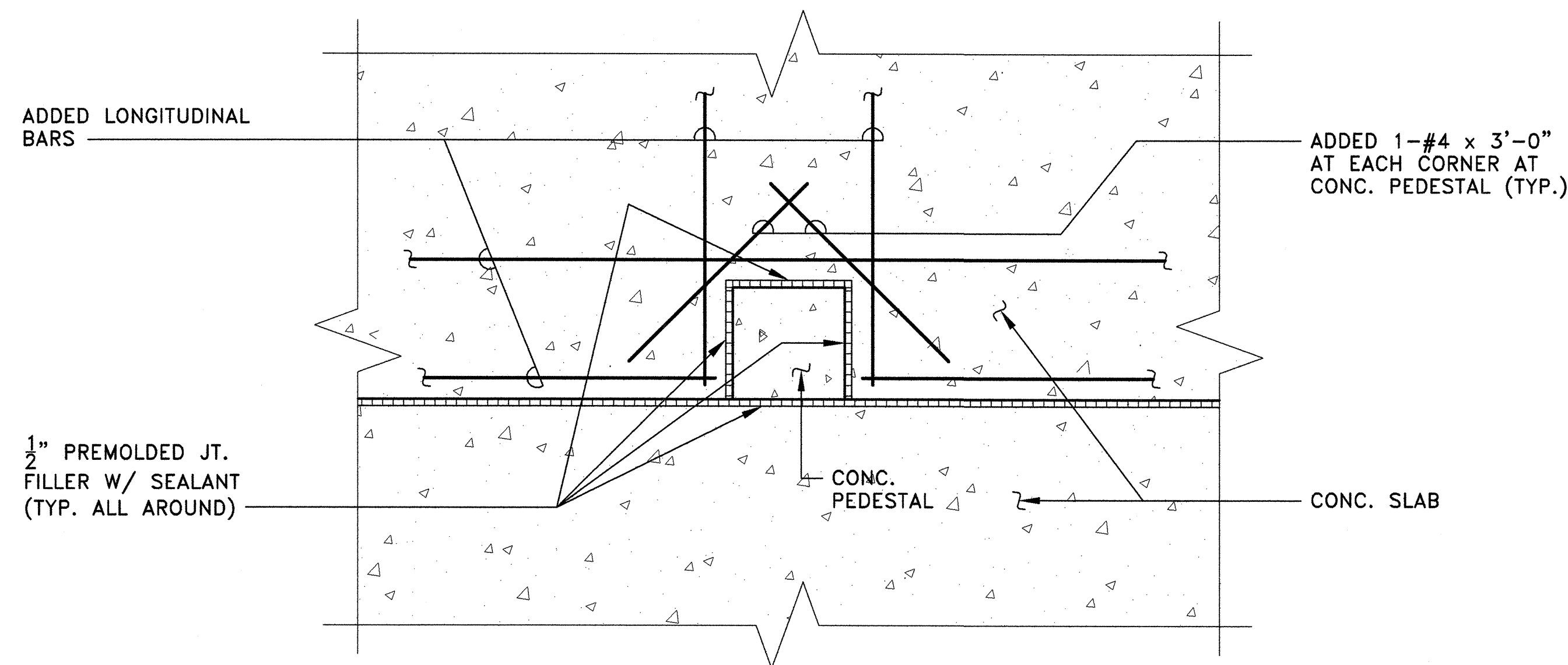
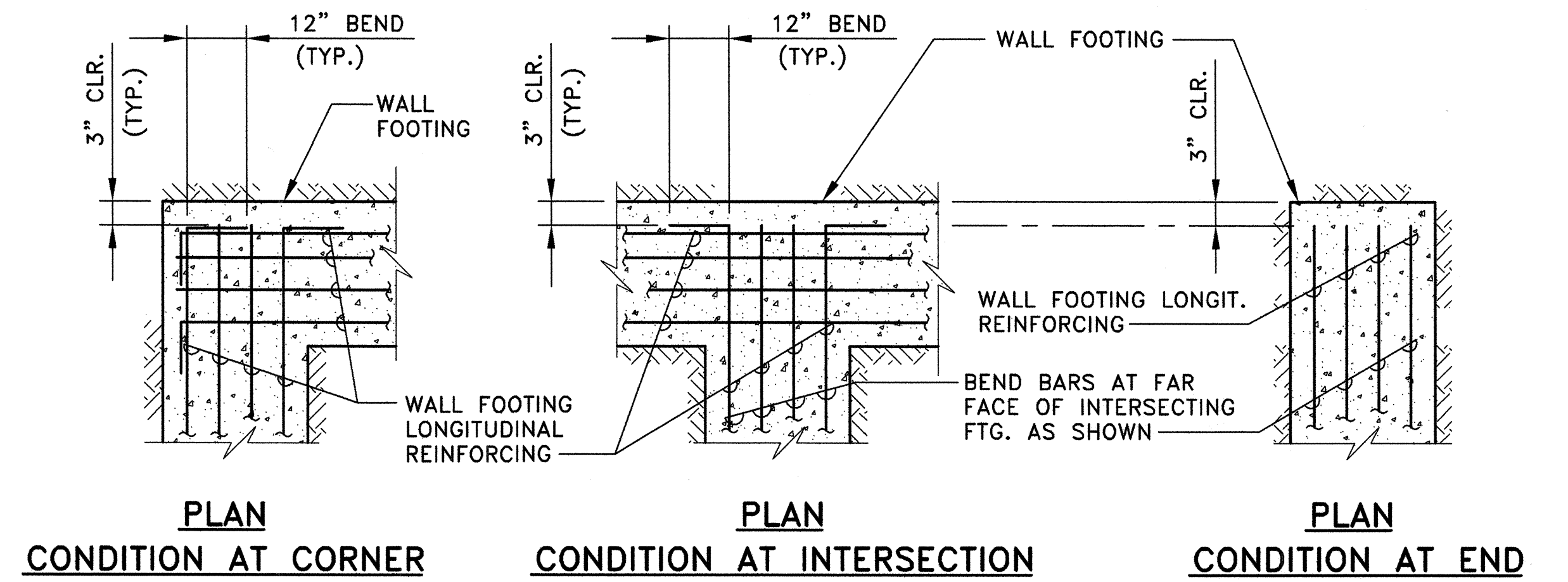


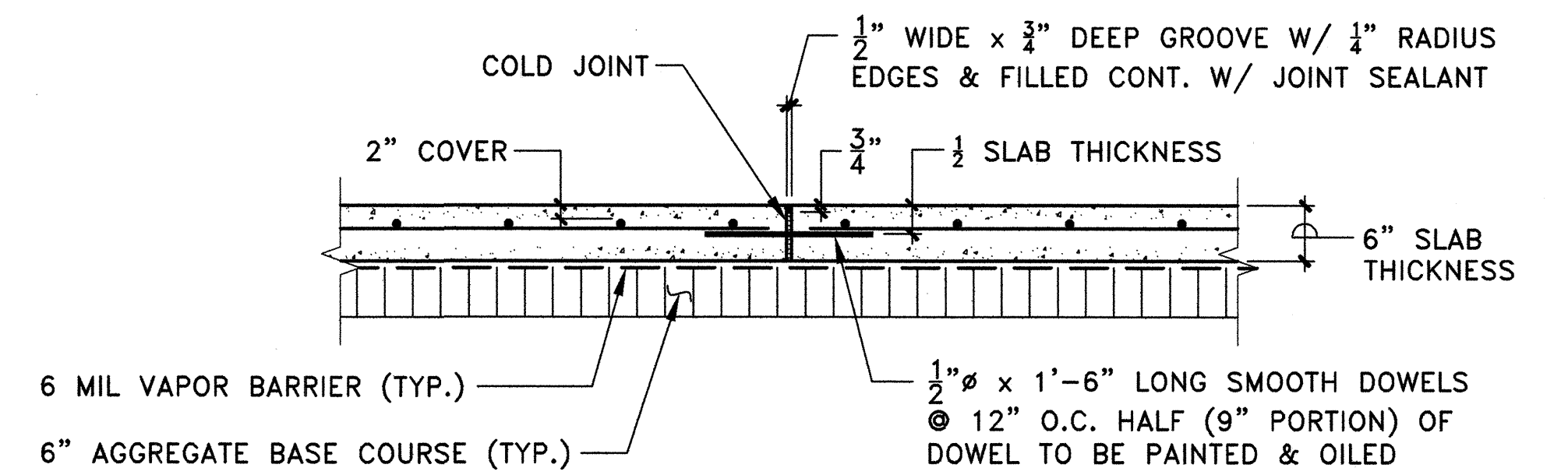
**1** TYPICAL CONCRETE MASONRY UNIT (CMU) DETAILS  
 S-20 SCALE: 3/4" = 1'-0"



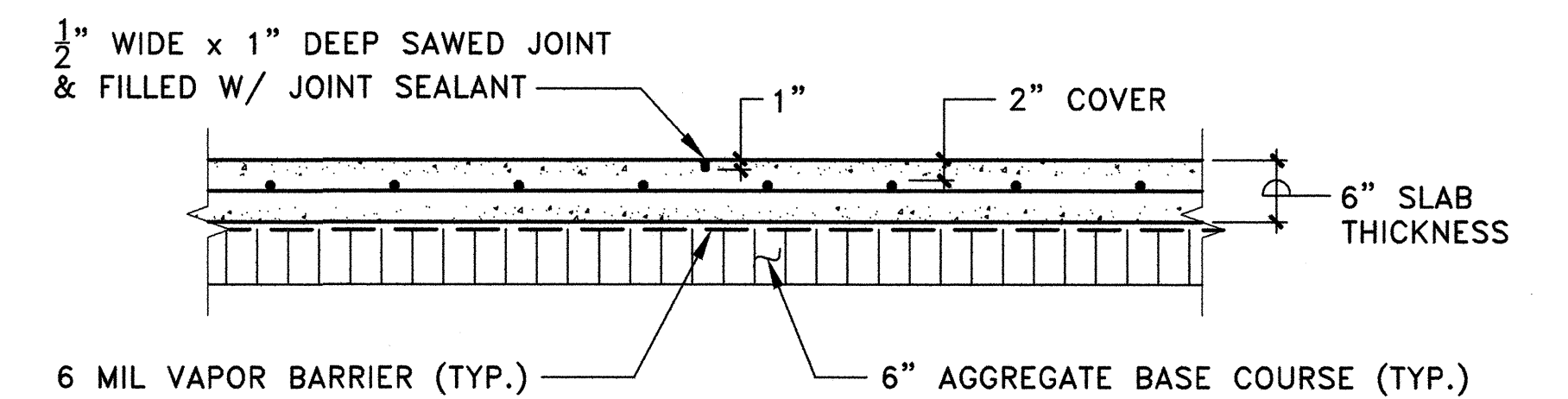
**2** TYPICAL ADDED REINFORCING BARS AT CORNERS  
 S-20 SCALE: 3/4" = 1'-0"



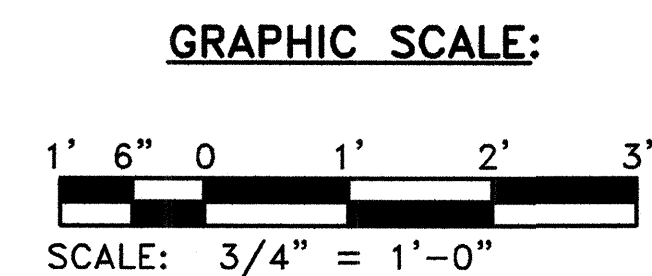
**3** TYPICAL WALL FOOTING LONGITUDINAL REINFORCING BARS DETAILS  
 S-20 NOT TO SCALE



**4** TYPICAL DOWELED CONSTRUCTION JOINT (D.C.J.) DETAIL  
 S-20 SCALE: 3/4" = 1'-0"



**5** TYPICAL SAWED JOINT (S.J.) DETAIL  
 S-20 SCALE: 3/4" = 1'-0"



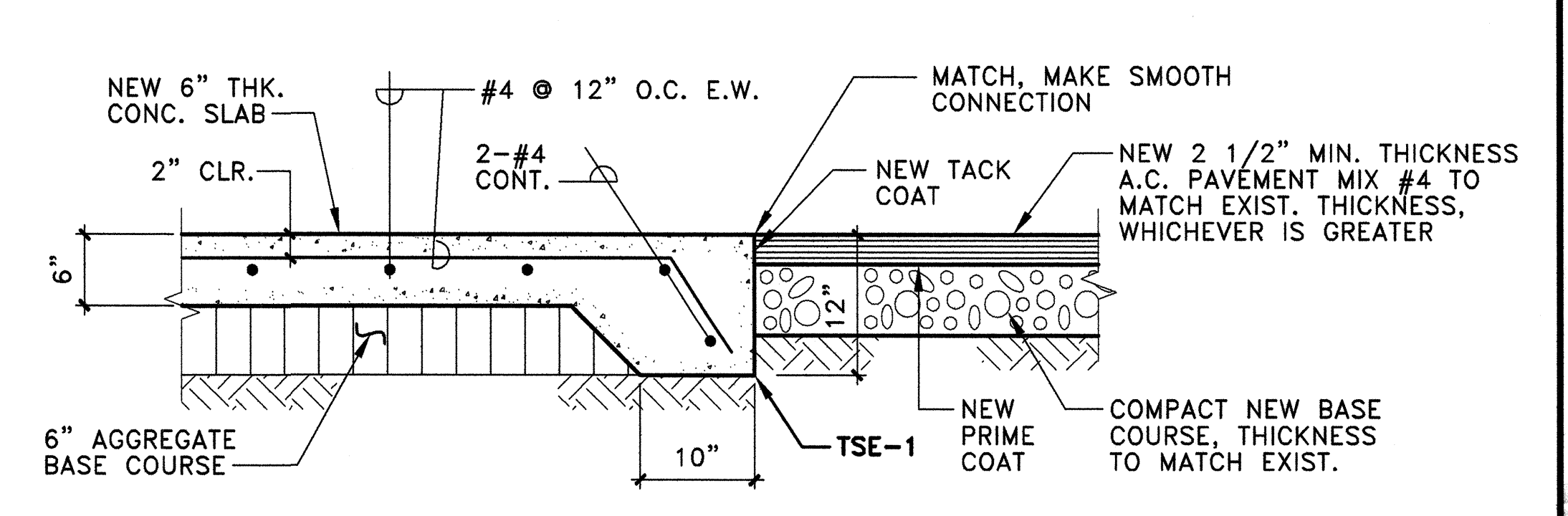
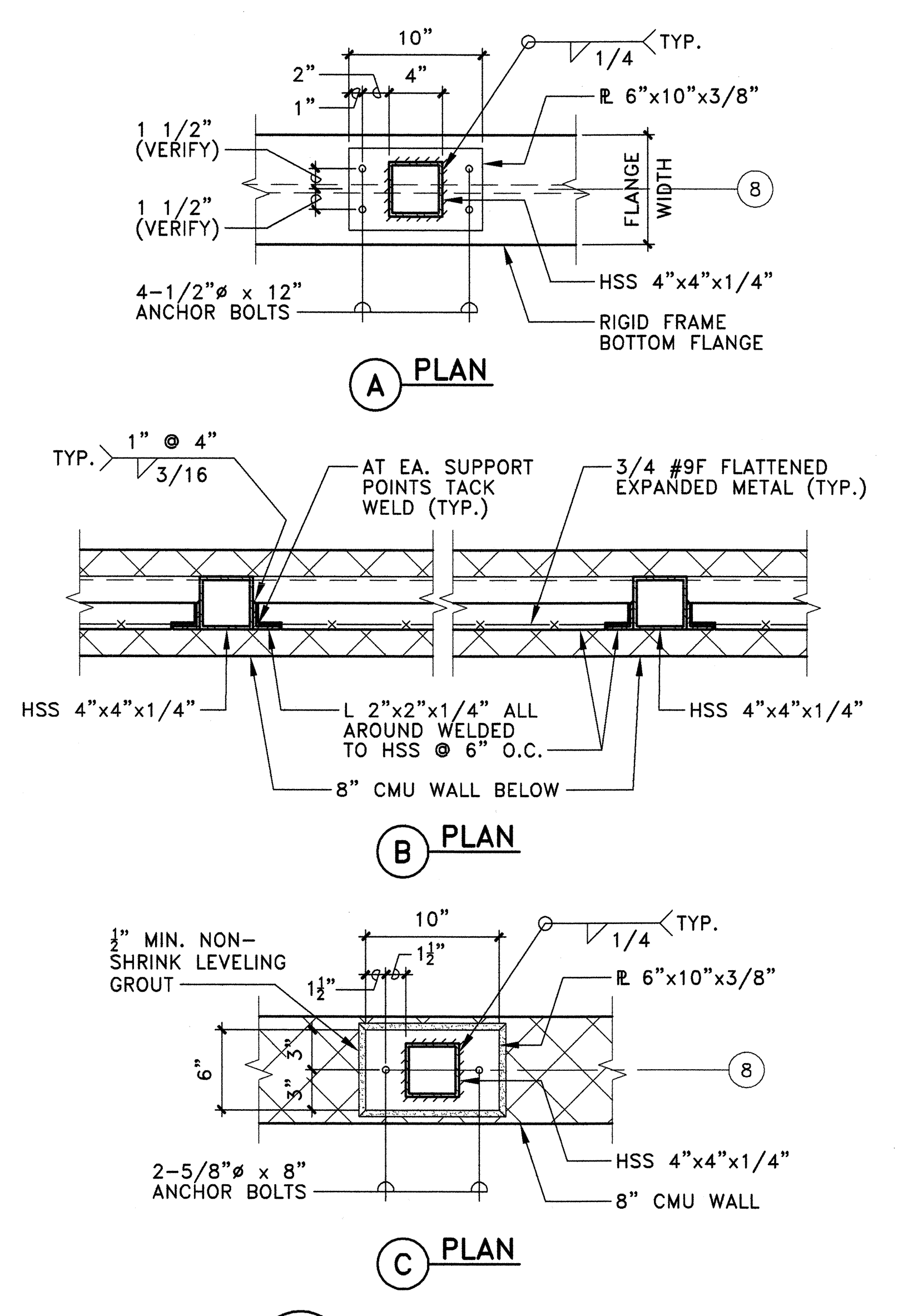
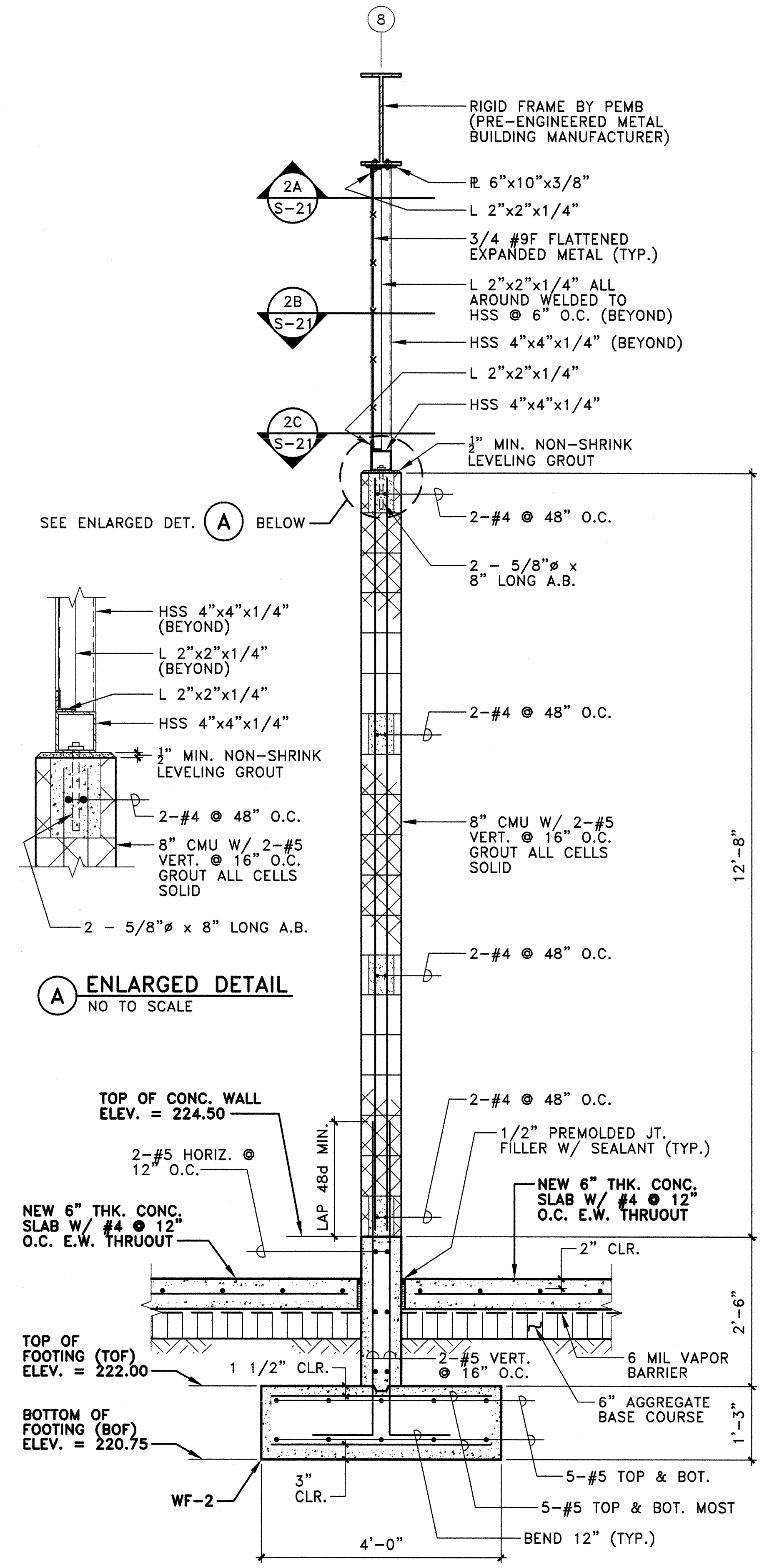
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
TYPICAL DETAILS					
DESIGNED:	ATO	SUBMITTED:	60	DATE:	03/07/2016
DRAWN:	RMA/LC	CHECKED:	ATO	SCALE:	AS SHOWN
APPROVED:	<i>Arnold Tetsuji Okubo</i>	CHIEF ENGINEER	APR 26 2016	DATE	<b>S - 20</b>

ARNOLD TETSUJI OKUBO  
 LICENSED PROFESSIONAL ENGINEER  
 No. 4173-S  
 HAWAII, U.S.A.

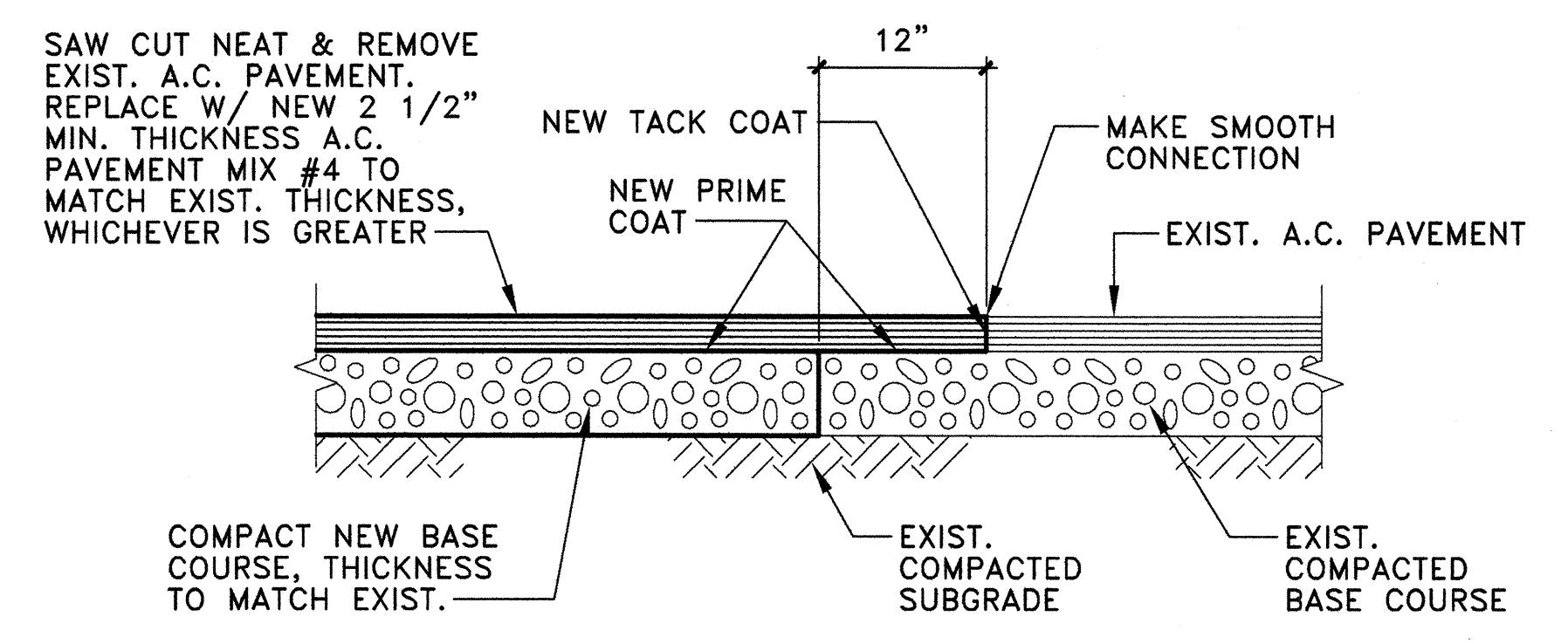
This work was prepared by me or under my supervision.

Expiration date of the license: 04/30/2016

02/26/2016

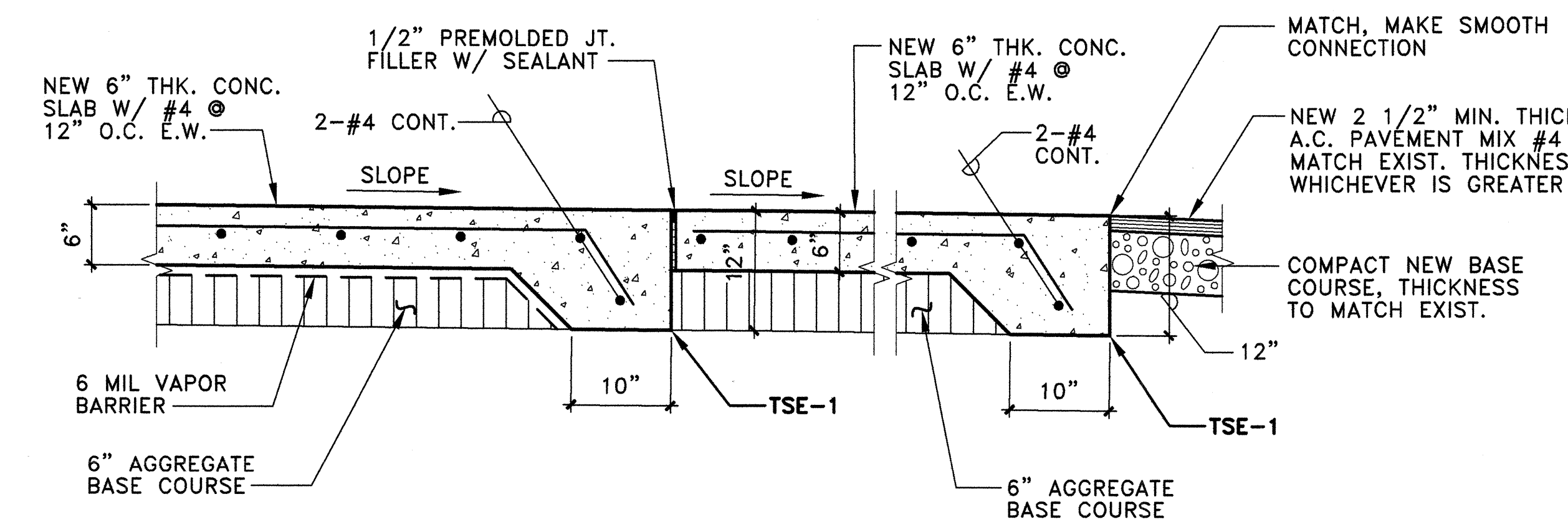
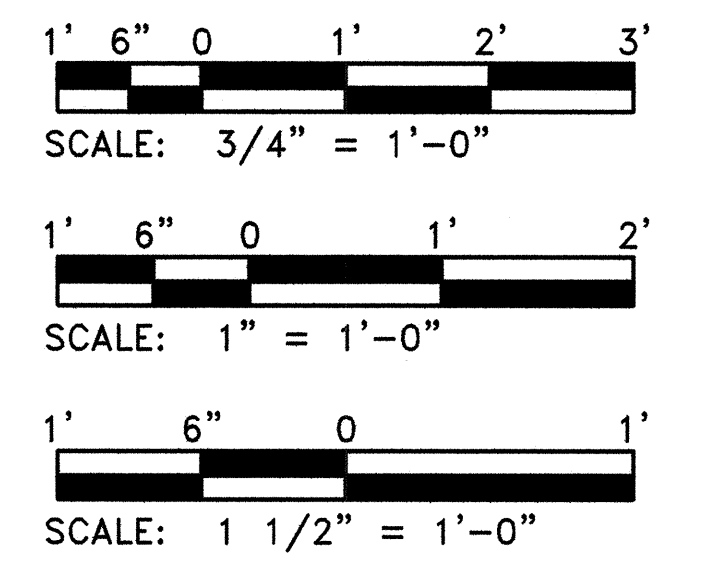


**3** TYPICAL THICKEN SLAB EDGE (TSE-1) DETAIL -  
CONDITION WHERE NEW CONCRETE PAVEMENT  
MEETS WITH NEW A.C. PAVEMENT  
SCALE: 1" = 1'-0"



**4** TYPICAL A.C. PAVEMENT  
RECONSTRUCTION DETAIL  
SCALE: 1" = 1'-0"

GRAPHIC SCALE:



**5** TYPICAL THICKEN SLAB EDGE (TSE-1) DETAIL -  
CONDITION WHERE NEW BUILDING CONCRETE  
SLAB MEETS WITH NEW CONCRETE PAVEMENT  
SCALE: 1" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION

KAUAI BASEYARD IMPROVEMENTS  
LIHUE, KAUAI, HAWAII

TYPICAL 8" CMU WALL SECTION &  
TYPICAL DETAILS

DESIGNED: ATO  
DRAWN: RMA/LC  
CHECKED: ATO  
APPROVED: *[Signature]*  
CHIEF ENGINEER

SUBMITTED: *[Signature]*  
DATE: 03/07/2016  
SCALE: AS SHOWN

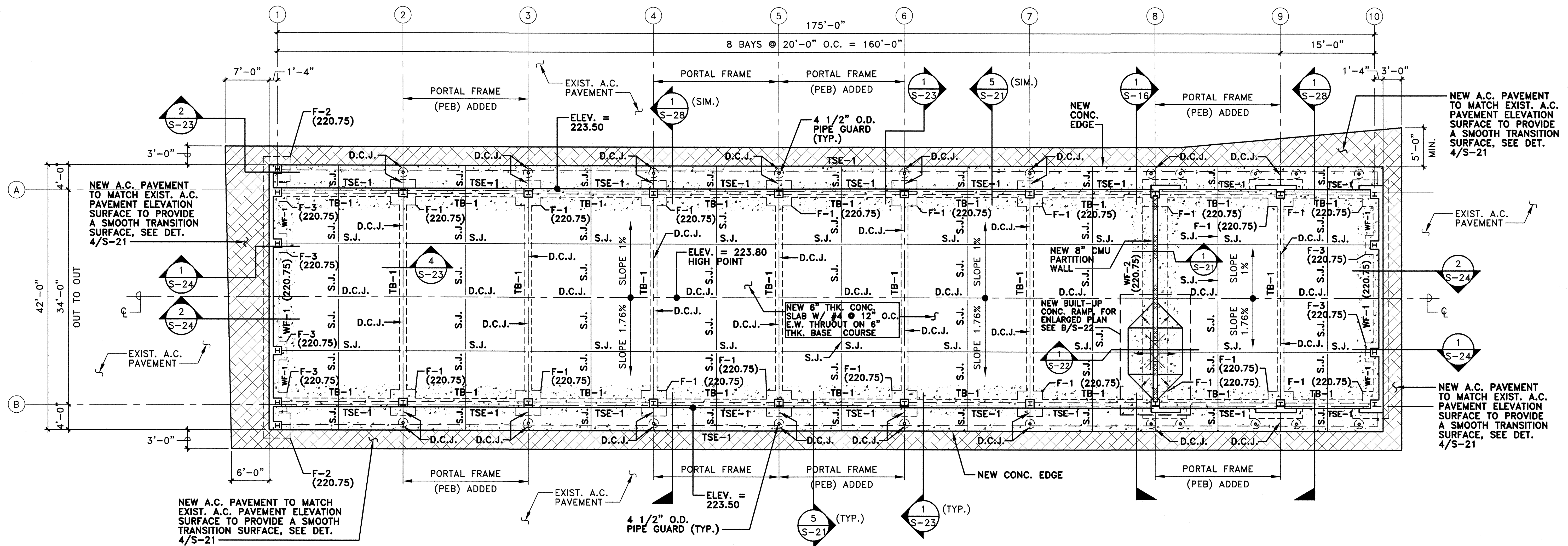
Expiration date of the license: 04/30/2016

APR 26 2016  
DATE

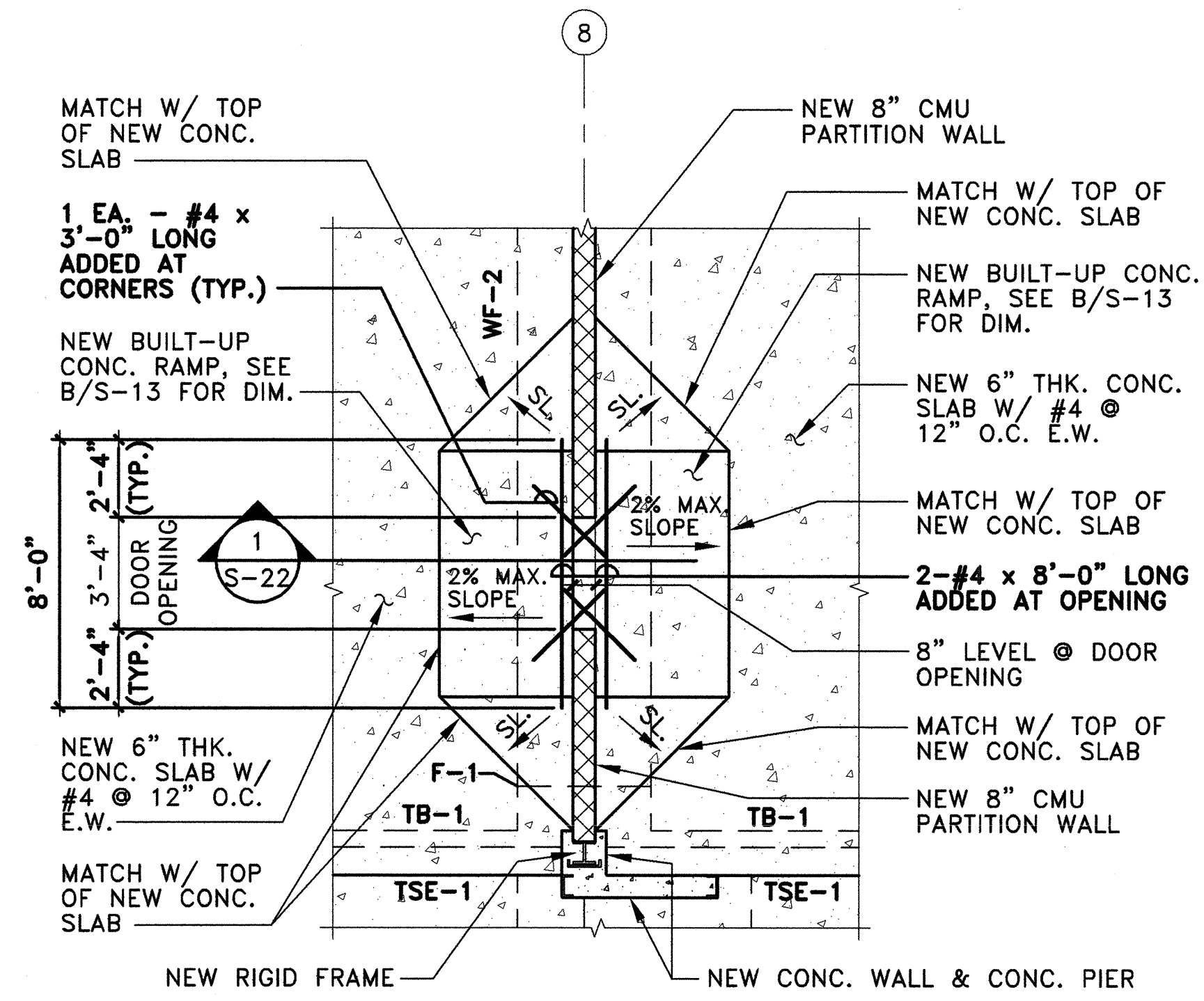
**S-21**

02/26/2016



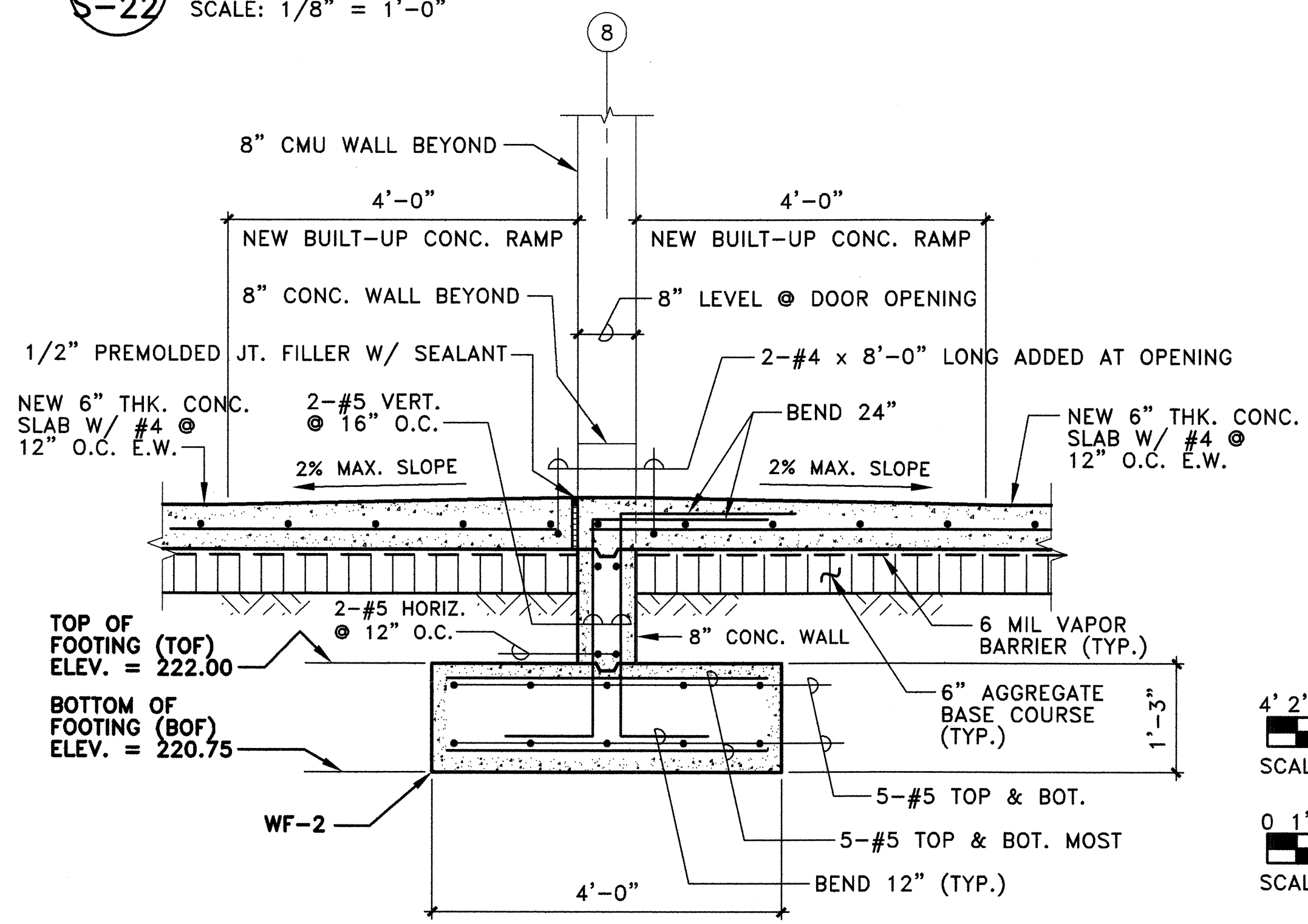


**A NEW VEHICLE SHELTER - FOUNDATION PLAN**  
 SCALE: 1/8" = 1'-0"



**ENLARGED PARTIAL PLAN**

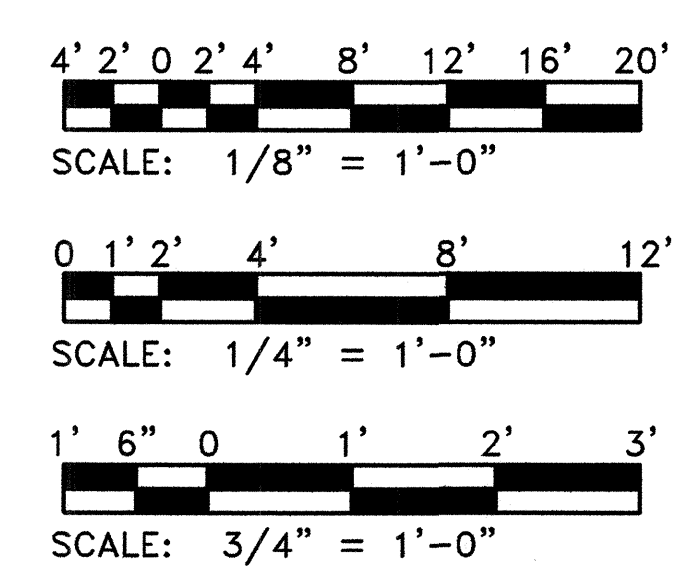
**B @ DOOR OPENING**  
 SCALE: 1/4" = 1'-0"



**1 SECTION @ DOOR OPENING**  
 SCALE: 3/4" = 1'-0"

- LEGEND:**
- (220.75) DENOTES BOTTOM OF FOOTING ELEVATION
  - F-1 DENOTES FOOTING TYPE
  - WF-1 DENOTES WALL FOOTING TYPE
  - TB-1 DENOTES TIE BEAM TYPE
  - TSE-1 DENOTES THICKEN SLAB EDGE TYPE
  - S.J. DENOTES SAWED JOINT
  - D.C.J. DENOTES DOWELED CONSTRUCTION JOINT

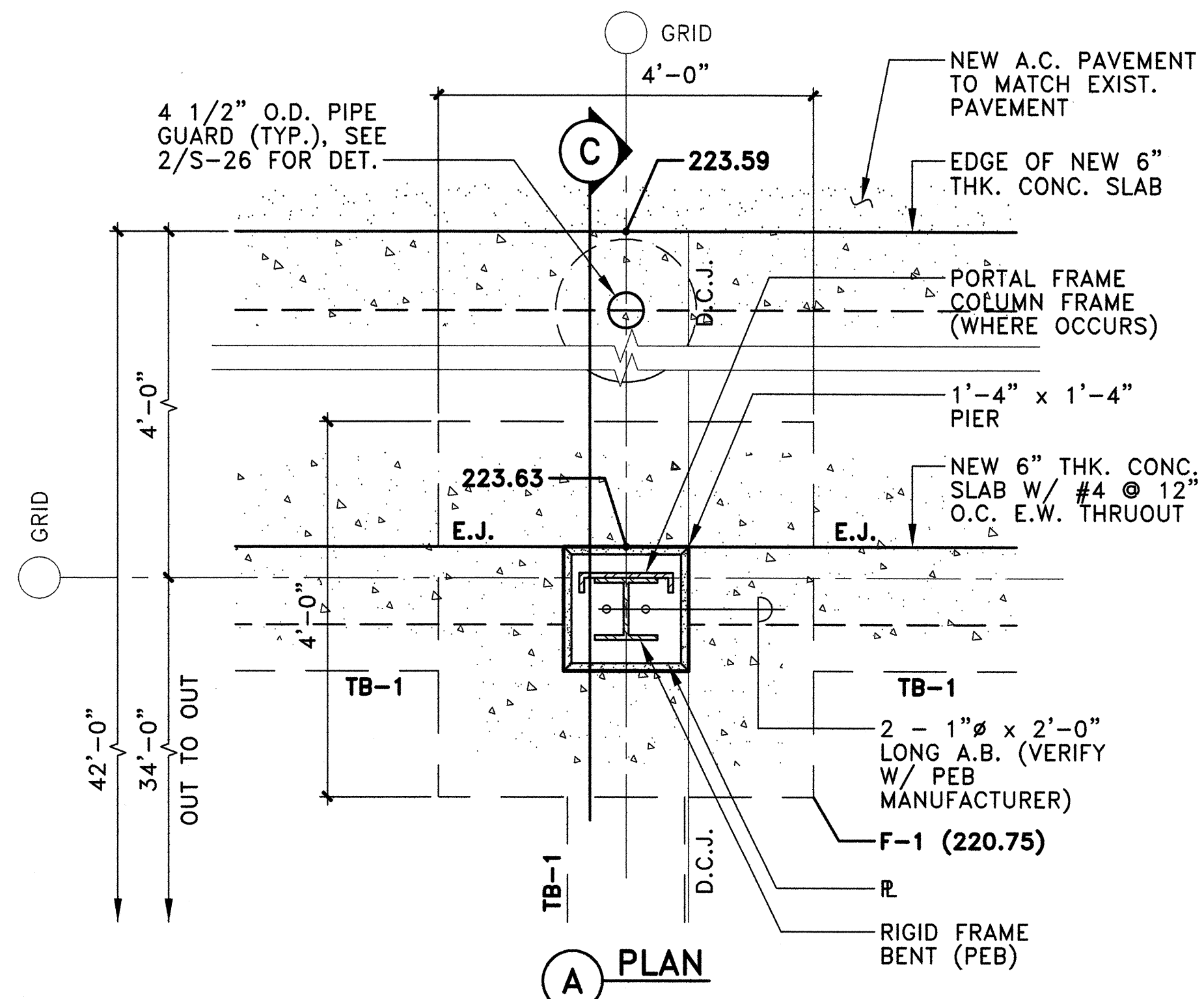
**GRAPHIC SCALE:**



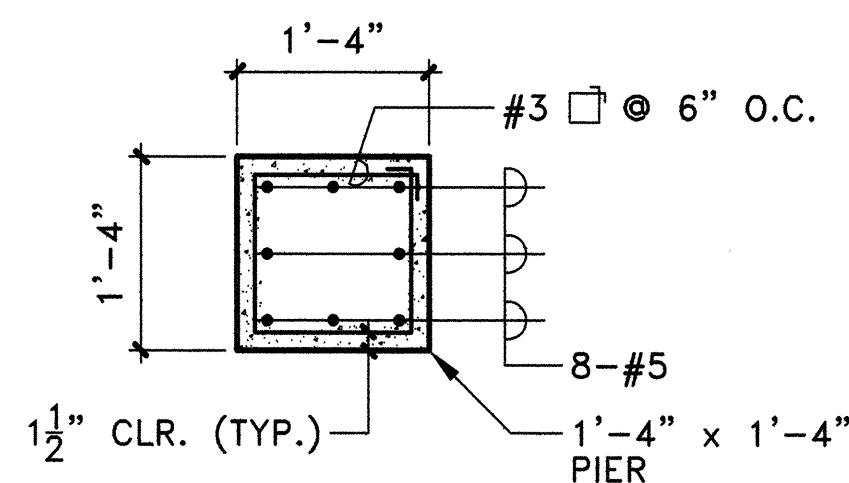
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
NEW VEHICLE SHELTER - FOUNDATION PLAN, ENLARGED PARTIAL PLAN & SECTION					
DESIGNED:	ATO	SUBMITTED:	<i>[Signature]</i>		
DRAWN:	RMA/LC	DATE:	03/07/2016		
CHECKED:	ATO	SCALE:	AS SHOWN		
APPROVED:	<i>[Signature]</i>	DATE:	APR 26 2016		
Expiration date of the license: 04/30/2016		CHIEF ENGINEER	<b>S - 22</b>		

02/26/2016

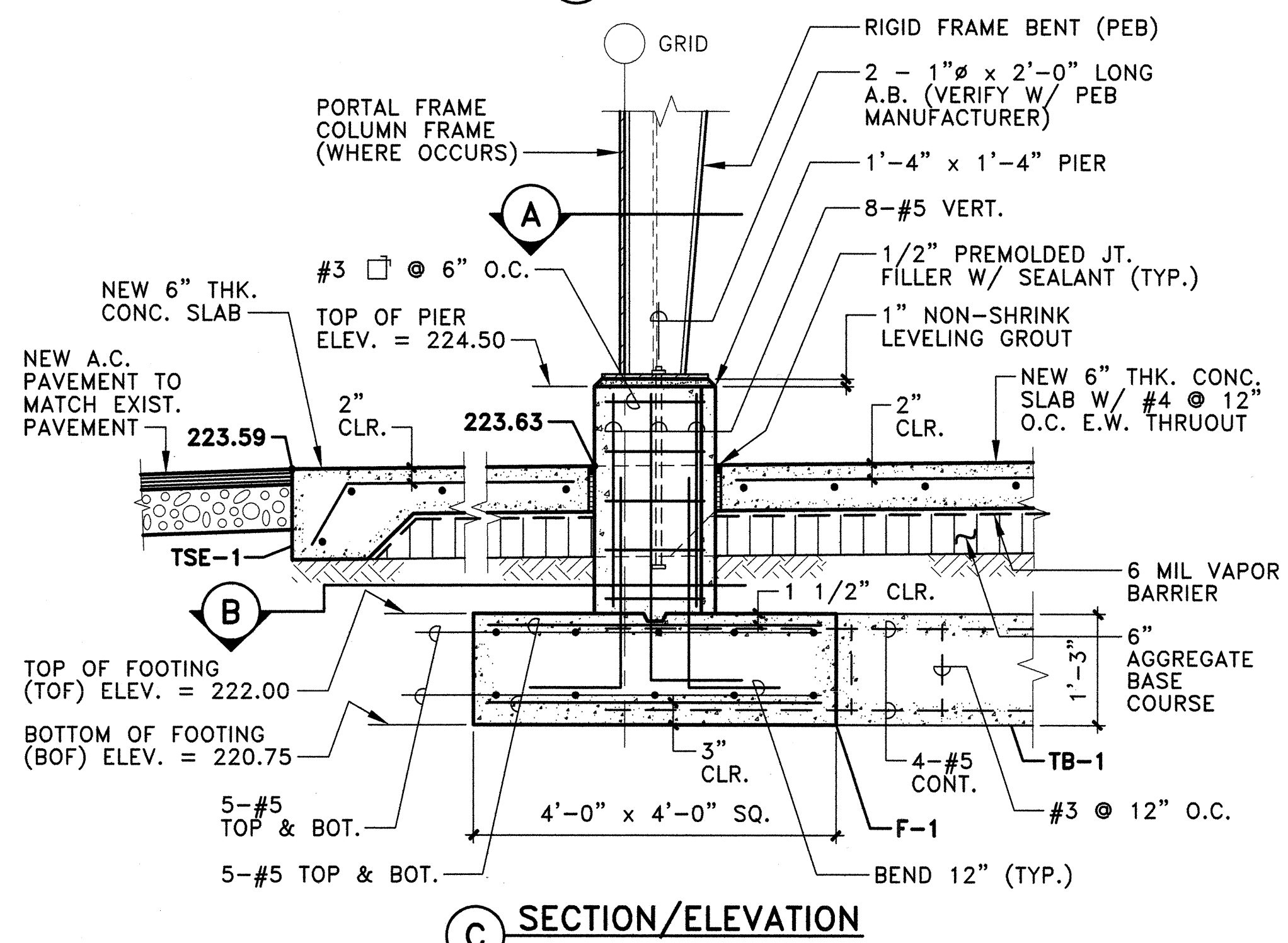




**(A) PLAN**

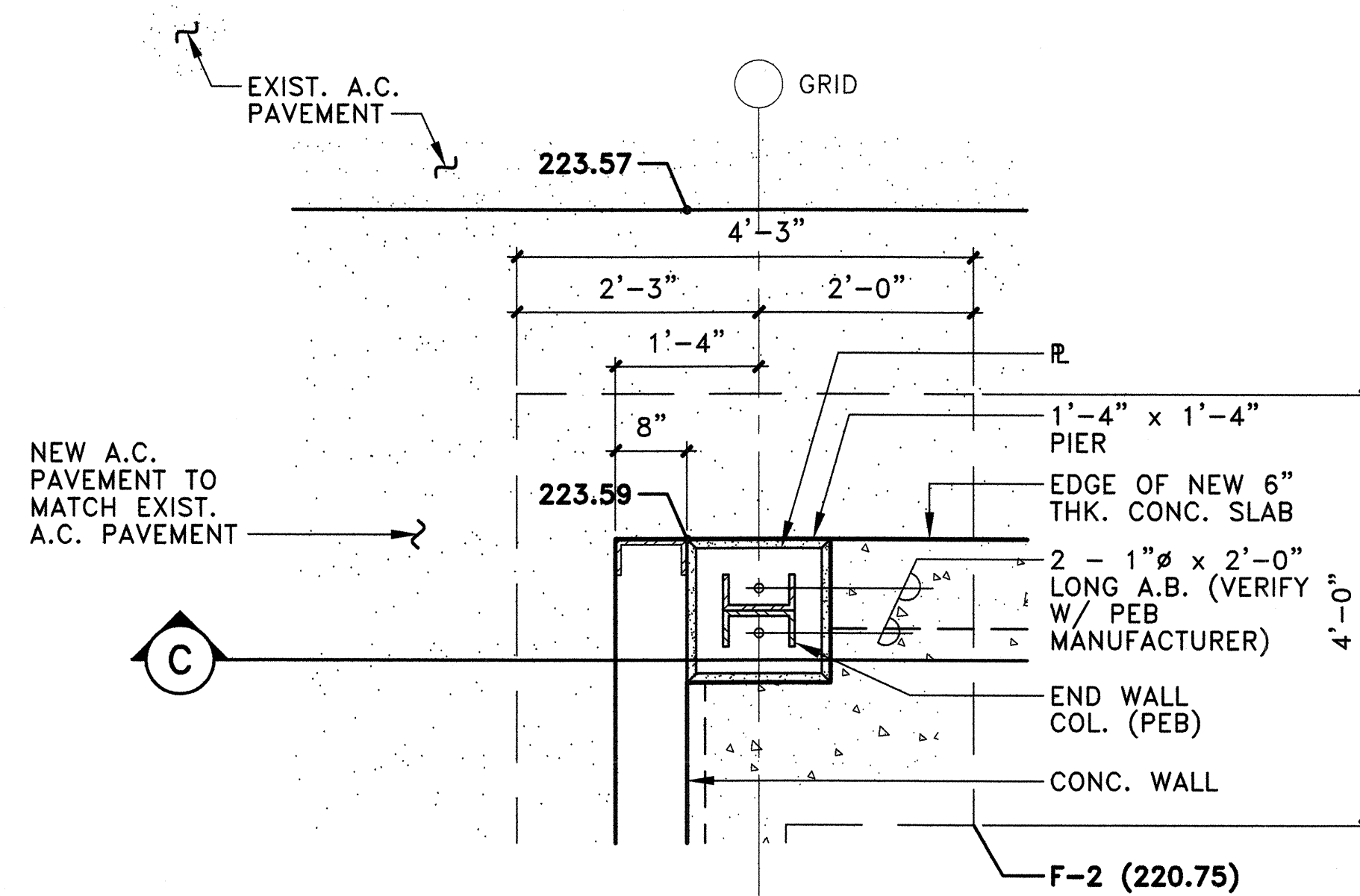


**(B) SECTION**

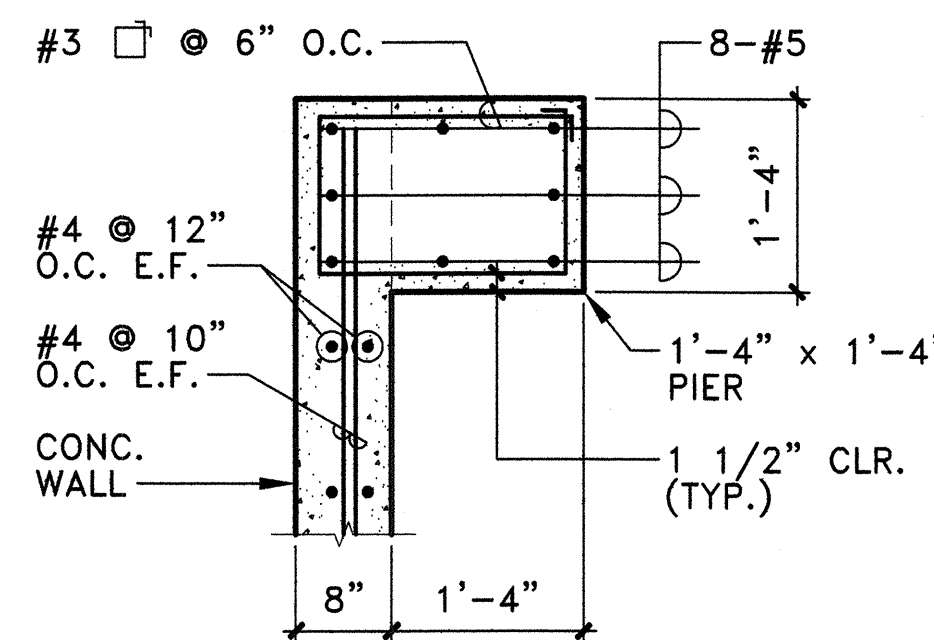


**(C) SECTION/ELEVATION**

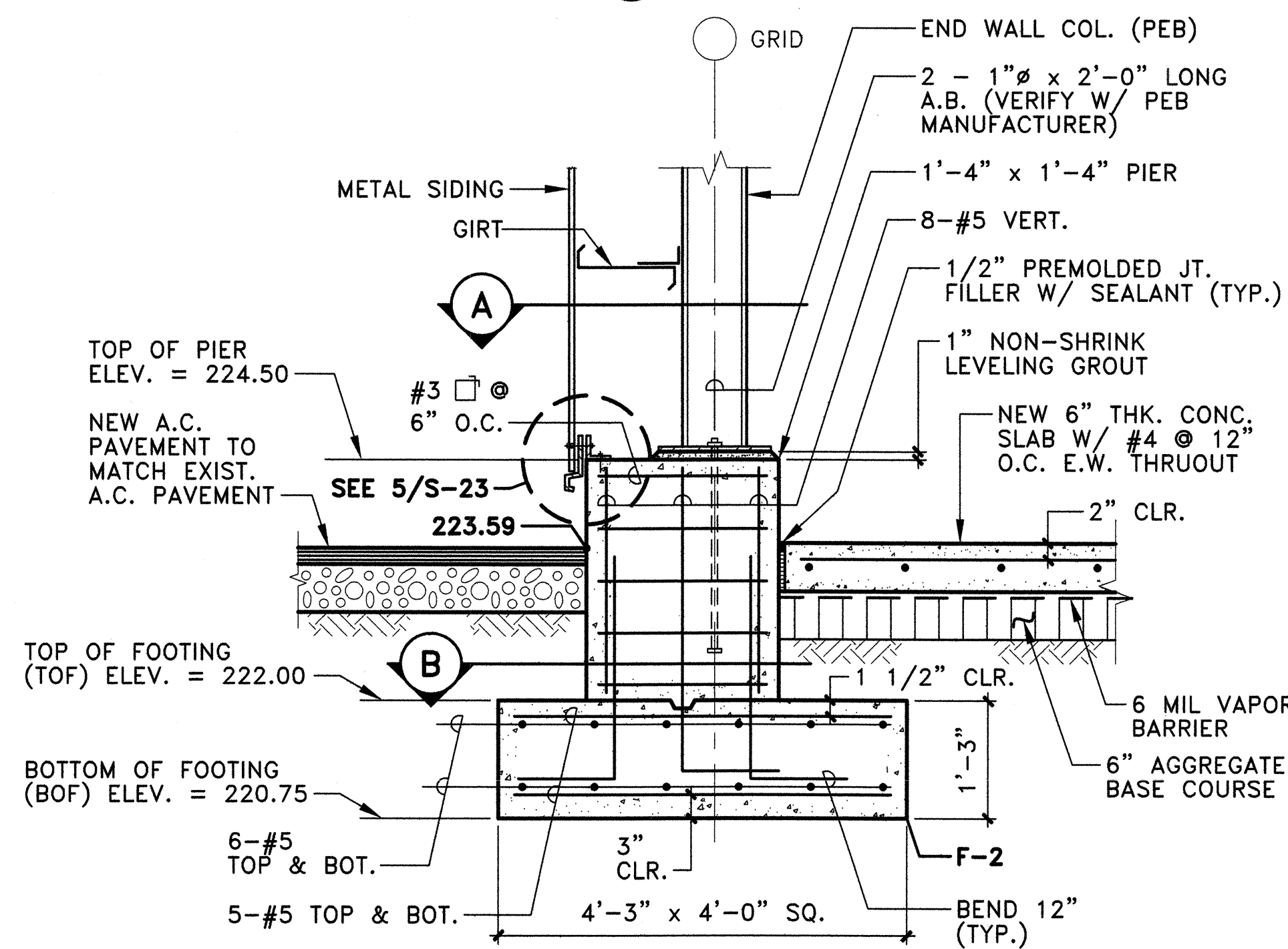
**1 TYPICAL FOOTING F-1 DETAIL**  
S-23 SCALE: 3/4" = 1'-0"



