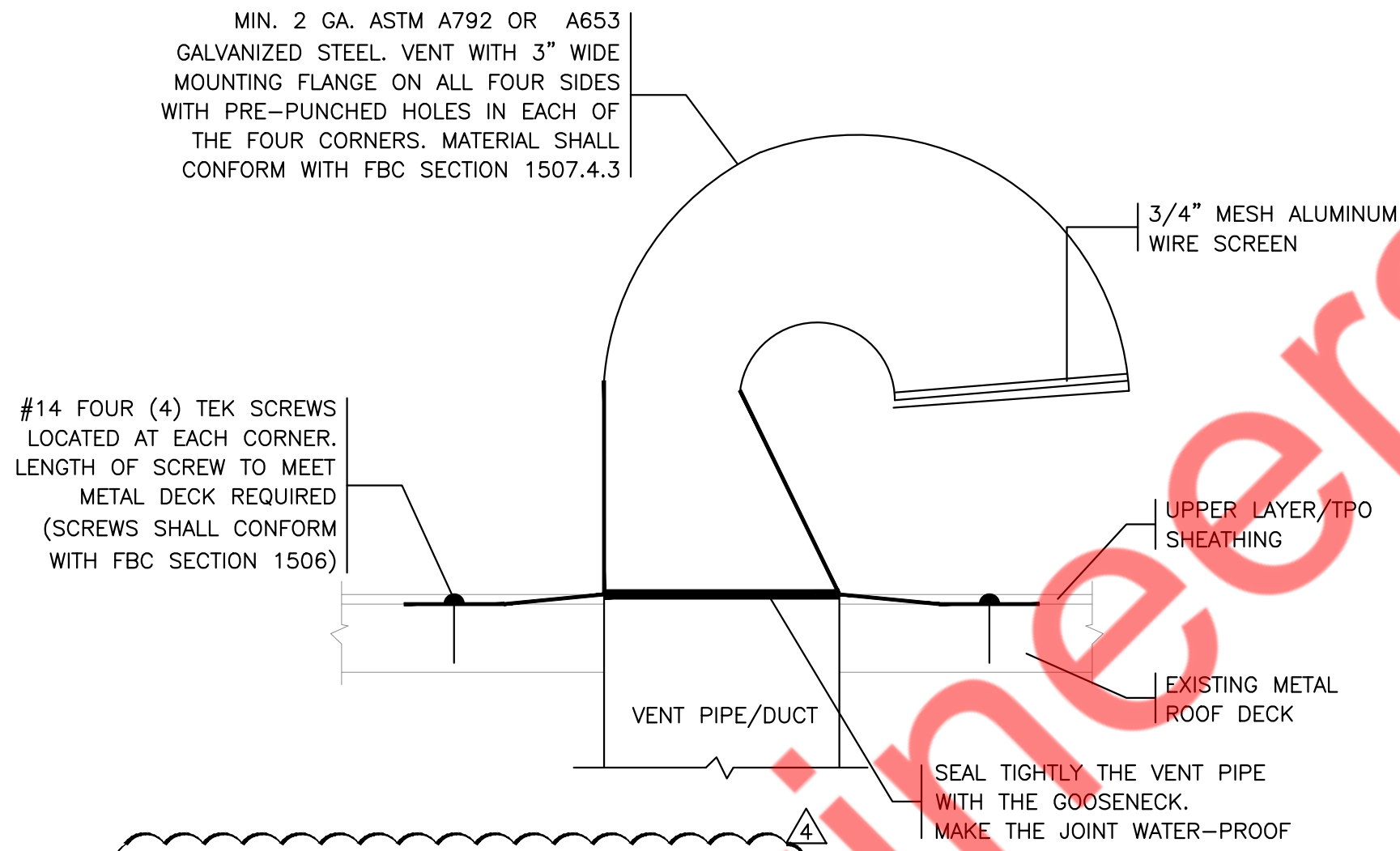
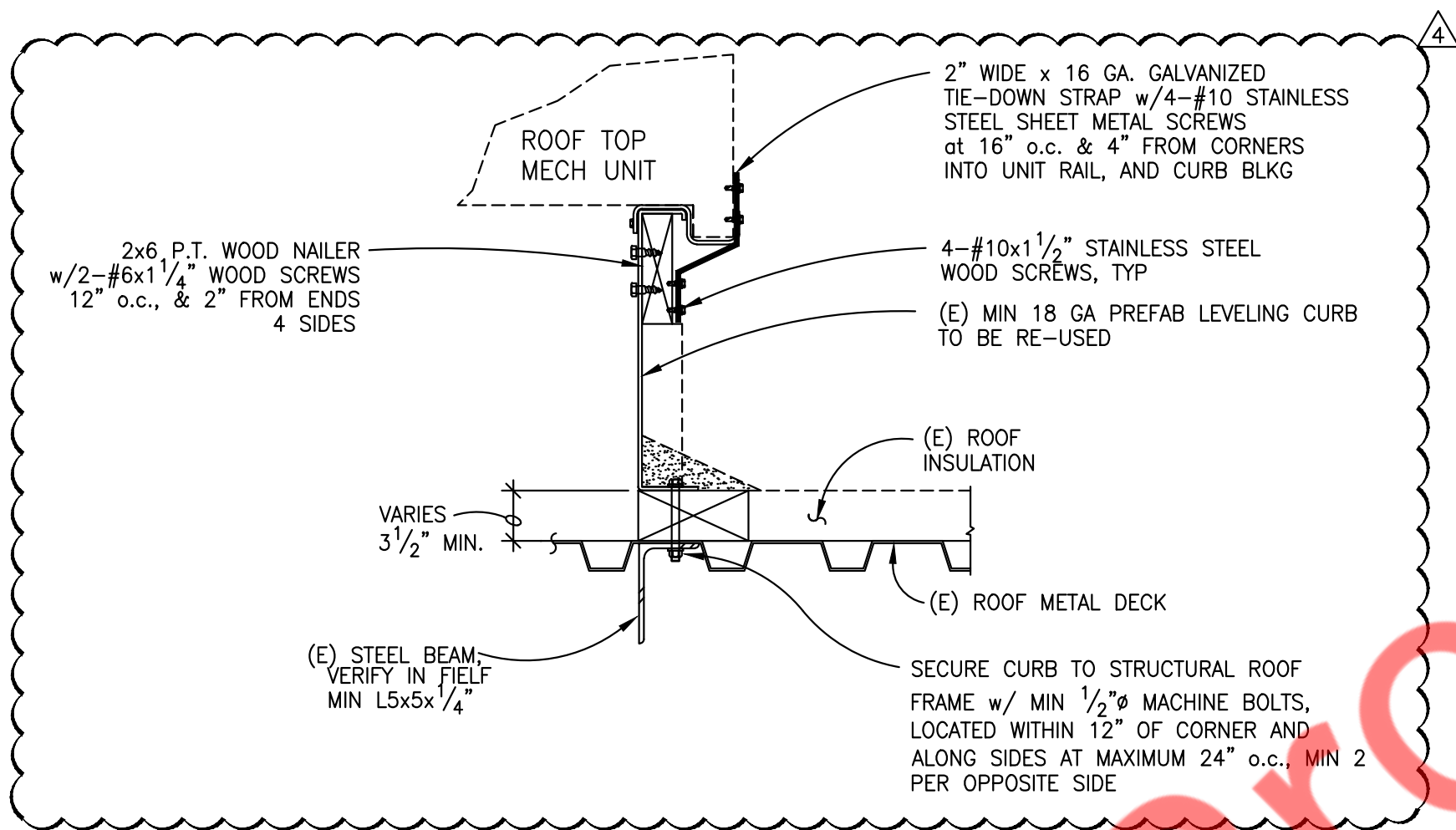


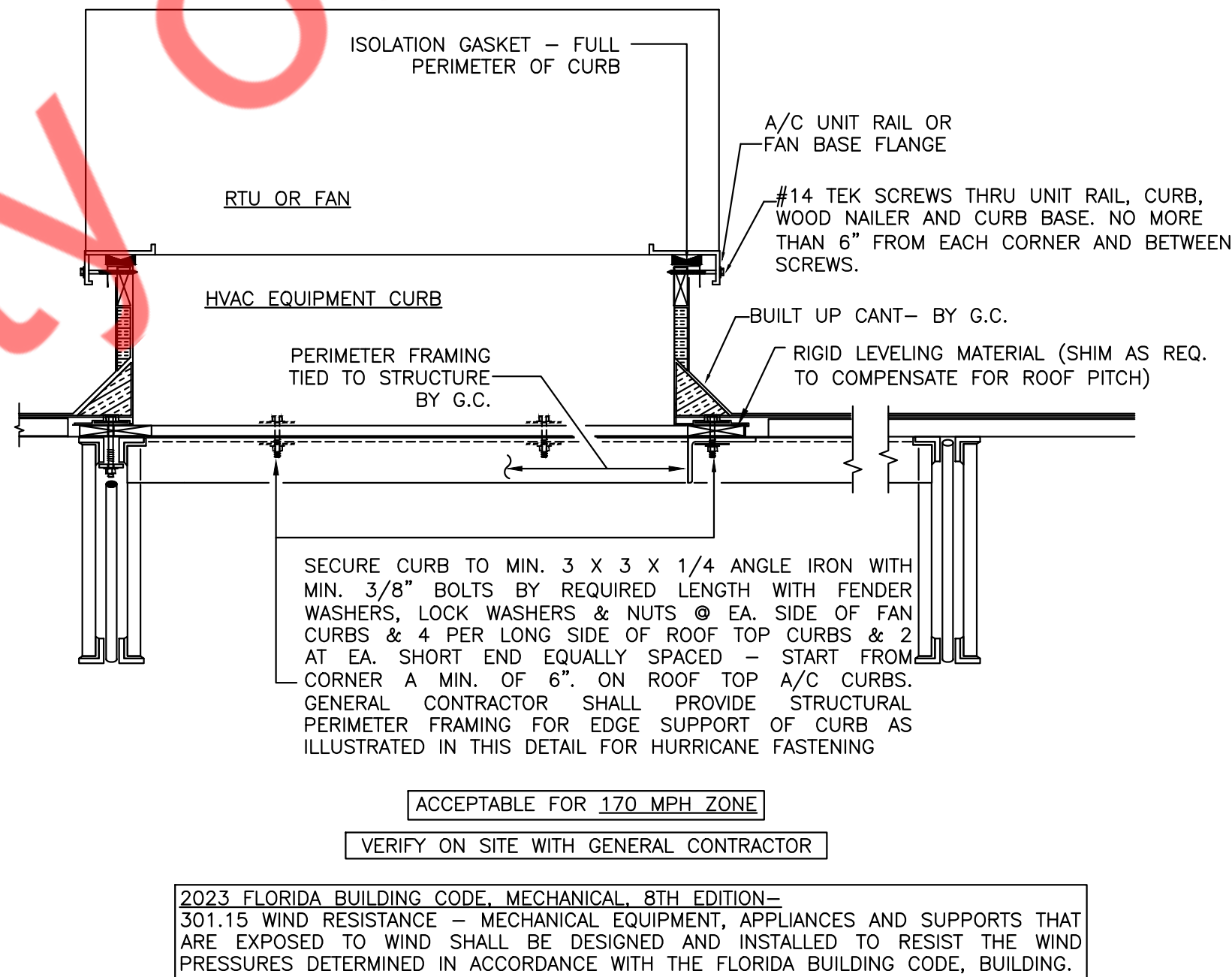
1 TYPICAL DIFFUSER CONNECTION DETAIL
M3.02 N.T.S.



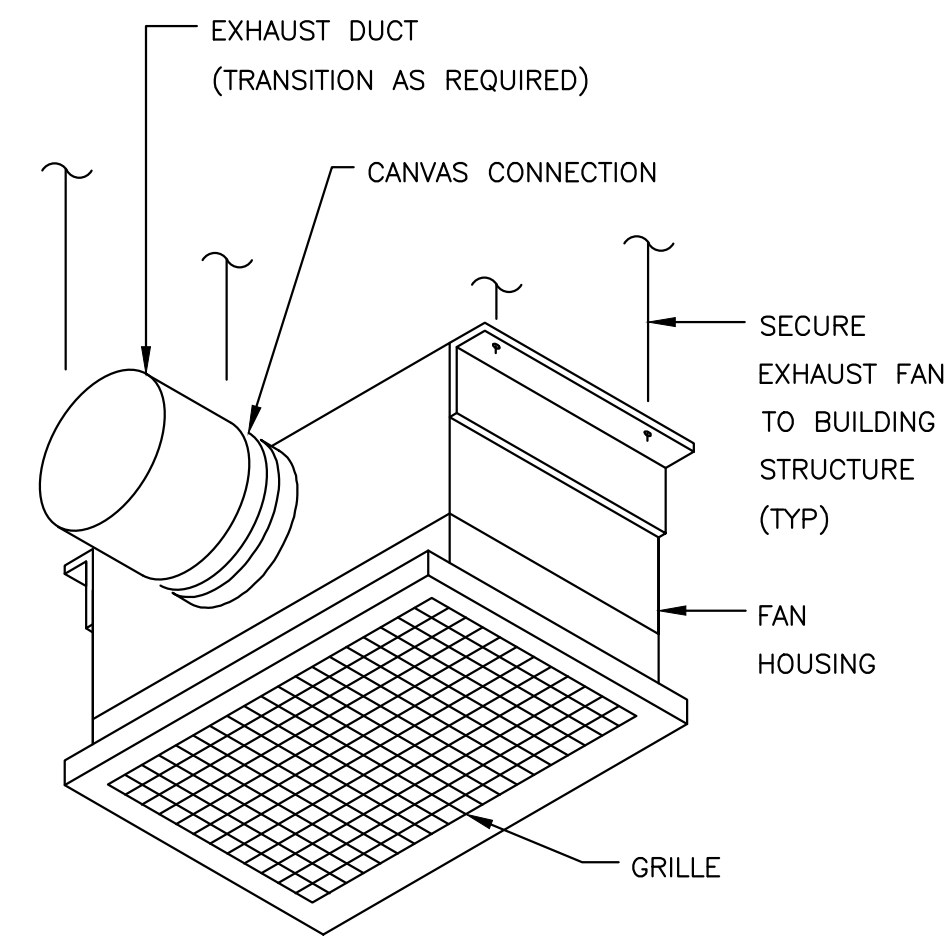
2 TYPICAL DETAIL OF ROOF GOOSENECK
M3.02 N.T.S.



