1	SPARE	20
21	SPARE	20/1	—	B	—	20/1	SPARE	22
23	SPARE	20/1	—	C	—	20/1	SPARE	24
25	SPARE	20/1	—	A	—	15/1	SPARE	26
27	SPARE	20/1	—	B	—	20/1	SPARE	28
29	SPARE	20/1	—	C	—	20/1	SPARE	30

PANEL RP5 – WELD BAY 145, LARGE STORAGE 138, 151 AREA

225 MCB	42 POLE	120/208Y	3 PH 4 W	225 AMP COPPER BUSS	W/GRD BAR	SQUARE D NQ SURFACE		
MAIN CIRCUIT BREAKER: 22 KAIC MINIMUM								
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM								
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1	N WELD BAY 145 RECEPTACLES	20/1ST	.54	A	.36	20/1	SE LARGE VEHICLE 138 RECEPTACLES	2
3	SPARE	20/1	—	B	.36	20/1	SE LARGE VEHICLE 138 RECEPTACLES	4
5	NE WELD BAY 145 RECEPTACLES	20/1ST	.36	C	.72	20/1	SW LARGE VEHICLE 151, MUA-3 RECP	6
7	SPARE	20/1	—	A	.54	20/1	SE LARGE VEHICLE 151, EXT RECEP	8
9	SE WELD BAY 145 RECEPTACLES	20/1ST	.36	B	.70	15/1	SE LARGE VEHICLE 138 PRV-6	10
11	SPARE	20/1	—	C	—	20/1	SPARE	12
13	NW WELD BAY 145 RECEPTACLES	20/1ST	.36	A	—	20/1	SPARE	14
15	SPARE	20/1	—	B	—	20/1	SPARE	16
17	SW WELD BAY 145 RECEPTACLES	20/1ST	.36	C	—	20/1	SPARE	18
19	SPARE	20/1	—	A	—	20/1	SPARE	20
21	S WELD BAY 145, EXT. RECP	20/1ST	.72	B	—	15/1	SPARE	22
23	SPARE	20/1	—	C	—	20/1	SPARE	24
25	N WELD BAY 145 HOSE REEL HR-1	15/1	.86	A	—	20/1	SPARE	26
27	S WELD BAY 145 HOSE REEL HR-2	15/1	.86	B	—	20/1	SPARE	28
29	WELD BAY 145 PRV-12	20/1	1.18	C	—	20/1	SPARE	30
31	SPARE	20/1	—	A	—	20/1	SPARE	32
33	SPARE	20/1	—	B	—	20/1	SPARE	34
35	SPARE	20/1	—	C	—	20/1	SPARE	36
37	SPARE	20/1	—	A	—	20/1	SPARE	38
39	SPARE	20/1	—	B	—	20/1	SPARE	40
41	SPARE	20/1	—	C	—	20/1	SPARE	42

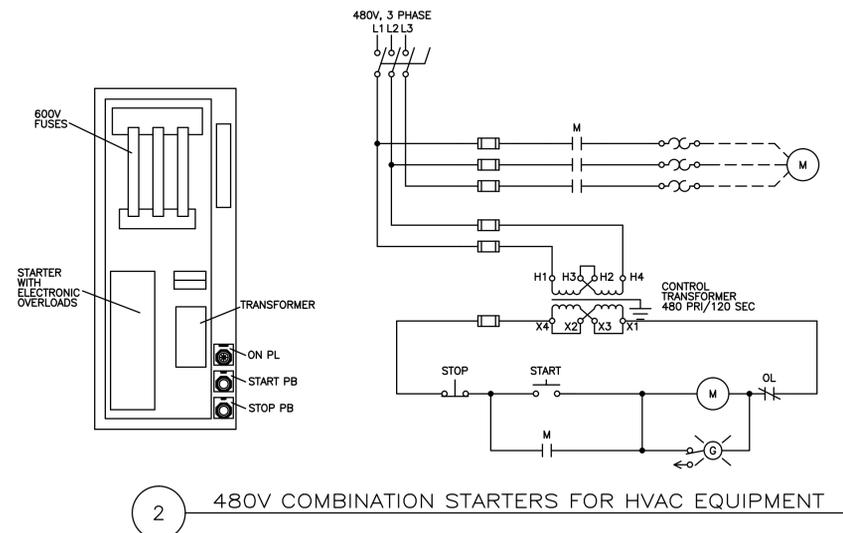
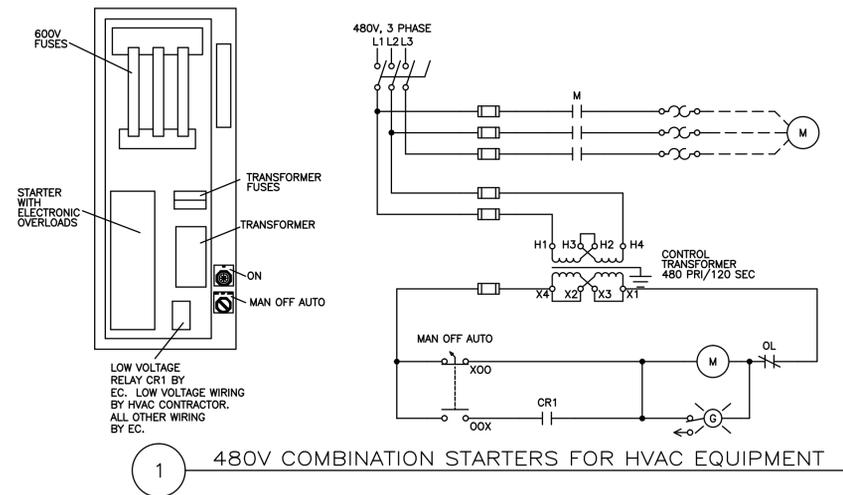
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PANEL EP1 – SMALL VEHICLE 140, WEST LARGE VEHICLE 138 AREA

