

ISSUANCES:

CD'S: 03.10.2017

Construction Documents:

This drawing shall be used for fabrication, erection and/or installation. Check all project addenda and construction bulletins for modifications.

PROJECT #: 160829.00

SHEET NUMBER

C100

SITE UTILITY PLAN NOTES:

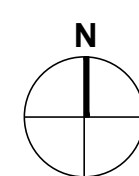
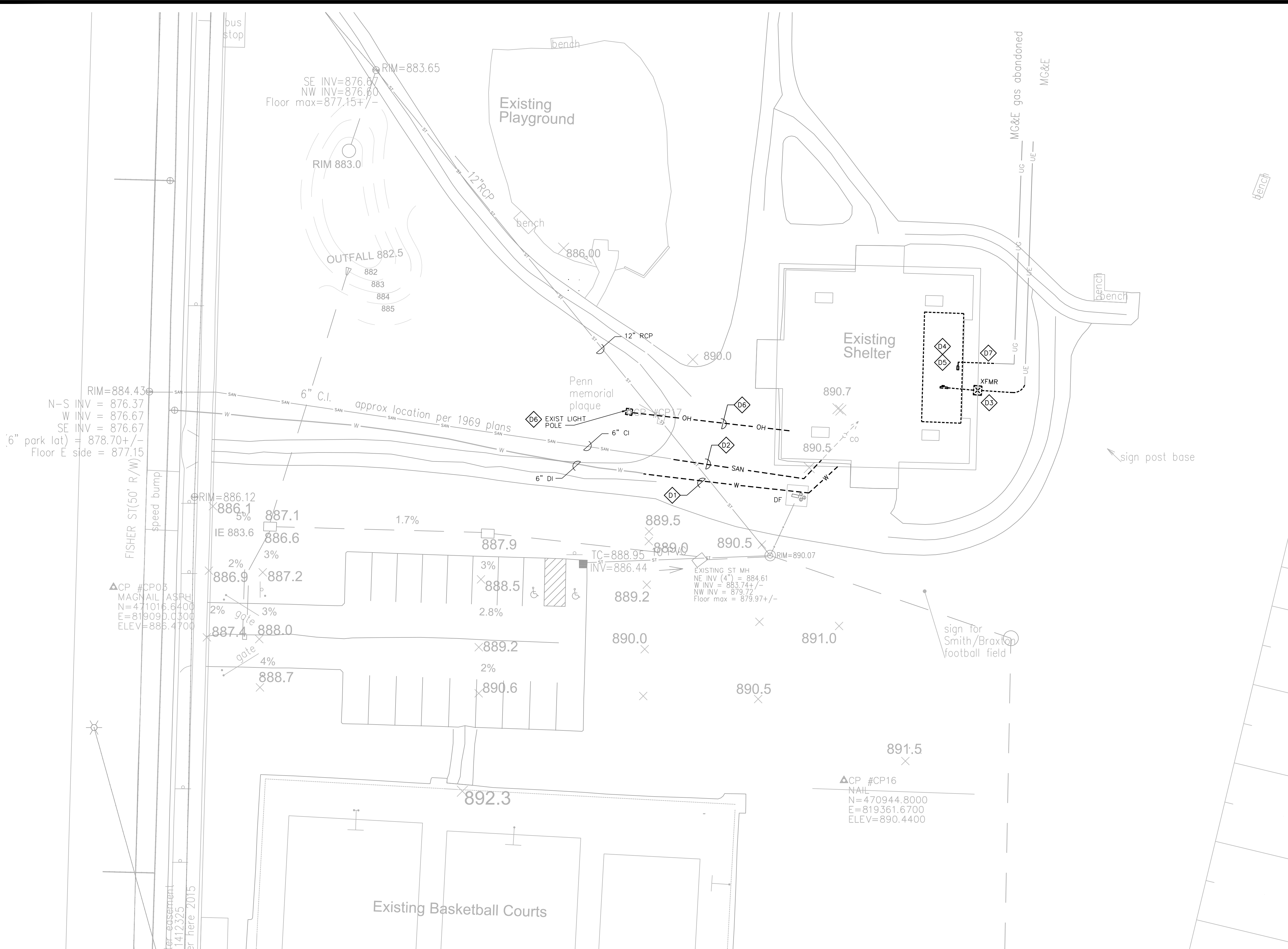
1. ALL SANITARY SEWER AND WATER MAIN CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE CITY OF MADISON AND WISCONSIN DSPS STANDARDS.
2. WATER SERVICE SHALL BE BURIED TO A DEPTH OF 6 FEET. THE DEPTH IS DEFINED AS THE DISTANCE BETWEEN THE FINISHED GRADE ELEVATION AND THE TOP OF WATER MAIN OR SERVICE.
3. MAINTAIN AN 8 FOOT MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN PUBLIC SANITARY SEWER, WATER MAIN AND STORM SEWER. PROVIDE 18" MINIMUM VERTICAL SEPARATION WHERE SEWER CROSSES OVER WATER MAIN AND PROVIDE 12" MINIMUM VERTICAL SEPARATION WHERE WATER MAIN CROSSES OVER SEWER.
4. ANY UTILITIES WHICH ARE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
5. ALL UNDERGROUND EXTERIOR NON-METALLIC SEWERS/MAINS AND WATER SERVICES/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORDANCE WITH 182.0715(2r) OF STATE STATUTES.
6. CONTRACTOR SHALL VERIFY MATERIAL, SIZE, AND INVERT OF SANITARY SEWER, WATER MAIN, AND STORM SEWER PRIOR TO CONSTRUCTION.
7. COORDINATE NEW ELECTRIC SERVICE INSTALLATION WITH MG&E. OWNER TO PAY ALL NEW SERVICE FEES.

SITE UTILITY DEMOLITION PLAN NOTES:

- Ⓛ1) DISCONNECT, CAP AND ABANDON EXIST 6" DUCTILE IRON WATER SERVICE AS INDICATED PER CITY OF MADISON WATER UTILITY REQUIREMENTS. TURN OVER EXISTING DRINKING FOUNTAIN TO CITY.
- Ⓛ2) DISCONNECT AND REMOVE SANITARY LINE TO EXISTING SHED. PROTECT PIPE OPENING FOR CONTINUATION WITH NEW PLAN.
- Ⓛ3) DISCONNECT EXISTING ELECTRIC SERVICE TO EXISTING SHELTER BUILDING PER MG&E REQUIREMENTS. DISCONNECT AND REMOVE UNDERGROUND FEEDERS AS SHOWN. COORDINATE ELECTRIC SERVICE RELOCATION WITH MG&E.
- Ⓛ4) DISCONNECT WATER AND WASTE PIPING TO EXISTING BUILDING TO PREPARE FOR DEMOLITION. CAP AND PATCH ALL PLUMBING OPENINGS AT FLOOR.
- Ⓛ5) DISCONNECT POWER TO EXISTING SHELTER AND PREPARE FOR DEMOLITION.
- Ⓛ6) DISCONNECT AND REMOVE OVERHEAD POWER TO EXISTING POLE LIGHT FIXTURE. REMOVE EXISTING LIGHT POLE FIXTURE AND BASE.
- Ⓛ7) DISCONNECT AND REMOVE GAS METER. REMOVE AND DEACTIVATE GAS LINE TO BLDG.

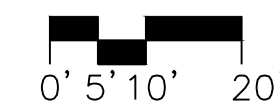
SYMBOL SCHEDULE

SS	EXISTING SANITARY SEWER
W	EXISTING WATER SERVICE
UE	EXISTING UNDERGROUND ELECTRICAL SERVICE
SAN	EXISTING SANITARY SEWER - REMOVED
W	EXISTING WATER SERVICE - REMOVED
T	EXISTING UNDERGROUND TELEPHONE - REMOVED
UE	EXISTING UNDERGROUND ELECTRICAL SERVICE - REMOVED
OH	EXISTING OVERHEAD ELECTRICAL SERVICE - REMOVED
W	WATER SERVICE
SS	UNDERGROUND SANITARY
UE	UNDERGROUND ELECTRICAL SERVICE
⊕	CONNECT TO EXISTING
⊠	ELECTRICAL TRANSFORMER
⊞	TELEPHONE PEDESTAL
⊠	ELECTRIC METER
⊠	POLE-MTD LIGHT FIXTURE
pc/c	PHOTOCELL ON / TIMECLOCK OFF

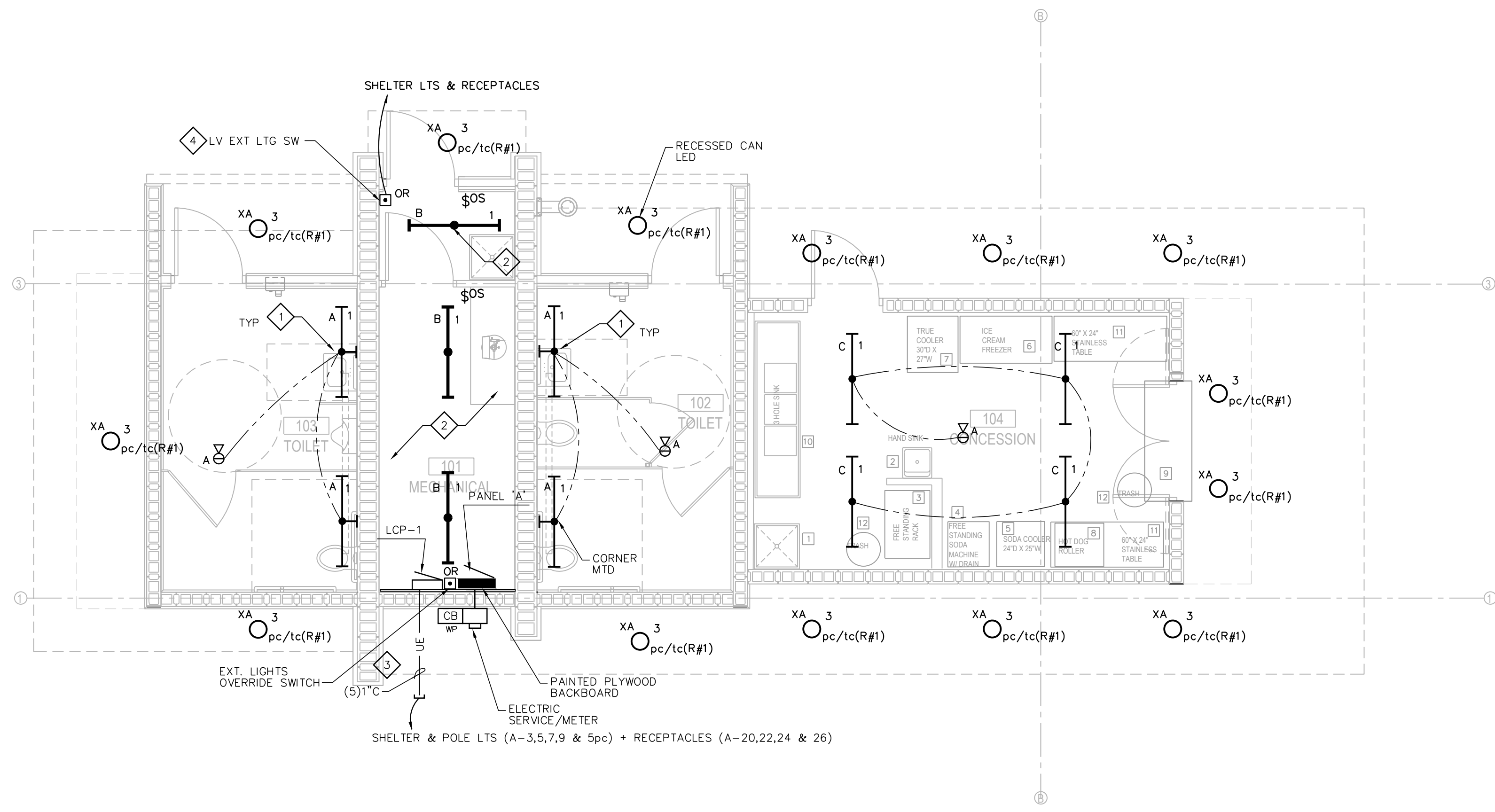


1 SITE UTILITY PLAN - DEMOLITION

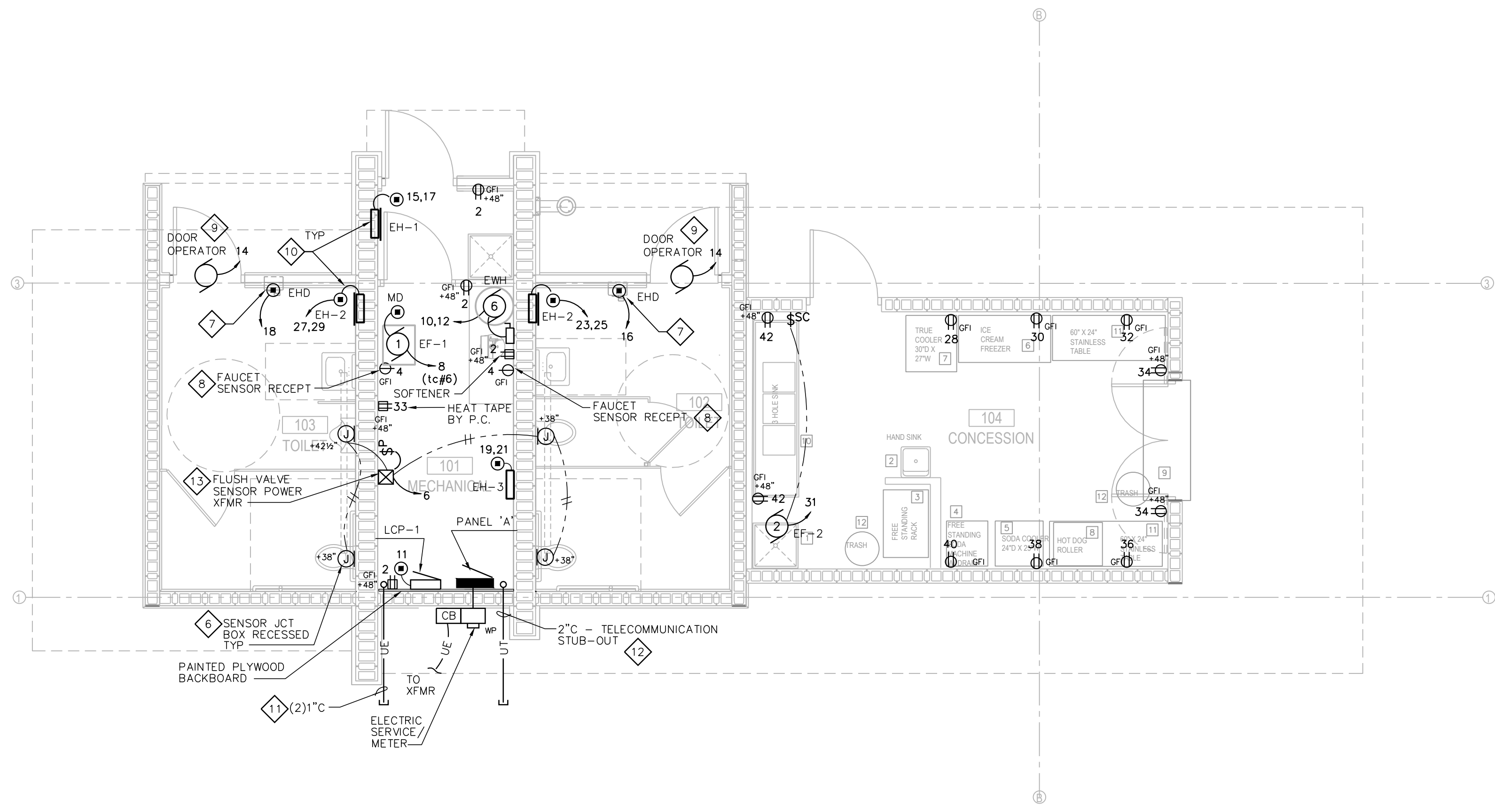
1" = 20'-0"