3 ROOF-TOP UNIT CURB DETAIL
M3.02 N.T.S.



4 ROOF TOP UNIT INSTALLATION ON ROOF
M3.02 N.T.S.



5 CEILING EXHAUST FAN DETAIL
M3.02 N.T.S.

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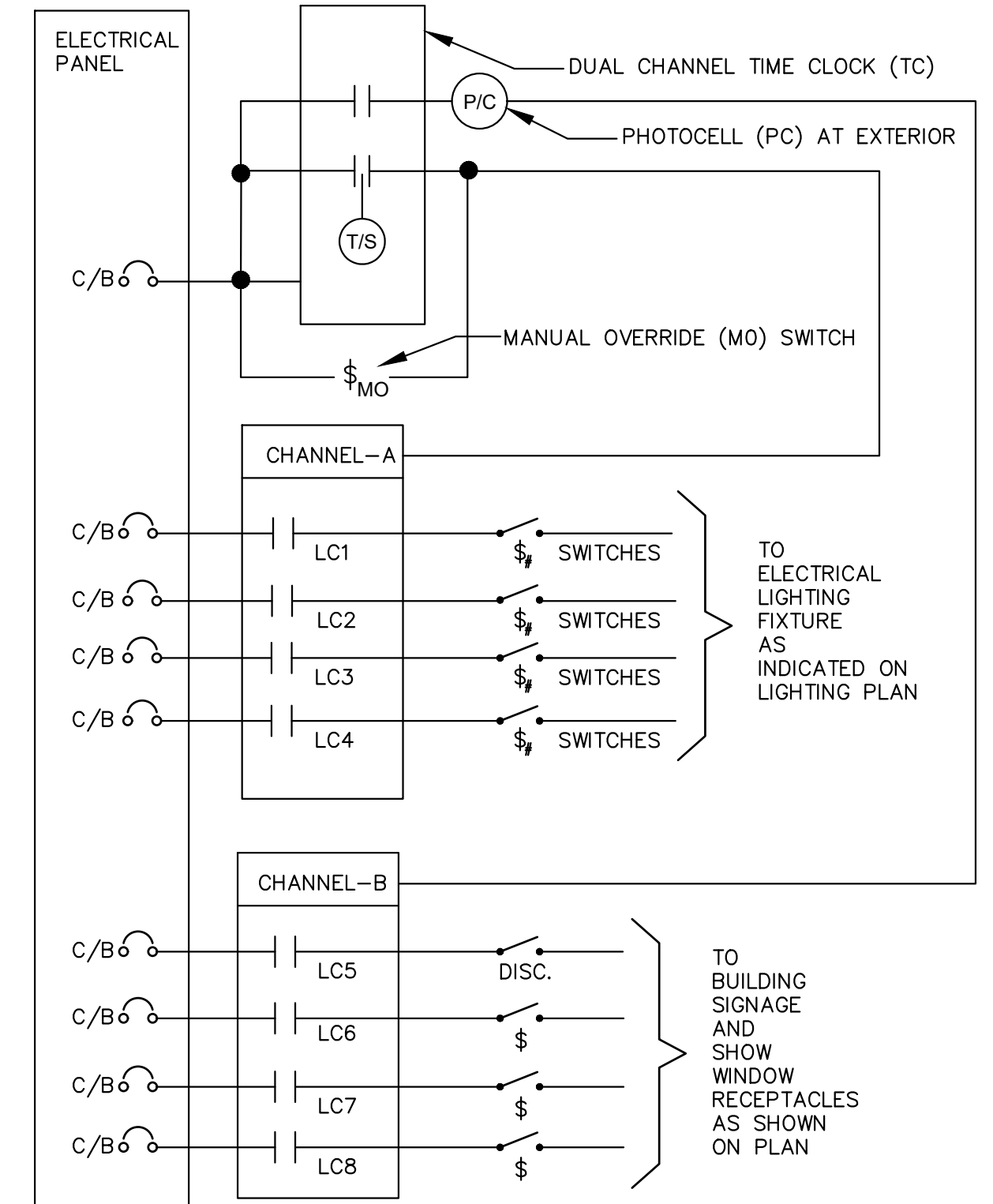
ROBERTO CAVALLI

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PERMIT REVISIONS	02/14/25

MECHANICAL
DETAILS (2 OF 2)

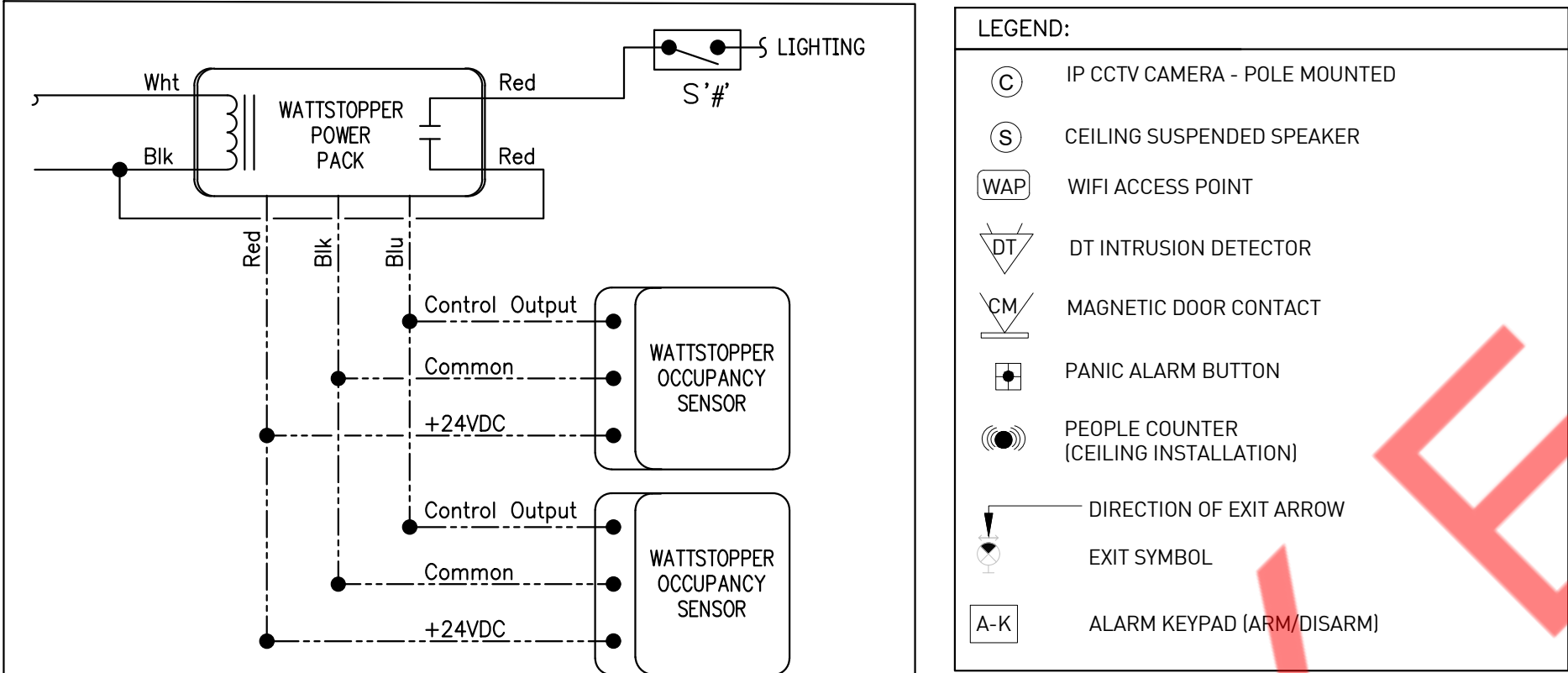
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DIAGRAM BELOW INDICATES THE GENERAL ARRANGEMENT OF THE LIGHTING CONTACTORS. SEE ELECTRICAL LIGHTING PLAN FOR CIRCUIT AND CONTROL DETAILS. CONTRACTOR SHALL SELECT THE QUANTITY OF THE CONTACTORS AS REQUIRED.



LIGHTING CONTACTOR TYPICAL DETAIL
N.T.S.

LIGHTING FIXTURE SCHEDULE							
TYPE	DESCRIPTION	LUMINAIRE SPECIFICATION	CODE	TYPE	INPUT WATTS	FINISH	LUMINAIRE NOTES
L-03	LF ILLUMINATION JULIE TRACK HEAD	LED DRIVER ONBOARD DIMMING ELV	TRA19BT13C9235WD1 1WW	LED	13W	WHITE	LED ARRAY 3500K CRI>92
L-04	FLOS LIGHT SHADOW PRO Ø90 FIXED RECESSED DOWNLIGHT	REMOTE POWER SUPPLY	03.9921.40AUQ	LED	21.5W	WHITE	LED ARRAY 4000K CRI>90 2017M 25 DEGREES
L-06	LF ILLUMINATION GLOBAL TWO CIRCUIT TRACK	-	TEK-408-2	WHITE	-	WHITE	MOUNT AT 10'-6" A.F.F.
L-07	DELTAUGHT FEMTOLINE 35	LED DRIVER REMOTE DIMMING 0-10-V	P-FTL35-PC-35H-HE- XWW-D1-35HP-D	LED	5W/LF	WHITE	LED ARRAY 3500K CRI>95 MOUNT AT 11'- 0" AFF
L-08	BROAN FLEX SERIES 80 CFM 0.7 SONES VENTILATION FAN LIGHT	-	AE80BL	-	-	WHITE	-
L-09	STRIP 1 LIGHT 1.63 INCH BATHROOM VANITY LIGHT	-	WS-63724-30-AL	LED	19.5W	ALUMINUM	LED 3000K CRI>90 - REFER TO ELEVATION FOR MOUNTING HEIGHT
EM	WALL EMERGENCY LIGHT	-	RELZXT	LED			
EM1	CEILING EMERGENCY LIGHT	-	DUAL LITE	LED			
EX	EXIT SIGN	BEST	RELZXT	LED			
EX-01	EXIT SIGN WITH EM LIGHT	-	NX-815-LEDRCW	LED			
EX02	EXIT SIGN 2	-	EZXTU-2-R-W-EM	LED			
-	CURRENT LIMITER FOR TRACK LIGHTING	-	-	-	1800W	-	
LIGHT FIXTURE SCHEDULE NOTES:							
A. VERIFY FINAL SELECTION OF LIGHT FIXTURES WITH THE ARCHITECT PRIOR TO BID.							
B. EMERGENCY FIXTURES SHALL HAVE MIN 90. MIN BATTERY BACKUP.							



OCCUPANCY SENSOR DETAIL
N.T.S.

LIGHTING GENERAL NOTES:

- VERIFY ALL LUMINAIRE COLORS, TRIMS, LENGTHS, ETC. WITH THE ARCHITECT PRIOR TO PLACING FINAL PURCHASE ORDERS. SUBMISSION PF SHOP DRAWINGS WILL BE INTERPRETED AS HAVING BEEN COORDINATED WITH THE ARCHITECTURAL DRAWINGS.
- PROVIDE ALL LENGTHS, FEEDS, ACCESSORIES, CONNECTORS, WIRING, POWER SUPPLIES, DRIVERS ETC. FOR A COMPLETE INSTALLATION. THE E.C. SHALL VERIFY THE COMPLETE BILL OF MATERIAL WITH MANUFACTURER'S REPRESENTATIVE AND ENSURE ALL EQUIPMENT ARE INCLUDED IN BID PRICE. COORDINATE INSTALLATION WITH ARCHITECTURAL DETAILS.
- VERIFY FINAL LUMINAIRE LOCATIONS WITH OTHER CEILING MOUNTED EQUIPMENTS SUCH AS DIFFUSER WITH ARCHITECTURAL REFLECTED CEILING PLANS.
- VERIFY EXACT MOUNTING HEIGHT AND LOCATIONS OF ALL WALL MOUNTED LUMINAIRE WITH ARCHITECTURAL PLANS AND ELEVATIONS PRIOR TO ROUGH-IN
- ANY PROPOSED ALTERNATE LUMINAIRES SHALL BE APPROVED BY THE ARCHITECT PRIOR TO FINAL BID PRICING.
- SHOULD THE CONTRACTOR PROPOSE TO FURNISH MATERIALS, EQUIPMENT AND DEVICES OTHER THAN THOSE SPECIFIED AND LISTED, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR SUBSTITUTIONS, TO THE ENGINEERS AT LEAST TEN (10) BUSINESS DAYS PRIOR TO BID OPENING. THE REQUEST SHALL BE AN ALTERNATE TO THE ORIGINAL BID AND SHALL INCLUDE COMPLETE SPECIFICATIONS OUTSHEET SUBMITTAL AS OUTLINED IN THE SPECIFICATIONS, COMPLETE WITH DESCRIPTIVE (MANUFACTURER, BRAND NAME, CATALOG NUMBER, ETC.) AND TECHNICAL DATA FOR ALL ITEMS. INDICATE ANY ADDITIONS OR DEDUCTIONS TO THE CONTRACT PRICE WITH THE SUBSTITUTION SUBMITTAL AND ON THE BID FORM.
- ALL FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH 90-MINUTE BATTERY PACK AND ALL FLORECENT FIXTURES INDICATED AS EMERGENCY SHALL BE PROVIDED WITH 1300LUMENS, 90MINUTE BATTERY PACK.
- PROVIDE SHATTER-RESISTANT LAMPS OR PROVIDE CLEAR LENSES ON ALL FIXTURES LOCATED ABOVE ALL KITCHEN AREA.
- VERIFY FINAL SELECTION OF LIGHT FIXTURES WITH ARCHITECT.
- E.C. SHALL COORDINATE WITH THE LIGHTING VENDOR FOR LIGHTING FIXTURE DRIVER REQUIREMENT.
- SECURITY DEVICES SHOWN ON THE PLAN ARE FOR REFERENCE ONLY. COORDINATE WITH THE SECURITY PLAN/VENDOR FOR EXACT LOCATION AND QUANTITY. E.C. TO VERIFY POWER REQUIREMENT OF THE ANY SECURITY DEVICE IN FIELD. PROVIDE NECESSARY WIRING AS REQUIRED.
- CONTROL THE LIGHTING THRU THE OCCUPANCY SENSOR AND MOTION DETECTOR.

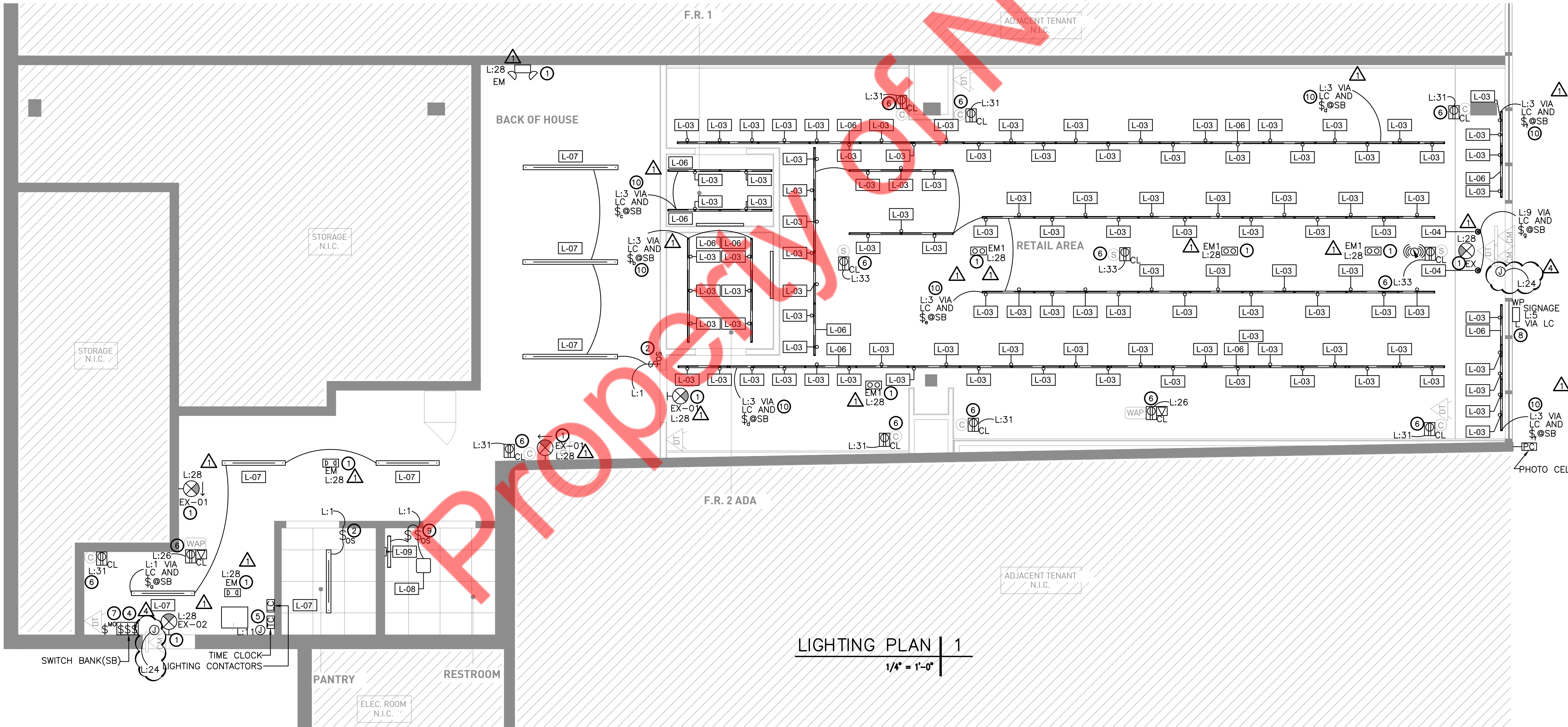
LOW VOLTAGE DESCRIPTION	
C	DOME CAMERA
S	SPEAKER
WAP	WIFI ACCESS POINT
DT	DT INTRUSION DETECTOR
CM	MAGNETIC DOOR CONTACT
	PANIC ALARM BUTTON
	PEOPLE COUNTER (CEILING INSTALLATION)
	DIRECTION OF EXIT ARROW
	EXIT SYMBOL
A-K	ALARM KEYPAD (ARM/DISARM)

