GENERAL

- THE STRUCTURAL DRAWINGS MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AND MECHANICAL / PLUMBING / ELECTRICAL DRAWINGS.
- 2. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 3. ITEMS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, OR AMBIGUITIES IN THE DRAWINGS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER. CORRECTIONS OR WRITTEN INTERPRETATIONS MUST BE ISSUED BEFORE AFFECTED WORK IS ALLOWED TO PROCEED.
- 4. CONTRACTOR SHALL NOT ATTEMPT TO CONSTRUCT ANY PORTION OF THIS PROJECT WITHOUT CONSULTING OTHER DISCIPLINE'S DRAWINGS WITHIN THIS PROJECT
- 5. CONTRACTOR AND SUPPLIERS SHALL NOT SCALE PLAN OR DETAILS FOR DIMENSIONAL INFORMATION.
- 6. SEE SPECIFICATIONS FOR REQUIRED SUBMITTALS. SUBMITTALS MUST BE MADE IN A TIMELY MANNER AS INDICATED IN SPECIFICATIONS.
- 7. SHOW ALL OPENINGS THROUGH STRUCTURAL ITEMS ON SHOP DRAWINGS AND SUBMIT FOR REVIEW. OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS ARE SUBJECT TO ACCEPTANCE AND MUST BE SPECIFICALLY INDICATED FOR REVIEW AND ACCEPTANCE.
- 8. THE CONTRACTOR MUST COORDINATE AND VERIFY ALL LOCATIONS AND SIZES OF MECHANICAL, PLUMBING. AND ELECTRICAL EQUIPMENT OR OTHER FINISHES / FIXTURES / EQUIPMENT BEFORE FABRICATING AND ERECTING STRUCTURAL ELEMENTS. SIZES AND LOCATIONS THAT DIFFER FROM THOSE SHOWN ON THE CONTRACT DOCUMENTS MUST BE REPORTED TO THE ENGINEER.
- 9. THE CONTRACTOR MUST SUBMIT A WRITTEN REQUEST TO THE ENGINEER FOR APPROVAL BEFORE PROCEEDING WITH ANY CHANGES, MODIFICATIONS, OR SUBSTITUTIONS.
- 10. NO OPENINGS, NOR ANY CHANGE IN SIZE, DIMENSION OR LOCATION MAY BE MADE TO ANY STRUCTURAL ELEMENT WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD.
- 11. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION AND THE ADEQUACY OF THE STRUCTURE TO SUPPORT LOADS OCCURRING DURING CONSTRUCTION OF THE PROJECT. FURNISH ALL TEMPORARY BRACING, SHORING, AND/OR SUPPORT AS MAY BE REQUIRED.
- 12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL SAFETY REGULATIONS, PROGRAMS, AND PRECAUTIONS RELATED TO ALL WORK ON THIS PROJECT
- 13. ENGINEER IS NOT RESPONSIBLE FOR ACTIVITIES UNDER THE CONTROL OF THE CONTRACTOR SUCH AS CONSTRUCTION SITE SAFETY, MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION. ENGINEER MUST NOT BE RESPONSIBLE FOR FABRICATION, ERECTION, AND CONSTRUCTION REQUIREMENTS AS PRESCRIBED BY CAL - OSHA OR OTHER REGULATORY AGENCIES REGARDLESS OF INDICATION IN THESE DOCUMENTS.

SPECIAL INSPECTIONS

- 1. SPECIAL INSPECTIONS AND TESTING MUST BE PROVIDED AS REQUIRED BY CBC SECTION 1704 AND 1705 AND OTHER APPLICABLE SECTIONS OF THE CBC. THE TYPE AND FREQUENCY OF TESTING AND SPECIAL INSPECTIONS MUST BE AS NOTED IN THE SPECIAL INSPECTION TABLES, PROJECT SPECIFICATIONS, AND IN ACCORDANCE WITH CBC CHAPTER 1, SECTION 110 AND CHAPTER 17.
- 2. ALL TESTING AND SPECIAL INSPECTIONS MUST BE PERFORMED BY A QUALIFIED INDEPENDENT SPECIAL INSPECTION AGENCY. REPORTS OF FINDINGS OR DISCREPANCIES MUST BE NOTED AND FORWARDED TO THE CONTRACTOR, ARCHITECT, PROJECT MANAGER, ENGINEER, AND AUTHORITY HAVING JURISDICTION IN A TIMELY MANNER. DISCREPANCIES NOT CORRECTED MUST BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR, PROJECT MANAGER, AND STRUCTURAL ENGINEER.
- 3. THE INDIVIDUAL EMPLOYED BY THE TESTING AGENCY, RESPONSIBLE FOR OVERSEEING TESTING AND INSPECTION OF SOILS AND FOUNDATIONS, MUST BE A PROFESSIONAL ENGINEER PRACTICING THE DISCIPLINE OF GEOTECHNICAL ENGINEERING, REFERRED TO AS THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR TESTING AND INSPECTIONS OF SOILS, EARTHWORK, AND FOUNDATIONS FOR CONFORMANCE TO THE FOUNDATION DESIGN.
- 4. STRUCTURAL OBSERVATIONS WILL BE PROVIDED BY MICHAEL BAKER INTERNATIONAL STRUCTURAL ENGINEER FOR THE CRANE FOOTING CONCRETE PLACEMENT ONLY.
- STRUCTURAL OBSERVATIONS ARE NOT A SUBSTITUTE FOR SPECIAL INSPECTIONS.
- 6. SPECIAL INSPECTIONS ARE REQUIRED FOR THE FOLLOWING:
 - FOOTINGS SOIL BASE GRADATION AND COMPACTION LEVEL.
 - FOOTINGS CONCRETE PLACEMENT.
 - CAST-IN-PLACE ANCHORS INSTALLATION.
 - POST INSTALLED ANCHORS INSTALLATION.
 - FIELD WELDING.

STRUCTURAL STEEL

- 1. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- 2. ANGLES, PLATES BARS AND ITEMS OF MISCELLANEOUS METALWORK SHALL CONFORM TO ASTM A36.
- 3. ALL WELDING SHALL BE SHIELDED ARC TYPE AND SHALL BE PERFORMED BY A CERTIFIED WELDER. CONTINUOUS INSPECTION IS REQUIRED OF ALL FIELD WELDING. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) D1.1/D1.1M STRUCTURAL WELDING CODE - STEEL.
- NO STRUCTURAL STEEL MEMBER SHALL BE CUT FOR PIPES, DUCTS, ETC., UNLESS SPECIFICALLY DETAILED AND APPROVED BY STRUCTURAL ENGINEER
- STRUCTURAL STEEL MUST BE GALVANIZED.

FOUNDATIONS

- SOIL PREPARATION UNDER FOOTINGS MUST BE IN ACCORDANCE WITH THE SOILS REPORT PROVIDED.
- 2. VAPOR BARRIER MUST BE PROVIDED BELOW FOOTING WHERE REQUIRED BY THE PLANS.
- 3. UNLESS NOTED OTHERWISE. ALL FOOTINGS MUST HAVE VERTICAL FACES FORMED WITH STANDARD FORMING MATERIALS SUCH AS WOOD, METAL, ETC.
- 4. SPECIAL INSPECTION IS REQUIRED FOR SOIL BASE GRADATION AND COMPACTION LEVEL.

CONCRETE

- 1. ALL CONCRETE WORK MUST CONFORM TO ACI 318 AND ACI 301. TOLERANCES MUST CONFORM TO ACI 117 UNLESS NOTED OTHERWISE.
- 2. TESTS AND INSPECTION MUST BE PERFORMED IN COMPLIANCE WITH ACI 301 AND CHAPTER 17 OF THE CBC AND IN ACCORDANCE WITH THE SPECIAL INSPECTION TABLES.
- 3. CONCRETE MUST NOT BE PLACED UNTIL REINFORCING AND EMBEDDED DESIGN ITEMS HAVE BEEN INSPECTED BY THE SPECIAL INSPECTOR.
- 4. ALL CONCRETE MIX DESIGNS MUST COMPLY WITH THE PROJECT SPECIFICATIONS.
- 5. SUBMITTALS FOR ALL CONCRETE MUST INCLUDE MIX DESIGNS, CONTROL AND CONSTRUCTION JOINT LOCATIONS, REINFORCING, EMBEDDED ITEMS, AND ANY MECHANICAL, ELECTRICAL, PLUMBING, OR ARCHITECTURAL SLEEVES AND/OR PENETRATIONS.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ALL TRADES FOR DETERMINING THE NEED FOR EMBEDS AND THEIR LOCATIONS.
- SPECIAL INSPECTION IS REQUIRED FOR CONCRETE PLACEMENT.

REINFORCING STEEL

1. ALL REINFORCING SHALL COMFORM TO ASTM A615 AND SHALL BE GRADE 60

CAST - IN- PLACE (CIP) ANCHOR BOLTS

- 1. ALL ANCHOR BOLTS MUST BE ASTM F1554, (GR. 55) HEAVY HEX HEADED BOLTS WITH DOUBLE NUTS AND WASHER, UNLESS NOTED OTHERWISE.
- 2. FURNISH TEMPLATES AND OTHER DEVICES AS NECESSARY FOR PRE-SETTING ALL ANCHOR BOLTS PRIOR TO PLACING CONCRETE AND/OR GROUT.
- 3. ANCHOR BOLTS / NUTS / WASHERS SHALL BE GALVANIZED.
- 4. SPECIAL INSPECTION IS REQUIRED FOR ANCHOR BOLTS INSTALLATION.

POST-INSTALLED MECHANICAL ANCHORS

- 1. POST-INSTALLED MECHANICAL ANCHORS MAY ONLY BE USED WHERE SPECIFICALLY DETAILED IN THE DRAWINGS OR ALLOWED IN WRITING BY THE ENGINEER. POST-INSTALLED MECHANICAL ANCHORS SHALL BE HILTI KWIK BOLT TZ2.
- ANCHORS SHALL BE INSTALLED PER ICC-ESR 4266 (KWIK BOLT TZ2).
- 3. SPECIAL INSPECTION SHALL BE PROVIDED DURING ANCHOR INSTALLATION.
- 4. AN ALTERNATIVE EXPANSION ANCHOR PRODUCT MAY BE SUBSTITUTED TO THE ENGINEER OF RECORD FOR APPROVAL. THE PRODUCT ALTERNATIVE MUST HAVE A CURRENT ICC EVALUATION REPORT APPROVAL.

COLD-FORMED STEEL MEMBERS

- 1. ALL LIGHT GAUGE STEEL FRAMING AND SUBFRAMING SUPPORT SYSTEMS (SEE SPECIFICATIONS FOR EXTENT) MUST BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH AISI "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" AND THE COLD FORMED STEEL DESIGN MANUAL.
- 2. CALCULATIONS AND SHOP DRAWINGS MUST BE PRODUCED, SEALED, AND SIGNED BY A LICENSED PROFESSIONAL ENGINEER.
- 3. INDICATED LIGHT GAUGE STEEL FRAMING MEMBERS MUST BE HOT-DIPPED GALVANIZED, G-60 COATING WEIGHT, AND MUST CONFORM TO ASTM DESIGNATION C 955 AND A 653. MINIMUM YIELD POINT, UNLESS INDICATED OTHERWISE, MUST BE 50 KSI FOR 16 GA. AND HEAVIER AND 33 KSI FOR 18 GA. AND LIGHTER.
- 4. FRAMING MEMBERS MUST HAVE THE MINIMUM STRUCTURAL PROPERTIES INDICATED ON THE STRUCTURAL AND/OR ARCHITECTURAL DRAWINGS.
- 5. MAXIMUM SPACING OF MEMBERS MUST BE 16".

DEFERRED SUBMITTALS

- 1. DEFERRED SUBMITTALS ARE COMPLETE PACKAGES INCLUDING DRAWINGS AND CALCULATIONS FOR ALL ELEMENTS AND CONNECTIONS INCLUDED IN THE DEFERRED SUBMITTAL DESIGN. SUBMIT DRAWINGS AND CALCULATIONS FOR SHOP DRAWING REVIEW. DEFERRED SUBMITTAL MEMBERS AND CONNECTIONS ARE TO BE DESIGNED BY A CIVIL ENGINEER REGISTERED IN CALIFORNIA AND MUST BEAR THE STAMP AND SIGNATURE OF THE DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN.
- 2. DEFERRED SUBMITTALS MUST INCLUDE, BUT ARE NOT LIMITED TO:
 - A. PREFABRICATED CRANE INCLUDING POSTS.
 - B. PRESSURE WASH FRAMING

DESIGN CRITERIA

GOVERNING BUILDIN	NG CODE	2022 CALIFORNIA BUILDING CODE (CBC 2022)				
DEAD LOADS		SELF WEIGHT				
LIVE LOADS						
CRANE LIVE LOAD		2 TON (4,000 LBS)				
VERTICAL CRANE IN	IPACT LIVE LOAD	1 .25* (WHEEL LOAD)				
LONGITUDINAL CRA	NE LIVE LOAD	0.1* (WHEEL LOAD)				
TRANSVERSE CRAN	E LIVE LOAD	MAX (0.2* (LIFTED LOAD + TROLLEY WT) OR 0.1* (LIFTED LOAD +ENTIRE CRANE WT))				
SEISMIC LOADS		•				
SITE CLASS		D				
DESIGN SPECTRAL F ACCELERATIONS	RESPONSE	S _S = 1.646 S ₁ = 0.606				
FOUNDATIONS						
GEOTECHNICAL ENG	GINEERING REPORT	KLEINFELDER REPORT #: 257-001 TITLE: FINAL REPORT OF BEACH, CA DATE OF REPORT: 03-19-2010				
ALLOWABLE BEARIN	IG PRESSURE					
	STATIC LOADING	2,000 PSF				
SPREAD FOOTINGS	WIND/SEISMIC LOADING	2,666 PSF (1/3 INCREASE)				
		18IN				

CONCRETE MIX DESIGN REQUIREMENTS											
ELEMENT	f'c (PSI)	CEMENT TYPE	MAX W/C	MAX AGG	AIR CONTENT ¹	SLUMP ²	EXPOSURE CLASS ³				
FOOTINGS	4000, NW	II/V	0.45	3/4"	6% ± 1.0%	≤4" ± 1.0"	F1, S1, W0, C1				

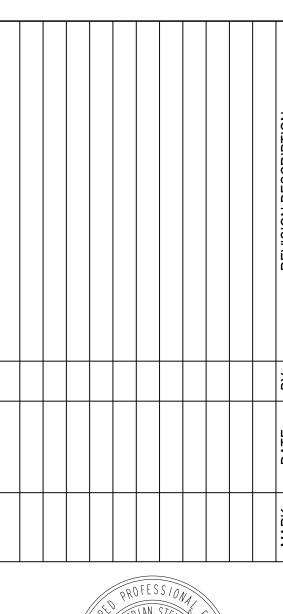
- 1. MINIMUM AIR CONTENT EQUALS 5% IF CONCRETE IS EXPOSED TO FREEZING
- TEMPERATURE AND MOISTURE REGARDLESS OF VALUE INDICATED IN TABLE 2. SEE ACI 301 FOR SLUMP OF CONCRETE BEFORE ADDITION OF PLASTICIZERS OR HIGH-
- RANGE WATER REDUCING ADMIXTURES. A. EXPOSURE CLASS INDICATES THE SEVERITY OF THE ANTICIPATED EXPOSURE OF CONCRETE MEMBERS. IN ACCORDANCE WITH ACI 318. CHAPTER 18. FREEZE THAW F0, F1, F2, F3
- B. WATER-SOLUBLE SULFATE IN SOIL: S0, S1, S2, S3
- C. IN CONTACT WITH WATER (PERMEABILITY): W0, W1 D. CORROSION PROTECTION OF REINFORCEMENT: CO. C1. C2
- 3. CONCRETE MIX SUPPLIER IS TO ENSURE THAT THE MAXIMUM WATER-SOLUBLE CHLORIDE ION (CL-) CONTENT IN CONCRETE, BY % WEIGHT OF CEMENT, IS BELOW THE
- FOLLOWING THRESHOLDS (PER ACI 318 TABLE 19.3.2.1): A. REINFORCED CONCRETE: C0 = 1.0; C1 = 0.3; C2 = 0.15

GENERAL CONCRETE MIX NOTES:

- . CONCRETE STRENGTH, F'c, IS THE COMPRESSIVE STRENGTH AT 28 DAYS UNLESS NOTED OTHERWISE.
- 2. CONCRETE IS NORMAL WEIGHT (NW) CONCRETE UNLESS NOTED OTHERWISE. NORMAL WEIGHT CONCRETE MUST HAVE A DRY DENSITY OF 145 ±4 PCF UNLESS NOTED OTHERWISE.
- 3. WHERE CONCRETE IS EXPOSURE CLASS F3. RESTRICTIONS ON MAXIMUM FLY ASH AND/OR OTHER CEMENTITIOUS MATERIALS APPLY. REFER TO ACI 318, TABLE 26.4.2.2(B) FOR REQUIREMENTS.
- 4. CURING COMPOUNDS SHALL NOT BE USED ON SURFACES THAT ARE TO RECEIVE ADDITIONAL CONCRETE, PAINT, TILE, OR OTHER MATERIAL REQUIRING A POSITIVE BOND UNLESS THE CONTRACTOR HAS DEMONSTRATED THAT THE MEMBRANE CAN BE SATISFACTORILY REMOVED BEFORE SUBSEQUENT APPLICATION IS MADE. OR THE MEMBRANE DISSIPATES OR CAN SERVE SATISFACTORILY AS THE BASE FOR THE LATER APPLICATION.
- 5. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS APPROVED OTHERWISE BY THE STRUCTURAL ENGINEER OF RECORD.

CONCRETE MATERIALS DESIGNATION							
MATERIAL	STANDARD						
PORTLAND CEMENT	ASTM C150						
FLY ASH	ASTM C618						
AGGREGATE	ASTM C33						
WATER	ASTM C1602						
WATER REDUCING ADMIXTURE	ASTM C494, TYPE A OR TYPE D						
HIGH RANGE WATER REDUCING ADMIXTURE	ASTM C494, TYPE F OR TYPE G						
ACCELERATOR ADMIXTURE	ASTM C494, TYPE C OR TYPE E						
AIR ENTRAINING ADMIXTURE	ASTM C260						
CURING COMPOUND	ASTM C309, TYPE 1, CLASS A						
REINFORCING BARS	ASTM A615, GRADE 60						
VAPOR RETARDER BELOW SLAB ON GRADE	ASTM E1745, CLASS A						

Michael Baker INTERNATIONAI



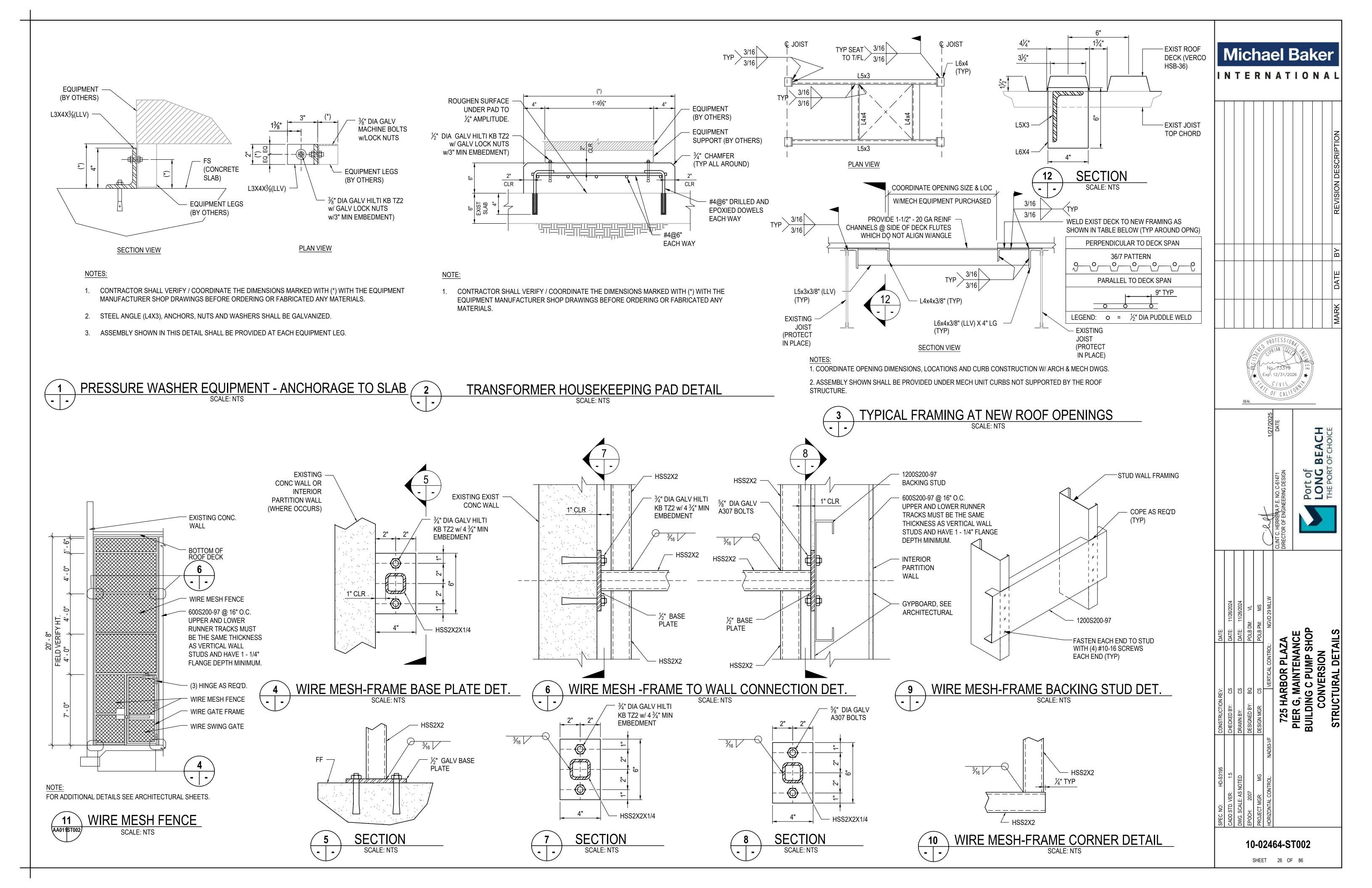


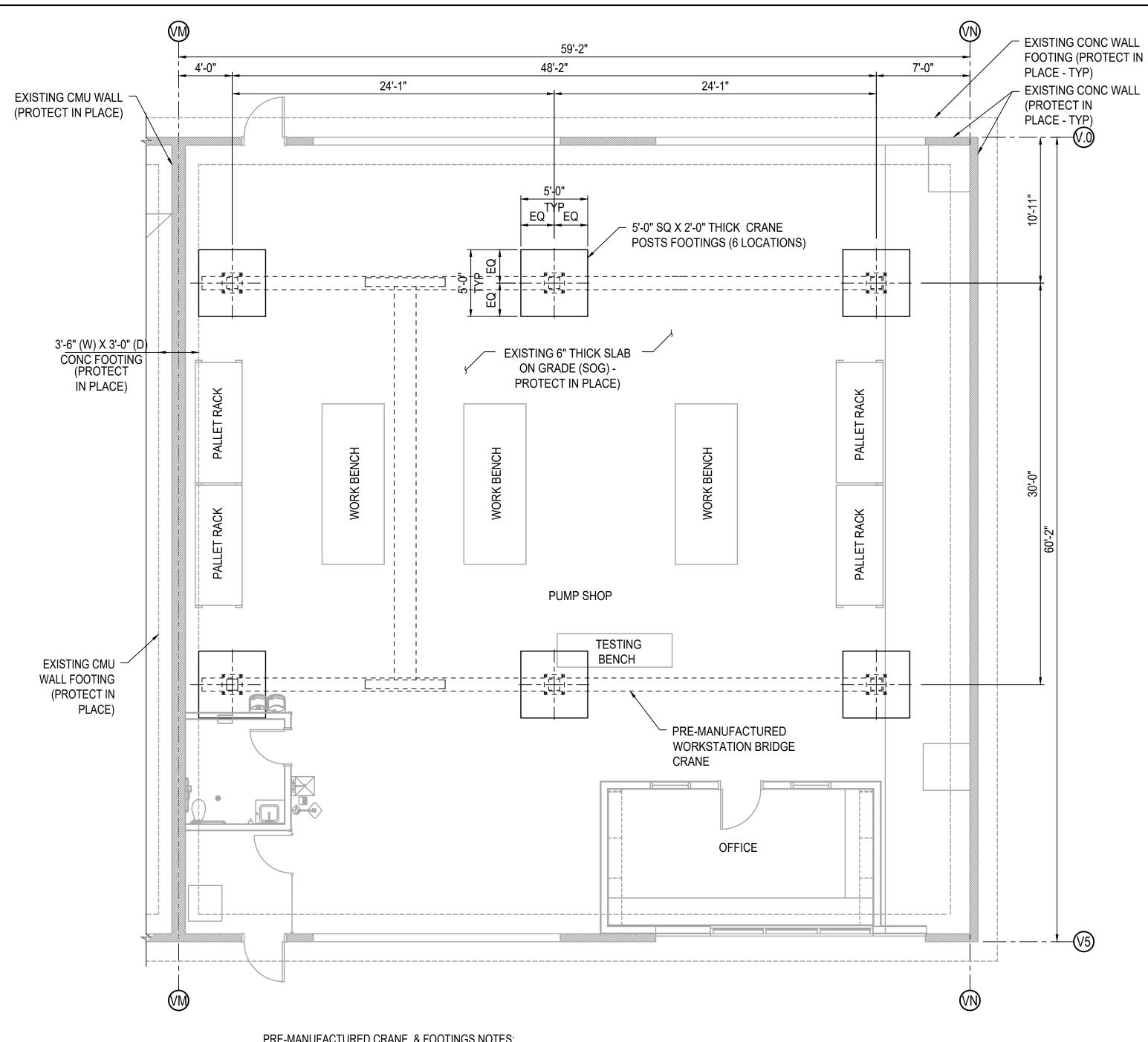
NG PORT **50** 世

R PLAZA
VTENANCE
VUMP SHOP

10-02464-ST001

SHEET 25 OF 86

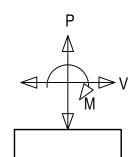




PRE-MANUFACTURED CRANE & FOOTINGS NOTES:

1. THE PRE-MANUFACTURED CRANE DESIGN SHALL INCLUDE THE FOLLOWING:

- 1.1. CRANE CAPACITY = 2 TON (4,000 LBS)
- 1.2. VERTICAL IMPACT LOAD = 1.25* (WHEEL LOAD)
- 1.3. LONGITUDINAL LOAD = 0.1* (WHEEL LOAD)
- 1.4. TRANSVERSE LOAD = GREATER OF LOAD, 0.2* (LIFTED LOAD + TROLLEY WT) OR 0.1* (LIFTED LOAD +ENTIRE CRANE WT)
- 1.5. STOP LOAD = PER BUMPER DEVICE & MANUFACTURER
- 1.6. MAX DEFLECTION = L/1000
- 2. FOR ADDITIONAL CRANE REQUIREMENTS REFER TO SPECIFICATION SECTION: 14.47.00 WORKSTATION CRANE.
- 3. CONTRACTOR SHALL NOT FABRICATE OR PURCHASE ANY MATERIAL PRIOR TO REVIEWING / COORDINATING THE INFORMATION SHOWN IN THIS SHEET WITH THE APPROVED PRE-MANUFACTURED CRANE SHOP DRAWINGS.



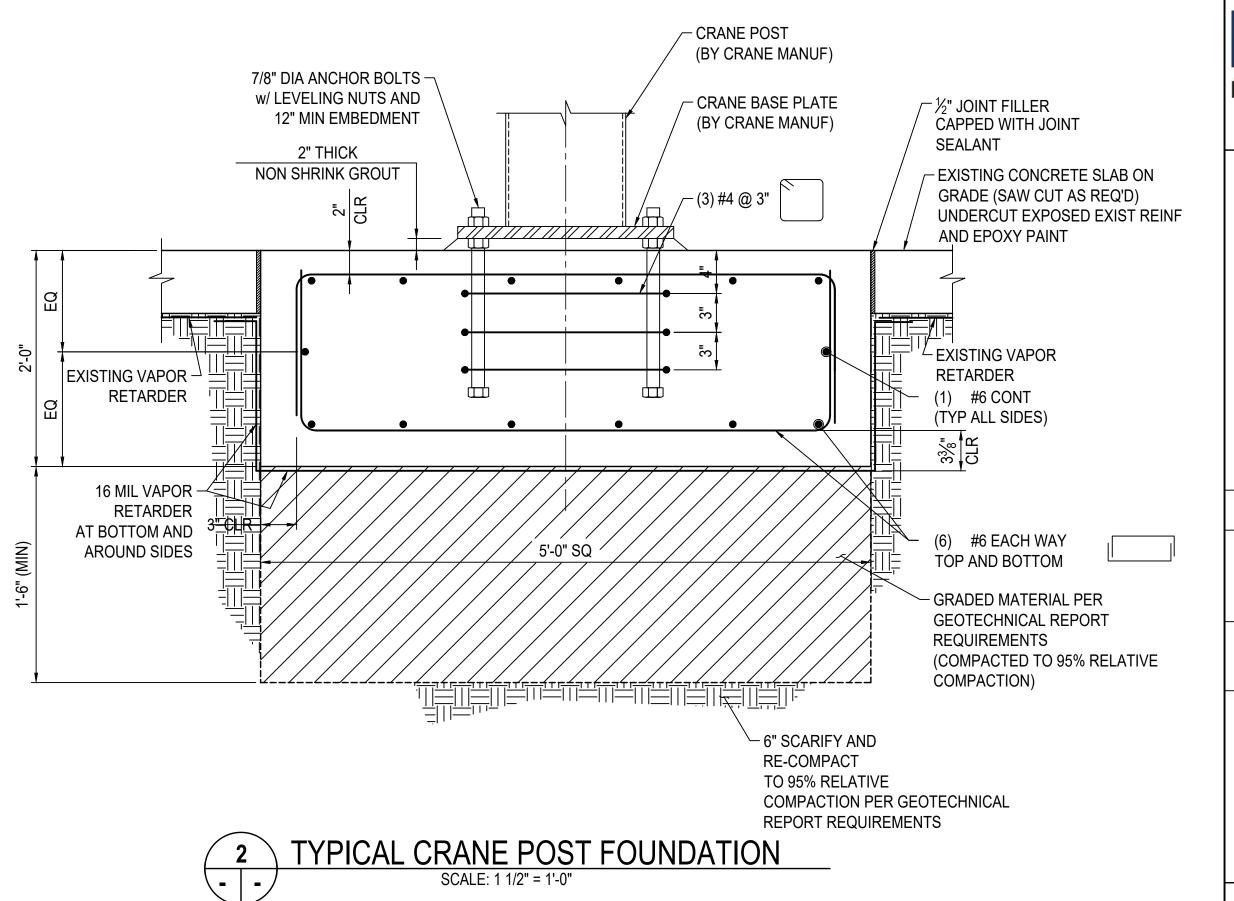
FOOTING LOADING ASSUMPTIONS:

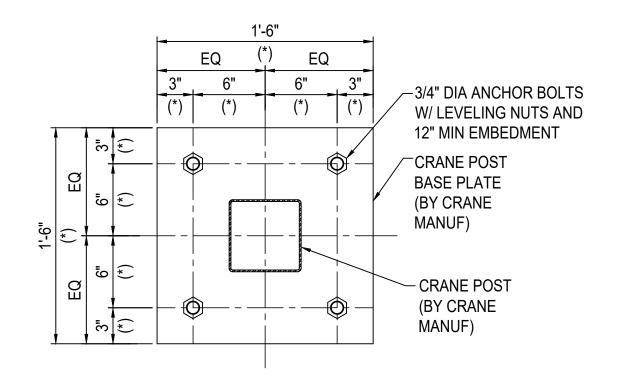
THE FOOTING HAS BEEN DESIGNED FOR THE FOLLOWING MAX SERVICE LEVEL (UNFACTORED) LOADS: P (AXIAL) = 6KIPS (DOWN) / 2.3 KIPS (UP) V (SHEAR) = 3KIPS

M (MOMENT) = 12.3 KIP-FT

THE FOOTING DESIGN SHOWN IN THIS SHEET IS SUBJECT TO CHANGE OF THE MAXIMUM REACTIONS FROM THE CRANE POSTS AS CALCULATED BY THE CRANE MANUFACTURER, EXCEED THESE VALUES.

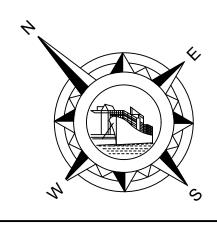
CRANE POSTS FOOTINGS LAYOUT - PLAN VIEW





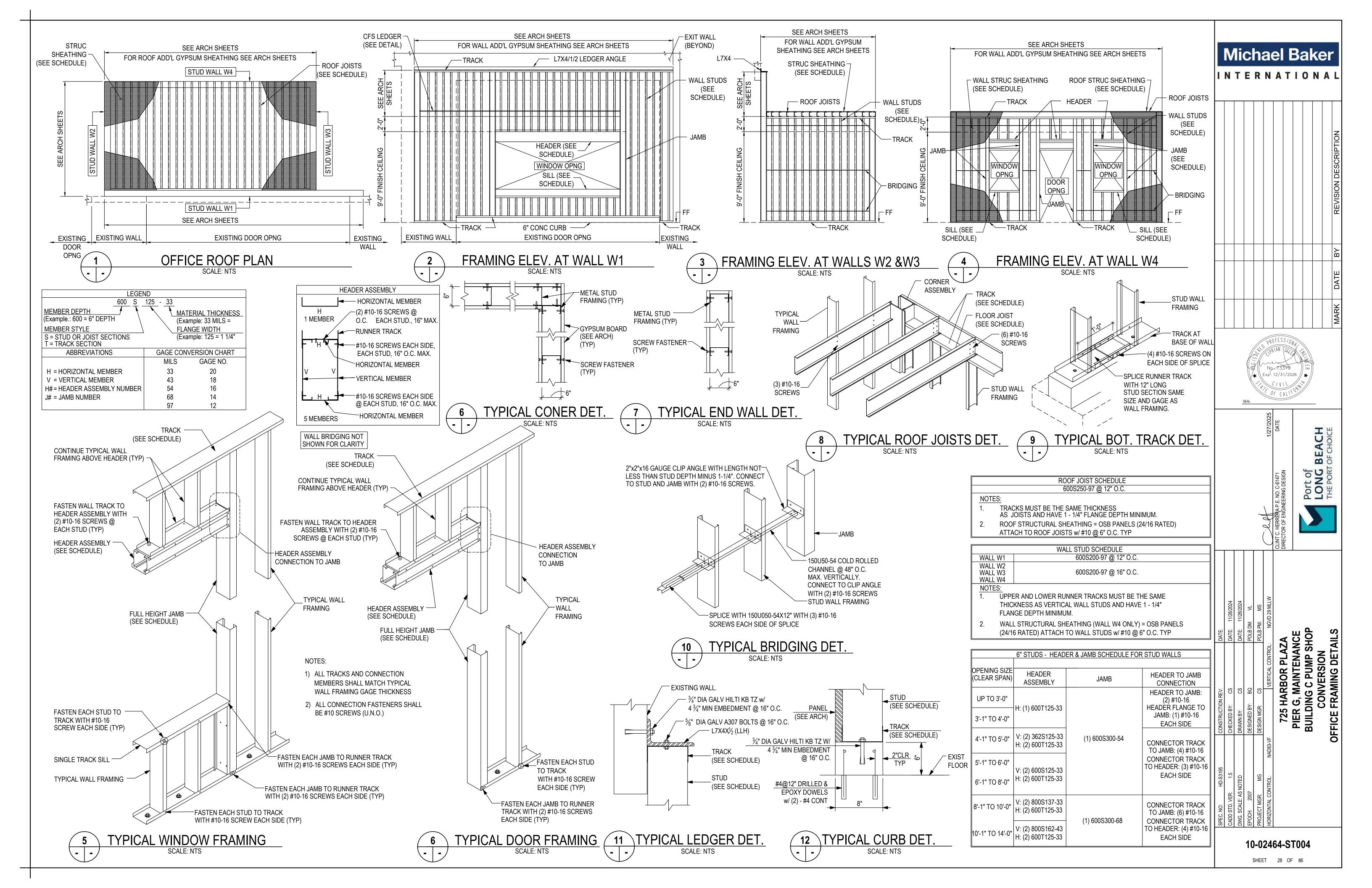
NOTE: DIMENSIONS MARKED WITH (*) ARE SUBJECT TO CHANGE BASED ON THE ACTUAL CRANE POSTS BASE PLATES, PROVIDED BY THE CRANE MANUFACTURER.

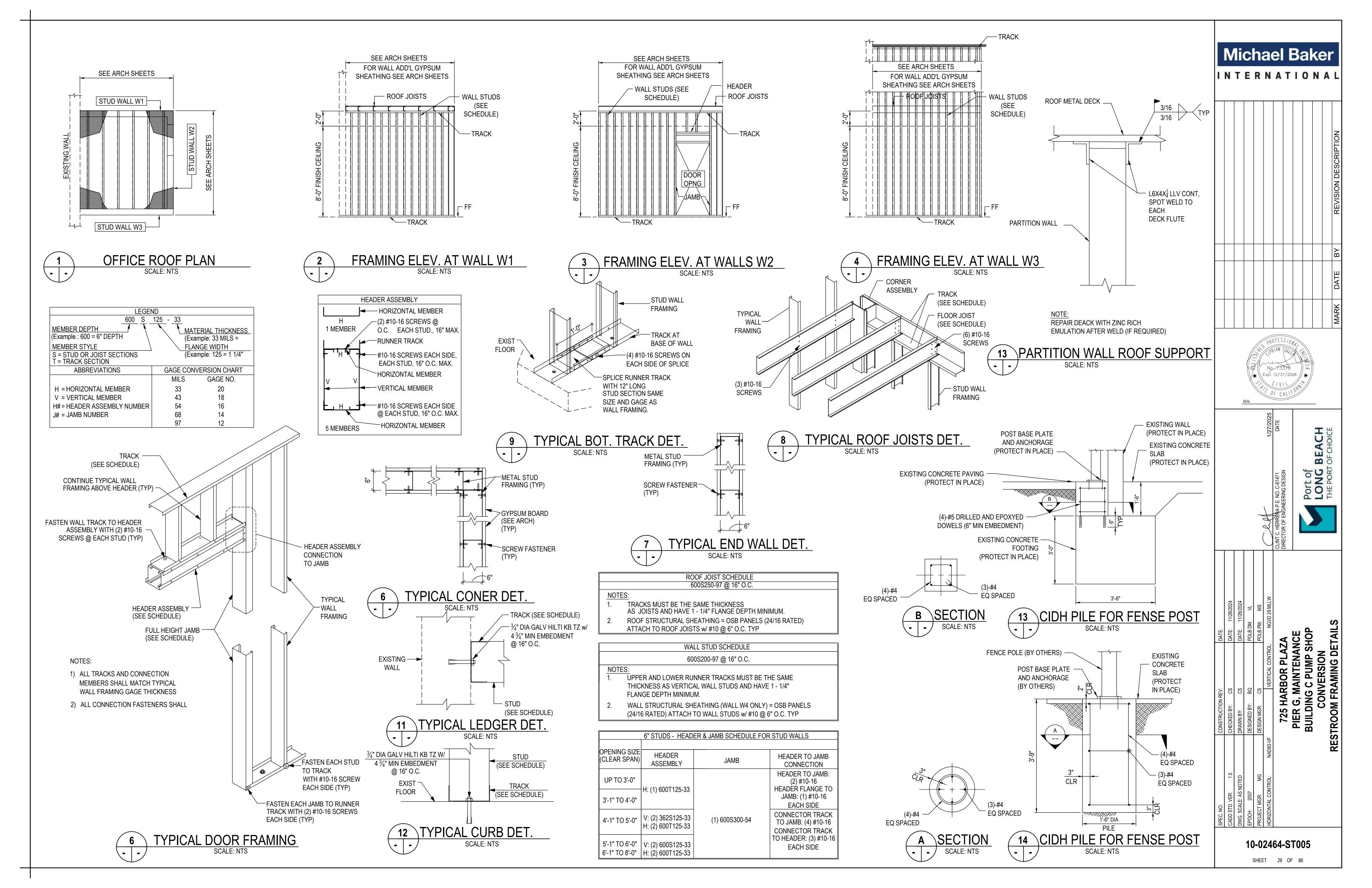




	V	li(-1-1-1			(1.74)		3		70.00E		
	N	1	E	R	IN	A	1		0	N	A	_
												REVISION DESCRIPTION
												DATE BY
												MARK D
PROFESS/0// PRIAN STATE NO. 73379 EXP. 12/31/2026 SEAL SEAL												
					112712	ERRERA P.E. NO. C-61471	DIRECTOR OF ENGINEERING DESIGN	1	Port of	LONG BEACH	THE PORT OF CHOICE	
DATE:	DATE: 11/26/2024	DATE: 11/26/2024	POLB DM: VL	POLB PM: MS	. CONTROL: NGVD 29 MLLW	*	PLAZA	ENANCE	MP SHOP			FOOTINGS DETAILS
CONSTRUCTION REV:	CHECKED BY: CS	DRAWN BY: CS	DESIGNED BY: BQ	DESIGN MGR: CS			/25 HAKBUK	PIER G, MAINT	BUILDING C PU	CONVEDS		UFACTURED CRANE
SPEC. NO: HD-S3195	CADD STD. VER: 1.5	DWG. SCALE: AS NOTED	EPOCH: 2007	PROJECT MGR: MG	HORIZONTAL CONTROL: NA							PRE-MAN
HD-S3195 CONSTRUCTION REV:	1.5 CHECKED BY: CS	DRAWN BY: CS DATE: 11/26/2024	EPOCH: 2007 DESIGNED BY: BQ POLB DM: VL	PROJECT MGR: CS POLB PM: MS	HORIZONTAL CONTROL: NAD83-VF VERTICAL CONTROL: NGVD 29 MLLW C.L. A 1/27/2025 MCVD 29 MLLW CONTROL: NGVD 29 MLLW	CLINT C. HERRERA P.E. NO. C-61471 DATE A	DIRECTOR OF ENGINEERING DESIGN ALALA ALALA	26	BUILDING C PUMP SHOP	5		E-MANIJEACTURED CRANE FOOTINGS DETAILS

SHEET 27 OF 86





re of CALIFORNIA IVElope Component Approach RTIFICATE OF COMPLIANCE	POLB Pum	np Shop	Conversi	ion	1	CALIFORNIA ENERGY COMMISSION	Envelope Component Approach	POLB Pump Shop Conversion	CALIFORNIA ENERGY COMMISSIO
s document is used to demonstrate complian red-use buildings, and 141.0(b)1/180.2 for al	terations, related to roof, wall and	d floor assemblies.	. It is also used to de	emonstrate complian	ce with pre	escriptive requirements in 140.3/	Project Name: POLB Pump Shop Conversion	Report Page: Date Prepared:	NRCC-ENV (Page 5 of 2024-05-23T02:44:44-04:
0.2 for newly constructed buildings, and 141.0 ject Name: POLB Pump Shop Conversion ject Address:	J/ 18U.1/ 18U.2 for additions and (Report F	Page:	, aoor, Jenestration a	na aayiign	(Page 1 of 6) 2024-05-23T02:44:44-04:00	K CENTEST AND CLASED DOOD COURT		
GENERAL INFORMATION		8	-	110			K. FENESTRATION AND GLAZED DOOR SCHED	OLE	
Project Location (city) Zipcode	750 1 M (1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Habitable Above Gra ioned Floor Area (ft ²			1 3187	L. DAYLIGHT IN LARGE ENCLOSED SPACES This section does not apply to this project.		
Occupancy Types Within Project: (select all	that apply): If one occupancy		ditioned Floor Area (0	M. DECLARATION OF REQUIRED CERTIFICATES	S OF INSTALLATION	
constitutes >= 80% of the conditioned floor envelope may be designed to comply with t per 100.0(f).	5.0 (d. 141.5) (d. 148.0)		of at least 15 ft.1	ned enclosed spacet	s) > 5,000 1	ft ² under a roof with a ceiling		rovided in this document. If any selection have been changed by the permit applica vided to the building inspector during construction and can be found online	ant, an explanation should be included in Table E
Commercial Industrial • Office OOTNOTE: Enclosed spaces > 5,000 ft ² directly	y under roof with ceiling height >	15 ft in climate zon	nes 2 through 15 are	e required to meet th	e minimur	n dayliahtina requirements	NRCI-ENV-01-E - Must be submitted for all building	Form/Title	
ined in 140.3(c)/ 170.2(b). Compliance with 1							N. DECLARATION OF REQUIRED CERTIFICATES		
PROJECT SCOPE s table specifies project envelope component	s within the permit application de	emonstrating compl	oliance using the pre	escriptive paths outlin	ned in 140.	3/ 170.2 and 141.0(a)1/ 180.1	Selections have been made based on information p	rovided in previous tables of this document. If any selection needs to be changed, f vided to the building inspector during construction and can be found online at	form user must provide an explanation in Table E
	of (check all that apply)			Compo	nent Type	5	verification work, and provide the information requ	programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4. iired for completion of the fenestration Certificate of Acceptance documentation ar cceptance document to certify compliance with the acceptance requirements shall l	re not required to be licensed professionals.
New Construction or Newly Conditioned Sp One or more enclosed spaces > 5,000		na haight > 15ft	Roof	☐ Walls ☐ Floors	02	Exterior Opaque Doors Fenestration/ Glazed Doors ¹	10-103(a)4 and NA7.3.1	Form/Title	Systems/Spaces To Be Field
Addition of conditioned space One or more enclosed spaces > 5,000		g height > 15ft		□ Walls	0	Exterior Opaque Doors	NRCA-ENV-02-F must be submitted for all new, add	ed or altered site built fenestration.	Verified W3
Addition is <=700 ft ² Addition is >700 ft ²			Roof	☐ Floors		Fenestration/ Glazed Doors ¹	O. DECLARATION OF REQUIRED CERTIFICATES	OF VERIFICATION	
Alteration of conditioned space One or more enclosed spaces > 5,000	ft ^z directly under roof with ceiling		Roof Assembly	y ⊠ Walls □ Floors		Fenestration	There are no forms required for this project.		
and lighting system installed for the fir	st time		Material ²		1				
Building Energy Efficiency Standards - 2022 Nonr	esidential Compliance	Report Version: 2 Schema Version:	2022.0.000			mentation Software: Energy Code Ace Compliance ID: 200833-0524-0005 port Generated: 2024-05-22 23:44:47	CA Building Energy Efficiency Standards - 2022 Nonresic	Generated Date/Time: Sential Compliance Report Version: 2022,0.000	Documentation Software: Energy Code Acc Compliance ID: 200833-0524-000
		Schema version.	166 50550101		Toe	purt deliciated: 2024-05-22 25-44-47	and the grant of the control of the	Schema Version: rev 20220101	Report Generated: 2024-05-22 23:44:4
200000000000000000000000000000000000000							STATE OF CALIFORNIA		
velope Component Approach	POLB Pun	np Shop	Conversi	ion		CALIFORNIA ENERGY COMMISSION NRCC-ENV-E	Envelope Component Approach	POLB Pump Shop Conversion	CALIFORNIA ENERGY COMMISSIO NRCC-ENV
Ject Name: POLB Pump Shop Conversion		Report Date Pro	t Page: repared:			(Page 4 of 6) 2024-05-23T02:44:44-04:00	Project Name: POLB Pump Shop Conversion	Report Page: Date Prepared:	(Page 3 of 2024-05-23T02:44:44-04:0
							H. WALL ASSEMBLY SCHEDULE		
EXTERIOR DOOR SCHEDULE s section does not apply to this project.							And a Commission of the Commis	ntive wall assembly requirements in 140.3(a)/ 170.2(a) for new constructions, 141.0((a)/ 180.1 for additions and 141.0(b)1B/ 180.2 for
FENESTRATION AND GLAZED DOOR SCH	EDULE		.02				01 Indicate wall types included in the pr	oject: Framed Mass (new only) Concrete Sandwich Panel (new o	only) SIPS ICF (new only) Straw Bale Log Home (new only)
s table demonstrates compliance with prescre erations. Exterior doors that are more than 2	5% glass in area are considered G	Glazed Doors and sh					clicked above and compliance demonstrated with	w only)" do not have Title 24, Part 6 requirements for alterations. New construction in this table.	and additions do have requirements and should b
01 Indicate fenestration types inc OOTNOTES: Fenestration types indicated above ould be clicked above and compliance demons		OLIFORD INVESTIGATION TO A			on and ada			ea-Weighted Average U-factor for Metal Framed Walls ¹	
rtical Fenestration And Glazed Doors- U-fact	or, Solar Heat Gain Coefficient (R					AN E	03 04 05 How Design	d Framed Walls in Area-Weighted Average U-factor Calculation ¹ 06 07 08 09 10 Cavity Continuous Therma	11 12 13 I Required Net
	rea-Weighted Average (R)SHGC fo rea-Weighted Average VT for Vert			oors ¹			Tag/Plan Detail Occupancy & U-factor was determined	Location/ Fire Rating Frame Material, Spacing & Depth Insulation per Design Design Unit	
rtical Fenestration And Glazed Doors- U-fact 04 05 06	or, Solar Heat Gain Coefficient (R 07	RSHGC/ SHGC), Visi 08	sible Transmittance 09	(VT)		11 12 13	1A0.6 Any occupancy:	Exterior wall Metal 16" OC 2x6 13 R-value	per JA4 per Software/
Tag/Plan Fenestration Occupancy & Sta	atus		Calculation Method formance Values per	Perform	nance	Required Product Product Performance Area ft ² erformance per Design		ompliant, assemblies may show compliance using an area-weighted calculation. Me	Other tal framed walls may not be combined with other
W3 Storefront Relocatable all CZ	A10.00000		NFRC Certified	U-facto		0.47 0.3 48	demonstrating compliance with R-values in Table	h SIPS, spandrel & curtain, metal panel and straw bale wall types. The area-weighte • 141.0-C. erformance Unit, the R-value shown here is for cavity insulation per 141.0(b)1B.	d compliance option is not available for alterations
(Adding New <= 5	3.25.30	ay show complianc	ice using an area-we	V	(min) T	nic glazing is not included in	3 Wall area minus any fenestration area		
a-weighted colculations. Area-weighted calc ie NA6 Default Calculation can only be used f	ulation shown in separate area-w or alterations or dwelling units in	veighted table below buildings with <= 3	ow. 3 habitable stories.	Alterations are limite	ed to 200ft	² of site built glazing and dwelling	L FLOOR ASSESSMENT SERVED VICE		
its are limited to 250ft² or 5% of conditioned ; the Default Tables in 110.6. verhangs must extend past the left and right	window the same distance as the					8	I. FLOOR ASSEMBLY SCHEDULE This section does not apply to this project.		
uirement, the affect of the overhang will be i ojecting includes casement and awning wind		197	W					Generated Date/Time:	Documentation Software: Energy Code Ac-
a Building Energy Efficiency Standards - 2022 Nonr	esidential Compliance	Generated Date/ Report Version: 2			Docu	mentation Software: Energy Code Ace Compliance ID: 200833-0524-0005	CA Building Energy Efficiency Standards - 2022 Nonre	63 XM456 W KHIS 20W W W W W W W W W W W W W W W W W W W	Compliance ID: 200833-0524-000: Report Generated: 2024-05-22 23:44-4
		Schema Version:	: rev 20220101		Re	eport Generated: 2024-05-22 23:44:47			(S)
TATE OF CALIFORNIA	POLB Pun	np Shop	Conversi	ion		CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA Envelope Component Approach	POLB Pump Shop Conversion	CALIFORNIA ENERGY COMMISSION
ERTIFICATE OF COMPLIANCE roject Name: POLB Pump Shop Conversion		Report		20.0000		NRCC-ENV-E (Page 2 of 6)	CERTIFICATE OF COMPLIANCE Project Name: POLB Pump Shop Conversion	Report Page:	NRCC-ENV-E (Page 6 of 6)
201.331		Date Pr	repared:			2024-05-23T02:44:44-04:00	Project Address:	Date Prepared:	2024-05-23T02:44:44-04:00
i. PROJECT SCOPE FOOTNOTE: Doors that are more than 25% gla	ner in man are considered Classel I	Doors and should b	a documented as to	able K with forestrati			DOCUMENTATION AUTHOR'S DECLARATION S		
Roof recovers and replacements must also che cof material only in Table G.						s may document compliance with	Documentation Author Name: Wayne Frank	December State Company	Frank The Property of the Prop
COMPLIANCE RESULTS						13	Company: Michael Baker Intl. Address: 2929 N. Central Ave Suite 800	Signature Date: 05/21/2024 CEA/ HERS Certification (If applicable):	20.000000
esults in this table are automatically calculate o Table D. Exceptional Conditions for guidance			gh L. Note: If any cel	ll on this table says "(COMPLIES	with Exceptional Conditions" refer	City/State/Zip: Phoenix, AZ 89012 RESPONSIBLE PERSON'S DECLARATION STATE I certify the following under penalty of perjury, under the laws:		
Roof Assembly Roofing Material 01 02			oors	stration I	nting Space 5,000ft ²	Compliance Results 08	 The information provided on this Certificate of Com I am eligible under Division 3 of the Business and Pr 		
(See Table F) (See Table G)			Table J) (See 1		e Table L)	COMPLIES	of Title 24, Part 1 and Part 6 of the California Code of The building design features or system design features.		
). EXCEPTIONAL CONDITIONS							Inspections, Lunderstand that a completed signed of Responsible Designer Name:	ertificate of Compliance shall be made available with the building permit(s) issued for the building, and ma opy of this Certificate of Compliance is required to be included with the documentation the builder provid Responsible Designer Signature:	les to the building owner at occupancy.
his table is auto-filled with uneditable comme	nts because of selections made or	data entered in tal	ables throughout the	form.			Wayne Frank Company: Michael Baker Intl.	Date Signed: 05/21/2024	e Frank
. ADDITIONAL REMARKS						0.00	Address: 2929 N. Central Ave Suite 800 City/State/Zip: Phoenix, AZ 89012	License: C-34530 Phone: 505-252-0719	
his table includes remarks made by the permi	t applicant to the Authority Having	g Jurisdiction.							
ROOF ASSEMBLY SCHEDULE his section does not apply to this project.									
S. RATED ROOFING MATERIAL (COOL ROO	DF)								
his section does not apply to this project.									
		Generated Date/	/Time:		Docur	mentation Software: Energy Code Ace	COMMUNICATION AND MARKET STATE STATE STATEMENTS OF	Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Non	residential Compliance	Report Version: 2	2022.0.000		140	Compliance ID: 200833-0524-0005	CA Building Energy Efficiency Standards - 2022 Nonresid	dential Compliance Report Version: 2022,0.000 Schema Version: rev 20220101	Compliance ID: 200833-0524-0005 Report Generated: 2024-05-22 23:44-47

GENERAL NOTES

- ALL DIMENSIONS ARE IN FEET / INCHES UNLESS NOTED OTHERWISE
- 2 THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS REFER TO THE SPECIFICATION FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES
- 3 THE TERMS RENOVATE AND REHABILITATE ARE USED INTERCHANGEABLY IN THESE DOCUMENTS.
- 4 ROOM AREAS AND PERIMETERS ARE APPROXIMATE AND FOR REFERENCE ONLY. VERIFY QUANTITIES AND DIMENSIONS IN FIELD.
- 5 NO DEVIATIONS FROM THESE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ARCHITECT
- 6 DO NOT SCALE DIMENSIONS FROM DRAWINGS THE CONTRACTOR SHALL REQUEST
- NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS FROM THE ARCHITECT

 7 ALL DIMENSIONS ARE TO FACE OF PARTITION OR CENTER OF DOORS, WINDOWS AND OPENINGS UNLESS NOTED OTHERWISE ALL NON-DIMENSIONED DOOR LOCATIONS SHALL

BE OFFSET 4" FROM THE ADJACENT WALL TO THE HINGE SIDE OF THE DOOR OPENING.

