

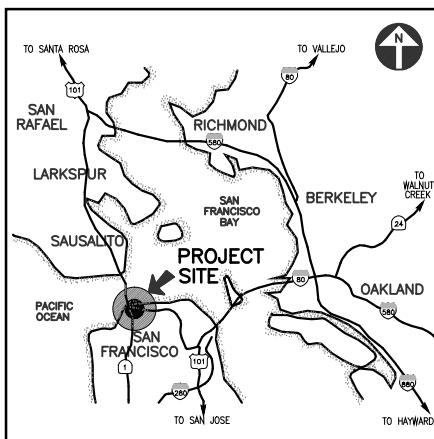


GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT

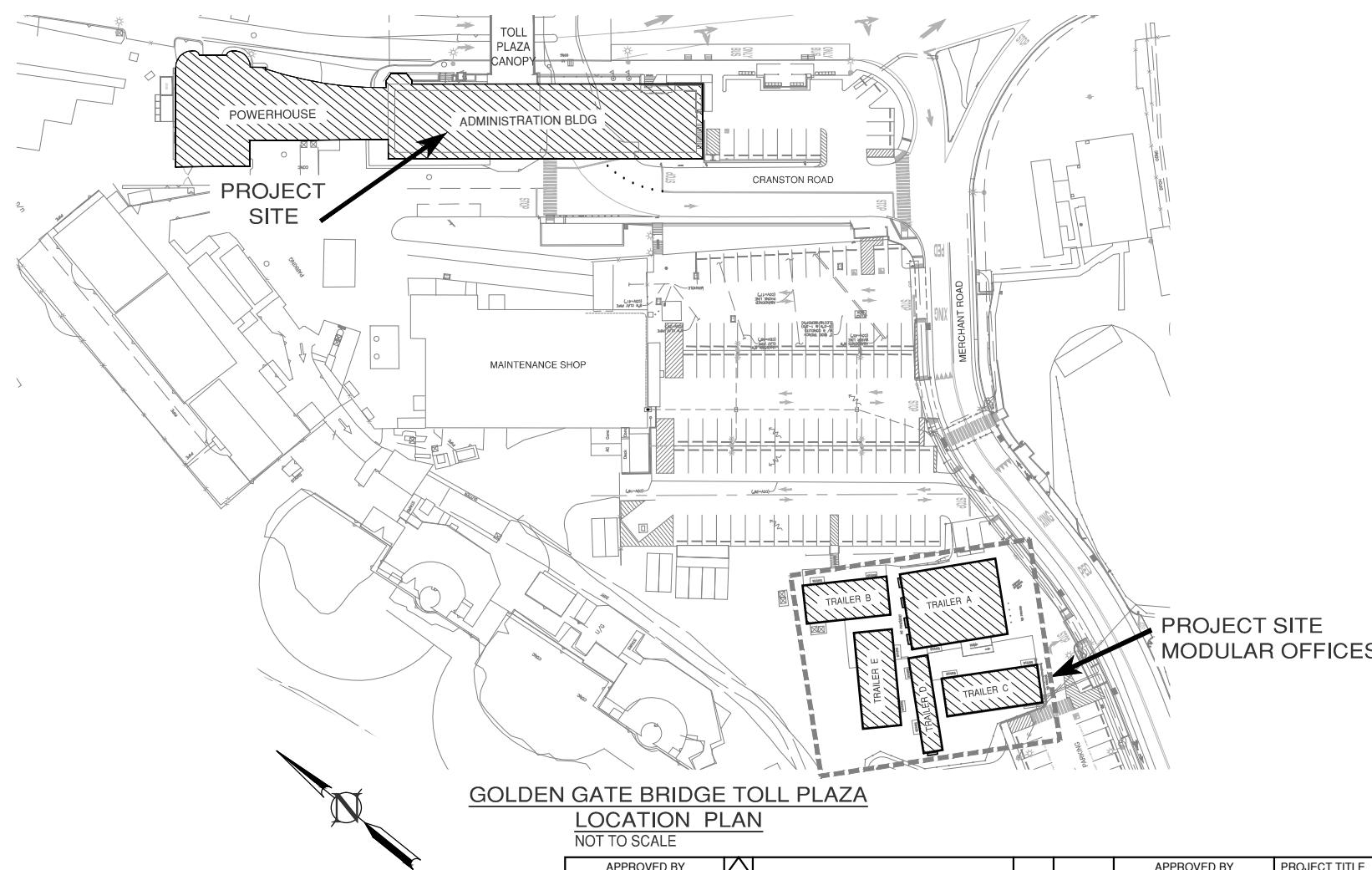
Golden Gate Bridge, Highway and Transportation District

TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS

Contract No. 2017-B-12



VICINITY MAP
NO SCALE



GOLDEN GATE BRIDGE TOLL PLAZA
LOCATION PLAN
NOT TO SCALE

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7 CM 1 2 3 4 5 6 7

APPROVED BY

MIKE W. YIM
No. C58443
Exp. 6/30/17

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS

BY DATE

CONTRACT NO. 2017-B-12

DWG NO. A01

CADD FILE: 17B12A001.DWG

APPROVED BY

Laura Z. Bauer
No. C43632
Exp. 3/31/19

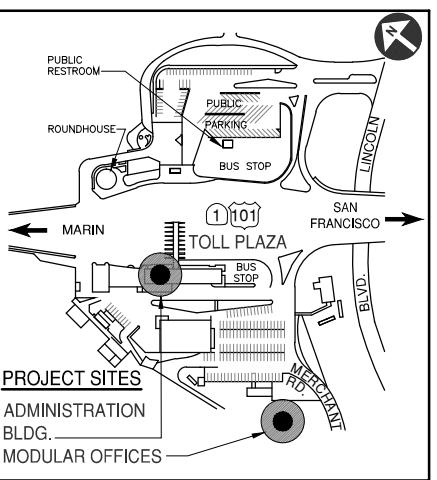
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
TITLE SHEET

SCALE: AS NOTED

DATE: MARCH 14, 2017



LOCATION MAP
NO SCALE

PROJECT ADDRESS:
GOLDEN GATE BRIDGE
SAN FRANCISCO, CALIFORNIA 94129-0601

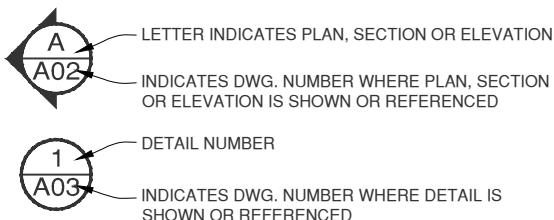
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GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT

DRAWING INDEX:

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2	A02	GENERAL NOTES, ABBREVIATIONS AND DRAWING INDEX
3	A03	SITE PLAN
4	A04	ROOF DEMOLITION PLAN-ADMINISTRATION BLDG
5	A05	ROOF DEMOLITION PLAN-POWERHOUSE
6	A06	NEW ROOF PLAN - ADMINISTRATION BLDG
7	A07	NEW ROOF PLAN - POWERHOUSE
8	A08	ROOF DEMOLITION - CROSS SECTIONS
9	A09	MISCELLANEOUS DETAILS
10	A10	ROOFING DETAILS - 1
11	A11	ROOFING DETAILS - 2
12	A12	RAMP, STAIRS, GUTTER AND DOWNSPOUT DEMOLITION PLAN
13	A13	ADA RAMP, STAIRS, GUTTER AND DOWNSPOUT PLAN
14	A14	TRAILER A, D & E BUILDING ELEVATIONS
15	A15	TRAILER D DEMOLITION & NEW FLOOR PLAN
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18	M03	BASEMENT BOILER AND PIPING DEMOLITION PLAN
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20	M05	MONEY COLLECTION CORRIDOR - TOLL LANE DUCTWORK AND PIPING DEMOLITION - 1
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22	M07	MONEY COLLECTION CORRIDOR - DEMOLITION NOTES AND DETAILS
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SECTION/ DETAIL DESIGNATION:

SYMBOLS:

@ AT
¢ CENTERLINE
Ø DIAMETER
± MORE OR LESS
ROOF DRAINAGE DIRECTION

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

ABBREVIATIONS :

AB	AGGREGATE BASE	MAINT	MAINTENANCE
ABV	ABOVE	MAX	MAXIMUM
AC	ASPHALT CONCRETE,	MEZZ	MEZZANINE
ADMIN	AIR CONDITIONING	MFR	MANUFACTURER
APPR	APPROXIMATE	MH	MANHOLE
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
BLDG	BUILDING	MISC	MISCELLANEOUS
BM	BENCHMARK	MTL	METAL
BM(S)	BEAM(S)	(N)	NEW
BOT	BOTTOM	(NIC)	NOT IN CONTRACT
BRKR	BREAKER	NO, #	NUMBER
BUR	BUILT-UP ROOFING	OC	ON CENTER
C	CONDUT	OD	OUTSIDE DIAMETER
CB	CATCH BASIN	OH	OPPOSITE HAND
CC	CENTER TO CENTER	OPNG	OPENING
CIP	CAST IRON PIPE	OPP	OPPOSITE
CJ	CONTROL JOINT	PCC	PORTLAND CEMENT CONCRETE
CLG	CEILING	PL	PLATE, PLACES
CLR	CLEAR	PLY	PLYWOOD
COL	COLUMN	PT	PRESSURE TREATED
COMM	COMMUNICATION	PVC	POLYVINYL CHLORIDE
CONC	CONCRETE	PVMT	PAVEMENT
COND	CONDITION	R	RADIUS
CONN	CONNECTION	RCP	REINFORCED CONCRETE PIPE
CONT	CONTINUOUS	RD	ROOF DRAIN
CRS	CORRUGATED RESIN SKYLIGHT	REQD.	REQUIRED
CTR	CENTER	RWL	RAIN WATER LEADER
DET	DETAIL	SCH	SCHEDULE
DI	DRAIN INLET	SD	STORM DRAIN
DIA	DIAMETER	SF	SQUARE FEET
DIST	DISTANCE	SHT	SHEET
DWG	DRAWING	SIM	SIMILAR
EA	EACH	SMS	SHEET METAL SCREWS
EL	ELEVATION	SOV	SHUT-OFF VALVE
ELEC,ELECT	ELECTRICAL	SPCS	SPECIFICATIONS
(E), EXIST	EXISTING	SPR	SINGLE-PLY ROOFING
EQ	EQUAL	SPUF	SPRAY POLYURETHANE FOAM
EQPT	EQUIPMENT	SS	SANITARY SEWER, STAINLESS STEEL
EW	EACH WAY	STA	STATION
FDN	FOUNDATION	STD	STANDARD
FIN	FINISH	STL	STEEL
FL	FLOWLINE	STO	STORAGE
FO	FACE OF	SQ	SQUARE
FOC	FACE OF CURB	SYMM	SYMMETRICAL
G	GROUND	T&B	TOP & BOTTOM
GA	GAUGE	TEMP	TEMPORARY
GALV	GALVANIZED	THK	THICK
GGBHTD	GOLDEN GATE BRIDGE HIGHWAY AND TRANSPORTATION DISTRICT	THR	THREADED
HMA	HOT MIX ASPHALT	TG	TOP OF GRADE
HORIZ	HORIZONTAL	T.A.	TOP OF
HVAC	HEATING, VENTILATION & AIR CONDITIONING	TOC	TOP OF CURB
INV	INVERT	TOG	TOP OF GRATE
IRR, IRRI	IRRIGATION	TOS	TOP OF SLAB
LF	LINEAR FEET	TOT	TOTAL
LLV	LONG LEG VERTICAL	TP	TOP OF PAVEMENT
		TYP	TYPICAL
		UON, UNO	UNLESS OTHERWISE NOTED
		VAR	VARIABLE
		VIF	VERIFY IN FIELD
		VTR	VENT THROUGH ROOF
		W/	WITH
		WF	WIDE FLANGE

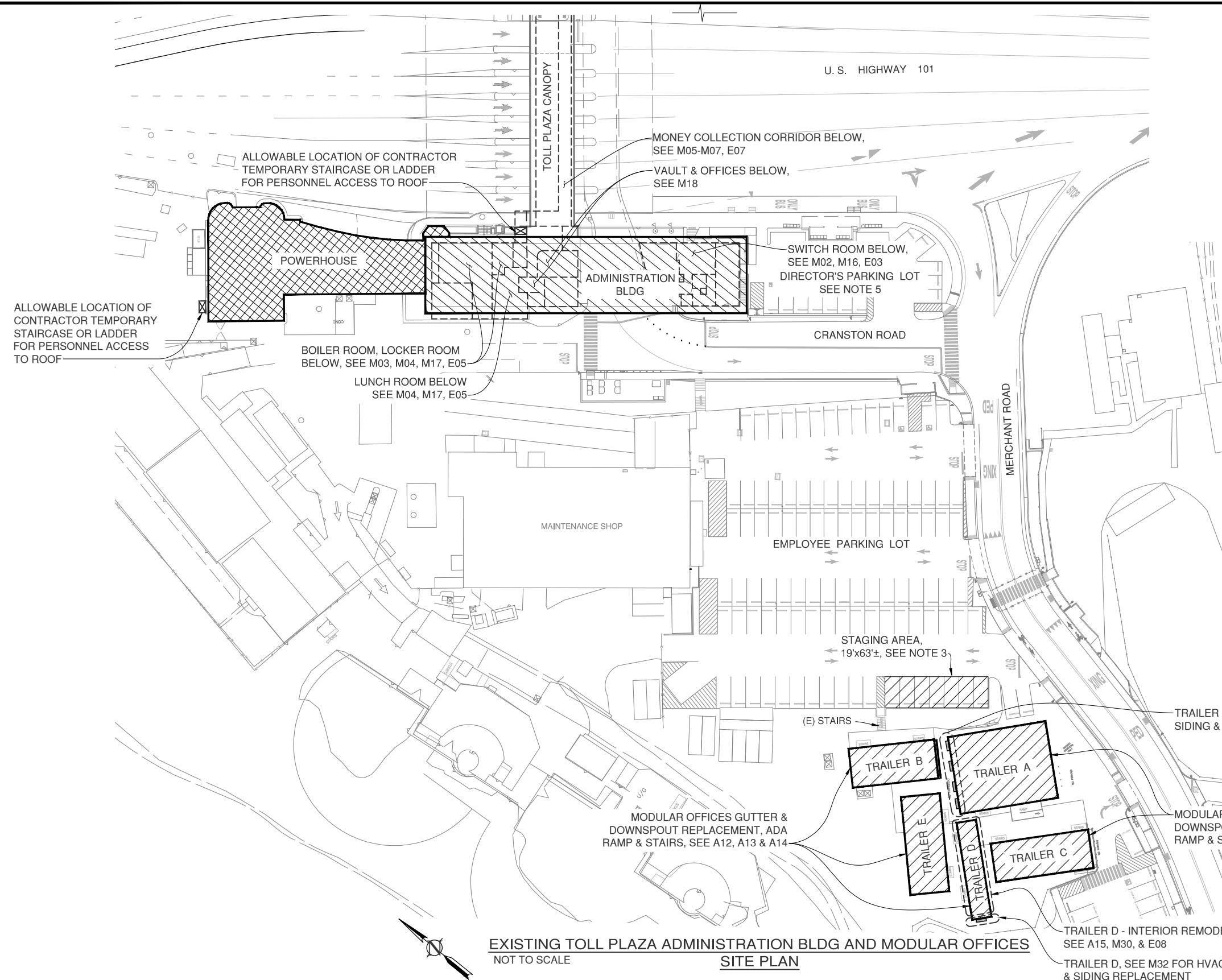
GENERAL NOTES:

- THE GENERAL CONTRACTOR SHALL POSSESS A VALID STATE OF CALIFORNIA CLASS "B" GENERAL BUILDING CONTRACTOR'S LICENSE OR A STATE OF CALIFORNIA CLASS "A" GENERAL ENGINEERING CONTRACTOR'S LICENSE WITH MINIMUM OF THREE PROJECTS EXPERIENCE WITH PUBLIC AGENCIES IN THE PAST FIVE YEARS. BIDDER SHALL SUBMIT REFERENCES. FAILURE TO SUBMIT SATISFACTORY QUALIFICATIONS/EXPERIENCE WILL BE CONSIDERED AS NON-RESPONSIVE.
- ALL SUBCONTRACTOR(S) SHALL BE PROPERLY LICENSED BY THE STATE OF CALIFORNIA TO PERFORM SPECIALIZED TRADES. SUBCONTRACTOR(S) TO HAVE A MINIMUM OF THREE SIMILAR PROJECTS EXPERIENCE WITH PUBLIC AGENCIES IN THE PAST FIVE YEARS. BIDDER SHALL SUBMIT REFERENCES. FAILURE TO SUBMIT SATISFACTORY QUALIFICATIONS/EXPERIENCE WILL BE CONSIDERED AS NON-RESPONSIVE.
- BASED ON LAB REPORT, THE BLACK MASTIC AROUND ROOF-TOP PIPE SEALS CONTAINS 10% ASBESTOS, AND LEAD PAINT WAS FOUND ON THE EXISTING LOUVERS, COPPER GUTTER, PARAPET CAPS AND METAL ROOF EDGE GRAVEL STOPS. THE DEMOLITION AND ROOFING CONTRACTOR OR SUBCONTRACTOR(S) SHALL BE PROPERLY LICENSED BY THE STATE OF CALIFORNIA TO REMOVE, HANDLE AND DISPOSE MATERIALS CONTAINING ASBESTOS AND LEAD PAINT, AS APPLICABLE.
- CELLULAR PHONE PROVIDER EQUIPMENT IS PRESENT ON ROOF. RF (RADIO FREQUENCY) SAFETY IS REQUIRED BY THE FCC, IEEE AND CAL OSHA. TO BE COMPLIANT, CONTRACTOR AND SUBCONTRACTORS SHALL COMPLY WITH IEEE C95.7 RF SAFETY TRAINING PROGRAM HTTP://WWW.DIR.CA.GOV/TITLE9/5085.HTML, PRIOR TO BEGIN OF WORK NEAR THE EXISTING CELLULAR EQUIPMENTS ON THE ROOF.
- NEW CONSTRUCTION IS UN-PREFIXED OR PREFIXED BY (N) OR "NEW". EXISTING CONSTRUCTION IS PREFIXED BY (E) OR "EXIST".
- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS & CONTROLLING FIELD DIMENSIONS PRIOR TO MAKING SUBMITTALS OR ORDERING OR FABRICATING MATERIALS.
- THE CONTRACT PLANS AND SPECIFICATIONS ARE SUPPLEMENTED BY THE ROOFING AND WATERPROOFING MANUAL, 5TH EDITION, PUBLISHED BY THE NRCA.
- ALL SHEET METAL USED ON THIS PROJECT FOR SHEET METAL FLASHING, TRIM, INCLUDING ROOF VENTS AND CAPS, ROOF EDGE WATER DAM FASCIA, PARAPET METAL COPING AS SPECIFIED IN TECH. SPECS. SHALL BE GALVANIZED, 22 GAUGE MIN. WITH KYNAR 500 COATING, PRIMED AND PAINTED TO MATCH EXISTING COLOR, U.N.O.
- ALL SHEET METAL FASTENERS SHALL BE #10 STAINLESS STEEL SCREWS, U.N.O.
- ALL NAILERS AND SLEEPERS SHALL BE PRESSURE TREATED WOOD, OR REDWOOD, U.N.O.
- ALL STEEL FOR ACCESS LADDERS SHALL BE ASTM A36.
- ALL FASTENERS/ ANCHORS FOR ACCESS LADDERS SHALL BE GALVANIZED ASTM A307 MIN.
- ALL WELDING SHALL CONFORM TO AWS D1.1.
- ALL SEALANTS SHALL BE AS SPECIFIED BY THE ROOFING MANUFACTURER FOR USE WITH THE ROOFING SYSTEM, SUBJECT TO APPROVAL, BY THE ENGINEER.
- CONTRACTOR SHALL SUBMIT WORK PLAN AND HEALTH & SAFETY PLAN AND OBTAIN APPROVAL BY THE ENGINEER PRIOR TO STARTING FIELD WORK. THE WORK PLAN SHALL INCLUDE PHASING PLAN, CONTROL OF WORK AND CONSTRUCTION SEQUENCE AS SPECIFIED IN CONTRACT DOCUMENTS.
- WORKING HOURS FOR THIS PROJECT SHALL BE AS SPECIFIED IN CONTRACT DOCUMENTS. OFF-SHIFT WORK HOURS, INCLUDING NIGHT WORK AND WEEKEND WORK, ARE REQUIRED. WORK MUST BE SCHEDULED TO MINIMIZE IMPACTS TO OPERATIONS AT SITE.

ISSUED FOR BID

APPROVED BY No. C-58443 Exp. 6/30/17 REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA		APPROVED BY No. C-58443 Exp. 6/30/17 REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA		PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
PROJECT ENGINEER 03/14/2017 DATE	REVISIONS 03/14/2017 DATE	BY A02 DATE	DWG NO. A02 DATE	SHEET TITLE GENERAL NOTES, ABBREVIATIONS AND DRAWING INDEX	
CONTRACT NO. 2017-B-12 CADD FILE: 17B12A002.DWG				SCALE: AS NOTED DATE: MARCH 14, 2017	

GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT



NOTES:

- SEE DWG A02 FOR GENERAL NOTES AND DRAWINGS INDEX.
- CONTRACTOR SHALL PERFORM WORK IN A MANNER THAT PROTECTS THE SAFETY OF THE PUBLIC, AND DISTRICT EMPLOYEES, VEHICLES AND EQUIPMENT AT ALL TIMES.
- ONLY WORK VEHICLES (NO PERSONAL VEHICLES) ARE ALLOWED INSIDE STAGING AREA. CONTRACTOR TO PROVIDE FENCING TO SECURE THIS AREA AS REQUIRED.
- DOUE TO LIMITED ACCESS AROUND THE BUILDING, AND A NEED TO MAINTAIN CONTINUOUS OPERATIONS WITHIN THE FACILITY. THE CONTRACTOR SHALL COORDINATE DEBRIS DISPOSAL AND (N) MATERIAL DELIVERY TO THE FACILITY WITH THE ENGINEER.
- CONTRACTOR SHALL SCHEDULE THE USE OF DIRECTOR'S PARKING LOT ADJACENT TO THE TOLL PLAZA ADMIN. BLDG. WITH THE ENGINEER AT LEAST TWO DAYS IN ADVANCE IF NEEDED TO DELIVER EQUIPMENT SUCH AS ROOFING MATERIAL AND HVAC UNITS.

ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS

IN	1	2	3	4	5	6	7
CM	1	2	3	4	5	6	7

APPROVED BY
REGISTERED PROFESSIONAL ENGINEER
MIKE W. YIN
No. C43643
Exp. 6/30/17
CIVIL
STATE OF CALIFORNIA

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

CONTRACT NO. 2017-B-12
DWG NO. A03
CADD FILE: 17B12A003.DWG

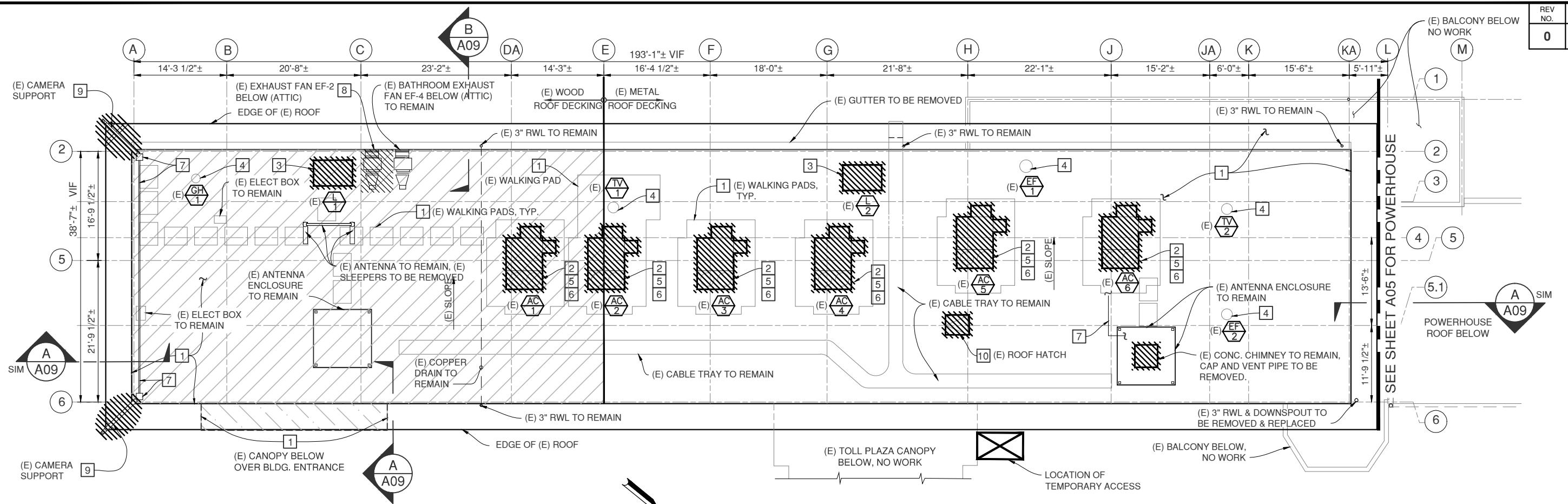
APPROVED BY
REGISTERED PROFESSIONAL ENGINEER
JAMES A. BAUER
No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
SITE PLAN

SCALE: AS NOTED
DATE: MARCH 14, 2017





DESCRIPTION OF DEMOLITION ITEMS:

- 1 REMOVE & DISPOSE OF (E) TAR AND GRAVEL ROOFING SYSTEM, (E) WALKING PADS, (E) RIGID INSULATION, (E) FLASHINGS AND RELATED MATERIALS DOWN TO THE (E) METAL OR WOOD ROOF DECKING OVER THE ENTIRE ROOF AND AWNING AREA. CLEAN AND PREP (E) REMAINING PIPES AND SUPPORTS TO RECEIVE NEW MEMBRANE FLASHINGS. THE EXISTING ROOFING SYSTEM IS COMPOSED OF 3/8" TO 1/2" BUILT-UP TAR & GRAVEL ROOFING MATERIAL OVER 1/2" PERLITE BOARD OVER 2 1/4" EPS-EXPANDED POLYSTYRENE INSULATION ON TOP OF ROOF METAL DECK OR 2X WOOD DECKING.
- 2 REMOVE AND DISPOSE ALL ROOFTOP (E) HVAC UNITS, TWO AT A TIME, OVER A WEEKEND IN THE FOLLOWING SEQUENCE:

WEEKEND	AC UNITS TO BE REMOVED / INSTALLED
1	(AC 1) & (AC 2)
2	(AC 3) & (AC 4)
3	(AC 5) & (AC 6)

NEW UNITS ARE TO BE COMPLETELY INSTALLED AND FUNCTIONAL BEFORE 8 AM ON THE FOLLOWING MONDAY MORNING FOLLOWING THE WEEKEND REMOVAL. COORDINATE UNIT REMOVAL AND REPLACEMENT WITH ROOFING REMOVAL AND REPLACEMENT.

- 3 REMOVE AND DISPOSE OF LOUVERS (L 1) & (L 2).
- 4 REMOVE AND STORE FOR RE-INSTALLATION ROOF VENT (GH 1), TURBO VENTS (TV 1) & (TV 2), AND EXHAUST FANS (EF 1) & (EF 2).

EXHAUST FANS ARE TO BE ELECTRICALLY DISCONNECTED PRIOR TO REMOVAL AND WIRES ARE TO BE PROTECTED FOR RE-USE.

AC UNIT REPLACEMENT SCHEDULE:

- 5 LEAVE ALL UNITS OPERATIONAL UNTIL NEW UNITS ARE ON SITE AND READY TO BE INSTALLED. WHEN EXISTING UNIT IS READY TO BE REPLACED OPEN AND LOCK UNIT CIRCUIT BREAKER AND TURN OFF NATURAL GAS SUPPLY. NEXT, REMOVE ALL ELECTRICAL WIRING, CONDUIT, AND PIPING TO BELOW ROOF DECK AND LEAVE IN PLACE FOR EXTENSION TO NEW UNIT AS REQUIRED.

ADMINISTRATION BLDG ROOF DEMOLITION PLAN

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

NOTES:

- SEE DWG A02 FOR GENERAL NOTES. SEE DWG M01 FOR MECHANICAL GENERAL NOTES & SYMBOLS.
- FIELD VERIFY (E) UTILITIES, BOTH ABOVE AND BELOW ROOF DECK. ADJUST UTILITY LOCATIONS AS NEEDED TO AVOID CONFLICT WITH AND TO SERVE (N) AC UNITS.
- BASED ON LAB REPORT, THE BLACK MASTIC AROUND PIPE SEALS CONTAINS 10% ASBESTOS MATERIAL AND LEAD PAINT WAS FOUND ON EXISTING LOUVERS, (E) COPPER GUTTER, (E) PARAPET CAPS, & (E) METAL ROOF EDGE GRAVEL STOPS. REMOVE THE BLACK MASTIC ROOFING MATERIAL CONTAINING ASBESTOS/LEAD PAINT AND DISPOSE ACCORDING TO ALL APPLICABLE HEALTH AND SAFETY REGULATIONS.
- (E) CONDENSATE DRAINS, GAS LINES, ROOF VENTS, FANS, ETC ARE SHOWN FOR INFORMATION. SUBJECT TO FIELD VERIFICATION.
- COORDINATE ROOFING DEMOLITION WITH OTHER DEMOLITION. MAINTAIN ALL (E) FACILITIES AND SYSTEMS FUNCTIONAL DURING ALL STAGES OF DEMOLITION, UON.

LEGEND:

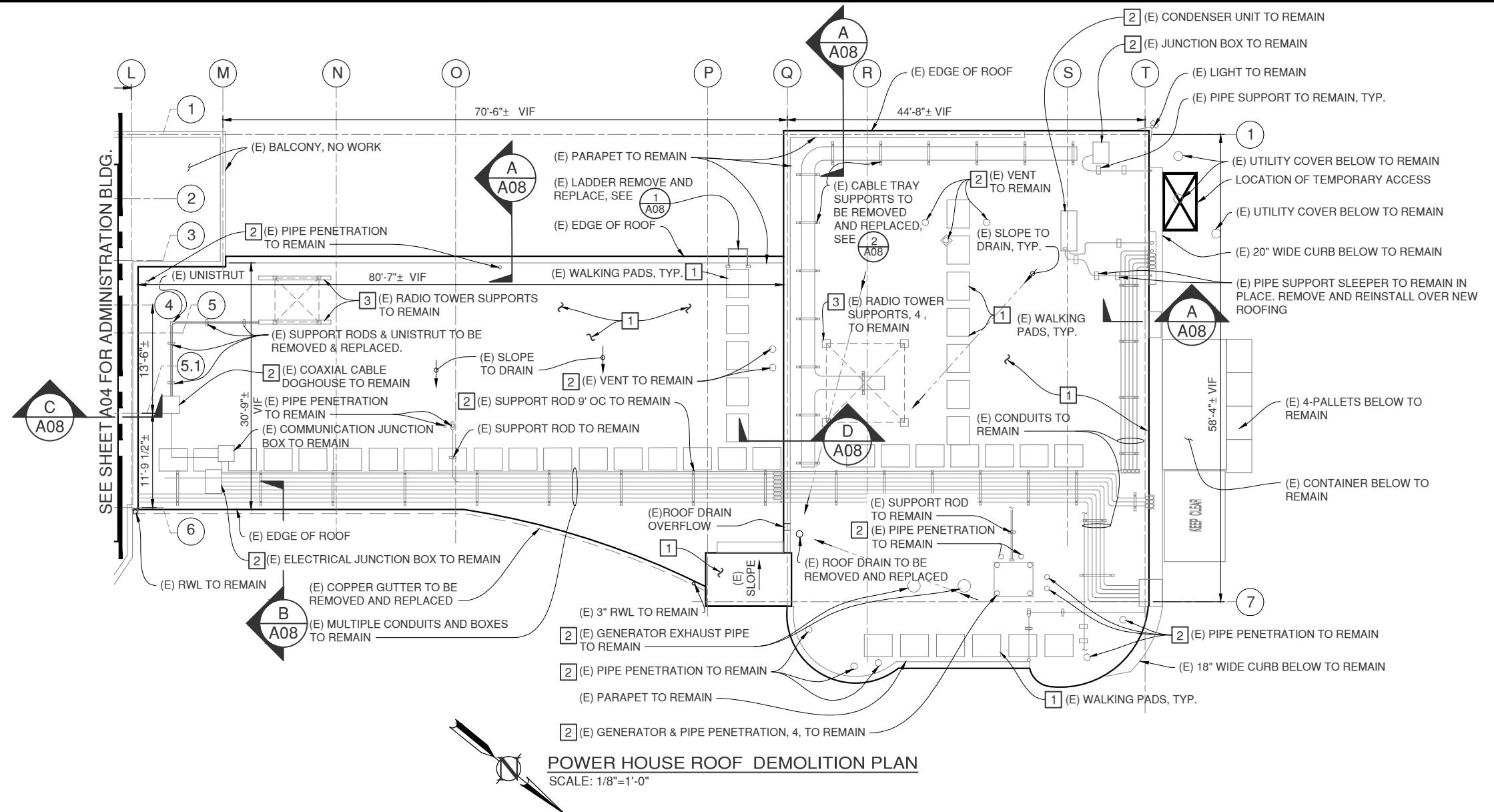
	EQUIPMENT DEMOLITION
	WOOD ROOF DECK
	ENTRANCE CANOPY
	ROOF TOP AC UNIT NO. 5
	EXHAUST FAN NO. 2
	ROOF VENT
	LOUVER
	WIND TURBINE VENTILATOR

ISSUED FOR BID

APPROVED BY 	PROJECT ENGINEER 03/14/2017 DATE	APPROVED BY 	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
GRAPHIC SCALE SHOWN IN FULL SIZE VERIFY SCALE FOR REDUCED PLANS 		REVISIONS BY DATE	SHEET TITLE ROOF DEMOLITION PLAN ADMINISTRATION BLDG.
CADD FILE: 17B12A004.5.DWG		DWG NO. A04	SCALE: AS NOTED DATE: MARCH 14, 2017
CONTRACT NO. 2017-B-12		DISTRICT ENGINEER 03/14/2017 DATE	
CADD FILE: 17B12A004.5.DWG			



GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT



DESCRIPTION OF DEMOLITION ITEMS:

- 1 REMOVE & DISPOSE OF (E) TAR AND GRAVEL ROOFING SYSTEM, (E) WALKING PADS, (E) FLASHINGS, DOWN TO THE (E) CONCRETE ROOF DECKING AND RELATED MATERIALS OVER THE ENTIRE ROOF AREA. THE EXISTING ROOFING SYSTEM IS COMPOSED OF 3/8" TO 1/2" BUILT-UP TAR & GRAVEL ROOFING MATERIAL OVER 1/2" PERLITE BOARD ON TOP OF THE EXISTING CONCRETE ROOF DECK.
- 2 REMOVE ALL (E) PIPE FLASHINGS, (E) EQUIPMENT SUPPORT FLASHINGS/CURB FLASHINGS. CLEAN & PREP AREAS TO RECEIVE NEW ROOFING MEMBRANE & FLASHINGS, TYPICAL. PROTECT ALL (E) UTILITIES & (E) EQUIPMENT IN PLACE.
- 3 CONCRETE BASES UNDER ALL I-BEAM SUPPORTS TO BE STRIPPED OF OLD METAL FLASHING. CLEAN & PREP LOWER FLAT AREAS OF METAL I-BEAMS, AND AN ADDITIONAL 2" UP THE VERTICAL WEB ON ALL SIDES, IS TO BE GROUND CLEAN AND FREE OF ALL PAINT, TO RECEIVE NEW LIQUID MEMBRANE.

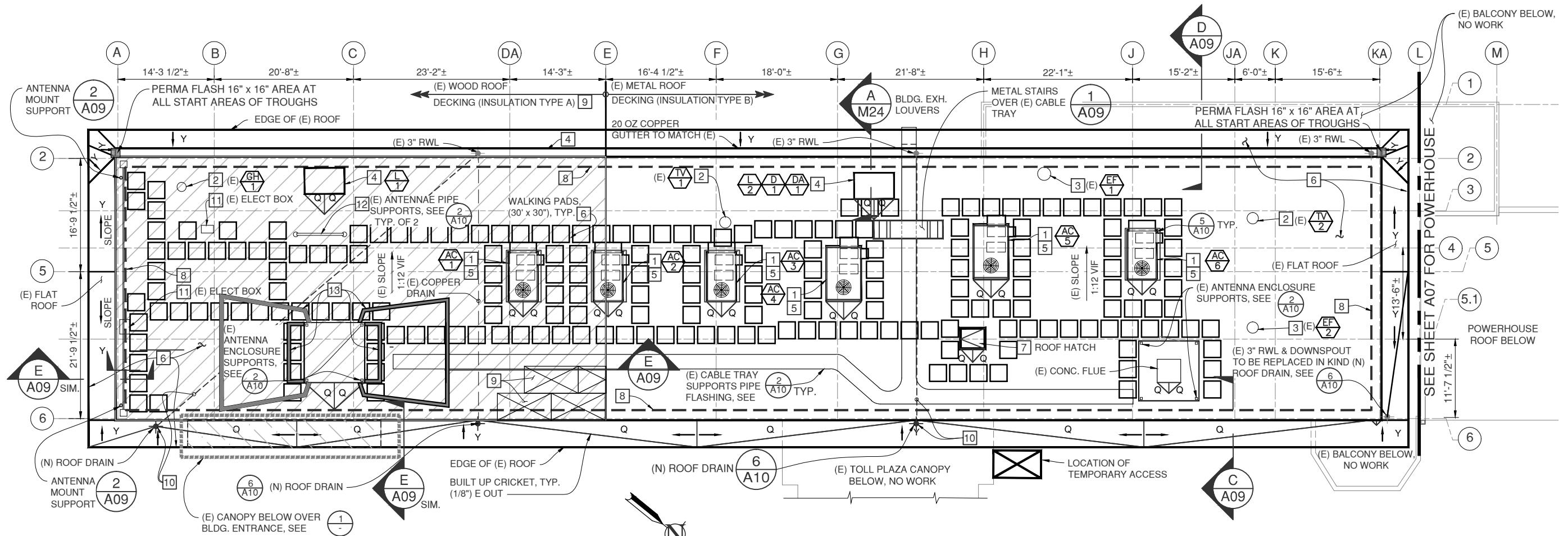
NOTES:

1. SEE DWG A02 FOR GENERAL NOTES. SEE DWG M01 FOR MECHANICAL GENERAL NOTES & SYMBOLS.
2. FIELD VERIFY (E) UTILITIES, SUPPORTS AND ROOF PENETRATION.
3. BASED ON LAB REPORT, THE EXISTING COPPER GUTTER, PARAPET CAPS AND METAL ROOF EDGE GRAVEL STOP CONTAINS LEAD PAINT. REMOVE LEAD PAINT CONTAINING MATERIALS AND DISPOSE ACCORDING TO ALL APPLICABLE HEALTH AND SAFETY REGULATIONS.
4. (E) CONDENSATE DRAINS, GAS LINES, ROOF VENTS, FANS, ETC ARE SHOWN FOR INFORMATION. SUBJECT TO FIELD VERIFICATION.
5. COORDINATE ROOFING DEMOLITION WITH OTHER DEMOLITION. MAINTAIN ALL (E) FACILITIES AND SYSTEMS DURING ALL STAGES OF DEMOLITION, UON.

ISSUED FOR BID

APPROVED BY REGISTERED PROFESSIONAL ENGINEER No. C43643 Exp. 6/30/17 CIVIL STATE OF CALIFORNIA		APPROVED BY REGISTERED PROFESSIONAL ENGINEER No. C43632 Exp. 3/31/19 CIVIL STATE OF CALIFORNIA		PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
PROJECT ENGINEER 03/14/2017 DATE		REVISIONS NO. 0 BY DATE		SHEET TITLE ROOF DEMOLITION PLAN POWERHOUSE	
CONTRACT NO. 2017-B-12 DATE		DWG NO. A05		DISTRICT ENGINEER 03/14/2017 DATE	
CADD FILE: 17B12A004.5.DWG				SCALE: AS NOTED DATE: MARCH 14, 2017	

GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT



DESCRIPTION OF WORK ITEMS:

- 1 FURNISH AND INSTALL 6 (N) ROOFTOP HVAC UNITS SHOWN AS WITH NEW ROOF CURBS EXTEND (E) GAS LINES, & CONNECT TO (N) HVAC UNITS. INSTALL TRANSITION DUCTWORK BETWEEN HVAC UNITS AND (E) DUCTWORK. CONNECT TRANSITION DUCTWORK TO (E) DUCTWORK USING INDUSTRIAL QUALITY, G-90 GALVANIZED-DEPREEEN FLEXIBLE DUCT CONNECTOR. SEE MECHANICAL DRAWINGS.
- 2 RE-INSTALL (E) , (E) , AND (E) WITH NEW ROOF CURBS .
- 3 RE-INSTALL (E) AND (E) WITH NEW ROOF CURBS ATTACH ELECTRICAL WIRING AND VERIFY EACH IS OPERATING SAFELY.
- 4 INSTALL NEW LOUVERS AND WITH NEW ROOF CURBS INSTALL (N) DAMPER AT AND (N) DAMPER ACTUATOR .
- 5 CONSTRUCT (N) CONDENSATE DRAIN LINES FOR 6 (N) ROOFTOP HVAC UNITS & DISCHARGE TO ROOF DRAINS. EACH DRAIN LINE TO BE HELD IN PLACE USING SLEEPERS AT 6' O.C. SEE .
- 6 CONSTRUCT (N) 3-PLY CLASS A, JOHNS MANVILLE 3 CID OR APPROVED EQUAL, BUILT-UP ROOFING SYSTEM OVER $\frac{1}{2}$ " COVER BOARD OVER INSULATION BOARD OVER (E) ROOF DECK ENTIRE ROOF AREA. INSTALL (N) ROOF DRAINS, INSTALL (N) SHEET METAL FLASHINGS. INSTALL 30" x 30" WALKING PADS OVER (N) ROOFING AS SHOWN ON PLAN, EVENLY SPACED AT 3'-0" ± CENTER TO CENTER.
- 7 REMOVE AND REPLACE (E) ROOF HATCH W/ JL INDUSTRIES "STH-1" ROOF HATCH AND SAFETY RAILING, OR APPROVED EQ.
- 8 INSTALL MILLER SHOCKFUSION HLL SYSTEM OR APPROVED EQUAL. HORIZONTAL LIFELINE ROOF SYSTEM PER MANUFACTURER INSTRUCTIONS, SEE , AND MANUFACTURER APPROVED INSTALLER.
- 9 INSTALL 1/2" STRUT-I ROOF PLYWOOD SHEATHINGS OVER THE ENTIRE WOOD DECKING AREA, NAIL W/ 8d @ 6" O.C. EDGE AND 12" O.C. FIELD NAILING U.O.N., SEE REMOVE & REPLACE APPRX. 200 SQ FT OF DRY-ROTTED WOOD DECKING, VIF.

ADMINISTRATION BLDG ROOF PLAN

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

LEGEND:

PANEL	TYPE	THICKNESS	SIZE	SLOPE
Y	TAPERED	1.5"-2.5"	4'X 4'	1/4" / FT.
Q	CRICKET	0.5"-2.5"	4'X 4'	1/2" / FT.
A	ISO FLAT - 2 LAYERS	2 x 1.5" = 3.0"	4'X 4'	N/A
B	ISO FLAT - 2 LAYERS	2 x 2.6" = 5.1"	4'X 4'	N/A

(E) WOOD ROOF DECK, SEE

ENTRANCE CANOPY

ROOF TOP AC UNIT NO. 5

EXHAUST FAN NO. 2

ROOF VENT

LOUVER

WIND TURBINE VENTILATOR

DAMPER

DAMPER ACTUATOR

2' x 2' WALKING PADS

CRICKET, SEE PANEL SCHEDULE

TAPERED, SEE PANEL SCHEDULE

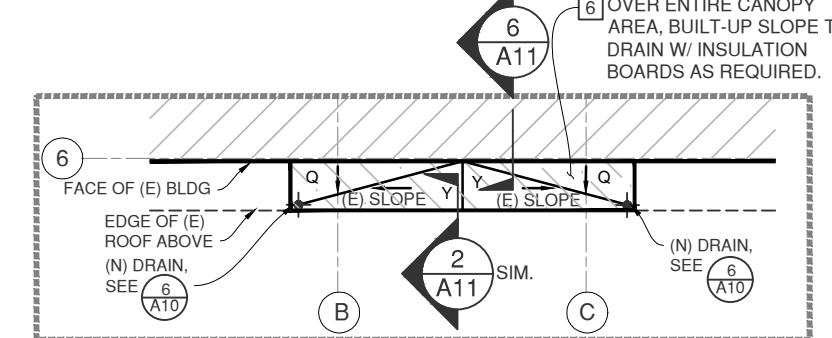
ROOF DRAINAGE DIRECTION

RWL

OVER ENTIRE CANOPY AREA, BUILT-UP SLOPE TO DRAIN W/ INSULATION BOARDS AS REQUIRED.

INSULATION PANEL SCHEDULE:

PANEL SCHEDULE				
PANEL	TYPE	THICKNESS	SIZE	SLOPE
Y	TAPERED	1.5"-2.5"	4'X 4'	1/4" / FT.
Q	CRICKET	0.5"-2.5"	4'X 4'	1/2" / FT.
A	ISO FLAT - 2 LAYERS	2 x 1.5" = 3.0"	4'X 4'	N/A
B	ISO FLAT - 2 LAYERS	2 x 2.6" = 5.1"	4'X 4'	N/A



ENTRANCE CANOPY PLAN

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

ISSUED FOR BID



PROJECT ENGINEER
03/14/2017
DATE



DISTRICT ENGINEER
03/14/2017
DATE



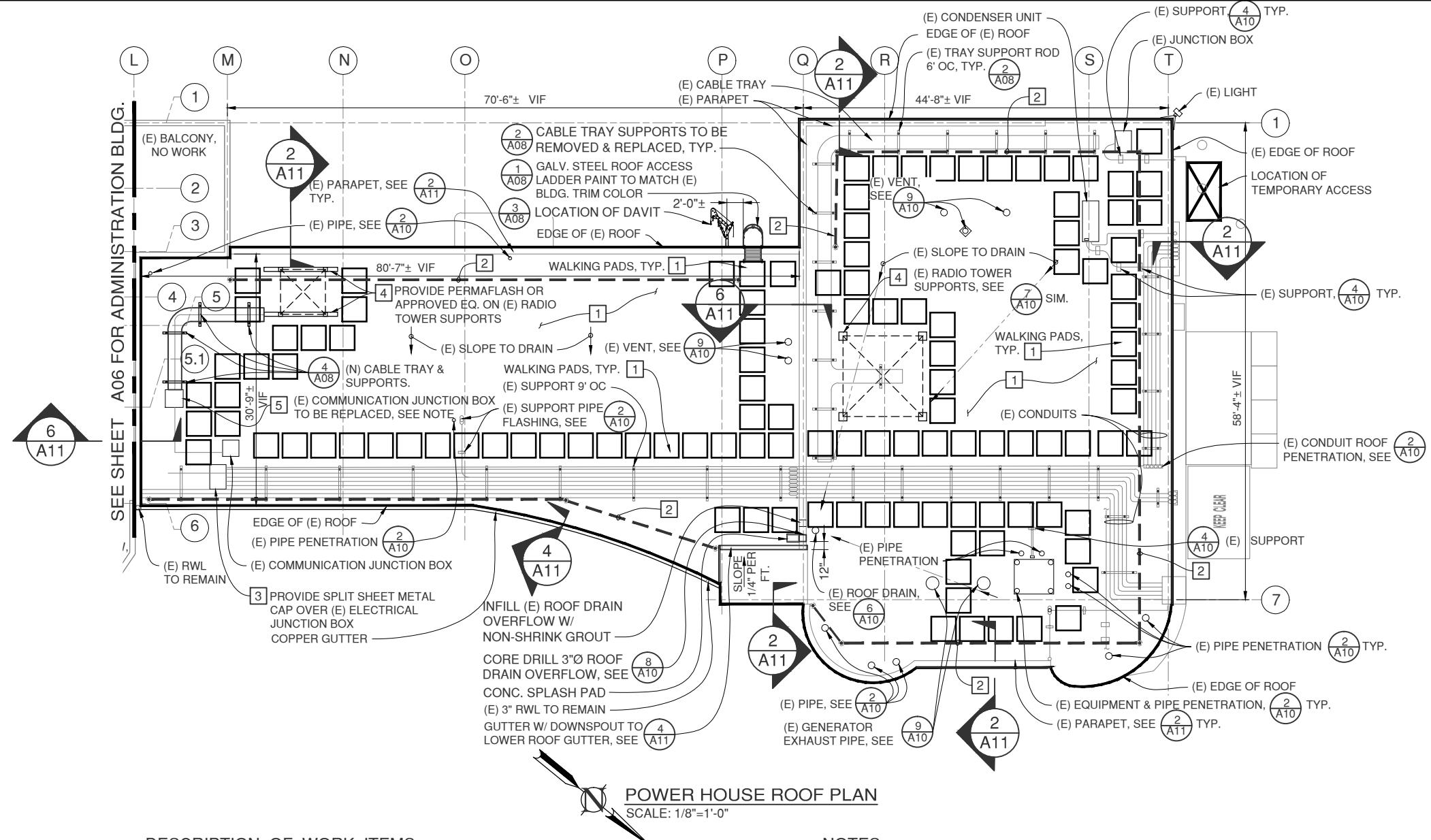
PROJECT TITLE
GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS

SHEET TITLE
NEW ROOF IMPROVEMENT PLAN
ADMINISTRATION BLDG.

SCALE: AS NOTED

DATE: MARCH 14, 2017





DESCRIPTION OF WORK ITEMS

- 1** CONSTRUCT (N) 3-PLY CLASS A, JOHNS MANVILLE 3 CID-CA OR APPROVED EQUAL BUILT-UP ROOFING SYSTEM OVER (N) 1" COVER BOARD OVER (E) CONC SLAB, SEE TECH SPECS. INSTALL (N) ROOF DRAINS AND OVERFLOW ROOF DRAINS. INSTALL (N) SHEET METAL FLASHINGS. INSTALL NEW COPPER GUTTER. INSTALL 30"x 30" WALKING PADS OVER (N) ROOFING AS SHOWN ON PLAN, EVENLY SPACED.
 - 2** INSTALL MILLER SHOCKFUSION HLL SYSTEM OR APPROVED EQUAL. HORIZONTAL LIFELINE ROOF SYSTEM PER MANUFACTURER INSTRUCTIONS, SEE  AND MANUFACTURE APPROVED INSTALLER.
 - 3** INSTALL PERMAFLASH OR EQUAL BASE FLASHING TO CURB, FOLLOWED BY A TWO-PIECE, FABRICATED METAL, 4-WAY PELICAN HEAD FLASHING TO ENCASE THE INTERSECTION OF THE CABLES.
 - 4** INSTALL PERMAFLASH OR EQUAL BASE FLASHINGS TO CONCRETE BASES AND UP TO THE FLAT AREAS OF THE I-BEAMS AND AN ADDITIONAL 2" UP THE I-BEAM VERTICAL AREA.
 - 5** REPLACE (E) COMMUNICATION JUNCTION BOX W/ TESSCO PART #417415 & #342031 ROOF CABLE ENTRY SYSTEM, OR APPROVAL EQ. INSTALL PER MANUFACTURER RECOMMENDATION & COORDINATE WITH DISTRICT PERSONNEL FOR DISCONNECT AND RECONNECTION OF CABLES.

NOTE

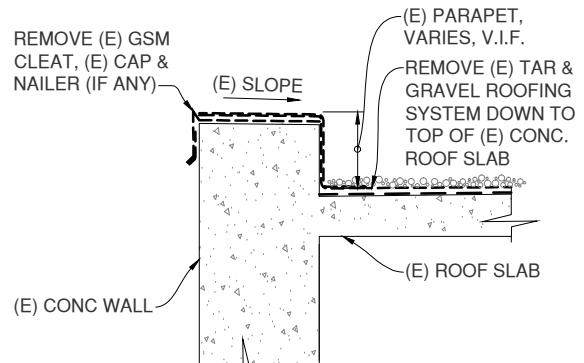
1. SEE DWG A02 FOR GENERAL NOTE. SEE DWG M19 FOR NEW HVAC UNIT SCHEDULE, ACCESSORIES & EQUIPMENT LIST.
 2. (N) ROOFING SYSTEM AND DRAINS WILL BE SUBJECT TO WATER TEST. NO ROOF LEAK OR PONDING WILL BE ALLOWED.
 3. ALL (E) ROOF TOP EQUIPMENT THAT IS TO BE RE-INSTALLED SHALL FUNCTION THE SAME AS WHEN IT WAS REMOVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING AND INSTALLING ANY ITEM THAT DOES NOT FUNCTION THE SAME AS WHEN IT WAS REMOVED AT NO COST TO THE DISTRICT.