0' 5' 10' 20'



1 CONCESSIONS / TOILETS FLOOR PLAN - ELECTRICAL LIGHTING
 1/4" = 1'-0"



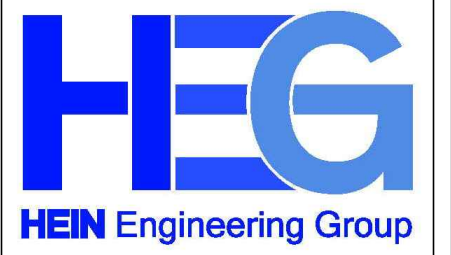
2 CONCESSIONS / TOILETS FLOOR PLAN - ELECTRICAL POWER/LV
 1/4" = 1'-0"

ELECTRICAL GENERAL NOTES:

- COORDINATE LIGHTING & DEVICE LAYOUT WITH GENERAL CONTRACTOR.
- COORDINATE ELECTRICAL RACEWAYS ROUTING WITH GENERAL CONTRACTOR AND OTHER TRADES FOR PROPER EQUIPMENT ACCESS.
- ALL RACEWAYS ARE TO BE CONCEALED IN FINISHED AREAS. MECHANICAL & UTILITY AREAS MAY USE SURFACE CONDUIT SYSTEMS.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL CONSTRUCTION CONDITIONS.
- COORDINATE AND SCHEDULE ALL WORK WITH THE GENERAL CONTRACTOR AND LOW-VOLTAGE CABLING PRIOR TO STARTING.
- ALL LIGHTS CIRCUITED TO PANEL 'A' UNLESS INDICATED OTHERWISE.

ELECTRICAL POWER/LV PLAN NOTES:

- CORNER-MTD LIGHT FIXTURE.
- COORDINATE LIGHT FIXTURE MOUNTING LOCATION WITH DUCTWORK, PIPING & OTHER TRADES.
- STUB OUT FOUR (4) 1" (PVC) RACEWAYS 24" BELOW GRADE FOR CONTINUATION PER SITE PLAN LIGHTING + 1" SPARE 1" C RACEWAY CAPPED.
- LV LIGHTING CONTROL STATION. REFER TO LCP RISER.
- COORDINATE POWER TO LOW-VOLTAGE TRANSFORMER FOR FLUSH VALVES BY PLUMBING TRADE. PROVIDE MASTER PILOT LIGHT SWITCH FOR POWER TO FLUSH VALVES AND LABEL. ROUTE ALL LV CABLING IN RACEWAY.
- PROVIDE 4"x4"x2 1/2" RECESSED BOX WITH PLASTER RING FOR SENSOR MOUNTING HEIGHT TO CENTER OF BOX. COORDINATE INSTALLATION WITH PLUMBING TRADE. COORDINATE FINAL MOUNTING HEIGHT LOCATION WITH GENERAL CONTRACTOR.
- PROVIDE 4"x4"x2 1/2" RECESSED BOX WITH PLASTER RING FOR ELECTRIC HAND DRYER CONNECTION. PROVIDE POWER CONNECTION TO HAND DRYERS. COORDINATE FINAL MOUNTING HEIGHT LOCATION WITH GENERAL CONTRACTOR.
- COORDINATE FINAL RECEPTACLE LOCATION WITH PLUMBING TRADE FOR FAUCET SENSOR POWER.
- COORDINATE POWER AND CONTROL WIRING AND RACEWAY REQUIREMENTS FOR DOOR OPERATORS WITH GENERAL CONTRACTOR.
- COORDINATE POWER WIRING AND RACEWAY REQUIREMENTS FOR ELECTRIC HEATERS WITH HVAC CONTRACTOR.
- STUB OUT TWO (2) 1" (PVC) RACEWAY 24" BELOW GRADE AND CAP FOR FUTURE IRRIGATION CONTROL AND FUTURE LIGHTS CABLING.
- STUB OUT 2"(PVC) RACEWAY 24" BELOW GRADE AND CAP FOR FUTURE COMMUNICATIONS CABLING.
- EXTEND LOW-VOLTAGE CABLING FROM TRANSFORMER (BY P.C.) TO FLUSH VALVE SENSORS. ROUTE CABLING IN CONDUIT OR RACEWAYS.



17 Applegate Court, Suite 200
 Madison, WI 53713
 Phone: (608) 288-9260
 email: hein@heinengr.com
 Project No. H1630

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PENN PARK SHELTER RENOVATION & CONCESSION/RESTROOM BLDG
 2101 FISHER STREET, MADISON, WI
 CONTRACT # 7917 / MUNIS #17137

ISSUANCES:

CD'S: 03.10.2017

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ELECTRICAL GENERAL NOTES:

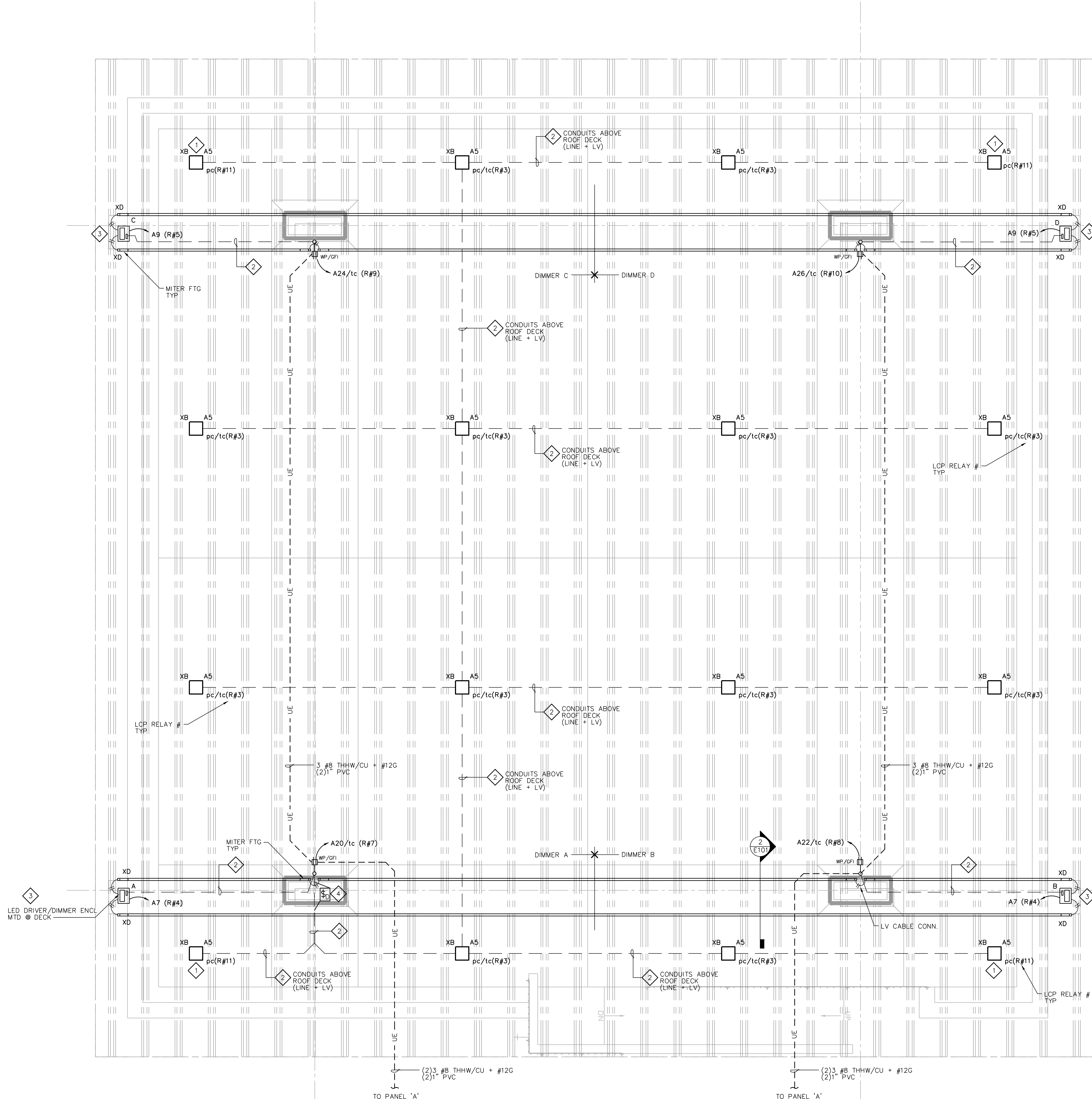
- COORDINATE LIGHTING & DEVICE LAYOUT WITH GENERAL CONTRACTOR.
- COORDINATE ELECTRICAL RACEWAYS ROUTING WITH GENERAL CONTRACTOR AND OTHER TRADES FOR PROPER EQUIPMENT ACCESS.
- ALL RACEWAYS ARE TO BE CONCEALED IN FINISHED AREAS. MECHANICAL & UTILITY AREAS MAY USE SURFACE CONDUIT SYSTEMS.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL CONSTRUCTION CONDITIONS.
- ALL LIGHTS CIRCUITED AND RECEPTABLES TO PANEL 'A' UNLESS INDICATED OTHERWISE.

DIMMER TYPES:

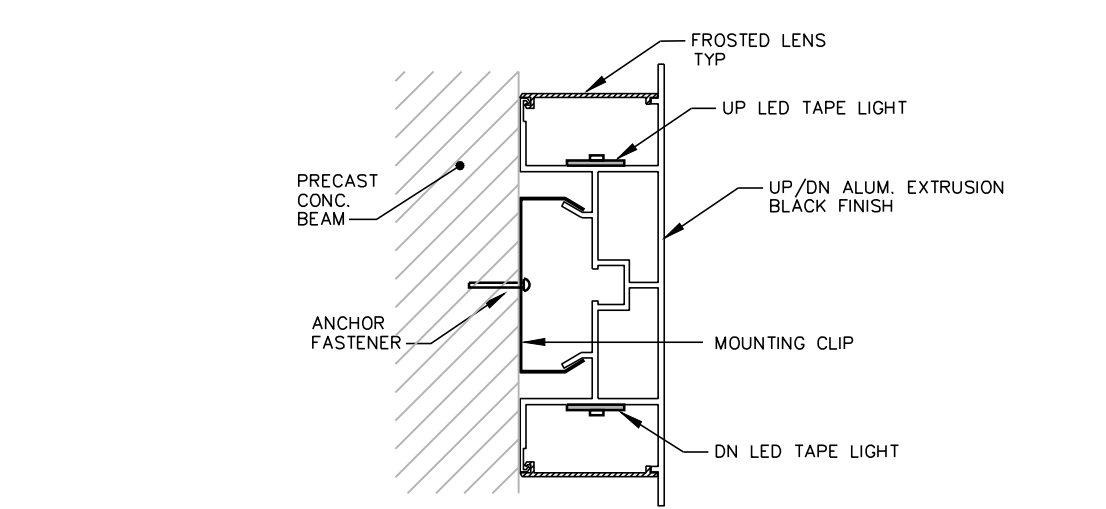
- A 0-10 VDC LED DRIVERS: SYNERGY ISD-BC-120/277-WH (XB, & XD FIXTURES)

ELECTRICAL POWER/LV PLAN NOTES:

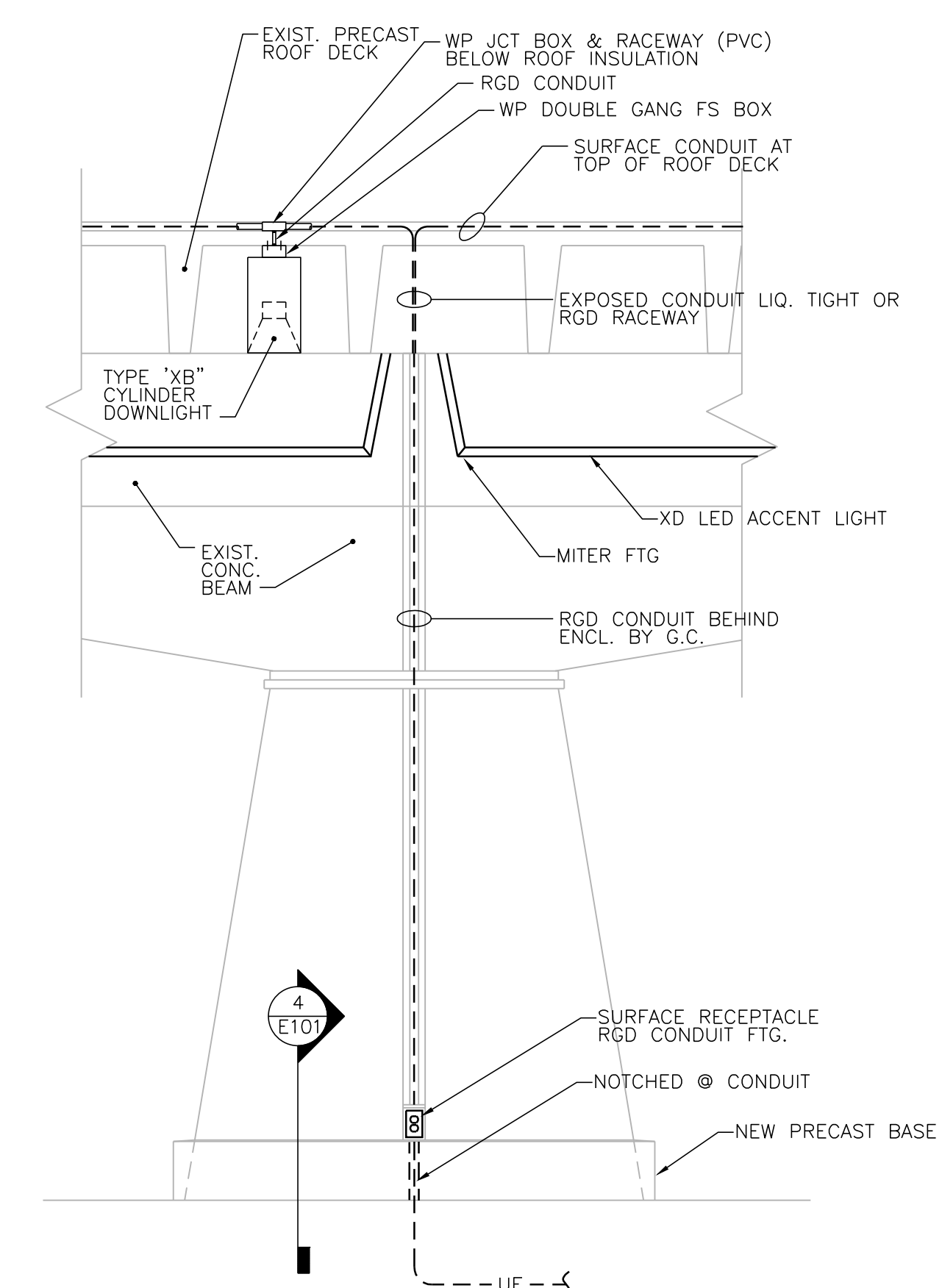
- UNSWITCHED NIGHT LIGHTS (4) PHOTOCELL CONTROLLED.
- ROUTE CONDUITS (LINE + LV) ON ROOF DECK SURFACE MOUNTED (PVC). GENERAL CONTRACTOR TO CUT & PATCH NEW INSULATION AROUND RACEWAYS.
- MOUNT LED DRIVER AND DIMMER (0-10 VDC) FOR 'XD' TAPE LIGHT FIXTURES IN SURFACE BOX (NEMA 3R) SECURED TO UNDERSIDE OF ROOF DECK.
- PROVIDE FIXTURE 'XB' DIMMER (0-10 VDC) IN SURFACE MTD BOX (NEMA 3R) SECURED TO UNDERSIDE OF ROOF DECK. PROVIDE LOW-VOLTAGE RACEWAY AT ROOF DECK TO EACH 'XB' FIXTURE FOR DIMMING LV CONTROL WIRES.