100 MCB	30 POLE	120/208Y	3 PH 4 W	100 AMP COPPER BUSS	W/GRD BAR	SQUARE D NQ SURFACE		
MAIN CIRCUIT BREAKER: 22 KAIC MINIMUM								
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM								
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1	SPARE	20/1	—	A	.48	15/1	S SMALL VEHICLE 140 UH-3,UH-4	2
3	ELECTRICAL ROOM RECEPTACLES	20/1	.36	B	.48	15/1	NW LARGE VEHICLE 138 UH-5,UH-6	4
5	N SMALL VEHICLE 140 UH-1,UH-2	15/1	.48	C	.48	15/1	SW LARGE VEHICLE 138 UH-8,UH-9	6
7	SPARE	20/1	—	A	—	20/1	SPARE	8
9	SPARE	20/1	—	B	—	20/1	SPARE	10
11	SPARE	20/1	—	C	—	20/1	SPARE	12
13	SPARE	20/1	—	A	—	20/1	SPARE	14
15	SPARE	20/1	—	B	—	20/1	SPARE	16
17	SPARE	20/1	—	C	—	20/1	SPARE	18
19	SPARE	20/1	—	A	—	20/1	SPARE	20
21	SPARE	20/1	—	B	—	20/1	SPARE	22
23	SPARE	20/1	—	C	—	20/1	SPARE	24
25	SPARE	20/1	—	A	—	20/1	SPARE	26
27	SPARE	20/1	—	B	—	20/1	SPARE	28
29	SPARE	20/1	—	C	—	20/1	SPARE	30

PANEL EP2A – OFFICE, MEZZANINE AREA

150 MCB	42 POLE	120/208Y	3 PH 4 W	225 AMP COPPER BUSS	W/GRD BAR	SQUARE D NQ SURFACE		
MAIN CIRCUIT BREAKER: 22 KAIC MINIMUM								
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM								
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.
1	DATA ROOM 142 ACCU-1, CRU-1	15/2	2.50	A	.36	15/1	STARCUH-2,ENTRUCU-1,PARTS UH-22	2
3	OFFICE HVAC ZONE DAMPER XFMRs	15/1	.72	B	1.00	20/1	NE BREAKROOM 132 MICROWAVE	4
5	PARTS 137 OHM	20/1	1.18	A	.18	20/1	N BREAKROOM 132 COUNTER RECP	6
9	SPARE	20/1	—	B	.18	20/1	S BREAKROOM 132 COUNTER RECP	10
11	SPARE	20/1	—	C	1.82	20/1	VEHICLE STORAGE 151 ICE MAKER	12
13	SPARE	20/1	—	A	.36	20/1	BREAKROOM 132 COMPUTER RECP	14
15	PANEL ELEV	60/3	3.20	B	.54	20/1	BREAKROOM 132 COMPUTER,TV RECP	16
17	N DATA ROOM 142 RECEPTACLES	20/1	.36	A				



PANEL ELEV - ELEVATOR

100 MLO 18 POLE 120/208Y 3 PH 4 W 100 AMP COPPER BUSS W/GRD BAR SQUARE D NO 14" SURFACE											
BRANCH CIRCUIT BREAKERS: 10 KAIC MINIMUM											
NO.	DESCRIPTION	BKR	KW	PHASE	KW	BKR	DESCRIPTION	NO.			
1	ELEVATOR PIT SUMP PUMP ALARM	15/1	.18	A	.18	20/1	ELEVATOR CAR ACCESSORIES	2			
3	ELEVATOR PIT SUMP PUMP	20/1	1.18	B	.25	20/1	ELEVATOR MACHINE ROOM LTS, RECP	4			
5	ELEVATOR PIT RECEPTACLES, LIGHTS	20/1	.55	C	.05	15/1	ELEVATOR SHUNT TRIP CONTROL	6			
7	ELEVATOR EF	15/1	.28	A	-	-	SPARE	8			
9	SPARE	-	-	B	-	-	SPARE	10			
11	SPARE	-	-	C	-	-	SPARE	12			
13	SPARE	-	-	A	-	-	SPARE	14			
15	SPARE	-	-	B	-	-	SPARE	16			
17	SPARE	-	-	C	-	-	SPARE	18			