ISSUED FOR BID

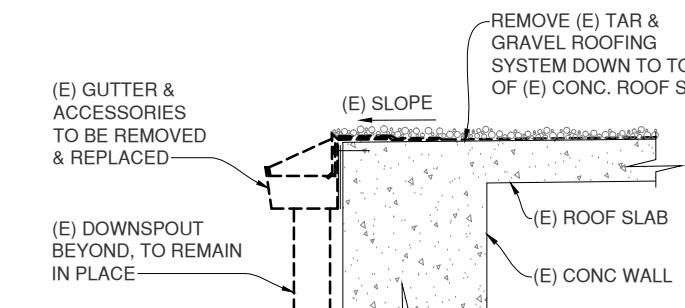
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<p>SHEET TITLE</p> <p>NEW ROOF IMPROVEMENT PLAN POWERHOUSE</p>	
<p>SCALE: AS NOTED</p>	<p>DATE: MARCH 14, 2017</p>



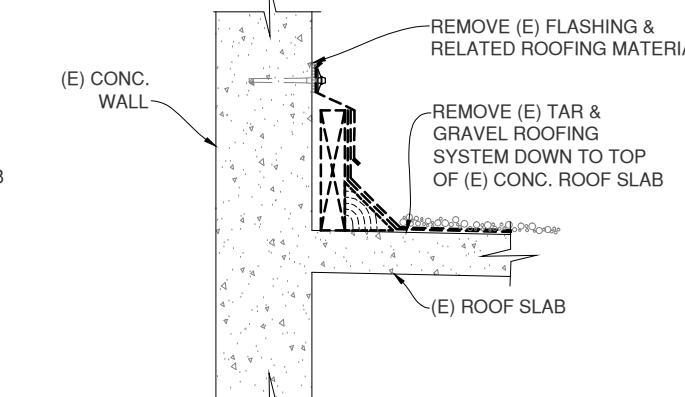
GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT



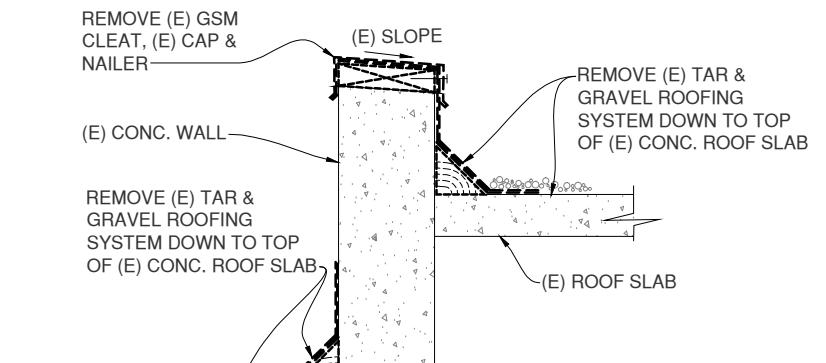
A SECTION
A05
SCALE: 1 1/2"=1'-0"



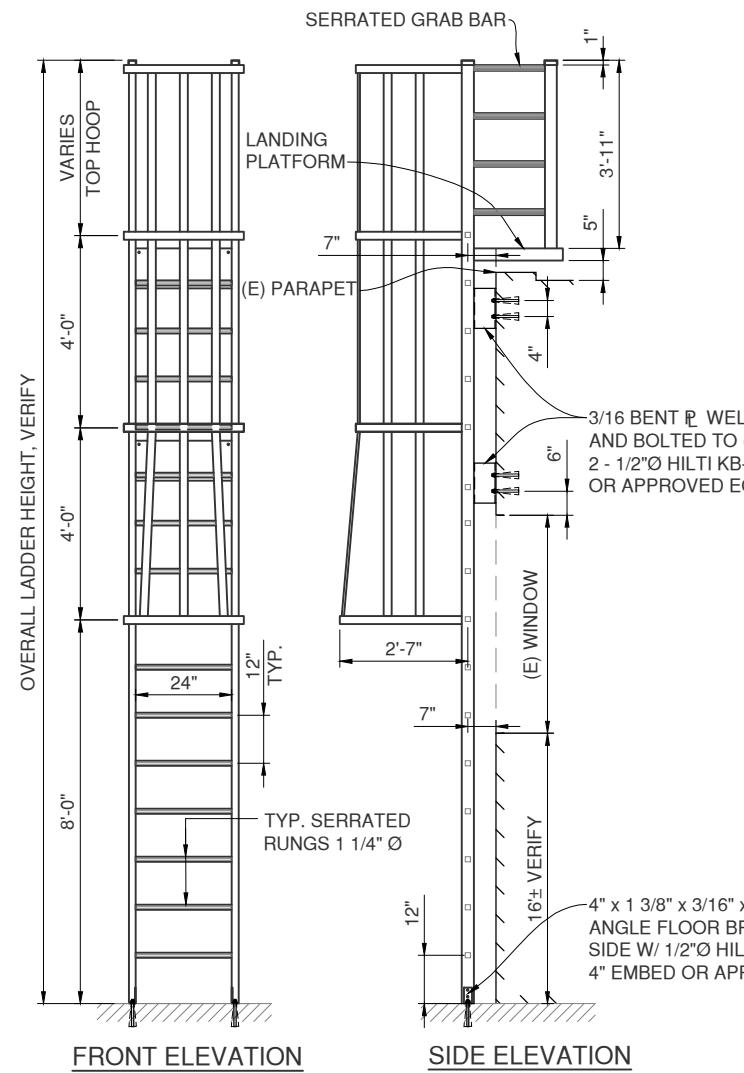
B SECTION
A05
SCALE: 1 1/2"=1'-0"



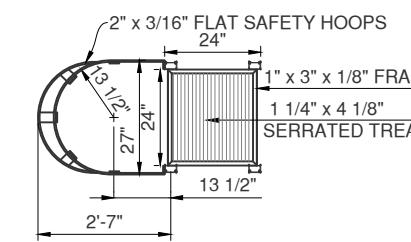
C ROOF / WALL SECTION
A05
SCALE: 1 1/2"=1'-0"



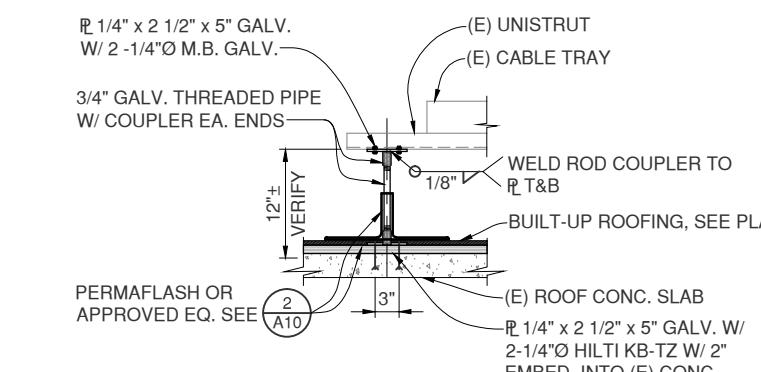
D COPING SECTION
A05
SCALE: 1 1/2"=1'-0"



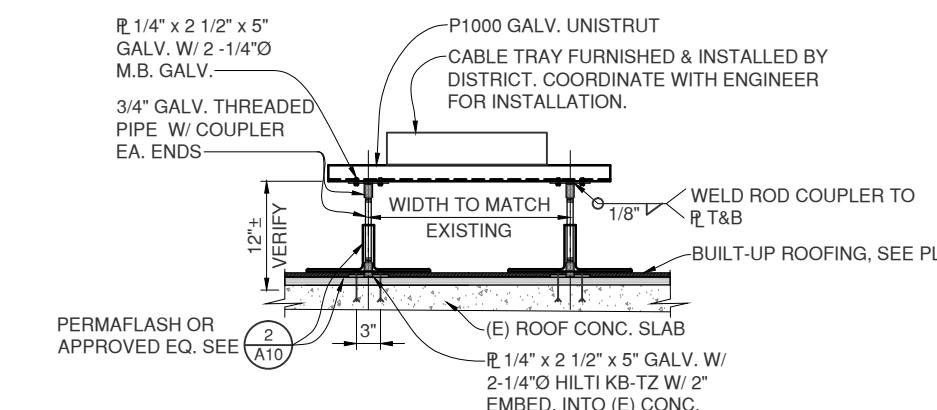
1 HEAVY DUTY STEEL CAGE LADDER
A05, A07
SCALE: 1/2"=1'-0"



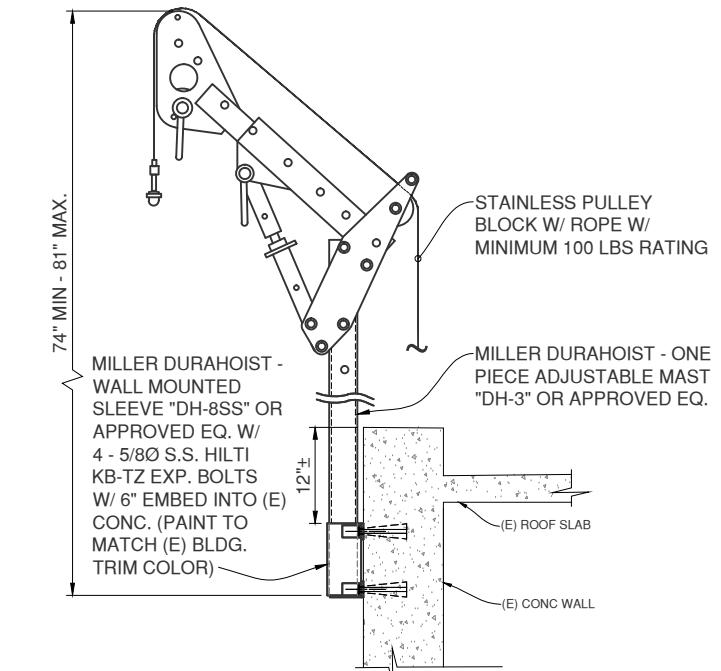
LADDER PLAN



2 CABLE TRAY SUPPORTS
A05, A07
SCALE: 1"=1'-0"



4 CABLE TRAY SUPPORTS
A07
SCALE: 1"=1'-0"



3 WALL MOUNTED DAVIT
A07
SCALE: 1"=1'-0"

ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN CM
1 2 3 4 5 6 7
1 2 3 4 5 6 7



PROJECT ENGINEER
03/14/2017
DATE

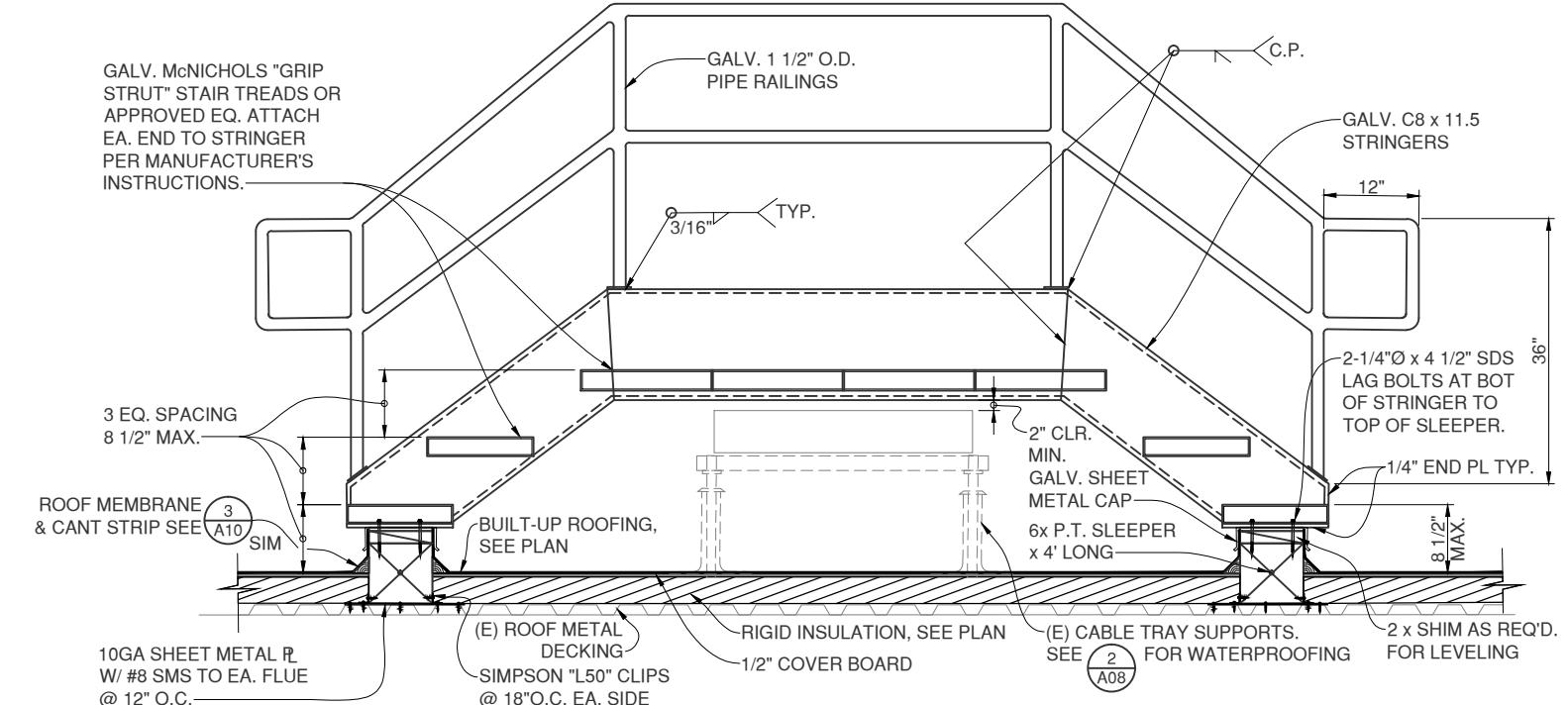
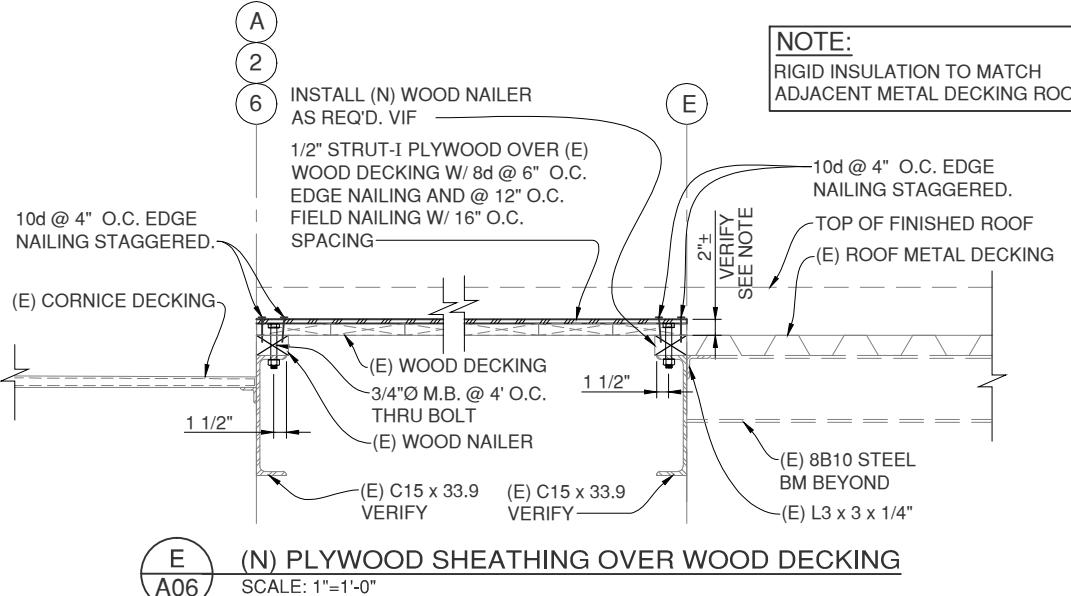
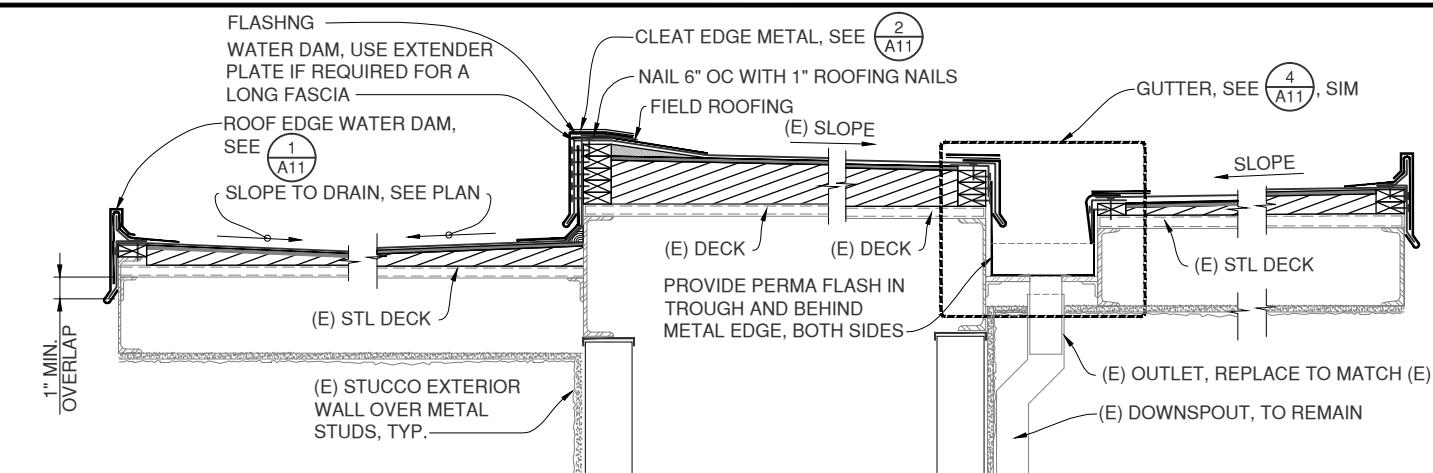
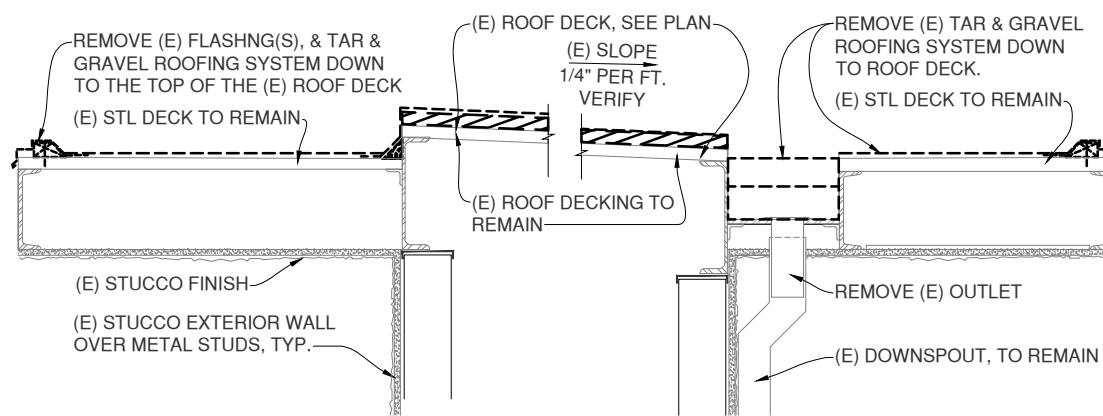
REVISIONS
CONTRACT NO. 2017-B-12
CADD FILE: 17B12A008.DWG

BY DATE
DWG NO.
A08



PROJECT TITLE
GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
SHEET TITLE
ROOF DEMOLITION CROSS SECTIONS
SCALE: AS NOTED
DATE: MARCH 14, 2017





3 A06
LIFELINE ROOF SYSTEM @ ADMIN. BUILT-UP ROOF
SCALE: 1"=1'-0"

APPROVED BY	
MIKE W. YIM	
CIVIL	
STATE OF CALIFORNIA	
NO. C48443	
Exp. 6/30/17	

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

DWG NO.
A09

APPROVED BY	
LEW A. Z. BAUM	
CIVIL	
STATE OF CALIFORNIA	
NO. C43632	
Exp. 3/31/19	

DISTRICT ENGINEER
03/14/2017
DATE

SCALE: AS NOTED

DATE: MARCH 14, 2017

PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	SHEET TITLE MISCELLANEOUS DETAILS
--	---



ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

PLAN NOTES: APPLIES TO ENTIRE SHEET

- REFER TO ROOFING MANUFACTURER'S WEBSITE FOR MOST UP-TO-DATE INFORMATION, AND INSTALL IN ACCORDANCE TO MANUFACTURER INSTRUCTIONS.
- SHOP FABRICATED SHEET METAL SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA OR NRCA. LAPS SHALL UTILIZE EITHER APPROVED SPLICE PLATES OR 4" MINIMUM OVERLAPS WITH APPROVED SEALANT.
- ANY CARPENTRY, METAL WORK, OR MASONRY CONSTRUCTION SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHALL BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
- REFER TO BITUMINOUS FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THESE DETAIL.

1 TYP 3-PLY BUILT-UP ROOF DETAIL
A06, A07 NOT TO SCALE

2 PERMAFLASH PIPE PENETRATION DETAIL
A06, A07 NOT TO SCALE

3 PREFABRICATED CURB DETAIL
A06, M24 NOT TO SCALE

4 TYP. CONDUIT/CONDENSATE PIPE SUPPORT DETAIL
A06, A07 NOT TO SCALE

5 TYP AC CURB & DUCT SHAFT SECTION
A06, A07 NOT TO SCALE

6 METAL DRAIN
A06, A07 NOT TO SCALE

7 ROOF PENETRATION PLAN
A07 NOT TO SCALE

8 TYP ROOF DRAIN OVERFLOW
A07 NOT TO SCALE

9 VENT STACK (WARM)
A06, A07 NOT TO SCALE

ISSUED FOR BID

APPROVED BY
MIKE W. YIN
REGISTERED PROFESSIONAL ENGINEER
No. C48443
Exp. 6/30/17
CIVIL STATE OF CALIFORNIA

APPROVED BY
JAMES Z. BAUER
REGISTERED PROFESSIONAL ENGINEER
No. C43632
Exp. 3/31/19
CIVIL STATE OF CALIFORNIA

PROJECT TITLE
GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
NO. 0
BY DATE

CONTRACT NO. 2017-B-12
DWG NO. A10
CADD FILE: 17B12A010.DWG

DISTRICT ENGINEER
03/14/2017
DATE

SCALE: AS NOTED
DATE: MARCH 14, 2017

GOLDEN GATE BRIDGE HIGHWAY & TRANSPORTATION DISTRICT

PLAN NOTES: APPLIES TO ENTIRE SHEET

- REFER TO ROOFING MANUFACTURER'S WEBSITE FOR MOST UP-TO-DATE INFORMATION, AND INSTALL IN ACCORDANCE TO MANUFACTURER INSTRUCTIONS.
- SHOP FABRICATED SHEET METAL SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA OR NRCA. LAPS SHALL UTILIZE EITHER APPROVED SPLICE PLATES OR 4" MINIMUM OVERLAPS WITH APPROVED SEALANT.
- ANY CARPENTRY, METAL WORK, OR MASONRY CONSTRUCTION SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS AND/OR PROJECT SPECIFICATIONS. THESE COMPONENTS SHALL BE REVIEWED AND APPROVED BY A LICENSED DESIGN PROFESSIONAL.
- PLEASE SEE BITUMINOUS FLASHING SPECIFICATIONS FOR A FULL DESCRIPTION OF INSTALLATION INSTRUCTIONS AND REQUIREMENTS WHICH ARE CONSIDERED A PART OF THESE DETAIL.
- ALL SHEET METAL USED ON THIS PROJECT SHALL BE GALV. 22 GAUGE MIN. WITH KYNAR 500 COATING, PRIMED AND PAINTED TO MATCH (E) COLOR.

**GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS**

PROJECT ENGINEER
No. C43632
Ex. 3/31/19
NAME: MIKE W. YIN
CIVIL
STATE OF CALIFORNIA
No. C43632
Ex. 3/31/19
NAME: JAMES Z. BAUER
CIVIL
STATE OF CALIFORNIA

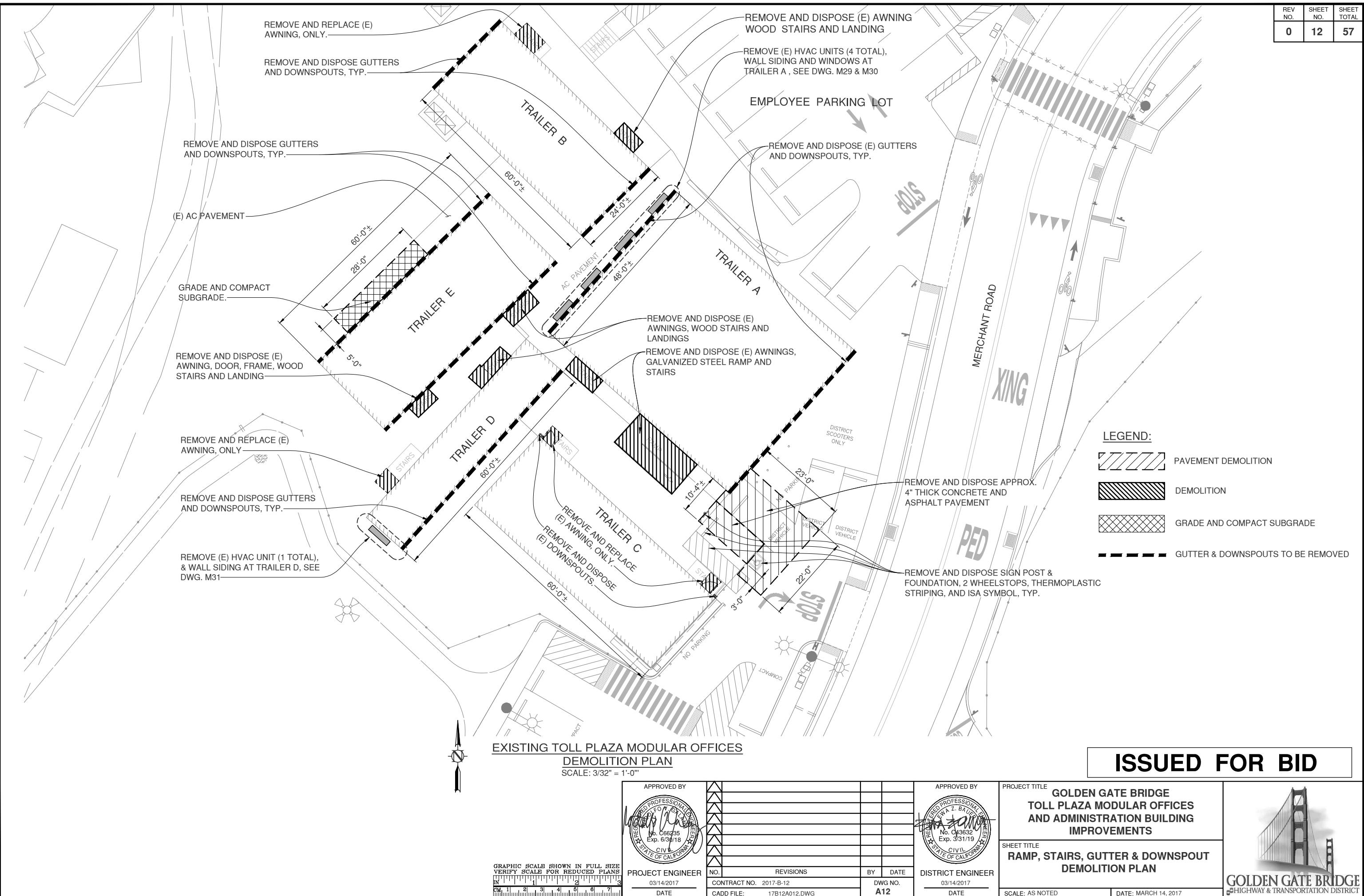
REVISIONS
No. 03/14/2017
CONTRACT NO. 2017-B-12
CADD FILE: 17B12A011.DWG

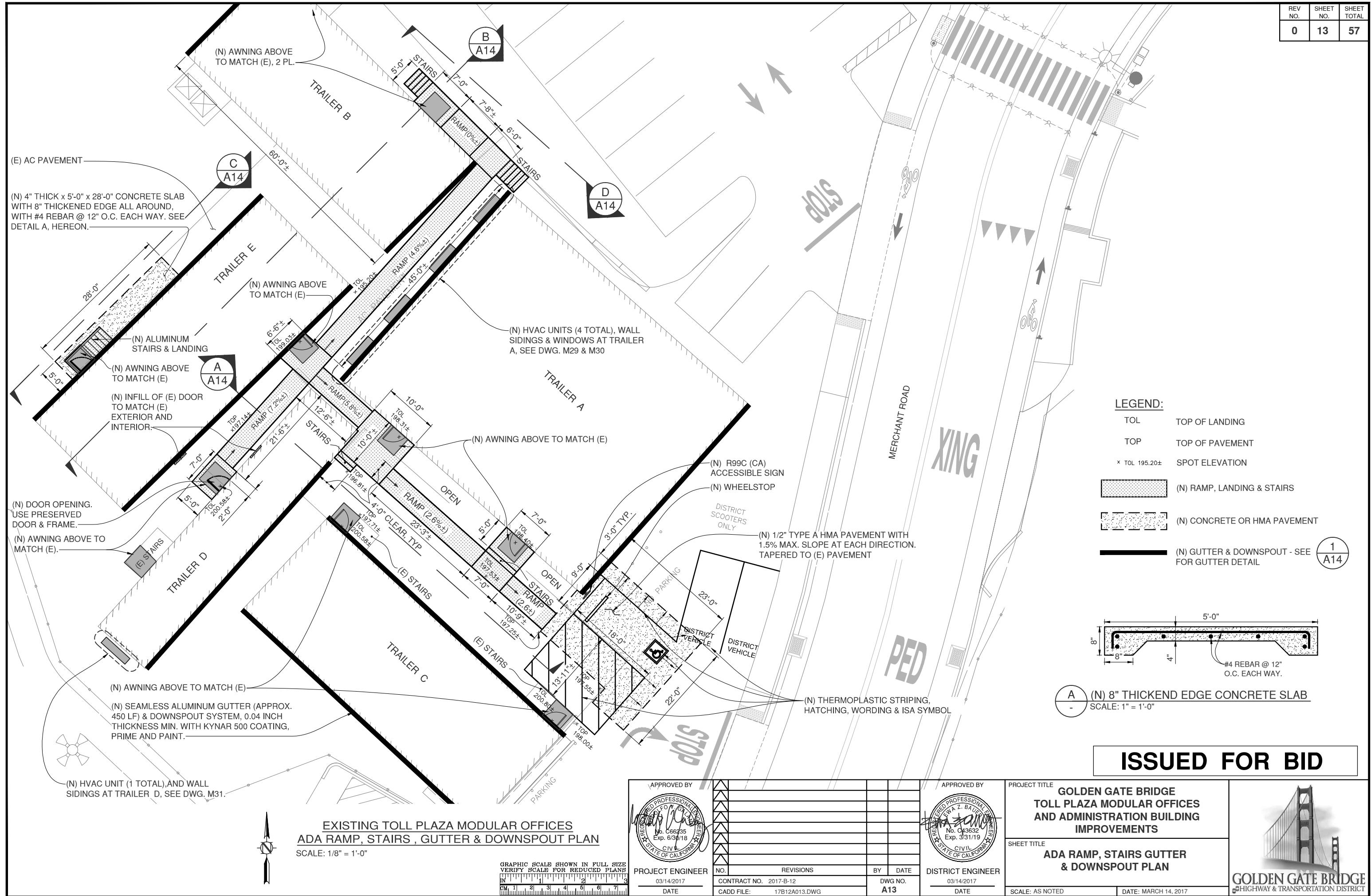
DWG NO. A11
DATE: 03/14/2017

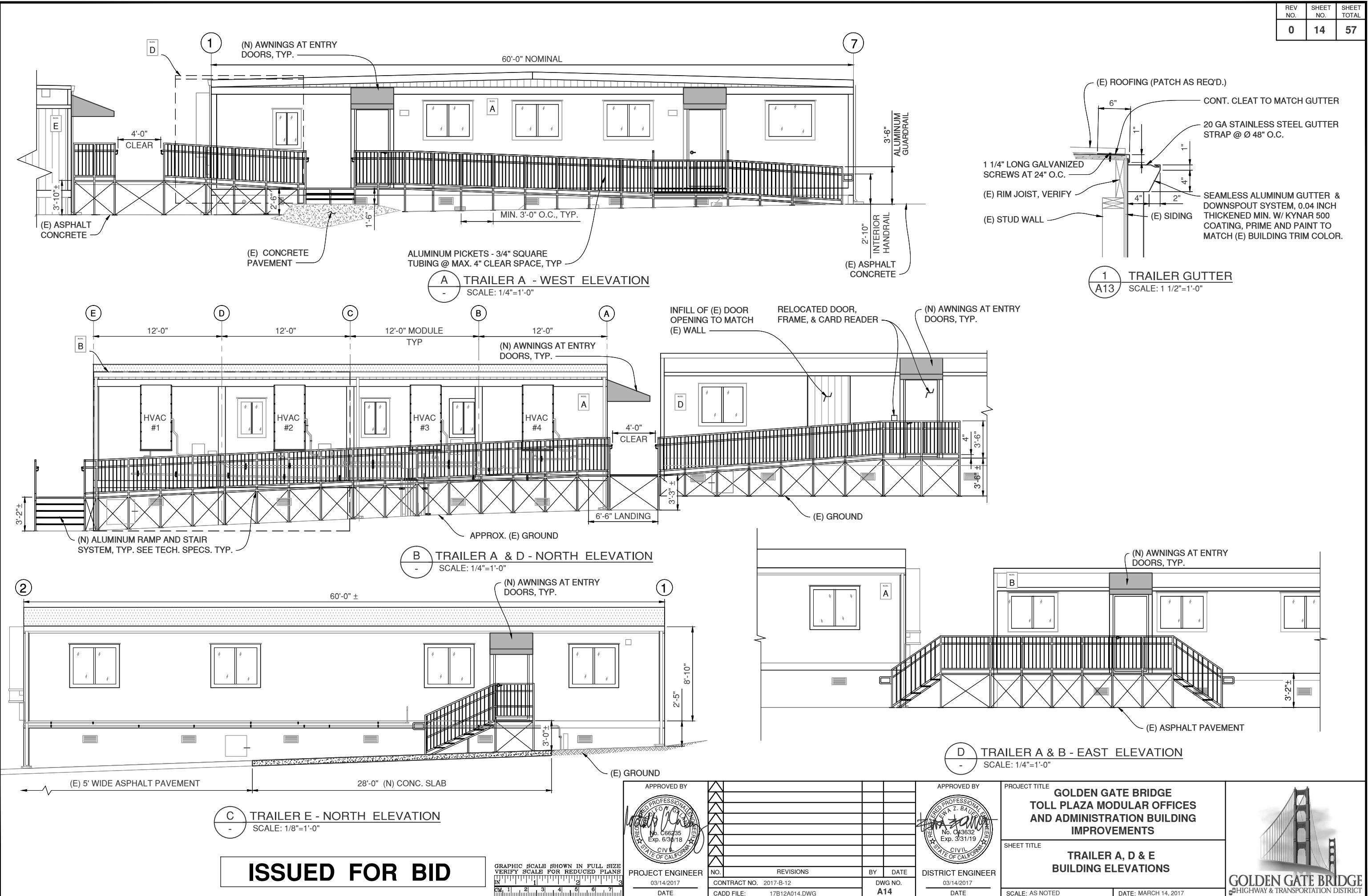
PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
ROOFING DETAILS - 2

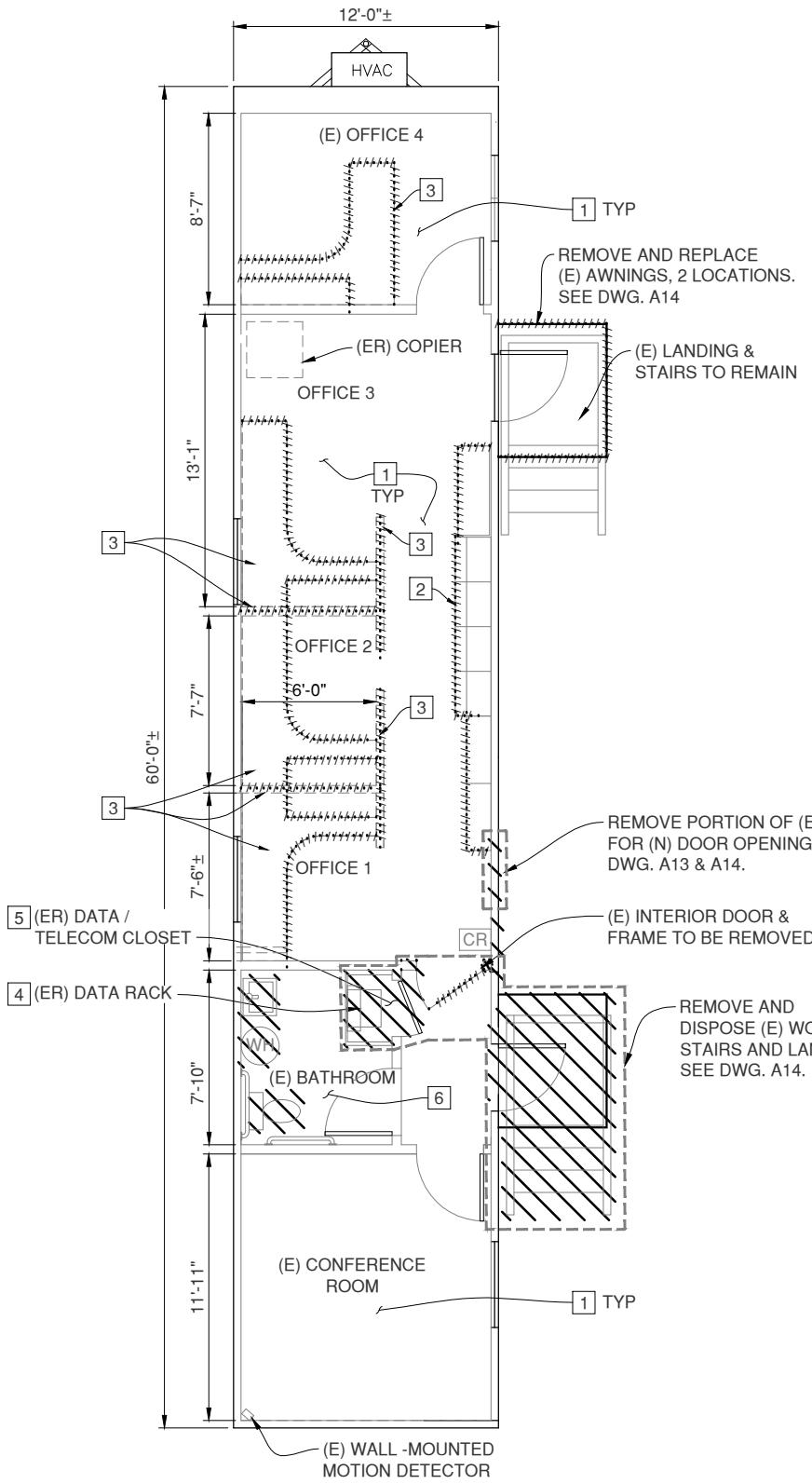
SCALE: AS NOTED
DATE: MARCH 14, 2017







KEY NOTES - DEMOLITION



DEMOLITION PLAN

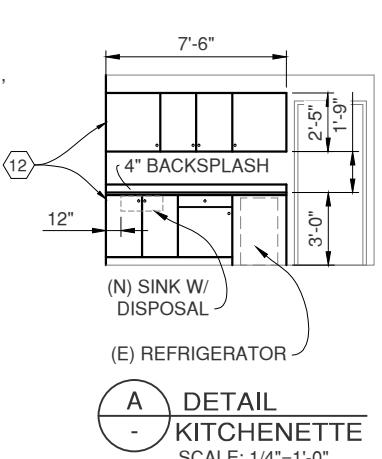
SCALE: 1/4"=1'-0"

- 1 REMOVE AND DISPOSE OF (E) CARPET AT ENTIRE OFFICE.
- 2 REMOVE AND DISPOSE OF (E) CABINETS AND SHELVES. REFER TO DWG E08 NOTES FOR (E) VOICE/DATA & DUPLEX OUTLETS.
- 3 REMOVE AND DISPOSE OF (E) OFFICE FURNISHINGS AND PARTITIONS, TYP.
- 4 REMOVE AND STORE ALL ELECTRICAL EQUIPMENT AND RACKS IN (E) DATA/TELECOM CLOSET, SEE DWG E08 FOR DETAILS.
- 5 REMOVE AND DISPOSE OF (E) DATA/TELECOM CLOSET WALLS.
- 6 REMOVE AND DISPOSE OF BATHROOM WALL COVERING / WOOD PANELS, FIXTURES INCLUDING SINK AND TOILET, WATER HEATER (CAP ALL WATER LINES AND ELECTRICAL WIRING), AND VINYL FLOORING.

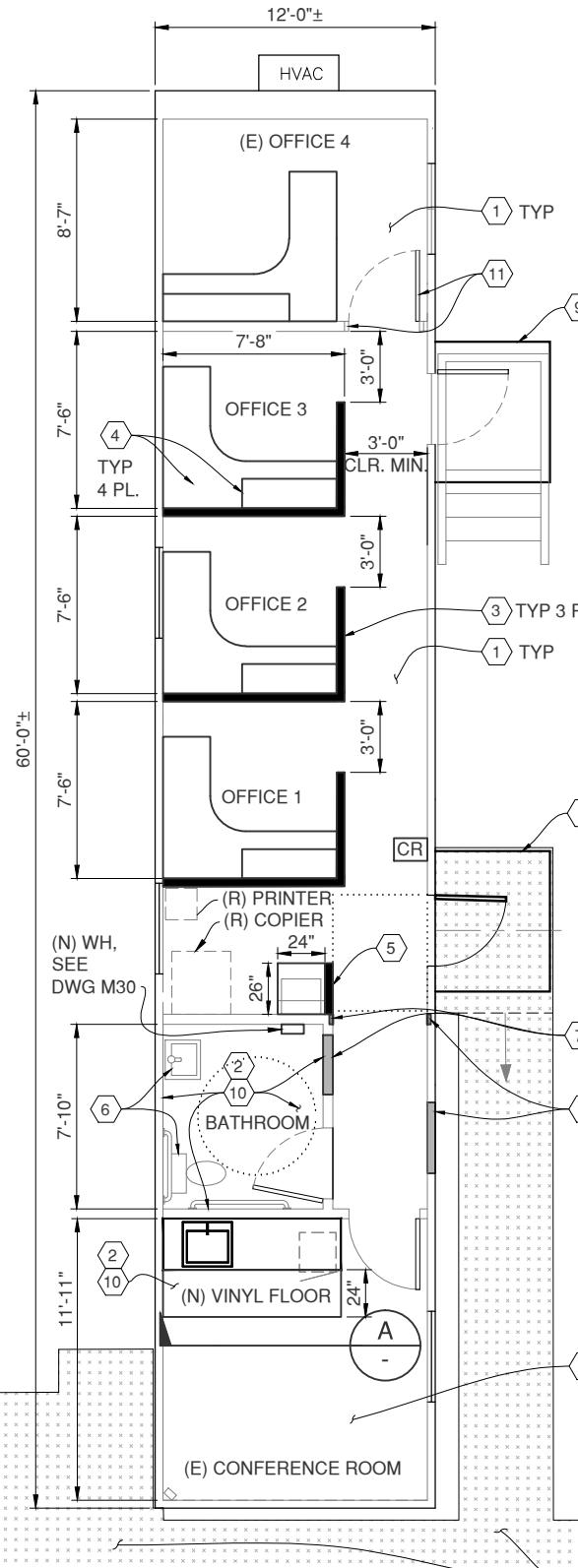
LEGEND:

- ITEMS TO BE DEMOLISHED
- FURNITURE TO BE DEMOLISHED
- ADA CLEAR FLOOR SPACE

- (E) EXISTING
- (ER) EXISTING TO BE RELOCATED
- (R) RELOCATED
- (N) NEW
- (N) WATER HEATER
- WH WATER HEATER
- CR CARD READER



A DETAIL
- KITCHENETTE
SCALE: 1/4"=1'-0"



NEW FLOOR PLAN

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

GENERAL NOTES:

- SEE DWG A02 FOR GENERAL NOTES & SYMBOLS, DWG M30 FOR PLUMBING DETAILS, DWG M33 FOR NEW HVAC INSTALLATION AND EXTERIOR MODIFICATIONS, AND DWG E08 FOR ELECTRICAL CHANGES.
- FIELD VERIFY (E) CONDITIONS AND UTILITIES. NOTIFY THE ENGINEER IN ADVANCE IF ANY EXISTING CONDITIONS AND/OR UTILITIES NEED ADJUSTMENT TO ACCOMMODATE INTERIOR DEMOLITION AND REMODELING WORK.
- SEE NOTES 4 AND 5 REGARDING TIME TO COMPLETE ALL WORK AND WORKING HOURS. WORK ON TRAILER D SHALL BE COMPLETED WITHIN THE SAME TIME PERIOD AS TRAILER A.
- TIME TO COMPLETE ALL WORK: THE CONTRACTOR SHALL COMPLET ALL WORK REGARDING DEMOLITION AND INTERIOR REMODELING INCLUDING INSPECTION AND ACCEPTANCE BY THE ENGINEER WITHIN 30 DAYS FROM THE AGREED TO START DATE. THE CONTRACTOR SHALL SUBMIT DEMOLITION AND REMODELING PLANS AND SCHEDULE TO THE ENGINEER FOR REVIEW BEFORE BEGINNING WORK.
- WORKING HOURS: THE CONTRACTOR SHALL PERFORM ALL WORK WITHIN THE HOURS SPECIFIED IN THE CONTRACT DOCUMENTS. ANY CHANGES IN THE SPECIFIED WORKING HOURS SHALL REQUIRE APPROVAL BY THE ENGINEER IN ADVANCE. AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL COVER ALL EXPOSED SURFACES FOR SECURITY AND KEEP OUT ALL WIND AND RAIN FROM ENTERING THE TRAILER.
- ALL (N) OFFICE PARTITIONS AND FURNITURE SHALL BE PROVIDED BY AND INSTALLED BY THE CONTRACTOR. ALL (N) OFFICE PARTITIONS AND FURNITURE SHALL COMPLY WITH THE PROJECT SPECIFICATIONS.

KEY NOTES - NEW FLOOR PLAN

- PROVIDE AND INSTALL WALL-TO-WALL CARPETING WITH ABRASIVE CARPETING IN HALLWAY IN FRONT OF BATHROOM PER PROJECT SPECIFICATIONS.
- PROVIDE AND INSTALL UNDERLAYMENT AND VINYL FLOORING IN BATHROOM AND KITCHENETTE AREA PER PROJECT SPECIFICATIONS. UNDERLAYMENT IS TO BE 1/4" GRADE A PLYWOOD INSTALLED PER TYPICAL FLOORING STANDARDS.
- PROVIDE AND INSTALL OFFICE PARTITIONS PER PROJECT SPECIFICATIONS.
- PROVIDE AND INSTALL OFFICE FURNITURE AS DESCRIBED IN THE PROJECT SPECIFICATIONS.
- INSTALL FULL HEIGHT PARTITION WALL. PROVIDE WALL COVER AND FINISH TO MATCH ADJACENT WALL. PROVIDE AND INSTALL 3/4" THICK PLYWOOD BACKING FOR MOUNTING OF DISTRICT PROVIDED ELECTRICAL PANEL BOX.
- PROVIDE AND INSTALL (N) BATHROOM FIXTURES AS DESCRIBED IN THE PROJECT SPECIFICATIONS. SEE DWG. M30 FOR PLUMBING.
- PROVIDE AND INSTALL WALL TO REPLACE DATA/TELECOM CLOSET DOOR, WALL, WALL COVERING, AND WALL COATING TO MATCH EXISTING BATHROOM WALL. PATCH/REPAIR FLOOR AND CEILING IN BATHROOM TO MATCH EXISTING.
- INSTALL WALL TO REPLACE EXTERIOR DOOR AND CARD READER. WALL TO MATCH EXISTING. ALSO PAINT INSIDE AND OUTSIDE TO MATCH EXISTING.
- PROVIDE AND INSTALL (N) AWNING TO MATCH EXISTING. SEE DWG. A14.
- PROVIDE AND INSTALL BATHROOM AND KITCHENETTE VINYL FLOORING AND BATHROOM INTERIOR WALL PANELING BOARD COVERINGS TO MATCH INTERIOR WALL AND FINISHING. PROVIDE 5/8" GREENBOARD GYPSUM BOARD UNDER BATHROOM WALL PANELS PER PROJECT SPECIFICATIONS.
- RESET (E) DOOR AND DOOR JAMB SO DOOR WILL CLOSE AND LATCH PROPERLY.
- (N) WOOD BASE CABINET AND OVER-THE-SINK CABINET. BASE CABINET SHALL BE 24" DEEP WITH 3 DOORS AND ONE PULL-OUT DRAWER. THE OVER-THE-SINK CABINET SHALL BE 13" DEEP WITH FOUR DOORS. COLOR TO BE APPROVED BY ENGINEER.

ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
CM 1 2 3 4 5 6 7
IN 1 2 3 4 5 6 7
1 2 3 4 5 6 7

APPROVED BY

REGISTERED PROFESSIONAL ENGINEER
No. C43643
Exp. 6/30/17
CIVIL
STATE OF CALIFORNIA

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE
CONTRACT NO. 2017-B-12
CADD FILE: 17B12A015.DWG

APPROVED BY

REGISTERED PROFESSIONAL ENGINEER
No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

DISTRICT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE
DWG NO.
A15
CADD FILE: 17B12A015.DWG

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**TRAILER D
DEMOLITION & NEW FLOOR PLAN**

SCALE: AS NOTED
DATE: MARCH 14, 2017



MECHANICAL SYMBOLS		
CD	CD	CONDENSATE DRAIN
☒	CEG	CEILING EXHAUST GRILLE
☒	CRR	CEILING RETURN REGISTER
☒	CSR	CEILING SUPPLY REGISTER (SIZE VARIES)
☒		CEILING DIFFUSER (SIZE VARIES)
☒		EQUIPMENT DEMOLITION
20x10		DUCT SIZE (WIDTH x DEPTH)
○	DN	DOWN
⤒		ELBOW: CTR LINE OF RADIUS 1.5 X DUCT WIDTH
⤒		ELECTRIC DUCT HEATER
⤒	FD	FIRE DAMPER
⤒	FSD	FIRE SMOKE DAMPER
⤒		MANUAL DAMPER
⤒	G	GAS PIPING
⤒		RECTANGULAR DUCT 45° ENTRY BRANCH TAKE-OFF
⤒	RTR	RECTANGULAR TO ROUND
⤒	SOV	SHUT-OFF VALVE
⤒	RA	RETURN AIR DUCT DOWN
⤒	SA	SUPPLY AIR DUCT DOWN
⤒	XXCD	WP HORN/STROBE WITH CANDELA RATING
⤒	M	MOTOR
⤒	S	SENSOR
⤒	T	THERMOSTAT FOR UNIT HEATER/HEATING COIL
⤒	T#	THERMOSTAT FOR HVAC UNIT (#-UNIT NUMBER)
⤒	T _V	THERMOSTAT FOR VAV
⤒	FAN	FAN
⤒	(BI)	DIFFERENTIAL PRESSURE TRANSDUCER, HIGH/LOW
⤒	TV	TURNING VANES
⤒	U	UNION
⤒		VARIABLE AIR VOLUME CONTROL DAMPER
⤒	VD	VOLUME DAMPER
⤒	WSR/WRR	WALL SUPPLY OR RETURN REGISTER
⤒		INTERNALLY INSULATED AIR DUCT
⤒		PETE'S PLUG FOR PRESSURE AND TEMPERATURE GAUGES
⤒	CAP	CAP OFF DUCT
⤒	AC 5	ROOF TOP AC UNIT NO. 5
⤒	EDH 1	ELECTRIC DUCT HEATER
⤒	EF 2	EXHAUST FAN NO. 2
⤒	GH 1	ROOF VENT
⤒	L 1	LOUVER
⤒	TV 1	WIND TURBINE VENTILATOR
⤒	VAV 1	VARIABLE AIR VOLUME DAMPER
⤒		FLEX DUCT/PIPE
⤒		POINT OF CONNECTION
⤒		LIGHT LINE FOR EXISTING
⤒		HEAVY LINE FOR NEW INSTALLED
⤒	CWR	CHILLED WATER RETURN PIPE
⤒	CWS	CHILLED WATER SUPPLY PIPE
⤒	HWS	HEATING WATER SUPPLY PIPE
⤒	HWR	HEATING WATER RETURN PIPE

ABBREVIATIONS:

AC	HVAC UNIT	P-CO	PUMP - CONDENSATE
ADJ.	ADJUSTABLE	P-H	PUMP - HOT WATER
AHU	AIR HANDLING UNIT	PHE	PENTHOUSE
AI	ANALOG INPUT	PRV	PRESSURE REDUCING VALVE
AO	ANALOG OUTPUT	RA	RETURN AIR
B	BOILER	RAH	RADIANT HEATER
BI	BINARY INPUT	SA	SUPPLY AIR
BO	BINARY OUTPUT	SD	SMOKE DETECTOR
cfm	CUBIC FEET PER MINUTE	SDI	STEEL DOOR INSTITUTE
CNS	CONDENSATE	SMS	SHEET METAL SCREW
CU, CND	CONDENSING UNIT	SPD	SPEED
CV	CONTROL VALVE	SST	STAINLESS STEEL
DI	DIGITAL INPUT	T-STAT	THERMOSTAT
DO	DIGITAL OUTPUT	TCP	TEMPERATURE CONTROL PANEL
DP	DIFFERENTIAL PRESSURE	TT	TEMPERATURE TRANSDUCER
DPT	DIFFERENTIAL PRESSURE TRANSDUCER	TV	TURBINE VENTILATOR
(E)	EXISTING	VAC	VOLTS AC
EA	EXHAUST AIR	VAV	VARIABLE AIR VOLUME
EDH	ELECTRIC DUCT HEATER	VFD	VARIABLE FREQUENCY DRIVE
EF	EXHAUST FAN	WC	WATER COLUMN
F	FILTER	WP	WEATHER PROOF
FA	FIRE ALARM		
FACP	FIRE ALARM CONTROL PANEL		
FCU	FAN COIL UNIT		
GH	ROOF VENT		
HW	HOT WATER		
L	LOUVER		
MB	MACHINE BOLT		
MCP	MASTER CONTROL PANEL		
(N)	NEW		
NG	NATURAL GAS		
OA	OUTSIDE AIR		
PCP	PRESSURE CONTROL PANEL		
P-BF	PUMP - BOILER FEED		
P-C	PUMP - CONDENSER WATER		
P-CF	PUMP - CHEMICAL FEED		

MECHANICAL GENERAL NOTES:

- ALL EQUIPMENT SHALL BE SECURED AND INSTALLED IN ACCORDANCE WITH WORK PLANS SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR MUST VERIFY FIELD CONDITIONS & DIMENSIONS PRIOR TO ORDERING EQUIPMENT OR MATERIALS OR PROCEEDING WITH FABRICATION OR FIELD WORK. DO NOT SCALE FROM PLANS.
- THE MECHANICAL SYSTEMS CONSISTS OF ALL WORK SHOWN OR DESCRIBED ON THE DRAWINGS AND ALL WORK AND MATERIALS DESCRIBED IN THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL USE THESE DRAWINGS AND SPECIFICATIONS TO PROVIDE COMPLETE AND FULLY FUNCTIONAL MECHANICAL SYSTEMS ALONG WITH ALL WORK THAT INCLUDES PURCHASING, INSTALLATION, COMPONENT AND SYSTEM TESTING, SYSTEM INTEGRATION, TRAINING OF BRIDGE PERSONNEL, AND WARRANTY OF THE MATERIAL AND EQUIPMENT PROVIDED.
- THE DESIGN OF THE MECHANICAL SYSTEMS IS BASED ON MANUFACTURERS DESCRIPTION SHOWN ON THE EQUIPMENT SCHEDULES. EQUIPMENT MAY BE SUBSTITUTED PROVIDED IT MEETS OR EXCEEDS ALL OF THE SCHEDULED EQUIPMENT PROPERTIES AND ITS SPECIFIC PERFORMANCE CRITERIA AS DETERMINED BY THE ENGINEER. ANY PROPOSED SUBSTITUTION NOT APPROVED IN ADVANCE BY THE ENGINEER SHALL BE REPLACED WITH THE SCHEDULED EQUIPMENT AND ALL COSTS AND TIME DELAYS ASSOCIATED WITH THE REPLACEMENT AND INSTALLATION OF THE ENGINEER APPROVED EQUIPMENT SHALL BE BORNE BY THE CONTRACTOR.
- FOLLOW MFR'S DRAWINGS & INSTALLATION INSTRUCTIONS FOR ALL EQUIPMENT INSTALLED. COORDINATE THE INSTALLATION WITH ALL TRADES.
- PROVIDE REQ'D ELECTRICAL & SERVICE CLEARANCES AROUND ALL UNITS PER MANUFACTURER'S RECOMMENDATIONS AND CODE REQUIREMENTS.
- ANY CHANGES IN MECHANICAL, ELECTRICAL OR STRUCTURAL WORK ASSOCIATED WITH A SUBSTITUTION OF SCHEDULED EQUIPMENT, IF APPROVED BY THE ENGINEER, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- PROVIDE FLEXIBLE CONNECTIONS BETWEEN DUCTWORK & HVAC EQUIPMENT.
- PENETRATIONS OF PIPES, CONDUITS, ETC., IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE ENGINEER. FIRE STOP SHALL BE INSTALLED PER MFR'S RECOMMENDATIONS & INSTRUCTIONS.
- MAKE ALLOWANCES FOR PIPING EXPANSION & CONTRACTION. PROVIDE PIPE ANCHORS, SLEEVES & SWING JOINTS AS REQ'D TO ACCOMMODATE THERMAL AND SEISMIC MOVEMENTS.
- PROVIDE SINGLE THICKNESS TURNING VANES ON ALL SQUARE ELBOWS IN DUCTWORK OR WHERE CALLED FOR ON DRAWINGS.
- ACOUSTICAL LINING SHALL NOT BE SUBSTITUTED FOR EXTERIOR WRAP INSULATION.
- PROVIDE UNIONS AT PIPE CONNECTION TO ALL PIECES OF EQUIPMENT. VALVES SHALL BE FULL PORT, LINE SIZE UNLESS OTHERWISE INDICATED.
- PROVIDE PROTECTIVE WALK WAY ON ROOFTOP PRIOR TO BEGINNING WORK & REMOVE DEBRIS DAILY TO ENSURE NEW ROOF IS NOT DAMAGED. SPECIAL CARE SHALL BE TAKEN TO AVOID DROPPING METAL SCREWS OR OTHER SHARP OBJECTS ON THE NEW BUILT-UP ROOFING.
- USE LIFTING EQUIPMENT FOR RAISING & LOWERING MATERIALS OVER ROOF EDGE TO ENSURE ROOF IS NOT DAMAGED. THE CONTRACTOR SHALL SUBMIT FOR ENGINEER'S REVIEW AND APPROVAL OF PROPOSED LIFT EQUIPMENT.
- PATCH & PAINT INTERIOR WALLS & CEILINGS AS REQUIRED TO ELIMINATE HOLES CAUSED BY REMOVAL OF (E) EQUIPMENT & INSTALLATION OF (N) WORK. PATCH MATERIAL AND PAINT IS TO MATCH EXISTING.
- PATCH ALL CRACKS, HOLES, DIVOTS IN THE CONCRETE AS A CONSEQUENCE OF DEMOLITION OR INSTALLATION OF EQUIPMENT USING SIKATOP 123 MORTAR. FOLLOW MFR'S INSTRUCTION'S FOR INSTALLATION

ISSUED FOR BID

APPROVED BY REGISTERED PROFESSIONAL ENGINEER H. FURNACE No. C43632 Exp. 3/31/18 STATE OF CALIFORNIA	APPROVED BY REGISTERED PROFESSIONAL ENGINEER A. Z. BAUER No. C43632 Exp. 3/31/19 CIVIL STATE OF CALIFORNIA	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
PROJECT ENGINEER 03/14/2017 DATE	REVISIONS BY DATE	SHEET TITLE MECHANICAL LEGEND, ABBREVIATIONS, AND NOTES
CONTRACT NO. 2017-B-12 DATE	DWG NO. M01 DATE	SCALE: AS NOTED DATE: MARCH 14, 2017
CADD FILE: 17B12A016.DWG		

GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT



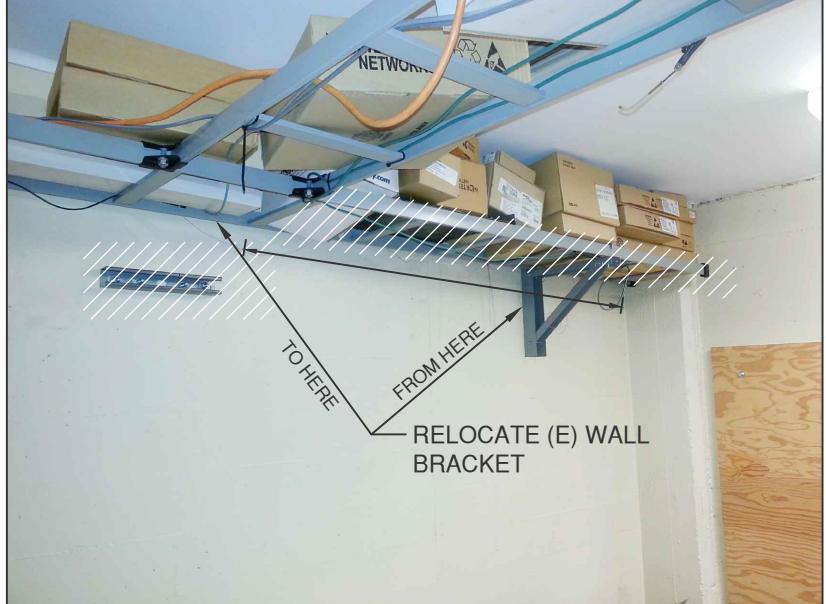
1 DEMO (E) AHU EXHAUST AIR DUCT AND HOOD 12



2 DEMO (E) AHU AND SUPPLY AND RETURN DUCTS - AND DAMPERS [4]



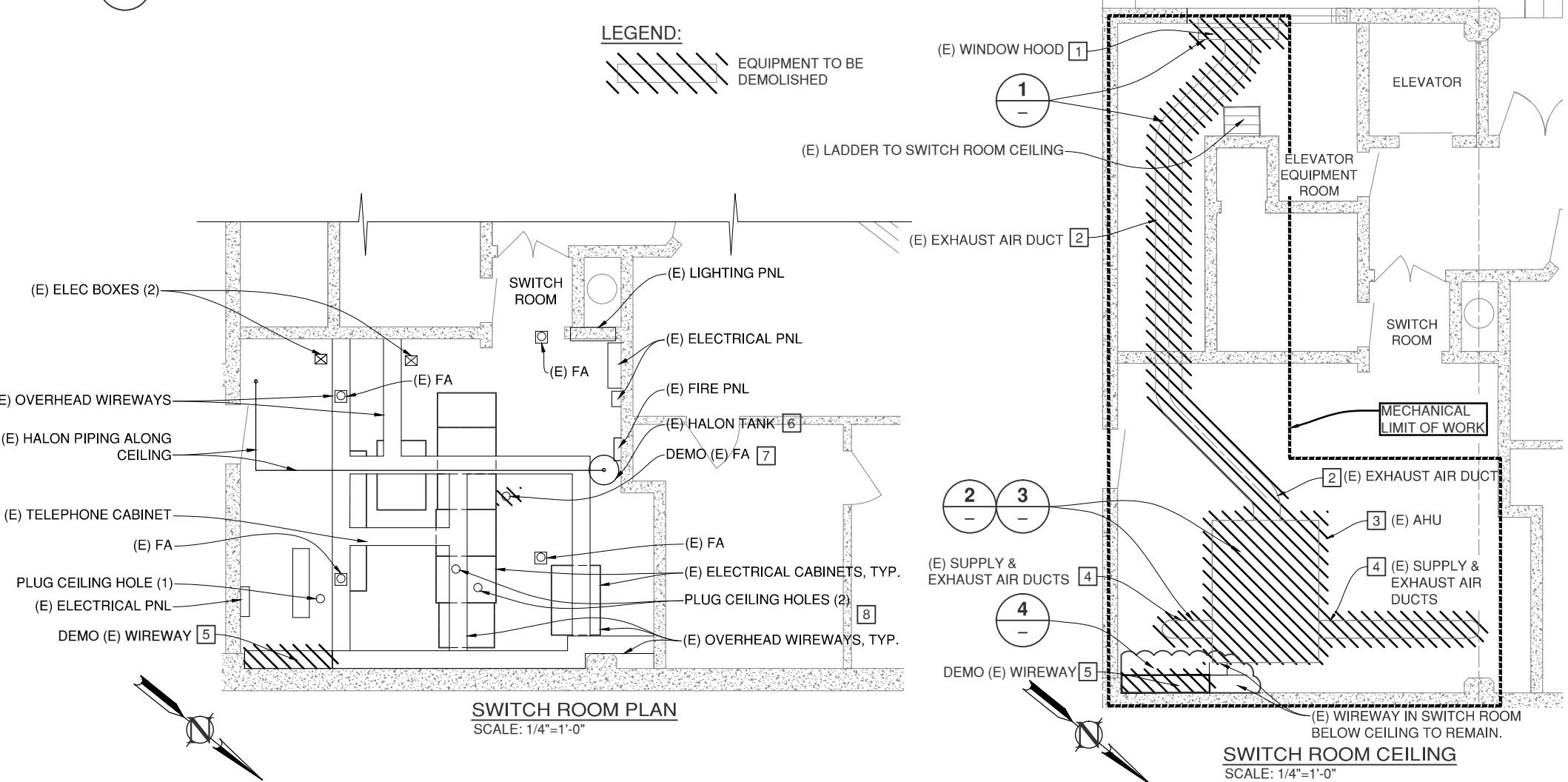
3 DEMO (E) AHU, SUPPLY DUCTS AND DISCONNECT SWITCH 3



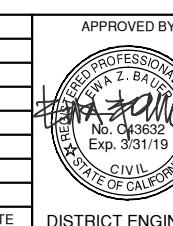
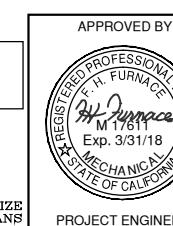
4 DEMO (E) WIREWAY **5**

KEY NOTES:

- REMOVE AND DISPOSE OF (E) WINDOW HOOD. INSTALL (N) INSECT SCREEN ACROSS INTERIOR FACE OF (E) LOUVER. SEE PROJECT SPECIFICATIONS FOR SCREEN TYPE AND MATERIAL.
 - REMOVE AND DISPOSE OF (E) EXHAUST AIR DUCT, DUCT SUPPORTS, AND DUCT SUPPORT BRACKETS.
 - REMOVE AND DISPOSE OF (E) AHU, SUPPORTS, ELECTRICAL CONNECTIONS, AND DISCONNECT SWITCH. REMOVE (E) WIRING AND CONDUIT FROM AHU TO ELECTRICAL PANEL.
 - REMOVE AND DISPOSE OF ALL (E) SUPPLY AND RETURN AIR DUCTS AND DAMPERS. COVER (E) SWITCH ROOM DIFFUSERS AND GRILLES WITH 1-IN PLYWOOD ABOVE CEILING NAILED IN PLACE. COVER DIFFUSER AND GRILLE OPENINGS INSIDE SWITCH ROOM WITH DRY WALL. TAPE, PLASTER, AND FINISH ALL DRY WALL SEAMS. PAINT TO MATCH EXISTING.
 - REMOVE AND DISPOSE OF 62-IN SECTION OF (E) WIREWAY AND WALL UNISTRUT SHOWN. RELOCATE (E) SUPPORT BRACKET TO END OF REMAINING WIREWAY AND ATTACH TO WALL AND WIREWAY USING SAME SIZE ANCHOR BOLTS WITH SAME EMBEDDED DEPTH. PATCH REMAINING HOLES AND TOUCHUP ALL PATCHES AND MARKS WITH MATCHING PAINT.
 - 48 HOURS BEFORE BEGINNING WORK INSIDE THE SWITCH ROOM, CONTRACTOR MUST CONTACT INTELLI-TECH (925)484-3701, TO TURN OFF THE FIRE SUPPRESSION SYSTEM AT THE BEGINNING OF EACH DAY OF WORK INSIDE THE SWITCH ROOM AND TO RETURN AT THE END OF THE SAME DAY TO TURN THE SYSTEM BACK ON.
 - REMOVE AND DISPOSE OF FIRE ALARM SENSOR MOUNTING PAN IN CEILING AND ANY FIRE ALARM WIRING AND CONDUIT ABOVE CEILING THAT MAY EXIST BACK TO ELECTRICAL PANEL. COVER HOLE ABOVE CEILING WITH PLYWOOD, NAILED IN PLACE, AND PATCH HOLE FLUSH TO CEILING WITH DRY WALL, TAPE, AND PLASTER. PAINT REPAIR IN CEILING TO MATCH EXISTING.
 - PATCH HOLE FLUSH TO CEILING WITH DRY WALL, TAPE, AND PLASTER. PAINT TO MATCH EXISTING.



