

PLUMBING NOTES:

1. ALL WORK SHOWN ON THESE DRAWINGS ARE NEW UNLESS OTHERWISE NOTED.
2. THIS CONTRACT REQUIRES THE PLUMBING, FIRE PROTECTION AND MECHANICAL SUBCONTRACTORS TO CAREFULLY COORDINATE THEIR WORK WITH EACH OTHER, THE GENERAL CONTRACTOR AND OTHER TRADES. PRIORITY SHALL BE GIVEN IN THE FOLLOWING ORDER:

A. GRAVITY FLOW: SEWER, STORM DRAIN, DOWNSPOUT AND CONDENSATE DRAIN PIPING.

B. EQUIPMENT AND DUCTWORK.

C. FORCED AND PRESSURE PIPING SUCH AS WATER AND FIRE SPRINKLER PIPING.
3. ALL UNDERGROUND PRESSURE PIPING WITH MECHANICAL JOINTS SHALL HAVE CONCRETE REACTION BLOCKS AT ALL ELBOWS, TEES AND DEAD END PLUGS.
4. FOR ALL FLOOR, WALL PARTITION, CEILING AND ROOF PENETRATIONS, SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
5. ALL PENETRATIONS OF REQUIRED FIRE RATED WALLS, PARTITIONS AND FLOORS SHALL BE PROVIDED WITH FIRE STOPPING MATERIAL PER IBC.
6. NO CUTTING OR DRILLING OF ANY STRUCTURAL MEMBERS WILL BE PERMITTED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER. REFER TO STRUCTURAL DRAWING DETAILS FOR ALL MECHANICAL EQUIPMENT AND PIPING ATTACHMENTS TO STRUCTURAL MEMBERS.
7. ALL FASTENERS, SUPPORTS, PIPE HANGERS, SPRING ISOLATORS, AND MISCELLANEOUS STEEL ITEMS INCLUDING BUT NOT LIMITED TO BOLTS, NUTS, SCREWS, RODS, PLATES, AND ANGLES, ETC. SHALL BE GALVANIZED UNLESS OTHERWISE NOTED OR SPECIFIED.
8. PROVIDE ACCESS PANELS IN NON-ACCESSIBLE CEILINGS FOR ALL MECHANICAL ITEMS REQUIRING SERVICING AND MAINTENANCE. VOLUME DAMPERS, FIRE/ SMOKE DAMPERS, FIRE DAMPERS, CONDENSATE DRAINS, VALVES, ETC. PROVIDE FIRE RATED ACCESS PANELS AS REQUIRED. COORDINATE TYPE OF ACCESS PANEL WITH WALL OR CEILING CONTRACTOR. ACCESS PANELS SHALL BE 30"x30" MINIMUM UNLESS OTHERWISE NOTED.
9. PLUMBING CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR AND FIRE PROTECTION CONTRACTOR AND OFFSET PIPING TO FIT WORK FROM ALL DISCIPLINES IN SPACE AVAILABLE.
10. ALL HORIZONTAL SOIL, WASTE AND STORM DRAIN PIPING SHALL BE SLOPED AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.
11. ALL DOMESTIC COLD WATER PIPES LOCATED ON THE ROOF OR OTHER LOCATIONS EXPOSED TO DIRECT SUNLIGHT SHALL BE INSULATED.
12. ALL PIPE INSULATION EXPOSED TO WEATHER OR EXPOSED WITHIN 7'-0" ABOVE FINISHED FLOOR SHALL BE PROVIDED WITH 0.016" THICK ALUMINUM JACKET.
13. ALL SOIL OR WASTE PIPING RECEIVING AIR CONDITIONING CONDENSATE DRAINS SHALL BE INSULATED FROM POINT OF CONNECTION TO TOP OF CONCRETE SLAB ON GRADE. INSULATE FLOOR DRAIN AND FLOOR SINK DRAIN BODIES EXPOSED TO AIR BELOW THE FLOOR.
14. WHEN VALVES ARE INSTALLED IN HORIZONTAL POSITION, VALVE STEM SHALL BE INSTALLED IN AN UPRIGHT POSITION. IF THIS IS NOT POSSIBLE BECAUSE OF SPACE AND HEADROOM CONSTRAINTS, VALVE STEM SHALL BE INSTALLED IN AN INCLINED POSITION ABOVE THE HORIZONTAL CENTERLINE OF THE PIPE.
15. LIQUID LEVEL SENSORS SHALL BE LOCATED IN ALL ELEVATOR SUMP PITS.
16. DIESEL FUEL OIL STORAGE TANK OVERFILL ALARM SIGN SHALL BE 2" HIGH HELVETICA MEDIUM LETTERS ETCHED ON 1/4" THICK ACRYLIC PLASTIC SHEET, TYPE "G" LETTERS SHALL BE RED ON WHITE BACKGROUND. MOUNT ACRYLIC PLASTIC SHEET SIGN ON 3/4" THICK TREATED PLYWOOD AND ATTACH TO WALL WITH 1/4" DIAMETER BRONZE ANCHOR BOLTS WITH EXPANSION SHIELD.

PLUMBING FIXTURE SUMMARY

PROPOSED:

FIXTURE	QUANTITY	FU EACH	TOTAL FU
WATER CLOSET (FLUSH VALVE)	11	5.0	55.0
WATER CLOSET (FLUSH TANK)	1	2.5	2.5
URINAL	5	4.0	20.0
LAVATORY	9	1.0	9.0
SHOWER	7	2.0	14.0
SINK	10	1.5	15.0
SERVICE SINK	1	3.0	3.0
ELECTRIC WATER COOLER (PER HEAD)	4	0.5	2.0
HOSE BIBB (FIRST)	1	2.5	2.5
HOSE BIBB/WALL HYDRANT (ADDITIONAL)	12	1.0	12.0
CLOTHES WASHER	2	4.0	8.0
ICE MACHINE CONNECTION	1	1.0	1.0
MIXING HOSE FAUCET	1	1.0	1.0
EMERGENCY EYEWASH/SHOWER	1	30.0	30.0

TOTAL PROPOSED: 175.0 FU or 86 GPM

NOTE:
SEE CIVIL DRAWINGS FOR BWS FLOW REQUIREMENTS.

1

HAWAII COUNTY CODE – CHAPTER 5 – BUILDING
2006 IECC & ORDINANCE 09-48
BUILDING ENERGY EFFICIENCY STANDARDS

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

SECTION 504 – SERVICE WATER HEATING

Signature: _____ Date: 02/17/2012

Name: LOUIS T.L. CHENG
Title: PE
License No.: 3684-M

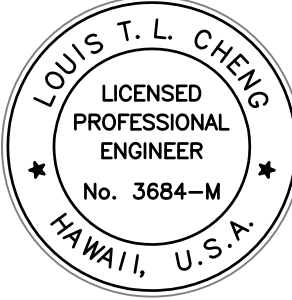
LOUIS T. L. CHENG
LICENSED
PROFESSIONAL
ENGINEER
No. 3684-M
HAWAII, U.S.A.

PLUMBING LEGEND

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AP	ACCESS PANEL
AUX	AUXILIARY
BV	BUTTERFLY VALVE
CA	COMPRESSED AIR
CAQC	COMPRESSED AIR QUICK COUPLER
CDR	CONDENSATE DRAIN
CO	CLEANOUT
CONN	CONNECT OR CONNECTION
CONT	CONTINUATION
COTG	CLEANOUT TO GRADE
CV	CHECK VALVE
CW	COLD WATER
DISP	DISPOSAL (GARBAGE)
DN	DOWN
DHS	DOMESTIC HOT WATER
DS	DOWNSPOUT
DW	DISHWASHER
EE/SH	EMERGENCY EYEWASH/SHOWER
EXST	EXISTING
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
FLXC	FLEXIBLE CONNECTOR
FOP	FUEL OIL PUMP
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL TANK VENT
FS	FLOOR SINK
FU	FIXTURE UNIT
G	GAS (LOW PRESSURE)
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GV	GATE VALVE
HEGV	HOSE END GATE VALVE
HOA	HAND-OFF-AUTOMATIC
HW	HOT WATER
HWR	HOT WATER RETURN
HWCP	HOT WATER CIRCULATION PUMP
INV	INVERT ELEVATION
IW	INDUSTRIAL WASTE
LPG	LOW PRESSURE GAS
LT	LAUNDRY TRAY
MPG	MEDIUM PRESSURE GAS
PC OR GC	PLUG COCK, OR GAS COCK
PD	PRESSURE DROP
PRV	PRESSURE REGULATING VALVE
P REL V	PRESSURE RELIEF VALVE
REL D	RELIEF DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER ASSEMBLY
S OR W	SOIL OR WASTE
SD	STORM DRAIN
SHWCP	SOLAR HOT WATER CIRCULATION PUMP
STR	STRAINER
T & PRV	TEMPERATURE & PRESSURE RELIEF VALVE
TC	TIME CLOCK
TERM	TERMINATE
V	VENT
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
WB	WASHER BOX
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR
W HTR	WATER HEATER



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Department of Transportation
State of Hawaii



THE WORK WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A DULY LICENSED PROFESSIONAL ENGINEER IN THE STATE OF HAWAII.

Louis T. L. Cheng
LICENSE EXPIRATION DATE: 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RAAC	BH	LC

KEY PLAN / NOTES:

1	3/21/12	DCAB COMMENTS
NO.	DATE	REVISION

AS-BUILT
12 - 5 - 2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOLE

PROJECT NO.:

STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

PLUMBING LEGEND AND NOTES

DATE:	P0.01
02/17/2012	
DWG. NO.:	
OF	



Lisa Chy
 LICENSE EXPIRATION DATE 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RA/AC	BH	LC

KEY PLAN / NOTES:

NO.	DATE	REVISION

AS-BUILT
12 - 5 - 2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOLE

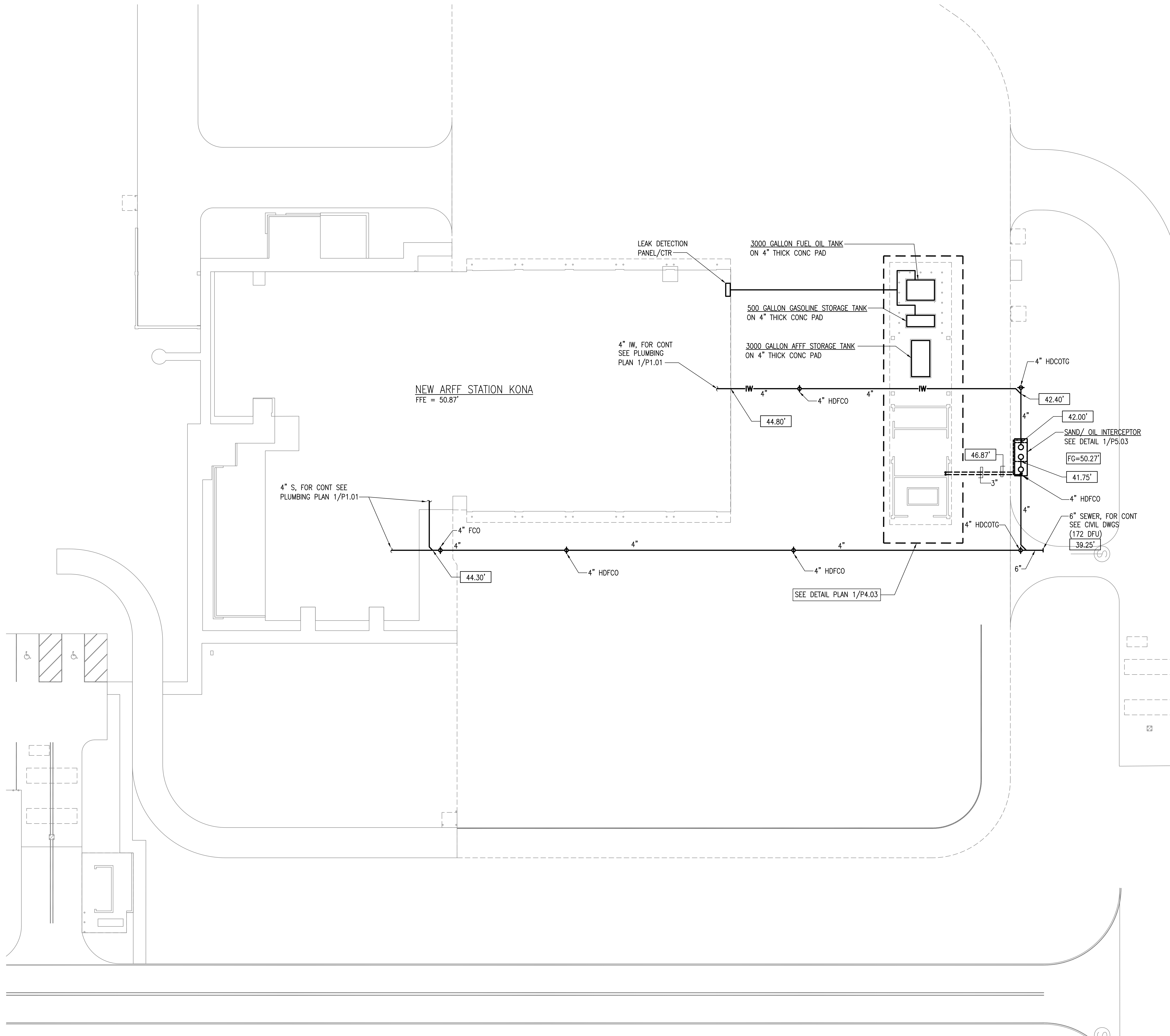
PROJECT NO.:

STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

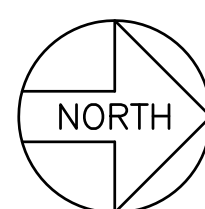
SHEET TITLE:

PLUMBING SITE PLAN

DATE:	P0.02
02/17/2012	
DWG. NO.:	
OF	

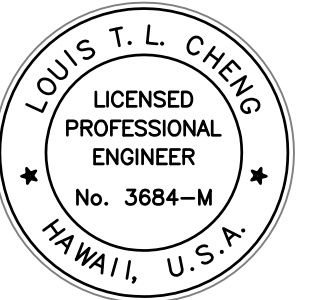


1 PLUMBING SITE PLAN
P0.02 SCALE: 1/16" = 1'-0"





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Louis T. L. Cheng
LICENSE EXPIRATION DATE: 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RAAC	BH	LC

KEY PLAN / NOTES:

8	12/03/12	PCD-2
6	9/26/12	DCAB COMMENTS 7/31/12
1	3/21/12	DCAB COMMENTS
NO.	DATE	REVISION

AS-BUILT
12-5-2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOE

PROJECT NO.:

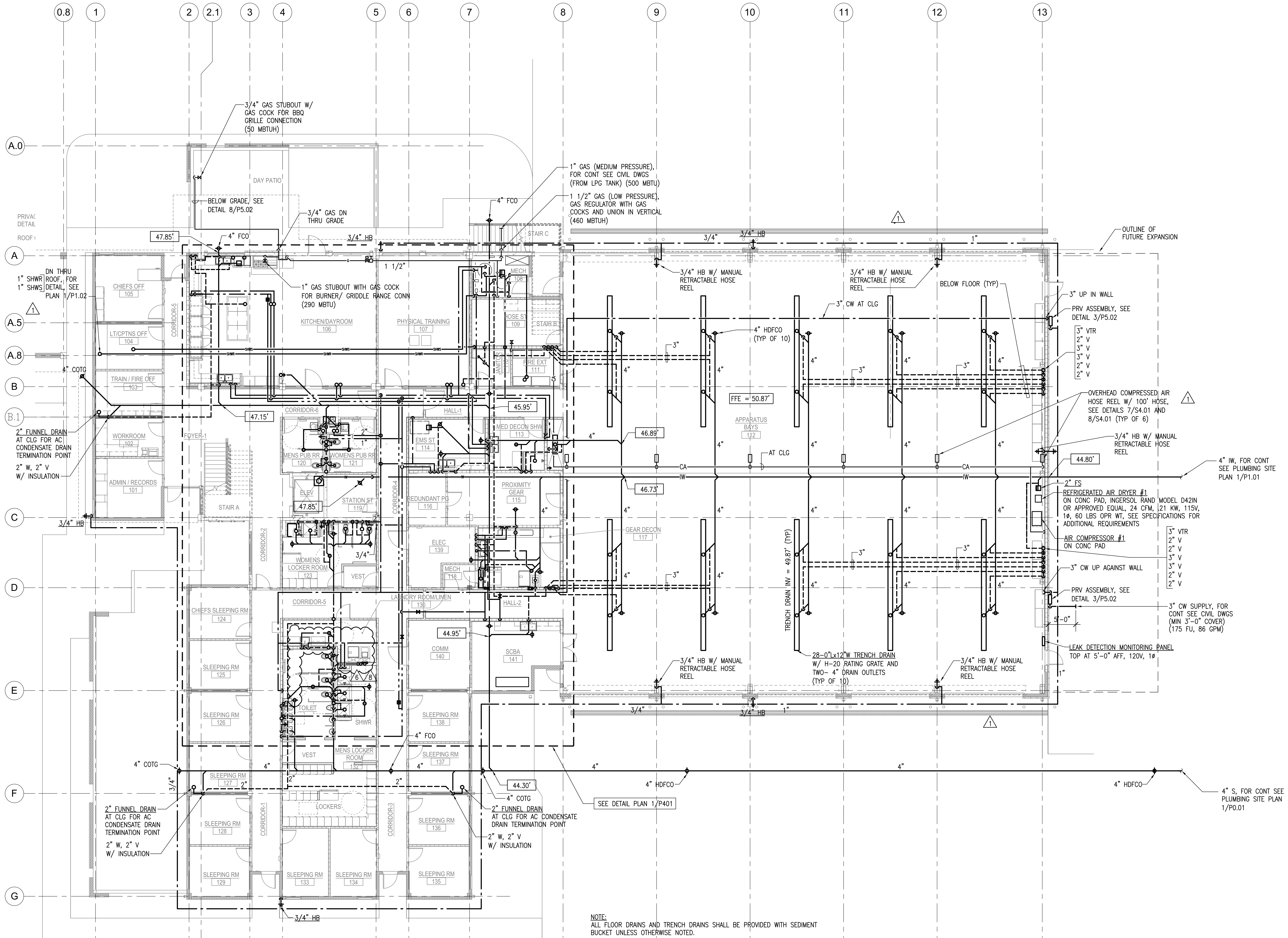
STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

GROUND FLOOR PLUMBING
PLAN

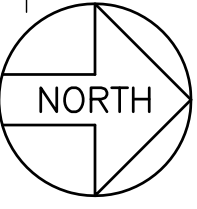
DATE:	02/17/2012
DWG. NO.:	
OF	

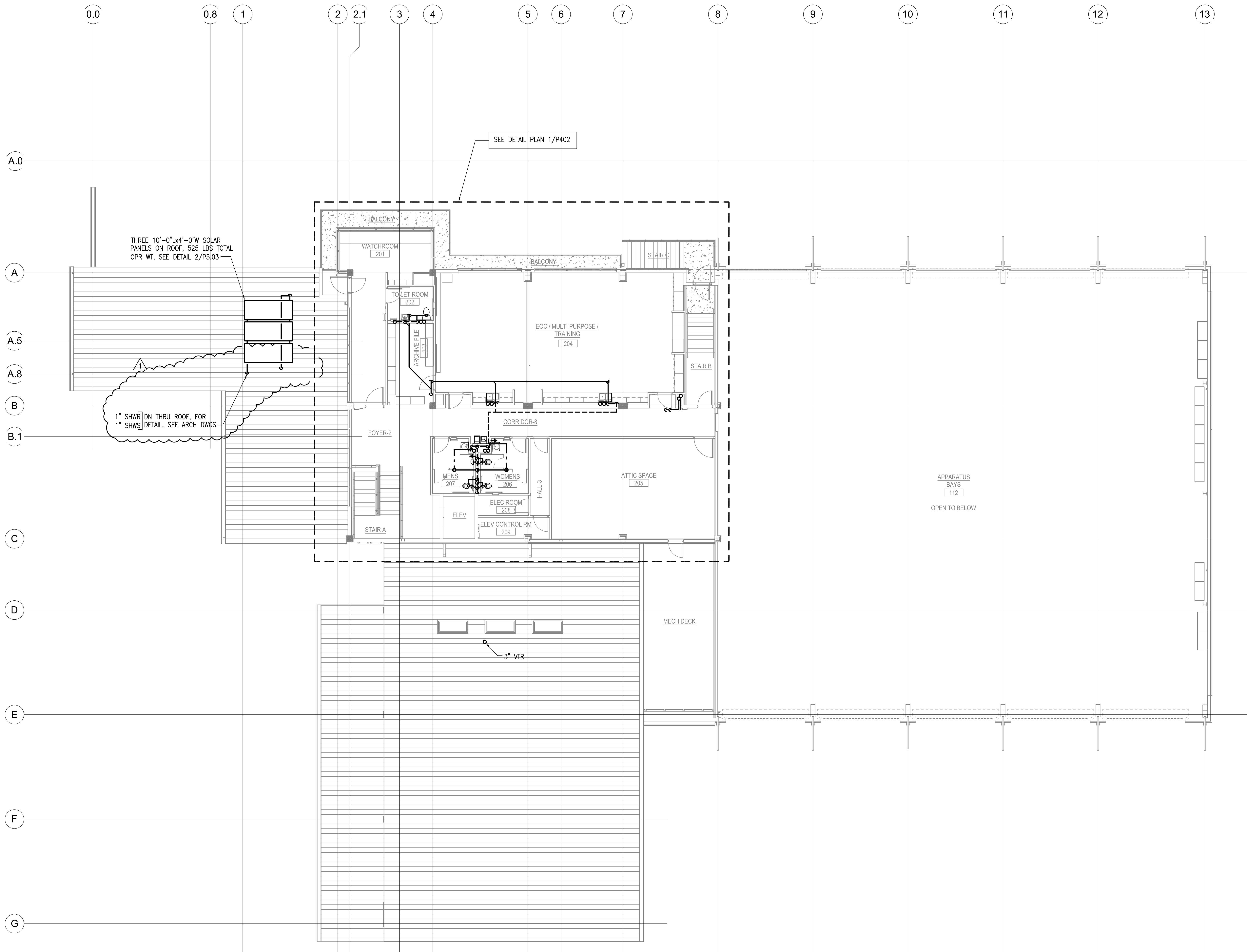
P1.01



NOTE:
ALL FLOOR DRAINS AND TRENCH DRAINS SHALL BE PROVIDED WITH SEDIMENT
BUCKET UNLESS OTHERWISE NOTED.

1 GROUND FLOOR PLUMBING PLAN
P1.01 SCALE: 1/8" = 1'-0" FFE= 50.87





NOTE: INSTALL SOLAR PANEL 22 DEGREES IN RELATION TO HORIZONTAL PLANE.

1

P1.02

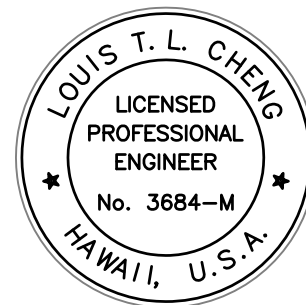
SECOND FLOOR PLUMBING PLAN

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

NORTH



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Louis T. L. Cheng
LICENSE EXPIRATION DATE: 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RA/AC	BH	LC

KEY PLAN / NOTES:

	3/21/12	DCAB COMMENTS
NO.	DATE	REVISION

AS-BUILT
12 - 5 - 2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOLE

PROJECT NO.:

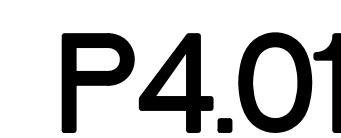
STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

SECOND FLOOR PLUMBING
PLAN

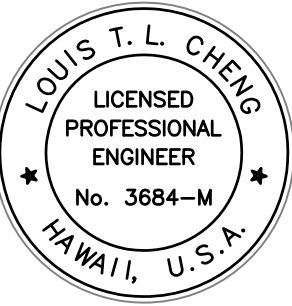
DATE:	02/17/2012
DWG. NO.:	
OF	

P1.02





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Department of Transportation
State of Hawaii



THE WORK WAS PROVIDED BY ME OR UNDER MY SUPERVISION AND I AM AWARE OF THE PROJECT AND THE DESIGN OF THE WORK.

Louis T. L. Cheng
LICENSE EXPIRATION DATE: 04/30/14

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FFU	RA/AC	BH	LC

KEY PLAN / NOTES:

NO.	DATE	REVISION
1	3/21/12	DCAB COMMENTS

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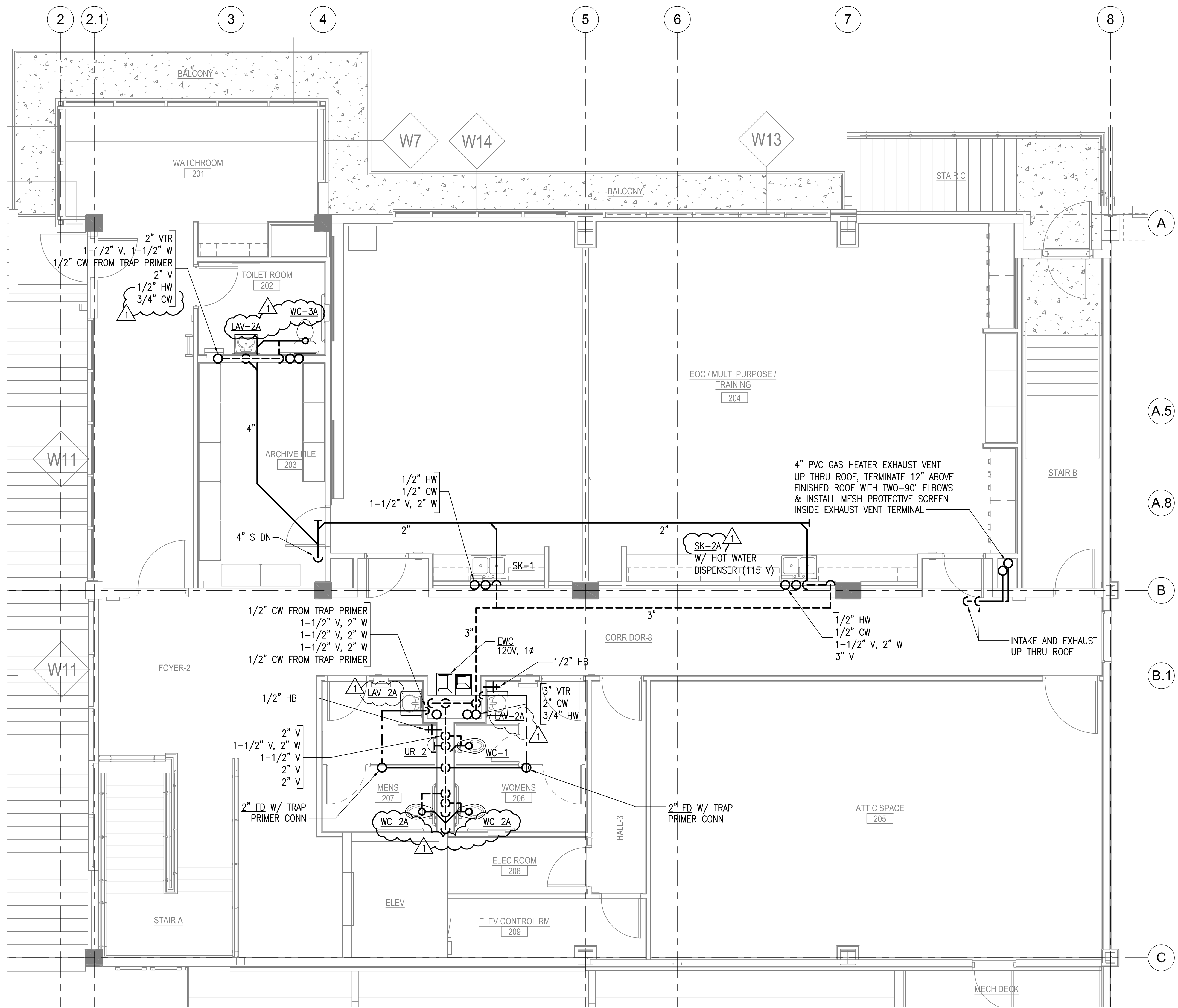
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AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