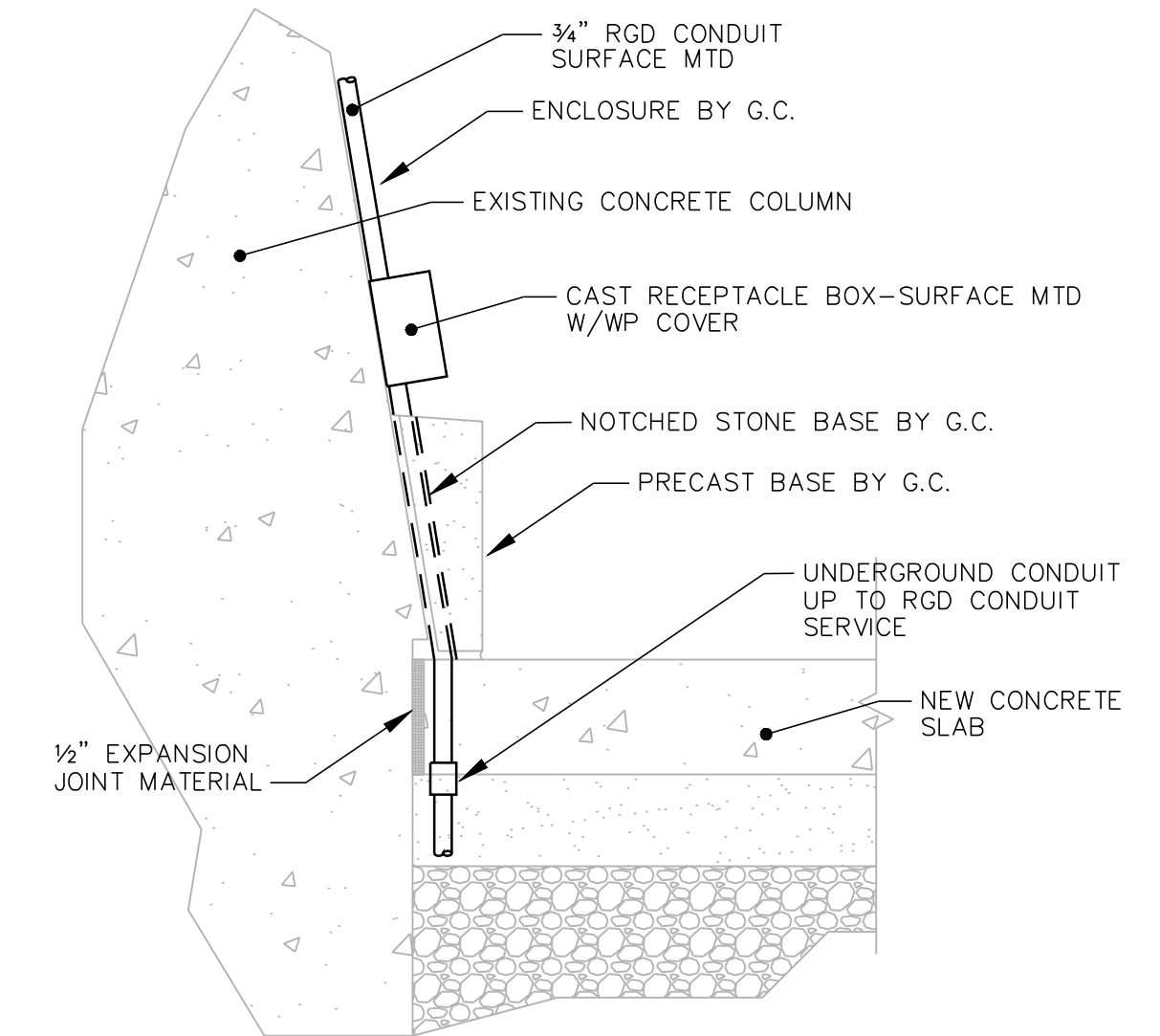
1 SHELTER - ELECTRICAL PLAN
 1/4" = 1'-0"



2 XD LED TAPE LIGHT SECTION
 1" = 1"



3 TYPICAL SHELTER BEAM ELEVATION
 1/2" = 1'-0"



4 RECEPTACLE/CONCUIT @ PRECAST BASE
 1/2" = 1'-0"

ELECTRICAL MOTOR/EQUIPMENT SCHEDULE

TAG	1	2	3	4	5	6
PANEL NO.	A	A	A	A	A	A
CIRCUIT	8	31	15,17	SEE PLAN	19,21	10,12
BREAKER	15	15	15	25	15	30
POLE	1	1	2	2	2	2
WIRING NO.	2+G (#12)	2+G (#12)	2+G (#12)	2+G (#10)	2+G (#12)	2+G (#10)
TYPE	THHN	THHN	THHN	THHN	THHN	THHN
SIZE	#12	#12	#12	#10	#12	#10
COND.	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
ELECTRICAL HP	1/4	FRAC	(2.0)	(4.0)	(2.0)	(4.5)
VOLT	115	115	240	240	240	240
PHASE	1	1	1	1	1	1
FLA (MCA)	3.7 (4.6)	2.6 (3.3)	8.3 (10.4)	16.7 (20.9)	8.3 (10.4)	18.8 (23.4)
STARTER TYPE	N.R.	N.R.	w/UNIT	w/UNIT	w/UNIT	w/UNIT
CONTROL TYPE	LCP	WALL SPEED CTRL SW	STAT	STAT	STAT	AQUASTAT w/UNIT
BY	E.C.	H.C.	H.C.	H.C.	H.C.	P.C.
DISCONNECT TYPE	w/UNIT	N.R.	w/UNIT	w/UNIT	w/UNIT	NEMA 1 H.D.
SIZE	-	-	-	-	-	30
FUSE	-	-	-	-	-	-
BY	H.C.	-	H.C.	H.C.	H.C.	E.C.
REMARKS	EXHAUST FAN EF-1	EXHAUST FAN EF-2	ELECTRIC HEATER EH-1	ELECTRIC HEATER EH-2	ELECTRIC HEATER EH-3	ELECTRIC WTR. HTR. EWH

E.C. = ELECTRICAL CONTRACTOR
H.C. = HVAC CONTRACTOR
P.C. = PLUMBING CONTRACTOR
G.C. = GENERAL CONTRACTOR

N.R. = NOT REQUIRED
H.D. = HEAVY DUTY

① PROVIDE GREEN WIRE GROUND TO ALL MOTORS AND EQUIPMENT PER NEC 250-95.

LIGHTING FIXTURE SCHEDULE

TAG	NO.	TYPE	WATTS	DESCRIPTION	MOUNTING	MFG. & MODEL	REMARKS
A	-	LED	45	W/FIXTURE	SURFACE/ CORNER MTD	KENALL - MLH45-48-R-MW-PP-1-45L4K-DCC-1-120-CMB	(1)(2) 4 FT CORNER MTD SURFACE WRAP 4500L 4K
B	-	LED	42	W/FIXTURE	SURFACE PENDANT/CLG	LITHONIA - ZL2N-L48-3000LM-MDD-MVOLT1-40K-80CRI-WH + HC36	(1)(4) 4 FT SURFACE STRIP CHAIN HUNG 3000L 40K
C	-	LED	49	W/FIXTURE	SURFACE/ CLG	KENALL - MLH42-48-R-MW-PB-45L40K-DCC-1-DV	(1)(3) SURFACE WRAPAROUND 4500L 40K
XA	-	LED	21	W/FIXTURE	RECESSED/ SOFFIT	KENALL HROBL-19L40K8-DV-DCC-FW-CSS-TTG	(1)(3) EXT RECESSED 6" CAN 2100L 40K
XB	-	LED	47	W/FIXTURE	SURFACE/ CLG	GOTHAM EVO-CYL-40/30-8AR-WD-LD-MVOLT	(1)(3) 8"x16" HT CYLINDER DOWNLIGHT 3000L 40K
XC	-	LED	91	W/FIXTURE	POLE-MTD	LITHONIA - DSX1LED-40C-700-40K-T4M-MVOLT1-8PA-PIRH-SF-DBLXD + RSS20-4B-DM28-DBL (POLE)	(1)(3) DUAL HD POLE LIGHT 11,000L 40K TYPE T4M DIST.
XD	-	LED	1.77 /FT	W/FIXTURE	SURFACE/ WALL	BEULLX - BILTONONE 600 (TAPE) + HLG-320H-24 (POWER SUPPLY/DRIVER) + 80Y06 (EXTRUSION) + 80Y01 (FROSTED LENS)	(1)(3) SHELTER BEAM ACCENT LIGHT 183L/FT, 40K

LAMP ABBREVIATIONS:
LED=LIGHT EMITTING DIODE

REMARKS:
① LED LAMPING/DRIVER.
② CORNER MTG BRACKET (CMB).
③ WET LOCATION UL LISTED.
④ CHAIN HUNG FIXTURE.

⑤ DIMMING LED DRIVER (0-10 VDC).
⑥ HIGH/LOW DIM WITH INTEGRAL FIXTURE OCCUPANCY SENSOR.
⑦ PROVIDE TAPE EXTRUSION LENGTHS AND ACCESSORIES FOR MOUNTING LED TAPE LIGHT AS CONFIGURED ON ARCHITECTURAL DRAWINGS.
⑧ PROVIDE VANDAL PROOF WET LOC. LISTED ENCLOSURE FOR POWER SUPPLY & DIMMER SWITCH.

ALL VOLTAGES ARE 120 VOLT UNLESS INDICATED OTHERWISE.

OCCUPANCY SENSOR SCHEDULE

SYMBOL	MOUNTING	VOLTAGE	RATED CURRENT / LOAD	SENSOR TYPE	COVERAGE	MFG. & MODEL	REMARKS
⊙	SURFACE/ CLG	120 VAC	800 Watt	DT	360° 24'x24'	SENSOR SWITCH RMR-PDT-9	RECESSED CLG MTD DT
⊙OS	WALL SWITCH	120 VAC	800 Watt	DT	160° 20'	SENSOR SWITCH WSD-PDT	(1) WALL SWITCH DT

ABBREVIATIONS:
PIR=PASSIVE INFRARED
UL=ULTRASONIC
DT=DUAL TECHNOLOGY (PIR+U)

(1) COORDINATE PLATE FINISH COLOR WITH ARCHITECT.