ISSUED FOR BID



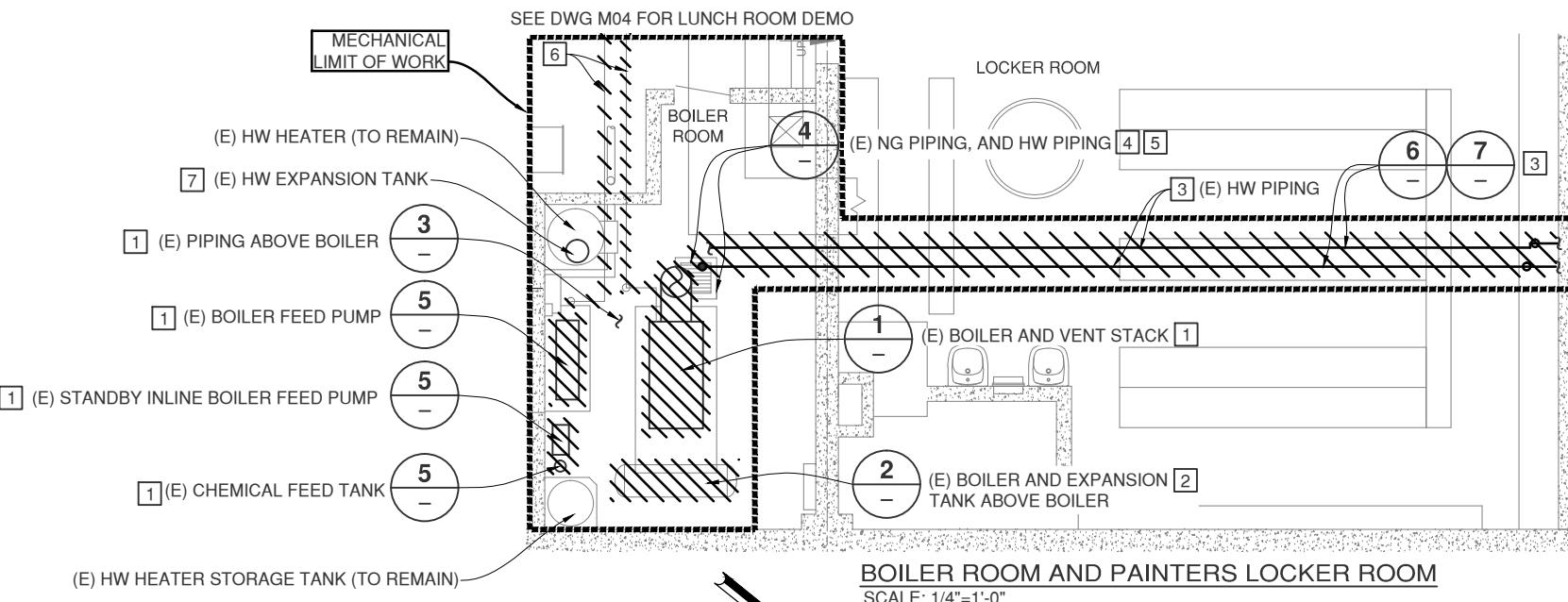
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REGISTERED PROFESSIONAL ENGINEER
ANNA Z. BAUER
No. C43632
Exp. 3/31/19
STATE OF CALIFORNIA
CIVIL

COALB: 1/4 -1 C



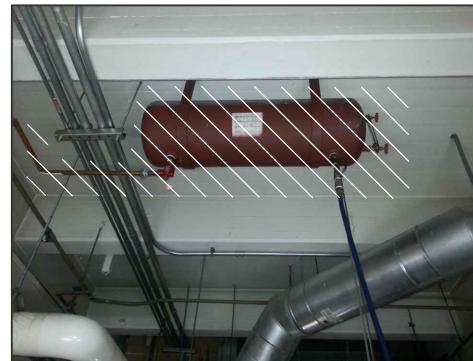
GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT


KEY NOTES:

- 1 REMOVE AND DISPOSE OF THE (E) BOILER, EXHAUST STACK, EXPANSION TANK, CHEMICAL FEED TANK, BOILER FEED PUMPS AND ALL ASSOCIATED GAS CONTROL VALVES AND PIPING, WIRING, AND CONDUIT. PRIOR TO REMOVING ANY EQUIPMENT VERIFY ALL WATER PIPING IS DRAINED, GAS PIPING IS SHUTOFF, AND ALL ELECTRICAL POWER TO EQUIPMENT, CONTROLS, AND INSTRUMENTS ARE DISCONNECTED.
- 2 REMOVE AND DISPOSE OF EXPANSION TANK, CEILING SUPPORTS, AND PIPING.
- 3 REMOVE AND DISPOSE OF HOT WATER SUPPLY AND RETURN PIPING IN LOCKER ROOM. TERMINATE PIPING AT WALL PENETRATIONS IN THE LOCKER ROOM AND BOILER ROOM WITH COPPER PIPE CAPS NOT MORE THAN 6-IN FROM WALL.
- 4 REMOVE AND DISPOSE OF (E) BOILER GAS CONTROL VALVES AT BOILER AND ASSOCIATED ELECTRICAL EQUIPMENT. CAP ALL NG PIPING AND TERMINATE ALL WIRING. NG SUPPLY REGULATOR AND ISOLATION VALVES TO REMAIN.
- 5 SUPPORT GAS PIPING WITH TEMPORARY CEILING SUPPORTS EVERY ±4 FT. AND REMOVE AND DISPOSE OF 6" CHANNEL SUPPORTS. PATCH CHANNEL ANCHOR BOLT HOLES AND PAINT TO MATCH EXISTING WALL COLOR. SEE DWG M18 FOR PERMANENT NG PIPE AND DUCT SUPPORT DETAILS.
- 6 REMOVE AND DISPOSE OF HOT WATER SUPPLY AND RETURN PIPING FROM BOILER ROOM TO AHU-1 & -2, SEE DRAWING M04
- 7 DISCONNECT (E) HW EXPANSION TANK AND RELOCATE AS SHOWN ON DWG. M17.

LEGEND:

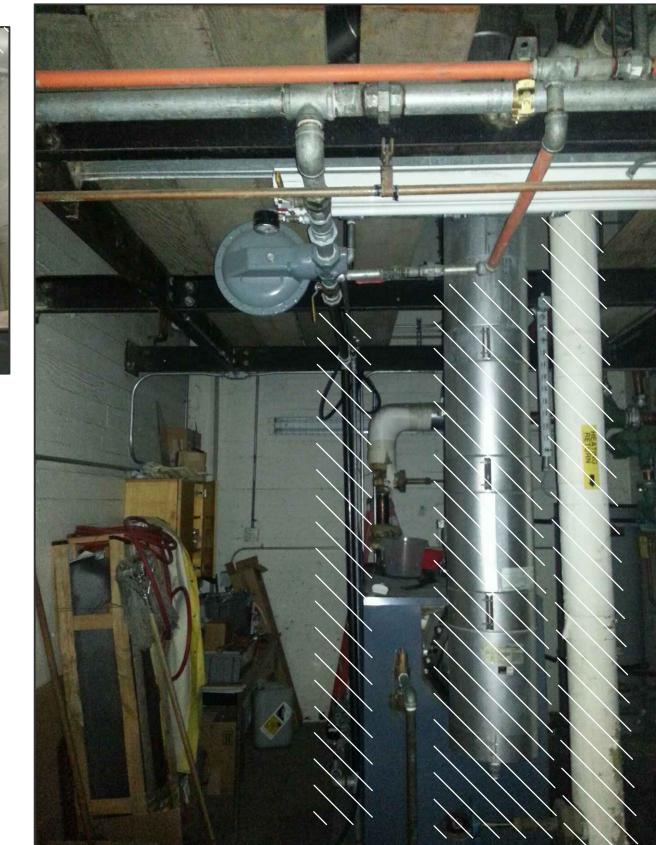

1 BOILER [1]



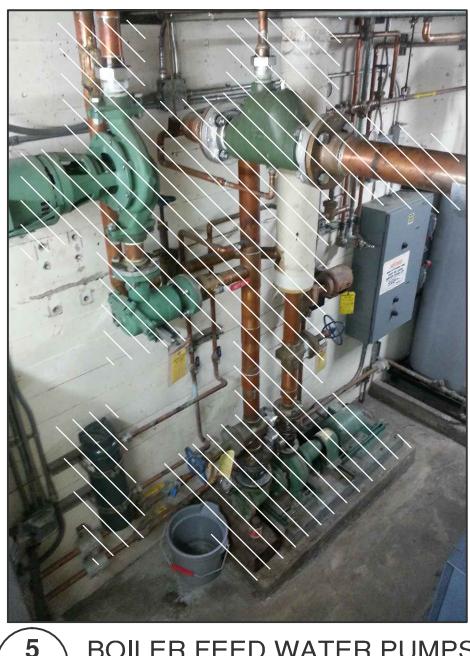
2 BOILER EXPANSION TANK [2]



3 BOILER HW & PIPING STACK [1]



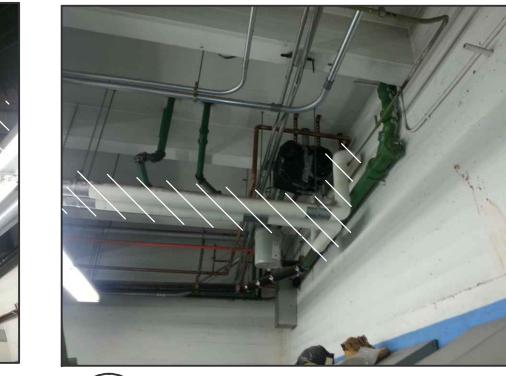
4 BOILER GAS PIPING VALVES & ELEC. EQUIPMENT [4]



5 BOILER FEED WATER PUMPS & CHEM FEED TANK [1]



6 HOT WATER PIPING
LOCKER ROOM-1 [3]



7 HOT WATER PIPING
LOCKER ROOM-2 [3]

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

APPROVED BY
H. H. FURNACE
REGISTERED PROFESSIONAL ENGINEER
M 17611
Ex. 3/31/18
MECHANICAL
STATE OF CALIFORNIA

PROJECT ENGINEER
03/14/2017
DATE

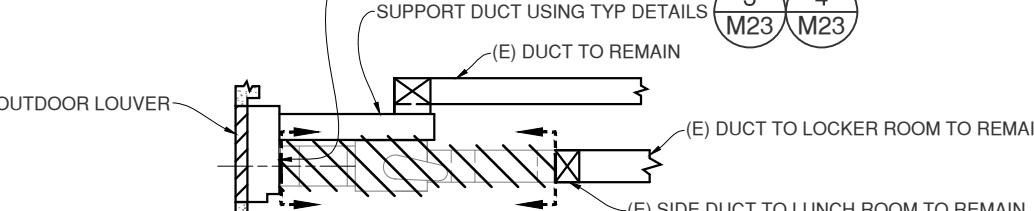
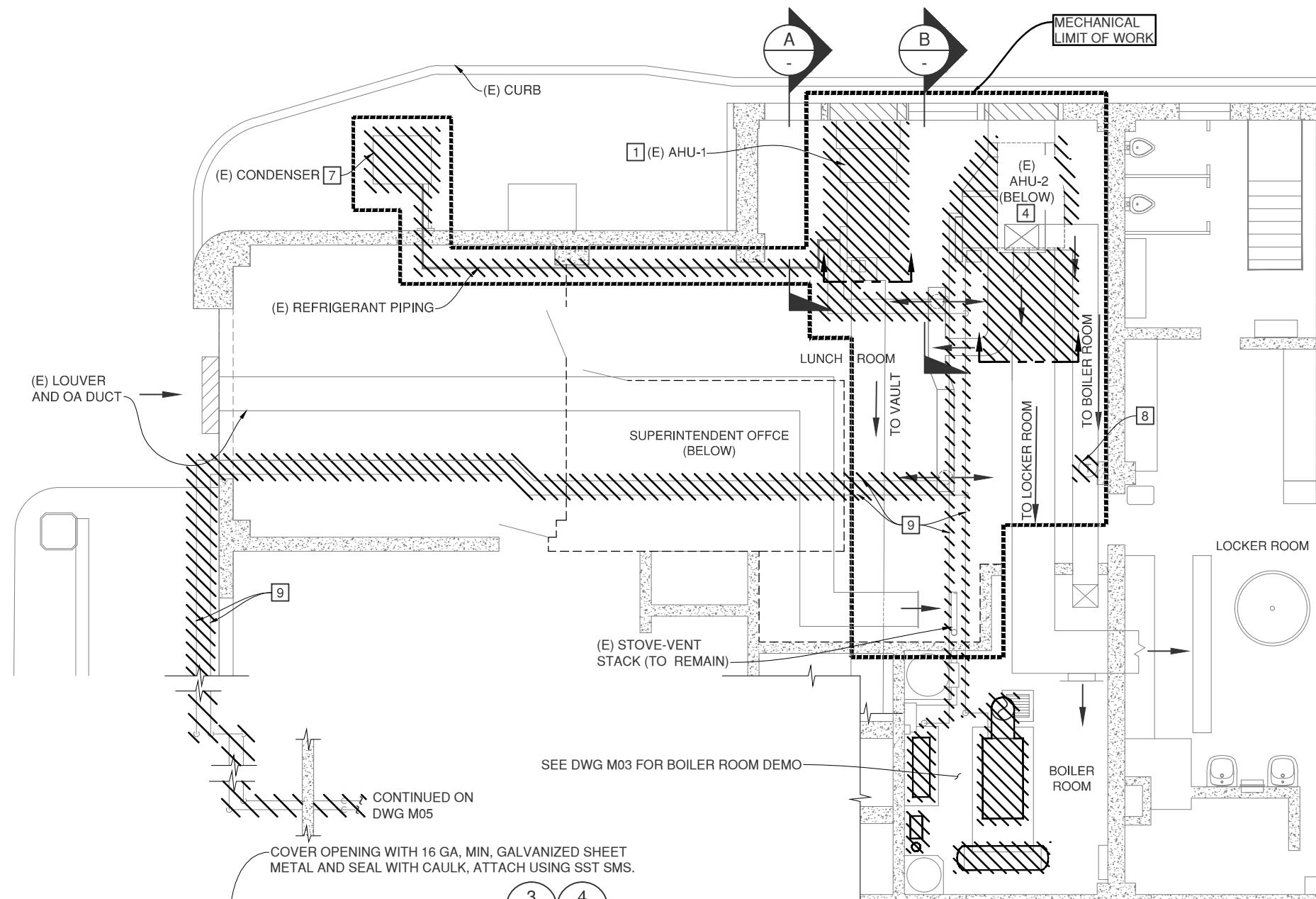
REVISIONS
BY DATE
CONTRACT NO. 2017-B-12
DWG NO.
CADD FILE: 17B12A018.DWG

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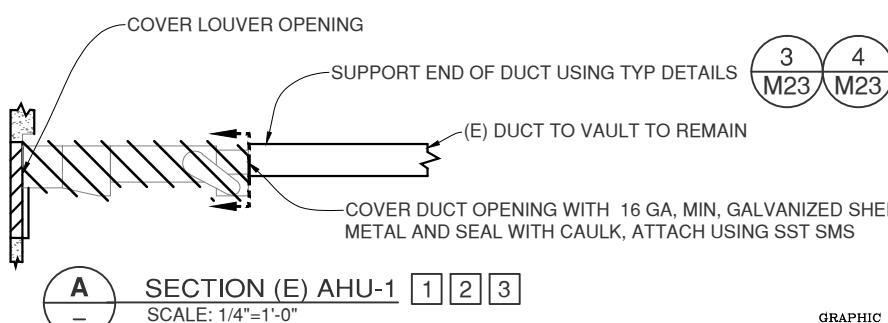
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**
SHEET TITLE
**BASEMENT BOILER AND PIPING
DEMOLITION PLAN**
SCALE: AS NOTED
DATE: MARCH 14, 2017

ISSUED FOR BID

B SECTION (E) AHU-2 3 4 5 6
SCALE: 1/4"=1'-0"



A SECTION (E) AHU-1 1 2 3
SCALE: 1/4"=1'-0"

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS

IN	1	2	3	4	5	6	7
CM	1	2	3	4	5	6	7

APPROVED BY

H. H. FURNACE
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Exp. 3/31/18
STATE OF CALIFORNIA

PROJECT ENGINEER
H. H. FURNACE
03/14/2017
DATE

REVISIONS
NO. 1
BY DATE
CONTRACT NO. 2017-B-12
DWG NO. M04
CADD FILE: 17B12A019.DWG

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J. A. BAUER
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No. C43632
Exp. 3/31/19
STATE OF CALIFORNIA

DISTRICT ENGINEER
J. A. BAUER
03/14/2017
DATE

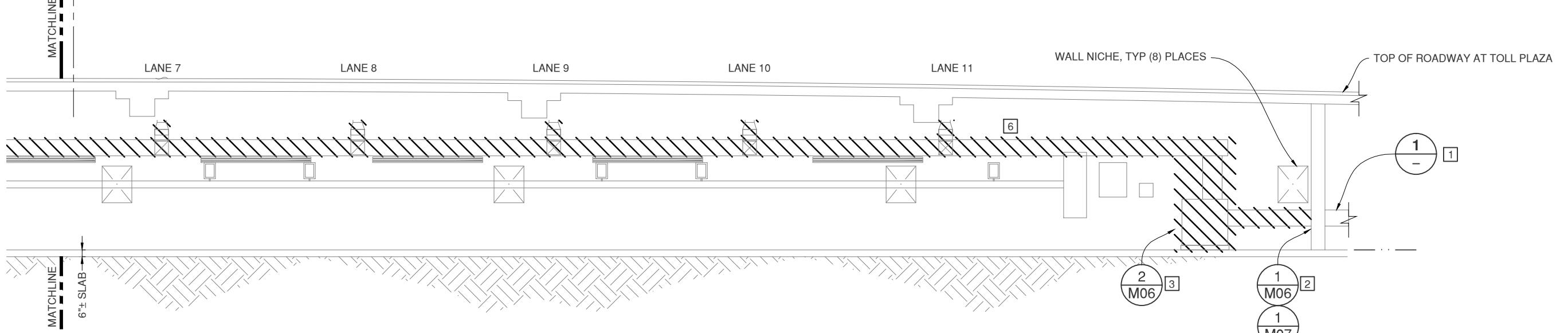
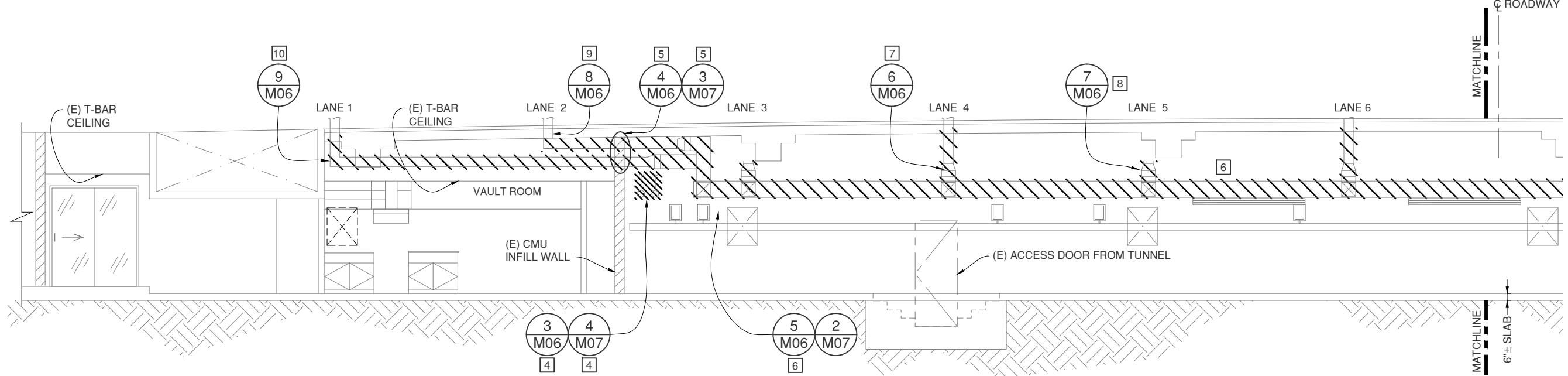
PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**BASEMENT LUNCH AND LOCKER ROOM
DEMOLITION PLAN**

SCALE: AS NOTED
DATE: MARCH 14, 2017

ISSUED FOR BID





1
-
1

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

NOTES:

- DEMOLITION PHOTOS CONTINUED ON DRAWING M06.
- SEE DRAWING M07 FOR ADDITIONAL NOTES AND KEY NOTES CONTINUED ON DRAWING M07.

LEGEND:

EQUIPMENT TO BE DEMOLISHED

ISSUED FOR BID

APPROVED BY H. FURNACE REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA No. M17611 Exp. 3/31/18	REVISIONS DATE	BY DATE	APPROVED BY A. Z. BAUER REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
PROJECT ENGINEER 03/14/2017	CONTRACT NO. 2017-B-12	DWG NO. M05	DISTRICT ENGINEER 03/14/2017	SHEET TITLE MONEY COLLECTION CORRIDOR TOLL LANE DUCTWORK AND PIPING DEMOLITION - 1
DATE	CADD FILE: 17B12A020.DWG	DATE	DATE	SCALE: AS NOTED DATE: MARCH 14, 2017





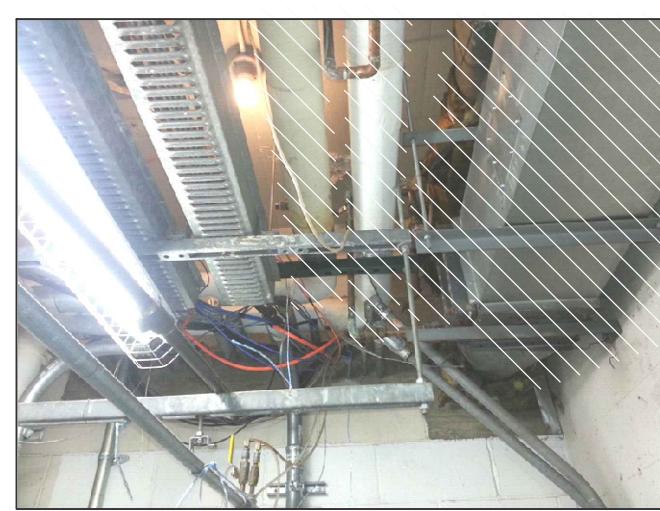
1 SUPPLY AIR FAN WALL CONNECTION 2
M05



2 SUPPLY AIR FAN 3
M05



3 HOT WATER PIPING - WEST END 4
M05
4 M07



4 HOT WATER PIPING & DUCTWORK - WEST END 5
M05



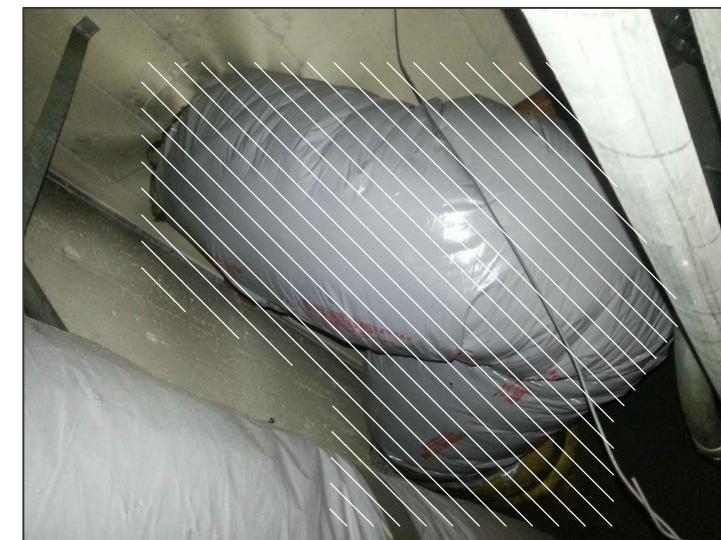
5 HOT WATER PIPING - WEST END LOOKING EAST 6
M05



6 SUPPLY AIR STATION FOR LANE 6
M05
LANE 4 SIMILAR 7



7 TYP. SUPPLY AIR STATIONS FOR LANES 3, 5, 7-12 8
M05



8 SUPPLY AIR DUCT FOR LANE 2 - VAULT ROOM 9
M05



9 SUPPLY AIR DUCT TO LANE 1 - VAULT ROOM 10
M05

NOTE:

- ADDITIONAL NOTES AND KEY NOTES CONTINUED ON DRAWING M07.

LEGEND:



EQUIPMENT TO BE DEMOLISHED

ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7 8
CM 1 2 3 4 5 6 7 8

APPROVED BY

H. FURNACE
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STATE OF CALIFORNIA
No. M17611
Exp. 3/31/18

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

NO.	REVISIONS	BY	DATE
	CONTRACT NO.	2017-B-12	DWG NO.
	CADD FILE:	17B12A021.DWG	M06

APPROVED BY

A. Z. BAUER
REGISTERED PROFESSIONAL CIVIL ENGINEER
STATE OF CALIFORNIA
No. C43632
Exp. 3/31/19

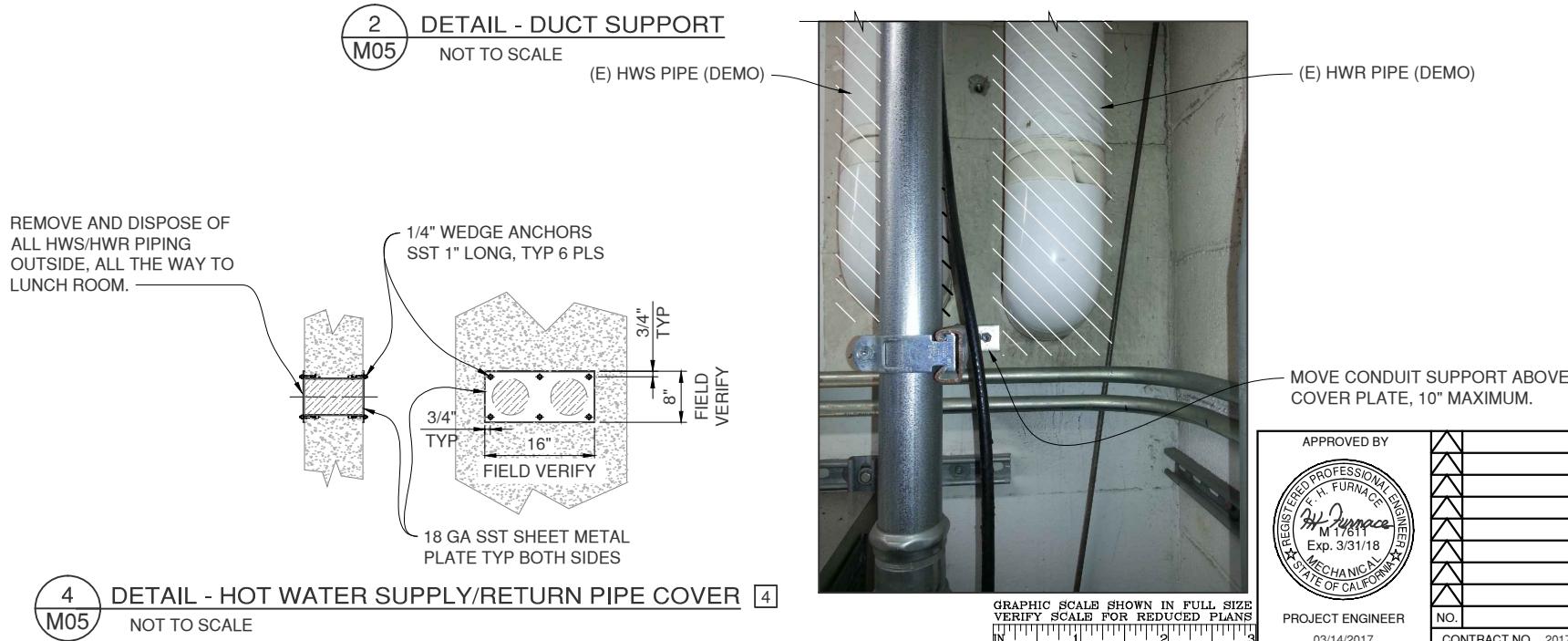
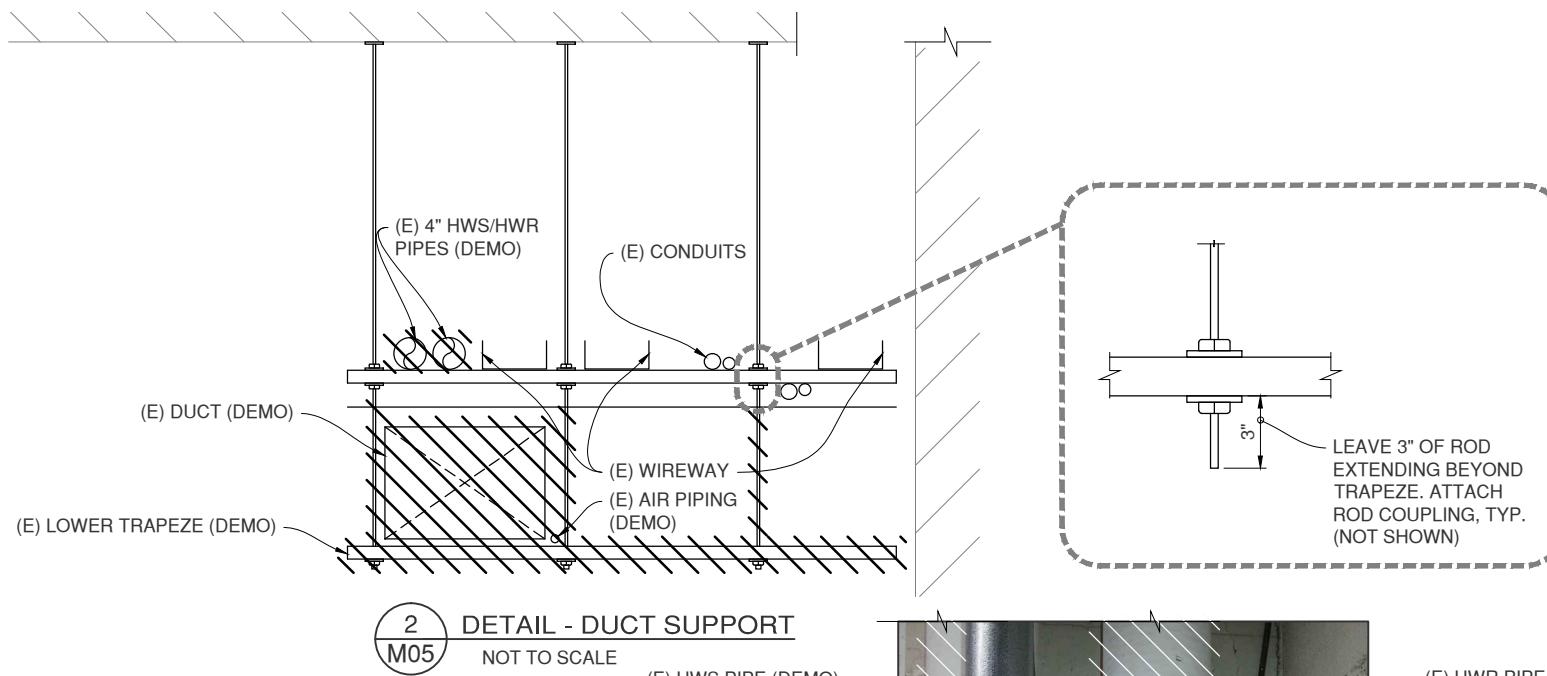
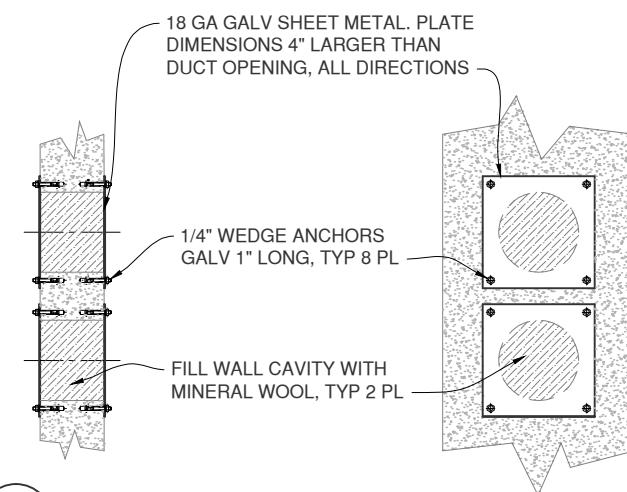
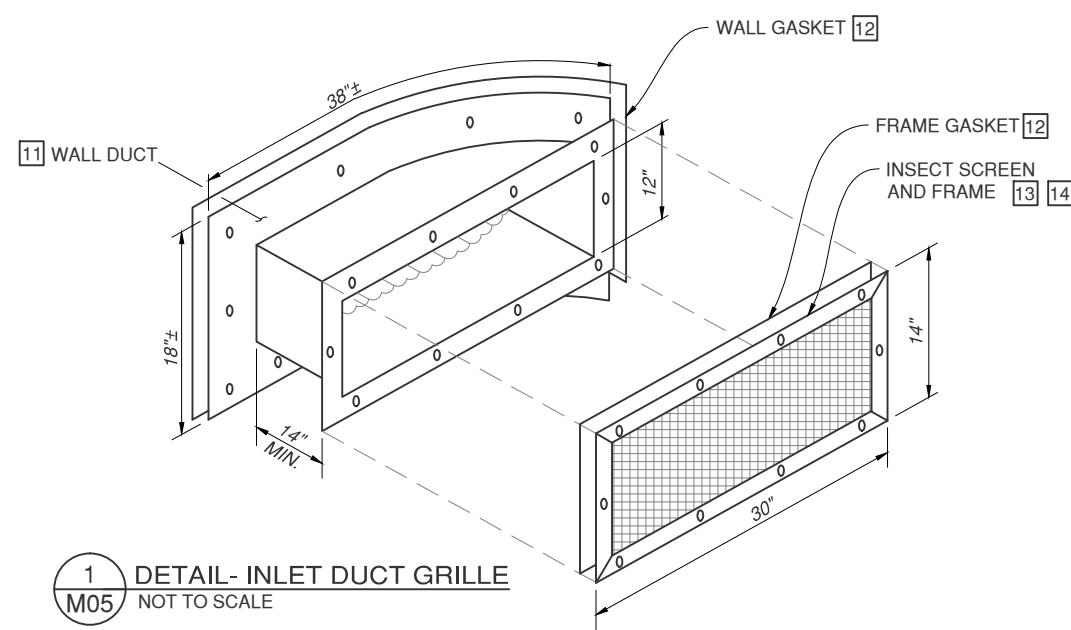
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**MONEY COLLECTION CORRIDOR
TOLL LANE DUCTWORK AND
PIPING DEMOLITION - 2**

SCALE: AS NOTED
DATE: MARCH 14, 2017





NOTES:

1. ONLY ITEMS ASSOCIATED WITH DELIVERING WARM AIR TO THE TOLL BOOTH LANES SUCH AS THE VENTILATION FAN, AIR DUCTS, HOT WATER SUPPLY AND RETURN PIPING, HOT WATER HEATERS, CONTROL VALVES, AND VALVE PNEUMATIC PIPING AND TUBING SHALL BE REMOVED AND DISPOSED OF. ALL OTHER ITEMS SHALL REMAIN. CONTRACTOR SHALL FIELD SURVEY AND IDENTIFY ALL ITEMS FOR REMOVAL AND CONFIRM WITH THE ENGINEER THE SCOPE OF DEMOLITION BEFORE BEGINNING WORK.

2. CONTRACTOR SHALL COORDINATE WORK HOURS AND USE OF EQUIPMENT WITH THE ENGINEER EACH DAY BEFORE BEGINNING WORK SO AS NOT TO LIMIT PUBLIC ACCESS. SEE NOTE 15 & 16, DRAWING A02.

3. IMPORTANT: THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EQUIPMENT INSIDE THE CORRIDOR, ESPECIALLY ELECTRICAL EQUIPMENT, DURING DEMOLITION. THE CONTRACTOR SHALL COVER/PROTECT ALL EQUIPMENT THAT IS NOT BEING REMOVED TO THE SATISFACTION OF THE ENGINEER. NO COVER OR PROTECTION SHALL INTERFERE WITH THE EQUIPMENT OPERATION.

KEY NOTES:

1 OUTSIDE AIR SUPPLY DUCT IS TO REMAIN. CONTRACTOR TO CLEAN AIR DUCT, INLET GRILLE AND INSIDE OF DUCT PER PROJECT SPECIFICATIONS. CONTRACTOR SHALL CLEAR DUCTWORK OF ANY OBSTRUCTIONS OR EXISTING FILTERS BEFORE CLEANING. CONTRACTOR SHALL PATCH/REPAIR ANY OPENINGS MADE IN THE DUCTWORK FOR ACCESS.

2 REMOVE AND DISPOSE OF SUPPLY FAN DUCT CONNECTION. REPAIR EXISTING OUTDOOR DUCT CONNECTION TO WALL AND SEAL AGAINST ANY AIR LEAKAGE AND WATER INTRUSION. ATTACH INLET GRILLE TO EXISTING DUCT OPENING PER DETAIL **1**.

3 REMOVE AND DISPOSE OF SUPPLY FAN, WIRING, CONDUIT, AND FOUNDATION. ALL WIRING AND CONDUIT SHALL BE REMOVED TO THE FAN DISCONNECT SWITCH AND THE WIRING SHALL BE TERMINATED INSIDE THE DISCONNECT SWITCH. ALL EMBEDDED BOLTS SHALL BE GROUND FLUSH WITH THE EXISTING FLOOR. ANY HOLES IN THE CONCRETE FLOOR SHALL BE FILLED IN WITH CONCRETE PATCH MATERIAL PER NOTE 17 ON DWG M01.

4 REMOVE AND DISPOSE OF ALL HOT WATER SUPPLY AND RETURN PIPING FROM LUNCH ROOM, DWG M04, THROUGH TUNNEL TO MONEY COLLECTION CORRIDOR, AND FROM INSIDE MONEY COLLECTION CORRIDOR, DWG M05. PIPE SUPPORTS OUTSIDE OF MONEY COLLECTION CORRIDOR ARE TO REMAIN IN PLACE. COVER HOLES IN WALL PER DETAIL **4**.

5 REMOVE AND DISPOSE OF ALL HOT WATER PIPING, AIR PIPING, DUCTWORK AND SUPPORTS LEADING TO LANES 1 AND 2. SUPPORTS FOR EXISTING WIREWAYS AND ITEMS NOT ASSOCIATED WITH HOT WATER PIPING AND DUCTWORK SHALL REMAIN INPLACE.

6 REMOVE AND DISPOSE OF ALL HOT WATER PIPING VALVES, PNEUMATIC PIPING, TUBING, AND DUCTWORK THE FULL LENGTH OF THE CORRIDOR. ONLY THE LOWER TRAPEZE MEMBERS OF THE DUCTWORK SUPPORTS SHALL BE REMOVED ALONG WITH THE THREADED RODS TO WITHIN 3 INCHES BELOW THE WIREWAY TRAPEZE BAR. SEE DETAIL **2**. CONTRACTOR SHALL INSTALL A GALVANIZED ALL THREAD COUPLING ON THE END OF EACH REMAINING SUPPORT ROD.

7 REMOVE AND DISPOSE OF HEATER, HEATER WALL SUPPORT, DUCT, AND ASSOCIATED PIPING AND VALVES UP TO THE CEILING FOR LANES 4 AND 6. COVER THE CEILING OPENING WITH AN ESCUTCHEON PLATE SIMILAR TO THE EXISTING PLATES FOR LANES 3, 5, 7-11.

8 REMOVE AND DISPOSE OF ALL DUCTWORK, HEATER, HEATER WALL SUPPORTS AND ASSOCIATED PIPING AND VALVES FOR LANES 3, 5, 7-11.

9 REMOVE AND DISPOSE OF ALL DUCTWORK INSIDE THE VAULT ROOM FOR LANE 2. COVER THE CEILING OPENING WITH AN ESCUTCHEON PLATE SIMILAR TO THE EXISTING PLATES FOR LANES 3, 5, 7-11.

10 REMOVE AND DISPOSE OF ALL DUCTWORK INSIDE THE VAULT ROOM FOR LANE 1. COVER THE CEILING OPENING WITH AN ESCUTCHEON PLATE SIMILAR TO THE EXISTING PLATES FOR LANES 3, 5, 7-11.

11 INLET WALL DUCT SHALL CONFORM TO WALL SHAPE AS SHOWN. DUCT TO BE MADE FROM GALVANIZED SHEET METAL, MIN 20 GA. DUCT SHALL BE SECURED TO WALL USING STAINLESS STEEL 3/8" WEDGE ANCHORS, 1 3/4" LONG, TYPICAL 10 PLACES.

12 GASKET SHALL BE MADE FROM CLOSED CELL RUBBER-NEPRENE SHEET, ASTM D-1056, MINIMUM 3/16" THICK. MINIMUM SHEET COMPRESSION DEFLECTION 25% AT 2-5 PSI. WALL GASKET SHALL BE MINIMUM 3" WIDE ALL AROUND. FRAME GASKET SHALL BE 1" WIDE ALL-AROUND.

13 SCREEN FRAME SHALL BE 5/16" THICK BY 1" WIDE AND MADE FROM ROLL-FORM ALUMINUM AND PAINTED WHITE. SCREEN SHALL BE INSECT SCREEN MADE FROM WOVEN VINYL-COATED POLYESTER YARNS SIMILAR TO PETSCREEN BY HANSEN SCREENING COMPANY, OR EQUAL.

14 FRAME SHALL BE SECURED TO DUCT FLANGE USING GASKET SIMILAR TO WALL GASKET AND 1/4" STAINLESS STEEL NUTS, BOLTS AND WASHERS. TYPICAL 10 PLACES.

LEGEND:



ISSUED FOR BID

APPROVED BY H. FURNACE No. C43632 Exp. 3/31/19 STATE OF CALIFORNIA CIVIL		APPROVED BY T. Z. BAUER No. C43632 Exp. 3/31/19 STATE OF CALIFORNIA CIVIL		PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
PROJECT ENGINEER 03/14/2017 DATE		DISTRICT ENGINEER 03/14/2017 DATE		SHEET TITLE MONEY COLLECTION CORRIDOR DEMOLITION NOTES AND DETAILS	
NO.	REVISIONS	BY	DATE	NO.	CONTRACT NO.
				03/14/2017	2017-B-12
				DWG NO.	M07
				DATE	
CADD FILE: 17B12A022.DWG				SCALE: AS NOTED	
				DATE: MARCH 14, 2017	



NOTES:

1. THE DESIGN BASIS FOR THESE FLOOR PLANS IS FROM DISTRICT CONTRACT NO. 93-B-1 DRAWINGS. THE CURRENT AS-BUILT CONDITION MAY BE DIFFERENT THAN THAT SHOWN ON THIS CONTRACT OR THE PREVIOUS CONTRACT DRAWINGS.

2. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE EXISTENCE, SIZE, LOCATION, AND FUNCTIONALITY OF ALL HVAC EQUIPMENT RELEVANT TO THIS PROJECT'S SCOPE OF WORK BEFORE PROCEEDING.

3. ALL DUCT DIMENSIONS SHOWN ARE IN INCHES.

4. SEE NOTE 4 ON DRAWING M-3 OF CONTRACT NO. 93-B-1 FOR CONTINUATION OF DUCTWORK TO/FROM MECHANICAL ROOM. DUCTWORK TO/FROM EACH AC UNIT IS NOW DIFFERENT THAN SHOWN ON CONTRACT NO. 93-B-1

DRAWINGS

5. SEE DRAWINGS M19, M20, AND M21 FOR EQUIPMENT SCHEDULES.

6. DOWN TO BASEMENT, SEE DRAWING M-7 OF
CONTRACT NO. 93-B-1 FOR CONTINUATION

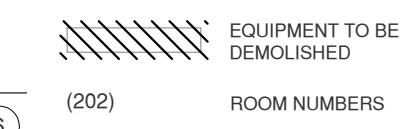
7. ACCESS TO ALL (E) VAV BOXES IS FROM LOCAL ACCESS PANELS EXCEPT FOR THE FOLLOWING VAV BOXES:

- VAV-1: ACCESS THROUGH FIRST FLOOR CEILING CRAWL SPACE. SEE DWG M10 FOR NEW ACCESS PANEL.
 - VAV-4: ACCESS THROUGH SECOND FLOOR ATTIC
 - VAV-7: ACCESS THROUGH SECOND FLOOR ATTIC

KEY NOTES:

- 1 REMOVE AND DISPOSE OF VAV BOXES AND ASSOCIATED ROOM THERMOSTAT.
 - 2 REMOVE AND DISPOSE OF THERMOSTAT IN ROOM 102 AND 113. PATCH HOLES AND PAINT TO MATCH EXISTING COLOR.
 - 3 REMOVE AND DISPOSE OF HW HEATING COILS IN DUCT AND ROOM THERMOSTAT. CAP HW SUPPLY AND RETURN PIPES USING CAPS OF SAME MATERIAL AS PIPES.

LEGEND:



1 SECOND FLOOR PLAN
- SCALE: 1/8" = 1'-0"

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

(E) TOLL PLAZA CANOP

BELOW, NO W

This architectural floor plan illustrates a long, multi-sectioned building layout. The sections are labeled A through L along the top edge. Key rooms and areas include:

- Section A:** Contains a RAMP, PLANTER, and ENTRANCE.
- Section B:** Features a SUITE (101) with a STOREROOM, an ANNEX (101), and an ENTRANCE.
- Section C:** Includes a MAIN LOBBY, AUDITING (103), AUDITING (105), DISTRICT SECRETARY (107), and DISTRICT SECRETARY (109).
- Section DA:** Shows a VAULT, SECURITY AUDITOR, and CAPITAL & GRANTS.
- Section E:** Features a VAULT, SECURITY AUDITOR, and CAPITAL & GRANTS.
- Section F:** Includes a VAULT, SECURITY AUDITOR, and CAPITAL & GRANTS.
- Section G:** Shows a VAULT, SECURITY AUDITOR, and CAPITAL & GRANTS.
- Section H:** Features an OFFICE, LUNCH ROOM, and several storage and office spaces for CAPTAIN, SERGEANT, and PATROL OFFICERS.
- Section J:** Includes a PATROL OFFICER'S LOCKER ROOM (MEN) and PATROL OFFICER'S LOCKER ROOM (WOMEN).
- Section JA:** Shows a KITCHEN (119) and a CONTROL RM (118).
- Section KA:** Features a BRIDGE SERVICE CREW area.
- Section L:** Includes a PLANTER and a RAMP.

Dimensions for various rooms and sections are provided, such as 14'-3 1/2" ± for Section A, 20'-8" ± for Section B, 23'-2" ± for Section C, 14'-3" ± for Section DA, 16'-4 1/2" ± for Section E, 18'-0" ± for Section F, 21'-8" ± for Section G, 22'-1" ± for Section H, 15'-2" ± for Section J, 15'-6" ± for Section JA, 6'-0" ± for Section KA, and 5'-11" ± for Section L.

FIRST FLOOR PLAN

- SCALE 1/8" = 1'

ISSUED FOR BID

A graphic scale consisting of two parallel horizontal lines with markings. The top line is labeled "INCHES" and has markings at 1 and 2. The bottom line is labeled "CENTIMETERS" and has markings at 1, 2, 3, 4, and 5. The scale is used for reducing architectural drawings.

A circular stamp with a double-line border. The outer ring contains the text "REGISTERED PROFESSIONAL" at the top and "MECHANICAL" at the bottom. The inner circle contains "F.H.A." at the top, a signature in the center, and "Exp." at the bottom. Below the stamp is the word "Mechanical".

PROJECT
03/1
D

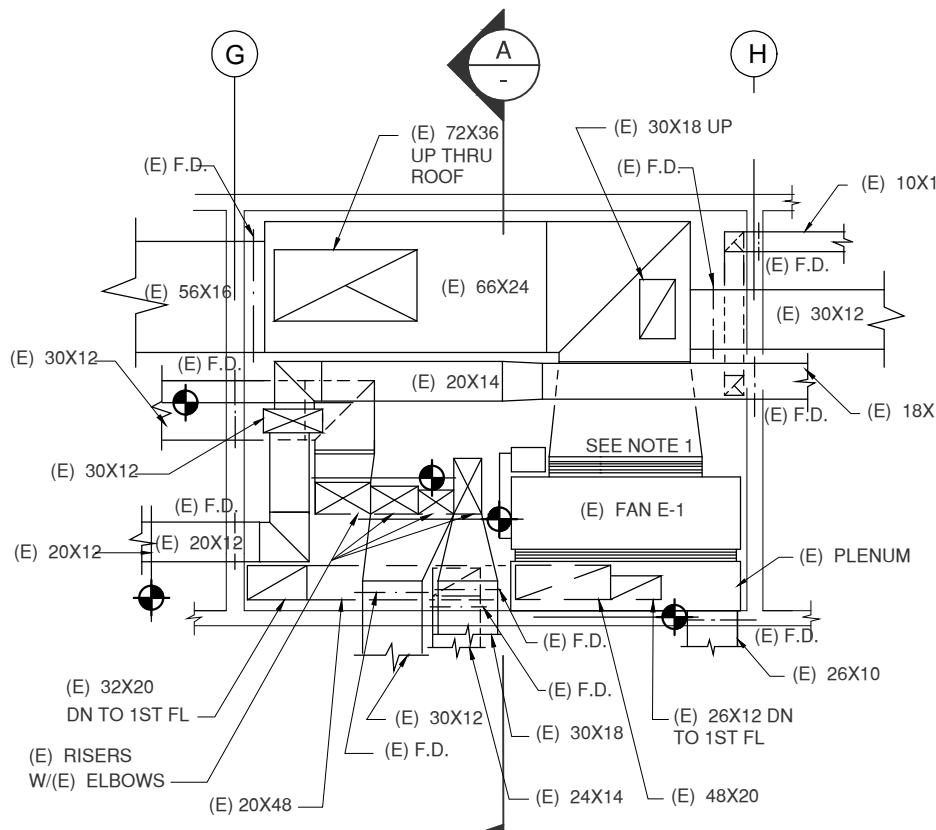
DISTRICT ENGI
03/14/2017
DATE

**PROJECT TITLE GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

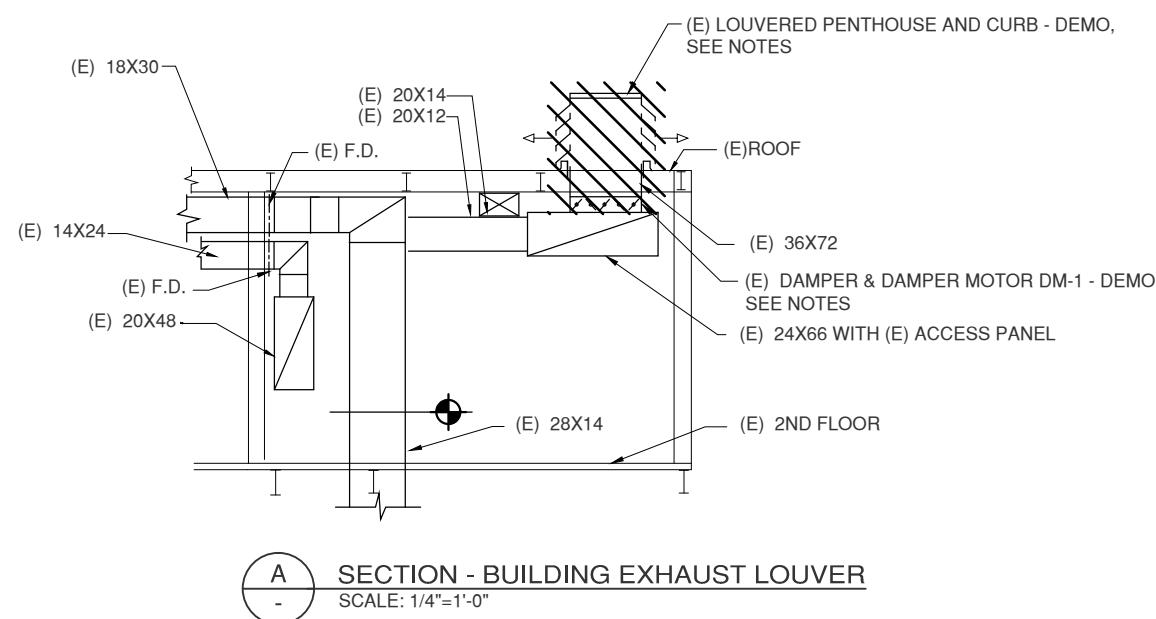
VAV DEMOLITION

SCALE: AS NOTED DATE: MARCH 14, 2017





1
M08, M10 PARTIAL PLAN MECHANICAL ROOM
SCALE: 1/4"=1'-0"



NOTES:

1. COORDINATE REMOVAL OF LOUVERED PENTHOUSE AND DAMPER WITH ROOFING CONTRACTOR.
2. DEMOLITION OF (E) LOUVERED PENTHOUSE DAMPER IS NOT TO INTERFERE WITH OPERATION OR PERFORMANCE OF THE BUILDING HVAC SYSTEM DURING NORMAL BUSINESS HOURS.
3. PRIOR TO REMOVING ANY EQUIPMENT THE CONTRACTOR IS TO CONFIRM THE SIZE OF THE EXISTING LOUVERED PENTHOUSE AND DAMPER. THE SIZE OF THE NEW LOUVERED PENTHOUSE AND DAMPER SHOWN IN THE EQUIPMENT SCHEDULES IS TO MATCH THE SIZES OF THE EXISTING UNITS.
4. REMOVE AND DISPOSE OF THE (E) LOUVERED PENTHOUSE, CURB, DAMPER, AND DAMPER ACTUATOR.
5. PATCH/REPAIR AND PAINT ANY EXISTING HOLES IN SECOND FLOOR CEILING AROUND (E) DAMPER AND ANY NEW HOLES/CRACKS IN THE CEILING AND ROOF MADE AS A CONSEQUENCE OF THIS DEMOLITION. PAINT IS TO MATCH EXISTING.
6. THE OPENING IN THE ROOF IS TO BE COVERED DURING ALL HOURS WHEN WORK IS NOT BEING PERFORMED IN THE REMOVAL AND REPLACEMENT OF THE LOUVERED PENTHOUSE AND DAMPER. THE COVER OR COVERS ARE TO BE SUFFICIENTLY SECURED SO AS NOT TO BE BLOWN OFF BY TYPICALLY SEVERE LOCAL WIND CONDITIONS. THE COVER IS TO PROTECT THE BUILDING ATTIC AND OPEN SPACES BELOW FROM ANY RAIN. SUBMIT DETAILS OF COVERS TO ENGINEER FOR REVIEW AND APPROVAL.