- B DETAILS SHOWN ON DRAWINGS ARE TYPICAL FOR ALL SIMILAR CONDITIONS.
- 9 DRAWING NOTES AND SPECIFICATIONS ARE INSTRUCTIONS TO THE CONTRACTOR AND APPLY TO ALL THE WORK UNLESS MORE SPECIFIC INFORMATION IS SHOWN ELSEWHERE ON THE DRAWINGS OR WRITTEN IN THE SPECIFICATIONS IN THE EVENT OF CONFLICTING INSTRUCTIONS, THE ARCHITECT SHALL DETERMINE WHAT CONTROLS
- 10 VERIFY ALL DIMENSIONS IN THE FIELD AND COORDINATE DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS WITH FABRICATION AND FIELD CONDITIONS AND REPORT ANY INCONSISTENCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK
- 11 PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THESE DRAWINGS THE GENERAL CONTRACTOR SHALL EXAMINE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR REQUIRED OPENINGS GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUB-CONTRACTORS PRIOR TO CONSTRUCTION
- 12 STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION THE CONTRACTOR SHALL SUPERVISE CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE, AND APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED
- 13 CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING THE WORK OF THE SUB-CONTRACTORS THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE BUILDING OWNER, TENANT OR HIS REPRESENTATIVES THE DELIVERY AND INSTALLATION OF ITEMS BEING PROVIDED AND INSTALLED BY OTHERS
- 14 MECHANICAL, PLUMBING AND ELECTRICAL WORK RELATED TO DEMOLITION AND NEW INSTALLATION OF COMPONENTS SHALL COMPLY WITH ALL APPLICABLE CODES
- 15 ALL MATERIALS, FABRICATION AND INSTALLATION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS AND SPECIFICATIONS FOR EACH DIVISION OF WORK
- 16 CONSTRUCTION MUST COMPLY WITH APPLICABLE CODES AND ORDINANCES, LAWS AND SAFETY ORDERS AS DIRECTED BY LOCAL JURISDICTION
- 17 CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY ORDERING OF MATERIALS INCLUDED IN THESE CONTRACT DOCUMENTS SOME ITEMS IN THESE DOCUMENTS MAY REQUIRE LONG LEAD TIMES OR SPECIAL COORDINATION SUBSTITUTIONS WILL NOT BE ALLOWED FOR MATERIAL NOT ORDERED IN A TIMELY FASHION
- 18 CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS, (BOTH NEW AND EXISTING) REPORTING ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK
- 19 CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION ALL DISCREPANCIES SHALL BE NOTED AND SENT TO THE ARCHITECT WITH ADEQUATE TIME TO REVIEW PRIOR TO STARTING THAT PORTION OF THE WORK IN ORDER TO AVOID PROJECT DELAYS
- 20 CONTRACTOR SHALL CLEAN, PATCH AND REPAIR ALL SURFACES DAMAGED BY DEMOLITION, ALTERATION OR INSTALLATION OF THE WORK
- 21 CONTRACTOR SHALL PREPARE ALL WALLS AND PARTITIONS AS REQUIRED BY THE FINISH MANUFACTURER TO RECEIVE THE FINISHES SPECIFIED
- 22 CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION
- 23 CONTRACTOR SHALL PROVIDE ADDITIONAL FURRING (THE ENTIRE LENGTH OF THE WALL)
 TO FULLY CONCEAL ALL MECHANICAL, ELECTRICAL, PLUMBING AND STRUCTURAL ITEMS
 THAT PROJECT FROM THE FACE OF THE WALL OR PARTITION AND ARE NOT SPECIFICALLY
 NOTED TO BE SURFACE MOUNTED
- 24 CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS, BUILDING UTILITY ENTRANCE LOCATIONS AND EXACT LOCATIONS AND DIMENSIONS OF EXITS, CANOPIES, RAMPS, DOWNSPOUTS, GRAVEL AREAS ADJACENT TO BUILDING WALLS, UTILITY ENTRANCE LOCATIONS AND BOLLARDS IN BUILDING WALKWAYS
- 25 CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING CONSTRUCTION ALL DISCREPANCIES SHALL BE NOTED AND SENT TO THE ARCHITECT WITH ADEQUATE TIME TO REVIEW PRIOR TO STARTING THAT PORTION OF THE WORK IN ORDER TO AVOID PROJECT DELAYS
- 26 CONTRACTOR TO PROVIDE PORTABLE FIRE EXTINGUISHERS IN ACCORDANCE WITH LOCAL JURISDICTION AND NFPA 10. MAXIMUM TRAVEL DISTANCE TO NEAREST FIRE EXTINGUISHER FROM ANY POINT IN THE BUILDING SHALL NOT EXCEED 50 FEET. EXISTING FIRE EXTINGUISHERS SHALL BE TESTED AND RE-USED IF FULLY OPERATIONAL. FIRE EXTINGUISHERS SHALL BE SIZED FOR NO LESS THAN ORDINARY HAZARD.
- 27 REMOVE AND REINSTALL PICTURES, TV'S, BULLETIN BOARDS ETC, PRIOR TO AND AFTER PAINTING
- 28 ALL REQUESTS FOR INFORMATION PROMPTED BY THE BUILDING OFFICIALS SHALL INCLUDE A COPY OF THE BUILDING OFFICIALS COMMENTS AND THE BUILDING INSPECTORS FIELD REPORT TO ENSURE AN ACCURATE AND TIMELY RESPONSE
- 29 CONTRACTOR AND SUBCONTRACTOR SHALL ALL BE LICENSED TO PERFORM THEIR REQUESTED DUTIES AS REQUIRED IN ACCORDANCE WITH LOCAL STANDARDS
- 30 CONTRACTOR SHALL COMPARE STRUCTURAL SECTIONS WITH ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS



INTERNATIONAL

MARK DATE BY REVISION DESCRIPTION



12/5/2024 9500 世

Port of LONG BEACH
THE PORT OF CHOICE

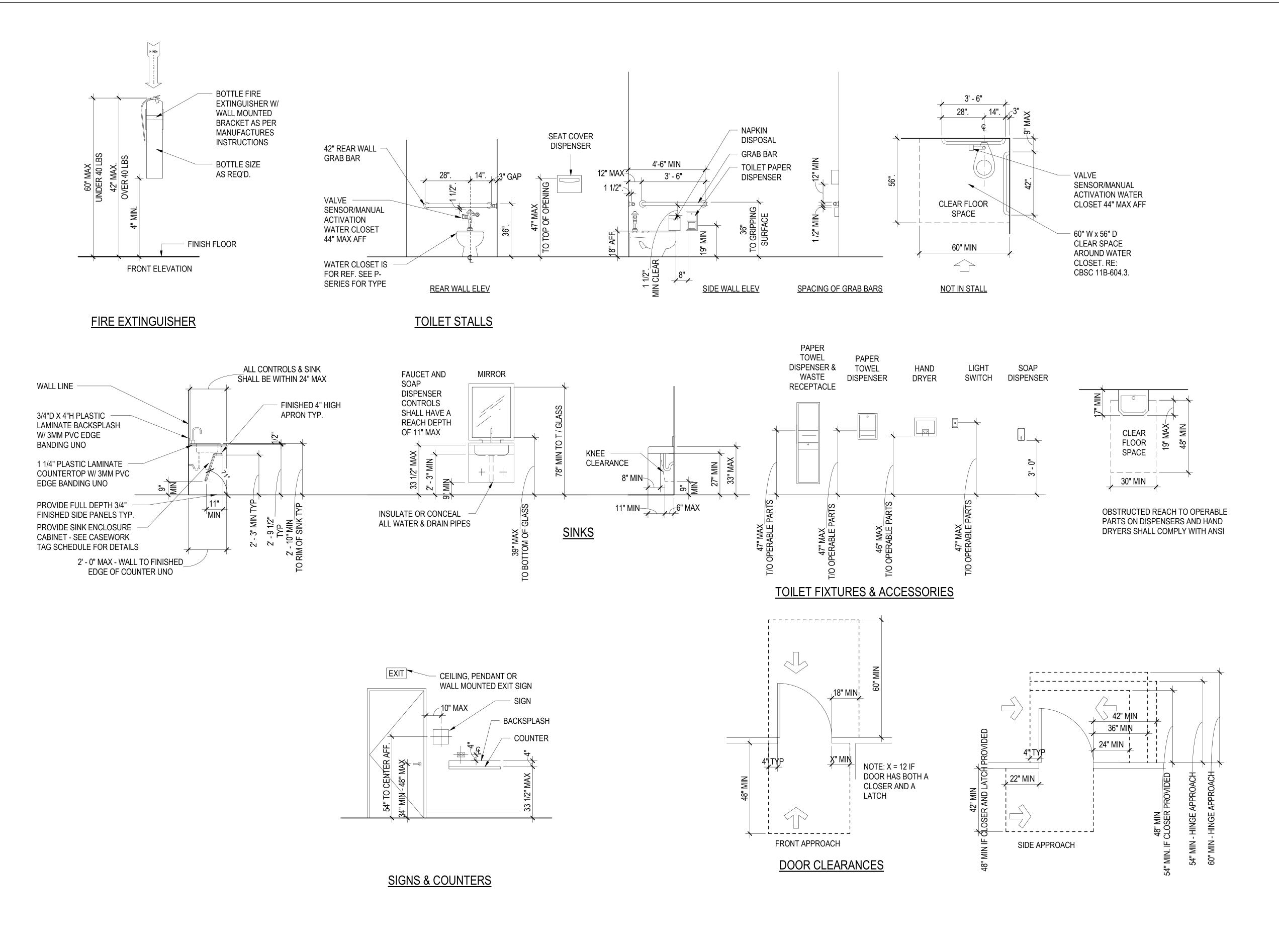
Port

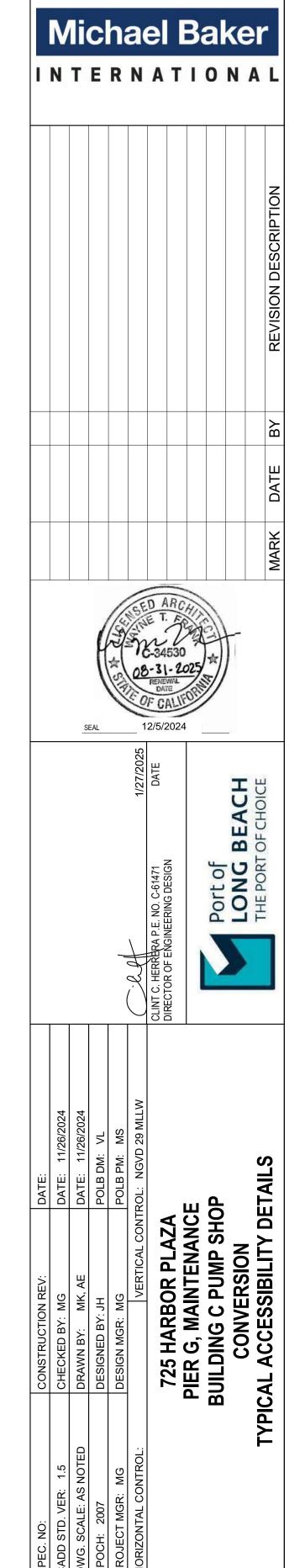
'25 HARBOR PLAZA ER G, MAINTENANCE ILDING C PUMP SHOP CONVERSION

PROJECT MGR: MG
HORIZONTAL CONTROL: NAD83-V

10-02464-AA001

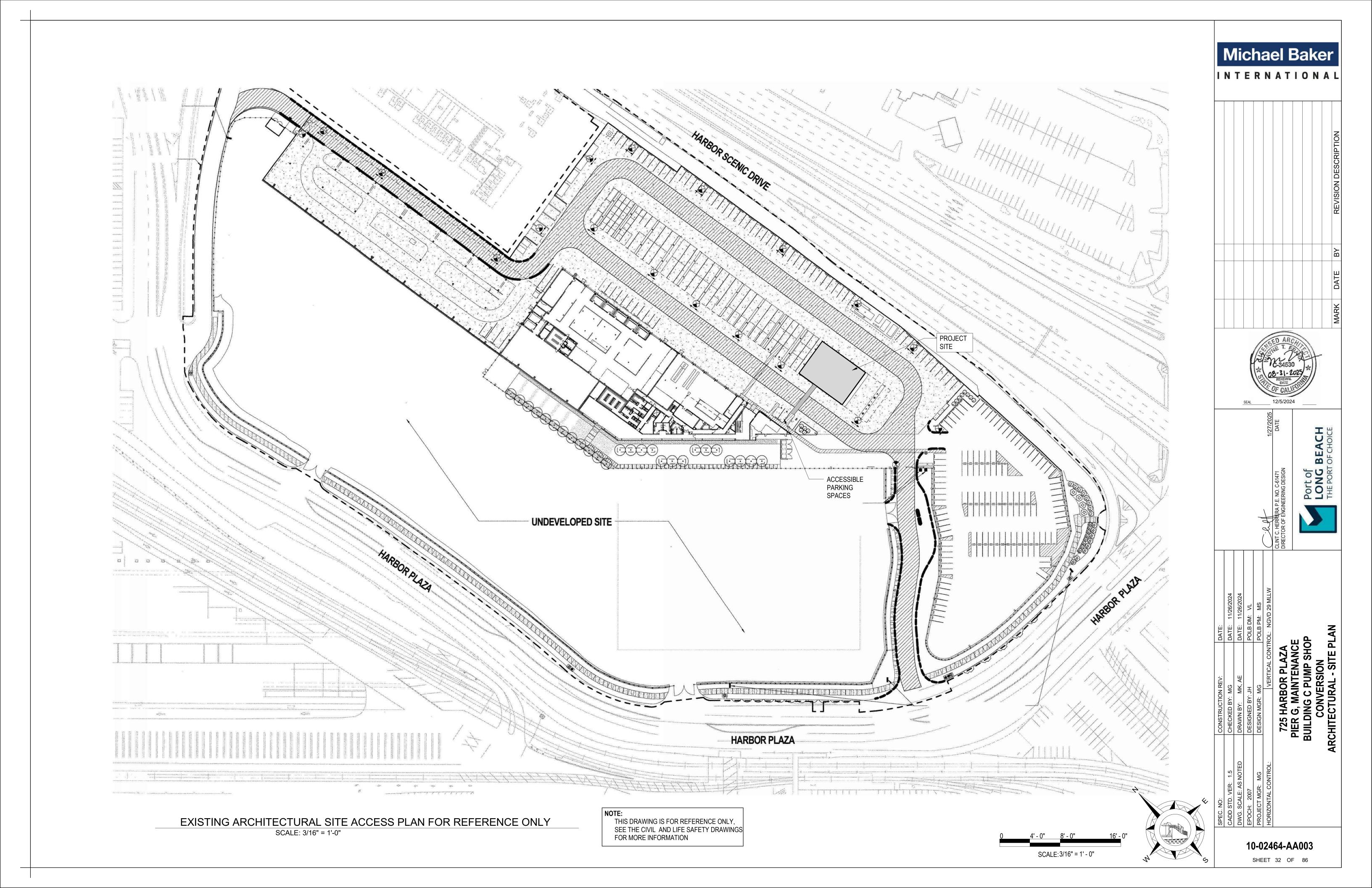
SHEET 30 OF 86

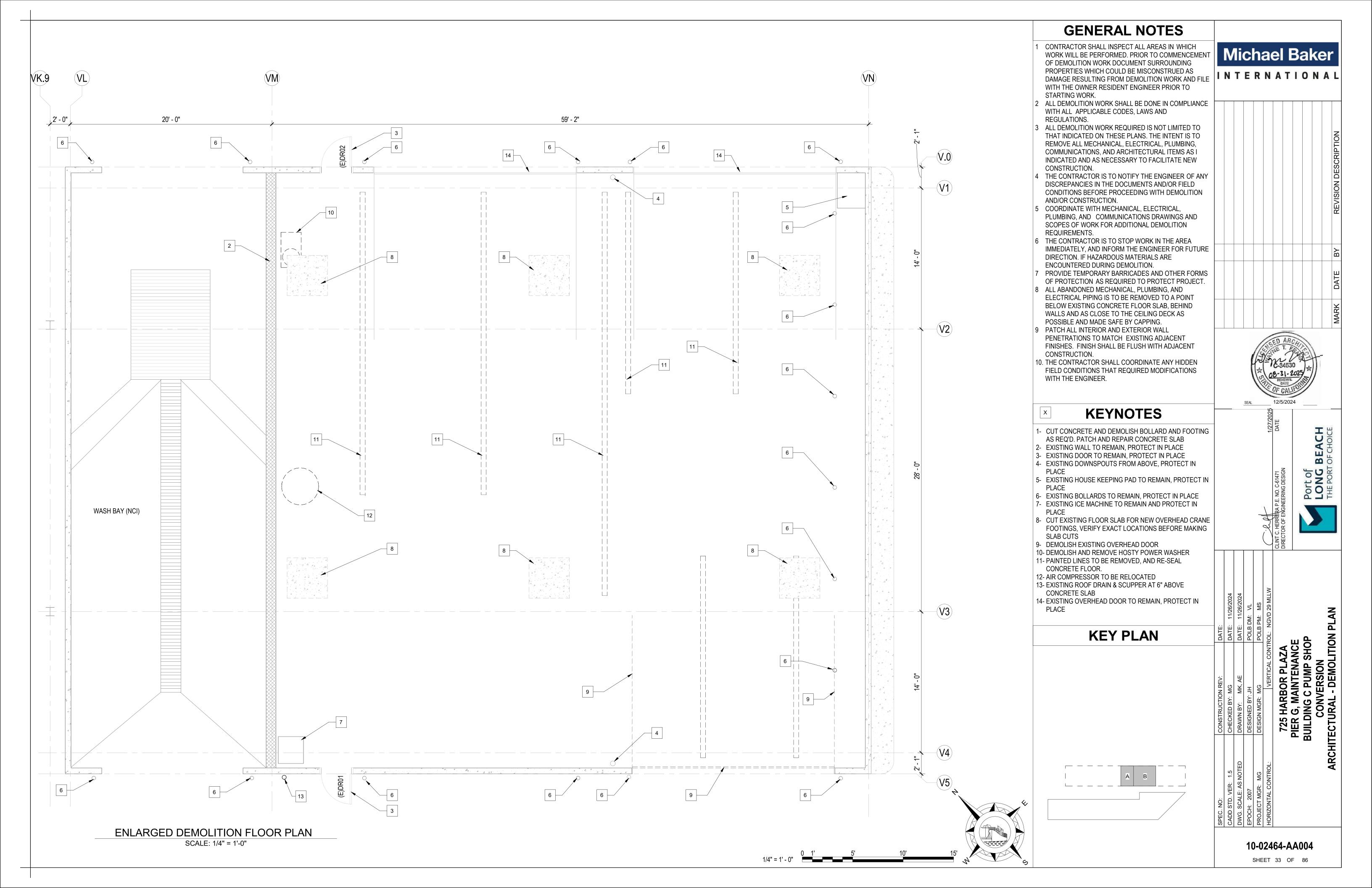


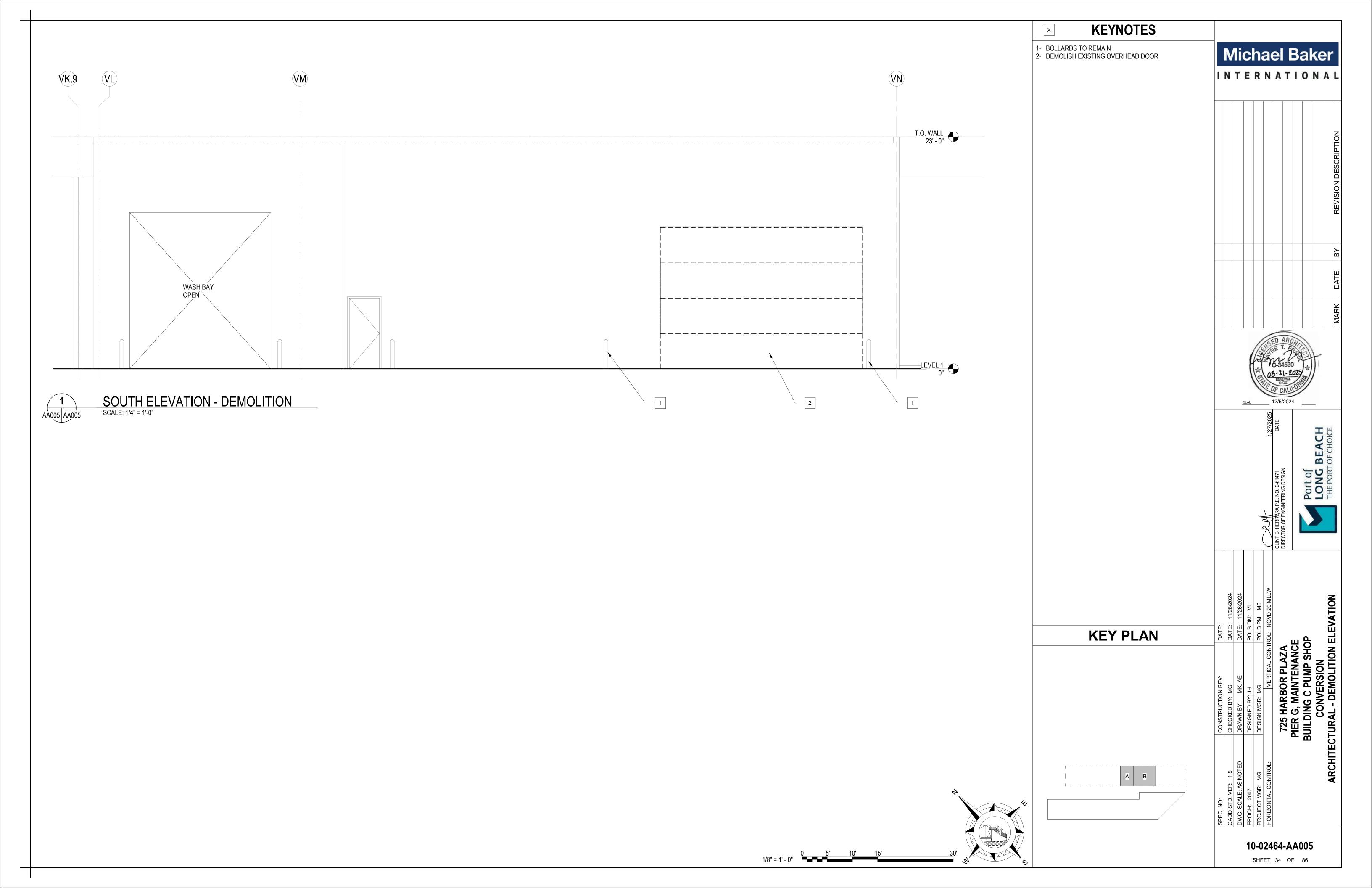


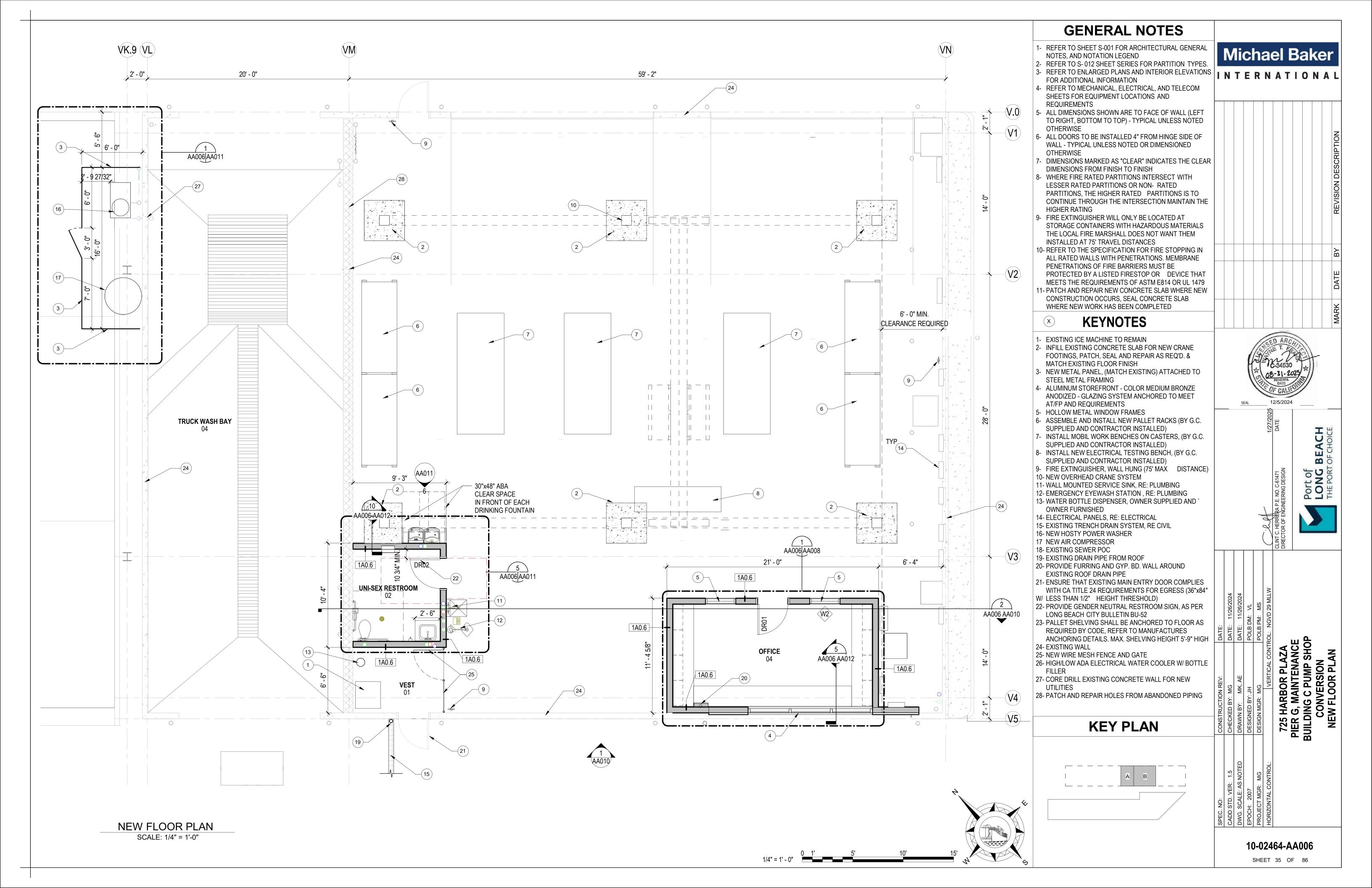
10-02464-AA002

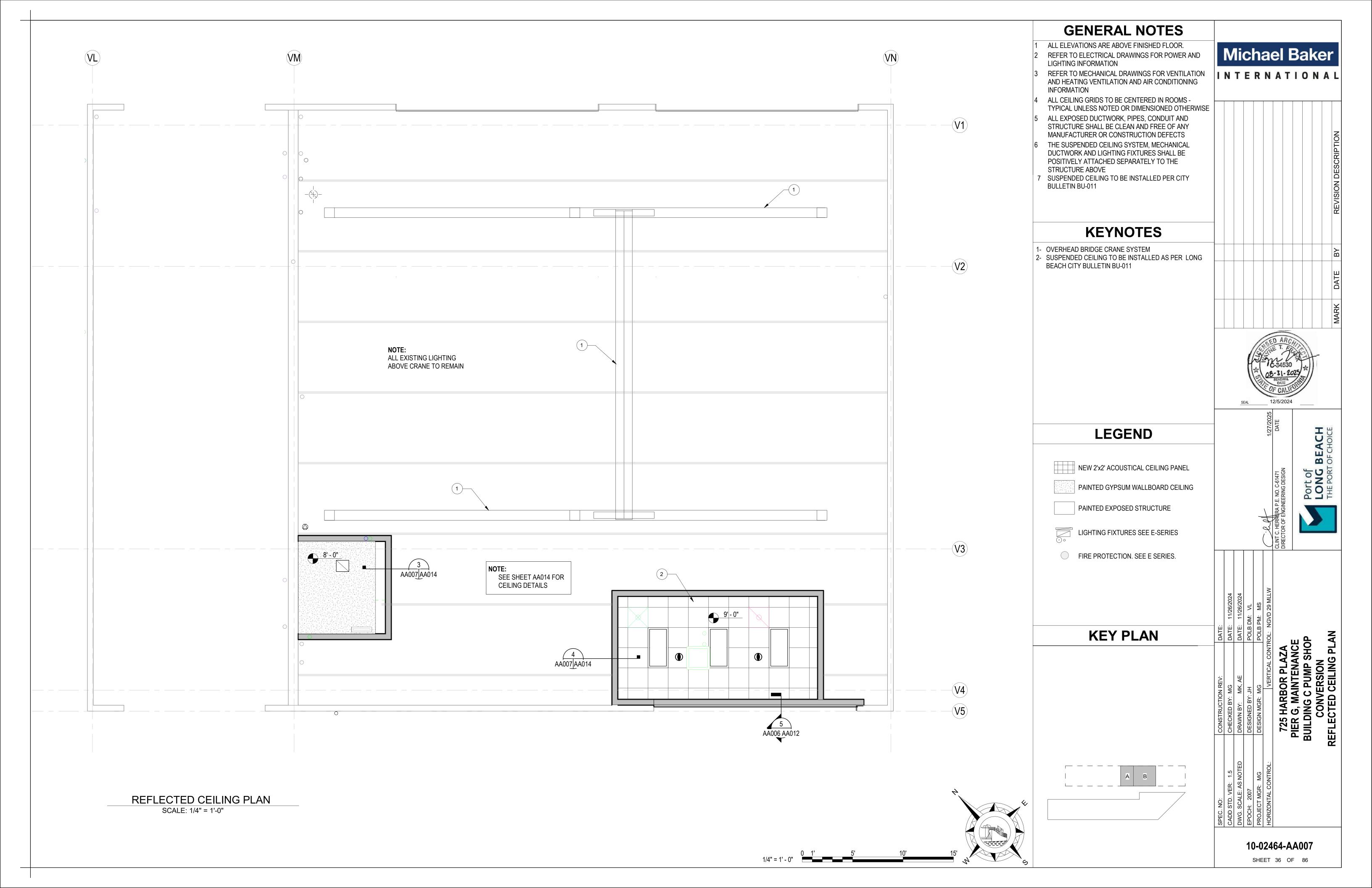
SHEET 31 OF 86

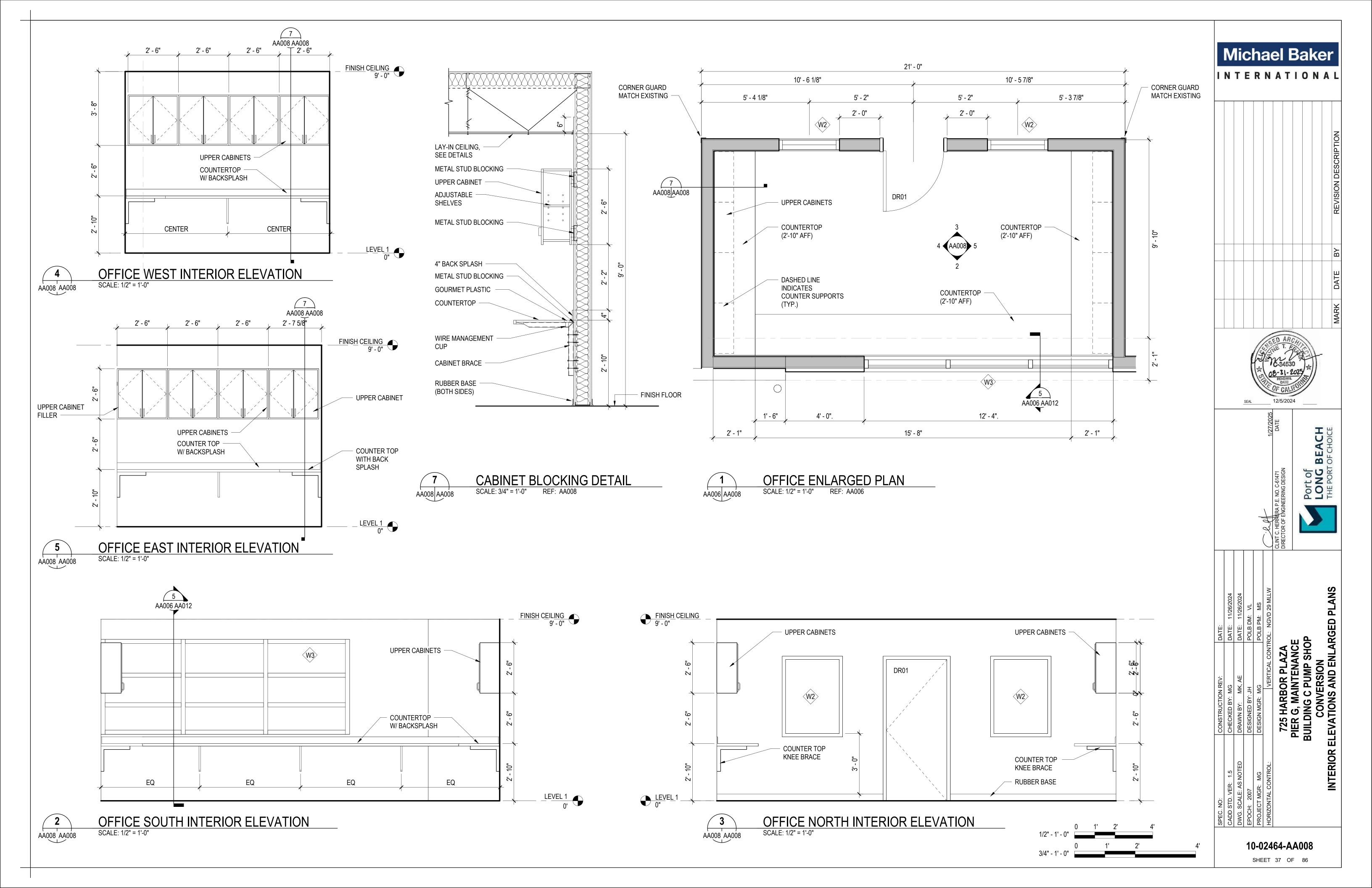


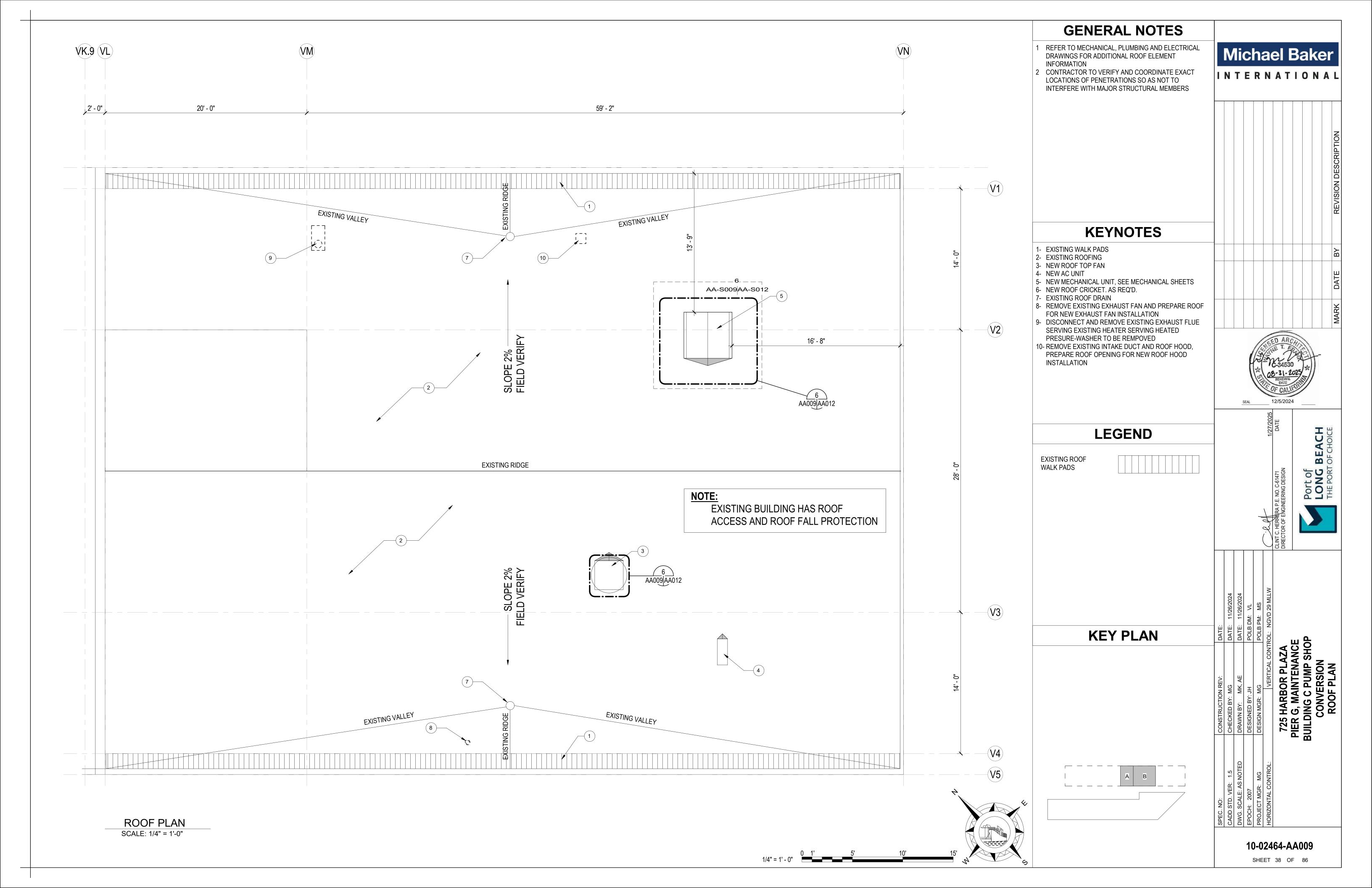


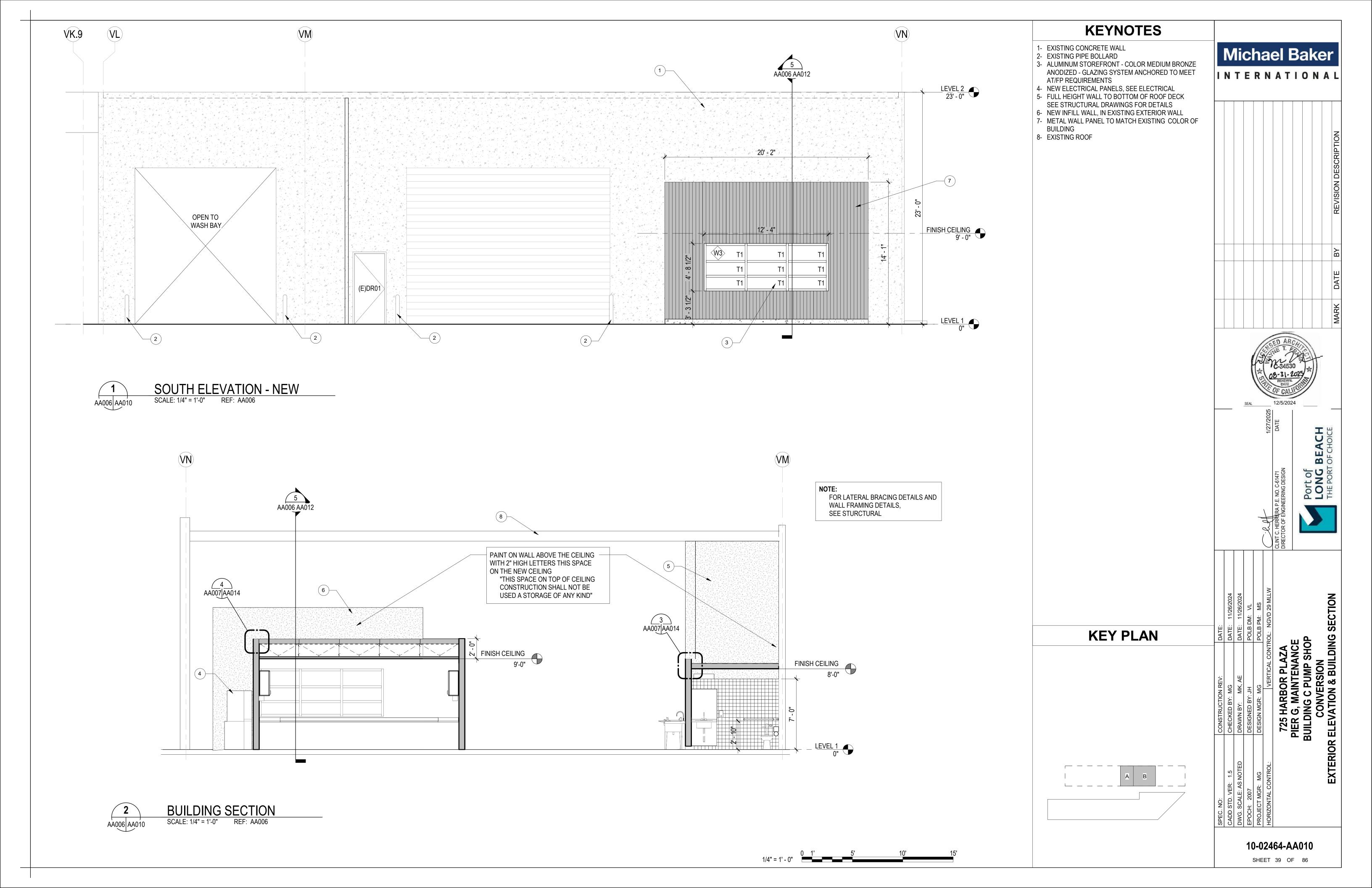


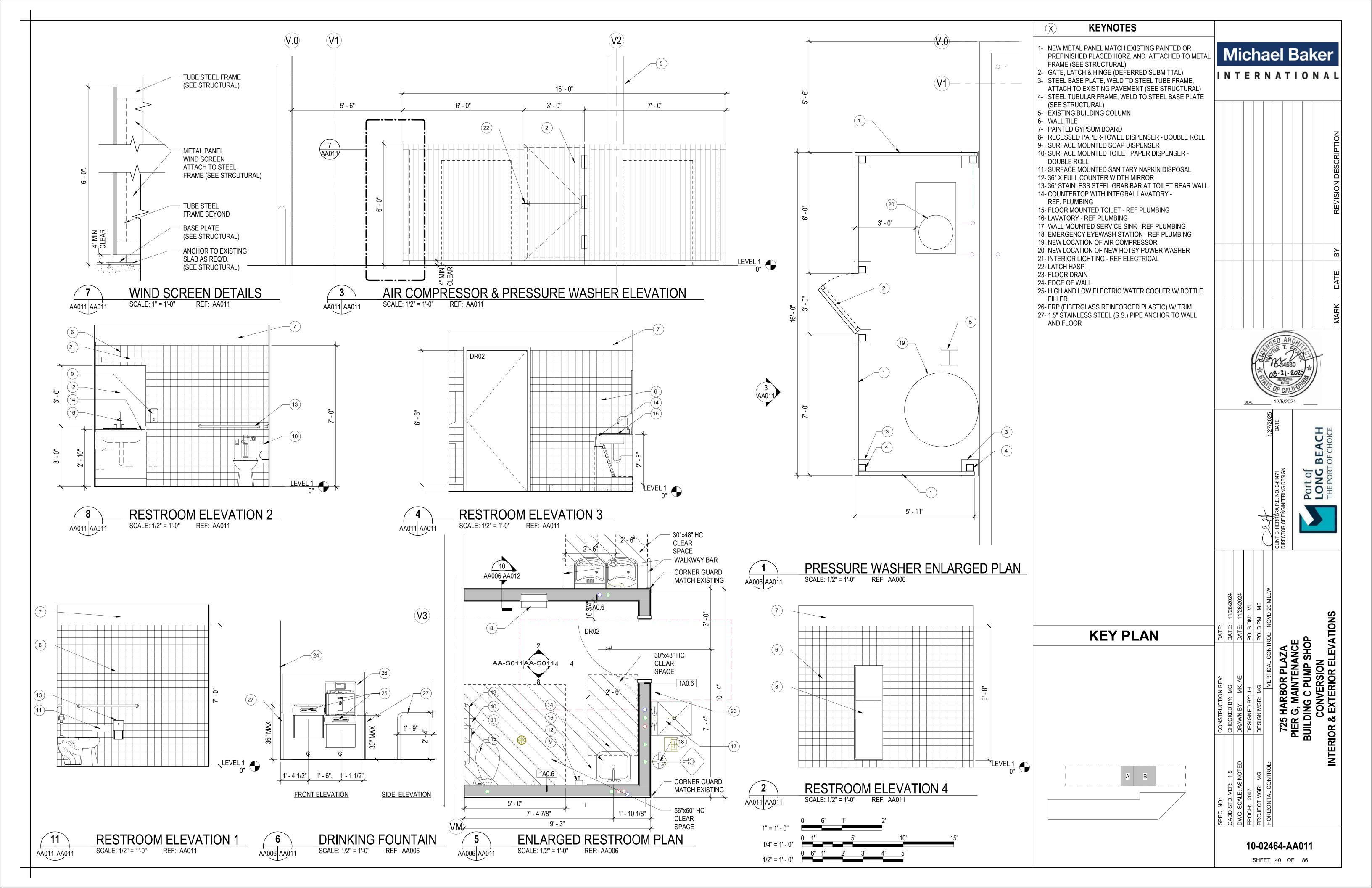


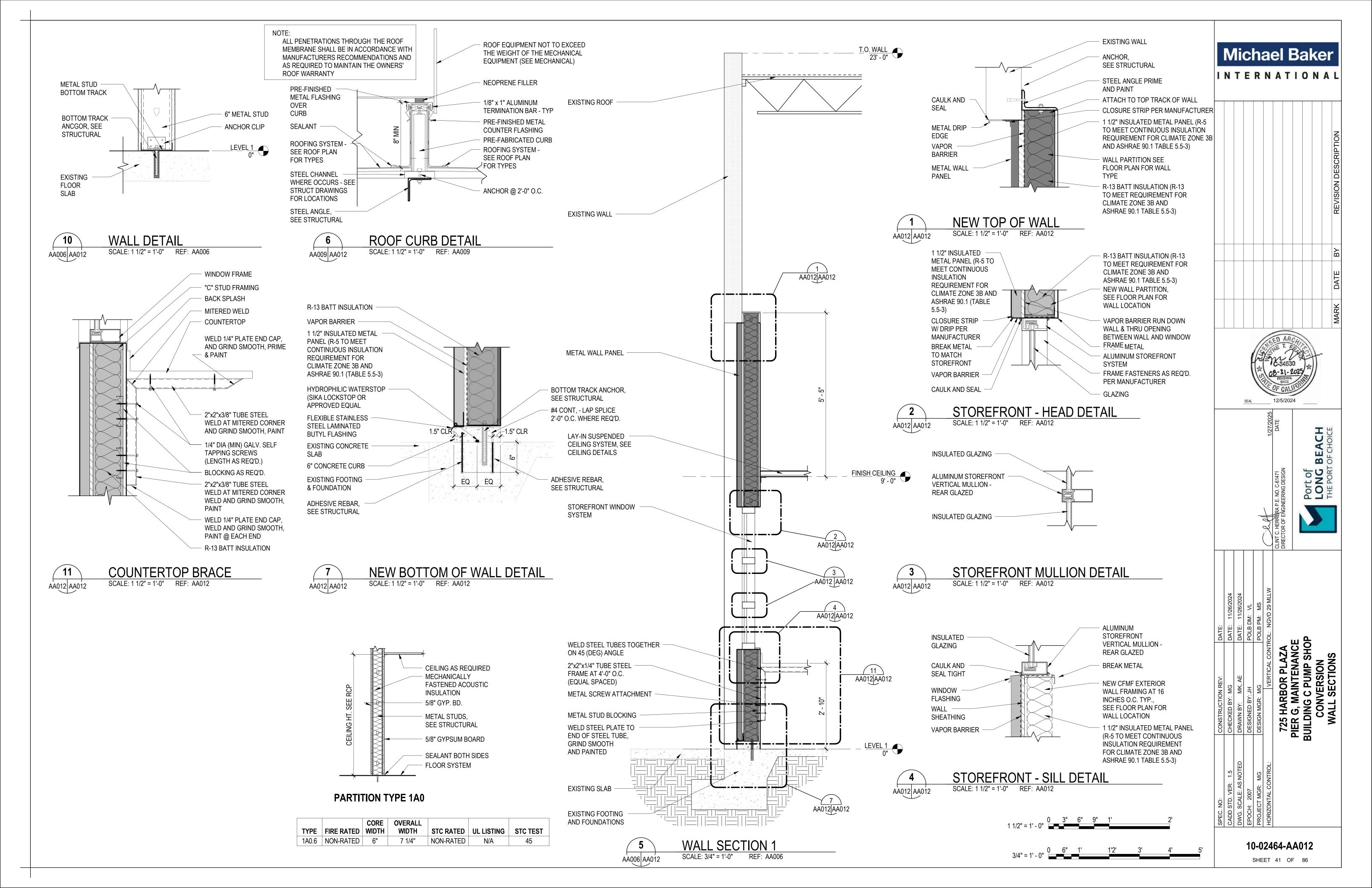






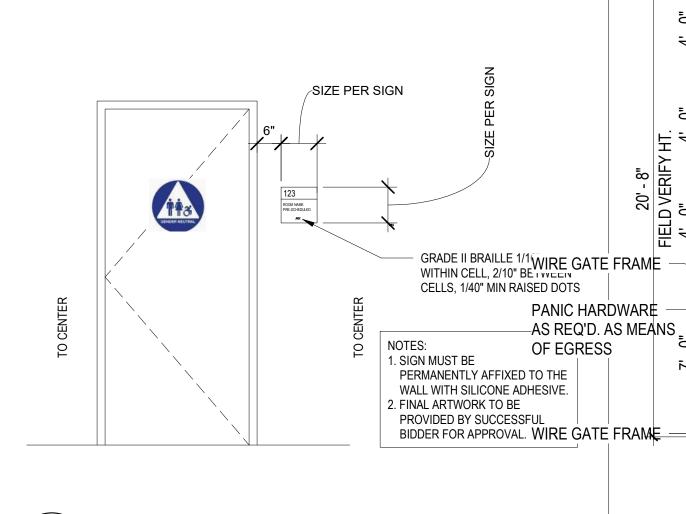






	FINISH SCHEDULE											
	ROOM	BASE	FLOORING	PAINT	CEILING FINISH	TILE COUNTERTOP, CABINETS	REMARKS					
NUMBER	NAME	DAGE	LOOMING	I AIN I	OLILINO I INIOIT	THEE GOOTTERTOT, ON BINETO	TEM ITAL					
01	VESTIBULE	RB1	CO	P1, P2, P3	EXPOSED TO CEILING							
02	UNISEX - RESTROOM	RB1	T1	P1, P2, P3	PAINTED GYP	T2 —						
03	SHOP		CO	P1, P2, P3	EXPOSED TO CEILING							
04	OFFICE	RB1	CO	P1, P2, P3	ACP1	—— PL1, C1						

		ROOM F	INISH LEGEND		
FINISH	DESCRIPTION	MANUFACTURE	SERIES	STYLE / COLOR	REMARKS
R1	RESINOUS FLOORING	STANDARD	STONECALD GR. 1/4" THICK	PEWTER	
P1	WALL PAINT	VISTA WHITE	00 BRIGHT WHITE	MATCH FLAT FINISH	
P2	CEILING PAINT	VISTA WHITE	00 BRIGHT WHITE	MATCH FLAT FINISH	
P3	TRIM, DOORS & WINDOWS TRIM COLOR	VISTA WHITE	00 BRIGHT WHITE	MATCH FLAT FINISH	
T1	2"x2" PORCELAIN FLOOR TILE	SPEC CERAMICS	GI SERIES, UNICOLOR 2S-GI	1100 GROUT COLOR	PRO SPEC LINEN 41
T2	WALL TILE	SPEC CERAMICS	GI SERIES, UNICOLOR 06T-GI	3"x1" PORCELAIN	7004 GROUT COLOR, DELOREAN GRAY 25
RB1	RUBBER BASE	JOHNSONITE	08 ICICLE, 4"		
PL1	PLASTIC LAMINATE CABINETS	PLASTIC LAMINATE	WILSON ART	1573-01 - FROSTY WHITE	
C1	PLASTIC LAMINATE COUNTERTOPS	PLASTIC LAMINATE	WILSON ART	1573-01 - FROSTY WHITE	
CO	CONCRETE FLOOR SEALER	MATCH EXISTING	MATCH EXISTING	MATCH EXISTING	
ACP1	ACOUSTICAL CEILING PANEL 24"x24"	USG	MARS CLIMPLUS 9/16"	WHITE	FINELINE BEVELED EDGE





NOTE:

ALL SIGNAGE TO MATCH EXISTING BUILDING, TYPE, STYLE AND COLOR.

SIGNAGE NOTES:

- 1- ALL SIGNAGE SHALL CONFORM TO THE FOLLOWING CODES AS REQUIRED 2022 CALIFORNIA BUILDING CODE, TITLE 24 2- ALL SIGNS SHALL CONFORM TO THE TACTILE EGRESS SIGNED "EXIT" AND COMPLY WITH - 2022 CALIFORNIA BUILDING CODE.
- 3- ALL SIGNS THAT ARE REQUIRED BY CODE SHALL CONFORM TO ALL STANDARDS AND REQUIREMENTS 4- OTHER SIGNS THAT ARE REQUIRED: "MAX NUMBER OF OCCUPANTS", AND "MAX. WEIGHT OF EXPLOSIVES COMPOSITION", AND
- SHALL BE PLACED IN ALL BUILDINGS AND MAGAZINES IN CONSPICUOUS LOCATIONS
- 5- WALL FIRE RATING AS REQUIRED, SEE FLOOR PLANS
- 7- SIGNS SHALL BE POSTED AND PERMANENTLY MOUNTED
- 8- LETTERS ON SIGNS SHALL BE NO LEES THAN 2 INCHES HIGH, WITH LETTER STOKE NO LESS THAN 3/8 OF AN INC
- 9- MOUNTING HEIGHTS AND LOCATIONS, AS DESCRIBED BY CODE









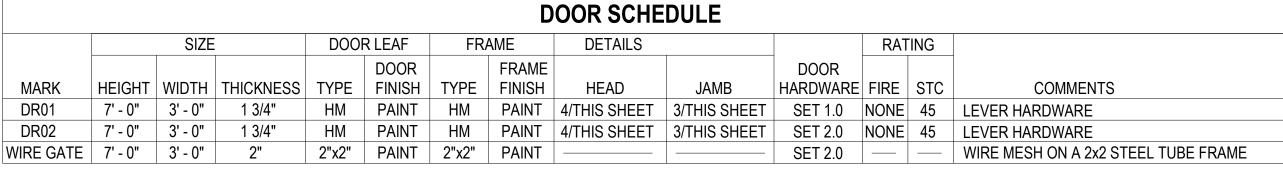




EXIT

RESTROOM

* * SIGNS ARE EXAMPLES. NOT ACTUAL SIGNS * *



EXISTING DOORS AND HARDWARE ARE TO REMAIN AS IS WITH LEVER STYLE HARDWARE. BOTH DOORS AND HM FRAMES 3'-0" x 7'-0"

6100 SERIES

WIRECRAFTS HDCLRETROC

VON DUPRIN

1 ELECTRIC STRIKE - CARD READER

WIRE GATE FRAME

WIRE SWING GATE

CORE DRILL FOR FENCE

POLE AND CEMENT INTO EXISTING SLAB

DOOR TYPE

LEVEL 1

HM WINDOW - HEAD DETAIL

SCALE: 1 1/2" = 1'-0"

WIRE MESH FENCE

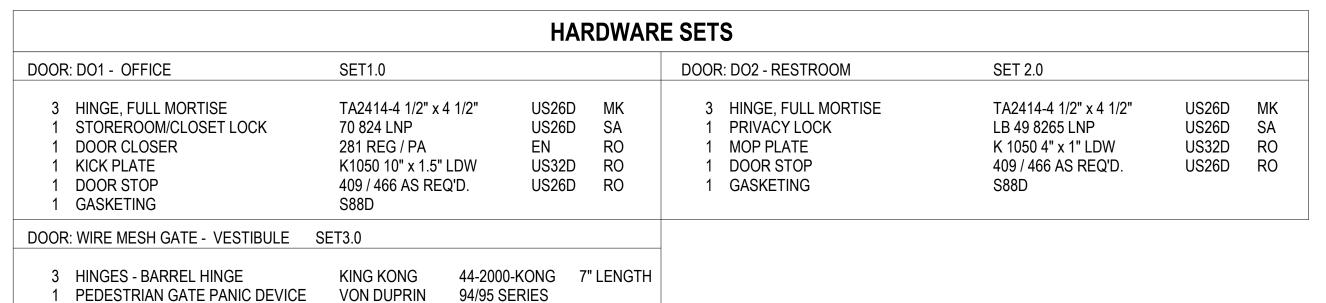
SCALE: 1/4" = 1'-0" REF: AA011

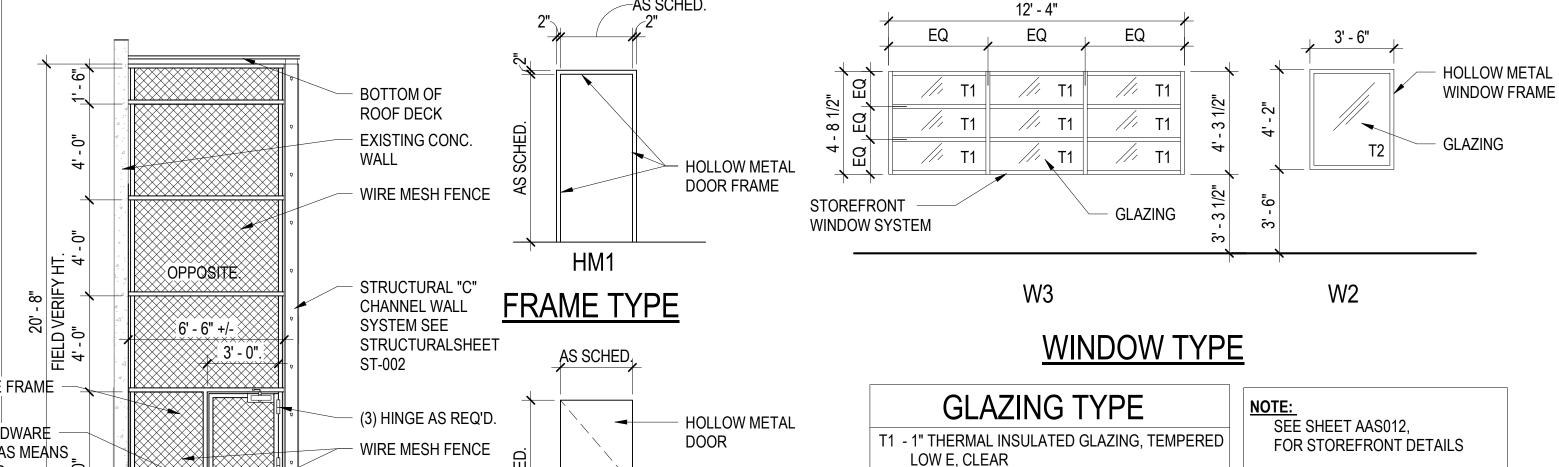
5

AA011 AA013

AA013 AA013

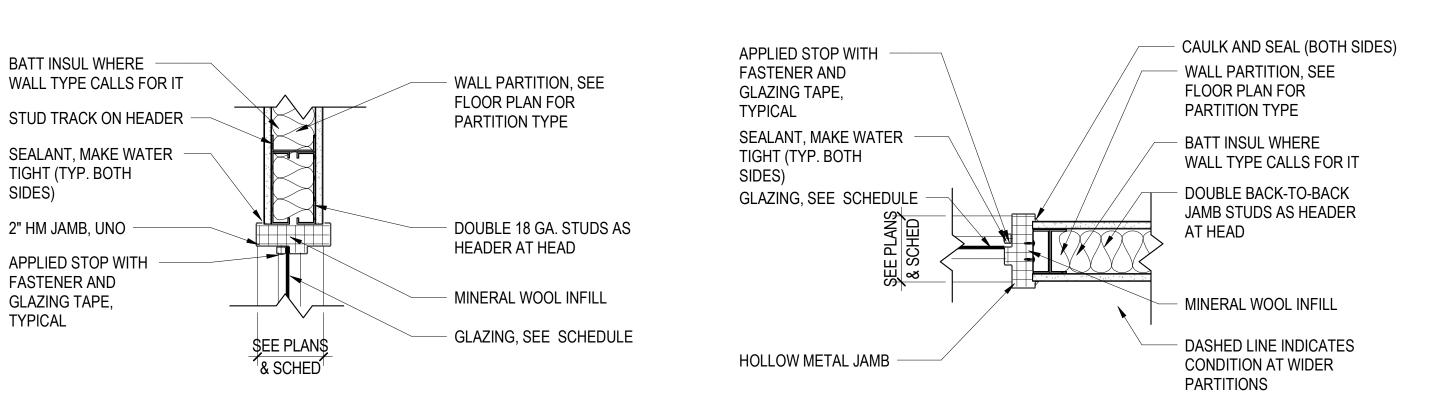
1 CLOSER - SELF CLOSING





WINDOW SCHEDULE										
MARK	WIDTH	HEIGHT	SILL HT.	COMMENTS						
W2	4' - 0"	3' - 0"	3' - 0"							
W3	12' - 4"	4 - 3 1/2"	3' - 3 1/2"							

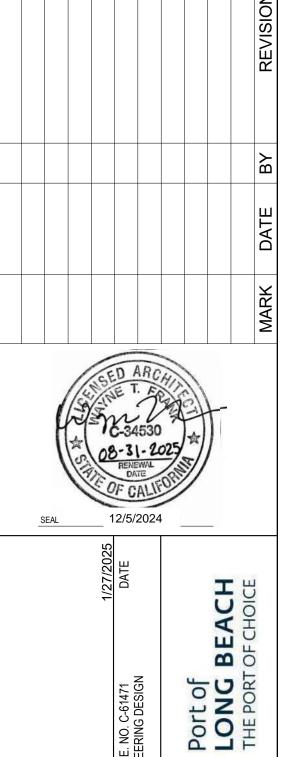
T2 - 1/2" TEMPERED GLAZING, LAMINATED, CLEAR



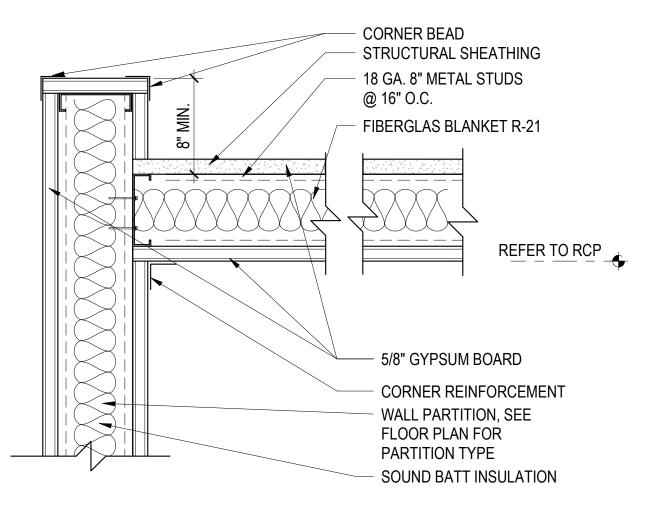




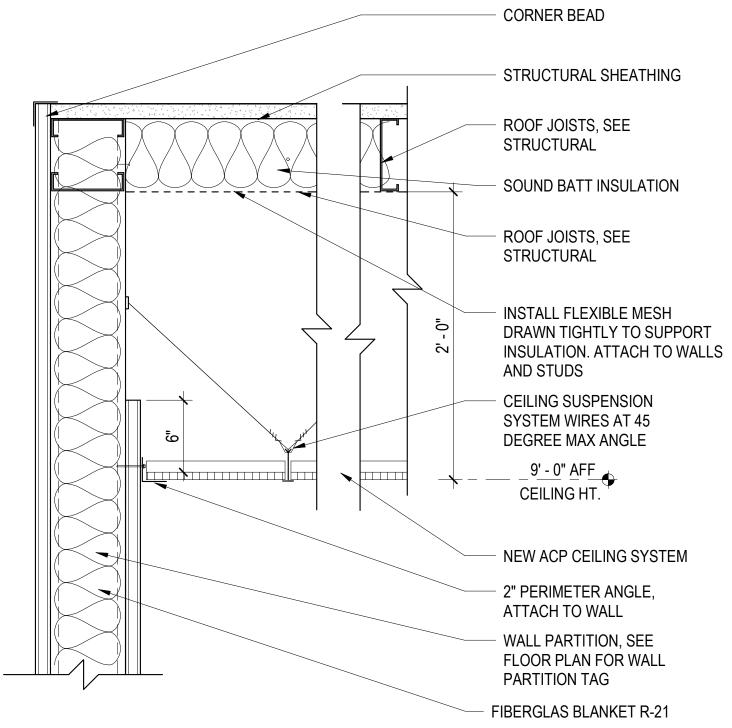




10-02464-AA013 SHEET 42 OF 86

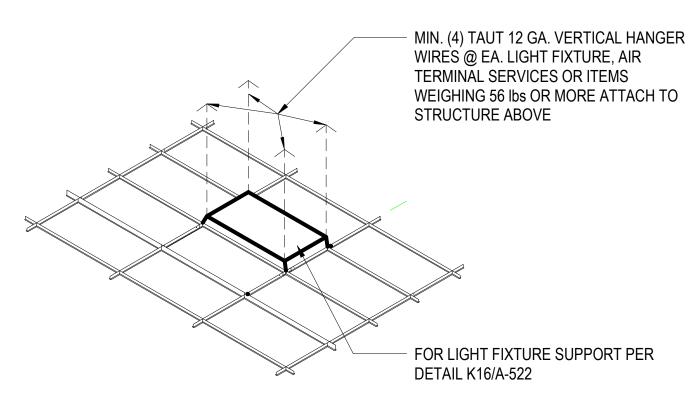


GYP. BD. CEILING SYSTEM SCALE: 1 1/2" = 1'-0" REF: AA007



ACP CEILING SYSTEM SCALE: 1 1/2" = 1'-0" REF: AA007

1. CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS OR DEVICES.

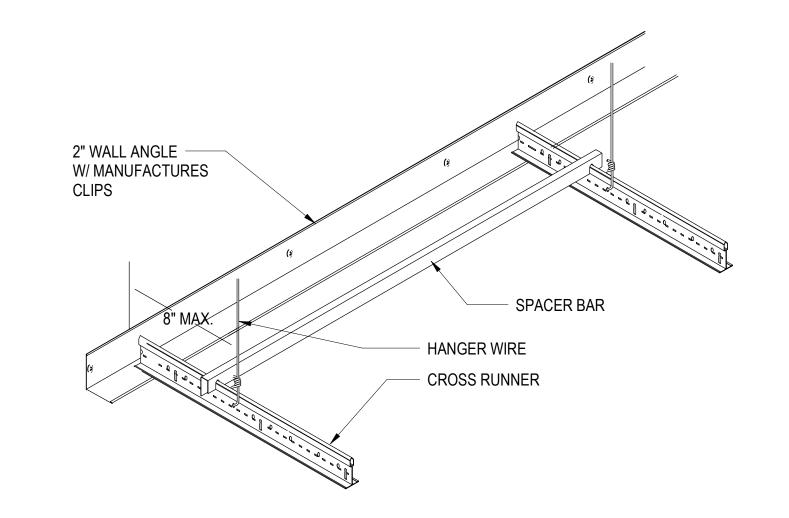


SUSPENDED CEILING FIXTURE FIXED SUPORT SCALE: 1/4" = 1'-0"

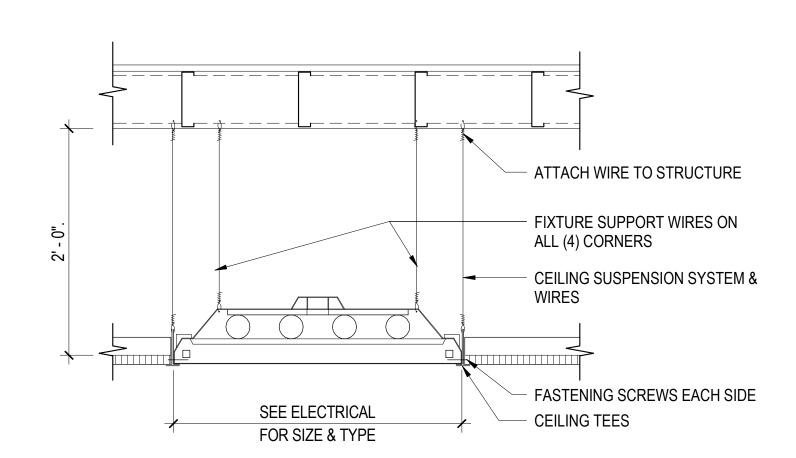
ACOUSTICAL CEILING PANEL (ACP) STANDARDS

NOTES & MATERIALS:

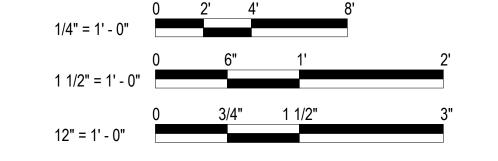
- * ACOUSTICAL CEILING PANEL (ACP) 19'-9" x 10'-2" = 201 SF
- * ACP 24"x24" CEILING TILES
- * 12 GA. HANGER WIRE AT ALL LIGHT CORNERS AND EQUIPMENT WHICH ADD ANY WEIGHT TO CEILING * POP REVIT ALL TEES TO WALL ANGLE, AS REQ'D. BY MANUFACTURER
- * 2" CONT. WALL TRIM ANGEL
- * STANDARD MAIN RUNNER TEES
- * STANDARD CROSS RUNNER TEE
- * 12 GA. HANGERS AT 4'-0" EACH WAY (TYP.)
- * 12 GA. HANGERS AT 4'-0" PERIMETER. SUPPORTING MAIN RUNNERS AND CROSS RUNNERS 8" FROM WALL MAX (TYP.)