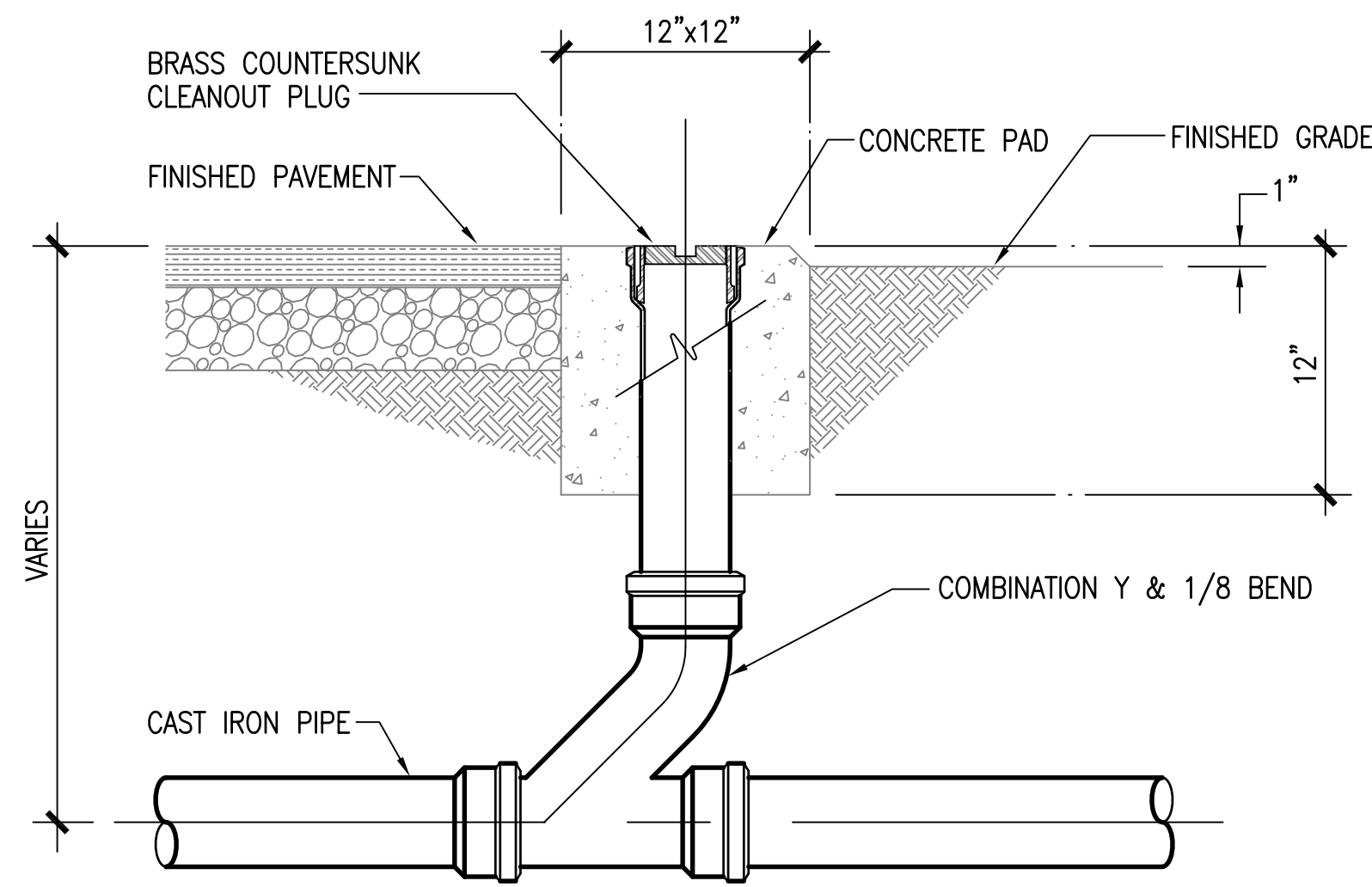
SECOND FLOOR PLUMBING
DETAIL PLAN

DATE:	02/17/2012
DWG. NO.:	
OF	

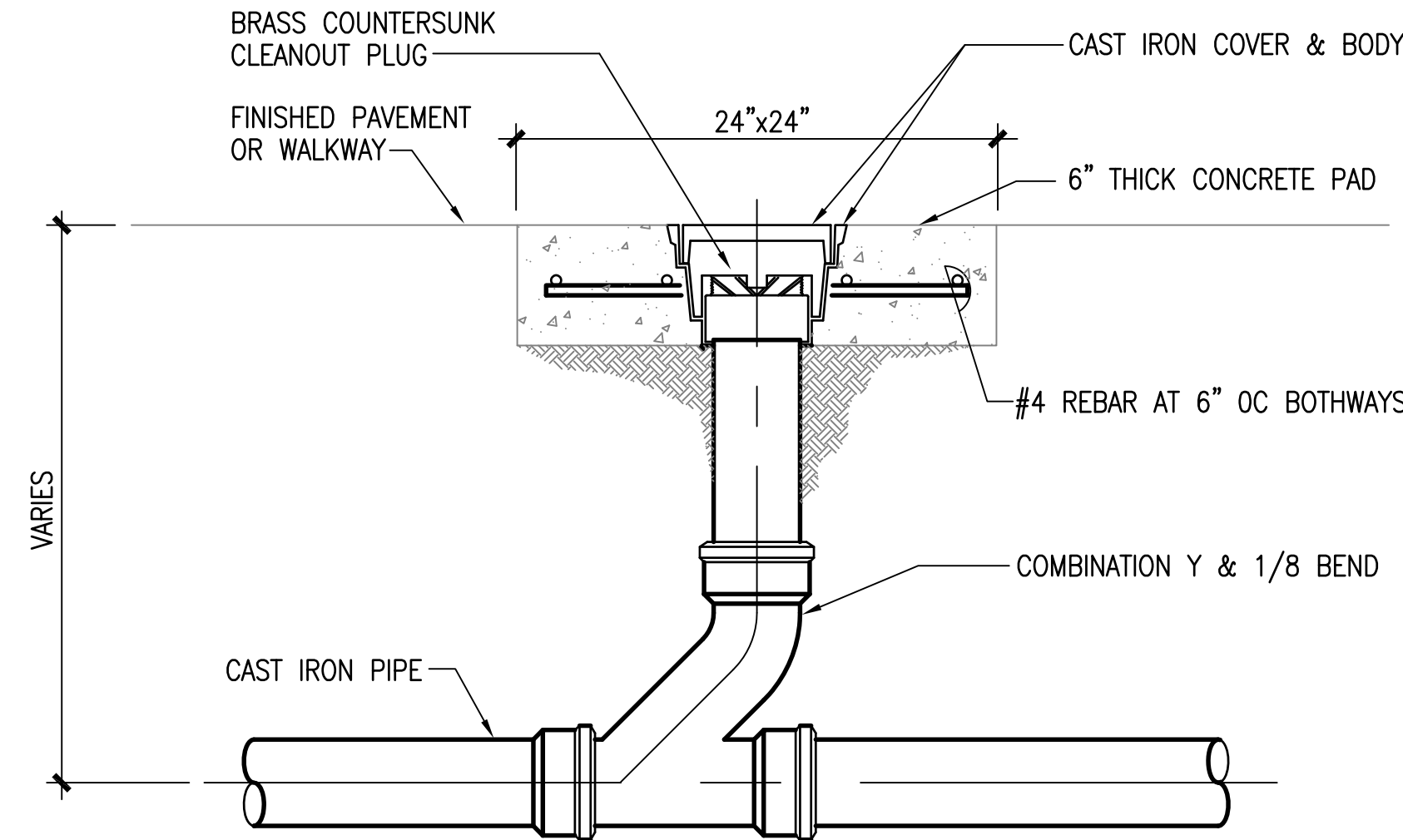
P4.02



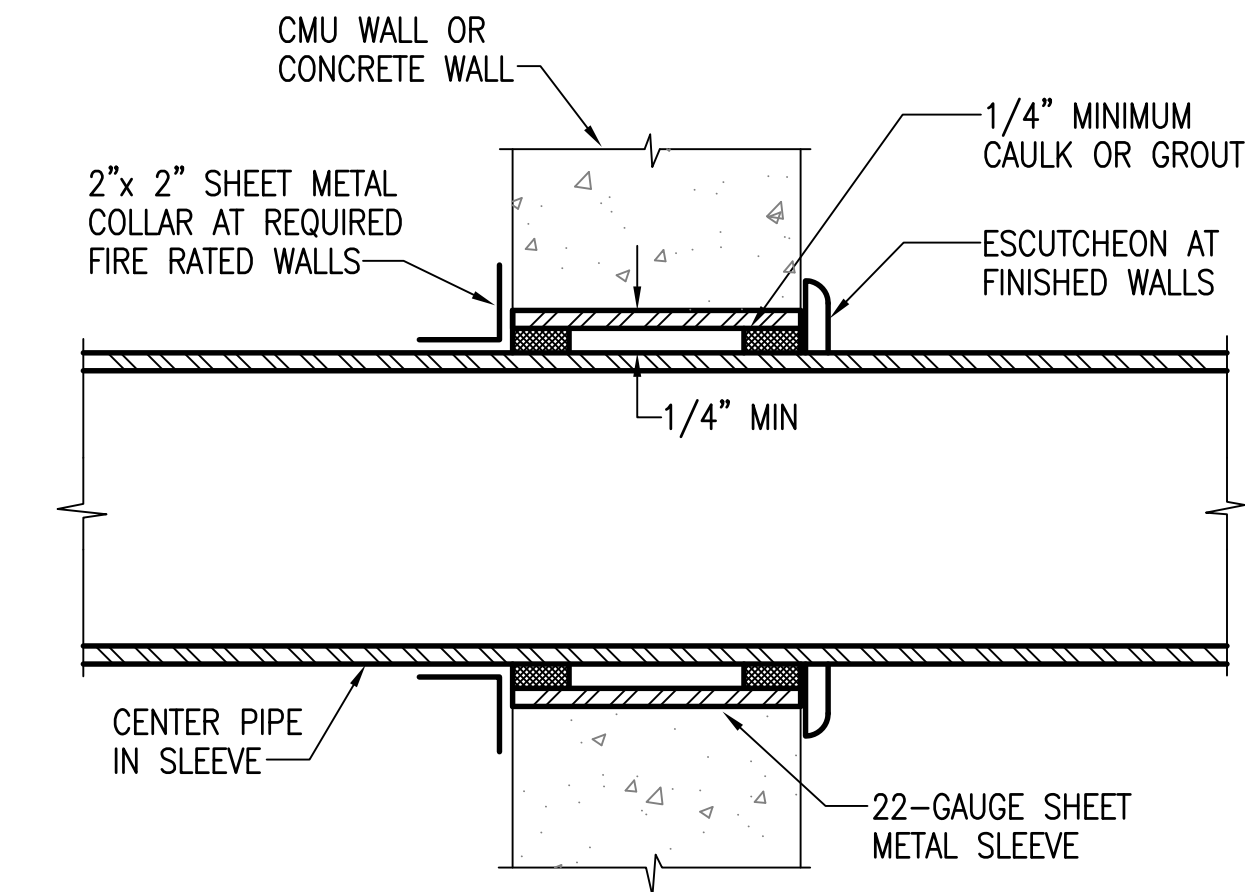
1 SECOND FLOOR PLUMBING DETAIL PLAN
P4.02 SCALE: 1/4" = 1'-0" NORTH