**(A) PLAN**

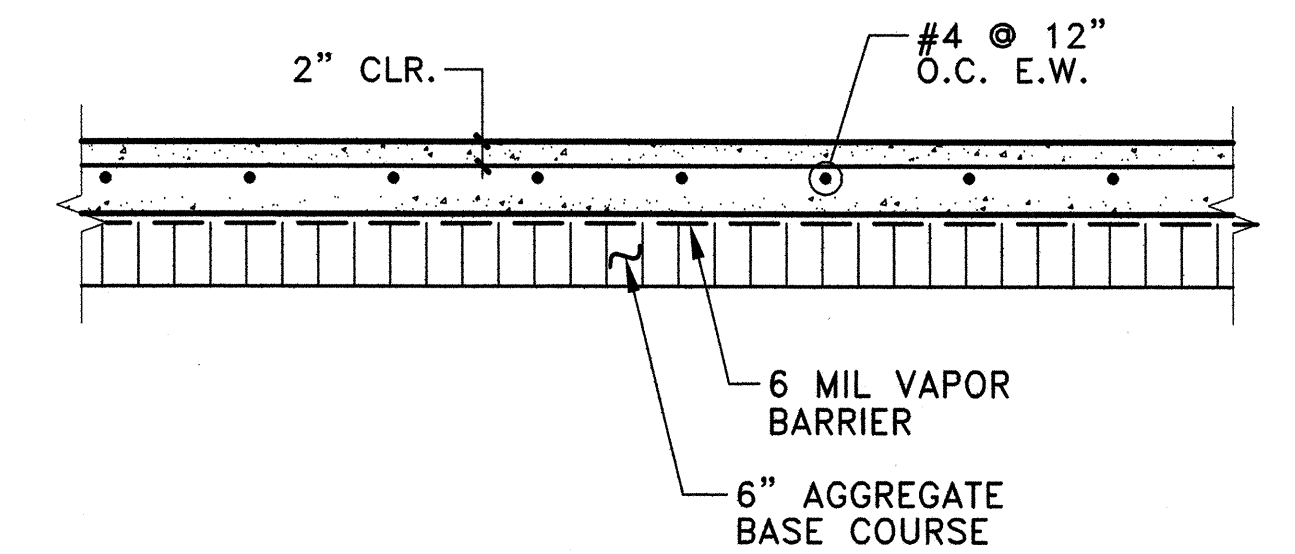


**(B) SECTION**

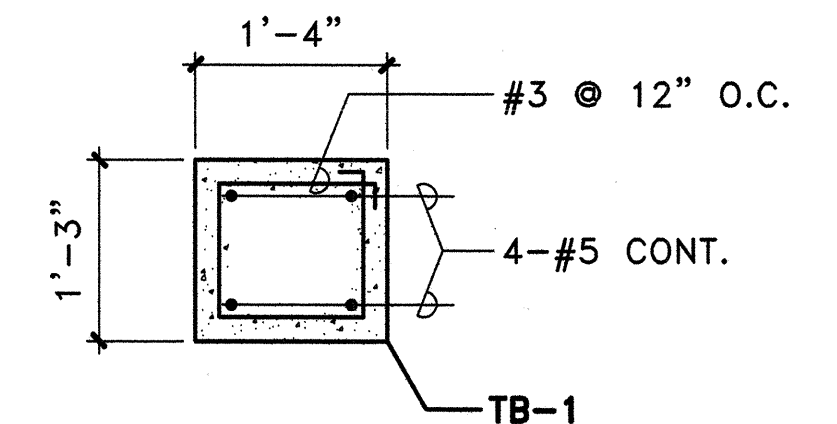


**(C) SECTION/ELEVATION**

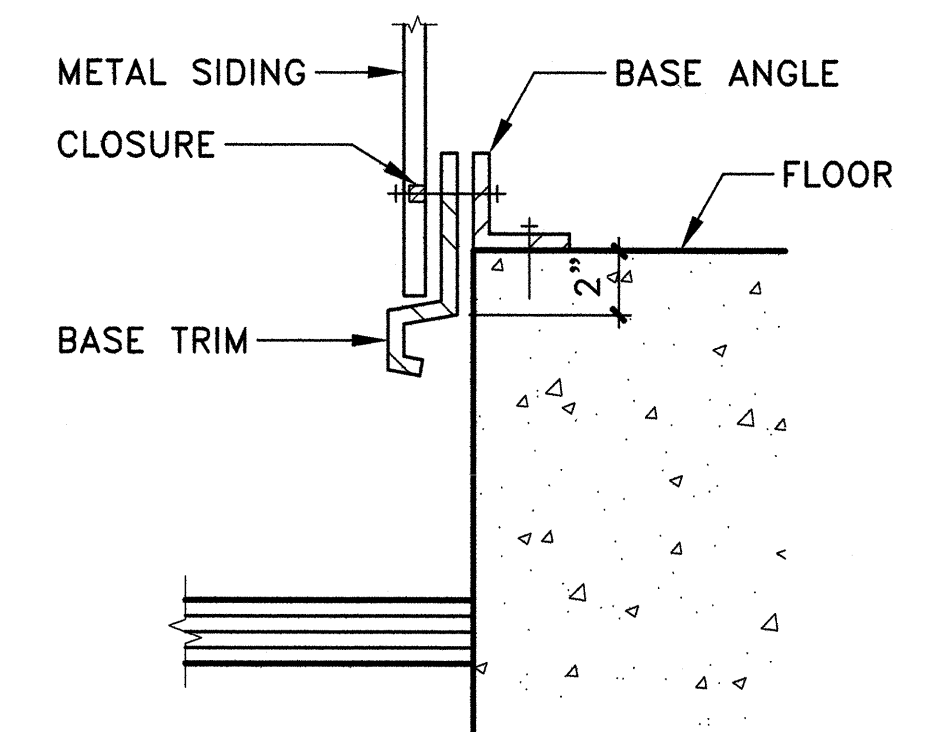
**2 TYPICAL FOOTING F-2 DETAIL**  
S-23 SCALE: 3/4" = 1'-0"



**3 TYPICAL CONCRETE SLAB AT VEHICLE SHELTER DETAIL**  
S-23 SCALE: 3/4" = 1'-0"

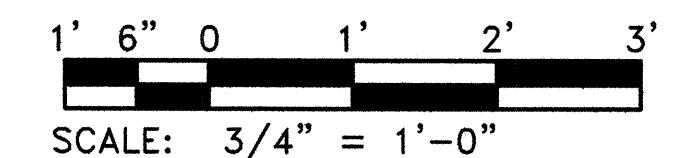


**4 TIE BEAM (TB-1) DETAIL**  
S-23 SCALE: 3/4" = 1'-0"



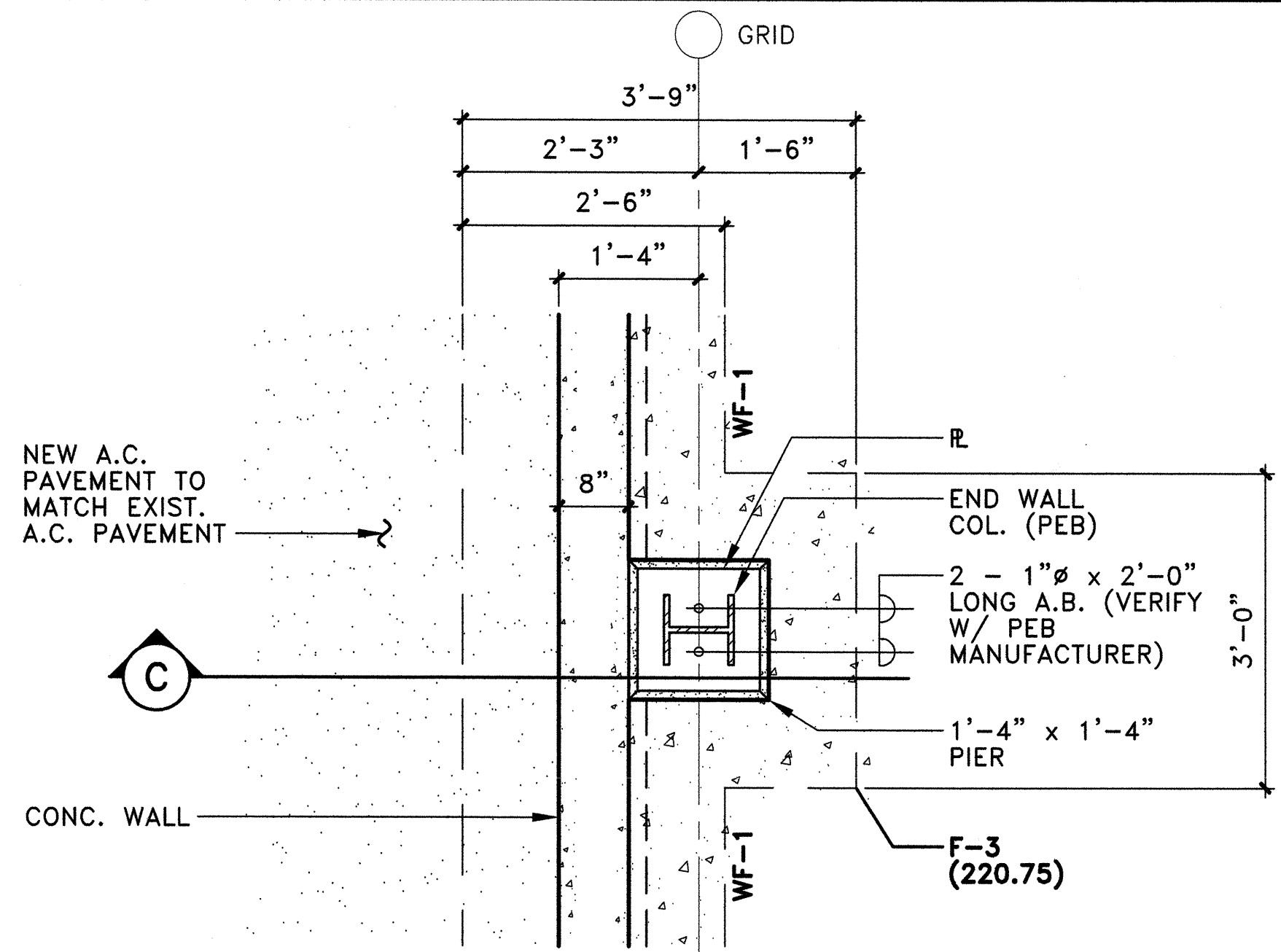
**5 TYPICAL BASE TRIM DETAIL**  
S-23 NOT TO SCALE

GRAPHIC SCALE:

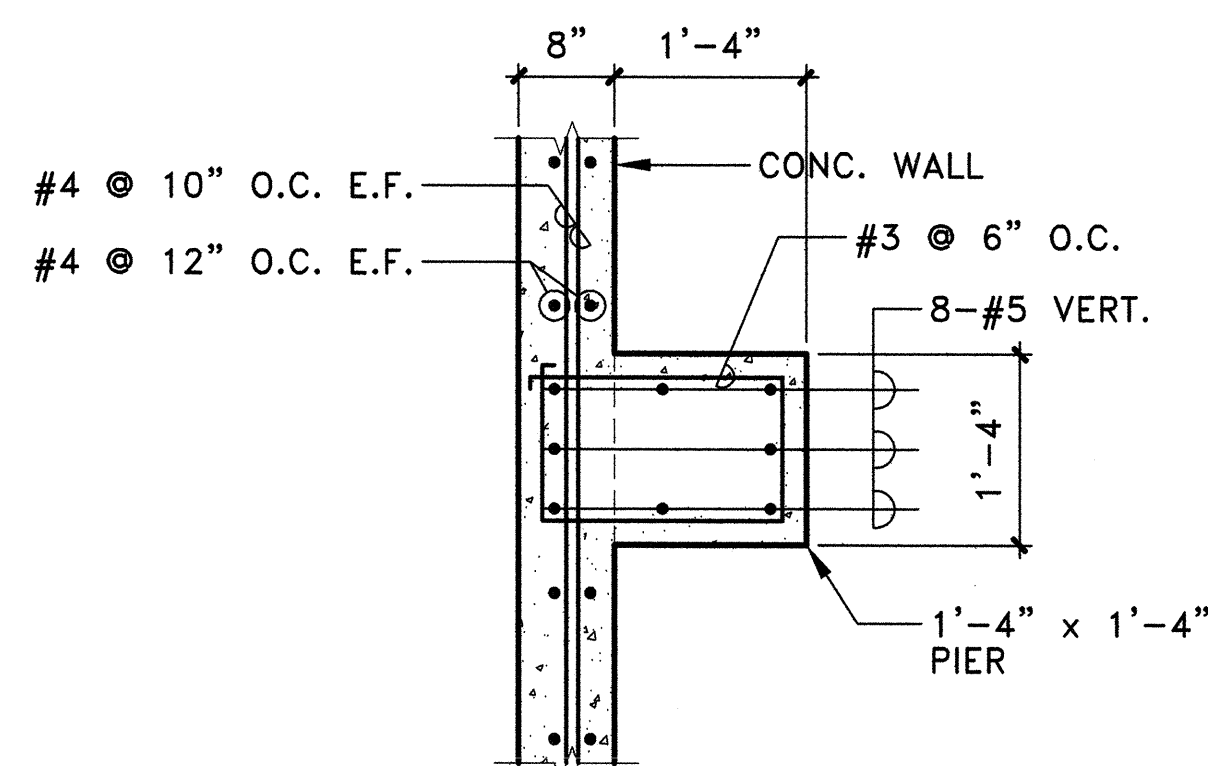


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
TYPICAL FOOTING F-1 & F-2 DETAILS, TYPICAL CONCRETE SLAB AT VEHICLE SHELTER DETAIL, TYPICAL TIE BEAM (TB-1) DETAIL, & TYPICAL BASE TRIM DETAIL					
DESIGNED: ATO			SUBMITTED: <i>[Signature]</i>		
DRAWN: RMA/LC			DATE: 03/07/2016		
CHECKED: ATO			SCALE: AS SHOWN		
APPROVED: <i>[Signature]</i>			CHIEF ENGINEER		
Expiration date of the license: 04/30/2016			APR 26 2016 DATE		

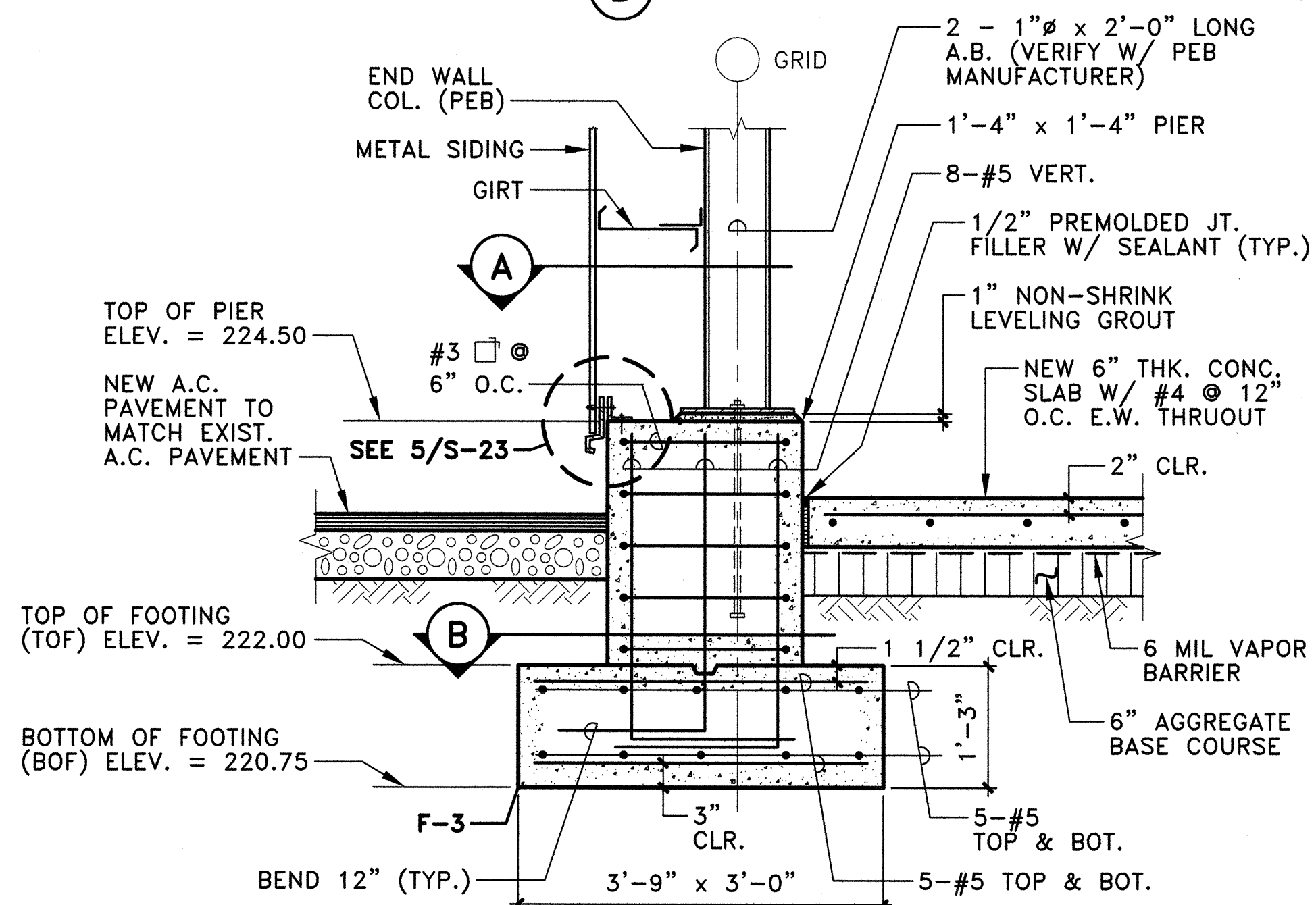
**S-23**



(A) PLAN

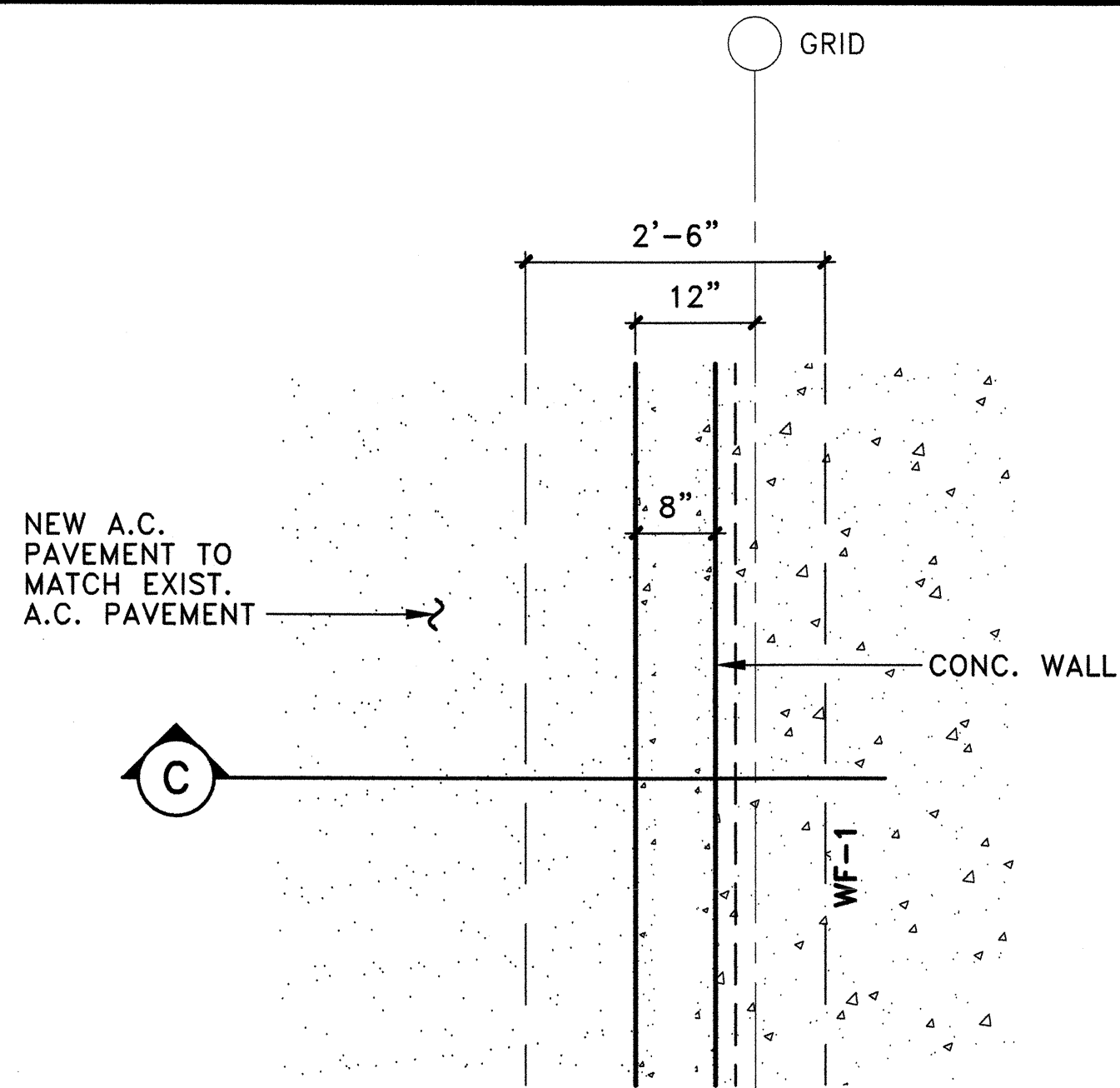


(B) SECTION

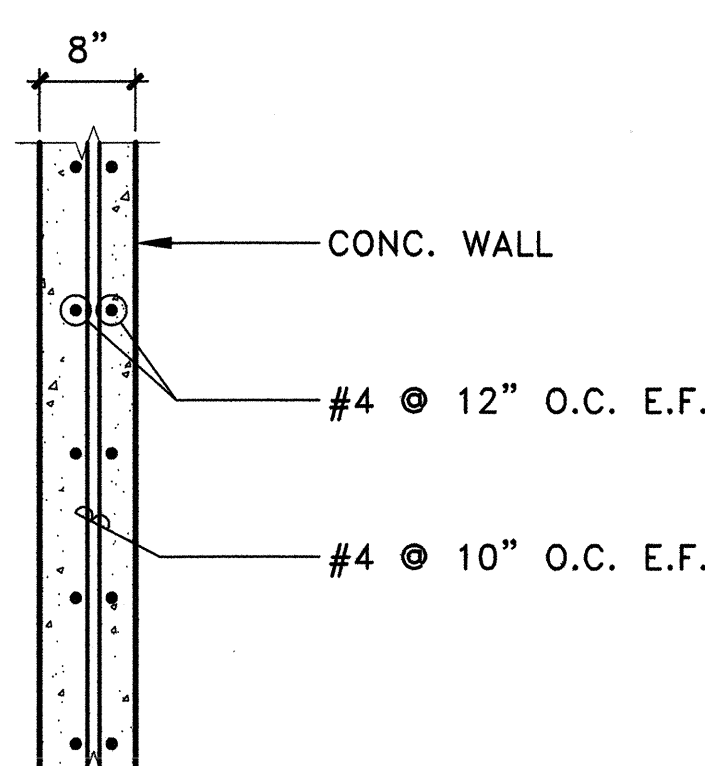


(C) SECTION/ELEVATION

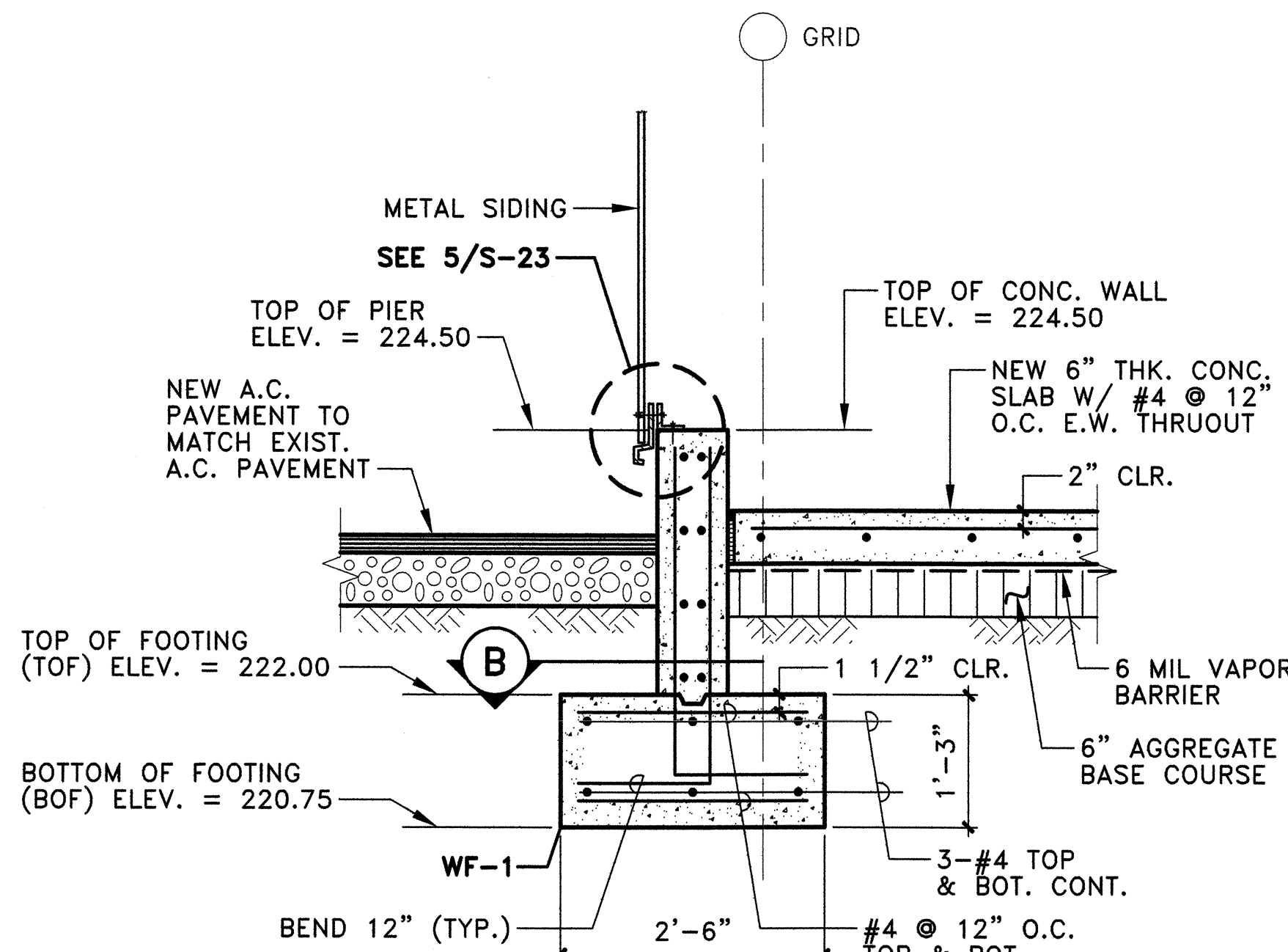
1 TYPICAL FOOTING F-3 DETAIL  
S-24 SCALE: 3/4" = 1'-0"



(A) PLAN

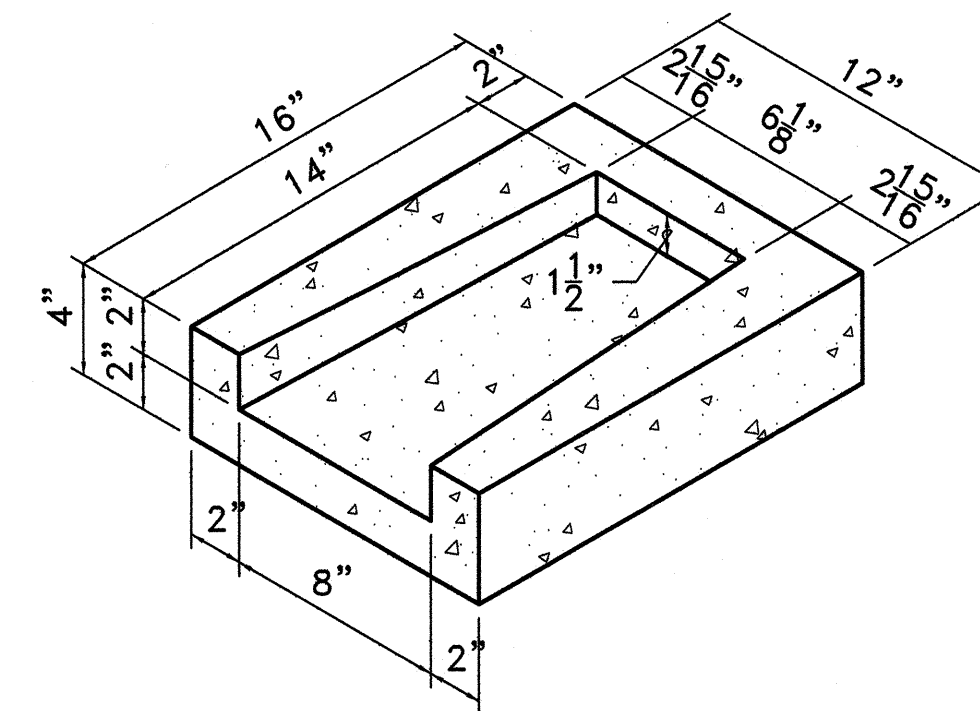


(B) SECTION

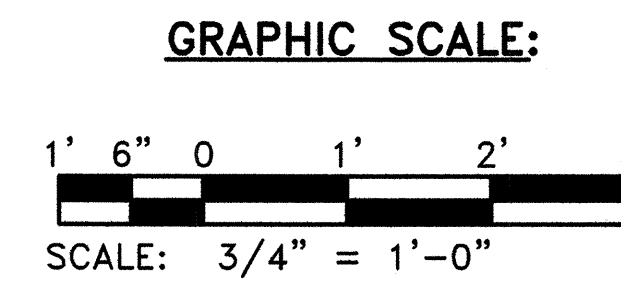


(C) SECTION/ELEVATION

2 SECTION @ WALL FOOTING WF-1  
S-24 SCALE: 3/4" = 1'-0"



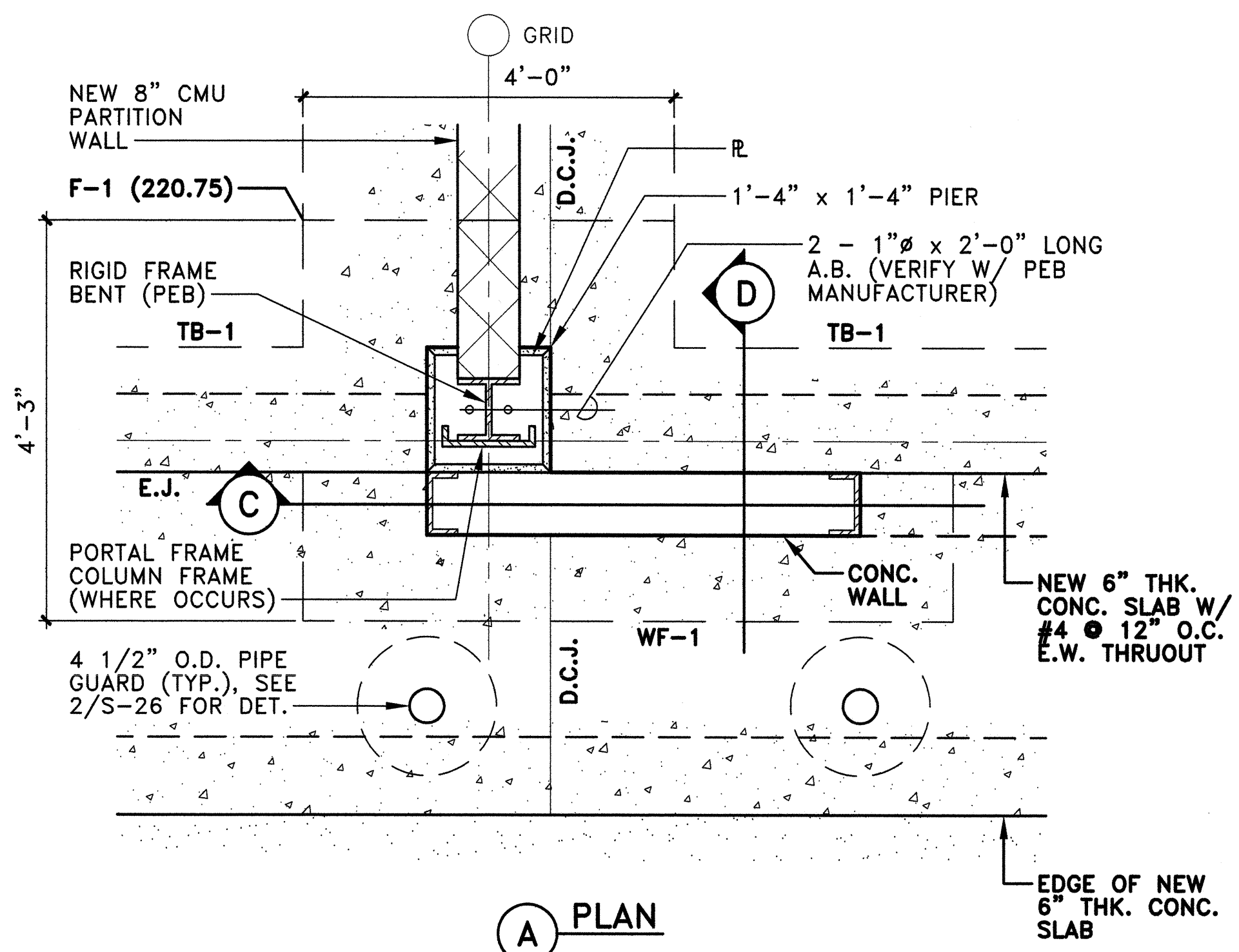
3 TYPICAL 12" CONCRETE  
S-24 SPLASH BLOCK DETAIL  
SCALE: 3/4" = 1'-0"