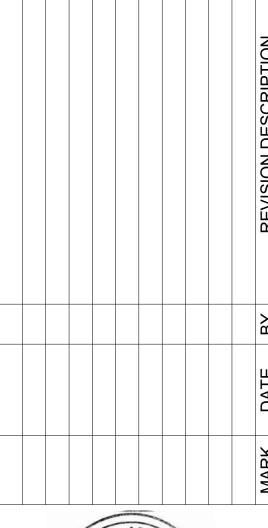


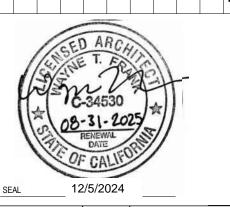






INTERNATIONAL





BEACHOF CHOICE

Port of LONG I

10-02464-AA014

SHEET 43 OF 86



PARTITION WALL ROOF SUPPORT

AFTER WELD (IF REQUIRED)

NOTE:
REPAIR DECK WITH ZINC RICH EMULATION

L6 x 4 x 1/4 LLV CONT, SPOT WELD TO EACH

DECK FLUTE

ROOF METAL DECK

PARTITION



FLOW TEST RESULTS STATIC PRESSURE:

57 PSI 54 PSI **RESIDUAL PRESSURE:** 2420 GPM

THE FIRE WATER FOR THE FACILITY IS SUPPLIED BY A FIRE PUMP IN THE FIRE PUMP HOUSE BY HARBOR PLAZA.

FIRE PUMP

DIESEL TYPE: RATED FLOW: 1500 GPM PRESSURE AT RATED FLOW: 110 PSI

NOTE: FIRE PUMP AND WATER FLOW TEST DATA ARE FROM 2013. A NEW HYDRANT FLOW TEST SHALL BE PERFORMED TO DETERMINE AVAILABLE SYSTEM FLOW AND PRESSURE. A NEW FIRE PUMP TEST SHALL BE PERFORMED AND DATA USED IN CONTRACTOR HYDRAULIC CALCULATIONS.

	FIRE PROTECTION ABBREVIATIONS AND LEGEND										
SYMBOL	ABBREV	DESCRIPTION	HOSE DEMAND	MINIMUM K FACTOR							
(HC-1)	HC-1	HAZARD CATEGORY 1	250 GPM	5.6							
(HC-2)	HC-2	HAZARD CATEGORY 2	250 GPM	5.6							

FIR	FIRE SUPPRESSION LEGEND								
SYMBOL	DESCRIPTION								
	SPRINKLER PIPE (EXISTING)								
	- SPRINKLER PIPE (NEW)								
•	CONNECT TO EXISTING								
	UPRIGHT SPRINKLER (EXISTING)								
•	UPRIGHT SPRINKLER (NEW)								
FS	FLOW SWITCH (NEW)								
Ts	FLOW SWITCH (NEW)								
	I LOVV SVVITGIT (INLVV)								

SPRINKLER SYSTEM DESIGN REQUIREMENTS

- 1. EXTEND THE EXISTING SPRINKLER SYSTEM TO PROVIDE COVERAGE IN THE NEW ROOMS CREATED IN THE BUILDING RENOVATIONS. THE SPRINKLER SYSTEMS DESIGN SHALL BE IN ACCORDANCE WITH NFPA 13 AND FM GLOBAL STANDARDS.
- 2. PROVIDE 100% PROTECTION OF THE BUILDING INTERIOR INCLUDING, BUT NOT LIMITED TO; TOILET ROOMS AND
- ALL SPACES AS INDICATED AND REQUIRED BY NFPA. 3. ALL SPRINKLERS IN LIGHT HAZARD AND ORDINARY HAZARD LOCATIONS SHALL BE QUICK RESPONSE TYPE.
- 4. PROVIDE RECESSED SPRINKLERS WITH ORDINARY TEMPERATURE RATING IN AREA WITH FINISHED CEILINGS. PROVIDE WHITE, POLY-COATED SPRINKLERS AND WHITE ESCUTCHEONS.
- 5. MIXING OF HEAD TYPES, INCLUDING FINISHES, WITHIN THE SAME AREA IS NOT PERMITTED.
- 6. PROVIDE INTERMEDIATE AND HIGH TEMPERATURE SPRINKLERS BASED ON DISTANCE FROM HEAT SOURCES SUCH AS DIFFUSERS AND UNIT HEATERS IN ACCORDANCE WITH NFPA 13 SECTION 8.3.2.5
- PIPING LARGER THAN 2 INCHES MUST BE A MINIMUM OF SCHEDULE 10.
- 8. GALVANIZED PIPING IS NOT PERMITTED TO BE USED IN SPRINKLER SYSTEMS.
- 9. ALL SPRINKLER SYSTEM FITTINGS SHALL BE RATED FOR A MAXIMUM WORKING PRESSURE OF NOT LESS THAN 175
- 10. THE SPRINKLER SYSTEMS SHALL BE DESIGNED HYDRAULICALLY FOR UNIFORM DISCHARGE DENSITIES ON THE **FOLLOWING BASIS:**
 - A. SPRINKLER SYSTEM DISCHARGE DENSITIES SHALL BE BASED ON NFPA 13, FM DS 3-26 AND THE FIRE PROTECTION HAZARD CLASSIFICATION TABLE ON THIS SHEET.
 - B. MAXIMUM SPRINKLER SPACING SHALL BE 225 SQ FT PER HEAD FOR HAZARD CATEGORY 1 AREAS, 130 SQ FT 6. CONTRACTOR SHALL COMPLY WITH THE LOCAL FIRE CODE, ALL REGULATORY AGENCIES AND CODE PER HEAD FOR HAZARD CATEGORY 2 AREAS.
 - C. HOSE DEMANDS FOR THE SPRINKLER SYSTEMS WILL BE BASED ON THE COMBINED INSIDE AND OUTSIDE HOSE DEMANDS. HOSE DEMAND IS SUPPLIED FROM A SEPARATE LINE THAN THE FIRE PROTECTION SUPPLY.
 - a. HAZARD CATEGORY 1 250 GPM
 - b. HAZARD CATEGORY 2 250 GPM
 - D. RACK STORAGE SHALL BE LIMITED TO CLASS IV COMMODITIES AND SHALL BE LIMITED TO A MAXIMUM STORAGE HEIGHT OF 12 FEET.
 - E. GROUP A PLASTIC STROAGE SHALL BE ON PALLET RACKS AT A MAXIMUM STORAGE HEIGHT OF 5 FEET THE CALIFORNIA BUILDING CODE.

PROJECT SPECIFIC NOTES

- 1. THE BUILDING IS PROTECTED THROUGHOUT WITH AN AUTOMATIC WET PIPE FIRE PROTECTION SYSTEM. THE SYSTEM IS CURRENLTY SUPERVISED BY THE FIRE ALARM SYSTEM.
- THE EXISTING SYSTEM HAS BEEN DESIGNED TO NFPA WITH THE FOLLOWING DENSITY:
- A. ORDINARY HAZARD GROUP I: 0.15 GPM / 1,500 SQ.FT.
- 3. THE NEW OCCUPANCY OF THE SPACE IS A HIGHER HAZARD THAN THE PREVIOUS OCCUPANCY, THE NEW OCCUPANCY REQUIRES THE FOLLOWING DENSITY
- A. HAZARD CATEGORY II: 0.20 GPM / 1,500 SQ.FT.

SCOPE

- 1. THE FIRE PROTECTION SYSTEMS SHALL COMPLY WITH CALIFORNIA BUILDING CODE 2022, NFPA 13 2022 WITH CBC AMENDMENTS, FACTORY MUTUAL (FM GLOBAL) STANDARDS, SPECIFICATION SECTIONS 21 13 13. AND WITH THESE CONTRACT DRAWINGS AS APPROVED BY THE LONG BEACH FIRE DEPARTMENT PRIOR TO INSTALLATION.
- 2. ALL FIRE PROTECTION MATERIALS ARE TO BE UL LISTED AND FM APPROVED.
- CLOSETS FORMING A PERMANENT PART OF THE BUILDING STRUCTURE, COMBUSTIBLE CONCEALED SPACES AND 3. THIS BUILDING MUST BE EQUIPPED WITH AN AUTOMATIC FIRE EXTINGUISHING SYSTEM COMPLYING WITH NFPA 13. THE SPRINKLER SYSTEM SHALL BE APPROVED BY THE FIRE PLAN REVIEWER PRIOR TO INSTALLATION.

GENERAL CONTRACTOR RESPONSIBILITIES

- 1. IT IS THE INTENT OF THESE DOCUMENTS TO PROVIDE DESIGN, MATERIALS AND EQUIPMENT FOR A TOTALLY FUNCTIONING AND OPERATING FIRE PROTECTION SYSTEM, INCLUDING THE PROPER INTERFACING AND COORDINATION WITH ALL OTHER BUILDING SYSTEMS.
- 7. ALL SPRINKLER PIPING SHALL BE BLACK STEEL. PIPING 2 INCHES AND LESS MUST BE A MINIMUM OF SCHEDULE 40. 2. PIPING LAYOUTS, WHERE SHOWN, SHOW PIPE DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS, AND RISERS. FINAL ROUTING SHALL BE PROVIDED ON SHOP DRAWINGS.
 - THE GENERAL CHARACTER AND SCOPE OF THE WORK IS ILLUSTRATED IN THE SPECIFICATIONS AND DRAWINGS. THE SPECIFICATIONS AND DRAWINGS ARE DIVIDED INTO SEVERAL SECTIONS FOR CONVENIENCE ONLY AND ALL OF THE CONTRACT DOCUMENTS MUST BE CONSIDERED AS A WHOLE.
 - 4. THE SPRINKLER SYSTEM DESIGNER SHALL BE RESPONSIBLE FOR AVOIDING ALL CONFLICTS BETWEEN FIRE PROTECTION SYSTEMS AND LIGHTING FIXTURES, DIFFUSERS, GRILLES, DUCTS, EQUIPMENT FIXTURES, STRUCTURAL MEMBERS, PIPES, CONDUITS, AND OTHER OBSTRUCTIONS ENCOUNTERED.
 - 5. THE INSTALLING CONTRACTOR SHALL OBTAIN APPROVAL OF THE AUTHORITY HAVING JURISDICTION.
 - REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY PERMITS AND APPROVALS OF ALL TRADES.
 - 7. DAMAGE TO WALLS, PARTITIONS, CEILINGS AND FLOORS FROM PENETRATIONS, INSTALLATION OR OTHER ACTIONS OF THE SPRINKLER INSTALLER MUST BE PATCHED, REPAIRED, PAINTED WITH NEW MATERIALS TO ORIGINAL
 - 8. CONTRACTOR SHALL PROVIDE A FIRE WATCH DURING SYSTEM IMPAIRMENT TO ALL AREAS ARE IMPAIRED BY THE SYSTEM OUTAGE.

FIRE PROTECTION GENERAL NOTES

- F. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE LIMITED TO THE MAXIMUM ALLOWABLE QUANTITIES PER 1. ALL PIPING IS TO BE INSTALLED TO MAINTAIN CEILING HEIGHTS OR CLEARANCES IN ACCORDANCE WITH NFPA 13, FM GLOBAL DATA SHEETS, NFPA 101 AND THE CONTRACT DOCUMENTS.
 - 2. NO PIPING SHALL BE LOCATED IN ELECTRICAL ROOMS, ELECTRICAL CLOSETS, OR OTHER RELATED AREAS EXCEPT PIPING SERVING SPRINKLERS IN THE ROOM.
 - 3. SPRINKLER PIPING SHALL NOT BE INSTALLED ABOVE DEDICATED ELECTRICAL EQUIPMENT SPACE IN ACCORDANCE WITH NFPA 70.
 - 4. ALL SPRINKLER PIPING SHALL BE INSTALLED SO THAT ALL PORTIONS OF THE SYSTEM CAN BE DRAINED BACK THROUGH THE MAIN DRAIN VALVES. WHERE TRAPPED SECTIONS OF PIPING CANNOT BE AVOIDED, AUXILIARY DRAINS SHALL BE PROVIDED. PROVIDE TEST AND DRAIN CONNECTIONS IN ACCORDANCE WITH SPECIFICATIONS AND NFPA 13.
 - 5. DRAINS MUST TERMINATE TO THE EXTERIOR OF THE BUILDING AND BE PROVIDED WITH A SPLASH BLOCK OR OTHER MEANS TO DETER DAMAGE.
 - 6. LOCATE CONTROL VALVES, TEST VALVES, AND LOW POINT DRAIN VALVES IN READILY ACCESSIBLE AREAS WITHIN 8 FEET OF THE FLOOR. TEST VALVES AND DRAINS MUST DISCHARGE TO THE OUTSIDE OF THE BUILDING TO A SPLASH BLOCK.
 - ALL EXPOSED ABOVEGROUND SPRINKLER PIPING SHALL BE PAINTED RED.
 - 8. SPRINKLERS SHALL BE CENTERED IN CEILING TILES IN ONE DIRECTION AND NO CLOSER THAN 6 INCHES TO THE CEILING GRID IN THE OTHER DIRECTION.
 - 9. PROVIDE SPRINKLER HEAD TYPES IN ACCORDANCE WITH NFPA 13, SECTION 7.2.2.
 - 10. PROVIDE A MINIMUM OF 6 FEET BETWEEN SPRINKLER HEADS, AND MAINTAIN MINIMUM AREAS OF COVERAGE PER NFPA 13.
 - 11. ALL VALVES WHICH CONTROL ALARM FUNCTIONS OR THE FLOW OF WATER, THAT WHEN CLOSED WILL DISRUPT THE PROPER OPERATION OR ALARMING OF A SYSTEM SHALL BE ELECTRONICALLY SUPERVISED VIA TAMPER SWITCHES CONNECTED TO THE EXISTING FIRE ALARM CONTROL PANEL WITHIN THE MAINTENANCE BUILDING.
 - 12. PROVIDE A MINIMUM CLEARANCE OF 3 FEET IN FRONT OF ALL EQUIPMENT AND 6 INCHES BEHIND EQUIPMENT, I.E., CONTROL VALVES, BACKFLOW PREVENTER, CHECK VALVES, FLOOR CONTROL VALVE ASSEMBLIES, ETC. 13. NO STRUCTURAL MEMBERS SHALL BE CUT. DRILLED. OR BURNED UNLESS PREVIOUSLY APPROVED BY THE
 - 14. ALL PENETRATIONS OF THE BUILDING AIR BARRIER SHALL BE SEALED TO MAINTAIN THE INTEGRITY OF THE AIR
 - 15. MECHANICAL T-TAPS ARE NOT PERMITTED ON NEW CONSTRUCTION.
 - 16. PROVIDE AUTOMATIC AIR VENTS AT ALL HIGH POINTS IN THE WET PIPE SPRINKLER SYSTEMS. PROVIDE AIR VENTS TO VENT AT LEAST 95% OF THE VOLUMETRIC CAPACITY OF THE SYSTEM. DESIGN THE SYSTEM SUCH THAT THE NUMBER OF VENTS IS REDUCED (I.E. CONNECT BRANCHLINES OR PROVIDE A CROSS MAIN AT THE PEAK). PROVIDE PIPING TO DISCHARGE TO A SPLASH BLOCK AT THE EXTERIOR OF THE BUILDING
 - 17. CHLORINE FLUSHING AND DISINFECTION TESTING SHALL OCCUR BEFORE THE FIRE PROTECTION PIPING IS
 - PERMANENTLY CONNECTED TO THE WATER SUPPLY SYSTEM AND THE ISOLATION VALVE OPENED. 18. PROVIDE LABELING ON THE SURFACES OF ALL FEED AND CROSS MAINS TO SHOW THE PIPE FUNCTION. FOR PIPE SIZES 4-INCH AND LARGER, PROVIDE WHITE PAINTED STENCILED LETTERS AND ARROWS, A MINIMUM OF 2-IN. IN HEIGHT AND VISIBLE FROM AT LEAST TWO SIDES WHEN VIEWED FROM THE FLOOR. FOR PIPE SIZES LESS THAN 4-INCH, PROVIDE WHITE PAINTED STENCILED LETTERS AND ARROWS, A MINIMUM OF 0.75-IN. IN HEIGHT ANDVISIBLE FROM THE FLOOR. LABELING MUST BE IN ACCORDANCE WITH MIL-STD-101.
 - 19. MARKING AND IDENTIFICATION OF CONTROL VALVES, DRAINS, TEST CONNECTIONS AND OTHER EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.

CONTRACTOR SHOP DRAWINGS AND HYDRAULIC CALCULATIONS

- 1. INSTALLING CONTRACTOR SHALL PROVIDE THE FINAL SPRINKLER SYSTEM LAYOUT INCLUDING HYDRAULIC
- 2. THE CONTRACTOR SHALL HYDRAULICALLY CALCULATE EACH SPRINKLER SYSTEM ZONE, INCLUDING SUB ZONES WITHIN EACH ZONE, USING THE WATER SUPPLY FROM THE STREET AS THE SOURCE OF THE SUPPLY. ALL CALCULATIONS SHALL CONFORM TO NFPA 13 REQUIREMENTS. EACH SYSTEM SHALL BE CALCULATED TO PROVIDE AN EIGHT (8) PERCENT SAFETY FACTOR BENEATH THE WATER SUPPLY FLOW CURVE AT THE SPRINKLER SYSTEM DEMAND POINT. INCLUDE ALL FITTINGS AND VALVES. HYDRAULIC CALCULATIONS SHALL BE BASED ON THE MOST RECENT FIRE PUMP TEST REPORT.
- 3. PROVIDE ONE HYDRAULIC CALCULATION FOR THE MOST DEMANDING AND/OR MOST REMOTE AREA FOR EACH SPRINKLER RISER.
- 4. HYDRAULIC CALCULATIONS MUST BE BASED ON AREA/DENSITY APPROACH ONLY. SPECIAL DESIGN APPROACHES, SUCH AS ROOM DESIGN MUST NOT BE USED.
- 5. SPRINKLER HYDRAULIC DESIGN MUST BE BASED ON NEW HYDRANT FLOW TESTS PERFORMED BY THE CONTRACTOR. NEW FIRE HYDRANT FLOW TESTS MUST BE PERFORMED IN ACCORDANCE WITH NFPA 291. 6. FINAL FIRE PROTECTION SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL
- ENGINEER. THE DESIGN SHALL BE APPROVED BY THE LOCAL AUTHORITY PRIOR TO COMMENCEMENT OF CONSTRUCTION. 7. ALL PIPING SHALL BE SIZED BASED ON CONTRACTOR HYDRAULIC CALCULATIONS. PIPING SHOWN ON PLANS IS FOR
- COORDINATION PURPOSES ONLY. 8. HYDRAULIC CALCULATIONS MUST UTILIZE LATEST PUMP PERFORMANCE DATA



INTERNATIONAL

MARK DATE BY REVISION DESCRIPTION		_	 _	_	_	_	 	-	
DATE								REVISION DESCRIPTION	
								ВХ	
MARK									
								MARK	

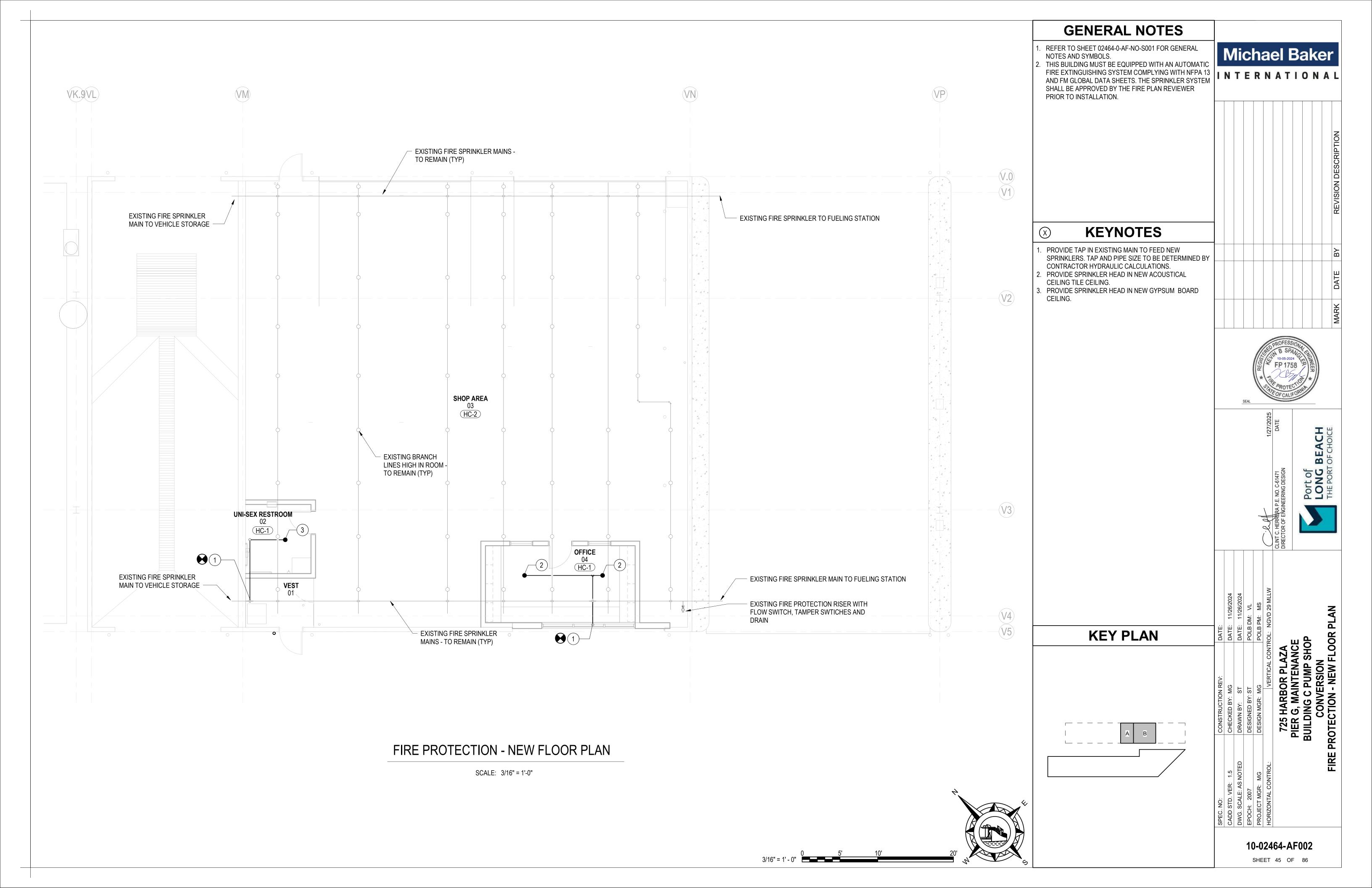


NG PORT

50 世

10-02464-AF001

SHEET 44 OF 86



	PLUMBING SYMBOLS LEGEND											
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION			
	ACCESS PANEL	├	DIRECTION OF WATER FLOW	FS	PIPING - FLOW SWITCH	~	PRESSURE GAUGE	←	SOLENOID VALVE			
ELEV PLAN	ANGLE GATE VALVE	₩	DRAIN VALVE	$\longleftarrow \not \!$	GATE VALVE	₽	PRESSURE REDUCING VALVE	\ 	STRAINER			
→	ANGLE GLOBE VALVE	├	ELBOW 90° DOWN	$\longleftarrow \not \!$	GLOBE VALVE		PRESSURE REGULATOR	₹ 1	STRAINER WITH VALVED AND CAPPED BLOW DOWN			
	BACKFLOW PREVENTER	~ ——≎	ELBOW 90° UP	$\leftarrow \downarrow \overline{\downarrow} \leftarrow \rightarrow$	GAS COCK	T&P ₹	PRESSURE RELIEF VALVE (TEMPERATURE & PRESSURE)	}	TEE DOWN			
₩	BALL VALVE	*	ELBOW 90°		GAS REGULATOR	T 🙏	PRESSURE RELIEF VALVE (TEMPERATURE)	├ ─○─	TEE UP			
$\leftarrow $	BUTTERFLY VALVE	├	ELBOW 45°	HB-#	HOSE BIBB	P 🔭	PRESSURE RELIEF VALVE (PRESSURE)	T	TEMPERATURE SENSOR			
₹ ₹	CALIBRATED BALANCE VALVE	← □ <u>→</u>	EXPANSION JOINT		HOSE & QUICK COUPLERS	├ ─ <u></u> Т_ Г ─-}	PT (PRESSURE & TEMPERATURE) TEST PORT		THERMOMETER			
├	CAP	FCO ←○─	FLOOR CLEAN-OUT	X OR X	KEYNOTE	├	INLINE PUMP (ARROW IS DIRECTION OF FLOW)	T > > >	THERMOSTAT (DASHED LINE RUNS TO CONTROLLED DEVICE)			
₹	CHECK VALVE (SWING GATE)		FILTER		LUBRICATOR	├	QUICK DISCONNECT		TRAP - ELEVATION			
₽	CONTROL VALVE (3-WAY)	F/R	FILTER/REGULATOR	$\leftarrow M \rightarrow$	GAS METER	├	REDUCER		UNION			
•	CONNECT TO EXISTING	F/R/L	FILTER/REGULATOR/LUBRICATOR	←	MIXING VALVE		ROOF DRAIN		VENT THROUGH ROOF			
co ייייי	CLEAN-OUT	├── ₩	FLEXIBLE CONNECTION	\longleftrightarrow	PIPE ANCHOR	\otimes	REMOVE EXISTING TO	WH-#	WALL HYDRANT			
○—' co	CLEAN-OUT IN VERTICAL	OR	FLOOR DRAIN	├	PIPE GUIDE		SHUT OFF VALVE (GENERIC)	WHA-"X" ■ —	WATER HAMMER ARRESTOR			
	COMPRESSED AIR OUTLET	OR	FLOOR SINK	$\leftarrow \mid {\nabla} \mid \rightarrow$	PLUG VALVE	<u>} </u>	SHUT-OFF VALVE (VERTICAL)	├──W	WATER METER			

PLUMBING PIPI	NG SYS	STEM LEGEND
LINETYPE	ABBREV	DESCRIPTION
	CW	DOMESTIC COLD WATER
——————————————————————————————————————	HW	DOMESTIC HOT WATER
——————————————————————————————————————	HWR	DOMESTIC HOT WATER RETURN
SAN	SAN	SANITARY SEWER
	V	VENT
CWV	CWV	COMBINATION SANITARY WASTE & VENT
ST	ST	STORM DRAIN
OST	OST	OVERFLOW STORM DRAIN
G	G	NATURAL GAS - LOW PRESSURE
MPG	MPG	NATURAL GAS - MEDIUM PRESSURE
CD	CD	CONDENSATE DRAINAGE
IW	IW	INDIRECT WASTE
CA	CA	COMPRESSED AIR
PD	PD	PUMP DISCHARGE
OW	ow	OIL WASTE
TW	TW	TEMPERED WATER
NPW	NPW	NON-POTABLE WATER
HPNPW	HPNPW	HIGH PRESSURE NON-POTABLE WATER
RO	RO	REVERSE OSMOSIS WATER
	XXX	PIPING BELOW GRADE (ANY SYSTEM)

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

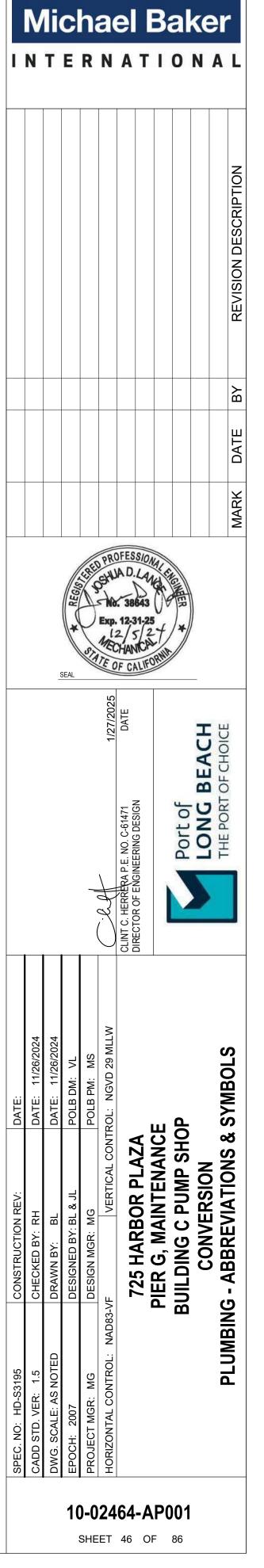
EXISTING		NEW	
DEMOLISH		FUTURE	

NOTE:
INFORMATION ON THIS SHEET IS ALL-INCLUSIVE.
ALL SYMBOLS, ABBREVIATIONS, OR PIPE
SYSTEMS MAY NOT BE PART OF THIS PROJECT.

GENERAL	PLUMBING SCOPE SUMMARY:

- ADD SINGLE, UNISEX RESTROOM TO EXISITNG BUILDING.
- ADD EYEWASH, FLOOR SINK, AND SERVICE SINK TO SHOP AREA.
- ADD ETEWASH, FLOOR SINK, AND SERVICE SINK
 ADD ELECTRIC WATER COOLER TO SHOP AREA.
- REMOVE EXISTING HEATED PRESSURE-WASHER.
- ADD NEW HEATED PRESSURE-WASHER OF SAME MAKE/MODEL AS EXISTING, IN A NEW LOCATION EXTERIOR TO THE BUILDING.
- REMOVE AND RELOCATE EXISTING AIR COMPRESSOR.
- PROVIDE CONDENSATE DRAINAGE FOR NEW HVAC UNITS.

WORK CONTAINED ON OR IN INDIVIDUAL DRAWINGS AND SPECIFICATIONS ARE STILL FULLY APPLICABLE AND THE RESPONSIBILITY OF THE CONTRACTOR. SUMMARY OF SCOPE IS NOT TO BE INTREPETED AS AN EXHAUSTIVE LIST OF THE REQUIRED WORK TO BE COMPLETED NOR SHOULD THIS SUMMARY BE CONSIDERED WHEN PRICING THE WORK.



CITY OF LONG BEACH NOTES

- ALL WORK TO COMPLY WITH 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA BUILDING CODE, 2022 CALIFORNIA GREEN CODE (CALGREEN), 2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS, AND TITLE 18 OF LONG BEACH MUNICIPAL CODE.
- 2. WATER PIPE AND FITTINGS WITH A LEAD CONTENT WHICH EXCEED 0.25% SHALL BE PROHIBITED IN SYSTEMS CONVEYING POTABLE WATER. (CPC 604.2 & CALIFORNIA HEALTH & SAFETY CODE 116875).
- 3. ALL PLUMBING FIXTURES SHALL MEET THE FLOW RATE REQUIREMENTS OF CGBC TABLE 5.303.2.3.
- 4. ALL FIXTURES IN HANDICAP RESTROOMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF CALIFORNIA HANDICAP CODE AND LOCAL HANDICAP CODES HAVING JURISDICTION.
- 5. ALL FIXTURES, EQUIPMENT, PIPING, AND MATERIALS SHALL BE LISTED. (CPC 301.2)
- 6. ALL PIPING SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED THOSE SHOWN IN CPC TABLE 313.1.
- 7. PUBLIC LAVATORIES SHALL HAVE CONTROLS TO LIMIT THE WATER TEMPERATURE TO 120°F.
- 8. ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE MODEL ENERGY CODE REQUIREMENTS AND LABELED.
- EACH PLUMBING FIXTURE SHALL BE INDEPENDENTLY VALVED PER CODE.
- 10. INSTALL ALL PLUMBING TO AVOID INTERFERENCE WITH ELECTRICAL AND MECHANICAL EQUIPMENT AND STRUCTURAL FRAMING. NO WATER OR DRAIN LINES PERMITTED OVER OR UNDER ELECTRICAL PANELS.
- 11. ALL POTABLE WATER OUTLETS WITH HOSE ATTACHMENTS, SUCH AS HOSE BIBS, AND MOP SINKS ARE TO BE PROVIDED
- WITH A BACKFLOW / ANTI-SIPHON VALVE.
 12. PLASTIC PIPE AND THE FITTINGS USED FOR PLASTIC PIPE, OTHER THAN THOSE FOR GAS, SHALL MEET THE
- REQUIREMENTS OF NSF14.

 13. NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET
- 13. NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SE IN CPC SEC. 609.10.
- 14. INSULATION SHALL BE PROVIDED ON ALL HOT WATER AND CIRCULATING PIPING AND THE FIRST 5' ON THE COLD WATER FROM THE WATER HEATER.

 15. PROTECTIVE SLEEVES SHALL BE PROVIDED WHEN DIDING IS DENETBATED THRU CONCRETE OR MASONRY WALL
- 15. PROTECTIVE SLEEVES SHALL BE PROVIDED WHEN PIPING IS PENETRATED THRU CONCRETE OR MASONRY WALL. PROVIDE DETAILS INCLUDING SIZE OF THE PROTECTIVE SLEEVE AND METHOD OF SEALING AT EXTERIOR WALLS. (C 312.10.1)
- 16. PROVIDE LISTED WATER HAMMER DEVICES FOR ALL QUICK ACTING WATER VALVES. REQUIRED AT THE DISHWASHER, ICE MAKER, WASHING MACHINE, AND SIMILAR FIXTURES. (CPC 609.11)
- 17. ALL REQUIRED CLEAN-OUTS MUST BE INSTALLED AS PER CPC SEC. 707.0 & 719.0.
- 18. ALL SANITARY AND GREASE WASTE PIPING TO BE MINIMUM 2% SLOPE.
- 19. PLUMBING VENT THROUGH ROOF SHALL TERMINATE VERTICALLY NOT LESS THAN ONE (1) FOOT FROM ANY VERTICAL SURFACE AND NOT LESS THAN TEN (10) FEET HORIZONTALLY OR AT LEAST THREE (3) FEET ABOVE ANY WINDOW, DOOR, OPENING, AIR INTAKE OR SHAFT.
- 20. SANITARY WASTE VENTS SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX (6) INCHES IN HEIGHT ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE BEFORE BEING CONNECTED TO ANY OTHER VENT.
- 21. DRAINAGE PIPING SERVING FIXTURES WHICH HAVE FLOODWATER RIMS LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE COVER OF THE SEWER SERVING SUCH DRAINAGE PIPING SHALL BE PROTECTED FROM BACKFLOW OF SEWAGE BY INSTALLING AN APPROVED TYPE BACKWATER VALVE.
- 22. VENT TERMINALS THAT TERMINATE THROUGH AN OUTSIDE WALL OF A BUILDING SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM AN OPERABLE OPENING IN AN ADJACENT BUILDING. THIS SHALL NOT APPLY TO OPERABLE OPENINGS THAT ARE NOT LESS THAN 2 FEET BELOW OR 25 FEET ABOVE THE ELEVATION OF THE VENT TERMINAL. (CPC 509 8 5)
- 23. WATER HAVING A TEMPERATURE ABOVE 140°F SHALL NOT BE DISCHARGED UNDER PRESSURE DIRECTLY INTO ANY PART OF THE DRAINAGE SYSTEM. PIPES FROM BOILERS SHALL BE DISCHARGED BY MEANS OF INDIRECT WASTE PIPING.
- 24. INDIRECT WASTES LONGER THAN FIVE (5) FEET MUST BE TRAPPED, AND LONGER THAN FIFTEEN (15) FEET MUST BE TRAPPED AND VENTED INDIRECT WASTES FROM FOOD SERVICE EQUIPMENT MUST DISCHARGE TO RECEPTOR WITH A MINIMUM AIR-GAP OF ONE (1) INCH.
- 25. ALL EXPOSED GAS PIPING SHALL BE PROTECTED AGAINST CORROSION BY COATING OR WRAPPING WITH AN INERT MATERIAL APPROVED MATERIAL FOR SUCH APPLICATIONS.
- 26. ALL EXPOSED GAS PIPING SHALL BE KEPT AT LEAST SIX (6) INCHES ABOVE GRADE.
- 27. TESTING PROCEDURE OF GAS SYSTEMS MUST BE PERFORMED AS PER CPC SEC. 1213.3.
- 28. PIPING SHALL BE LABELED BY STENCILING OR ADHESIVE MARKERS THAT IDENTIFY THE TYPE OF PLUMBING PIPING SYSTEMS.
- 29. EACH POTABLE AND NON-POTABLE WATER SYSTEMS SHALL BE IDENTIFIED AND LABELED IN ACCORDANCE WITH CPC SEC. 601.3.
- A. POTABLE WATER SYSTEMS SHALL HAVE A GREEN BACKGROUND WITH WHITE LETTERING;
- B. NON-POTABLE WATER SYSTEMS SHALL HAVE A YELLOW BACKGROUND WITH BLACK UPPERCASE LETTERING, WITH THE WORKS "CAUTION: NON-POTABLE WATER, DO NOT DRINK."
- 30. BUILDING REVIEW MUST BE APPROVED PRIOR TO OBTAINING SEPARATE MECHANICAL/ELECTRICAL/PLUMBING PERMITS ASSOCIATED WITH THIS PROJECT. PLEASE CONTACT THE PERMIT CENTER AT (562) 570-5237 FOR ANY INFORMATION NEEDED IN REGARDS TO OBTAINING PERMITS.

PLUMBING GENERAL NOTES

- 1. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED, TO INSTALL COMPLETE FOR AN OPERABLE PLUMBING SYSTEM AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY CODE. ALL MATERIAL MUST BE NEW AND OF GOOD QUALITY. ALL WORK MUST BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER.
- 2. CONTRACT DOCUMENT DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITIVELY FIXED BY DRAWING DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATION NECESSARY TO ACHIEVE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS. DO NOT SCALE DRAWINGS. CERTAIN ITEMS SUCH AS RISES AND DROPS IN PIPING, ACCESS DOORS, ETC., ARE INDICATED ON THE CONTRACT DOCUMENT DRAWINGS FOR CLARITY NOT FOR A SPECIFIC LOCATION REQUIREMENT AND MUST NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE TYPES OF ITEMS.
- 3. INSTALL ALL PLUMBING EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL PIPING DIMENSIONS BEFORE FABRICATION. LOCATE ALL PLUMBING EQUIPMENT FOR UNOBSTRUCTED ACCESS TO UNIT ACCESS PANELS, CONTROLS, VALVING, ETC.
- 4. COORDINATE CONSTRUCTION OF ALL PLUMBING WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, SOILS, MECHANICAL, ELECTRICAL, COMMUNICATIONS WORK, ETC., AS SHOWN IN OTHER CONTRACT DOCUMENTS. PROPERLY CONSTRUCTED OFFSETS IN PIPING AROUND OBSTRUCTIONS MUST BE PROVIDED AT NO ADDITIONAL COST. LOCATIONS AND SIZES OF ALL FLOOR, WALL AND ROOF OPENINGS MUST BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- 5. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
- 6. ALL TESTS MUST BE COMPLETED BEFORE ANY EQUIPMENT OR PIPING INSULATION IS APPLIED. OR CONCEALED.
- 7. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE.
- 8. ALL VALVES MUST BE LINE SIZE UNLESS OTHERWISE NOTED.
- 9. INSTALL EXPOSED PIPING, WHERE NECESSARY, IN FINISHED AREAS TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. INSTALL PIPING PARALLEL AND / OR PERPENDICULAR TO WALLS
- 10. LOCATE ALL TEMPERATURE, PRESSURE AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH A STRAIGHT SECTION OF PIPE UPSTREAM AND DOWNSTREAM, AS RECOMMENDED BY THE DEVICE MANUFACTURER FOR ACCURACY. INSTALL THERMOMETER IN A VERTICAL AND TILTED POSITION TO ALLOW READING BY OBSERVER STANDING ON FLOOR.
- 11. WHERE TWO OR MORE PRODUCTS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCTS OF A SINGLE MANUFACTURER MUST BE USED.
- 12. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE VALVES AND OTHER CONCEALED PLUMBING EQUIPMENT, DEVICES, ETC. ACCESS PANELS MUST BE TURNED OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION.
- 13. ALL OPENINGS IN FIRE RESISTANCE RATED WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., MUST BE FIRE STOPPED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM E 814 & UL 1479. SIMILARLY, SEAL/FIRESTOP AS REQUIRED AT SMOKE RATED SURFACES AS WELL.
- 14. INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES AND OTHER APPURTENANCES REQUIRING ACCESS ARE EASILY ACCESSIBLE. ALL VALVES MUST BE INSTALLED SO THAT THE VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED. ALL BALANCING VALVES AND BUTTERFLY VALVES MUST BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (AKA MEMORY STOPS). ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS MUST BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.
- 15. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT. STRUCTURAL ENGINEER. STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
- 16 LINIONS AND/OR FLANGES MUST BE INSTALLED AT FACH PIECE OF FOLIPMENT AND IN RYPASSES TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
- 17. ALL EXPOSED DRAIN PIPING MUST BE ROUTED SO AS NOT TO CREATE TRIPPING HAZARDS.
- 18. INSTALLING CONTRACTOR TO VERIFY ALL CONDITIONS AND INSTALL/ADJUST INSTALLATION ACCORDINGLY TO SITE CONDITIONS AT TIME OF INSTALLATION.
- 19. PROVIDE HIGH POINT VENTS AND LOW POINT DRAINS. PROVIDE DIELECTRIC CONNECTIONS BETWEEN DISSIMILAR MATERIALS.
- 20. PROPERLY SEAL ALL PLUMBING SYSTEMS PIPING AND COMPONENT'S PENETRATIONS OF BUILDING AIR BARRIER.
- 21. SHUT-OFF VALVES MUST BE INTEGRATED INTO THE PLUMBING DISTRIBUTION SYSTEMS TO PERMIT THE ISOLATION OF A FIXTURE OR EQUIPMENT TO PERMIT REPAIR OR MAINTENANCE, WITHOUT DISRUPTION OF OTHER FIXTURES OR EQUIPMENT.
- 22. WATER HAMMER ARRESTORS MUST BE INSTALLED AT FLUSH VALVE-OPERATED FIXTURES, SOLENOID VALVES, AND ANY OTHER QUICK CLOSING VALVES TO MINIMIZE NOISE IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AND PDI STANDARD WH201. ARRESTORS MUST BE INSTALLED WITH PROPER ACCESS PANELS. AIR CHAMBERS MUST NOT BE PERMITTED.
- 23. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
- 24. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
- 25. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
- 26. FLOW CONTROL VALVES MUST BE SIZE 1/2" AND SET AT 0.5 GPM UNLESS NOTED OTHERWISE.
- 27. WATER HAMMER ARRESTORS MUST BE SIZE "A" UNLESS NOTED OTHERWISE.
- 28. PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR MOP SINK FAUCETS DOWNSTREAM OF SHUTOFF VALVES.
- 29. REFER TO STRUCTURAL DRAWINGS FOR THE EXACT SIZE, LOCATION, AND ELEVATION OF FOUNDATIONS, FOOTERS AND GRADE BEAMS.
- 30. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF PIPE CROSSINGS UNDER OR THROUGH THE STRUCTURAL FOUNDATIONS, FOOTERS AND GRADE BEAMS.
- 31. ALL UNDERFLOOR SANITARY SEWERS MUST BE INSTALLED AT A MINIMUM SLOPE OF 1/8"/1'-0", UNLESS NOTED OTHERWISE.
- 32. UNDERFLOOR VENTS MUST CONNECT ABOVE CENTERLINE OF WASTE / SANITARY PIPE & MUST RISE CONTINUOUSLY THROUGH FLOOR A MINIMUM 6" ABOVE FLOOD LEVEL OF FIXTURE. PROVIDE 45° CONNECTION TO WASTE / SANITARY LINE.
- 33. UNDERFLOOR SANITARY SEWER PIPING MUST BE A MINIMUM OF 4" UNLESS NOTED OTHERWISE.
- 34. ALL FLOOR DRAINS AND FLOOR SINKS MUST BE PROVIDED WITH A TRAP INSERT SIMILAR TO PROSET TRAP GUARD, TO REDUCE TRAP SEAL EVAPORATION.
- 35. PROVIDE SIZE AND LENGTH OF HOT WATER FIXTURE SUPPLY PIPE FROM CIRCULATED HOT WATER BRANCH OR MAIN TO TERMINATION OF HOT WATER FIXTURE SUPPLY PIPE AT EACH FIXTURE PER TITLE 24 ENERGY CODE
- 36. PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING CONNECTED TO AIR COMPRESSOR AND OTHER EQUIPMENT WHICH REQUIRES VIBRATION ISOLATION. FLEXIBLE CONNECTIONS MUST BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.
- 37. PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS AND OTHER MOTORIZED OR PNEUMATICALLY DRIVEN EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS MUST BE PROVIDED AS CLOSE AS POSSIBLE OR AS INDICATED ON THE DRAWINGS.
- 38. PIPING MUST BE ROUTED TO MAINTAIN A MINIMUM OPERATIONAL HEIGHT OF 15'-6" IN THE WAREHOUSE CORRIDOR. COORDINATE MOUNTING HEIGHTS WITH OTHER TRADES.
- 39. PIPING MUST BE ROUTED TO AVOID INTERFERENCE WITH THE CRANE AREA OF OPERATION. COORDINATE MOUNTING HEIGHTS WITH OTHER TRADES.
- 40. PROPERLY SECURE/PROTECT/BRACE PLUMBING WORK AND EQUIPMENT TO MEET PROJECT SEISMIC REQUIREMENTS; COORDINATE WITH STRUCTURAL.
- 41. PLASTIC PIPING PRODUCTS MUST NOT BE USED ON THE DOMESTIC WATER DISTRIBUTION SYSTEM.
- 42. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR MUST FIELD MEASURE EXISTING DOMESTIC COLD WATER PRESSURE AT MOST UPSTREAM HOSE BIBB/WALL HYDRANT WHILE THREE DOWNSTREAM HOSE BIBB/WALL HYDRANT ARE FULLY OPENED SIMULTANEOUSLY. IF PRESSURE READING IS BELOW 50 PSIG, NOTIFY ENGINEER OF RECORD FOR FURTHER DIRECTION.
- 43. PROVIDE TWENTY-FOUR (24) HOUR GRAPH TEST ON ELEVATED PRESSURE GAS SYSTEM OR LOW-PRESSURE GAS SYSTEMS WITH PIPING GREATER THAN TWO AND ONE QUARTER (2 1/4) INCHES IN OUTSIDE DIAMETER AND OVER TWO HUNDRED (200) FEET IN LENGTH.

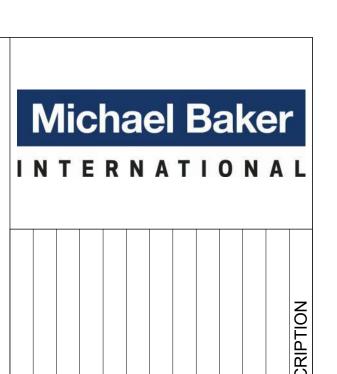
PLUMBING GENERAL DEMOLITION NOTES

- 1. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

 2. OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH THE OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO EQUIPMENT, FIXTURES AND DEVICES DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
- 3. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR ANY DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
- 4. SEAL ALL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE PLUMBING COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR SURFACES TO MATCH ADJACENT AREAS.
- 5. INSTALL PERMANENT CAPS WHERE PIPING IS REMOVED AND THE EXISTING TAPS ARE NOT USED FOR THE NEW INSTALLATION. INSTALL TEMPORARY CAPS WHERE PIPING IS REMOVED AND THE EXISTING TAPS WILL BE USED FOR
- THE NEW INSTALLATION TO PROTECT THE INTERIOR SURFACES UNTIL NEW PIPING IS INSTALLED.

 6. REMOVE PIPE HANGERS, PIPE SUPPORTS AND EQUIPMENT SUPPORTS WHERE PIPING OR EQUIPMENT IS REMOVED AND THE EXISTING HANGERS AND SUPPORTS ARE NOT USED FOR THE NEW INSTALLATION.
- 7. VERIFY THAT EXISTING EQUIPMENT TO REMAIN IS OPERATING PROPERLY. NOTIFY THE ARCHITECT, ENGINEER AND/OR OWNER OF ANY DAMAGED AND/OR MALFUNCTIONING COMPONENTS.
- 8. WHERE SHUTDOWN OF EXISTING ACTIVE PIPING SYSTEMS IS REQUIRED DURING DEMOLITION PHASE OF WORK IN PREPARATION FOR NEW TIE-IN PHASE OF WORK, COORDINATE WITH THE OWNER AND MINIMIZE DOWNTIME.

 VERIFY EXISTING SYSTEMS, EQUIPMENT, AND COMPONENTS WILL BE PROVIDED WITH BACKUP SERVICE WHERE REQUIRED. NOTIFY OWNER A MINIMUM OF SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.





DATE DE CATILOGE

Port of LONG BEACH

RECTOR OF ENGINEERING DESIGN

RECTOR OF ENGINEERING DESIGN

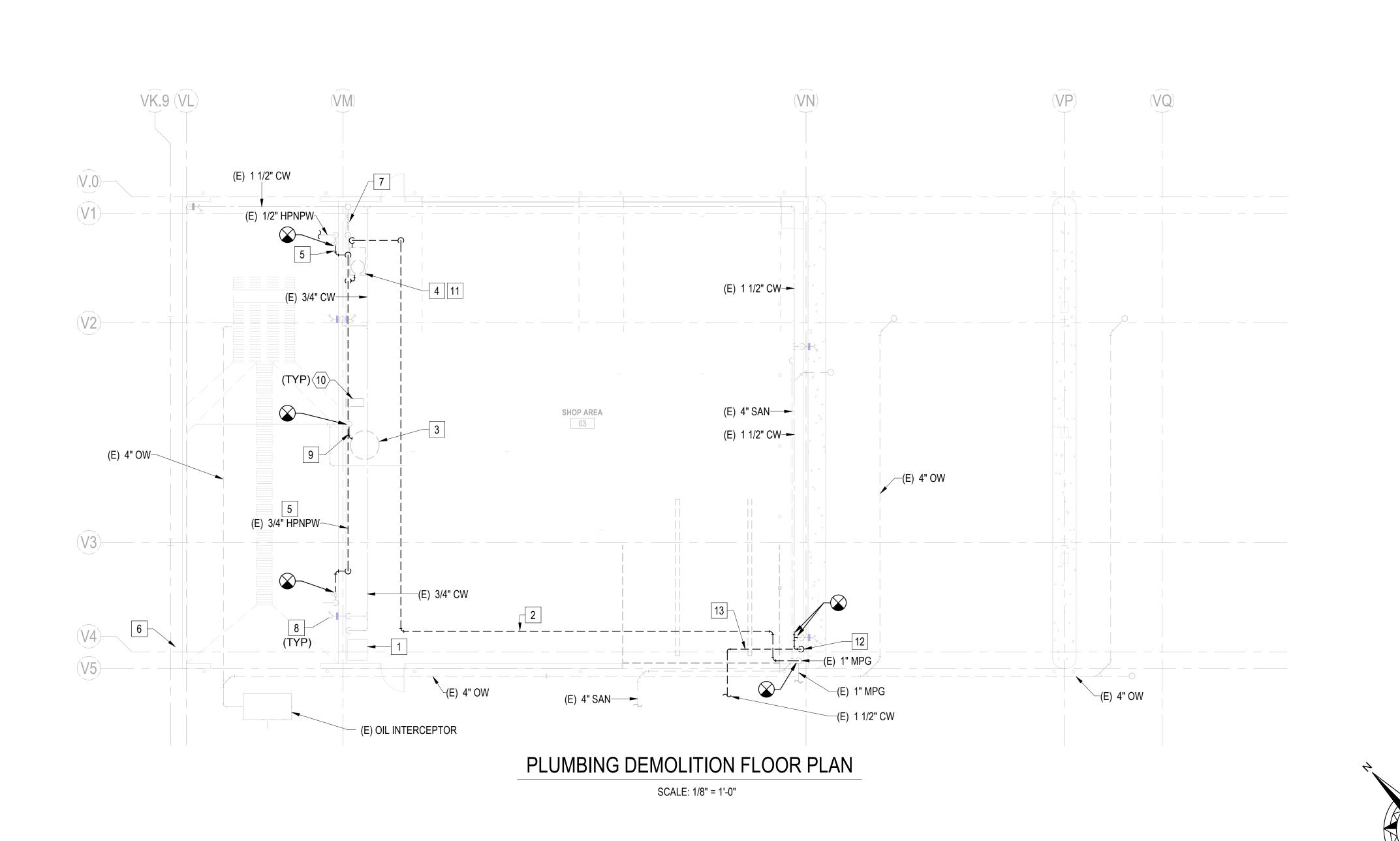
Port of

PLAZA FENANCE

725 HARBOR PLAZA PIER G, MAINTENANC BUILDING C PUMP SH CONVERSION

10-02464-AP002

SHEET 47 OF 86



GENERAL NOTES

. SEE AP-001 & AP-002 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND PIPING LEGEND.