1 TYPICAL CLEANOUT TO GRADE DETAIL
P5.01 NOT TO SCALE (NON-VEHICULAR TRAFFIC AREAS ONLY)

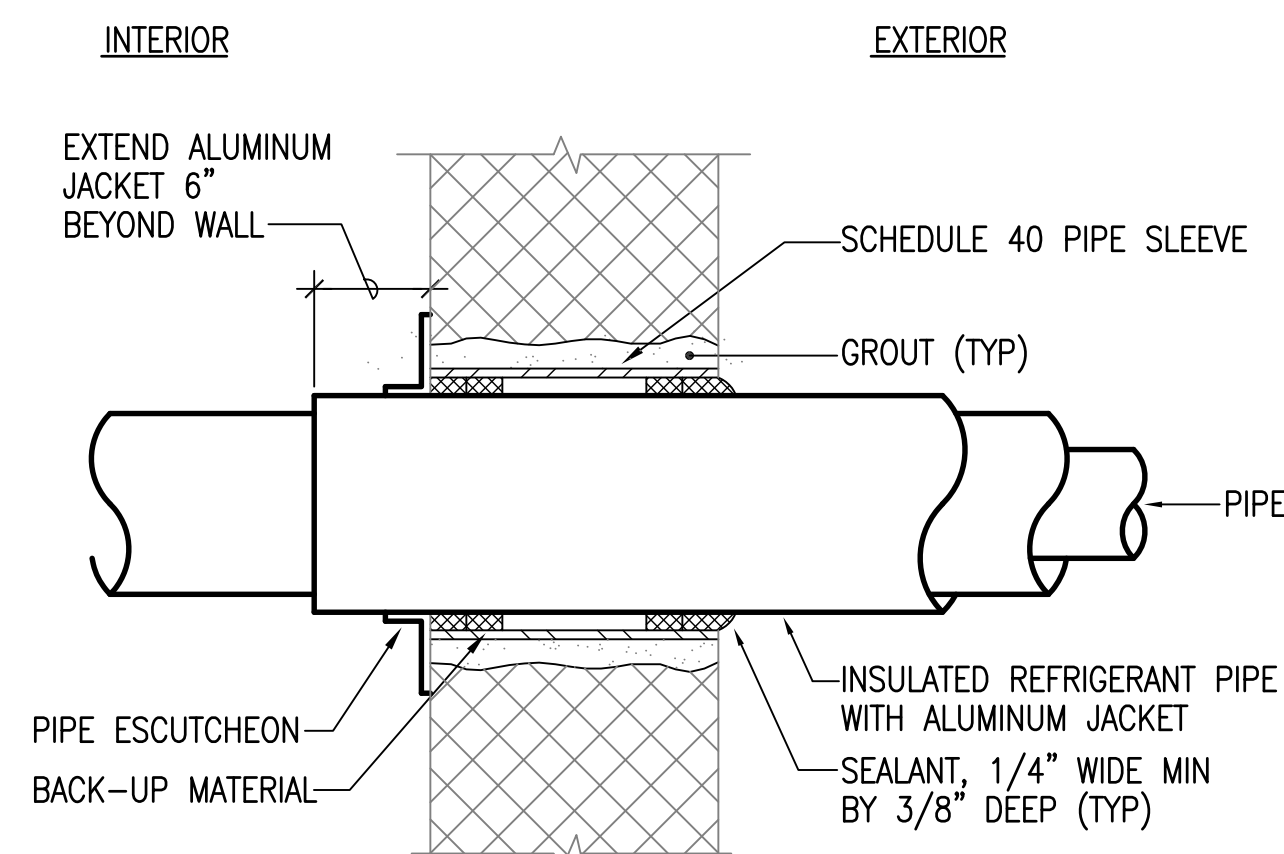


2 TYPICAL VEHICULAR TRAFFIC CLEANOUT DETAIL
P5.01 NOT TO SCALE



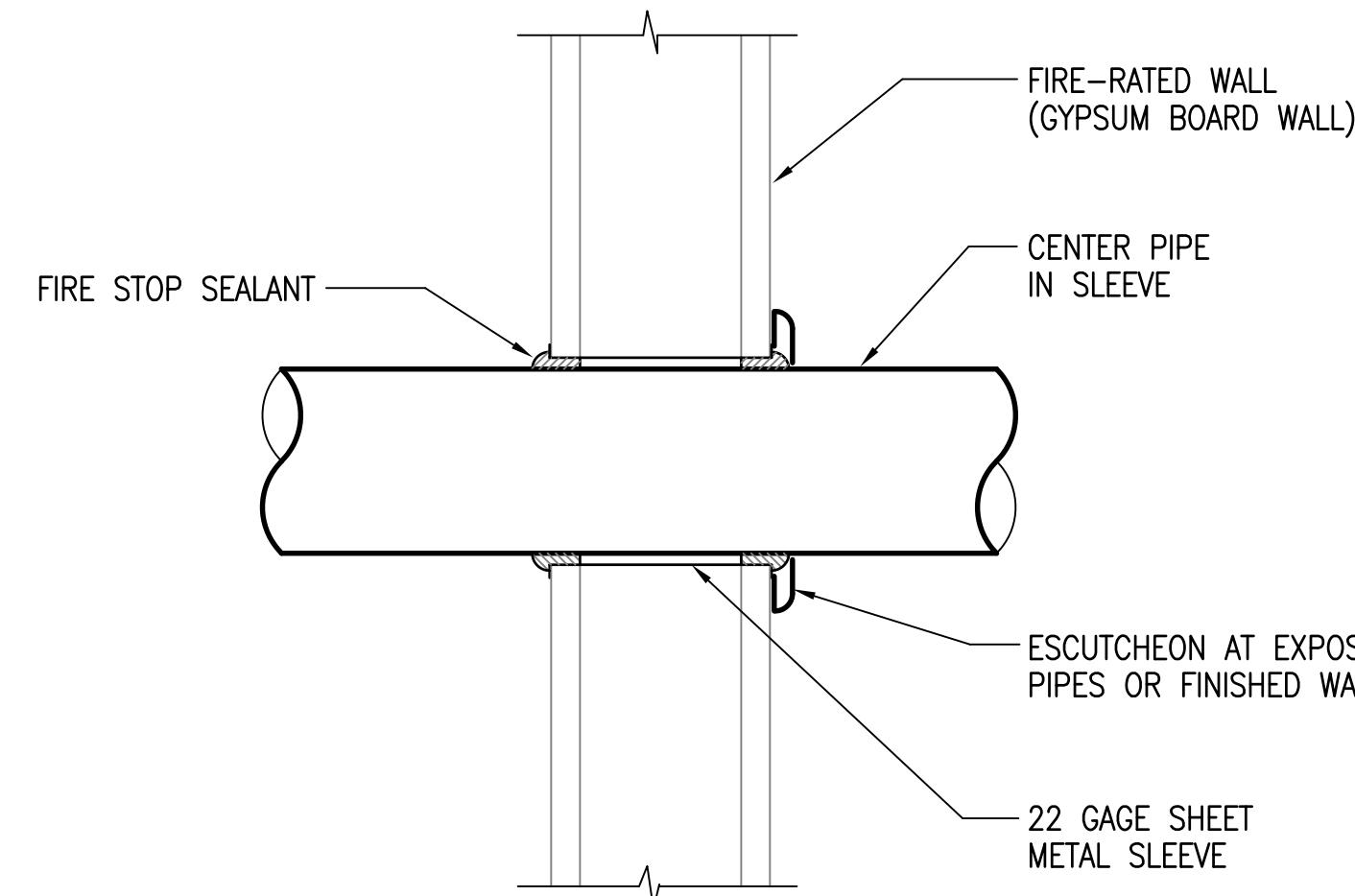
- NOTES:
1. PROVIDE ACOUSTIC SEALANT FOR NON-FIRE RATED FULL HEIGHT PARTITIONS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF NON-FIRE RATED PARTITIONS THAT ARE FULL HEIGHT.
 2. PROVIDE FIRE STOPPING FOR FIRE RATED PARTITIONS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED PARTITIONS AND SPECIFICATION SECTION 078400 FOR FIRE STOPPING SEALANT. ASSEMBLY SHALL BE UL RATED.

3 TYPICAL PIPE THRU INTERIOR CONCRETE WALL DETAIL
P5.01 NOT TO SCALE



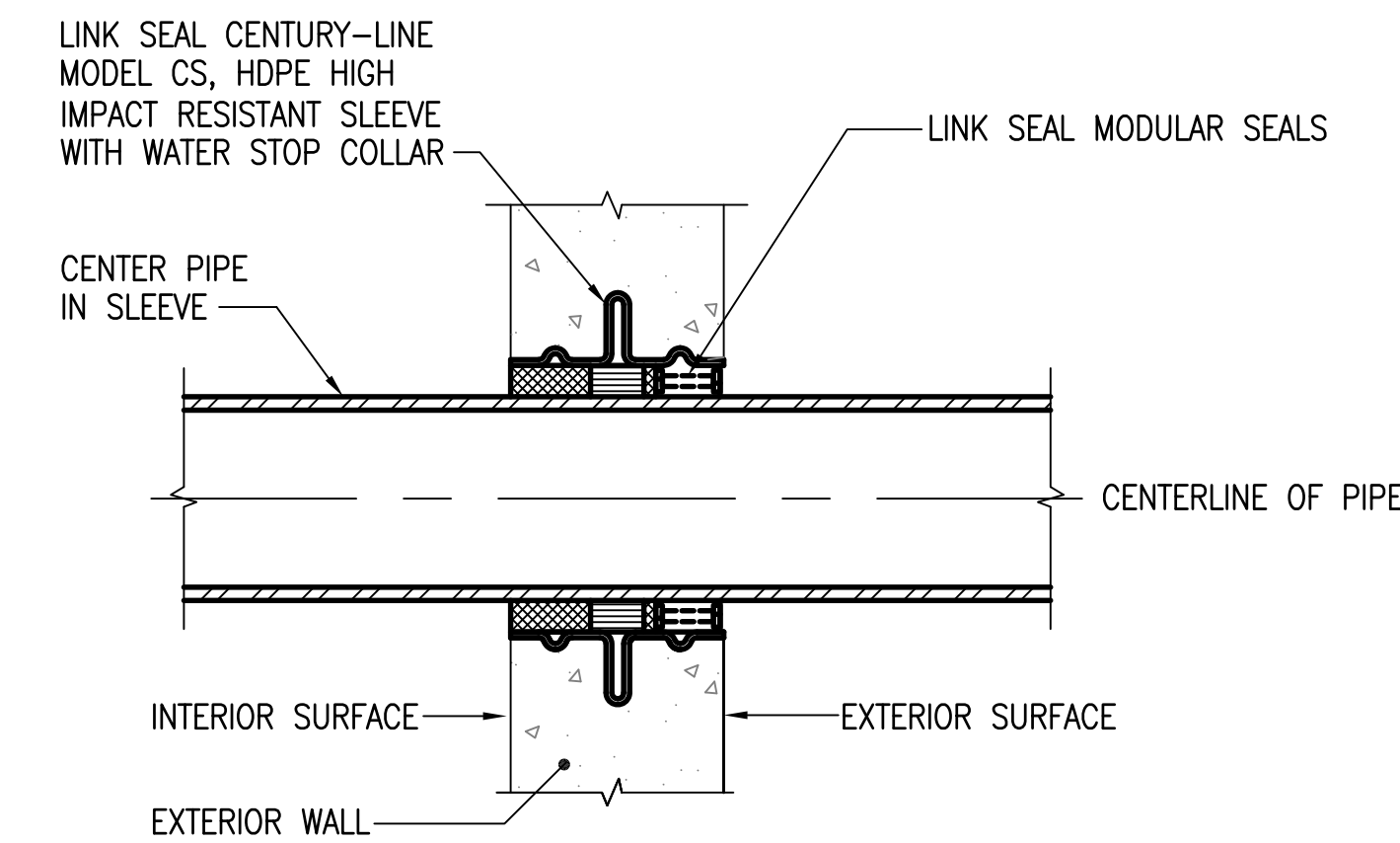
- NOTES:
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 2. PROVIDE FIRE STOPPING FOR FIRE RATED PARTITIONS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED PARTITIONS AND SPECIFICATION SECTION 078400 FOR FIRE STOPPING SEALANT. ASSEMBLY SHALL BE UL RATED.
 3. INSTALLATION OF UNINSULATED PIPE SIMILAR.

4 TYPICAL INSULATED PIPE THRU WALL DETAIL
P5.01 NOT TO SCALE

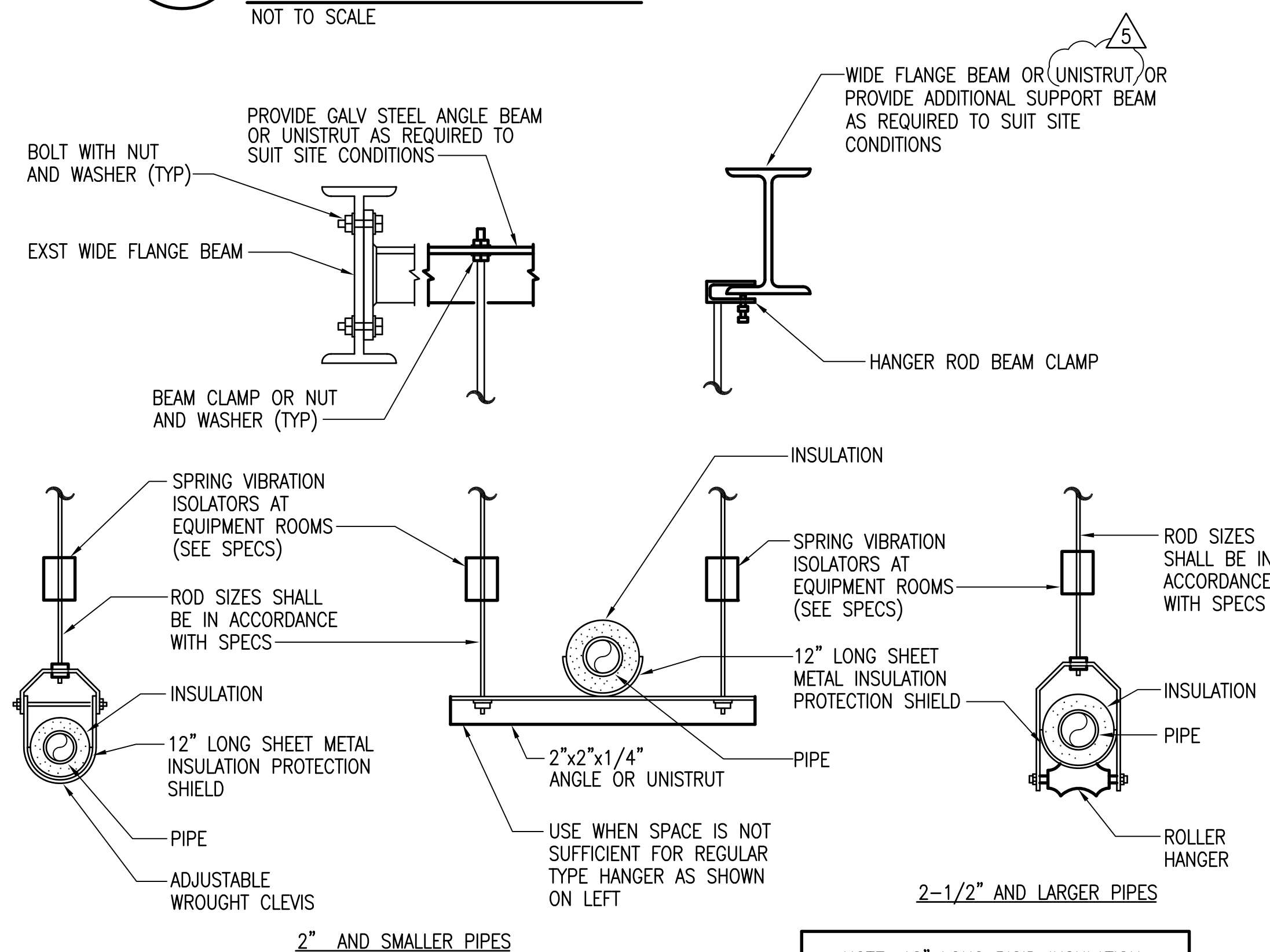


- NOTES:
1. PROVIDE ACOUSTIC SEALANT FOR NON-FIRE RATED FULL HEIGHT PARTITIONS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF NON-FIRE RATED PARTITIONS THAT ARE FULL HEIGHT.
 2. PROVIDE FIRE STOPPING FOR FIRE RATED PARTITIONS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED PARTITIONS AND SPECIFICATION SECTION 078400 FOR FIRE STOPPING SEALANT. ASSEMBLY SHALL BE UL RATED.

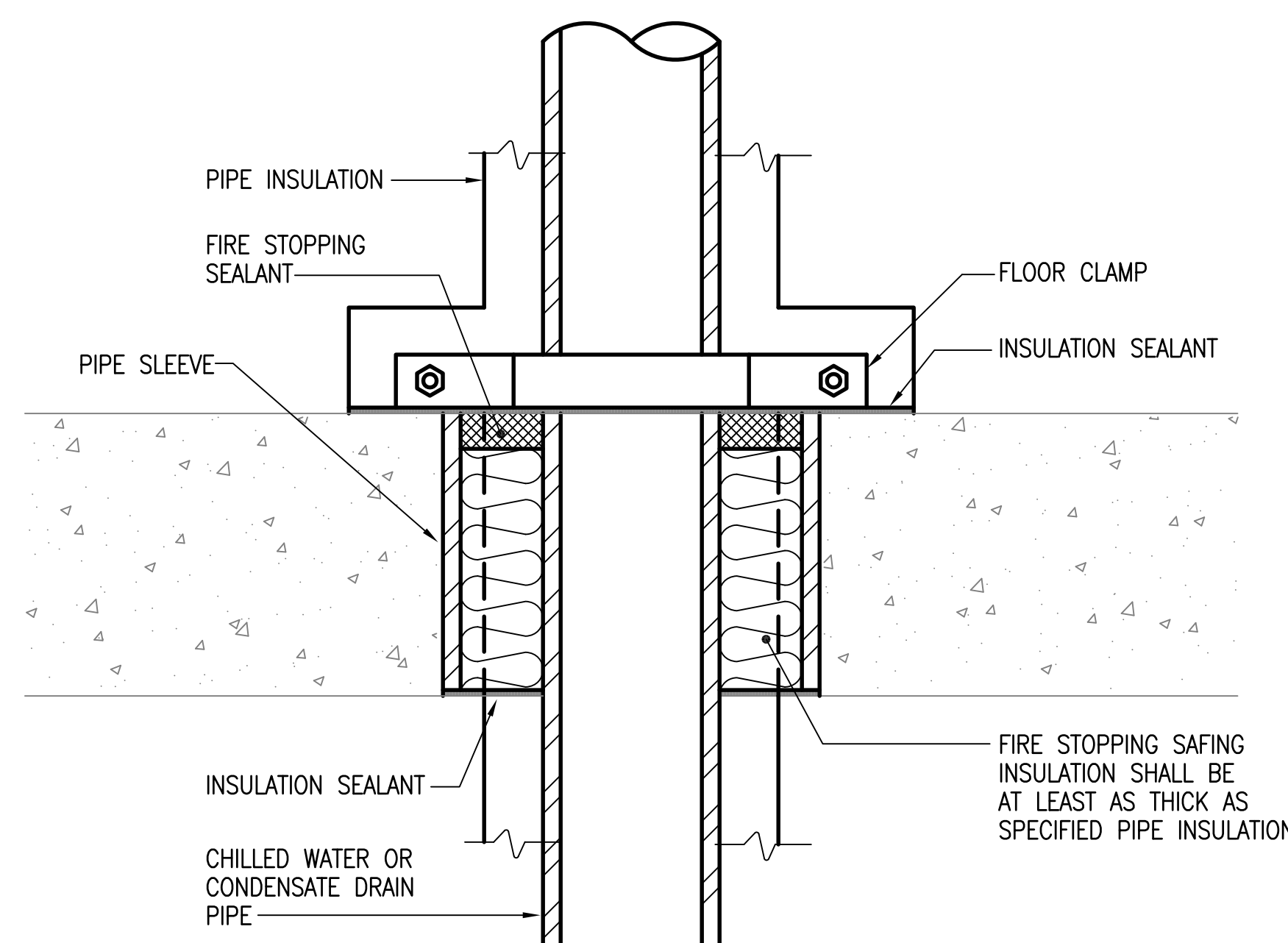
5 TYPICAL PIPE THRU FIRE-RATED WALL DETAIL
P5.01 NOT TO SCALE



6 TYPICAL PIPE THRU EXTERIOR AND GRADE WALL DETAIL
P5.01 NOT TO SCALE



7 TYPICAL PIPE HANGER DETAIL
P5.01 NOT TO SCALE

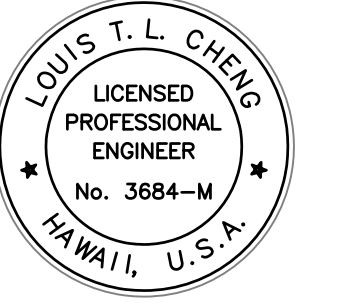


- NOTES:
1. SEE SPECIFICATION SECTION 07841 FOR FIRE STOPPING SEALANT. ASSEMBLY SHALL BE UL LISTED.