STARTER/CONTACTOR/RELAY SCHEDULE												
DEVICE	LOCATION	LOAD	TYPE	FUSE	CONTROL TRANSFORMER	CONTROL COIL	LOAD HP/KW	LOAD VOLTAGE	LOAD PHASE	POLES	LOW VOLTAGE CONTROL RELAY	NOTES (SEE BELOW)
CS1	NORTHWEST SMALL VEHICLE PARKING 140	PRV-1	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 0, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-4SP OR EQUAL	480/120	120	1.5 HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,5,7,9
CS2	SOUTHEAST SMALL VEHICLE PARKING 140	PRV-2	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 0, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-4SP OR EQUAL	480/120	120	1.5 HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,5,7,9
CS3	NORTHWEST VEHICLE PARKING 138	PRV-4	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 0, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-6SP OR EQUAL	480/120	120	3.0 HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,5,7,9
CS4	SOUTHEAST VEHICLE PARKING 138	PRV-5	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 0, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-6SP SP OR EQUAL	480/120	120	3.0 HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,5,7,9
CS5	NORTHWEST VEHICLE PARKING 151	PRV-7	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 1, FULL VOLTAGE, NON-REVERSING, NEMA 4X STAINLESS STEEL ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-10SP OR EQUAL	480/120	120	5.0HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,5,7,9
CS6	SOUTHEAST VEHICLE PARKING 151	PRV-8	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 1, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-10SP OR EQUAL	480/120	120	5.0 HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,5,7,9
CS7	WELD BAY 145	PRV-10	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 0, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-2SP OR EQUAL	480/120	120	3/4 HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,5,7,9
CS8	WELD BAY 145	EF-1	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 0, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPS-RK-4SP OR EQUAL	480/120	120	1.5 HP	480	3	3	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,4,7,9,10,11
CS10	SATELLITE BUILDING VEHICLE STORAGE 101	PRV-3	COMBINATION STARTER, FUSED DISCONNECT SWITCH TYPE, NEMA SIZE 0, FULL VOLTAGE, NON-REVERSING, NEMA 1 ENCLOSURE SQUARE D 8538 SERIES OR EQUAL.	BUSSMANN LPN-RK-10SP OR EQUAL	240/120	120	1 HP	240	1	2	SQUARE D KP12 DPDT RELAY AND SOCKET OR EQUAL	1,2,3,4,6,7,9
V1	MEZZANINE	P-3	VARIABLE FREQUENCY DRIVE WITH DISCONNECT PROVIDED BY HVAC CONTRACTOR.				3.0 HP	480	3			12
V2	MEZZANINE	P-4	VARIABLE FREQUENCY DRIVE WITH DISCONNECT PROVIDED BY HVAC CONTRACTOR.				3.0 HP	480	3			12
V3	EQUIPMENT 149	P-9	VARIABLE FREQUENCY DRIVE WITH DISCONNECT PROVIDED BY HVAC CONTRACTOR.				1.5 HP	480	3			12
R1	NORTHWEST VEHICLE PARKING 151	PRV-9	SPST POWER RELAY WITH ENCLOSURE, 40AMP CONTACT, 2HP MAX. RATING, SQUARE D 8501-C06* WITH 9991-UE1 ENCLOSURE (*=VOLTAGE).	NONE	NONE	LOW VOLTAGE	.33 HP	120	1	1	NONE	3
R2	OIL 127	PRV-11	SPST POWER RELAY WITH ENCLOSURE, 40AMP CONTACT, 2HP MAX. RATING, SQUARE D 8501-C06* WITH 9991-UE1 ENCLOSURE (*=VOLTAGE).	NONE	NONE	LOW VOLTAGE	.25 HP	120	1	1	NONE	3
R3	MEZZANINE	P-6	SPST POWER RELAY WITH ENCLOSURE, 40AMP CONTACT, 2HP MAX. RATING, SQUARE D 8501-C06* WITH 9991-UE1 ENCLOSURE (*=VOLTAGE).	NONE	NONE	LOW VOLTAGE	.03 HP	120	1	1	NONE	3
R4	SATELLITE BUILDING VEHICLE STORAGE 105	PRV-2	SPST POWER RELAY WITH ENCLOSURE, 40AMP CONTACT, 2HP MAX. RATING, SQUARE D 8501-C06* WITH 9991-UE1 ENCLOSURE (*=VOLTAGE).	NONE	NONE	LOW VOLTAGE	.25 HP	120	1	1	NONE	3
R5	LARGE VEHICLE STORAGE 151	EVAPORATOR PUMP #1	SPST POWER RELAY WITH ENCLOSURE, 40AMP CONTACT, 2HP MAX. RATING, SQUARE D 8501-C06* WITH 9991-UE1 ENCLOSURE (*=VOLTAGE).	NONE	NONE	LOW VOLTAGE	.5 HP	120	1	1	NONE	3
R6	LARGE VEHICLE STORAGE 151	EVAPORATOR PUMP #2	SPST POWER RELAY WITH ENCLOSURE, 40AMP CONTACT, 2HP MAX. RATING, SQUARE D 8501-C06* WITH 9991-UE1 ENCLOSURE (*=VOLTAGE).	NONE	NONE	LOW VOLTAGE	.5 HP	120	1	1	NONE	3
R7	WELD BAY 145	PRV-12	SPST POWER RELAY WITH ENCLOSURE, 40AMP CONTACT, 2HP MAX. RATING, SQUARE D 8501-C06V02 WITH 9991-UE1 ENCLOSURE.	NONE	NONE	120	.5 HP	120	1	1	NONE	

OPTIONS AND NOTES:  
1. PRESS-TO-TEST PILOT LIGHT.  
2. MAN/OFF/AUTO SELECTOR SWITCH.  
3. LOW VOLTAGE RELAY COIL. VERIFY COIL VOLTAGE.  
4. STARTERS TO HAVE ELECTRONIC OVERLOAD PROTECTION.  
5. SEE SHEET E506, DETAIL 1.  
6. COMBINATION STARTER WIRED THE SAME AS SHEET E506, DETAIL 1 EXCEPT THE MOTOR IS SINGLE PHASE.  
7. VERIFY FUSE SIZE (125% OF FLA) WITH MOTOR NAMEPLATE DATA.  
8. STAINLESS STEEL ENCLOSURE.  
9. IEC STYLE STARTERS WILL NOT BE ACCEPTED.  
10. SEE SHEET E506, DETAIL 2.  
11. ON AND OFF PUSHBUTTONS.  
12. VFD WITH DISCONNECT PROVIDED AND PROGRAMMED BY HVAC CONTRACTOR. INSTALLED BY ELECTRICAL CONTRACTOR.

GENERAL NOTES:  
1. "OR EQUAL" MEANS EQUAL EQUIPMENT PROVIDED BY APPROVED MANUFACTURERS LISTED IN SPECIFICATIONS.

**BIDDING NOTES**

BASE BID:  
PROVIDE ALL ELECTRICAL WORK AND MATERIALS FOR WORK NOT IDENTIFIED AS AN ALTERNATE BID. SEE BELOW ALTERNATES FOR ADDITIONAL NOTES ON WORK IN BASE BID.

ALTERNATE BID #1 - SATELLITE FACILITY: PROVIDE ALL SATELLITE FACILITY ELECTRICAL PER DRAWING E-211.

ALTERNATE BID #2 - WATER REUSE SYSTEM: PROVIDE CIRCUIT BREAKER IN PANEL RP1 AND CIRCUIT TO WATER REUSE SYSTEM CONTROL PANEL. PROVIDE WIRING TO 5 HP WATER REUSE SYSTEM PUMP FROM CONTROL PANEL. WATER REUSE SYSTEM CONTROL PANEL WITH DISCONNECT AND MOTOR STARTER BY WATER REUSE SYSTEM CONTRACTOR. PROVIDE 1" CONDUIT AND BOXES AS REQUIRED FROM UNDER FLOOR WATER REUSE TANK FOR WIRING OF FLOATS TO WATER REUSE SYSTEM CONTROL PANEL. FLOAT SWITCH WIRING BY WATER REUSE SYSTEM CONTRACTOR.