PANEL 'A' AIC=22K W/SERVICE GRND

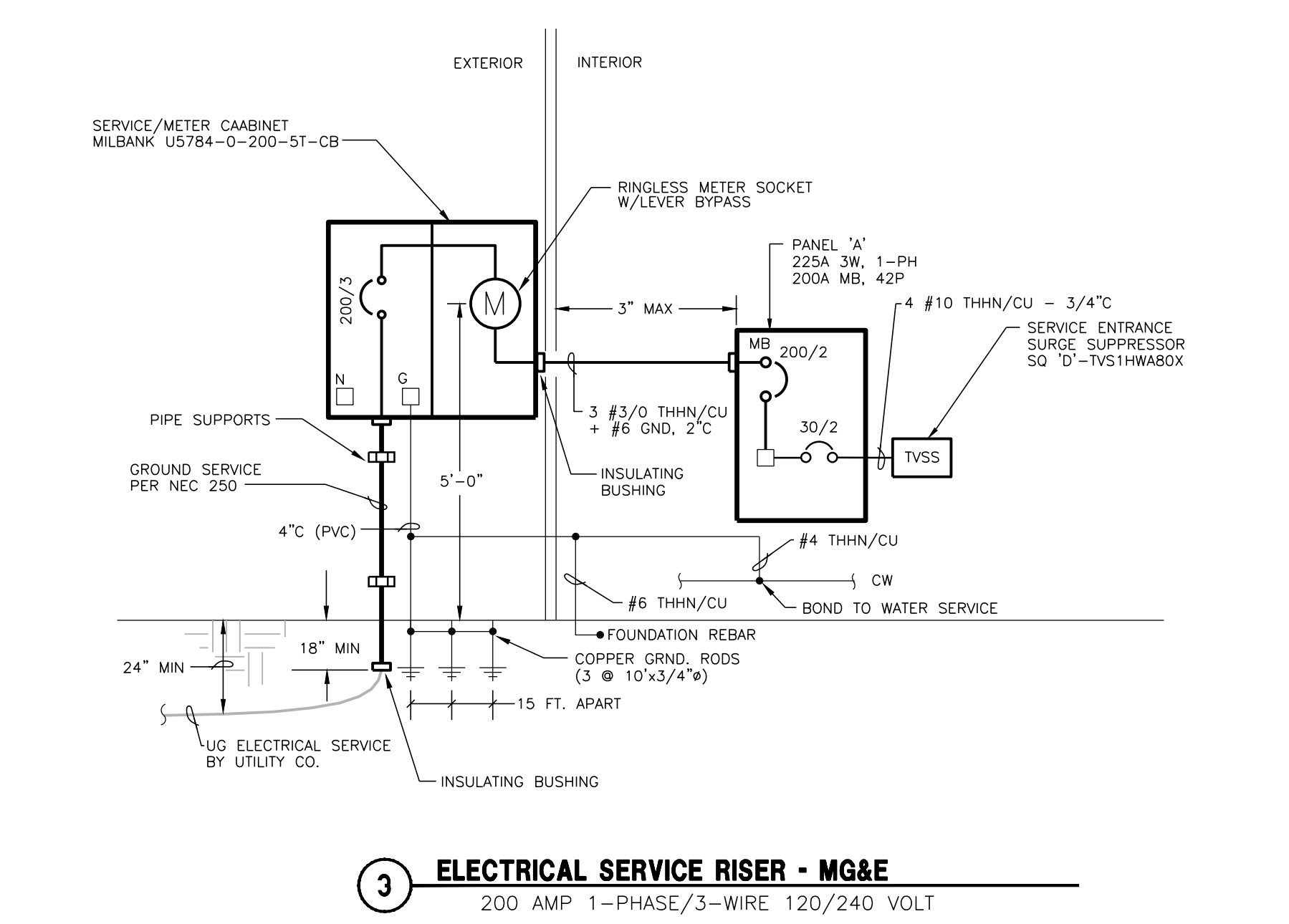
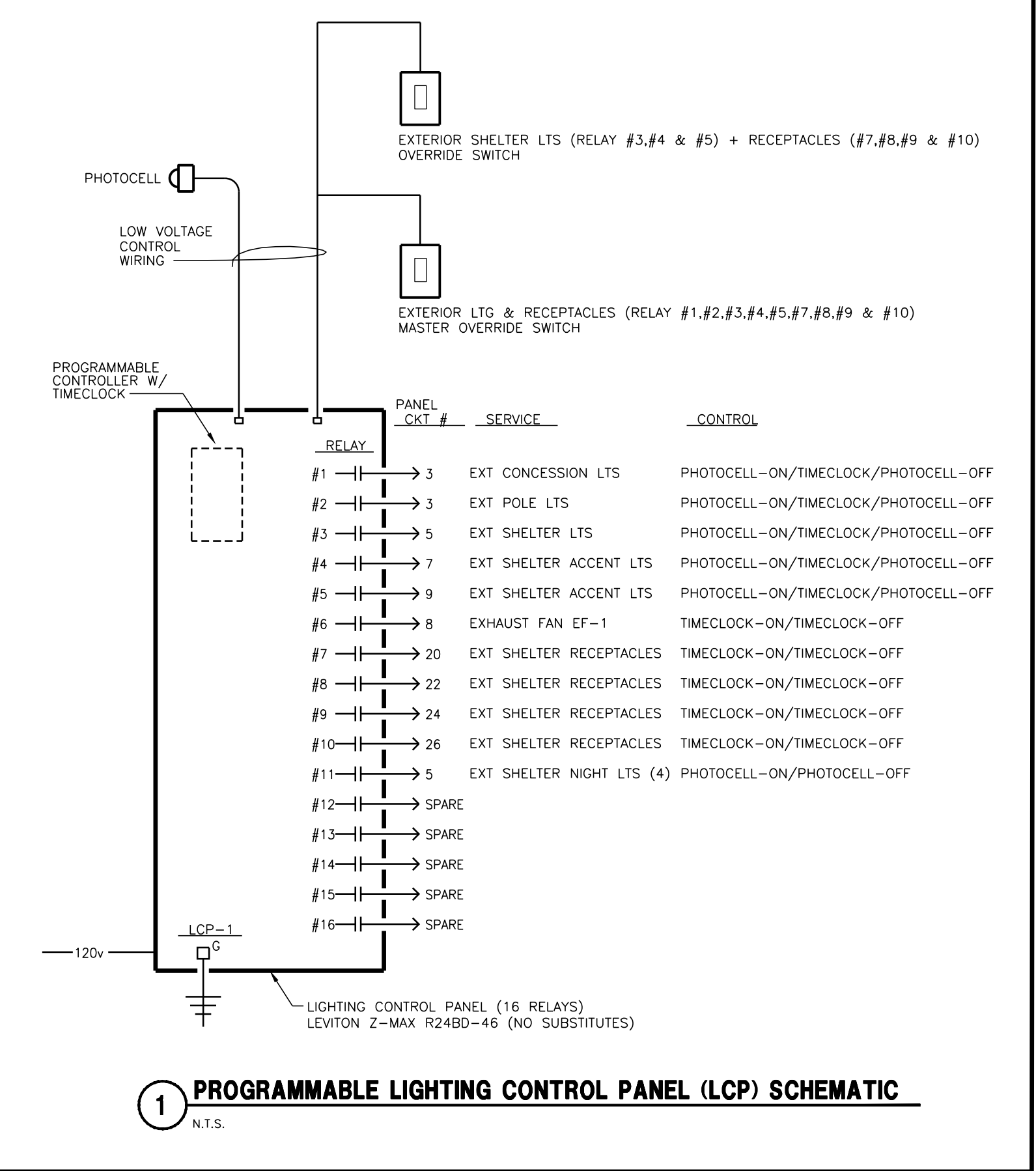
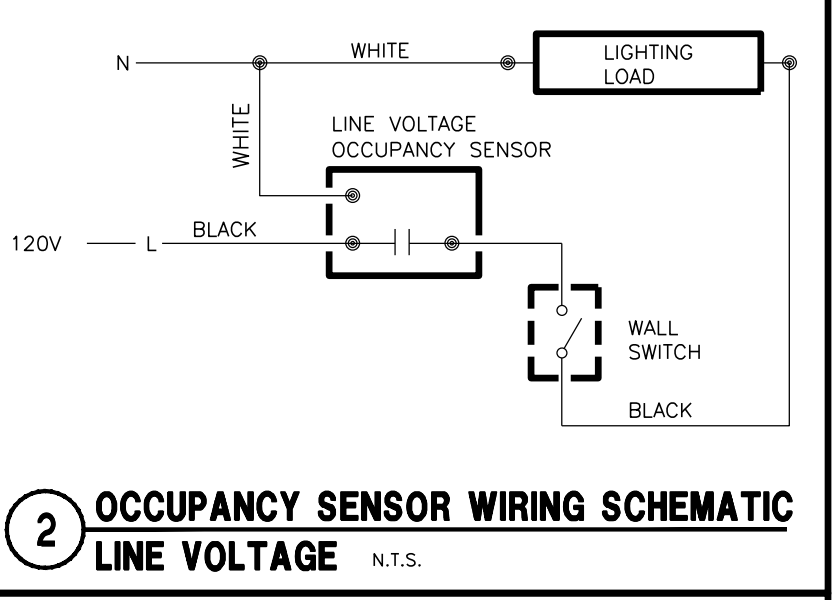
AMPS MAIN		VOLTS PHASE		MOUNTING LOCATION					
225	200	120/240	1	SURFACE	MECH 101				
BRKR	DESCRIPTION	CIRCUIT WATT	PHASELOADS NO.	CIRCUIT WATT	DESCRIPTION	BRKR			
A	P		A B			A P			
20	1	510	1	1050	2	540	RECEPT MECH 101	20	1
20	1	500	3	800	4	300	RECEPT FLUSH VALVES-LAV	15	1
20	1	760	5	1060	6	300	XFMR - FLUSH VALVES	15	1
20	1	540	7	970	8	430	EXHAUST FAN EF-1	15	1
20	1	540	9	2790	10	2250	EW-H-ELECT. WTR HTR	30	2
20	1	300	11	2550	12	2250	EW-H-ELECT. WTR HTR	-	-
			13	600	14	600	DOOR OPERATORS	20	1
15	2	1000	15	2500	16	1500	EHD-TOILET 102	20	1
-	-	1000	17	2500	18	1500	EHD-TOILET 103	20	1
15	2	1000	19	2500	20	1500	RECEPT-SHELTER	20	1
-	-	1000	21	2500	22	1500	RECEPT-SHELTER	20	1
25	2	2000	23	3500	24	1500	RECEPT-SHELTER	20	1
-	-	2000	25	3500	26	1500	RECEPT-SHELTER	20	1
25	2	2000	27	3000	28	1000	RECEPT-104 CONCESSIONS	20	1
-	-	2000	29	3000	30	1000	RECEPT-104 CONCESSIONS	20	1
15	1	300	31	1300	32	1000	RECEPT-104 CONCESSIONS	20	1
20	1	600	33	960	34	360	RECEPT-104 CONCESSIONS	20	1
			35	1000	36	1000	RECEPT-104 CONCESSIONS	20	1
			37	1000	38	1000	RECEPT-104 CONCESSIONS	20	1
30	2	-	39	1000	40	1000	RECEPT-104 CONCESSIONS	20	1
-	-	-	41	360	42	360	RECEPT-104 CONCESSIONS	20	1
		19,320		19,120					
ESTIMATED DEMAND LOAD:		35,640 WATTS		TOTAL CONNECTED LOADS:		38,440 WATTS			
		148.5 AMPS				160.2 AMPS			

ELECTRICAL SYMBOL SCHEDULE

MOUNTING HGT.	SYMBOL	DESCRIPTION
	⊙	LIGHTING FIXTURES
	⊙	LED: SURFACE/PENDANT
	⊙	LED: RECESSED
	⊙	LED: SURFACE/WALL MTD
	⊙	LED LINEAR: SURFACE, CEILING MOUNTED
	⊙	LED LINEAR: SURFACE, WALL MOUNTED
	⊙	SWITCHES
48"	\$	SINGLE POLE
48"	\$OS	OCCUPANCY SENSOR CONTROLLED WALL SWITCH
48"	\$p	SINGLEPOLE - PILOT ILLUMINATED
	⊙	OCCUPANCY SENSOR
	⊙	CEILING MTD TYPE
		LIGHTING CONTROL SYSTEM
60"	LCP	LIGHTING CONTROL PANEL
48"	OR	LOW-VOLTAGE SWITCH OVERRIDE
		RECEPTACLES
18"	⊙	125V 2P, 2W SINGLE RECEPTACLE
18"	⊙	DUPLEX: SURFACE MTD
18"	⊙	DUPLEX: RECESSED WP = WATERPROOF
18"	⊙	DUPLEX: SURFACE MTD
18"	⊙	DUPLEX: W/GROUND FAULT INTERRUPTION PROTECTION
		EQUIPMENT AND WIRING
	⊙	DIRECT EQUIPMENT CONNECTION
	⊙	MOTOR CONNECTION-SEE EQUIP. SCHEDULE FOR TYPE, WIRING, ETC.
	⊙	JUNCTION BOX-CONCEALED IN FINISHED AREAS, SURFACE IN UNFINISHED AREAS
	⊙	SAFETY DISCONNECT SWITCH WITH COVER INTERLOCK-W.P. INDICATES WATERPROOF (NON-FUSED UNLESS INDICATED BY 'F'-FUSED)
	⊙	TRANSFORMER
	⊙	MANUAL STARTER
	⊙	ELECTRICAL POWER PANEL
	UE	UNDERGROUND ELECTRICAL CONDUIT
	UT	UNDERGROUND TELECOM CONDUIT

ABBREVIATIONS SUBSCRIPTS
AFF=ABOVE FINISH FLOOR
GFI=GROUND FAULT INTERRUPTER
NL=NIGHT LIGHT-24 HOURS
PC=PHOTOCELL CONTROLLED
PC/TC=PHOTOCELL ON/TIMECLOCK OFF
TC=TIMECLOCK CONTROLLED
WP=WEATHERPROOF

EQUIPMENT
EF = EXHAUST FAN
EH = ELECT. HEATER
EHD = ELECT. HAND DRYER
EWH = ELECTRIC WATER HEATER



HEG
HEIN Engineering Group
17 Applegate Court, Suite 200
Madison, WI 53713
Phone: (608) 288-9260
email: hein@heinengrp.com
Project No. H1630

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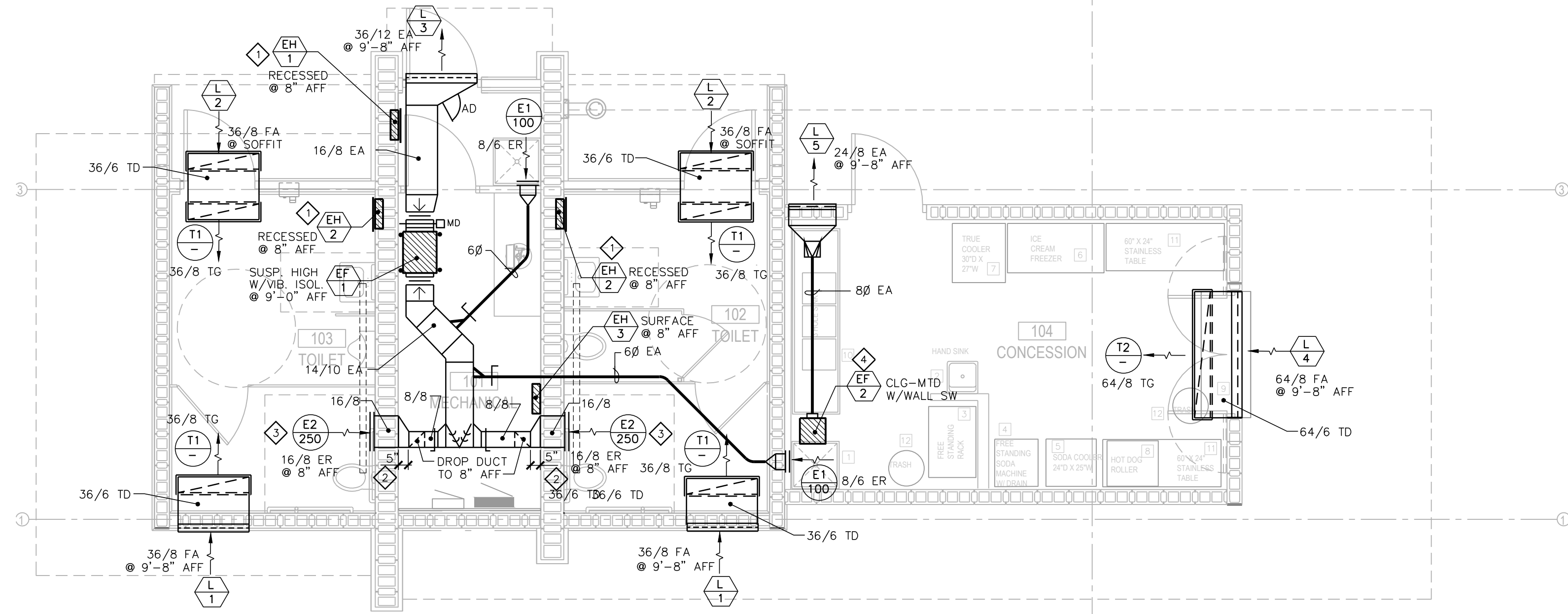
PROJECT #: 160829.00
SHEET NUMBER
E200

HVAC GENERAL NOTES:

- HVAC CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF HVAC WORK WITH OTHER TRADES.
- COORDINATE PROVISIONS FOR OPENINGS IN NEW CONSTRUCTION WITH THE GENERAL CONTRACTOR FOR APPROVAL PRIOR TO STARTING WORK.
- HVAC CONTRACTOR IS RESPONSIBLE FOR CUTTING AND PATCHING WALLS, FLOORS & CEILINGS FOR NEW HVAC WORK, IF REQUIRED.
- COORDINATE FINAL CEILING REGISTER AND GRILLE LOCATIONS WITH OTHER TRADES.
- COORDINATE PIPING AND DUCTWORK ROUTING WITH OTHER TRADES TO MAINTAIN SCHEDULED CEILING HEIGHTS.
- PROVIDE PROPER SERVICE CLEARANCES AND ACCESS SPACE FOR ALL NEW EQUIPMENT.
- PROVIDE ACCESS PANELS TO SERVICE EQUIPMENT, WHERE REQUIRED.