8 TYPICAL PIPE THRU FLOOR DETAIL
P5.01 NOT TO SCALE



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Louis T. L. Cheng
LICENSE EXPIRATION DATE: 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RAAC	BH	LC

KEY PLAN / NOTES:

NO.	DATE	REVISION
5	6/25/12	BUILDING PERMIT RESUBMITAL

AS-BUILT
12 - 5 - 2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOLE

PROJECT NO.:

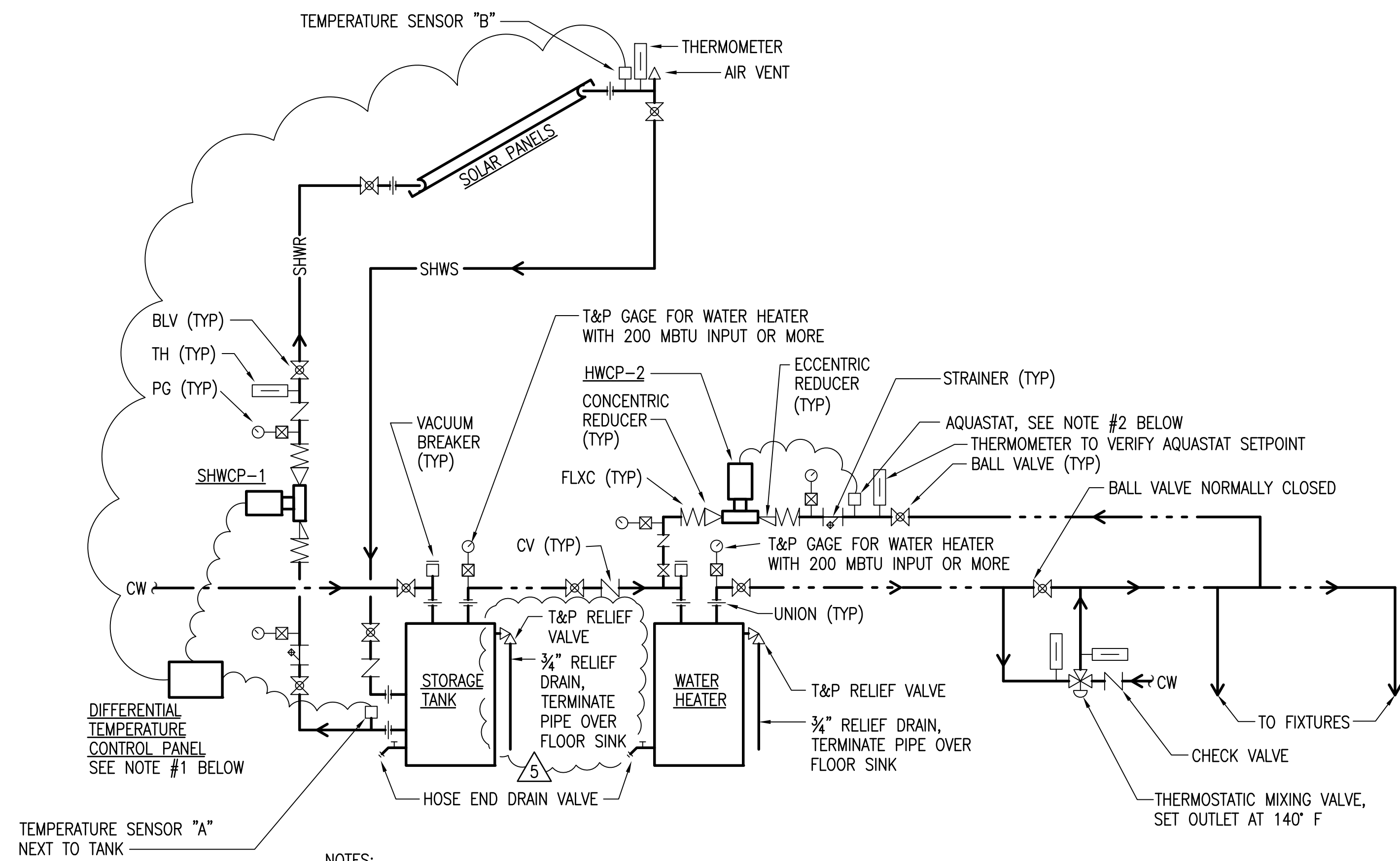
STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

DETAILS

DATE:	02/17/2012
DWG. NO.:	
OF	

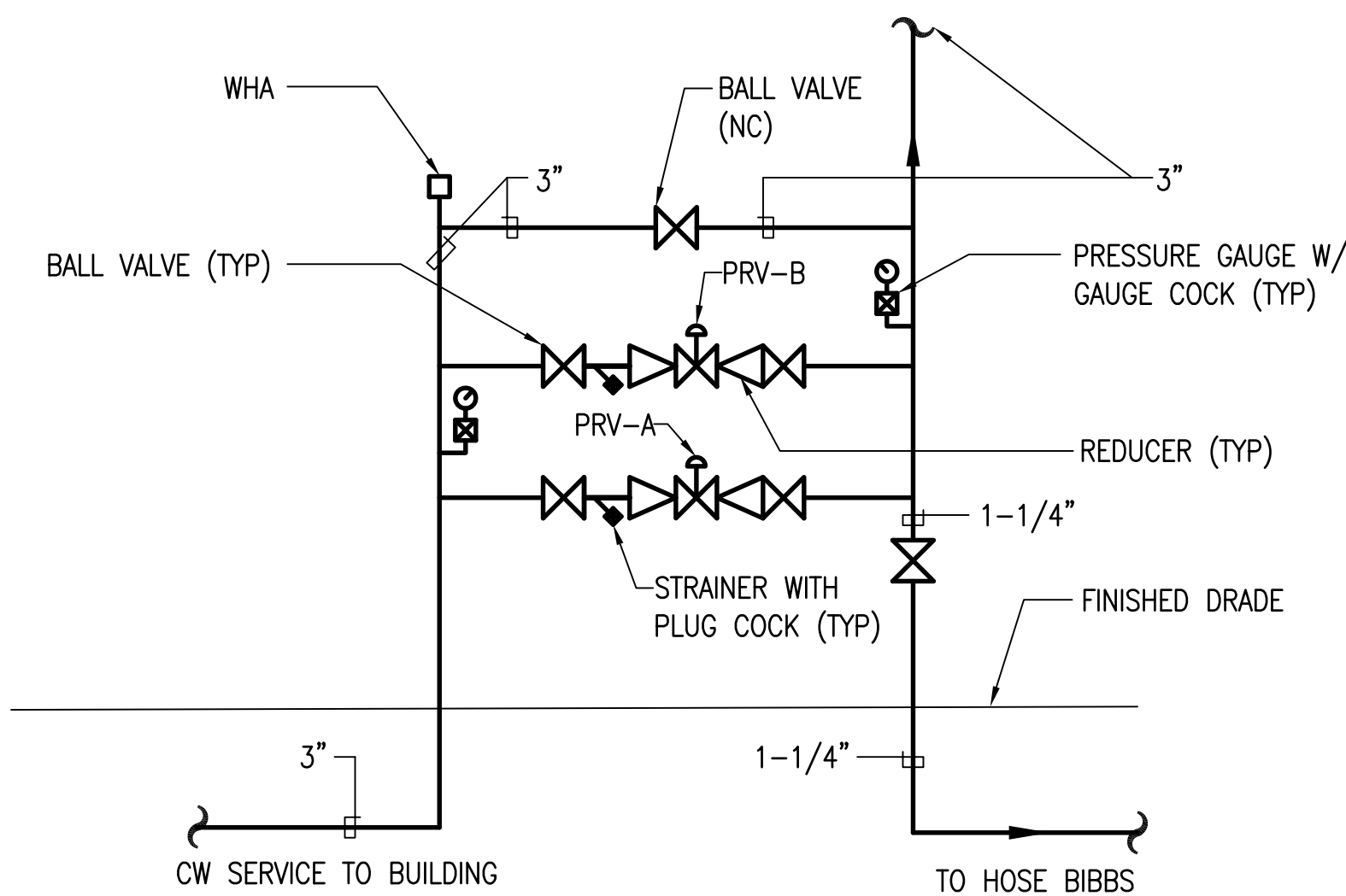
P5.01



- NOTES:
- DIFFERENTIAL TEMPERATURE CONTROLLER SHALL CONTROL SOLAR HOT WATER CIRCULATION PUMP-1 AS FOLLOWS:
 - ENERGIZE PUMP WHEN TEMPERATURE SENSOR "B" IS 15° HIGHER THAN TEMPERATURE SENSOR "A".
 - DE-ENERGIZE PUMP WHEN TEMPERATURE SENSOR "B" IS LESS THAN 5° HIGHER THAN TEMPERATURE SENSOR "A", OR WHEN TEMPERATURE SENSOR "A" IS HIGHER THAN 150°F.
 - AQUASTAT SHALL CONTROL HOT WATER RETURN CIRCULATION PUMP-2 AS FOLLOWS:
 - ENERGIZE PUMP WHEN WATER TEMPERATURE IS 120°F. OR LOWER.
 - DE-ENERGIZE PUMP WHEN WATER TEMPERATURE IS 130°F OR HIGHER.

1 SCHEMATIC SOLAR SYSTEM PIPING DIAGRAM

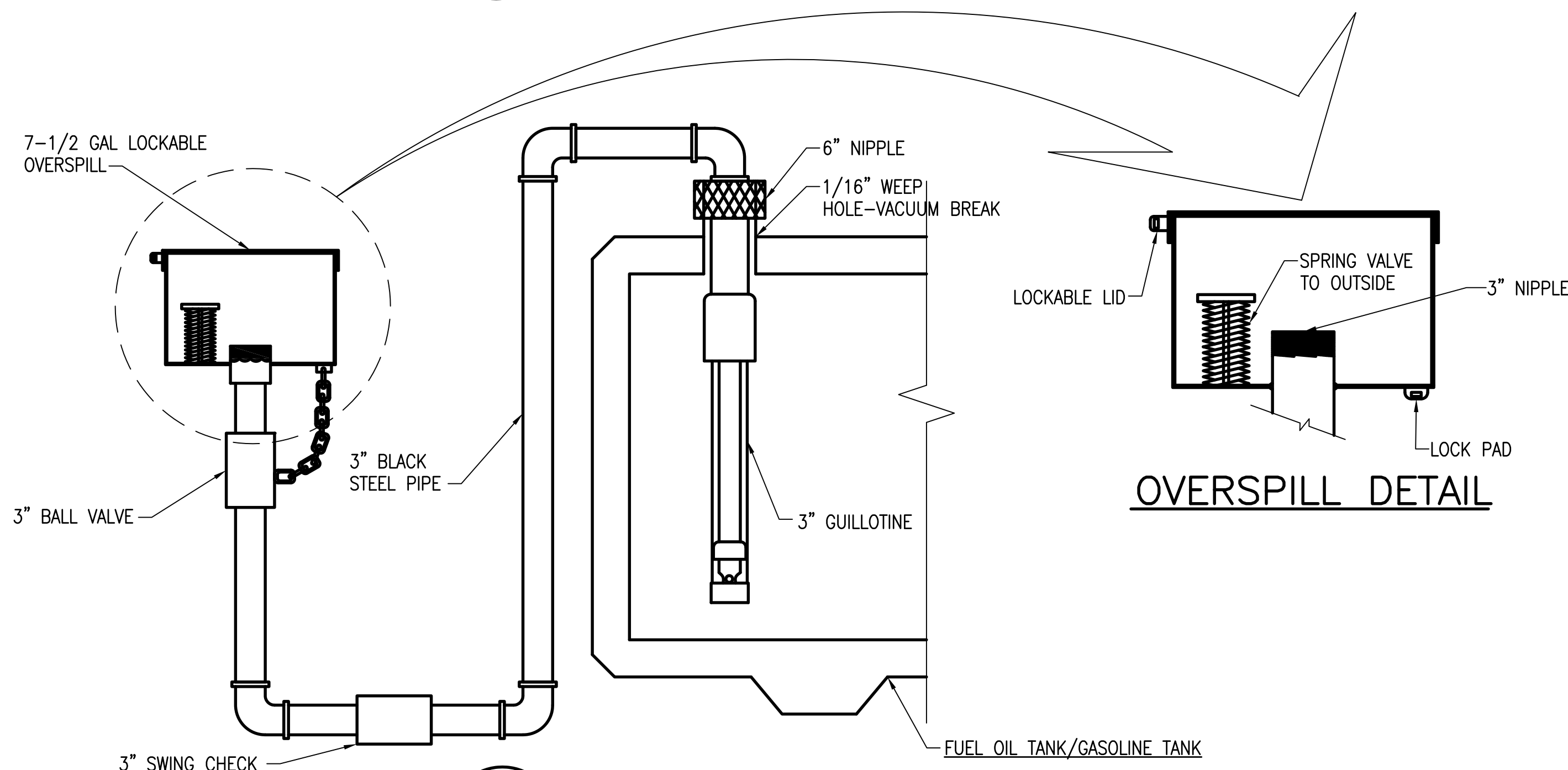
P5.02 NOT TO SCALE



STANDARD PRESSURE REDUCING VALVE SIZE						
GPM	PRV - A		PRV - B		WHA	
	SIZE	INPUT PSI	OUTPUT PSI	SIZE	INPUT PSI	OUTPUT PSI
86	1-1/2"	-	65	1/2"	-	75