ALTERNATE BID #3 - RAINWATER RECLAIM SYSTEM: PROVIDE CIRCUIT BREAKER IN PANEL RP1 AND CIRCUIT TO RAINWATER RECLAIM SYSTEM CONTROL PANEL. PROVIDE WIRING TO 3 HP RAINWATER RECLAIM SYSTEM PUMP FROM CONTROL PANEL. RAINWATER RECLAIM SYSTEM CONTROL PANEL WITH DISCONNECT AND MOTOR STARTER BY RAINWATER RECLAIM SYSTEM CONTRACTOR. PROVIDE 1" CONDUIT AND BOXES AS REQUIRED FROM RAINWATER RECLAIM SYSTEM ABOVE GROUND TANK TO CONTROL PANEL FOR FLOAT SWITCH WIRING. FLOAT SWITCH WIRING BY RAINWATER RECLAIM SYSTEM CONTRACTOR.

ALTERNATE BID #4 - RADIANT FLOORING TUBING: NO ELECTRICAL CONTRACTOR ALTERNATE BID.

ALTERNATE BID #5 - RADIANT FLOORING: ADD OR DEDUCT TO ADD PUMPS P-5 AND P-6 AND DEDUCT UNIT HEATERS IN LARGE VEHICLE STORAGE 138, WELD BAY 145 AND PARTS 137. PROVIDE CIRCUIT FROM PANEL EP2A AND FUSED DISCONNECT FOR PUMP P-5. PROVIDE CIRCUIT BREAKER IN PANEL EP2A AND MANUAL SWITCH, RELAY AND CIRCUIT TO PUMP P-6. LOW VOLTAGE RELAY COIL WIRING BY HVAC CONTRACTOR. ALTERNATE #5 INCLUDES THE DEDUCT OF UNIT HEATERS UH-5 (CIRCUIT EP1-4), UH-6 (CIRCUIT EP1-4), UH-7 (CIRCUIT EP2-20), UH-8 (CIRCUIT EP1-6), UH-9 (CIRCUIT EP1-8), UH-10 (CIRCUIT EP4-1), UH-11 (CIRCUIT EP4-3), UH-12 (CIRCUIT EP4-1), UH-13 (CIRCUIT EP4-3) AND UH-22 (CIRCUIT EP2A-2).

ALTERNATE BID #6 - EVAPORATING EQUIPMENT: PROVIDE CIRCUIT BREAKER IN PANEL RP4 AND CIRCUIT TO WATER EVAPORATOR #1 AND TO WATER EVAPORATOR #2. PROVIDE A 30 AMP MANUAL SWITCH AS A DISCONNECT. VERIFY LOCATION WITH WATER EVAPORATOR CONTRACTOR. PROVIDE CIRCUIT BREAKER IN PANEL RP4 AND CIRCUIT TO WATER EVAPORATOR #1 PUMP AND TO WATER EVAPORATOR #2 PUMP. PROVIDE A 30 AMP MANUAL SWITCH AS A DISCONNECT. PROVIDE RELAY WITH LOW VOLTAGE COIL. RELAY TO SWITCH SUMP PUMP ON AND OFF DEPENDING ON LEVEL CONTROLS. ELECTRICAL CONTRACTOR TO PROVIDE A 1" CONDUIT FROM THE EVAPORATOR CONTROL PANEL TO THE LEVEL CONTROLS IN THE SUMP FOR EACH EVAPORATOR. LOW VOLTAGE WIRING FROM CONTROL PANEL TO THE RELAY AND LEVEL CONTROLS ARE BY THE ELECTRICAL CONTRACTOR. PROVIDE CONDUIT FROM EACH EVAPORATOR CONTROL PANEL TO SUMP LOW WATER FLOAT SWITCH IN SERIES WITH LEVEL CONTROLS. SUMP PUMP IS NOT TO RUN IF SUMP WATER LEVEL IS TOO LOW. ALL LOW VOLTAGE WIRING SHALL BE IN CONDUIT. ONE EXHAUST BLOWER MOTOR IS APPROXIMATELY 20' ABOVE EACH EVAPORATOR. PROVIDE 120V WIRING FROM EVAPORATOR CONTROL PANEL TO EXHAUST BLOWER MOTOR AT EACH UNIT.

ALTERNATE BID #7 - VEHICLE PARKING CRANE: ELECTRICAL CONTRACTOR TO PROVIDE FEEDER INCLUDING DISCONNECT AT CRANE IN BASE BID. PROVIDE FINAL CONNECTION FROM CRANE DISCONNECT TO CRANE UNDER ALTERNATE BID #7.

ALTERNATE BID #8 - PHOTOVOLTAIC PANELS AND DISTRIBUTION SYSTEM: PROVIDE 225 AMP CIRCUIT BREAKER (MUST BE LISTED AS A BACK FED DEVICE) IN PANEL MDP. PROVIDE FEEDER TO SOLAR PANEL EQUIPMENT ON ROOF. PROVIDE THREE 4" CONDUIT SLEEVES THRU ROOF FOR SOLAR PANEL CONTROLS. VERIFY LOCATION WITH SOLAR CONTRACTOR.

ALTERNATE BID #9 - LED INTERIOR LIGHTING: PROVIDE ALTERNATE INTERIOR LED LIGHT FIXTURES INSTEAD OF BASE BID INTERIOR FLUORESCENT LIGHT FIXTURES PER LIGHT FIXTURE SCHEDULE.

**INFORMATIONAL BIDS:**

INFORMATIONAL BID A - WELL: PROVIDE CIRCUIT BREAKER IN PANEL EPP1 AND FEEDER TO WELL VARIABLE FREQUENCY DRIVE (VFD) WITH DISCONNECT. WELL VFD UNIT BY PLUMBING CONTRACTOR. WIRING FROM VFD UNIT TO WELL PUMP BY WELL CONTRACTOR.

INFORMATIONAL BID B - SEPTIC SYSTEM: PROVIDE CIRCUIT BREAKER IN PANEL EPP1, FEEDER AND WP FUSED DISCONNECT AT SEPTIC SYSTEM CONTROL PANEL. PROVIDE CIRCUITS TO TWO 1 HP SEPTIC PUMPS. PROVIDE 1" EMPTY CONDUIT FROM CONTROL PANEL TO UNDERGROUND TANK FOR LOW VOLTAGE LEVEL CONTROL. SEPTIC SYSTEM CONTROL PANEL AND PUMPS PROVIDED AND MOUNTED BY PLUMBING CONTRACTOR.