ELECTRICAL LIGHTING PLAN KEY NOTES:

- LOOP ALL EMERGENCY LIGHT FIXTURES, AND EXIT SIGNS AND WIRE THEM BACK TO THE EMERGENCY LIGHTING CIRCUIT IN THE PANEL BOARD. THE CIRCUIT BREAKER SHALL HAVE A LOCKOUT.
- WALL MOUNTED OCCUPANCY SENSOR WITH SWITCH. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT IN FIELD.
- NOT USED.
- SWITCH BANK (SB) CONSISTS OF #7 SWITCHES (a TO g) AS INDICATED ON THE PLAN. VERIFY LOCATION, QUANTITY AND TYPE OF SWITCHES WITH OWNER/ARCHITECT. COORDINATE EXACT REQUIREMENT WITH THE LIGHTING VENDOR.
- COORDINATE FINAL SELECTION AND LOCATION OF THE TIME CLOCK WITH THE ARCHITECT AND COORDINATE WITH THE TIME CLOCK VENDOR FOR MORE DETAILS AND PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED.
- PROVIDE WAP, CCTV AND AUDIO SYSTEM WITH NECESSARY WIRING, POWER REQUIREMENT AS REQUIRED. COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION AND QUANTITY. BASE BID ACCORDINGLY.
- MANUAL OVERRIDE SWITCH.
- E.C. SHALL COORDINATE EXACT LOCATION OF THE SIGNAGE, AND PROVIDE DISCONNECT SWITCH FOR EXTERIOR SIGNAGE.
- EXISTING RESTROOM LIGHT SWITCH AND RECEPTACLE TO REMAIN.
- PROVIDE 1 QTY OF 15A CURRENT LIMITER IN THE CIRCUIT (L:3) FEEDING THE TRACK LIGHTS.

OPERATIONAL NARRATIVE :

- THE LIGHTING FIXTURES IN THE AREA NOT SERVED BY THE OCCUPANCY SENSORS SHALL BE CONTROLLED THROUGH THE TIMER-CONTROLLED LIGHTING CONTACTORS TO MEET THE CODE REQUIREMENT.
- THE LIGHTING FIXTURES SHALL BE CONNECTED TO THE CIRCUIT BREAKER VIA TIMER-CONTROLLED LIGHTING CONTACTORS AND SWITCHES AS SHOWN ON THE PLAN.
- THE TIME CLOCK SHALL MATCH THE TIMER CONTROL FUNCTION REQUIREMENT PER ENERGY CONSERVATION CODE.
- REFER TO THE LIGHTING CONTACTORS TYPICAL DETAIL FOR DETAIL INFORMATION ON LIGHTING CONTROL.



LIGHTING PLAN | 1
1/4" = 1'-0"

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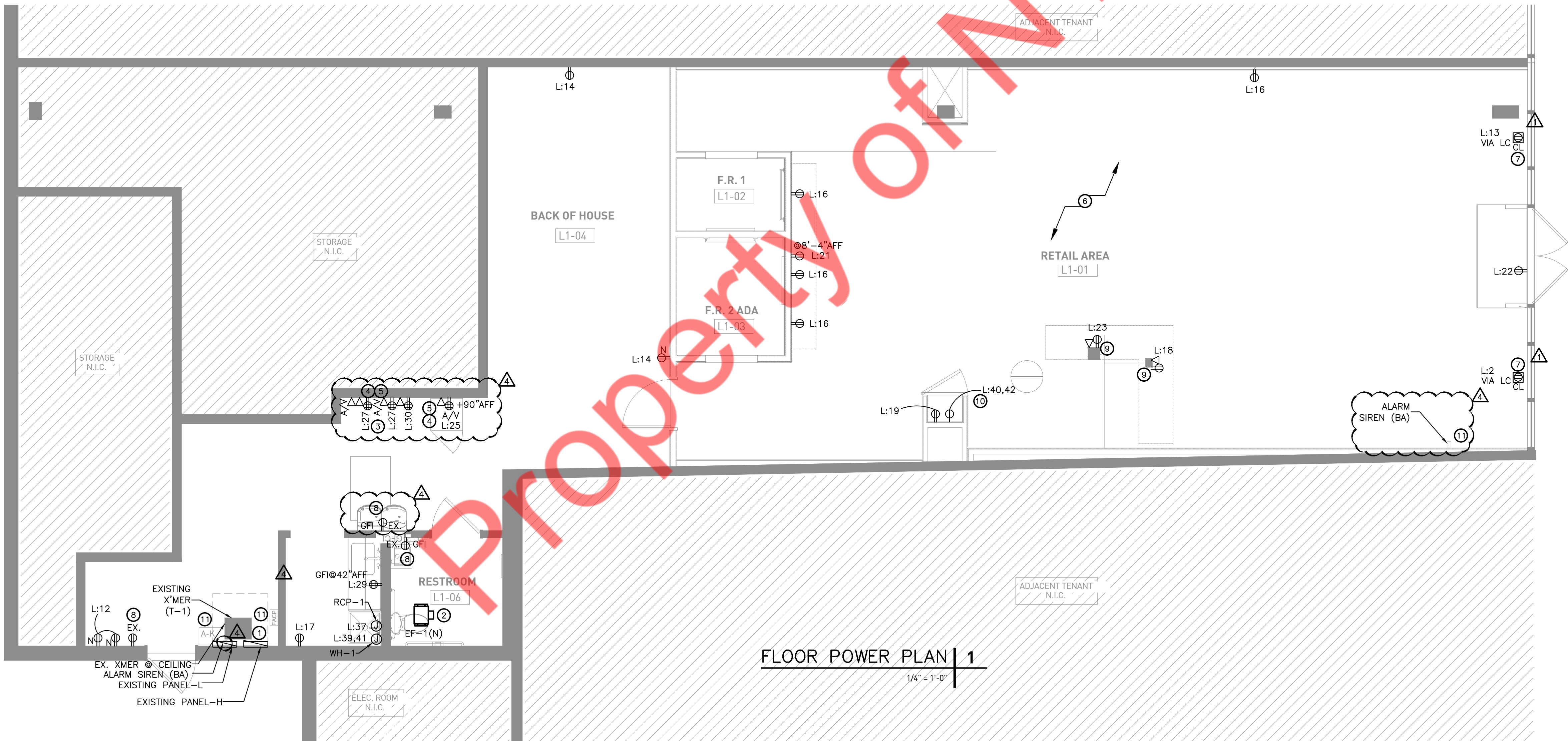
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ELECTRICAL
LIGHTING PLAN

E2.00

ELECTRICAL POWER PLAN GENERAL NOTES:	ELECTRICAL FLOOR POWER PLAN KEYED NOTES: #
<p>A. ALL CONDUCTORS SHALL BE COPPER UNLESS OTHERWISE INDICATED.</p> <p>B. MOUNT ALL RECEPTACLES AT 18" ABOVE FINISHED FLOOR TO CENTER OF THE COVER PLATE UNLESS OTHERWISE INDICATED.</p> <p>C. FOR OUTLETS REQUIRING GFCI PROTECTION WHERE THE RECEPTACLE IS CONCEALED SUCH AS IN THE CASE OF A WATER FOUNTAIN OR VENDING MACHINE INSTALLATION, THE CONTRACTOR SHALL PROVIDE A STANDARD RECEPTACLE WITH GFCI CIRCUIT BREAKER IN THE ASSOCIATED PANEL. BLANK FACE GFCI TEST/RESET BUTTONS ARE NOT PERMITTED UNLESS EXPLICITLY LOCATED ON THESE DRAWINGS.</p> <p>D. FURNISH AND INSTALL ALL EXTERIOR RECEPTACLES WITH WEATHERPROOF COVERS. EXTERIOR RECEPTACLES SHALL BE GFCI TYPE.</p> <p>E. FOR ALL EXTERIOR ELECTRICAL EQUIPMENT, FURNISH AND INSTALL WITH NEMA 3R ENCLOSURES MINIMUM. IN THE EVENT THAT THERE IS A DISCREPANCY BETWEEN THIS REQUIREMENT AND INFORMATION LOCATED ELSEWHERE IN THE ELECTRICAL DOCUMENTS, THE CONTRACTOR SHALL BID ACCORDING TO THE MOST STRINGENT REQUIREMENT.</p> <p>F. IN BREAK ROOMS AND SIMILAR SPACES, THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DOCUMENTS AND LOCATE ELECTRICAL DEVICES AT LOCATIONS AND ELEVATIONS TO BEST SERVE EACH DEDICATED APPLIANCE.</p> <p>G. COORDINATE WITH OTHER DISCIPLINES IN THE FIELD TO ENSURE THAT THE INTEGRITY OF FIRE RATED CONSTRUCTION IS PRESERVED WHERE PENETRATING RATED WALLS AND FLOORS.</p> <p>H. THE CONTRACTOR SHALL ROUTE ALL EXPOSED CONDUIT NEATLY AND TIGHT TO SUPPORTING SURFACES. IN THE EVENT THAT THE OWNER IS NOT SATISFIED WITH WORKMANSHIP, THE CONTRACTOR SHALL MAKE CORRECTIONS AT NO ADDITIONAL COST TO THE OWNER. MC CABLE IS NOT PERMITTED IN EXPOSED AREAS.</p> <p>I. FOR ALL CONDUIT RUNS SHOWN ON ELECTRICAL DRAWINGS, THE ROUTING IS APPROXIMATE. THE CONTRACTOR SHALL MAKE ROUTING ADJUSTMENTS AS REQUIRED BASED ON FIELD CONDITIONS AND COORDINATION WITH OTHER DISCIPLINES.</p> <p>J. IN THE EVENT THAT THERE IS A DISCREPANCY IN THE MINIMUM CIRCUIT AMPACITY (MCA) AND/OR THE MAXIMUM OVERCURRENT PROTECTION (MOCP) BETWEEN THE DIVISION 26 AND DIVISION 22/23 SCHEDULES, THE CONTRACTOR SHALL BID ACCORDING TO THE MORE STRINGENT REQUIREMENTS.</p> <p>K. MECHANICAL, PLUMBING, AND OTHER EQUIPMENT FURNISHED AND INSTALLED BY OTHER DIVISIONS IS SHOWN ON ELECTRICAL DRAWINGS FOR CIRCUITING PURPOSES ONLY. THE CONTRACTOR SHALL REFER TO OTHER DISCIPLINE CONSTRUCTION DOCUMENTS FOR EXACT LOCATIONS OF EQUIPMENT PRIOR TO ROUGH-IN OF THE ASSOCIATED ELECTRICAL CIRCUITS, DISCONNECTING MEANS, OUTLETS, ETC. AND ADJUST ROUTING AND LOCATIONS ACCORDINGLY.</p> <p>L. THE RECEPTACLES MARKED AS "GFI" ON THE FLOOR PLAN INDICATES THAT THE RECEPTACLE SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE GFI BREAKER IN PANEL IF GFI RECEPTACLE IS NOT READILY ACCESSIBLE OR FOR THE RECEPTACLES OTHER THAN 20A.</p> <p>M. TAMPER RESISTANT "TR" RECEPTACLES SHALL BE PROVIDED AS PER ARTICLE 406.12 OF NEC.</p> <p>N. ALL THE RECEPTACLES SHALL BE GFI PROTECTED EITHER AT RECEPTACLE OR AT ELECTRICAL PANEL AS SPECIFIED IN 210.8(B)</p> <p>O. ELECTRICAL CONTRACTOR SHALL VERIFY AND PROVIDE THE EXACT ELECTRICAL REQUIREMENT INCLUDING RECEPTACLE, PLUG, CORD, CIRCUIT BREAKER AND CABLES FOR ALL THE EQUIPMENT IN COORDINATION WITH THE EQUIPMENT SUPPLIER/MANUFACTURER IN THE FIELD. BASE BID ACCORDINGLY.</p> <p>P. SECURITY DEVICES SHOWN ON THE PLAN ARE FOR REFERENCE ONLY. COORDINATE WITH THE SECURITY PLAN/VENDOR FOR EXACT LOCATION AND QUANTITY. E.C. TO VERIFY POWER REQUIREMENT OF THE ANY SECURITY DEVICE IN FIELD. PROVIDE NECESSARY WIRING AS REQUIRED.</p>	<p>1. CLEAR WORKING & DEDICATED SPACE SHALL BE PROVIDED FOR THE ELECTRICAL PANELS IN ACCORDANCE WITH THE NEC 110.26.</p> <p>2. EXHAUST FAN IN THE ROOM SHALL BE CIRCUITED TO LIGHTING CIRCUIT IN THE SAME ROOM & CONTROLLED WITH THE RTU-1(N).</p> <p>3. (3) QUAD & (3) DATA OUTLET FOR INTERIOR OFFICE DESK. E.C. TO VERIFY FINAL LOCATION AND MOUNTING HEIGHT OF OUTLETS WITH ARCHITECT PRIOR TO ROUGH-IN.</p> <p>4. RECEPTACLE POWER FROM UPS. E.C. SHALL COORDINATE WITH ARCHITECT / OWNER.</p> <p>5. RECEPTACLE FOR NETWORK VIDEO RECORDER E.C. SHALL COORDINATE FOR EXACT LOCATION & HEIGHT WITH ARCHITECT/OWNER IN THE FIELD.</p> <p>6. ALL LOW VOLTAGE WIRING TO BE IN CONDUIT UNLESS OTHERWISE APPROVED BY AHJ.</p> <p>7. PROVIDE 20-AMPERE-RATED RECEPTACLE OUTLET. INSTALL WITHIN 18 INCHES OF THE TOP OF EACH SHOW WINDOW. NO POINT ALONG THE TOP OF THE WINDOW SHALL BE FARTHER THAN 6 FEET FROM A RECEPTACLE OUTLET. RECEPTACLES SHALL BE CONTROLLED THROUGH TIMER CONTROLLED LIGHTING CONTACTORS (LC).</p> <p>8. EXISTING RECEPTACLES SHALL REMAIN CONNECTED TO THE EXISTING CIRCUIT. E.C. SHALL VERIFY OPERABLE CONDITION AND THE CONNECTIONS IN THE FIELD. REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.</p> <p>9. PROVIDE 110V POWER LINE WITH DEDICATED BREAKER (NO UPS) AND 1 DATA POINT REMOTE MAINTENANCE.</p> <p>10. POWER SOCKET (15A/2P+T)</p> <p>11. FIRE ALARM DEVICE SHOWN FOR REFERENCE PURPOSE ONLY. E.C. SHALL COORDINATE WITH FIRE ALARM DRAWING.</p>