LEGEND:



ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

APPROVED BY

REGISTERED PROFESSIONAL ENGINEER
H. H. FURNACE
No. M17611
Mechanical
State of California
Exp. 3/31/18

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

NO.	REVISIONS	BY	DATE

CONTRACT NO. 2017-B-12
CADD FILE: 17B12A024.DWG

APPROVED BY

REGISTERED PROFESSIONAL ENGINEER
A. Z. BAUER
No. C43632
Civil
State of California
Exp. 3/31/19

DISTRICT ENGINEER
03/14/2017
DATE

NO.	REVISIONS	BY	DATE

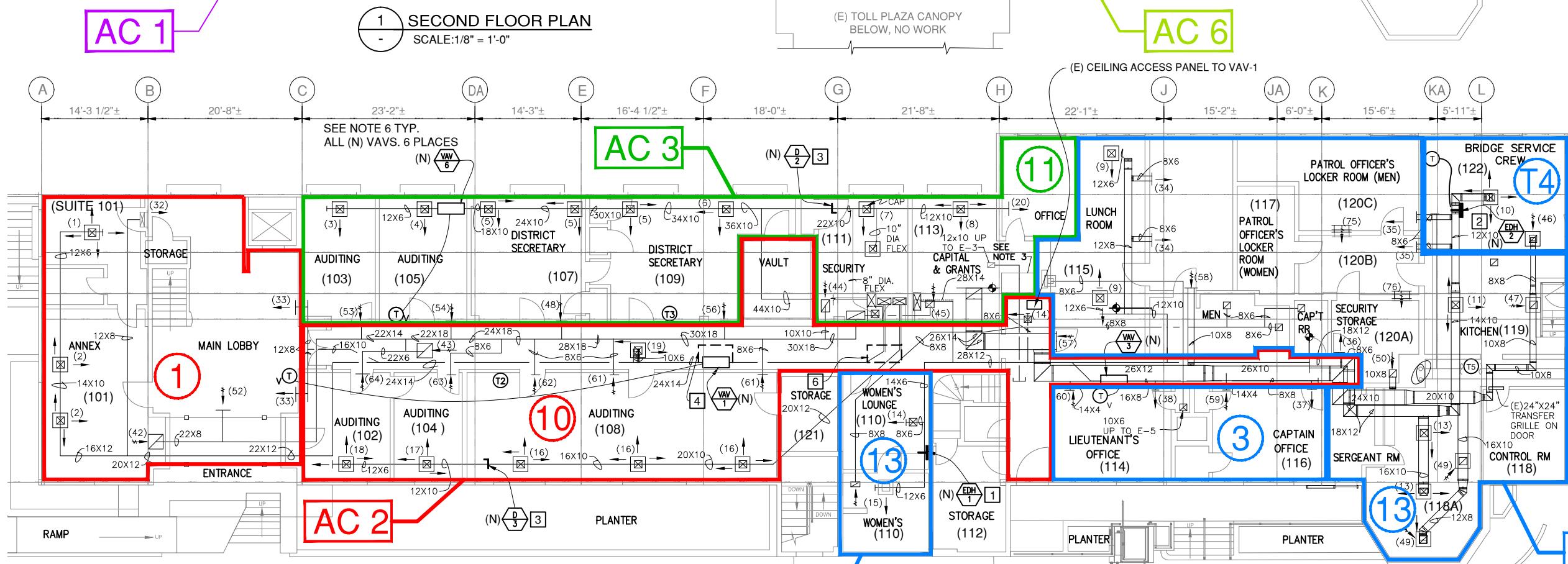
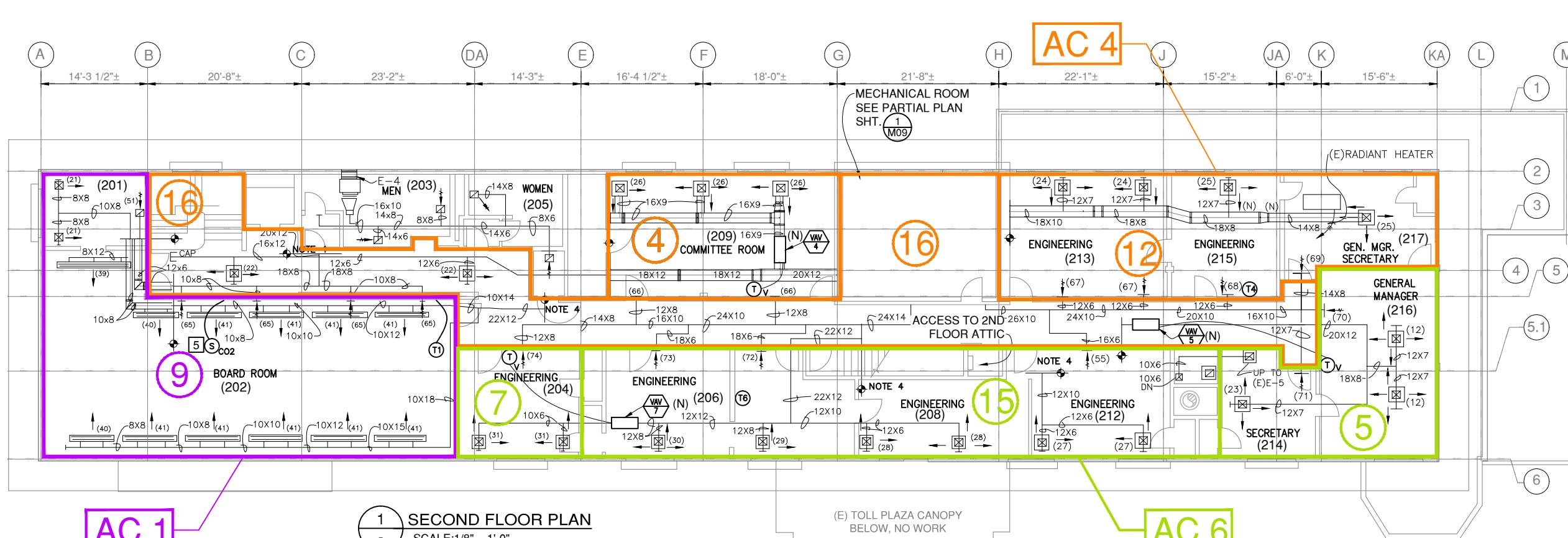
DWG NO. M09
CADD FILE: 17B12A024.DWG

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**EXHAUST AIR DAMPER AND
LOUVERED PENTHOUSE DEMOLITION**

SCALE: AS NOTED
DATE: MARCH 14, 2017





ISSUED FOR BID		APPROVED BY H. FURNACE REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA No. C17611 Exp. 3/31/18	APPROVED BY A. Z. BAUER REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
		PROJECT ENGINEER H. FURNACE 03/14/2017 DATE	DISTRICT ENGINEER A. Z. BAUER 03/14/2017 DATE	PROJECT TITLE HVAC VAV & AC - UNIT ZONES
		REVISIONS 0	BY DWG NO. M10	SCALE: AS NOTED
		CONTRACT NO. 2017-B-12	CADD FILE: 17B12A025.DWG	DATE: MARCH 14, 2017
GRAPHIC SCALE SHOWN IN FULL SIZE VERIFY SCALE FOR REDUCED PLANS IN 1 2 3 4 5 6 7 CM 1 2 3 4 5 6 7				

NOTES:

- ALL VAV BOXES, T-STATS, AND DAMPERS SHOWN ARE NEW. SEE EQUIPMENT SCHEDULE DRAWING M19.
- ALL DUCT DIMENSIONS SHOWN ARE IN INCHES.
- (E) CHASE UP TO MECHANICAL ROOM, SEE DRAWING UNDER CONTRACT NO. 93-B-1 FOR DETAILS.
- ACCESS TO ALL NEW VAV BOXES AND DAMPERS IS FROM LOCAL ACCESS PANELS EXCEPT FOR THE FOLLOWING VAV BOXES:
 - VAV-1: NEW ACCESS PANEL, SEE DETAIL [M28](#)
 - VAV-4: ACCESS THROUGH SECOND FLOOR ATTIC
 - VAV-7: ACCESS THROUGH SECOND FLOOR ATTIC
- FOR ALL VAV BOXES, SEE INSTALLATION DETAIL [M25](#)
- BALANCE ALL GRILLES AND REGISTERS AIR FLOW TO MEET AIR FLOWS SHOWN ON AIR BALANCE SCHEDULE [M22](#)
- ROUTE CONTROL WIRING FROM ZONE T-STAT TO AC UNITS AND FROM ROOM T-STAT TO VAV UNITS. SEE DWGS M12 AND M13.

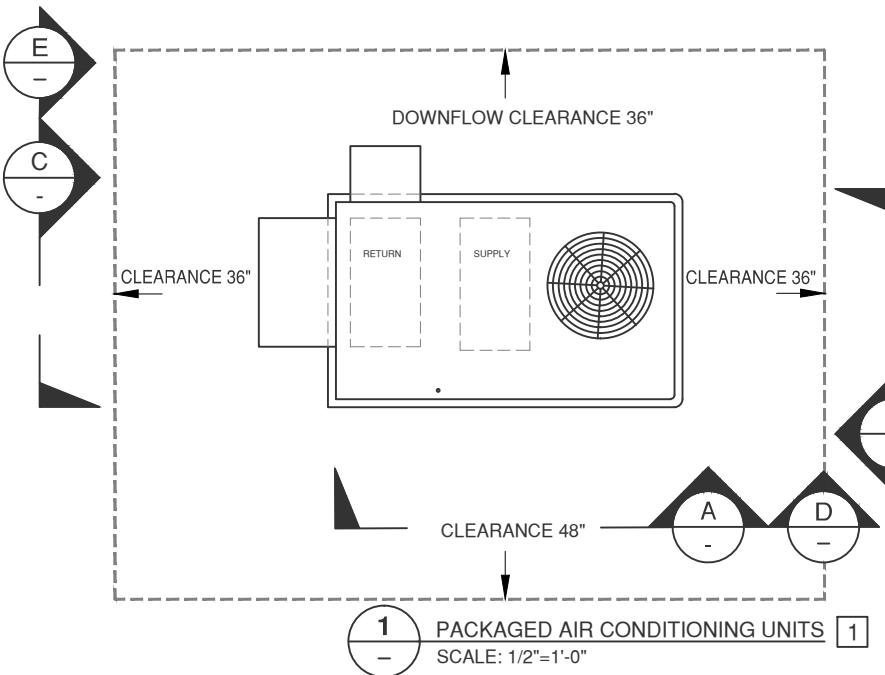
KEY NOTES:

- SEE INSTALLATION DETAIL [M25](#) WITH CONTROL PNL/ TERMINAL BOX PANEL ATTACHED TO HEATER & T-STAT IN DUCT.
- SEE INSTALLATION DETAIL [M25](#) WITH REMOTE CONTROL PANEL & T-STAT MOUNTED ON WALL BELOW HEATER.
- SEE INSTALLATION DETAIL [M25](#) FOR DAMPER INSTALLATION.
- VAV-1: (N) ACCESS PANEL, SEE DETAIL [M28](#)
- INSTALL CO₂ SENSOR IN CENTER OF WALL SHOWN AND 6' ABOVE FLOOR. MOUNT, WIRE, AND CONNECT PER VENDOR'S INSTRUCTIONS.
- ACCESS PANEL FOR EDH-1 WIRING SEE DETAIL [M28](#)

LEGEND:

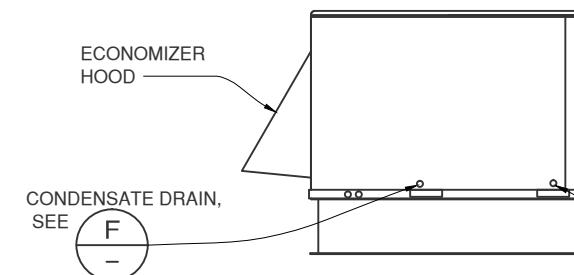
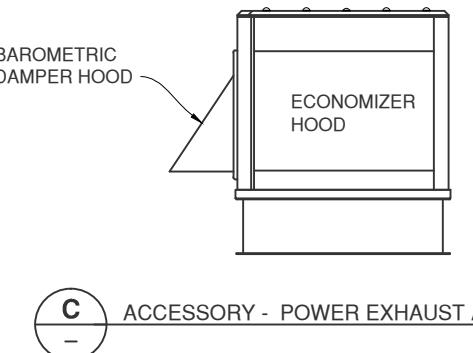
- (202) ROOM NUMBERS
- (S)_{CO2} CO₂ SENSOR
- (T)V THERMOSTAT FOR VAV
- 1 ZONE



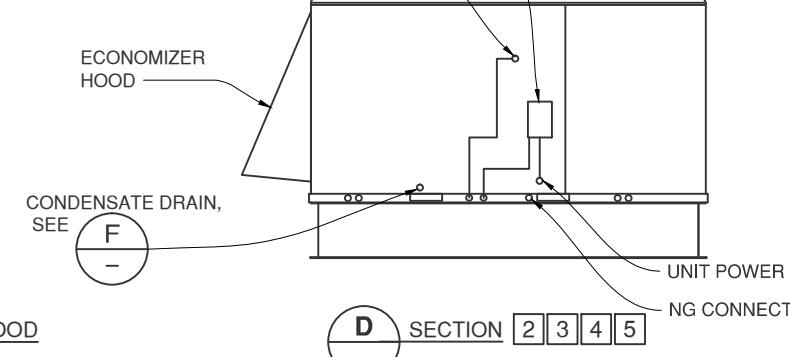
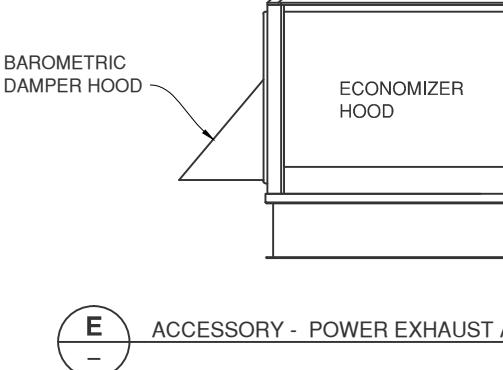


KEY NOTES:

- 1 REFER TO DRAWING A06 FOR AC UNIT LOCATION AND INSTALLATION ON NEW ROOF CURBS.
- 2 CONTRACTOR TO SUPPLY CONNECTING DUCTWORK FROM (N) AC UNITS TO EXISTING DUCTWORK USING FLEXIBLE DUCT CONNECTORS MADE FROM G90 GALVANIZED STEEL AND NEOPRENE. ALL NEW AND (E) DUCTWORK TO BE INSULATED WITH NEW INSULATION THAT IS THE SAME AS EXISTING. IMPORTANT: THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING AC UNIT ROOF OPENINGS FOR NEW SUPPLY AND RETURN DUCTS BEFORE REMOVING AC UNITS. IF CHANGES TO THE EXISTING ROOF OPENINGS ARE REQUIRED THE CONTRACTOR SHALL FIRST PROVIDE THE ENGINEER WITH DRAWINGS AND CALCULATIONS, EACH STAMPED BY A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA, DESCRIBING THE CHANGES TO BE MADE. AFTER AUTHORIZATION BY THE ENGINEER TO PROCEED THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL TO COMPLETE THE WORK.
- 3 ALL POWER AND CONTROL WIRING AND NATURAL GAS PIPING FOR EACH AC UNIT SHALL BE RUN THROUGH THE CURB. PENETRATIONS THROUGH THE CURB SHALL BE WATER TIGHT WITH A SEALING MATERIAL SUITABLE FOR LONG TERM, OUTDOOR USE.
- 4 DISCONNECT SWITCH TO BE LOCATED PER MANUFACTURERS RECOMMENDATION. REFER TO PROJECT SPECIFICATIONS FOR MATERIAL, SIZE, AND RATING OF EACH DISCONNECT SWITCH.
- 5 (N) SMOKE DETECTOR PROVIDED BY AND INSTALLED PER AC UNIT MFR. INSTRUCTIONS FOR WIRING TO (N) HVAC MASTER CONTROL PANEL AND (N) FIRE ALARM PANEL IS SHOWN ON DWG E02.



AC UNITS - 1, 2, 3 & 6 INSTALLATION
SCALE: 1/2"=1'-0"



AC UNITS - 4 & 5 INSTALLATION
SCALE: 1/2"=1'-0"

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

APPROVED BY
H. FURNACE
M17611
Exp. 3/31/18
MECHANICAL
STATE OF CALIFORNIA

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

CONTRACT NO. 2017-B-12
DWG NO. M11
CADD FILE: 17B12A026.DWG

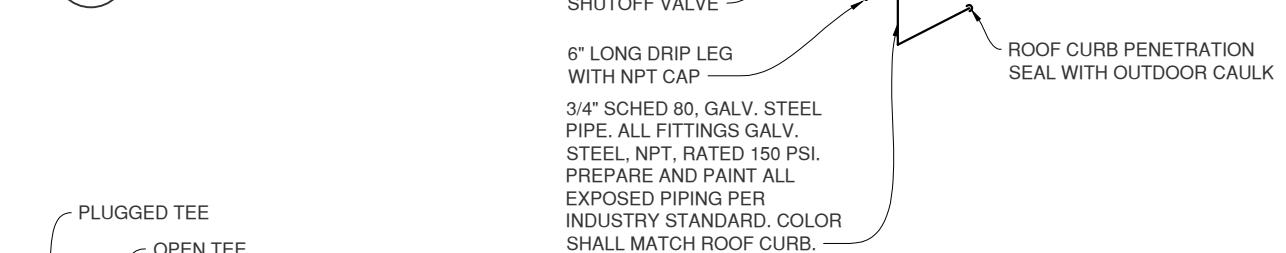
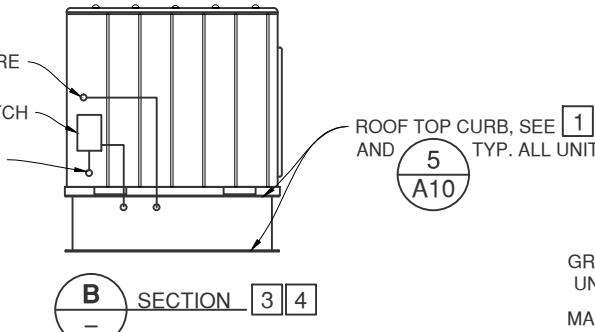
APPROVED BY
A. BAUER
No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

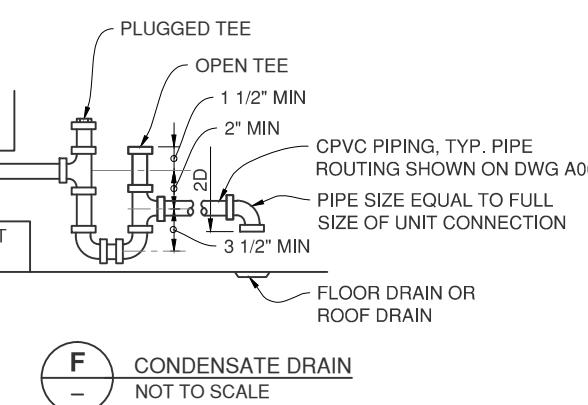
SHEET TITLE
**NEW AC UNIT SECTION
AND DETAILS**

SCALE: AS NOTED
DATE: MARCH 14, 2017



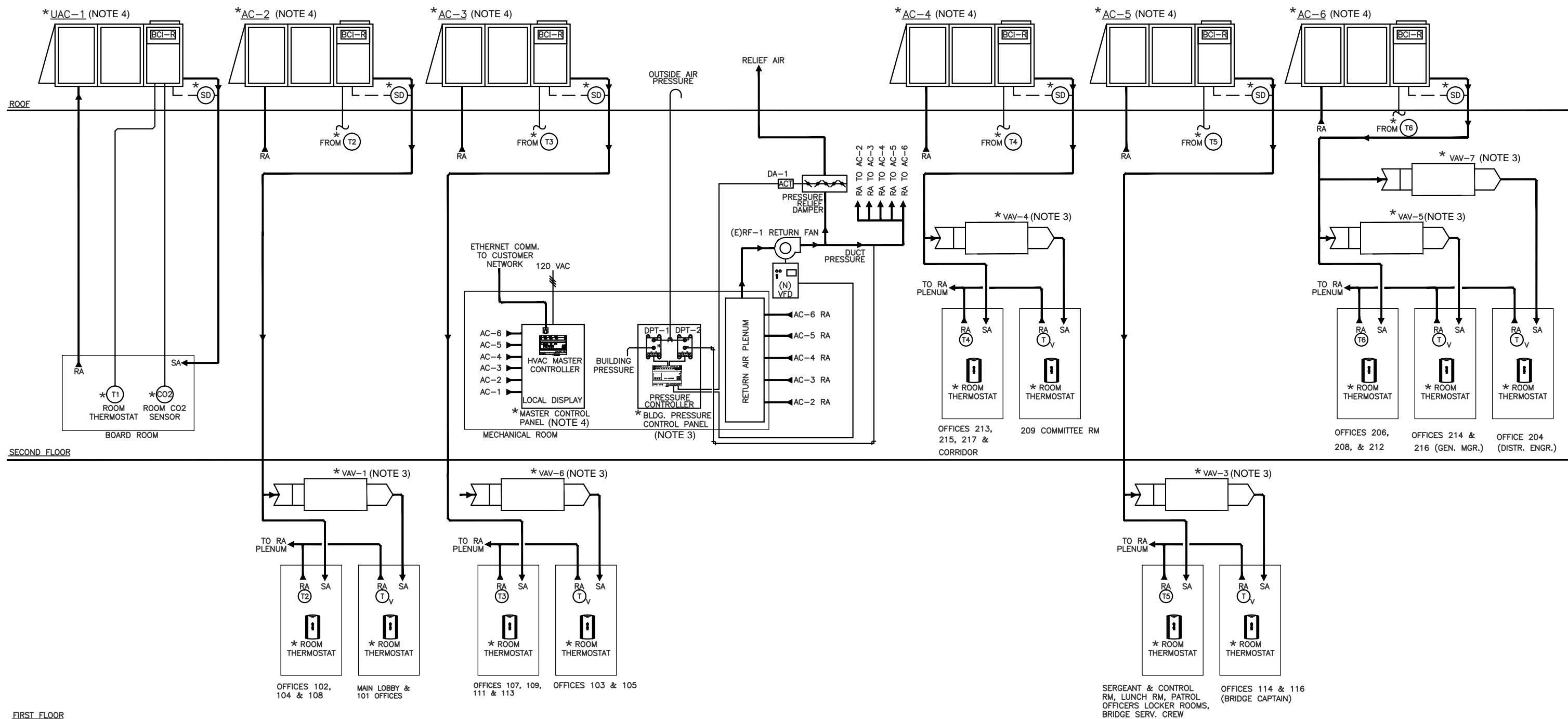
NOTES:

1. MANUAL SHUTOFF VALVE TO BE 3/4" CAST IRON PLUG VALVE WITH NPT ENDS AND RATED AT 175 PSI. VALVE TO HAVE 1/8" NPT PLUGGED PRESSURE TAP UPSTREAM.
2. STAINLESS STEEL FLEXIBLE CONNECTOR SAME SIZE AS GAS PIPE SHALL BE USED TO CONNECT GAS PIPE TO AC UNIT. FLEXIBLE CONNECTOR SHALL NOT EXCEED 36" IN LENGTH.



G NG SUPPLY PIPING
NOT TO SCALE

ISSUED FOR BID



NOTES:

- * = SUPPLIED BY MANUFACTURER, SEE EQUIPMENT SCHEDULES.
- ALL EQUIPMENT SHOWN IS NEW AND IS TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR UNLESS INDICATED OTHERWISE.
- SEE DWG. M13 FOR DETAILS.
- SEE DWG M14 FOR AC UNIT CONTROL SCHEMATIC AND SEQUENCE OF OPERATION.
- USE EXISTING CONTROL AND POWER WIRING TO/FROM (N) THERMOSTATS.

TOLL PLAZA ADMINISTRATION BUILDING AC UNIT AND VAV RISER DIAGRAM
NOT TO SCALE

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7



APPROVED BY
H. H. FURNACE
M 17611
Exp. 3/31/18

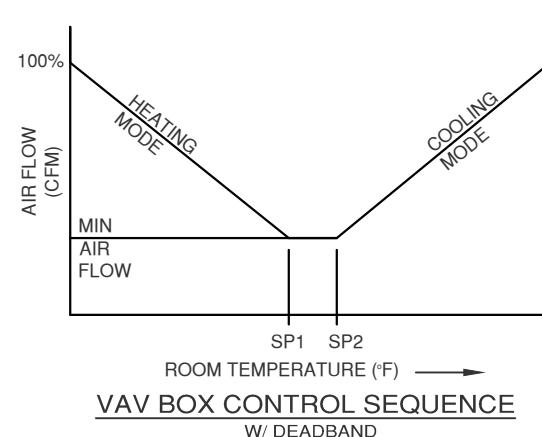
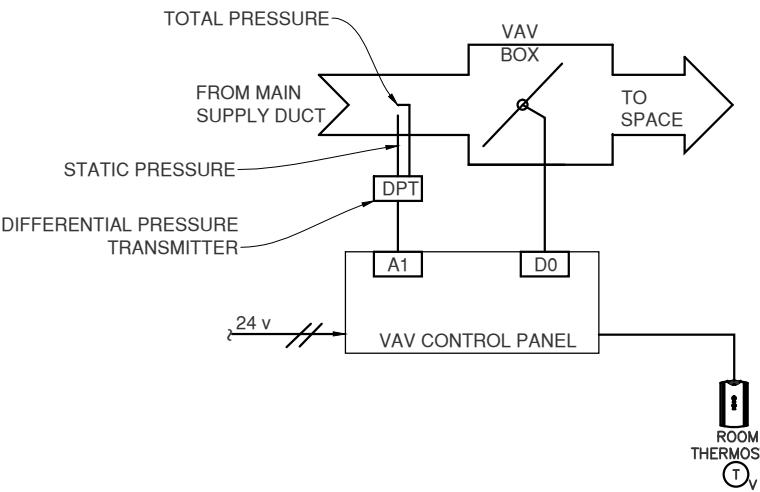
PROJECT ENGINEER
03/14/2017
DATE

NO.	REVISIONS	BY	DATE	APPROVED BY J. A. BAUER No. C43632 Exp. 3/31/19	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	DISTRICT ENGINEER 03/14/2017 DATE
CONTRACT NO.	2017-B-12	DWG NO.	M12	CADD FILE: 17B12A027.DWG	SYSTEM RISER DIAGRAM	SCALE: AS NOTED DATE: MARCH 14, 2017

ISSUED FOR BID

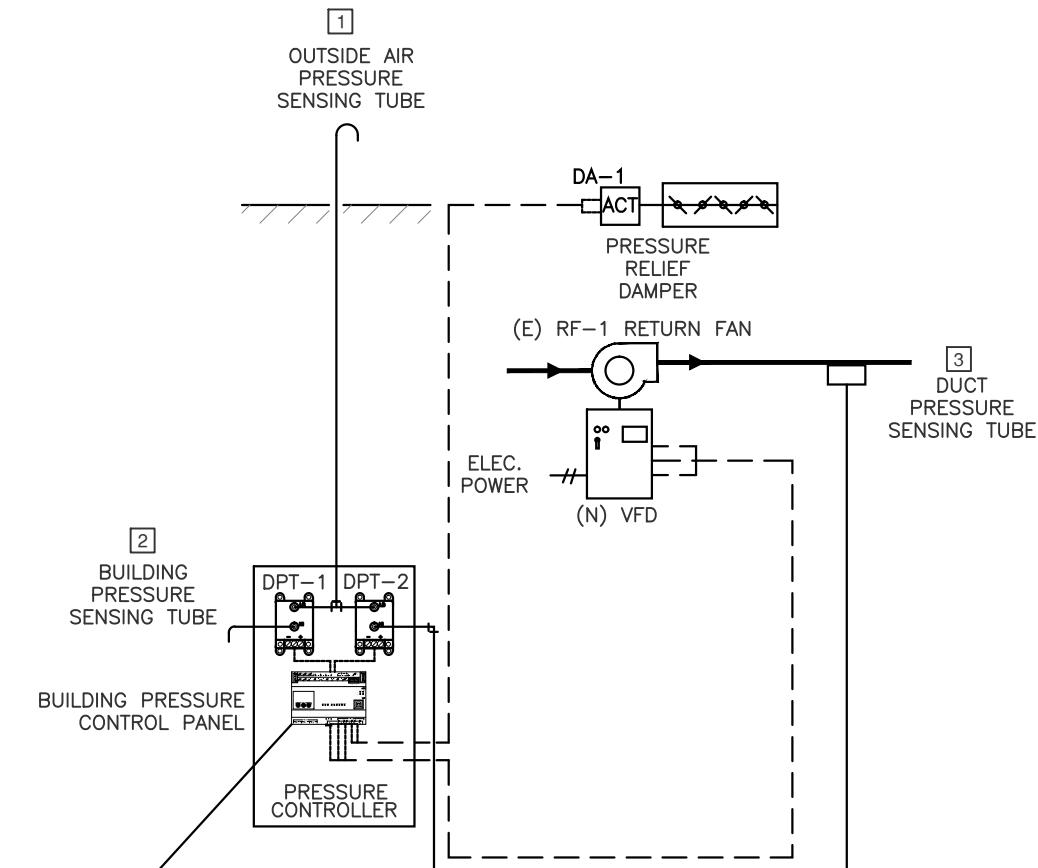


GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT



NOTES:

1. THE SPACE T-STAT SETPOINTS (SP) SHALL BE: HEATING, SP1 = 70° F (ADJ), COOLING, SP2 = 75° F (ADJ).
2. DEADBAND BETWEEN HEATING AND COOLING SETPOINTS SHALL BE 5° F (ADJ).
3. IN HEATING MODE A FALL IN SPACE TEMPERATURE SHALL CAUSE THE VAV DAMPER TO MODULATE THE AIRFLOW TO A MAX. OF 50% OF MAX COOLING AIR FLOW (ADJ.).
4. AS THE SPACE TEMPERATURE RISES ABOVE HEATING SETPOINT SP1 THE VAV CONTROL SYSTEM WILL CHANGEOVER TO COOLING MODE ONCE THE DEADBAND RANGE HAS BEEN EXCEEDED.
5. IN COOLING MODE A RISE IN SPACE TEMPERATURE SHALL CAUSE THE VAV DAMPER TO MODULATE OPEN TO A MAXIMUM OF 100% (ADJ.).
6. IN EITHER HEATING OR COOLING MODE VAV SHALL MODULATE AIR FLOW TO ±0.5°F (ADJ) OF SET POINT.

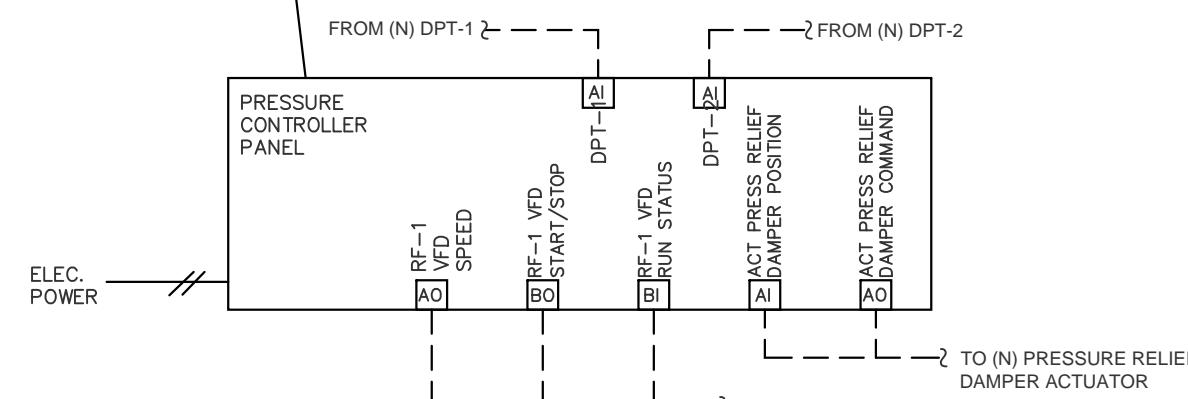


KEY NOTES:

- [1] 3/16" VINYL TUBE TO EXISTING BLDG OUTLET. SUPPORT TUBE EVERY 24".
- [2] 3/16" RUBBER OR VINYL TUBE TO OUTSIDE OF BUILDING PRESSURE CONTROL PANEL.
- [3] 3/16" VINYL TUBE TO EXISTING RETURN AIR DUCT PRESSURE CONNECTION. SUPPORT TUBE EVERY 24".

NOTES:

1. ALL COMPONENTS INCLUDING PRESSURE CONTROLLER PANEL SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE DETAILED POINT-TO-POINT WIRING DIAGRAMS AND DETAILED SEQUENCE OF OPERATION. THE WIRING DIAGRAM AND SEQUENCE OF OPERATION SHALL BE APPROVED BY THE ENGINEER BEFORE BEGINNING WORK.
3. SEQUENCE OF OPERATION OF BUILDING PRESSURE CONTROLLER, RETURN AIR FAN RF-1, RETURN AIR FAN VFD, AND RELIEF DAMPER ACTUATOR, DA-1:
 - a. CONTROLLER IS TO MAINTAIN +0.05" W.G. BUILDING PRESSURE DIFFERENTIAL WITH OUTSIDE AIR PRESSURE BY ADJUSTING FAN RF-1 SPEED WHERE INCREASING THE FAN SPEED WILL LOWER BUILDING PRESSURE AND DECREASING FAN SPEED WILL RAISE BUILDING PRESSURE.
 - b. CONTROLLER IS TO PREVENT BUILDING DIFFERENTIAL PRESSURE FROM RISING ABOVE 0.10" W.C. BY OPENING AND CLOSING THE PRESSURE RELIEF DAMPER.
4. ALL SET POINTS ARE TO BE ADJUSTABLE FROM THE FRONT OF THE CONTROLLER BY A DIGITAL PRESSURE DIFFERENTIAL DISPLAY AND DIGITAL KEYBOARD.
5. RETURN AIR FAN VFD SHALL OPERATE CONTINUOUSLY AS LONG AS ANY OF THE BUILDING AC UNITS ARE ON.
6. SEE PROJECT SPECIFICATIONS FOR DETAILS OF CONTROLLER DESIGN.



ISSUED FOR BID

APPROVED BY H. FURNACE REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA No. M17611 Exp. 3/31/18	PROJECT ENGINEER 03/14/2017 DATE	REVISIONS BY DATE	APPROVED BY A.Z. BAUER REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
GRAPHIC SCALE SHOWN IN FULL SIZE VERIFY SCALE FOR REDUCED PLANS		CONTRACT NO. 2017-B-12 CADD FILE: 17B12A028.DWG	DWG NO. M13	SHEET TITLE SYSTEM RISER DIAGRAM DETAILS
		NO. DATE	DATE	SCALE: AS NOTED DATE: MARCH 14, 2017



SEQUENCE OF OPERATIONS AC UNITS 1-6

THE FOLLOWING SEQUENCE OF OPERATIONS APPLIES TO ALL AC UNITS EXCEPT WHERE NOTED OTHERWISE.

- SCHEDULING OF OCCUPANCY MODES:** SCHEDULING OF OCCUPANCY MODES SHALL BE DONE FROM THE HVAC MASTER CONTROLLER. THE THERMOSTAT IN EACH ZONE SHALL CONTROL THAT ZONES HEATING AND COOLING AND SHALL BE MONITORED BY THE HVAC MASTER CONTROLLER. IF COMMUNICATION TO THE HVAC MASTER CONTROLLER IS LOST, THEN EACH ZONE SHALL OPERATE USING THERMOSTAT'S DEFAULT MODES AND SETPOINTS.

2. OCCUPIED MODE:

ZONE (ROOM) COOLING MODE SETPOINT 75° F (ADJ)

ZONE (ROOM) HEATING MODE SETPOINT 70° F (ADJ)

THE SUPPLY FAN SHALL RUN CONTINUOUSLY AND THE OUTSIDE AIR (OA) DAMPER SHALL OPEN TO MAINTAIN MINIMUM VENTILATION REQUIREMENTS. THE UNIT COOLING SYSTEM SHALL STAGE TO MAINTAIN THE OCCUPIED SPACE TEMPERATURE SETPOINT. IF ECONOMIZING IS ENABLED THE OA DAMPER SHALL MODULATE TO MAINTAIN THE OCCUPIED SPACE TEMPERATURE SETPOINT.

- OCCUPIED BYPASS MODE:** THE HVAC MASTER CONTROLLER SHALL MONITOR THE STATUS OF EACH ZONE'S THERMOSTAT. WHEN AN OCCUPIED BYPASS REQUEST IS RECEIVED, THE APPLICABLE AC UNIT SHALL TRANSITION FROM OCCUPIED MODE TO OCCUPIED BYPASS MODE AND THE AC UNIT SHALL MAINTAIN THE SPACE TEMPERATURE TO THE THERMOSTAT'S BYPASS SETPOINT.

4. UNOCCUPIED MODE:

ZONE (ROOM) COOLING MODE SETPOINT 85° F (ADJ)

ZONE (ROOM) HEATING MODE SETPOINT 60° F (ADJ)

THE SUPPLY FAN SHALL RUN ONLY WHEN EITHER THE UNIT HEATING OR COOLING SYSTEM IS ENABLED. WHEN THE SPACE TEMPERATURE IS ABOVE 85° F, THE UNIT COOLING SYSTEM SHALL BE ENABLED. IF THE ECONOMIZER IS ENABLED ALSO, THE OA DAMPER SHALL OPEN, OTHERWISE IT SHALL REMAIN CLOSED. THE UNIT SHALL RUN UNTIL THE SPACE TEMPERATURE FALLS 4° F BELOW THE COOLING MODE SETPOINT. WHEN THE SPACE TEMPERATURE IS BELOW 60° F, THE UNIT HEATING SYSTEM SHALL BE ENABLED. THE OA DAMPER SHALL REMAIN CLOSED. THE UNIT SHALL RUN UNTIL THE SPACE TEMPERATURE RISES 4° F ABOVE THE HEATING MODE SETPOINT.

- REFERENCE DRY BULB AND ECONOMIZER CONTROL:** COOLING USING THE ECONOMIZER SHALL BE CONTROLLED BY MEASURING AND COMPARING THE OA TEMPERATURE WITH A REFERENCE DRY BULB TEMPERATURE (DBT) OF 67° F (ADJ). THE ECONOMIZER WILL BE ENABLED WHEN THE OA TEMPERATURE IS LESS THAN THE REFERENCE DBT AND THE UNIT IS IN THE COOLING MODE. THE ECONOMIZER WILL BE DISABLED WHEN THE OA TEMPERATURE IS GREATER THAN THE REFERENCE DBT BY +5° F.

THE ECONOMIZER DAMPER SHALL MODULATE BETWEEN ITS MINIMUM POSITION AND 100% OPEN TO MAINTAIN THE SPACE TEMPERATURE SETPOINT. THE CONTROL SYSTEM SHALL MEASURE THE DRY BULB TEMPERATURE OF THE SUPPLY AIR LEAVING THE EVAPORATOR. IF THE SUPPLY AIR TEMPERATURE FROM THE EVAPORATOR FALLS BELOW 53° F, THE ECONOMIZER WILL START TO CLOSE AND AT 50° F THE ECONOMIZER WILL BE AT ITS MINIMUM POSITION. THE COMPRESSORS SHALL DELAY STARTING UNTIL THE ECONOMIZER HAS OPENED TO 100% FOR 5 MINUTES.

WHEN THE ECONOMIZER IS DISABLED THE OA DAMPER SHALL ADJUST TO ITS MINIMUM OPEN POSITION (ADJ).

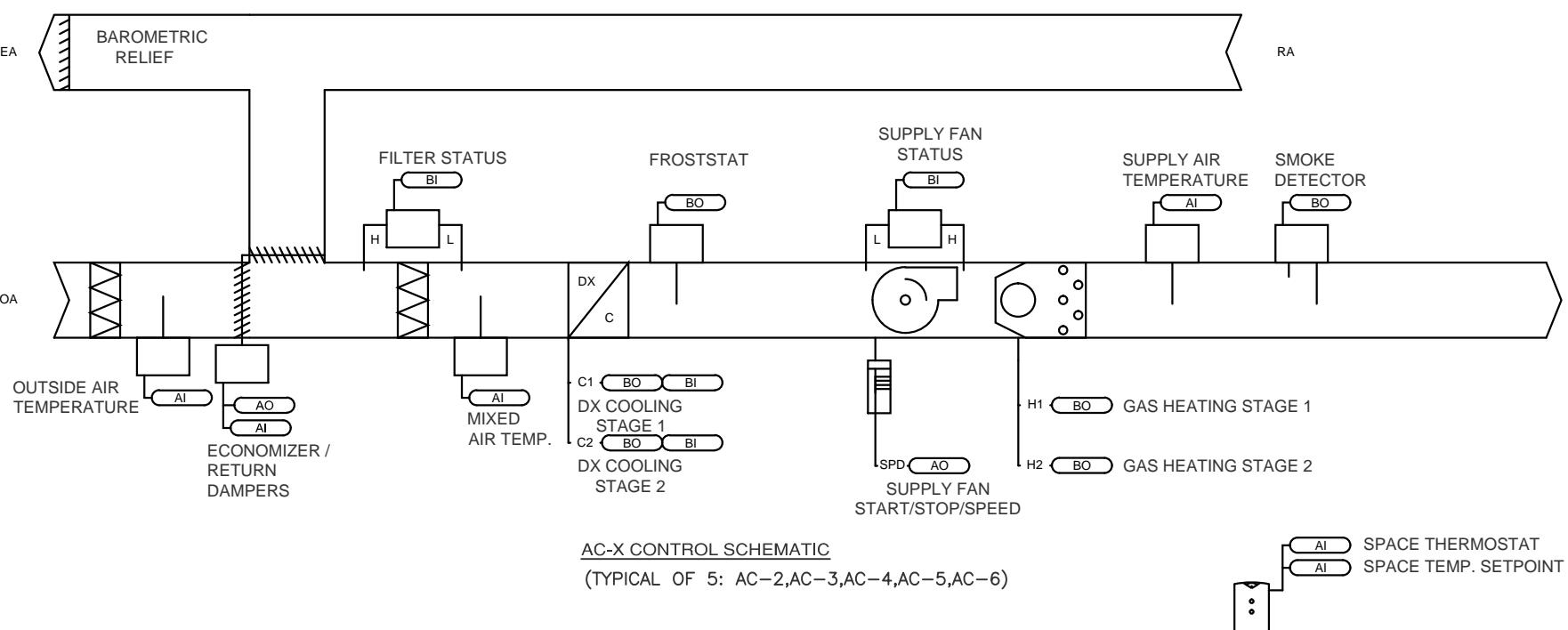
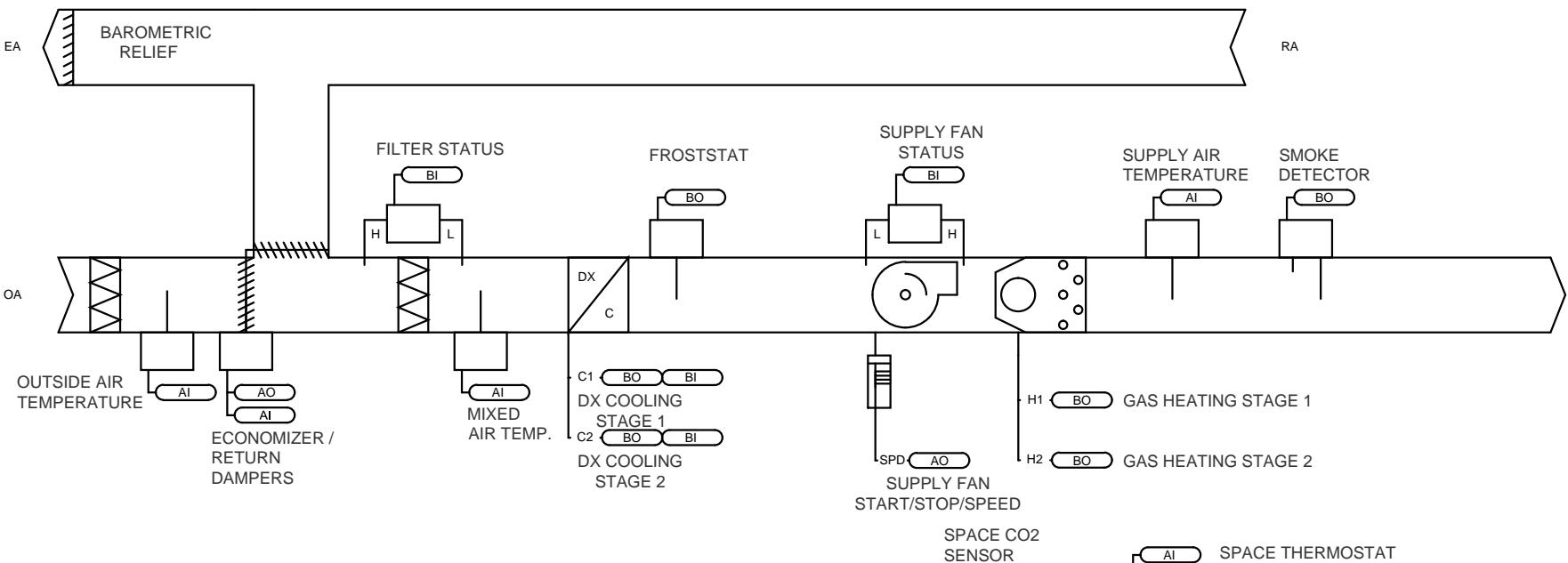
- SUPPLY FAN OPERATION:** THE SUPPLY FAN SHALL BE ENABLED IN OCCUPIED AND OCCUPIED BYPASS MODES AND CYCLED ON/OFF DURING THE UNOCCUPIED MODE. EACH AC UNIT CONTROLLER SHALL VARY THE SUPPLY FAN SPEED TO OPTIMIZE FAN PERFORMANCE DURING ALL OCCUPIED MODES. A DIFFERENTIAL PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FAN. IF THE SWITCH DOES NOT OPEN WITHIN 40 SECONDS AFTER INITIATION A FAN FAILURE ALARM WILL BE ANNUNCIATED AT THE MASTER CONTROLLER AND THE UNIT SHALL STOP, REQUIRING A MANUAL RESET.

- FILTER STATUS:** A DIFFERENTIAL FILTER PRESSURE SWITCH SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE FILTER WHEN THE SUPPLY FAN IS RUNNING. IF THE SWITCH CLOSES 2 MINUTES AFTER SUPPLY FAN INITIATION A DIRTY FILTER ALARM ALL SHALL BE ANNUNCIATED AT THE MASTER CONTROLLER.

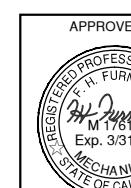
- SMOKE DETECTOR SHUTDOWN:** IF A UNIT'S SMOKE DETECTOR SENSES SMOKE, THE UNIT SHALL SHUTDOWN, THE RETURN AIR DAMPER SHALL CLOSE, AND AN ALARM SIGNAL SHALL BE SENT TO THE FIRE ALARM PANEL. THE AC UNIT SHALL BE RESET MANUALLY.

- OPTIMAL START AND STOP:** THE CONTROL SYSTEM SHALL MONITOR EACH ZONE'S SCHEDULE, SETPOINTS, AND TEMPERATURE IN ORDER TO CALCULATE OPTIMAL STARTING OF ZONE'S MORNING WARM-UP / PRE-COOLING, AND OPTIMAL STOPPING OF EACH RTU.

ISSUED FOR BID

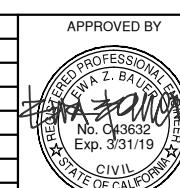


GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7



PROJECT ENGINEER
03/14/2017
DATE

NO.	REVISIONS	BY	DATE	DWG NO.	DISTRICT ENGINEER	DATE
				17B12A029.DWG	M14	



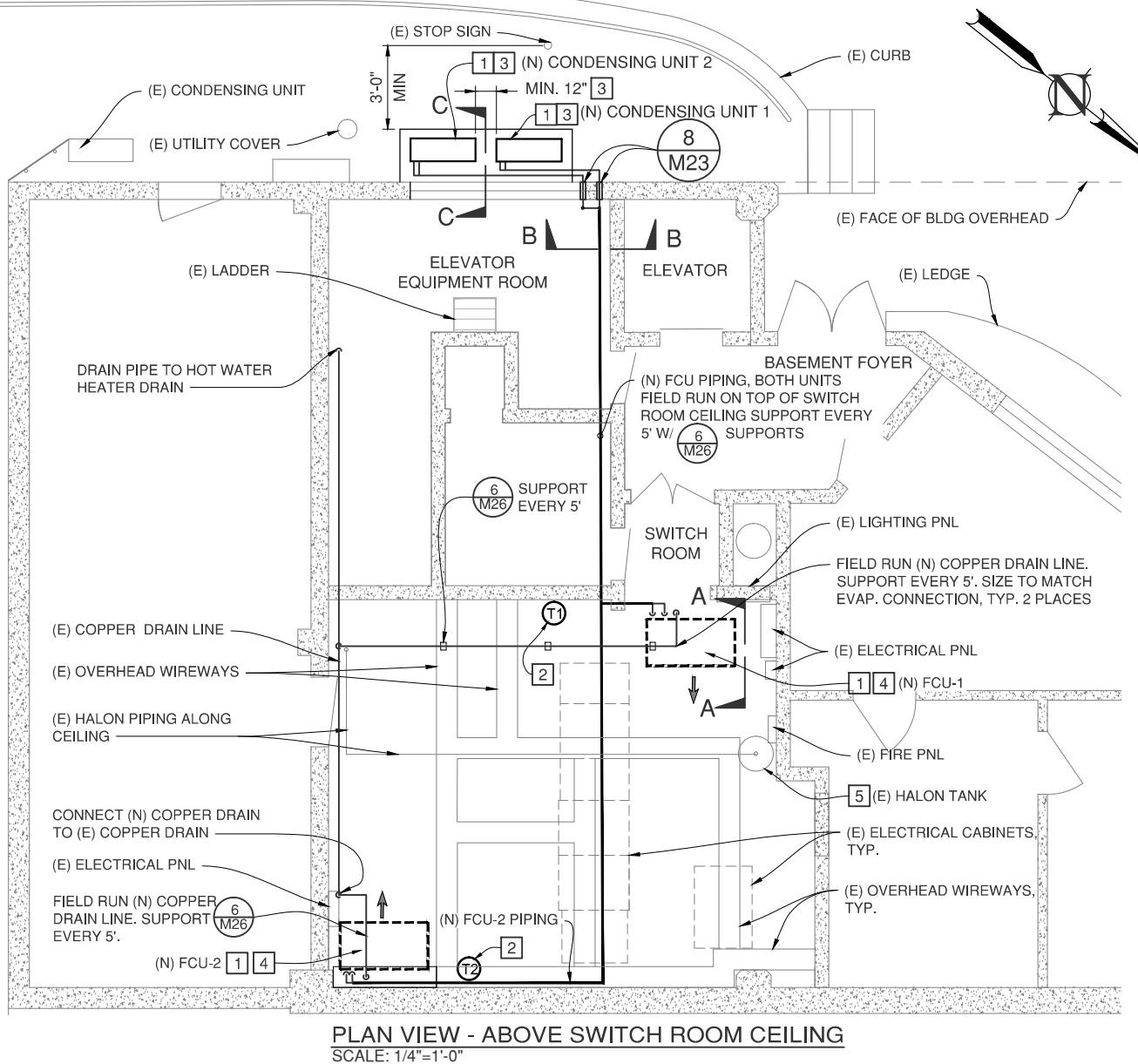
PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**
SHEET TITLE
**SEQUENCE OF OPERATION
AND CONTROL SCHEMATIC**

SCALE: NOT TO SCALE DATE: MARCH 14, 2017



AC-1 - SYSTEM POINTS LIST															
AC UNIT NUMBER 1 CONTROLLER TRANE RELIATEL/BCI-R OR EQUAL		POINT TYPE			ALARMS										
SYSTEM POINT DESCRIPTION		GRAPHIC	HARDWARE INPUT	HARDWARE OUTPUT	SOFTWARE POINT	DEFAULT VALUE	TREND	HIGH ANALOG LIMIT	LOW ANALOG LIMIT	BINARY	LATCH DIAGNOSTIC	SENSOR FAIL	COMMUNICATION FAIL	DIAGNOSTICS	NOTES
SZVAV, DX COOLING, GAS HEAT, REFERENCE DRY BULB ECONOMIZER, BAROMETRIC EXHAUST															
SPACE SENSORS															
SPACE TEMPERATURE (THERM)		AI	X			15 min	X	X		X			X	DIAGNOSTIC ALARM STATUS	
SPACE TEMPERATURE SETPOINT		AI	X	70 F	COV					X				DIAGNOSTIC ALARM STATUS	
ON/CANCEL					COV										
SPACE CO2 SENSOR		X	AI	X			X	X		X				DIAGNOSTIC ALARM STATUS	
OUTDOOR AIR TEMPERATURE		X	AI	X		15 min			X					DIAGNOSTIC ALARM STATUS	
MIXED AIR TEMPERATURE		X	AI	X		15 min			X					DIAGNOSTIC ALARM STATUS	
SUPPLY AIR TEMPERATURE		X	AI	X		15 min	X	X	X					DIAGNOSTIC ALARM STATUS	
ECONOMIZER DAMPER POSITION		X	AI	X		15 min				X				DIAGNOSTIC ALARM STATUS	
DIRTY FILTER		BI	X						X	X				DIAGNOSTIC ALARM STATUS	
SUPPLY FAN STATUS		BI			COV				X					DIAGNOSTIC ALARM STATUS	
HIGH PRESSURE COMPRESSOR PROTECTION		BI							X					DIAGNOSTIC ALARM STATUS	
LOW PRESSURE COMPRESSOR PROTECTION		BI							X					DIAGNOSTIC ALARM STATUS	
EMERGENCY STOP		BI			COV									DIAGNOSTIC ALARM STATUS	
ECONOMIZER DAMPER OUTPUT		AO	X		15 min									DIAGNOSTIC ALARM STATUS	
SUPPLY FAN START/STOP/SPEED		AO													
COMPRESSOR 1 START/STOP		BO			COV										
COMPRESSOR 2 START/STOP		BO			COV										
CONDENSER FAN A START/STOP		BO													
CONDENSER FAN B START/STOP		BO													
GAS HEATING STAGE 1		BO			COV			X						DIAGNOSTIC ALARM STATUS	
GAS HEATING STAGE 2		BO			COV			X						DIAGNOSTIC ALARM STATUS	
SMOKE DETECTOR		BO				X		X						DIAGNOSTIC ALARM STATUS	
FROSTSTAT		BO					X		X					DIAGNOSTIC ALARM STATUS	
OCCUPANCY			X		COV										
OCCUPIED COOL SETPOINT		X		74 F											
OCCUPIED HEAT SETPOINT		X		70 F											
OCCUPIED STANDBY COOL SETPOINT		X		78 F											
OCCUPIED STANDBY HEAT SETPOINT		X		67 F											
UNOCCUPIED COOL SETPOINT		X		85 F											
UNOCCUPIED HEAT SETPOINT		X		60 F											
SETPOINT OFFSET															
OCCUPIED BYPASS TIMER		X		120 MIN											
COMPRESSOR ENABLE		X	AUTO												
ECONOMIZER ENABLE		X	AUTO	COV											
HEAT / COOL MODE		X	AUTO	COV											
FAN MODE COMMAND		X	AUTO												
APPLICATION MODE		X	AUTO												
OUTSIDE AIR DAMPER MINIMUM POSITION		X		10%											
EFFECTIVE OCCUPANCY		X													
EFFECTIVE HEAT/COOL MODE		X													
EFFECTIVE SPACE TEMPERATURE		X													
EFFECTIVE SPACE SETPOINT		X													
LOCAL SETPOINT		X													
COOL OUTPUT		X													
ALARM		X		X											
COMMUNICATION STATE				X											
TOTALS:	11	12	10	33		18	5	3	1	5	8	1			
NOTES:															

AC - 2 THRU 6 SYSTEM POINT LIST															
AC UNITS 2 THROUGH 6 CONTROLLERS TRANE RELIATEL/BCI-R OR EQUAL		POINT TYPE			ALARMS										
SYSTEM POINT DESCRIPTION		GRAPHIC	HARDWARE INPUT	HARDWARE OUTPUT	SOFTWARE POINT	DEFAULT VALUE	TREND	HIGH ANALOG LIMIT	LOW ANALOG LIMIT	BINARY	LATCH DIAGNOSTIC	SENSOR FAIL	COMMUNICATION FAIL	DIAGNOSTICS	NOTES:
SZVAV, DX COOLING, GAS HEAT, REFERENCE DRY BULB ECONOMIZER, BAROMETRIC EXHAUST															
SPACE SENSORS															
SPACE TEMPERATURE (THERM)		AI	X										X	DIAGNOSTIC ALARM STATUS	
SPACE TEMPERATURE SETPOINT		AI	X	70 F	COV								X	DIAGNOSTIC ALARM STATUS	
ON/CANCEL					COV										
SPACE CO2 SENSOR		X	AI	X			X							DIAGNOSTIC ALARM STATUS	
OUTDOOR AIR TEMPERATURE		X	AI	X		15 min			X					DIAGNOSTIC ALARM STATUS	
MIXED AIR TEMPERATURE		X	AI	X		15 min			X					DIAGNOSTIC ALARM STATUS	
SUPPLY AIR TEMPERATURE		X	AI	X		15 min	X	X	X					DIAGNOSTIC ALARM STATUS	
ECONOMIZER DAMPER POSITION		X	AI	X		15 min			X					DIAGNOSTIC ALARM STATUS	
DIRTY FILTER		BI	X						X					DIAGNOSTIC ALARM STATUS	
SUPPLY FAN STATUS		BI			COV				X					DIAGNOSTIC ALARM STATUS	

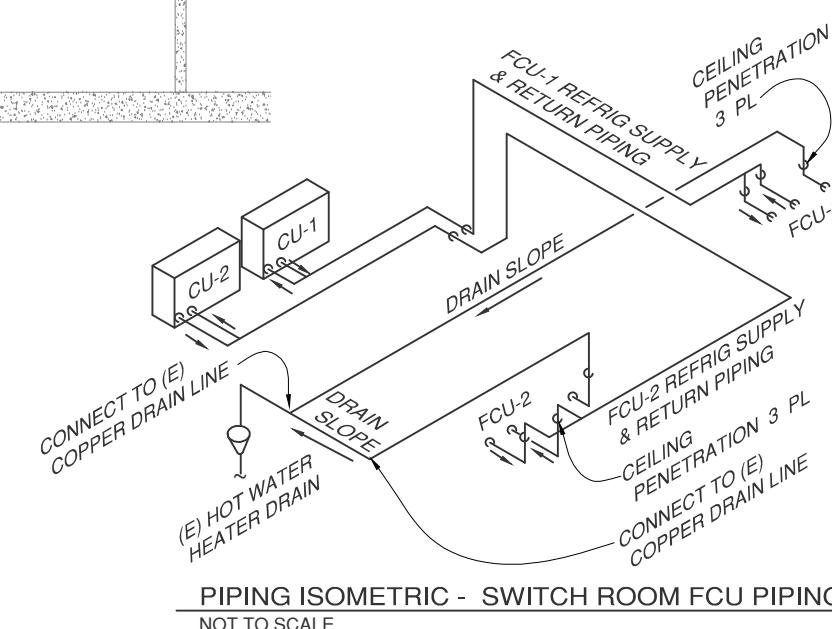
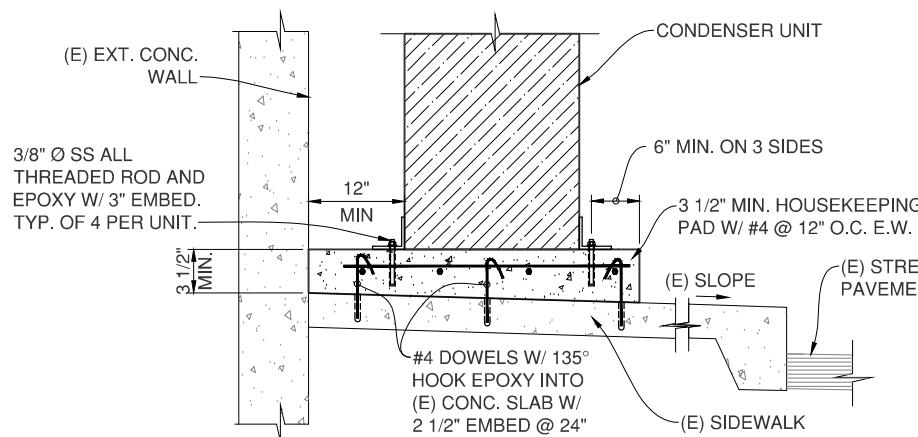
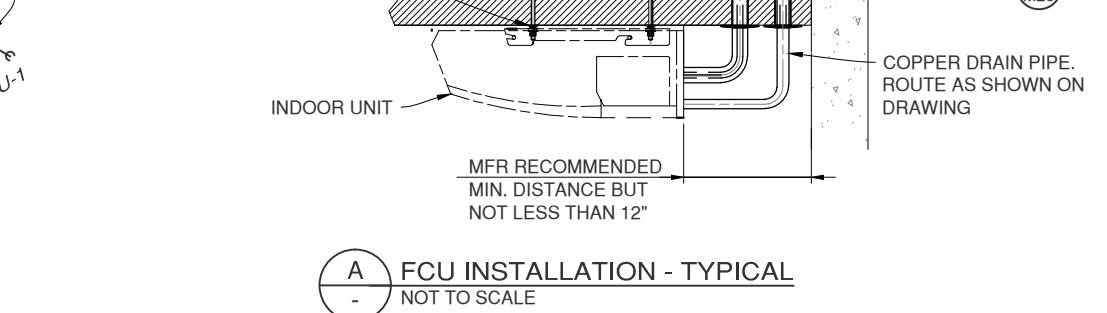
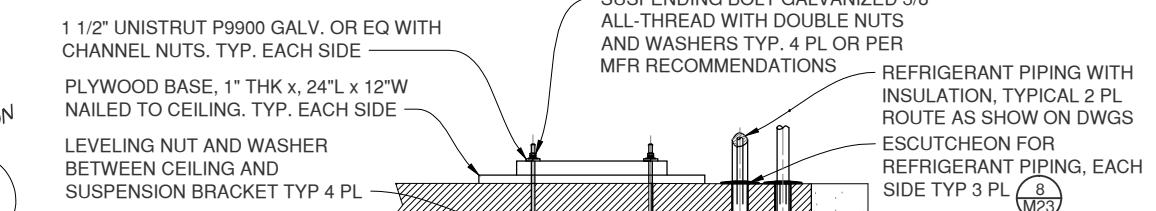
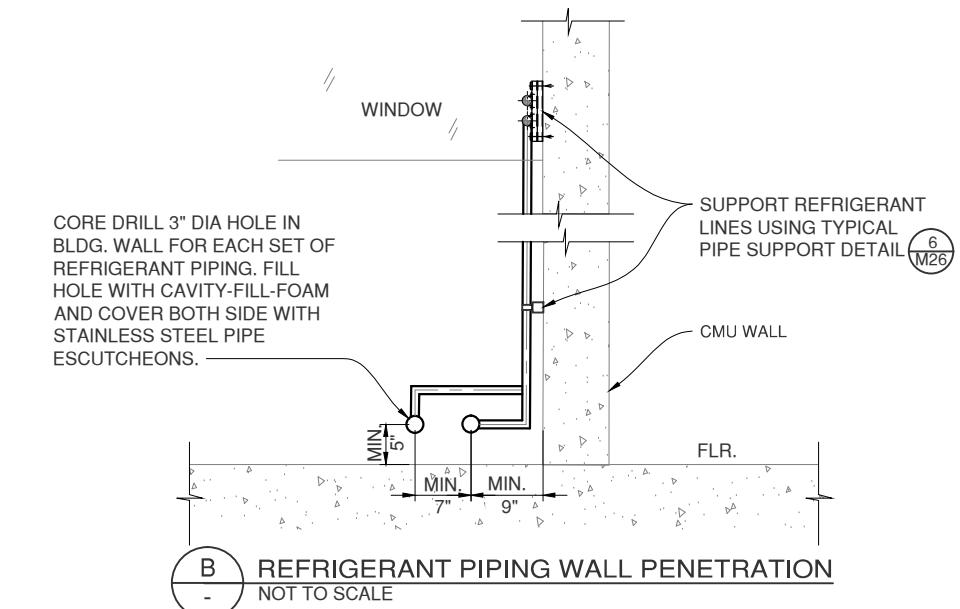


KEY NOTES:

- 1 SEE M19 FOR EQUIPMENT SCHEDULE.
- 2 (N) THERMOSTAT CONTROLS INDIVIDUAL FCU. SEE M19 FOR EQUIPMENT SCHEDULE.
- 3 LOCATE AND INSTALL EACH CONDENSING UNIT ON (N) EQUIPMENT PAD SHOWN ON DETAIL C.
- 4 PIPE CEILING PENETRATIONS PER 8 M23.
- 5 48 HOURS BEFORE BEGINNING WORK INSIDE THE SWITCH ROOM, THE CONTRACTOR MUST CONTACT INTELLI-TECH (925)484-3701, TO TURN OFF THE FIRE SUPPRESSION SYSTEM AT THE BEGINNING OF EACH DAY OF WORK INSIDE THE SWITCH ROOM AND RETURN AT THE END OF THE SAME DAY TO TURN THE SYSTEM BACK ON.