HVAC PLAN NOTES:

- COORDINATE RECESS OPENINGS IN BLOCK WALLS FOR ELECTRIC WALL HEATERS WITH GENERAL CONTRACTOR & MASONRY CONTRACTOR.
- DROP DUCT 5" AWAY FROM WALL TO ALLOW CLEARANCE FOR PLUMBING PIPING.
- COORDINATE DUCT OPENING IN BLOCK WALLS WITH GENERAL CONTRACTOR & MASONRY CONTRACTOR.
- SPEED CONTROL SWITCH PROVIDED BY HVAC CONTRACTOR; WIRING BY ELECTRICAL TRADE.



1 CONCESSIONS / TOILETS FLOOR PLAN - HVAC
1/4" = 1'-0"

EXHAUST FANS SCHEDULE		
TAG	EF-1	EF-2
MANUFACTURER	GREENHECK	BROAN
MODEL NO.	SQ-100-VG	L300
AREA SERVED	TOILETS & MECH	CONCESSION
CFM	700	300
ESP *WG	1/2"	1/4"
RPM	1291	905
MOUNTING	SPRING VIB. HANGERS	CEILING
DRIVE	DIRECT	DIRECT
SONES (INLET/RADIATED)	6.6/3.1	3.3/-
ELECTRICAL:		
MOTOR HP (BHP)	1/4	FRAC
FAN F.L.A.	3.7	2.6
VOLTAGE/PHASE	115/1	115/1
CONTROL	OCCUPIED BLDG MODE	WALL SPEED CONTROL SW
REMARKS:	INLINE EF	CEILING EF
	①②③④⑤⑥⑦	⑧

NOTE: ALL EF LINE VOLTAGE CONTROLS WIRED BY E.C.
 ① INTERLOCK EF-1 WITH LCP BUILDING OCCUPIED MODE SCHEDULE.
 ② ECM MOTOR WITH UNIT-MOUNTED POTENTIOMETER FOR BALANCING.
 ③ SPRING/NEOPRENE VIBRATION ISOLATION HANGERS.
 ④ MOTORIZED (115V) OPPOSED BLADE, LOW-LEAKAGE DAMPER.
 ⑤ DIRECT-COUPLED EXTERNAL ACTUATOR (BELIMO).
 ⑥ NEMA 1 DISCONNECT SWITCH UNIT-MOUNTED.
 ⑦ INSULATED HOUSING.
 ⑧ MODEL 57 SPEED CONTROL.

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE							
TAG	MFGR	MODEL	SIZE	MOUNTING	SERVICE	CFM	REMARKS
E1	KEES	GHD40	8"x6"	SURFACE/WALL	EXHAUST	100	①②③ HD ER 40 deg BL
E2	KEES	GHD40	16"x8"	SURFACE/WALL	EXHAUST	250	①②③ HD ER 40 deg BL
T1	KEES	GHD40	36"x8"	SURFACE/CLG	TRANSFER	-	①③ HD TG 40 deg BL
T2	KEES	GHD40	64"x8"	SURFACE/CLG	TRANSFER	-	①③ HD TG 40 deg BL

REMARKS:
 ① WHITE POWDER COAT BAKED ENAMEL OR POLYURETHANE FINISH. ER = EXHAUST REGISTER
 ② OPPOSED BLADE DAMPER. HD = HEAVY DUTY
 ③ SUB-FRAME 24 GA. TG = TRANSFER GRILLE

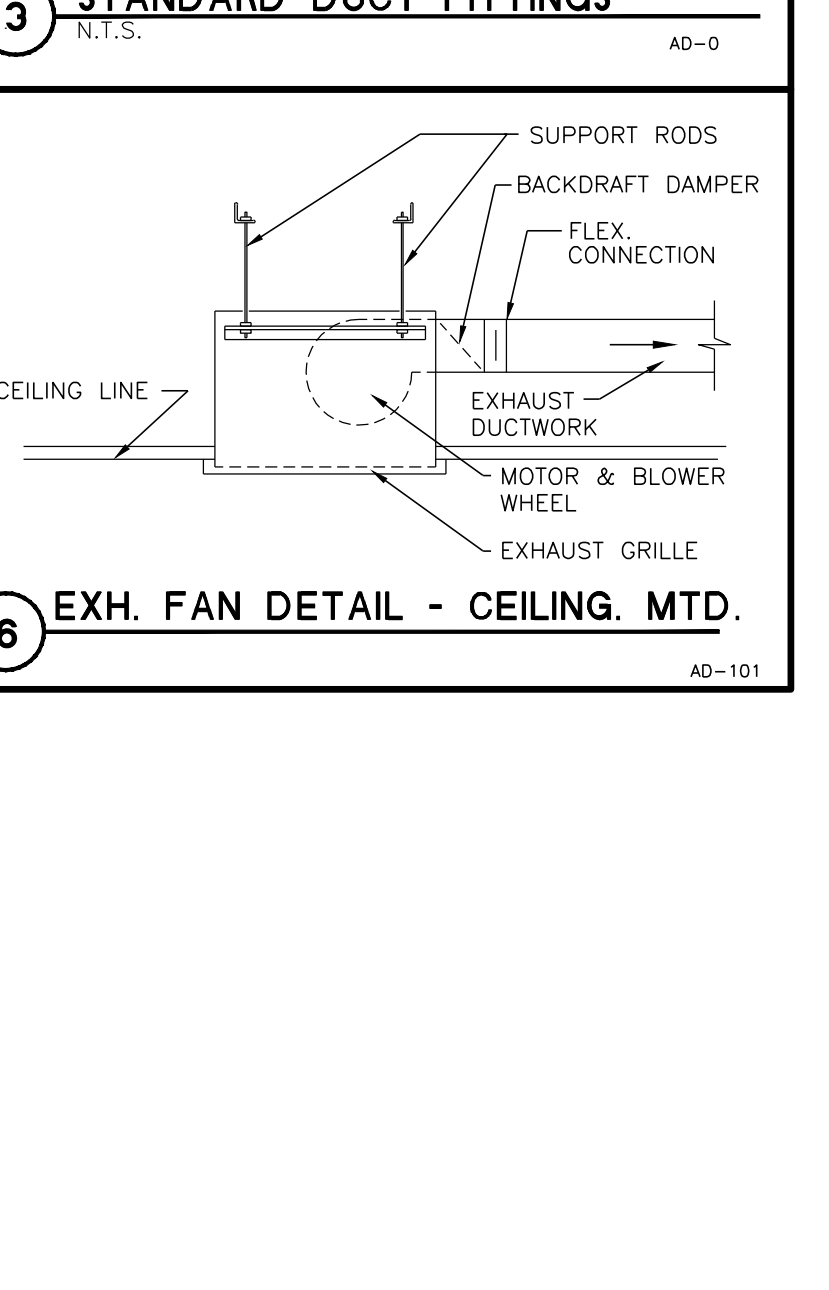
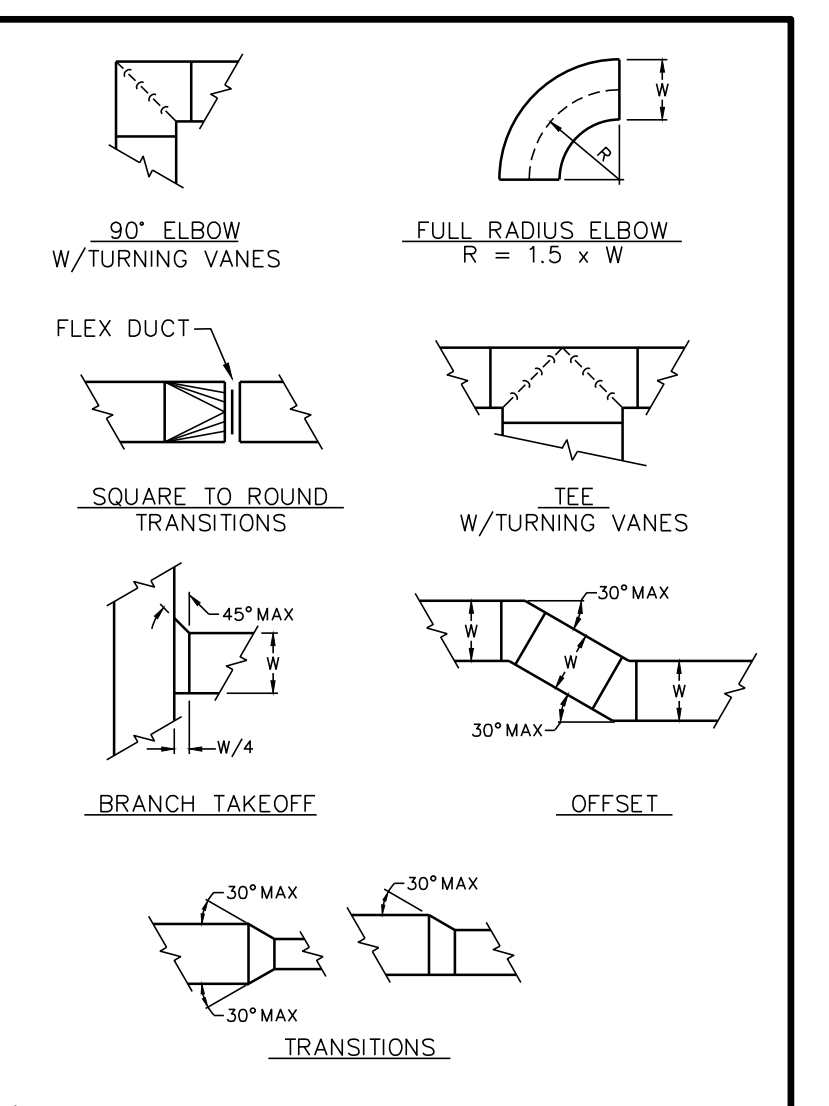
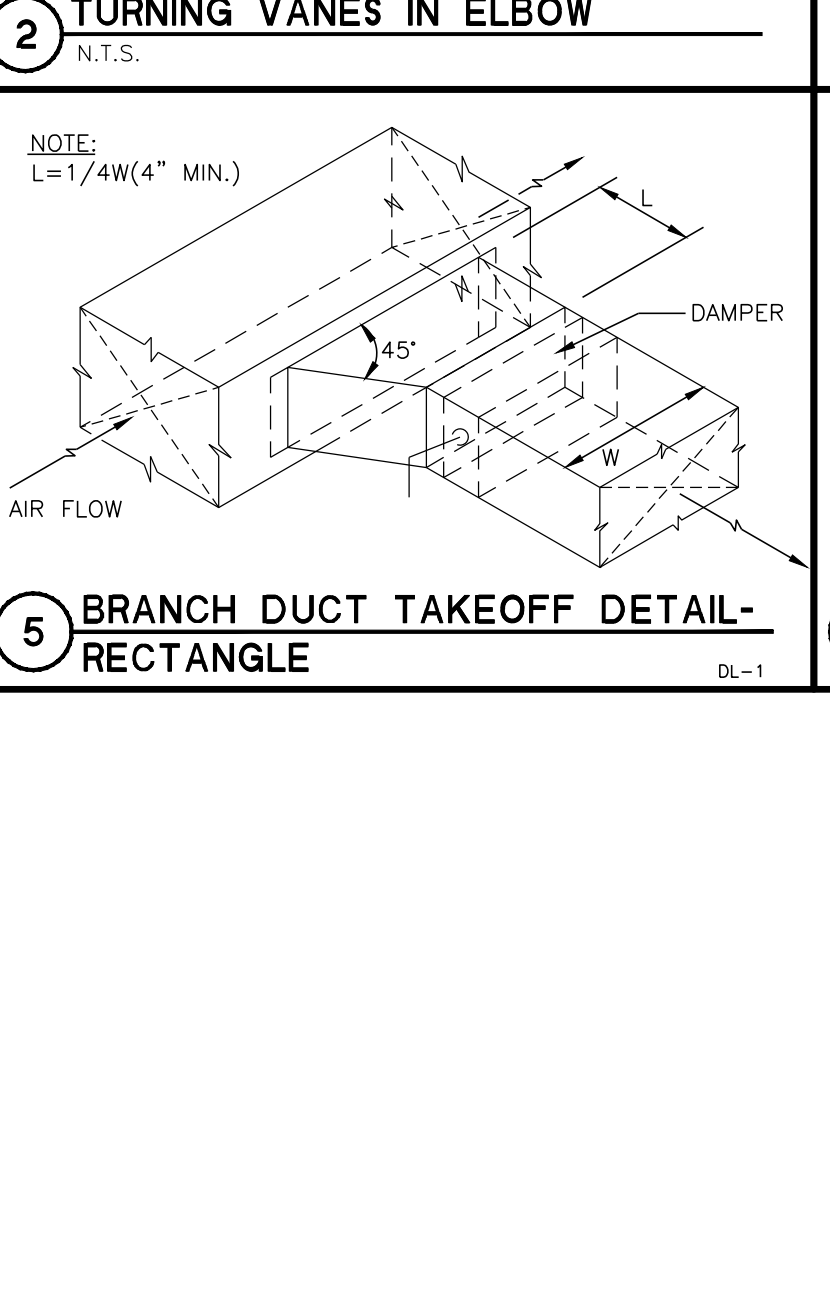
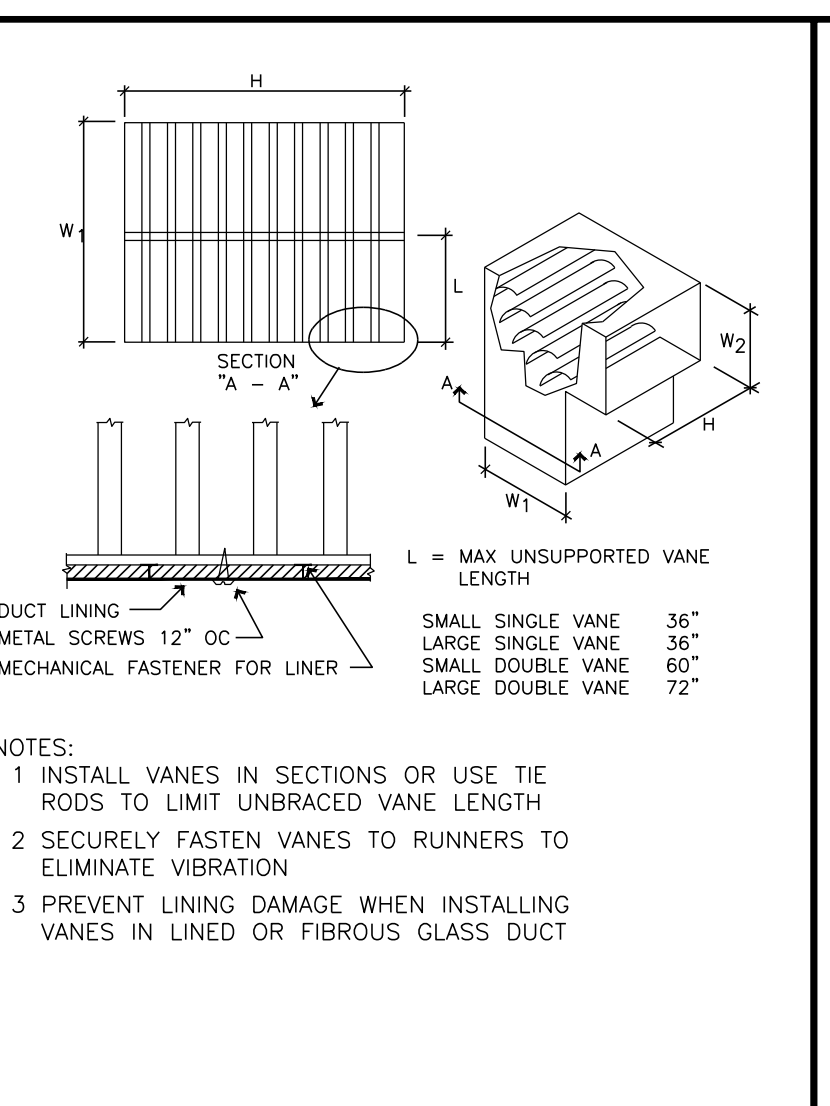
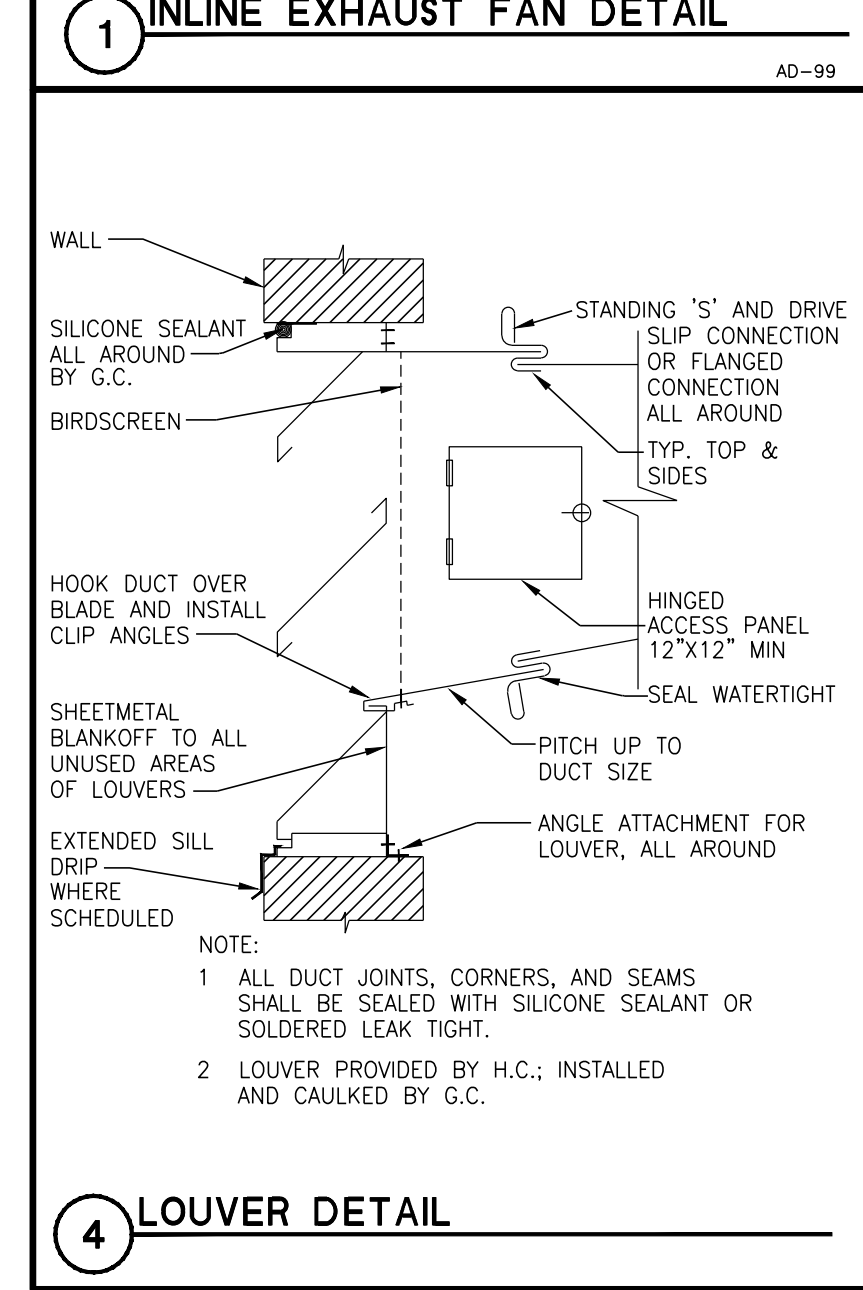
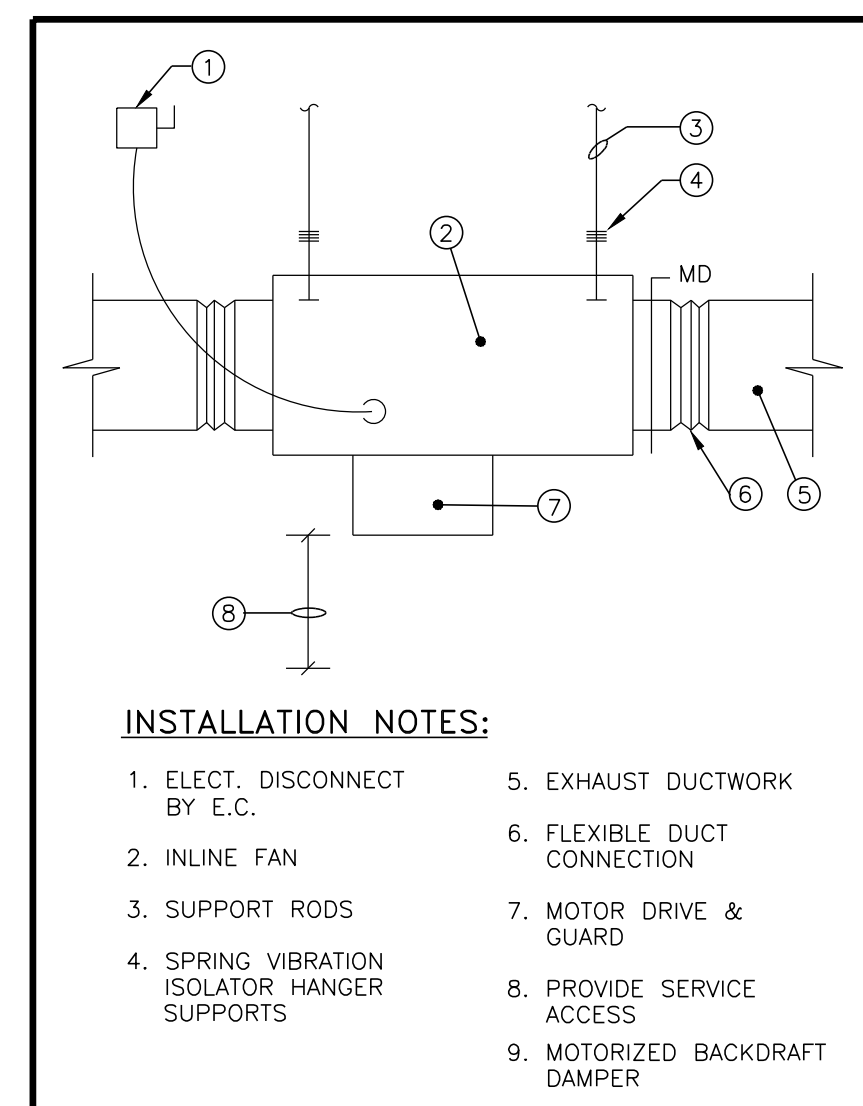
ELECTRIC HEAT SCHEDULE								
TAG	MFGR	MODEL NO.	TYPE	SIZE	WATTS	CAP. BTU/HR	ELECTRICAL	REMARKS
EH-1	Q-MARK	AWH-4404	RECESSED WALL HTR	18 1/4" x 15 1/4" x 3 3/8"	2000	6,825	240/1	8.3 ①②
EH-2	Q-MARK	AWH-4404	RECESSED WALL HTR	18 1/4" x 15 1/4" x 3 3/8"	4000	13,650	240/1	16.7 ①②③
EH-3	Q-MARK	AWH-4404	SURFACE WALL HTR	18 1/4" x 15 1/4" x 3 3/8"	2000	6,825	240/1	8.3 ①②④