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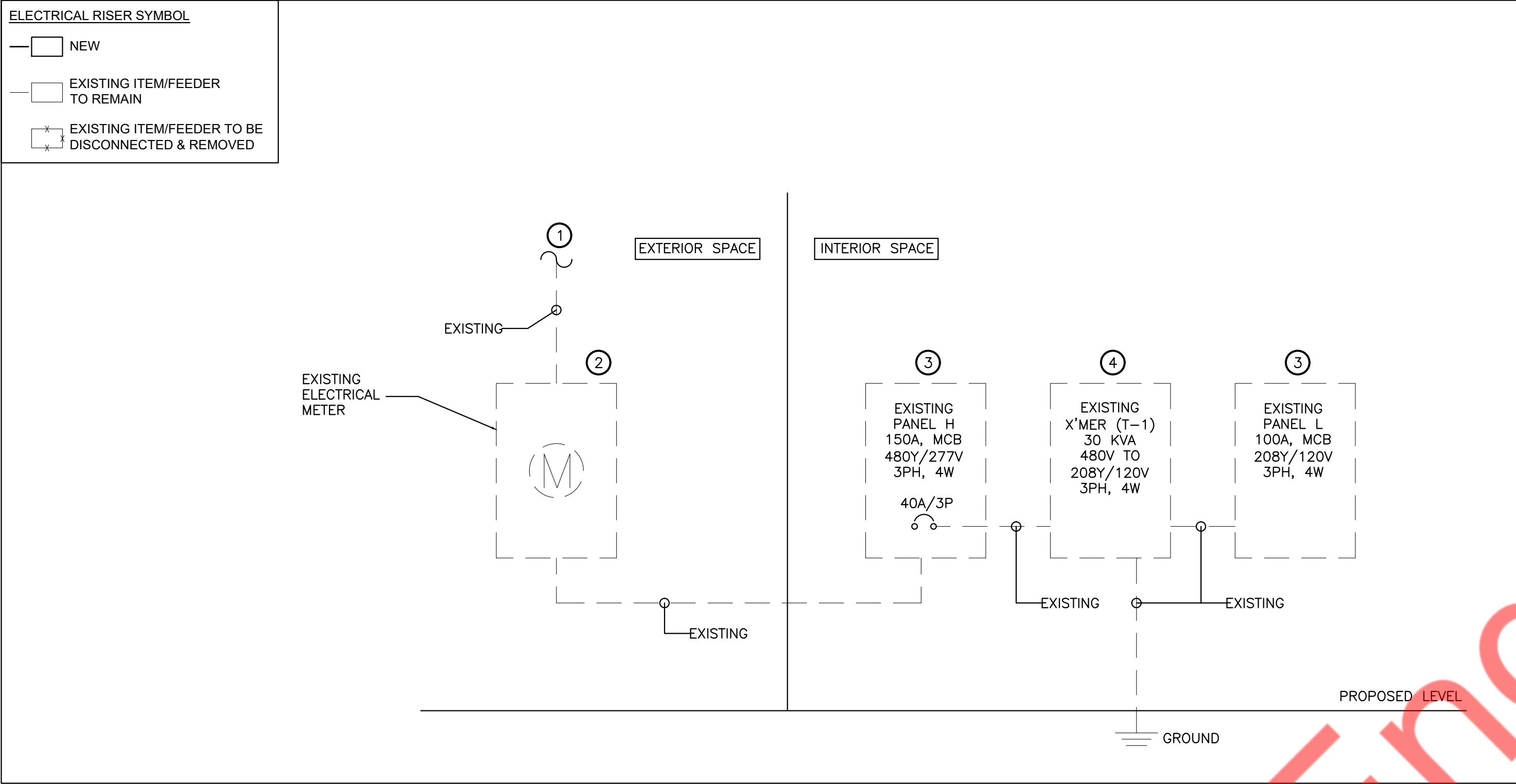
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ELECTRICAL
POWER PLAN

E2.01



ELECTRICAL RISER DIAGRAM | 1

NTS

PANEL:	H	(EXISTING)											MOUNTING:		SURFACE				
480Y/277	VOLTS		3	PHASE	4	WIRE										PANEL LOCATION:		BOH	
MCB	150A		BUS:	EXISTING	MINIMUM											FED FROM:		ELECTRICAL METER	
NOTE:																			
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.					
						A	B	C											
1	20	SPARE				5.82			3-10 + 1#10G, 3/4"C	5.82	H	RTU-1 (N)	25/3P**	2					
3	20	SPARE					5.82			5.82	H			4					
5	20	SPARE						5.82		5.82	H			6					
7	40/3P	EX. X'MER (T-1) / PANEL-L	O	8.78	EXISTING	8.78							SPARE	35/3P	8				
9			O	8.78			8.78					10							
11			O	8.78				8.78				12							
13			SPACE				0.00								14				
15	SPACE					0.00							SPACE		16				
17	SPACE							0.00					SPACE		18				
19	SPACE					0.00							SPACE		20				
21	SPACE						0.00					SPACE		22					
23	SPACE							0.00				SPACE		24					
25	SPACE					0.00						SPACE		26					
27	SPACE						0.00					SPACE		28					
29	SPACE							0.00				SPACE		30					
						14.60	14.60	14.60											

PANEL:	L	(EXISTING)											MOUNTING:		SURFACE	
208Y/120	VOLTS		3	PHASE	4	WIRE							PANEL LOCATION: BOH			
MCB	100A		BUS:	EXISTING	MINIMUM								FED FROM: EX. X'MER (T-1)			
NOTE:																
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.		
1	20	BOH LIGHTING	L	0.31	2-12 + 1#12G, 3/4"	1.31			2-12 + 1#12G, 3/4"	1.00	R	SHOW WINDOW RECEPTACLE	20	2		
3	20	TRACK LIGHTING	L	1.45	2-12 + 1#12G, 3/4"		2.05		2-12 + 1#12G, 3/4"	0.60	R	EXISTING DRINKING FOUNTAIN	20	4		
5	20	EXTERIOR SIGNAGE	L	1.20	2-12 + 1#12G, 3/4"			1.56	2-12 + 1#12G, 3/4"	0.36	R	EXISTING GEN. OUTLET	20	6		
7	20	SPARE				0.18			2-12 + 1#12G, 3/4"	0.18	R	EXISTING GEN. OUTLET	20	8		
9	20	INTERNAL LIGHTING	L	0.04	2-12 + 1#12G, 3/4"		0.04					SPARE	20	10		
11	20	TIME CLOCK	L	0.50	2-12 + 1#12G, 3/4"			0.86	2-12 + 1#12G, 3/4"	0.36	R	GENERAL RECEPTACLE	20	12		
13	20	SHOW WINDOW RECEPTACLE	R	1.00	2-12 + 1#12G, 3/4"	1.36			2-12 + 1#12G, 3/4"	0.36	R	GENERAL RECEPTACLE	20	14		
15	20	ROOF SERVICE RECEPTACLE	R	0.18	2-12 + 1#12G, 3/4"		0.90		2-12 + 1#12G, 3/4"	0.72	R	GENERAL RECEPTACLE	20	16		
17	20	NEW FACP	O	0.50	2-12 + 1#12G, 3/4"			1.30	2-12 + 1#12G, 3/4"	0.80	R	POWER LINE RECEPTACLE	20	18		
19	20	CABINET RECEPTACLES	R	0.36	2-12 + 1#12G, 3/4"	0.36						SPARE	20	20		
21	20	INTERNAL LOGO RECEPTACLE	R	1.20	2-12 + 1#12G, 3/4"		2.40		2-12 + 1#12G, 3/4"	1.20	R	INTERNAL LOGO	20	22		
23	20	POWER LINE RECEPTACLE	R	0.80	2-12 + 1#12G, 3/4"			1.30	2-12 + 1#12G, 3/4"	0.50	R	MAGNETIC DOOR CONTACT	20	24		
25	20	IT SERVER RACK RECEPTACLE	R	0.36	2-12 + 1#12G, 3/4"	0.72			2-12 + 1#12G, 3/4"	0.36	R	WAP RECEPTACLES	20	26		
27	20	NETWORK VIDEO RECORDER RECEPTACLE	R	0.72	2-12 + 1#12G, 3/4"		0.92		2-12 + 1#12G, 3/4"	0.20	O	EMERGENCY LIGHTING	20***	28		
29	20	QUAD RECEPTACLE	R	0.36	2-12 + 1#12G, 3/4"			0.72	2-12 + 1#12G, 3/4"	0.36	R	PROCESSING DESK QUAD RECEPTACLE	20	30		
31	20	CCTV RECEPTACLE	R	1.44	2-12 + 1#12G, 3/4"	1.44						SPARE	20	32		
33	20	SPEAKER RECEPTACLE	R	0.54	2-12 + 1#12G, 3/4"		0.54					SPARE	20	34		
35	20	SPARE						0.00				SPARE	20	36		
37	20	RCP-1	M	0.50	2-12 + 1#12G, 3/4"	0.50						SPARE	20	38		
39	40/2P**	WH-1	O	3.00	2-8 + 1#10G, 3/4"		3.50		2-12 + 1#12G, 3/4"	0.50	R	POWER SOCKET	20/2P	40		
41			O	3.00			3.50	0.50		R	42					
						5.87	10.35	9.24								

ELECTRICAL RISER DIAGRAM GENERAL NOTES:

- ELECTRICAL CONTRACTOR (E.C.) SHALL PROVIDE AND INSTALL ALL THE DEVICES IN FIELD IN COORDINATION WITH THE OWNER AND UTILITY. ALL THE INSTALLATIONS SHALL BE IN COMPLIANCE WITH THE NEC AND LOCAL CODES.
- E.C. SHALL COORDINATE WITH THE UTILITY COMPANY AND AHJ FOR EXACT FAULT CURRENT (isc) RATING AVAILABLE IN THE FIELD. PRIOR TO BID.
- E.C. SHALL COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF ALL THE DEVICES SHOWN, WITH THE ARCHITECT/OWNER AND UTILITY.
- PROVIDE SEPARATE GROUND CONDUCTOR IN ALL CONDUITS.
- E.C. SHALL COORDINATE WITH THE ARCHITECT / OWNER / FOR EXACT SCOPE OF WORK PRIOR TO BID.
- E.C. SHALL COORDINATE WITH THE ARCHITECT / OWNER / LANDLORD FOR ANY TYPE OF ADDITION / ALTERATION TO THE EXISTING SYSTEM PRIOR TO BID. NO WORK SHALL BE PERFORMED WITHOUT THEIR CONSENT.
- ALL THE FEEDERS SHALL BE NEW (U.N.O.). SIZE SHALL BE AS PER RISER.
- E.C. SHALL VERIFY OPERABLE CONDITION OF ALL THE EXISTING & RELOCATED EXISTING EQUIPMENT PRIOR TO BID. REPLACE EQUIPMENT WITH NEW ONE. KEEPING ALL THE PARAMETERS SAME.

ELECTRICAL RISER DIAGRAM KEY NOTES: ⑦

- EXISTING SERVICE FEEDER TO REMAIN. E.C. TO VERIFY RATING, OPERABLE CONDITION AND EXACT LOCATION IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING METER CABINET TO REMAIN. E.C. TO VERIFY RATING, OPERABLE CONDITION AND EXACT LOCATION IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING PANEL TO REMAIN. E.C. TO VERIFY EXISTING PANEL RATING, OPERABLE CONDITION AND EXACT LOCATION IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- EXISTING TRANSFORMER TO REMAIN. E.C. TO VERIFY EXISTING TRANSFORMER RATING, OPERABLE CONDITION AND EXACT LOCATION IN FIELD. REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

PANEL SCHEDULE GENERAL NOTES:

- ELECTRICAL CONTRACTOR SHALL VERIFY THE BREAKER AND CABLE RATING WITH EQUIPMENT SUPPLIER/OWNER AND ACCORDINGLY UPDATE THE BREAKER RATING CABLE SIZE IN FIELD.
- GFI MARKED ON THE POWER PLAN INDICATES THAT THE CIRCUIT SHALL BE GFCI PROTECTED. E.C. SHALL PROVIDE GFCI BREAKER FOR THE GFI MARKED RECEPTACLES, IF EITHER RECEPTACLE IS NOT ACCESSIBLE OR NOT AVAILABLE.
- PROVIDE HACR BREAKER FOR HVAC UNITS. COORDINATE WITH HVAC DRAWINGS.
- PROVIDE LOCKING DEVICES ON CIRCUIT BREAKER WHERE EVER REQUIRED.
- E.C. TO VERIFY SCOPE OF WORK WITH OWNER/ARCHITECT. PRIOR TO BID.
- VERIFY EXACT POWER DISTRIBUTION IN FIELD.

PANEL SCHEDULE ABBREVIATIONS:

L=LIGHTING
R=RECEPTACLE
H=HVAC
M=MOTOR
O=OTHER
(*) GFCI BREAKER
(**) NEW BREAKER IN EXISTING PANEL
(***) PROVIDE LOCKOUT IN ON POSITION AND TAG "EMERGENCY CIRCUIT"

CONSULTANTS (ENGINEER):

NY ENGINEERS

NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674, MIAMI, FL 33179
PH-914.257.3455
WWW.NY-ENGINEERS.COM

roberto cavalli

ROBERTO CAVALLI

△ ISSUANCE NAME	DATE
△ PERMIT AND BID SET	04/30/24
△ CITY COMMENTS	07/26/24
△ CITY COMMENTS	09/19/24
△ CONSTRUCTION SET	10/25/24
△ PERMIT REVISIONS	02/14/25

ELECTRICAL
PANELS & RISER
DIAGRAM

E3.00

ANV-L6012R

Network

Dome

ANV-L6012R

2MP IR Outdoor Vandal Dome Camera

FC

CE

ERC

Key Features

- 2 Megapixel (1920 x 1080) resolution
- 2.8mm lens w/ 113.7° HFOV
- 30fps@all resolutions (H.265/H.264)
- H.265/H.264, MJPEG codec support, Multiple streaming
- Day & Night (ICR, WDR (120dB))
- Defocus detection, Directional detection, Motion detection, Enter/Exit, Tampering
- Micro SD/SDHC memory slot (Max. 32GB), PoE
- Halfway View, WiseStream II support
- IR viewable length 30m
- IP66, IK10 support
- White camera body

Design and specifications are subject to change without notice. The latest product information / specification can be found at [HanwhaVision.com](#).

Hanwha Vision is formerly known as Hanwha Technis.