LEGEND:

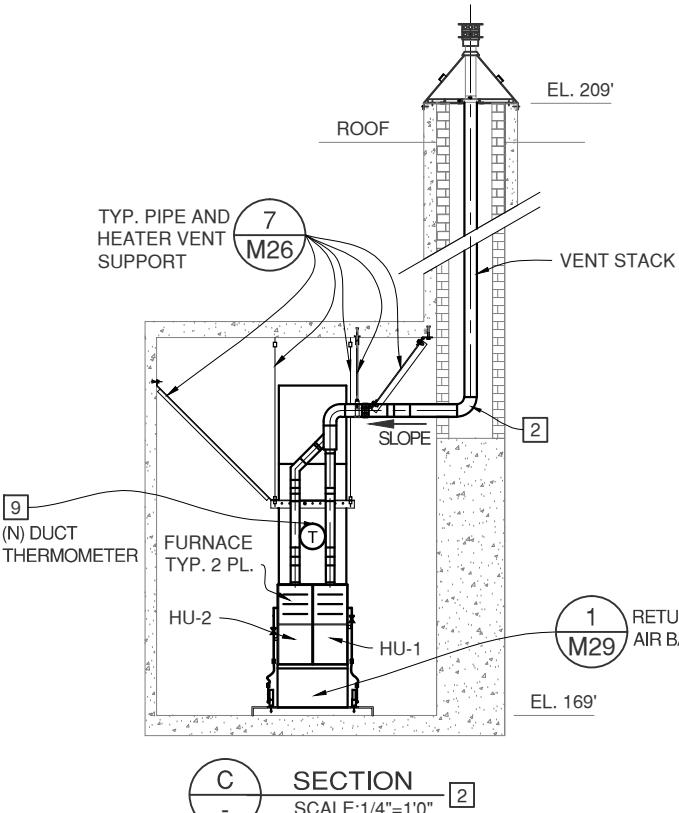
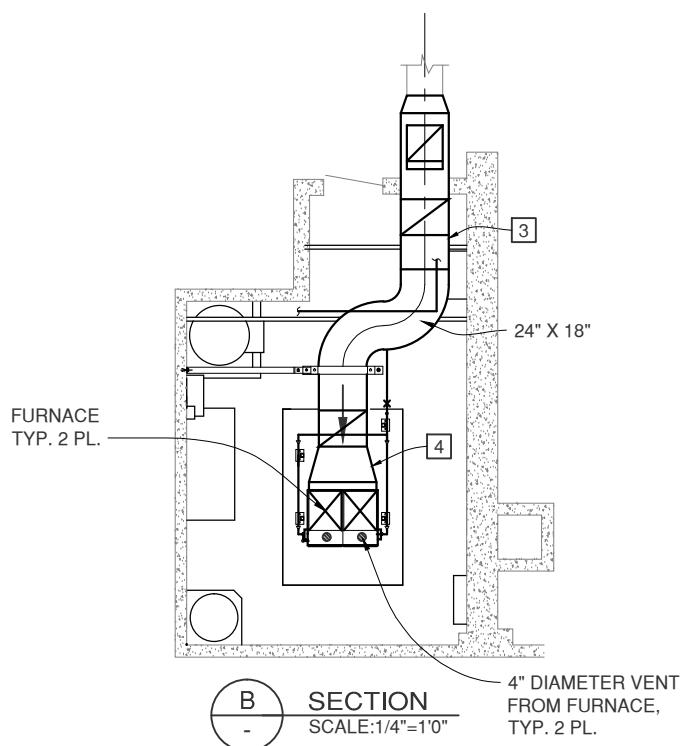
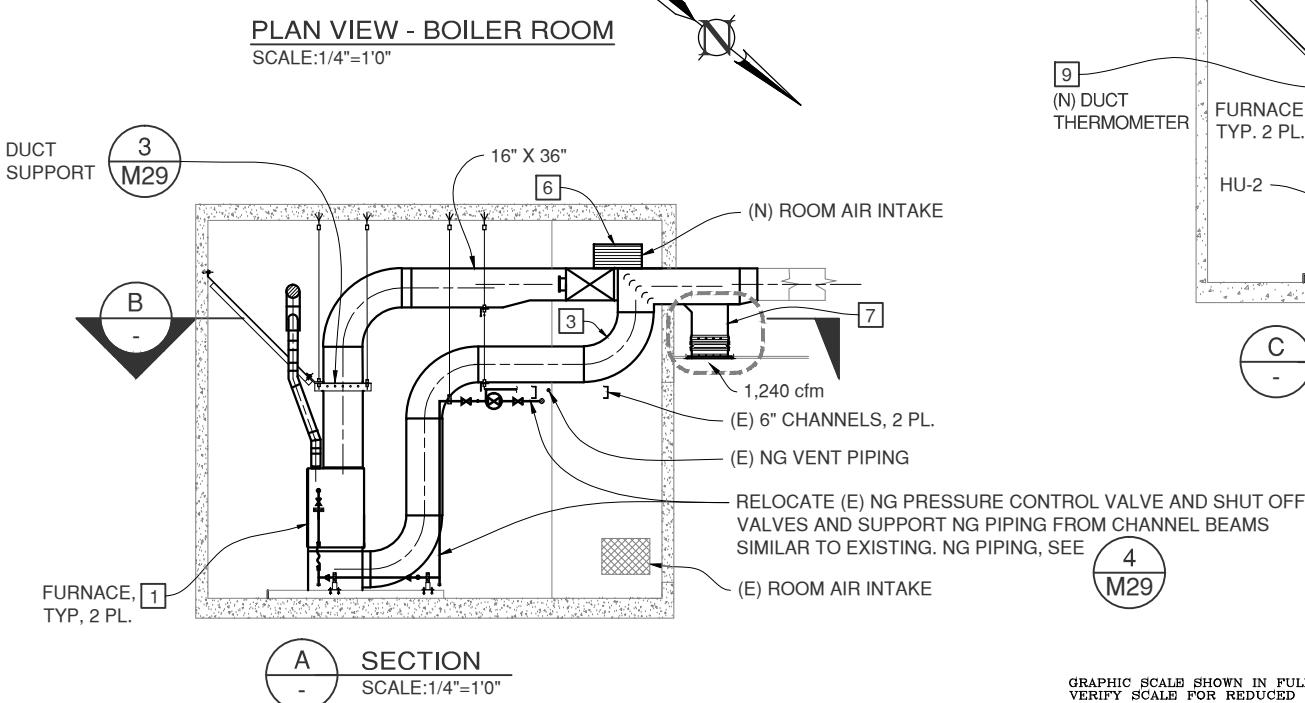
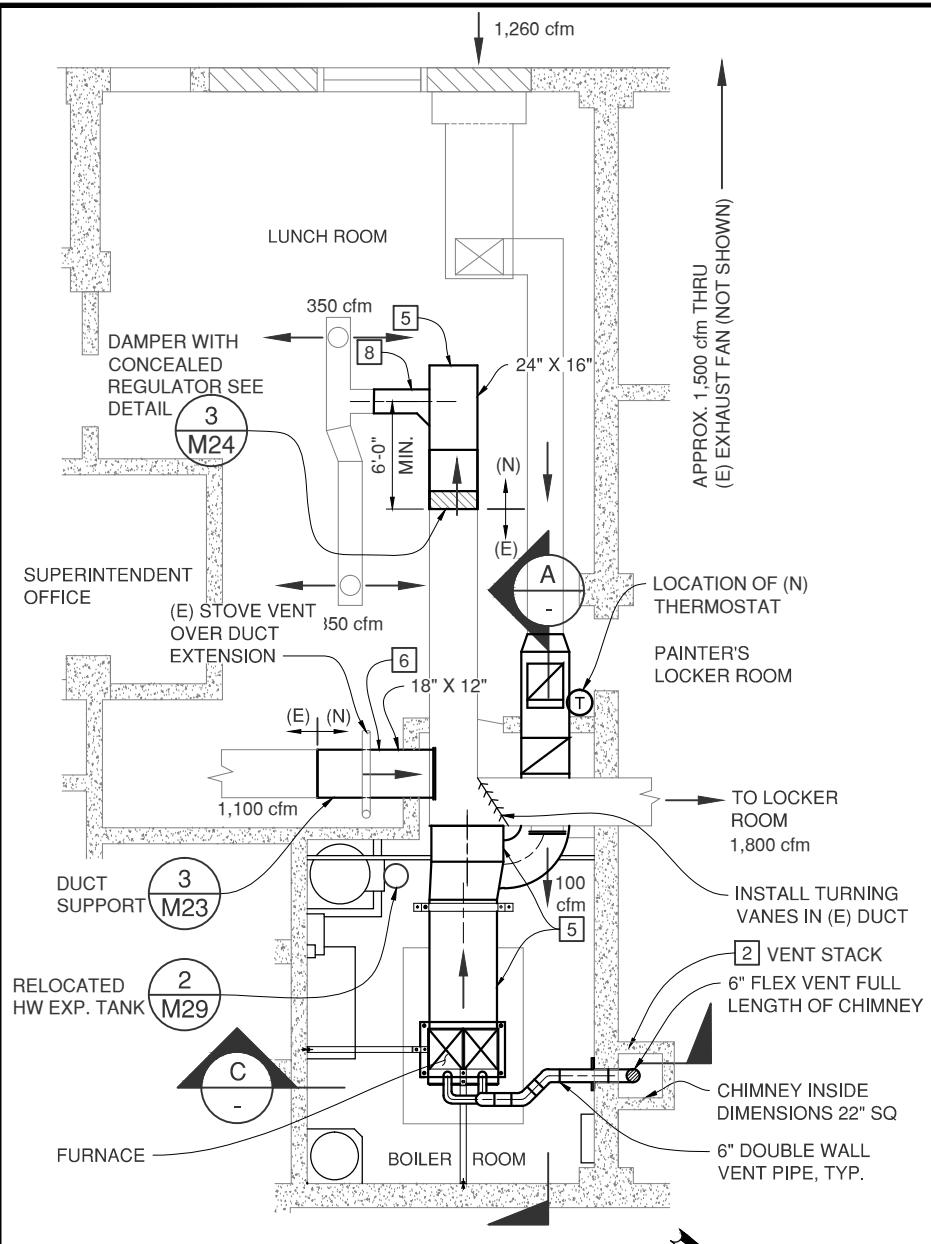
(E)	EXISTING
(N)	NEW
↑	COOLING FLOW
(T1)	THERMOSTAT



APPROVED BY H. FURNACE REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19		APPROVED BY A.Z. BAUER REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19		PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
PROJECT ENGINEER H. FURNACE M17611 Ex. 3/31/18		PROJECT ENGINEER A.Z. BAUER M17611 Ex. 3/31/19		SHEET TITLE SWITCH ROOM MECHANICAL EQUIPMENT PLAN	
NO.	REVISIONS	BY	DATE	DWG NO.	DATE
CONTRACT NO.	2017-B-12			M16	03/14/2017
CADD FILE:	17B12A031.DWG			SCALE: AS NOTED	DATE: MARCH 14, 2017

ISSUED FOR BID





NOTES:

- ALL WORK IN THE LUNCH ROOM AND LOCKER ROOM SHALL BE DONE IN A CLEAN AND WORKMANLIKE MANNER WITH MINIMUM INCONVENIENCE OR DISTURBANCE TO THESE ROOMS. THE CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, APPLIANCES, LOCKERS, AND EMPLOYEE PERSONAL ITEMS FROM DAMAGE OR EXPOSURE TO DUST AND DEBRIS BY ISOLATING THESE AREAS USING TEMPORARY PARTITIONS, TARPS, COVERS, ETC. IN ORDER TO KEEP THE CONSTRUCTION DUST AND DEBRIS WITHIN CONSTRUCTION AREA. SEE PROJECT SPECIFICATIONS FOR CONTRACTOR WORKING HOURS AND SECURITY.
- DRAWING SCALE OF ROOM, EQUIPMENT, AND DUCTWORK APPROXIMATE. CONTRACTOR IS NOT TO BASE WORK ON SCALING DRAWINGS BUT SHALL FIRST VERIFY ALL DIMENSIONS BEFORE BEGINNING WORK. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY INTERFERENCE OR CONFLICT WITH EXISTING AND NEW EQUIPMENT AND/OR STRUCTURES BEFORE PROCEEDING.
- CONTRACTOR SHALL PROVIDE ALL DIFFUSERS, GRILLES, DUCTWORK, DAMPERS, HANGERS AND SUPPORTS PLUS THEIR ATTACHMENTS TO EXISTING DUCTWORK AND STRUCTURES AS SHOWN OR REQUIRED FOR A COMPLETE SYSTEM.
- ALL NEW DUCTWORK SHALL BE GALVANIZED SHEET STEEL DESIGNED, FABRICATED, INSTALLED, AND SUPPORTED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS MEETING 2-IN PRESSURE CLASS AND SUPPORTED PER THE SMACNA SEISMIC RESTRAINT MANUAL.
- ALL DUCT DIMENSIONS SHOWN ON THE PLANS ARE INSIDE, DUCT DIMENSIONS. CONTRACTOR TO VERIFY THESE DIMENSIONS BEFORE PROCEEDING WITH ANY MODIFICATIONS TO EXISTING DUCTWORK. ALL NEW RETURN AIR AND SUPPLY AIR DUCTWORK SHALL BE LINED WITH 1" THICK FIBERGLASS INSULATION FULL LENGTH OF NEW DUCT. INSULATION SHALL BE PER PROJECT SPECIFICATIONS.
- ALL DUCT ELBOWS ARE TO HAVE AN INSIDE RADIUS EQUAL TO THE DUCT WIDTH OR GREATER.
- CONTRACTOR SHALL PROVIDE AND INSTALL NEW THERMOSTAT, THERMOSTAT WIRING, AND CONNECT TO BOTH FURNACES IN TWIN CONFIGURATION. CONTRACTOR SHALL VERIFY THERMOSTAT/FURNACE FUNCTION PER MANUFACTURER REQUIREMENTS.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT TO BALANCE THE SYSTEM IN ACCORDANCE WITH THE AIR QUANTITIES SHOWN ON THE DRAWINGS.
- PIPING FOR NATURAL GAS SHALL BE SCHEDULE ASTM A53, GRADE B STEEL WITH MALLEABLE IRON FITTINGS PER CALIF. MECHANICAL CODE. GAS SHUT OFF VALVES SHALL BE BALL VALVES RATED FOR NATURAL GAS SERVICE WITH MIN. 600 PSI RATING.
- THE CONTRACTOR SHALL SUPPORT ALL PIPING IN A NEAT AND ORDERLY MANNER. THE USE OF WIRE AND METAL STRAPS TO SUPPORT PIPES IS PROHIBITED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FT FOR ALL METAL PIPING UNLESS INDICATED OTHERWISE ON THE PLANS. PLASTIC PIPE SUPPORTS FOR SHALL NOT EXCEED 4 FT SPACING.
- CONTRACTOR SHALL PRESSURE TEST ALL PIPING AT NORMAL SYSTEM PRESSURE PER TEST PROCEDURES IN PROJECT SPECIFICATIONS. NO LEAKS WILL BE ALLOWED.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY PERMANENT CAPS OR PLUGS FOR PIPING. NO PIPING SHALL BE LEFT OPEN-ENDED.

KEY NOTES:

- INSTALL NEW BOTH FURNACES IN TWIN CONFIGURATION PER MANUFACTURER'S INSTRUCTIONS. SEE EQUIPMENT SCHEDULE, DWG M19.
- ROUTE EXHAUST VENT TO EXISTING CHIMNEY AND CONNECT TO NEW VERTICAL FLEX RISER IN EXISTING CHIMNEY. VERTICAL EXHAUST VENT DETAILS SHOWN IN SECTION A M27. INSTALLATION SHALL MEET THE REQUIREMENTS OF THE CALIF. MECHANICAL CODE.
- FABRICATE AND INSTALL NEW DUCT AS SHOWN AND ATTACH TO EXISTING DUCT AS SHOWN.
- FABRICATE AND INSTALL TRANSITION ELBOW AS SHOWN.
- FABRICATE AND INSTALL NEW SUPPLY DUCT AS SHOWN AND CONNECT TO EXISTING SUPPLY DUCT.
- FABRICATE AND INSTALL NEW DUCT EXTENSION TO EXISTING DUCT AS SHOWN. DUCT SIZE TO MATCH EXISTING. ATTACH TO ROOM WALL WITH SUPPLY GRILLE AS SHOWN IN DETAIL 1 M24 2 M24
- FABRICATE AND INSTALL RETURN DUCT WITH RETURN GRILLE AS SHOWN IN DETAIL 1 M24 2 M24
- FABRICATE AND INSTALL CONNECTION TO EXISTING LUNCH ROOM DIFFUSER. DUCTWORK TO MATCH EXISTING.
- INSTALL ONE WARM AIR THERMOMETER IN DUCT 12" ABOVE COMMON DUCT JOINT. SEE PROJECT SPECIFICATION FOR THERMOMETER DESCRIPTION.

ISSUED FOR BID

APPROVED BY
H. H. FURNACE
REGISTERED PROFESSIONAL ENGINEER
MECHANICAL
STATE OF CALIFORNIA
No. C43632
Exp. 3/31/19

PROJECT ENGINEER
03/14/2017
DATE

APPROVED BY
A. Z. BAUER
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
No. C43632
Exp. 3/31/19

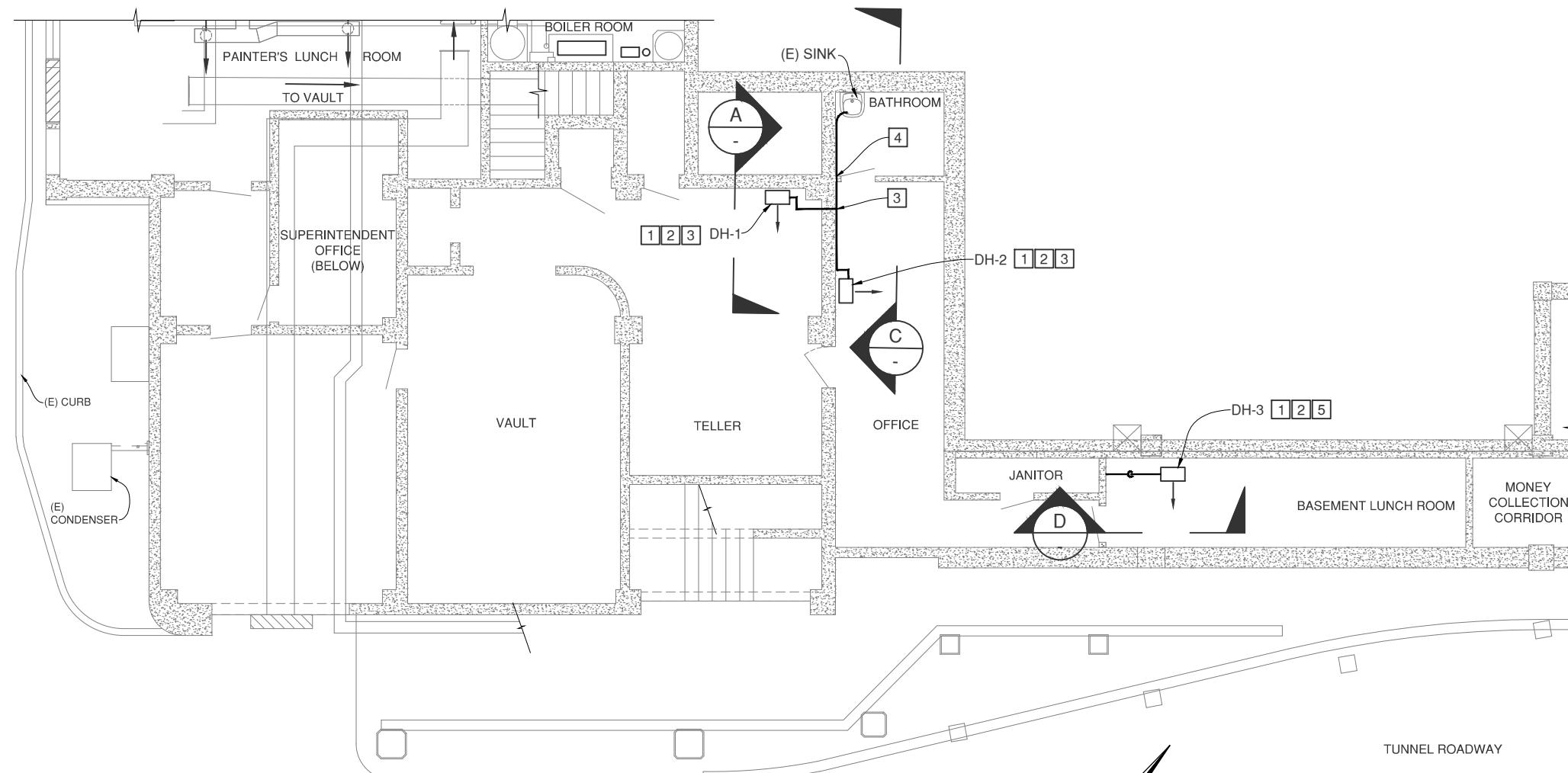
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**PAINTER'S LUNCH & LOCKER ROOM
HEATER INSTALLATION**

SCALE: AS NOTED



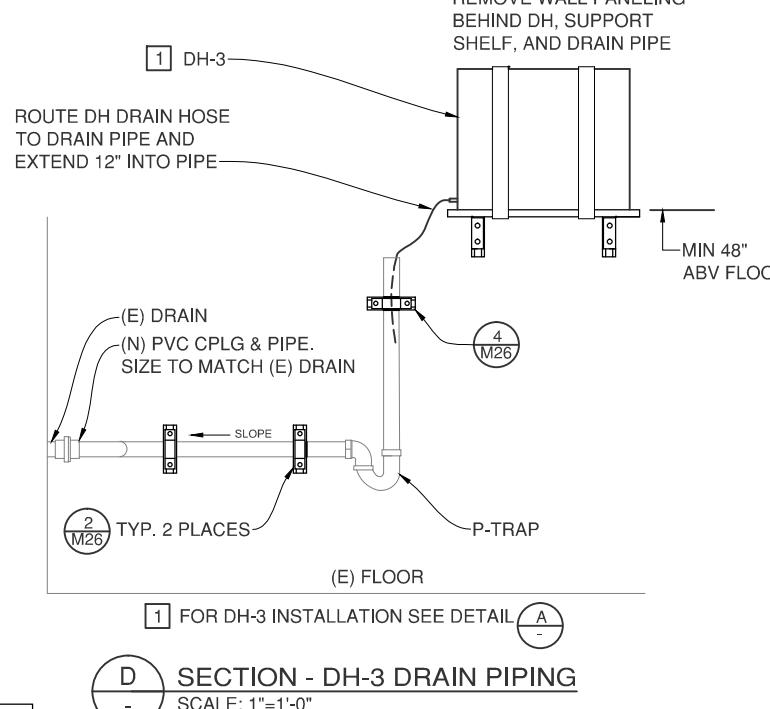


KEY NOTES:

- 1 PROVIDE AND INSTALL THREE DEHUMIDIFIERS WHERE SHOWN AS DESCRIBED IN EQUIPMENT SCHEDULES, DWG M21.
- 2 REMOVE WALL SIDING/COVERING AND INSTALL WALL SHELF SHOWN IN SECTION A. MOUNT DEHUMIDIFIERS ON SHELVES.
- 3 CORE DRILL HOLE IN WALL AND ROUTE DRAIN HOSE FROM DH-1 TO OFFICE AREA, HOLE DIAMETER TO BE MINIMUM. TEE DRAIN HOSES FROM BOTH UNITS TOGETHER AND CONNECT TO 1/2" PVC PIPE. ROUTE 1/2" PVC PIPE TO (E) SINK. SUPPORT PVC PIPE WITH PIPE SUPPORT WALL CLIPS EVERY 4 FT. DRAIN PIPE IS TO HAVE CONTINUOUS DOWN SLOPE TO (E) SINK AS SHOWN IN PIPING ISO DETAIL C.
- 4 CORE DRILL 1" DIAMETER IN WALL NEXT TO DOOR FOR DRAIN PIPE.
- 5 CONNECT DRAIN FROM DH-3 AS SHOWN IN DETAIL D.

BILL OF MATERIAL - ONE SHELF		
NO.	ITEM	QTY
①	DEHUMIDIFIER. SEE EQUIPMENT SCHEDULE	2
②	CINCHING STRAP. POLYPROPYLENE WEBBING AND FEED-THRU BUCKLE. CUT TO LENGTH.	2
③	1" X 14" X 24" PLYWOOD, GRADE A, SANDED BOTH SIDES, EDGES ROUNDED AND SMOOTH	1
④	5/16" X 2" LONG COUNTERSUNK BOLT WITH NUT AND WASHER. GALVANIZED STEEL.	4
⑤	SHELF BRACKET, UNISTRUT P2495 R-L, 12 GA STEEL, OR EQUAL	2
⑥	3/8" X 1 1/4" LONG CHANNEL STUD WITH SRING, WASHER AND NUT. GALVANIZED STEEL.	2
⑦	1/2" HILTI KWIK BOLT 3 OR EQUAL, GALVANIZED STEEL WITH MINIMUM 4" EMBEDDED DEPTH.	4
⑧	P1000 UNISTRUT CHANNEL, 12 GA, GALVANIZED STEEL, OR EQUAL. 12" LONG.	2

NOTES:
1. TYPICAL FOR DH-1, DH-2 AND DH-3.

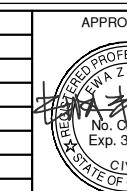


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APPROVED BY
H. H. FURNACE
M17611
Exp. 3/31/18
MECHANICAL
STATE OF CALIFORNIA

PROJECT ENGINEER
03/14/2017
DATE



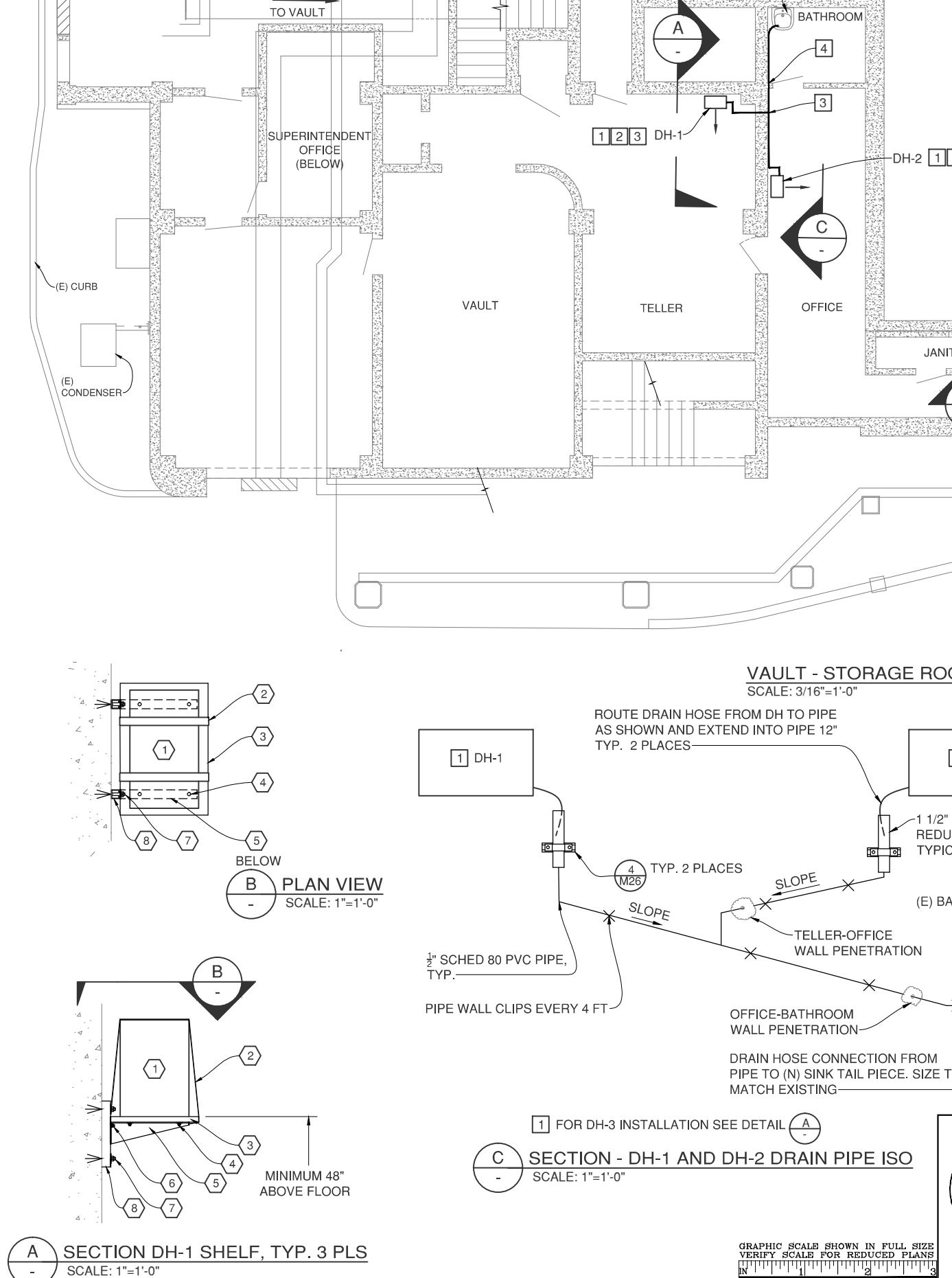
APPROVED BY
J. A. Z. BAUER
No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**BASEMENT VAULT AND OFFICE SPACES
DEHUMIDIFIER INSTALLATION**

SCALE: AS NOTED
DATE: MARCH 14, 2017



ROOFTOP AIR HANDLING UNIT SCHEDULE

EQUIP. NO.	SERVICE	SUPPLY AIR, CFM	E.S.P., IN W.G.	NOMINAL FAN MOTOR SPEEDS	COOLING, NOM. TONS				HEATING (NOTE 1)					EER @ AHRI CONDITIONS	FILTERS	ELECTRICAL				UNIT NET WEIGHT, LBS	MANUFACTURER & MODEL	OPTIONS AND ACCESSORIES	APPLIC-ABLE NOTES		
			(NOTE 3)	RPM	OUTSIDE AIR TEMP. DB/WB, F	REFRIGERANT	TOTAL HEAT, MBH	SENSIBLE HEAT, MBH	NOM. TONS	OUTSIDE AIR TEMP DB, F	GAS, CFH	MBH, INPUT	MBH, OUTPUT	AIT TEMP RISE, F		(NOTE 3)	V-PH-HZ	MCA	MOCP	SYS. POWER, KW	FAN HP				
AC-1	2nd FLOOR - BOARD ROOM	2400	1.7	VARIABLE	74/63	R410A	92	63.3	7.5	39	153/107	150/105	120/84	20-50	12.6	(4) 20x25x2	460-3-60	19.9	25	7.06	3.75	1100	TRANE. MODEL YHC 092	DNFLOW. HIGH EFFICIENCY. DUAL COMPRESSORS, VARIABLE SPEED INDOOR AIR FAN. 2- STAGE HEATER. MOTORIZED ECONOMIZER WITH INTEGRATED CONTROL. BAROMETRIC DAMPER. FACTORY INSTALLED SMOKE DETECTOR IN SUPPLY AIR SIDE OF UNIT. SEE PROJECT SPECIFICATION FOR DETAILS.	1, 2, 3, 4
AC-2	1st FLOOR - LOBBY, AUDITING (3), AND CORRIDOR	2860	1.8	VARIABLE	74/63	R410A	92	63.3	7.5	39	153/107	150/105	120/84	20-50	12.6	(4) 20x25x2	460-3-60	19.9	25	7.06	3.75	1100	TRANE. MODEL YHC 092	DNFLOW. HIGH EFFICIENCY. DUAL COMPRESSORS, VARIABLE SPEED INDOOR AIR FAN. 2- STAGE HEATER. MOTORIZED ECONOMIZER WITH INTEGRATED CONTROL. BAROMETRIC DAMPER. FACTORY INSTALLED SMOKE DETECTOR IN SUPPLY AIR SIDE OF UNIT. SEE PROJECT SPECIFICATION FOR DETAILS.	1, 2, 3, 4
AC-3	1st FLOOR - AUDITING (2), DISTRICT SECRETARY (2), AND PAYROLL	3210	1.7	VARIABLE	74/63	R410A	92	63.3	7.5	39	153/107	150/105	120/84	20-50	12.6	(4) 20x25x2	460-3-60	19.9	25	7.06	3.75	1100	TRANE. MODEL YHC 092	DNFLOW. HIGH EFFICIENCY. DUAL COMPRESSORS, VARIABLE SPEED INDOOR AIR FAN. 2- STAGE HEATER. MOTORIZED ECONOMIZER WITH INTEGRATED CONTROL. BAROMETRIC DAMPER. FACTORY INSTALLED SMOKE DETECTOR IN SUPPLY AIR SIDE OF UNIT. SEE PROJECT SPECIFICATION FOR DETAILS.	1, 2, 3, 4
AC-4	2 nd FLOOR - ENGINEERING, DISTRICT MGR SECRETARY, COMMITTEE ROOM, AND CORRIDOR	3310	1.7	VARIABLE	74/63	R410A	116	87	10	39	153/107	150/105	120/84	20-50	12.5	(3) 20x25x2 & (2) 20x30x2	460-3-60	22.1	30	9.11	3.75	1300	TRANE. MODEL YHC 120	DNFLOW. HIGH EFFICIENCY. DUAL COMPRESSORS, VARIABLE SPEED INDOOR AIR FAN. 2- STAGE HEATER. MOTORIZED ECONOMIZER WITH INTEGRATED CONTROL. BAROMETRIC DAMPER. FACTORY INSTALLED SMOKE DETECTOR IN SUPPLY AIR SIDE OF UNIT. SEE PROJECT SPECIFICATION FOR DETAILS.	1, 2, 3, 4
AC-5	1st FLOOR - BRIDGE CAPT., ADMIN/SECURITY OFF., SERGEANTS OFF., CONTROL RM., LUNCH RM., TOLL FORCE LOCKER RMS., BRIDGE SERV. CREW	3700	2.0	VARIABLE	74/63	R410A	116	87	10	39	153/107	150/105	120/84	20-50	12.5	(3) 20x25x2 & (2) 20x30x2	460-3-60	22.1	30	9.11	3.75	1300	TRANE. MODEL YHC 120	DNFLOW. HIGH EFFICIENCY. DUAL COMPRESSORS, VARIABLE SPEED INDOOR AIR FAN. 2- STAGE HEATER. MOTORIZED ECONOMIZER WITH INTEGRATED CONTROL. BAROMETRIC DAMPER. FACTORY INSTALLED SMOKE DETECTOR IN SUPPLY AIR SIDE OF UNIT. SEE PROJECT SPECIFICATION FOR DETAILS.	1, 2, 3, 4
AC-6	2nd FLOOR - GENERAL MGR, SECRETARY, ENGINEERING, DISTRICT ENGINEER	3165	1.3	VARIABLE	74/63	R410A	92	63.3	7.5	39	153/107	150/105	120/84	20-50	12.6	(4) 20x25x2	460-3-60	19.9	25	7.06	3.75	1100	TRANE. MODEL YHC 092	DNFLOW. HIGH EFFICIENCY. DUAL COMPRESSORS, VARIABLE SPEED INDOOR AIR FAN. 2- STAGE HEATER. MOTORIZED ECONOMIZER WITH INTEGRATED CONTROL. BAROMETRIC DAMPER. FACTORY INSTALLED SMOKE DETECTOR IN SUPPLY AIR SIDE OF UNIT. SEE PROJECT SPECIFICATION FOR DETAILS.	1, 2, 3, 4

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| 1 | EACH UNIT SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A. |
| 2 | 7 1/2 TON UNITS HAVE TWO STAGE (MEDIUM) HEATERS WHERE FIRST VALUE SHOWN IS HIGH HEAT AND SECOND VALUE LOW HEAT. 10 TON UNITS HAVE TWO STAGE (LOW) HEATERS WHERE FIRST VALUE SHOWN IS HIGH HEAT AND SECOND VALUE SHOWN IS LOW HEAT. |
| 3 | ESP INCLUDES PRESSURE DROP ACROSS 2" MERV 13 FILTERS, AND THRU 100% OUTSIDE AIR LOW LEAK, DOWNFLOW ECONOMIZER. MFR TO SIZE SUPPLY AIR FAN TO MEET SCHEDULED ESP PLUS ANY OTHER LOSSES THRU THE AC UNIT. |
| 4 | SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS, INCLUDING CONTROL SYSTEM DESCRIPTION. |

HEATING UNIT SCHEDULE

HEATING UNIT SCHEDULE																	
EQUIPMENT NO.	SERVICE	LOCATION	SUPPLY FAN				HEATING COIL			FILTERS	ELECTRICAL			MANUFACTURER & MODEL	OPTIONS AND ACCESSORIES		APPLICABLE
			CFM	E.S.P., IN W.G.	FAN RPM	HP	GAS, CFH	MBH, INPUT	MBH, OUTPUT		V-PH-HZ	FLA	MOCP			NOTES	
HU-1	VENTILATION AND HEATING OF PAINTERS LUNCH ROOM AND LOCKER ROOM.	BOILER ROOM	1250	0.9	MULTI-SPEED	1/3	80	80	63	HIGH-VELOCITY TYPE REPLACEABLE	115-1-60	8.9	15	TRANE UPFLOW GAS-FIRED, 2-STAGE, FAN-ASSISTED COMBUSTION SYS. MODEL NO. TUD2B 080A 9482A	NATURAL GAS FIRED, CATEGORY I GAS APPLIANCE INSTALLED IN TWIN CONFIGURATION; ALUMINIZED STEEL HEAT EXCHANGER WITH 2-STAGE GAS VALVE AND HOT-SURFACE IGNITION; 2-STAGE, MULTI-SPEED BLOWER; 2-STAGE VENT FAN; BOTTOM FILTER RACK FOR HIGH-VELOCITY TYPE FILTER.	1, 2, 3	
HU-2	VENTILATION AND HEATING OF PAINTERS LUNCH ROOM AND LOCKER ROOM.	BOILER ROOM	1250	0.9	MULTI-SPEED	1/3	80	80	63	HIGH-VELOCITY TYPE REPLACEABLE	115-1-60	8.9	15	TRANE UPFLOW GAS-FIRED, 2-STAGE, FAN-ASSISTED COMBUSTION SYS. MODEL NO. TUD2B 080A 9482A	NATURAL GAS FIRED, CATEGORY I GAS APPLIANCE INSTALLED IN TWIN CONFIGURATION; ALUMINIZED STEEL HEAT EXCHANGER WITH 2-STAGE GAS VALVE AND HOT-SURFACE IGNITION; 2-STAGE, MULTI-SPEED BLOWER; 2-STAGE VENT FAN; BOTTOM FILTER RACK FOR HIGH-VELOCITY TYPE FILTER.	1, 2, 3	

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| 1 | EACH UNIT SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A. |
| 2 | SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS. |
| 3 | F.S.P. DOES NOT INCLUDE INTERNAL LOSSES INSIDE THE HEATING UNIT NOR FILTER LOSSES. MERIT TO ADD THESE LOSSES TO SPECIFIED F.S.P. IN ORDER TO SIZE BLOWER AND BLOWER MOTOR. |

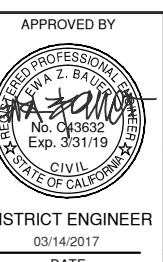
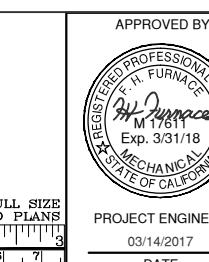
DUCTLESS SPLIT AIR CONDITIONING SYSTEM SCHEDULE

EQUIPMENT NO.	SERVICE	LOCATION	COOLING CAPACITY, BTU/HR	CFM, MAX	REFRIGERANT PIPING			ELECTRICAL			MANUFACTURER & MODEL	OPTIONS AND ACCESSORIES	APPLICABLE NOTES
					REFRIGERANT	LIQUID, IN	SUCTION, IN	V-PH-HZ	FLA	MOCP			
FCU-1	SWITCH ROOM COOLING	SOUTH-EAST CORNER SWITCH RM	2340	670	R410A	5/8	3/8	208/230-1-60	0.54	--	MITSUBISHI - PCA-A24 KA6	WIRELESS WALL-MOUNTED REMOTE CONTROLLER	1, 2, 3
CU-1	CONDENSING UNIT FOR FCU-1	OUTSIDE, OPPOSITE ELEV. EQUIPM RM.	--	1940	R410A	5/8	3/8	208/230-1-60	0.75	30	MITSUBISHI - PUY-A24 NHA6 BS	3-POLE DISCONNECT SWITCH, MOUNTING BASE, DRAIN PAN WITH DRAIN SOCKET	1, 2
FCU-2	SWITCH ROOM COOLING	NORTH-WEST CORNER SWITCH RM	2340	670	R410A	5/8	3/8	208/230-1-60	0.54	--	MITSUBISHI - PCA-A24 KA6	WIRELESS WALL-MOUNTED REMOTE CONTROLLER	1, 2, 3
CU-2	CONDENSING UNIT FOR FCU-2	OUTSIDE, OPPOSITE ELEV. EQUIPM RM.	--	1940	R410A	5/8	3/8	208/230-1-60	0.75	30	MITSUBISHI - PUY-A24 NHA6 BS	3-POLE DISCONNECT SWITCH, MOUNTING BASE, DRAIN PAN WITH DRAIN SOCKET	1, 2

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| 1 | EACH UNIT SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S. |
| 2 | SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS. |
| 3 | FC UNIT IS FED ELECTRICAL SUPPLY FROM CONDENSING UNIT. |

ISSUED FOR BID



PROJECT TITLE **GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE **EQUIPMENT SCHEDULES-1
ROOFTOP HANDLING UNIT, DUCTLESS
SPLIT AIR CONDITIONING SYSTEM &
HEATING UNIT**

SCALE: NOT TO SCALE DATE: MARCH 11, 2017



DAMPER SCHEDULE														
EQUIPMENT NO.	SERVICE	LOCATION	WIDTH	LENGTH	FRAME TYPE	FRAME THICKNESS	BLADE ACTION	ACTUATOR	FRAME MATERIAL	FRAME AND BLADE COATING	BLADE SEAL/JAMB SEAL MATERIAL	AXLE/LINKAGE/BEARING/JACKSHAFT MATERIAL	MANUFACTURER & MODEL	APPLICABLE NOTES
D-1	BLDG VENTILATION EXHAUST AIR	DISCHARGE DUCT BRANCH FROM 24X66 RETURN AIR DUCT IN SECOND FLOOR MECHANICAL ROOM	36"	60"	CHANNEL	0.125"	OPPOSED	ELECTRIC MOTOR - MODULATING WITH SPRING RETURN; FAIL IN CLOSED POSITION (SEE DAMPER MOTOR SCHEDULE)	ALUMINUM	EPOXY	TPE/304 SS	ALL 304 SS	GREENHECK LOW LEAKAGE DAMPER, MODEL VCD-43 OR EQUAL	1, 2, 3, 4
D-2	ROOMS 111 AND 113 SUPPLY AIR BALANCING	FIRST FLR CEILING IN ROOM 111	16"	15"	FLANGE	18 GA	NON-OPPOSED	MANUAL QUADRANT	GALVANIZED STEEL	GALVANIZED STEEL	VENDOR STANDARD	STEEL	GREENHECK MANUAL BALANCING DAMPER MBD-15	1, 4, 5, 6, 7
D-3	ROOMS 102 AND 104 SUPPLY AIR BALANCING	FIRST FLR CEILING IN ROOM 108	12"	10"	FLANGE	18 GA	NON-OPPOSED	MANUAL QUADRANT	GALVANIZED STEEL	GALVANIZED STEEL	VENDOR STANDARD	STEEL	GREENHECK MANUAL BALANCING DAMPER MBD-15	1, 4, 5, 6, 7

NOTES:

- 1 EACH UNIT SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A.
 2 ACTUATOR DRIVE ARRANGEMENT SHALL BE DRIVE-CC-11-1FIL-0. DAMPER MANUFACTURER SHALL BE RESPONSIBLE FOR MOUNTING DAMPER ACTUATOR AND TESTING DAMPER AND ACTUATOR AS A UNIT.
 3 DAMPER COATING SHALL BE EPOXY. COLOR WHITE.
 4 SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS.
 5 DAMPER BEARINGS SHALL BE BRONZE
 6 CONTRACTOR SHALL CONSTRUCT SHEET METAL TRANSITIONS TO CONNECTING DUCTWORK PER SMACNA STANDARDS. TRANSITIONS SHALL BE CONSTRUCTED TO HAVE MINIMUM PRESSURE DROP AND SEALED AGAINST LEAKAGE.
 7 DAMPER DUCTWORK TRANSITIONS SHALL BE INSULATED SIMILAR TO (E) DUCTWORK.

DAMPER ACTUATOR SCHEDULE												
EQUIPMENT NO.	SERVICE	LOCATION	TYPE	OPERATING MODE	ACTUATOR OPERATION	FAIL POSITION	INPUT CONTROL SIGNAL	POSITION FEEDBACK SIGNAL	MINIMUM TORQUE	MOUNTING	MANUFACTURER & MODEL	APPLICABLE NOTES
DA-1	BLDG VENTILATION EXHAUST AIR DAMPER CONTROL	DISCHARGE DUCT BRANCH FROM 24X66 RETURN AIR DUCT IN SECOND FLOOR MECHANICAL ROOM	DC BRUSHLESS MOTOR	MODULATING	SPRING RETURN	CLOSED	4-20 ma	10 VDC	PER DAMPER MFR	INTERNAL, LEFT SIDE	BELIMO NFB24-SR	1, 2, 3

NOTES:

- 1 EACH UNIT SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A.
 2 ACTUATOR DRIVE ARRANGEMENT SHALL BE DRIVE-CC-11-1FIL-0, SEE DAMPER D-1 SCHEDULE, AND MOUNTED BY DAMPER MANUFACTURER.
 3 SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS.

LOUVER VENTILATOR SCHEDULE										
EQUIPMENT NO.	SERVICE	LOCATION	THROAT WIDTH	THROAT LENGTH	HEIGHT	MATERIAL	SCREEN	MANUFACTURER & MODEL	OPTIONS AND ACCESSORIES	APPLICABLE NOTES
L-1	ELEVATOR SHAFT VENTILATION	ROOF TOP, OVER ELEVATOR SHAFT	48"	72"	12"	ALUMINUM	BIRD	GREENHECK - LOUVERED PENT HOUSE MODEL WRH OR EQUAL	LOUVERED PENTHOUSE WITH MITERED CORNERS. MINIMUM THICKNESS OF LOUVER BLOADES 0.080". ALL CORNERS ARE TO BE REINFORCED. ALL FASTENERS ARE TO BE STAINLESS STEEL. ATTACH TO ROOF DECK USING ROOF CURB SHOWN ON DRAWING A10, DETAIL 3.	1, 2, 3, 4, 5
L-2	BLDG VENTILATION EXHAUST AIR	ROOF TOP, OVER SECOND FLOOR MECHANICAL ROOM	36"	60"	27.25"	ALUMINUM	BIRD	GREENHECK - LOUVERED PENT HOUSE MODEL WRH OR EQUAL	LOUVERED PENTHOUSE WITH MITERED CORNERS. MINIMUM THICKNESS OF LOUVER BLOADES 0.080". ALL CORNERS ARE TO BE REINFORCED. ALL FASTENERS ARE TO BE STAINLESS STEEL. ATTACH TO ROOF DECK USING ROOF CURB SHOWN ON DRAWING A10, DETAIL 3.	1, 2, 3, 4, 5

NOTES:

- 1 EACH UNIT SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A.
 2 NEW LOUVER TO MATCH THROAT DIMENSIONS OF EXISTING LOUVER. CONTRACTOR TO CONFIRM EXISTING LOUVER THROAT DIMENSION BEFORE ORDERING.
 3 REMOVABLE COVER WITH 1" FIBERGLASS INSULATION.
 4 COATING TO BE 3-COAT 70% KYNAR 500/HYLAR 5000 AAMA 2605, DFT 2.0 MILS. COLOR TO MATCH EXISTING, SEE PAINT SPECIFICATION.
 5 SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS.

ISSUED FOR BID

APPROVED BY  REGISTERED PROFESSIONAL ENGINEER M 17611 Exp. 3/31/18 MECHANICAL STATE OF CALIFORNIA		APPROVED BY  REGISTERED PROFESSIONAL ENGINEER No. C43632 Exp. 3/31/19 CIVIL STATE OF CALIFORNIA		PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
PROJECT ENGINEER 03/14/2017 DATE		DISTRICT ENGINEER 03/14/2017 DATE		SHEET TITLE EQUIPMENT SCHEDULES-2 LOUVER, DAMPER & DAMPER ACTUATOR	
NO. REVISIONS BY DATE CONTRACT NO. 2017-B-12 DWG NO. M20 CADD FILE: 17B12A035.DWG				SCALE: NOT TO SCALE DATE: MARCH 14, 2017	



VARIABLE AIR VOLUME (VAV) SCHEDULE																	
VAV NO.	NOMINAL CAPACITY	ROOMS SERVED	AC UNIT	MINIMUM STATIC PRESSURE AT INLET	INLET CONNECTION DIA (NOTES 1 & 2), IN	OUTLET DIMENSIONS (NOTES 1 & 3), IN	INSULATION	ELECTRIC REHEAT				MINIMUM AIR FLOW	CONTROLS DESCRIPTION (NOTE 6)				MANUFACTURER AND MODEL NO.
	CFM			IN, W.G.	IN	W	H	KW OF ELECTRIC COIL	V-PH-HZ	NO. HEATING STEPS	AIR TEMP RISE, DEG F	CFM	DESCRIPTION	ACTUATOR	ADDITIONAL CONTROLS		
VAV-1	1890	MAIN LOBBY AND 101 OFFICES	AC-2	0.60	12	24	14	NA				800	WIRELESS SPACE THERMOSTAT AND PRESSURE INDEPENDENT CONTROLLER	DDC 24 VAC, 60 Hz, WITH FLOATING POINT QTR TURN ACTUATOR WITH LINKAGE RELEASE BUTTON	FLOW TRACKING CONTROL WITH AIRFLOW SETPOINT CONTROL IN MASTER CONTROL PANEL	SEE NOTES 1-6	
VAV-3	510	114/116	AC-5	0.20	8	16	8	NA				200	WIRELESS SPACE THERMOSTAT AND PRESSURE INDEPENDENT CONTROLLER	DDC 24 VAC, 60 Hz, WITH FLOATING POINT QTR TURN ACTUATOR WITH LINKAGE RELEASE BUTTON	FLOW TRACKING CONTROL WITH AIRFLOW SETPOINT CONTROL IN MASTER CONTROL PANEL	SEE NOTES 1-6	
VAV-4	990	209 (COMMITTEE ROOM)	AC-4	0.25	10	16	9	NA				500	WIRELESS SPACE THERMOSTAT AND PRESSURE INDEPENDENT CONTROLLER	DDC 24 VAC, 60 Hz, WITH FLOATING POINT QTR TURN ACTUATOR WITH LINKAGE RELEASE BUTTON	FLOW TRACKING CONTROL WITH AIRFLOW SETPOINT CONTROL IN MASTER CONTROL PANEL	SEE NOTES 1-6	
VAV-5	1150	214/216	AC-6	0.25	10	20	12	NA				500	WIRELESS SPACE THERMOSTAT AND PRESSURE INDEPENDENT CONTROLLER	DDC 24 VAC, 60 Hz, WITH FLOATING POINT QTR TURN ACTUATOR WITH LINKAGE RELEASE BUTTON	FLOW TRACKING CONTROL WITH AIRFLOW SETPOINT CONTROL IN MASTER CONTROL PANEL	SEE NOTES 1-6	
VAV-6	860'	103/105	AC-3	0.12	8	18	10	NA				200	WIRELESS SPACE THERMOSTAT AND PRESSURE INDEPENDENT CONTROLLER	DDC 24 VAC, 60 Hz, WITH FLOATING POINT QTR TURN ACTUATOR WITH LINKAGE RELEASE BUTTON	FLOW TRACKING CONTROL WITH AIRFLOW SETPOINT CONTROL IN MASTER CONTROL PANEL	SEE NOTES 1-6	
VAV-7	330	204	AC-6	0.16	5	12	8	NA				100	WIRELESS SPACE THERMOSTAT AND PRESSURE INDEPENDENT CONTROLLER	DDC 24 VAC, 60 Hz, WITH FLOATING POINT QTR TURN ACTUATOR WITH LINKAGE RELEASE BUTTON	FLOW TRACKING CONTROL WITH AIRFLOW SETPOINT CONTROL IN MASTER CONTROL PANEL	SEE NOTES 1-6	

NOTES:

1. EACH ITEM SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A.
2. THE CONTRACTOR SHALL SURVEY AND FIELD VERIFY THE LOCATION AND CONNECTION REQUIREMENTS OF ALL (N) VAV'S TO (E) DUCTWORK ALONG WITH (E) ELECTRICAL POWER AND CONTROL WIRING BEFORE ORDERING EQUIPMENT.
3. IF A REDUCER FROM THE (E) INLET DUCT TO THE (N) VAV INLET IS REQUIRED, THE STRAIGHT RUN DISTANCE FROM DUCT REDUCER TO THE VAV INLET SHALL BE A MINIMUM OF THREE DUCT DIAMETERS. THE REDUCER SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL FIELD VERIFY SIZE OF (N) VAV OUTLET DUCT CONNECTIONS TO (E) DUCTWORK AND IF A NEW CONNECTOR IS REQUIRED, IT SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR ALONG WITH DUCT INSULATION.
5. ALL VAV'S SHALL HAVE A MINIMUM 1/2" MATTE-FACED TYPE INSULATION, FACTORY INSTALLED.
6. SEE PROJECT SPECIFICATIONS FOR VAV AND VAV CONTROL SYSTEM REQUIREMENTS.

DEHUMIDIFIER SCHEDULE														
EQUIPMENT NO.	SERVICE	LOCATION	AIR MOVEMENT	WATER REMOVAL	OPERATING TEMPERATURE RANGE	POWER	AMPS	INTERNAL CONDENSATE PUMP INCLUDED	DRAIN HOSE LENGTH	CONTROLS	MANUFACTURER & MODEL	OPTIONS AND ACCESSORIES		APPLICABLE NOTES
			CFM		OF				FT					
DH-1	DEHUMIDIFY VAULT AND BASEMENT STORAGE ROOMS	VAULT ROOM	180	75 PINTS PER DAY AT 800 F/60% RH	45 TO 100	115V/60 Hz	6.2 AMPS AT 800 F/60% RH	YES	20	ELECTRONIC WITH HUMIDISTAT AND AUTO-DEFROST	DRI-EAZ PHD 200 DEHUMIDIFIER	20-FT DRAIN HOSE FOR CONTINUOUS DRAINING WITH QUICK CONNECT FITTING; AIR FILTER; 6-FT DETACHABLE POWER CORD; LOW TEMPERATURE OPERATION DOWN TO 41°F; ENERGY STAR RATED; FAN OPERATION ONLY WHEN DEHUMIDIFYING; MAX NOISE LEVEL 60 Db; AUTO RESTART ON POWER FAILURE; REFRIGERANT TYPE R-410A.		1, 2
DH-2	DEHUMIDIFY VAULT AND BASEMENT STORAGE ROOMS	VAULT ROOM	180	75 PINTS PER DAY AT 800 F/60% RH	45 TO 100	115V/60 Hz	6.2 AMPS AT 800 F/60% RH	YES	20	ELECTRONIC WITH HUMIDISTAT AND AUTO-DEFROST	DRI-EAZ PHD 200 DEHUMIDIFIER	20-FT DRAIN HOSE FOR CONTINUOUS DRAINING WITH QUICK CONNECT FITTING; AIR FILTER; 6-FT DETACHABLE POWER CORD; LOW TEMPERATURE OPERATION DOWN TO 41°F; ENERGY STAR RATED; FAN OPERATION ONLY WHEN DEHUMIDIFYING; MAX NOISE LEVEL 60 Db; AUTO RESTART ON POWER FAILURE; REFRIGERANT TYPE R-410A.		1, 2
DH-3	DEHUMIDIFY VAULT AND BASEMENT STORAGE ROOMS	VAULT ROOM	180	75 PINTS PER DAY AT 800 F/60% RH	45 TO 100	115V/60 Hz	6.2 AMPS AT 800 F/60% RH	YES	20	ELECTRONIC WITH HUMIDISTAT AND AUTO-DEFROST	DRI-EAZ PHD 200 DEHUMIDIFIER	20-FT DRAIN HOSE FOR CONTINUOUS DRAINING WITH QUICK CONNECT FITTING; AIR FILTER; 6-FT DETACHABLE POWER CORD; LOW TEMPERATURE OPERATION DOWN TO 41°F; ENERGY STAR RATED; FAN OPERATION ONLY WHEN DEHUMIDIFYING; MAX NOISE LEVEL 60 Db; AUTO RESTART ON POWER FAILURE; REFRIGERANT TYPE R-410A.		1, 2

NOTES:

1. EACH ITEM SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A.
2. SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS.

ELECTRIC DUCT HEATER SCHEDULE															
EQUIPMENT NO.	SERVICE	LOCATION	DESIGN AIR FLOW	MINIMUM AIR FLOW	CAPACITY	NO. OF HEATING STEPS	ELECTRICAL (LINE),	EAT	LAT	DUCT SIZE	CONNECTION	SUPPORT	CONTROLS	MANUFACTURER AND MODEL NO.	OPTIONS AND ACCESSORIES
			CFM	CFM	KW		ELECTRICAL (LINE),	DEG F	DEG F	W, IN	H, IN				
EDH-1	WOMEN'S FIRST FLOOR TOILET	FIRST FLOOR CEILING	100	60	0.75	NA	120-1-60	55	75	12	6	FLANGED	SUSPENDED	TWO STAGE OUTPUT CONTROL AND AIR PRESSURE SWITCH	NAILOR INDUSTRIES, INC. HEATER MODEL NO. DRR WITH REMOTE PANEL MODEL NO. DRP.
EDH-2	BRIDGE SERVICE CREW (ROOM 122)	CEILING	320	175	3.50	NA	120-1-60	55	85	12	10	FLANGED	SUSPENDED	SCR TYPE VARIABLE OUTPUT CONTROL AND AIR PRESSURE SWITCH	NAILOR INDUSTRIES, INC. HEATER MODEL NO. DRR WITH REMOTE PANEL MODEL NO. DRP.