2. SEE AP-008 FOR APPLICABLE PROJECT DETAILS. 3. REFER TO PLUMBING FIXTURE SCHEDULE FOR INDIVIDUAL FIXTURE BRANCH CONNECTION SIZES NOT SHOWN ON PLAN.



KEYNOTES 1 EXISTING ICE MAKER AND ASSOCIATED APPURTENANCES TO REMAIN. 2 REMOVE EXISTING GAS PIPING BACK TO BUILDING

REMOVE EXISTING AIR COMPRESSOR AND ASSOCIATED APPURTENANCES FOR RELOCATION UNDER NEW WORK. EXISTING COMPRESSED AIR DISTRIBUTION PIPING TO REMAIN FOR RECONNECTION UNDER NEW WORK.

ENTRY RISER AND TEMPORARILY CAP FOR

RECONNECTION UNDER NEW WORK.

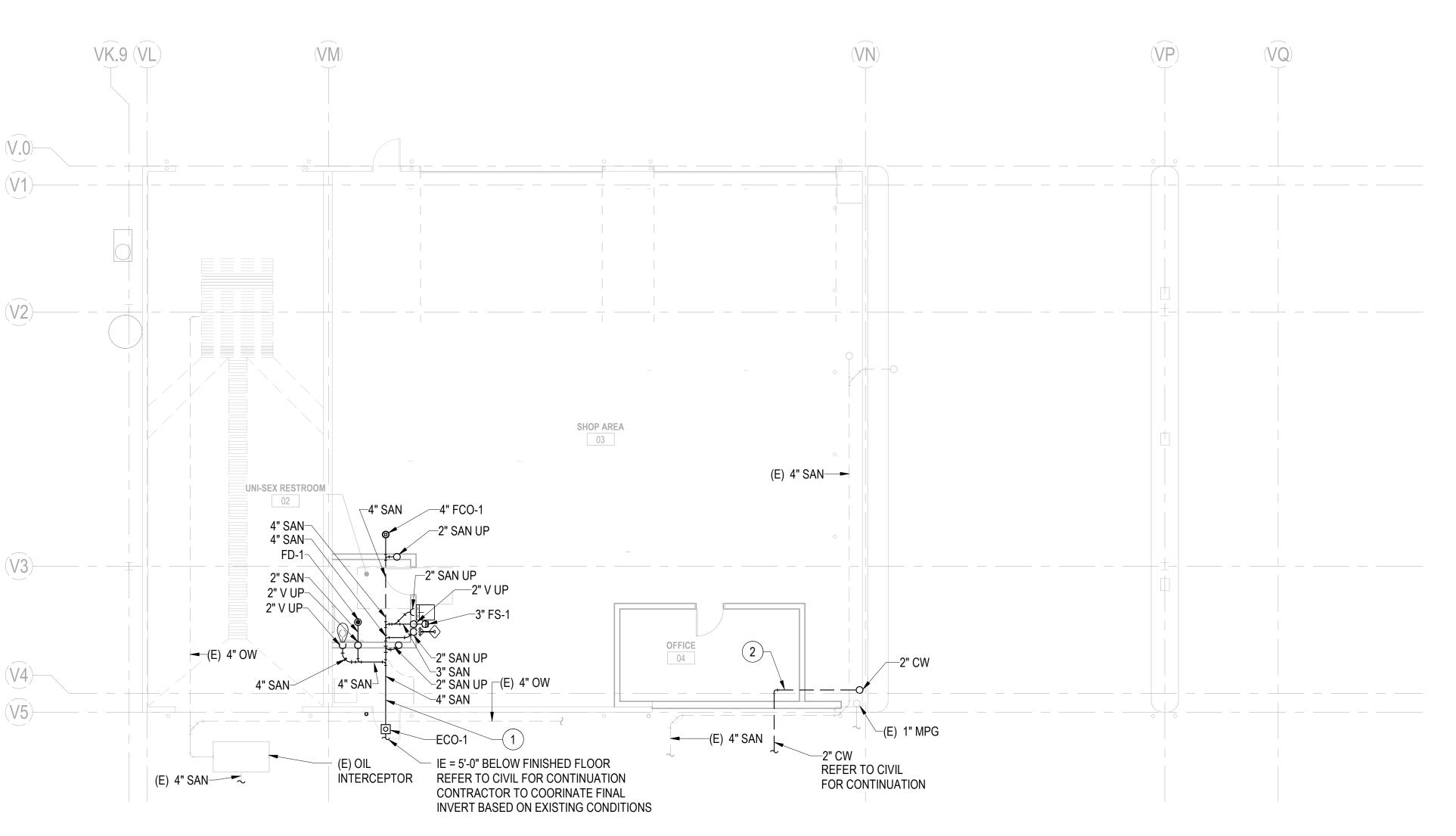
- 4 REMOVE EXISTING HEATED PRESSURE-WASHER AND ASSOCIATED APPURTENANCES. REMOVE EXISTING NON-POTABLE WATER SUPPLY BRANCH BACK TO MAIN. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
- REMOVE EXISTING HIGH PRESSURE NON-POTABLE WATER PIPING SYSTEM FROM THE EXISTING HEATED PRESSURE-WASHER CONNECTION UP TO EXTERIOR SHUT-OFF VALVE AND TEMPORARILY CAP FOR RECONNECTION UNDER NEW WORK.
- 6 EXISTING UTILITY SINK AND ASSOCATED WATER HEATER IN THIS VICINITY TO REMAIN.
- EXISTING BACKFLOW PREVENTER TO REMAIN.
- 8 EXISTING HOSE BIBB TO REMAIN.
- REMOVE EXISTING COMPRESSED AIR SUPPLY PIPING BACK TO FIRST JUNCTION AND TEMPORARILY CAP FOR RECONNECTION UNDER NEW WORK.
- 10 EXISTING AIR HOSE REELS TO REMAIN.
- 11 REMOVE EXISTING GAS REGULATOR, APPURTENANCES (INCLUDING VENT SYSTEM) AND ASSOCIATED BRANCH LINE, SERVING THE EXISTING HEATED PRESSURE-WASHER, BACK TO MAIN AND CAP.
- 12 REMOVE EXISTING WATER SERVICE RISER AND SUPPLY LINE TO APPROXIMATELY 5' OUTSIDE OF THE BUILDING PERIMETER.
- 13 SAW CUT EXISTING SLAB AS NECESSARY TO REMOVE AND REPLACE EXISTING WATER SERVICE

	/	DROF	ESSIO,		
	EN S	ALKE	D.LA	MALE!	1
EGIO	3/2	مر مرمد	-D.	S.	
Z (1	No.	38643	U	P
*	4	Exp. 1	$\frac{2.31.2}{5/2}$	4	/ *//
	S	MECH	ANICA	Alle	
	1	E OF	CALIF	OKI	

BEACHTOF CHOICE Port of LONG I

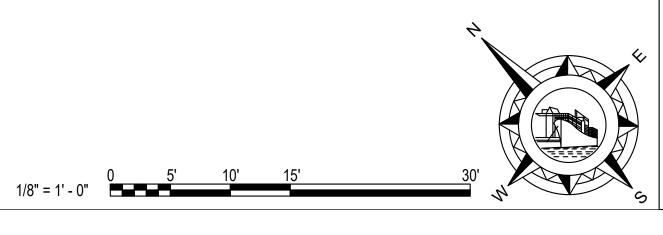
10-02464-AP003 SHEET 48 OF 86

KEY PLAN



PLUMBING NEW WORK UNDERGROUND PLAN

SCALE: 1/8" = 1'-0"



GENERAL NOTES

KEY PLAN

SEE AP-001 & AP-002 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND PIPING LEGEND.
 SEE AP-008 FOR APPLICABLE PROJECT DETAILS.
 REFER TO PLUMBING FIXTURE SCHEDULE FOR

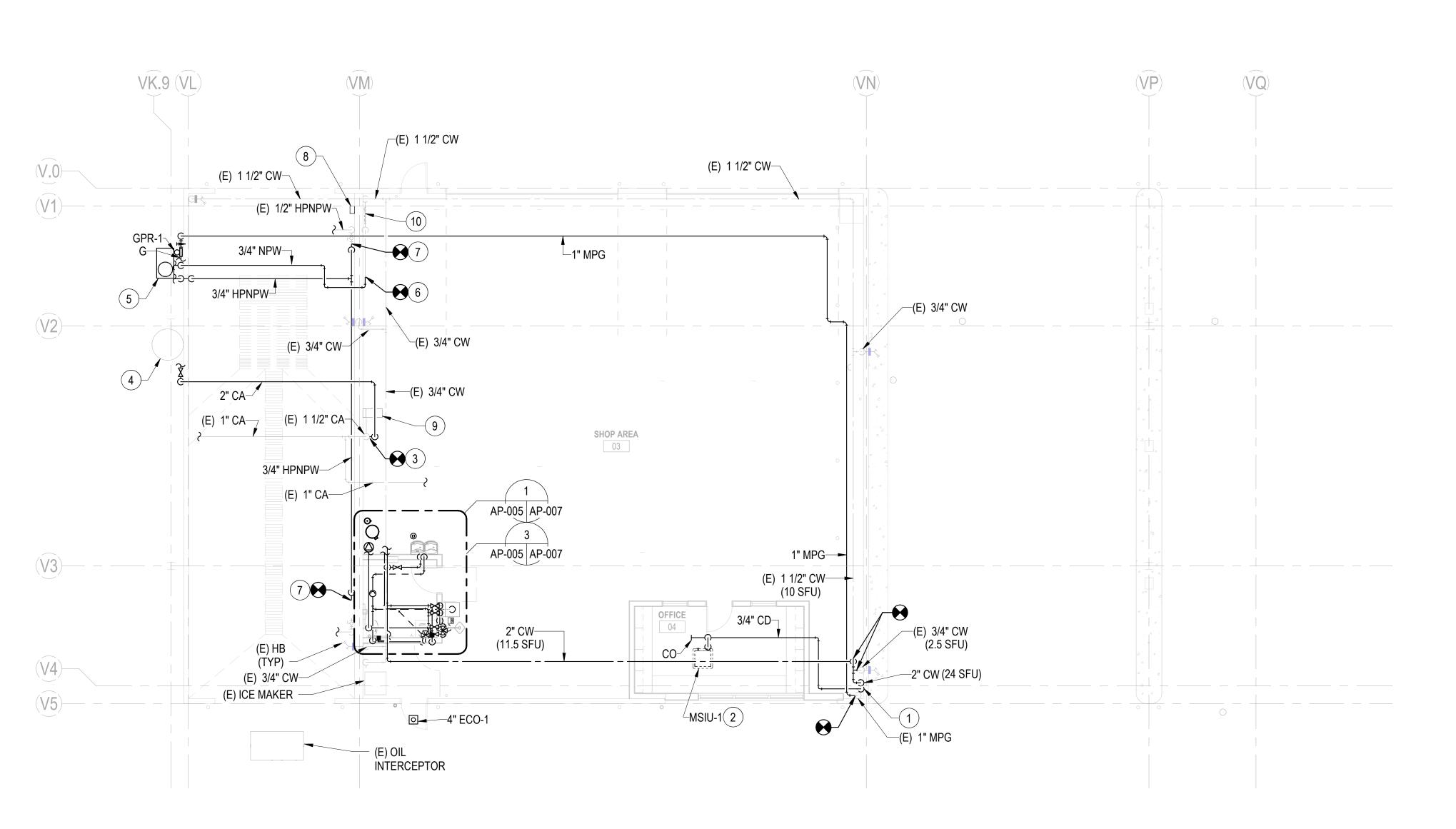


IND	VIVIDUAL FIXTURE BRANCH CONNECTION SIZES T SHOWN ON PLAN.		•	_				-			
€)	KEYNOTES										REVISION DESCRIPTION
	OFFSET AND ROUTE BELOW GRADE BEAM. PROVIDE MINIMUM 2" CLEARANCE BETWEEN										ВУ
2	BOTTOM OF GRADE BEAM AND TOP OF PIPE. PATCH AND REPAIR SLAB AFTER INSTALLATION OF NEW WATER SERVICE LINE.										DATE
											MARK
			3	REGION	SIN	PRO SHU	386 12-3 2/5 HAN	 THE PARTY OF THE P	国		

Port of LONG BEACH
THE PORT OF CHOICE

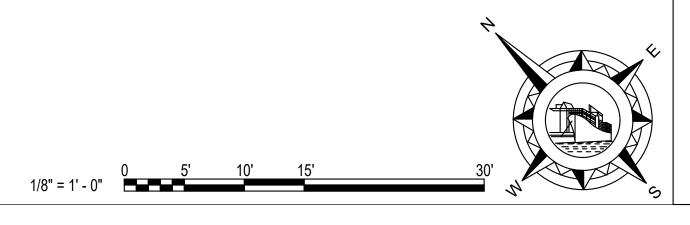
10-02464-AP004

SHEET 49 OF 86



PLUMBING NEW WORK FLOOR PLAN

SCALE: 1/8" = 1'-0"



GENERAL NOTES

- SEE AP-001 & AP-002 FOR GENERAL NOTES,
- ABBREVIATIONS, SYMBOLS, AND PIPING LEGEND. 2. SEE AP-008 FOR APPLICABLE PROJECT DETAILS. 3. REFER TO PLUMBING FIXTURE SCHEDULE FOR INDIVIDUAL FIXTURE BRANCH CONNECTION SIZES NOT SHOWN ON PLAN.

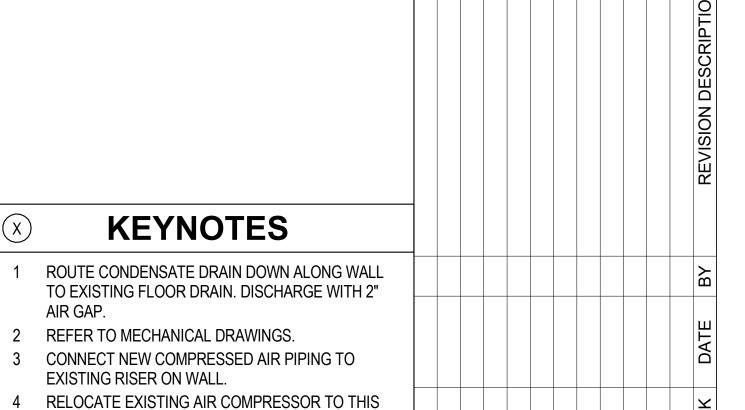
X

AIR GAP.

LOCATION.

BRANCH.







8 PROVIDE POLYCARBONATE HARD WIRED REMOTE STATION FOR USE WITH HEATED PRESSURE WASHER. LOCATE APPROXIMATELY 5 FT ABOVE FINISHED GRADE.

9 EXISTING AIR HOSE REELS TO REMAIN.

EXISTING BACKFLOW PREVENTER.

5 PROVIDE NEW HEATED PRESSURE-WASHER.

6 CONNECT NEW NON-POTABLE SUPPLY WATER

REFER TO DETAIL & DIVISION 11 SPECIFICATIONS.

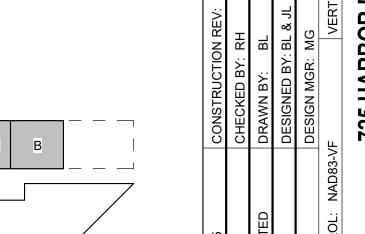
SERVING NEW HEATED PRESSURE-WASHER TO NON-POTABLE WATER MAIN, DOWNSTREAM OF

CONNECT NEW HIGH PRESSURE NON-POTABLE WATER SUPPLY TO EXISTING WASHBAY HOSE

10 EXISTING BACKFLOW PREVENTER TO REMAIN.

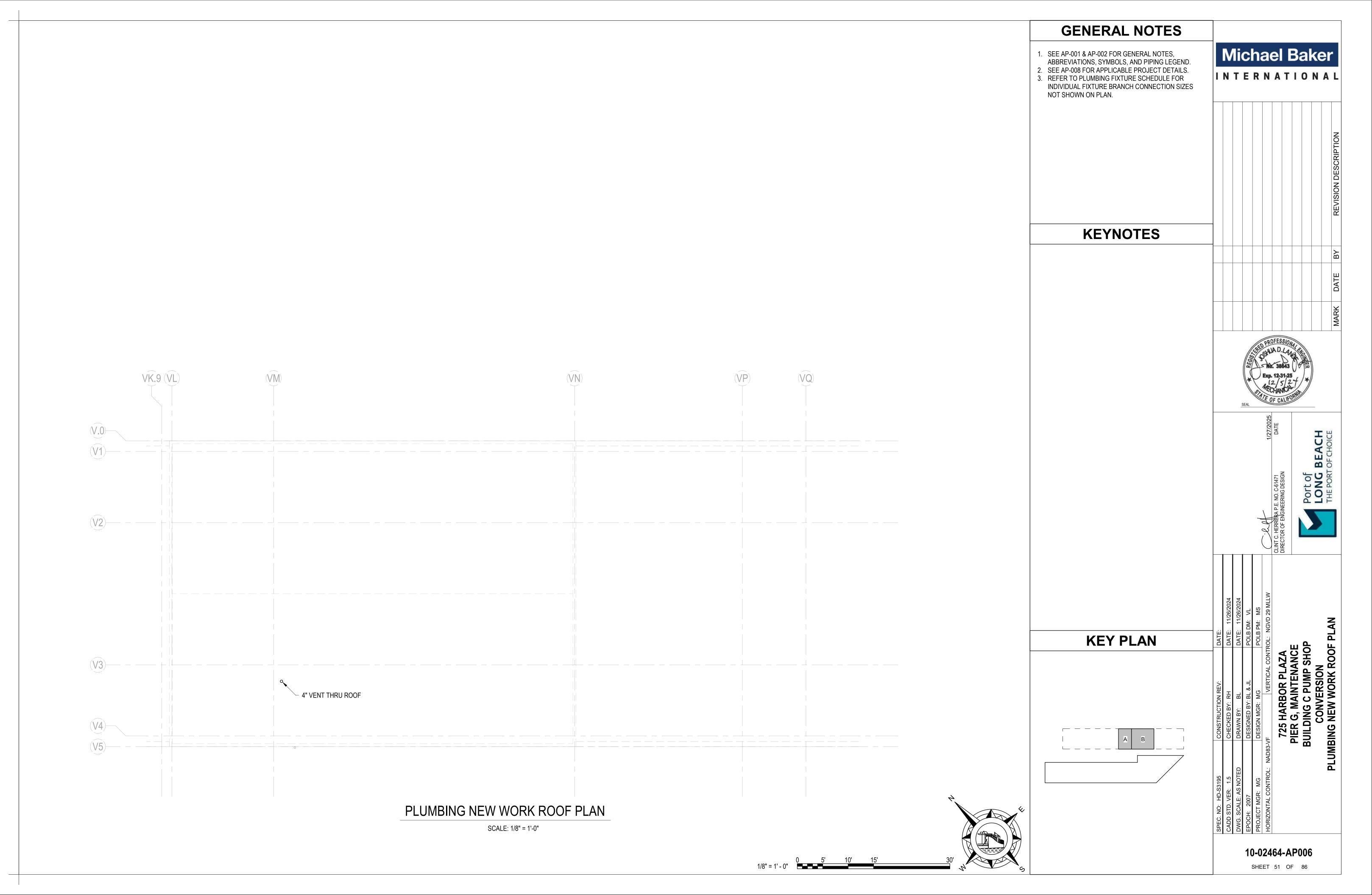
KEY PLAN

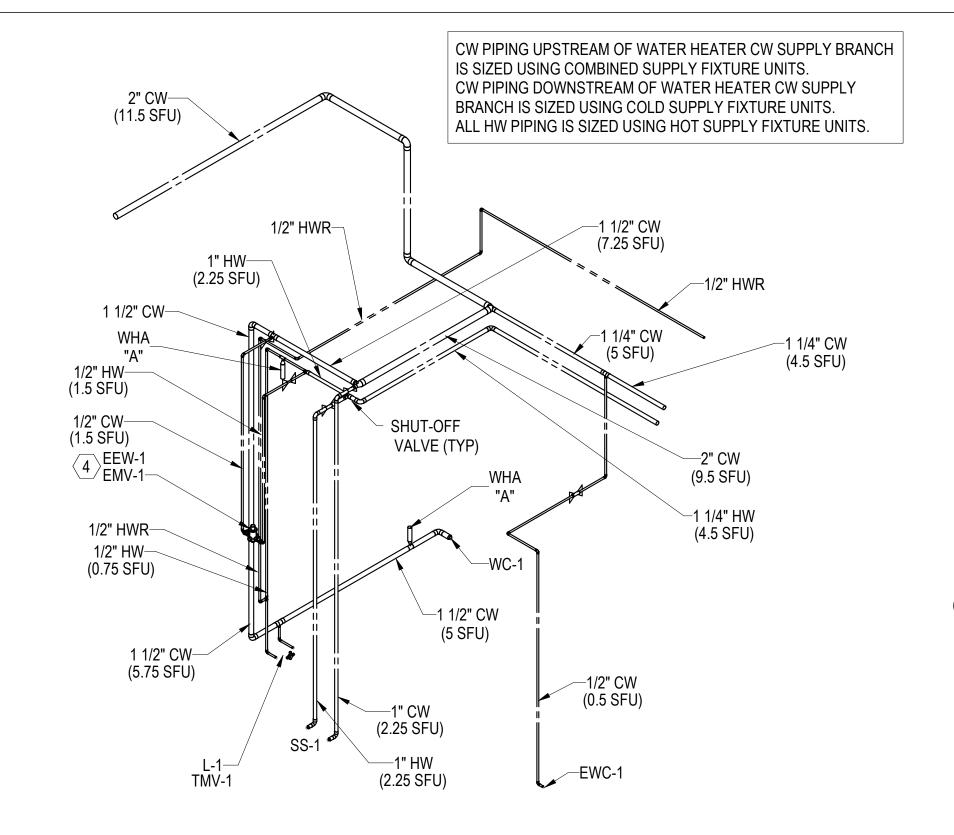
Port of LONG BEACH THE PORT OF CHOICE



10-02464-AP005

SHEET 50 OF 86





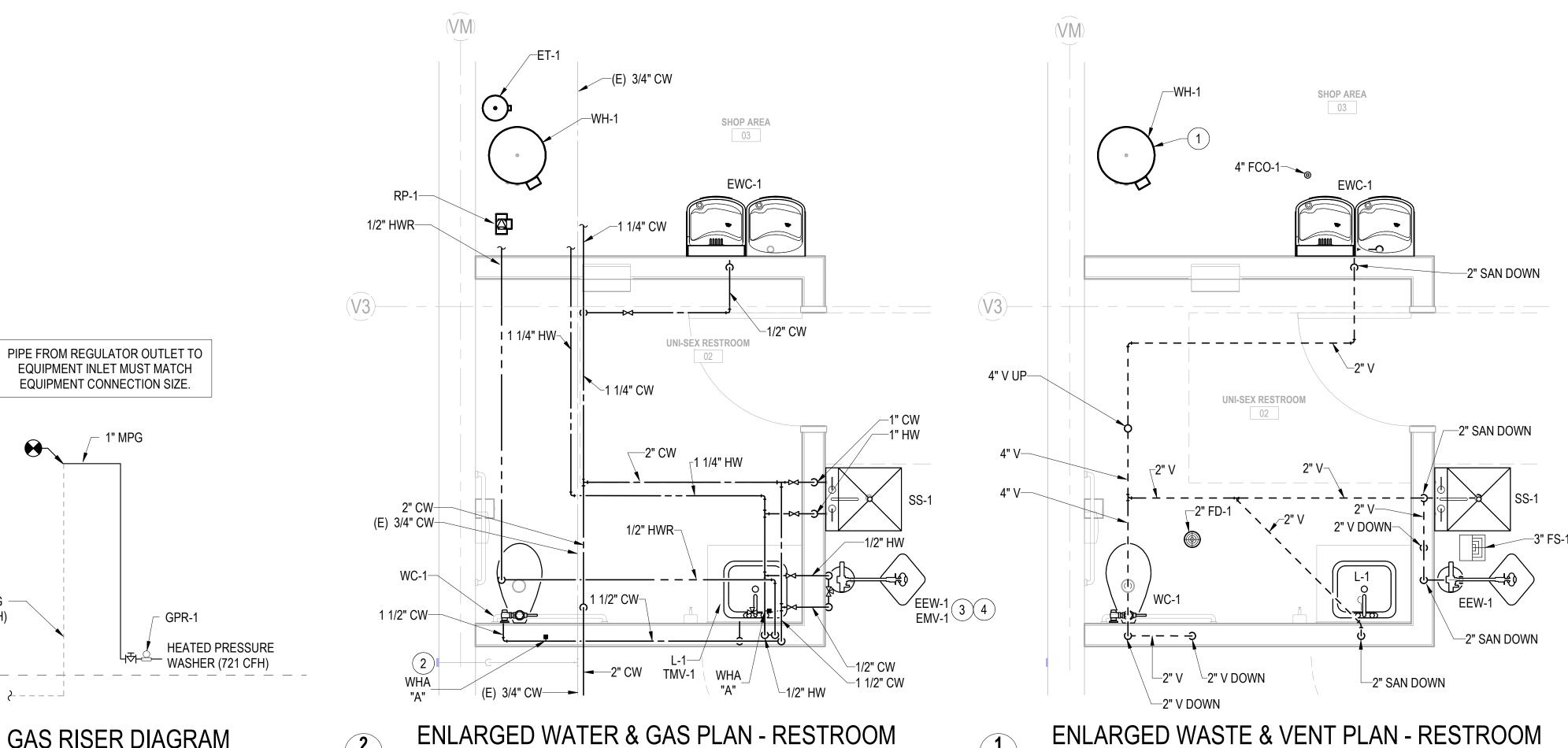
WATER RISER DIAGRAM - RESTROOM

SCALE: NTS

4" VENT THRU ROOF REFER TO CIVIL FOR CONTINUATION _4" ECO-1 (1 DFU) 2" SAN (0 DFU) (16.5 DFU) EEW-1 (9.5 DFU) 2" SAN-(2 DFU) (0.5 DFU) 3" SAN -4" SAN (6 DFU) 2" SAN-(3 DFU) (0.5 DFU) ─3" SAN (9 DFU) -4" SAN

WASTE & VENT RISER DIAGRAM - RESTROOM

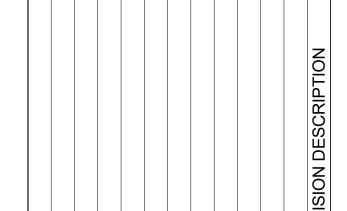
SCALE: NTS



GENERAL NOTES

- SEE AP-001 & AP-002 FOR GENERAL NOTES,
- ABBREVIATIONS, SYMBOLS, AND PIPING LEGEND SEE AP-008 FOR APPLICABLE PROJECT DETAILS. 3. REFER TO PLUMBING FIXTURE SCHEDULE FOR INDIVIDUAL FIXTURE BRANCH CONNECTION SIZES NOT SHOWN ON PLAN.

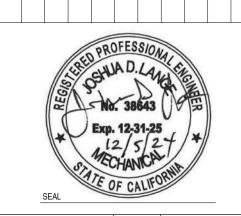




KEYNOTES

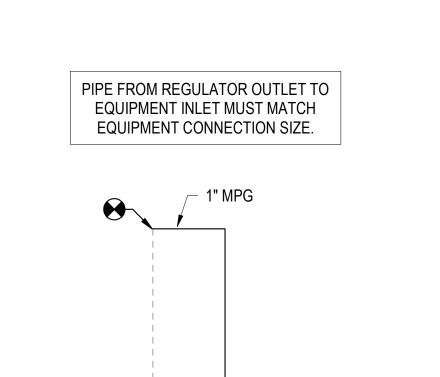
- 1 ROUTE WATER HEATER DRAIN LINES OVER RESTROOM AND DOWN IN WALL TO NEARBY FLOOR SINK. DISCHARGE WITH 2" AIR GAP.
- 2 EXISTING HOSE BIBB TO REMAIN.
- 3 PROVIDE LOCKING SHUT-OFF VALVES FOR WATER LINES SERVING EMERGENCY MIXING VALVE.
- 4 PROVIDE 1/2" TEMPERED WATER CONNECTION FROM MIXING VALVE OUTLET TO EYEWASH SUPPLY INLET.
- 5 PROVIDE OFFSET FLANGE OR OFFSET IN WASTE RISER AS NECESSARY TO CLEAR STRUCTURAL FOOTING.
- 6 OFFSET AND ROUTE BELOW GRADE BEAM. PROVIDE MINIMUM 2" CLEARANCE BETWEEN BOTTOM OF GRADE BEAM AND TOP OF PIPE.

KEY PLAN



Port of LONG

10-02464-AP007 SHEET 52 OF 86



GAS RISER DIAGRAM

(E) 1" MPG -(721 CFH)

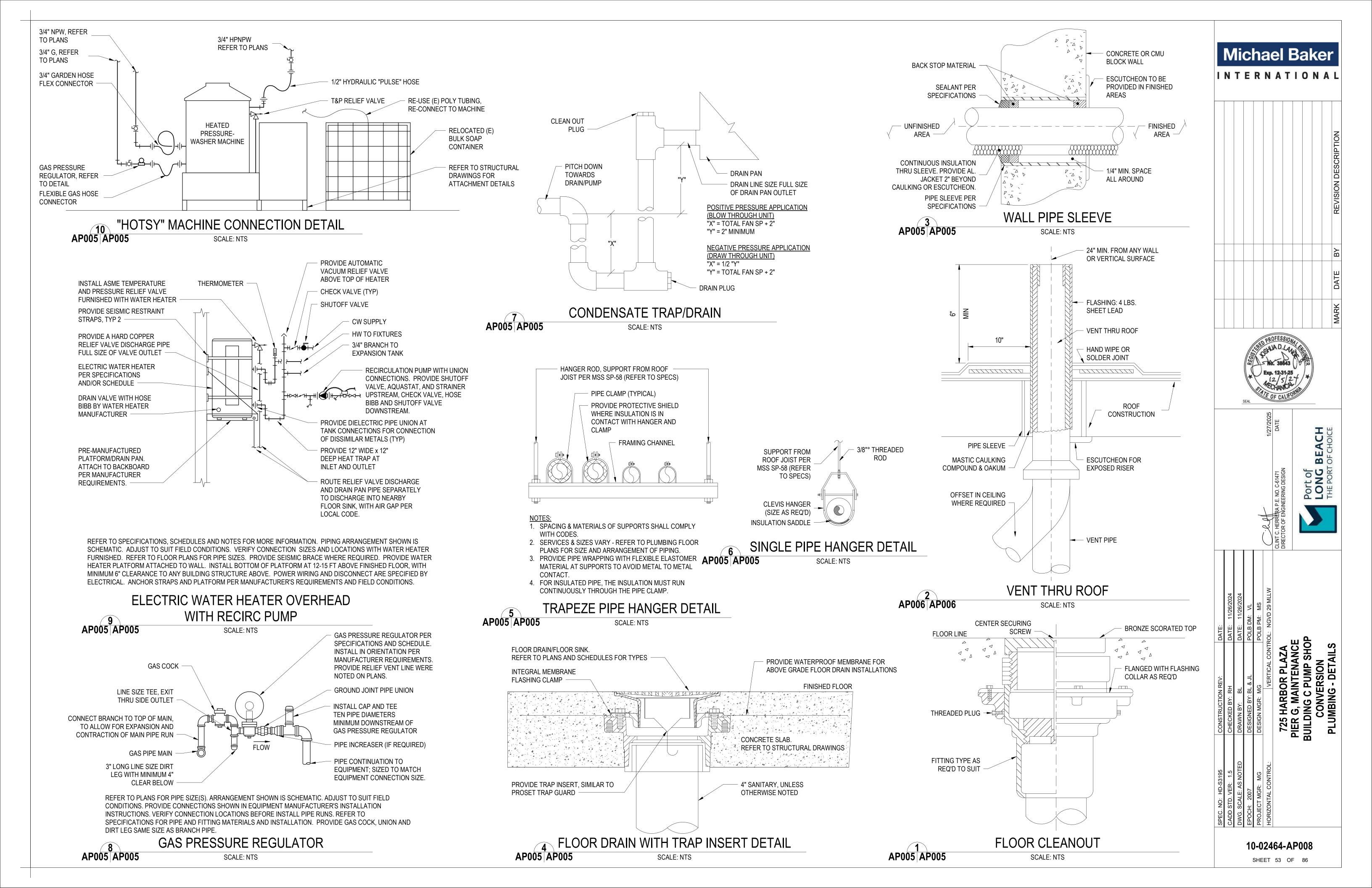
SCALE: NTS

AP005 AP005

SCALE: 1/2" = 1'-0"

AP005 AP005

SCALE: 1/2" = 1'-0"



PLUMBING FIXTURE SCHEDULE

FIXTURES AND ACCESSORIES IN THIS SCHEDULE OR THEIR APPROVED EQUIVALENT ARE PROVIDED BY THE PLUMBING CONTRACTOR. SUBMIT SHOP DRAWINGS ON EACH OF THESE ITEMS.

REFER TO SPECIFICATIONS FOR FURTHER INFORMATION AND INSTALLATION INSTRUCTIONS. VERIFY ROUGH-IN REQUIREMENTS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

1. PROVIDE ALL REQUIRED ACCESSORIES AND APPURTENANCES, INCLUDING BUT NOT LIMITED TO, COUPLINGS, STUDS & GASKETS, SUPPLIES & STOPS, ESCUTCHEONS, TOILET SEATS, TAILPIECES AND P-TRAPS.

2. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS. MOUNT ALL ADA FIXTURES AT ADA COMPLIANT HEIGHT.

3. FOR ADA COMPLIANT WATER CLOSETS, FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET. COORDINATE INSTALLATION OF FLUSH VALVE WITH GRAB BAR. REFER TO ARCHITECTURAL DRAWINGS.

4. PROVIDE PRE-MOLDED INSULATION ON EXPOSED CW & HW SUPPLIES AND STOPS, AND DRAIN PIPING BELOW FIXTURES.

5. PROVIDE THERMOSTATIC MIXING VALVE, COMPLYING WITH ASSE 1070, BELOW FIXTURE.

TAC	FIVTUDE	BASIS OF DESIG	N	DESCRIPTION		CONNEC	NOTES		
TAG	FIXTURE	MFGR	MODEL	DESCRIPTION	SAN	VENT	CW	HW	NOTES
EEW-1	EMERGENCY EYEWASH	FIXTURE: HAWS	7260BT-7270BT	WALL-MOUNTED, STATIONARY EYEWASH STATION. CAST ALUMINUM WALL BRACKET WITH PLASTIC BOWL AND DUST COVERS. POSITION SO THAT SPRAY HEADS ARE BETWEEN 33" AND 45" ABOVE FINISHED FLOOR.	2"	2"	1/2"		1,2
EWC-1	ELECTRIC WATER COOLER	FIXTURE: ELKAY	LZSTL8WSLK	WALL HUNG, DUAL HEIGHT UNIT, FRONT & SIDE PUSH PADS, FILTERED BOTTLE FILLER, CANE APRON, ADA COMPLIANT.	2"	1-1/2"	1/2"		1,2,3
L-1	LAVATORY - ADA	FIXTURE: AMERICAN STANDARD FAUCET: ZURN	0476028 Z81103-XL	COUNTER TOP, VITREOUS CHINA, 0.5 GPM MANUAL FAUCET, ADA COMPLIANT.	1-1/2"	1-1/2"	1/2"	1/2"	1,2,4,5
SS-1	SERVICE SINK	FIXTURE: AMERICAN STANDARD FAUCET: CHICAGO FAUCET	7695.008 897-CP	WALL HUNG, 24" x 20" ENAMELED CAST IRON, STAINLESS STEEL RIM GUARD, 3" PIPE TRAP STAND, SERVICE SINK FAUCET WITH INTEGRAL VACUUM BREAKER & WALL BRACE.	2"	2"	1/2"	1/2"	1,2
WC-1	FV WATER CLOSET - ADA	FIXTURE: AMERICAN STANDARD VALVE: ZURN	3043001 Z6000	FLOOR MOUNTED, VITREOUS CHINA, 1.28 GPF MANUAL FLUSH VALVE, ADA COMPLIANT, OPEN-FRONT SEAT.	4"	2"	1"		1,2,3,4

PIPE ACCESSORIES SCHEDULE

NUTEC:
INCLESS.

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2. INSTALL AT A MAXIMUM OF 60" ABOVE FINISHED FLOOR.

			BASIS C	F DESIGN	
TAG	TYPE	DESCRIPTION	MFGR	MODEL	NOTES
ECO-1	FLOOR CLEANOUT - EXTERIOR	DUCO CAST IRON DOUBLE FLANGED HOUSING WITH HEAVY DUTY SECURED SCORIATED CAST IRON COVER WITH LIFTING DEVICE AND CLEANOUT BODY WITH ABS PLASTIC PLUG WITH GASKET SEAL AND PUSH-ON JOINT. REFER TO SPECIFICATIONS FOR INSTALLATION.	JAY R SMITH	4261L	1
EMV-1	EMERGENCY MIXING VALVE	BRONZE BODY WITH ROUGH BRONZE FINISH, MEETING ASSE 1071, CORROSION RESISTANT INTERNAL PARTS, CHECK STOPS WITH REMOVABLE STRAINERS, DUAL INTERNAL COLD WATER BYPASS, PARAFFIN FILLED TEMPERATURE ELEMENT, DIAL THERMOMETER ON OUTLET, CAPABLE OF 4 GPM WITH A 5 PSI DIFFERENTIAL AND A MINIMUM FLOW RATE OF 1.0 GPM, AND STAINLESS STEEL WALL-MOUNTED CABINET. MAXIMUM TEMPERATURE STOP SET FOR 90°F.	POWERS	ES150-AF0512	1,2
FCO-1	FLOOR CLEANOUT - HEAVY DUTY	CAST IRON BODY, FLASHING FLANGE WITH CLAMPING COLLAR, ABS PLUG, AND ADJUSTABLE, ROUND, SECURED, HEAVY DUTY SCORIATED NICKEL BRONZE TOP. REFER TO SPECIFICATIONS FOR INSTALLATION.	JAY R SMITH	4111L	1
TMV-1	THERMOSTATIC MIXING VALVE	SOLID LEAD FREE BRASS OR BRONZE BODY, THERMOSTATIC WAX ELEMENT, CORROSION RESISTANT INTERNAL PARTS, AND INTEGRAL CHECKS, ASSE 1070 COMPLIANT, CAPABLE OF 1.6 GPM WITH A 20 PSI DIFFERENTIAL AND A MINIMUM FLOW FLOW RATE OF 0.25 GPM. MAXIMUM TEMPERATURE STOP SET FOR 110 DEGREES. MOUNT BELOW THE PLUMBING FIXTURE WHERE INDICATED ON PLAN(S).	POWERS	LFG480	1

ELECTRIC STORAGE WATER HEATER SCHEDULE

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2. DUAL ELEMENT WIRED FOR NON-SIMULTANEOUS OPERATION.

3. FURNISH WITH IMMERSION THERMOSTAT.

4. LOW BOY DESIGN.

5. PROVIDE WITH PRE-MANUFACTURED, WALL MOUNTED WATER HEATER PLATFORM (HOLDRITE #30-SWHP-WM OR SIMILAR).

			DIMEN					STORAGE		ELECT	RICAL		BASIS OF		
<u> </u>		AREA			CAPACITY	RECOVERY	TEMP.							WEIGHT	
	TAG	SERVED	DIAMETER	HEIGHT	(GAL)	(GPH)	(°F)	KW	VOLTS	PHASE	HERTZ	MFGR	MODEL	(LB)	NOTES
V	VH-1	RESTROOM	18"	26"	15	20	140	4	208	3	60	AO SMITH	DEL-15	184	1-5

GAS PRESSURE REGULATOR SCHEDULE FOR 5 PSI SYSTEMS

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2. C = SELF CONTAINED "DIRECT ACTING" DIAPHRAGM TYPE WITH INTERNAL VENT LIMITER.

3. DROOP = 2" WATER COLUMN MAXIMUM

4. 65# ALUMINUM BODY, SCREWED CONNECTIONS AND OVERPRESSURE PROTECTION TO 25 PSI.

5. MAXIMUM FLOW RATE SCHEDULED, MATCH BODY SIZE AND MAXIMUM FLOW RATE TO EQUIPMENT FLOW RATE. REFER TO EQUIPMENT SHOP

DRAWINGS FOR EXACT LOADS.

6. LISTED TO MEET ANSI Z21.80 / CAS 6.22 WITH CSA LISTING STAMP ON REGULATOR BODY.

7. GAS PRESSURE REGULATOR INLET PRESSURE = OPERATING PRESSURE - DESIGN FRICTION LOSS.

8. 5 PSI MAXIMUM INLET PRESSURE AND 1.5 PSI MINIMUM INLET PRESSURE.

9. PROVIDE EXTERNAL VENT LIMITER (WHERE APPROVED BY LOCAL AUTHORITIES) FOR INDOOR INSTALLATIONS AND INSTALL PER

SPECIFICATIONS. INSTALL OUTDOORS PER SPECIFICATIONS.

10. PROVIDE WITH SEPARATE OVERPRESSURE PROTECTION DEVICE (OPD).

					INLET	OUTLET	BASIS OF DES	SIGN	
1	SERVICE	VALVE TYPE	VALVE BODY SIZE	MAX. FLOW RATE (CFH)	PRESSURE (PSI)	PRESSURE (IN WC)	MFGR	MODEL	NOTES
GPR-1	HEATED PRESSURE WASHER	С	1"	1270	1.5	8	PIETRO-FIORENTINI	31053 OPD	1-10

RECIRCULATION PUMP SCHEDULE

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2. ALL LEAD FREE CAST BRONZE BOOSTER.

3. PROVIDE WITH STRAINER UPSTREAM OF PUMP.

4. PROVIDE ADJUSTABLE, SURFACE MOUNTED AQUASTAT.

5. SET AQUASTAT TO SHUT OFF RECIRCULATION PUMP AT WATER HEATER SET POINT AND ON AT 100°F BELOW SET POINT.

6. PROVIDE WITH TIMESWITCH, REFER SPECIFICATIONS.

			FLOW RATE	HEAD	ELECTRICAL BASIS OF DESIGN				WEIGHT			
TAG	PUMP TYPE	SERVICE	(GPM)	(FT)	HP / (WATTS)	VOLTS	PHASE	HERTZ	MFGR	MODEL	(LB)	NOTES
RP-1	INLINE	WH-1	5	5	1/8	120	1	60	BELL &	NBF-9U	9	1-6
									GOSSETT			

EXPANSION TANK SCHEDULE

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

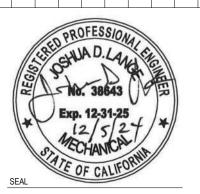
2. CHARGE TANK WITH AIR TO IDENTICAL PRESSURE AS STATIC DOMESTIC WATER PRESSURE.

3. PROVIDE SEISMIC RATED WALL-MOUNTING BRACKET AND ATTACH PER MANUFACTURER REQUIREMENTS (SIMILAR TO HOLDRITE #QS-U)

			DIMEN	SIONS			MIN.	BASIS OF	DESIGN		
TAG	TYPE	SERVICE	DIAMETER	HEIGHT	CONNECTION SIZE	TANK SIZE (GAL)	ACCEPTANCE VOLUME (GAL)	MFGR	MODEL	WEIGHT (LB)	NOTES
ET-1	DIAPHRAGM	WH-1	8"	13"	3/4"	2	0.9	AMTROL	ST-5	22	1-3



						REVISION DESCRIPTION
						ВУ
						DATE
						MARK



10-02464-AP009

SHEET 54 OF 86

FLOOR DRAIN SCHEDULE

NOTES:
1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
2. PROVIDE WITH PHYSICAL BARRIER TRAP SEAL DEVICE.

		STRAINER			OPEN DRAIN	BASIS OF DESIGN			
TAG	DESCRIPTION	SIZE (IN)	STRAINER	DRAIN BODY	AREA (SQ. IN)	MFGR	MODEL	ACCESSORIES	NOTES
FD-1	FLOOR DRAIN	6	NICKEL BRONZE	EPOXY COATED CAST IRON	9	WATTS	FD-100-A	EPOXY COATED CAST IRON FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY & SECONDARY WEEPHOLES, ADJUSTABLE ROUND HEEL PROOF NICKEL BRONZE STRAINER, AND NO HUB OUTLET.	1,2
FS-1	FLOOR SINK	8	ALUMINUM	EPOXY COATED CAST IRON	19	WATTS	FS-710-150	8" SQUARE X 6" DEEP SANITARY FLOOR SINK WITH WHITE ACID RESISTANT PORCELAIN ENAMEL COATED INTERIOR, LOOSE SET PORCELAIN ENAMEL COATED CAST IRON 1/2 GRATE, ALUMINUM DOME BOTTOM STRAINER, AND NO HUB OUTLET.	1,2

WATER HAMMER ARRESTOR SCHEDULE

NOTES:

1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2. PROVIDE WATER HAMMER ARRESTORS AT FLUSH VALVE-OPERATED FIXTURES, SOLENOID VALVES, AND ANY OTHER QUICK CLOSING VALVES.

l	
13 ELIDNICH VULESC DVNELC MITTER DE	QUIRED, FOR INSTALLATION BY GENERAL CONTRACTOR.
13. FURNISH ACCESS FANELS, WHERE REV	QUINED, FOR INSTALLATION BY GENERAL CONTRACTOR.
,	

P.D.I.	CONN.	TYPE	FIXTURE UNIT	BASIS O	NOTES	
SIZE	SIZE	ITPE	CAPACITY	MANUF	MODEL	NOIES
А	3/4"	NESTING BELLOWS	1 TO 11 SFU	ZURN	Z1700-100	1, 2, 3
В	3/4"	NESTING BELLOWS	12 TO 32 SFU	ZURN	Z1700-200	1, 2, 3
С	1"	NESTING BELLOWS	33 TO 60 SFU	ZURN	Z1700-300	1, 2, 3
D	1"	NESTING BELLOWS	61 TO 113 SFU	ZURN	Z1700-400	1, 2, 3
E	1"	NESTING BELLOWS	114 TO 154 SFU	ZURN	Z1700-500	1, 2, 3
F	1"	NESTING BELLOWS	155 TO 330 SFU	ZURN	Z1700-600	1, 2, 3

	WATER DISTRIBUTION PIPE SIZING CHART											
	FIXTURE UNITS VS. PRESSURE LOSS IN PSI / 100 FEET FOR TYPE "L" COPPER TUBE											
COLD WATER @ 2.00 PSI / 100' HOT WATER @ 2.0 PSI / 100'												
PIPE	INTERNAL	FLUSH TANK	FLUSH VALVE	VELOCITY	FLOW	FLUSH TANK	VELOCITY	FLOW				
SIZE	DIAMETER	SFU	SFU	FEET / SEC	GPM	SFU	FEET / SEC	GPM				
1/2"	0.545	0.4	N/A	2.0	1.4	*	*	*				
3/4"	0.785	1.4	N/A	2.5	3.8	*	*	*				
1"	1.025	3.7	N/A	3.0	7.6	*	*	*				
1-1/4"	1.265	8.6	N/A	3.4	13.3	*	*	*				
1-1/2"	1.505	24.0	7.5	3.8	21.1	*	*	*				
2"	1.985	101.1	34.3	4.5	43.7	*	*	*				
	1	SIZED WIT	H HAZEN WILLIAMS	CONSTANT "C" =	135	*UTILIZE (COLD WATER SIZING	G CHART				
	COLI	D WATER PIPES NO	OT TO EXCEED 8 FE	ET / SEC. HOT WAT	TER PIPES NOT	TO EXCEED 5 FEET	/ SEC.					

CONDENSATE DRA	AIN PIPE SIZING
EQUIPMENT CAPACITY (REFRIGERATION)	MINIMUM CONDENSATE PIPE DIAMETER
UP TO 20 TONS	3/4"
OVER 20 TONS TO 40 TONS	1"
OVER 40 TONS TO 90 TONS	1-1/4"
OVER 90 TONS TO 125 TONS	1-1/2"
OVER 125 TONS TO 250 TONS	2"

CPC FI	XTU	JRE		DAE	DIN	G			
		5	TOTAL	HOT	COLD	COMBINED	TOTAL	TOTAL	TOTAL
FIXTURE TYPE (PUBLIC)	QTY	D.F.U. (EA)	TOTAL D.F.U.	S.F.U.	S.F.U.	S.F.U.	S.F.U.	S.F.U.	SERVICE
				(EA)	(EA)	(EA)	(HOT)	(COLD)	S.F.U.
LAVATORY	1	1.0	1.0	0.75	0.75	1.00	0.75	0.75	1.0
EMERGENCY EYEWASH STATION	1	2.0	2.0	1.50	1.50	2.00	1.5	1.5	2.0
SINK - SERVICE OR MOP BASIN	2	3.0	6.0	2.25	2.25	3.00	4.5	4.5	6.0
FLOOR DRAIN (EMERGENCY)	1	-	-	-	-	-	-	-	-
FLOOR DRAIN (3" TRAP)	1	6.0	6.0	-	-	-	-	-	-
HOSE BIBB (FIRST)	1	-	-	-	2.50	2.50	-	2.5	2.5
HOSE BIBB (ADDITIONAL)	5	-	-	-	1.00	1.00	-	5	5.0
PRESSURE WASHER HOSE REEL	2	_	-	-	1.00	1.00	-	1	1.0
PUBLIC WATER CLOSET (1.28 GPF FLUSH VALVE)	1	4.0	4.0	-	5.00	5.00	-	5	5.0
ICE MACHINE	1	-	-	-	1.00	1.00	-	1	1.0
WATER COOLER	1	0.5	0.5	-	0.50	0.50	-	0.5	0.5
TOTAL UNITS:	17		19.5				6.8	21.8	24.0

TABLE 1215.2 SCHEDULE 40	* *	PIPE INFPA	54: TABLE 6.2.	.1(g)]*						
							GAS:	NATURAL		
						INL	ET PRESSURE:	5.0 psi		
						PRE	SSURE DROP:	3.5 psi		
						SPE	CIFIC GRAVITY:	0.60		
					PIPE SIZE (inch)				
NOMINAL:	1/2	3/4	1	11/4	11/2	2	21/2	3	4	
ACTUAL ID:	0.622	0.824	1.049	1.380	1.610	2.067	2.469	3.068	4.026	
LENGTH (feet)				CAPACITY IN C	UBIC FEET OF	GAS PER HOU	R	55535		
							11 100	19 600	39 900	

PLUMBING PIPE MATERIAL SCHEDULE							
PIPING SYSTEM	ABBREVIATION	PIPING MATERIAL					
SANITARY DRAINAGE & VENT	SAN OR V	HUBLESS OR SERVICE WEIGHT CAST IRON (PVC DWV OPTIONAL)					
DOMESTIC WATER - 2" & SMALLER (ABOVE GRADE)	CW, HW OR HWR	TYPE L HARD DRAWN COPPER					
DOMESTIC WATER - 2" & SMALLER (BELOW GRADE)	CW, HW OR HWR	TYPE K SOFT ANNEALED COPPER					
NON-POTABLE WATER	NPW	TYPE L HARD DRAWN COPPER					
HIGH-PRESSURE NON-POTABLE WATER	HPNPW	SCHEDULE 40 STAINLESS STEEL TYPE 316L					
NATURAL GAS	MPG OR G	SCHEDULE 40 BLACK STEEL					
CONDENSATE DRAIN - 1" & SMALLER	CD	PVC DWV					
COMPRESSED AIR CA TYPE L HARD DRAWN COPPER							
REFER TO SPECIFICATIONS FOR FITTINGS, INSTALLATION REQUIREMENTS AND FURTHER INFORMATION (INCLUDING INSULATION REQUIREMENTS)							



						REVISION DESCRIPTION
						ВУ
						DATE
						MARK



725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
PLUMBING - SCHEDULES & CALCULATIONS

10-02464-AP010

SHEET 55 OF 86

Domestic Water Heating System

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E This document is used to demonstrate compliance for nonresidential occupancies with requirements in 110.1, 110.3, 120.3, and 140.5, and with requirements in 141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in 110.1, 110.3, 160.4 and 170.2(d), and with requirements 180.1 for additions and 180.2 for alterations.

Project Name: Port of Long Beach Pump Shop Remodel Report Page: (Page 1 of 8) 2024-02-07T19:56:05-05:00 Project Address: Date Prepared:

A. GENERAL INFORMATION

Commercial Industrial
 Office

01 Project Location (city) Port of Long Beach 02 Climate Zone Occupancy Types Within Project (select all that apply):

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./ 170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined

03 My project consists of (check all that apply): System Components System Type^{1,2} New system (DHW system being installed for the first time) Central System (serving nonresidential spaces) ☐ Equipment ☐ Distribution ☐ Controls ☐ System Alteration (equipment, distribution or controls)

¹FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.

Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy. ³ DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies

hydronic water heating systems are documented on the NRCC-MCH compliance document.

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. or the table indicated as not compliant for guidance.

04 01 02 03 Domestic Hot Water Equipment Distribution Systems Controls **Compliance Results** Table F Table G Table H COMPLIES Yes

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Generated Date/Time:

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Compliance ID: 175006-0224-0012 Report Generated: 2024-02-07 16:56:08 Schema Version: rev 20220101

STATE OF CALIFORNIA

Domestic Water Heating System

CALIFORNIA ENERGY COMMISSION

Documentation Software: Energy Code Ace

CERTIFICATE OF COMPLIANCE NRCC-PLB-E Project Name: Port of Long Beach Pump Shop Remodel Report Page: (Page 3 of 8) Date Prepared: 2024-02-07T19:56:05-05:00

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also

be demonstrated and with 141.0 / 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss 06 03 05 Gas Service Water Heating Exception to 140.5(c)/ Capacity-weighted WH-1 170.2(d)3 Not Apply System >= Average Efficiency % 1MMBtu/h1 07 08 11 12 13 15 Rated Input | Max GPM/ First Minimum Name or Maximum Standby Equipment Type Capacity Hour Rating Efficiency **Efficiency Unit** Designed Standby Loss Item Tag (gal) Efficiency Loss (Btu/h) (FHR) Required Commercial Electric 13,648 2.1 Storage Water 15 2.1

¹FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted

²FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx

Water Heating Equipment All Occupancies

Requirement Applicable Unfired storage tank insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3 New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5 19 Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6 School buildings < 25,000 ft² and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

Generated Date/Time:

Report Version: 2022.0.000

Schema Version: rev 20220101

Documentation Software: Energy Code Ace

Report Generated: 2024-02-07 16:56:08

Domestic Water Heating System CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-PLB-E Project Name: Port of Long Beach Pump Shop Remodel (Page 2 of 8) Report Page: Date Prepared: 2024-02-07T19:56:05-05:00

E. ADDITIONAL REMARKS

STATE OF CALIFORNIA

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Generated Date/Time:

Schema Version: rev 20220101

Report Page:

Date Prepared:

Report Version: 2022.0.000

Compliance ID: 175006-0224-0012 Report Generated: 2024-02-07 16:56:08

NRCC-PLB-E

(Page 4 of 8)

2024-02-07T19:56:05-05:00

Documentation Software: Energy Code Ace

STATE OF CALIFORNIA

Project Name: Port of Long Beach Pump Shop Remodel

Domestic Water Heating System CERTIFICATE OF COMPLIANCE

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

CALIFORNIA ENERGY COMMISSION

auxiliary heating is needed. The recirculation loop heater shall be capable of multi-pass water heating operation per 170.2(d)2B.

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies,

compliance is demonstrated with requirements 110.3(c), 160.4, 170.2(d).

Recirculation Loops in Central Systems Serving Dwelling Units or Nonresidential Spaces

	Yes	No	Not Applicable	Requirement
01	•			Air release valve or vertical pump installation per 110.3(c)4A
02	•	0		Check valve or similar located between recirculation pump and water heating equipment to prevent backflow per 110.3(c)4B
03	•			Hose bibb installed between pump and equipment and isolation valve between hose bibb and equipment per 110.3(c)4C
04	•	0		Isolation valves on both sides of the pump per 110.3(c)4D
05				Cold water and recirculation loop piping shall not be connected to the hot water storage tank drain port per 110.3(c)4E
06	•			Check valve installed on cold water supply between hot water system and next closest tee on cold water supply per 110.3(c)4F
07	0	0	•	DWELLING UNITS ONLY: For central systems serving multiple dwelling units, design includes a recirculation system serving separate dwelling units per 170.2(d) unless building has <=8 dwelling units.
08	0	0	•	DWELLING UNITS ONLY: For heat pump water heating systems, the hot water return from the recirculation loop shall connect to a recirculation loop tank and shall not directly connect to the primary heat pump water heater inlet or the primary thermal storage tanks per 170.2(d)2A.
09				DWELLING UNITS ONLY: For heat pump water heating systems, the fuel source for the recirculation loop tank shall be electricity if

Michael Baker

INTERNATIONAL



10-02464-AP011

SHEET 56 OF 86

Generated Date/Time:

Documentation Software: Energy Code Ace

Domestic Water Heating System

Domestic Water Heating System		CALIFORNIA ENERGY COMMISSIO		
CERTIFICATE OF COMPLIANCE		NRCC-PLB-E		
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 5 of 8)		
	Date Prepared:	2024-02-07T19:56:05-05:00		

G. DOME	STIC HOT W	ATER DIS	TRIBUTION SYS	TEM				
Mandator	y Pipe Insulat	ion All O	ccupancies					
13		 For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation. 						
14		• R	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per 120.3: Recirculating system piping, including supply and return piping of the water heater The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system Pipes that are externally heated					
15	×	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.						
				TABLE 120.3-A / 16	0.4-A PIPE INSU	JLATION THICKN	IESS	
Conductivity Nominal Pipe Diameter (in)								
Fluid Ter	nperature Range	nge (°F)	Range (Btu-in per hour per ft²	Insulation Mean Rating Temp (°F)	< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			per °F)				Minimum Insulation Required	
	105-140		0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

Generated Date/Time:

Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 175006-0224-0012

Report Generated: 2024-02-07 16:56:08

STATE OF CALIFORNIA		
Domestic Water Heating System	CALIFORNIA ENERGY COMMISSION	
CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 7 of 8)
	Date Prepared:	2024-02-07T19:56:05-05:00

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title

NRCI-PLB-E - Must be submitted for all buildings

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

There are no forms required for this project.