INFORMATIONAL BID C - FIRE PUMP, UNDERGROUND WATER TANK AND VERTICAL PUMP VAULT: NO ELECTRICAL CONTRACTOR INFORMATIONAL BID.

INFORMATIONAL BID D - 6" FIRE TO MEDICAL EXAMINER: NO ELECTRICAL CONTRACTOR INFORMATIONAL BID.

INFORMATIONAL BID E - GENERATOR PRICE: PROVIDE A PRICE FOR THE GENERATOR ONLY. PRICE DOES NOT INCLUDE LABOR OR OTHER GENERATOR EQUIPMENT (TRANSFER SWITCHES, ETC...).

INFORMATIONAL BID F - HOT WATER PIPE FROM LANDFILL AND HEAT EXCHANGERS: ALL ELECTRICAL FOR NEW PUMPING AND HEAT EXCHANGER ENCLOSURE ON EXISTING LANDFILL SITE.

INFORMATIONAL BID G - 4" DI UNDERGROUND WATER MAIN FOR THE MEDICAL EXAMINER BUILDING: NO ELECTRICAL CONTRACTOR ALTERNATE.

INFORMATIONAL BID H - SANITARY HOLDING TANK FOR BUILDING PROCESS WASTE. PROVIDE UP TO 1-1/4" CONDUIT FROM LEVEL CONTROLS INSIDE MEDICAL EXAMINER BUILDING TO SANITARY HOLDING TANK LEVEL SENSOR. PROVIDE PVC BOX IN TANK MANHOLE ACCESS PIT AND CONNECTION TO LEVEL CONTROL SENSOR AS REQUIRED. PULL LOW VOLTAGE CABLE AND TERMINATE AS REQUIRED. LOW VOLTAGE CABLE PROVIDED BY PLUMBING CONTRACTOR. RUN CONDUIT TO ONE SIDE OF SEWER LINE. VERIFY CONDUIT SIZE AND LOCATIONS WITH PLUMBING CONTRACTOR.

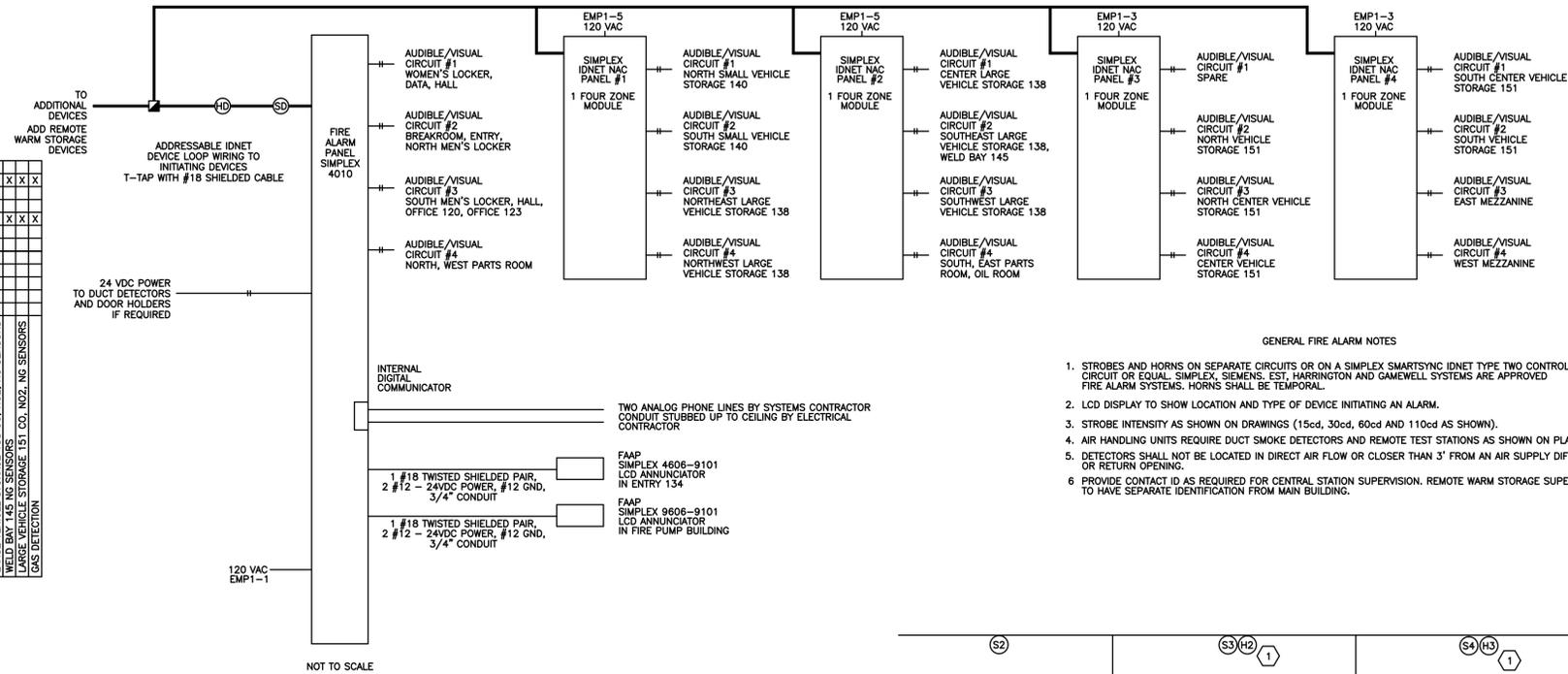
INFORMATIONAL BID I - SANITARY HOLDING TANK FOR ME BUILDING INTERIOR VEHICLE STORAGE. PROVIDE UP TO 1-1/4" CONDUIT FROM LEVEL CONTROLS INSIDE MEDICAL EXAMINER BUILDING TO SANITARY HOLDING TANK LEVEL SENSOR. PROVIDE PVC BOX IN TANK MANHOLE ACCESS PIT AND CONNECTION TO LEVEL CONTROL SENSOR AS REQUIRED. PULL LOW VOLTAGE CABLE AND TERMINATE AS REQUIRED. LOW VOLTAGE CABLE PROVIDED BY PLUMBING CONTRACTOR. RUN CONDUIT TO ONE SIDE OF SEWER LINE. VERIFY CONDUIT SIZE AND LOCATIONS WITH PLUMBING CONTRACTOR.