NOTES:

1. EACH ITEM SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A.
2. CONTRACTOR TO SURVEY DUCTWORK IN CEILING TO CONFIRM ACCESS AND VERIFY PROPER INSTALLATION BEFORE PROCEEDING.
3. EQUIPMENT SHALL BE INSTALLED WITH NAMEPLATE VISIBLE INDICATING THE EQUIPMENT MANUFACTURER, MODEL NO., ELECTRICAL REQUIREMENTS, AND SHORT CIRCUIT CURRENT RATING IN ACCORDANCE WITH UL REQUIREMENTS.
4. HEATER SHALL BE INSTALLED IN THE DUCT AND CONTROL PANEL SHALL BE INSTALLED REMOTELY AT THE WALL LOCATION INDICATED ON THE DRAWINGS.
5. THERMOSTAT FOR EDH-1 WILL BE INSTALLED IN DUCT, DOWNSTREAM OF THE HEATER IN ORDER TO MAINTAIN CONSTANT SUPPLY AIR TEMPERATURE OF 75 DEG F (ADJ).
6. THERMOSTAT FOR EDH-2 WILL BE INSTALLED IN THE ROOM WHERE SHOWN ON DRAWINGS IN ORDER TO MAINTAIN ROOM TEMPERATURE OF 75 DEG F (ADJ).
7. SEE PROJECT SPECIFICATIONS FOR EQUIPMENT DETAILS AND ACCESSORIES.

ISSUED FOR BID

APPROVED BY  H. FURNACE REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA No. C43632 Exp. 3/31/18	REVISIONS DATE 03/14/2017	BY DATE DWG NO. M21 DATE 03/14/2017	APPROVED BY  A. BAUER REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA No. C43632 Exp. 3/31/19 CIVIL	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
PROJECT ENGINEER 03/14/2017	CONTRACT NO. 2017-B-12	CADD FILE: 17B12A036.DWG	DISTRICT ENGINEER 03/14/2017	SHEET TITLE EQUIPMENT SCHEDULES-3 HUMIDIFIER, VAV & ELECTRIC DUCT HEATER
DATE			SCALE: NOT TO SCALE	DATE: MARCH 14, 2017


GOLDEN GATE BRIDGE
HIGHWAY & TRANSPORTATION DISTRICT

AIR BALANCE SCHEDULE - SUPPLY AIR

FIXTURE NO.	FIX. QTY.	ZONE	FLOWRATE		NECK SIZE	TYPE	LOCATION
			CFM EACH	CFM TOTAL			
1	1	1	290	290	12 X 12	REGISTER	CEILING
2	2	1	330	660	12 X 12	REGISTER	CEILING
3	1	6	460	460	12 X 12	REGISTER	CEILING
4	1	6	400	400	12 X 12	REGISTER	CEILING
5	3	11	250	750	12 X 12	REGISTER	CEILING
6	1	11	360	360	12 X 12	REGISTER	CEILING
7	1	11	420	420	12 X 12	REGISTER	CEILING
8	1	11	410	410	12 X 12	REGISTER	CEILING
9	2	13	215	430	12 X 12	REGISTER	CEILING
10	1	14	320	320	12 X 12	REGISTER	CEILING
11	1	13	140	140	6 X 6	REGISTER	CEILING
12	2	5	430	860	12 X 7	REGISTER	CEILING
13	2	13	660	1320	12 X 12	REGISTER	CEILING
14	2	13	70	140	6 X 6	REGISTER	CEILING
15	1	13	100	100	12 X 12	REGISTER	CEILING
16	3	10	200	600	14 X 6	REGISTER	CEILING
17	1	10	165	165	14 X 6	REGISTER	CEILING
18	1	10	205	205	12 X 12	REGISTER	CEILING
19	1	10	250	250	12 X 12	REGISTER	CEILING
20	1	11	410	410	12 X 10	REGISTER	CEILING
21	2	9	235	470	8 X 8	REGISTER	CEILING
22	2	16	320	640	12 X 12	REGISTER	CEILING
23	1	5	290	290	12 X 12	REGISTER	CEILING
24	2	12	365	730	12 X 12	REGISTER	CEILING
25	2	12	475	950	12 X 12	REGISTER	CEILING
26	3	4	330	990	12 X 12	REGISTER	CEILING
27	2	15	275	550	12 X 12	REGISTER	CEILING
28	2	15	205	410	12 X 12	REGISTER	CEILING
29	1	15	395	395	12 X 12	REGISTER	CEILING
30	1	15	330	330	12 X 12	REGISTER	CEILING
31	2	7	165	330	6 X 6	REGISTER	CEILING
32	1	1	220	220	24 X 8	REGISTER	WALL
33	2	1	235	470	20 X 8	REGISTER	WALL
34	2	13	205	410	12 X 12	REGISTER	WALL
35	2	13	150	300	12 X 12	REGISTER	WALL
36	1	13	75	75	2 X 12	REGISTER	WALL
37	1	3	215	215	20 X 6	REGISTER	WALL
38	1	3	250	250	20 X 6	REGISTER	WALL
39	1	9	225	225	8 X 12	REGISTER	LINEAR
40	2	9	155	310	8 X 8	REGISTER	LINEAR
41	9	9	155	1395	10 X 8	REGISTER	LINEAR

AIR BALANCE SCHEDULE - RETURN AIR

FIXTURE NO.	FIX. QTY.	ZONE	FLOWRATE		NECK SIZE	TYPE	LOCATION
			CFM EACH	CFM TOTAL			
42	1	1	855	855	24 X 24	REGISTER	CEILING
43	1	10	225	225	24 X 24	REGISTER	CEILING
44	1	11	380	380	18 X 10	REGISTER	CEILING
45	1	11	740	740	18 X 10	REGISTER	CEILING
46	1	14	290	290	20 X 6	REGISTER	CEILING
47	1	13	125	125	14 X 4	REGISTER	CEILING
48	1	11	450	450	24 X 10	REGISTER	CEILING
49	2	13	595	1190	32 X 6	REGISTER	CEILING
50	1	13	340	340	8 X 8	REGISTER	CEILING
51	1	9	425	425	12 X 12	REGISTER	CEILING
52	1	1	610	610	30 X 10	REGISTER	WALL
53	1	6	415	415	16 X 8	REGISTER	WALL
54	1	6	360	360	18 X 10	REGISTER	WALL
55	1	15	495	495	16 X 6	REGISTER	WALL
56	1	11	550	550	24 X 10	REGISTER	WALL
57	1	13	390	390	18 X 10	REGISTER	WALL
58	1	13	370	370	18 X 8	REGISTER	WALL
59	1	3	195	195	18 X 4	REGISTER	WALL
60	1	3	225	225	18 X 4	REGISTER	WALL
61	2	10	180	360	22 X 4	REGISTER	WALL
62	1	10	180	180	12 X 8	REGISTER	WALL
63	1	10	150	150	12 X 8	REGISTER	WALL
64	1	10	185	185	12 X 8	REGISTER	WALL
65	4	9	435	1740	10 X 8	REGISTER	WALL
66	2	4	450	900	18 X 8	REGISTER	WALL
67	2	12	330	660	24 X 6	REGISTER	WALL
68	1	12	430	430	24 X 6	REGISTER	WALL
69	1	12	430	430	26 X 8	REGISTER	WALL
70	1	5	775	775	34 X 10	REGISTER	WALL
71	1	5	260	260	20 X 6	REGISTER	WALL
72	1	15	725	725	30 X 6	REGISTER	WALL
73	1	15	300	300	30 X 6	REGISTER	WALL
74	1	7	295	295	14 X 8	REGISTER	WALL
75	1	13	115	115	12 X 6	TRANSFER GRILLE	WALL
76	1	13	225	225	12 X 12	TRANSFER GRILLE	WALL

NOTES:

1. AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTING EXISTING BRANCH DAMPERS, EXISTING REGISTERS AND GRILLES, AND NEW VAV'S.
2. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND EQUIPMENT REQUIRED TO BALANCE ALL AIR SYSTEMS IN ACCORDANCE WITH QUANTITIES SHOWN ON THE AIR BALANCE SCHEDULE
3. BALANCING SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED COMMISSIONING AGENCY AND A REPORT BY THE AGENCY OF THE TESTING AND BALANCING PERFORMED SHALL BE SUBMITTED BY THE AGENCY.
4. SEE THE PROJECT SPECIFICATION FOR DETAILS OF HVAC SYSTEM TESTING AND BALANCING.

1
M10

AIR BALANCE SCHEDULE FOR GRILLES AND REGISTERS
NOT TO SCALE

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN CM 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

APPROVED BY
H. FURNACE
M17611
Exp. 3/31/18
PROJECT ENGINEER
03/14/2017
DATE

CADD FILE:
17B12A037.DWG

REVISIONS
CONTRACT NO.
03/14/2017

BY DATE
DWG NO.
M22

APPROVED BY
A. BAUER
No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA
PROJECT ENGINEER
03/14/2017
DATE

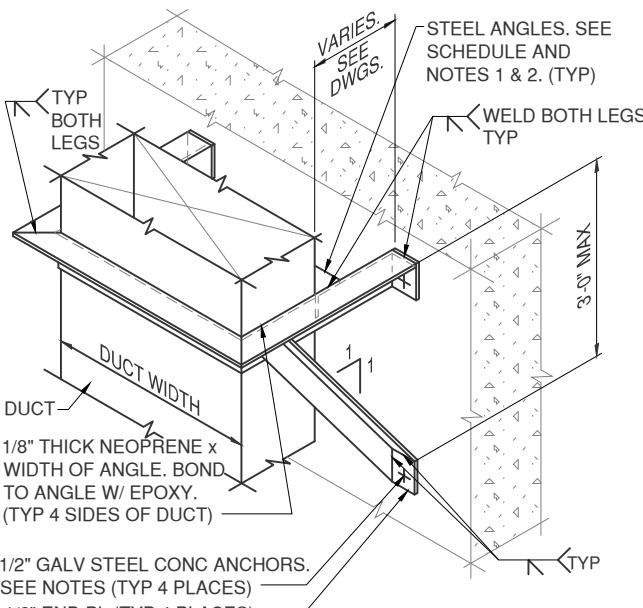
REVISIONS
CONTRACT NO.
03/14/2017

BY DATE
DWG NO.
M22

PROJECT TITLE
GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS
SHEET TITLE
AIR BALANCE SCHEDULE
SCALE: AS NOTED
DATE: MARCH 14, 2017



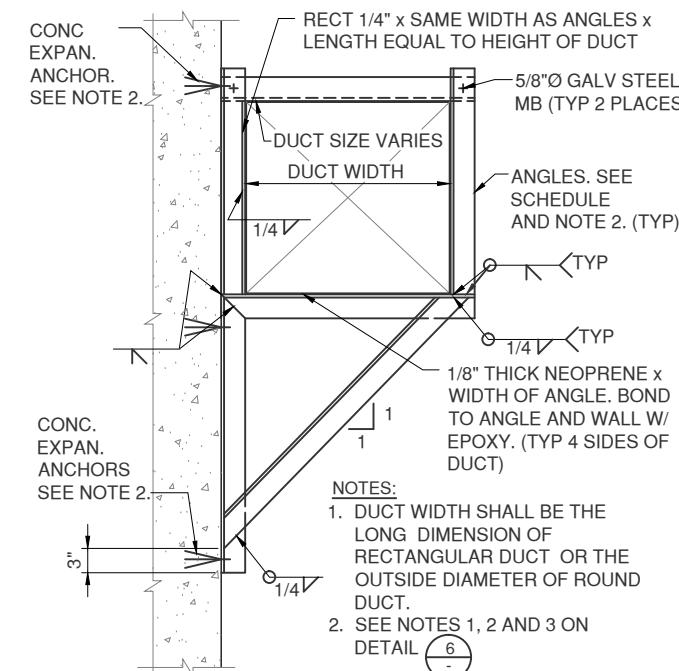
ISSUED FOR BID



AIR DUCT HANGER AND SUPPORT SCHEDULE		
DUCT WIDTH	ANGLE SIZE	SPACING WHEN NOT INDICATED ON THE DRAWINGS
UP TO 40"	L 2 x 2 x 0.250	8'-0" OC MAX
OVER 40"	L 2 x 2 x 0.250	4'-0" OC MAX

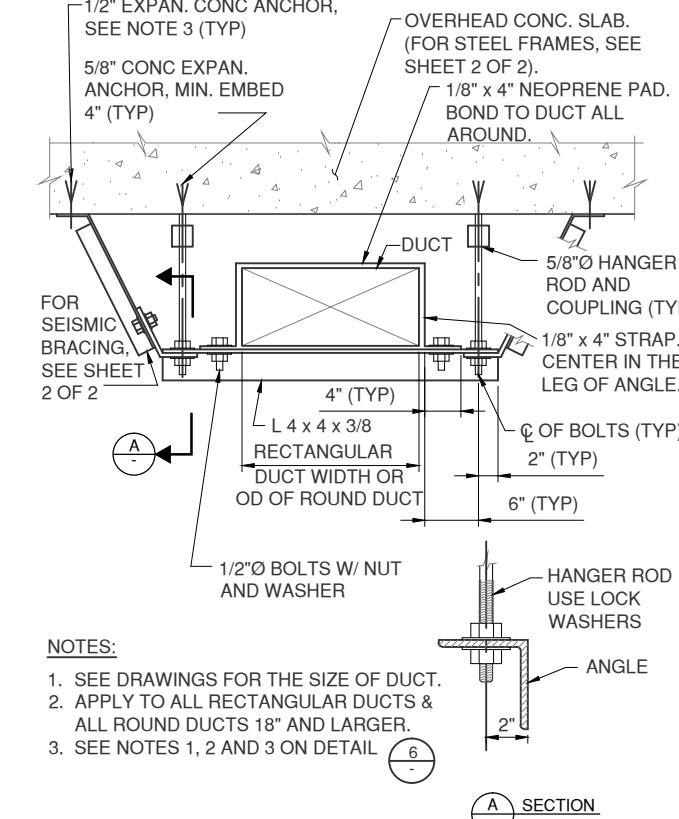
NOTE:
1. DUCT WIDTH SHALL BE THE LONG DIMENSION OF RECTANGULAR DUCT OR THE OUTSIDE DIAMETER OF ROUND DUCT.
2. SEE NOTES 1, 2, AND 3 ON DETAIL 6

1 VERTICAL AIR DUCT SUPPORT
NOT TO SCALE



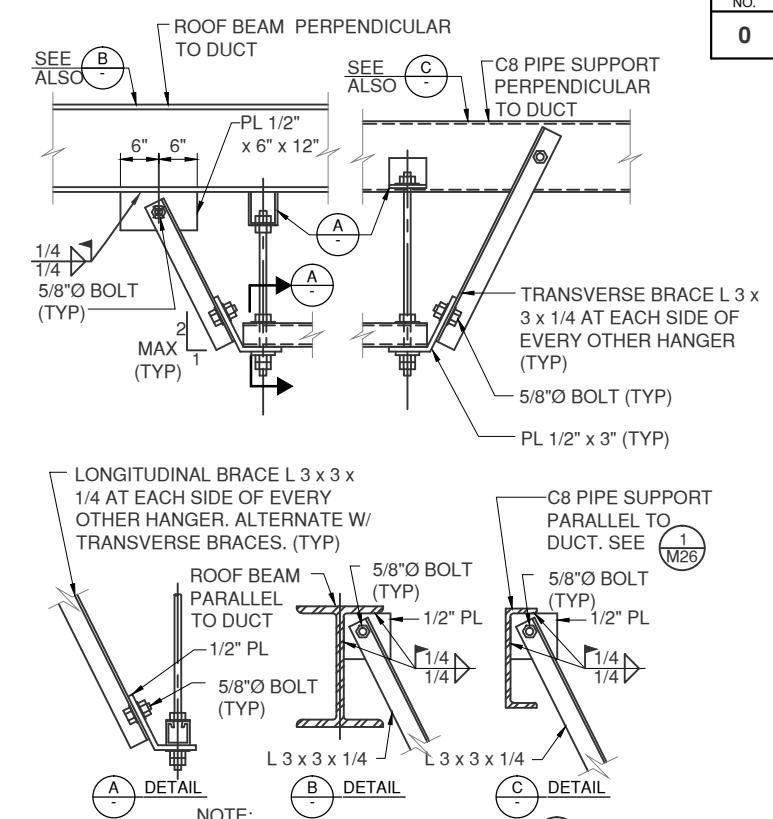
AIR DUCT HANGER AND SUPPORT SCHEDULE		
DUCT WIDTH	ANGLE SIZE	SPACING WHEN NOT INDICATED ON THE DRAWINGS
UP TO 46"	L 2 x 2 x 0.250	8'-0" OC MAX
OVER 46"	L 2 x 2 x 0.250	4'-0" OC MAX

2 AIR DUCT SUPPORT
NOT TO SCALE

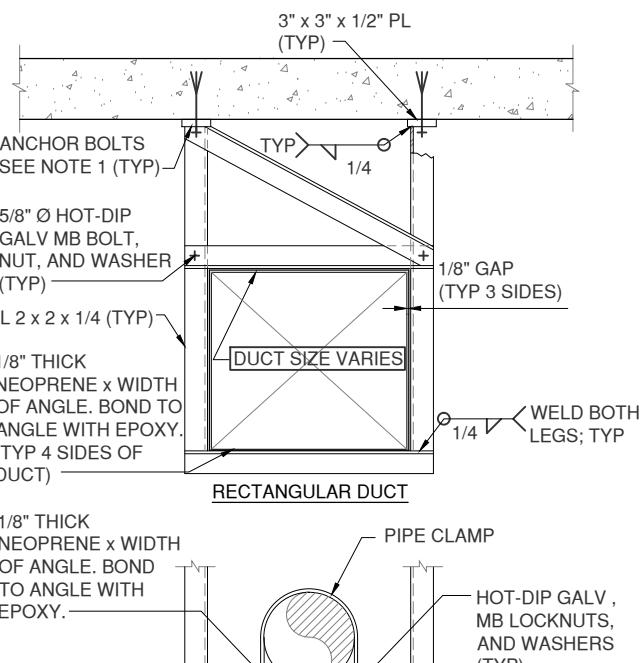


- NOTES:
1. SEE DRAWINGS FOR THE SIZE OF DUCT.
2. APPLY TO ALL RECTANGULAR DUCTS & ALL ROUND DUCTS 18" AND LARGER.
3. SEE NOTES 1, 2 AND 3 ON DETAIL 6

3 AIR DUCT SUPPORT
SHEET 1 OF 2
NOT TO SCALE

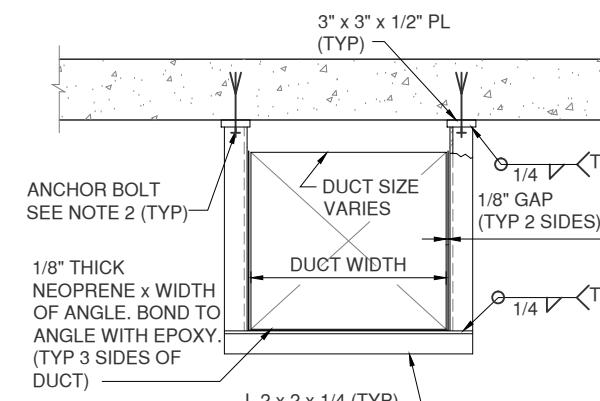


4 AIR DUCT SUPPORT
SHEET 2 OF 2
NOT TO SCALE



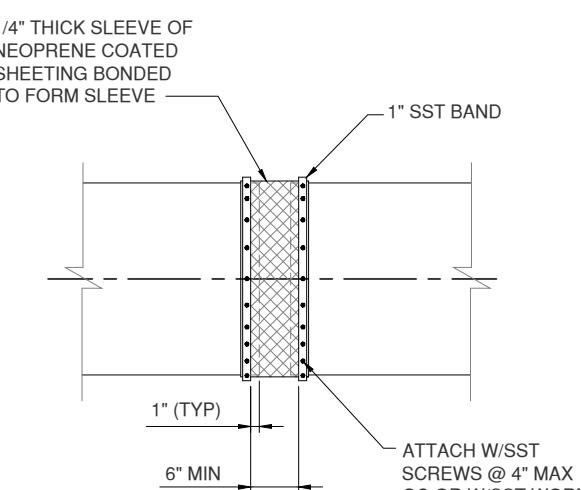
NOTE:
1. SEE NOTES 1, 2, AND 3 ON DETAIL 6

5 AIR DUCT SUPPORT FOR CONC DECK
NOT TO SCALE

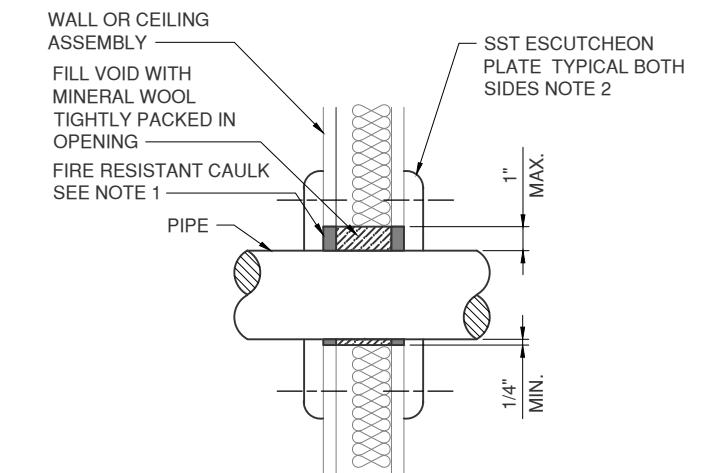


- NOTE:
1. PAINT AFTER FABRICATION PER PROJECT SPECIFICATIONS.
2. USE 1/2" HILTI KB-TZ CONCRETE EXPANSION ANCHOR BOLTS OR APPROVED EQUAL WITH 4" EMBED INTO CONCRETE.
3. SUPPORT SPACING PER SMACNA STDS.

6 AIR DUCT SUPPORT
NOT TO SCALE



7 FLEXIBLE CONNECTION FOR METAL DUCTS
NOT TO SCALE



- NOTES:
1. INSTALL FIRE RESISTANT CAULK TO FULLY COVER THE GAP BETWEEN TO PIPE AND WALL\CEILING OPENING. USE 3M FIRE BARRIER SEALANT CP 25 WB+ OR EQUAL.
2. ATTACH ESCUTCHEON PLATE TO FULLY COVER WALL\CEILING OPENING. ESCUTCHEON PLATES SHALL BE STAINLESS STEEL.

8 WALL\CEILING PENETRATION
NOT TO SCALE

APPROVED BY

H. FURNACE
REGISTERED PROFESSIONAL ENGINEER
MECHANICAL
STATE OF CALIFORNIA
No. M17611
Exp. 3/31/18

PROJECT ENGINEER
03/14/2017
DATE

APPROVED BY

A. Z. BAUER
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
No. C43632
Exp. 3/31/19

DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

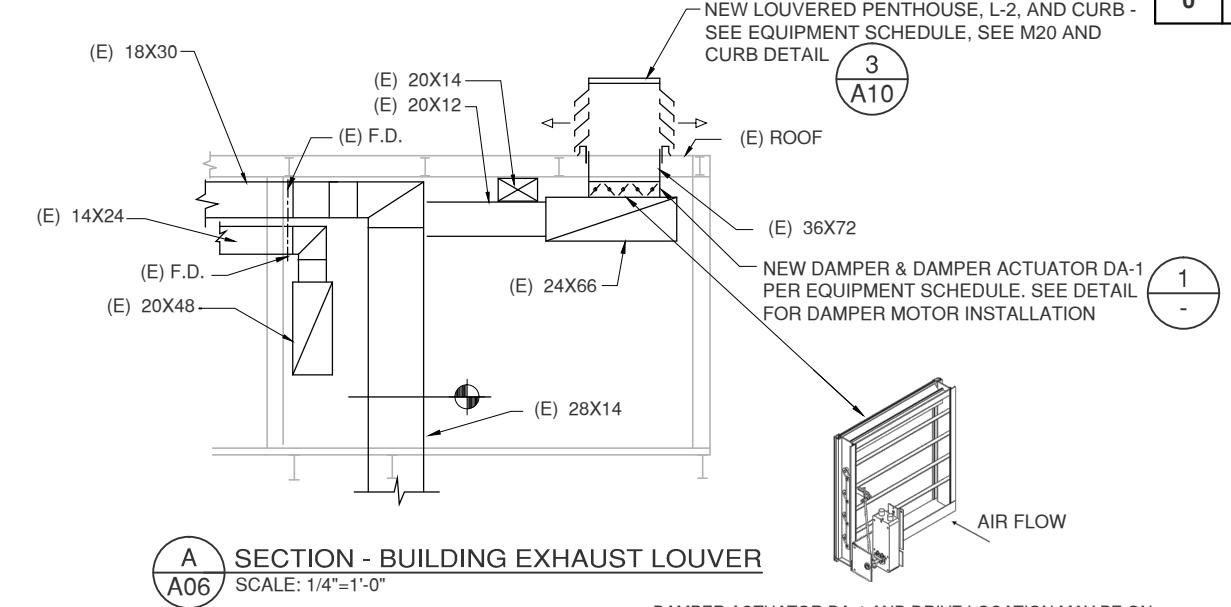
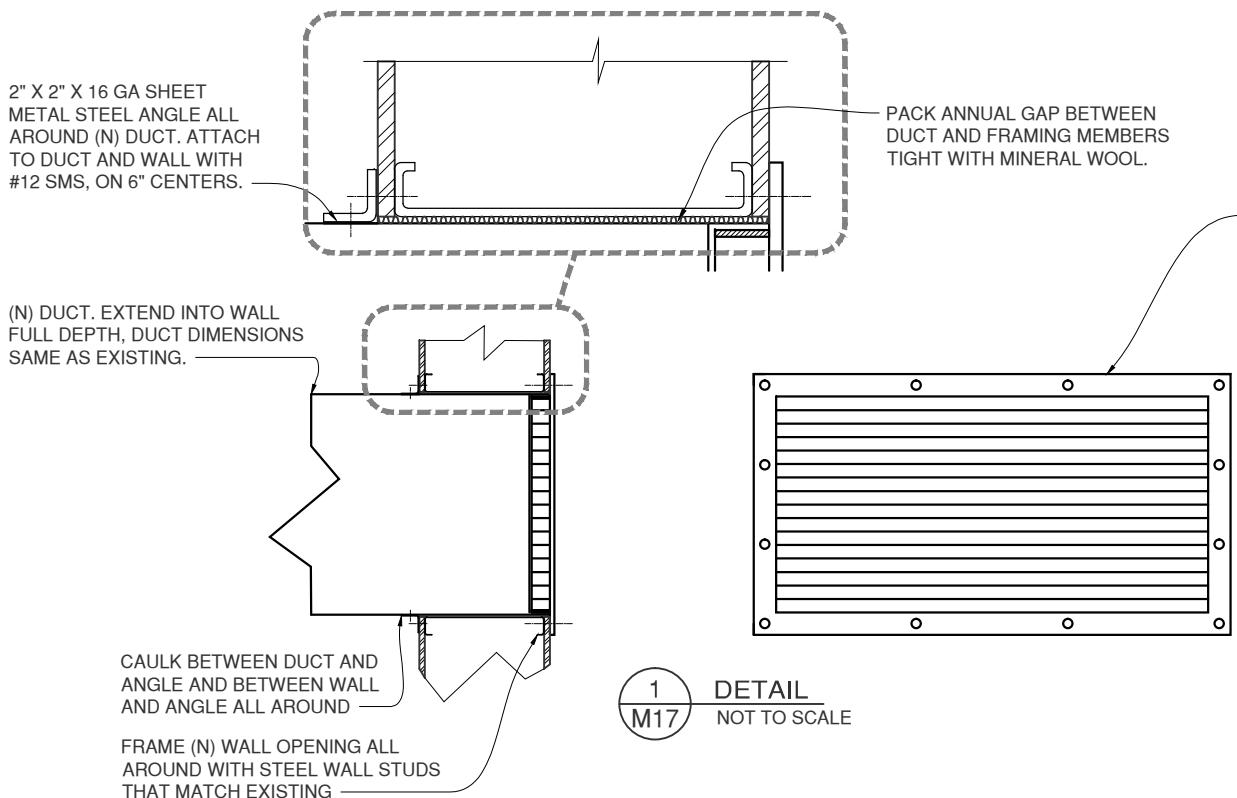
SHEET TITLE
**MECHANICAL DETAILS
AIR DUCT SUPPORTS**

SCALE: AS NOTED
DATE: MARCH 14, 2017



ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
CM 1 2 3 4 5 6 7
IN 1 2 3 4 5 6 7

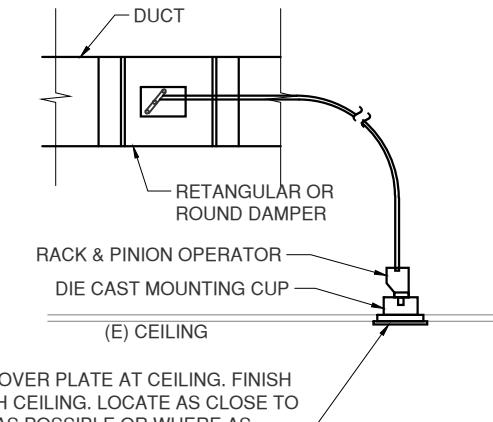
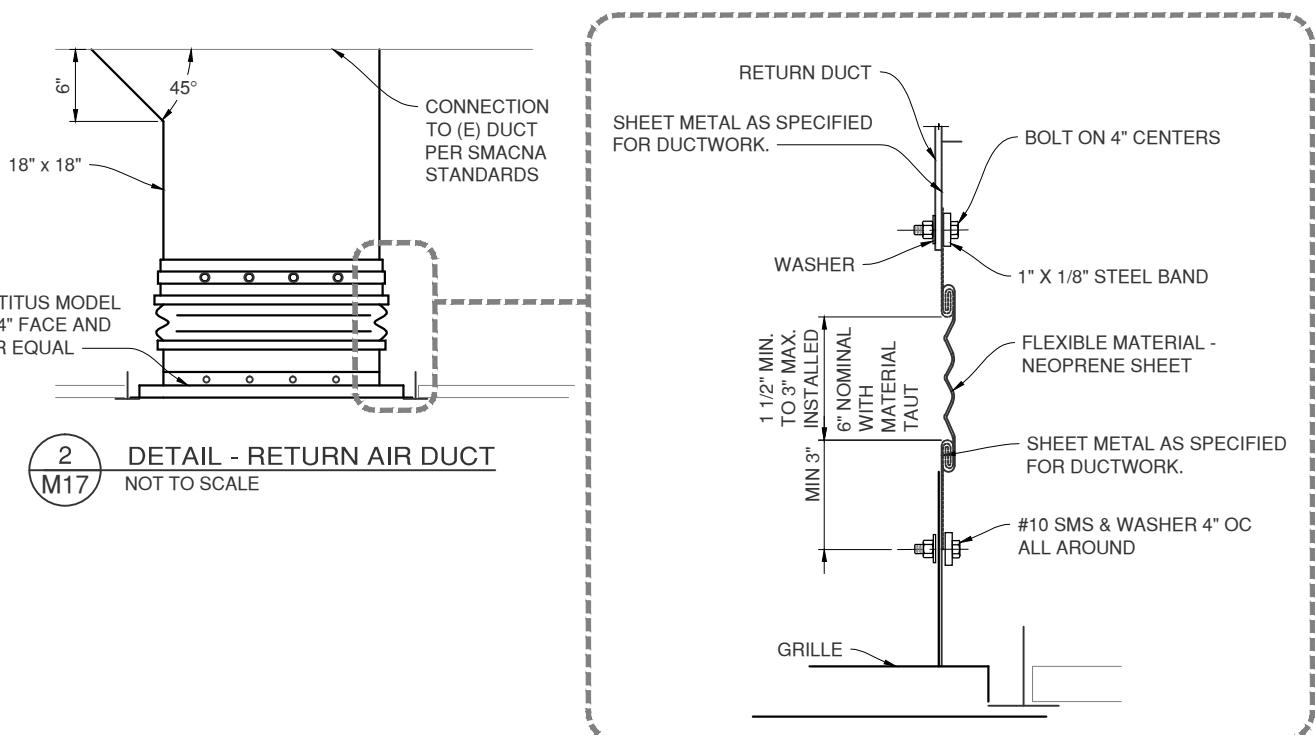


DAMPER ACTUATOR DA-1 AND DRIVE LOCATION MAY BE ON OPPOSITE SIDE FROM THAT SHOWN FOR CONVENIENCE OF ACCESS. SEAL CONDUIT-DUCT PENETRATION WITH HEYCO-FLEX LIQUID TIGHT CONDUIT FITTING OR APPROVED EQUAL AND SEAL GAP BETWEEN WIRES AND CONDUIT INSIDE DUCT WITH POLYWATER FST-MINI DUCT SEALANT OR APPROVED EQUAL.

1 -

1 M17 DETAIL - NEW DAMPER ASSEMBLY

NOT TO SCALE



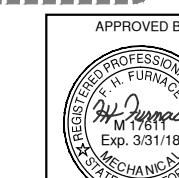
NOTE:

1. REFER TO PLANS FOR SIZES AND CONTINUATION.
2. CONCEALED CEILING REGULATOR TO BE MODEL 270-301 BY YOUNG REGULATOR CO., OR APPROVED EQUAL.

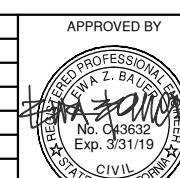
3 M17 REMOTE DAMPER REGULATOR - CEILING

NOT TO SCALE

ISSUED FOR BID



PROJECT ENGINEER
03/14/2017
DATE



DISTRICT ENGINEER
03/14/2017
DATE

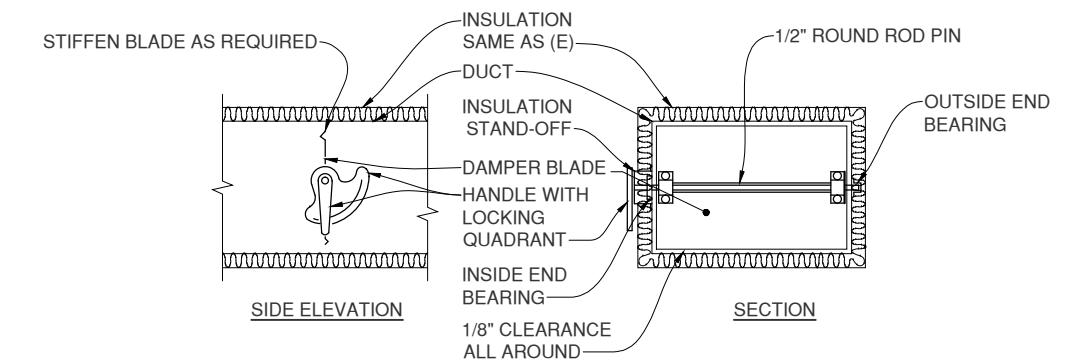
PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**MECHANICAL DETAILS
DUCTWORK - 1**

SCALE: AS NOTED
DATE: MARCH 14, 2017



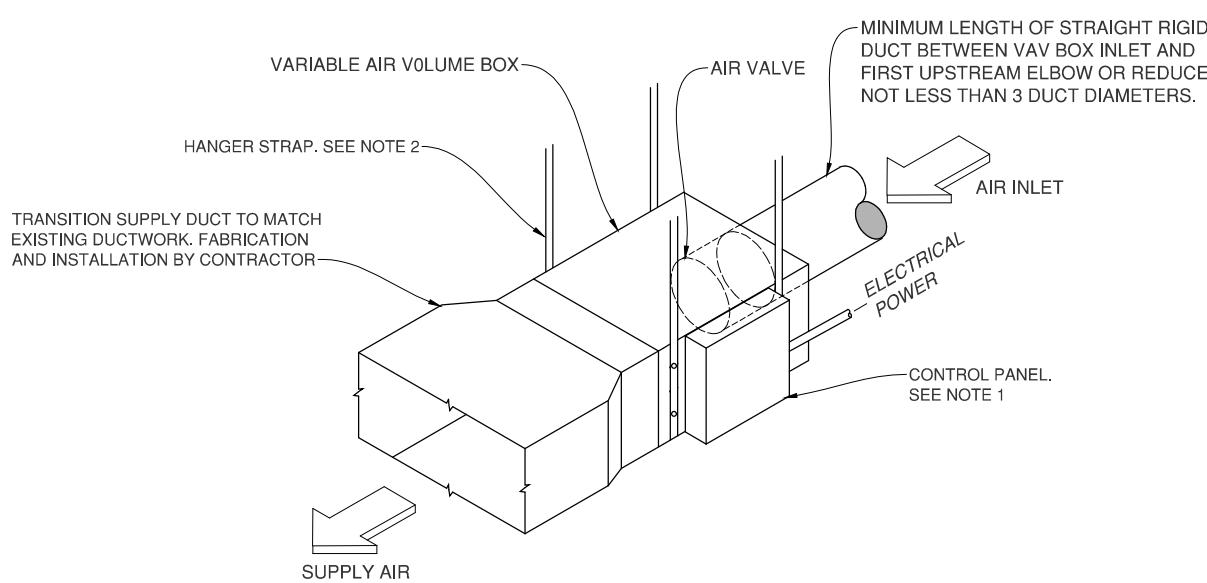
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VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 6 6 7
CM 1 2 3 4 6 6 7



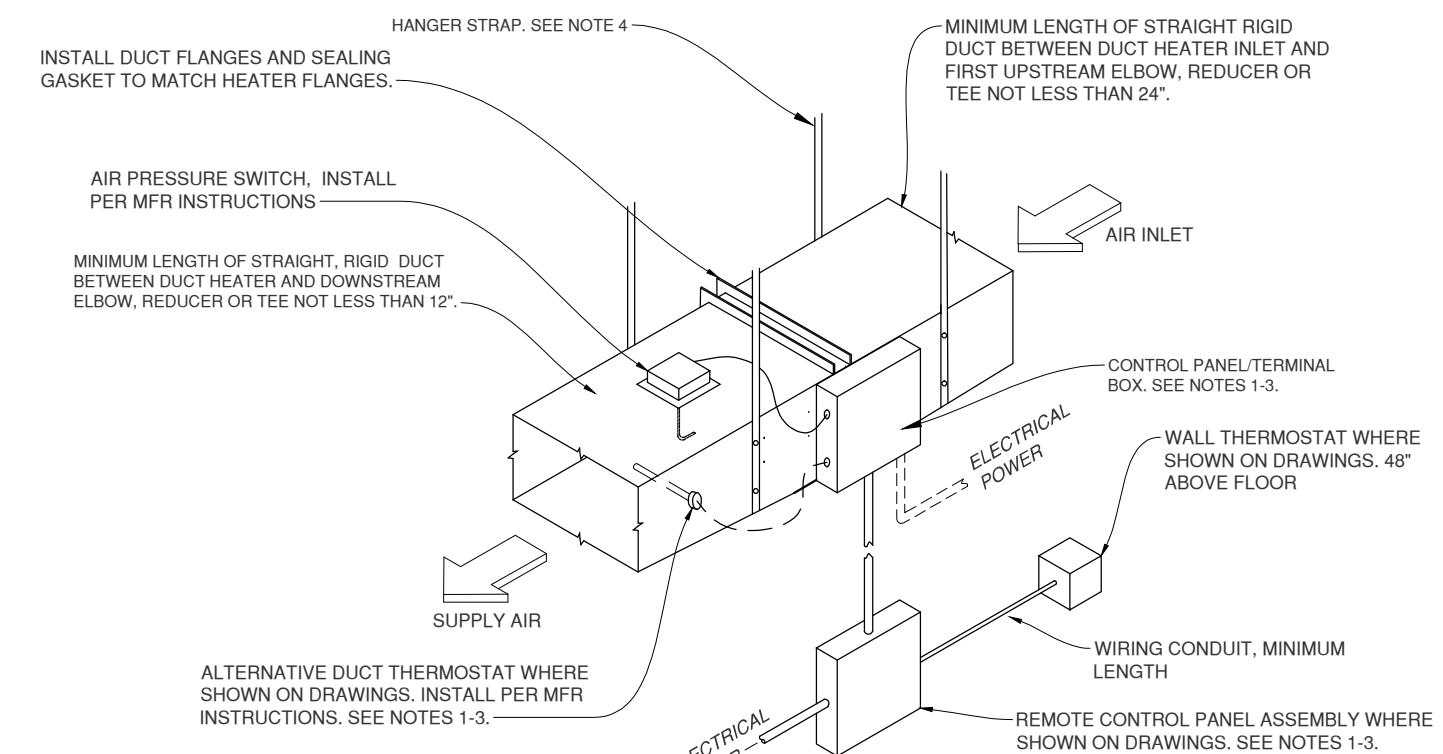
NOTES

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

3 M10 VOLUME DAMPER DETAIL
NOT TO SCALE



1 M10 VAV BOX INSTALLATION DETAIL
NOT TO SCALE



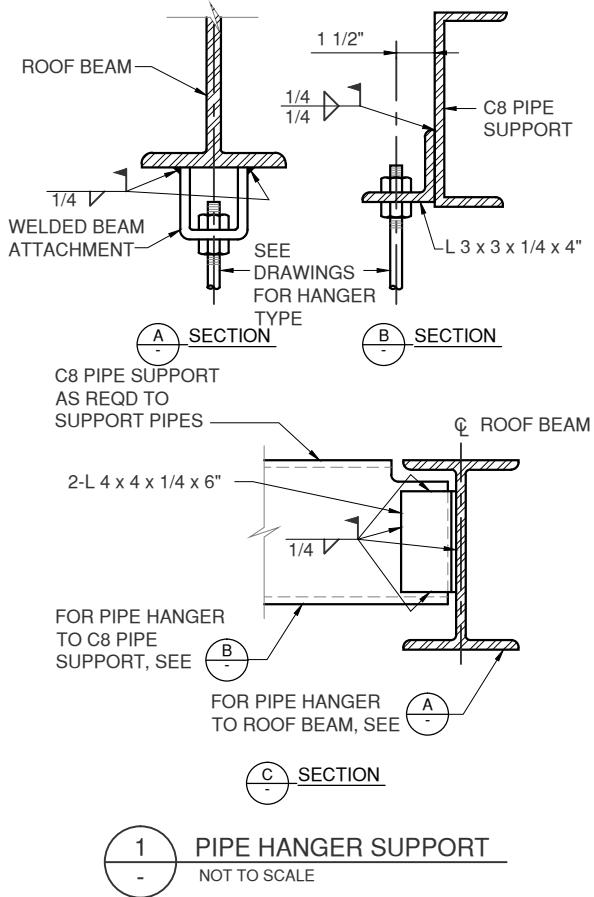
2 M10 ELECTRIC DUCT HEATER INSTALLATION DETAIL
NOT TO SCALE

ISSUED FOR BID

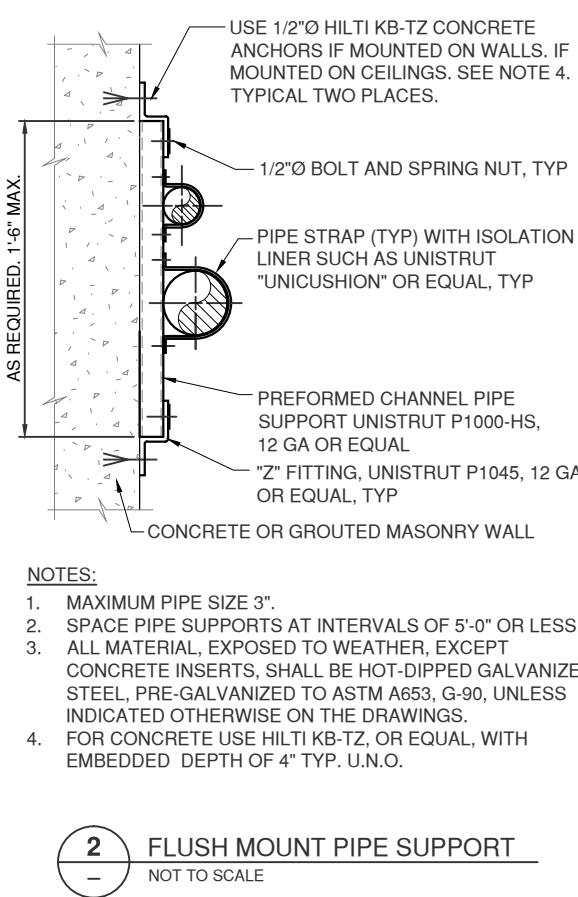
APPROVED BY H. FURNACE REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA No. C43632 Exp. 3/31/18	PROJECT ENGINEER 03/14/2017 DATE	REVISIONS BY DATE CONTRACT NO. 2017-B-12 CADD FILE: 17B12A040.DWG	APPROVED BY A.Z. BAUER REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
			DWG NO. M25	SHEET TITLE MECHANICAL DETAILS DUCTWORK - 2
			DATE 03/14/2017	SCALE: AS NOTED
			DATE: MARCH 14, 2017	

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7 CM 1 2 3 4 5 6 7

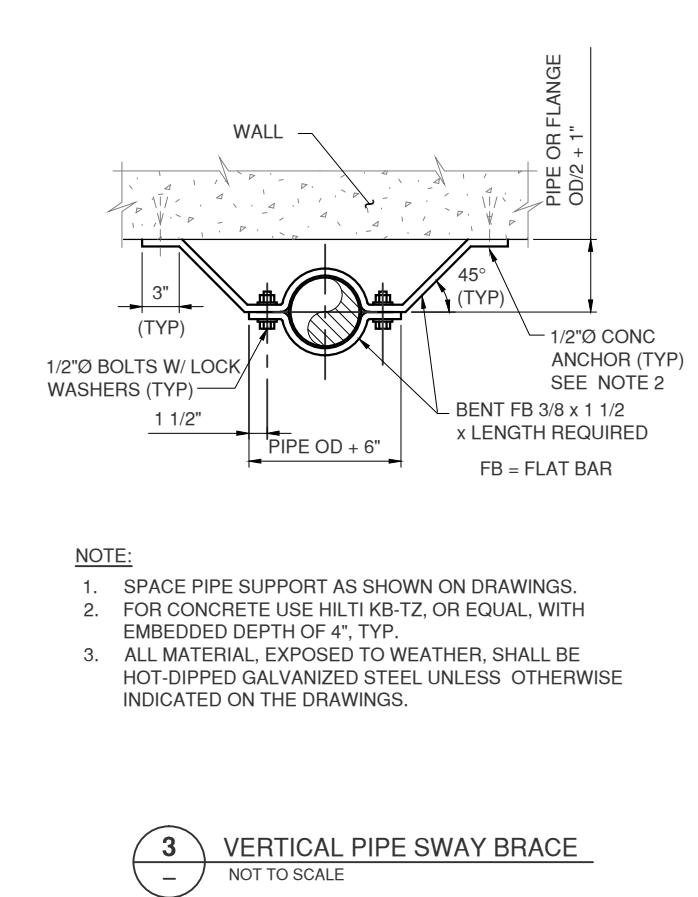




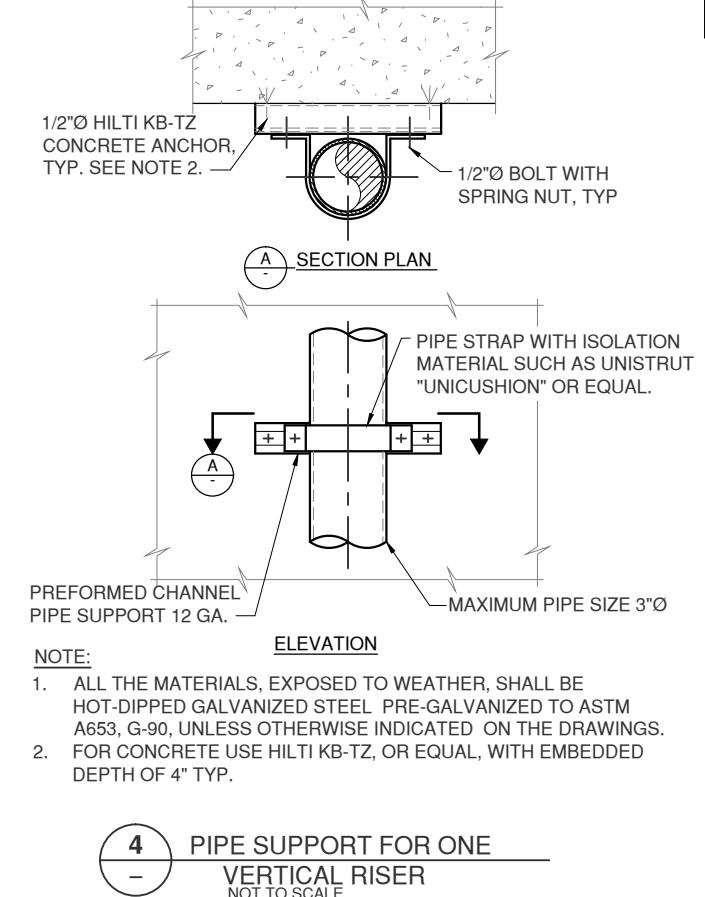
1 PIPE HANGER SUPPORT
NOT TO SCALE



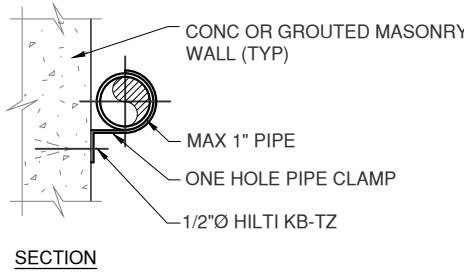
2 FLUSH MOUNT PIPE SUPPORT
NOT TO SCALE



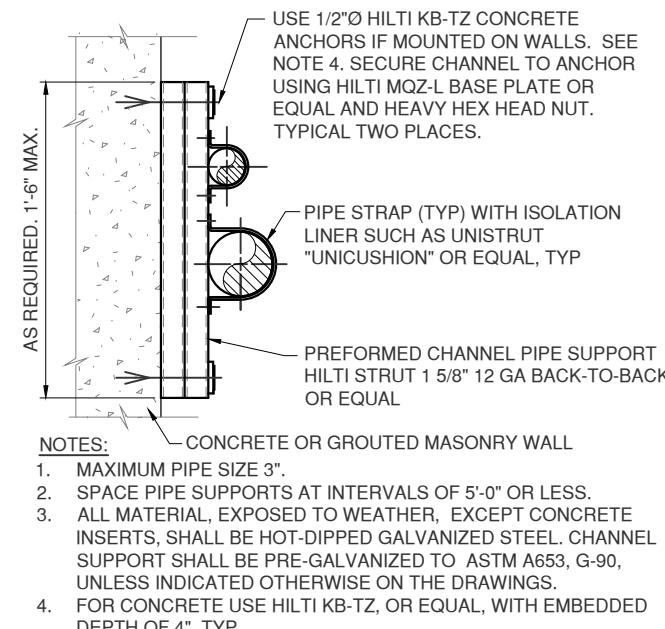
3 VERTICAL PIPE SWAY BRACE
NOT TO SCALE



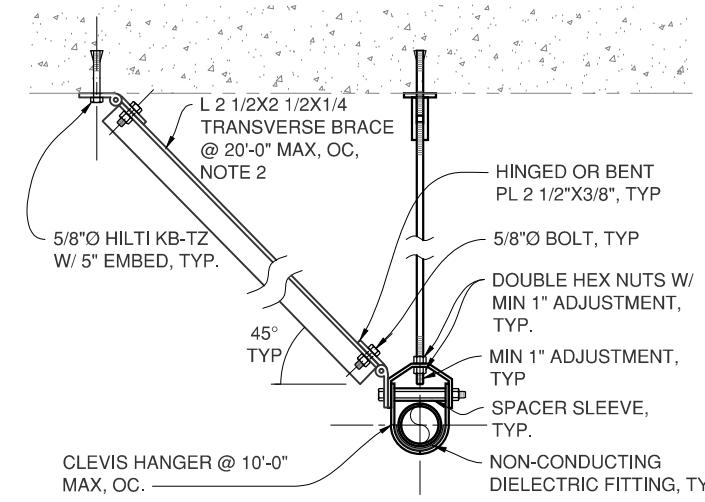
4 PIPE SUPPORT FOR ONE VERTICAL RISER
NOT TO SCALE



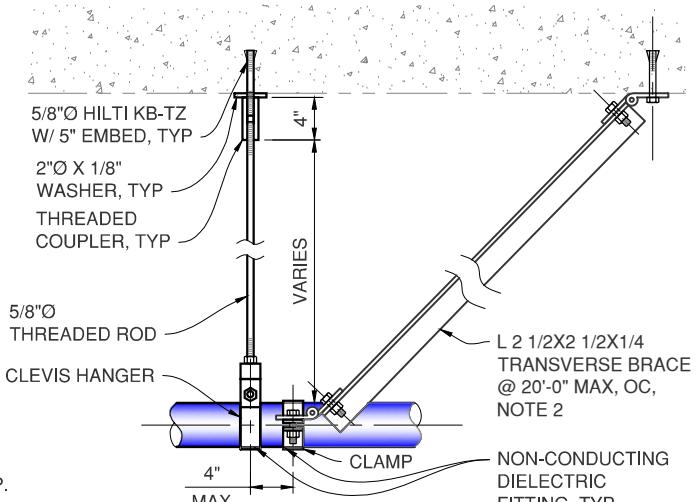
5 PIPE SUPPORT
NOT TO SCALE



6 FLUSH MOUNT PIPE SUPPORT DOUBLE HEIGHT
NOT TO SCALE



TRANSVERSE



LONGITUDINAL

7 TYPICAL PIPE AND HEATER VENT SUPPORT DETAIL
NOT TO SCALE

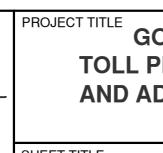
ISSUED FOR BID



PROJECT ENGINEER
03/14/2017
DATE



DISTRICT ENGINEER
03/14/2017
DATE



PROJECT TITLE
GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS

SHEET TITLE

MECHANICAL DETAILS
PIPE SUPPORTS

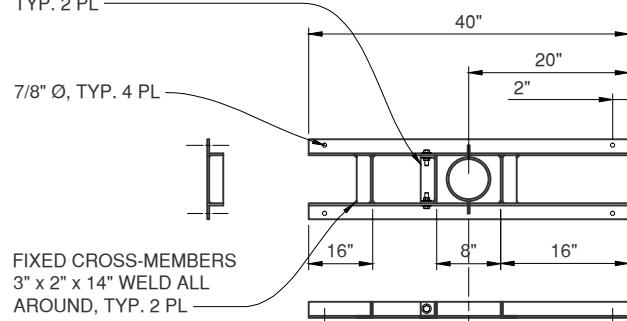
SCALE: AS NOTED

DATE: MARCH 14, 2017

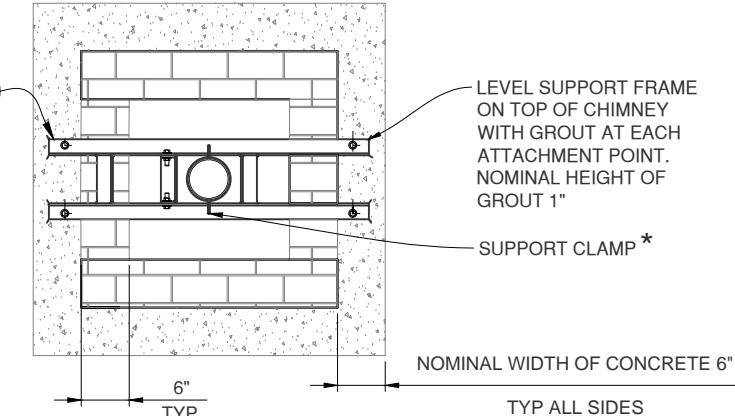
GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7



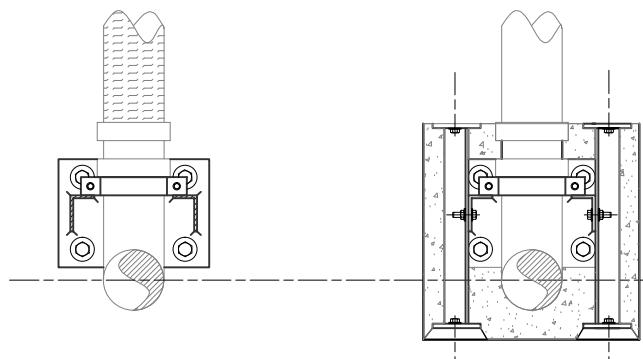
REMOVABLE CROSS-MEMBER
2" x 2"x 1/4" ANGLE, WITH 3/4"
GALV. BOLTS/NUTS/WASHERS ,
TYP. 2 PL



2 - DETAIL - UPPER STACK SUPPORT
SCALE: 1"=1'-0"

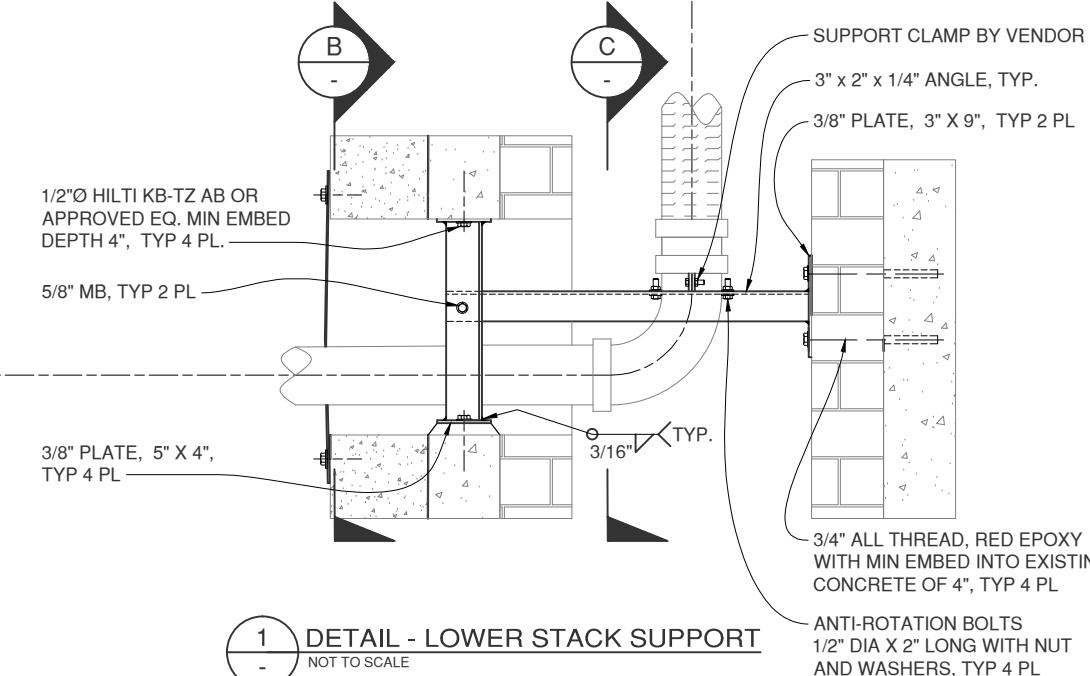


D - SECTION - UPPER STACK SUPPORT
SCALE: 1"=1'-0"

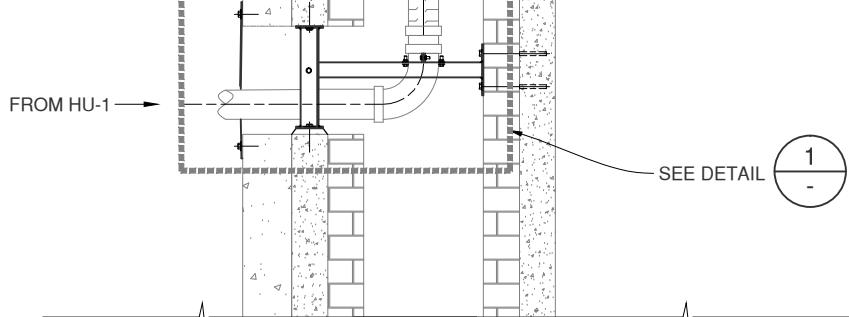
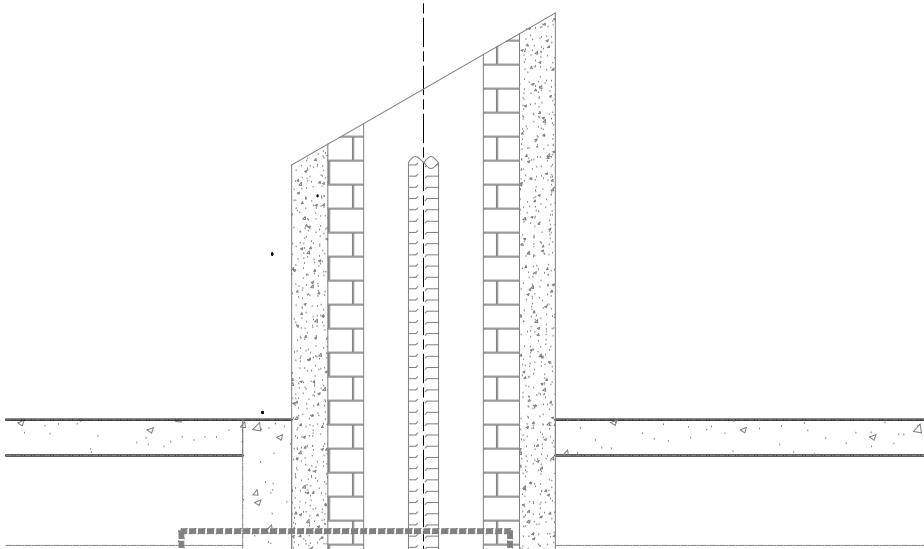
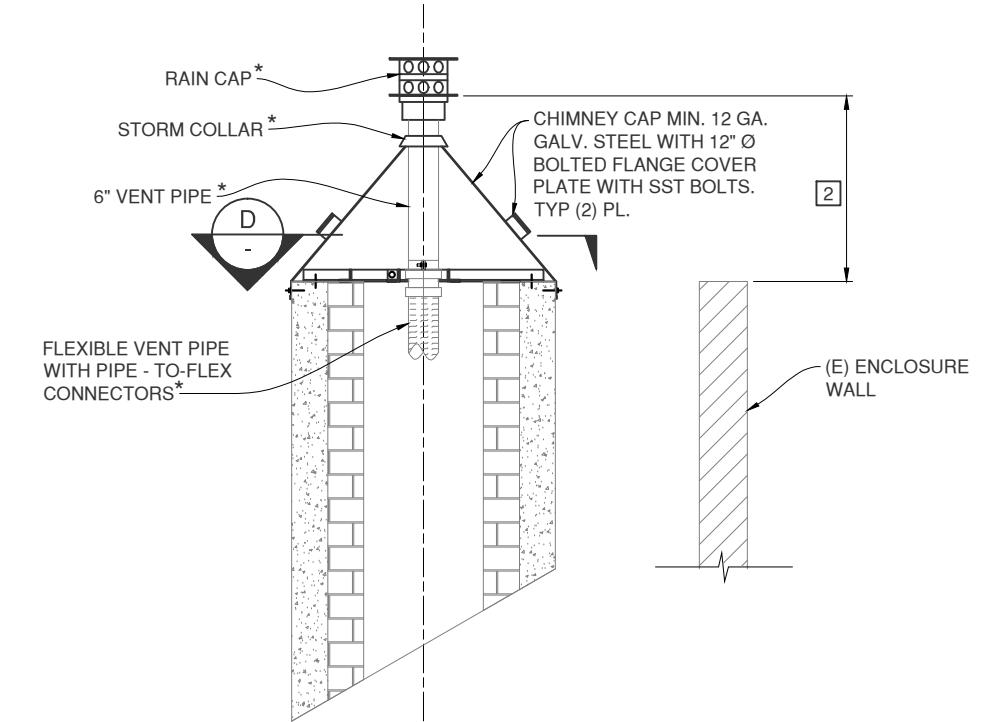


C - SECTION - VENT SUPPORT
NOT TO SCALE [3]

B - SECTION - CHIMNEY OPENING
NOT TO SCALE [3]



1 - DETAIL - LOWER STACK SUPPORT
NOT TO SCALE



A - SECTION - (E) CHIMNEY & (N) STACK [1]
M17
SCALE: 3/4"=1'-0"

KEY NOTES:

- [1] SEE SECTION C M17
- [2] VENT HEIGHT ABOVE SURROUNDING STRUCTURE SHALL MEET CALIF. MECHANICAL CODE REQUIREMENTS.
- [3] ANTI-ROTATION BOLTS NOT SHOWN FOR CLARITY.