STATE OF CALIFORNIA

Domestic Water Heating System

Domestic Water Heating System		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 6 of 8
	Date Prepared:	2024-02-07T19:56:05-05:00

H. DOME	STIC HOT WA	TER CONTROI	LS	
		onstrate compli rements in 160.		trol requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also
	Yes	No	Not Applicable	Requirement
01				Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02			×	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03				Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04			×	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05			×	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06			⊠	 Combustion air positive shut-off shall be provided per 160.4(3).on all newly installed commercial boilers as follows: Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07			⊠	 Boiler combustion air fans with motor >= 10 hp shall meet one of the following The fan motor shall be driven by a variable speed drive OR The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08			Ø	Newly installed boilers with an input capacity {d:gte/] 5MMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

Generated Date/Time:

Report Version: 2022.0.000

Schema Version: rev 20220101

Documentation Software: Energy Code Ace

Compliance ID: 175006-0224-0012 Report Generated: 2024-02-07 16:56:08

STATE OF CALIFORNIA

Domestic Water Heating System

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

california energy				
RTIFICATE OF COMPLIANCE		NRCC-PLB-E		
oject Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 8 of 8)		
ject Address:	Date Prepared:	2024-02-07T19:56:05-05:00		

I certify that this Certificate of Compliance documentation is accurate and complete.					
Documentation Author Name: Barrett Lee	Documentation Author Signature: Boweth Lee				
Company: Michael Baker Intl.	Signature Date: 08/21/2024				
Address: 7090 S Union Park Ave, #500	CEA/ HERS Certification Identification (if applicable): N/A				
City/State/Zip: Midvale/UT/84047	Phone: 801-998-4323				

- The information provided on this Certificate of Compliance is true and correct.
- 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
- The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirement of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations,
- plans and specifications submitted to the enforcement agency for approval with this building permit application. 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable

Responsible Designer Name: Joshua Lange	Responsible Designer Signature: Adam D day
Company: Michael Baker Intl.	Date Signed: 08/21/2024
Address: 7090 S Union Park Ave, #500	License: 38643
City/State/Zip: Midvale/UT/84047	Phone: 801-998-4323

Generated Date/Time:

Documentation Software: Energy Code Ace

Compliance ID: 175006-0224-0012 Report Generated: 2024-02-07 16:56:08 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Generated Date/Time:

Documentation Software: Energy Code Ace Compliance ID: 175006-0224-0012

Report Generated: 2024-02-07 16:56:08

Michael Baker

INTERNATIONAL





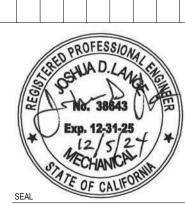


10-02464-AP012

SHEET 57 OF 86

rvice Water Heating Mandatory Measures:	
rvice Water Heating Mandatory Measures: 3(a) CERTIFICATION BY MANUFACTURERS	
The state of the s	GY COMMISSION TO MEET ALL APPLICABLE 110.3
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a)1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPAGE EPTABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HA	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a) 1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPAGE EPTABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HATTHE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPLY 3(b) EFFICIENCY	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613. T FROM TEMPERATURE CONTROL REQUIREMENTS
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a) 1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPAGE EPTABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HATTHE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMP 3(b) EFFICIENCY IPMENT SHALL MEET THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS AS 3(c)2 CONTROLS FOR HOT WATER DISTRIBUTION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALL	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613. T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1.
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a) 1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HATE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPLY AS A SIGN OF THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS AS A SIGN OF THE APPLIANCE OF THE APPLIANCE OF THE APPLIANCE SYSTEMS SHALTEM. 3(c) 2 CONTROLS FOR HOT WATER DISTRIBUTION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALTEM. 3(c) 4 WATER HEATER RECIRCULATION LOOPS	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613. T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1. LL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE
SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a) 1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE EPTABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HA THE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMP 3(b) EFFICIENCY UIPMENT SHALL MEET THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS AS 3(c)2 CONTROLS FOR HOT WATER DISTRIBUTION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALTEM.	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613. T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1. LL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a)1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPAGE EPTABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HATTHE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPLY SIGNATURE OF THE APPLIANCE EFFICIENCY REGULATIONS AS C.) 2 CONTROLS FOR HOT WATER DISTRIBUTION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALTEM. 3(c)4 WATER HEATER RECIRCULATION LOOPS TER HEATING RECIRCULATION LOOPS SERVING MULTIPLE DWELLING UNITS, HIGH-RISE RESIDENTIAL, HOTE:	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613 T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1. LL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a)1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPAGE EPTABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HATTLE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMP 3(b) EFFICIENCY IPPENT SHALL MEET THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS AS COLOR CONTROLS FOR HOT WATER DISTRIBUTION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALTEM. 3(c)4 WATER HEATER RECIRCULATION LOOPS TER HEATING RECIRCULATION LOOPS SERVING MULTIPLE DWELLING UNITS, HIGH-RISE RESIDENTIAL, HOTE: AIR RELEASE VALVE OR VERTICAL PUMP INSTALLATION RECIRCULATION LOOP BACKFLOW PREVENTION EQUIPMENT FOR PUMP PRIMING PUMP ISOLATION VALVES	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613 T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1. LL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGY UIREMENTS 3(a) 1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPAGE EPTABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HAT HE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPED AND ASSOCIATED AS ASSOCIATED AS ASSOCIATED AS ASSOCIATED AS ASSOCIATED ASSOCIATED ASSOCIATED AS ASSOCIATED ASS	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613. T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1. LL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGUIREMENTS 3(a)1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HATTLE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPED IN TABLE 3. CHAPTER 50 OF THE ASHRAE HATTLE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPED IN TABLE 3. CHAPTER 50 OF THE ASHRAE HATTLE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPED IN TABLE 3. CHAPTER 50 OF THE ASHRAE HATTLE CALIFORNIA PLUMBING SYSTEMS OF THE APPLIANCE EFFICIENCY REGULATIONS AS 3(c)2 CONTROLS FOR HOT WATER DISTRIBUTION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATION LOOPS TER HEATING RECIRCULATION LOOPS SERVING MULTIPLE DWELLING UNITS, HIGH-RISE RESIDENTIAL, HOTE: AIR RELEASE VALVE OR VERTICAL PUMP INSTALLATION RECIRCULATION LOOP BACKFLOW PREVENTION EQUIPMENT FOR PUMP PRIMING PUMP ISOLATION VALVES COLD WATER SUPPLY AND RECIRCULATION LOOP CONNECTION TO HOT WATER STORAGE TANK COLD WATER SUPPLY BACKFLOW PREVENTION B(a) INSULATION CERTIFICATION TALLED INSULATION CERTIFICATION TALLED INSULATION SHALL BE CERTIFIED BY THE DEPARTMENT OF CONSUMER AFFAIRS PER TITLE 24, PAF JLATING MATERIAL."	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613. T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1. LL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE TEL/MOTEL AND NONRESIDENTIAL OCCUPANCIES SHALL
3(a) CERTIFICATION BY MANUFACTURERS SERVICE WATER HEATING SYSTEM OR EQUIPMENT MAY BE INSTALLED ONLY IF CERTIFIED TO THE ENERGUIREMENTS 3(a)1 TEMPERATURE CONTROLS VICE WATER HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE TEMPERATURES FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HATTHE CALIFORNIA PLUMBING CODE FOR HEALTHCARE FACILITIES. RESIDENTIAL OCCUPANCIES ARE EXEMPISED BY INTENDED AS A SECONDARY OF THE APPLICABLE REQUIREMENTS OF THE APPLIANCE EFFICIENCY REGULATIONS AS A SIC)2 CONTROLS FOR HOT WATER DISTRIBUTION SYSTEMS VICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALTEM. 3(c)4 WATER HEATER RECIRCULATION LOOPS TER HEATING RECIRCULATION LOOPS SERVING MULTIPLE DWELLING UNITS, HIGH-RISE RESIDENTIAL, HOTE: AIR RELEASE VALVE OR VERTICAL PUMP INSTALLATION RECIRCULATION LOOP BACKFLOW PREVENTION EQUIPMENT FOR PUMP PRIMING PUMP ISOLATION VALVES COLD WATER SUPPLY AND RECIRCULATION LOOP CONNECTION TO HOT WATER STORAGE TANK COLD WATER SUPPLY BACKFLOW PREVENTION 3(a) INSULATION CERTIFICATION TALLED INSULATION SHALL BE CERTIFIED BY THE DEPARTMENT OF CONSUMER AFFAIRS PER TITLE 24, PAF	BLE OF BEING ADJUSTED FROM LOWEST TO HIGHEST ANDBOOK, HVAC APPLICATIONS VOLUME, OR TABLE 613. T FROM TEMPERATURE CONTROL REQUIREMENTS S REQUIRED BY 110.1. LL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE TEL/MOTEL AND NONRESIDENTIAL OCCUPANCIES SHALL RT 12, CHAPTERS 12-13, ARTICLE 3 "STANDARDS FOR JR-MIL-THICK PLASTIC POLYETHYLENE VAPOR RETARDER





10-02464-AP013

SHEET 58 OF 86

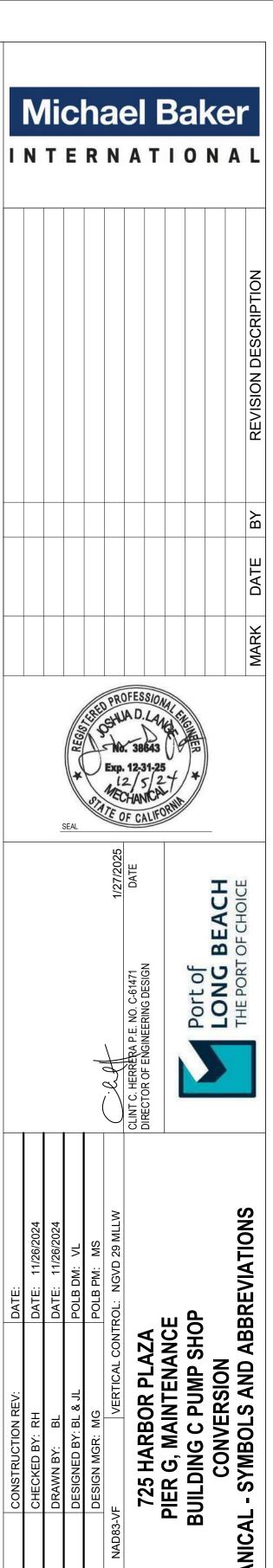
				MECHANICA	AL SYMBOLS LEGEND				
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
ATFP -OR- ATFP	ATFP SHUTDOWN SWITCH	AxBFO	DUCTWORK - DIMENSIONS - FLAT OVAL (SIDE SHOWN x SIDE NOT SHOWN)		DUCTWORK - FLEXIBLE CONNECTION	} \	PIPING - STRAINER WITH VALVED AND CAPPED BLOW DOWN	(T)~ `_ ~	THERMOSTAT (DASHED LINE RUNS TO CONTROLLED DEVICE)
NECK SIZE TAG CFM	AIR DEVICE	{ AØ }	DUCTWORK - DIMENSIONS - ROUND		DUCTWORK - EXHAUST OR RETURN DUCT DOWN (SLASH MAY BE FLIPPED)	}	PIPING - TEE DOWN		
	ACCESS PANEL	DN	DUCTWORK - DUCT ELEVATION DROP		DUCTWORK - EXHAUST OR RETURN DUCT UP (SLASH MAY BE FLIPPED)	├ ──	PIPING - TEE UP		
(CO ₂)	CARBON DIOXIDE SENSOR	<u>UP</u>	DUCTWORK - DUCT ELEVATION RISE	X	DUCTWORK - SUPPLY DUCT DOWN	T	PIPING - TEMPERATURE SENSOR		
(0)	CARBON MONOXIDE SENSOR	<u>DN</u>	DUCTWORK - DUCT ELEVATION DROP (ROUND OR FLAT OVAL)		DUCTWORK - SUPPLY DUCT UP	₩ ₩	PIPING - THERMOMETER		
•	CONNECT TO EXISTING	UP ■	DUCTWORK - DUCT ELEVATION RISE (ROUND OR FLAT OVAL)	$\begin{array}{ccc} AxB & AxB \\ \hline & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ &$	DUCTWORK - TRANSITION - RECTANGULAR	\(\frac{1}{2}\)	PIPING - PRESSURE GAUGE WITH GAUGE COCK		
-L - ►	DOOR LOUVER	DSD	DUCTWORK - DUCT SMOKE DETECTOR		DUCTWORK - TRANSITION - RECTANGULAR TO ROUND / FLAT OVAL	├─ ─ 	PIPING - PT (PRESSURE & TEMPERATURE) TEST PORT		
-UC - ➤	DOOR UNDERCUT		DUCTWORK - ELBOW 90° UP		EXHAUST AIR DIFFUSER	P-# ← ● →	PIPING - PUMP (ARROW IS DIRECTION OF FLOW)		
DDCP	DIRECT DIGITAL CONTROL PANEL		DUCTWORK - ELBOW 90° DOWN		EXHAUST FAN	├	PIPING - REDUCER		
AFS	DUCTWORK - AIRFLOW MEASUREMENT STATION	∇FD \	DUCTWORK - FIRE DAMPER	H	HUMIDISTAT		RETURN OR EXHAUST AIR DEVICE (SLASH MAY BE FLIPPED)		
BDD	DUCTWORK - BACKDRAFT DAMPER	DSD	DUCTWORK - SMOKE DAMPER	H ₂	HYDROGEN SENSOR		REMOVE EXISTING TO		
→	DUCTWORK - DIRECTION OF AIRFLOW - RETURN	□ ∇FS □ DSD □	DUCTWORK - COMBINATION FIRE / SMOKE DAMPER	X OR X	KEYNOTE	#	REVISION		
→	DUCTWORK - DIRECTION OF AIRFLOW - SUPPLY		DUCTWORK - MANUAL VOLUME DAMPER		LOUVER	S	STARTER (EQUIPMENT SERVED)		
DP	DUCTWORK - DIFFERENTIAL PRESSURE		DUCTWORK - MOTOR OPERATED DAMPER	NOx	NITROGEN OXIDE SENSOR	\$	SWITCH		
AxB	DUCTWORK - DIMENSIONS (SIDE SHOWN x SIDE NOT SHOWN)	H+++++/>	DUCTWORK - FLEXIBLE DUCT	φ	PHASE		SQUARE SUPPLY AIR DIFFUSER		

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	 NEW	
DEMOLISH	 FUTURE	

NOTE: LEGEND AND ABBREVIATIONS ARE ALL INCLUSIVE, SOME SYMBOLS OR ABBREVIATIONS SHOWN MAY NOT BE USED IN THIS PROJECT



10-02464-AM001

SHEET 59 OF 86

MECHANICAL GENERAL NOTES

GENERAL

- 1. DO NOT SCALE DRAWINGS. CONDITIONS ARE DIAGRAMMATICALLY INDICATED.
- 2. PROVIDE ALL WORK INDICATED OR IMPLIED ON THE DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE
- 3. PROVIDE ALL MATERIALS, EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED,
- 4. ALL WORK SHOWN ON THE DRAWINGS IS TO BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE
- 5. EQUIPMENT SUBMITTALS AND SHOP DRAWINGS REQUIRED BY THE SPECIFICATIONS MUST BE APPROVED BY ENGINEER PRIOR TO PURCHASE, FABRICATION, AND INSTALLATION.
- 6. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCTS OF A SINGLE MANUFACTURER MUST BE USED.
- 7. VERIFY EXISTING CONDITIONS AT THE SITE AND REPORT DISCREPANCIES TO THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH WORK.
- 8. LIMITS OF WORK ARE SHOWN FOR GENERAL REFERENCE AND DO NOT ESTABLISH PRECISE BOUNDARIES OF WORK FOR ANY TRADE THAT MAY BE REQUIRED TO COMPLETE THE PROJECT.
- 9. THE VERBIAGE ON THE DRAWING INDICATING TYPES OF MATERIALS IS INTENDED TO AID THE CONTRACTOR IN UNDERSTANDING THE VARIOUS CONDITIONS LIKELY TO BE ENCOUNTERED.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING QUANTITIES OF MATERIALS REQUIRED TO COMPLETE THE PROJECT.
- 11. REFER TO DETAILS FOR ADDITIONAL REQUIREMENTS REGARDING SIZES AND ARRANGEMENTS.
- 12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND TO MAINTAIN THE BUILDING'S STRUCTURAL INTEGRITY DURING ALL PHASES OF DEMOLITION AND NEW WORK. PROVIDE ALL REQUIRED SUPPORT, SHORING, PINNING, ETC. TO ASSURE THIS REQUIREMENT.
- 13. MAINTAIN BUILDING IN WEATHERPROOF AND WATERTIGHT CONDITIONS THROUGHOUT THE DURATION OF CONSTRUCTION.
- 14. FIRE STOP ALL FLOOR/CEILING PENETRATIONS AND ALL PENETRATIONS THROUGH RATED PARTITIONS/WALLS.
- 15. THE CONTRACTOR MUST LEGALLY DISPOSE OF ALL THEIR DEMOLISHED MATERIALS OFF-SITE PER REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THIS PROJECT
- 16. WORK SHOWN ON DRAWINGS INVOLVES THE REMOVAL, REPLACEMENT, DEMOLITION, CUTTING, PATCHING AND PLASTERING OF EXISTING SURFACES IN ROOMS ABOVE AND BELOW THE CONSTRUCTION AREA. ALL OF THIS WORK IS BY THE CONTRACTOR. THE CONTRACTOR MUST RESTORE ALL SURFACES AND FLOORS THAT ARE AFFECTED BY THEIR WORK. THE CONTRACTOR MUST COORDINATE THE PATCHING AND REPAIR OF THEIR WORK WITH THE WORK OF THE GENERAL CONTRACTOR'S FINAL FINISHES
- 17. CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. CONTRACTOR MUST BE
- RESPONSIBLE TO FIELD SURVEY ACTUAL SITE CONDITIONS AND ACCOMMODATE ACTUAL SITE CONDITIONS AS PART OF SCOPE OF WORK AT NO ADDITIONAL COST TO GOVERNMENT 18. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, SUPPORTS, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
- 19. COORDINATE ALL FINAL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCTWORK AND PIPING TRANSITIONS REQUIRED FOR FINAL
- EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCTWORK AND PIPING DIMENSIONS BEFORE FABRICATION. 20. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND SUPPORT OF MECHANICAL WORK AS SHOWN IN DETAILS FOR PIPING, DUCTWORK AND EQUIPMENT (UNLESS
- OTHERWISE NOTED) MUST BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AT NO ADDITIONAL COST 21. ALL EQUIPMENT, PIPING, DUCTWORK, ETC., MUST BE SUPPORTED AS DETAILED, SPECIFIED AND AS REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
- 22. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS CONNECTED TO FANS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS MUST BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.

COORDINATION

- 1. SEVERAL PROJECTS MAY OCCUR AT THE SITE SIMULTANEOUSLY WITH THIS PROJECT. COORDINATE ALL WORK REQUIREMENTS UNDER THIS CONTRACT WITH THESE PROJECTS.
- 2. THE CONTRACTOR MUST REVIEW ALL DRAWINGS AND INCORPORATE PHASING REQUIREMENTS IN BID
- 3. REFER TO AND INCORPORATE THE ARCHITECTURAL, PLUMBING, ELECTRICAL AND FIRE PROTECTION DRAWINGS FOR COORDINATION REQUIREMENTS OF DEMOLITION AND NEW WORK.
- 4. COORDINATE WITH THE ELECTRICAL CONTRACTOR:
- 5. LOCATION AND POWER REQUIREMENTS OF EQUIPMENT, CONTROL PANELS AND DEVICES
- 6. MECHANICAL CONTRACTOR MUST FURNISH MOTOR CONTROL DEVICES TO ELECTRICAL CONTRACTOR FOR INSTALLATION. MOTOR CONTROL DEVICES INCLUDE BUT ARE NOT LIMITED TO FUSED DISCONNECTS, DISCONNECTS, MOTOR STARTING SWITCHES, PUSH BUTTON STATIONS, FRACTIONAL HORSEPOWER MANUAL MOTOR STARTERS WITH THERMAL OVERLOADS, 3 PHASE MOTOR CONTACTORS. COMBINATION MOTOR STARTERS. VARIABLE FREQUENCY DRIVES. SINGLE PHASE MOTOR SPEED ADJUSTMENT DEVICES.
- COORDINATE ALL ELECTRICAL REQUIREMENTS AND LOCATIONS OF ALL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING AND INSTALLATION.
- 8. LOCATIONS AND SIZES OF ALL FLOOR, WALL AND ROOF OPENINGS MUST BE COORDINATED WITH ALL OTHER TRADES INVOLVED.

WORK AREA

- 1. PROVIDE CONSTRUCTION AND DUST BARRICADES AS INDICATED AND AS DIRECTED BY THE OWNER TO ISOLATE WORK AREAS FROM OTHER PARTS OF THE BUILDING.
- 2. BARRICADES MUST HAVE LOCKABLE DOOR TO PREVENT UNAUTHORIZED ENTRY. PROVIDE "WIPE OFF" MATS TO MINIMIZE TRACKING DUST AND DEBRIS.
- 3. DEVELOP, POST, AND IMPLEMENT NEW, SAFE PATHS OF EGRESS IF BARRICADES BLOCK NORMAL PATHS OF EGRESS
- PROVIDE TEMPORARY EXIT SIGNS.
- 5. DUST-PROOF PARTITIONS MUST HAVE LOCKABLE PRE-HUNG DOOR 3'-0" X 7'-0" TO PREVENT UNAUTHORIZED ENTRY, FIRE PROOF OR METAL STUDS AND PLYWOOD. "WIPE OFF" MATS TO
- MINIMIZE TRACKING DUST AND DEBRIS TO ADJOINING SPACES, AND TEMPORARY EXIT SIGNS IF PARTITIONS INTERFERE WITH PATHS OF EGRESS. 6. IF DUST-PROOF PARTITIONS BLOCKS NORMAL PATHS OF EGRESS, THE PRIME CONTRACTOR MUST DEVELOP, POST, AND IMPLEMENT NEW, SAFE PATHS OF EGRESS
- 7. PROVIDE CONSTRUCTION AND DUST BARRICADES, AS REQUIRED, AND DIRECTED BY THE OWNER, TO ISOLATE WORK AREAS, AND MAINTAIN REQUIRED EGRESS PATHWAYS. PROVIDE
- TEMPORARY EXIT SIGNAGE, WALK-OFF MATS AND DOORS.
- 8. RETURN ADJACENT AREAS DISTURBED BY THIS PROJECT'S CONSTRUCTION TO THE CONDITION PRIOR TO CONSTRUCTION.

HVAC WORK

- 1. THE CONTRACTOR MUST COORDINATE THE LOCATIONS OF GRILLES, REGISTERS AND DIFFUSER WITH THE CEILING GRID, LIGHTING AND SPRINKLER HEAD LAYOUTS.
- 2. ALL HEATING DEVICES AND SURFACES WITH ELEVATED TEMPERATURES WHICH CAN BE ACCESSED OR COME IN CONTACT WITH OWNER PERSONNEL MUST BE PROTECTED. INSULATED. OR CONTROLLED TO REMAIN BELOW 120°F
- 3. ALL PIPING AND DUCTWORK MUST CLEAR DOORS, WINDOWS, EQUIPMENT CLEARANCES, MAINTENANCE REQUIREMENTS, CODE SETBACKS, ETC. TO ASSURE PROPER OPERATION, INSPECTION, AND MAINTENANCE
- 4. WELDING TO STRUCTURAL MEMBERS MUST NOT BE PERMITTED. ATTACHMENTS MUST BE MADE USING CLAMPS MEETING MSS STANDARDS AS SPECIFIED.
- 5. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING MUST NOT BE SUPPORTED FROM ROOF OR DECK ASSEMBLY. SUPPORTS MUST ATTACH TO STRUCTURAL MEMBERS.
- 6. PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT VIBRATION TRANSMISSION TO BUILDING STRUCTURE.
- 7. SUPPLY AIR DIFFUSERS TO BE 24"X24". UNLESS OTHERWISE NOTED
- 8. BALANCE RETURN AIR REGISTERS TO MATCH THE SUPPLY AIR CFM'S INDICATED FOR EACH AREA.
- 9. OFFSET DUCTWORK AS REQUIRED, COORDINATE WITH CEILING HEIGHTS.
- 10. PROVIDE ACCESS DOORS AT EVERY LOCATION THAT A VOLUME DAMPER, FIRE DAMPER, VALVE OR OTHER CONTROL/BALANCING ITEM WILL BE INSTALLED ABOVE AN INACCESSIBLE CEILING.

DUCTWORK

- 1. PROVIDE ALL 90 DEGREE SQUARE DUCT ELBOWS WITH TURNING VANES UNLESS OTHERWISE INDICATED OR SPECIFIED. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS CONTAINING
- 2. ALL DUCTS MUST BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS MUST BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.
- 3. WHERE DUCT BRANCHES OR TERMINAL DEVICES ARE REMOVED FROM EXISTING DUCTS, THE CONTRACTOR MUST PATCH THE MAIN WITH LIKE THICKNESS SHEET METAL. EXTEND PATCH TO DUCT EDGES. PATCHES MUST BE MADE WITH HEMMED EDGES. PAINT PATCHES TO MATCH DUCTWORK.
- 4. COORDINATE DUCT ROUTING AND ELEVATION WITH LIGHTING, CEILING GRID, PIPING, CABLE TRAYS, CONDUIT, AND ALL OTHER ITEMS REQUIRED FOR THE COMPLETION OF THIS PROJECT.
- 5. ALL DUCTS SERVING ERV-1 MUST BE CONSTRUCTED TO SEAL CLASS A.

- 1. ALL ISOLATION VALVES MUST BE IN A LOCATION AND ELEVATION WHICH ALLOWS FOR EQUIPMENT AND BRANCH PIPING REMOVAL, WHILE MAINTAINING SERVICE UPSTREAM OF THE ISOLATION
- 2. ALL VALVES MUST BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
- 3. MEASURE, CUT, AND INSTALL PIPE LENGTH ACCURATELY TO MINIMIZE MISALIGNMENT. INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
- 4. FLEXIBLE CONNECTIONS MUST BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE OR AS INDICATED ON THE DRAWINGS.

EQUIPMENT

1. INSTALL ALL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, APPLICABLE BUILDING, STATE, AND LOCAL CODES, ENERGY CODES, ASHRAE AND NEPA STANDARDS, AND INSURANCE UNDERWRITER REQUIREMENTS

- COORDINATE AUXILIARY CONTACT AND RELAY REQUIREMENTS WITH SEQUENCES OF OPERATION.
- 2. COORDINATE MOTOR AND MOTOR CONTROL REQUIREMENTS WITH EQUIPMENT SCHEDULES AND SEQUENCES OF OPERATION.
- 3. HARDWIRE ALL SAFETIES TO SHUTDOWN HVAC EQUIPMENT
- 4. LOCATE ALL TEMPERATURE, PRESSURE AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH A STRAIGHT SECTION OF PIPE OR DUCT UPSTREAM AND DOWNSTREAM, AS RECOMMENDED BY THE MANUFACTURER FOR ACCURACY.
- 5. ALL CONTROL WIRE AND CONDUIT MUST COMPLY WITH THE NATIONAL ELECTRIC CODE, DIVISION 26 OF THE SPECIFICATIONS, AND ALL LOCAL CODES
- 6. UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS 48" (CENTER LINE) ABOVE FINISHED FLOOR IN ACCORDANCE WITH ADA REQUIREMENTS. NOTIFY THE QUALITY CONTROL MANAGER OF ANY ROOMS WHERE THE ABOVE LOCATION CANNOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION.

TEST AND INSPECTION

- 1. TESTING ADJUSTING AND BALANCING (TAB) AGENCY MUST BE A MEMBER OF THE ASSOCIATED AIR BALANCING COUNCIL (AABC), THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), OR THE TESTING, ADJUSTING AND BALANCING BUREAU (TABB). THE TAB FIRM MUST BE A SUBCONTRACTOR HIRED DIRECTLY BY THE GENERAL CONTRACTOR. TAB FIRM MUST HAVE A MINIMUM OF 5 YEARS EXPERIENCE ON SIMILAR PROJECTS. PERFORM TAB IN ACCORDANCE WITH THE REQUIREMENTS OF THE TAB PROCEDURAL STANDARD RECOMMENDED BY THE TAB TRADE ASSOCIATION THAT APPROVED THE TAB FIRM'S QUALIFICATIONS. COMPLY WITH REQUIREMENTS OF AABC MN-1, NEBB PROCEDURAL STANDARDS, OR SMACNA HVAC TAB(TABB) AS SUPPLEMENTED AND MODIFIED BY SPECIFICATION SECTIONS.
- 2. DUCTWORK SERVING ERV-1 MUST BE TESTED TO ENSURE LEAKAGE DOES NOT EXCEED 6% PER NA7.5.3.

EXISTING CONDITIONS

GENERAL:

- 1. COORDINATE DUCT ROUTING AND ELEVATION WITH EXISTING STRUCTURAL BEAM AND JOIST LOCATIONS. FIELD VERIFY EXACT STRUCTURAL DEPTHS AND LOCATIONS
- 2. LOCATION OF EXISTING UTILITIES, STRUCTURE, AND OTHER CONDITIONS SHOWN ON PLANS ARE APPROXIMATE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO BEGINNING THE WORK.
- A. THE CONTRACTOR MUST PROTECT EXISTING MATERIALS AND SURFACES THAT ARE TO REMAIN IN PLACE.
- B. REMOVE, RETAIN, PROTECT AND REINSTALL SUNDRY ITEMS WITHIN THE PROJECT AREA. ITEMS MUST INCLUDE BUT NOT LIMITED TO CHALK BOARDS, FURNITURE, FIXTURES SHELVING, CABINETRY, COUNTERTOPS, AND SUPPLIES.
- C. CONTRACTORS MUST NOT MOVE COMPUTERS OR COMPUTER EQUIPMENT. CONTACT THE OWNER'S REPRESENTATIVE REGARDING MOVING OF SUCH ITEMS
- D. EXISTING ITEMS NOT EXPLICITLY STATED TO BE DEMOLISHED, ARE TO REMAIN.

DEMOLITION:

- 1. IF INCIDENTAL DEMOLITION WORK BEYOND WHAT IS INDICATED ON THE DRAWINGS BECOMES NECESSARY, TO COMPLETE THE PROJECT, BUT IS NOT SPECIFICALLY SHOWN, IT MUST BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 2. THE CONTRACTOR MUST SECURE AND PROTECT BUILDING BY CLOSING NEW OR EXISTING OPENINGS REQUIRED WITH FIRE RETARDANT PLYWOOD AS APPROVED BY OWNER
- REPRESENTATIVE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO TEMPORARILY CLOSE ALL OPENINGS SO AS TO PROHIBIT ENTRY OF ALL WEATHER AND/OR VANDALS. 3. THE CONTRACTOR MUST BE THOROUGHLY FAMILIAR WITH THE BUILDING SITE CONDITIONS AND MUST MAKE ALLOWANCES TO INCLUDE ALL ITEMS OF DEMOLITION EXPLICITLY NOTED OR REASONABLY IMPLIED.

CUTTING AND PATCHING

- PERFORM CUTTING, ROUGH AND FINAL PATCHING, AND MASONRY TO MATCH EXISTING.
- 2. WORK INDICATED ON THESE DRAWINGS MUST INCLUDE THE REMOVAL, REPLACEMENT, DEMOLITION, CUTTING, PLASTERING AND PAINTING OF EXISTING SURFACES ABOVE, BELOW AND ADJACENT TO THE ROOMS SHOWN.
- 3. RESTORE ALL SURFACES AND FLOORS TO THE CONDITION PRIOR TO CONSTRUCTION.
- 4. THE CONTRACTOR MUST ENSURE THAT THE PATCHING AND REPAIR WILL COORDINATE WITH THE WORK OF THE GENERAL CONTRACTOR'S FINAL FINISHES.
- 5. WHERE NEW SURFACES ABUT EXISTING SURFACES, FINISHED SURFACES MUST BE IN THE SAME PLANE.
- 6. TEMPORARILY SUPPORT WALL OR CEILING PENETRATIONS.
- 7. FIRE STOP ALL FLOOR/CEILING PENETRATIONS AND ALL PENETRATIONS THROUGH RATED PARTITIONS/WALLS

CITY OF LONG BEACH PLAN NOTES

- 1. ALL MECHANICAL EQUIPMENT AND SYSTEMS INSTALLED, AS PART OF PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE CODES AND STANDARDS REFERENCED BELOW.
- 2. PROVIDE 120 VOLT ELECTRICAL OUTLETS WITHIN 25 FT. OF ALL MECH. EQUIP.
- 3. ALL DUCTWORK FOR HEATING AND COOLING SYSTEM OR EVAPORATIVE COOLING SYSTEM SHALL BE CONDUCTED THROUGH DUCT SYSTEMS CONSTRUCTED OF METAL AS SET FOURTH IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARD - METAL AND FLEXIBLE. FACTORY MADE AIR DUCTS SHALL BE APPROVED FOR THE USE INTENDED OR SHALL COMPLY WITH THE 2022 CMC REFERENCED STANDARDS CHAPTER 17.
- 4. THE REQUIRED SERVICE DISTANCE FROM MECHANICAL EQUIPMENT TO SCREENING, PARAPETS, WALLS AND OTHER EQUIPMENT SHALL BE A MINIMUM OF 30" X 30" ON THE SERVICE SIDE OF THE EQUIPMENT, OR AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, IF THE INSTRUCTIONS REQUIRE A GREATER CLEARANCE
- 5. ALL APPLIANCES DESIGNED TO BE IN A FIXED POSITION SHALL BE SECURELY FASTENED IN PLACE IN ACCORDANCE WITH THE MANUFACTURES INSTALLATION INSTRUCTIONS. SUPPORTS FOR APPLIANCES SHALL BE DESIGNED AND CONSTRUCTED TO RESIST HORIZONTAL AND VERTICAL LOADS WITHIN THE STRESS LIMITATIONS OF THE CBC. 6. SIZING OF THE GAS FIRED CATEGORY 1 APPLIANCE VENTING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CMC SECTION 803 AND CMC VENTING TABLES 803.1.2
- AS APPLICABLE TO THE TYPE INSTALLATION 7. EQUIPMENT AND APPLIANCES SHALL BE ACCESSIBLE FOR SERVICE, INSPECTION, REPAIR, AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION. SUFFICIENT CLEARANCE SHALL BE MAINTAINED TO PERMIT CLEANING, REPLACEMENT OF FILTERS, BLOWERS, MOTORS CONTROLS AND LUBRICATION OF MOVING PARTS. 30 INCHES OF CLEARANCE IN DEPTH WIDTH AND HEIGHT SHALL BE PROVIDED TO SERVICE THE APPLIANCE OR EQUIPMENT
- 8. PERMANENT LIGHTING FIXTURES SHALL BE INSTALLED FOR ALL EQUIPMENT AND APPLIANCES INSTALLED ABOVE PERMANENTLY CONSTRUCTED CEILING OR IN AN ATTIC. CONTROL OF THE LIGHT FIXTURES SHALL BE PROVIDED AT THE ACCESS ENTRANCE.
- 9. MOVEMENT OF APPLIANCES WITH CASTERS SHALL BE LIMITED BY A RESTRAINING DEVICE INSTALLED IN ACCORDANCE WITH CONNECTOR AND APPLIANCE MANUFACTURER'S
- 10. OUTSIDE AIR FOR A HEATING OR COOLING SYSTEM SHALL NOT BE TAKEN FROM CLOSER THAN 10 FEET FROM AN APPLIANCE VENT OUTLET, VENT OPENING OF A PLUMBING SYSTEM, OR THE DISCHARGE OUTLET OF EXHAUST FAN, UNLESS THE OUTLET IS 3 FT. ABOVE THE OUTSIDE AIR INLET.

MECHANICAL - REQUIRED CODES, STANDARDS. & REFERENCES

- CALIFORNIA BUILDING CODE, CBC 2022
- CALIFORNIA EXISTING BUILDING CODE, CEBC 2022
- CALIFORNIA MECHANICAL CODE, CMC 2022
- CALIFORNIA ENERGY CODE, CEC 2022
- ASHRAE 62.1-2022, VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY ASHRAE HANDBOOKS: 2021 FUNDAMENTALS, 2022 REFRIGERATION, 2019 HVAC
- APPLICATIONS, 2023 HVAC SYSTEMS AND EQUIPMENT ALL OTHER APPLICABLE ASHRAE HANDBOOKS AND GUIDELINES
- EPACT 2005 ALL OTHER APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES AND STANDARDS
- SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE SMACNA, HVAC SYSTEMS - TESTING, ADJUSTING, AND BALANCING

DESIGN CONDITIONS

OUTSIDE DESIGN CONDITIONS: SUMMER: 91.8°F DB / 66°F MCWB

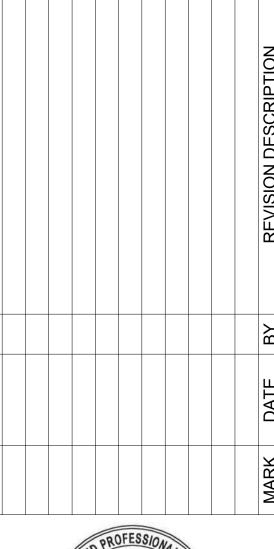
41.7°F DB WINTER: INDOOR DESIGN, ADMIN AND OFFICES:

SUMMER: 75°F; 50% RH MAX DEWPOINT WINTER: INDOOR DESIGN, UNOCCUPIED SETBACK:

SUMMER: 80°F WINTER: 63°F

INDOOR DESIGN, WAREHOUSE: SUMMER: WINTER:

Michael Baker INTERNATIONAL

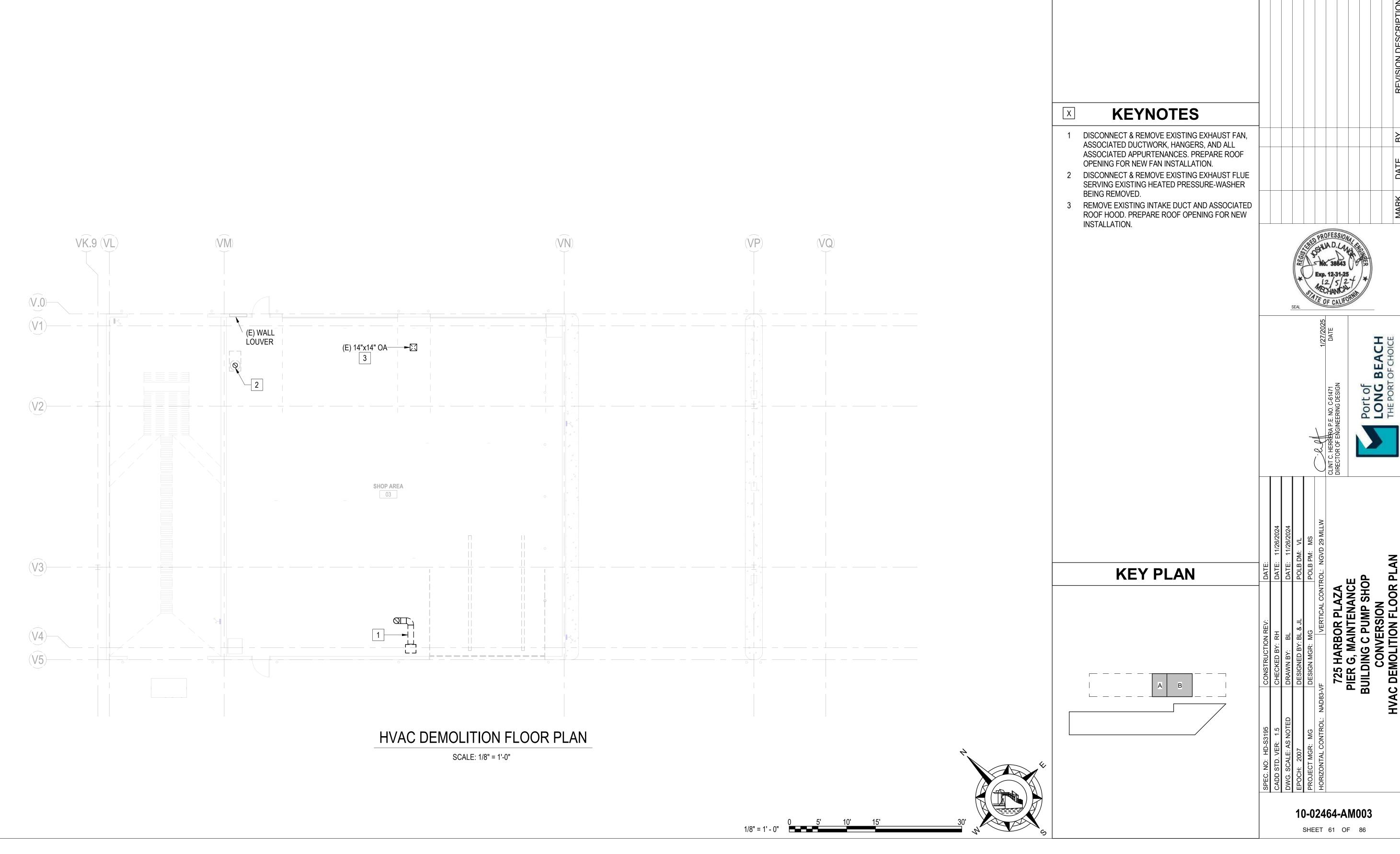




NG PORT P 당 기

10-02464-AM002

SHEET 60 OF 86

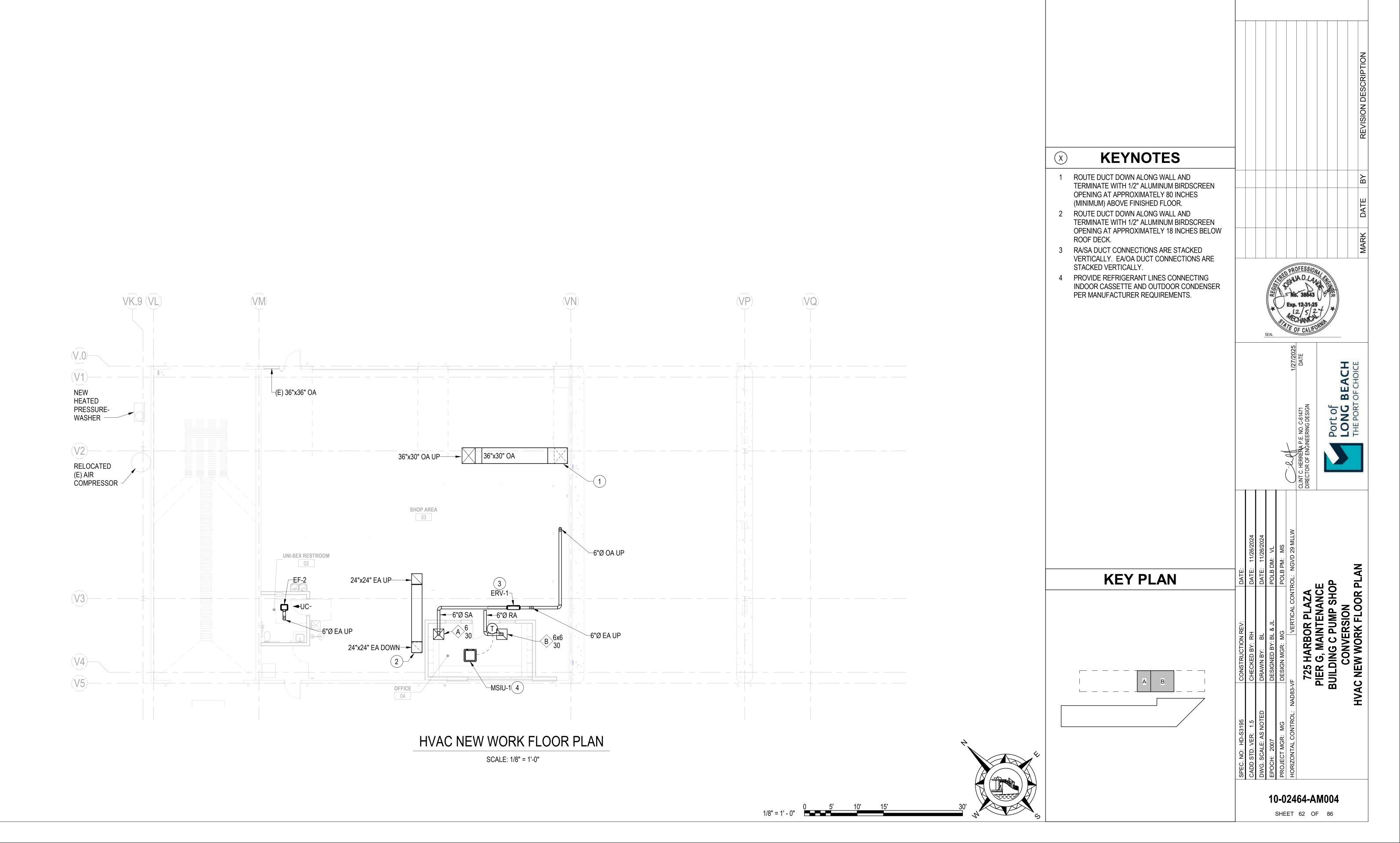


1. SEE AM-001 & AM-002 FOR GENERAL NOTES, ABBREVIATIONS, SYMBOLS, AND HVAC PIPE LEGEND.

2. SEE AM-006 FOR APPLICABLE PROJECT DETAILS.



							REVISION DESCRIPT	
XHAUST FAN, S, AND ALL							ВУ	
EPARE ROOF ON. EXHAUST FLUE JRE-WASHER							DATE	
D ASSOCIATED							RK	



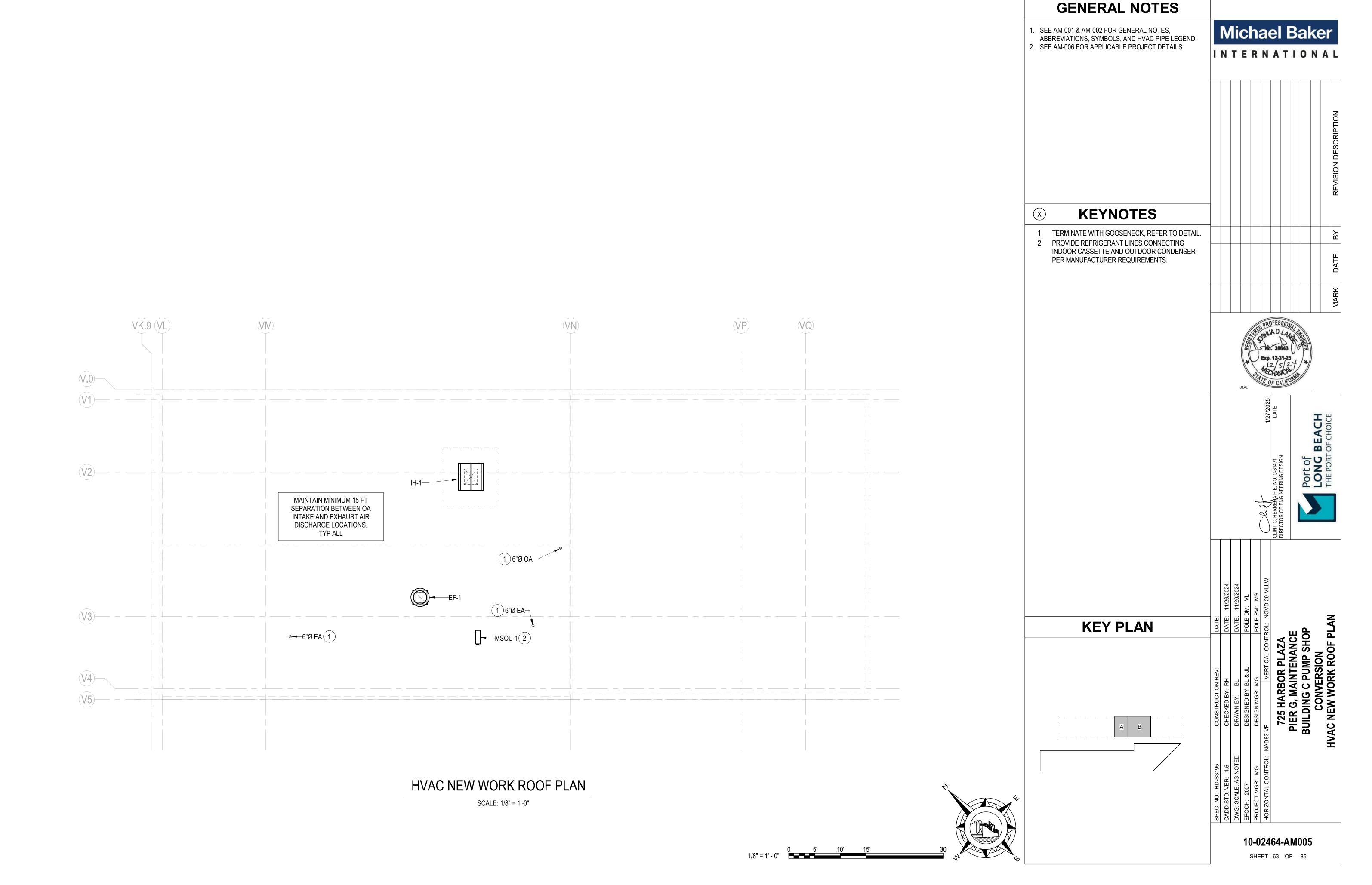
ABBREVIATIONS, SYMBOLS, AND HVAC PIPE LEGEND.

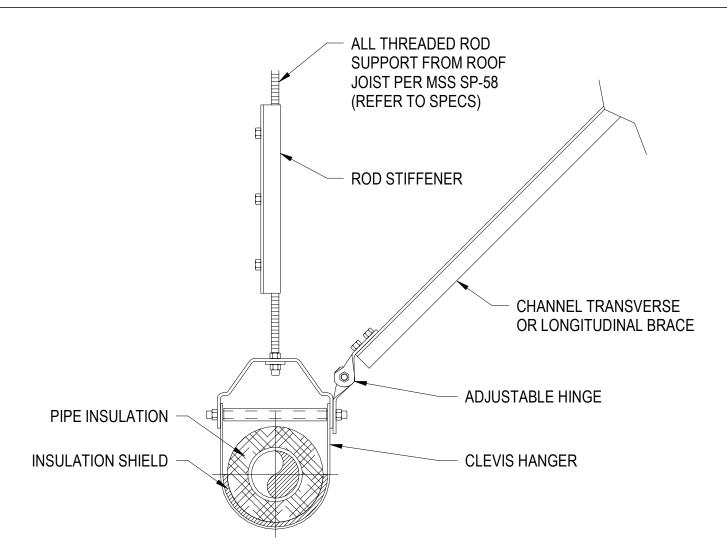
I. SEE AM-001 & AM-002 FOR GENERAL NOTES,

2. SEE AM-006 FOR APPLICABLE PROJECT DETAILS.

Michael Baker

INTERNATIONAL

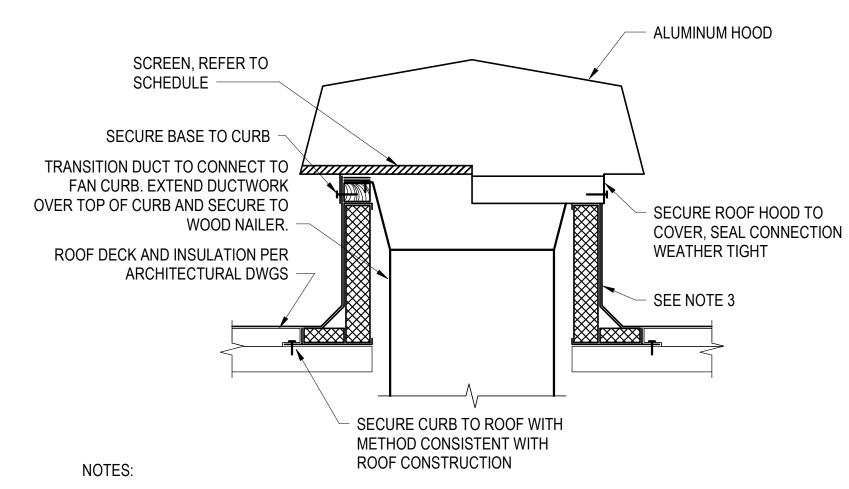




SEISMIC INDIVIDUAL PIPE SUPPORT

AM004 AM004

SCALE: NTS

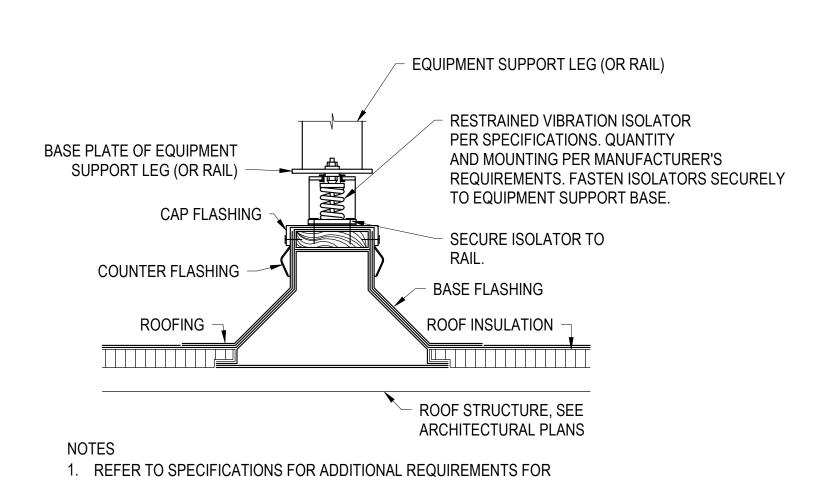


- 1. ARRANGEMENT SHOWN IS SCHEMATIC, ADJUST TO SUIT FIELD CONDITIONS AND MEET LOCAL CODE REFERENCE ARCHITECTURAL DRAWINGS FOR ROOF CONSTRUCTION REQUIREMENTS.
- 2. REFERENCE ARCHITECTURAL DRAWINGS FOR ROOF CONSTRUCTION. 3. PREFABRICATED INSULATED ROOF CURB WITH TREATED WOOD NAILER, CANT, AND
- STEP AS REQUIRED TO ACCOMMODATE ROOF INSULATION. 4. IF DAMPER IS SPECIFIED IN EQUIPMENT SCHEDULE, INSTALL DAMPER AT BASE OF CURB AND SECURE FROM ABOVE TO ALLOW SERVICE THROUGH TOP OF CURB.

AM005 AM005

SCALE: NTS

ROOF HOOD DETAIL

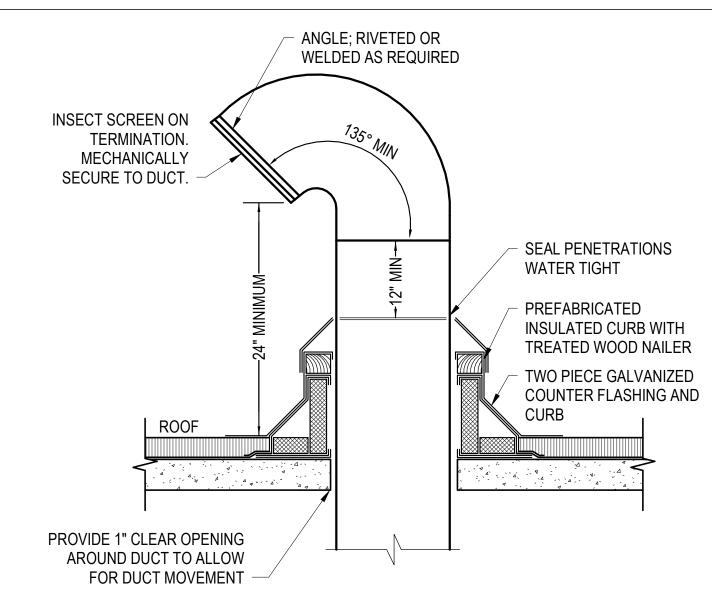


ROOF EQUIPMENT SUPPORT RAIL WITH VIBRATION ISOLATION AM005 AM005

SCALE: NTS

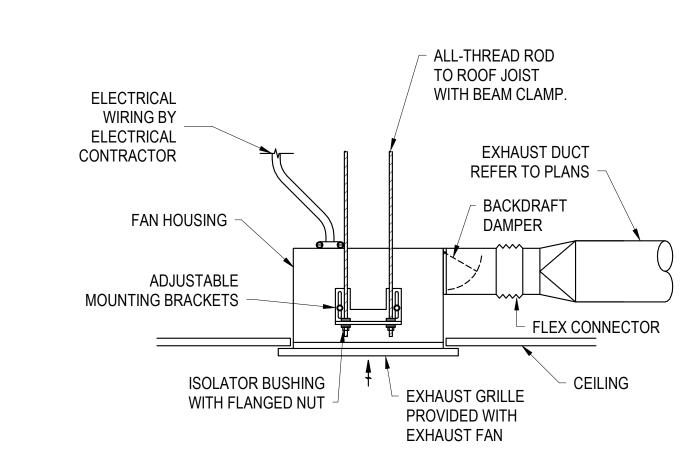
EQUIPMENTSUPPORTS, ANCHORING AND SEISMIC/WIND RESISTANCE.

AM005 AM005

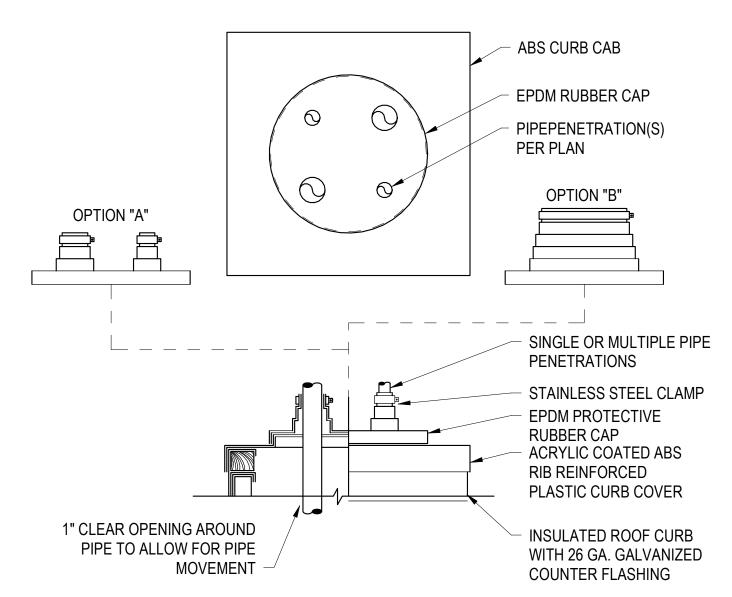


ROOF GOOSENECK DETAIL AM005 AM005

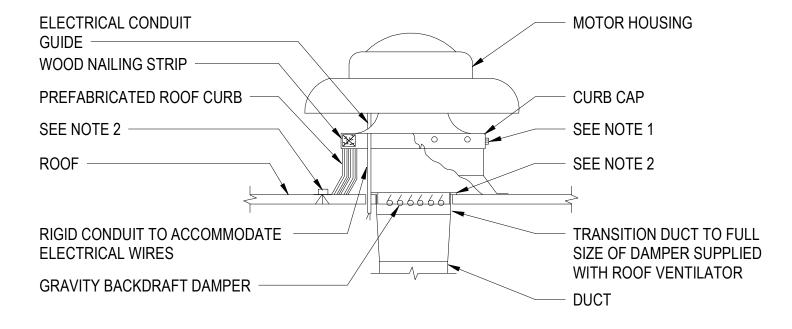
SCALE: NTS



CEILING MOUNTED EXHAUST FAN SCALE: NTS



PIPE PORTAL ROOF PENETRATION SCALE: NTS



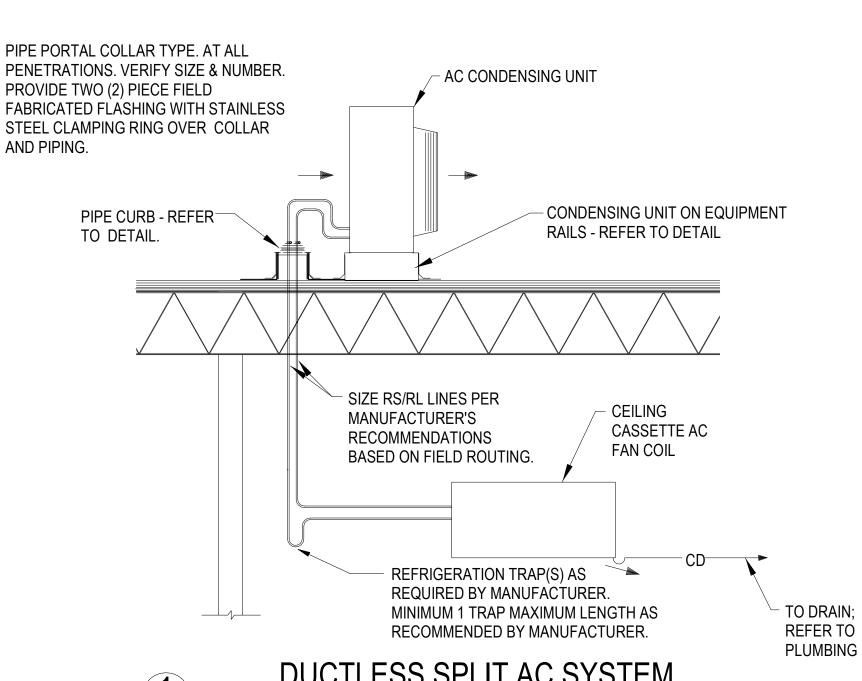
1. SECURE CURB CAP TO WOOD NAILING STRIP WITH 3/8" CADMIUMPLATED LAG BOLTS NOT OVER 12" ON 2. SECURE ROOF CURB, DUCTWORK AND DAMPER TO ROOF WITH EXPANSION BOLTS (CONCRETE ROOF) OR

RUST RESISTANT BOLTS (METAL DECK AND BAR JOIST ROOF). 3. RUN ELECTRICAL LINES THROUGH CLEARANCE HOLE PROVIDED IN GRAVITY DAMPER, THEN THROUGH VENTILATOR ELECTRICAL CONDUIT GUIDE.