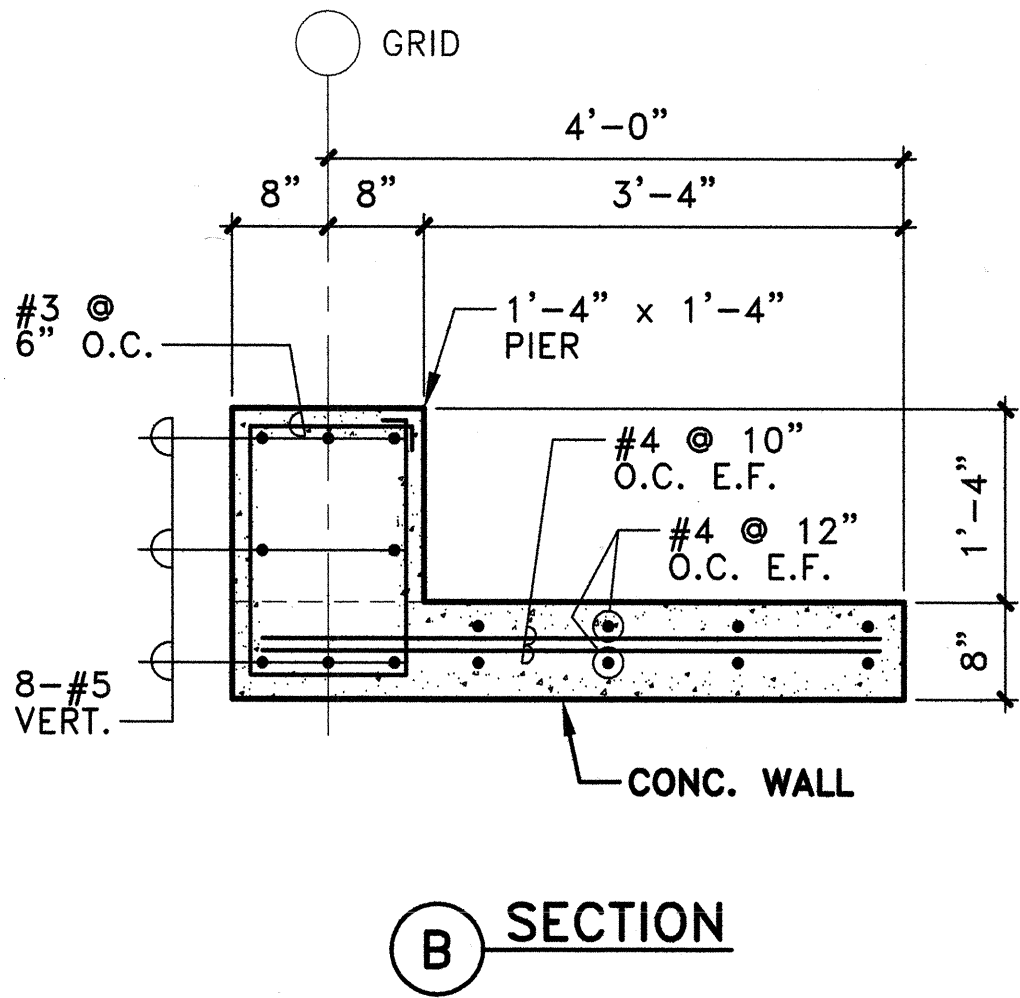
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
TYPICAL FOOTING F-3 DETAIL, SECTION @ WALL FOOTING (WF-1), & TYPICAL 12" CONCRETE SPLASH BLOCK DETAIL					
DESIGNED:	ATO	SUBMITTED:	[Signature]		
DRAWN:	RMA/LC	DATE:	03/07/2016		
CHECKED:	ATO	SCALE:	AS SHOWN		
APPROVED:	[Signature]	CHIEF ENGINEER	DATE		
Expiration date of the license: 04/30/2016		APR 26 2016		DRAWING NO. <b>S-24</b>	

02/26/2016

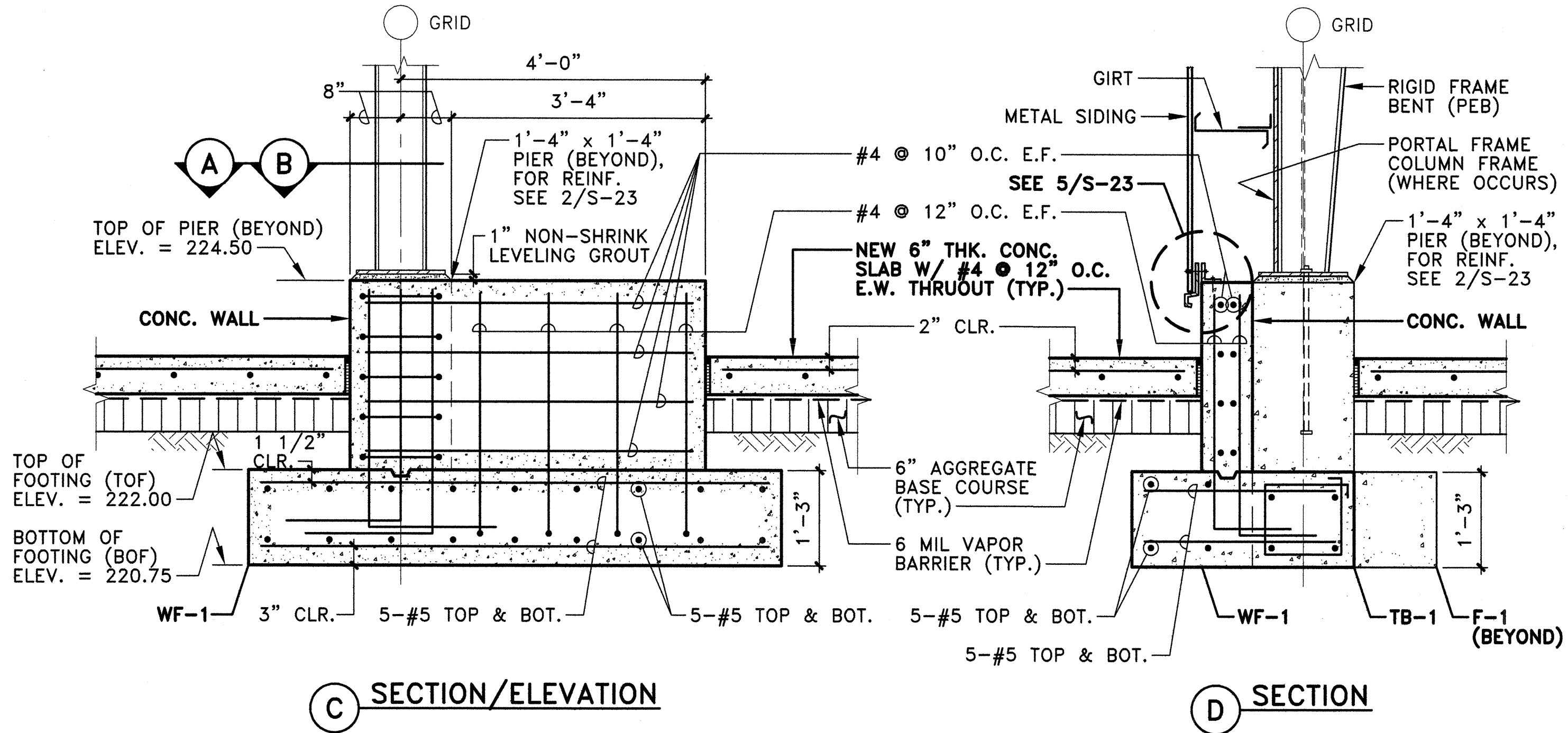




**A PLAN**



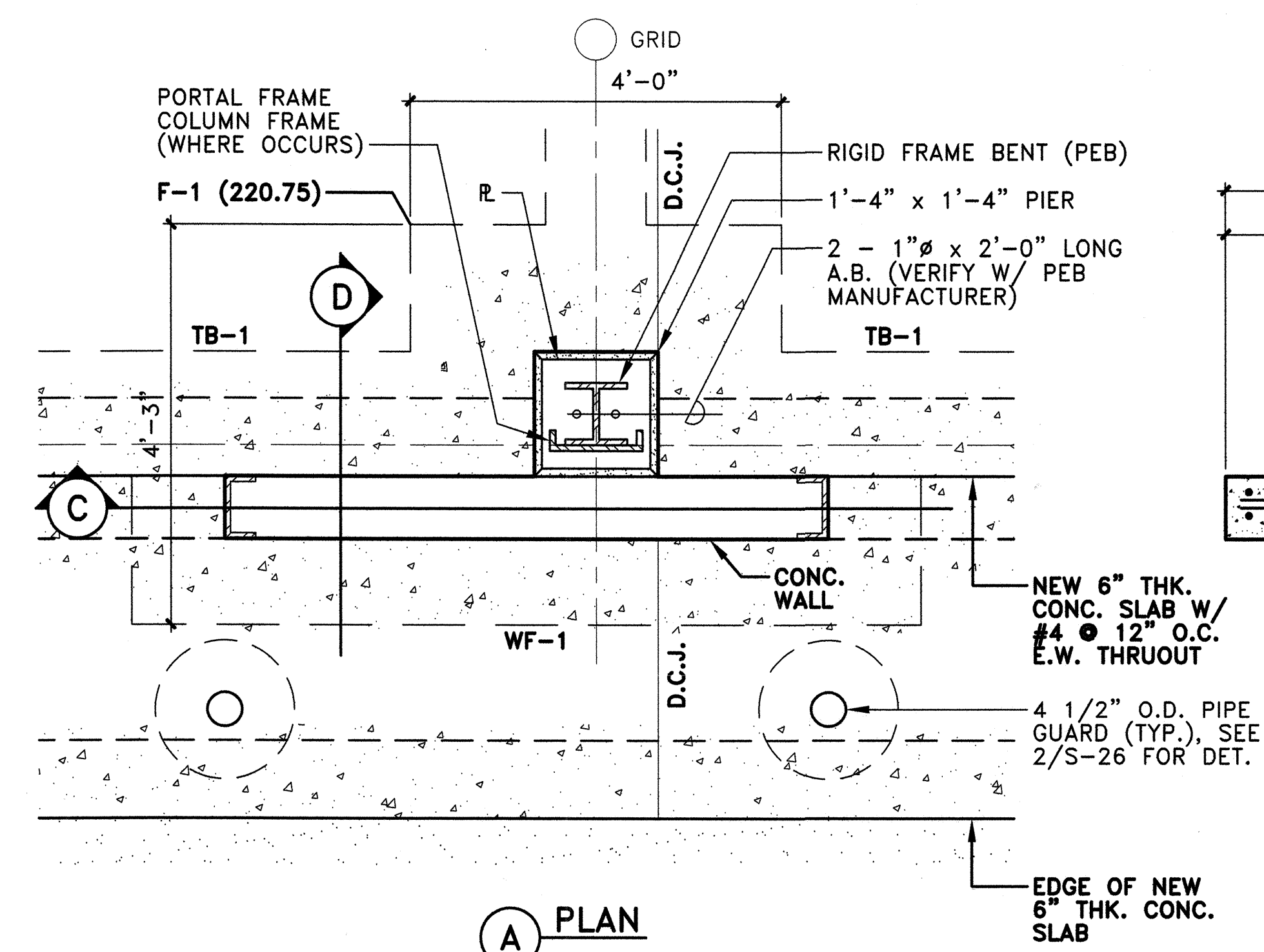
**B SECTION**



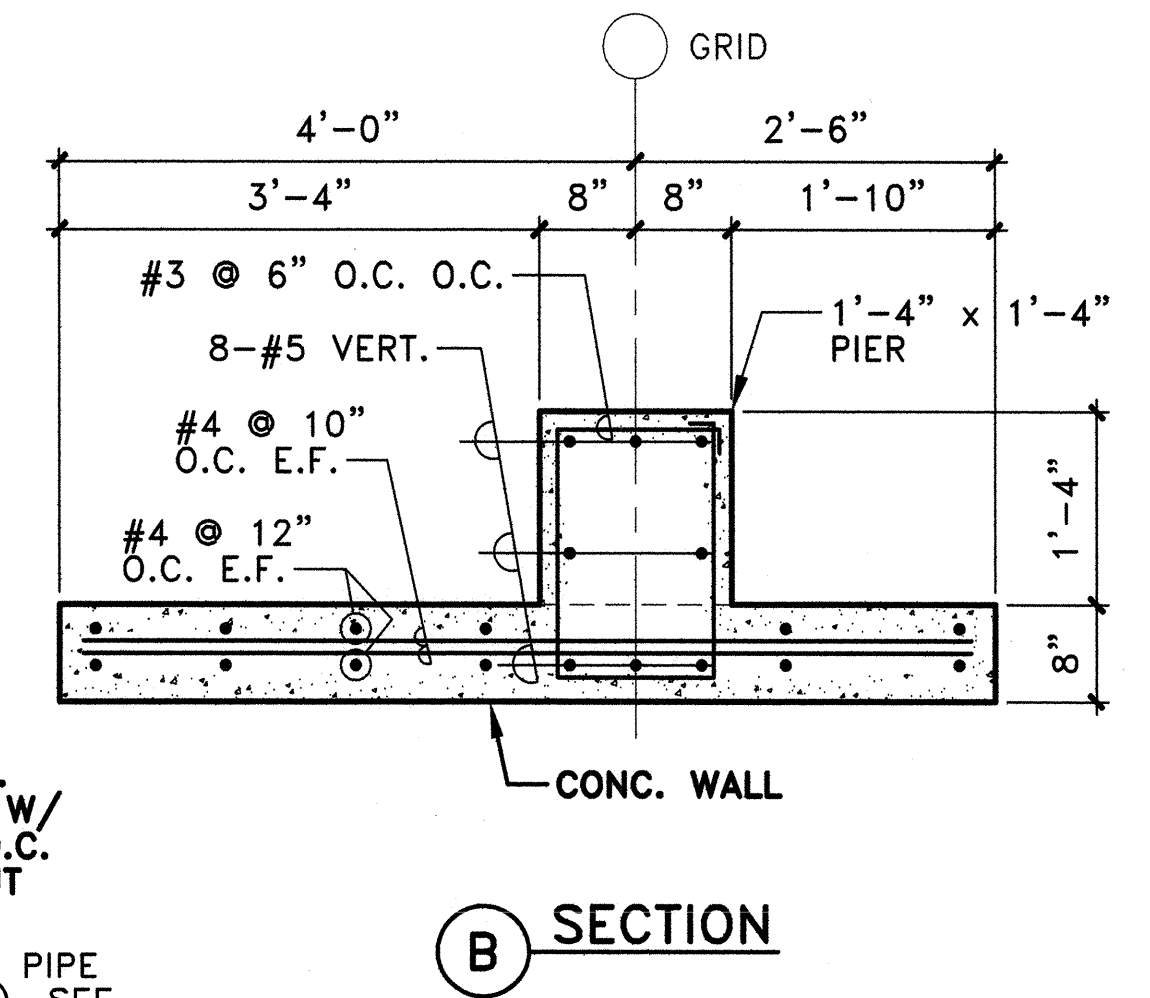
**C SECTION/ELEVATION**

**D SECTION**

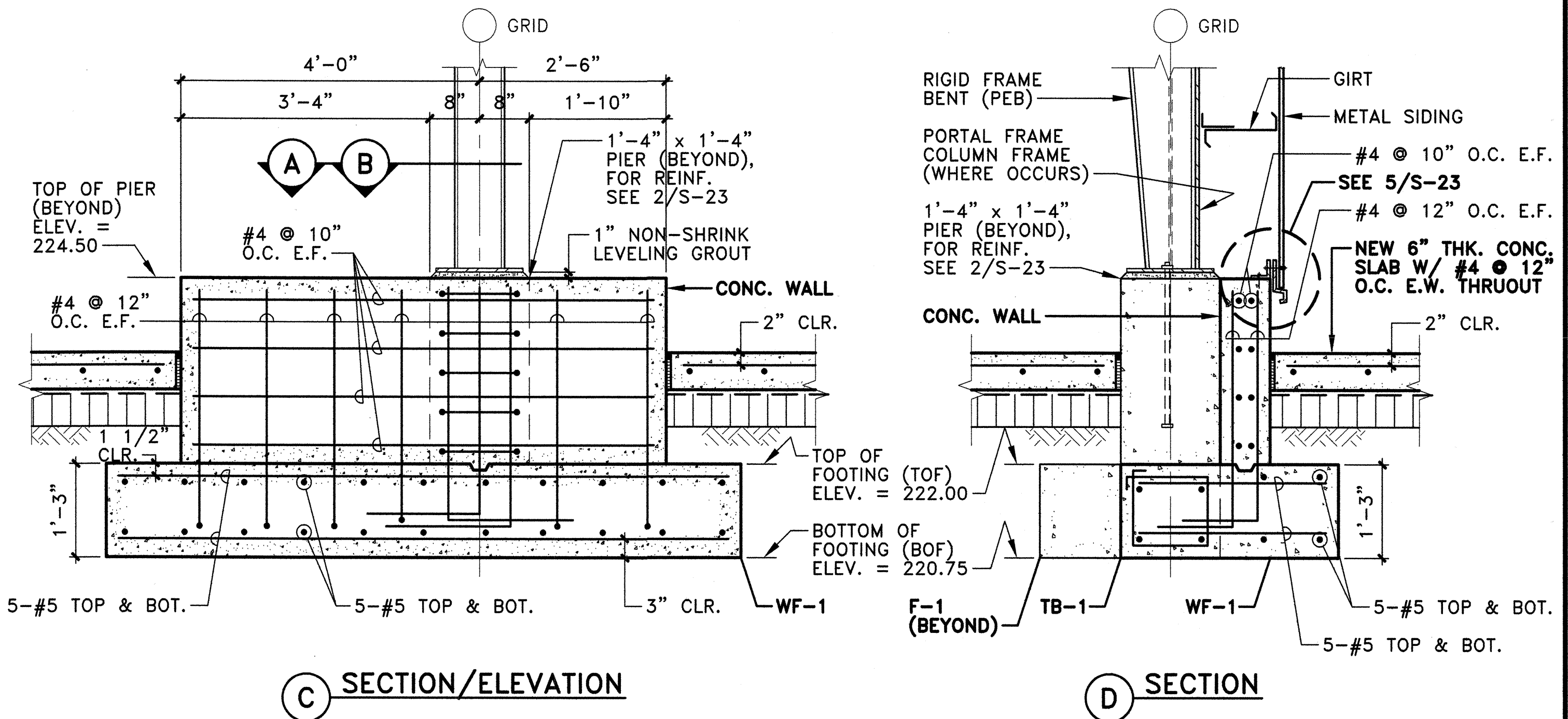
**1 TYPICAL FOOTING DETAIL**  
S-25 SCALE: 3/4" = 1'-0"



**A PLAN**



**B SECTION**

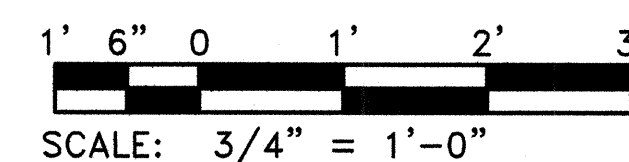


**C SECTION/ELEVATION**

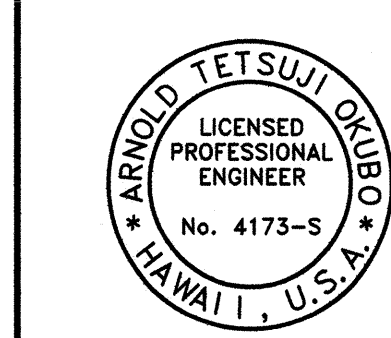
**D SECTION**

**2 TYPICAL FOOTING DETAIL**  
S-25 SCALE: 3/4" = 1'-0"

GRAPHIC SCALE:



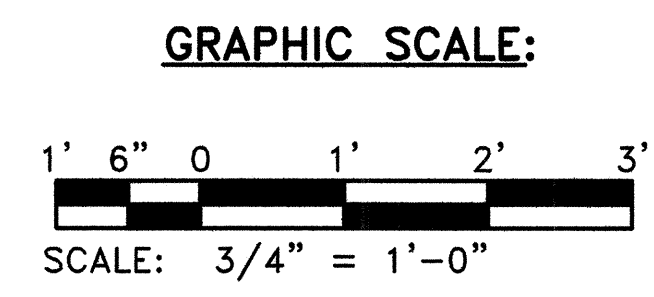
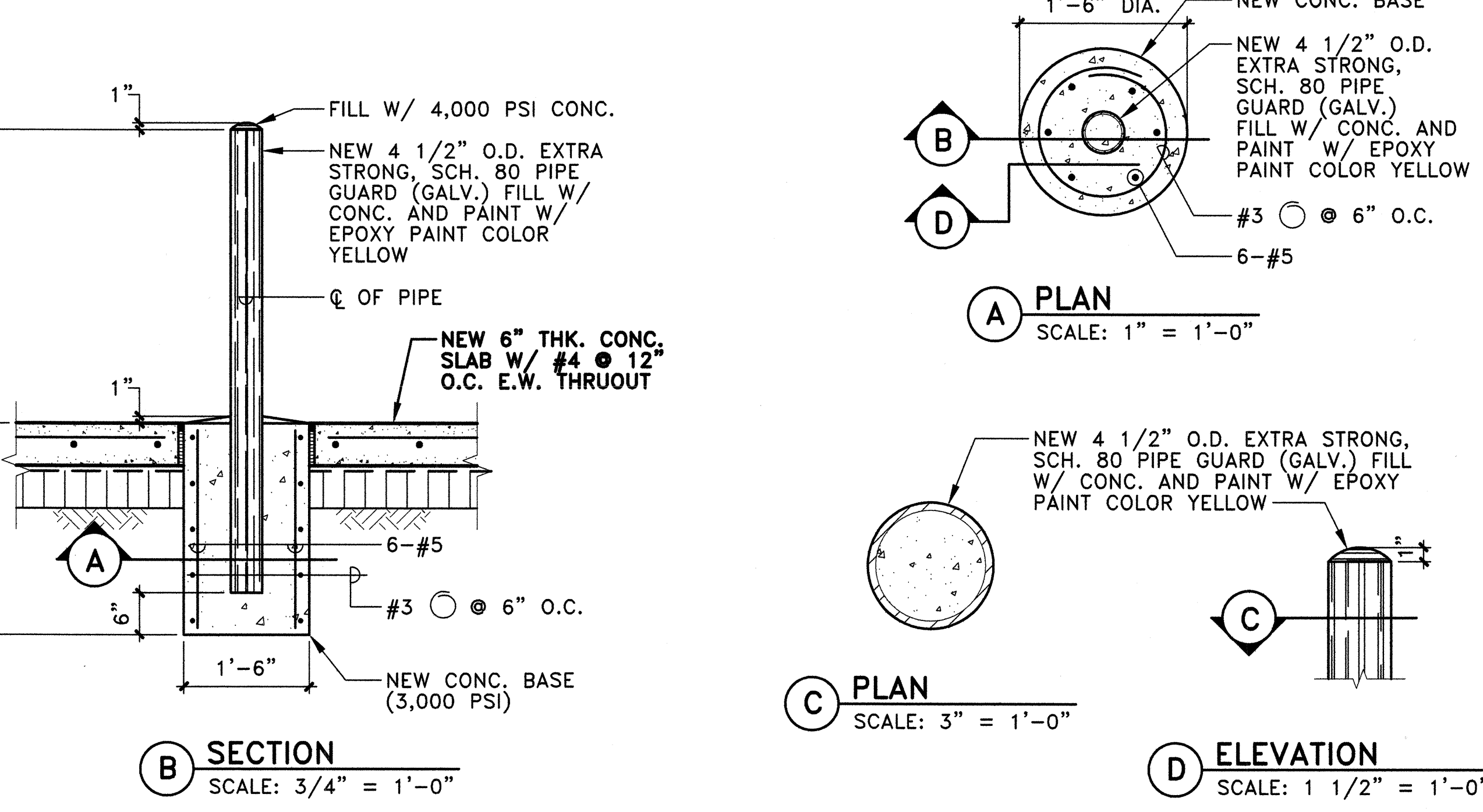
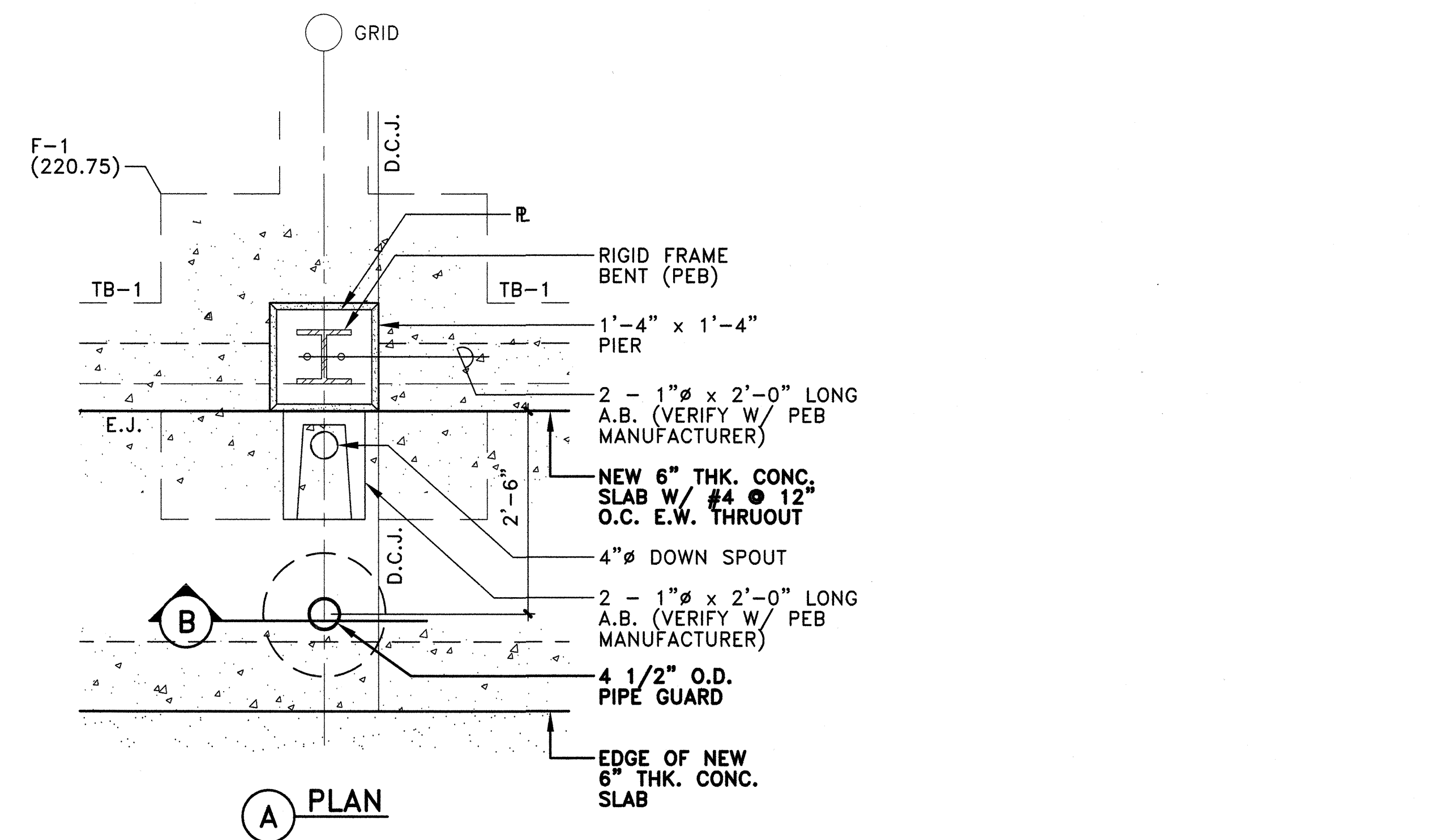
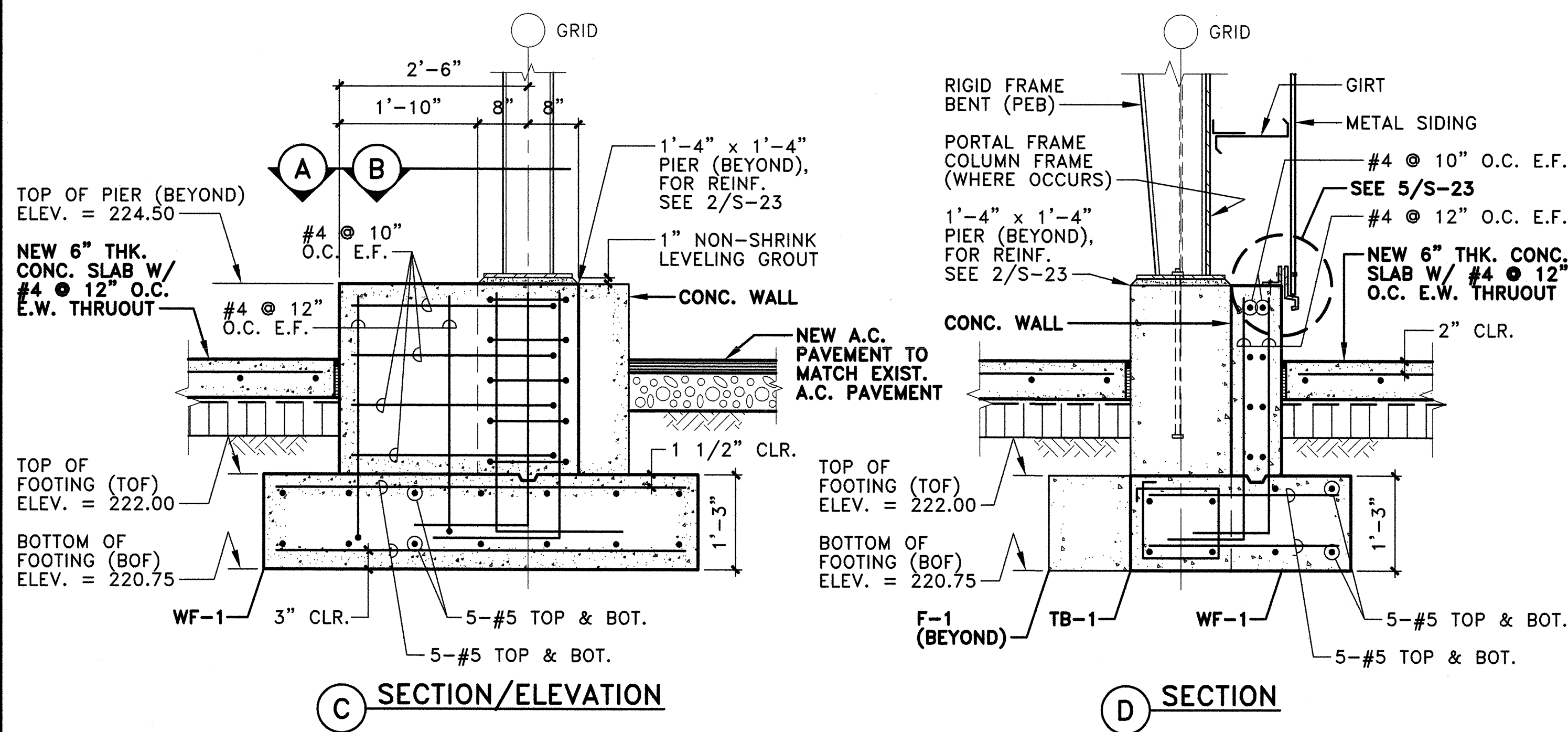
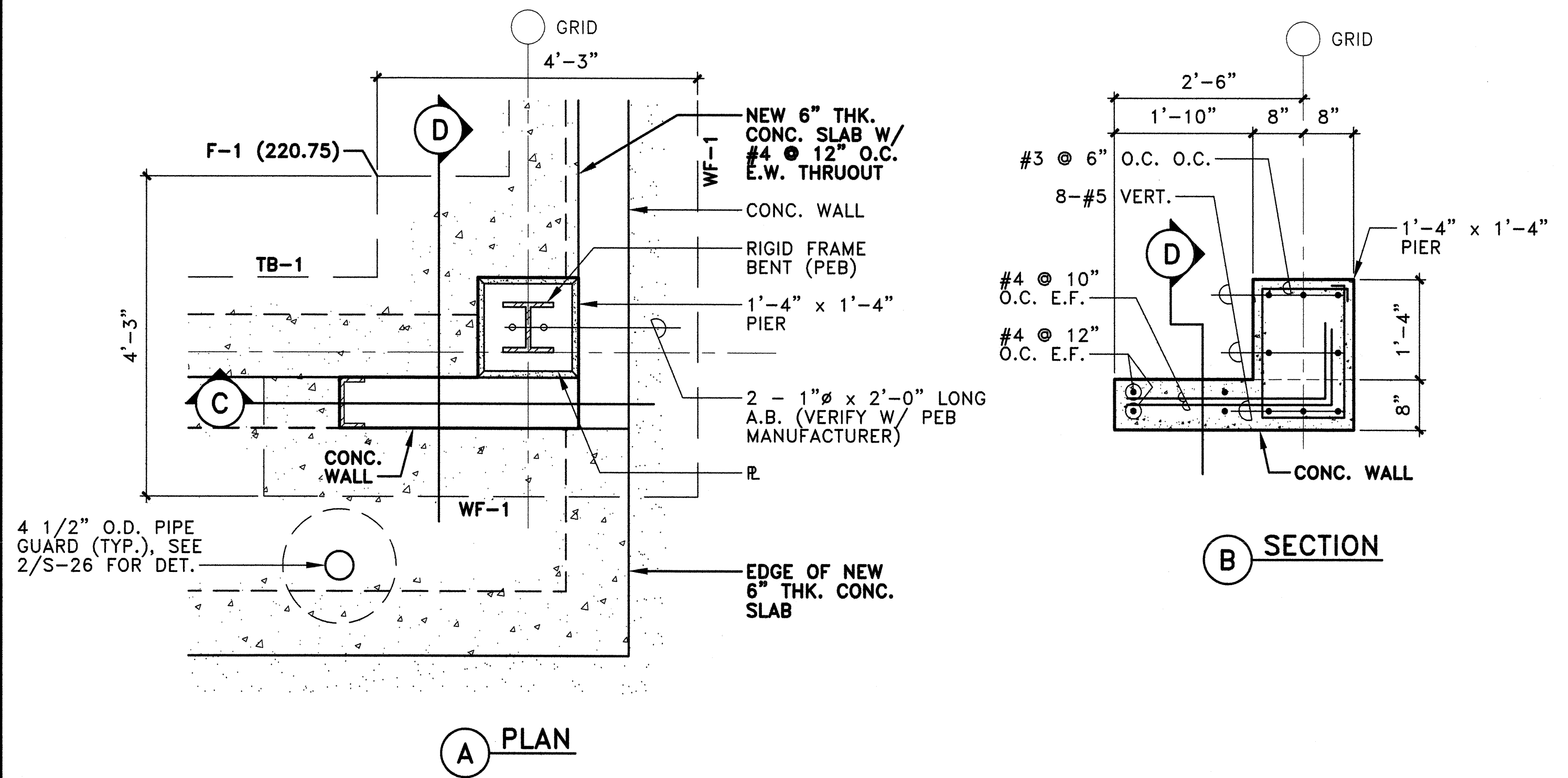
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
TYPICAL FOOTING DETAILS					
DESIGNED:	ATO	SUBMITTED:	gc	DATE:	03/07/2016
DRAWN:	RMA/LC	CHECKED:	ATO	SCALE:	AS SHOWN
APPROVED:	<i>Arnold Tetsuji Okubo</i>	CHIEF ENGINEER	EXPIRATION DATE:	04/30/2016	DATE