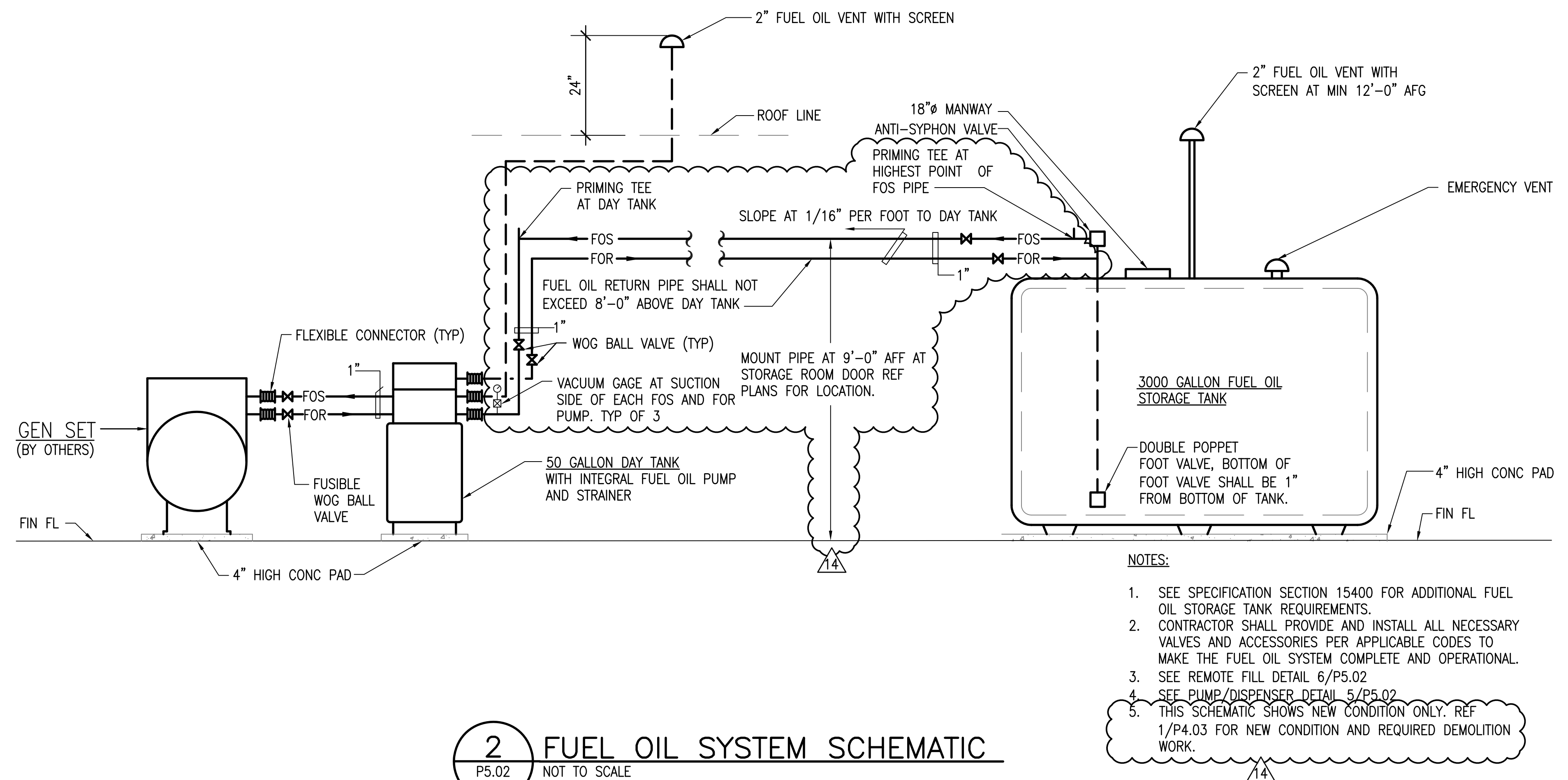
3 PRESSURE REDUCTION STATION DETAIL

P5.02 NOT TO SCALE



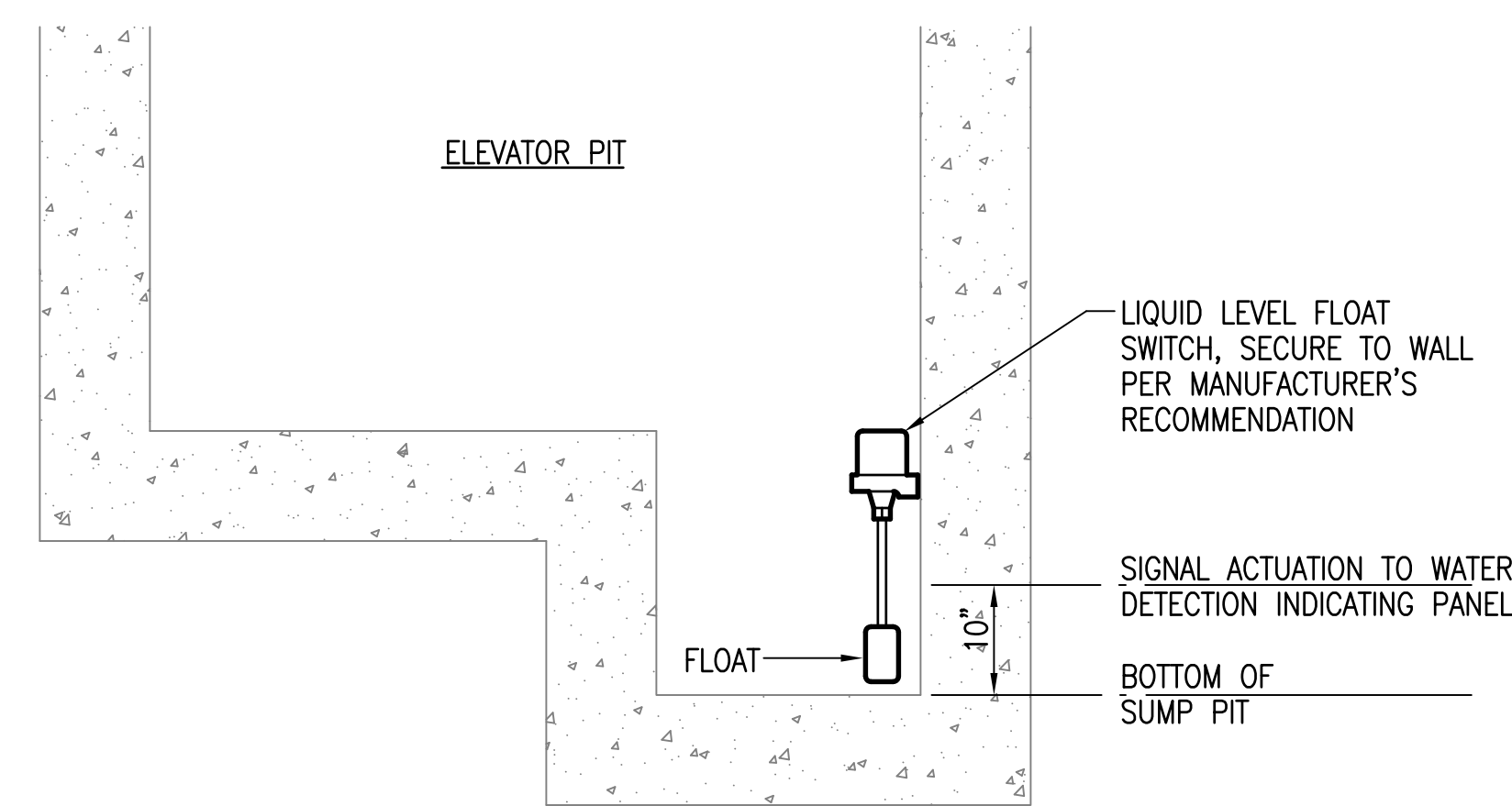
6 TYPICAL REMOTE FILL DETAIL

P5.02 NOT TO SCALE



2 FUEL OIL SYSTEM SCHEMATIC

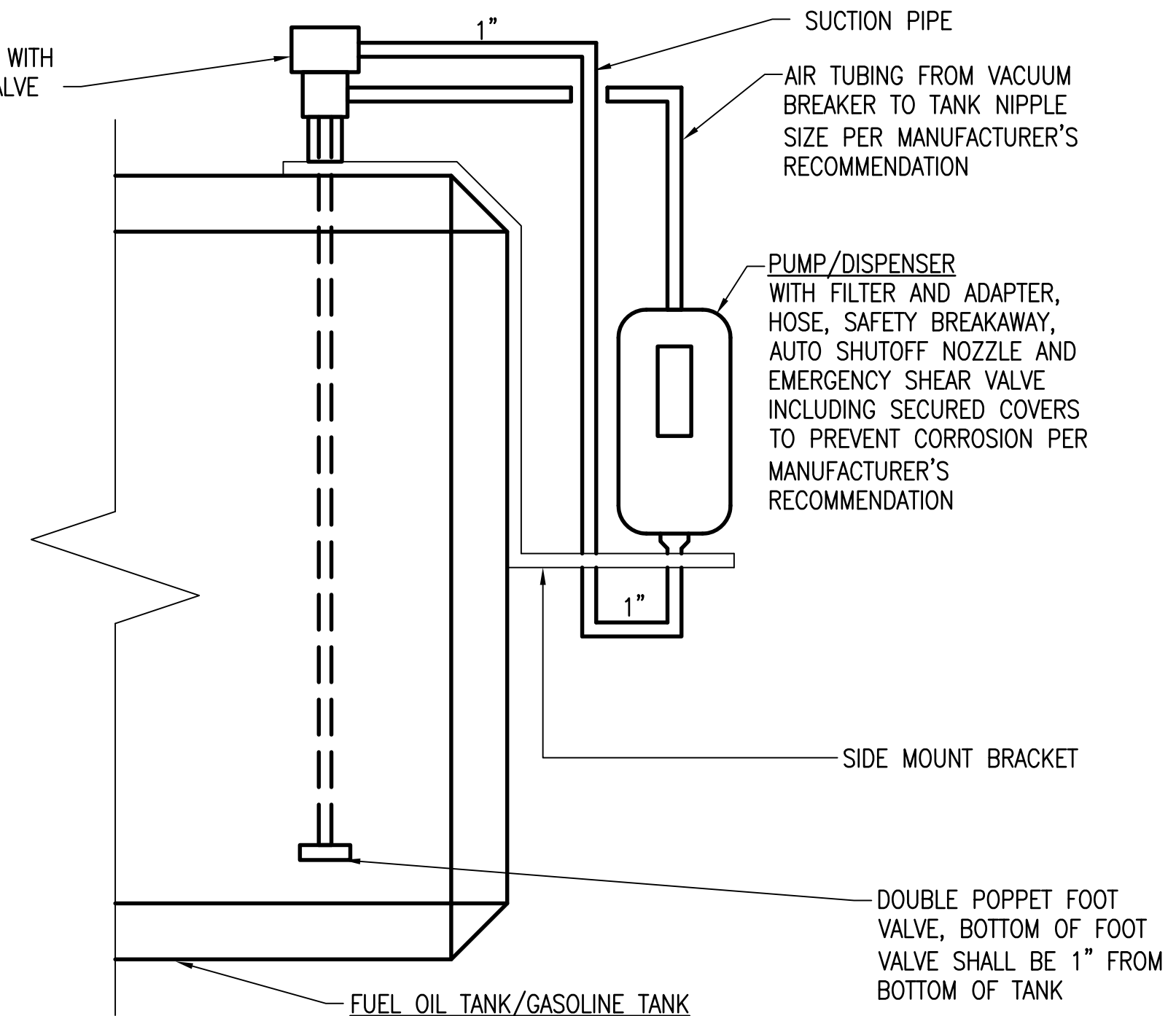
P5.02 NOT TO SCALE



- CONTROL NOTES:
- LIQUID LEVEL SHALL RISE TO 10" ABOVE THE SUMP PIT BOTTOM AND ACTIVATE THE FLOAT SWITCH.
 - A SIGNAL WILL THEN BE SENT TO THE ELEVATOR WATER DETECTION INDICATING PANEL TO TURN ON AN INDICATING LIGHT.