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Ver 202501

1/4

ANV-L6012R

ANV-L6012R

2MP IR Outdoor Vandal Dome Camera

Specifications

Video	
Imaging Device	1/2.8" CMOS
Resolution	1920x1080, 1280x960, 1280x720, 800x600, 800x448, 720x480, 640x480, 640x360
Max. Frame rate	H.265/H.264: Max. 30fps/25fps(60Hz/50Hz) MJPEG: Max. 10fps(2MP Max. 21fps)
Min. Illumination	Color: 0.03Lux/F2.0, 1/30sec BW: 0Lux (IR LED on)
Lens	
Focal Length (Zoom Ratio)	2.8mm fixed focal
Max. Aperture Ratio	F2.0
Angular Field of View	H: 114° / V: 62° / D: 135°
Min. Object Distance	0.5m(1.64ft)
Focus Control	Fixed
Pan / Tilt / Rotate	
Pan / Tilt / Rotate Range	0°~350° / 0°~67° / 0°~355°
Operational	
Camera Title	Displayed up to 15 characters
Day & Night	Auto(ICR)
Backlight Compensation	BLC, WDR, SSDR
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNR
Motion Detection	4ea. rectangular zones
Privacy Masking	6ea. rectangular zones
Gain Control	Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC	Support
Electronic Shutter Speed	Minimum / Maximum / Anti flicker (2~1/12,000sec)
Video Rotation	Flip, Mirror, Halfway view(90°/270°)
Analytics	Motion detection, Tampering, Virtual area(Intrusion/Enter/Exit), Virtual line(Crossing/Direction)
Alarm Triggers	Analytics
Alarm Events	When alarm trigger occurred - File upload(image) / e-mail/FTP - Notification (e-mail) - Recording (SD/SDHC/SDXC or NAS recording at event triggers)
Light Type	
Light Viewable Length	30m(98.43ft)

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Ver 202501

2/4

ANV-L6012R

ANV-L6012R

2MP IR Outdoor Vandal Dome Camera

Network

Ethernet	RJ-45(10/100BASE-T)
Video Compression	H.265/H.264 - Main/High, MJPEG
Smart Codec	WiseStream II
Video Quality Adjustment	H.264/H.265: Target bitrate level control MJPEG: Quality level control
Bitrate Control	H.264/H.265: CBR or VBR MJPEG: VBR
Streaming	Unicast(6 users) / Multicast Multiple streaming(Up to 3 profiles)
Protocol	IPv4, IPv6, TCP/IP, UDP/IP, RTP/UDP, RTP(TCP), RTCP, RTPS, NTP, HTTP, HTTPS, SSU/TLS, DHCP, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, UPnP, Bonjour
Application Programming Interface	ONVIF Profile S/G/T SUNAPI(HTTP API)

Security

OS / Firmware Protect	Firmware encryption
User authentication	Digest Authentication, Prevent brute-force attack
Network authentication	802.1X Authentication(EAP-TLS, EAP-LEAP, EAP-PEAP MSCHAPv2)
Secure Communication	HTTPS, SRTP, WSS(Websocket secure)
Access Control	Access control based on IP address
Data Protect	Authentication information encryption, ZIP compression encryption
Audit	User Access/System/Event log management
Device ID	Device Certificate(Hanwha Private Root CA)
Secure Storage	SDcard partition encrypt

General

Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Edge Storage	Micro SD/SDHC 1slot 32GB
Memory	512MB RAM, 256MB Flash

Environmental & Electrical

Operating Temperature / Humidity	-30°C ~ +55°C / 22°F ~ +131°F / 0~95% RH * Start up should be done at above -20°C (-4°F)
Storage Temperature / Humidity	-30°C ~ +55°C / 22°F ~ +131°F / 0~95% RH
Certification	IP66, IK10
Input Voltage	PoE(IEEE802.3at, Class2)
Power Consumption	Max 6.4W, Typical 5.0W

Mechanical

Color / Material	White / Plastic, Aluminum
RAL Code	RAL9003
Product Dimensions / Weight	ø120.3x117mm(ø4.74x4.61"), 410g

DORI (EN62676-4 standard)

Detect (25PPM/ 8PPF)	24.9m(81.82ft)
Observe (63PPM/ 19PPF)	10.0m(32.73ft)
Recognize (125PPM/ 38PPF)	5.0m(16.36ft)
Identify (250PPM/ 76PPF)	2.5m(8.18ft)

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Ver 202501

3/4

ANV-L6012R

ANV-L6012R

2MP IR Outdoor Vandal Dome Camera

CAD

Unit:mm [inch]

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Interior Siren Dual Tone (Yelp and Steady) Self-Contained Siren
ELK-SS36

- FEATURES:
- Two Tones, Yelp & Steady
 - Pre-Wired for Easy Installation
 - Compact, Easy To Mount, Hardware Included
 - Heavy duty magnet, Mylar cone
 - UL Listed (File # 524906)
 - Lifetime Limited Warranty

- SPECIFICATIONS:
- Operating Voltage: 12 Volts DC
 - Sound Level: 108 db @ 1 meter, 13.8vdc
 - Current Draw: 500 mA @ 13.8vdc
 - Size: 4.25" x 4.25" x 2.13" (108mm x 108mm x 54mm)
 - Color: White

- WIRING INSTRUCTIONS:
- Yellow: Steady Tone (+)
Red: Yelp Tone (+)
White: Common (-)



Features or Specifications subject to change without notice.

PO Box 100 • Hildebran, NC 28637 USA • 828-397-4200 Voice • 828-397-4415 Fax
http://www.elkproducts.com • email: info@elkproducts.com

10/14



-GENESIS-
Riser Rated Security & Control Cable
Part Number: 2104

22 AWG 4 Stranded Conductors

Ratings CMR, CL3R, FPLR, FT4, Sunlight Resistant
Approvals ETL Listed

Construction
Conductor 22 AWG 7 Strand Bare Copper
Conductor Count 4
Insulation Polypropylene (0.006" nom.)
Insulation Colors Black, Red, White, Green
Lay Length Straight
Shielding N/A
Rip Cord Yes
Jacket PVC (0.015" nom.)
Overall Diameter 0.135" nom.
Print Legend GENESIS P/N 2104 4C 22AWG 3038058 (ETL) CL3R OR FPLR OR CMR C(ETL)JUS FT4
SUN RES 75C (RoHS) W/O# XXXXXX-XXXXXX XXXXFT A B C D E F 1 2 3 4 5 6 7 8 9

Properties
Operating Voltage 300 Volts max.
DC Resistance 16.9 Ohms/1000' at 20°C
Capacitance 18.5 pF/ft. nom.
Impedance 82 Ohms nom.

Temperature -20°C to 75°C
Flame Rating UL 1666 (Riser); CSA C22.2 No. 2556 (FT4)
RoHS Compliant Yes

Country of Origin USA

Published: 2018-10-19

WISENET

WRN-810S

Wisenet WAVE Network Video Recorder



The WRN-810S is a Wisenet WAVE optimized 1U rack mounted Network Video Recorder capable of recording up to 80Mbps, managing up to 12TB of storage. The Linux Ubuntu OS is utilized for stability and quick setup.

Each is pre-configured with the Wisenet WAVE VMS Server and client, and preloaded with 4 Professional licenses to ensure quick and easy deployment with minimum setup time.

Key Features

- Preloaded and configured with Wisenet WAVE video management system (Client & Server)
- Includes (4) four Wisenet WAVE Professional licenses
- 80 Mbps of recording throughput
- Supports up to 12TB internal storage
- PoE+ camera ports, 100W Budget
- Easily control PoE port power via WAVE interface
- Includes USB mouse
- Includes rack mount brackets
- Front panel indicator lights, Alarm I/O
- Supports Wisenet and ONVIF conformant IP cameras
- Preloaded with Ubuntu Linux 18.04 LTS

WRN-810S	
SYSTEM	
Video Management Software	Wisenet WAVE
Pre-loaded Licenses	4x Wisenet WAVE Professional Licenses
Recording Bandwidth	Up to 80 Mbps
OS Drive Bays	1x eMMC 500 (embedded)
Data Drive Bays	2x 3.5" SATA HDDs
Data Storage	Supports up to 12TB raw
Indicator Lights	Power, Alarm, HDD, Network, Record, PoE Over Budget
Network Interface	2x RJ-45 Gigabit Ethernet 8 PoE+ 100Mbps
Alarm I/O	4x Alarm Input / 2x Alarm Output
PoE Camera Ports	8x 100Mbps, Maximum 30W 802.3at PoE+, Total Budget 100W
Operating System	Linux Ubuntu 18.04 LTS
Video Outputs	1x HDMI 4K (max), 1x VGA 1080p (max) *System Config & Setup Monitoring
USB Ports	1x USB 3.0 (rear), 2x USB 2.0 (front)
Other Ports	3.5mm stereo audio out
Mouse	Included
Rack Mount Brackets	Included
MECHANICAL/ELECTRICAL/ENVIRONMENTAL	
Form Factor	1U rack mount chassis
Color / Material	Black / Metal
Dimensions	14.5" x 2" x 12.7" (E70mm x 50.8mm x 323.8mm)
Weight	5.55lb (2.7kg) without hard drives
Power Supply	160W internal, redundant, 24VDC, 6.6A max, 157W 24VDC PoE+ OF
Electrical	Power Input 100~240V AC
Operating Temperature	32°F to 113°F (0°C to 45°C)
Operating Humidity	20% to 80% RH, non-condensing
Certification	CE, FCC, RoHS, UL1666, UL1669, UL1671, UL1672, UL1673, UL1674, UL1675, UL1676, UL1677, UL1678, UL1679, UL1680, UL1681, UL1682, UL1683, UL1684, UL1685, UL1686, UL1687, UL1688, UL1689, UL1690, UL1691, UL1692, UL1693, UL1694, UL1695, UL1696, UL1697, UL1698, UL1699, UL1700, UL1701, UL1702, UL1703, UL1704, UL1705, UL1706, UL1707, UL1708, UL1709, UL1710, UL1711, UL1712, UL1713, UL1714, UL1715, UL1716, UL1717, UL1718, UL1719, UL1720, UL1721, UL1722, UL1723, UL1724, UL1725, UL1726, UL1727, UL1728, UL1729, UL1730, UL1731, UL1732, UL1733, UL1734, UL1735, UL1736, UL1737, UL1738, UL1739, UL1740, UL1741, UL1742, UL1743, UL1744, UL1745, UL1746, UL1747, UL1748, UL1749, UL1750, UL1751, UL1752, UL1753, UL1754, UL1755, UL1756, UL1757, UL1758, UL1759, UL1760, UL1761, UL1762, UL1763, UL1764, UL1765, UL1766, UL1767, UL1768, UL1769, UL1770, UL1771, UL1772, UL1773, UL1774, UL1775, UL1776, UL1777, UL1778, UL1779, UL1780, UL1781, UL1782, UL1783, UL1784, UL1785, UL1786, UL1787, UL1788, UL1789, 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E4.04

PLUMBING SYMBOLS LIST	
— GSAN —	GREASE SANITARY SEWER (UNDERFLOOR)
— SAN —	SANITARY SEWER (UNDERFLOOR)
— EX.SAN —	EXISTING SANITARY SEWER PIPING
— EX.GSAN —	EXISTING GREASE SANITARY PIPING
— — — — —	VENT PIPING
— — — — —	COLD WATER PIPING
— — — — —	HOT WATER PIPING
— — — — —	HOT WATER RETURN PIPING
— — — — —	FILTER PIPING
— — — — —	EXISTING COLD WATER PIPING
— — — — —	P—TRAP
— — — — —	PIPE UP
— — — — —	PIPE DROP
— — — — —	CLEANOUT
— — — — —	PLUGGED OUTLET/CLEANOUT
— — — — —	POINT OF CONNECTION
— — — — —	SECONDARY BFP

PLUMBING ABBREVIATIONS	
CO	CLEANOUT
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
V	VENT
W	WASTE
LAV	LAVATORY
WC	WATER CLOSET
TYP.	TYPICAL
DN	DOWN
AFF	ABOVE FINISH FLOOR
FD	FLOOR DRAIN
SQ. FT.	SQUARE FEET
BFP	BACK FLOW PREVENTER
WH—1	WATER HEATER
N.I.C.	NOT IN SCOPE
ET—1	EXPANSION TANK
RCP—1	HOT WATER CIRCULATION PUMP
FCO	FLOOR CLEANOUT
EX.	EXISTING

PLUMBING DRAWING LIST

P0.01	PLUMBING NOTES, SYMBOLS & SPECIFICATIONS
P1.00	PLUMBING SANITARY FLOOR PLAN
P1.01	PLUMBING WATER FLOOR PLAN
P3.00	PLUMBING DETAILS
P4.00	PLUMBING RISERS & SCHEDULES

BUILDING DEPARTMENT PLUMBING NOTES

- ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2023 FLORIDA PLUMBING CODE 8TH EDITION.
- INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 702.2
- PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION PC 305.
- TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION PC 306.
- RODENT PROOFING AS PER PC 304
- MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 303, PC 605, PC 702, PC 902,PC 1102.
- EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTERS 4, 5, 6, 7 AND 9.
- DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER PC 1002, AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 708
- DRAINAGE PIPE CLEANOUTS AS PER SECTION PC 708.
- VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 308
- WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION PC 601–603, 604, 606, 607, 608, 610
- THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 SECTION PC 701, 704, 705, 706, 707, 708, 711.
- VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS PC 901 THROUGH PC 912 THROUGH PC 917
- INSPECTION AND TESTING OF PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION PC 107.

PLUMBING SPECIFICATIONS:

1. BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS

1.01 SCOPE

- PROVIDE ALL MATERIAL, TOOLS, SUPERVISION AND LABOR INCLUDING ALL MISCELLANEOUS AND INCIDENTAL ITEMS REQUIRED FOR COMPLETE AND OPERABLE PLUMBING INSTALLATIONS AS SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING AND NEW CONDITIONS AND MATERIALS WITHIN THE CONSTRUCTION AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.
- OBTAIN ALL PERMITS, PAY ALL PERMIT FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.
- THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.
- THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE CONDITIONS AND THE EXTENT OF THE WORK. BY COMMENCING WORK, THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE SUCH THAT NO ADDITIONAL COMPENSATION SHALL BE FORTHCOMING FOR UNFORESEEN EXISTING CONDITIONS.
- IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.

- ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE CONTRACTOR FOR ELECTRICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT. THE CONTRACTOR FOR ELECTRICAL WORK IS RESPONSIBLE FOR LINE VOLTAGE POWER WIRING ONLY.
- COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE ARCHITECT.
- MINOR DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER SHALL BE INCLUDED AS IF SPECIFIED OR INDICATED ON THE DRAWINGS.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS FOR THE INSTALLATION, CONNECTION, EXTENSION OR MODIFICATION TO ALL UTILITY SERVICES WITH RESPECTIVE PROVIDERS INCLUDING PAYMENT OF ALL ASSOCIATED FEES.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING. ALL PAINTING IN AREAS WITH COMPLETE FINISH RENOVATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

1.02 SUBMITTALS

- SUBMITTAL REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECT AND AUTHORITIES HAVING JURISDICTION. UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROVIDE SUBMITTALS AS LISTED BELOW.
 - PIPE AND FITTINGS
 - VALVES
 - HANGERS AND SUPPORTS
 - PLUMBING PIPING LAYOUT
 - TESTS
 - PLUMBING FIXTURES
 - WATER HEATERS & ACCESSORIES
 - MIXING VALVES
 - ALL SCHEDULED PLUMBING EQUIPMENT
- SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUBMITTING CONTRACTOR INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS WILL BE RETURNED REJECTED.

- THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING WITH THE CONSTRUCTION DOCUMENTS, REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWINGS STAMP.

- REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL BE LIMITED TO THE INITIAL REVIEW, AND A SECOND REVIEW OF ANY REQUIRED RESUBMITTED DATA. IF THE ENGINEER IS REQUIRED TO REVIEW SHOP DRAWINGS FOR A THIRD (OR MORE) SUBMISSION OF THE SAME ITEM, THE CONTRACTOR SHALL BE LIABLE FOR COMPENSATING THE ENGINEER FOR THESE SUBSEQUENT REVIEWS AS PER THE ENGINEER'S CURRENT HOURLY RATE SCHEDULE.

- SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.

- SUBMIT TO THE OWNER'S MAINTENANCE PERSONNEL OPERATION AND MAINTENANCE DATA FOR ALL SYSTEM COMPONENTS, SERVING REQUIREMENTS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY AND CONTACT INFORMATION FOR SERVICE/SUPPLY COMPANY.

- FOR ALL BELOW GRADE PIPING WHERE ACTUAL INSTALLATION DEVIATES FROM CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING BELOW GRADE PIPE LOCATIONS DIMENSIONED TO NEAREST COLUMN LINES.