NOTES:

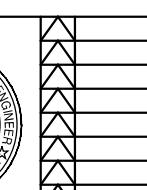
1. ITEMS MARKED WITH AN * ARE TO BE PROVIDED BY THE VENT STACK VENDOR. SEE PROJECT SPECIFICATIONS FOR DETAILS.
2. DESIGN SHOWN IS APPROXIMATE AND FOR GUIDANCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR SURVEYING THE SITE AND SUBMITTING DETAILED SHOP DRAWINGS FOR APPROVAL BY THE ENGINEER BEFORE FABRICATION. THE SHOP DRAWINGS ARE TO SHOW OVERALL INSTALLATION OF THE VENT STACK AND DETAILS OF THE SUPPORTS, CHIMNEY CAP, AND ALL OTHER ITEMS NECESSARY TO PROVIDE A SAFE AND RELIABLE INSTALLATION OF THE NEW HEATER VENT STACK.

ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7



PROJECT ENGINEER
03/14/2017
DATE



NO. REVISIONS BY DATE
CONTRACT NO. 2017-B-12 DWG NO. M27
CADD FILE: 17B12A042.DWG



APPROVED BY
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**
SHEET TITLE
**MECHANICAL DETAILS
CHIMNEY VENT**
SCALE: AS NOTED
DATE: MARCH 14, 2017



NOTE: FINISH: ONE COAT BAKED ON ENAMEL
POWDER COATED FINISH

* CAM LOCK (CENTERED) AT TOP AND BOTTOM OF PANEL,
BALANCE OF CAM LOCKS ON SIDE OPPOSITE HINGES

STANDARD SIZES and PRODUCT NUMBERS

DOOR SIZE	WALL OPENING	PRODUCT NO. STYLE K	No. OF CAMS	No. OF HINGES
8 x 8	8 1/4 x 8 1/4	3200-010	1	1
8 x 12	8 1/4 x 12 1/4	3200-012	1	1
12 x 12	12 1/4 x 12 1/4	3200-014	1	1
12 x 16	12 1/4 x 16 1/4	3200-016	1	2
12 x 18	12 1/4 x 18 1/4	3200-018	1	2
12 x 24	12 1/4 x 24 1/4	3200-019	2	2
16 x 16	16 1/4 x 16 1/4	3200-020	1	2
16 x 20	16 1/4 x 20 1/4	3200-022	1	2
18 x 18	18 1/4 x 18 1/4	3200-024	1	2
20 x 24	20 1/4 x 24 1/4	3200-026	1	2
20 x 30	20 1/4 x 30 1/4	3200-028	5 *	3
24 x 24	24 1/4 x 24 1/4	3200-030	1	2
24 x 30	24 1/4 x 30 1/4	3200-032	5 *	3
24 x 36	24 1/4 x 36 1/4	3200-034	5 *	3

Installation Detail

K ACCESS DOOR
MATERIAL SCHEDULE

QUANTITY	SIZE	COVER	FRAME

COMMERCIAL PRODUCTS GROUP
484 Thomas Drive
Bensenville, IL 60106
800 624-8642 (fax) 630-766-5259

MILCOR

STANDARD FLUSH DOOR for PLASTER WALLS or CEILINGS

DEALER
PROJECT
LOCATION
ARCH.
CONT'D

DATE	DRAWN
REV	JOB NO.
NR13\milcor\kaccess	
SHEET	

1 STANDARD FLUSH DOOR FOR CEILINGS
M10 NOT TO SCALE

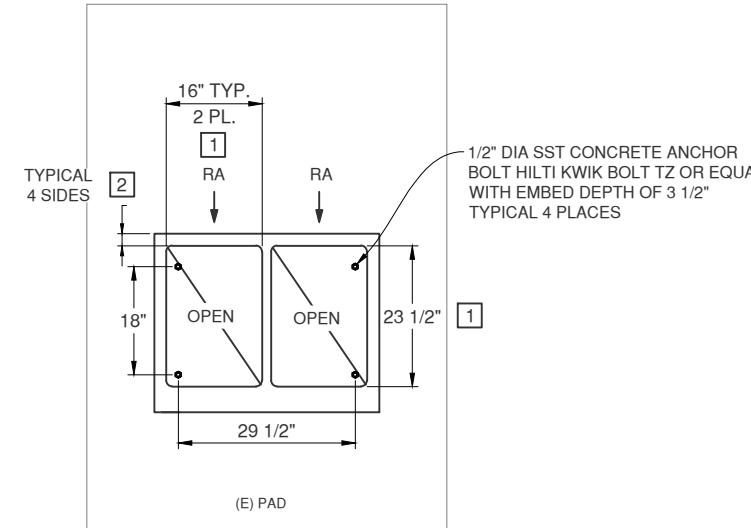
NOTES:

- CONTRACTOR TO FURNISH AND INSTALL ACCESS PANEL SHOWN OR ENGINEER APPROVED EQUAL.
- DWG M10, KEY NOTE 4. CONTRACTOR TO FURNISH AND INSTALL (N) CEILING ACCESS PANEL FOR INSTALLATION (N) VAV-1.
- DWG E06, KEY NOTE 1. CONTRACTOR TO FURNISH AND INSTALL (N) CEILING ACCESS PANEL IN FRONT OF ELEC. PANELS Z4 AND Z4A FOR INSTALLATION OF (N) WIRING FOR EDH-1.
- ACCESS PANEL INSTALLATION TO BE PER VENDOR INSTRUCTIONS.
- CONTRACTOR TO REPAIR ANY DAMAGE TO CEILING DUE TO PANEL INSTALLATION AND PAINT PANEL AND CEILING TO MATCH EXISTING CEILING.

APPROVED BY J. H. FURNACE REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA No. C43632 Exp. 3/31/18	REVISIONS BY DATE	APPROVED BY A. Z. BAUER REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
PROJECT ENGINEER 03/14/2017 DATE	CONTRACT NO. 2017-B-12 CADD FILE: 17B12A043.DWG	DWG NO. M28 DATE	SHEET TITLE MECHANICAL DETAILS MISCELLANEOUS-1
		SCALE: AS NOTED DATE: MARCH 14, 2017	

ISSUED FOR BID

GOLDEN GATE BRIDGE HIGHWAY & TRANSPORTATION DISTRICT

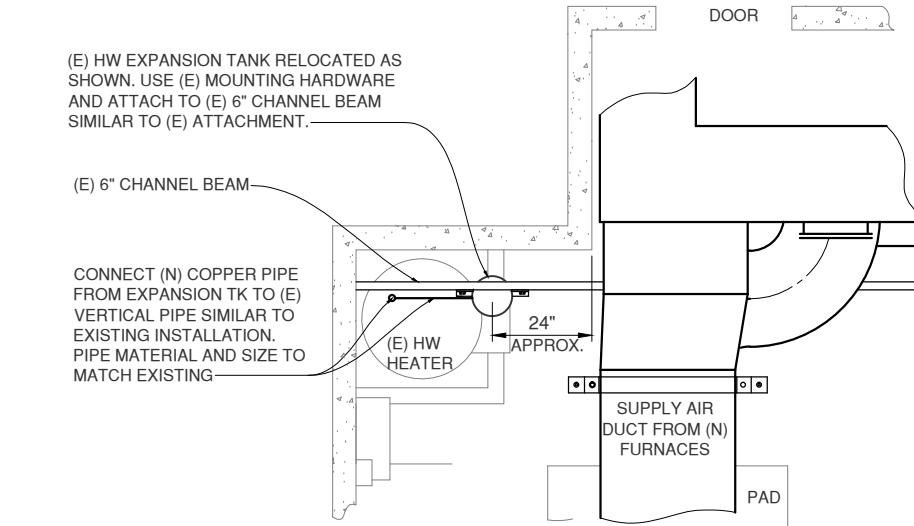


NOTES

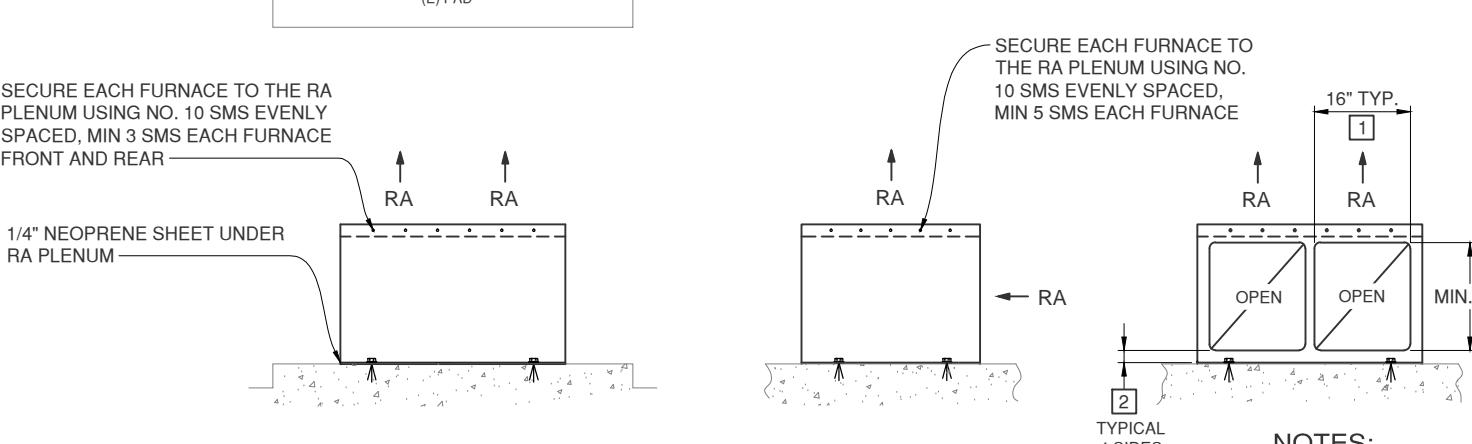
1. CONTRACTOR TO DESIGN RETURN AIR (RA) PLENUM FROM MINIMUM 16 GA GALVANIZED SHEET METAL THAT WILL SUPPORT THE TWO FURNACES PLUS RESIST SEISMIC LOADS, SEE PROJECT SPECIFICATIONS.
 2. DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. ACTUAL RA PLENUM DIMENSIONS TO BE BASED ON FURNACES SELECTED.
 3. RA PLENUM SHALL BE LINED WITH 1" THICK FIBERGLASS INSULATION SAME AS (N) DUCTWORK. INSULATION SHALL BE PER PROJECT SPECIFICATIONS.

KEY NOTES

- 1 RETURN AIR (RA) PLENUM OPENINGS TO MATCH ACTUAL FURNACE OPENINGS.
 - 2 RA PLENUM BORDER TO BE WIDE ENOUGH TO REINFORCE PLENUM ORDER TO ATTACH FURNACES AND MATING DUCTWORK. SEE PROJECT DRAWINGS.

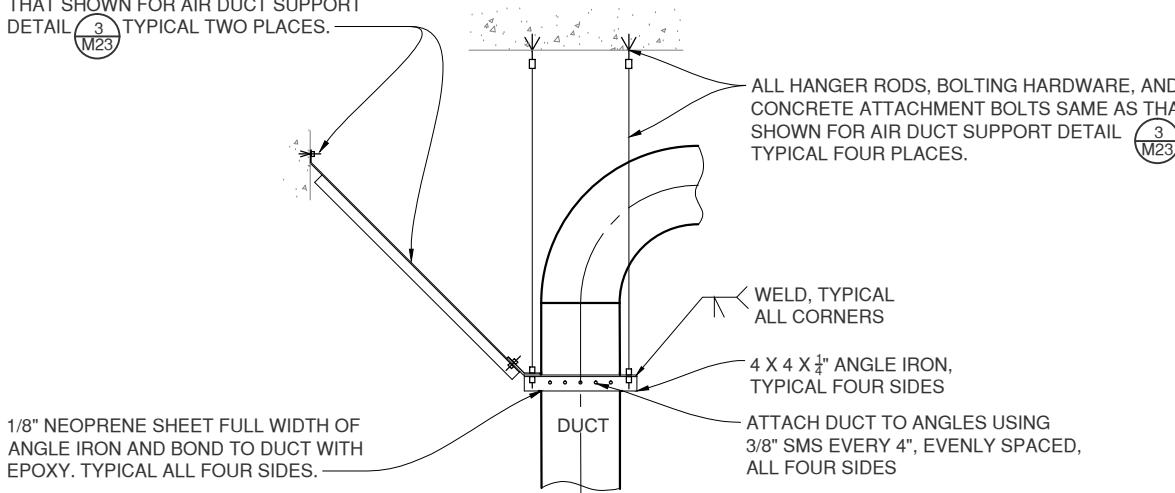


PARTIAL PLAN VIEW - BOILER ROOM



1 FURNACE RETURN AIR PLENUM DETAILS

SEISMIC BRACE, BOLTING HARDWARE, AND CONCRETE ATTACHMENT BOLTS SAME AS THAT SHOWN FOR AIR DUCT SUPPORT DETAIL 3 TYPICAL TWO PLACES.



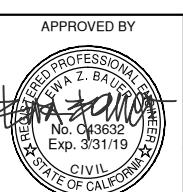
NOTES:
1. SEE PROJECT DRAWINGS FOR DUCT SIZE.
2. PAINT ANGLE IRON AFTER FABRICATION PER PROJECT SPECIFICATIONS
3. SUPPORTS AND SEISMIC BRACING TO BE PER SMACNA STANDARDS.



IN 1 2
CM 1 2 3 4 5 6 7



PROJECT ENGINEER
03/14/2017
DATE



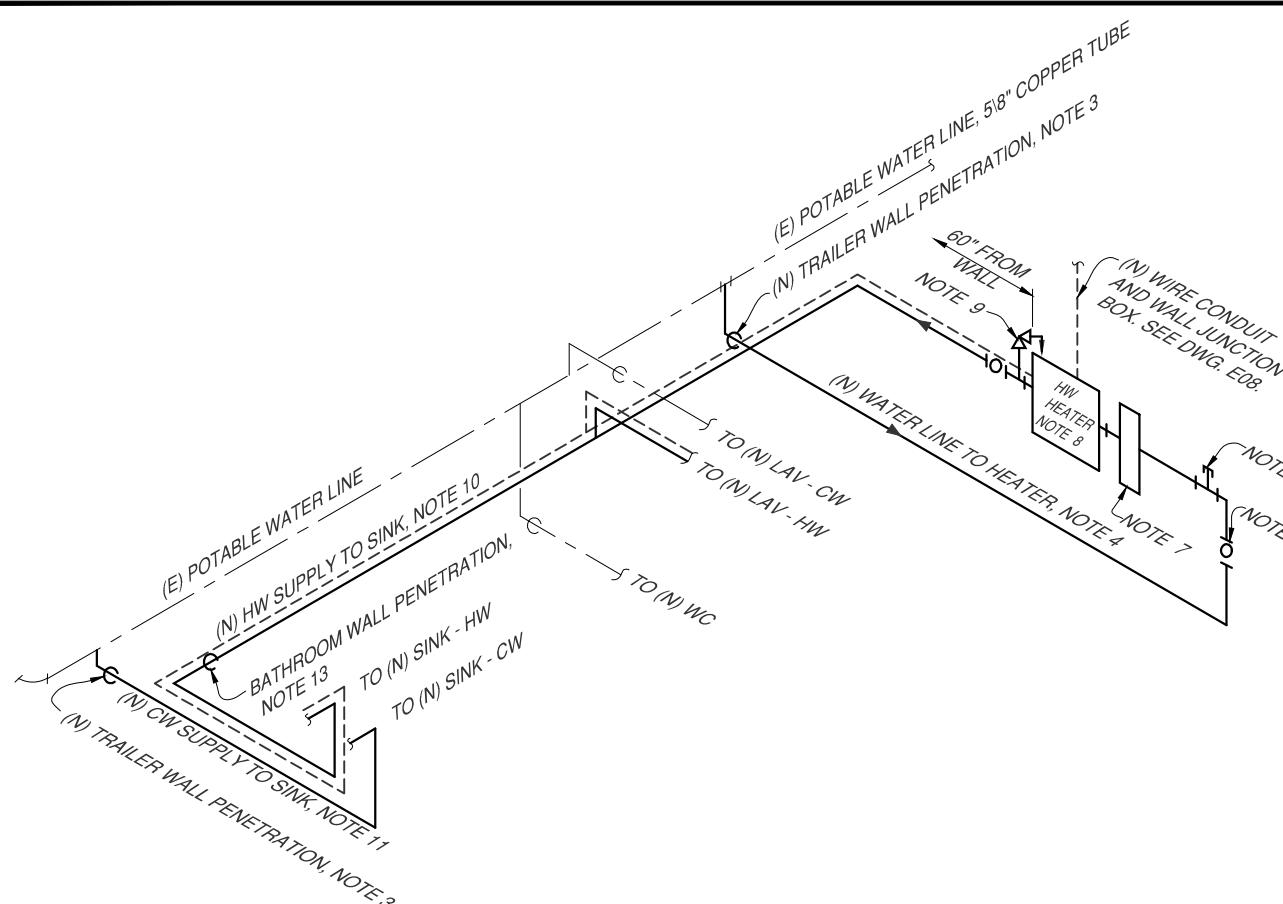
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS

SHEET TITLE MECHANICAL DETAILS

MISCELLANEOUS-2

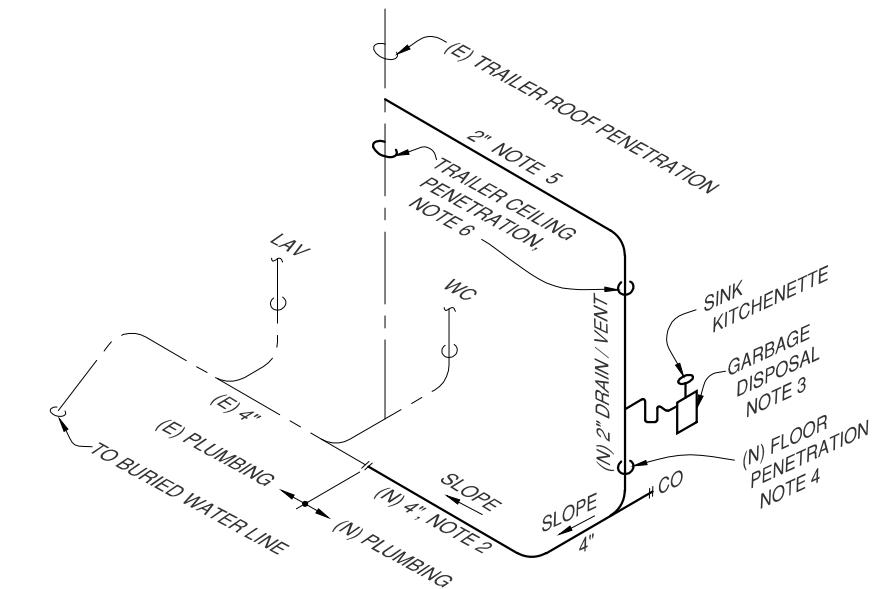




1 ISOMETRIC - TRAILER D POTABLE WATER SUPPLY
- NOT TO SCALE

GENERAL NOTES:

- MODIFICATIONS TO THE TRAILER POTABLE WATER SYSTEM SHOWN SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE AND THE LOCAL CODE HAVING JURISDICTION. WHERE THERE IS A CONFLICT BETWEEN CODES, THE MORE STRINGENT CODE SHALL APPLY.
- FLUXES USED FOR SOLDERING SHALL MEET THE REQUIREMENTS OF ASTM B813 SHALL BE USED SO ANY RESIDUE AFTER SOLDERING CAN BE EASILY REMOVED WITH A WATER FLUSH.
- TRAILER WALL PENETRATION, TYP 2 PLACES, FOR (N) 1/2" COPPER TUBE, TYPE L. OUTSIDE PENETRATION SIMILAR TO EXISTING WALL PENETRATIONS. SEAL AROUND PENETRATIONS WITH ELASTOMERIC WEATHER RESISTANT CAULK AND COVER INSIDE WALL OPENING WITH A CHROME PLATED ESCUTCHEON PLATE.
- POTABLE WATER SUPPLY TO (N) WATER HEATER. 1/2" COPPER TUBE, TYPE L. MOUNT PIPING TO WALL WITH PIPE CLIPS.
- 1/2" FULL PORT, TWO PIECE BALL VALVE. BRASS, LEAD FREE, 600 WOG, SWEAT X SWEAT, LEVER ACTUATED. WATTS OR APPROVED EQUAL. TYPICAL TWO PLACES.
- 1/2" ACV VALVE FOR TANKLESS WATER HEATER BY TITAN OR APPROVED EQUAL.
- SINGLE ELEMENT SEDIMENT FILTER BY TITAN OR APPROVED EQUAL.
- TANKLESS WATER HEATER BY TITAN OR APPROVED EQUAL THAT IS MADE IN AMERICA. MODEL N-120, 11.8 KW AT 208 VAC. 54 AMPS. INCLUDES THERMOSTATICALLY TEMPERATURE CONTROLLER ON FRONT COVER, 99.5% EFFICIENT. STEEL OUTER COVER, COPPER-BRASS INNER CASING WITH DUAL HEATING CHAMBERS, UL APPROVED #499, ANSI-Z 10.03 CERTIFIED. MINIMUM 10 YEAR WARRANTY ON ALL WATER CARRYING COMPONENTS. MINIMUM 1 YEAR WARRANTY ON ALL OTHER COMPONENTS.
- 1/2" BRASS PRESSURE RELIEF VALVE BY TITAN OR APPROVED EQUAL. ROUTE DISCHARGE PIPE TO FLOOR USING CPVC PIPE.
- 1/2" COPPER TUBE, TYPE L WITH RUBBER OUTER INSULATION HAVING AN INSULATION R VALUE OF 10.3 OR MEETING LOCAL CODE REQUIREMENTS, WHICHEVER IS GREATER. INSULATION SHALL BE FIRE RATED AND PAINTABLE. MOUNT PIPING TO WALL WITH OFF-SET PIPE HANGER.
- (N) POTABLE WATER SUPPLY TO (N) KITCHENETTE SINK. 1/2" COPPER TUBE, TYPE L.
- THE POTABLE WATER TUBING SHALL BE FLUSHED AT A VELOCITY GREATER THAN 3 FEET/SECOND FOR MINIMUM OF FIVE (5) MINUTES TO REMOVE ANY DEBRIS. THE POTABLE WATER PIPING SHALL THEN BE DISINFECTED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE AND FLUSHED AGAIN TO REMOVE ALL DISINFECTANTS.
- BATHROOM WALL PENETRATION FOR 1/2" COPPER PIPE. SEAL AROUND PENETRATION WITH ELASTOMERIC CAULK AND COVER BATHROOM SIDE WITH CHROME PLATED ESCUTCHEON PLATE.



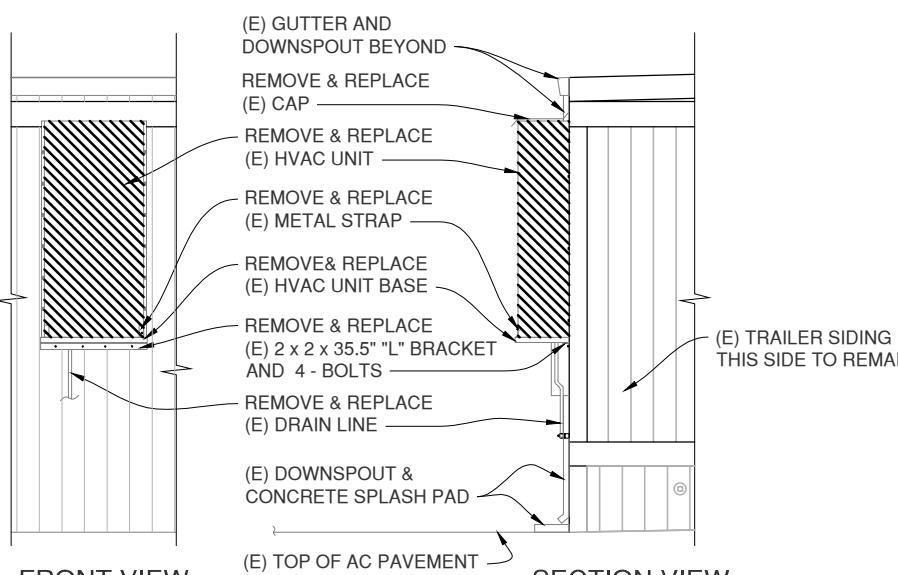
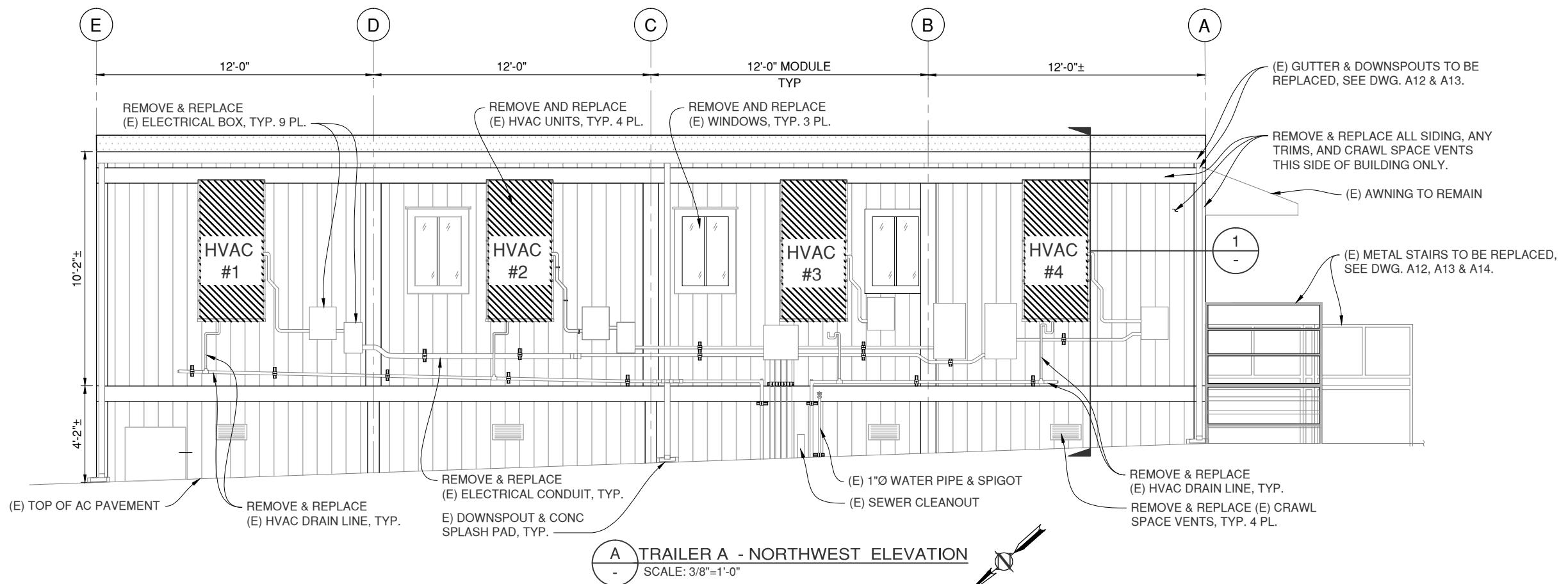
2 ISOMETRIC - TRAILER D WASTE & VENT PLUMBING
- NOT TO SCALE

GENERAL NOTES:

- MODIFICATIONS TO THE TRAILER WASTE AND VENT PLUMBING SHOWN SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA PLUMBING CODE AND THE LOCAL CODE HAVING JURISDICTION. WHERE THERE IS A CONFLICT BETWEEN CODES, THE MORE STRINGENT CODE SHALL APPLY.
- ALL PIPING MATERIAL SHALL MATCH EXISTING.
- SEE PROJECT SPECIFICATIONS FOR (N) KITCHENETTE SINK AND GARBAGE DISPOSAL. GARBAGE DISPOSAL P-TRAP CONNECTION TO DRAIN/VENT LINE SHALL BE PER STANDARD PLUMBING PRACTICE.
- (N) SINK FLOOR PENETRATION UNDER THE SINK AND SEALED WITH A CHROME PLATED ESCUTCHEON PLATE.
- (N) SINK VENT SHALL RUN INSIDE THE EXISTING BATHROOM/CONFERENCE ROOM WALL TO THE CEILING AND THEN TO THE EXISTING WASTE VENT AS SHOWN. SEE PROJECT SPECIFICATIONS FOR WALL COVERING.
- TRAILER CEILING PENETRATION FOR (N) VENT PIPE SHALL BE SIMILAR TO EXISTING.

ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE VERIFY SCALE FOR REDUCED PLANS 	APPROVED BY H. FURNACE REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA M17611 Exp. 3/31/18	REVISIONS BY DATE 03/14/2017	APPROVED BY A.Z. BAUER REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA No. C43632 Exp. 3/31/19	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
PROJECT ENGINEER 03/14/2017 DATE	NO. REVISIONS CONTRACT NO. 2017-B-12 CADD FILE: 17B12A045.DWG	DWG NO. M30	SHEET TITLE MECHANICAL DETAILS MISCELLANEOUS-3	GOLDEN GATE BRIDGE HIGHWAY & TRANSPORTATION DISTRICT DATE: MARCH 14, 2017
SCALE: AS NOTED				



GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

APPROVED BY

H. FURNACE
REGISTERED PROFESSIONAL ENGINEER
MECHANICAL
STATE OF CALIFORNIA
No. C43632
Exp. 3/31/18

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

CONTRACT NO. 2017-B-12
CADD FILE: 17B12A046.DWG

DWG NO. M31

APPROVED BY

A. Z. BAUER
REGISTERED PROFESSIONAL ENGINEER
CIVIL
STATE OF CALIFORNIA
No. C43632
Exp. 3/31/19

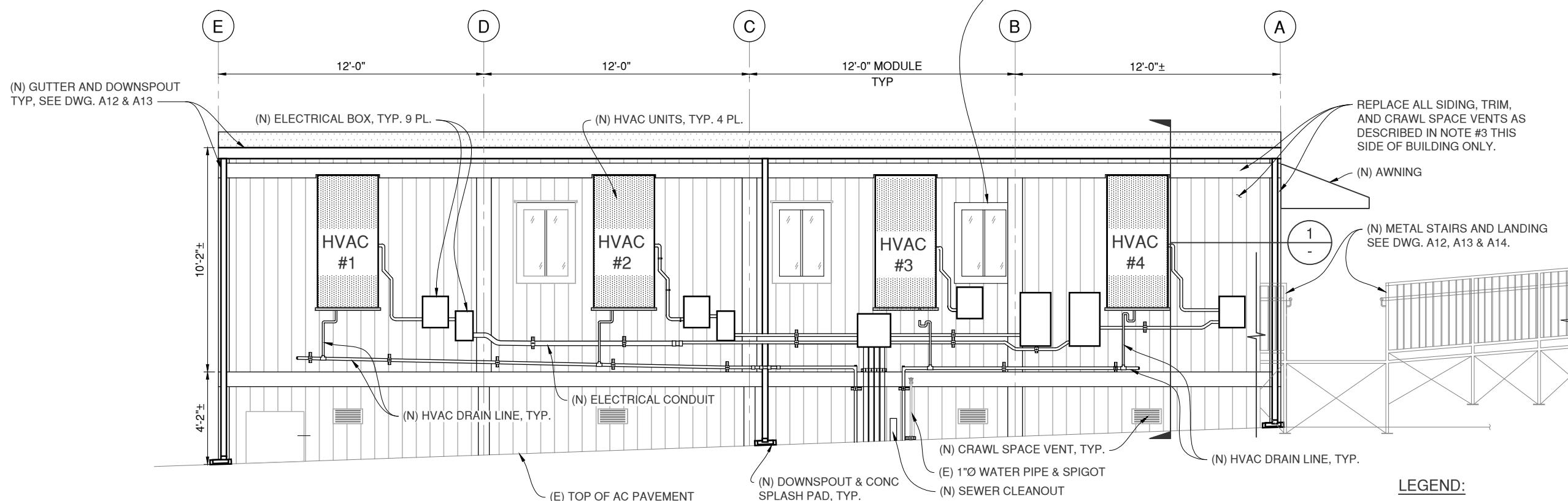
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**TRAILER A
HVAC DEMOLITION**

SCALE: AS NOTED
DATE: MARCH 14, 2017





LEGEND:

INSTALL (N) HVAC UNITS, TYP. 4 PL.

A TRAILER A - NORTHWEST ELEVATION
SCALE: 3/8"=1'-0"

NOTES:

- SEE DWG A02 FOR GENERAL NOTES AND DWG M01 FOR GENERAL MECHANICAL NOTES & SYMBOLS.
- COORDINATE INSTALLATION OF HVAC UNITS, ELECTRICAL PANELS, TRAILER SIDING, ETC. AS DESCRIBED IN DWG. M29.
- AFTER (E) SIDING REMOVED, INSPECT AND REPAIR/REPLACE ANY DAMAGED AREAS AS DIRECTED BY THE ENGINEER.
- INSTALL T11 HARDIE PANEL SIDING AND TRIM OR APPROVED EQUAL WITH SAME PATTERN AS EXISTING, AND TRIMS TO MATCH ADJACENT WALLS, DESCRIBED IN THE PROJECT SPECIFICATIONS PER MANUFACTURERS INSTRUCTIONS. SIDING TO BE PLACED OVER 2 LAYERS OF 40# BUILDING PAPER. PAINT TO MATCH EXISTING BUILDING COLORS.
- PRIOR TO REPLACING ELECTRICAL PANELS, EQUIPMENT, WIRING AND CONDUIT, PROVIDE CERTIFICATION TO THE OWNER THAT ALL NEW ELECTRICAL EQUIPMENT ITEMS TO BE PROVIDED AND INSTALLED COMPLY WITH THE REQUIREMENTS OF THE CURRENT CALIFORNIA ELECTRICAL CODE FOR THE INTENDED APPLICATION. CERTIFICATION SHALL BE SIGNED AND STAMPED BY A PROFESSIONAL ELECTRICAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.
- PROVIDE AND INSTALL ALL ELECTRICAL PANELS WITH ASSOCIATED CIRCUIT BREAKERS AND SWITCHES. ALL ELECTRICAL PANELS ARE TO BE MADE FROM STAINLESS STEEL AND RATED NEMA ENCLOSURE 3.
- PROVIDE AND INSTALL ALL CONDUIT AND WIRING. CONDUIT SHALL BE PLASTI-BOND PVC COATED GALVANIZED RIGID CONDUIT BY ROB ROY INDUSTRIES OR APPROVED EQUAL. ALL CONDUIT FITTINGS, BOXES, COVERS, CONNECTORS, AND SUPPORTS SHALL ALSO BE PVC COATED, RIGID METAL TYPE MADE BY THE SAME MANUFACTURER AS THE CONDUIT.
- PRIOR TO INSTALLING ELECTRICAL PANELS AND HVAC UNITS, FINISH PAINT SIDING, GUTTER, TRIM, AND CONDUIT TO MATCH EXISTING.
- SEAL AND CAULK AROUND EACH HVAC UNIT TO PREVENT WATER FROM PENETRATING BETWEEN WALL AND HVAC UNITS.
- PROVIDE AND INSTALL STAINLESS STEEL DRIP PAN UNDER EACH HVAC UNIT WITH STAINLESS STEEL SUPPORT STRAPS AND HARDWARE SIMILAR TO EXISTING.
- PROVIDE AND INSTALL DRAIN PIPING FROM HVAC DRIP PANS TO DRAINS SIMILAR TO EXISTING. DRAIN PIPING MATERIAL AND SIZE TO MATCH EXISTING. PAINT DRAIN PIPING TO MATCH SIDING.
- PROVIDE AND INSTALL (N) HVAC UNITS AND (N) PROGRAMMABLE THERMOSTAT PER PROJECT SPECIFICATIONS AND PROJECT DRAWINGS.
- REPLACE WINDOWS AND SILLS PER PROJECT SPECIFICATIONS. BATHROOM WINDOW SHALL HAVE PRIVACY GLASS AS DESCRIBED IN THE PROJECT SPECIFICATIONS.

ISSUED FOR BID

FRONT VIEW

SECTION VIEW

NOTE: ALL MOUNTING HARDWARE INCLUDING BOLTS, NUTS, WASHERS, SCREWS, ETC. TO BE TYPE A316 STAINLESS STEEL, TYP.

INSTALLATION HVAC UNIT BASE DETAIL
SCALE: 3/8"=1'-0"

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7 CM 1 2 3 4 5 6 7

APPROVED BY

REGISTERED PROFESSIONAL ENGINEER
H. FURNACE
No. C43632
Ex. 3/31/18
MECHANICAL
STATE OF CALIFORNIA

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

NO.	REVISIONS	BY	DATE
CONTRACT NO. 2017-B-12		DWG NO.	M32
CADD FILE: 17B12A047.DWG			

APPROVED BY

REGISTERED PROFESSIONAL ENGINEER
A. Z. BAUER
No. C43632
Ex. 3/31/19
CIVIL
STATE OF CALIFORNIA

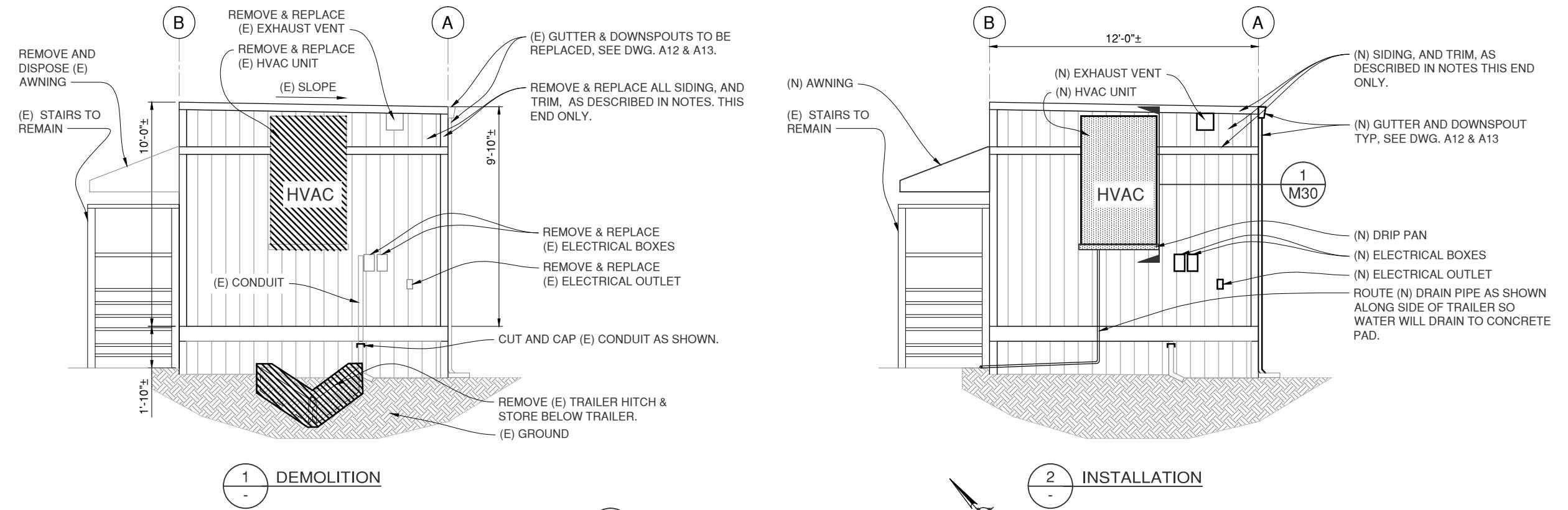
DISTRICT ENGINEER
03/14/2017
DATE

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**TRAILER A
HVAC INSTALLATION**

SCALE: AS NOTED
DATE: MARCH 14, 2017





NOTES:

- SEE DWG A02 FOR GENERAL NOTES AND DWG M01 FOR GENERAL MECHANICAL NOTES & SYMBOLS.
- SEE DWG M30, NOTES 4 AND 5 REGARDING TIME TO COMPLETE ALL WORK AND WORKING HOURS. WORK ON TRAILER D SHALL BE COMPLETED WITHIN THE SAME TIME PERIOD AS TRAILER A.
- FIELD VERIFY (E) UTILITIES. NOTIFY THE ENGINEER IN ADVANCE IF ANY UTILITIES NEED ADJUSTMENT TO ACCOMMODATE REMOVAL OF (E) HVAC UNITS OR INSTALLATION OF NEW HVAC UNITS.
- REMOVE AND DISPOSE OF (E) WALL MOUNTED HVAC UNIT AND SUPPORT BRACKETS, THERMOSTAT INSIDE TRAILER (NOT SHOWN), ASSOCIATED ELECTRICAL PANELS, CIRCUIT BREAKERS, SWITCHES, CONDUIT, AND WIRING.
- REMOVE AND DISPOSE OF (E) SIDING, AND TRIM.
- AFTER (E) SIDING REMOVED, INSPECT AND REPAIR/REPLACE ANY DAMAGED AREAS AS DIRECTED BY ENGINEER.
- INSTALL T11 HARDIE PANEL SIDING AND TRIM OR APPROVED EQUAL WITH SAME PATTERN AS EXISTING AND AS DESCRIBED IN THE PROJECT SPECIFICATIONS PER MANUFACTURERS INSTRUCTIONS. SIDING TO BE PLACED OVER 2 LAYERS OF 40# BUILDING PAPER. PAINT TO MATCH EXISTING COLORS.
- PRIOR TO REPLACING ELECTRICAL PANELS, CIRCUIT BREAKERS, SWITCHES, WIRING AND CONDUIT, PROVIDE CERTIFICATION TO THE OWNER THAT ALL NEW ELECTRICAL ITEMS TO BE PROVIDED AND INSTALLED COMPLY WITH THE REQUIREMENTS OF THE CURRENT CALIFORNIA ELECTRICAL CODE FOR THE INTENDED APPLICATION. CERTIFICATION SHALL BE SIGNED AND STAMPED BY A PROFESSIONAL ELECTRICAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7 CM 1 2 3 4 5 6 7

APPROVED BY

H. FURNACE
MECHANICAL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
M17611 Exp. 3/31/18

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

CONTRACT NO. 2017-B-12
CADD FILE: 17B12A048.DWG

DWG NO.
M33

APPROVED BY

A. Z. BAUER
CIVIL
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STATE OF CALIFORNIA
No. C43632 Exp. 3/31/19

DISTRICT ENGINEER
03/14/2017
DATE

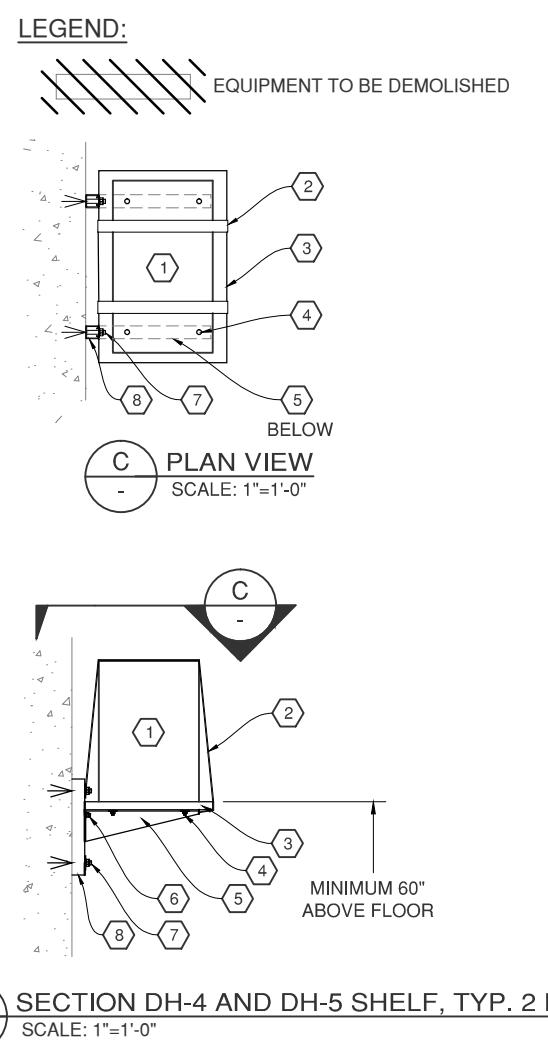
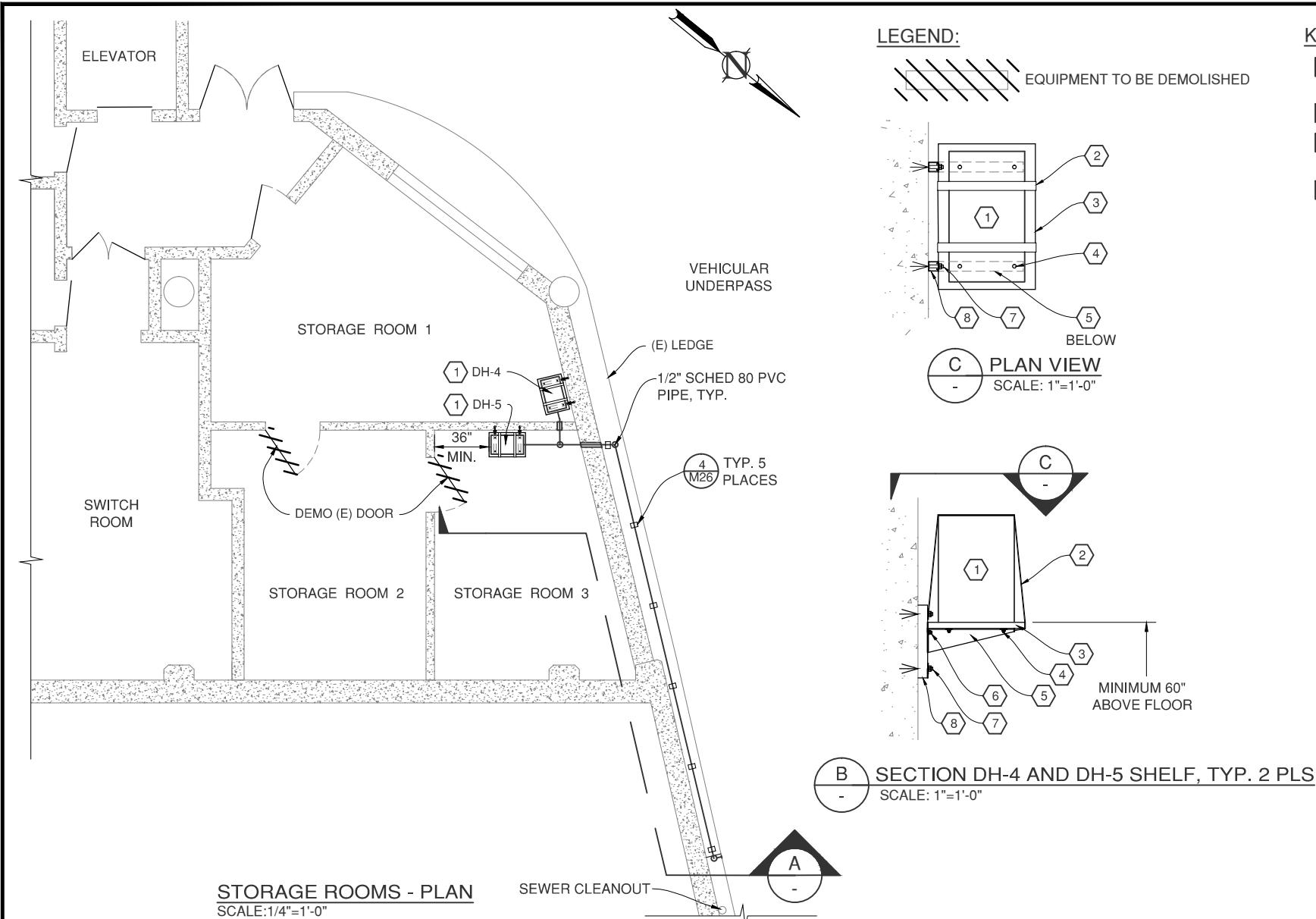
PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**TRAILER D
HVAC DEMOLITION & INSTALLATION**

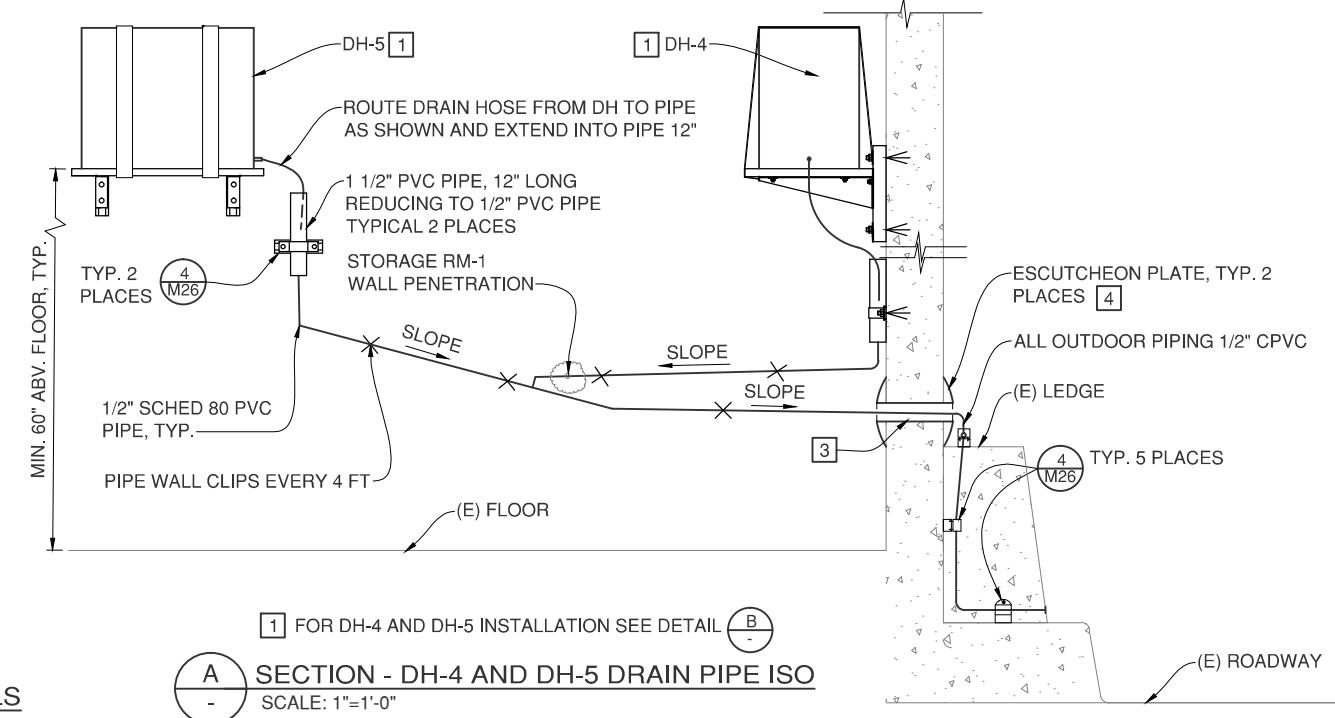
SCALE: AS NOTED
DATE: MARCH 14, 2017

ISSUED FOR BID





- KEY NOTES:**
- 1 PROVIDE AND INSTALL DEHUMIDIFIERS WHERE SHOWN AND AS DESCRIBED IN EQUIPMENT SCHEDULES, THIS DRAWING.
 - 2 INSTALL WALL SHELF SHOWN IN SECTION **A**. MOUNT DEHUMIDIFIERS ON SHELVES.
 - 3 CORE DRILL HOLE IN WALL AND ROUTE DRAIN PIPE FROM DH-4 AND DH-5 TO OUTSIDE AS SHOWN, HOLE DIAMETER TO BE 1" DIA.
 - 4 PACK HOLE AROUND PIPE WITH FLEXIBLE CAULK, BOTH SIDES, AND INSTALL HEAVY GAUGE CHROME ESCUTCHEON WITH SPRINGS, SNAP-SPLIT TYPE AROUND DRAIN PIPE, EACH SIDE OF WALL.



DEHUMIDIFIER SCHEDULE													
EQUIPMENT NO.	SERVICE	LOCATION	AIR MOVEMENT	WATER REMOVAL	OPERATING TEMPERATURE RANGE	POWER	AMPS	INTERNAL CONDENSATE PUMP INCLUDED	DRAIN HOSE LENGTH	CONTROLS	MANUFACTURER & MODEL	OPTIONS AND ACCESSORIES	APPLICABLE NOTES
			CFM		°F				FT				
DH-4	DEHUMIDIFY VAULT AND BASEMENT STORAGE ROOMS	STORAGE ROOM -1	180	75 PINTS PER DAY AT 800 F/60% RH	45 TO 100	115V/60 Hz	6.2 AMPS AT 800 F/60% RH	YES	20	ELECTRONIC WITH HUMIDISTAT AND AUTO-DEFROST	DRI-EAZ PHD 200 DEHUMIDIFIER	20-FT DRAIN HOSE FOR CONTINUOUS DRAINING WITH QUICK CONNECT FITTING; AIR FILTER; 6-FT DETACHABLE POWER CORD; LOW TEMPERATURE OPERATION DOWN TO 41 F; ENERGY STAR RATED; FAN OPERATION ONLY WHEN DEHUMIDIFYING; MAX NOISE LEVEL 60 db; AUTO RESTART ON POWER FAILURE; REFRIGERANT TYPE R-410A.	1, 2
DH-5	DEHUMIDIFY VAULT AND BASEMENT STORAGE ROOMS	STORAGE ROOM-3	180	75 PINTS PER DAY AT 800 F/60% RH	45 TO 100	115V/60 Hz	6.2 AMPS AT 800 F/60% RH	YES	20	ELECTRONIC WITH HUMIDISTAT AND AUTO-DEFROST	DRI-EAZ PHD 200 DEHUMIDIFIER	20-FT DRAIN HOSE FOR CONTINUOUS DRAINING WITH QUICK CONNECT FITTING; AIR FILTER; 6-FT DETACHABLE POWER CORD; LOW TEMPERATURE OPERATION DOWN TO 41 F; ENERGY STAR RATED; FAN OPERATION ONLY WHEN DEHUMIDIFYING; MAX NOISE LEVEL 60 db; AUTO RESTART ON POWER FAILURE; REFRIGERANT TYPE R-410A.	1, 2

NOTES:

- 1 EACH ITEM SHALL COMPLY WITH THE REQUIREMENTS FOR MANUFACTURE IN THE U.S.A.
- 2 SEE PROJECT SPECIFICATIONS FOR FURTHER REQUIREMENTS.