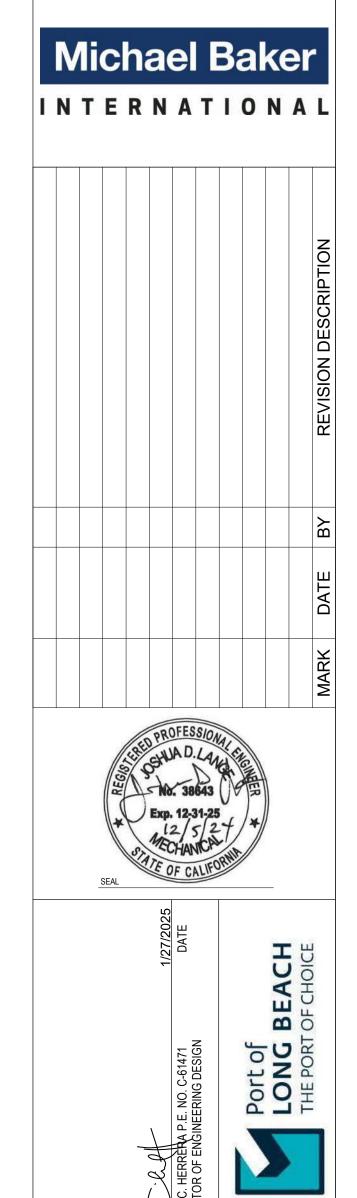
POWER ROOF VENTILATOR AM005 AM005

AM004 AM004

SCALE: NTS



DUCTLESS SPLIT AC SYSTEM SCALE: NTS



10-02464-AM006 SHEET 64 OF 86

DUCTLESS MINI-SPLIT OUTDOOR UNIT

1. INDOOR UNIT SHALL BE POWERED BY THE OUTDOOR UNIT. POWER AND CONTROL WIRING BETWEEN INDOOR AND OUTDOOR UNITS PROVIDED BY MECHANICAL CONTRACTOR.

2. PROVIDE WITH LOCAL DISCONNECT, OVERCURRENT PROTECTION, AND STARTER.

3. ARI COOLING RATED CAPACITIES ARE BASED ON 80°F DB/67°F WB INDOOR TEMPERATURES AND 95°F DB/75°F WB OUTDOOR TEMPERATURES.

4. ARI HEATING RATED CAPACITIES ARE BASED ON 70°F DB/60°F WB INDOOR TEMPERATURES AND 47°F DB/43°F WB OUTDOOR TEMPERATURES.

5. PROVIDE COMPONENTS FULLY CHARGED WITH R-410A REFRIGERANT AND INTERCONNECTING REFRIGERANT PIPING FOR FIELD INSTALLATION.

6. OUTDOOR UNIT TO BE PROVIDED WITH MANUFACTURER'S STANDARD SEACOAST PROTECTION SYSTEM FOR CORROSION RESISTANCE WHEN INSTALLED IN A COASTAL ENVIRONMENT.

	EQUIPMENT	COOLING	HEATING						ELECTRICAL			WEIGHT	NOISE LEVEL	BASIS OF DE	SIGN	
TAG	SERVES	CAP. (BTUh)	CAP. (BTUh)	SEER	EER	HSPF	MCA (A)	MOCP (A)	VOLT.	PH.	Hz	(LBS)	(dBA)	MANUF.	MODEL	NOTES
MSOU-1	MSIU-1	12,000	14,000	27	16	12.8	12.0	28.0	208	1	60	93	46	MITSUBISHI	PUZ-A12NKA7-BS	1-6

ENERGY RECOVERY VENTILATOR SCHEDULE

1. UNIT TO BE PROVIDED WITH SINGLE POINT POWER CONNECTION FOR ALL FANS.

2. UNIT TO BE PROVIDED WITH MANUFACTURER'S BACKDRAFT DAMPER.

3. UNIT TO BE PROVIDED WITH MANUFUCTURER'S MERV-13 OA AIRSTREAM FILTER.

4. UNIT CONFIGURATIONS SHALL BE SIDE CONNECTIONS FOR OA/EA/SA/RA. 5. FAN MOTORS SHALL BE PROVIDED WITH OPD ENCLOSURE AND BE OF THE PREMIUM EFFICIENCY TYPE EXCEEDING EPACT AND APPLICABLE NEMA REQUIREMENTS.

6. PROVIDE WITH MANUFACTURER'S CEILING-MOUNTED OCCUPANCY SENSOR KIT AND CONNECT TO POWER FANS AT CONSTANT VOLUME WHEN SPACE IS OCCUPIED.

	DESIGN AIRFLOW		EL	ECTRICAL	-	WEIGHT	BASIS OF DESI	GN	
TAG	(CFM)	MOTOR POWER (W)	VOLT.	PH.	HZ	(LBS)	MANUF.	MODEL	NOTES
ERV-1	31	53	120	1	60	41	RENEWAIRE LLC	SL75	1-6

DUCTLESS MINI-SPLIT INDOOR UNIT

1. INDOOR UNIT SHALL BE POWERED BY THE OUTDOOR UNIT. POWER AND CONTROL WIRING BETWEEN INDOOR AND OUTDOOR UNITS PROVIDED BY MECHANICAL

2. PROVIDE WITH CONDENSATE PUMP AS REQUIRED TO PROVIDE NECESSARY LIFT TO ACCOMMODATE GRAVITY CONDENSATE DRAINAGE TO POINT OF

TERMINATION AS INDICATED ON PLUMBING PLANS. 3. PROVIDE WITH MANUFACTURER'S STANDARD WASHABLE AIR FILTER/FILTRATION SYSTEM.

4. PROVIDE WITH MANUFACTURER'S PROGRAMMABLE THERMOSTAT INTERFACE MEETING TITLE 24 REQUIREMENTS.

5. REFER TO DUCTLESS MINI-SPLIT OUTDOOR UNIT SCHEDULE FOR CAPACITY INFORMATION.

			MAX AIRFLOW	NOISE	WEIGHT	BASIS OF DESIG	N	
TAG	DESCRIPTION	EQUIPMENT SERVES	(CFM)	LEVEL (dBA)	(LBS)	MANUF.	MODEL	NOTES
MSIU-1	CEILING CASSETTE	OFFICE SPACE	530	30	57	MITSUBISHI	PLA-A12EA8	1,2,3,4

EXHAUST FAN SCHEDULE

I. PROVIDE WITH LOCAL DISCONNECT SWITCH FOR FIELD MOUNTING AND INSTALLATION. PROVIDE WITH MOTOR STARTER AND OVERCURRENT PROTECTION.

2. CONTROL: INTERLOCK WITH ROOM LIGHT SWITCH TO OPERATE CONTINUOUSLY WHEN LIGHTS ARE TURNED ON.

3. CONTROL: PROVIDE 7-DAY PROGRAMMABLE TIME SWITCH LOCATED ON WAREHOUSE-SIDE OF OFFICE WALL. COORDINATE OCCUPANCY HOURS WITH OWNER. INTERLOCK TO RUN FAN AT CONSTANT SPEED DURING OCCUPIED HOURS.

								MOTOR					BASIS OF DESIGN		
TAG	EQUIPMENT SERVES	FAN TYPE	WHEEL TYPE	DRIVE TYPE	AIRFLOW (CFM)	ESP (IN. WC)	FAN SPEED (RPM)	MOTOR SIZE (HP)	VOLT.	PH.	Hz	WEIGHT (LBS)	MANUF.	MODEL	NOTES
EF-1	WORK BAY	ROOFTOP DOWNBLAST	BACKWARD INCLINED	BELT	5,250	0.20	708	1.50	480	3	60	128	GREENHECK	GB-240	1,3
EF-2	RESTROOM	CEILING	FORWARD CURVED	DIRECT	70	0.50	838	0.01	115	1	60	12	GREENHECK	SP-A90	2

LOUVER SCHEDULE

1. PROVIDE MANUFACTURER'S STANDARD COLOR AND FINISH CHART WITH SUBMITTAL FOR SELECTION BY ARCHITECT.

2. LOUVER SHALL BE AMCA LISTED TO MEET AMCA 540 (IMPACTED BY WIND BORNE DEBRIS) AND ACMA 550 (HIGH VELOCITY WIND DRIVEN RAIN RESISTANT).

3. PROVIDE CORROSION RESISTANT COATINGS AND MATERIALS; PROVIDE WITH ALUMINUM BIRD SCREEN.

					MAX		MAX	BASIS OF D	ESIGN	
TAC	EQUIPMENT	TVDF	CIZE (IN)	AIRFLOW	PRESSURE DROP	FREE AREA	THROAT VELOCITY	MANUE	MODEL	NOTES
TAG	SERVES	TYPE	SIZE (IN)	(CFM)	(IN.WC)	(SF)	(FPM)	MANUF.	MODEL	NOTES
IH-1	WORK BAY	GRAVITY, HOOD	30 X 36	5250	0.15	8	700	GREENHECK	FGI-30x36	1,2,3

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

1. REFER TO DRAWINGS FOR ACTUAL AIR BALANCE QUANTITIES IN SPECIFIC LOCATIONS

2. CONTRACTOR TO VERIFY CEILING/WALL TYPE AND PROVIDE PROPER FRAME AND BORDER TYPE FOR MOUNTING CONFIGURATION.

3. NC LEVELS ARE BASED ON DIFFUSER BLADES SET FOR HORIZONTAL AIRFLOW.

	AIRFLOW	SIZE	E (IN)	MAX		BASIS OF D	ESIGN	
TAG	(CFM)	NECK	FACE	NC	DESCRIPTION	MANUFACTURER	MODEL	NOTES
A	30	6	24x24	30	ROUND NECK, PAINTED STEEL SUPPLY DIFFUSER FOR LAY-IN CEILING GRID	TITUS	TMS	1-3
В	30	6	24x24	30	SQUARE NECK, ALUMINUM RETURN GRILLE FOR LAY-IN CEILING GRID	TITUS	50F	1-3

MINIMUM OUTSIDE AIR REQUIREMENTS

		SINGLE-ZONE	SYSTEMS ONLY	MULTI-ZONE SYSTEMS ONLY	FLOOR AREA	SYSTEM AVERAGED	SYSTEM	SYSTEM AVERAGED	CMC	CEC	CODE THAT			
SYSTEM		VENTILATION ZONE	CMC WORST CASE	SYSTEM VENTILATION	SERVED BY	AREA-BASED	POPULATION	PEOPLE-BASED	REQUIRED	REQUIRED	SETS MIN	REQUIRED OA	DESIGN OA	NOTES
DESIGNATION	SYSTEM TYPE:	ASSOCIATED	ZONE AIR DISTRIBUTION	EFFICIENCY [Ev]	SYSTEM [As]	OUTDOOR AIR RATE	[Ps]	OUTDOOR AIR RATE	OA	OA	OUTSIDE	INTAKE FLOW [Vot]	INTAKE FLOW [Vot]	
		WITH SYSTEM	EFFECTIVENESS [Ez]	(CMC ONLY)	(SF)	(CFM/SF)	(PEOPLE)	(CFM/P)	(CFM)	(CFM)	ARIFLOW	(CFM)	(CFM)	
EF-1	SINGLE ZONE	BAY	0.8	-	3,109	0.18	22	10.0	975	467	CMC	975	5,250	Α
ERV-1	SINGLE ZONE	OFFICE	N/A	-	201	0.15	2	15.0	29	31	CEC	31	31	-
											TOTALS	1,006	5,281	

GENERAL NOTES:

VENTILATION CALCULATIONS BASED ON 2022 CALIFORNIA MECHANICAL CODE AND 2022 CALIFORNIA ENERGY CODE.

SYSTEM POPULATIONS BASED ON MAX SEATING AND/OR CODE MAXIMUM VALUES.

SINGLE ZONE SYSTEMS (Vot = Voz): SYSTEM VENTILATION EFFICIENCY CALCULATION IS NOT REQUIRED FOR SINGLE ZONE SYSTEMS. CALCULATION TAKES MAXIMUM OUTSIDE AIRFLOW REQUIRED BETWEEN THE CMC AND CEC FOR THAT ZONE.

IF CMC SETS THE MAXIMUM AIRFLOW, THE CALCULATION USES THE WORST CASE AIR DISTRIBUTION EFFECTIVENESS BETWEEN HEATING AND COOLING MODES OF OPERATION.

100% OA SYSTEMS (Vot = ∑all zones Voz): WHEN ONE AIR HANDLER SUPPLIES ONLY OUTDOOR AIR TO ONE OR MORE ZONES. CALCULATION TAKES THE MAXIMUM OUTSIDE AIRFLOW REQURIED BETWEEN THE CMC AND CEC FOR EACH ZONE. IF CMC SETS THE MAXIMUM AIRFLOW, THE CALCULATION USES THE WORST CASE AIR DISTRIBUTION EFFECTIVENESS BETWEEN HEATING AND COOLING MODES OF OPERATION.

MULTI-ZONE RECIRCULATING SYSTEMS: CALCULATOR TAKES THE MAXIMUM OUTSIDE AIRFLOW REQUIRED BETWEEN THE CMC AND CEC ON A SYSTEM LEVEL. THE CMC CALCULATION USED TO DETERMINE VENTILATION AIRFLOW IN COMPLIANCE WITH VRP AND SECTION 404.0. VENTILATION RATE SHOWN IS ACTUAL CALCULATED WITH CORRECTION FACTORS INCLUDED. EACH ZONE IS CALCULATED WITH ITS WORST CASE ZONE AIR DISTRIBUTION EFFECTIVENESS (HEATING/COOLING) AS PART OF CALCUALTIONS TO FIND Ev.

PER OSHA 1910.252(c)(2), A MINIMUM OF 2,000 CFM PER WELDER IS REQUIRED.

Michael Baker INTERNATIONAL

						REVISION DESCRIPTION
						ВУ
						DATE
						MARK





10-02464-AM007

SHEET 65 OF 86

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-
This document is used to demonstrate compliance for mechanical systems that are within path outlined in 140.4, or 141.0(b)2 for alterations.	n the scope of the permit application and a	re demonstrating compliance using the prescriptive
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 1 of 10
Project Address:	Date Prepared:	2024-02-07T16:08:25-05:0

Project Location (city)	Port of Long Beach	04	Total Conditioned Floor Area	220
02 Climate Zone	6	05	Total Unconditioned Floor Area	3600
Occupancy Types Within Project:	*	06	# of Stories (Habitable Above Grade)	1

B. PROJEC	CT SCOPE				
	Includes mechanical systems or components that ar .2(b) or 141.0(b)2 and 180.2(b)2 for alterations.	re within tl	ne scope of the permit application and are demonst	rating com	pliance using the prescriptive path outlined in
	01		02		03
8	Air System(s)		Wet System Components		Dry System Components
\boxtimes	Heating Air System		Water Economizer		Air Economizer
\boxtimes	Cooling Air System		Pumps		Electric Resistance Heat
3	Mechanical Controls		System Piping		Fan Systems
\boxtimes	Mechanical Controls (existing to remain, altered or new)		Cooling Towers	⊠	Ductwork (existing to remain, altered or new)
30			Chillers	\boxtimes	Ventilation
N-			Boilers		Zonal Systems/ Terminal Boxes

Generated Date/Time: Documentation Software: Energy Code Ace CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 175006-0224-0010 Schema Version: rev 20220101 Report Generated: 2024-02-07 13:08:31

STATE OF CALIFORNIA

Mechanical Systems	CALIFORNIA ENERGY COMMISSION			
CERTIFICATE OF COMPLIANCE				
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 3 of 10)		
	Date Prenared:	2024-02-07T16:08:25-05:00		

Orv System Equi	pment Sizing (includes air co	nditioners, condensers, heat pumps, VR	F. furnaces and u	nit heaters a	and DOAS s	vstems)				
01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
Fauinment Category ner		Smallest Size	Heating Output ^{2,3}			Cooling Output ^{2,3}		Load Calculations ^{3,4}		
Name or Item Tag	Tables 110.2, 140.4(a)2 and 170.2(c)3aii	es 110.2, 140.4(a)2 and Title 20	Available ¹ 140.4(a) and 170.2(c)1	Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h
MSIO-1, MSOU-1	Unitary Heat Pumps (no elec. resistance)	Air-cooled, split (1phase)	Yes	3.8	14	0	10.6	12	3.8	10.2

¹FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 140.4(a) and 170.2(c)1. Healthcare facilities are excepted.

²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

Dry System Equip	ment Efficiency (other than Package Termi	nal Air Conditi	oners (PTAC) and	Package Terminal	Heat Pumps (PTHF), DX-DOAS and D	Dual Fuel Heat Pu	mps)
01	02	03	04	05	06	07	08	09
			Heati	ng Mode			Cooling Mode	
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
MSIO-1, MSOU-1	<65,000		HSPF2	7.5	8.8	SEER2	14.3	27

_	
G	PLIMPS

This section does not apply to this project.

Generated Date/Time:

Documentation Software: Energy Code Ace

STATE OF CALIFORNIA

EF-1, EF-2 do not move air in/out/between conditioned spaces.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Mechanical Systems CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: Port of Long Beach Pump Shop Remodel Report Page: (Page 2 of 10) Date Prepared: 2024-02-07T16:08:25-05:00

		if the project o OMPLIES with											itable b	y the user. If this t	able says "DOES
01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4l	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(I), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	Compliance Result
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND		AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS	
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.	
(General Remarks) MSIU-1 and ERV-1 fans under 1/12 HP.	

F. HVAC SYSTEM SUMMARY					
Space Conditioning System Info	rmation	-	10		μ
01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
MSIO-1, MSOU-1	î	Single zone	New/ Addition	Office	

System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
MSIO-1, MSOU-1	Ĩ	Single zone	New/ Addition	Office	
*			•		•

Report Version: 2022.0.000

	Schema Version: rev 20220101	Report Generated: 2024-02-07 13:08:31
STATE OF CALIFORNIA		
Mechanical Systems		CALIFORNIA ENERGY COMMISSION

Mechanical Systems		CALIFORNIA ENERGY COMMISSION		
CERTIFICATE OF COMPLIANCE	NRCC-M			
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 4 of 10)		
	Date Prepared:	2024-02-07T16:08:25-05:00		

his section does not app	ly to this project.	ri .						
SYSTEM CONTROLS								
his table is used to demo 41.0(b)2E 180.2(b)2 for	and the same and the fact of the grant grant and the same		atory controls in 110.2 and 1. ems.	20.2 and preso	criptive controls	in 140.4(f) and (n), 170.2(c)4D 170.2(c)4L	or requirements in
01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats 110.2(b) & (c) ¹ , 120.2(a) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	Shut-Off Controls 120.2(e) & 160.3(a)2D	Isolation Zone Controls 120.2(g) & 160.3(a)2F	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D
MSIU-1/MIOU-1	Single zone	<= 25,000 ft ²	Setback	NA: 7 day per 120.2(e)1	NA: Single Zone	DR Tstat per 110.12	NA: Single Zone	NA: No operable window

¹FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

J. VENTILATIO	ON AND INI	DOOR AIR QUALITY
d:t24refnolink/	/]160.2, 160. ed to be doci	strate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and 3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit umented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented
01		Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	⊠	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
02		
03		Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.
Nonresidentia	l and Hotel/	Motel Multifamily Common Use Ventilation Systems

Generated Date/Time: CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Documentation Software: Energy Code Ace Compliance ID: 175006-0224-0010

Report Generated: 2024-02-07 13:08:31

Compliance ID: 175006-0224-0010

Michael Baker INTERNATIONAL

10-02464-AM008

SHEET 66 OF 86

STATE OF CALIFORNIA

Mechanical Syst	ems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIA	ANCE		NRCC-MCH-E
Project Name: Port of	f Long Beach Pump Shop Remodel	Report Page:	(Page 5 of 10)
		Date Prepared:	2024-02-07T16:08:25-05:00

	04					06	07			
System Name	ERV-1	System Desi Airfl		30		Design Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21 ²		
08	09	10	10 11		13	14 15		Provided 16		
	Mechanical Ventilation	20.1(c)3 ³ & 1	60.2(c)3	,	Exh. \	Vent per 120.1(c)4 & 160.2(c)4	DCV or Sensor Controls per 120.1(d)3,			
Space Name or Item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	120.1(d)5, and 120.1(e)3 ⁶ 160.2(c)5D 160.2(c)5E 160.2(c)5D		
								DCV	NA: Area < 150ft ² or design occupancy < 10 people	
Office #04	Office space	220	220		30			Occ Sensor	NA: System < 2kW demand + manual shutoff per §120.2(e)3 exception	
17	Total System Required Min OA CFM	Total System Required Min OA CFM				18	Ventilation for this S	System Complies?	Yes	

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

² Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

⁴ See Standards Tables 120.1-A and 120.1-B.

⁵ For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.

⁶ 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c).

Generated Date/Time: Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000 Schema Version: rev 20220101

Compliance ID: 175006-0224-0010 Report Generated: 2024-02-07 13:08:31

STATE OF CALIFORNIA Machanical Syst

Mechanical Systems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 7 of 10)
	Date Prepared:	2024-02-07T16:08:25-05:00

			1		
			Return, Intake, Exhaust	Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	Y.2325
			airstreams	Duct leakage testing per CMC Section 603.10.1 required for these systems?	No
11	No	The scope of the project includes only	duct systems :	serving healthcare facilities	
12	Yes	Duct system provides conditioned air t	o an occupiab	le space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves	less than 5,000) ft ² of conditioned floor area.	
14	Yes	The combined surface area of the duct	ts is more than	25% of the total surface area of the entire duct system:	
15	No	The scope of the project includes exte	nding an existi	ng duct system, which is constructed, insulated or sealed with asbestos.	
16	No			stem that is documented to have been previously sealed as confirmed throug s in the Reference Nonresidential Appendix NA2.	h field verific
17	Exposed Ductwork located in occupied space	All Ductwork and plenums with pressu	re class rating	s shall be constructed to Seal Class A	
18	No	All ductwork is an extension of an exis	ting duct syste	m	
19	No	Ductwork serving individual dwelling u	ınit		
20		< 25 ft of new or replacement space co	onditioning du	cts installed	
21	R-8	Duct Insulation R-value			
22	No	Ductwork Existing To Remain			
23	No	Duct System Connected To Altered Spa	5 ME (1449) ME (15	02 9	

M. COOLING TOWERS

This section does not apply to this project.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000

Schema Version: rev 20220101

Compliance ID: 175006-0224-0010 Report Generated: 2024-02-07 13:08:31

STATE OF CALIFORNIA

Mechanical Systems

CERTIFICATE OF COMPLIANCE

K. TERMINAL BOX CONTROLS This section does not apply to this project.

Project Name: Port of Long Beach Pump Shop Remodel

L. DISTRIBUTION (DUCTWORK and PIPING) This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(g) for duct sealing. nsulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

Report Page:

Date Prepared:

Duct Leakage Testing

STATE OF CALIFORNIA

Mechanical Systems

CERTIFICATE OF COMPLIANCE

The answers to the questions below apply to the following duct systems:

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Supply Fan VFD Acceptance (if applicable) since testing activities overlap.

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

These documents must be provided to the building inspector during construction and can be found online at

These documents must be provided to the building inspector during construction and can be found online at

https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-4

Project Name: Port of Long Beach Pump Shop Remodel

NRCI-MCH-01-E - Must be submitted for all buildings

NRCA-MCH-04 - Air Distribution Duct Leakage

Generated Date/Time:

Report Version: 2022.0.000

Schema Version: rev 20220101

Report Page:

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Form/Title

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Provider's registry, but

NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A [ERV-1

drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

Form/Title

Date Prepared:

NR/ Common Use: Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?

CALIFORNIA ENERGY COMMISSION

Documentation Software: Energy Code Ace

Compliance ID: 175006-0224-0010

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

(Page 8 of 10)

2024-02-07T16:08:25-05:00

Systems/Spaces To Be Field Verified

ERV-1: Supply, Return, Intake,

Systems/Spaces To Be Field

Verified

Exhaust airstreams

Report Generated: 2024-02-07 13:08:31

2024-02-07T16:08:25-05:00

NRCC-MCH-E

(Page 6 of 10)

Michael Baker

INTERNATIONAL

10-02464-AM009

SHEET 67 OF 86

Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

NRCV-MCH-04-H Duct Leakage Test NOTE: Must be completed by a HERS Rater

Generated Date/Time:

Report Version: 2022.0.000 Schema Version: rev 20220101

Compliance ID: 175006-0224-0010 Report Generated: 2024-02-07 13:08:31

Documentation Software: Energy Code Ace

Generated Date/Time:

STATE OF CALIFORNIA

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Mechanical Systems		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	(Page 9 of 10)
	Date Prepared:	2024-02-07T16:08:25-05:00

This table is used to indicate where mandatory measures are documented in the pla	an set or construction documentat	ion.
01		02
Compliance with Mandatory Measures documented through MCH	No	Plan sheet or construction document location
Mandatory Measures Note Block		
03		04
Mandatory Measure		Plan sheet or construction document location
Heating Equipment Efficiency per 110.1		M-601, Ductless Mini-Split Outdoor Unit Schedule
Cooling Equipment Efficiency per 110.1		M-601, Ductless Mini-Split Outdoor Unit Schedule
Furnace Standby Loss Control per 110.2(d)		N/A
Duct Insulation per 120.4		23 07 13 - Part 3 - Duct Insulation Schedules
Heat Pump with Supplemental electric Resistance Heater Controls per 110.2(b)	N/A	
The air duct and plenum system is designed per 120.4(a)-(f)	M-002, M-101, 23 07 13, 23 31 13	
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASH	IRAE 62.2	N/A

Generated Date/Time:

Documentation Software: Energy Code Ace

Report Version: 2022.0.000 Schema Version: rev 20220101

Compliance ID: 175006-0224-0010 Report Generated: 2024-02-07 13:08:31

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

STATE OF CALIFORNIA Mechanical Systems CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-E Project Name: Port of Long Beach Pump Shop Remodel Report Page: (Page 10 of 10) Project Address: Date Prepared: 2024-02-07T16:08:25-05:00

I certi	fy that this Certificate of Compliance documentation is accur	rate and complete.
Docume Barret	entation Author Name: t Lee	Documentation Author Signature: Borrett Ju
Compan	ny: Michael Baker Intl.	Signature Date: 08/21/2024
Address	: 7090 S Union Park Ave, #500	CEA/ HERS Certification Identification (if applicable): N/A
City/Sta	te/Zip: Midvale/UT/84047	Phone: 801-998-4323
	The energy features and performance specifications, materials, components, and of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certifications and specifications submitted to the enforcement agency for approval with I will ensure that a completed signed copy of this Certificate of Compliance shall	be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable
134 15	sible Designer Name: hua Lange	Responsible Designer Signature:
Compan	ny: Michael Baker Intl.	Date Signed: 08/21/2024
Address	: 7090 S Union Park Ave, #500	License: 38643
City/Sta	te/Zip: Midvale/UT/84047	Phone: 801-998-4323

Generated Date/Time:

Report Version: 2022.0.000

Schema Version: rev 20220101

Documentation Software: Energy Code Ace

Compliance ID: 175006-0224-0010 Report Generated: 2024-02-07 13:08:31

Zone Checksums

By MICHAEL BAKER JR INC

	COC	LING (COIL PEAK			CL	G SPAC	E PEAK		H	IEATING C	OIL PEA	K		TEMPE	RATUR	ES	
Pea	aked at 1 Outside	1.00	Mo/H OADB/WB/HF	r: 9 / 17 R: 90 / 66 /	/ 58		Mo/Hr: OADB:				Mo/Hr: F OADB:	Heating Des 42	ign		SADB Ra Plenum	61.4 75.0		ting 75.1 70.0
		Space	Plenum	Net	Perce	nt	Space	Percent		5	Space Peak	Coil Pe	ak P	ercent	Return	75.2	1.7	70.0
	Sen	s. + Lat.	Sens. + Lat	Total	Of Tot	al	Sensible	Of Total		5	Space Sens	Tot Se	ns O	of Total	Ret/OA	75.2	7	70.0
		Btu/h	Btu/h	Btu/h	(%	6)	Btu/h	(%)			Btu/h	Bt	u/h	(%)	Fn MtrTD	0.0		0.0
Envelope Loa	ids				186				Envelope I	Loads				20002200	Fn BldTD	0.0		0.0
Skylite Solar		0	0	0		0	0	0	Skylite S	olar	0		0	0.00	Fn Frict	0.0		0.0
Skylite Cond		0	0	0		0	0	0	Skylite C		0		0	0.00	14: 04.4:1-2:1-4:19(0)(90)	2102000		0000000000
Roof Cond		0	0	0		0	0	0	Roof Cor	nd	0		0	0.00				
Glass Solar		2,930	0	2.930	2	28	2,930	29	Glass Sc	olar	0		0	0.00	AIR	FLOWS		
Glass/Door C	Cond	454	0	454		4	454	5	Glass/Do	or Cond	-794	-7	794	20.92	802000			
Wall Cond	NOTE OF THE PARTY	2,141	0	2,141		20	2.141	21	Wall Con	nd	-436		136	11.48	CHILDREN I	Cooling		ating
Partition/Doo	r	1,394		1,394		13	1,394	14	Partition/	Contract to the contract to th	-2,567	-2,5		67.60	Diffuser	672		672
Floor		0		0		0	0.00	0	Floor		0	-,-	0	0.00	Terminal	672		672
Adjacent Floo	or	0.00	0.00	0.00	0.0	00	0.00	0.00	Adjacent	Floor	0.00	0	.00	0.00	Main Fan	672		672
Infiltration	580	0.00	0.00	0.00		0	0.00	0.00	Infiltratio		0.00		0	0.00	Sec Fan	0		0
Sub Total ==		6.918	0	6.918		35	6,918	69	Sub Tota	The state of the s	-3,797	-3,7		100.00	Nom Vent	0		0
Sub Total		0,310	U	0,310	8	55	0,310	03	Oub rota	1	0,101	0,1	0,	100.00	\$1000 CO \$1000 CO \$1000 CO \$1000 CO	0.07		0
									Internal Lo	ade					AHU Vent	0		
Internal Load	S		250.0020					040	Manual Control of the	aus				7.7.367.754.7532	Infil	0		0
Lights		573	143	717		7	573	6	Lights		0		0	0.00	MinStop/Rh	0		0
People		900	0	900		9	500	5	People		0		0	0.00	Return	672		672
Misc		2,048	0	2,048		19	2,048	20	Misc		0		0	0.00	Exhaust	0		0
Sub Total ==	>	3,521	143	3,665		35	3,121	31	Sub Tota	/ ==>	0		0	0.00	Rm Exh	0		0
		34273				300			25380 1/50		37%			3353	Auxiliary	0		0
Ceiling Load		0	0	0		0	0	0	Ceiling Lo	ad	0		0	0.00	Leakage Dwn	0		0
Ventilation Lo	oad	0	0	0		0	0	0	Ventilation	Load	0		0	0.00	Leakage Ups	0		0
Adj Air Trans	Heat	0		0		0	0	0	Adj Air Tra	ns Heat	0		0	0				
Dehumid. Ov		, m		0		0	35%		Ov/Undr S		0		0	0.00				
Ov/Undr Sizir		0		0		0	0	0	Exhaust H				Ö	0.00	ENCINE	ERING (Ne	
Exhaust Heat		U	0	0		ő	U	U	OA Prehea				0	0.00	ENGINE	EKING	No	
Sup. Fan Hea			U	0		ő			RA Prehea				Ö	0.00		Cooling	Heat	tina
Ret. Fan Heat			0	0		0			Additional				Ö	0.00	% OA	0.0		0.0
Duct Heat Pk			0	0		0				enum Heat			ŏ	0.00	cfm/ft²	3.20		3.20
Underfir Sup				0		0			DOUGHT THE WHITE YEAR	up Ht Pkup			0	0.00	cfm/ton	761.49		J.20
			0	0		0							0	0.00	ft²/ton	238.12		
Supply Air Le	akage		U	U		0			Supply Air	Leakage			U	0.00	5372387555333		4.0	
Grand Total =	:=>	10,439	143	10,583	100.0	00	10,039	100.00	Grand Total	al ==>	-3,797	-3,7	97	100.00	Btu/hr·ft² No. People	50.39 2	-10	3.08
			COOLING C	OIL SFI	LECTI	ON					AREAS		7	HEA	TING COIL S	SELECTI	ON	
	Total C	Capacity MBh	Sens Cap. Co				B/HR gr/lb	Leave I	DB/WB/HR °F gr/lb	Gro	ss Total	Glass ft ² (%)		88465	CapacityCo MBh			Lvç °F
Main Clg	0.9	10.6	10.2	672		62.6	65.7	61.4 5		Floor	210 650			ain Htg	-3.8	672		75.
Aux Clg	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0		Part			7 6 18 5	ux Htg	0.0	0	0.0	0.
Opt Vent	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0 0.0	Int Door ExFir	1		Pi	reheat	0.0	0	0.0	0.
Total	0.9	10.6								Roof	ŏ	0 0	Н	umidif	0.0	0	0.0	0.
7. T. 3. 11.	0.0									Wall	200	57 29		pt Vent	0.0	ő	0.0	0.
											0	0 0	111 2	otal	-3.8	U	3.0	0.
										Ext Door	U	U U	11/0	otai	-3.0			

Project Name: Dataset Name: POLB Pump Shop.trc

Alternative - 1 System Checksums Report Page 1 of 1

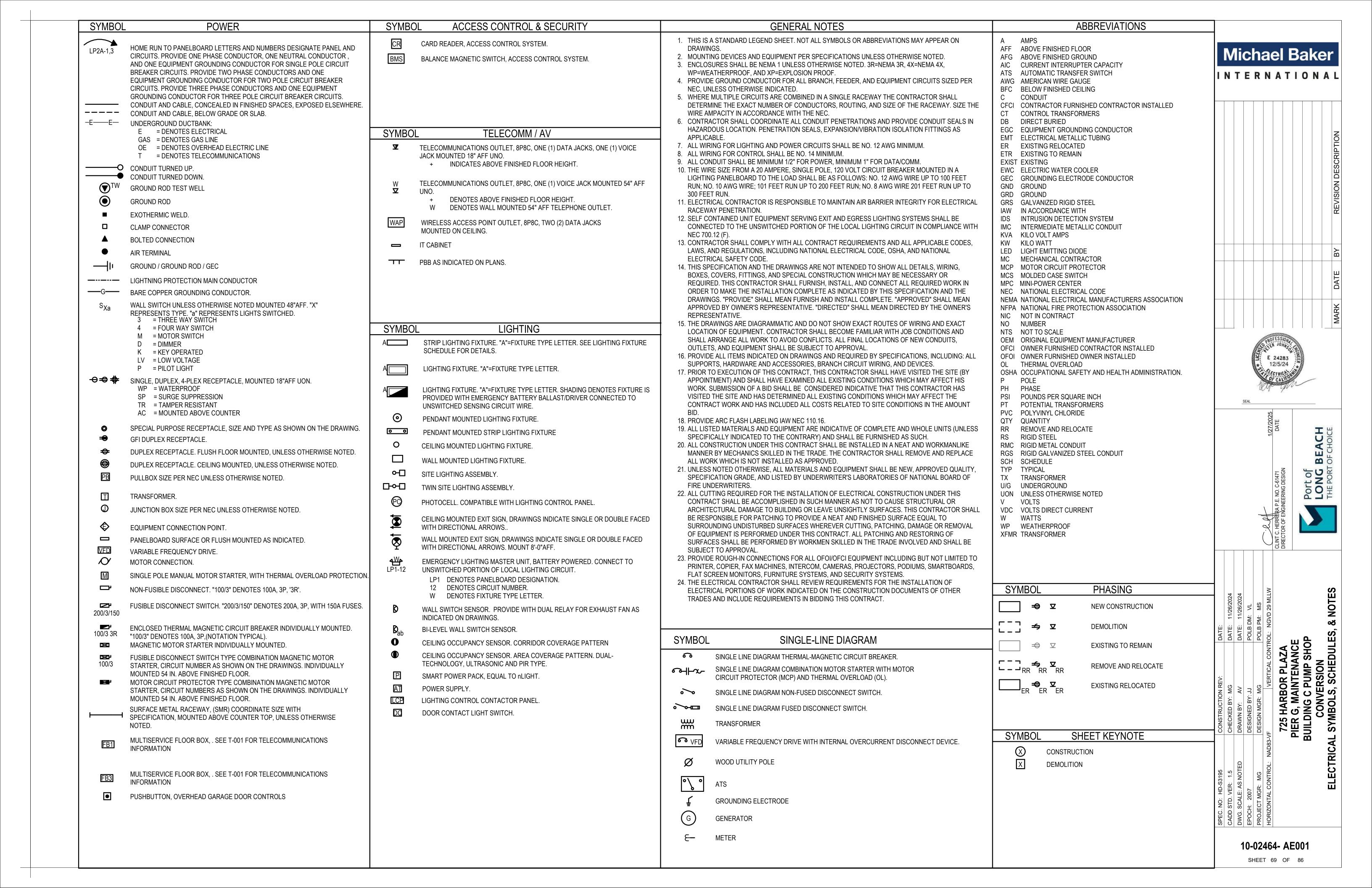
TRACE® 700 v6.3.5 calculated at 12:15 PM on 02/06/2024

Michael Baker INTERNATIONAL



10-02464-AM010

SHEET 68 OF 86



CITY OF LONG BEACH GENERAL NOTES

ALL WORK SHALL COMPLY WITH 2022 CALIFORNIA ELECTRIC CODE (CEC), 2022 CALIFORNIA ENERGY CODE. (CENC), CALIFORNIA FIRE CODE (CFC) AND WHERE APPLICABLE 2022 CALIFORNIA MECHANICAL CODE. (CMC).

WHEN/WHERE A MECHANICAL /ELECTRICAL/PLUMBING PLAN CHECK PROJECT NUMBER IS ASSOCIATED WITH A BUILDING REVIEW. THE BUILDING REVIEW MUST BE APPROVED PRIOR TO OBTAINING SUB-TRADE PERMITS. PLEASE REFER TO THE LONG BEACH PERMIT CENTER AT 562-570-5237 FOR ANY INFORMATION NEEDED IN REGARDS TO OBTAINING A PERMI

SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY-MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. (AFC) THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. CEC

UNGROUNDED SYSTEMS SHALL BE LEGIBLY-MARKED "UNGROUNDED SYSTEM" AT THE SOURCE OR FIRST DISCONNECTING MEANS OF THE SYSTEM. THE MARKING SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. CEC 250.21(C)

WHERE SPARE. SEPARATELY-SWITCHED. UNGROUNDED CONDUCTORS ARE PROVIDED AT A CEILING-MOUNTED OUTLET BOX IN A LOCATION ACCEPTABLE FOR A CEILING-SUSPENDED (PADDLE) FAN IN SINGLE OR MULTI-FAMILY DWELLINGS, THE OUTLET BOX OR OUTLET BOX SYSTEM SHALL BE LISTED FOR SOLE SUPPORT OF A CEILING-SUSPENDED (PADDLE) FAN. CEC 314.27

WHERE A CIRCUIT BREAKER IS INDICATED WITHOUT AN INSTANTANEOUS TRIP, DOCUMENTATION SHALL BE AVAILABLE TO THOSE AUTHORIZED TO DESIGN, INSTALL, OPERATE OR INSPECT THE INSTALLATION AS TO THE LOCATION OF THE CIRCUIT BREAKER (S). WHERE A CIRCUIT BREAKER IS UTILIZED WITHOUT AN INSTANTANEOUS TRIP, ONE OF THE FOLLOWING OR APPROVED EQUIVALENT MEANS SHALL BE PROVIDED. CEC 240.87

A. ZONE-SELECTIVE INTERLOCKING

B. DIFFERENTIAL RELAYING

C. ENERGY-REDUCING MAINTENANCE SWITCHING WITH LOCAL STATUS INDICTOR V

PROVIDE SWITCH AND RECEPTACLE HEIGHTS PER STATE OF CALIFORNIA ACCESSIBLE REQUIREMENTS

A. THE WIRING METHODS FOR OTHER SPACES USED FOR ENVIRONMENTAL AIR (PLENUMS) SHALL BE LIMITED TO TOTALLY ENCLOSED, NONVENTILATED BUSWAY HAVING NO PROVISIONS FOR PLUG-IN CONNECTIONS, TYPE MI CABLE WITHOUT AN OVERALL NONMETALLIC COVERING, TYPE MC CABLE WITHOUT AN OVERALL NONMETALLIC COVERING, TYPE AC CABLE, OR OTHER FACTORY-ASSEMBLED MULTICONDUCTOR CONTROL OR POWER CABLE THAT IS SPECIFICALLY LISTED FOR USE WITHIN AN AIR-HANDING SPACE, OR LISTED FOR USE WITHIN AIR LISTED FOR USE WITHIN AIR LISTED FOR USE WITHIN AIR LISTED FOR USE WITHIN AI ELECTRICAL METALLIC TUBING, FLEXIBLE METALLIC TUBING, INTERMEDIATE METAL CONDUIT, RIGID METAL CONDUIT WITHOUT AN OVERALL NONMETALLIC COVERS. NONMETALLIC CABLE TIES AND OTHER NONMETALLIC CABLE ACCESSORIES USED TO SECURE AND SUPPORT CABLES SHALL BE LISTED HAVING LOW SMOKE AND HEAT RELEASE PROPERTIES. (300.22(C)(1))

B. RECEPTACLE HEIGHTS - ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES IN DEPTH. THE MAXIMUM HEIGHT MEASURED AT THE BOX IS REDUCED TO 44 INCHES FOR FORWARD APPROACH, OR 46 INCHES FOR SIDE APPROACHED, PROVIDED THE OBSTRUCTION IS NO MORE THAN 24 INCHES IN DEPTH, OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25 INCHES FROM THE WALL BENEATH THE RECEPTACLE. (CBC 11B-308. 1138A.3)

. SWITCH AND CONTROL HEIGHT - CONTROLS OR SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND VENTILATING EQUIPMENT SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISHED FLOOR OR WORKING PLATFORM. IF THE REACH IS OVER A PHYSICAL BARRIER OR AN OBSTRUCTION (FOR EXAMPLE, A KITCHEN BASE CABINET) BETWEEN 20 AND 25 INCHES IN DEPTH. THE MAXIMUM HEIGHT MEASURED AT THE BOX IS REDUCED TO 44 INCHES FOR FORWARD APPROACH. OR 46 INCHES FOR SIDE APPROACHED. PROVIDED THE OBSTRUCTIONS SHALL NOT EXTEND MORE THAN 25 INCHES FROM THE WALL BENEATH THE CONTROL. (CBC 11B-308. 1138A.3)

TYPE MV CABLE SHALL BE INSTALLED, TERMINATED AND TESTED BY QUALIFIED PERSONS. CEC 328.14 THE ISSUANCE OF A PERMIT SHALL NOT PREVENT THE BUILDING OFFICIAL FROM REQUIRING THE CORRECTION OF ERRORS ON THESE PLANS OR FROM PREVENTING ANY VIOLATION OF THE CODES ADOPTED BY THE CITY, RELEVANT LAWS, ORDINANCES, RULES AND/OR REGULATIONS.

10. FOR FIRE RATED WALL/CEILING PENETRATION AND/OR MEMBRANE PENETRATION. COMPLETE NRTL CLASSIFICATION SHEETS SHALL BE PROVIDED TO THE INSPECTOR AT THE TIME OF INSPECTION.

11. PROVIDE SOUTHERN CALIFORNIA EDISON (SCE) WRITTEN NOTICE OF THE EXTENT AND NATURE OF ANY MATERIAL CHANGE IN THE SIZE, CHARACTER, OR EXTENT OF ELECTRICAL UTILIZING EQUIPMENT OR OPERATIONS FOR WHICH 'SCE' IS SUPPLYING ELECTRIC SERVICE BEFORE MAKING ANY SUCH CHANGE

12. GROUP THE COMMON NEUTRAL CONDUCTOR FOR MULTIPLE CIRCUITS WITH ITS ASSOCIATED UNGROUNDED CONDUCTORS WHEN CONTAINED IN THE SAME ENCLOSURE. CEC 200.4(B)

13. THE BRANCH CIRCUIT SERVING EMERGENCY LIGHTING AND POWER CIRCUITS SHALL NOT BE PART OF A MULTIWIRE BRANCH CIRCUIT. CEC 700.19 14. EACH MULTIWIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES. CEC 210.4(B)

15. THE UNGROUNDED AND GROUNDED CONDUCTORS OF EACH MULTI-WIRE BRANCH CIRCUIT SHALL BE GROUPED BY WIRE TIES OR SIMILAR MEANS IN AT LEAST ONE LOCATION WITHIN THE PANELBOARD OR OTHER POINT OF ORIGINATION. CEC 210.4(D)

16. AN INDIVIDUAL OFFICE FURNISHING OR GROUPS OF INTERCONNECTED OFFICE FURNISHINGS SHALL NOT CONTAIN MULTIWIRE CIRCUITS FOR FREESTANDING-TYPE OFFICE FURNISHINGS. CEC 605.9 (D)

17. THE WIRING METHOD IN SERVER ROOMS SHALL NOT BE ALLOWED UNLESS THE ROOM IS IN COMPLIANCE WITH CEC 645.4.

18. WHERE THE BUILDING PROPERTY IS LOCATED IN A FLOOD ZONE AREA, ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED ONE FOOT ABOVE THE FLOOD BASE ELEVATION. 19. THE CIRCUITS OF EMERGENCY SYSTEM, HEALTH CARE FACILITIES AND ELEVATOR SYSTEM SHALL NOT BE SERIES-RATED BECAUSE THESE CIRCUITS ARE REQUIRED TO BE SELECTIVELY COORDINATED IN COMPLIANCE WITH CEC 517.17, 620.62.

20. PROVIDE A SEPARATE SUBMITTAL. OBTAIN ALL REQUIRED PERMITS. INSPECTIONS AND APPROVALS FOR ALL FIRE ALARM SYSTEM INSTALLATIONS AND / OR MODIFICATIONS FROM THE LBFD AND THE LBDS DEPARTMENTS.

21. PROVIDE SEPARATE SUBMITTAL FOR ALL ELECTRICAL SUB-SYSTEMS WITH POWER SUPPLY(S) OF MORE THAN 50VA AND / OR 24V INCLUDING SECURITY, CARD READERS, TELECOM / DATA, PA, AUDIO/ VISUAL, NURSE CALL, HVAC AND REFRIGERATION CONTROLS.

22. ALL INSTALLED MATERIALS AND EQUIPMENT SHALL BE LISTED UNDERWRITERS LABORATORY (U.L.), NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) OR LISTED AND APPROVED BY A CITY OF LONG BEACH APPROVED TESTING LABORATORY

23. ELECTRICAL EQUIPMENT LIKELY TO REQUIRE EXAMINATION. ADJUSTMENT, SERVICING OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD OR FACTORY-MARKED TO WARN QUALIFIED PERSON OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS, PROVIDE ARC-FLASH LABELING COMPLIANT WITH CEC 110.16.

24. ALL NEW OVERCURRENT DEVICES INSTALLED IN EXISTING PANELS / SWITCHBOARDS SHALL MATCH THE MAKE, MODEL AND INTERRUPTING CAPACITY OF THE EXISTING OVERCURRENT DEVICES. 25. IN CLINIC PATIENT CARE AREAS, THE GROUNDING TERMINALS OF ALL RECEPTACLES AND ALL NONCURRENT CARRYING CONDUCTIVE SURFACES OF FIXED ELECTRIC EQUIPMENT SUBJECT TO PERSONNEL CONTACT OPERATING OVER 100 VOLTS, SHALL BE GROUNDED BY AN INSULATED COPPER CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE SIZED PER CEC TABLE 250-122 AND INSTALLED WITH THE BRANCH CIRCUIT CONDUCTORS IN METAL RACEWAYS PER CEC 517.13. BRANCH CIRCUITS ON THE PLANS SHALL IDENTIFY THIS INSULATED GROUNDING CONDUCTOR.

26. RACEWAY SEALS. CONDUITS OR RACEWAYS THROUGH WHICH MOISTURE MAY CONTACT LIVE PARTS SHALL BE SEALED OR PLUGGED AT EITHER OR BOTH ENDS. CEC 300.5(D)(G)

27. INDOOR LOCATIONS OTHER THAN DWELLINGS AND ASSOCIATED ACCESSORY STRUCTURES: FLUORESCENT LUMINAIRES (FIXTURES) THAT CAN BE SERVICED IN PLACE OR BALLASTED LUMINARIES THAT ARE SUPPLIED FROM MULTI-WIRE BRANCH CIRCUITS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS, EITHER INTERNAL OR EXTERNAL TO EACH LUMINAIRES. (FIXTURE), TO DISCONNECT SIMULTANEOUSLY FROM THE SOURCE OF SUPPLY, ALL CONDUCTORS OF THE BALLAST, INCLUDING THE GROUNDED CONDUCTOR IF ONE IS PROVIDED. THE LINE-SIDE TERMINALS OF THE DISCONNECTING MEANS SHALL BE GUARDED. THE DISCONNECTING MEANS SHALL BE IN A LOCATION ACCESSIBLE TO QUALIFIED PERSONS BEFORE SERVICING OR MAINTAINING THE BALLAST. EXCEPTIONS ARE PROVIDED FOR HAZARDOUS (CLASSIFIED) LOCATIONS, EMERGENCY ILLUMINATION, CORD AND PLUG CONNECTED LUMINAIRES, INDUSTRIAL FACILITIES AND LUMINAIRES NOT SUPPLIED BY A MULTI-WIRE BRANCH CIRCUIT AND WHERE DISCONNECTION DOES NOT LEAVE THE ILLUMINATED SPACE IN TOTAL DARKNESS. CEC 410.130(G)

28. REFRIGERANT DETECTION AND ALARM SYSTEMS SHALL BE POWERED AND SUPERVISED. CFC 605.8, 605.17.1, CMC 1106.2.2.1, 1107.1.7.2

29. ELECTRICAL ROOM PERSONNEL DOORS SHALL OPEN IN THE DIRECTION OF EGRESS AND BE EQUIPPED WITH LISTED, PANIC HARDWARE. CEC 110.26(C)(3) PLEASE GRAPHICALLY-INDICATE THE LIMITS OF WORKING SPACE ABOUT ELECTRICAL EQUIPMENT.

30. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE ABOVE THE ELECTRICAL EQUIPMENT. CEC 110.26(F)

31. PROVIDE AND MAINTAIN REQUIRED WORK SPACE, ADEQUATE ILLUMINATION, ACCESS TO WORK SPACE AND HEAD ROOM ABOUT ELECTRICAL EQUIPMENT. CEC 110.26

32. ANY PIPING. DUCTWORK OR CONDUIT IS PROHIBITED IN FIRE RATED STAIRWELLS UNLESS ASSOCIATED WITH ILLUMINATION OF THE STAIRWELL OR THE BUILDING FIRE SUPPRESSION SYSTEM.

33. ISOLATED GROUND (IG) RECEPTACLES INSTALLED FOR REDUCTION OF ELECTRICAL NOISE (ELECTROMAGNETIC INTERFERENCE) SHALL BE IDENTIFIED BY AN ORANGE TRIANGLE LOCATED ON THE FACE OF THE RECEPTACLE COVER PLATE

34. HEATING, VENTILATING, AIR-CONDITIONING AND REFRIGERATION EQUIPMENT (HVAC) OUTLETS: A 125V, SINGLE-PHASE, 15- OR 20-AMPERE-RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVICING OF HVAC EQUIPMENT. THE RECEPTACLE SHALL BE LOCATED ON THE SAME LEVEL AND WITHIN 7.5 M (25 FT.)

OF THE EQUIPMENT AND NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT DISCONNECTING MEANS, CEC 210.63 35. UNDERGROUND WIRING METHODS (0 TO 600V) SHALL COMPLY WITH CEC TABLE 300.5.

36. UNDERGROUND WIRING METHODS (OVER 600V) SHALL COMPLY WITH CEC TABLE 300.50.

37. UNGROUNDED CONDUCTORS IN THE PREMISES WIRING SUPPLIED FROM MORE THAN ONE NOMINAL VOLTAGE SYSTEM SHALL BE IDENTIFIED BY SYSTEM AND PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANEL BOARD OR SIMILAR DISTRIBUTION EQUIPMENT". CEC 210.5(C). COLOR CODE CONDUCTORS 208/120V PHASED AS BLACK - RED - BLUE 480/277V PHASED AS BROWN - ORANGE - YELLOW.

38. UNFUSED SERVICE ENTRANCE CONDUCTORS EXTENDING HORIZONTALLY INTO THE BUILDING ARE NOT APPROVED UNLESS ENCASED IN MINIMUM 2 INCHES OF CONCRETE.

39. SOUTHERN CALIFORNIA EDISON (SCE) SERVICE ENTRANCE CONDUITS SHALL BE ENCASED IN A MINIMUM OF TWO INCHES OF CONCRETE WHEN ENTERING A BUILDING OR SUBTERRANEAN GARAGE. SCE ELECTRICAL SERVICE REQUIREMENTS (CURRENT PUBLISHED ISSUE) 40. PROVIDE LOCAL DISCONNECTING MEANS FOR HARDWIRED EQUIPMENT THAT IS NOT WITHIN SIGHT OF THE SOURCE PANEL. CEC 430.102(A)

41. MULTIPLE RACEWAYS CONTAINING MORE THAN 3 CURRENT CARRYING CONDUCTORS SHALL COMPLY WITH [2022 CEC, 310.15(B)(2)(A)].

42. THE IDENTIFICATION OF EVERY CIRCUIT OF A PANELBOARD OR SWITCHBOARD SHALL BE LEGIBLY-IDENTIFIED AS TO ITS SPECIFIC PURPOSE OR USE AND INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM OTHER BRANCH CIRCUITS OR FEEDERS. CEC 408.4. PLEASE INDICATE MORE DETAILS ON PANEL SCHEDULE CIRCUIT DESCRIPTIONS.

43. TRANSFORMERS SUPPORTED ON WALLS OR FROM STRUCTURAL, CEILING MEMBERS REQUIRE STRUCTURAL REVIEW BY THE BUILDING PLAN CHECKER.

44. TRANSFORMER SECONDARY TAP CONDUCTORS SHALL NOT EXCEED 10 FEET IN LENGTH.(10 FOOT 'TAP' RULE). CEC 240.21(B)(1) 45. TRANSFORMERS LOCATED ON ABOVE CEILING PLATFORMS REQUIRE PRIMARY DISCONNECTING MEANS ABOVE THE CEILING ADJACENT TO THE TRANSFORMER OR LOCKOUT DEVICE AT THE ELECTRICAL PANEL TRANSFORMER PRIMARY CIRCUIT BREAKER.

46. IF A SERIES RATED SYSTEM IS INSTALLED, INSTALL ASSOCIATED LABELING. CEC 110.22(B) AND (C), 240.86(B)

47. INDICATE A GROUNDING ELECTRODE AND ASSOCIATED BONDING FOR SEPARATELY-DERIVED SYSTEMS. CEC 250.30

48. PROVIDE BONDING OF POOL EQUIPMENT AND EQUIPOTENTIAL BONDING GRID IN/UNDER PAVED OR UNPAVED WALKING SURFACES PER CEC 680.26 (B) AND AT POOL AND SPA PERIMETERS PER CEC 680.26 (C)(B). 49. POOL EQUIPMENT ROOM DEVICES INCLUDING GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES SHALL BE LISTED AS SUITABLE FOR USE IN CORROSIVE ENVIRONMENTS WITH WEATHERPROOF, IN-USE ENCLOSURES. CEC 680.14

50. A SINGLE RECEPTACLE INSTALLED ON AN INDIVIDUAL BRANCH CIRCUIT SHALL HAVE AN AMPERE RATING OF NOT LESS THAN THAT OF THE BRANCH CIRCUIT. INDICATE THE RECEPTACLE RATING. CEC 210.21(B)(1)

51. PROVIDE RECEPTACLE OUTLETS WHEREVER CORD CONNECTED EQUIPMENT WILL BE USED. CEC 210.50(B)

52. WHERE DISCONNECTING MEANS ARE NOT PROVIDED WITHIN SIGHT OF THE EQUIPMENT, EITHER INHERENT TO THE EQUIPMENT DESIGN OR AS A LISTED ACCESSORY FEATURE THAT CAN BE INSTALLED ON THE EQUIPMENT. CEC 410.141(B), 422.31(B), 424.19, 440.14 EXCEPTION NO.1, 600.6(A)(2)(3), 620.51(A) EXCEPTION NO.1, 620.53, 620.55

53. STANDARD NON-LOCKING STRAIGHT-BLADE RECEPTACLES IN 120V AND 250V CONFIGURATIONS AT WET OR DAMP LOCATIONS ARE REQUIRED TO BE LISTED, WEATHER-RESISTANT TYPE. CEC 406.8(A) 54. LUMINARIES RECESSED IN INSULATED CEILINGS SHALL BE RATED FOR INSULATION CONTACT (IC RATED) SO INSULATION CAN BE PLACED AROUND THEM. CEC 410.116, CENC 150(K)

55. SUBMIT A SEPARATE ELECTRICAL APPLICATION FORM FOR THE PLAN CHECK REVIEW AND APPROVAL OF POOL EQUIPMENT SHOP DRAWINGS AT LEAST 60 DAYS PRIOR TO THE POOL EQUIPMENT INSTALLATION.