- RECORD AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE OWNER/TENANT AFTER COMPLETION OF THE WORK SHOWING ANY ALTERATIONS, ADDITIONS AND/OR DELETIONS TO THE SYSTEM(S) INSTALLED.

1.03 SUBSTITUTIONS

- ALL EQUIPMENT SHALL BE PRODUCTS OF THE SPECIFIED MANUFACTURER OR MANUFACTURERS. ALL BIDS SHALL BE BASED ON THE SPECIFIED MANUFACTURER OR MANUFACTURER'S EQUIPMENT. FOR SUBSTITUTIONS OF OTHER MANUFACTURER'S EQUIPMENT TO BE CONSIDERED, THE SUBSTITUTION MUST BE INDICATED PRIOR TO BIDDING WITH THE REASON FOR THE PROPOSED SUBSTITUTION IDENTIFIED, AND THE PROPOSED CREDIT TO THE OWNER INDICATED. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF ANY PROPOSED SUBSTITUTIONS.

- THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES WHICH MAY BE AFFECTED BY SUBSTITUTIONS, INCLUDING ALL RELATED COSTS.

1.05 DEFINITIONS

- FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.
- INSTALL: TO ERECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.
- PROVIDE: TO FURNISH AND INSTALL.
- PLUMBING CONTRACTOR, THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.

1.06 DRAWINGS

- THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGEMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT, RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.
- PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.
- REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.
- REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.
- VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.
- LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

1.07 PRODUCTS

A. SANITARY AND VENT PIPING:

- ABOVE GRADE AND UNDERGROUND PIPING SHALL BE POLYVINYL CHLORIDE (PVC) PIPE AS PER ASTM D2665, ASTM F891, ASTM F1488, CSA B181.2 AS PER 2023 PLUMBING CODE 8TH EDITION, TABLE 702.1 AND TABLE 702.2. OR PIPING SHALL BE HUBLESS CAST IRON PIPE WITH STAINLESS STEEL COUPLINGS AND ELASTOMERIC GASKETS WITH A MINIMUM 4 BANDS PER COUPLING.
- SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN.
- ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

B. DOMESTIC WATER PIPING:

- ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
- FITTINGS IN DOMESTIC WATER PIPING SHALL BE WROUGHT COPPER OR CAST BRASS.
- JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
- THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
- COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
- ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH 2023 FLORIDA ENERGY CONSERVATION CODE, 8TH EDITION SECTION C404.4 REFER BELOW TABLE C403.1.10.

MINIMUM PIPE INSULATION THICKNESS						
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY BTU/IN·(H·FT ² ·°F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to ≥8
141–200	0.25–0.29	125	1.5	1.5	2	2
105–140	0.21–0.28	100	1.0	1.0	1.5	1.5
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0

- WATER DISTRIBUTION SYSTEM AS PER 2023 FLORIDA ENERGY CONSERVATION CODE 8TH EDITION C404.7 HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.

- THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
- THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).

- AS PER 2023 FLORIDA ENERGY CONSERVATION CODE 8TH EDITION, C404.6.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.

- HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER 2023 FLORIDA ENERGY CONSERVATION CODE 8TH EDITION C404.5.1. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	MAXIMUM PIPING LENGTH (FEET)	PUBLIC LAV	OTHER FIXTURES
½"	2'	43'	
¾"	0.5'	21'	
1"	0.5'	13'	
1½"	0.5'	8'	
2" OR LARGER	0.5'	4'	

- SEAL ALL JOINTS BETWEEN SEGMENTS OF INSULATION.
- PROVIDE SHIELDS BETWEEN HANGERS AND INSULATION.

C. HANGERS AND SUPPORTS:

- HANGERS SHALL BE STANDARD STEEL, MALLEABLE OR WROUGHT IRON, AS MANUFACTURED BY GRINNELL OR APPROVED EQUAL, SUITABLE FOR THE TYPE OF CONSTRUCTION. PIPING SHALL NOT BE HUNG FROM OTHER PIPE.
- SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.
- ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVED SUPPORTS.
- PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

- SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

D. VALVES:

- PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES. PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.
- ALL FIXTURES WITH THE EXCEPTION OF FLUSHOMETER-EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
- ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.
- ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.
- ALL VALVES SHALL BE ACCESSIBLE. PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.
- PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.

- INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.

- INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.

- IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.

- REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.

VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.

- IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.
- PROVIDE DIELECTRIC FITTINGS BETWEEN DISSIMILAR METALS.
- PIPE BACKFLOW PREVENTER DRAINS TO FLOOR DRAIN OR OTHER APPROVED INDIRECT WASTE SOURCE.
- PROVIDE ACCESS DOORS/PANELS FOR SERVICE AND ACCESS TO ALL VALVES AND OTHER SYSTEM COMPONENTS ENCLOSED IN WALLS AND CEILINGS. ACCESS DOORS SHALL BE FURNISHED BY THIS CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR.
- ALL FIXTURES REQUIRING VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS.
- ANY PENETRATIONS THROUGH FIRE RATED PARTITIONS, FLOORS, OR CEILINGS SHALL BE STEEL SLEEVED AND SEALED WITH 3M BRAND UL RATED FIRE BARRIER CAULK OR APPROVED EQUAL.

- WHEN THE WATER PIPING SYSTEM IS COMPLETE, THOROUGHLY FLUSH ALL DIRT, SEDIMENT, SOLDER, ETC., OUT OF THE SYSTEM, REMOVING ALL STRAINERS, VALVE STEM SEATS, ETC., REQUIRED TO ACCOMPLISH THE FLUSHING.

- AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY CODE.

- INSTALL SLEEVES FOR ALL PIPES WHICH PASS THROUGH WALLS, FLOORS, AND CEILINGS. WHERE PIPES ARE TO BE INSULATED, THE SLEEVE SHALL BE LARGE ENOUGH TO ACCOMMODATE INSULATION. SLEEVES SHALL BE FLUSH WITH FINISHED SURFACES AT BOTH ENDS. ON FINISHED SURFACES IN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.

2. INSTALLATION

2.01 GENERAL

- ALL WORK WHICH REQUIRES DISRUPTION OF THE ROOFING SHALL BE DONE BY CONTRACTOR CERTIFIED BY THE ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ANY EXISTING ROOF WARRANTIES.

- EXTERIOR INSTALLATIONS TO BE WEATHER PROOF IN ALL RESPECTS.

- EXTERIOR MATERIALS AND EQUIPMENT SHALL BE PAINTED TO PREVENT CORROSION, COLOR PER ARCHITECT.

- COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK AND THE CONSTRUCTION SCHEDULE.

- REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN AND FERROUS END PIPE.

- REMOVE SCALE AND FOREIGN MATERIAL, FROM INSIDE AND OUTSIDE, BEFORE ASSEMBLY.

- PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.

- COORDINATION WITH THE WORK OF OTHER TRADES IS REQUIRED. PROVIDE OFFSETS IN PIPING SYSTEMS OR MINOR DEVIATIONS TO THE INDICATED PIPE ROUTING IN ORDER TO COORDINATE THE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES AND THE GENERAL BUILDING CONDITIONS.

- NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED SPACES.

- PRIOR TO DISCONNECTING AND CONNECTING NEW WORK TO EXISTING SYSTEMS, THE PLUMBING CONTRACTOR SHALL NOTIFY THE PROPERTY MANAGER AND OFFER A PROPOSED SCHEDULE OF WORK. ESB WILL AUTHORIZE CONNECTIONS AND COORDINATE NECESSARY SHUT DOWNS AND DRAIN DOWNS AS REQUIRED. SHUT DOWNS AND DRAIN DOWNS MAY BE PERFORMED BY THE PLUMBING CONTRACTOR ONLY AFTER RECEIVING ESB AUTHORIZATION, AND SHOULD BE PERFORMED UNDER SUPERVISION OF ESB PERSONNEL. THREE (3) DAYS ADVANCE NOTICE TO THE PROPERTY MANAGER IS REQUIRED.

- THE PLUMBING CONTRACTOR IS ADVISED THAT DUE TO THE NATURE OF THE OPERATIONS AND TENANT REQUIREMENTS, CONNECTIONS TO EXISTING SYSTEMS MAY HAVE TO BE MADE AFTER REGULAR WORKING HOURS. THE PROPERTY MANAGER WILL ADVISE THE PLUMBING CONTRACTOR OF THE TIME CONSTRAINTS UPON RECEIPT AND APPROVAL OF THE PLUMBING CONTRACTOR'S REQUEST FOR SHUT DOWN AND CONNECTION TO EXISTING SYSTEMS.

- WHEN CONNECTING TO EXISTING STACKS AND RISERS, PROVISION IS TO BE MADE FOR FUTURE CONNECTIONS BY PROVIDING CAPPED AND VALVED OUTLETS ON DOMESTIC WATER RISERS AND PLUGGED OUTLETS ON THE SANITARY AND VENT STACKS.

2.02 ABOVE GRADE

- INSTALL PLUMBING PIPING IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.

- ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT. SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN. IN DOMESTIC WATER SYSTEMS, PROVIDE DRAIN VALVES AT MAIN SHUT-OFF VALVES AND ALL LOW POINTS IN PIPING.

- USE EXISTING CONNECTIONS AT MAINS WHERE AVAILABLE FOR NEW BRANCH PIPING. LOCATE ALL RISERS AND PIPING BEFORE CONSTRUCTION COMMENCES AND TAKE CARE NOT TO DAMAGE SAME. ANY DAMAGE OCCURRING TO THE EXISTING PIPING WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

3. TESTING

- AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. CORRECT ALL DEFICIENCIES FOUND.

- TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER.

- THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING, EXCEPT PIPING PASSING THROUGH FLOORS, WALLS, PARTITIONS, OR BEAMS, FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR, WALL, PARTITION OR BEAM.

- THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT THE TESTS ARE TO BE CONDUCTED.

- ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER THE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID FOR THIS CONTRACT.

- WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.

- ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN.

- ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES AND THE OWNER'S REPRESENTATIVE.

- ALL EQUIPMENT WILL BE FACTORY TESTED.

- CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.

- REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.

L. TESTING REQUIREMENTS

- UPON COMPLETION OF SECTION OF OR THE ENTIRE SUPPLY SYSTEM, THE SYSTEM, OR THE PORTION COMPLETED, SHALL BE TESTED AND PROVED TIGHT UNDER A WATER PRESSURE NOT LESS THAN THE WORKING PRESSURE OF THE SYSTEM.
- TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.
- THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.

- REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OLIN CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.

- THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.

4. WARRANTY

- EQUIPMENT, MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR SHALL KEEP THE WORK IN GOOD REPAIR FOR ONE YEAR AFTER THE DATE OF FINAL APPROVAL. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROMPTLY CORRECT AND REPAIR ANY AND ALL BREAKS, FAILURES OR WEAR DUE TO FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT MAY OCCUR WITHIN THAT PERIOD SHALL ALSO BE PROMPTLY REPAIRED.

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ISSUANCE NAME	DATE
PERMIT AND BID SET	04/30/24
CITY COMMENTS	07/26/24
CITY COMMENTS	09/19/24
CONSTRUCTION SET	10/25/24
PERMIT REVISIONS	02/14/25

PLUMBING NOTES,
SYMBOLS &
ABBREVIATIONS

P0.01

- GENERAL NOTES:
1. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
 2. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
 3. ANY UNUSED PLUMBING EQUIPMENT, PIPING, ETC., WITHIN OR SERVING THE PREMISES MUST BE COMPLETELY REMOVED TO POINT OF ORIGIN. DO NOT ABANDON IN PLACE.

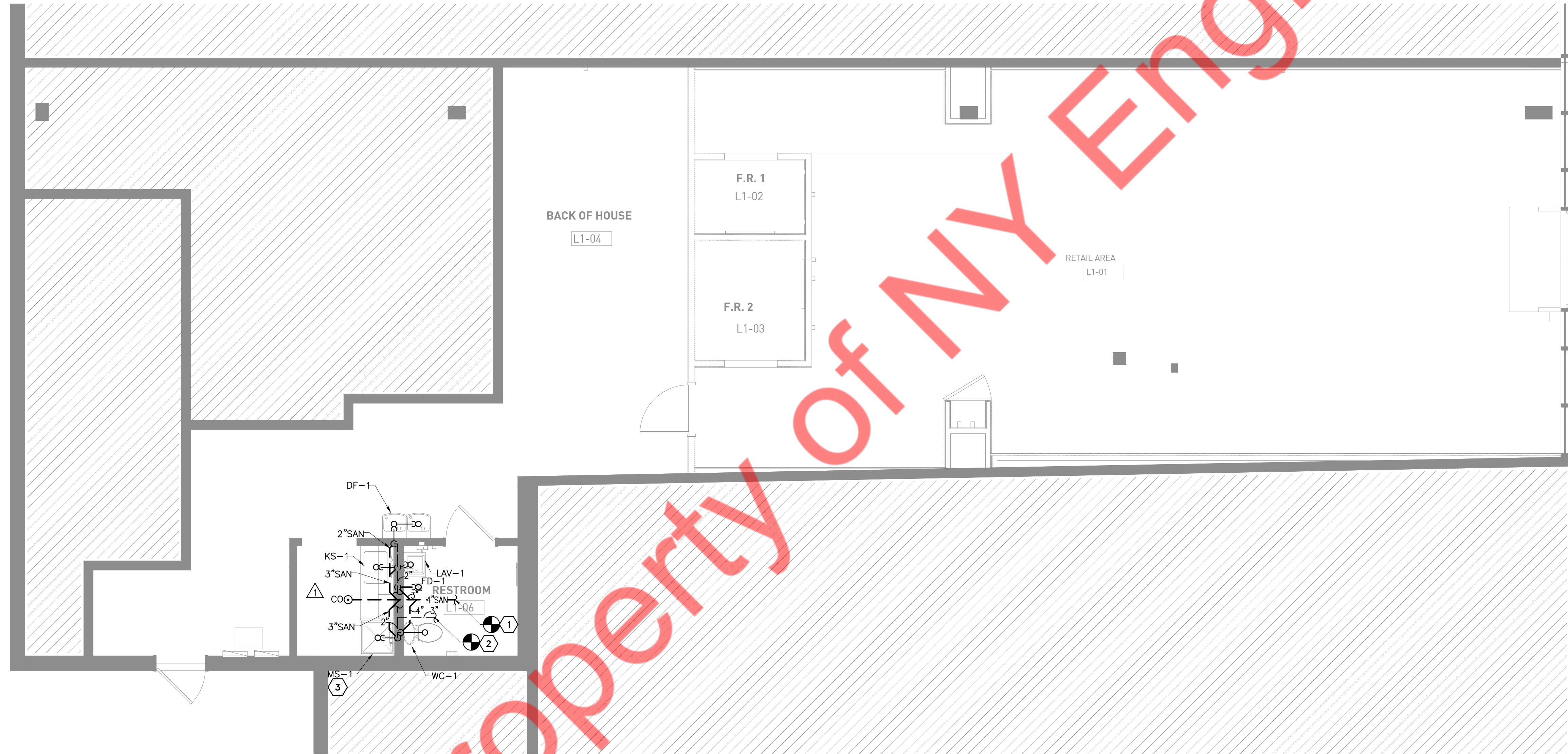
- SANITARY PIPING KEYED NOTES:
- 1 CONNECT NEW 4" SANITARY LINE TO EXISTING SANITARY LINE. CONTRACTOR TO FIELD VERIFY THE SIZE, LOCATION AND INVERT LEVEL OF EXISTING SANITARY LINE.
 - 2 CONNECT NEW 3" VENT LINE TO EXISTING VENT LINE IN SPACE. CONTRACTOR TO FIELD VERIFY THE SIZE AND LOCATION OF EXISTING VENT LINE, UPGRADE EXISTING VENT LINE IF REQUIRED.
 - 3 WATER HEATER T&P RELIEF DRAIN TO MOP SINK WITH APPROVED AIR GAP.