BILL OF MATERIAL - ONE SHELF		
NO.	ITEM	QTY
①	DEHUMIDIFIER. SEE EQUIPMENT SCHEDULE	1
②	CINCHING STRAP. POLYPROPYLENE WEBBING AND FEED-THRU BUCKLE. CUT TO LENGTH.	2
③	1" X 14" X 24" PLYWOOD, GRADE A, SANDED BOTH SIDES, EDGES ROUNDED AND SMOOTH	1
④	5/16" X 2" LONG COUNTERSUNK BOLT WITH NUT AND WASHER. GALVANIZED STEEL.	4
⑤	SHELF BRACKET, UNISTRUT P2495 R-L, 12 GA STEEL, OR EQUAL	2
⑥	3/8" X 1 1/4" LONG CHANNEL STUD WITH SRING, WASHER AND NUT. GALVANIZED STEEL.	2
⑦	1/2" HILTI KWIK BOLT 3 OR EQUAL, GALVANIZED STEEL WITH MINIMUM 4" EMBEDDED DEPTH.	4
⑧	P1000 UNISTRUT CHANNEL, 12 GA, GALVANIZED STEEL, OR EQUAL. 12" LONG.	2

- NOTES:
1. TYPICAL FOR DH-4, AND DH-5

ISSUED FOR BID

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS
IN 1 2 3 4 5 6 7
CM 1 2 3 4 5 6 7

APPROVED BY
H. Furnace
REGISTERED PROFESSIONAL MECHANICAL ENGINEER
STATE OF CALIFORNIA
No. M17611
Exp. 3/31/18

PROJECT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

CONTRACT NO. 2017-B-12
DWG NO. M34

CADD FILE: 17B12A049.DWG

APPROVED BY
Eva Z. Bauer
REGISTERED PROFESSIONAL CIVIL ENGINEER
STATE OF CALIFORNIA
No. C43632
Exp. 3/31/19

DISTRICT ENGINEER
03/14/2017
DATE

REVISIONS
BY DATE

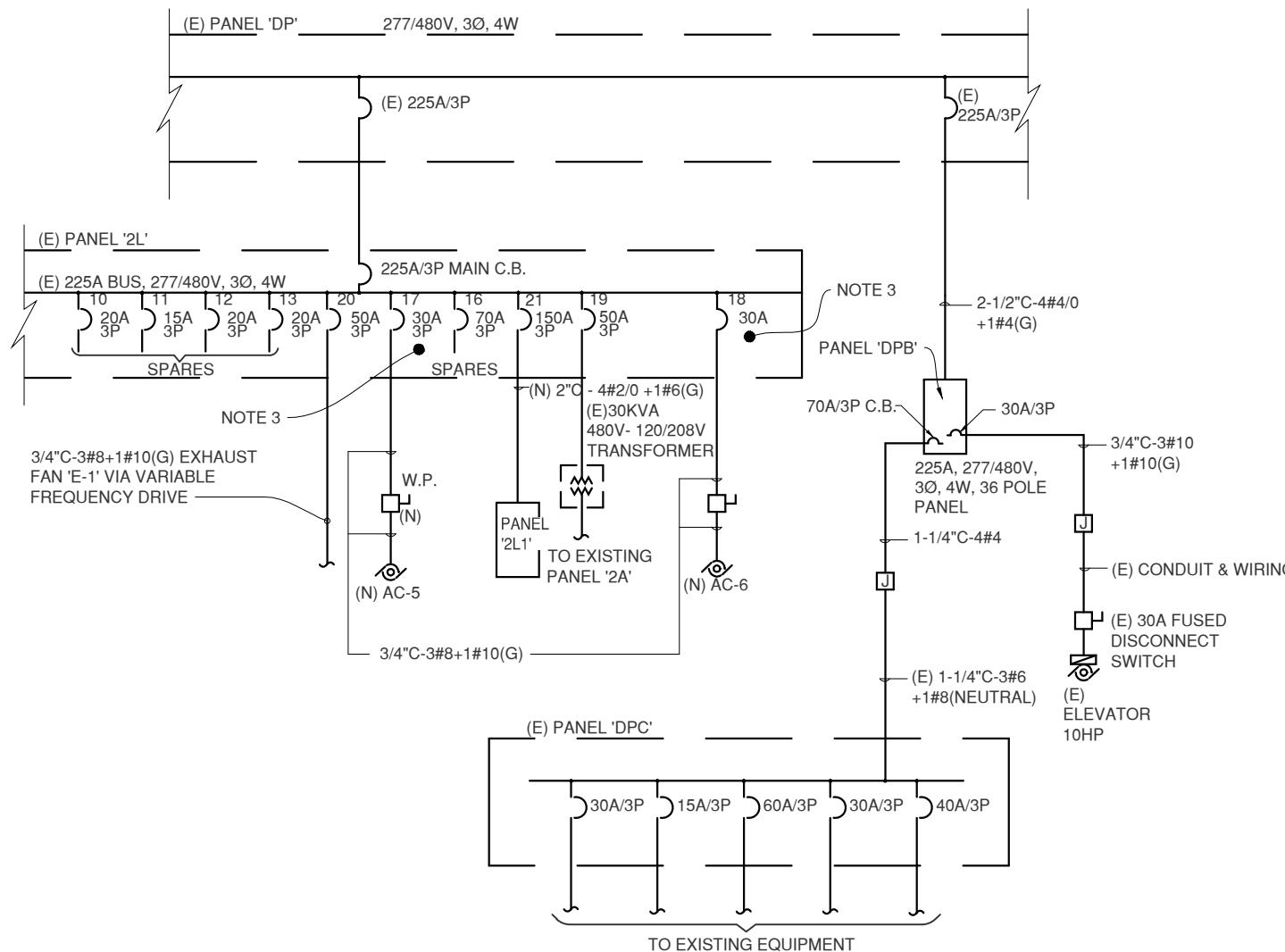
CONTRACT NO. 2017-B-12
DWG NO. M34

CADD FILE: 17B12A049.DWG

SCALE: AS NOTED

PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**
SHEET TITLE
**BASEMENT STORAGE ROOM
DEHUMIDIFIER INSTALLATION**





(ALL ELECTRICAL EQUIPMENTS & FEEDERS SHOWN ARE EXISTING TO REMAIN, U.O.N.)

ABBREVIATIONS:

A	AMPERE
A.F.F.	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CIR, CKT	CIRCUIT
CB	CIRCUIT BREAKER
DWG.	DRAWING
(E)	EXISTING
FLEX.	FLEXIBLE (CONDUIT)
(G), GRD	GROUND
GFI	GROUND FAULT INTERRUPTER
HP	HORSE POWER
JB	JUNCTION BOX
KVA	KILOVOLTAMPERE
KW	KILOWATT
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PNL	PANEL
Ø, ph	PHASE
(R)	REMOVE
(E) (RE)	EXISTING TO REMAIN
(RL)	EXISTING TO BE RELOCATED
(R,R)	RELOCATED AND REINSTALL
TYP.	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLTAMPERE
W	WATT
WP	WEATHERPROOF
A-1,3,5	TYPICAL HOMERUN DESIGNATION TO CIRCUITS 1,3,5 IN PANEL "A"
A-1 (3,5)	TYPICAL HOMERUN DESIGNATION TO 3-POLE CIRCUIT BREAKER IN PANEL "A"

ELECTRICAL SYMBOL LIST:

	WIRES IN CONDUIT, CONCEALED UNDER FLOOR OR UNDERGROUND.
	HOMERUN OF CONDUIT AND WIRES TO CIRCUIT #1 IN PANEL 'A'
	CROSS HATCHES INDICATE NO. OF #12 AWG WIRES IN ADDITION TO #12 AWG GROUND, IF MORE THAN 2 #12
	CONDUIT STUB OUT
	FLEXIBLE CONDUIT
	CONDUIT UP
	CONDUIT DOWN
	GROUND WIRE IN CONDUIT
	EXISTING CONDUIT AND WIRING.
	EXISTING CONDUIT AND WIRING TO BE REMOVED
	BRANCH CIRCUIT PANEL, SURFACE OR FLUSH MOUNTED, 120/208V
	BRANCH CIRCUIT PANEL, SURFACE OR FLUSH MOUNTED, 277/480V
	TERMINAL OR CONTROL CABINET, SURFACE OR FLUSH MOUNTED
	JUNCTION BOX (CEILING-WALL)
	MOTOR OUTLET
	PULL BOX, JUNCTION BOX
	FUSED DISCONNECT SWITCH, SIZE OF FUSES PER EQUIPMENT NAMEPLATE
	SINGLE POLE SWITCH
	DUPLEX RECEPTACLE
	SMOKE DETECTOR DUCT MOUNTED
	GROUND
	END OF LINE DEVICE FOR SIGNAL SYSTEM. MATCH EXISTING TYPE.
	DETAIL REFERENCE MARKER, DETAIL #1 ON SHEET E03 SHOWN
	MECHANICAL EQUIPMENT DESIGNATION
	FIRE ALARM STROBE AND HORN COMBINATION

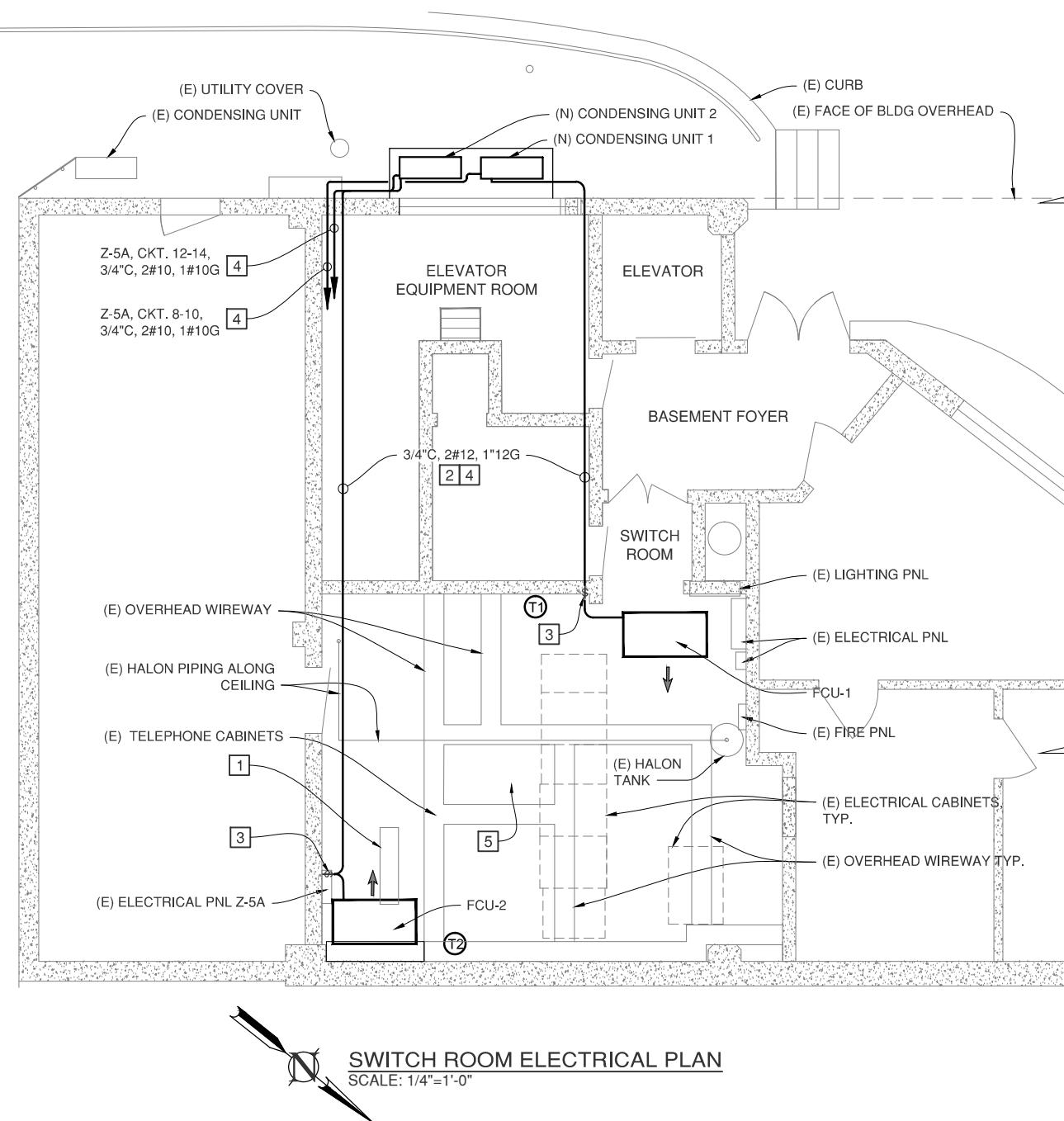
GENERAL NOTES:

1. ALL EXTERIOR WORK SHALL BE OF WEATHERPROOF CONSTRUCTION.
2. COORDINATE ALL WORK WITH OTHER TRADES AND COMPLY WITH CONSTRUCTION PHASING PLANS TO MAINTAIN ALL ELECTRICAL SERVICES TO MAXIMUM EXTENT POSSIBLE.
3. REPLACE EXISTING 50A CB WITH NEW 30A CB.
4. ALL ELECTRICAL COMPONENTS SHALL BE SECURED TO BUILDING STRUCTURAL MEMBERS AND INSTALLED IN ACCORDANCE WITH APPROVED WORK PLAN AND ALL APPLICABLE CODES.
5. DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND DIMENSIONS PRIOR TO ORDERING EQUIPMENT OR MATERIALS OR FABRICATION OR FIELD WORK.
6. FOLLOW MANUFACTURER'S DRAWINGS AND INSTALLATION INSTRUCTIONS.
7. PROVIDE REQUIRED ELECTRICAL CLEARANCES AROUND ALL EQUIPMENT. MAINTAIN WORKING CLEARANCES AND ACCESS TO ALL MECHANICAL EQUIPMENT.
8. CONTRACTOR SHALL ALTER, AS REQUIRED, ALL ELECTRICAL COMPONENTS RESULTING FROM CHANGES TO HVAC EQUIPMENT SELECTION THAT DIFFERS FROM DESIGN DOCUMENTS.

ISSUED FOR BID

	STEFFEN ENGINEERING CO CONSULTING ENGINEERS		APPROVED BY 	PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS
REGISTERED ELECTRICAL ENGINEER No. 11872 Exp. 12/31/18	03/14/2017	ELECTRICAL ENGINEER	NO. REVISIONS CONTRACT NO. 2017-B-12 CADD FILE: 17B12A050.DWG	SHEET TITLE ELECTRICAL SYMBOL LIST ABBREVIATIONS, GENERAL NOTES AND SINGLE LINE DIAGRAM
PLANS APPROVAL DATE			BY DATE DWG NO. E01	DISTRICT ENGINEER DATE 03/14/2017
CADD FILE: 17B12A050.DWG				



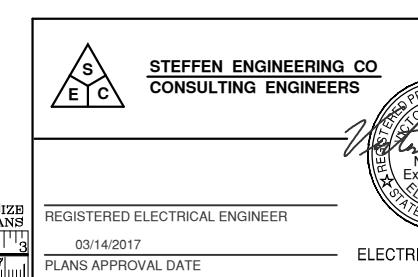


NOTES

- [1]** MOVE LIGHT FIXTURE 4 FEET TO THE SOUTH-WEST, AWAY FROM FCU-2 AND RECONNECT.
 - [2]** INDOOR UNIT POWER CIRCUIT SUPPLIED FROM OUTDOOR UNIT.
 - [3]** MOUNT DC TOGGLE SWITCH AT 7 FEET ABOVE FLOOR WITH LABEL FOR RESPECTIVE FAN COIL UNIT NUMBER. 2 EACH, ONE FOR EACH SYSTEM.
 - [4]** ROUTE CONDUITS ABOVE SWITCH ROOM IN INTERSTITIAL SPACE AS MUCH AS POSSIBLE AND AS HIGH AS POSSIBLE.
 - [5]** EXISTING AIR HANDLER IN INTERSTITIAL SPACE ABOVE THE SWITCH ROOM. DISCONNECT FROM POWER SOURCE AND REMOVE CONDUIT AND WIRE BACK TO POWER SOURCE, FIELD VERIFY LOCATION. REMOVE LOCAL DISCONNECT SWITCH AND RENDER TO THE DISTRICT. REMOVE CONTROLS WIRING AND CONDUIT COMPLETE.

PANEL:	Z-5A	LOCATION:	SWITCH ROOM	VOLTAGE:	208/120V,3Ø,4W						
DESCRIPTION	KVA LOAD			CB	C C T	C C T	CB	KVA LOAD			DESCRIPTION
	ph A	ph B	ph C					ph A	ph B	ph C	
SPARE				20	1			2	20	100	VAULT LTS
SPACE					3			4	20		SPARE
SPACE					5			6	20		LOFT DAMPERS
S. BOUND BUS	50			20	7			8	30	1.2K	
BUS AVM		100		20	9			10	2P	1.2K	COOLER #1
SPACE					11			12	30		1.2K
					13			14	2P	1.2K	COOLER #2
					15			16			SPACE
					17			18			
					19			20			
					21			22			
					23			24			
				70A	25			26			
SPARE					27			28			
					3P	29					
					100A	31					
MAIN						33					NON USABLE
					3P	35					
TRIM STYLE:	<input type="checkbox"/> FLUSH	<input checked="" type="checkbox"/> SURFACE	CONNECTED LOAD (KVA)								
BUS RATING:	<input checked="" type="checkbox"/> 100 A	<input type="checkbox"/> 200 A	ph A:	2.5							
<input checked="" type="checkbox"/> MAIN CB	100 A	<input type="checkbox"/> 225 A	ph B:	1.3							
<input type="checkbox"/> MAIN LUGS ONLY		<input type="checkbox"/> 400 A	ph C:	1.3							
NOTES:	20A ON HIGH PHASE			TOTAL:	5.1						

ISSUED FOR BID



PROJECT TITLE **GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

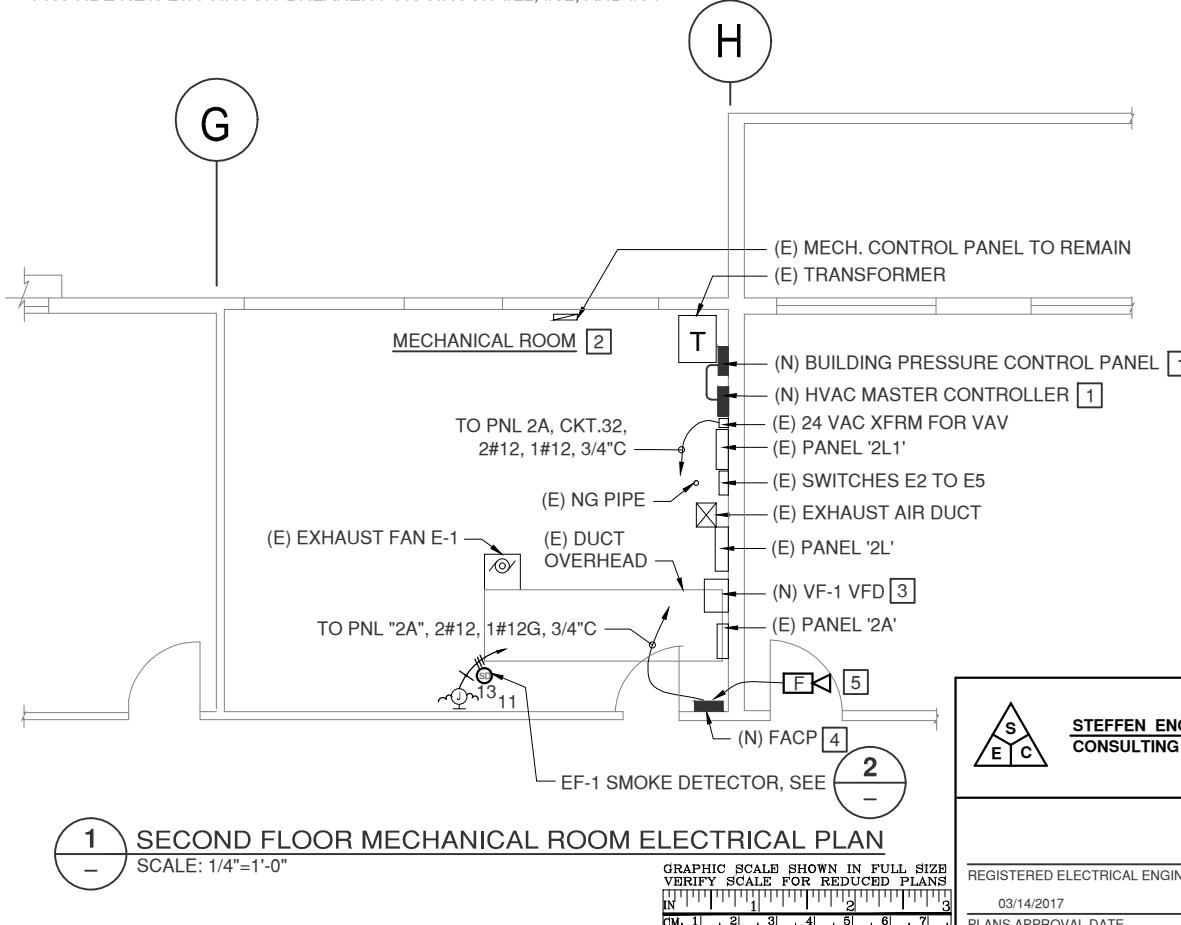
SHEET TITLE **SWITCH ROOM ELECTRICAL
PLAN**

SCALE: AS NOTED DATE: MARCH 14, 2017



PANEL: 2A					DWG: PN_2A (5/19/15)
MAIN BREAKER: FED FROM PANEL 2L			BUSSING: 208Y/120 3 PHASE		
LOCATION: 2ND FLOOR MECHANICAL ROOM					
DESCRIPTION	TRIP #	#	TRIP	DESCRIPTION	
RECEPTACLE COMMITTEE RM FLOOR	20	1 A	2	15	EXHAUST FAN E-4
EXIT LIGHTS	15	3 B	4	15	EXHAUST FAN E-5
EXHAUST FAN E-3	15	5 C	6	15	EXHAUST FAN E-2
LIGHTS ROOM 211	15	7 A	8	15	RECEPTACLES ROOM 109
RECEPTACLES ROOM 211 N. WALL	15	9 B	10	15	RECEPTACLES ROOM 107
RECEPTACLES ROOM 208	20	11 C	12	20	RECEPTACLES ROOM 112
DUCT DET.??	20	13 A	14		PANEL 1-A
HVAC CONTROLS	20	15 B	16	100	
ROOF RECEPCITALS	20	17 C	18		
RECEPTACLES RM 211 E. WALL	20	19 A	20	20	RECEPTACLE RM 211 W. WALL
RECEPTACLES RM 211 W. WALL	20	21 B	22	20	SMOKE DETECTOR @ EF-1
	23 C	24			
PANEL 2-B RM 214 (RESTROOM)	70	25 A	26	20	VAULT SHREDDER CIRCUIT
	27 B	28			
	29 C	30	20		RECEPTACLE RM 211 W. WALL
PANEL 2-C	100	31 A	32	20	HVAC MASTER CONTROLLER
	33 B	34	20		FACP
SPACE	35 C	36			SPACE
SPACE	37 A	38			SPACE
SPACE	39 B	40			SPACE
SPACE	41 C	42			SPACE

* PROVIDE NEW 20A CIRCUIT BREAKER FOR CIRCUIT #22, #32, AND #34



KEY NOTES:

- [1] GROUP NEW CONTROLLERS AS SHOWN. REMOVE (E) BLDG. PRESSURE CONTROLLER.
- [2] CONDUIT IN THIS ROOM CAN BE RUN EXPOSED.
- [3] PROVIDE NEW 20HP VFD IN THIS LOCATION. REMOVE (E) VFD WITH CONTROLS CABINET. REMOVE (E) AIR DUCT FROM (E) VFD TO ADJACENT AIR DUCT AND DISCARD AND COVER DUCT OPENING. RECONNECT NEW VFD TO (E) SOURCE AND (E) LOAD. PANEL "2L" CKT 20, 480V, 3 PHASE. CONNECT (N) VFD TO BUILDING PRESSURIZATION CONTROLLER TO MAINTAIN BUILDING PRESSURE BY CONTROLLING EF-1 FAN SPEED. WIRE & CONDUIT 2#14, 3/4"C.
- [4] LOCATE FACP ON SAME WALL AS THE DOOR TO THE ROOM, BEHIND DOOR.
- [5] LOCATE FIRE ALARM STROBE LIGHT AND HORN DIRECTLY ABOVE FACP. INSTALL PER MFR'S REQUIREMENTS AND CALIF. FIRE CODE.

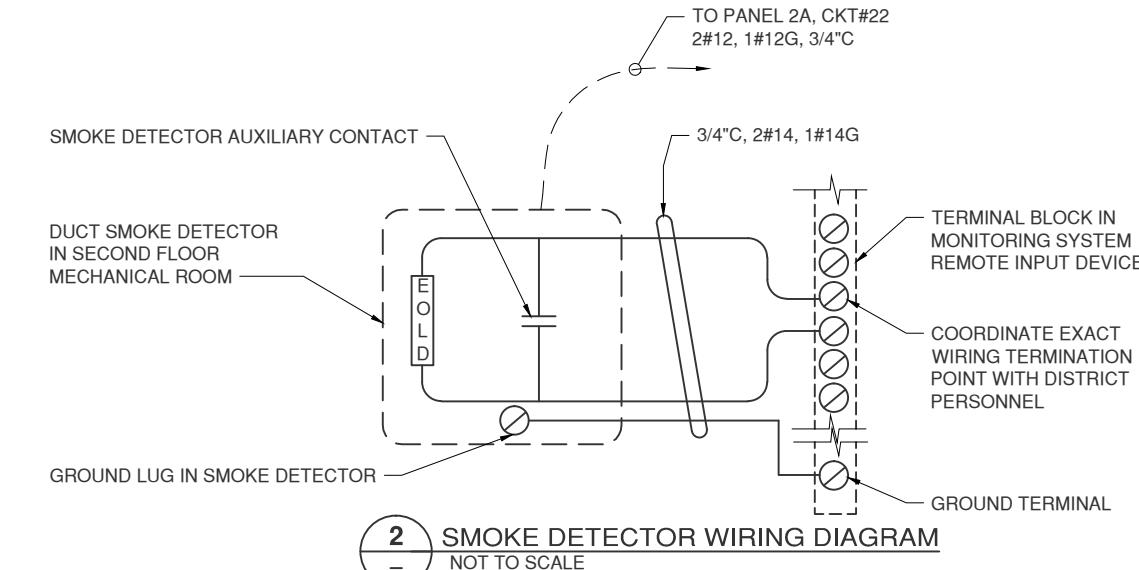
*

PANEL: 2L1		LOCATION: MECHANICAL ROOM		VOLTAGE: 277/480V,30,4W						
DESCRIPTION	KVA LOAD			CB	C C T	CB	KVA LOAD			DESCRIPTION
	ph A	ph B	ph C				ph A	ph B	ph C	
AC-1	4.4			30	1		2	30	4.4	AC-3
		4.4			3		4		4.4	
			4.4	3P	5		6	3P		
AC-2	4.4			30	7		8	30	4.9	AC-4
		4.4			9		10		4.9	
			4.4	3P	11		12	3P		
SPACE					13		14			SPACE
					15		16			
					17		18			
					19		20			
					21		22			
					23		24			
					25		26			
					27		28			
					29		30			
					31		32			
					33		34			
					35		36			
					37		38			
					39		40			
					41		42			

TRIM STYLE: FLUSH SURFACE
 BUS RATING: 100 A 200 A 225 A 400 A
 MAIN CB _____ A MAIN LUGS ONLY DOUBLE LUGS
 NOTES: _____

CONNECTED LOAD (KVA)
 ph A: 30.7
 ph B: 30.7
 ph C: 30.7
 TOTAL: 92.1

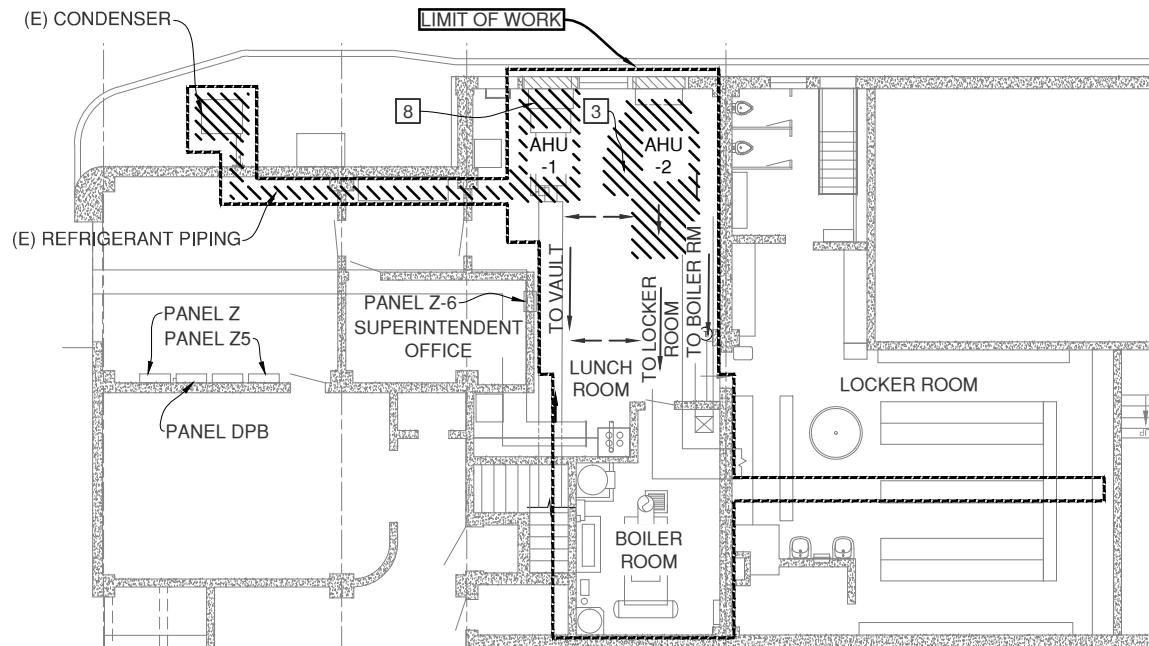
*CHANGE EXISTING 40A CIRCUIT BREAKER OUT FOR NEW 30A CIRCUIT BREAKER



ISSUED FOR BID

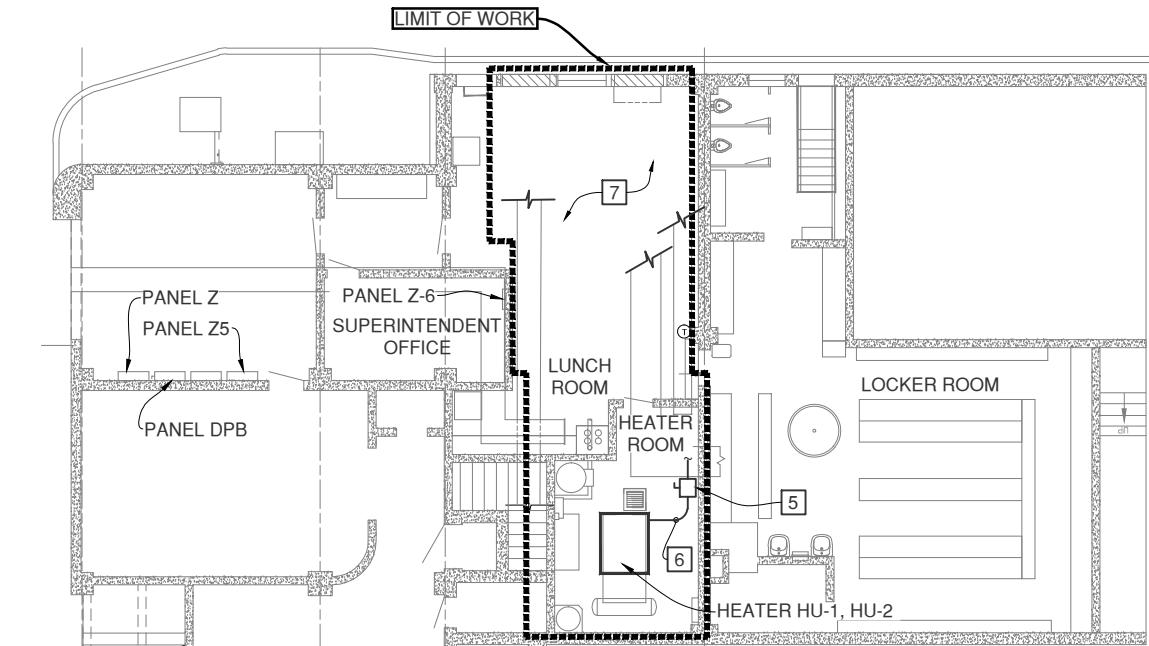
APPROVED BY		PROJECT TITLE	
		GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
REGISTERED PROFESSIONAL ENGINEER No. C43632 Michael J. Steffen Electrical Engineer State of California Exp. 3/31/19		SHEET TITLE	
03/14/2017		ELECTRICAL DETAILS SCHEDULES AND DIAGRAMS	
ELECTRICAL ENGINEER		DISTRICT ENGINEER	
NO.	REVISIONS	BY DATE	DATE
CONTRACT NO. 2017-B-12		DWG NO.	E04
PLANS APPROVAL DATE		CADD FILE:	DATE
03/14/2017		17B12A053.DWG	MARCH 14, 2017
GRAPHIC SCALE SHOWN IN FULL SIZE VERIFY SCALE FOR REDUCED PLANS [Scale: 1/4"=1'-0"]		SCALE: AS NOTED	

GOLDEN GATE BRIDGE HIGHWAY & TRANSPORTATION DISTRICT



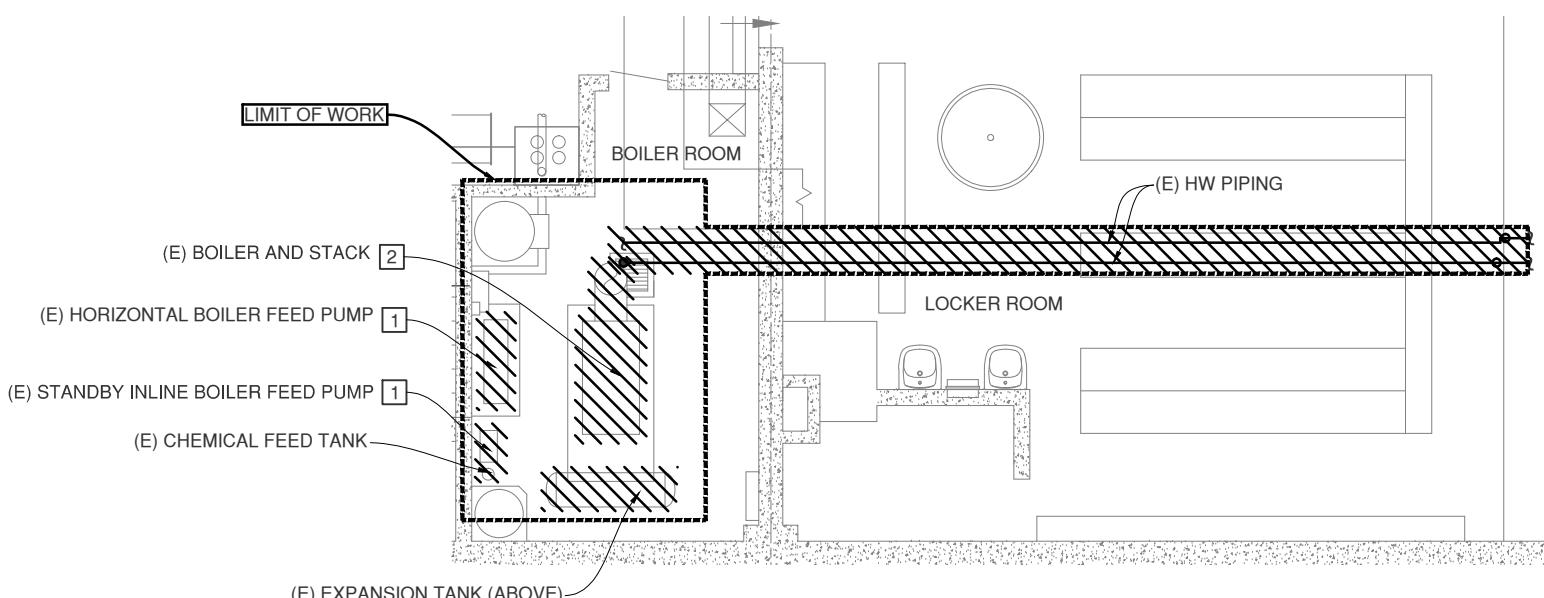
ELECTRICAL DEMOLITION - PAINTER'S LUNCH & LOCKER ROOM

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



NEW ELECTRICAL WORK - PAINTER'S LUNCH & LOCKER ROOM

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



ELECTRICAL DEMOLITION - BOILER ROOM

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

NOTES:

1. PROVIDE CONDUIT FOR ALL MECHANICAL CONTROL WIRING. COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL LOCATIONS.

KEY NOTES:

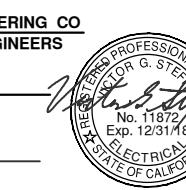
- 1 HOT WATER PUMPS TO BE REMOVED ARE FED FROM PANEL Z5, CIRCUITS 8-10-12 LOCATED IN UTILITY ROOM. REMOVE CONDUIT AND WIRE BACK TO PANEL Z5 AND MAKE CIRCUIT BREAKER #8 A SPARE.
- 2 BOILER TO BE REMOVED IS FED FROM PANEL Z5. REMOVE CONDUIT AND WIRE BACK TO PANEL Z5 AND MAKE CIRCUIT BREAKER #8 A SPARE.
- 3 AIR HANDLER "AHU-2" ABOVE PAINTER'S LUNCH ROOM TO BE REMOVED IS FED FROM PANEL # Z5, CIRCUITS #1 FOR HU-1 AND CIRCUIT#3 FOR HU-2. EXTEND CIRCUIT TO NEW UNIT HU-1 AND HU-2 IN OLD BOILER ROOM OF EACH 2#12AWG+1#12AWG GRD 120V,1 PHASE 3 WIRE INSIDE CONDUIT 3 / 4". DISCONNECT CIRCUIT FROM UNIT AND SAFE OFF DURING CONSTRUCTION.
- 4 NOT USED .
- 5 PROVIDE NEW 30A NON-FUSED DISCONNECT SWITCH FOR NEW HU-1and HU-2.
- 6 PROVIDE CIRCUIT EXTENSION FOR NEW HU-1 AND HU-2 CONNECTION, AND MAKE FULLY FUNCTIONAL FROM PANEL Z6, 20 AMP/1PHASE CIRCUIT BREAKER FROM CIRCUIT 11 & CIRCUIT 12 INSIDE 3/4" C, 2#12AWG+1#12AWG GROUND.
- 7 SEE DWG. M17 FOR DUCTWORK.
- 8 AIR HANDLER "AHU-1" ABOVE PAINTER'S LUNCH ROOM TO BE REMOVED IS FED FROM PANEL #Z5 CIRCUITS# 1-3. REMOVE CONDUIT AND WIRING FROM "AHU-1" TO CONDENSER UNIT AND PATCH ALL HOLES.

LEGEND:

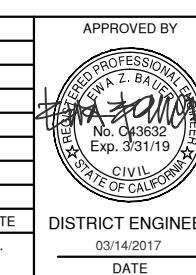


ISSUED FOR BID

	STEFFEN ENGINEERING CO CONSULTING ENGINEERS
REGISTERED ELECTRICAL ENGINEER No. 11872 Exp. 12/31/18 STATE OF CALIFORNIA	
03/14/2017	
PLANS APPROVAL DATE	



NO.	REVISIONS	BY	DATE
CONTRACT NO.	2017-B-12	DWG NO.	E05
CADD FILE:	17B12A054.DWG	DATE	03/14/2017



APPROVED BY
No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

03/14/2017

DATE: MARCH 14, 2017

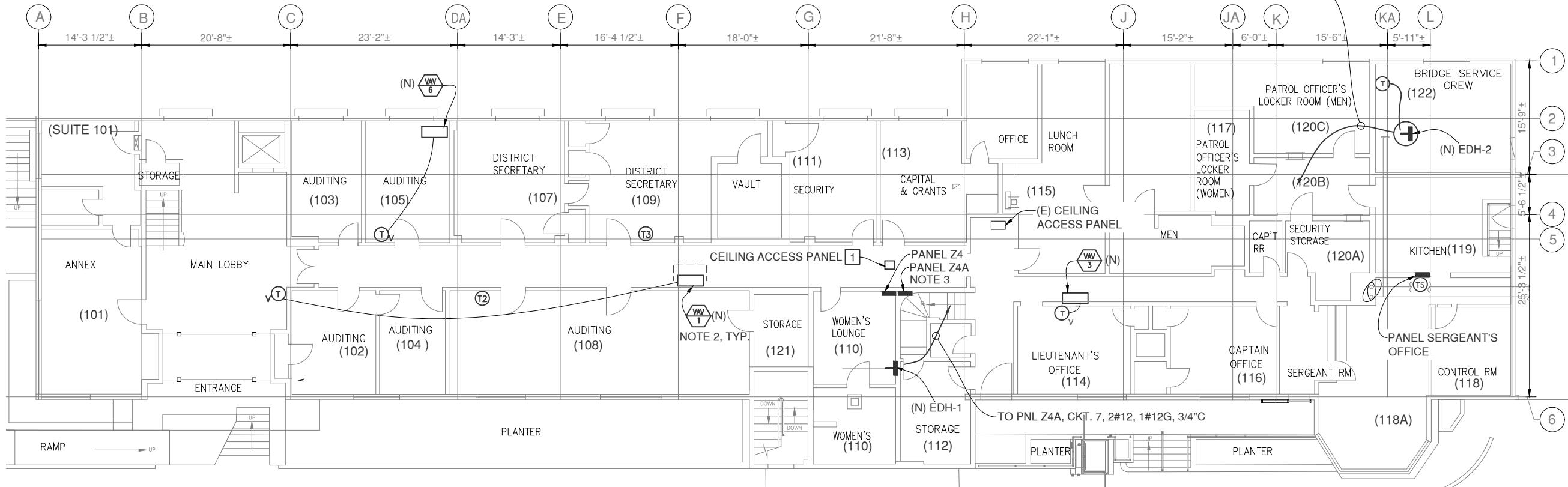
PROJECT TITLE
**GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS**

SHEET TITLE
**BASEMENT BOILER AND AHU-1
ELECTRICAL DEMOLITION AND NEW PLAN**

SCALE: AS NOTED



TO PNL SERGEANT'S OFFICE, CKT. 24, 2#8, 1#8G, 1"C
SEE NOTE 1



FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"

KEY NOTE:

- 1 PROVIDE NEW ACCESS PANEL TO FACILITATE NEW WIRING TO PANELS "Z4" AND "Z4A" FOR "EDH-1". SEE DWG M28 FOR ACCESS PANEL DETAILS.

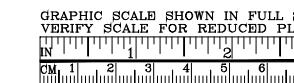
NOTES:

- MOVE EXISTING LOAD ON CIRCUIT TO ANOTHER EXISTING CIRCUIT BREAKER AS DIRECTED BY THE DISTRICT, SPLICE CONDUCTOR ONTO ANOTHER 20A CIRCUIT OUTSIDE OF PANEL ENCLOSURE. REPLACE EXISTING CIRCUIT 24-20 AMP, 1 POLE BREAKER WITH NEW 40 AMP, 1 POLE CIRCUIT BREAKER.
- RECONNECT NEW VAV'S TO EXISTING 24V CIRCUIT FROM EXISTING VAV'S THAT ARE REMOVED. THERE ARE THREE NEW VAV'S ON THE SECOND FLOOR THAT ARE NOT SHOWN HERE. SEE DRAWING M10 FOR LOCATIONS.
- PANELS Z4 AND Z4A ARE STACKED.

LEGEND:

- (202) ROOM NUMBERS

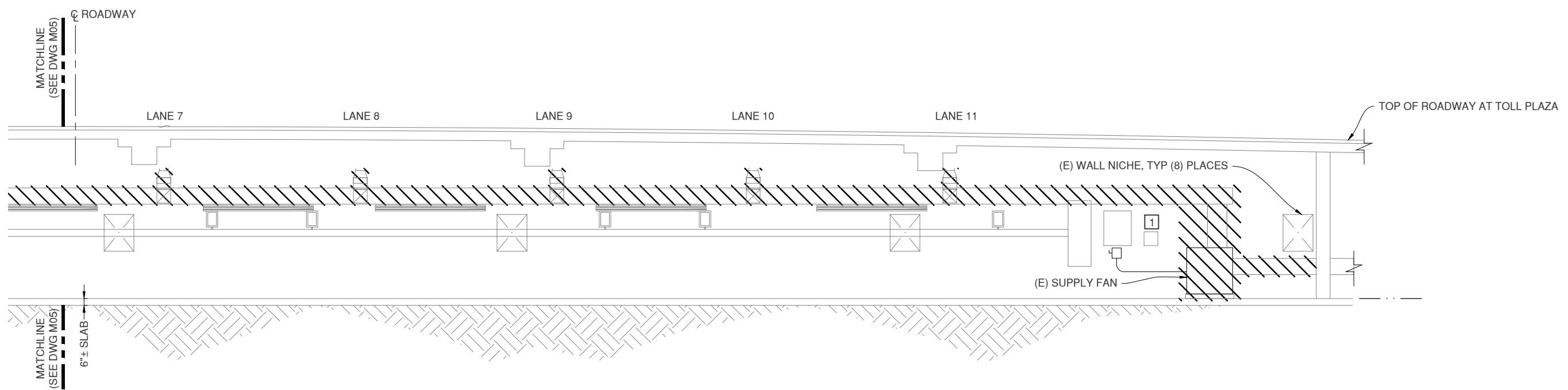
ISSUED FOR BID



STEFFEN ENGINEERING CO CONSULTING ENGINEERS		REGISTERED ELECTRICAL ENGINEER No. 11872 Exp. 12/31/18 ELECTRICAL ENGINEER	APPROVED BY No. C43632 Exp. 3/31/19 CIVIL STATE OF CALIFORNIA			PROJECT TITLE GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
NO.	REVISIONS		BY	DATE	CONTRACT NO.	DWG NO.	DISTRICT ENGINEER
PLANS APPROVAL DATE 03/14/2017		E06		CADD FILE: 17B12A055.DWG		DATE 03/14/2017	

SHEET TITLE FIRST FLOOR POWER PLAN	
SCALE: AS NOTED	
DATE: MARCH 14, 2017	





MONEY COLLECTION CORRIDOR ELEVATION

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



KEY NOTES:

- 1 REMOVE CONDUIT AND WIRING FROM SUPPLY FAN UNIT TO LOCAL DISCONNECT SWITCH LEAVE (E) DISCONNECT SWITCH FOR FUTURE USE.

LEGEND:



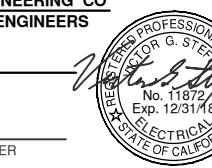
PANEL: TRAILER D				
125A MAIN BREAKER			BUSSING: 208Y/120 3 PHASE	
LOCATION: OFFICE 4, TRAILER D				
DESCRIPTION	TRIP	#	#	DESCRIPTION
HVAC (E)	40	1	2	20 RECEPTACLE (E)
		3	4	20 RECEPTACLE (E)
HVAC (E)	40	5	6	20 RECEPTACLE (E)
		7	8	20 FAN LIGHT (E)
15KW HEATER (E)	60	9	10	20 RECEPTACLE (E)
		11	12	20 EXT. LIGHT (E)
STRIP (E)	60	13	14	30 HOT WATER HEATER (E)
		15	16	
COMM. CLOSET (E)	20	17	18	20 (N) COPIER/PRINTER
COMM. CLOSET (E)	20	19	20	20 (N) GARBAGE/DISPOSAL
SPARE	20	21	22	60 (N) 11.8KW INST. WATER
SPARE	20	23	24	HEATER

1
E08 PANEL SCHEDULE FOR TRAILER D

GRAPHIC SCALE SHOWN IN FULL SIZE
VERIFY SCALE FOR REDUCED PLANS



STEFFEN ENGINEERING CO
CONSULTING ENGINEERS

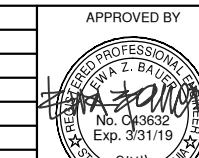


REGISTERED ELECTRICAL ENGINEER

03/14/2017

PLANS APPROVAL DATE

ELECTRICAL ENGINEER



APPROVED BY

No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA
BOARD OF PROFESSIONAL ENGINEERS, LAND SURVEYORS, AND GEOSURVEYORS

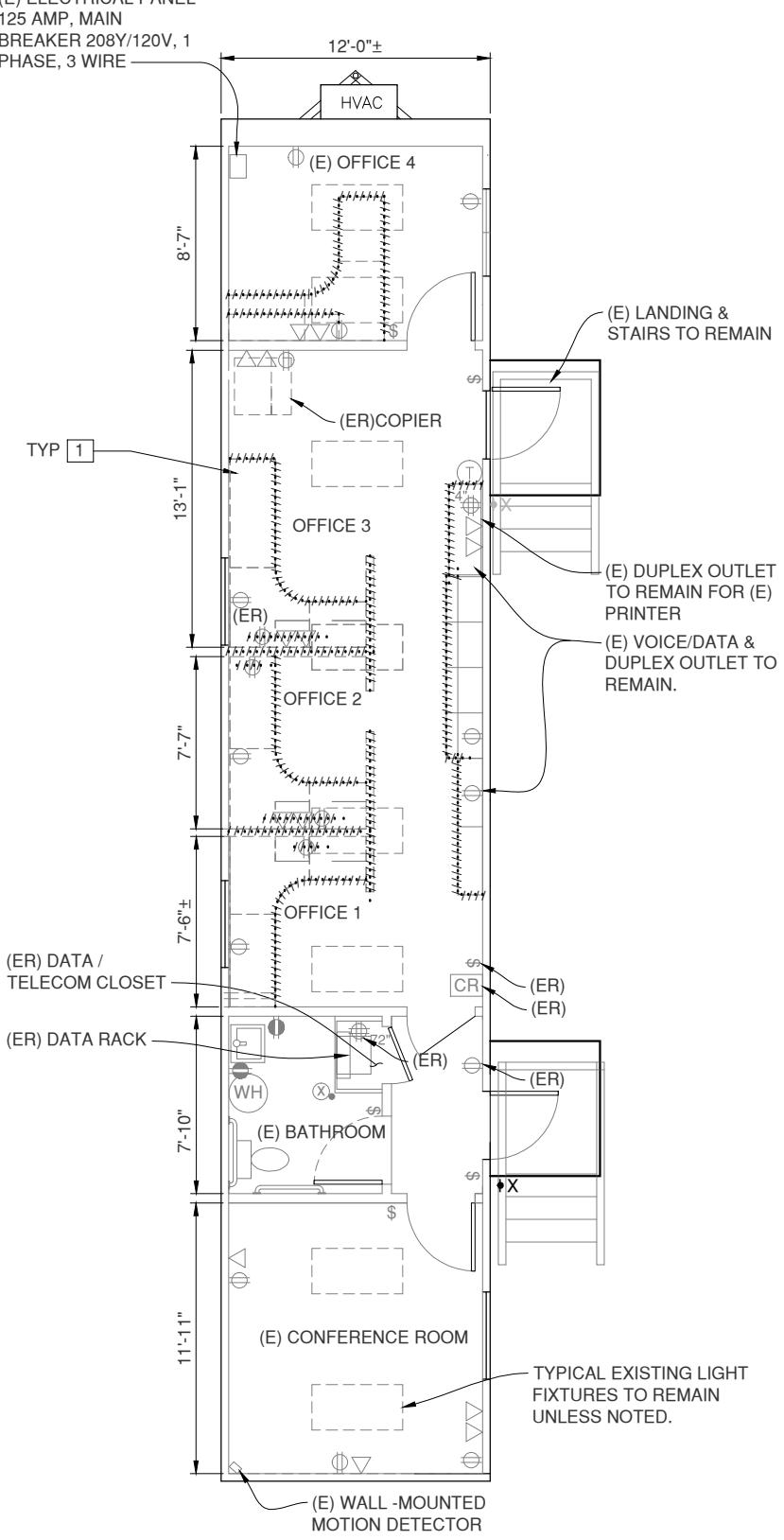
DISTRICT ENGINEER
03/14/2017
DWG NO.
E07
DATE

PROJECT TITLE
GOLDEN GATE BRIDGE
TOLL PLAZA MODULAR OFFICES
AND ADMINISTRATION BUILDING
IMPROVEMENTS

SHEET TITLE
MONEY COLLECTION CORRIDOR
TOLL LANE ELECTRICAL DEMOLITION
ELEVATION

SCALE: AS NOTED
DATE: MARCH 14, 2017





DEMOLITION PLAN

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

GENERAL NOTES

1. SEE SHT A01 FOR GENERAL NOTES AND E01 FOR ELECTRICAL NOTES
 2. CONTRACTOR SHALL COORDINATE W/ DISTRICT ENGINEER FOR INSTALLATION OF (N) VOICE AND DATA OUTLETS.
 3. (E) OUTLETS SHALL BE SET FLUSH WITH (N) WALL SURFACE. (E) SURFACE-MOUNTED OUTLETS SHALL BE RECESSED FLUSH W/ (N) WALL SURFACE. SEE DWG. A15 FOR INTERIOR MODIFICATIONS.
 4. V/D JUNCTION IN OFFICE 5 SHALL NOT BE DISTURBED. COORDINATE W/ ENGINEER FOR WORK IN THIS AREA.
 5. ALL ELECTRICAL WORK SHALL BE CONCEALED AND ALL REQUIRED CUTTING, PATCHING, BACKFILL & REPAIR SHALL RESTORE DAMAGED SURFACES TO THE ORIGINAL CONDITION.
 6. ELECTRICAL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES.

KEY NOTES - DEMOLITION

- 1** RESET (E) VOICE & DATA OUTLET BOXES FLUSH W/ (N) WALL PANEL. CABLES TO BE INSTALLED BY GGBHTD,

LEGEND:

..... · FURNITURE TO BE DEMOLISHED

ISSUED FOR BID



A graphic scale for reducing drawings. It features two rows of markings. The top row shows markings from 1 to 2 inches in increments of 1/8 inch. The bottom row shows markings from 1 to 5 centimeters in increments of 1 millimeter. The scale is labeled "GRAPHIC SCALE SHOWN IN FIGURE" and "VERIFY SCALE FOR REDUCE".

REGISTERED PROFESSIONAL ENGINEER
KIBOM H. WO
E 21
Exp. 3/03
STATE OF CALIFORNIA

PROJECT F-1
03/14/2014
DATE

NEW FLOOR PLAN

SCALE: 1/4"=1'-0" ADA RAMP SEE DWG. A13-

APPROVED BY
EVA Z. BAUER
No. C43632
Exp. 3/31/19
CIVIL
STATE OF CALIFORNIA

PROJECT TITLE	
GOLDEN GATE BRIDGE TOLL PLAZA MODULAR OFFICES AND ADMINISTRATION BUILDING IMPROVEMENTS	
SHEET TITLE	
TRAILER D DEMOLITION & NEW ELECTRICAL FLOOR PLAN	
SCALE: AS NOTED	DATE: MARCH 14, 2017

The logo features a stylized black and white illustration of the Golden Gate Bridge's towers and cables against a light background.

KEY NOTES NEW FLOOR PLAN:

REV NO.	SHEET NO.	SHEET TOTAL
0	57	57

- ① RELOCATE (E) LIGHT IN OFFICE 1 (60" WESTWARDS AWAY FROM DATA RACK CLOSET.)
 - ② CONTRACTOR SHALL RELOCATE SECURITY CONTROL PANEL, DATA RACK, DATA DROP CABLES AND CONDUITS FOR DATA CABLES TO NEW LOCATION. THE LOWER PART OF DATA RACK SHALL BE MOUNTED 4' FROM FINISHED FLOOR LEVEL.
 - ③ PROVIDE AND INSTALL NEW WALL MOUNTED DUPLEX OUTLET AT 18" ABOVE FLOOR LEVEL WITH 3# 12 AWG INSIDE WIREMOLD 400 SERIES TO BE FED FROM ADJACENT DUPLEX OUTLET.
 - ④ PROVIDE AND INSTALL NEW VOICE/DATA OUTLET AT 18" ABOVE FINISHED FLOOR LEVEL INSIDE WIREMOLD 400 SERIES. CONTRACT SHALL COORDINATE ROUTING WITH DISTRICT ENGINEER.
 - ⑤ PROVIDE AND INSTALL NEW TWO DATA OUTLETS AS INDICATED ON THE WALL INSIDE 3/4" CONDUIT WITH CAT6 WIRES.
 - ⑥ PROVIDE AND INSTALL NEW DUPLEX RECEPTACLE AT 18" ABOVE FINISHED FLOOR LEVEL FOR PRINTER/COPIER INSIDE 3/4" CONDUIT (CONCEALED IN CEILING / WALL) WITH 3#12 AWG FROM EXISTING SPARE CIRCUIT 18.
 - ⑦ PROVIDE AND INSTALL NEW GFCI DOUBLE DUPLEX RECEPTACLE AT 6" ABOVE COUNTERTOP NEAR THE SINK FROM CIRCUIT 21 OF (E) ELECTRICAL PANEL INSIDE 3/4" CONCEALED CONDUIT WITH 3#12 AWG.
 - ⑧ PROVIDE AND INSTALL NEW DUPLEX RECEPTACLE OUTLET 6" ABOVE COUNTERTOP FROM CIRCUIT 21 OF EXISTING ELECTRICAL PANEL INSIDE 3/4" CONDUIT (CONCEALED) WITH 3#12 AWG.
 - ⑨ PROVIDE & INSTALL SINGLE POLE SWITCH AT INDICATED POSITION INSIDE 3/4" CONDUIT CONCEALED FOR GARBAGE DISPOSAL FROM EXISTING ELECTRICAL PANEL CIRCUIT 20 WITH 20A, 1 POLE CIRCUIT BREAKER.
 - ⑩ PROVIDE AND INSTALL POKE THROUGH FLOOR BOX WITH DOUBLE RECEPTACLE OUTLET IN THE MIDDLE OF EXISTING CONFERENCE ROOM FROM ADJACENT WALL RECEPTACLE INSIDE 3/4" CONDUIT (WIREMOLD) WITH 3#12AWG.
 - ⑪ PROVIDE DOUBLE DATA OUTLETS WITH CAT6 CABLE ROUTED INSIDE 3/4" CONDUIT ON CEILING/UNDERFLOOR TO FLOOR MOUNT POKE THRU.
 - ⑫ RELOCATE EXISTING TWO POLE SWITCH AT FRONT DOOR WITHIN 6" OF DOOR JAMB. CONTRACTOR SHALL EXTEND CONDUIT AND WIRING TO NEW POSITION.
 - ⑬ CONTRACTOR SHALL RELOCATE THE EXISTING CARD READER, ACCESSORIES WITH NEW 3/4" CONDUIT. GGBHTD SHALL INSTALL THE WIRING.
 - ⑭ CONTRACTOR SHALL RELOCATE EXISTING SECURITY/PANIC SWITCH WITH ROUGH-IN CONDUIT TO NEW POSITION. CONTRACTOR SHALL COORDINATE WITH DISTRICT'S SECURITY PERSONNEL.
 - ⑮ CONTRACTOR SHALL PROVIDE AND INSTALL TYPE 1 6" x 6" x 3" WALL MOUNTED JUNCTION BOX FOR ROUTING SECURITY CONDUIT. LOCATION AND ROUTING SHALL BE COORDINATED WITH DISTRICT'S SECURITY PERSONNEL.
 - ⑯ PROVIDE AND INSTALL DOUBLE RECEPTACLE 18" ABOVE FINISHED FLOOR LEVEL INSIDE CABINET FOR WATER FILTER FROM CIRCUIT 21 OF EXISTING ELECTRICAL PANEL INSIDE 3/4" CONDUIT WITH 3#12 AWG.
 - ⑰ (E) ELECTRICAL PANEL FOR NEW AND EXISTING LOADS, SEE  FOR PANEL SCHEDULE.
 - ⑱ (E) CONNECTION BOX FOR WALL PARTITION RECEPTACLES.
 - ⑲ PROVIDE AND INSTALL 3#6 AWG INSIDE CONCEALED CONDUIT 1" ON CEILING/WALLS FROM SPARE CONDUIT 22, 24 OF EXISTING ELECTRICAL PANEL OF 60A, 2 POLE TO DISCONNECT SWITCH AND THEN BACK FEED CONNECTION POINT FOR 11.8KW INSTANT WATER HEATER.
 - ⑳ PROVIDE AND INSTALL DISCONNECT SWITCH OF 60A, 2 POLE FOR INSTANT WATER HEATER AT 60" ABOVE FINISHED FLOOR.
 - ㉑ CONTRACTOR SHALL RELOCATE DOUBLE DUPLEX AT 72" ABOVE FLOOR LEVEL IN EXISTING DATA RACK TO NEW LOCATION OF DATA RACK AT INDICATED HEIGHT.