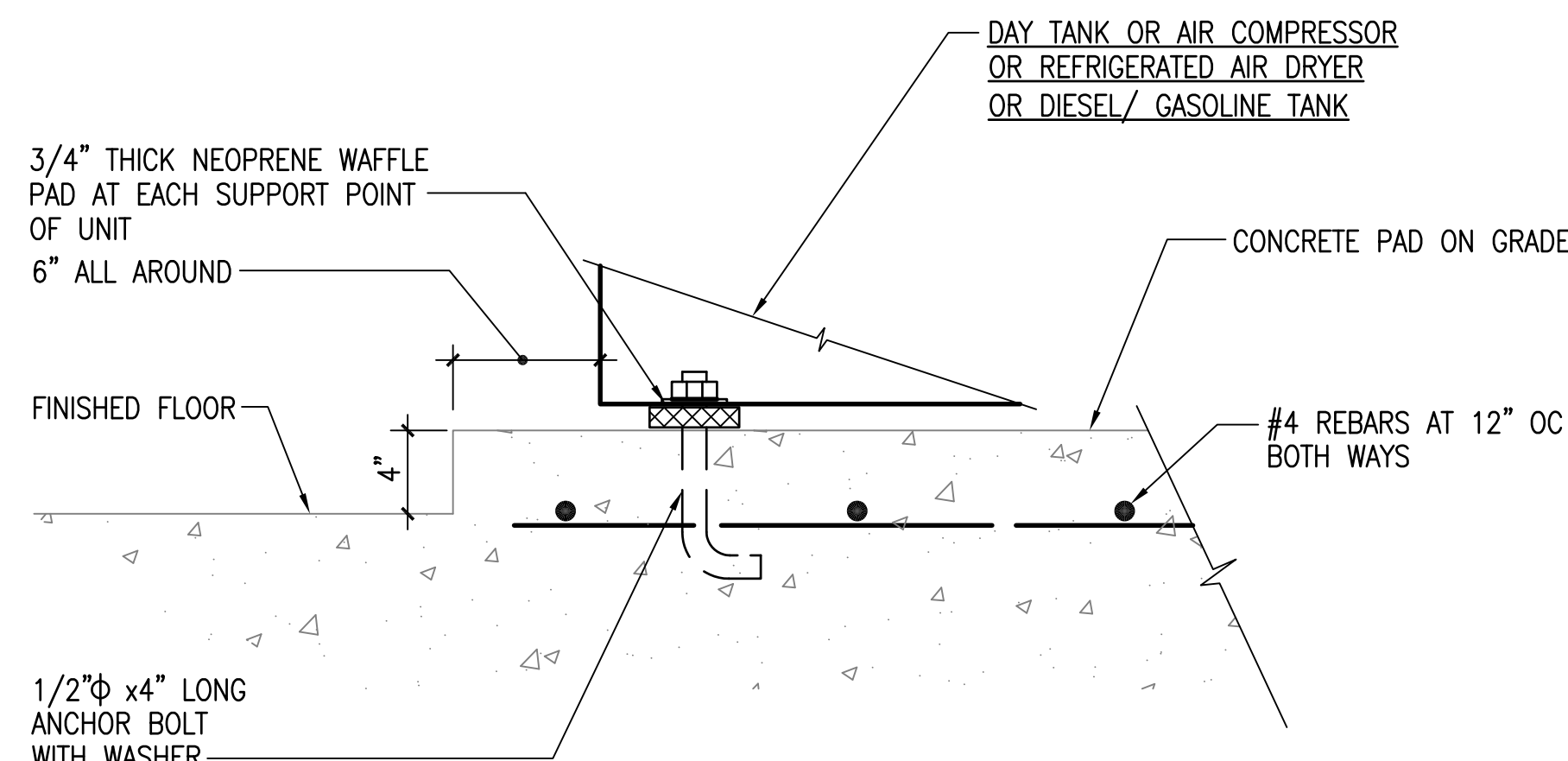
4 ELEVATOR WATER DETECTION DETAIL

P5.02 NOT TO SCALE



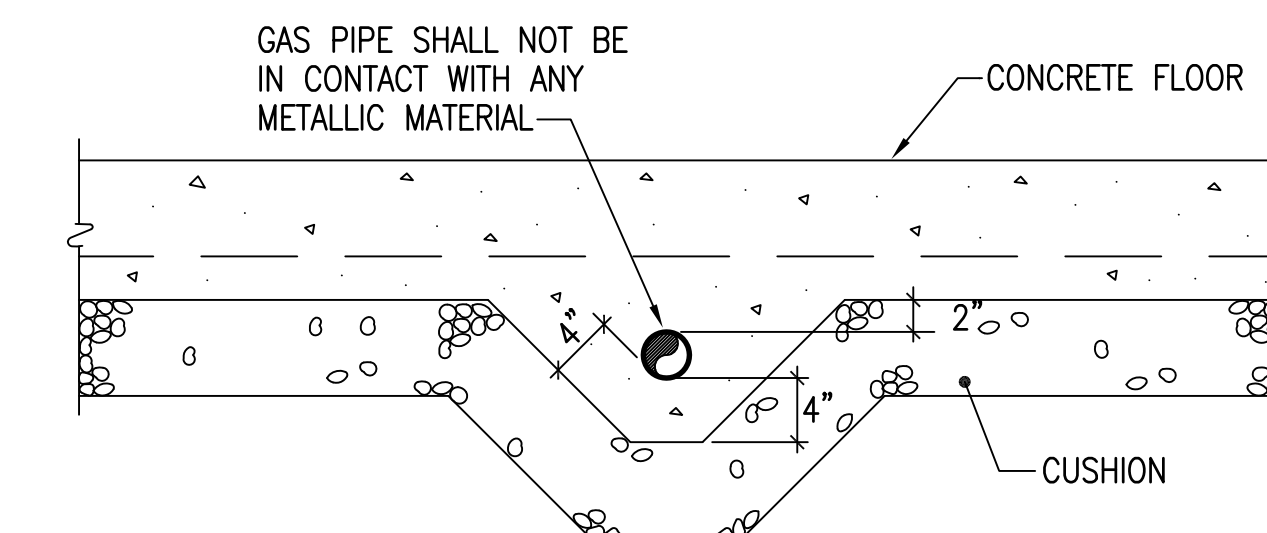
5 TYPICAL PUMP/DISPENSER DETAIL

P5.02 NOT TO SCALE



7 TYPICAL EQUIPMENT MOUNTING DETAIL

P5.02 NOT TO SCALE



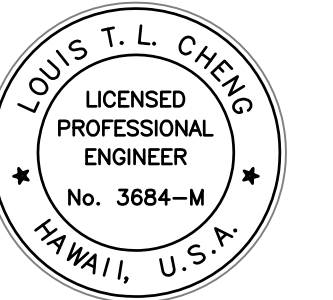
- NOTE:
- PIPE SHALL BE TESTED PRIOR TO CASTING IN CONCRETE.

8 TYPICAL GAS PIPE CAST IN CONCRETE DETAIL

P5.02 NOT TO SCALE



Airports Division
Department of Transportation
State of Hawaii



THE WORK AND PROJECTS OF MR. LOUIS T. L. CHENG
ARE HEREBY APPROVED AND CERTIFIED BY THE
PROJECT MANAGER AS SHOWN ON THE DRAWING.

Ma. Cruz
LICENSE EXPIRATION DATE: 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RAAC	BH	LC

KEY PLAN / NOTES:

1A	6/04/14	PCD-06
2A	6/25/12	BUILDING PERMIT RESUBMITAL
NO.	DATE	REVISION

AS-BUILT
12 - 5 - 2014

PROJECT TITLE:

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SHEET TITLE:

DETAILS

DATE:	02/17/2012
DWG. NO.:	
OF	

P5.02

1. SAND OIL INTERCEPTOR SHALL BE IAPMO APPROVED, "JENSEN PRECAST" MODEL HJ32050 WITH SAMPLING BOX MODEL EV200 OR 2/14/12 AND COUNTY HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT WASTEWATER DIVISION APPROVED EQUAL.
2. SAND OIL INTERCEPTOR AND SAMPLING BOX SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. TANK, BOX, AND MANHOLES SHALL BE CAPABLE OF H-20 TRAFFIC WHEEL LOADING.
3. SAND OIL INTERCEPTOR MANUFACTURER SHALL SUPERVISE COMPLETE INSTALLATION OF GREASE INTERCEPTOR.
4. SAND OIL INTERCEPTOR SHALL BE INSTALLED SUCH THAT IT IS EASILY ACCESSIBLE FOR INSPECTION, CLEANING AND THE REMOVAL OF HYDROCARBON, SAND, DIRT AND SOLID MATERIAL IN ACCORDANCE WITH THE CURRENT 2/14/12 COUNTY OF HAWAII RULES AND REGULATIONS.
5. ALL SAND OIL INTERCEPTORS SHALL BE LISTED WITH IAPMO (INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS) AND BEAR A STAMP SHOWING SUCH CERTIFICATION.
6. THE SAND OIL INTERCEPTOR SIZE (GALLON LIQUID CAPACITY) MUST BE APPROVED BY COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT WASTEWATER DIVISION PRIOR TO INSTALLATION.
7. 100% OF THE INTERIOR OF THE INTERCEPTOR SHALL BE COATED WITH ACID-RESISTANT MATERIAL APPROVED BY WWRD, INCLUDING THE RING AND COVER.
8. 100% OF THE EXTERIOR OF THE INTERCEPTOR SUSCEPTIBLE TO GROUND WATER INTRUSIONS SHALL BE COATED WITH WATER-RESISTANT MATERIAL.
9. SAND-OIL INTERCEPTORS SHALL BE CONSTRUCTED WITH MANHOLES OVER THE INLET, OUTLET, AND BAFFLE WALL CROSSOVER PIPING FOR PURPOSES OF ACCESS, INSPECTION, AND CLEANING.
10. INTERCEPTOR AND SAMPLE BOX RISERS SHALL BE SEaled WITH A RAMNECK TYPE SEALANT PRODUCT AND ALL JOINTS GROUTED TO RING AND COVER.
11. INTERCEPTORS AND COVERS MUST MEET VEHICLE LOADING REQUIREMENTS (H20) PER IAPMO STANDARDS IF THE INTERCEPTOR IS LOCATED IN A POTENTIAL VEHICLE TRAFFIC AREA.
12. SAMPLE BOXES AND COVERS MUST MEET VEHICLE LOADING REQUIREMENTS (H20) IF LOCATED IN A POTENTIAL VEHICLE TRAFFIC AREA.
13. THE INTERCEPTOR SHALL BE VENTED AT THE INLET AND OUTLET OF THE TANK.
14. MANHOLE COVERS SHALL BE GASTIGHT IN CONSTRUCTION AND HAVE A MINIMUM SIZE OPENING OF 24".
15. THE SAMPLE BOX SHALL BE CONSTRUCTED OF CONCRETE WITH MINIMUM DIMENSIONS OF 12"x18" AND INCLUDE A 6" FLOW THROUGH CHANNEL FOR TAKING SAMPLES. THE BOX SHAPE MAY BE CIRCULAR (WITH MANHOLE COVER) OR RECTANGULAR.
16. 100% OF THE INTERIOR OF THE SAMPLING BOX SHALL BE COATED WITH ACID-RESISTANT MATERIAL APPROVED BY COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT WASTEWATER DIVISION.
17. 100% OF THE EXTERIOR OF THE SAMPLING BOX SUSCEPTIBLE TO GROUND WATER INTRUSIONS SHALL BE COATED WITH WATER-RESISTANT MATERIAL.
18. THE DISCHARGE REDUCER ON THE SAMPLE BOX SHALL BE ECCENTRIC SO AS NOT TO IMPEDE FLOW THROUGH THE CHANNEL.
19. INSPECTION OF INSTALLED INTERCEPTORS AND PIPING BY WWRD PRIOR TO BACKFILLING IS REQUIRED. PIPING SHALL MEET THE REQUIREMENTS OF THE UNIFORM PLUMBING CODE. CONTACT COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT WASTEWATER DIVISION AT TO SCHEDULE INSPECTION.
20. FINAL INSPECTION OF INSTALLED INTERCEPTORS, SAMPLE BOX, AND PIPING BY WWRD IS REQUIRED UPON COMPLETION OF WORK. FINAL INSPECTION IS REQUIRED PRIOR TO CERTIFICATE OF OCCUPANCY CLEARANCE BY COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT WASTEWATER DIVISION. CONTACT COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT WASTEWATER DIVISION TO SCHEDULE INSPECTION.



PIPE ANCHOR



3 TYPICAL PIPE GUIDE AND ANCHOR DETAIL

[illegible]

PUMP SCHEDULE																	
UNIT NO	MANUFACTURER AND MODEL	LOCATION	SERVICE	TYPE	GPM	TOTAL DYNAMIC HEAD FT	SUCT SIZE INCHES	DISCH SIZE INCHES	MIN EFF PERCENT	RPM	HP	VOLTS	Φ	OPR WT POUNDS	ISOLATOR		REMARKS
															TYPE	DEFL	
SHWCP-1 & HWCP-2	BELL & GOSSETT NRF-45	MECH EQUIP ROOM	HW CIRC	INLINE CENTRIFUGAL	5	15	0.75"	0.75"	—	—	270 WATTS	120	1	25	—	—	ALL BRONZE CONSTRUCTION, CLOSED IMPELLER, 200 DEG OPERATING TEMPERATURE, 150 PSI OPERATING PRESSURE
ESP-3	HYDROMATIC MODEL OSP50 OR APPROVED EQUAL	ELEV PIT	ELEV PIT PUMP	SUBMERSIBLE	50	10	—	1 1/2	—	1750	0.5	120	1	125	—	—	

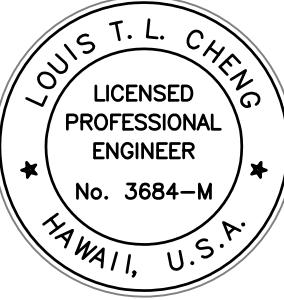
WATER HEATER SCHEDULE												
UNIT NO	MANUFACTURER AND MODEL	LOCATION	SERVICE	RECOVERY @ 70 °F RISE GPH	GAS INPUT MBTU	ELECT INPUT KW	VOLTS	Φ	STORAGE CAPACITY GALLONS	GAS FLUE SIZE	OPR WT POUNDS	REMARKS
WH1	AO SMITH BTH 120 OR APPROVED EQUAL	MECH EQUIP ROOM	DHW	197	120	--	120	1	60	4"	1500	

AIR COMPRESSOR SCHEDULE														
UNIT NO	MANUFACTURER AND MODEL	LOCATION	SERVICE	TYPE	CFM AT 175 PSI	OPERATING PRESSURE PSI	RPM	HP	VOLTS	Φ	OPR WT POUNDS	ISOLATOR		REMARKS
												TYPE	DEFL	
AIR COMP-1	INGERSOL RAND MODEL 2475N7.5-V OR APPROVED EQUAL	APPARATUS BAY	COMPRESSED AIR	TWO STAGE VERTICAL TANK	24	125	1800	7-1/2	208	3	700			SEE SPECS FOR ADDITIONAL REQUIREMENTS

PLUMBING FIXTURE LOCAL CONNECTION SCHEDULE							
FIXTURE	SYMBOL	WASTE ¹	VENT ¹	COLD WATER	HOT WATER	MAXIMUM CONSUMPTION ²	REMARKS
WATER CLOSET	WC-1	4"	2"	1"	—	1.28	FLOOR MOUNTED, FLUSH VALVE
WATER CLOSET, ACCESSIBLE	WC-2A	4"	2"	1"	—	1.28	FLOOR MOUNTED, FLUSH VALVE, ACCESSIBLE
WATER CLOSET, ACCESSIBLE	WC-3A	4"	2"	1/2"	—	1.28	FLOOR MOUNTED, FLUSH TANK, ACCESSIBLE
URINAL	UR-1	2"	1-1/2"	3/4"	—	0.125	WALL HUNG
URINAL, ACCESSIBLE	UR-2A	2"	1-1/2"	3/4"	—	0.125	WALL HUNG, ACCESSIBLE ³
LAVATORY	LAV-1	1-1/2"	1-1/2"	1/2"	1/2"	1.0	WALL HUNG
LAVATORY, ACCESSIBLE	LAV-2A	1-1/2"	1-1/2"	1/2"	1/2"	1.0	WALL HUNG, ACCESSIBLE ^{3, 4}
SHOWER	SH	2"	1-1/2"	1/2"	1/2"	1.7	
SHOWER, ACCESSIBLE	SH-A	2"	1-1/2"	1/2"	1/2"	1.7	ACCESSIBLE ³
SINK	SK-1	2"	1-1/2"	1/2"	1/2"	1.5	SS, 2 COMPT SINK
SINK, ACCESSIBLE	SK-2A	2"	1-1/2"	1/2"	1/2"	1.5	SS, 2 COMPT SINK, ACCESSIBLE ^{3, 4}
SINK	SK-3	2"	1-1/2"	1/2"	1/2"	1.5	SS, 1 OR 2 COMPT SINK INTEGRAL W/ SS COUNTER TOP
SINK	SK-3A	2"	1-1/2"	1/2"	1/2"	1.5	SS, 1 OR 2 COMPT SINK INTEGRAL W/ SS COUNTER TOP, ACCESSIBLE ^{3, 4}
FLOOR SERVICE SINK	FSS	3"	2"	1/2"	—	—	FLOOR MOUNTED
CLOTHES WASHER BOX	CWB	2"	1-1/2"	1/2"	1/2"	—	
ELECTRIC WATER COOLER	EW	1-1/2"	1-1/2"	1/2"	—	—	WALL MOUNTED, DUAL HEIGHT, ACCESSIBLE ³
HOSE BIBB	HB	—	—	*	—	—	1/2" FOR INTERIOR HB AND 3/4" FOR EXTERIOR HB
WALL HYDRANT	WH	—	—	3/4"	—	—	
FLOOR DRAIN	FD	*	1-1/2"	—	—	—	* SIZE AS INDICATED ON PLAN
FLOOR SINK	FS	*	1-1/2"	—	—	—	* SIZE AS INDICATED ON PLAN, INSTALL TOP FLUSH TO FINISHED FLOOR
NOTES: 1. ALL UNDERGROUND SOIL, WASTE AND VENT PIPE SIZE SHALL BE 2" MINIMUM. 2. WATER CLOSET AND URINAL WATER CONSUMPTION IS IN GALLONS PER FLUSH, ALL OTHERS FIXTURES ARE IN GALLONS PER MINUTE FLOW RATE. 3. SEE ARCHITECTURAL DRAWING FOR REGULAR AND ACCESSIBLE FIXTURE HEIGHTS AND LOCATION. 4. ACCESSIBLE LAVATORIES AND SINKS EXPOSED WASTE AND WATER PIPING BELOW COUNTER AND ABOVE FINISHED FLOOR SHALL BE INSULATED.							