REMARKS:
 ① INTEGRAL TAMPER PROOF THERMOSTAT.
 ② BUILT-IN DISCONNECT SWITCH.
 ③ LFKSFC: 14 GA SECURITY FRONT COVER.
 ④ AWHSM: SURFACE MOUNTING FRAME.

LOUVER SCHEDULE								
TAG	MANUFACTURER	MODEL	TYPE	METAL	LOUVER DEPTH x W x HT	FREE AREA S.F.	SERVICE	REMARKS
L-1	VENT PRODUCTS	2600	STAT.	EXT. ALUM.	2" x 36" x 8"	0.61	TRANSFER AIR	②④ BUCK FRAME
L-2	VENT PRODUCTS	2600-31-34	STAT.	EXT. ALUM.	2" x 36" x 8"	0.61	TRANSFER AIR	②③ FLANGED FRAME W/SUB-FRAME
L-3	VENT PRODUCTS	2600	STAT.	EXT. ALUM.	2" x 36" x 12"	1.02	EXHAUST AIR	①④ BUCK FRAME
L-4	VENT PRODUCTS	2600	STAT.	EXT. ALUM.	2" x 64" x 8"	1.10	TRANSFER AIR	②④ BUCK FRAME
L-5	VENT PRODUCTS	2600	STAT.	EXT. ALUM.	2" x 24" x 8"	0.40	EXHAUST AIR	①④ BUCK FRAME

REMARKS:
 ① BIRD SCREEN - ALUM.
 ② 18x16 MESH ALUM INSECT SCREEN.
 ③ ALUM SUB-FRAME (BUCK FRAME).
 ④ POWDER COAT BAKED ENAMEL FINISH; FINAL COLOR SELECTION BY ARCHITECT.

HVAC SYMBOL SCHEDULE	
SYMBOL	DESCRIPTION
	SQUARE/RECTANGULAR SUPPLY DIFFUSER, GRILLE OR REGISTER-HORIZONTAL MOUNT
	SQUARE/RECTANGULAR RETURN/EXHAUST REGISTER OR GRILLE-HORIZONTAL MOUNT
	SUPPLY REGISTER OR GRILLE VERT. MOUNT
	RETURN/EXHAUST REGISTER OR GRILLE VERT. MOUNT
	VERTICAL SUPPLY DUCT DOWN
	VERTICAL RETURN/EXHAUST DUCT DOWN
	VOLUME DAMPER
	MOTORIZED DAMPER
	FLEXIBLE CONNECTION
	DIFFUSER/REGISTER/GRILLE TYPE
	EXHAUST CFM
	EQUIPMENT SYMBOL NO.
	EXHAUST FAN
	ELECTRIC HEATER
	ELECTRIC WATER HEATER
	LOUVER
	ABOVE FINISHED FLOOR
	EXHAUST AIR
	FRESH AIR
	MOTORIZED DAMPER



ISSUANCES:

CD'S: 03.10.2017

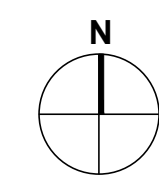
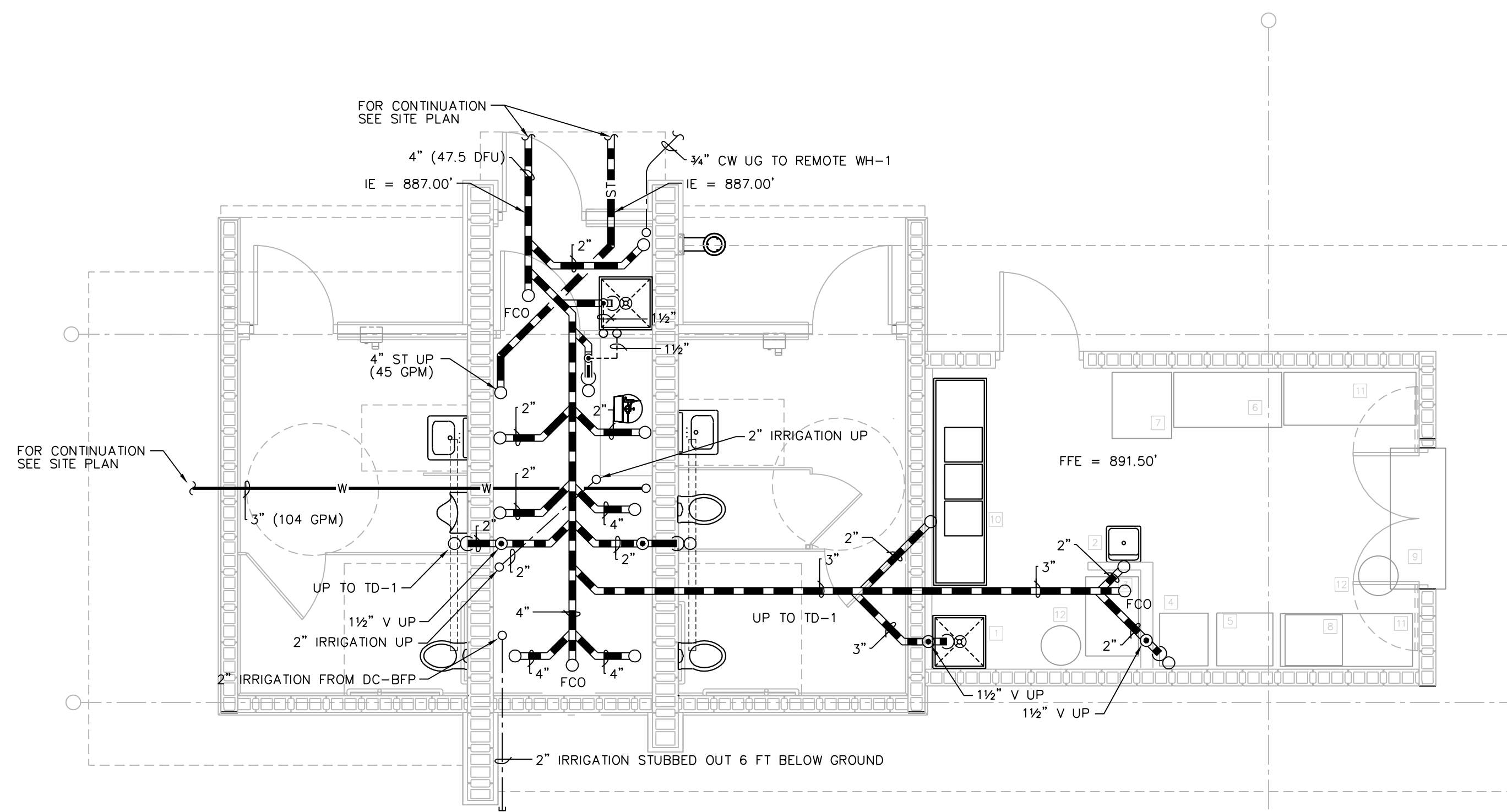
Construction Documents:

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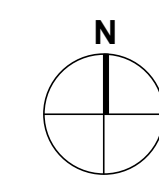
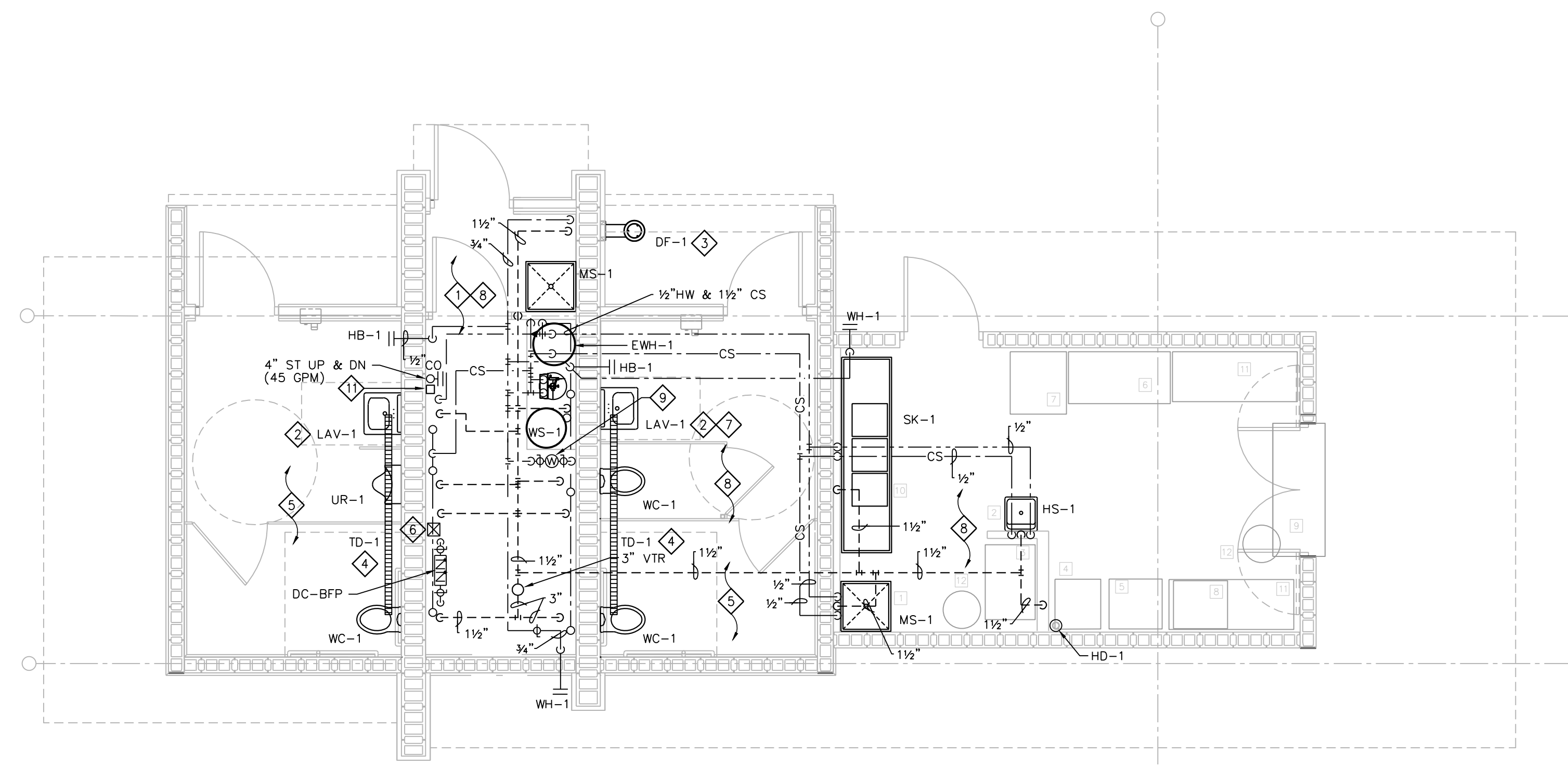
PROJECT #: 160829.00

SHEET NUMBER

P100



1 FLOOR PLAN - UNDERGROUND PLUMBING
1/4" + 1'-0"



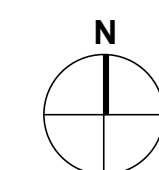
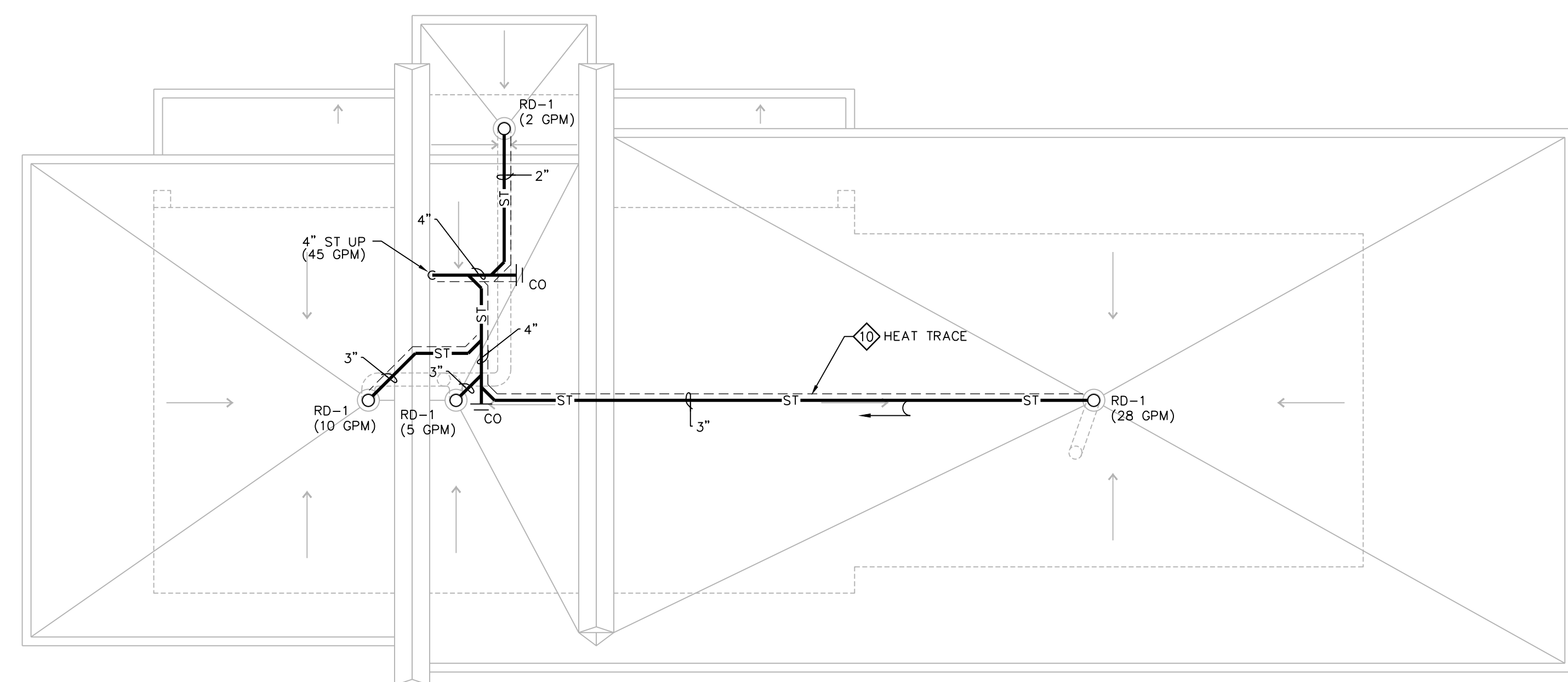
2 FLOOR PLAN - PLUMBING
1/4" + 1'-0"

PLUMBING GENERAL NOTES:

1. PLUMBING CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS.
2. COORDINATE PHASING OF WORK WITH GENERAL CONTRACTOR.
3. ALL PLUMBING SHALL BE CONCEALED IN MECHANICAL ROOM.

PLUMBING PLAN NOTES:

1. COORDINATE ROUTING OF PIPING IN MECH ROOM WITH OTHER TRADES FOR PROPER SERVICE CLEARANCES.
2. COORDINATE INSTALLATION OF LAV WALL CARRIER SUPPORTS WITH GENERAL CONTRACTOR & MASONRY TRADE.
3. COORDINATE INSTALLATION OF DF WALL CARRIER SUPPORTS WITH GENERAL CONTRACTOR & MASONRY TRADE.
4. COORDINATE FINAL LOCATIONS OF TRENCH DRAINS WITH FLOOR SLOPE BY GENERAL CONTRACTOR.
5. COORDINATE PLACEMENT OF RECESSED/FLUSH SENSOR BOX (4x4) AT EACH FIXTURE WITH GENERAL CONTRACTOR & MASONRY TRADE.
6. COORDINATE SENSOR TRANSFORMER PLACEMENT WITH ELECTRICAL TRADE FOR LINE VOLTAGE POWER. LOW-VOLTAGE POWER BY PLUMBING TRADE IN CONDUIT (EXPOSED) PER DIVISION 16.
7. MOUNT CONTROL MODULE & TRANSFORMER IN MECHANICAL 101. CABLE CONTROLS THROUGH WALL GROMMET. PROVIDE ADDITIONAL CABLE LENGTHS AS REQUIRED. COORDINATE WORK WITH E.C.
8. SLOPE ALL WATER PIPING TO LOW POINTS WITH DRAIN VALVE FOR WINTERIZING.
9. (2) STACKED WATER METERS:
1-1/2" POTABLE WATER METER ON TOP
1-1/2" IRRIGATION WATER METER BELOW
ROUTE 2" IRRIGATION LINE UNDERSLAB TO DC-BFP SHOWN ON PLAN.
10. HEAT TRACE STORM PIPING FROM ROOF DRAINS TO 36" BELOW GRADE. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS.
11. HEAT TAPE ELECTRICAL JCT. BOX. COORDINATE LOCATION WITH ELECTRICAL TRADE.



3 ROOF PLAN - PLUMBING
1/4" + 1'-0"

ISSUANCES:

CDS: 03.10.2017

Construction Documents:

This drawing shall be used for fabrication, erection and/or installation. Check all project addenda and construction bulletins for modifications.

PROJECT #: 160829.00

SHEET NUMBER

P101

PLUMBING FIXTURE SCHEDULE

P#	FIXTURE	WASTE	VENT	CW.	HW.	DESCRIPTION
WC-1	WATER CLOSET ADA	4"	1-1/2"	1"	-	VITREOUS CHINA, WHITE, WALL-MTD. ELONGATED BOWL, REAR SPUD, RIM @ 17" AFF. FIXTURE EQUAL TO KOHLER KINGSTON K-4323, SLOAN OPTIMA 152-1.6 ES-S SENSOR OPERATED FLUSH VALVE (1.6 GPF) & DEMIS 195S-SSC OPEN FRONT SEAT. PROVIDE EL-154 (120V) TRANSFORMER & VERTICAL ADJ. WALL CARRIERS EQUAL TO SMITH 0230 SERIES.
UR-1	URINAL ADA	2"	1-1/2"	3/4"	-	VITREOUS CHINA, WHITE, WALL HUNG, REAR SPUD, RIM MTD. @ 17" AFF. KOHLER BARDON MODEL K-4904-ER WITH SLOAN 195-1.0 ES-S SENSOR-CONTROLLED FLUSH VALVE (1.0 GPF), S.S. BEEHIVE STRAINER, PROVIDE EL-154 (102V) TRANSFORMER & VERTICAL ADJ. WALL CARRIER EQUAL TO SMITH 0630 SERIES.
LAV-1	LAVATORY ADA	1-1/4"	1-1/2"	1/2"	1/2"	VITREOUS CHINA, WHITE, WALL HUNG EQUAL TO KOHLER KINGSTON LAV K-1729, (2-HOLE 4" O.C.) W/SLOAN ETF-600-P-BM ELECTRIC FAUCET, MECH MIXING VALVE, ETF-233 (120V) PLUG-IN TRANSFORMER, MOUNT CONTROL MODULE & TRANSFORMER IN MECH 101 W/GROMMET OPENING IN WALL, PROWRAP 2000 INSULATION GUARDS, CONCEALED ARM CARRIER EQUAL TO SMITH 0700 SERIES & KOHLER 899B P-TRAP WITH CLEANOUT, ADA COMPLIANT.
SK-1	SCULLERY SINK	1-1/2"	1-1/2"	1/2"	1/2"	ADVANCED TABCO 94-3-54-18RL 14 GA. STAINLESS STEEL SCULLERY SINK (3 COMPARTMENT) 16"x20"x14" DEEP W/TWO (2) SPLASH MTD FAUCETS (K-1) WITH 12" SWING SPOUT & TWST HANDLE OPERATED DRAINS (K-5). 18" DRAIN BOARDS EACH SIDE.
HS-1	HAND SINK	1-1/4"	1-1/2"	1/2"	1/2"	ADVANCED TABCO 7-PS-61 STAINLESS STEEL WALL-MTD HAND SINK (10"x15"x5" DEEP) W/ELECTRONIC GOOSENECK FAUCET (BATTERY OPERATED).
MS-1	MOP SINK	3"	1-1/2"	1/2"	1/2"	FLOOR-MOUNTED MOLDED STONE EQUAL TO MUSTEE MODEL #63M WITH #63.700 HOSE & HOSE HOLDER, #65.600 MOP HANGER & #67.2424 WALLGUARDS, CHICAGO 897 FAUCET WITH HOSE CONN. VB (WATTS BA-ASSE 1011).
HB-1	HOSE BIBB	-	-	3/4"	-	KEY-OPERATED, AUTOMATIC DRAINING WITH ANTI-SIPHON VB & FLUSH TAMPER-PROOF BOX W/HINGED COVER. EQUAL TO WOODFORD MODEL B67-PB. (ASSE 1052).
WH-1	WALL HYDRANT	-	-	3/4"	-	KEY-OPERATED, FREEZELESS, AUTOMATIC DRAINING WITH ANTI-SIPHON VB & FLUSH TAMPER-PROOF BOX W/HINGED COVER. EQUAL TO WOODFORD MODEL B67-PB. (ASSE 1052).
DF-1	EXTERIOR DRINKING FOUNTAIN, ADA	1-1/4"	1-1/2"	1/2"	-	EXTERIOR, WALL-MOUNTED, DRINKING FOUNTAIN WITH BOTTLE FILLER STATION. COLOR, FINISH SELECTED BY ARCHITECT. STERN-WILLIAMS MODEL 7315-RV.
FD-1	FLOOR DRAIN	3"	1-1/2"	-	-	POLISHED BRONZE ADJ. ROUNDTOP W/PROSET TRAP GUARD EQUAL TO SMITH MODEL 2005Y-A-PB (NO HUB), 2010C-A-PB (CAULKED OUTLET).
TD-1	TRENCH DRAIN	2"	1-1/2"	-	-	HDPE 2-1/2" WIDE x 96" LONG LINEAR TRENCH DRAIN WITH BOTTOM OUTLET & STAINLESS STEEL BAR GRATE, ZURN Z880-U1.5-ET-SWG.
EWH-1	ELECTRIC WATER HEATER	-	-	3/4"	3/4"	FLOOR MOUNTED ELECTRIC WATER HEATER 30 GALLON CAPACITY, 23 GPH @ 80° F RISE, EQUAL AO SMITH DEN-30, 4500 WATT, 240V SINGLE PHASE, 18.8 FLA, T&P RELIEF VALVE.
WS-1	WATER SOFTENER	OPEN SITE DRAIN	-	1-1/2"	-	HELLENBRAND MODEL H151-90-BD OR APPROVED EQUAL. CAPACITY = 96,000 GRAIN, 3.0 CF RESIN, 35 GPM @ 15 PSIG MAX WPD, SOFTENER SIZE: 14"Ø x65"H. BRINE TANK: 18"Ø x 40" H (300 LB. SALT CAP.), 1 1/2" VALVE/MANIFOLD, METERED DEMAND-CONTROLLED REGENERATION, PROVIDE BOTTOM DRAIN FOR WINTERIZING.
DC-BFP	DOUBLE-CHECK BACKFLOW PREVENTER	-	-	2"	-	IRRIGATION DOUBLE-CHECK BACKFLOW PREVENTER, WATTS 007M1QT (ASSE 1015) W/ISOLATION VALVES & TEST COCKS.
RD-1	ROOF DRAIN	SEE PLAN	-	-	-	CAST IRON BODY WITH ADJ. SLEEVE, FLASHING CLAMP, GRAVEL STOP, CAST IRON DOME, UNDERDECK CLAMP & SUMP RECEIVER. EQUAL TO SMITH 1015-R-C-CID.
HT	STORM HEAT TAPE	-	-	-	-	RAYCHEM WINTERGARD PLUS H611 6 WATTS/FT 120 VOLT, H900 POWER CONNECTION AND ACCESSORIES AS NECESSARY FOR COMPLETE INSTALLATION. HEAT TAPE MOUNTED @ BOTTOM OF PIPE BEFORE INSULATING PIPE.