This work was prepared by me or under my supervision.

**S - 25**

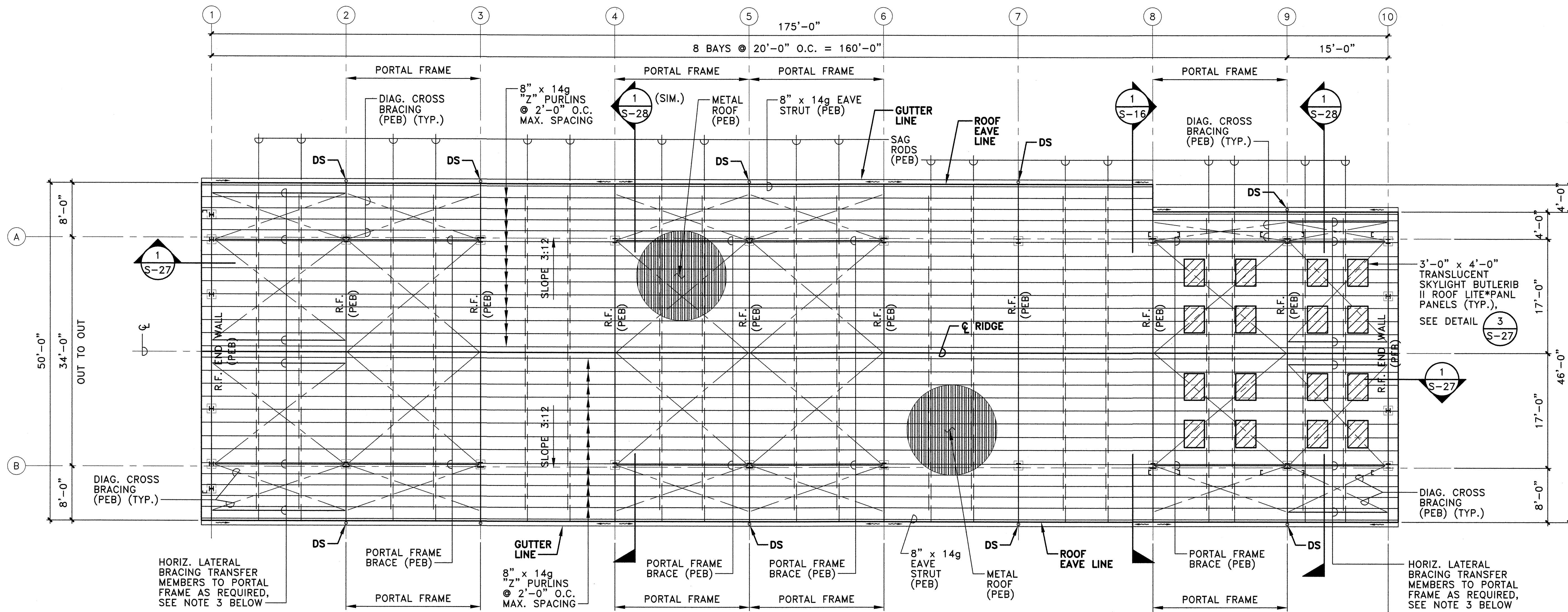
02/26/2016



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
TYPICAL FOOTING DETAIL & NEW PIPE GUARD DETAIL					
DESIGNED:	ATO	SUBMITTED:	✓	DATE:	03/07/2016
DRAWN:	RMA/LC	CHECKED:	ATO	SCALE:	AS SHOWN
APPROVED:	<i>Arnold Tetsuji Ozubo</i>	CHIEF ENGINEER	DATE:	APR 26 2016	<b>S - 26</b>
Expiration date of the license: 04/30/2016					

02/26/2016





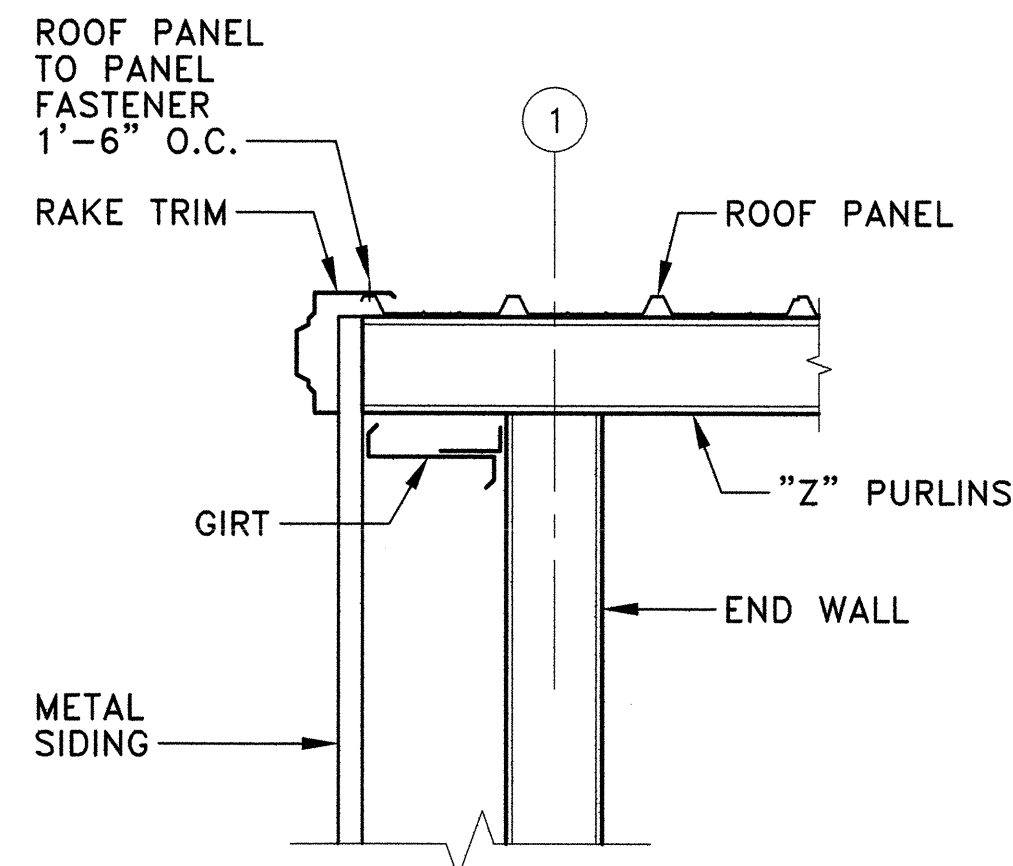
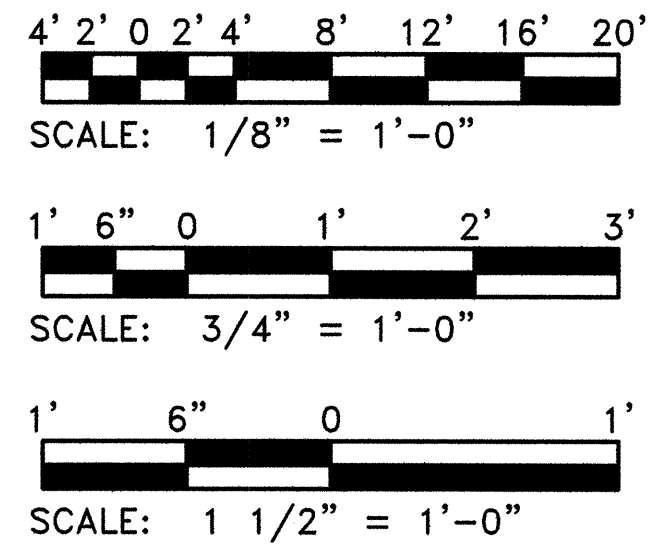
**A NEW VEHICLE SHELTER – ROOF FRAMING PLAN**  
 S-27 SCALE: 1/8" = 1'-0"

**NOTES:**

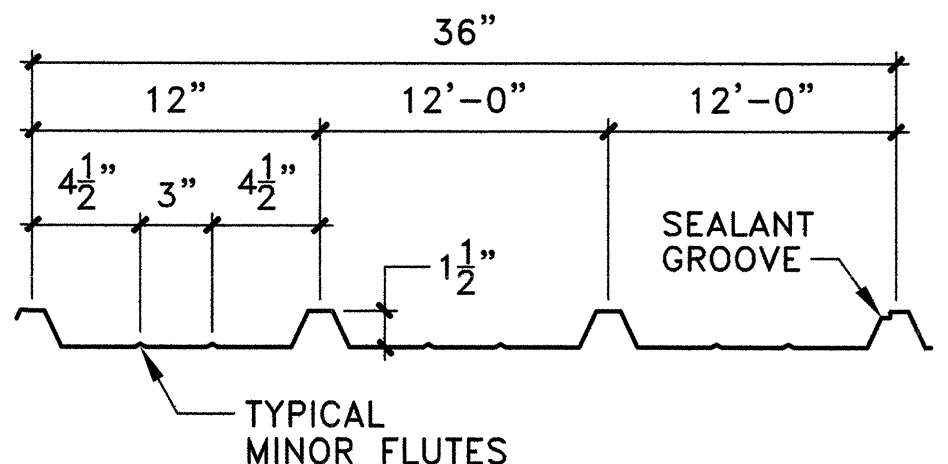
- (PEB) - DESIGNATES MEMBERS, ACCESSORIES AND CONNECTIONS WHICH ARE PART OF THE PRE-ENGINEERED BUILDING SYSTEM AND SHALL BE DESIGNED AND DETERMINED BY THE MANUFACTURER, SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER'S REPRESENTATIVE.
- R.F. - DENOTES RIGID FRAME
- HORIZONTAL LATERAL BRACING TRANSFER MEMBERS (PEB) BETWEEN BAYS 1 AND 2 AND BETWEEN BAYS 9 AND 10, SHALL BE DESIGNED TO TRANSFER LATERAL LOADS TO PORTAL FRAME.
- SEE ELECTRICAL DRAWINGS FOR LOCATION OF PHOTOVOLTAIC PANELS MOUNTED ON THE ROOF.

PROVIDE ROOF INSULATION BLANKET THRUOUT BETWEEN GRID LINES 8 TO 10 AND A TO B, SEE SHT. S-17 FOR ROOF INSULATION BLANKET DETAILS

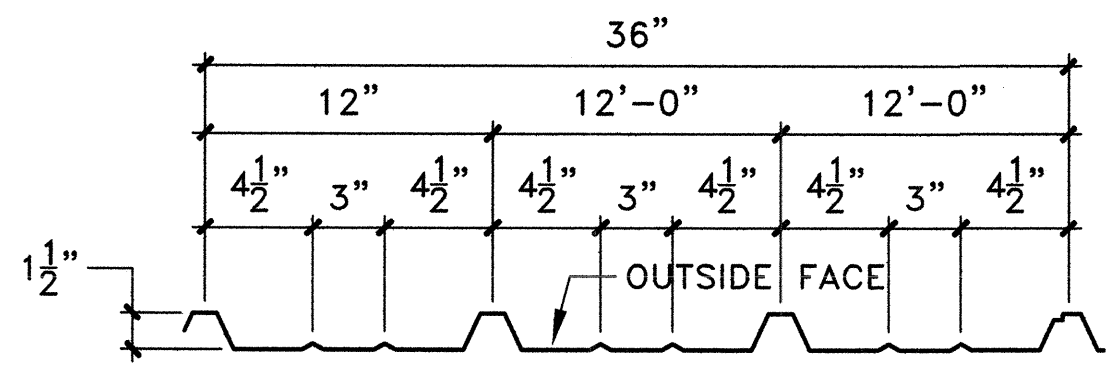
**GRAPHIC SCALE:**



**1 CANOPY END FRAME DETAIL**  
 S-27 SCALE: 3/4" = 1'-0"



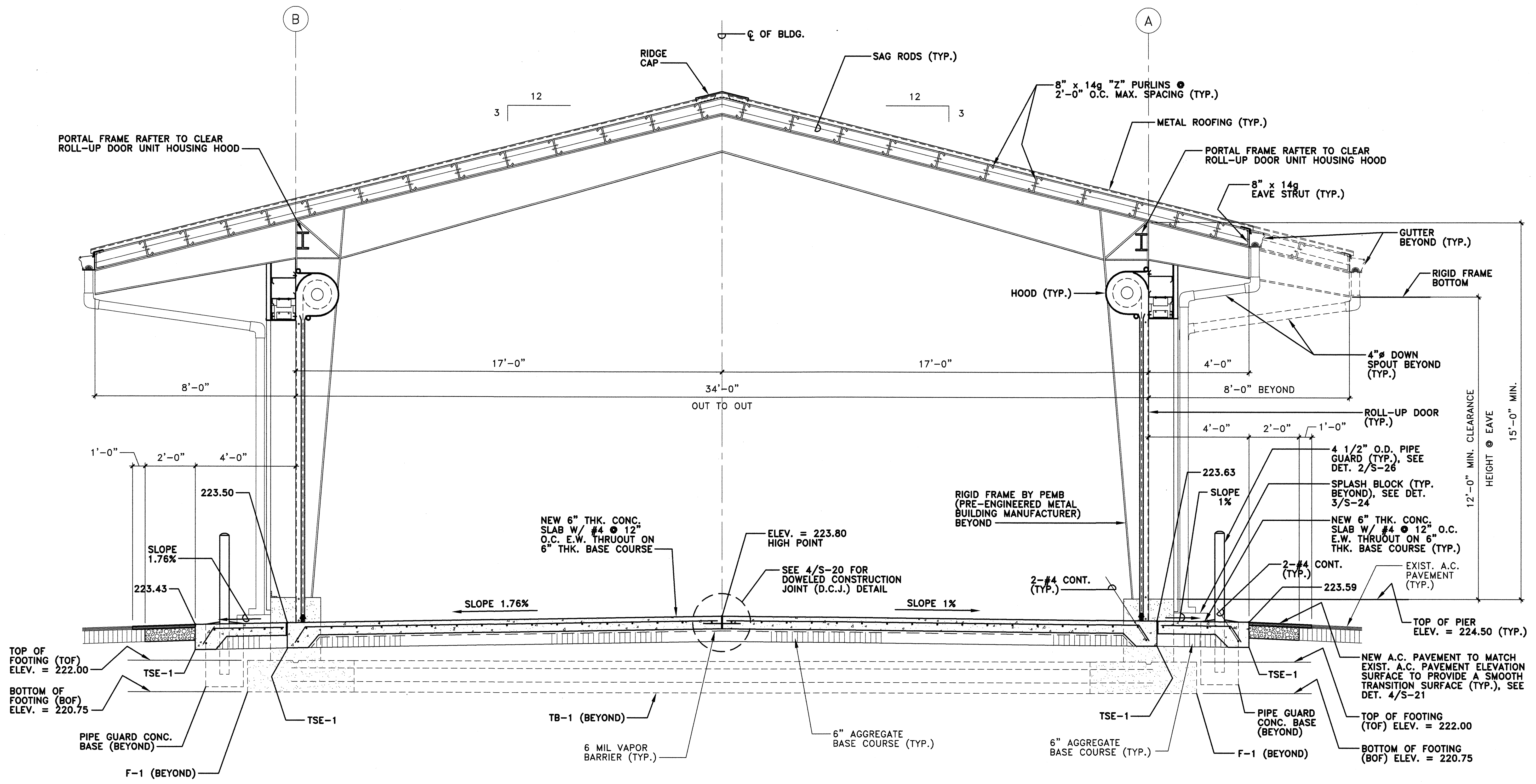
**2 BUTLERIB II ROOF SYSTEM 22 GAGE THICKNESS 4-RIB ROOF PANEL DETAIL**  
 S-27 SCALE: 1 1/2" = 1'-0"



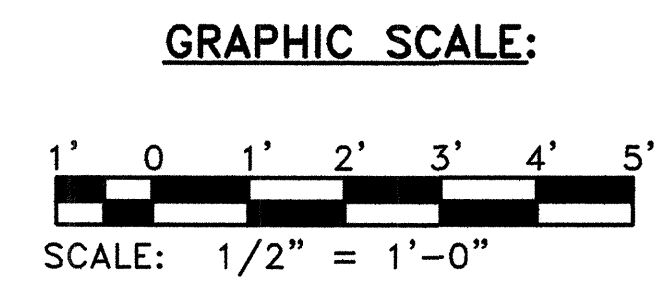
**3 BUTLERIB II ROOF LITE\*PANL PANELS FOR SKYLIGHT ROOF DETAIL**  
 S-27 SCALE: 1 1/2" = 1'-0"

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
NEW VEHICLE SHELTER – ROOF FRAMING PLAN, CANOPY END FRAME DETAIL AND BUTLERIB II ROOF & SKYLIGHT PANEL DETAILS					
DESIGNED:	ATO	SUBMITTED:	6	DATE:	03/07/2016
DRAWN:	RMA/LC	CHECKED:	ATO	SCALE:	AS SHOWN
APPROVED:	<i>Arnold Tetsuji Okubo</i>	CHIEF ENGINEER		DATE:	APR 26 2016
Expiration date of the license: 04/30/2016				<b>S - 27</b>	



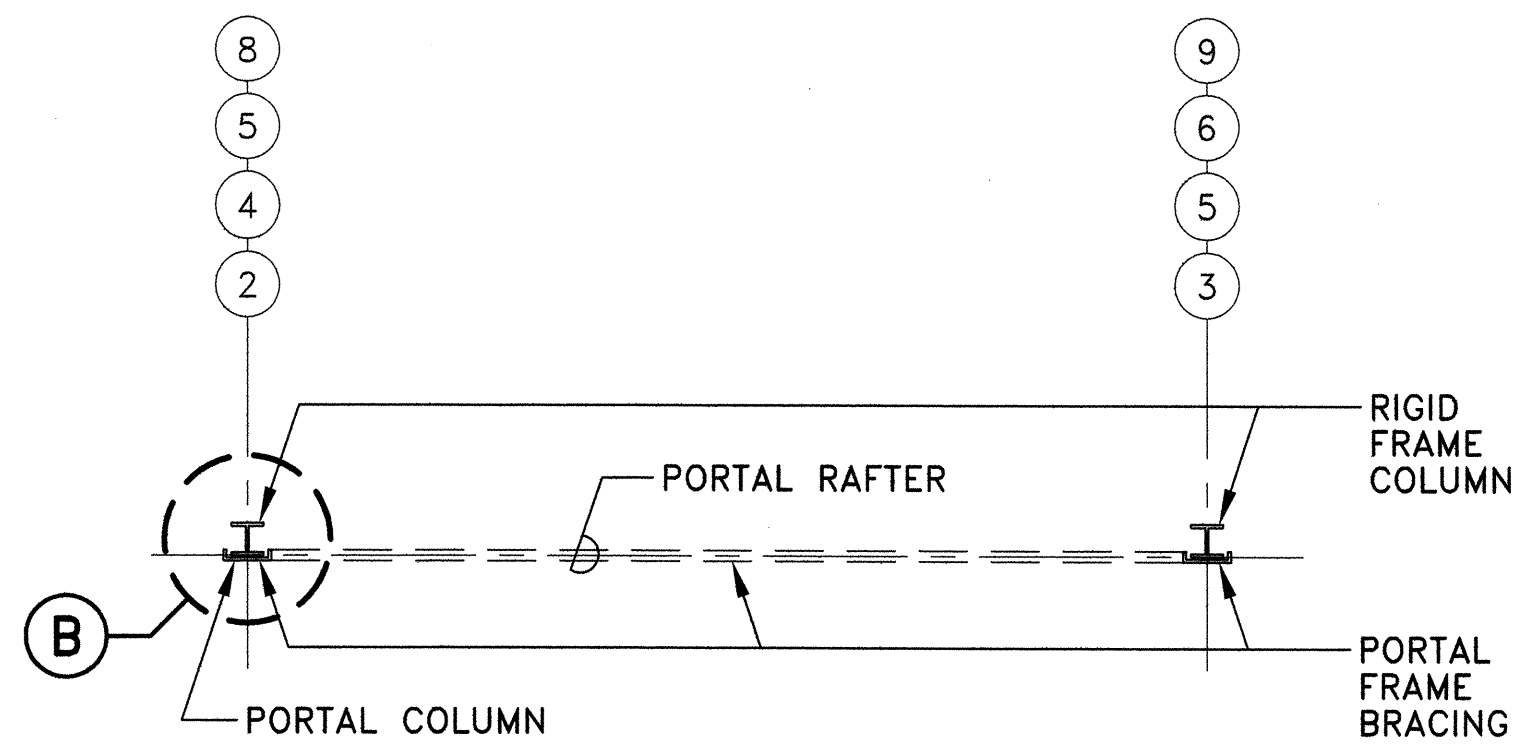


**1** TYPICAL BUILDING SECTION  
 S-28 SCALE: 1/2" = 1'-0"



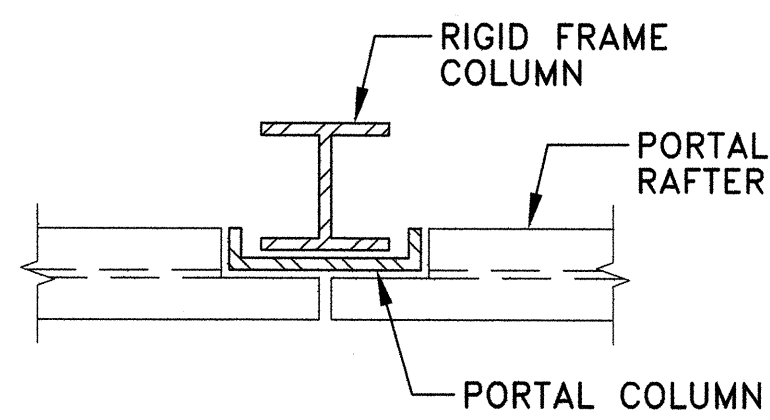
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
TYPICAL BUILDING SECTION					
DESIGNED:	ATO	SUBMITTED:	AS SHOWN		
DRAWN:	RMA/LC	DATE:	03/07/2016		
CHECKED:	ATO	SCALE:	AS SHOWN		
APPROVED:	 CHIEF ENGINEER		APR 26 2016 DATE	<b>S - 28</b> SHEETS	