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Louis T. L. Cheng
LICENSE EXPIRATION DATE: 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RA/AC	BH	LC

KEY PLAN / NOTES:

△	3/21/12	DCAB COMMENTS
NO.	DATE	REVISION

AS-BUILT
12 - 5 - 2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOLE

PROJECT NO.:

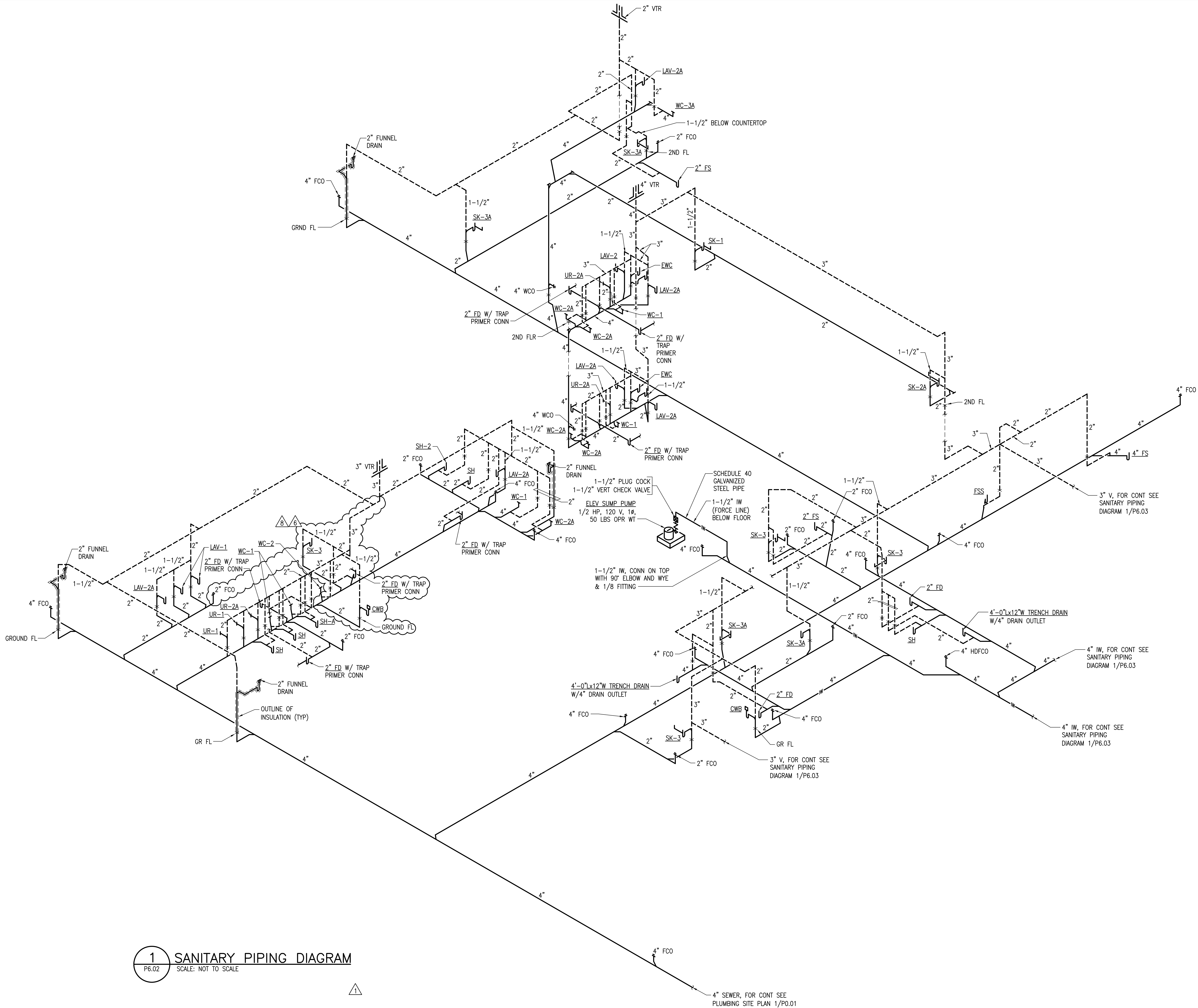
STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

EQUIPMENT SCHEDULES

DATE:	02/17/2012
DWG. NO.:	
OF	

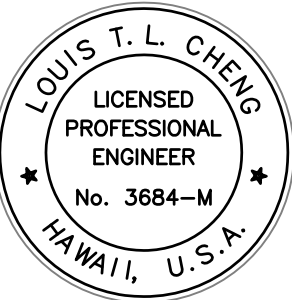
P6.01



1 SANITARY PIPING DIAGRAM
P6.02 SCALE: NOT TO SCALE



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Louis T. L. Cheng
LICENSE EXPIRATION DATE: 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RAAC	BH	LC

KEY PLAN / NOTES:

8	12/03/12	PCD-2
6	9/26/12	DCAB COMMENTS 7/31/12
1	3/21/12	DCAB COMMENTS
NO.	DATE	REVISION

AS-BUILT
12-5-2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOLE

PROJECT NO.:

STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

SANITARY PIPING DIAGRAM

DATE:	02/17/2012
DWG. NO.:	P6.02
OF	



Lisa Chy
LICENSE EXPIRATION DATE 04/30/14

DSGN.	DRWN.	CHKD.	APPD.
FFU	RA/AC	BH	LC

KEY PLAN / NOTES:

NO.	DATE	REVISION

AS-BUILT
12 - 5 - 2014

PROJECT TITLE:

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PROJECT NO.:

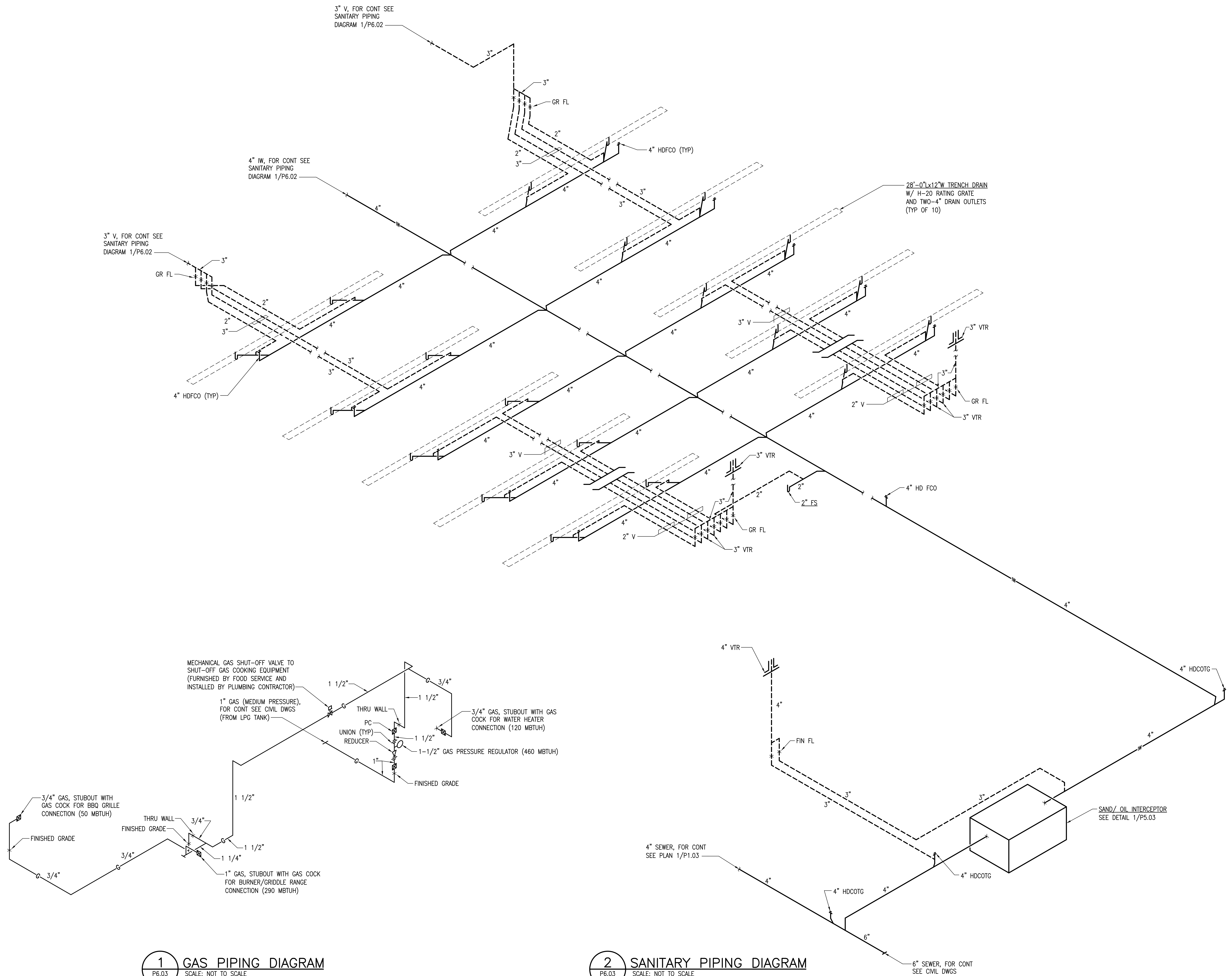
STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

SANITARY PIPING DIAGRAM

DATE:	
02/17/2012	
DWG. NO.:	
OF	

P6.03



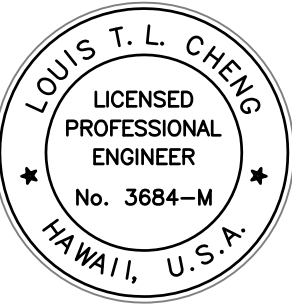
1 GAS PIPING DIAGRAM

2 SANITARY PIPING DIAGRAM

P6.03 SCALE: NOT TO SCALE



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KEY PLAN / NOTES:

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8	12/03/12	PCD-2
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AS-BUILT
12-5-2014

PROJECT TITLE:

ARFF FACILITY IMPROVEMENTS
AT KONA INTERNATIONAL
AIRPORT AT KEAHOLE

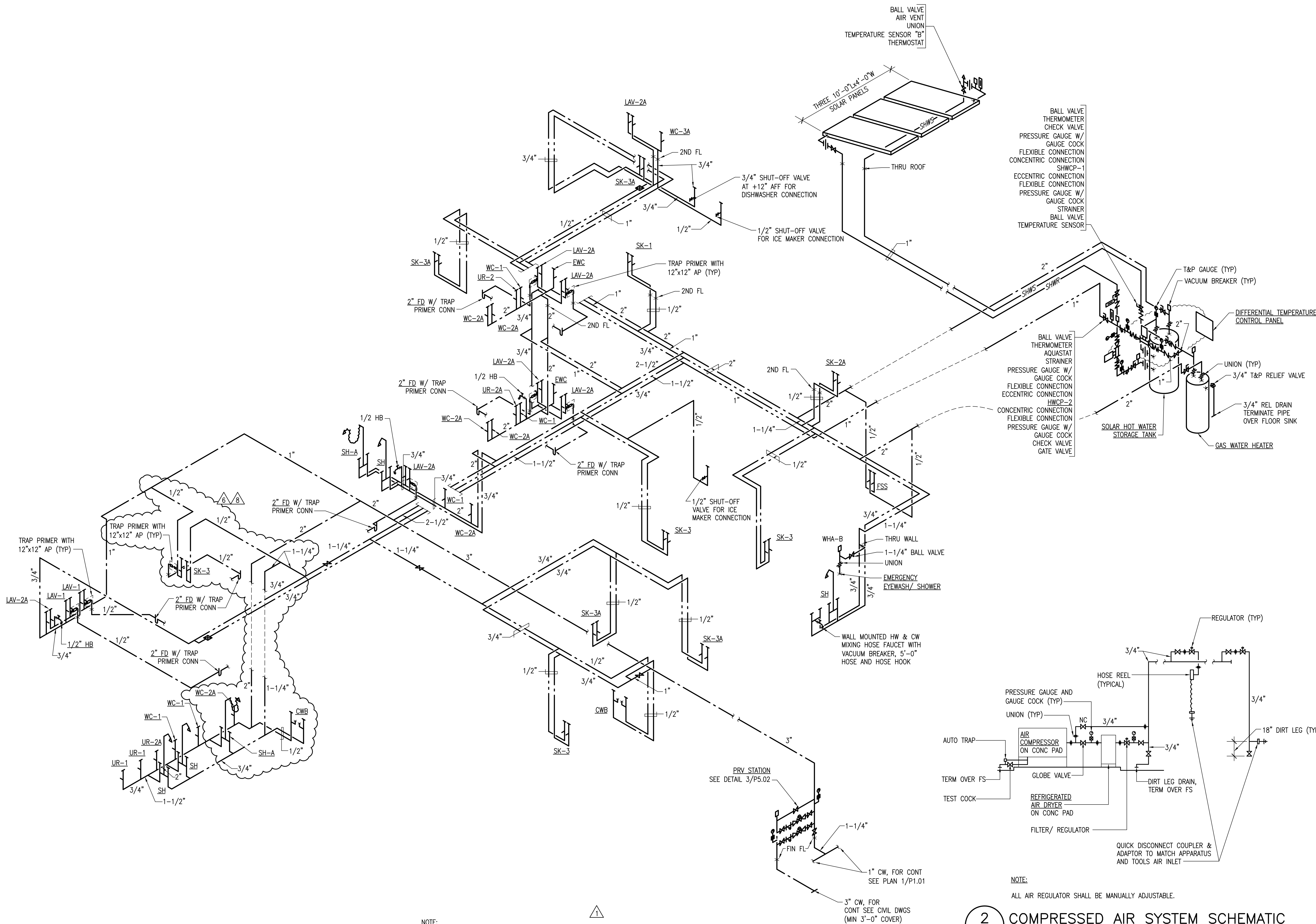
PROJECT NO.:

STATE PROJECT NO. AH2044-19
AIP PROJECT NO. 3-15-0008-XX

SHEET TITLE:

WATER AND COMPRESSED
AIR PIPING DIAGRAMS

DATE:	02/17/2012
DWG. NO.:	P6.04
OF	



NOTE:
ALL TRAP PRIMER SHALL BE PROVIDED WITH SHUT-OFF VALVE AND ACCESS PANEL.

1
P6.04

WATER PIPING DIAGRAM
SCALE: NOT TO SCALE

2
P6.04

COMPRESSED AIR SYSTEM SCHEMATIC
SCALE: NOT TO SCALE