INFORMATIONAL BID J - ADD OR DEDUCT TO USE SQUARE D DISTRIBUTION EQUIPMENT: ELECTRICAL CONTRACTOR TO USE CUTLER-HAMMER, GE, SIEMENS OR SQUARE D DISTRIBUTION EQUIPMENT IN BASE BID PER PLANS AND SPECIFICATIONS.

		SEQUENCE OF OPERATION															
MONITORING COMPANY	ALARM		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	SUPERVISORY		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	TROUBLE	X															
FIRE ALARM PANEL	ALARM		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	SUPERVISORY		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	TROUBLE	X															
	NOTIFICATION		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	ELEVATOR RECALL		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	ELEVATOR SHUNT TRIP																
	ACTIVATE ELEVATOR UNSAFE DOOR RELEASE (IF PRESENT) RTU SHUTDOWN		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

MONITORING INTEGRITY	
WATER FLOW	
TAMPER SWITCH	
MANUAL PULL STATION	
SMOKE DETECTOR	
DUCT SMOKE DETECTOR	
ELEVATOR EQUIPMENT ROOM SMOKE DETECTOR	
ELEVATOR TOP OF SHAFT SMOKE DETECTOR	
ELEVATOR HEAT DETECTOR	
DUCT SMOKE DETECTOR	
FIRE PUMP MOTOR RUNNING	
FIRE PUMP PHASE REVERSAL	
FIRE PUMP ALTERNATE SOURCE	
FIRE PUMP ROOM LOW TEMPERATURE	
FIRE PUMP ROOM LOW PRESSURE	
FIRE PUMP WATER LEVEL LOWERED	
FIRE PUMP WATER LEVEL RESTORED	
SMALL VEHICLE STORAGE, 140 CO, NO2, NG SENSORS	
LARGE VEHICLE STORAGE, 138 CO, NO2, NG SENSORS	
WELD BAY 145 NG SENSORS	
LARGE VEHICLE STORAGE, 151 CO, NO2, NG SENSORS	
GPS DETECTOR	

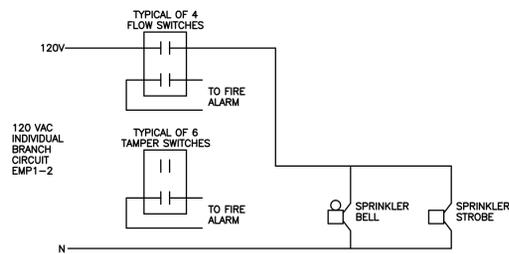
NOTE:  
FIRE PUMP MOTOR RUNNING MAY BE A SUPERVISORY OR ALARM CONDITION. VERIFY PREFERENCE WITH OWNER.  
ROOM 140, 138, 145 AND 151 CO, NO2 AND CNG SENSORS MAY BE A SUPERVISORY OR ALARM CONDITION WITH LOCAL AHJ APPROVAL. VERIFY PREFERENCE WITH OWNER.



#12 AWG MIN ON INDICATING CIRCUITS (AV-#)  
INCREASE WIRE SIZE FOR VOLTAGE DROP AS NEEDED PER CODE AND MANUFACTURER'S INSTRUCTIONS.

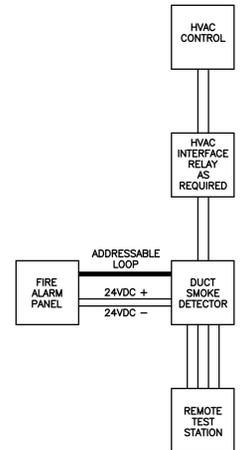
ENTIRE BUILDING HAS SPRINKLER PROTECTION.

2 FIRE ALARM PANEL

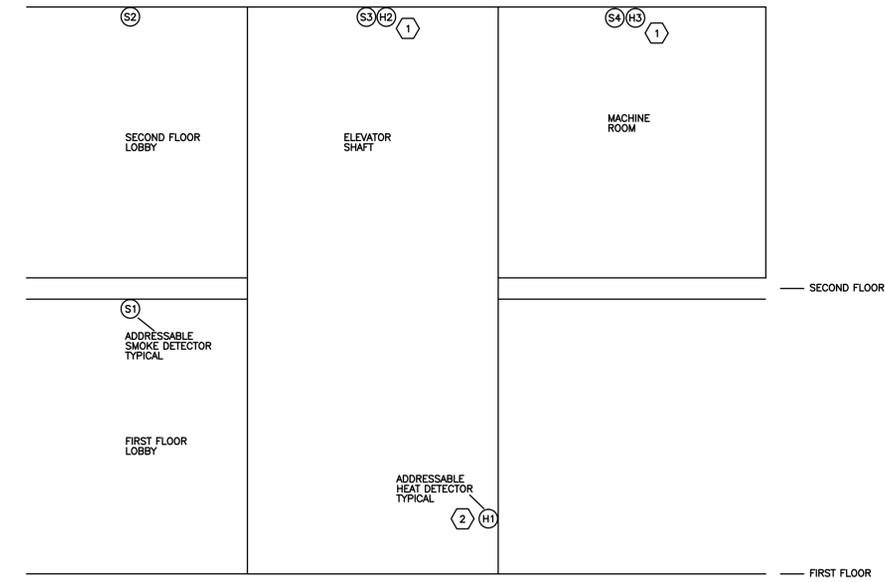


FLOW AND TAMPER SWITCHES PROVIDED AND MOUNTED BY FIRE PROTECTION CONTRACTOR. FLOW AND TAMPER SWITCH FIRE ALARM WIRING BY ELECTRICAL CONTRACTOR. OUTDOOR SPRINKLER BELL PROVIDED BY FIRE PROTECTION CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. OUTDOOR STROBE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

1 MAIN BUILDING SPRINKLER BELL/STROBE



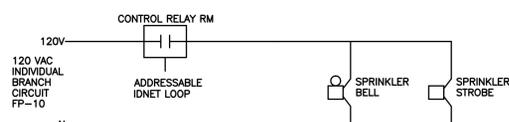
3 DUCT SMOKE DETECTOR DETAIL



- NOTES:
- HEAT DETECTOR MUST BE LOCATED WITHIN 2' OF SPRINKLER HEAD. HEAT DETECTOR TEMPERATURE SETPOINT MUST BE LOWER THAN SPRINKLER HEAD SETPOINT.
  - HEAT DETECTOR MUST BE LOCATED WITHIN 2' OF SIDEWALL SPRINKLER HEAD. HEAT DETECTOR TEMPERATURE SETPOINT MUST BE LOWER THAN SPRINKLER HEAD SETPOINT.