02/26/2016

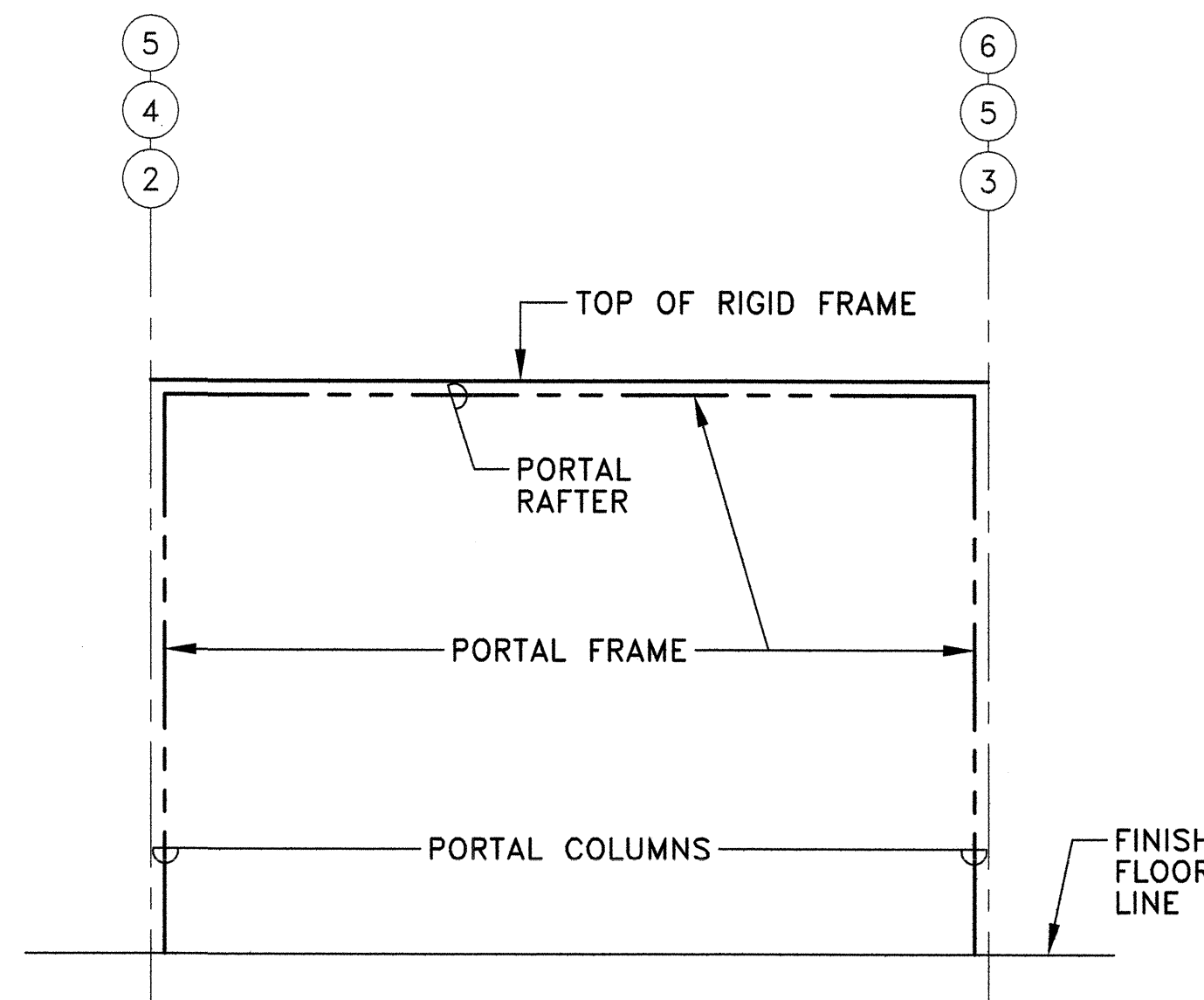


**PLAN - PORTAL FRAMES (PEB)  
LOCATIONS ALONG GRID LINES**

**(A) (A) & (B) - 8 EACH TOTAL**

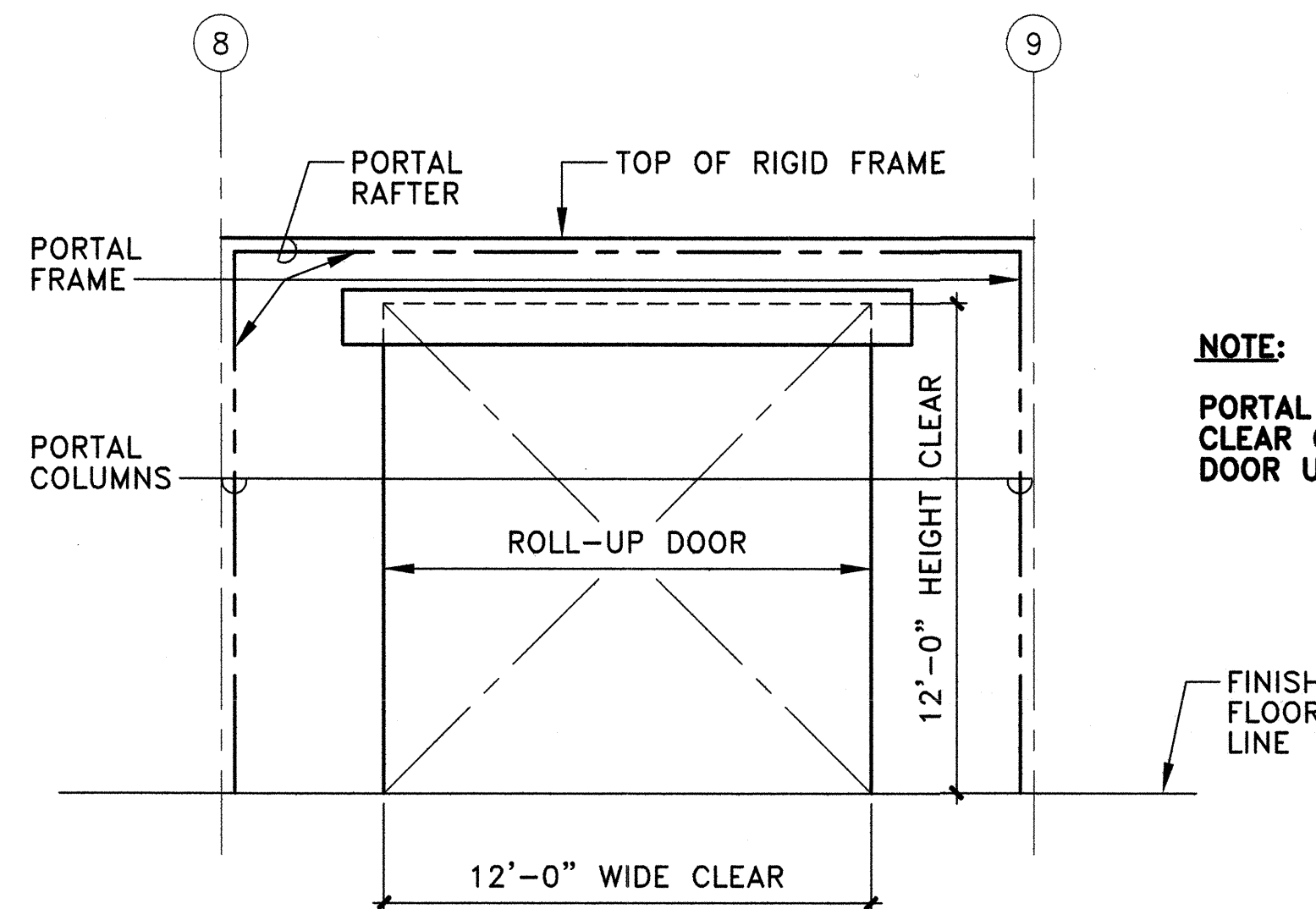


**(B) ENLARGED DETAIL**



**ELEVATION - TYPICAL PORTAL  
FRAME (PEB) LOCATIONS ALONG  
GRID LINES (A) & (B) - 6 EACH**

**(C)**



**ELEVATION - TYPICAL PORTAL FRAME  
(PEB) LOCATIONS ALONG GRID LINES**

**(D) (A) & (B) 2 EACH WITH ROLL-UP**

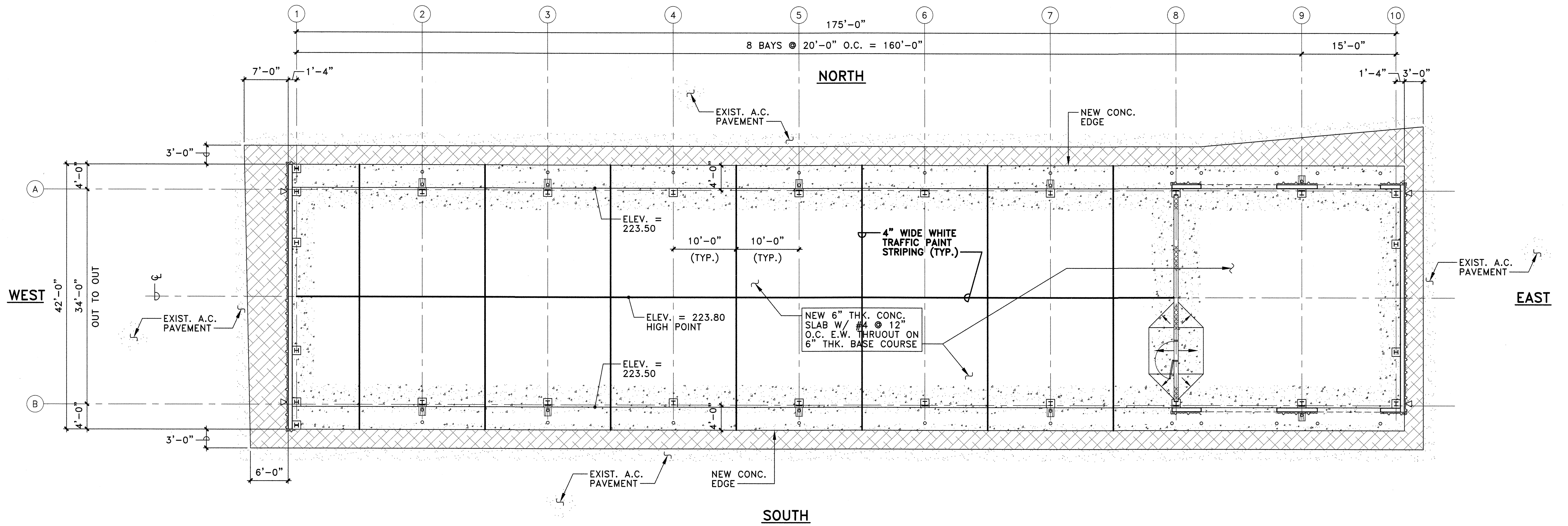
**NOTE:**  
PORTAL FRAME HEADER TO  
CLEAR COILING ROLL-UP  
DOOR UNIT HOUSING

**1 TYPICAL PORTAL FRAME (PEB) - PLAN & ELEVATIONS**  
S-29 NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
TYPICAL PORTAL FRAME (PEB) - PLAN & ELEVATIONS					
DESIGNED: ATO		SUBMITTED: <i>at</i>			
DRAWN: RMA/LC		DATE: 03/07/2016			
CHECKED: ATO		SCALE: AS SHOWN			
APPROVED: <i>[Signature]</i>		CHIEF ENGINEER		DRAWING NO. S-29	
Expiration date of the license: 04/30/2016				APR 26 2016 DATE	

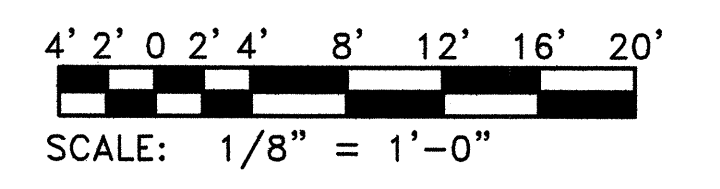
02/26/2016





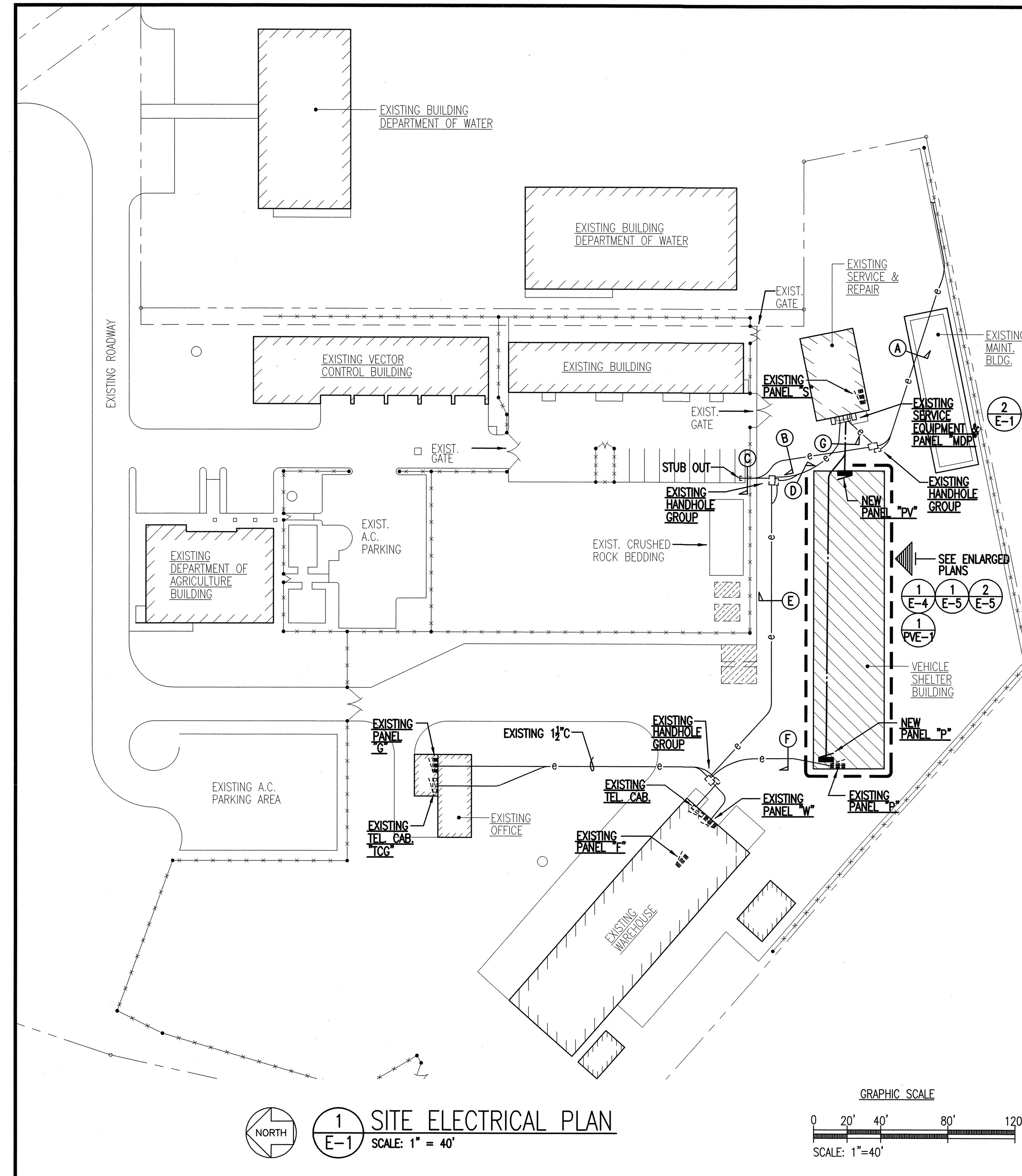
**A** NEW VEHICLE SHELTER - STRIPING PLAN  
**S-30** SCALE: 1/8" = 1'-0"

GRAPHIC SCALE:

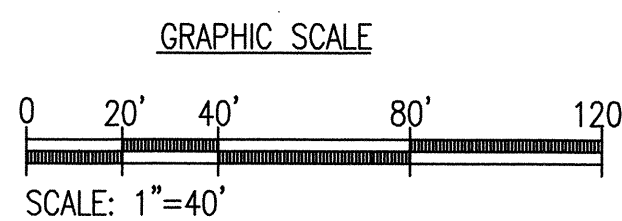


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES ENGINEERING DIVISION					
KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII					
NEW VEHICLE SHELTER - STRIPING PLAN					
DESIGNED: ATO		SUBMITTED: <i>[Signature]</i>			
DRAWN: RMA/LC		DATE: 03/07/2016			
CHECKED: ATO		SCALE: AS SHOWN			
APPROVED: <i>[Signature]</i>		CHIEF ENGINEER		DRAWING NO. <b>S-30</b>	
Expiration date of the license: 04/30/2016				APR 26 2016 DATE	

02/26/2016



1 SITE ELECTRICAL PLAN  
E-1 SCALE: 1" = 40'



GENERAL NOTES:

- ELECTRICAL CONTRACTOR SHALL VISIT SITE AND VERIFY EXISTING ELECTRICAL INSTALLATION AND NEW DESIGN PRIOR TO BID.
- ELECTRICAL CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE STATE, DISCONNECT AND RECONNECT ALL EXISTING ELECTRICAL INSTALLATIONS IN CONFLICT WITH NEW CONSTRUCTION.
- ALL EXISTING ELECTRICAL INSTALLATIONS ADJACENT TO THE PROJECT AREA SHALL BE MAINTAINED. DISCONNECT AND RE-CONNECT AS REQUIRED. PROVIDE TEMPORARY CONNECTIONS AS REQUIRED.
- ELECTRICAL CONTRACTOR SHALL COORDINATE ALL HIS WORK WITH OTHER TRADES.
- ELECTRICAL CONTRACTOR SHALL VERIFY AND CONFIRM LOCATION OF ALL WIRING DEVICES AND LIGHTING FIXTURES W/ENGINEER. PRIOR TO ROUGH-IN.
- CIRCUIT NUMBERS INDICATED ARE FOR THE PURPOSE OF CIRCUIT GROUPING AND MAY NOT REFLECT ACTUAL PANEL CIRCUIT NUMBER ASSIGNMENT. ELECTRICAL CONTRACTOR SHALL BALANCE PANEL LOAD AND ASSIGN CIRCUITS ACCORDINGLY. PROVIDE NEW TYPED PANEL DIRECTORY USING ROOM NAMES AND NUMBERS.
- WIRE COUNT IN RACEWAYS NOT INDICATED. ELECTRICAL CONTRACTOR SHALL PROVIDE NUMBER OF WIRES AS REQUIRED IN NEW RACEWAYS AND ADDITIONAL WIRES AS REQUIRED IN EXISTING RACEWAYS.
- PAINT ALL EXPOSED RACEWAYS AND OUTLET BOXES TO MATCH SURROUNDING FINISH.
- THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL, TELEPHONE AND CABLE UTILITY WORK WITH THE UTILITY COMPANIES PRIOR TO STARTING WORK. THE CONTRACTOR SHALL PAY FOR ALL UTILITY COMPANIES' CHARGES UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE STATE.

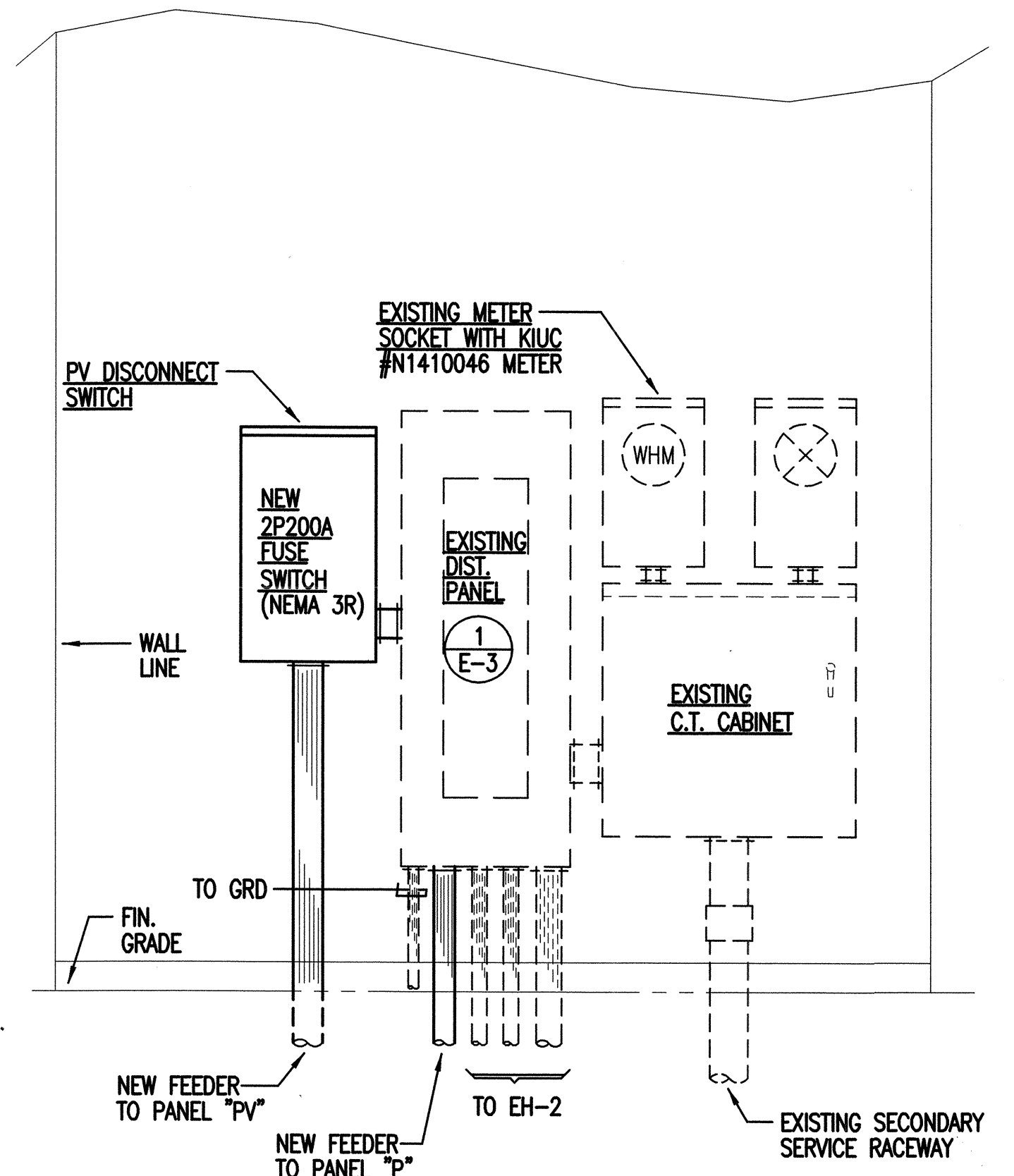
ELECTRICAL SYMBOL LIST

EXISTING	NEW	DESCRIPTION
[Symbol]	[Symbol]	LIGHT, FLUORESCENT, CEILING STEM MOUNTED.
[Symbol]	[Symbol]	DIRECTIONAL LIGHTING, CEILING SURFACE MOUNTED.
[Symbol]	[Symbol]	NIGHT LIGHT, WALL MOUNTED.
[Symbol]	[Symbol]	SWITCH, FLUSH TUMBLER, WALL MOUNTED.
[Symbol]	[Symbol]	JUNCTION BOX, CEILING MOUNTED.
[Symbol]	[Symbol]	JUNCTION BOX, WALL MOUNTED.
[Symbol]	[Symbol]	RECEPTACLE, DUPLEX, WALL MOUNTED, 20A, 125V, NEMA 5-20.
[Symbol]	[Symbol]	RECEPTACLE, DUPLEX, G.F.I. TYPE, WALL MTD., 20A, 125V, NEMA 5-20.
[Symbol]	[Symbol]	RECEPTACLE, SINGLE, WALL MOUNTED, 50A, 125/250V, 4 WIRES, NEMA 14-50.
[Symbol]	[Symbol]	EQUIPMENT CONNECTION.
[Symbol]	[Symbol]	ELECTRIC PANEL.
[Symbol]	[Symbol]	ELECTRICAL EQUIPMENT.
[Symbol]	[Symbol]	RACEWAY, CONCEALED ABOVE FINISH FLOOR. NUMBER OF HASHMARKS INDICATE NUMBER OF WIRES WITHIN.
[Symbol]	[Symbol]	RACEWAY, CONCEALED BELOW FINISH FLOOR. NO HASHMARKS INDICATES TWO WIRES WITHIN.
[Symbol]	[Symbol]	FLEXIBLE RACEWAY.
[Symbol]	[Symbol]	ARROW, HOMERUN TO PANEL OR CABINET.
[Symbol]	[Symbol]	RACEWAY, STUBBED AND CAPPED.
[Symbol]	[Symbol]	ELECTRIC UNDERFLOOR DUCT.
[Symbol]	[Symbol]	ELECTRICAL NOTE INDICATOR.
[Symbol]	[Symbol]	FIXTURE INDICATOR UPPER HALF: FIXTURE TYPE. LOWER HALF: NO. OF LAMPS & WATTS OR LENGTH.
[Symbol]	[Symbol]	DETAIL INDICATOR UPPER HALF: DETAIL NUMBER. LOWER HALF: SHEET NUMBER, DETAIL LOCATION.
[Symbol]	[Symbol]	WP INDICATES WEATHERPROOF.
[Symbol]	[Symbol]	INL INDICATES NIGHT LIGHT.
[Symbol]	[Symbol]	ICL INDICATES CURFEW LIGHT.
[Symbol]	[Symbol]	HH INDICATES HANDHOLE.

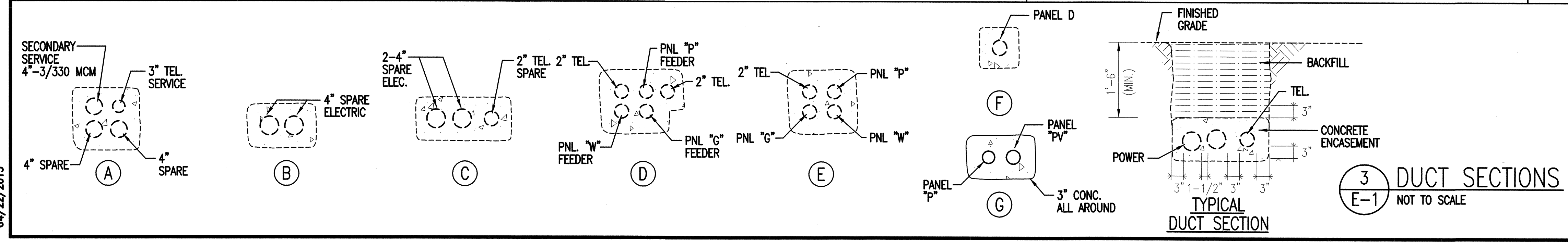
MOUNTING HEIGHT SCHEDULE

DEVICE ON PLAN	MOUNTING HEIGHT	REFERENCE POINT			REMARKS	
		FLOOR	CEILING	TO		
\$	45"	.	.	CL	TOP	MOUNTING HEIGHT SHALL BE TO TOP OF OPERABLE PART.
[Symbol]	24" *	.	.		BOTTOM	MOUNTING HEIGHT SHALL BE TO BOTTOM OF PLATE.
[Symbol]	24" *	.	.		BOTTOM	MOUNTING HEIGHT SHALL BE TO BOTTOM OF PLATE.
[Symbol]	5'-6"	.	.		.	

\*SPECIAL MOUNTING HEIGHTS INDICATED ON PLAN.



2 ELEVATION - SERVICE EQUIPMENT  
E-1 (NEW WORK)  
NOT TO SCALE



3 DUCT SECTIONS  
E-1 NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF WATER AND LAND DEVELOPMENT

KAUAI BASEYARD IMPROVEMENTS  
LIHUE, KAUAI, HAWAII

SITE ELECTRICAL PLAN, GENERAL NOTES,  
ELECTRICAL SYMBOL LIST & MOUNTING HEIGHT SCHEDULE

DESIGNED: BI SUBMITTED: [Signature]  
DRAWN: KN DATE: 03/07/2016  
CHECKED: SM SCALE: AS SHOWN  
APPROVED: [Signature] DRAWING NO. E-1  
CHIEF ENGINEER DATE: APR 26 2016

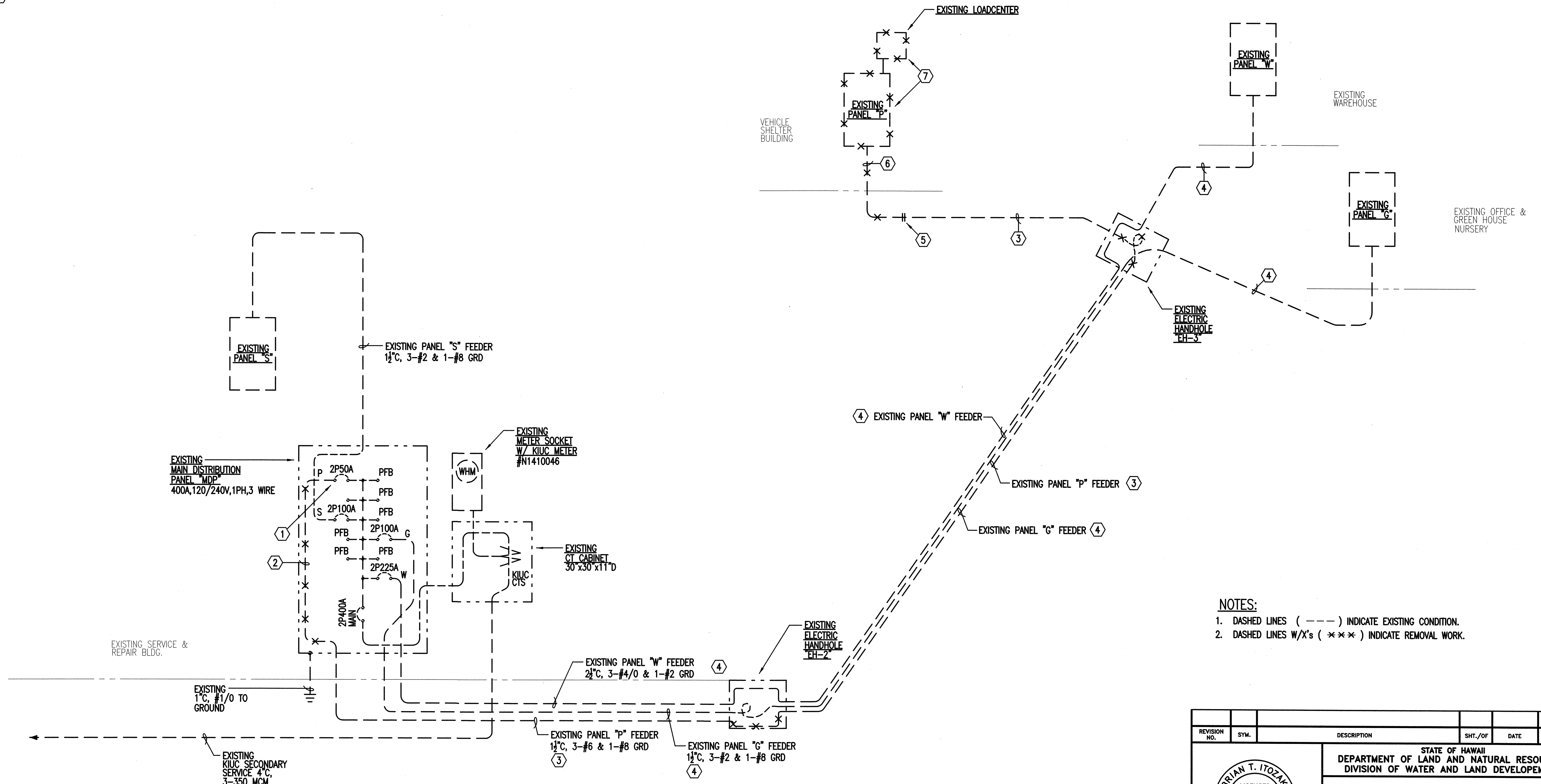
This work was prepared by me or under my supervision.  
Expiration date of the license: 04/30/2016

04/22/2015



**ELECTRICAL NOTES: EXISTING/REMOVAL WORK**

- ① DISCONNECT PANEL "P" FEEDER FROM CIRCUIT BREAKER. DESIGNATE AS SPARE.
- ② REMOVE FEEDER 3-#6 AND 1-#8 GRD.
- ③ REMOVE FEEDER FROM RACEWAY.
- ④ EXISTING FEEDER TO REMAIN.
- ⑤ INTERCEPT DUCTLINE.
- ⑥ REMOVE RACEWAY.
- ⑦ DISCONNECT PANEL AND LOADCENTER.