56. RECEPTACLES INTENDED TO SUPPLY SHORE POWER TO BOATS SHALL BE HOUSED IN MARINE POWER OUTLETS LISTED AS MARINA POWER OUTLETS OR LISTED ENCLOSURES. THE INTEGRITY OF THE ASSEMBLY SHALL NOT BE AFFECTED WHEN THE RECEPTACLES ARE IN USE WITH

ANY TYPE OF BOOTED OR NON-BOOTED ATTACHMENT PLUG/CAP INSERTED. CEC 555.19(A)(1)

57. LISTED, TAMPER-RESISTANT RECEPTACLES SHALL BE PROVIDED WHERE REPLACEMENTS ARE MADE AT RECEPTACLE OUTLETS. CEC 406.4(D)(5)

58. ALL NON-LOCKING TYPE, 125V, 15- AND 20-AMPERE RECEPTACLES LOCATED IN GUEST ROOMS AND GUEST SUITES SHALL BE LISTED, TAMPER-RESISTANT RECEPTACLES. CEC 406.13

59. IN CHILD CARE FACILITIES, NON-LOCKING TYPE, 125V, 15- AND 20-AMPERE RECEPTACLES SHALL BE LISTED, TAMPER-RESISTANT RECEPTACLES. CEC 406.14

60. SWITCHBOARDS SUPPLIED BY A FEEDER IN OTHER THAN ONE- OR TWO-FAMILY DWELLINGS SHALL BE MARKED AS TO THE DEVICE OR REQUIREMENT WHERE THE POWER SUPPLY ORIGINATES. CEC 408.4

61. TRANSFORMERS OTHER THAN CLASS 2 OR CLASS 3 SHALL HAVE DISCONNECTING MEANS LOCATED IN SIGHT OF THE TRANSFORMER OR IN A REMOTE LOCATION. DISCONNECTING MEANS SHALL BE LOCKABLE AND THE LOCATION FIELD-MARKED ON THE TRANSFORMER. CEC 450.14

62. LISTED. MANUFACTURED WIRING SYSTEMS CONTAINING UNLISTED, FLEXIBLE METAL CONDUIT (FMC) OF NON-CIRCULAR CROSS SECTION OR TRADE SIZES SMALLER THAN PERMITTED BY CEC 348.20(A) OR BOTH ARE PERMITTED PROVIDED THE WIRING SYSTEMS ARE SUPPLIED WITH FITTINGS AND CONDUCTORS AT THE TIME OF MANUFACTURE. CEC

63. WHERE AN INDIVIDUAL BRANCH CIRCUIT SUPPLIES ELEVATOR CAB LIGHTING, A RECEPTACLE(S) AND A VENTILATION MOTOR NOT EXCEEDING 2HP, THE DISCONNECTING MEANS REQUIRED BY CEC 620.53 SHALL BE PERMITTED TO COMPLY WITH CEC 430.109(C), CEC 620.53 EXCEPTION. 64. OUTLETS SUPPLYING POOL PUMP MOTORS CONNECTED TO SINGLE-PHASE, 120V-240V BRANCH CIRCUITS BY RECEPTACLE OR DIRECT CONNECTION SHALL BE PROVIDED WITH GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL. CEC 680.21(C)

65. FOR EXISTING INSTALLED LUMINARIES WITHOUT DISCONNECTING MEANS WHEN A BALLAST IS REPLACED, A DISCONNECTING MEANS SHALL BE INSTALLED. CEC 410.130(G)

66. BUSWAY SHALL BE PERMITTED TO BE EXTENDED VERTICALLY THROUGH DRY FLOORS IF TOTALLY ENCLOSED (UNVENTILATED) WHERE PASSING THROUGH AND FOR A MINIMUM DISTANCE OF SIX FEET ABOVE THE FLOOR TO PROVIDE ADEQUATE PROTECTION FROM PHYSICAL DAMAGE. IN OTHER THAN INDUSTRIAL ESTABLISHMENTS, WHERE A VERTICAL RISER PENETRATES TWO OR MORE FLOORS, INDICATE A FOUR-INCH MINIMUM HIGH CURB AROUND ALL FLOOR OPENING. CURBS SHALL BE INSTALLED WITHIN 12 INCHES OF THE FLOOR OPENING AND ELECTRICAL EQUIPMENT SHALL BE LOCATED SO IT WILL NOT BE DAMAGED BY LIQUIDS RETAINED BY THE CURB. CEC 368.12(C)(2)(A) AND (B).

67. A SEPARATE PERMIT IS REQUIRED FROM THE CITY OF LONG BEACH FIRE DEPARTMENT FOR ENGINE GENERATOR INSTALLATIONS. PLEASE SUBMIT FOR PERMIT REVIEW AND APPROVAL. CITY OF LONG BEACH PLAN SUBMITTAL GUIDELINES

68. TO JUSTIFY PROPOSAL OF ELECTRIC HEATER RE-INSTALLATION, PLEASE INDICATE THE PROPOSED, APPLICABLE CENC EXEMPTION. CENC 140-4(G) EXCEPTIONS 1-6

69. CONFIRMATION OF APPROVAL OF THE BUILDING ENVELOPE AND MECHANICAL PERFORMANCE ARE REQUIRED BY THE BUILDING DEPARTMENT PRIOR TO APPROVAL TO INSTALL ELECTRIC OR DUCT HEATERS. 70. ARC ENERGY REDUCTION. WHERE FUSES RATED 1200 A OR HIGHER ARE INSTALLED, CEC 240.67(A) AND (B) SHALL APPLY.

A. DOCUMENTATION. DOCUMENTATION SHALL BE AVAILABLE TO THOSE AUTHORIZED TO DESIGN, INSTALL, OPERATE, OR INSPECT THE INSTALLATION AS TO THE LOCATION OF THE FUSES.

B. METHOD TO REDUCE CLEARING TIME. A FUSE SHALL HAVE A CLEARING TIME OF 0.07 SECONDS OR LESS AT THE AVAILABLE ARCING CURRENT, OR ONE OF THE FOLLOWING SHALL BE PROVIDED:

a. DIFFERENTIAL RELAYING

b. ENERGY-REDUCING MAINTENANCE SWITCHING WITH LOCAL STATUS INDICATOR

c. ENERGY-REDUCING ACTIVE ARC FLASH MITIGATION SYSTEM

d. AN APPROVED EQUIVALENT MEANS

1. ARC ENERGY REDUCTION. WHERE THE HIGHEST CONTINUOUS CURRENT TRIP SETTING FOR WHICH THE ACTUAL OVERCURRENT DEVICE INSTALLED IN A CIRCUIT BREAKER IS RATED OR CAN BE ADJUSTED IS 1200 A OR HIGHER, CEC 240.87(A) AND (B) SHALL APPLY.

A. DOCUMENTATION. DOCUMENTATION SHALL BE AVAILABLE TO THOSE AUTHORIZED TO DESIGN, INSTALL, OPERATE, OR INSPECT THE INSTALLATION AS TO THE LOCATION OF THE CIRCUIT BREAKER(S).

B. METHOD TO REDUCE CLEARING TIME. ONE OF THE FOLLOWING MEANS SHALL BE PROVIDED.

a. ZONE-SELECTIVE INTERLOCKING b. DIFFERENTIAL RELAYING

c. ENERGY-REDUCING MAINTENANCE SWITCHING WITH LOCAL STATUS INDICATOR

d. ENERGY-REDUCING ACTIVE ARC FLASH MITIGATION SYSTEM e. AN INSTANTANEOUS TRIP SETTING THAT IS LESS THAN THE AVAILABLE ARCING CURRENT

f. AN INSTANTANEOUS OVERRIDE THAT IS LESS THAN THE AVAILABLE ARCING CURRENT g. AN APPROVED EQUIPMENT MEANS

ELECTRICAL CONDUCTOR AND CONDUIT SCHEDULE

NUMBERS (2-4 DIGITS) = WIRE SIZE CODE AL (IF ANY) = ALUMINÚM 200 DAL SD LETTERS (2 LETTER CODE, IF ANY) 2N, IG OR

SD AS NOTED BELOW.

CU CONDUCTORS

SYM	AMP						
		C SIZE	QTY	SIZE	EGC	SD	
22	20	.75	2	12	12	8	
20	20	.75	3	12	12	8	
(21)	20	.75	4	12	12	8	
32	30	.75	2	10	10	8	
8	30	.75	3	10	10	8	
(5)	30	.75	4	10	10	8	
42)	40	1	2	8	10	8	
40)	40	1	3	8	10	8	
(41)	40	1	4	8	10	8	
62	60	1	2	6	10	8	
60)	60	1	3	6	10	8	
61)	60	1	4	6	10	8	
(72)	70	1	2	4	8	8	
70	70	1.25	3	4	8	8	
(71)	70	1.25	4	4	8	8	
80	80	1.25	3	2	8	8	
(102)	100		2	2	8	8	
=		1.25				_	
(100)	100	1.25	3	2	8	8	
(101)	100	1.25	4	2	8	8	
125	125	1.50	3	1	6	6	
(126)	125	1.50	4	1	6	6	
(152)	150	2	2	1/0	6	6	
(150)	150	2	3	1/0	6	6	
(151)	150	2	4	1/0	6	6	
(175)	175	2	3	2/0	6	4	
176	175	2	4	2/0	6	4	
200	200	2	3	3/0	6	4	
(201)	200	2.50	4	3/0	6	4	
(225)	225	2.50	3	4/0	4	2	
(226)	225	2.50	4	4/0	4	2	
250)	250	2.50	3	250	4	2	
(251)	250	2.50	4	250	4	2	
300	300	3	3	350	3	2	
(301)	300	3	4	350	3	2	
(351)	350	3.50	4	500	3	1/0	
(400)	400	2 EA 2.5	3	3/0	2	1/0	
(401)	400	2 EA 2.5	4	3/0	2	1/0	
\rightarrow	500		3			1/0	
500		2 EA 2.50		250	1		
(501)	500	2 EA 2.50	4	250	1 1/2	1/0	
600	600	2 EA 3	3	350	1/0	2/0	
601	600	2 EA 3	4	350	1/0	2/0	
700	700	2 EA 3.50	3	500	1/0	2/0	
(701)	700	2 EA 4	4	500	1/0	2/0	
(800)	800	3 EA 3	3	300	2/0	2/0	
(801)	800	3 EA 3	4	300	2/0	2/0	
(1000)	1000	3 EA 4	3	500	3/0	3/0	
	1000	3 EA 4	4	500	3/0	3/0	
(1200)	1200	4 EA 3	3	350	3/0	3/0	
(1201)	1200	4 EA 3	4	350	3/0	3/0	
(1501)	1500	4 EA 4	4	500	4/0	3/0	
(1601)	1600	5 EA 4	4	500	4/0	3/0	
2001)	2000	6 EA 4	4	500	250	3/0	
2501	2500	7 EA 4	4	500	350	3/0	
3001)	3000	8 EA 4	4	500	500	3/0	
				000	000	0,0	
CONDUCTOR	AND CONE	DUIT SCHEDULE I	NOTES				

CONDOCTOR AND CONDOLL SCHEDOFE NOTES

- CONDUCTORS SHOWN ARE FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 3 ALL CONDUCTORS ARE THWN UNLESS OTHERWISE NOTED.
- PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN.
- WHEN SYMBOL SUBSCRIPT INDICATES "2N" INCLUDE TWO NEUTRAL CONDUCTORS SIZED AS SCHEDULED INCREASE SCHEDULED CONDUIT SIZE AS NEEDED TO MAINTAIN MAXIMUM WIRE FILL PER THE NATIONAL ELECTRICAL CODE. WHEN SYMBOL SUBSCRIPT INDICATES "SD" SUBSTITUTE "SD" CONDUCTOR FOR "EGC" CONDUCTOR TO MEET SIZING REQUIREMENTS OF A SEPARATELY DERIVED SYSTEM.
- WHERE ALLOWED BY THE SPECIFICATIONS EQUIVALENT ALUMINUM WIRE CAN BE SUBSTITUTED.







725 PIER UILD

10-02464- AE002

SHEET 70 OF 86

Generated Date/Time:

If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.

FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c)/160.6(c), no other requirements from 130.5/160.6 are required.

³ Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

in Main Electrical

room L1M100 on

sheet E-401.

and branch

circuits only

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Documentation Software: Energy Code Ace

Report Version: 2022.0.000 Schema Version: rev 20220101

demand response after receiving a demand response signal.

Sections 120.2/160.3, 130.1/160.5, and 130.3/160.5, and

mechanical, indoor lighting, and sign lighting Certificate of

Compliance documents will indicate when demand response controls are required.

Report Generated: 2024-03-01 11:33:58

Compliance ID: 175006-0324-0015

Electrical Service

Designation/Description

Existing service meter is located

n Main Electrical room L1M100

Electrical I	Power Distribution	CALIFORNIA ENERGY COMMISSION			
CERTIFICATE O	F COMPLIANCE	, NR			
Project Name:	Port of Long Beach Pump Shop Remodel	Report Page:	(Page 2 of 4)		
		Date Prepared:	2024-03-01T14:33:55-05:00		

C. COMPLIANCE RE	SULTS							
		matically calculated fro itions for guidance or s					f any cell on this table s	ays "COMPLIES with Exceptional Conditions" refe
01		02		03		04	05	06
Service Electrical Metering 130.5(a)/ 160.6(a) (See Table F)	AND	Separation for Monitoring 130.5(b)/ 160.6(b) (See Table G)	AND	Voltage Drop 130.5(c)/ 160.6(c) (See Table H)	AND	Controlled Receptacles 130.5(d)/ 160.6(d) (See Table I)	Electric Ready 160.9 (See Table J)	Compliance Results
	AND		AND	Yes	AND			COMPLIES

Compliance Results
COMPLIES

AND	AND	ies	AND			COMPL	L3
D. EXCEPTIONAL CONDITIO	NS						
This table is auto-filled with un	editable comments because	of selections made or d	ata entered i	n tables throug	hout the form.		
E. ADDITIONAL REMARKS							
This table includes remarks ma	de by the permit applicant to	o the Authority Having J	lurisdiction.				
H. VOLTAGE DROP							
This table includes entirely new demonstrate compliance with	[기계 시민에 시민에는 사용 [기 판매] 시크 프라이크 [10] (그리기 1) 연극장 ((그리기 1) 10 프라이크 (1) [10 프라이크 (1) [10] (10 프라이크 (1) [10] (10 프라이크 (1) [10] (10 프라이크 (1) [10] (10					r replace both feeders and branch .0(b)2Piii/ 180.2(b)4Bviic.	circuits to
01		02		03	B	04	05
Electrical Convice	Combined Voltage Dr	on on Installed Feeder/I	Dranch	Location of V	oltage Dron	Sheet Number for Voltage Drop	Field Inspector

on sheet E-401. 130.5(c))* * NOTES: If "Permitted by CA Elec Code *" is selected under Compliance Method above, please indicate where the exception applies in the space provided below. FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached"

f applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

Location of Voltage Drop

Attached

Calculations¹

Calculations in Construction

Documents

Fail

Report Generated: 2024-03-01 11:33:58

Generated Date/Time: Documentation Software: Energy Code Ace

Permitted by CA Elec

Code (Exception to

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101

Combined Voltage Drop on Installed Feeder/Branch

Circuit Conductors Compliance Method

Voltage drop less than

Total Area of Work (ft²)

Compliance ID: 175006-0324-0015 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

STATE OF CALIFORNIA

Electrical Power Distribution

NRCI-ELC-E - Must be submitted for all buildings

There are no forms required for this project.

Project Name: Port of Long Beach Pump Shop Remodel

. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

L. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

CERTIFICATE OF COMPLIANCE

Report Version: 2022.0.000 Schema Version: rev 20220101

Generated Date/Time:

Report Page:

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E.

Form/Title

Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Compliance ID: 175006-0324-0015 Report Generated: 2024-03-01 11:33:58

Documentation Software: Energy Code Ace

CALIFORNIA ENERGY COMMISSION

NRCC-ELC-E

(Page 3 of 4)

2024-03-01T14:33:55-05:00

STATE OF CALIFORNIA Electrical Power Distribution CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-ELC-E Project Name: Port of Long Beach Pump Shop Remodel Report Page: 2024-03-01T14:33:55-05:00

Project Address: 725 HARBOR PLAZA, LONG BEACH, CALIFORNIA 90802 DOCUMENTATION AUTHOR'S DECLARATION STATEMENT I certify that this Certificate of Compliance documentation is accurate and complete. mentation Author Name: Jordan Johnston mpany: Michael Baker Internationa ress: 7090 Union Park Avenue - Suite 500 EA/ HERS Certification Identification (if applicable) Phone: 801-255-4400 ty/State/Zip: Midvale, UT 84047

RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of California:

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

The information provided on this Certificate of Compliance is true and correct. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirement of Title 24, Part 1 and Part 6 of the California Code of Regulations.

The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable

Schema Version: rev 20220101

inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. ponsible Designer Signature: Rela Jun Peter Jonson Date Signed: 2/12/2024 Company: Michael Baker International cense: 024283 ess: 7090 Union Park Avenue - Suite 500 City/State/Zip: Midvale, UT 84047

> Generated Date/Time: Documentation Software: Energy Code Ace Report Version: 2022.0.000

Compliance ID: 175006-0324-0015 Report Generated: 2024-03-01 11:33:58

STATE OF CALIFORNIA Indoor Lighting CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for onresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities. Project Name: Port of Long Beach Pump Shop Remodel Report Page: (Page 1 of 7 piect Address: 725 HARBOR PLAZA LONG REACH CALIFORNIA 90802

01 Project Location (city)	Port of Long Beach	04 Total Conditioned Floor Area (ft²) 268.	62
02 Climate Zone	6	05 Total Unconditioned Floor Area (ft²) 0	
03 Occupancy Types Within Project	(select all that apply):	06 # of Stories (Habitable Above Grade) 1	

B. PROJECT SCOPE									
This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) of 141.0(b)2 / 180.2(b)4 for alterations.									
Scope of Work	Conditioned Space	Unconditioned Spaces							
01	02	03	04	05					
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)					
☐ New Lighting System	N/A	0	N/A	0					
☐ New Lighting System - Parking Garage	N/A	0	N/A	0					
	Area Category Method	268.62	N/A	0					

Generated Date/Time: Documentation Software: Energy Code Ace CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 175006-0524-0017 Schema Version: rev 20220101 Report Generated: 2024-05-10 12:08:30

268.62

STATE OF CALIFORNIA **Indoor Lighting** CALIFORNIA ENERGY COMMISSION NRCC-LTI-E CERTIFICATE OF COMPLIANCE Project Name: Port of Long Beach Pump Shop Remodel (Page 2 of 7) 2024-05-10T15:08:24-04:00

	c suys DOLS I	VOI COIVIPLI	or COMPLIES	with Exception	ai Cc	naitions reje	er to	Table D. for gui	aance.			
100	Allo	wed Lighting F	Power per 140.	6(b) / 170.2(e) (Wa	atts)		Adjusted Ligh	nting Power per (Watts)	140	.6(a) / 170.2(e)	Compliance Result
Lighting in	01	02	03	04		05	1	06	07		08	09
conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	II	Total Allowed (Watts)	2	Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-)	=	Total Adjusted (Watts) *Includes Adjustments	05 must be >= 08 140.6 / 170.2(e)
	(See Table I)	(See Table I)	(See Table J)	(See Table K)				(See Table F)	(See Table P)			
Conditioned		174.61			=	174.61	2	141.69		=	141.69	COMPLIES
Unconditioned					=:		2			=		

D. EXCEPTIONAL CONDITIONS This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Documentation Software: Energy Code Ace Generated Date/Time: CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: 175006-0524-0017 Schema Version: rev 20220101 Report Generated: 2024-05-10 12:08:30

Michael Baker INTERNATIONAL

10-02464- AE003

SHEET 71 OF 86

STATE OF CALIFORI	NIA		
Indoor Ligi	hting		CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF	COMPLIANCE		NRCC-LTI-
Project Name:	Port of Long Beach Pump Shop Remodel	Report Page:	(Page 3 of 7
		Date Prepared:	2024-05-10T15:08:24-04:00

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/hotel/motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are

not included ne	ire.									
Designed Watt	tage: Conditioned Spaces		413							
01	02	03	04	05	06	07	08	09	1	.0
Name or Item	Complete Luminaire	Modular	Small	Watts per	How is Wattage	Total Number	Excluded per		Field In	spector
Tag	Description	(Track) Fixture	Aperture & Color Change ¹	luminaire ²	determined	of Luminaires	140.6(a)3 / 170.2(e)2C	Design Watts	Design Watts Pass	Fail
A4	2'x4' LED Troffer	No	NA	31.69	Mfr. Spec	3	No	95.07		
V2	2' LED Vanity Light	No	NA	18.12	Mfr. Spec	1	No	18.12		
C1	7.5' LED Undercabinet Light	No	NA	11.25	Mfr. Spec	2	No	22.5		
C2	2' LED Undercabinet Light	No	NA	3	Mfr. Spec	2	No	6		
		*	B 127		Total Design	ed Watts: CONI	DITIONED SPACES	141.69		20

¹FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

²Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)		
This table includes lighting controls for conditioned and unconditioned spaces.		
Building Level Controls		
01	02	03
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Field Inspector
I Widiluatory Demand Response 110.12(c)	31101-011 (01111013 130.11(1) / 100.3(1)14(

NA < 4,000W subject to multilevel	See Area/Space Level Controls			
	Generated Date/Time:	Documentation	Software: Ener	gy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Complia Report Gener	nce ID: 175006 ated: 2024-05-	

STATE OF CALIFORNIA Indoor Lighting CALIFORNIA ENERGY COMMISSION NRCC-LTI-E CERTIFICATE OF COMPLIANCE Project Name: Port of Long Beach Pump Shop Remodel (Page 4 of 7) Report Page: Date Prepared: 2024-05-10T15:08:24-04:00

Level Controls									
04	05	06	07	08	09	10	11	1	2
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) /	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1/ 170.2(e)2A	Field In	spector
		1,450.6			160.5(b)4D			Pass	Fa
Office	Office (<=250 square feet)	Readily Accessible	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No		
Restroom	Restroom	Readily Accessible	NA: Enclosed area <100SF	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No		
Restroom	Restroom			Occupancy Sensor			No 13		0
					0	Plan Sheet	t Showing Day	lit Zones:	

I. LIGHTING POWER ALLOWAN	CE: COMPLETE BUILDING OR AREA CATEGORY I	METHODS				
Each area complying using the Co 140.6(c) or adjustments per 140.6	mplete Building or Area Category Methods per 140.6((a) are being used .	b) are included in this	s table. Column	06 indicates if addition	nal lighting power allo	wances per
Conditioned Spaces						
01	02	03	04	05	06	
Anna Danasiatian	Complete Building or Area Category Primary	Allowed Density	4 (6.2)	Allowed Wattage	Additional Allowand	ce / Adjustmen
Area Description	Function Area	(W/ft ²)	Area (ft ²)	(Watts)	Area Category	PAF
Office	Office (<=250 square feet)	0.65	213.04	138.48	No	No
Restroom	Restroom	0.65	55.58	36.13	No	No
	.	TOTALS	260.62	174.61	Con Tables Los	D for dotail

	Area Description	Complete building of Area Category Primary	Allowed Delisity	Area (ft ²)	Allowed Wattage	Additional Allowan	ice / Aujustinei
	Area Description	Function Area	(W/ft ²)	Area (IL-)	(Watts)	Area Category	PAF
0	Office	Office (<=250 square feet)	0.65	213.04	138.48	No	No
	Restroom	Restroom	0.65	55.58	36.13	No	No
-			TOTALS:	268.62	174.61	See Tables J, or	r P for detail
			-				

	Generated Date/Time:	Documentation Software: Energy Code Ace
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance ID: 175006-0524-0017 Report Generated: 2024-05-10 12:08:30

CERTIFICATE OF COMPLIANCE Project Name: Port of Long Beach Pump Shop Remodel	Report Page:	NRC (Page
Project Name: Port of Long Beach Pump Shop Remodel	Date Prepared:	(Page 2024-05-10T15:08:24
	pate rrepareu.	2024-03-10113.00.2
J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIF	EVING LIGHTING SYSTEM	
This section does not apply to this project.	TING LIGHTING STSTEW	
K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE		
This section does not apply to this project.		
L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLA	Υ	
This section does not apply to this project.		
This section does not apply to this project. N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE	: /SPECIAL EFFECTS	
This section does not apply to this project.	(20,220,220,220,2	
O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUA	BLE MERCHANDISE	
This section does not apply to this project.		
P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER A	ADJUSTMENT FACTOR (PAF))	
This section does not apply to this project.		
Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONI	E ALTERATIONS	
Q. KATED FOWER REDUCTION CONFLIANCE FOR ONE-FOR-ONI		

Generated Date/Time:

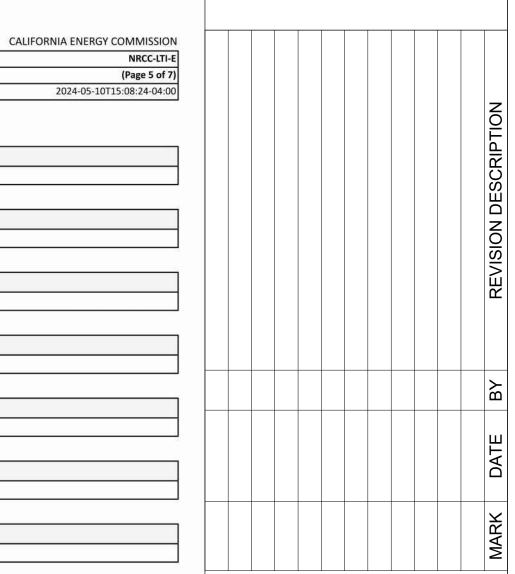
Report Version: 2022.0.000

Schema Version: rev 20220101

STATE OF CALIFORNIA

Indoor Lighting

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance



Michael Baker

INTERNATIONAL



Documentation Software: Energy Code Ace

Report Generated: 2024-05-10 12:08:30

Compliance ID: 175006-0524-0017

10-02464- AE004

SHEET 72 OF 86

STATE OF CALIFORNIA Indoor Lighting CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE Project Name: Port of Long Beach Pump Shop Remodel (Page 6 of 7) 2024-05-10T15:08:24-04:00

his section does not apply to this project.			
. DAYLIGHT DESIGN POWER ADJUSTMENT FACTO	JR (PAF)		
his section does not apply to this project.			

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online Form/Title

NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance

	Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html	
	Form/Title	Systems/Spaces To Be Field Verified
	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Office; Restroom

Generated Date/Time: Documentation Software: Energy Code Ace

Report Version: 2022.0.000

Schema Version: rev 20220101

Indoor Lighting CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE (Page 7 of 7 **Project Name:** Port of Long Beach Pump Shop Remodel 2024-05-10T15:08:24-04:00 Project Address: 725 HARBOR PLAZA, LONG BEACH, CALIFORNIA 90802

STATE OF CALIFORNIA

Compliance ID: 175006-0524-0017

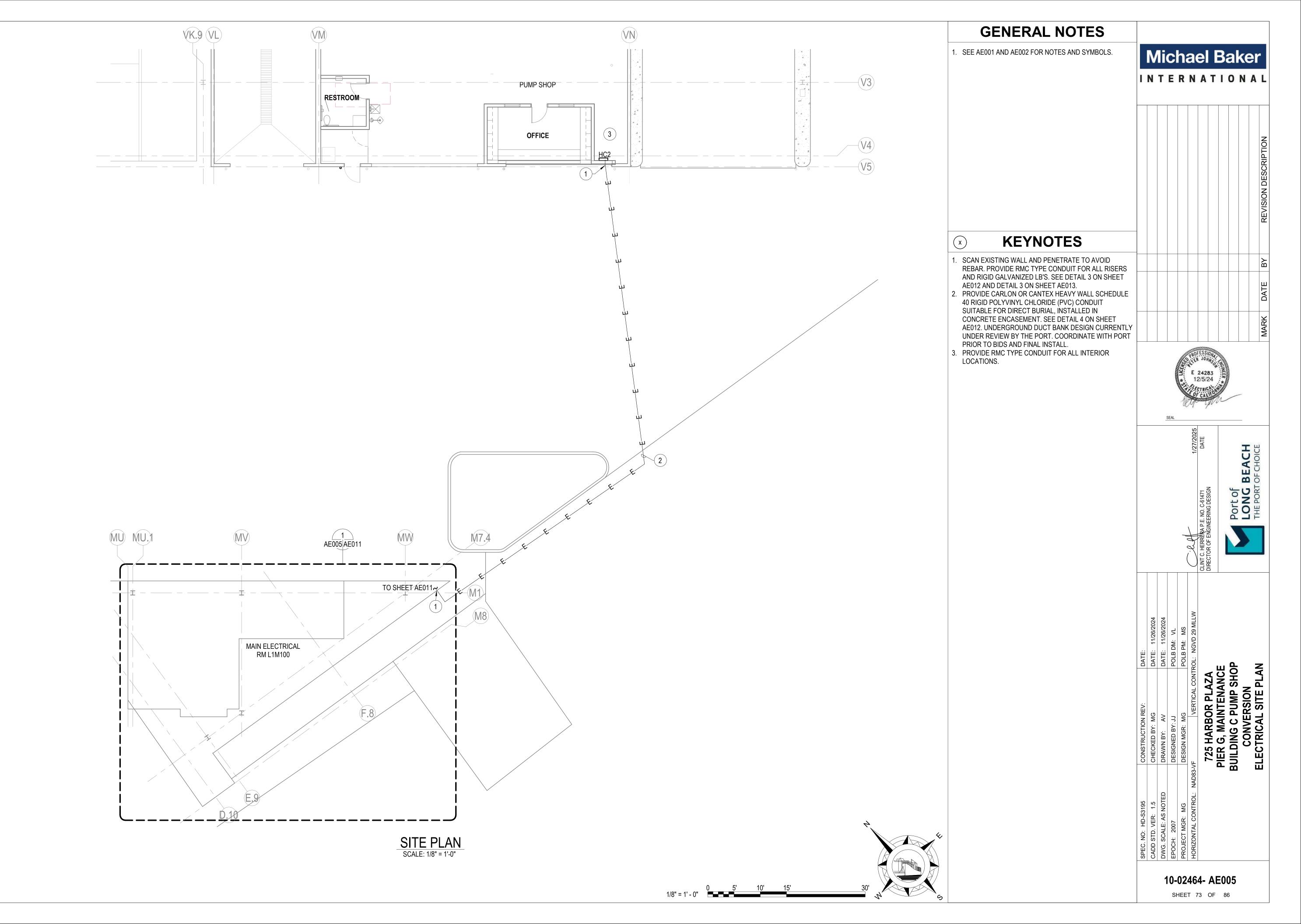
Report Generated: 2024-05-10 12:08:30

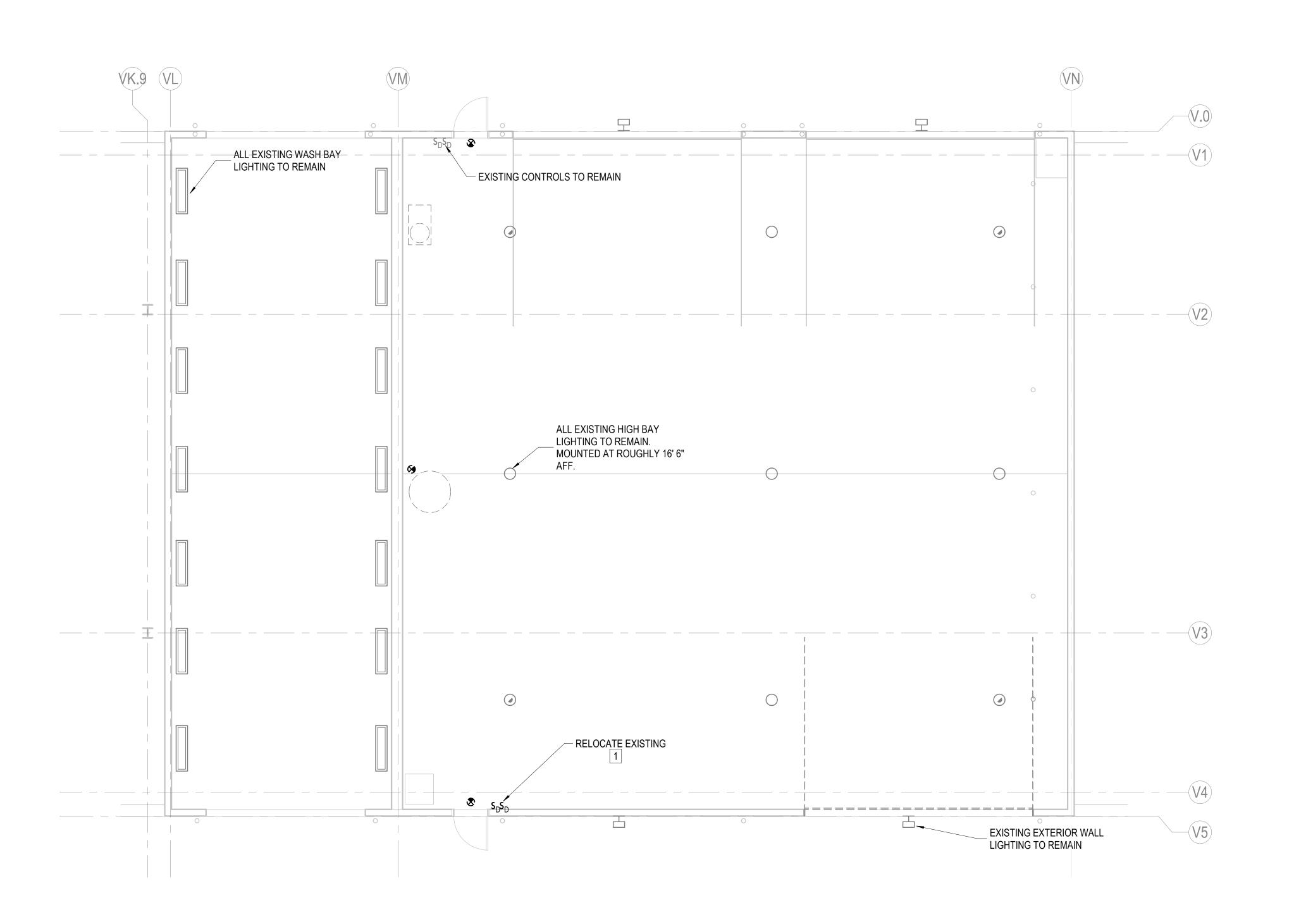
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Edik W	entation Author Name: el Chesnut	Documentation Author Signature:
Compan	y: Michael Baker International	Signature Date: 2/12/2024
Address:	7090 Union Park Avenue - Suite 500	CEA/ HERS Certification Identification (if applicable):
City/Stat	te/Zip: Midvale, UT 84047	Phone: 801-255-4400
100	DNSIBLE PERSON'S DECLARATION STATEMENT the following under penalty of perjury, under the laws of the State of California:	
1. 2. 3. 4.	The energy features and performance specifications, materials, components of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Cerplans and specifications submitted to the enforcement agency for approval I will ensure that a completed signed copy of this Certificate of Compliance	of responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) is, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirement retificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, with this building permit application. Shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.
	sible Designer Name: el Chesnut	Responsible Designer Signature: Mant
Company	Ny: Michael Baker International	Date Signed: 2/12/2024
Address:	7090 Union Park Avenue - Suite 500	License: 024307
City/Stat	te/7in: Midvale IIT 84047	Phone: 801,255,4400

Generated Date/Time: Documentation Software: Energy Code Ace Compliance ID: 175006-0524-0017 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Report Generated: 2024-05-10 12:08:30





KEYNOTES 1. SEE AE008 FOR NEW LOCATION. Port of LONG BEACH
THE PORT OF CHOICE 10-02464- AE006 SHEET 74 OF 86

GENERAL NOTES

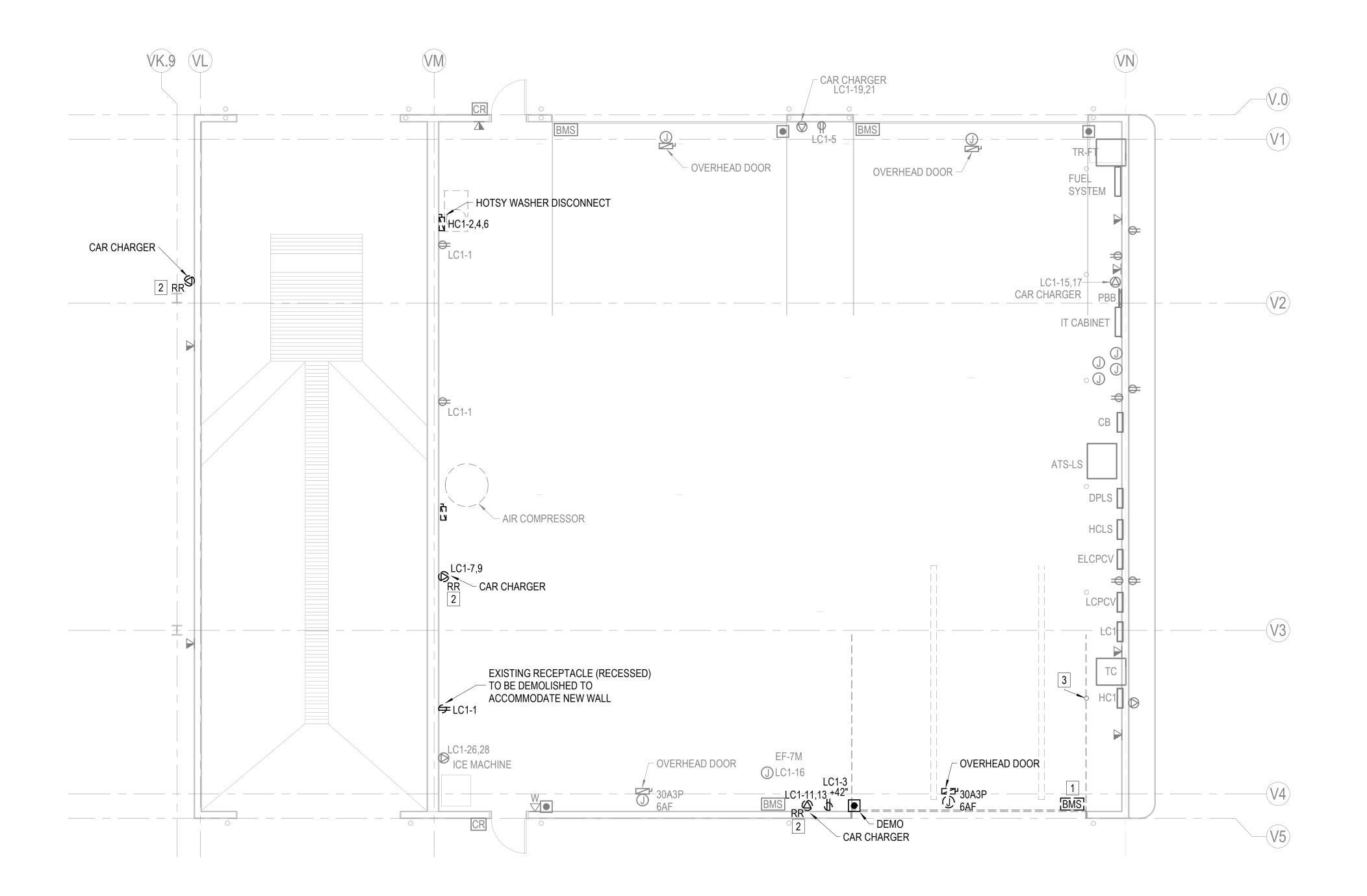
Michael Baker

INTERNATIONAL

1. SEE AE001 AND AE002 FOR NOTES AND SYMBOLS.

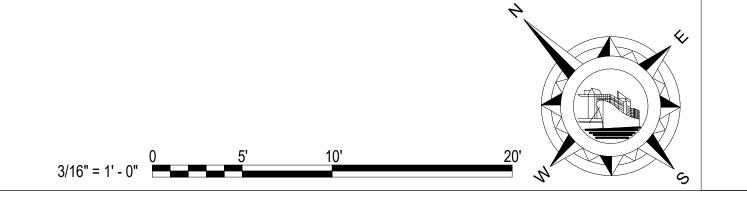
DEMOLITION - LIGHTING - 1ST FLOOR PLAN

SCALE: 3/16" = 1'-0"



DEMOLITION - POWER & SYSTEMS - 1ST FLOOR PLAN

SCALE: 3/16" = 1'-0"



GENERAL NOTES

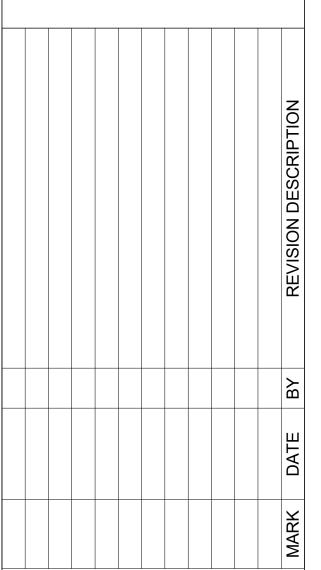
- 1. IT IS THE INTENT OF THE DEMOLITION PLANS TO INDICATE AREAS OF DEMOLITION. THE CONTRACTOR SHALL BE REQUIRED TO DEMOLISH ALL ASSOCIATED ELECTRICAL DEVICES LOCATED IN THE AFFECTED AREA(S). THE CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE DEMOLITION OF THE ELECTRICAL SYSTEM(S): BRANCH CIRCUITS, DEVICES, BOXES, RACEWAY, ETC.
- 2. THE CONTRACTOR SHALL SELECTIVELY DEMOLISH AND COMPLETELY REMOVE UNUSED PORTIONS OF ELECTRICAL CIRCUITS IMPACTED BY THIS PROJECT. THE CONTRACTOR SHALL MAINTAIN CONTINUITY OF ITEMS ENCOUNTERED OR CONCEALED WHICH PASS THROUGH THE AREA OF DEMOLITION BUT ARE REQUIRED TO REMAIN IN SERVICE.
- 3. CUT, PATCH, AND PAINT ANY DEMOLISHED EQUIPMENT RECESSED IN WALL NOT BEING DEMOLISHED AS PART OF THE PROJECT.
- 4. THE CONTRACTOR SHALL SELECTIVELY MAINTAIN EXISTING CONDUITS, RACEWAYS, AND OTHER ELECTRICAL MATERIAL WHICH CAN BE REUSED FOR THE RENOVATIONS. NO ABANDONED EQUIPMENT, SHALL REMAIN UNLESS CONCEALED IN EXISTING EQUIPMENT, WALLS, FLOORS, AND CEILINGS WHICH ARE NOT SLATED FOR DEMOLITION BY ANY OTHER TRADES.
- 5. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN PORTIONS OF EXISTING SYSTEMS WHICH ARE REQUIRED FOR CONSTRUCTION USE, SUCH AS TEMPORARY POWER AND LIGHTING SYSTEMS, BUT PROVIDE PROVISION FOR COMPLETE REMOVAL OF THE TEMPORARY SYSTEMS AT THE CONCLUSION OF THE PROJECT.
- 6. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF THE INTENDED DEMOLISHED ITEMS. THE ENGINEER HAS FIRST RIGHT OF REFUSAL FOR ALL ITEMS BEING REMOVED.
- 7. ABANDONED CONDUITS AND / OR SLEEVES SHALL NOT BE PERMITTED REGARDLESS OF THEIR LOCATION.
- 8. COORDINATE EXTENT OF SELECTIVE DEMOLITION WITH ARCHITECTURAL DRAWINGS.
- 9. EXISTING DEVICE(S) SHALL REMAIN UNLESS OTHERWISE NOTED.
- 10. WHERE EXISTING DEVICE(S) ARE TO BE DEMOLISHED, REMOVE ASSOCIATED CONDUIT AND CONDUCTORS BACK TO SOURCE. MAINTAIN CIRCUIT CONTINUITY OF EXISTING DEVICES TO REMAIN.
- 11. WHERE EXISTING DEVICE ARE TO BE RELOCATED, INTERCEPT AND EXTEND EXISTING BRANCH CIRCUIT WIRING AS REQUIRED. COORDINATE WITH NEW WORK DRAWING AE009.
- 12. SEE AE001 AND AE002 FOR NOTES AND SYMBOLS.

KEYNOTES

- 1. REMOVE AND RETURN BALANCE MAGNETIC SWITCH (BMS) AND ALL ASSOCIATED CABLING BACK TO SOURCE.
- 2. SEE SHEET AE009 FOR NEW LOCATION.
- 3. REMOVE EXISTING BOLLARD.



INTERNATIONAL





1/27/2025 DATE

Port of LONG BEACH
THE PORT OF CHOICE



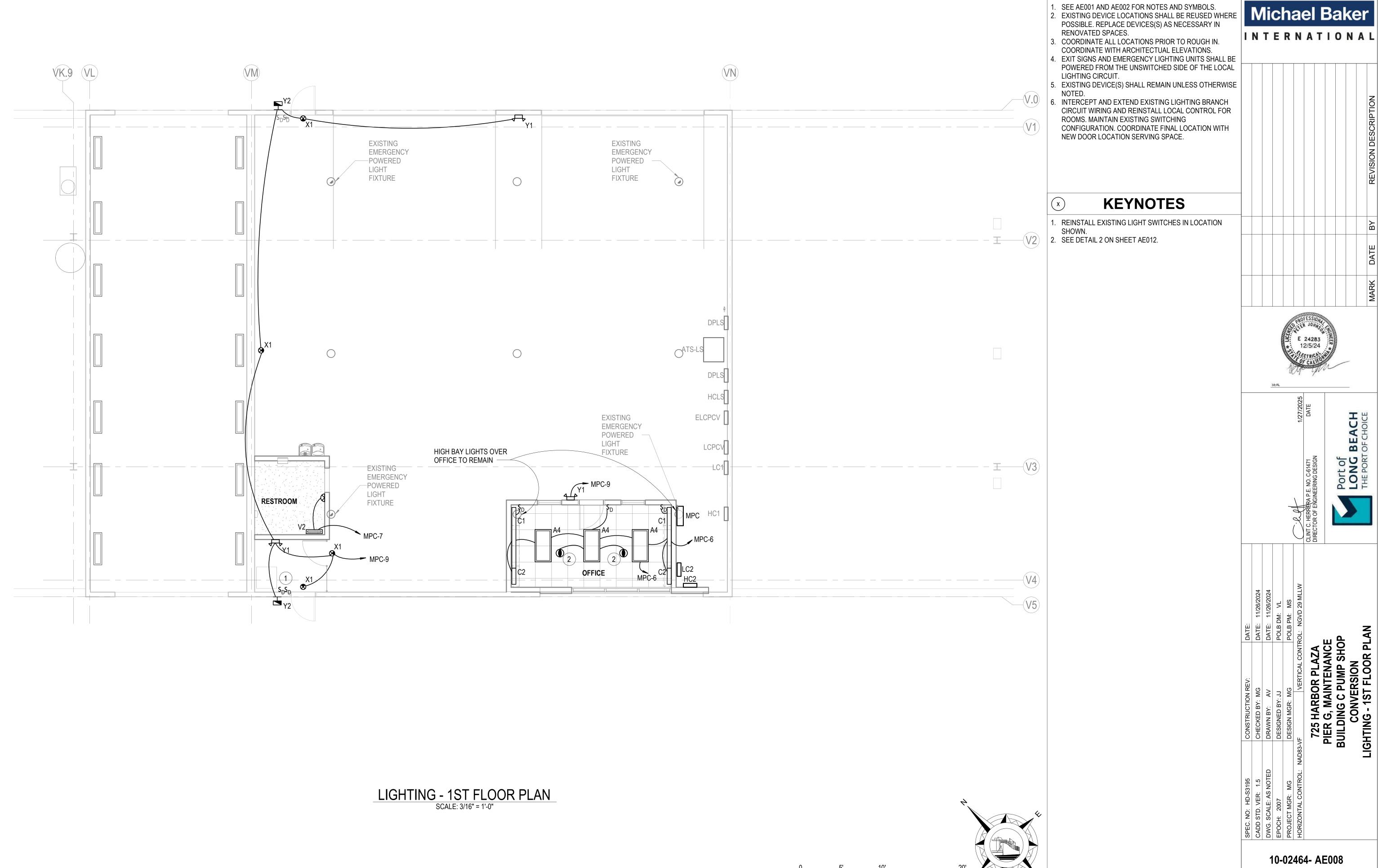
26/2024
VL
MS
29 MLLW

HARBOR PLAZA
G, MAINTENANCE
ING C PUMP SHOP

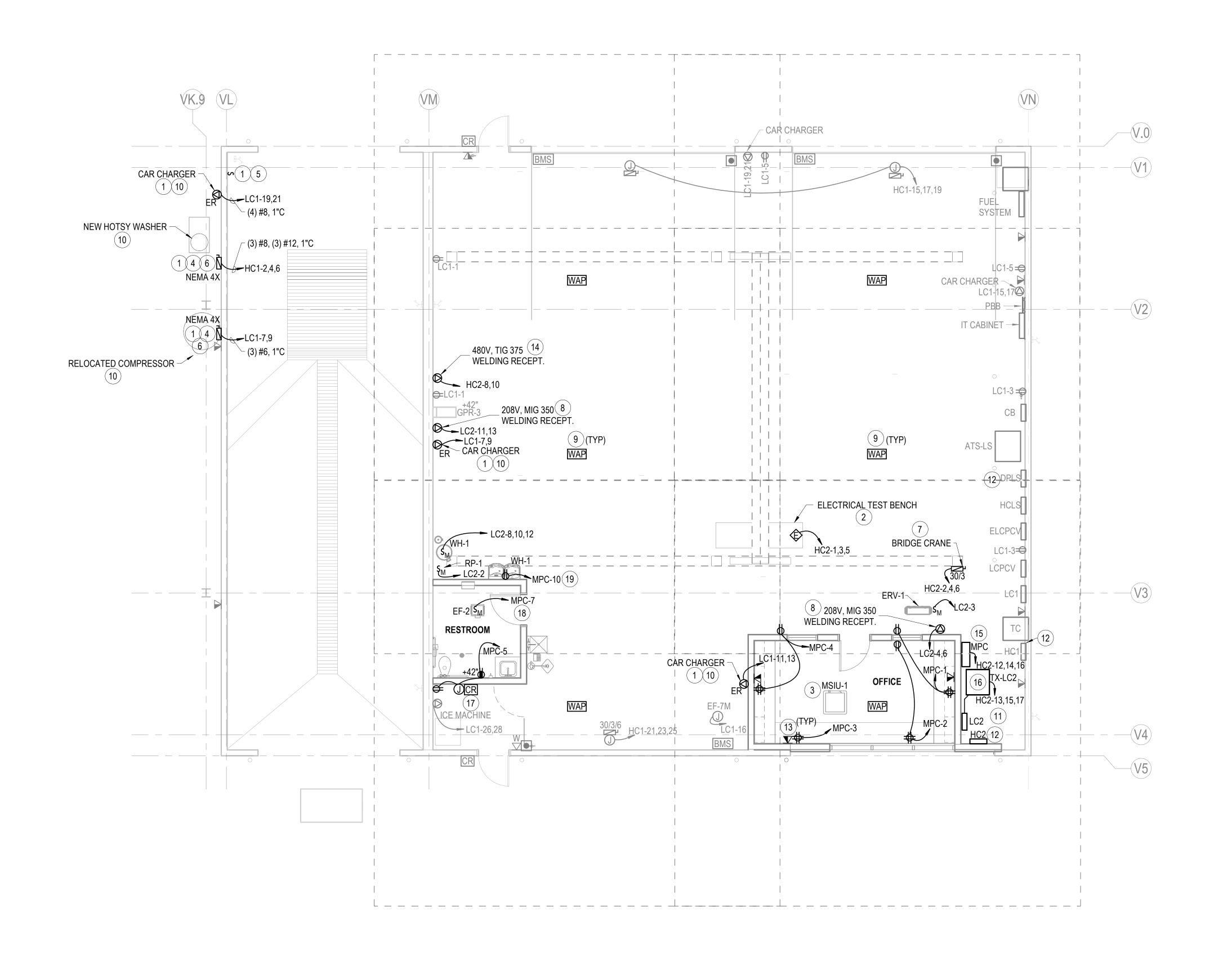
725 HARBOR PLA PIER G, MAINTENA BUILDING C PUMP

DWG. SCALE: AS NOTED
EPOCH: 2007
PROJECT MGR: MG
HORIZONTAL CONTROL: NAD8

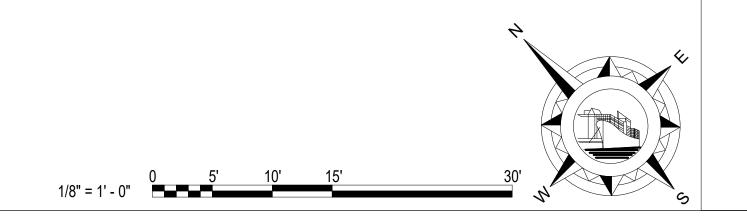
10-02464- AE007 SHEET 75 OF 86



SHEET 76 OF 86



POWER & SYSTEMS - 1ST FLOOR PLAN SCALE: 3/16" = 1'-0"



GENERAL NOTES

- 1. SEE AE001 AND AE002 FOR NOTES AND SYMBOLS. 2. SEE MECHANICAL AND PLUMBING DRAWINGS FOR EQUIPMENT DETAILS.
- 3. EXISTING DEVICE LOCATIONS SHALL BE REUSED WHERE POSSIBLE. REPLACE DEVICES(S) AS NECESSARY IN RENOVATED SPACES.
- 4. EXISTING DEVICE(S) SHALL REMAIN UNLESS OTHERWISE
- 5. INTERCEPT, EXTEND, AND RELOCATE ANY BRANCH CIRCUIT WIRING AND CONDUIT CONFLICTING WITH NEW CONSTRUCTION. COORDINATE WITH DEMOLITION DRAWINGS. PROVIDE NEW COVERPLATES AND DEVICES TO MATCH FINISHING. COORDINATE WITH OWNER'S REPRESENTATIVE.

KEYNOTES

- . CONTRACTOR TO FIELD VERIFY SOURCE PANEL AND CIRCUITS. EXTEND EXISTING CONDUIT TO RELOCATED LOCATION. INSTALL JUNCTION BOX AND SPLICE EXISTING CONDUCTORS TO NEW, IN KIND, CONDUCTORS. ELECTRICAL CONTRACTOR TO VERIFY CODE COMPLIANCE. NO WORK IS ANTICIPATED TO BE DONE INSIDE THE EXISTING PANEL.
- ELECTRICAL TEST BENCH IS TO BE CFCI. CONTRACTOR TO COORDINATE EQUIPMENT REQUIREMENTS WITH POLB PRIOR TO BIDS AND PURCHASE. COORDINATE POWER AND TERMINATION REQUIREMENTS FOR EQUIPMENT PRIOR TO ROUGH IN. ELECTRICAL CONTRACTOR TO VERIFY CODE COMPLIANCE. INDOOR UNIT TO BE POWERED BY OUTDOOR UNIT.
- 4. SIZE NEW HOTSY WASHER AND AIR COMPRESSOR DISCONNECTS AND FUSING SAME AS EXISTING. ENCLOSURE TO BE NEMA 4X. CONNECTION TO BE REPLACED IN KIND.
- 5. RELOCATE AND RECONNECT EXISTING HOTSY WASHER CONTROLLER TO HOTSY WASHER PER MANUFACTURER RECOMMENDATIONS. (3) #12 CONDUCTORS IN 1" CONDUIT ARE EXISTING. COORDINATE LOCATION WITH PORT BEFORE FINAL INSTALL.
- 6. CONDUIT TO THE RELOCATED HOTSY AND AIR COMPRESSOR TO BE RUN IN GRC IN WASH AREA. INSTALL TIGHT TO STRUCTURE
- 7. COORDINATE DISCONNECT LOCATION AND SIZE WITH CRANE MANUFACTURER PRIOR TO ROUGH IN.
- 8. PROVIDE 208V, 2 POLE, 2 WIRE, RECEPTACLE SAME AS CURRENTLY EXISTS FOR MIG 350 WELDER. VERIFY RECEPTACLE TYPE AND EQUIPMENT WIRING WITH PORT PRIOR TO INSTALL.
- 9. COORDINATE EXACT LOCATION FOR WIRELESS ACCESS POINT (WAP) WITH CONTRACTOR PRIOR TO INSTALL.
- 10. SEE SHEET AE007 FOR EXISTING LOCATION. 11. PRIOR TO FINAL INSTALL, VERIFY WORKING SPACE MEETS NEC REQUIREMENTS.
- 12. TO COMPLY WITH NEC 225.30(F), PROVIDE PLACARD ON EXTERIOR OF PANEL STATING, "THIS PANEL HOUSES 1 OF 3 FEEDS POWERING THIS FACILTIY."
- 13. SEE DETAILS 1-4 ON SHEET AE014 AND DETAILS 1-5 ON SHEET AE015.
- 14. PROVIDE 480V, 2 POLE, 2 WIRE, RECEPTACLE SAME AS CURRENTLY EXISTS FOR TIG 375 WELDER. VERIFY RECEPTACLE TYPE AND EQUIPMENT WIRING WITH PORT PRIOR TO INSTALL
- PROVIDE A MPC, SEE SHEET AE018 FOR MPC DETAILS. 16. PROVIDE CONCRETE HOUSE KEEPING PAD. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- 17. PROVIDE NEW CARD READER AT LOCATION SHOWN CONNECT NEW CARD READER INTO EXISTING ACCESS CONTROL SYSTEM. CONTRACTOR TO VERIFY PATHWAY AND CONNECTION BACK TO THE EXISTING ACCESS CONTROL SYSTEM.
- 18. CONNECT EXHAUST FAN TO LIGHTING CIRCUIT IN SPACE CONTROLLED BY OCCUPANCY SENSOR.
- 19. COORDINATE RECEPTACLE LOCATION WITH DRINKING FOUNTAIN. POWER FROM GFCI CIRCUIT BREAKER.