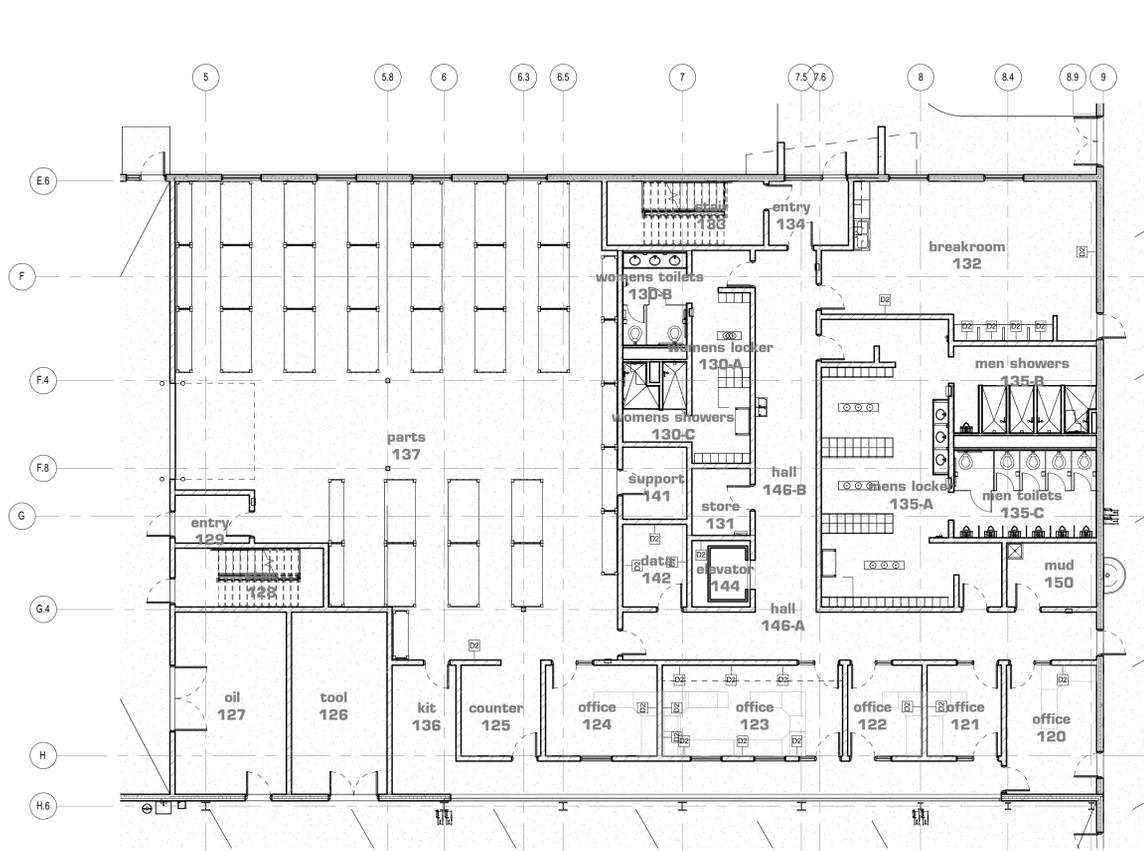
- GENERAL NOTES:
- SMOKE DETECTORS TO INITIATE FIRE FIGHTER'S SERVICE.
  - HEAT DETECTORS TO INITIATE DISCONNECTION OF PRIMARY ELECTRICAL POWER (SHUNT TRIP BREAKER IN PANEL MDP).
  - ADDRESSABLE ELEVATOR SMOKE DETECTOR AND HEAT DETECTORS CONNECTED TO FIRE ALARM PANEL. INCLUDE PANEL PROGRAMMING AND TESTING. THREE SMOKE DETECTOR CIRCUITS REQUIRED (RECALL TO DESIGNATED LEVEL, WARNING TO ELEVATOR CAR AND RECALL TO ALTERNATE LEVEL). ONE HEAT DETECTOR CIRCUIT TO INTERFACE WITH ELEVATOR SHUNT TRIP BREAKER IN PANEL MDP (HEAT DETECTORS H1, H2, H3).
  - FIRE ALARM CONTRACTOR TO VERIFY REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION. IF AUTHORITY HAVING JURISDICTION INDICATES THAT SOME SHAFT SMOKE OR HEAT DETECTORS ARE NOT REQUIRED, THEY MAY BE REMOVED.

4 ELEVATOR - FIRE ALARM DETAIL



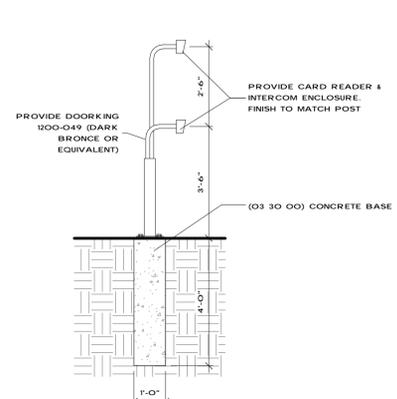
OUTDOOR SPRINKLER BELL PROVIDED BY FIRE PROTECTION CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR. OUTDOOR STROBE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