- NOTES:**
- 1. DASHED LINES ( - - - ) INDICATE EXISTING CONDITION.
  - 2. DASHED LINES W/X's ( \* \* \* ) INDICATE REMOVAL WORK.

① EXISTING ONE LINE DIAGRAM (REMOVAL WORK)  
E-2 NOT TO SCALE

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

This work was prepared by me or under my supervision.

APPROVED: *[Signature]*  
CHIEF ENGINEER

Expiration date of the license: 04/30/2016

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF WATER AND LAND DEVELOPMENT

**KAUAI BASEYARD IMPROVEMENTS  
LIHUE, KAUAI, HAWAII**

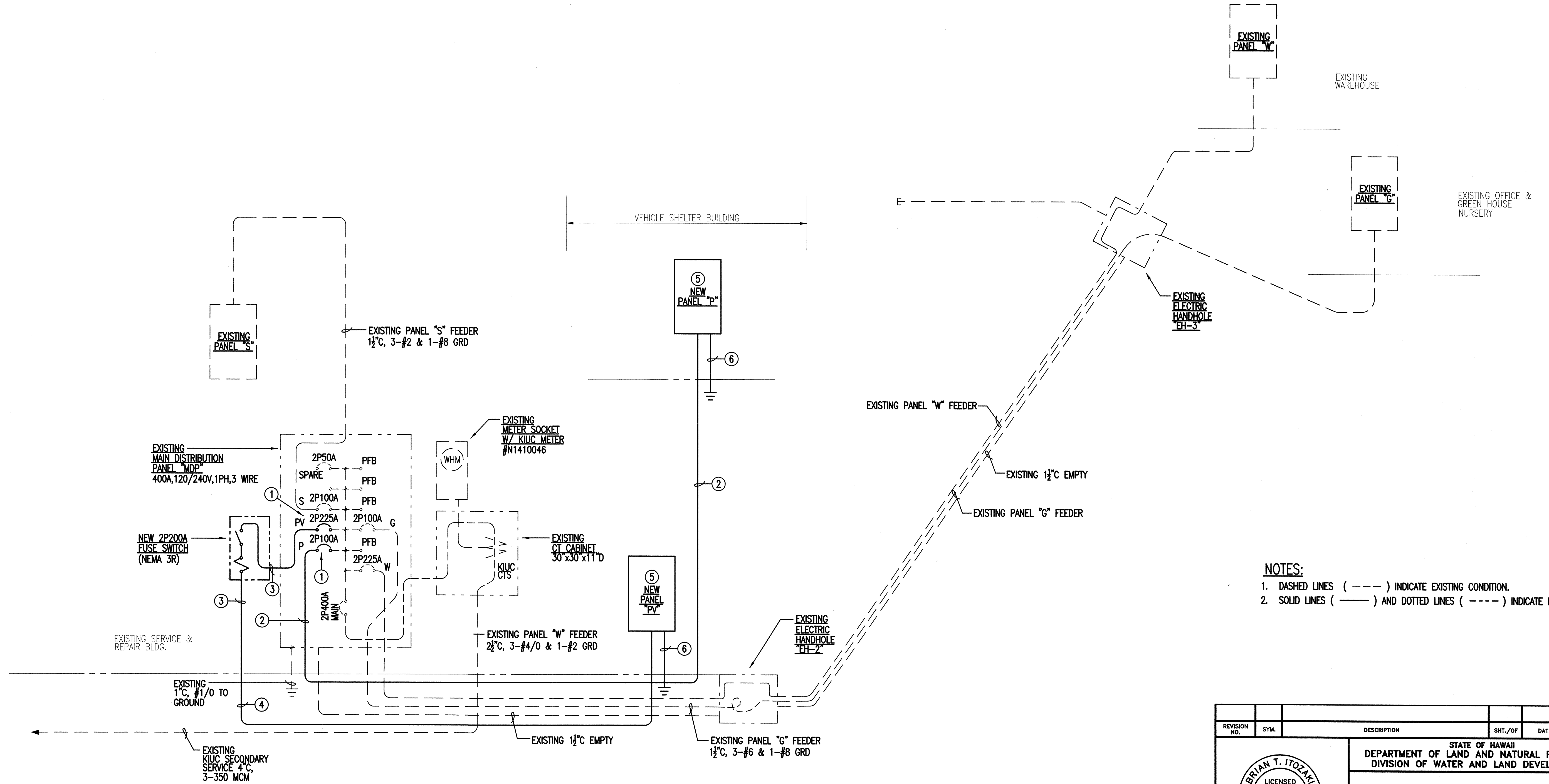
EXISTING ONE LINE DIAGRAM (REMOVAL WORK)

DESIGNED: BI	SUBMITTED: <i>[Signature]</i>
DRAWN: KN	DATE: 03/07/2016
CHECKED: SM	SCALE: AS SHOWN
APPROVED: <i>[Signature]</i>	DRAWING NO. E-2
CHIEF ENGINEER	DATE: APR 25 2016

04/22/2015

**ELECTRICAL NOTES: NEW WORK**

- ① PROVIDE NEW CIRCUIT BREAKER.
- ② PROVIDE NEW PANEL "P" FEEDER, 2" C, 3-#1/0 AND 1-#8 GRD.
- ③ PROVIDE NEW PV SYSTEM FEEDER, 3" C, 3-#4/0 & 1-#6 GRD.
- ④ TO PV SYSTEM, SEE PVE-1.
- ⑤ PANEL SHALL BE SUITABLE FOR USE AS SERVICE EQUIPMENT.
- ⑥ PROVIDE NEW 3/4" C, #8 GROUNDING ELECTRODE CONDUCTOR TO NEAREST METAL WATER PIPE OR STRUCTURAL METAL GROUNDING ELECTRODE AND ADDITIONAL GROUNDING ELECTRODE. GROUND PER N.E.C. 250.53.



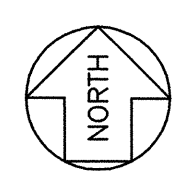
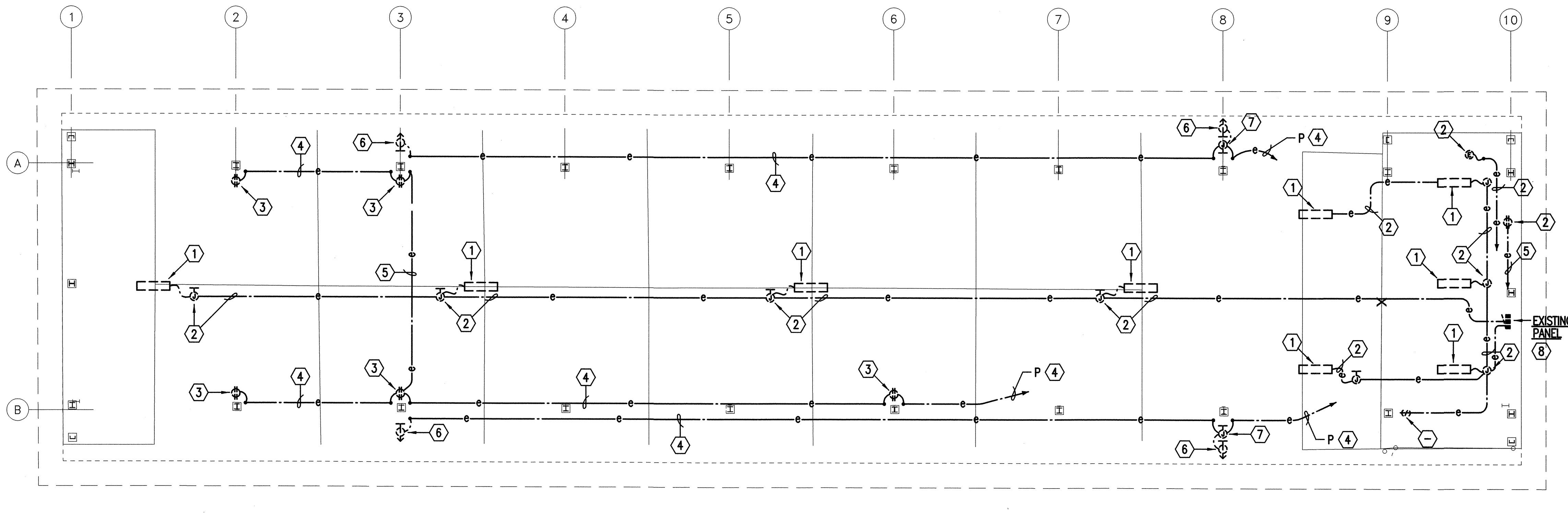
- NOTES:**
1. DASHED LINES ( - - - ) INDICATE EXISTING CONDITION.
  2. SOLID LINES ( — ) AND DOTTED LINES ( ···· ) INDICATE NEW WORK.

① ONE LINE DIAGRAM (NEW WORK)  
E-3 NOT TO SCALE

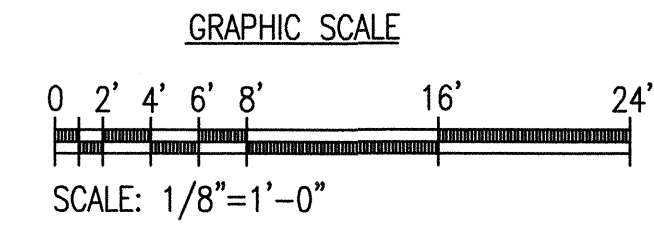
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES DIVISION OF WATER AND LAND DEVELOPMENT  <b>KAUAI BASEYARD IMPROVEMENTS</b> LIHUE, KAUAI, HAWAII  ONE LINE DIAGRAM (NEW WORK)					
		DESIGNED: BI      SUBMITTED: <i>[Signature]</i> DRAWN: KN      DATE: 03/07/2016 CHECKED: SM      SCALE: AS SHOWN APPROVED: <i>[Signature]</i> CHIEF ENGINEER      DATE: APR 26 2016			
This work was prepared by me or under my supervision.		Expiration date of the license: 04/30/2016			
SHEET NO. 34 OF 40 SHEETS					<b>E-3</b>

04/22/2015



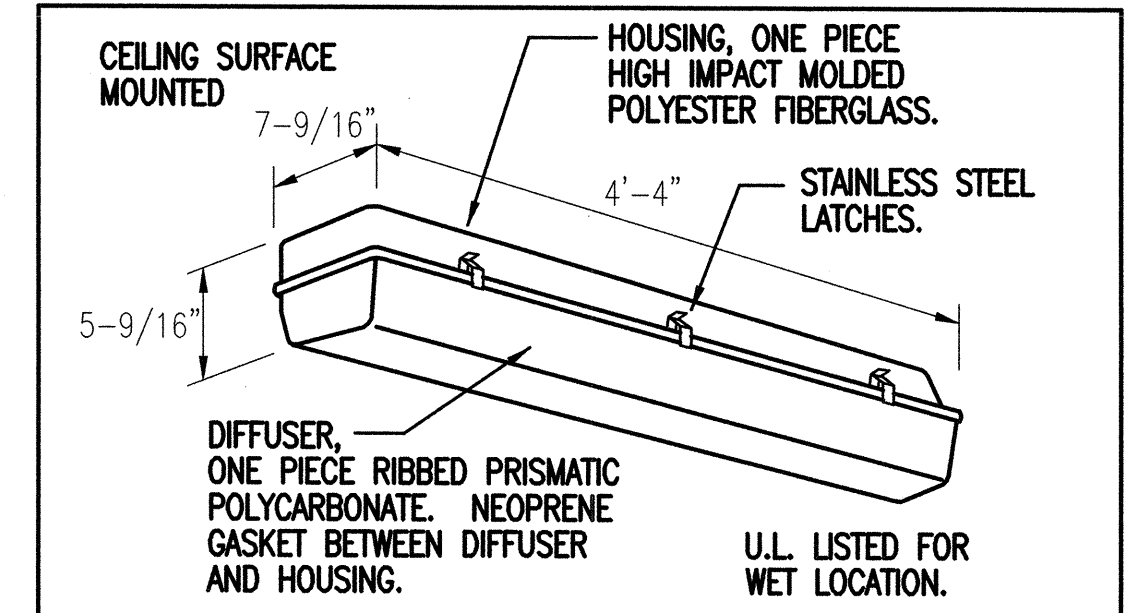


**1** EXISTING ELECTRICAL/LIGHTING PLAN (REMOVAL WORK)  
 E-4 SCALE: 1/8" = 1' - 0"



**ELECTRICAL NOTES: EXISTING/REMOVAL WORK**

- ① DISCONNECT AND REMOVE LIGHT FIXTURE MOUNTED ON PURLIN. RETURN FIXTURE TO BASEYARD.
- ② DISCONNECT AND REMOVE EXPOSED OUTLET AND WIRING.
- ③ DISCONNECT AND REMOVE SURFACE MOUNTED OUTLET, RECEPTACLE AND PLATE.
- ④ REMOVE WIRES FROM UNDERGROUND RACEWAY, TO BE REMOVED WHEN SLAB IS DEMOLISHED.
- ⑤ REMOVE EXPOSED WIRING.
- ⑥ DISCONNECT AND REMOVE OUTLET, LIGHT FIXTURE AND EXPOSED WIRING.
- ⑦ REMOVE SURFACE MOUNTED OUTLET AND EXPOSED WIRING.
- ⑧ DISCONNECT AND REMOVE ELECTRIC PANEL AND LOADCENTER.



**BALLAST:**  
0.78 MAX. BALLAST FACTOR

**LAMP:**  
2-48" FLUORESCENT  
F32T8/841/XPS/ECO

**MANUFACTURER:**  
COLUMBIA  
#XEM4-232-RP-EJ-SSL  
DAYBRITE, LITHONIA,  
METALUX OR APPROVED  
EQUAL.

**NEW PANEL "P" SCHEDULE**

CKT. NO.	USE	CIRCUIT BREAKER		CONNECTED LOAD (KVA)		WIRE SIZE
		POLES	AMPS	A	B	
1	NIGHT LIGHTS, CURFEW LIGHTS	1	20	0.2		12
2	RECEP.	1	20	1.2		10
3	LIGHTS	1	20		0.7	12
4	RECEP.	1	20		1.2	10
5	LIGHTS	1	20		0.8	12
6	RECEP.	1	20	1.2		10
7	RECEP.	1	20		1.2	12
8	RECEP.	1	20		1.2	10
9	RECEP.	1	20	1.2		12
10	SPARE	1	20	1.2		---
11	RECEP.	1	20		1.2	12
12	SPARE	1	20		1.2	---
13	RECEP.	1	20	1.2		12
14	RECEP.	2	50	1.2		6
15	SPARE	1	20		1.0	---
16	RECEP.	---	50		1.2	6
17	SPARE	1	20	---	---	---
18	SPARE	1	20	---	---	---
19	PFB	1	---	---	---	---
20	PFB	1	---	---	---	---
21	PFB	1	---	---	---	---
22	PFB	1	---	---	---	---
23	PFB	1	---	---	---	---
24	PFB	1	---	---	---	---
PFB - PROVISION FOR FUTURE BREAKER		TOTAL LOAD/ PHASE		8.2	8.7	
		TOTAL LOAD		16.9 KVA		
		DEMAND FACTOR		0.7		
		DEMAND LOAD		11.8 KVA		

120/240 VOLTS, 1 PHASES, 3 WSN  
 BREAKER MIN. A.I.C. 10,000  
 SURFACE MTC. 100A MAIN BKR.

COUNTY OF KAUAI  
 CHAPTER 12, KAUAI COUNTY BUILDING CODE  
 KAUAI COUNTY CODE 1987 AS AMENDED  
 ARTICLE 6 - ENERGY CONSERVATION

I CERTIFY THAT THE DESIGN IS IN CONFORMANCE WITH THE BUILDING ENERGY EFFICIENCY STANDARDS PERTAINING TO:

SECTION 12.6-9 ELECTRIC POWER  
 SECTION 12.6-10 LIGHTING

**BRIAN T. ITOZAKI**  
 LICENSED PROFESSIONAL ENGINEER  
 No. 9058-E  
 HAWAII, U.S.A.

SIGNATURE: *[Signature]* DATE: 03-07-16  
 NAME: BRIAN T. ITOZAKI  
 TITLE: ELECTRICAL ENGINEER  
 LICENSE NO.: 9058-E

**EXTERIOR LIGHTING POWER ALLOWANCE**

ELPA = ELUPA X GLA  
 WHERE  
 ELPA = EXTERIOR LIGHTING POWER ALLOWANCE (W)  
 ELUPA = EXTERIOR UNIT LIGHTING POWER ALLOWANCE  
 GLA = GROSS LIGHTED AREA

	ELUPA	GLA	ELPA	INSTALLED
PARKING LOT	1.25 W/ft. <sup>2</sup>	4,853 ft. <sup>2</sup>	6,066 W	633 W
			6,066 W	633 W

**INTERIOR LIGHTING POWER ALLOWANCE**

ILPA = ULPA x GLA

ILPA = INTERIOR LIGHTING POWER ALLOWANCE (W)  
 ULPA = UNIT POWER LIGHTING ALLOWANCE (W/FT.<sup>2</sup>)  
 GLA = GROSS LIGHTED AREA (FT.<sup>2</sup>)

ILPA = 0.90 W/FT.<sup>2</sup> x 1,201 FT.<sup>2</sup> = 1,081 W  
 INSTALLED = 2/48: (6 FIXT. x 56 WATTS/FIXT.) = 336 W

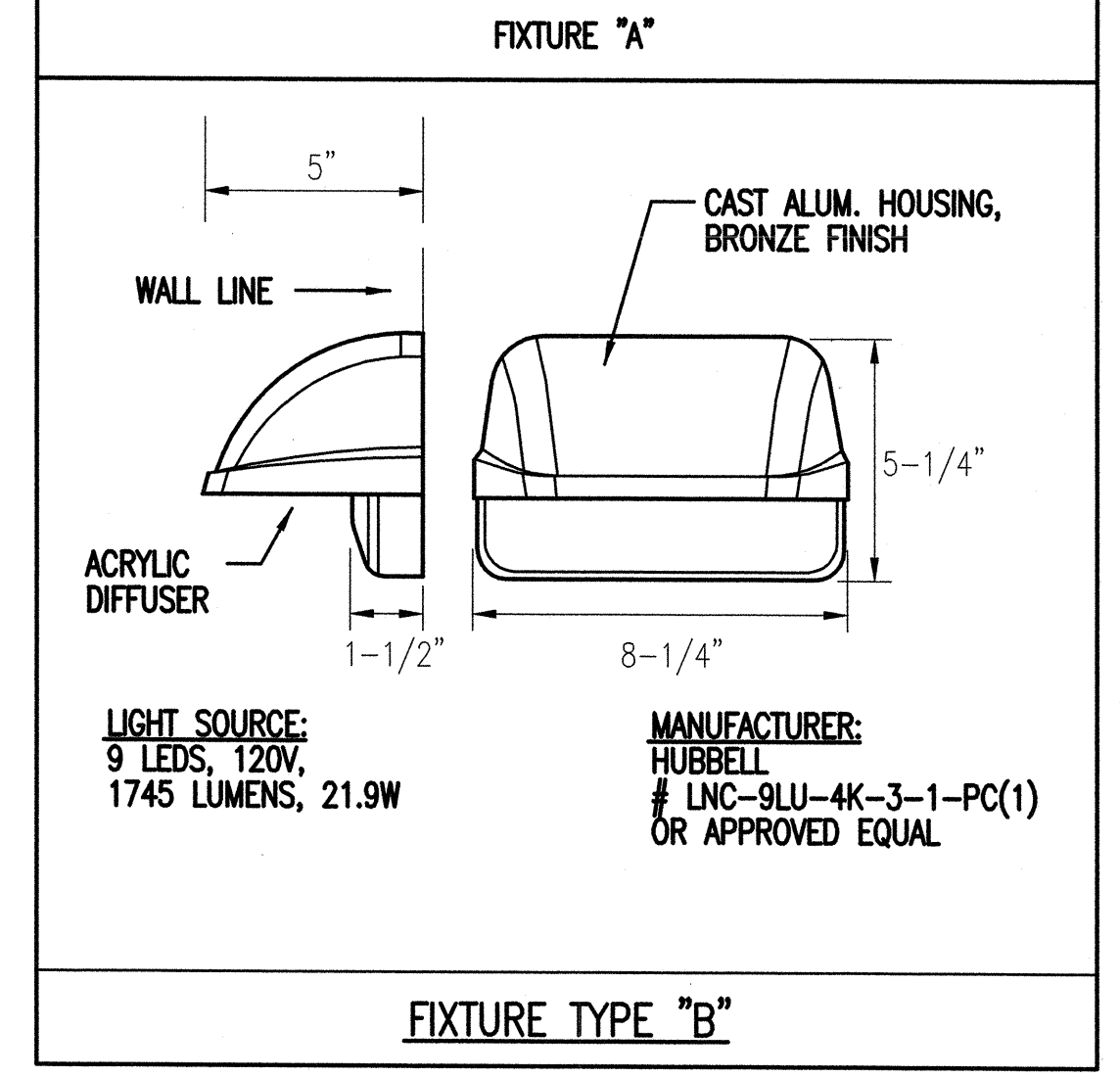
			336 W
--	--	--	-------

**BUILDING ENERGY EFFICIENCY STANDARDS**

EXTERIOR LIGHTING POWER ALLOWANCE	6,066 W	INSTALLED	633 W
INTERIOR LIGHTING POWER ALLOWANCE	1,201 W	INSTALLED	336 W

METHOD USED: PRESCRIPTIVE \_\_\_\_\_ SYSTEM PERFORMANCE X  
 (CHECK ONE)

CALCULATIONS: SEPARATE X ON DRAWINGS \_\_\_\_\_  
 (CHECK ONE)



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 DIVISION OF WATER AND LAND DEVELOPMENT

**KAUAI BASEYARD IMPROVEMENTS**  
 LIHUE, KAUAI, HAWAII

EXISTING ELECTRICAL/LIGHTING PLAN (REMOVAL WORK)

DESIGNED: BI SUBMITTED: *[Signature]*  
 DRAWN: KN DATE: 03/07/2016  
 CHECKED: SM SCALE: AS SHOWN  
 APPROVED: *[Signature]* APR 26 2015 DRAWING NO. E-4  
 CHIEF ENGINEER DATE

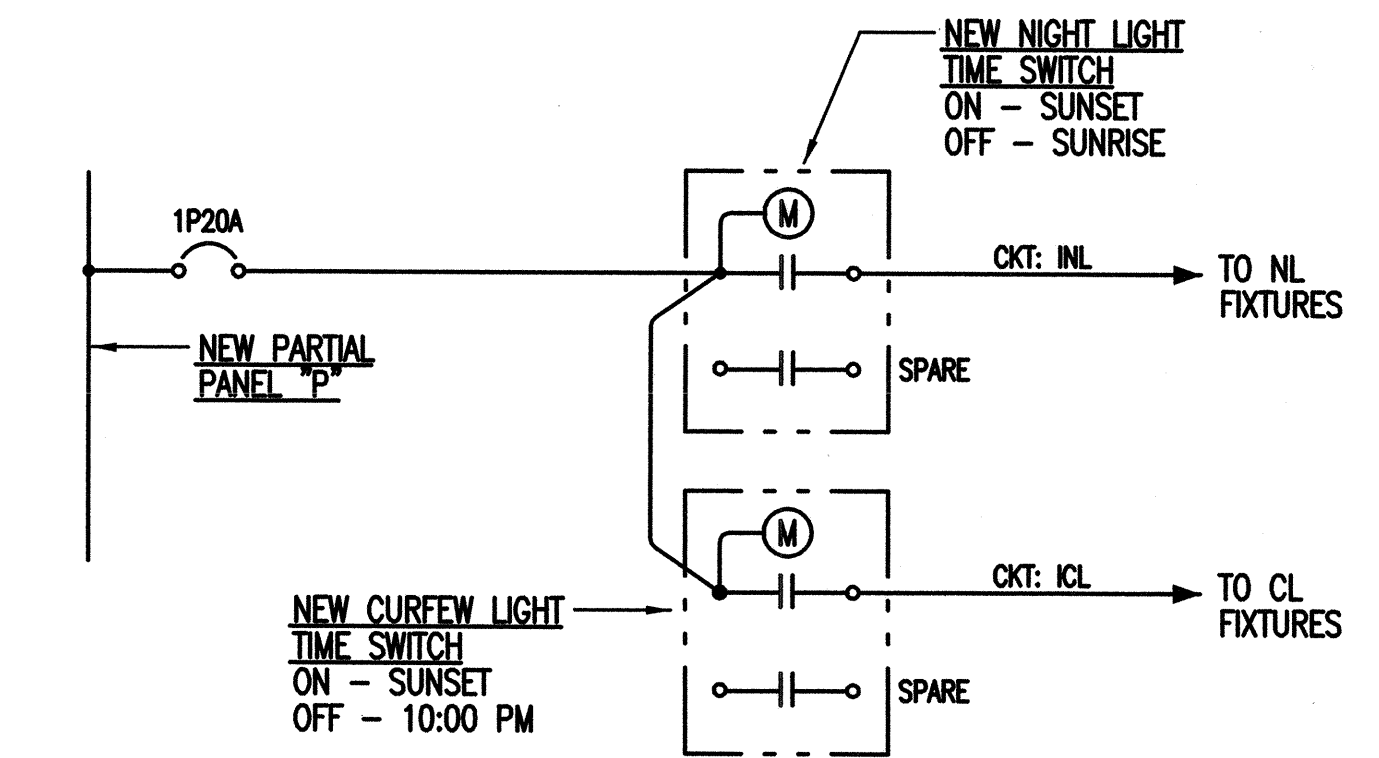
This work was prepared by me or under my supervision.

Expiration date of the license: 04/30/2016

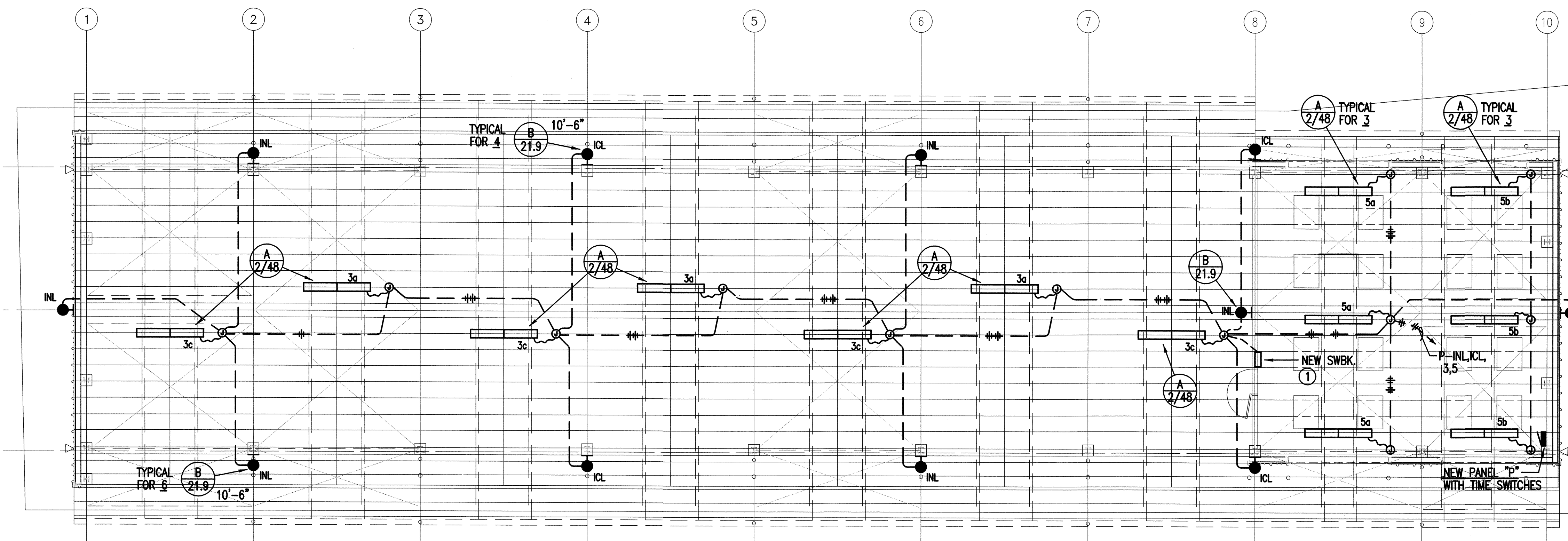
04/22/2015

**ELECTRICAL NOTES: NEW WORK**

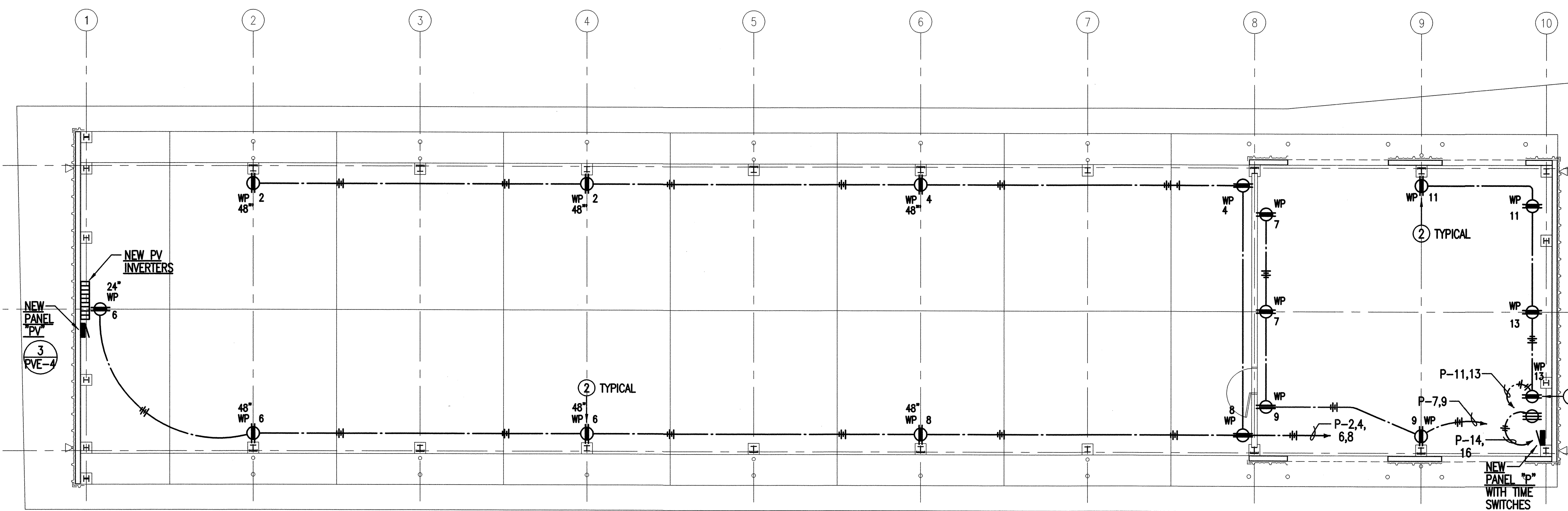
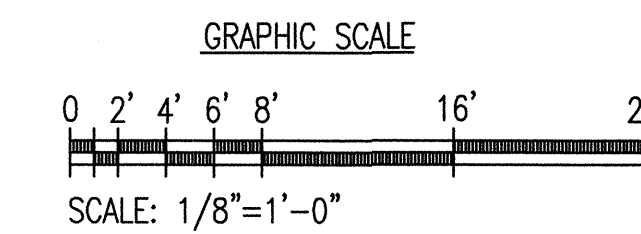
- ① NEW SWITCHBANK, WALL FLUSH MOUNTED WITH 4-1P20A PILOT LIGHT SWITCHES FOR "ON" AND COMMON PLATE.
- ② PROVIDE CAST METAL SURFACE MOUNTED OUTLET, GFCI RECEPTACLE AND WEATHERPROOF PLATE. INSTALL AT 24".
- ③ PROVIDE CAST METAL SURFACE MOUNTED OUTLET, 50A, 125/250V, 2 POLE, 3 WIRE, NEMA 14-50 AND PLATE.