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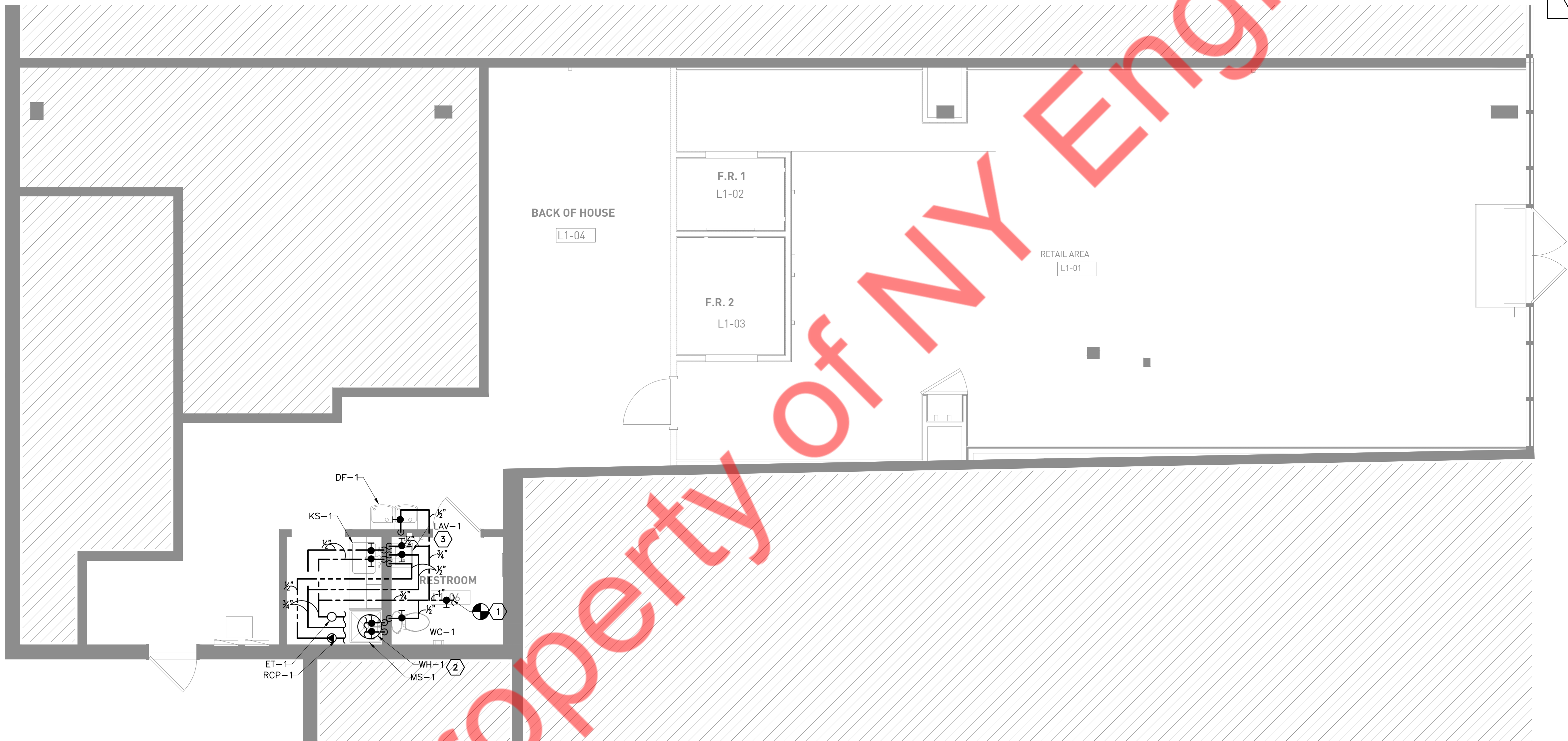
ROBERTO CAVALLI

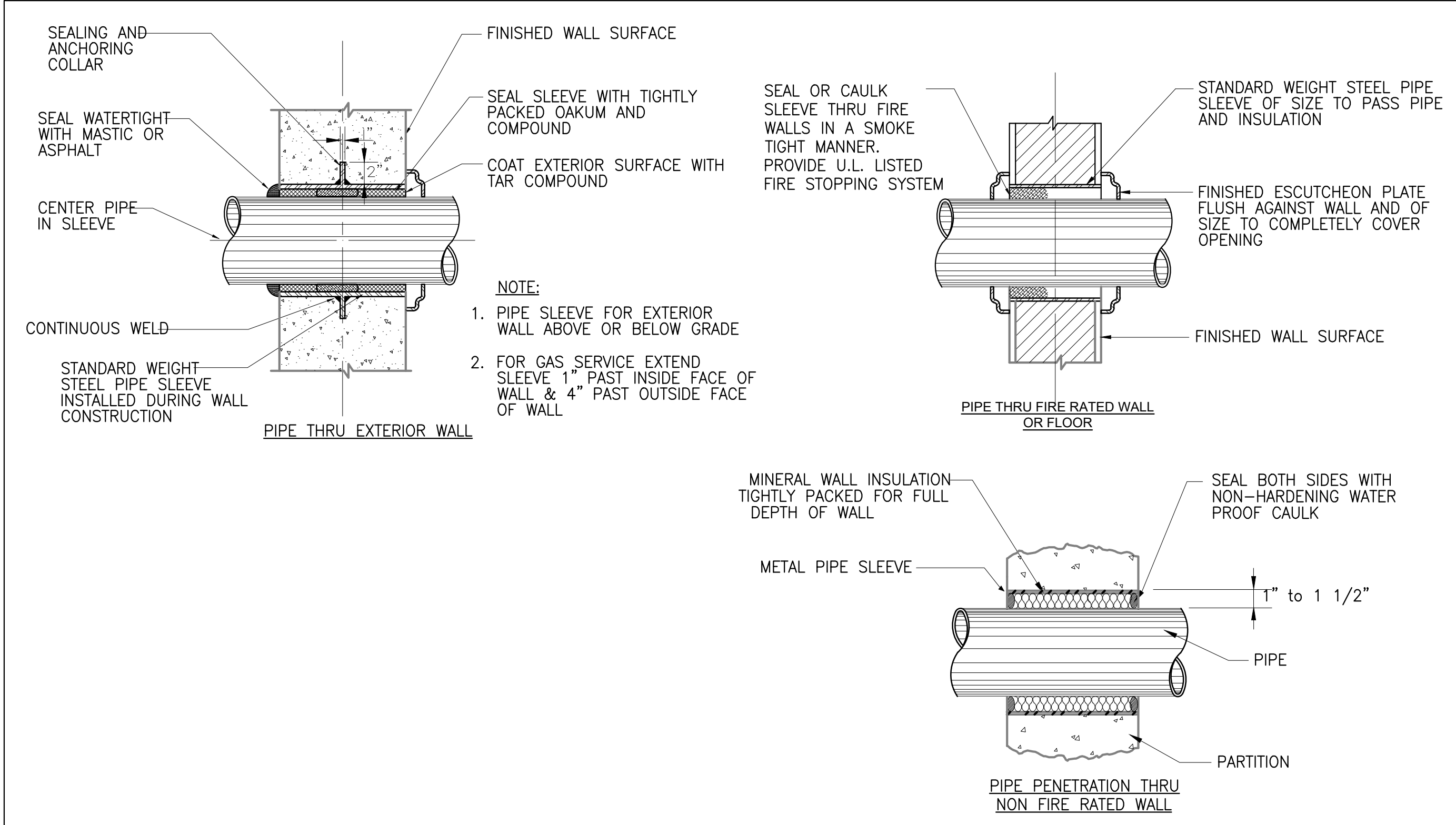
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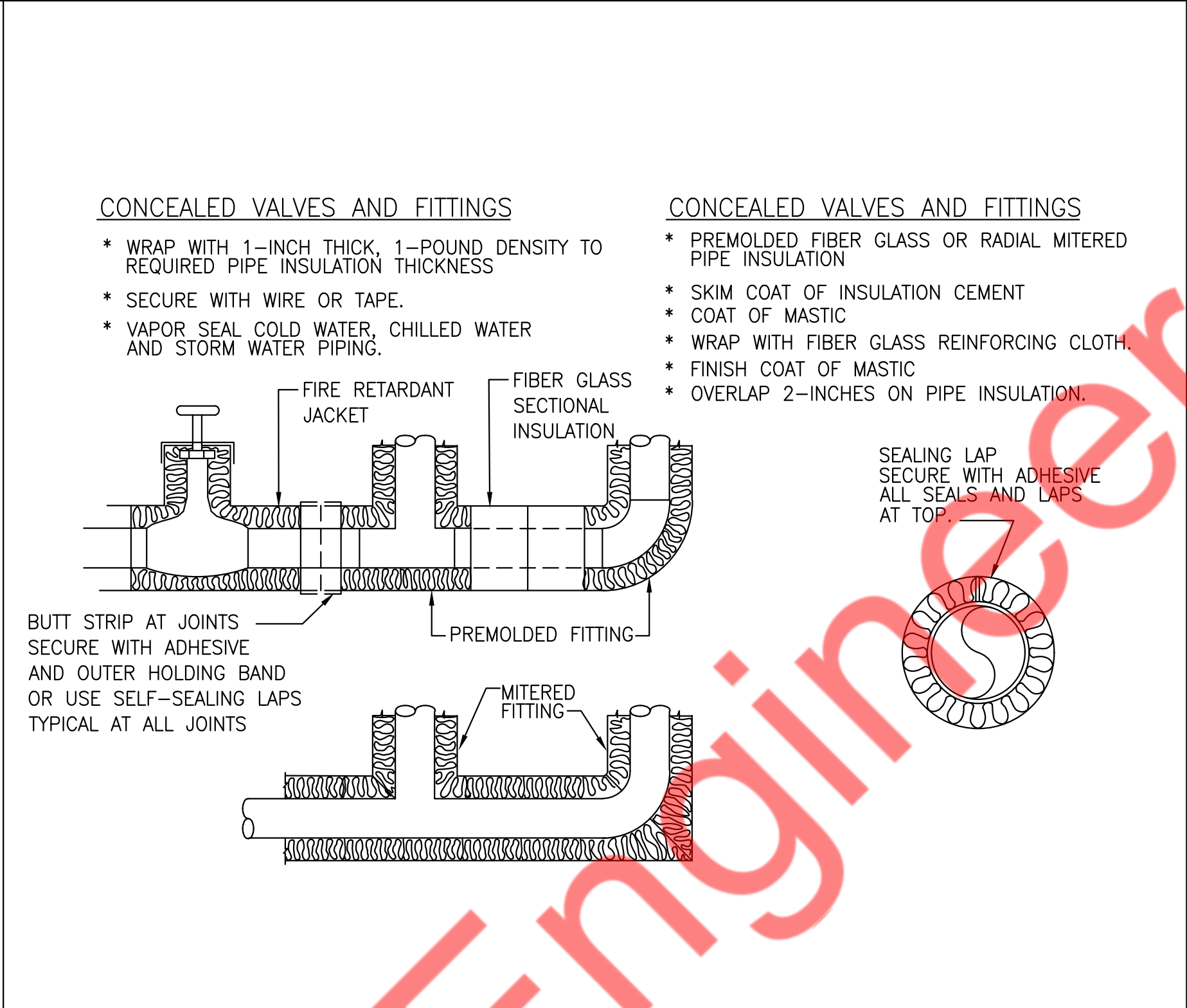
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- GENERAL NOTES:**
1. CW/HW PIPING TO BE PROVIDED WITH INSULATION AS PER 2023 FLORIDA ENERGY CONSERVATION CODE 8TH EDITION (REFER SHEET P0.01)
 2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
 3. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
 4. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
 5. ANY ROOF PENETRATION SHALL BE PERFORMED BY LANDLORD'S ROOFERS AT LANDLORD OPTION AT TENANT'S GC EXPENSE, A BONDED ROOFER APPROVED IN ADVANCE BY LANDLORD.
 6. ANY UNUSED PLUMBING EQUIPMENT, PIPING, ETC., WITHIN OR SERVING THE PREMISES MUST BE COMPLETELY REMOVED TO POINT OF ORIGIN. DO NOT ABANDON IN PLACE.
 7. PROVIDE TRAP PRIMER/SEAL ON FLOOR DRAIN AS PER LOCAL JURISDICTION.
 8. PROVIDE ASSE 1010 APPROVED WATER HAMMER ARRESTOR ON QUICK CLOSING VALVES AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 1

- WATER PIPING KEYED NOTES:**
1. CONNECT NEW 1" CW LINE WITH SHUT OFF VALVE TO EXISTING CW LINE IN SPACE, UPGRADE EXISTING CW LINE IF REQUIRED. CONTRACTOR TO FIELD VERIFY THE WATER METER AND BACKFLOW PREVENTER REQUIREMENT WITH LANDLORD, PROVIDE NEW IF NOT EXISTING. BASE BID ACCORDINGLY.
 2. PROVIDE NEW ELECTRIC STORAGE WATER HEATER. INSTALL AS PER MANUFACTURER'S INSTRUCTION.
 3. PROVIDE ASSE 1070 OR SIMILAR APPROVED TEMPERING VALVE FOR LAVATORIES. SET AT TEMPERATURE TO A MAXIMUM 110 °F.