WATER SERVICE SIZING (POTABLE):

- 1) 104 GPM DEMAND OF BUILDING IN G.P.M. (54 GPM POTABLE + 50 IRRIGATION)
- 2) 60 PSI LOW PRESSURE AT MAIN IN STREET
- 3) 6 FT DIFFERENCE IN ELEVATION, MAIN TO METER.
- 4) 1 1/2 IN SIZE OF WATER METER.
- 5) 150 FT DEVELOPED LENGTH FROM MAIN TO METER.

AVAILABLE PRESSURE AFTER THE WATER METER:

- 1) 0.6 PSI PRESSURE LOSS DUE TO FRICTION LOSS IN 3" WATER SERVICE.
- 2) 2.6 PSI PRESSURE LOSS DUE TO ELEVATION, MAIN TO METER.
- 3) 5.6 PSI PRESSURE LOSS DUE TO METER.
- 4) 51.2 PSI AVAILABLE PRESSURE AFTER THE WATER METER.

HOT WATER DISTRIBUTION SIZING:

PERMISSIBLE UNIFORM PRESSURE LOSS FOR FRICTION (A):
(P.S.I./100' OF PIPE)

$$WHERE: A = \frac{B - (C + D + E)}{F} \times 100$$

- 45.5 PSI PERMISSIBLE PRESSURE LOSS FOR FRICTION. (PSI/100' OF PIPE).
- 51.2 PSI AVAILABLE PRESSURE AFTER WATER METER
- 8 PSI PRESSURE NEEDED AT CONTROLLING FIXTURE.
- 0.9 PSI DIFFERENCE IN ELEVATION BETWEEN WATER METER AND CONTROLLING FIXTURE IN FEET 2 FT x .434 PSI/FT.
- 15 PSI PRESSURE LOSS DUE TO WATER HEATER, WATER TREATMENT DEVICES AND BACKFLOW PREVENTERS.
- 30 FT DEVELOPED LENGTH FROM WATER METER TO CONTROLLING FIXTURE IN FEET 20 x 1.5.

COLD WATER DISTRIBUTION SIZING:

PERMISSIBLE UNIFORM PRESSURE LOSS FOR FRICTION (A):
(P.S.I./100' OF PIPE)

$$WHERE: A = \frac{B - (C + D + E)}{F} \times 100$$

- 69.4 PSI PERMISSIBLE PRESSURE LOSS FOR FRICTION. (PSI/100' OF PIPE).
- 51.2 PSI AVAILABLE PRESSURE AFTER WATER METER
- 15 PSI PRESSURE NEEDED AT CONTROLLING FIXTURE.
- 0.9 PSI DIFFERENCE IN ELEVATION BETWEEN WATER METER AND CONTROLLING FIXTURE IN FEET 2 FT x .434 PSI/FT.
- 15 PSI PRESSURE LOSS DUE TO WATER HEATER, WATER TREATMENT DEVICES AND BACKFLOW PREVENTERS.
- 60 FT DEVELOPED LENGTH FROM WATER METER TO CONTROLLING FIXTURE IN FEET 40 x 1.5.

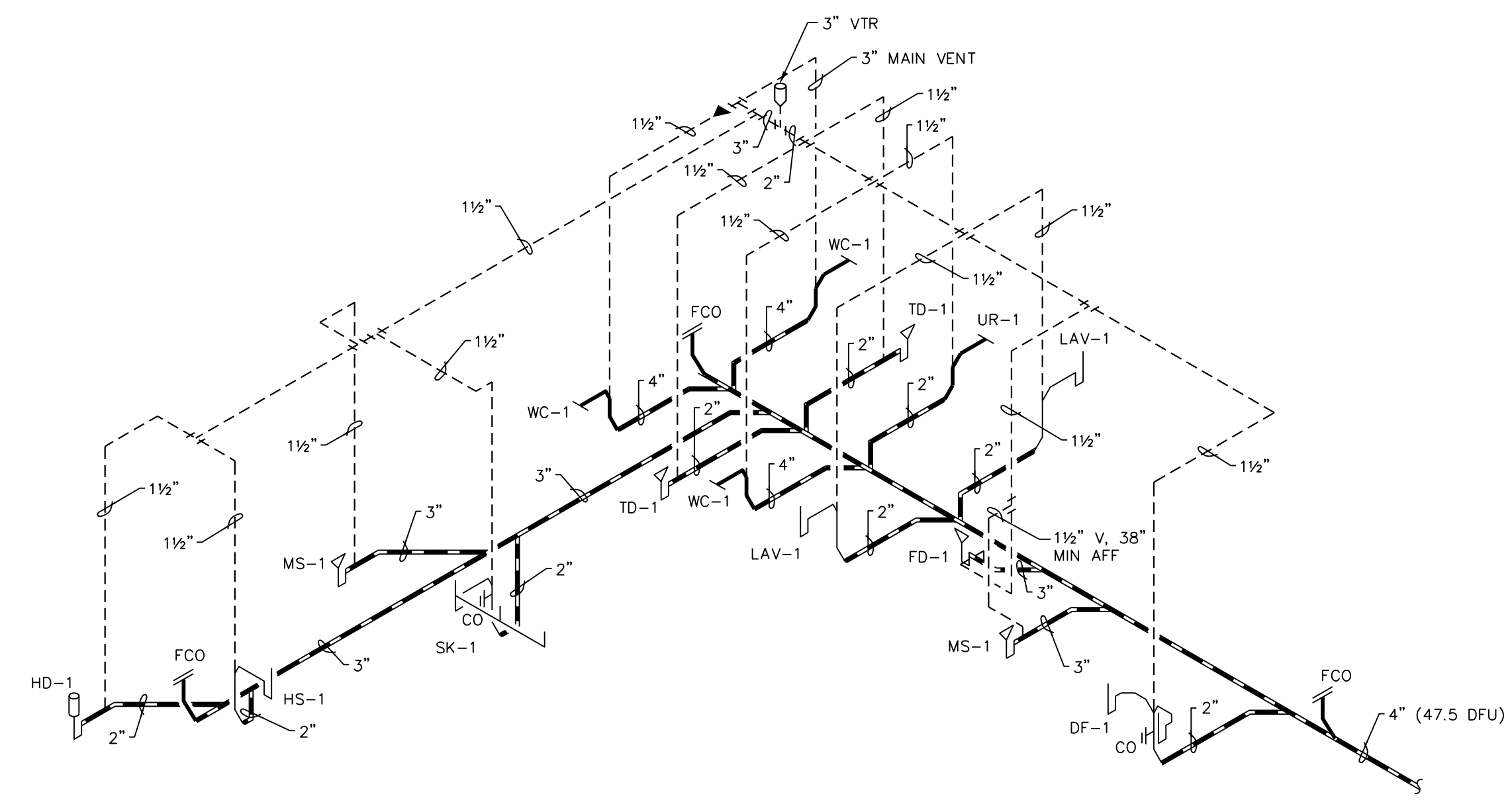
WATER PIPING SIZING CHART (COPPER TYPE 'L' & PEX)

PIPE SIZE	COLD WATER @ 19.0 PSI/100'						HOT WATER @ 19.0 PSI/100'					
	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
WSFU (FT) COPPER	6.0	14.5	28.5	55.0	103	250	6.0	14.5	28.5	55.0	103	250
WSFU (FM) COPPER	-	4.0	6.0	13.5	34.0	128	-	-	-	-	-	-
WSFU (FT) PEX	3.5	11.5	25.5	45.0	70.3	185	-	-	-	-	-	-
WSFU (FM) PEX	-	-	5.5	9.0	25.0	80.0	-	-	-	-	-	-

FT = FLUSH TANK
FM = FLUSH METER
TABLE 382.40-5 = COPPER 'L'
TABLE 382.40-9 = UPONOR AQUAPEX

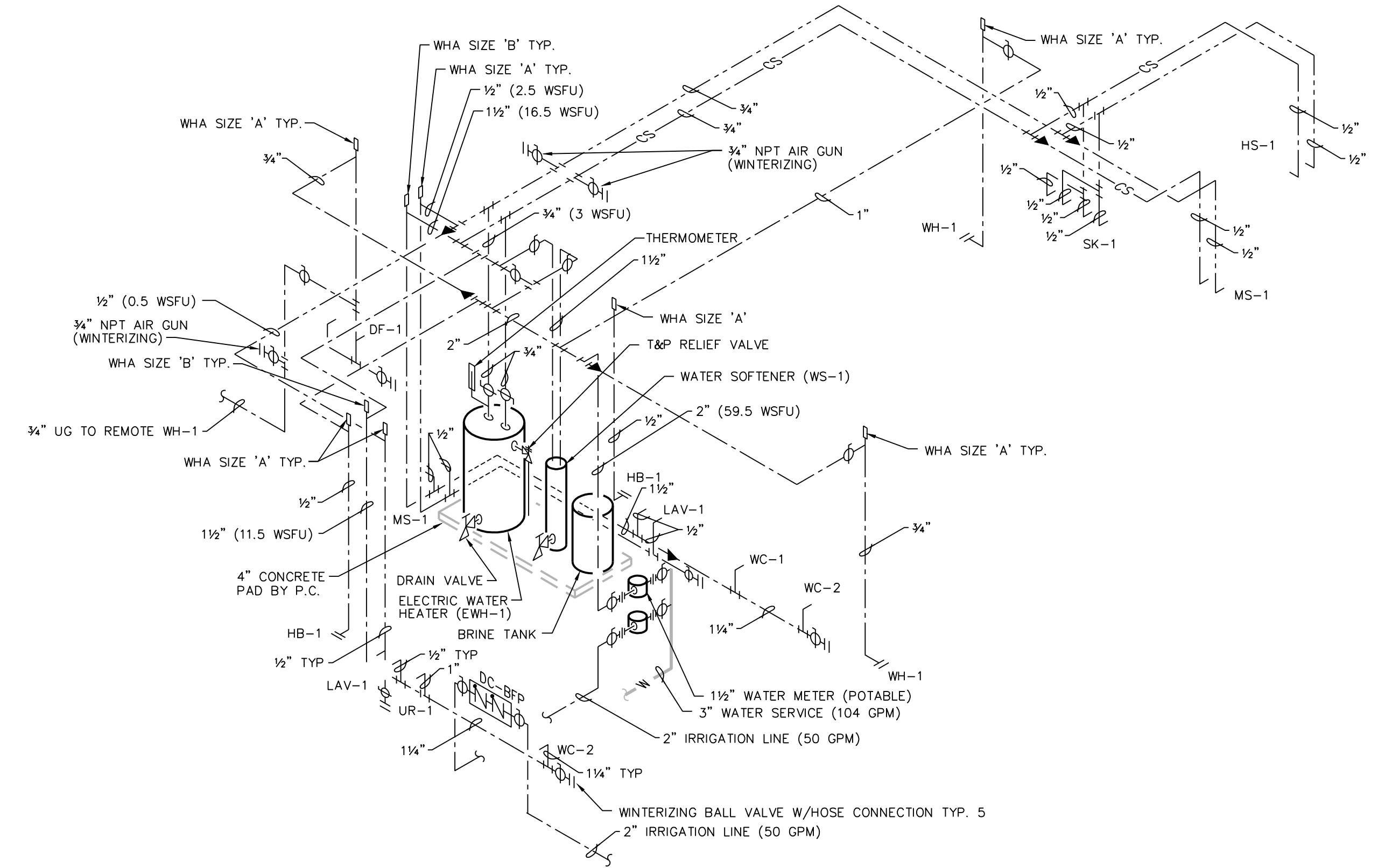
PLUMBING SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
---	WASTE BELOW SLAB
---ST---	STORM BELOW GROUND
---CWW---	CLEAR WATER WASTE
---	WASTE ABOVE GROUND
---ST---	STORM ABOVE GROUND
---	WATER SERVICE
---	COLD WATER
---	HOT WATER
---	VENT
---	UNDERGROUND VENT
---	PIPE UP
---	PIPE DOWN
---	CLEAN OUT
---	BALL VALVE
---	BACKFLOW PREVENTER VALVE
---	RP - REDUCED PRESSURE PRINCIPLE
---	DC - DOUBLE CHECK VALVE
BFP	BACKFLOW PREVENTER
FCO	FLOOR CLEAN OUT
HB	HOSE BIBB
CV	CIRCUIT VENT
WH	WALL HYDRANT
VTR	VENT THROUGH ROOF
FD	FLOOR DRAIN
HD	HUB DRAIN
UG	UNDERGROUND



WASTE & VENT RISER

NONE



WATER PIPING RISER

NONE