5 FIRE PUMP BUILDING SPRINKLER BELL/STROBE

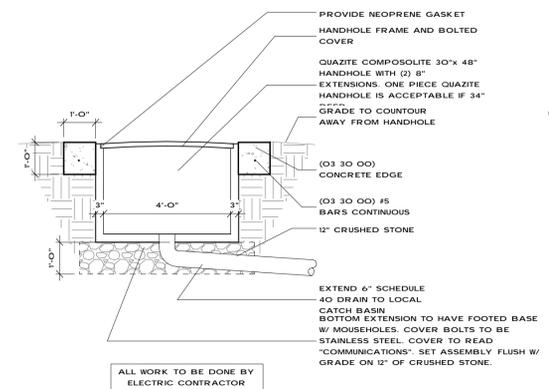


**2 IT Enlarged Office**  
3/32" = 1'-0"

D2 DATA RECEPTACLE W/ 2 LINES.  
COORDINATE WITH ELECTRIC PLANS



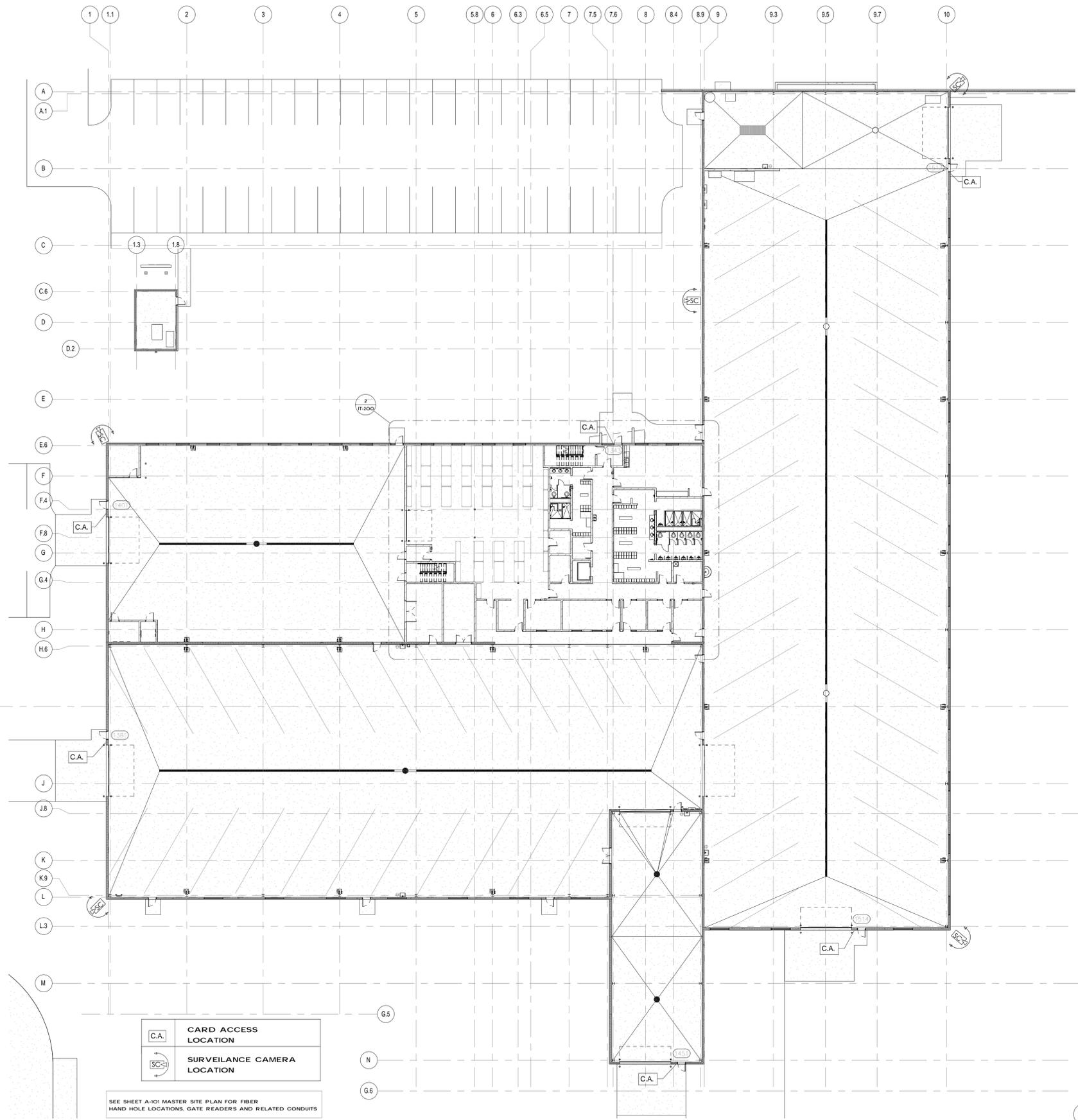
**3 Dual Height Mounting Post Detail**  
3/8" = 1'-0"



**4 Communications Handhole Detail**  
3/8" = 1'-0"

ALL WORK TO BE DONE BY  
ELECTRIC CONTRACTOR

PROVIDE NEOPRENE GASKET  
HANDHOLE FRAME AND BOLTED  
COVER  
QUIAZITE COMPOSITE 30"x 48"  
HANDHOLE WITH (2) 8"  
EXTENSIONS. ONE PIECE QUIAZITE  
HANDHOLE IS ACCEPTABLE IF 34"  
GRADE TO COUNTOUR  
AWAY FROM HANDHOLE  
(03 30 00) CONCRETE EDGE  
(03 30 00) #5  
BARS CONTINUOUS  
12" CRUSHED STONE  
EXTEND 6" SCHEDULE  
40 DRAIN TO LOCAL  
CATCH BASIN  
BOTTOM EXTENSION TO HAVE FOOTED BASE  
W/ MOUSEHOLES. COVER BOLTS TO BE  
STAINLESS STEEL. COVER TO READ  
"COMMUNICATIONS". SET ASSEMBLY FLUSH W/  
GRADE ON 12" OF CRUSHED STONE.



**1 IT General Plan - Surveillance Cameras Layout**  
3/64" = 1'-0"

C.A.	CARD ACCESS LOCATION
SC	SURVEILLANCE CAMERA LOCATION

SEE SHEET A-101 MASTER SITE PLAN FOR FIBER  
HAND HOLE LOCATIONS, GATE READERS AND RELATED CONDUITS