LEGEND

WAP COVERAGE AREA, 20' X 20'



INTERNATIONAL

						REVISION DESCRIPTION
						В
						MARK DATE
						MARK

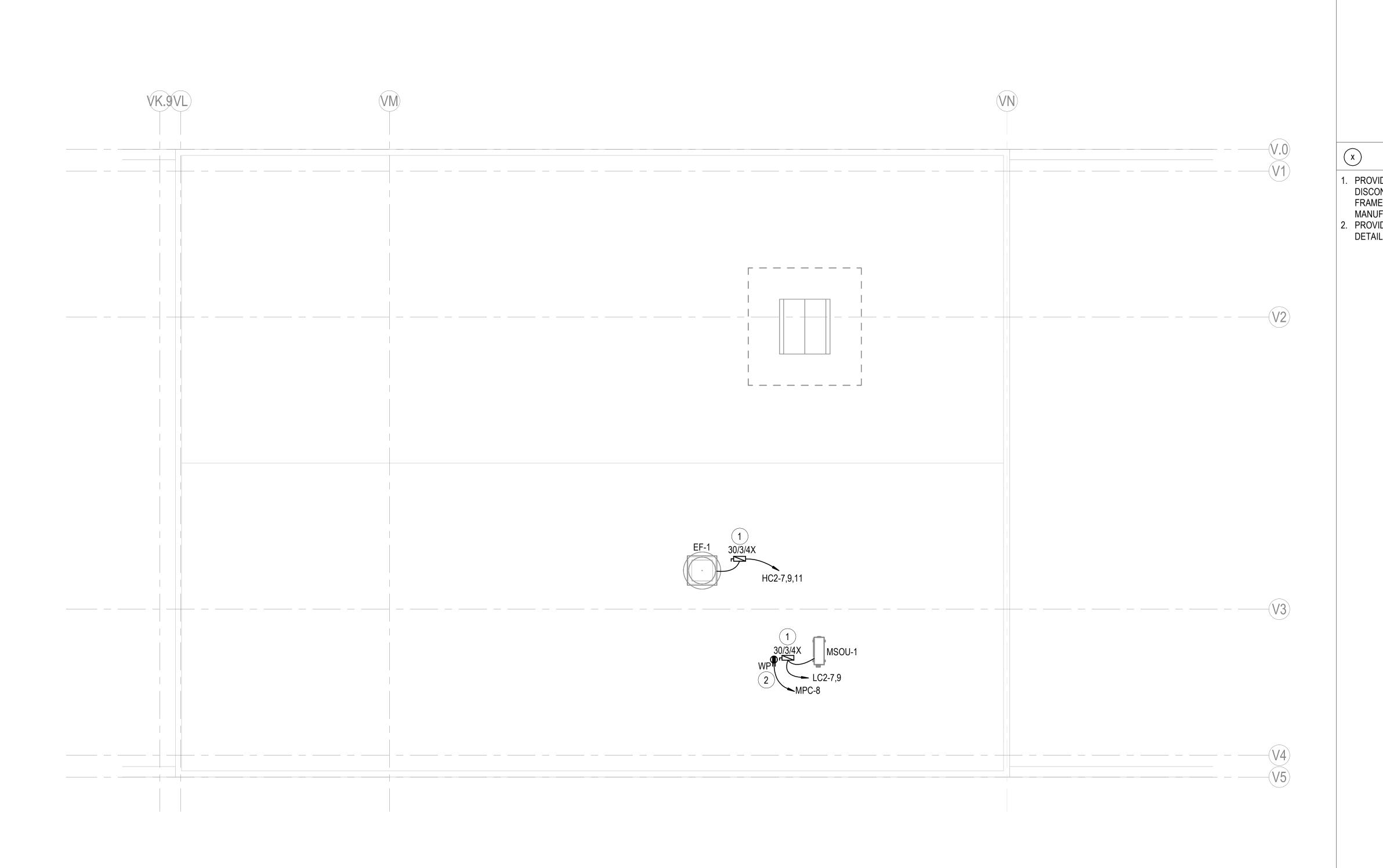


BEACHTOF CHOICE Port of LONG I



10-02464- AE009

SHEET 77 OF 86



GENERAL	NOTE
AFOOA AND AFOOO FOD NO	TEC AND OVA

1. SEE AE001 AND AE002 FOR NOTES AND SYMBOLS.



	× KEYNOTES						
1	I. PROVIDE ROOF PENETRATION VIA A CONDUIT BOOT. DISCONNECT SHALL BE MOUNTED ON UNI-STRUT H-						2
2	FRAME STRUCTURE. FUSING TO BE SIZED PER MANUFACTURER RECOMMENDATION. 2. PROVIDE ROOF RECEPTACLE IN NEMA 4X HOUSING PER DETAIL 1 AND 2 ON SHEET AE013.						LI F C



1/27/2025 DATE

Port of LONG BE

DATE: 11/26/2024

DATE: 11/26/2024

DATE: 11/26/2024

POLB DM: VL

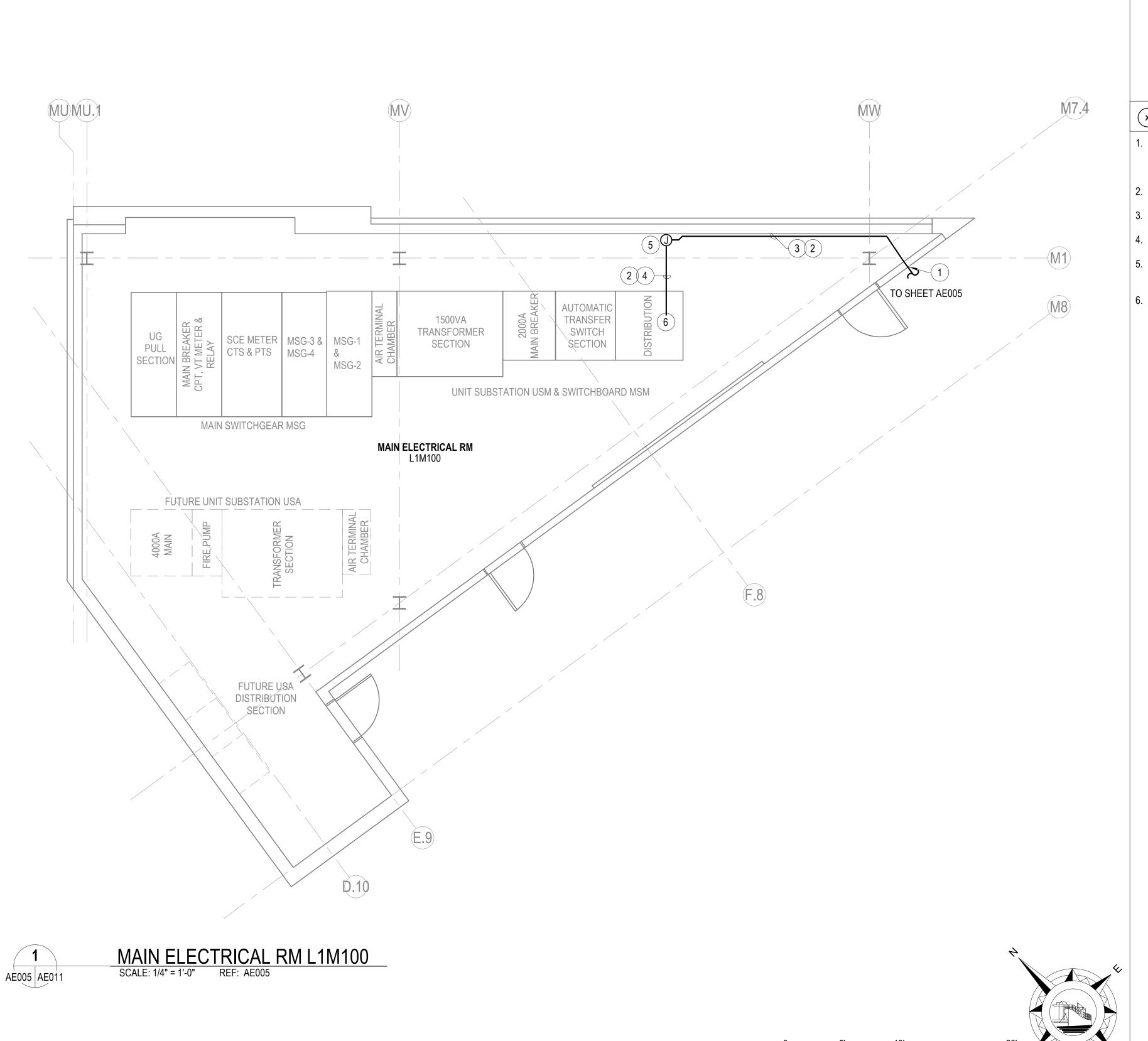
POLB PM: MS

725 HARBOR PLAZA
PIER G, MAINTENANCE
SUILDING C PUMP SHOP
CONVERSION

OD STD. VER: 1.5 CH
S. SCALE: AS NOTED DR
ICH: 2007 DE
JUECT MGR: MG DE
RIZONTAL CONTROL: NAD83-VF

10-02464- AE010SHEET 78 OF 86

ROOF PLAN
SCALE: 3/16" = 1'-0"



1. SEE AE001 AND AE002 FOR NOTES AND SYMBOLS.



KEYNOTES X

- 1. SCAN EXISTING WALL AND PENETRATE TO AVOID REBAR. PROVIDE RMC TYPE CONDUIT FOR ALL RISERS AND RIGID GALVANIZED LB'S. SEE DETAIL 3 ON SHEET AE012 AND DETAIL 3 ON SHEET AE013.
- 2. PROVIDE RMC TYPE CONDUIT IN ALL INTERIOR LOCATIONS. SEE SHEET AE018 FOR SIZING. 3. CONDUIT TO BE RUN ALONG WALL INTERIOR TO THE
- ELECTRICAL ROOM. 4. CONDUIT TO RUN FROM SWITCHBOARD MSM OVER
- HEAD TO WALL. 5. PROVIDE JUNCTION BOX A MINIMUM OF 15' AFF. JUNCTION BOX TO BE USED DURING FUTURE
- DISTRIBUTION PANEL INSTALL. 6. PROVIDE NEW CIRCUIT BREAKER IN EMPTY SPACE ON SWITCHBOARD MSM. BREAKER SHALL BE SAME MANUFACTURER AS SWITCHBOARD MANUFACTURER. SEE SHEET AE018 FOR CIRCUIT BREAKER SIZING.



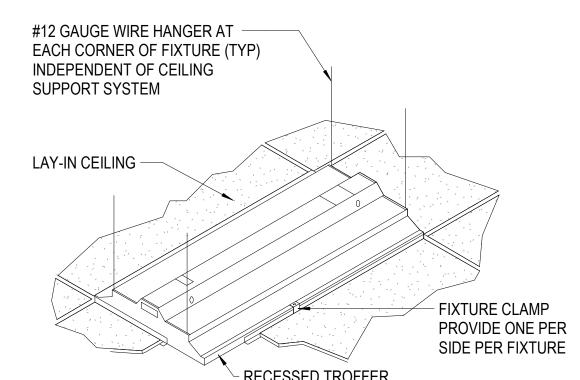


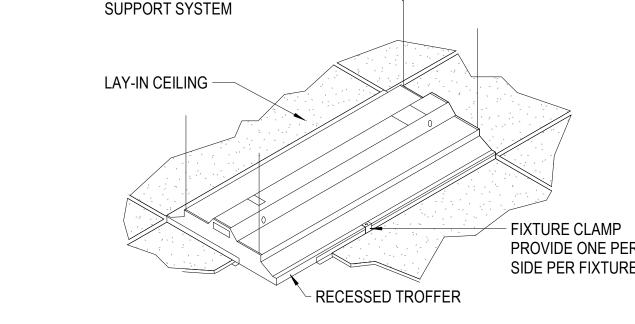
Port of LONG BEACH THE PORT OF CHOICE

CONVERSION ELECTRICAL ENLARGED PLAN

10-02464- AE011

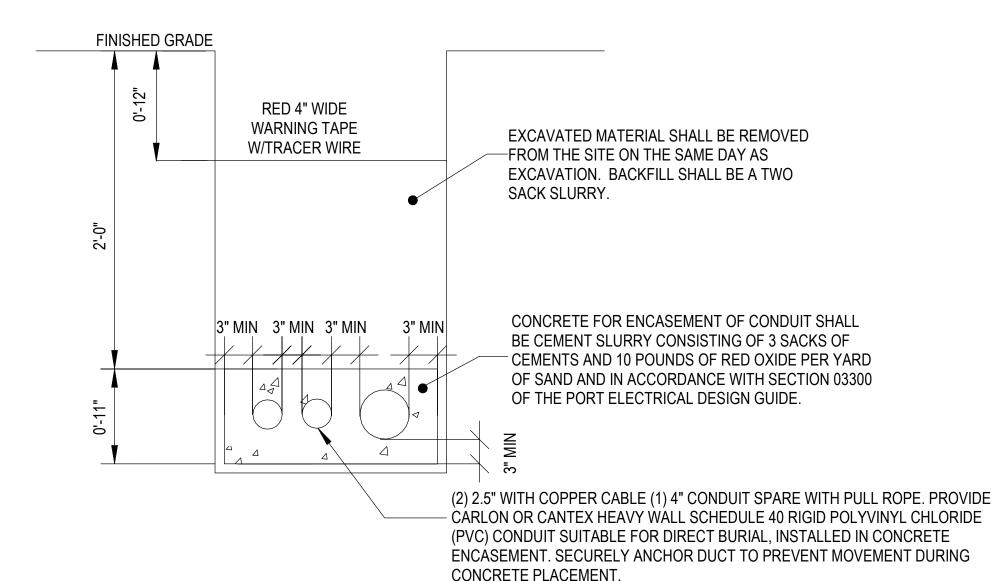
SHEET 79 OF 86





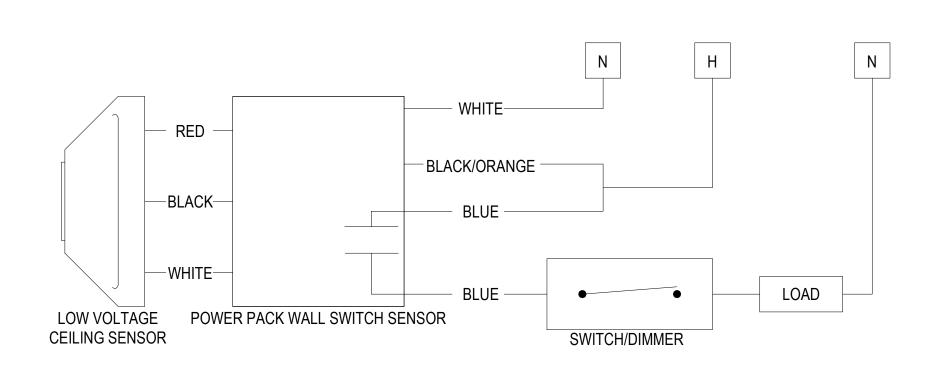
6 AEQ08 | AE012

RECESSED FIXTURE MOUNTING DETAIL SCALE:NTS



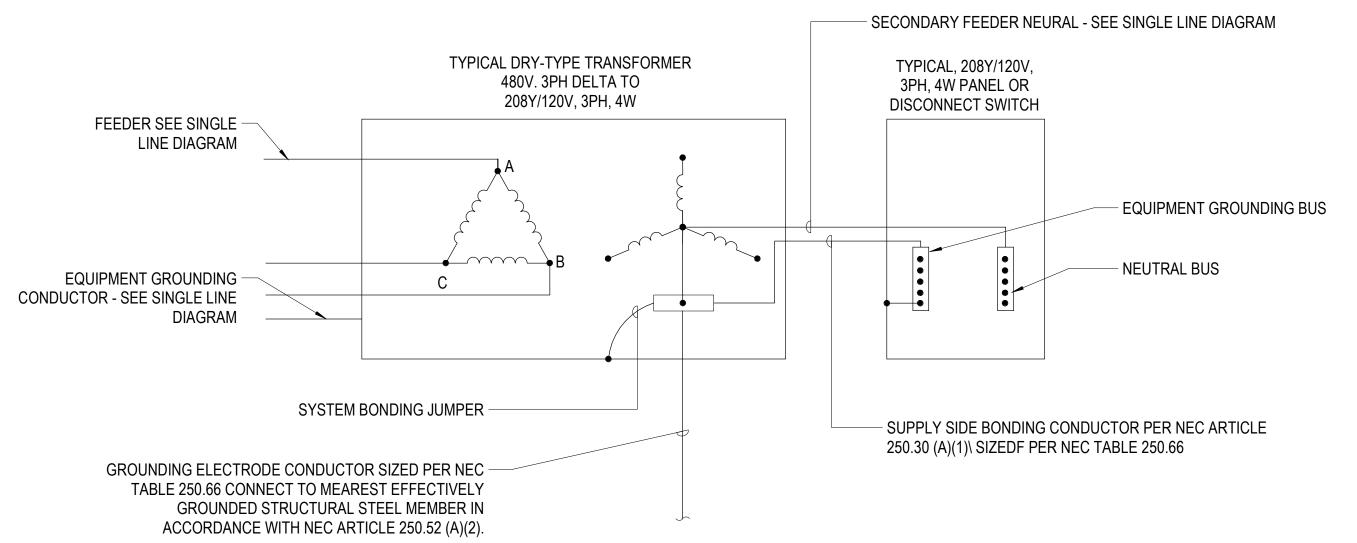


600V LOW VOLTAGE - 3 CONDUIT CONCRETE ENCASED DUCT BANK

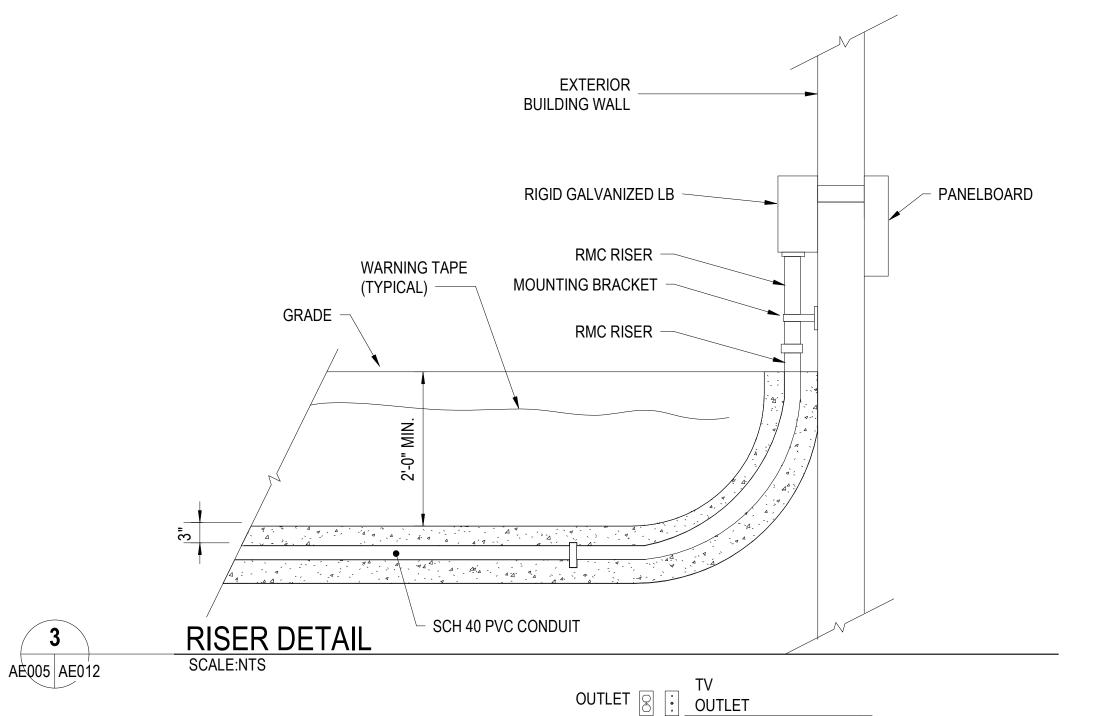


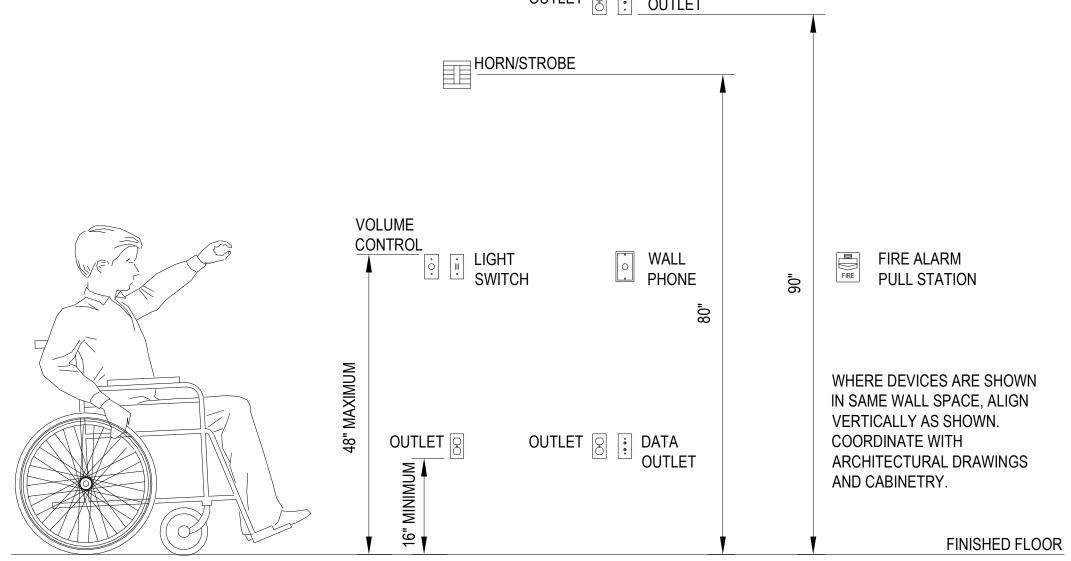


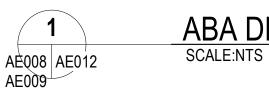
LOW VOLTAGE CEILING SENSOR SCALE:NTS



TYPICAL TRANSFORMER GROUNDING DIAGRAM SCALE:NTS AE009 AE012

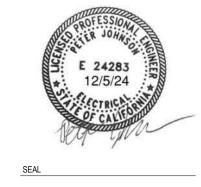






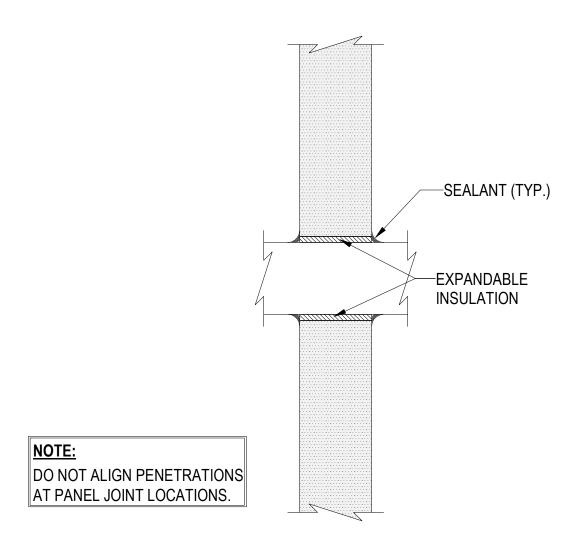
ABA DEVICE MOUNTING HEIGHT DETAIL

Michael Baker INTERNATIONAL



Port of LONG I

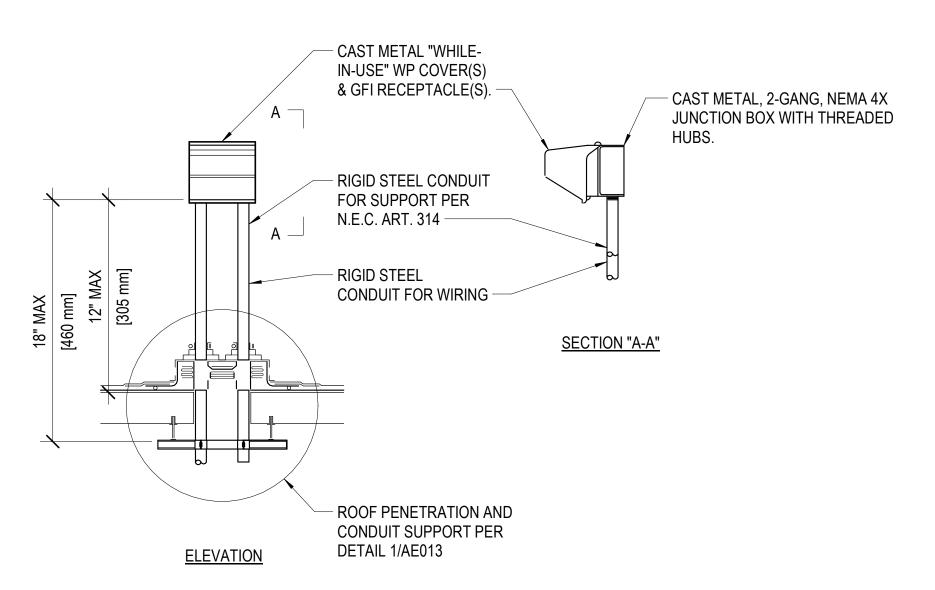
10-02464- AE012 SHEET 80 OF 86



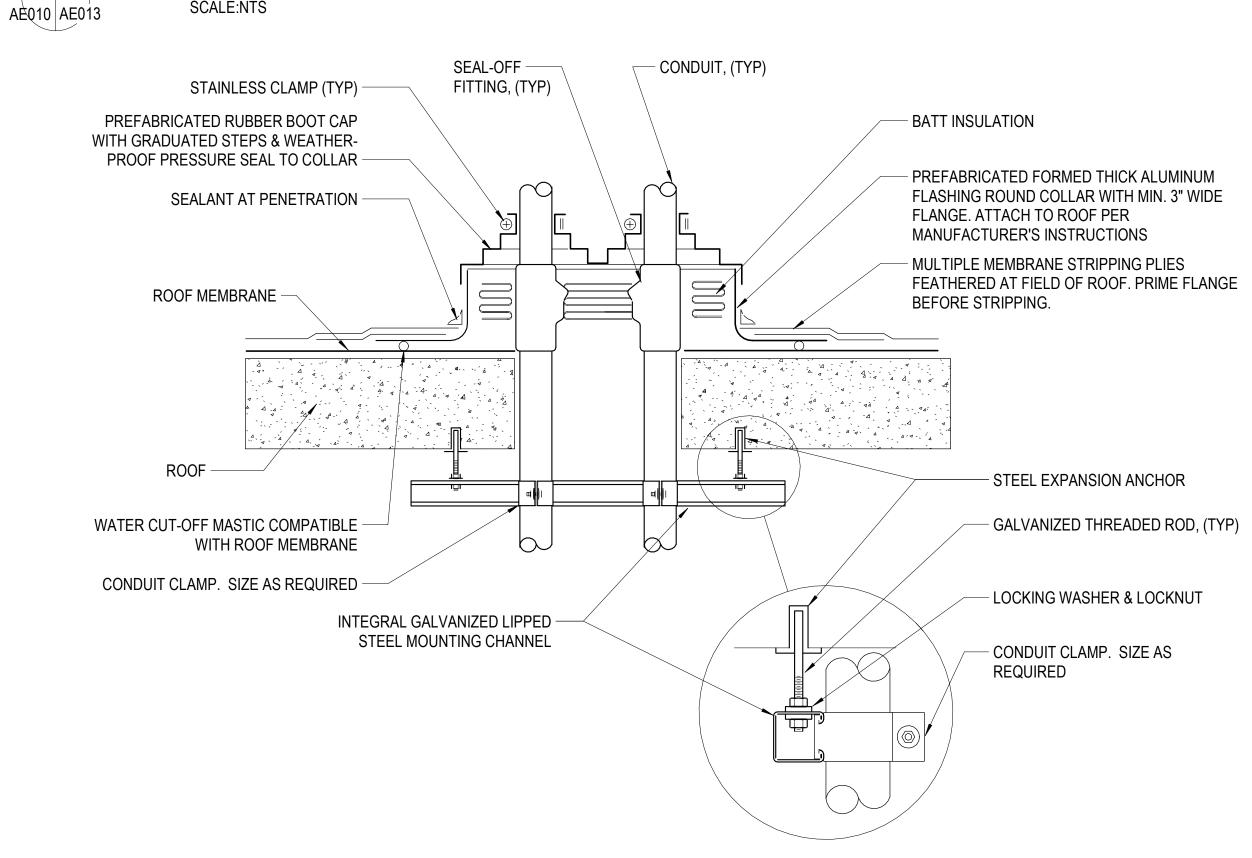
AE005 AE013

WALL PENETRATION DETAIL

SCALE:NTS



RECEPTACLE ROOF MOUNTING DETAIL SCALE:NTS



GENERAL NOTES:

- 1. MAINTAIN A MINIMUM CLEARANCE OF 12" ON ALL SIDES OF ROOF PENETRATION FROM WALLS, CURBS, AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING.
- 2. FLANGES OF ADJACENT FLASHINGS SHALL NOT BE CUT OR OVERLAPPED.
- 3. VERIFY ROOF & STRUCTURAL SYSTEM WITH ARCHITECT.
- 4. COORDINATE FLASHING INSTALLATION WITH OWNER TO ENSURE PROPER METHODS & MATERIALS ARE USED TO MAINTAIN ROOF WARRANTY.



ROOF PENETRATION DETAIL SCALE:NTS

Michael Baker INTERNATIONAL

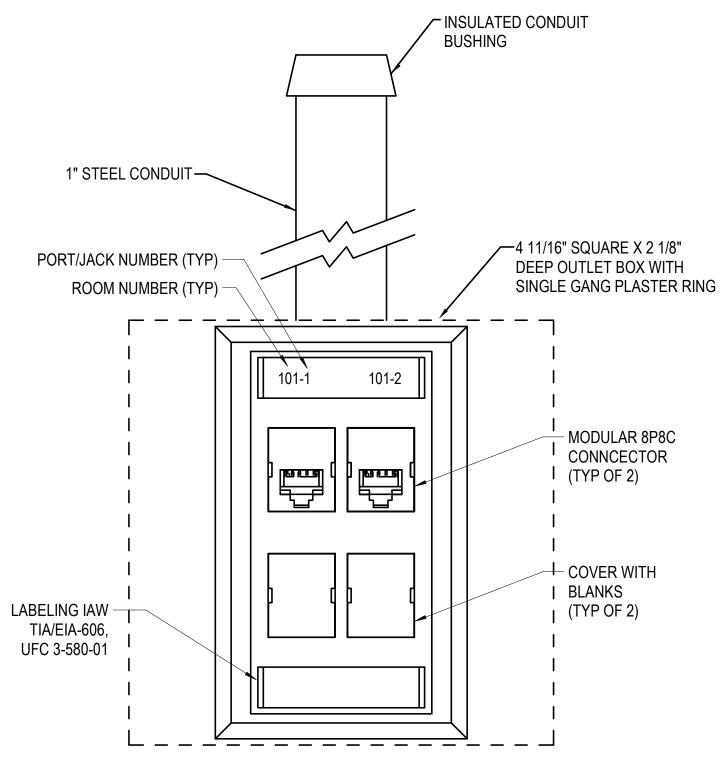
 	-						
						REVISION DESCRIPTION	
						ВУ	
						MARK DATE	
						MARK	

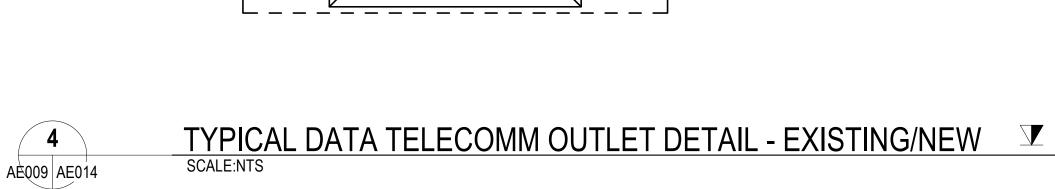


Port of LONG BEACH THE PORT OF CHOICE

10-02464- AE013

SHEET 81 OF 86





NOTES:

1. GROUND BUSBAR IS PRE-DRILLED COPPER
WITH STANDARD NEMA BOLT HOLE SIZING AND

3. LENGTH SIZED TO ACCOMMODATE GROUND

HOLES -(TYP.)

CONNECTIONS OF ALL TELECOM RACKS, EQUIPMENT, AND SHIELDED CABLES, PLUS 30%

2. PBB IS 1/4" THICK AND 4" WIDE. SEE

SPECIFICATION 27 10 00.

GROWTH PROVISIONS.



LABELING IAW

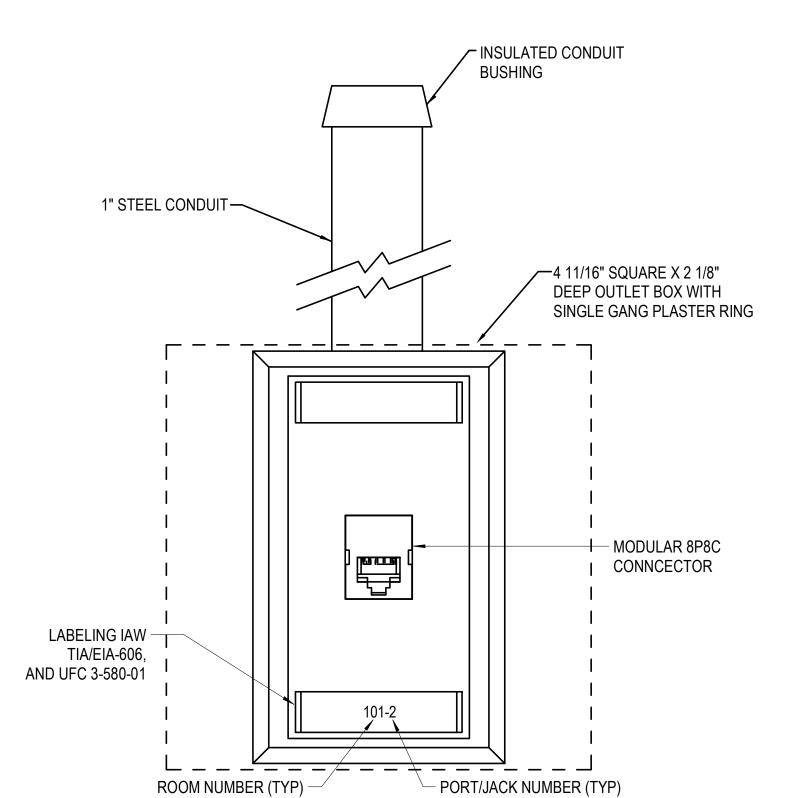
MODULAR 8P8C -CONNECTOR (TYPICAL OF 2)

TIA/EIA-606, UFC 3-580-01

> TYPICAL WIRELESS ACCESS POINT DETAIL SCALE: 1" = 1'-0"

A-4

WAP





PBB DETAIL - EXISTING SCALE:NTS



TYPICAL WALL PHONE OUTLET DETAIL - EXISTING SCALE:NTS



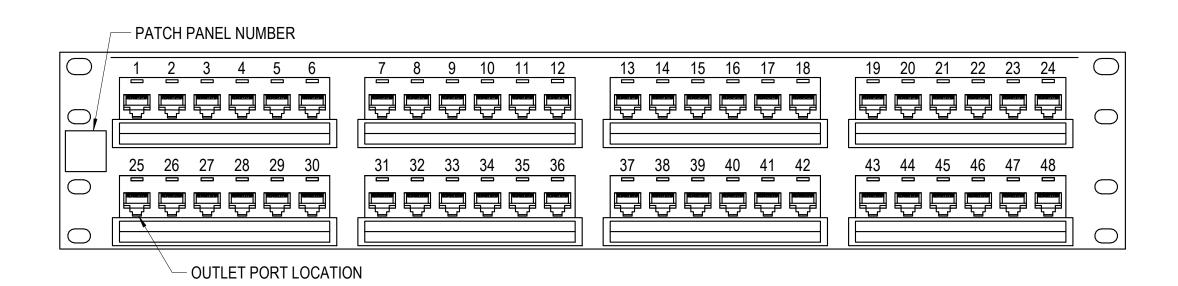
SHEET 82 OF 86

Port of LONG BEACH THE PORT OF CHOICE

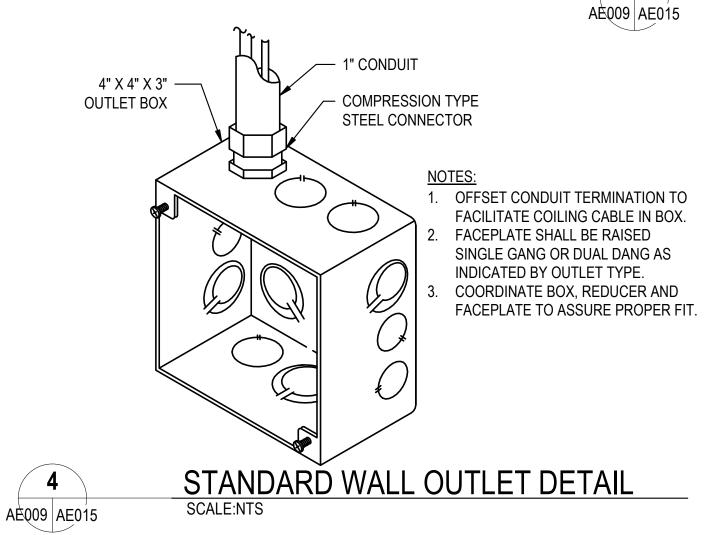
Michael Baker

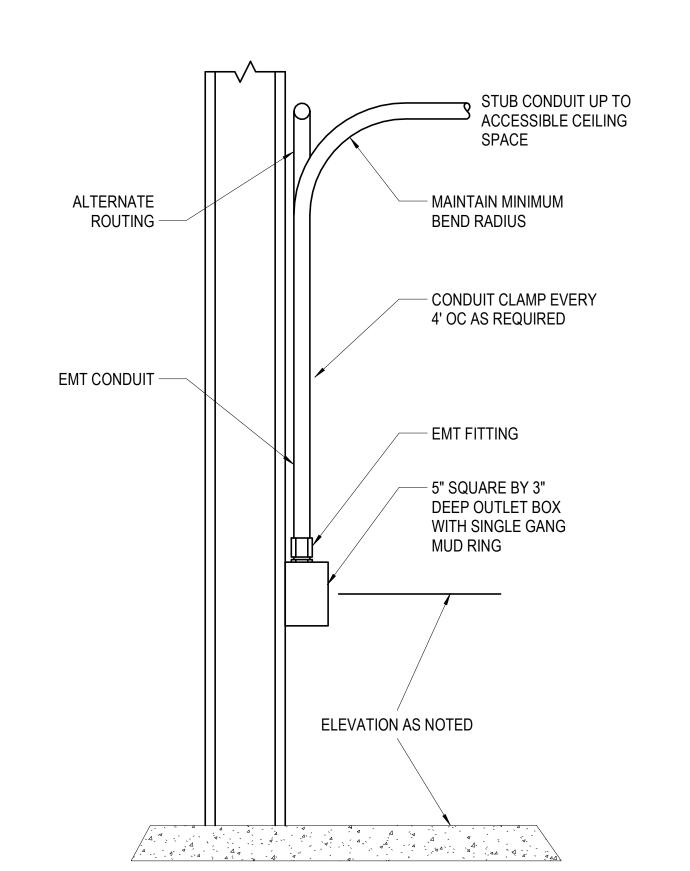
INTERNATIONAL

10-02464- AE014



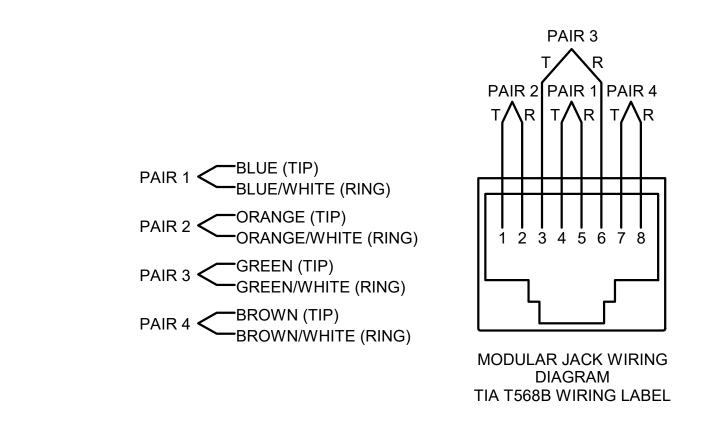
TYPICAL PATCH PANEL LABELING DETAIL
SCALE:NTS

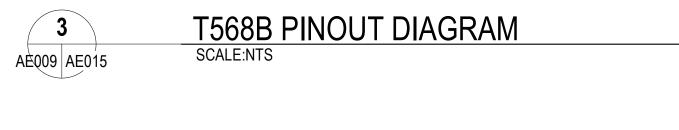


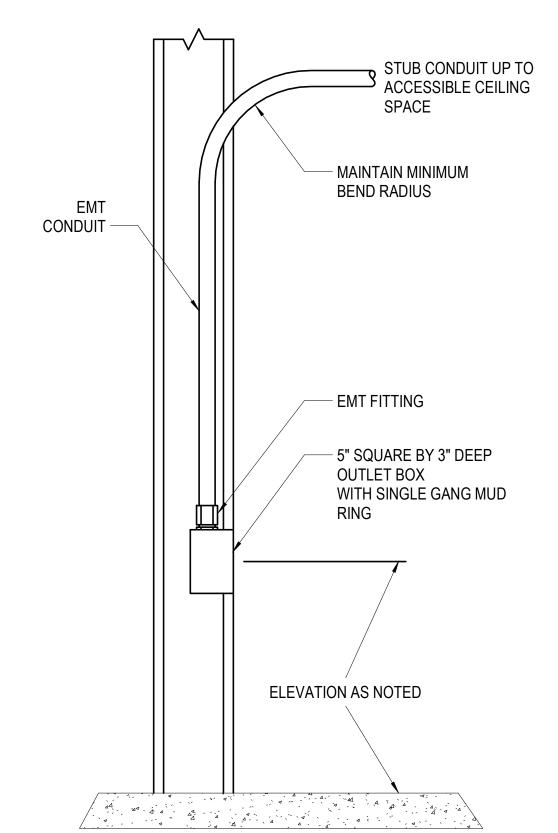




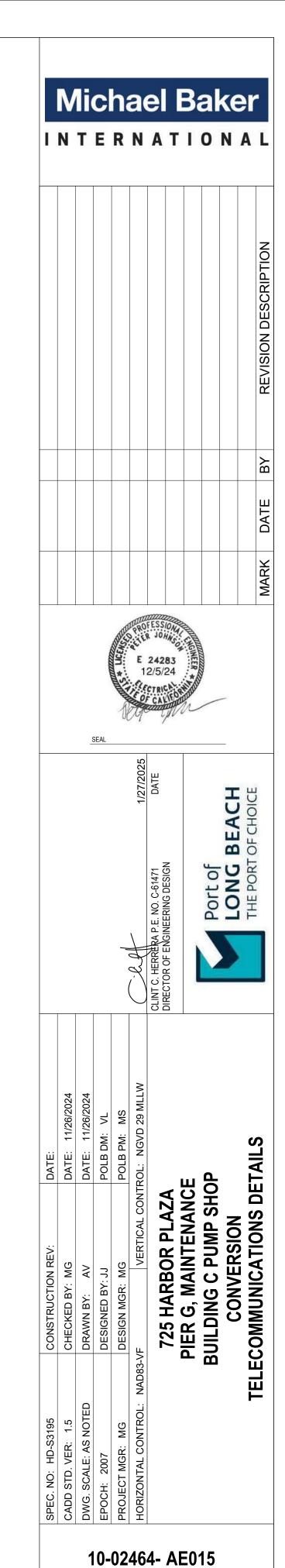
SURFACE MOUNTED OUTLET BOX
SCALE:NTS



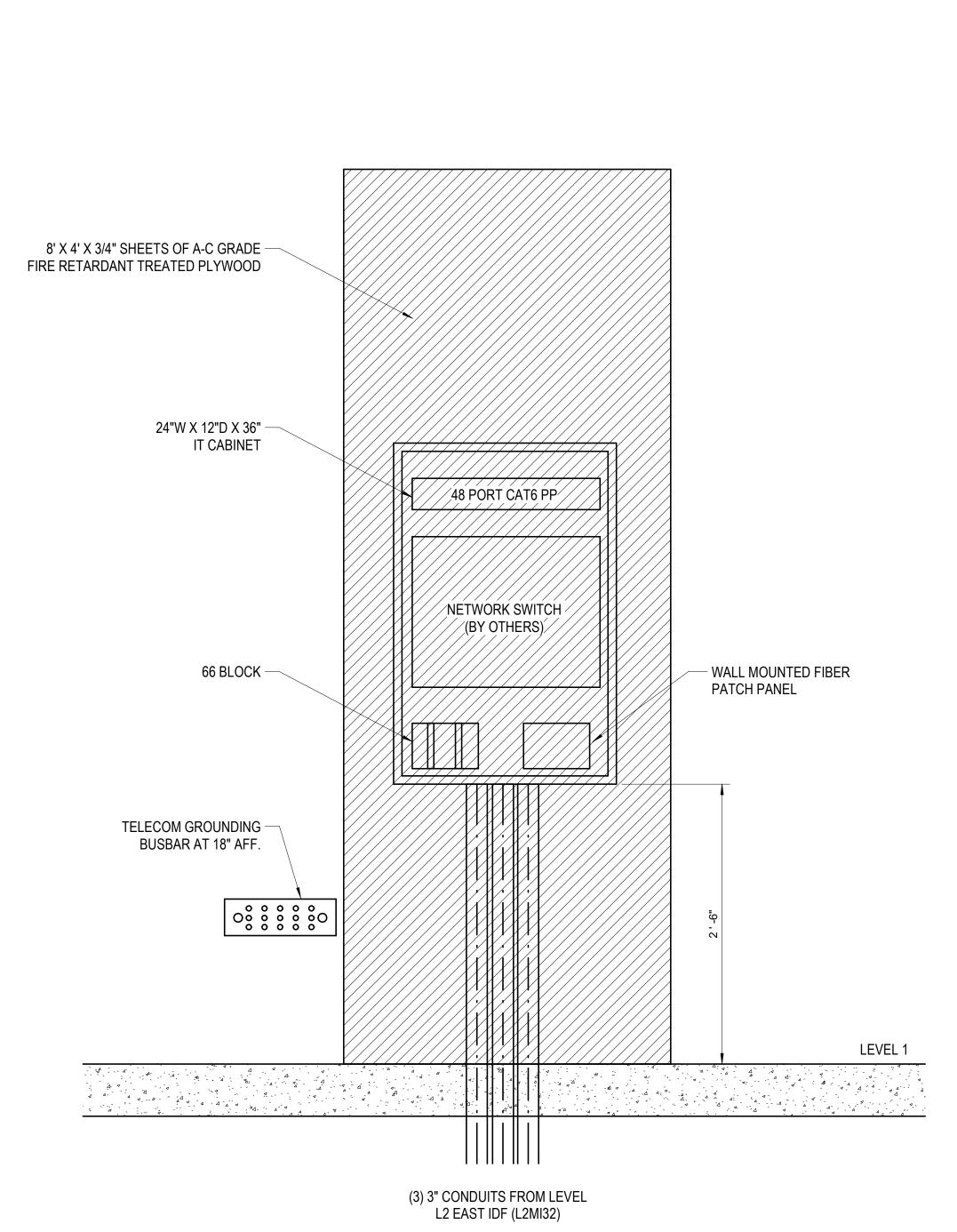






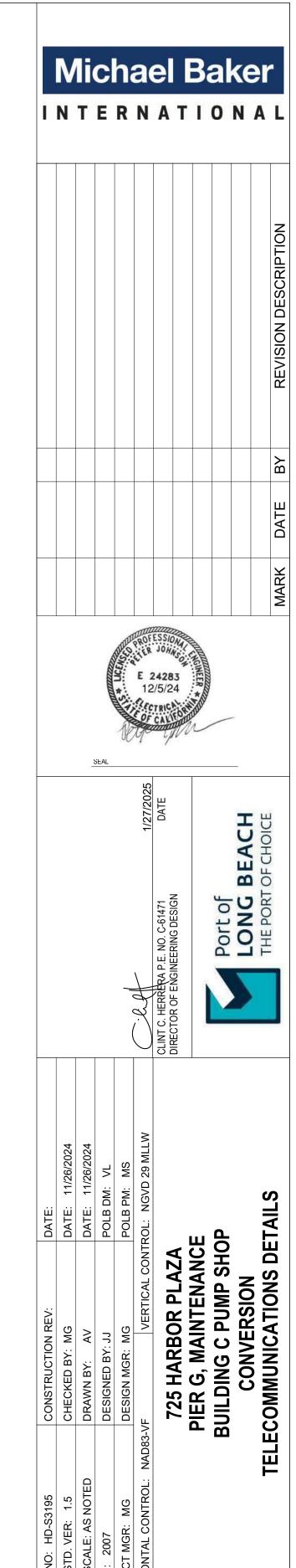


SHEET 83 OF 86



IT CABINET ELEVATION - EXISTING

SCALE:NTS



10-02464- AE016

SHEET 84 OF 86

FED FROM: TX-MPC LOCATION: RESTROOM MOUNT: SURFACE			N	ΕV	/ P	AN	EL	M	PC				50 A N	IAIN CIRCUIT BRE 3PH 4WIRE 208\ 10I GROUN	//120V (AIC
CKT LOAD SERVED	WIRE	BRKR	PL	PHA	SE A	PHA	SE B	PHA	SE C	PL	BRKR	WIRE	LOAD S	SERVED	CKT
1 OFFICE RECEPT - NORTH, EAST	#12	20	1	0.5	0.7					1	20	#12	OFFICE RECEPT -	NORTH, SOUTH	2
3 OFFICE RECEPT - SOUTH	#12	20	1			0.4	0.5			1	20		OFFICE RECEPT -		4
5 ENTRY/RESTROOM RECEPT	#10	20	1					0.4	0.1	1	20		OFFICE LIGHTING		6
7 RESTROOM LIGHTING AND FAN	#10	20	1	0.1	0.2					1	20	#10	ROOF RECEPT		8
9 EMERGENCY & EXIT LIGHTING	#8	20	1			0.0	0.6			1	20	#10	DRINKING FOUNT	AIN (GFCI)	10
11 SPARE		20	1					0.0	0.0	1	20		SPARE		12
13 SPARE		20	1	0.0	0.0					1	20		SPARE		14
15 SPARE		20	1			0.0	0.0			1	20		SPARE		16
17 SPARE		20	1					0.0	0.0	1	20		SPARE		18
		TC	TAL	1	.5	1	.5	0.	.5	KVA	1				
				13	3.7	14	l.0	4.	.3	AMI	PS				
	CONNEC	TED LO	OAD	3	.5	KVA		9.	.8	AMI	PS				
NEC ARTICLE 220	DEM	AND L	OAD		.6	KVA			.9	AMI	PŠ				
Load Classification	Coi	nnecte	d Loa	ad	Dema	and Fa	ctor	Esti	matec	l Den	nand		Panel T	Totals	
Lighting		143 V	/A		1:	25.00%	6		178	VA					
Motor		35 V	Α		1:	25.00%	6		44	VA			Total Conn. Load:	3538 VA	
Receptacle		3360 \	VA		1	00.00%	6		3360) VA			Total Est. Demand:	3582 VA	
													Total Conn.:	10 A	
													Total Est. Demand:	10 A	

LOC	FROM: ATION: MAIN ELECTRICAL RM L1I JNT: PAD	M100			(E) P	ΑN	IEL	. M \$	SM				2000 A		CUIT BREAKER VIRE 480Y/277V 65K AIC GROUND BAR
CKT	LOAD SERVED	WIRI	BRKR	PL	PHA	SE A	PHA	SE B	PHA.	SE C	PL	BRKR	WIRE	LOAD	SERVED	CKT
1	HC2	1L	400	3	61.2	16.8					3	800		DBSH		2
3	-						60.4	16.8								4
5									61.1	16.8						6
7	TVSS		100	3	16.8	16.8					3	800		DBMH		8
9							16.8	16.8								10
11									16.8	16.8						12
13	CHILLER CH-1		350	3	16.8	16.8					3	350		XFMR TM		14
15							16.8	16.8								16
17									16.8	16.8						18
19	SPARE		20	1	0.0	16.8					3	800		PV SYSTEM		20
21	SPARE		20	1			0.0	16.8								22
23	SPARE		20	1												24
			TC	TAL		2.0		1.2	16		KV/					
		001115	TED I	~ ^ 		5.4		1.9	584		AMI		(1)			
NEC	ARTICLE 220	CONNE(DEN	JIED L MAND L		58	5.1 1.6	KVA KVA		583 699	3.5 9.5	AMI AMI					
Load	l Classification	С	onnecte	d Lo	ad	Dem	and Fa	actor	Esti	mated	l Den	mand		Panel	Totals	
	oment		90800				00.00%			9080						
	ing Load		302400				25.00%			37800		١		Total Conn. Load:		
HVA			5240				00.00%			5240				Total Est. Demand:		
Light			143 \				25.00%			178				Total Conn.:		
Moto			83188				24.98%			10397		١		Total Est. Demand:	699 A	
Rece	eptacle		3360	VA		1	00.00%	6		3360	VA					

FED FROM: TX-LC2 LOCATION: RESTROOM MOUNT: SURFACE			N	ΕV	/ P	AN	EL	LC	22				250 A	MAIN CIRCUIT 3PH 4WIRE GRO	
CKT LOAD SERVED	WIRE	BRKR	PL	PHA	SE A	PHA	SE B	PHA	SE C	PL	BRKR	WIRE	LOAD	SERVED	CKT
1 SPARE		20	1	0.0	0.1					1	20	#10	RP-1		2
3 ERV-1	#12	20	1	0.0		0.2	13.7			2	150		WELDER RECEP	Γ 1 MIG 350	4
5 SPARE		20	1					0.0	13.7				-		6
7 MSOU-1 / MSIU-1	#12	15	2	1.3	1.3					3	20	#10	EWH-1		8
9						1.3	1.3								10
11 WELDER RECEPT 2 MIG 350	1L	150	2					13.7	1.3						12
13				13.7	0.0					1	20		SPARE		14
15 SPARE		20	1			0.0	0.0			1	20		SPARE		16
17 SPARE		20	1					0.0	0.0	1	20		SPARE		18
19 SPARE		20	1	0.0	0.0					1	20		SPARE		20
21 SPARE		20	1			0.0	0.0			1	20		SPARE		22
23 SPARE		20	1					0.0	0.0	1	20		SPARE		24
25 SPARE		20	1	0.0	0.0					1	20		SPARE		26
27 SPARE		20	1			0.0	0.0			1	20		SPARE		28
29 SPARE		20	1					0.0	0.0	1	20		SPARE		30
31 SPARE		20	1	0.0	0.0					1	20		SPARE		32
33 SPARE		20	1			0.0	0.0			1	20		SPARE		34
35 SPARE		20	1			-		0.0	0.0	1	20		SPARE		36
37 SPARE		20	1	0.0	0.0					1	20		SPARE		38
39 SPARE		20	1			0.0	0.0			1	20		SPARE		40
41 SPARE		20	1				0.0	0.0	0.0	1	20		SPARE		42
11 01744			TAL	16	5.3	16	5.5	28		KVA			017412		12
		. •	.,	13			7.6	23		AMI					
	CONNEC	ΓED Ι (חמר		1.6	KVA			0.9	AMI					
NEC ARTICLE 220		ND L				KVA				AMI					
Load Classification		nected				and Fa	ctor	-	mated				Panel	Totals	
Equipment		54800	VA		1	00.00%	6		5480	0 VA					
HVAC		2705 \	/A		1	00.00%	6		2705	VA			Total Conn. Load:	61555 VA	
Motor		4050 \	/A		1	24.69%	6		5050) VA			Total Est. Demand:	62555 VA	
													Total Conn.:	171 A	
													Total Est. Demand:	174 A	

	FROM: MSM ATION: RESTROOM NT: SURFACE			N	ΕV	/ P	AN	EL	Н(C2				400 A		IT BREAKER E 480Y/277 35K AIO ROUND BAR
CKT	LOAD SERVED	WIRE	BRKR	PL	РНА	SE A	PHA	SE B	PHA	SE C	PL	BRKR	WIRE	LOAD	SERVED	CK
1	TEST BENCH	1L	100	3	27.7	2.3					3	20	#12	BRIDGE CRANE		2
3							27.7	2.3								4
5									27.7	2.3						6
7	EF-1	#12	20	3	0.8	12.5					2	100	1L	WELDER RECEP	Γ TIG 375	8
9							0.8	12.5								10
11									0.8	1.5	3	25	1L	TX-MPC		12
13	TX-LC2	1L	125	3	16.3	1.5										14
15							16.5	0.5								16
17									28.7	0.0	1	20		SPARE		18
	SPARE		20	1	0.0	0.0					1	20		SPARE		20
	SPARE		20	1	0.0	0.0	0.0	0.0			1	20		SPARE		22
	SPARE		20	1			0.0	0.0	0.0	0.0	1	20		SPARE		24
	SPARE		20	1	0.0	0.0			0.0	V.V	1	20		SPARE		26
	SPARE		20	1	0.0	0.0	0.0	0.0			1	20		SPARE		28
	SPARE		20	1			0.0	0.0	0.0	0.0	1	20		SPARE		30
	SPARE		20	1	0.0	0.0			0.0	0.0	1	20		SPARE		32
	SPARE		20	1	0.0	0.0	0.0	0.0			1	20		SPARE		34
	SPARE		20	1			0.0	0.0	0.0	0.0	1	20		SPARE		36
	SPARE		20	1	0.0	0.0			0.0	0.0	1	20		SPARE		38
	SPARE		20	1	0.0	0.0	0.0	0.0			1	20		SPARE		40
	SPARE		20	1			0.0	0.0	0.0	0.0	1	20		SPARE		42
11	OI / II (L			TAL	6′	1.2	60) 4	61		KVA			OI / II L		12
			10	/ I / \L		1.5	218			1.0	AMF					
		CONNEC [*]	TEDI	\cup VD		2.7	KVA	0.0			AMF					
NFC	ARTICLE 220	DEMA	AND L	DAD	20	3.6	KVA		24	4.8	AMF					
Load Classification			DEMAND LOAD Connected Load			Demand Factor			_	Estimated Demand				Panel	Totals	
Equip	ment		90800	VA		1	00.00%	, 0		9080	O VA					
HVAC			5240 VA			100.00%			1	5240 VA				Total Conn. Load:	182731 VA	
Lighting			143 VA			125.00%				178 VA				Total Est. Demand:		
Motor			83188 VA			124.98%				103973 VA				Total Conn.:	220 A	
Rece	otacle		3360	VA		1	00.00%	<u>′</u>		3360	VA			Total Est. Demand:		

LIGHTING FIXTURE SCHEDULE										
TYPE	DESCRIPTION	MOUNTING	MANUFACTURER / CATALOG #	LAMP TYPE	INPUT WATTAGE	VOLTAGE	REMARKS			
A4	2'X4' LED TROFFER, 4100 LUMEN, 3500K	LAYIN	LITHONIA / 2BLT4 40L ADP MVOLT EZ1 LP835	LED	31.66	MVOLT				
C1	7.5' LED UNDERCABINET LIGHT, 150 LUMEN/FT, 3500K	UNDER CABINET	QTRAN / VV2SW 1.5 35 DRY STD 45 P1 BW CLS SST ST 90	LED	11.25	24	PROVIDE WITH 24V POWER SUPPLY			
C2	2' LED UNDERCABINET LIGHT ENDCAP, 150 LUMEN/FT, 3500K	UNDER CABINET	QTRAN / VV2SW 1.5 35 DRY STD 45 S1 BW CLS SST ST 24	LED	3	24	PROVIDE WITH 24V POWER SUPPLY			
V2	2' LED VANITY LIGHT, 1700 LUMEN, 3500K	WALL/SURFACE	LITHONIA / FMVCCLS 24IN MVOLT 35K 90CRI BN	LED	18.12	MVOLT	MOUNT AT 7' AFF UON			
X1	LED EXIT SIGN, RED LETTERING	UNIVERSAL	LITHONIA / LQM S W 3 R MVOLT	LED	5	MVOLT				
Y1	LED INDOOR EMERGENCY LIGHTING UNIT	WALL/SURFACE	LITHONIA / EU2L	LED	1.5	120	MOUNT AT 7' AFF UON			
Y2	LED OUTDOOR EMERGENCY LIGHTING UNIT	WALL/SURFACE	LITHONIA / AFF OEL DWHGXD UVOLT LTP SDRT FCT BAA	LED	2.5	MVOLT	MOUNT AT 10' AFF UON			

- SEE AE001 AND AE002 FOR NOTES AND SYMBOLS.
 PROVIDE NEW PANELS WITH 20% SPACE CIRCUITS. OCCUPY 10% OF SPARE CIRCUITS WITH BREAKERS.
- 3. FOR WIRE SIZES LABELED "1L" SEE ONELINE DIAGRAM ON SHEET AE018.

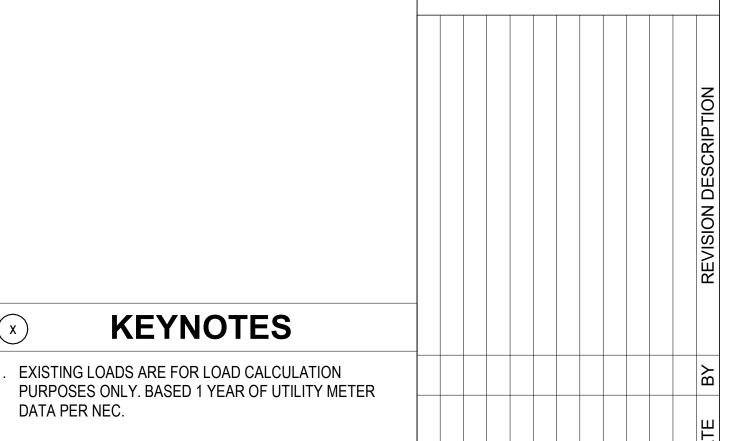
KEYNOTES

1. EXISTING LOADS ARE FOR LOAD CALCULATION

X

DATA PER NEC.







Port of LONG BEACH
THE PORT OF CHOICE

725 HARBOR PLAZA
PIER G, MAINTENANCE
BUILDING C PUMP SHOP
CONVERSION
ELECTRICAL PANEL AND LIGHTING FIXTURE SCHEDULES

10-02464- AE017

SHEET 85 OF 86