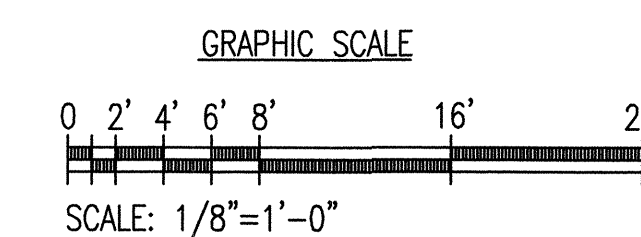
③ TIME SWITCH CONTROL DIAGRAM  
E-5 NOT TO SCALE



① NEW LIGHTING PLAN  
E-5 SCALE: 1/8" = 1' - 0"



② NEW ELECTRICAL PLAN  
E-5 SCALE: 1/8" = 1' - 0"



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF WATER AND LAND DEVELOPMENT

**KAUAI BASEYARD IMPROVEMENTS  
LIHUE, KAUAI, HAWAII**

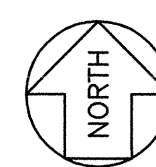
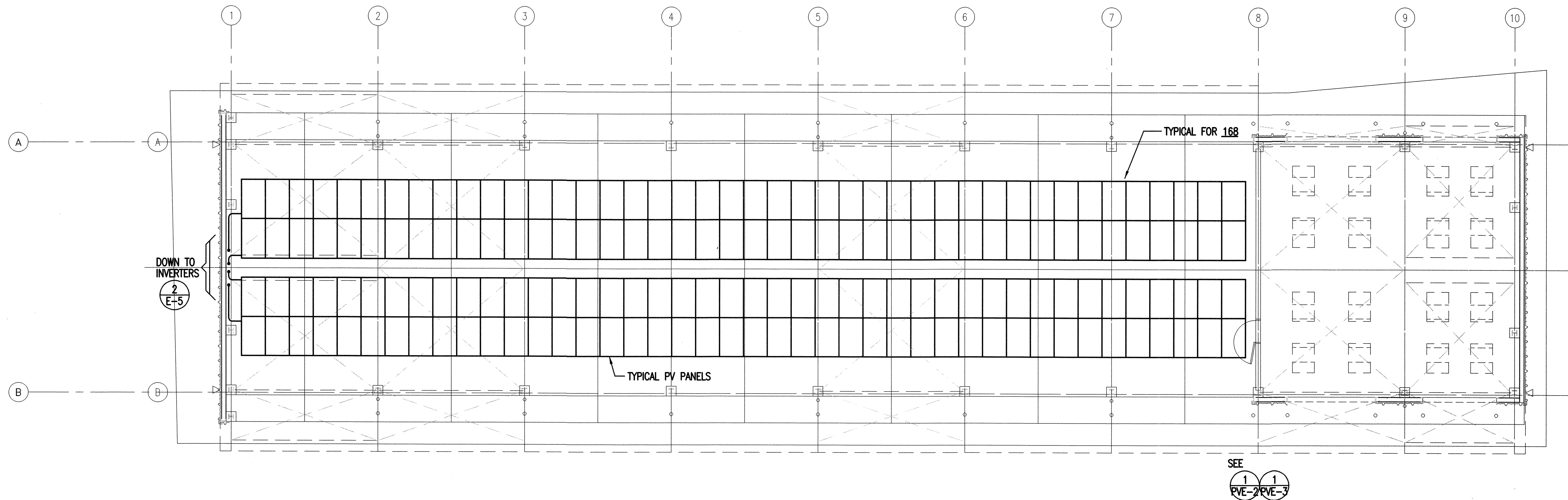
**NEW LIGHTING PLAN,  
NEW ELECTRICAL PLAN**

DESIGNED: BI	SUBMITTED: <i>as</i>
DRAWN: KN	DATE: 03/07/2016
CHECKED: SM	SCALE: AS SHOWN
APPROVED: <i>[Signature]</i> CHIEF ENGINEER	APR 25 2016 DATE

This work was prepared by me or under my supervision.  
Expiration date of the license: 04/30/2016

04/22/2015

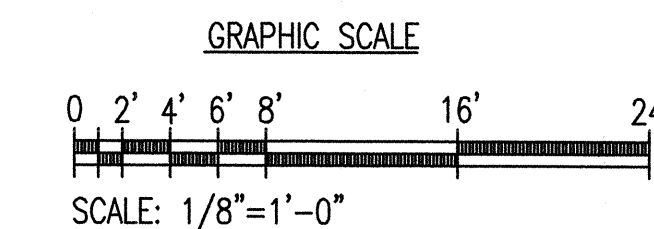




1  
PVE-1

ROOF PLAN - PV LAYOUT

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

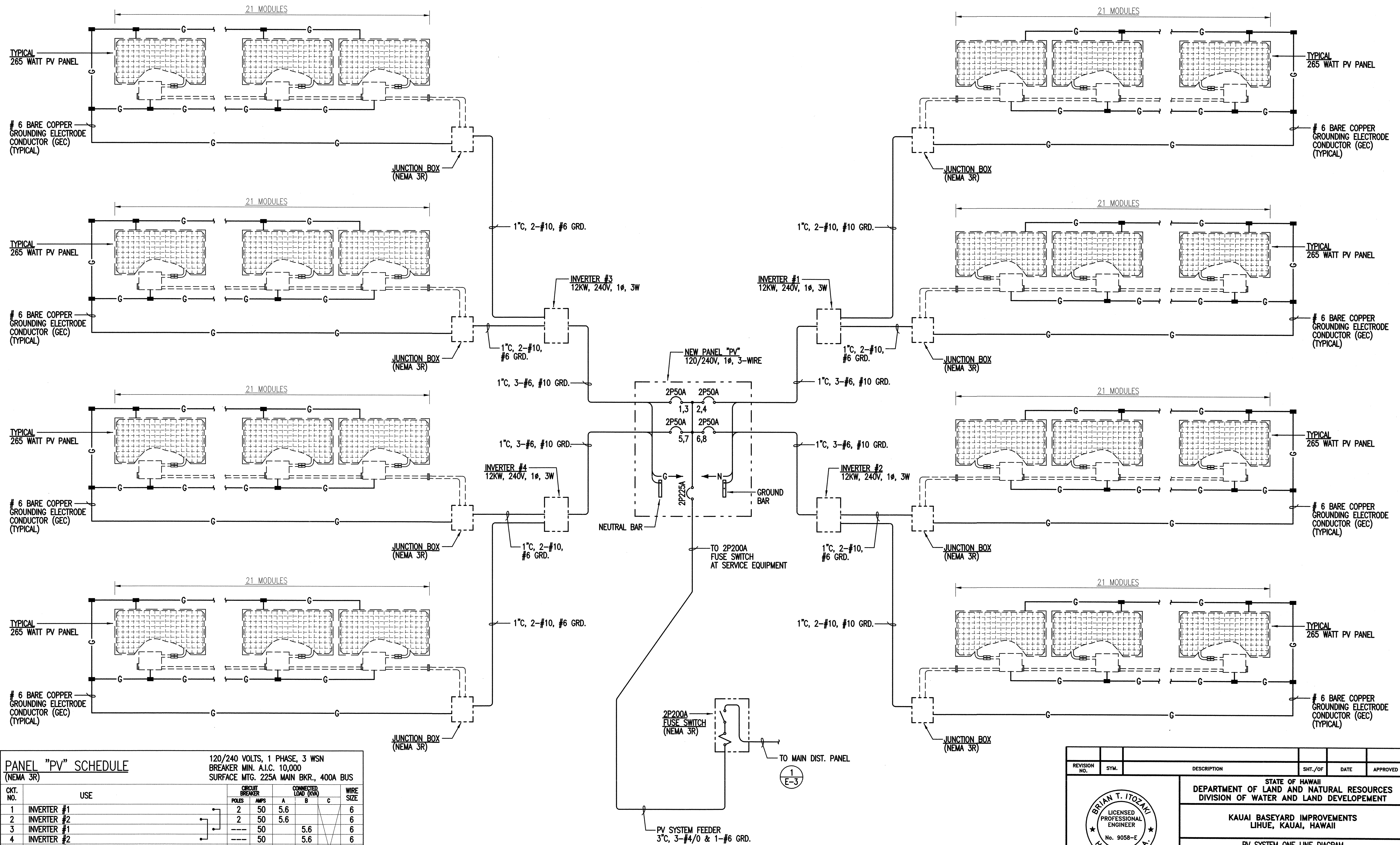


PHOTOVOLTAIC SYSTEM SUMMARY

SYSTEM CAPACITY: 44.52 KW  
 SYSTEM DESCRIPTION:  
 4 ARRAY OF 2 STRINGS CONSISTING OF 21 PANELS PER STRING, 265 W PER PANEL  
 PANEL CHARACTERISTICS:  
 OPEN CIRCUIT VOLTAGE: 38.3 VDC  
 PEAK VOLTAGE: 31.0 VDC  
 SHORT CIRCUIT CURRENT: 9.09 A  
 PEAK CURRENT: 8.39 A  
 TOTAL PANELS: 168  
 INVERTER: 4 EA, 12 KW

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES DIVISION OF WATER AND LAND DEVELOPEMENT  KAUAI BASEYARD IMPROVEMENTS LIHUE, KAUAI, HAWAII  ROOF PLAN - PV LAYOUT					
		DESIGNED: BI	SUBMITTED: <i>ce</i>		
This work was prepared by me or under my supervision.		DRAWN: KN	DATE: 03/07/2016		
		CHECKED: SM	SCALE: AS SHOWN		
Expiration date of the license: 04/30/2016		APPROVED:	DRAWING NO. PVE-1		
		CHIEF ENGINEER	APR 26 2016 DATE		

04/22/2015



PANEL "PV" SCHEDULE (NEMA 3R)		120/240 VOLTS, 1 PHASE, 3 WSN BREAKER MIN. A.I.C. 10,000 SURFACE MTG. 225A MAIN BKR., 400A BUS					
CKT. NO.	USE	CIRCUIT BREAKER		CONNECTED LOAD (KVA)			WIRE SIZE
		POLES	AMPS	A	B	C	
1	INVERTER #1	2	50	5.6			6
2	INVERTER #2	2	50	5.6			6
3	INVERTER #1		50		5.6		6
4	INVERTER #2		50		5.6		6
5	INVERTER #3	2	50	5.6			6
6	INVERTER #4	2	50	5.6			6
7	INVERTER #3		50		5.6		6
8	INVERTER #4		50		5.6		6
TOTAL LOAD/ PHASE				22.4	22.4		
TOTAL LOAD				44.8		KVA	
DEMAND FACTOR				1.0			
DEMAND LOAD				44.8		KVA	

1 PV SYSTEM ONE LINE DIAGRAM  
NOT TO SCALE

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STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF WATER AND LAND DEVELOPMENT

KAUAI BASEYARD IMPROVEMENTS  
LIHUE, KAUAI, HAWAII

PV SYSTEM ONE LINE DIAGRAM

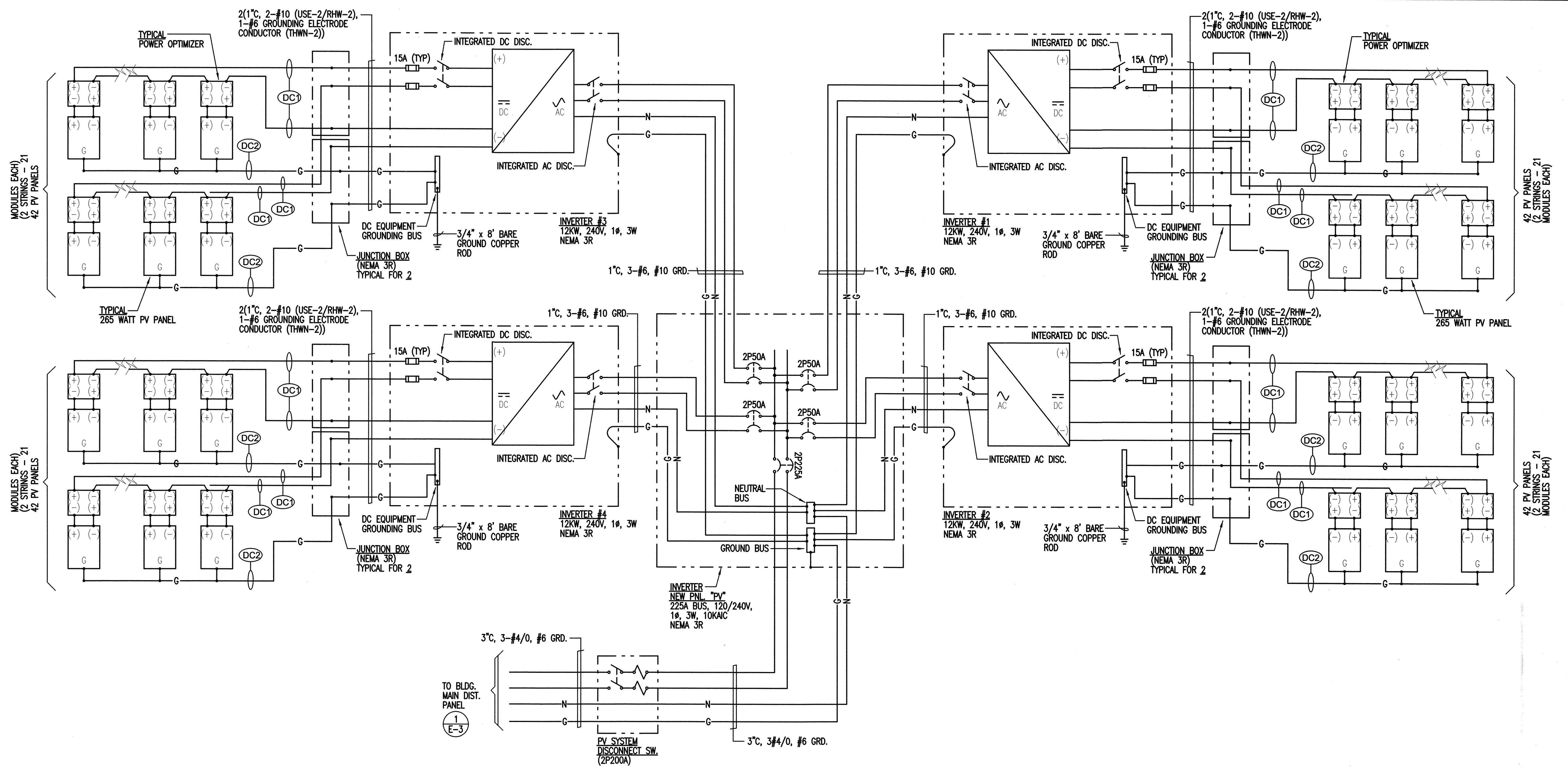
DESIGNED: BI      SUBMITTED: *[Signature]*  
DRAWN: KN      DATE: 03/07/2016  
CHECKED: SM      SCALE: AS SHOWN  
APPROVED: *[Signature]*      CHIEF ENGINEER  
Expiration date of the license: 04/30/2016      APR 26 2016 DATE

JOB NO. D00CK68A      SHEET NO. 38 OF 40 SHEETS

04/22/2015

399.072





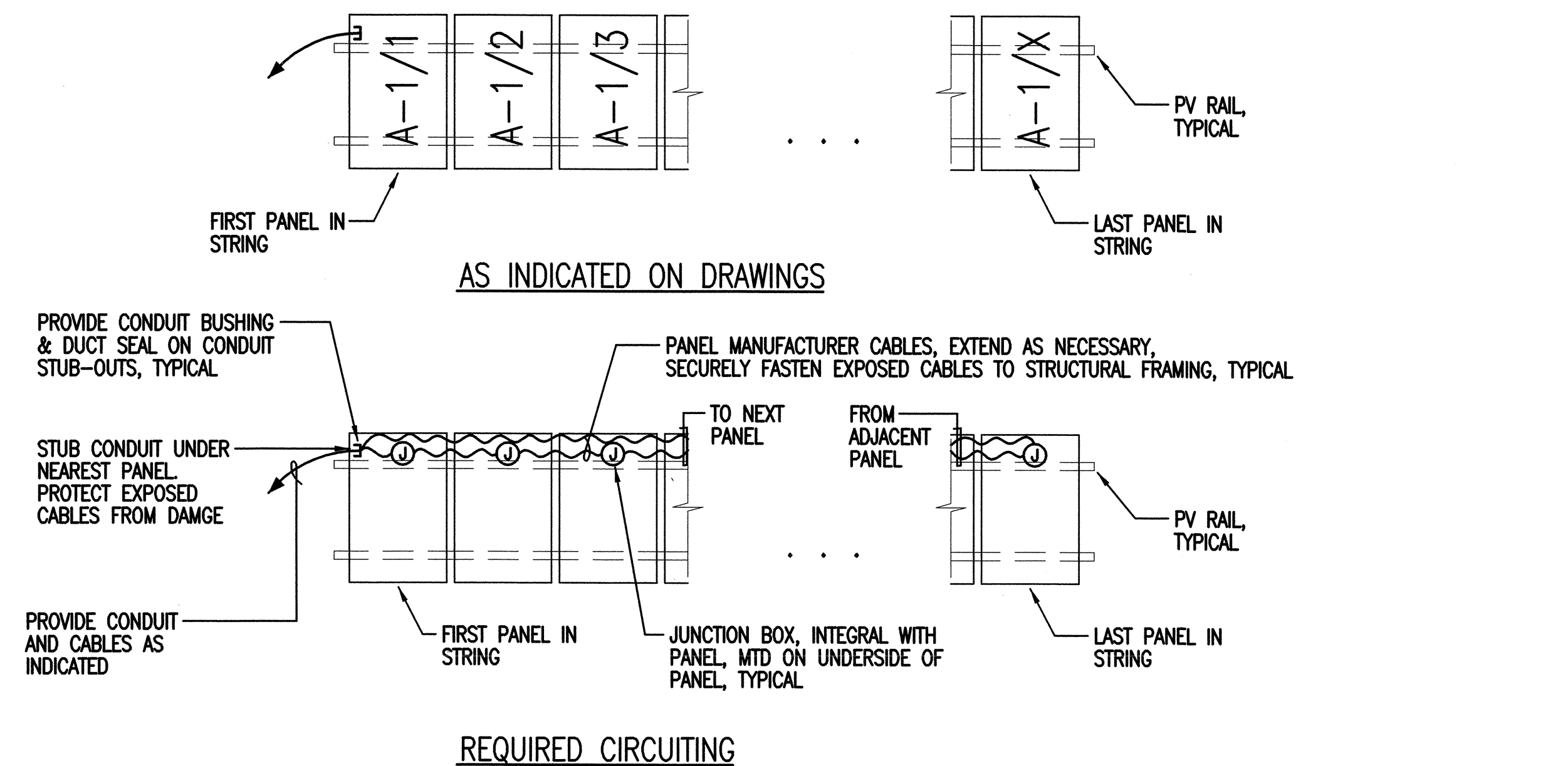
1 PV SYSTEM 3-LINE DIAGRAM  
PVE-3 NOT TO SCALE

DC FEEDER SCHEDULE

FEEDER NO.	MATERIAL	NEC RATING (AMPS)	VOLT RATING (VOLTS)	POSITIVE CONDUCTOR	NEGATIVE CONDUCTOR	GROUND	COMMENTS
DC1	CU	40	600	# 10	# 10		HEAVY DUTY, SUNLIGHT RESISTANT W/ POLARIZED WEATHERPROOF DC-RATED CONNECTORS 90°C RATED CONDUCTOR
DC2	CU	30	600			# 12	GROUND CONDUCTOR WITH GREEN OR BARE INSULATION. 90°C RATED CONDUCTOR

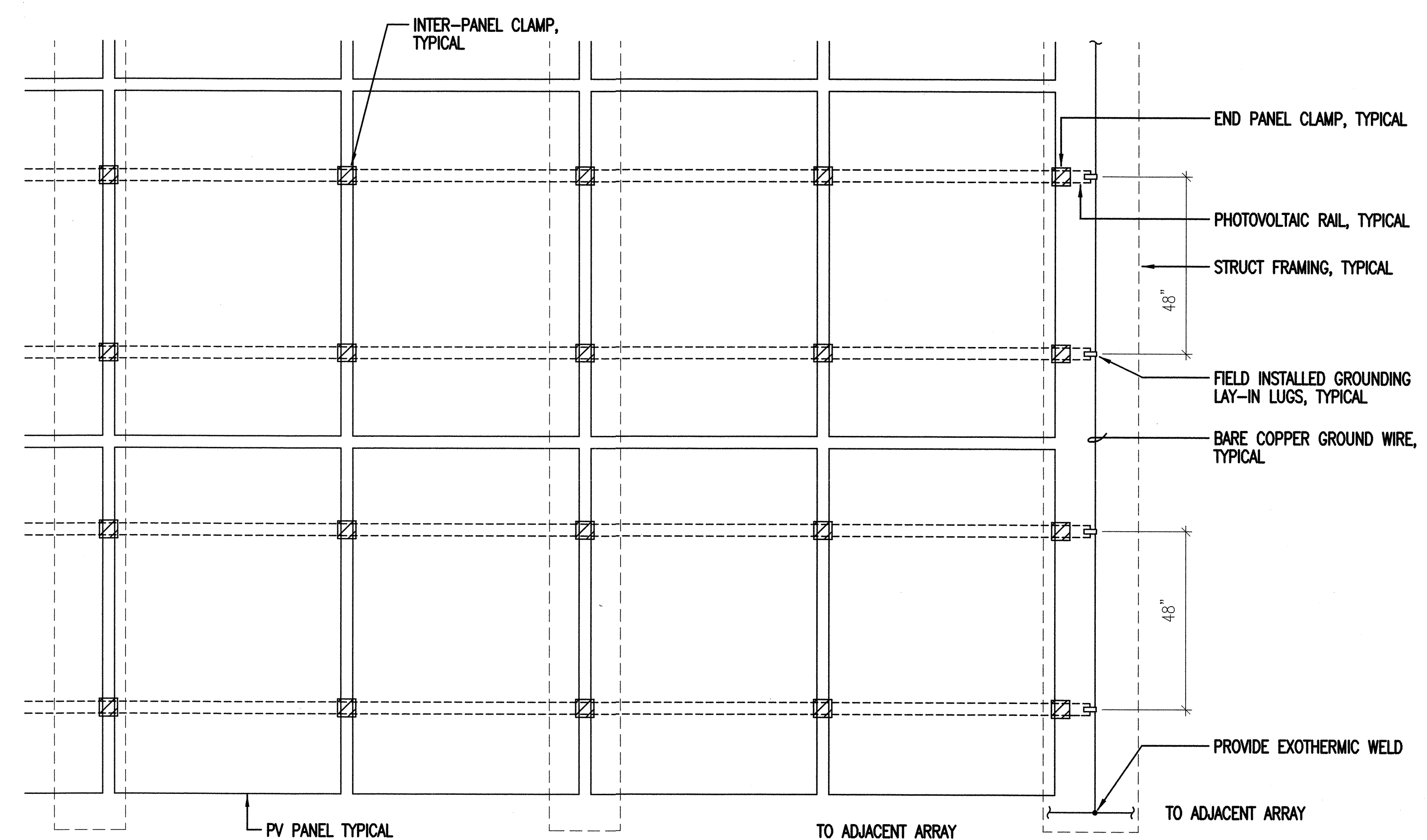
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES DIVISION OF WATER AND LAND DEVELOPMENT  <b>KAUAI BASEYARD IMPROVEMENTS</b> LIHUE, KAUAI, HAWAII  <b>PV SYSTEM 3 - ONE LINE DIAGRAM</b>					
DESIGNED: BI		SUBMITTED: <i>me</i>			
DRAWN: KN		DATE: 03/07/2016			
CHECKED: SM		SCALE: AS SHOWN			
APPROVED: <i>[Signature]</i>		DATE: APR 26 2016		DRAWING NO. PVE-3	
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04/22/2015



**NOTES:**  
 1. EXPOSED WIRING BETWEEN PANELS SHALL BE IN CONDUIT. EXTEND WRING BETWEEN PANELS AS NECESSARY.

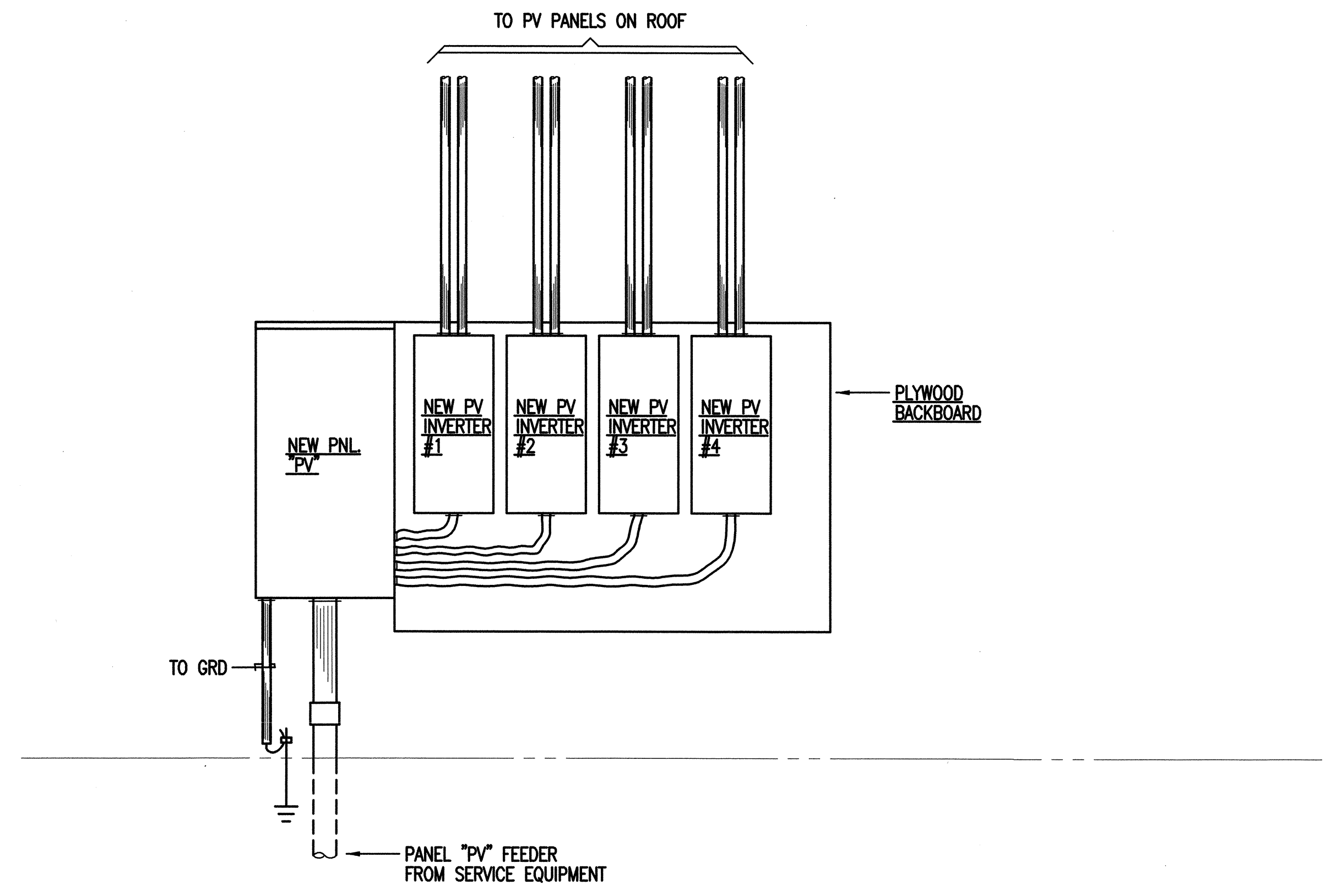
**1** TYPICAL PHOTOVOLTAIC STRING CONNECTION DETAIL  
 PVE-4 NOT TO SCALE



**NOTES:**

1. THE INTENT OF THIS DETAIL IS TO SHOW THE MINIMUM REQUIREMENTS FOR SUPPORT SYSTEM OF THE PHOTOVOLTAIC PANELS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE ADDITIONAL HARDWARE AS NECESSARY FOR A COMPLETE PHOTOVOLTAIC SUPPORT SYSTEM. THE CONTRACTOR SHALL PROVIDE DETAILED DRAWINGS OF THE SUPPORT SYSTEM STAMPED BY A LICENSED STRUCTURAL ENGINEER.
2. NEW PHOTOVOLTAIC PANELS SHALL BE SECURED TO THE PV RAILS BY A MINIMUM OF 4 PANEL CLAMPS.
3. PROVIDE GROUND STRAP BETWEEN SECTIONS OF THE PV RAILS. TO ENSURE ELECTRICAL CONTINUITY.
4. SECURELY ATTACH PV RAILS TO STRUCTURAL FRAMING.
5. ALL FRAME MEMBERS SHALL BE PROVIDED WITH MANUFACTURED END CAPS.

**2** TYPICAL PHOTOVOLTAIC PANEL MOUNTING DETAIL  
 PVE-4 NOT TO SCALE



**3** ELEVATION - PANEL "PV" & INVERTER  
 PVE-4 NOT TO SCALE

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STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES DIVISION OF WATER AND LAND DEVELOPEMENT  <b>KAUAI BASEYARD IMPROVEMENTS</b> LIHUE, KAUAI, HAWAII  PV PANEL DETAILS, ELEVATION - PANEL "PV" & INVERTER					
		DESIGNED: BI SUBMITTED: <i>[Signature]</i> DRAWN: KN DATE: 03/07/2016 CHECKED: SM SCALE: AS SHOWN APPROVED: <i>[Signature]</i> DRAWING NO. PVE-4 CHIEF ENGINEER DATE APR 25 2016			
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04/22/2015