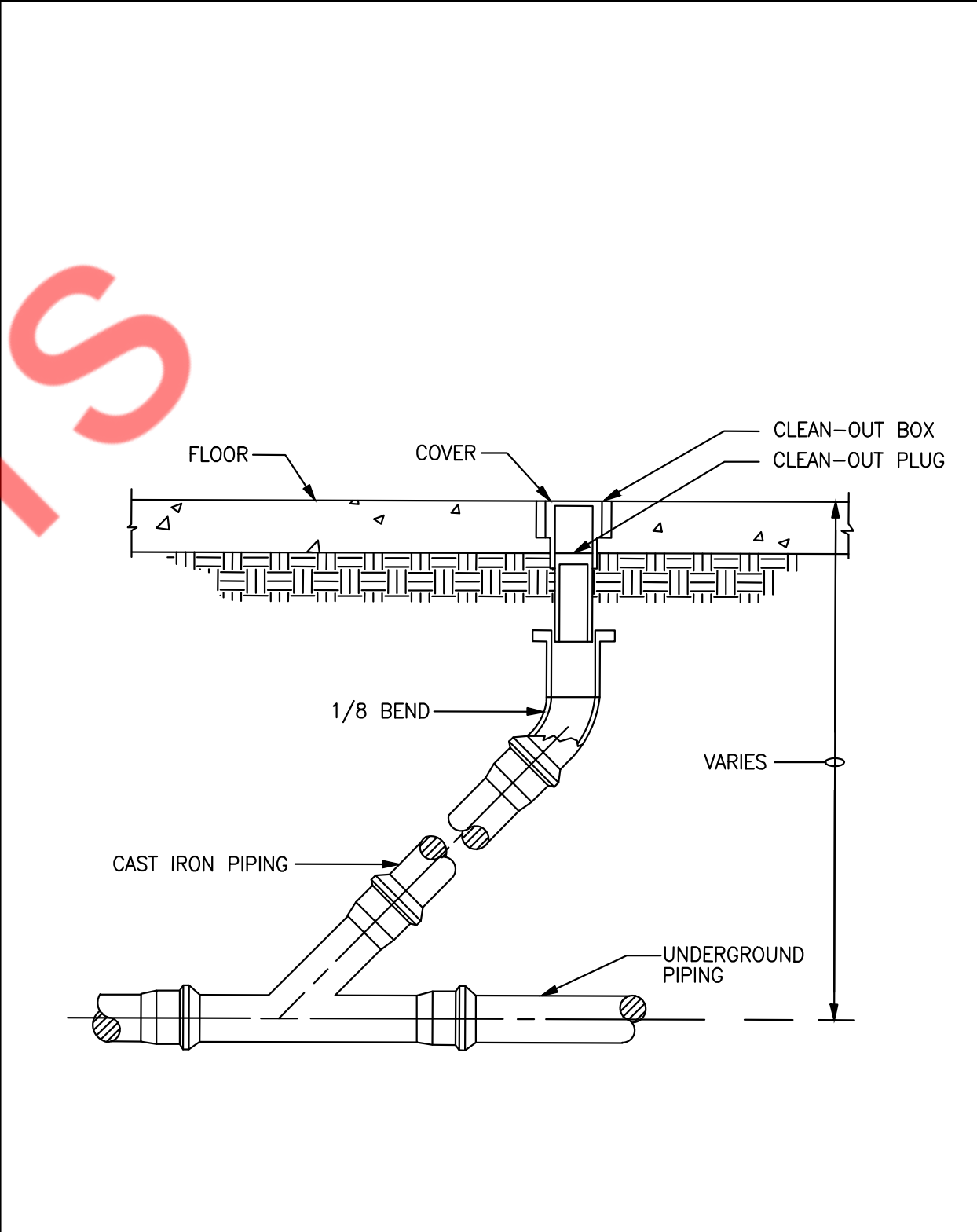




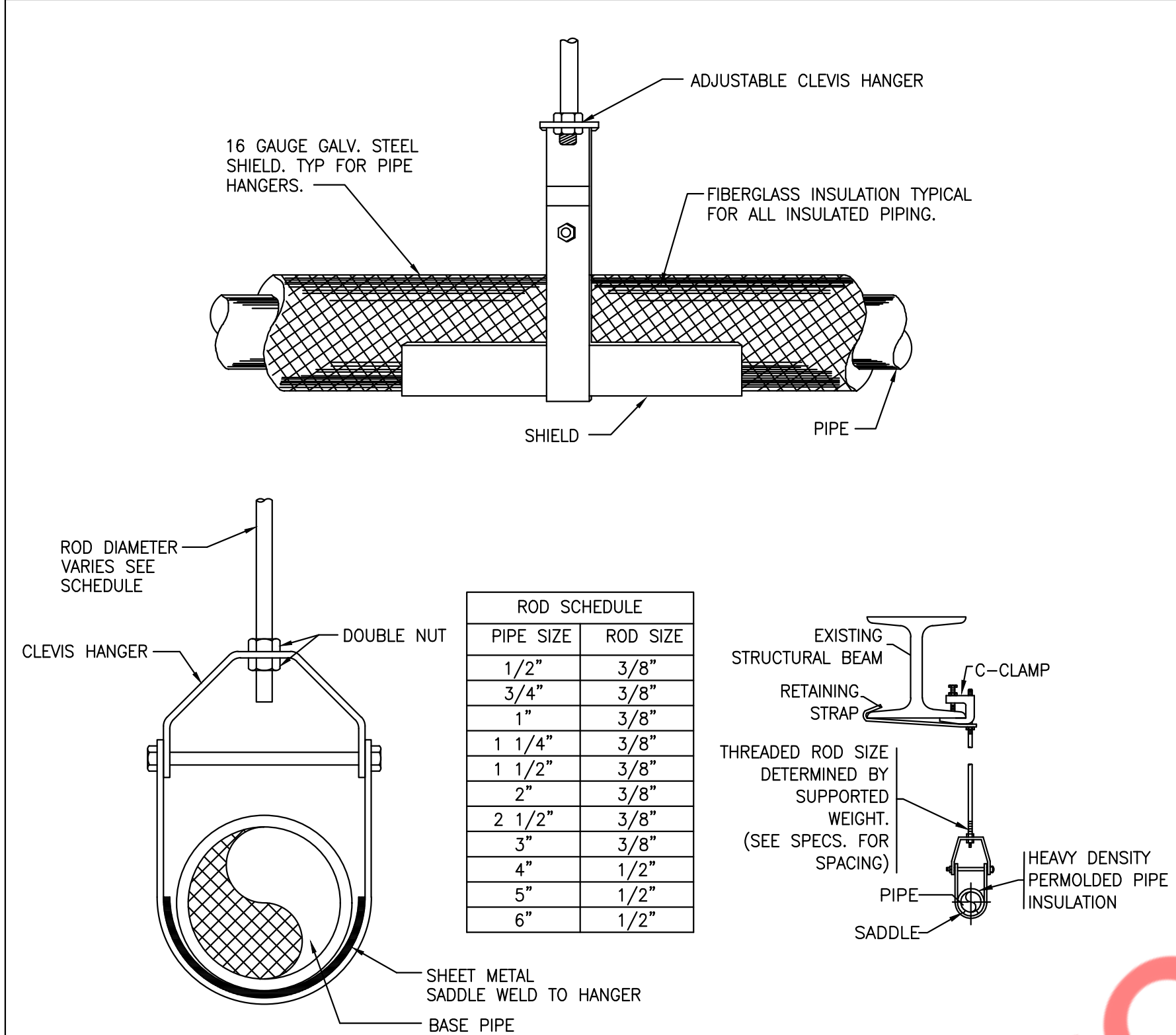
1 PIPE SLEEVE THRU WALL SECTION
P-3.00 N.T.S



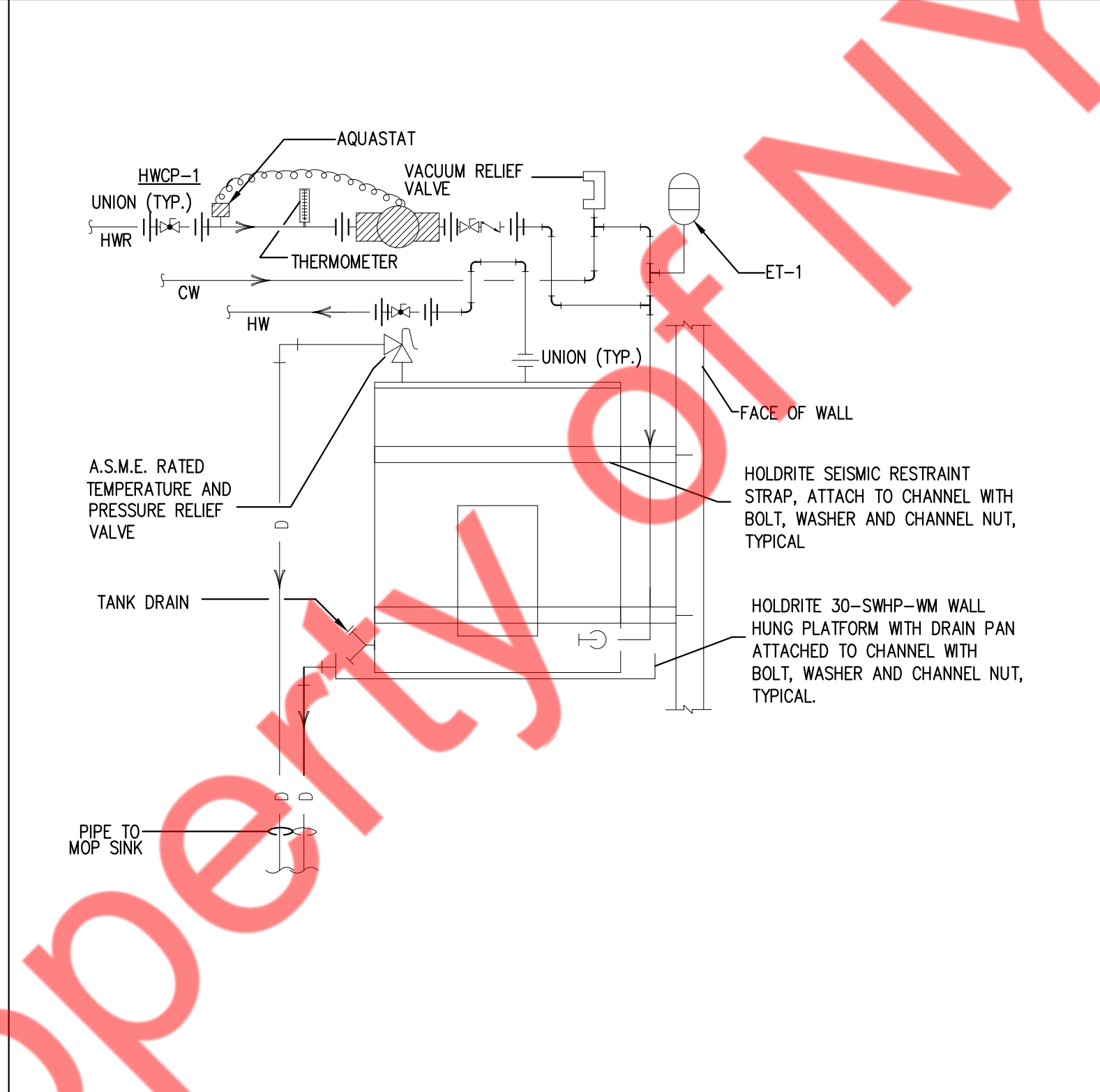
2 INSULATION OF PIPING, VALVES AND FITTINGS
FOR EXPOSED AND CONCEALED LOCATIONS
P-3.00 N.T.S



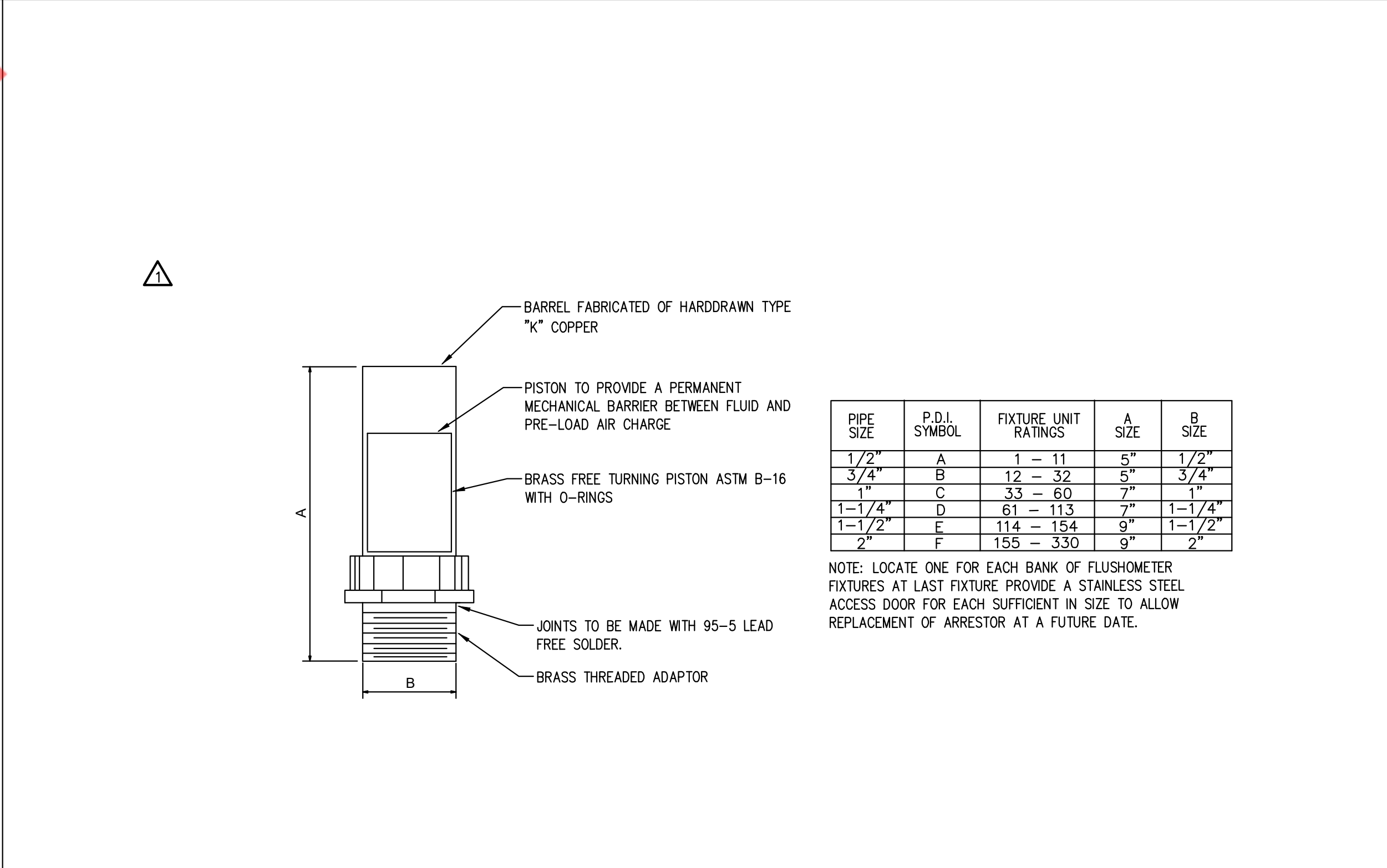
3 FLOOR CLEANOUT DETAIL
P-3.00 N.T.S



4 HANGER DETAIL
P-3.00 N.T.S



5 ELECTRIC WATER HEATER DETAIL
P-3.00 N.T.S



6 WATER HAMMER ARRESTER DETAILS
P-3.00 N.T.S

CONSULTANTS (ENGINEER):
NY ENGINEERS
NEARBY ENGINEERS
382 NE 191ST STREET
SUITE 49674, MIAMI, FL 33179
PH-914.257.3455
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roberto cavalli

ROBERTO CAVALLI

△ ISSUANCE NAME	DATE
△ PERMIT AND BID SET	04/30/24
△ CITY COMMENTS	07/26/24
△ CITY COMMENTS	09/19/24
△ CONSTRUCTION SET	10/25/24
△ PERMIT REVISIONS	02/14/25

PLUMBING DETAILS

P3.00



MIXING VALVE SCHEDULE							
TAG	DESCRIPTION	MAXIMUM GPM	MINIMUM GPM	PRESSURE LOSS	SELECTION BASED ON		REMARKS/OPTIONS
					MANUFACTURER	MODEL NUMBER	
MV-1	THERMOSTATIC MIXING VALVE	3.5	.25	5	LEONARD	270-LF	NOTE 1, A
OPTIONS (ALL UNITS)					ADDITIONAL OPTIONS (UNITS AS NOTED)		
<ul style="list-style-type: none">• LEAD FREE NSF APPROVED• PROVIDE T'STAT ON TEMPERED LINE					A: ASSE 1070 APPROVED, SET @ 110° F. 1/2 " INLETS/ 1/2 " OUTLET, MOUNT BELOW FIXTURE		
NOTES:							
1. INSTALL MIXING VALVE PER MANUFACTURERS REQUIREMENTS. PROVIDE ALL PIPING AND VALVES PER O&M MANUAL.							

GENERAL NOTES:

1. SET THE TANK PRESSURE TO EQUAL THE SYSTEM OPERATING PRESSURE. TANK MUST BE DRAINED BEFORE ADJUSTING SET PRESSURE.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS ON INCOMING COLD WATER LINE.

NOTES:

1. SET AQUA-STAT WITH SET POINT 10 DEGREES BELOW SYSTEM SUPPLY TEMP. 2. INSTALL RECIRCULATION PUMP PER MANUFACTURERS REQUIREMENTS.

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