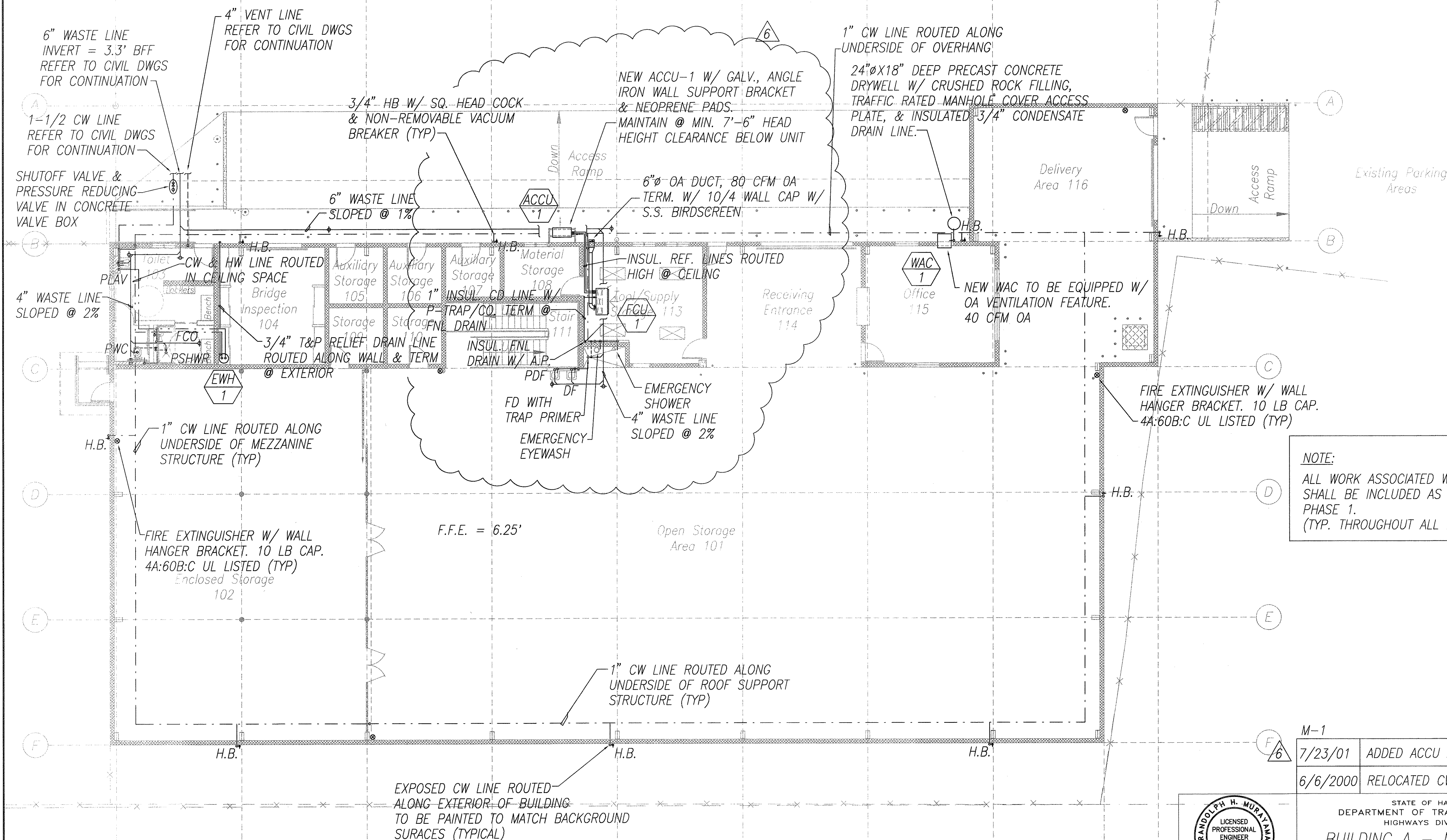


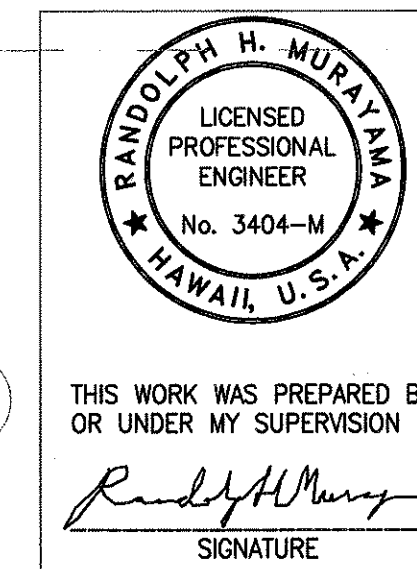
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	1998	C.O. 93	116



NOTE:
ALL WORK ASSOCIATED WITH BUILDING "A"
SHALL BE INCLUDED AS PART OF
PHASE 1.
(TYP. THROUGHOUT ALL MECH. DOCUMENTS)

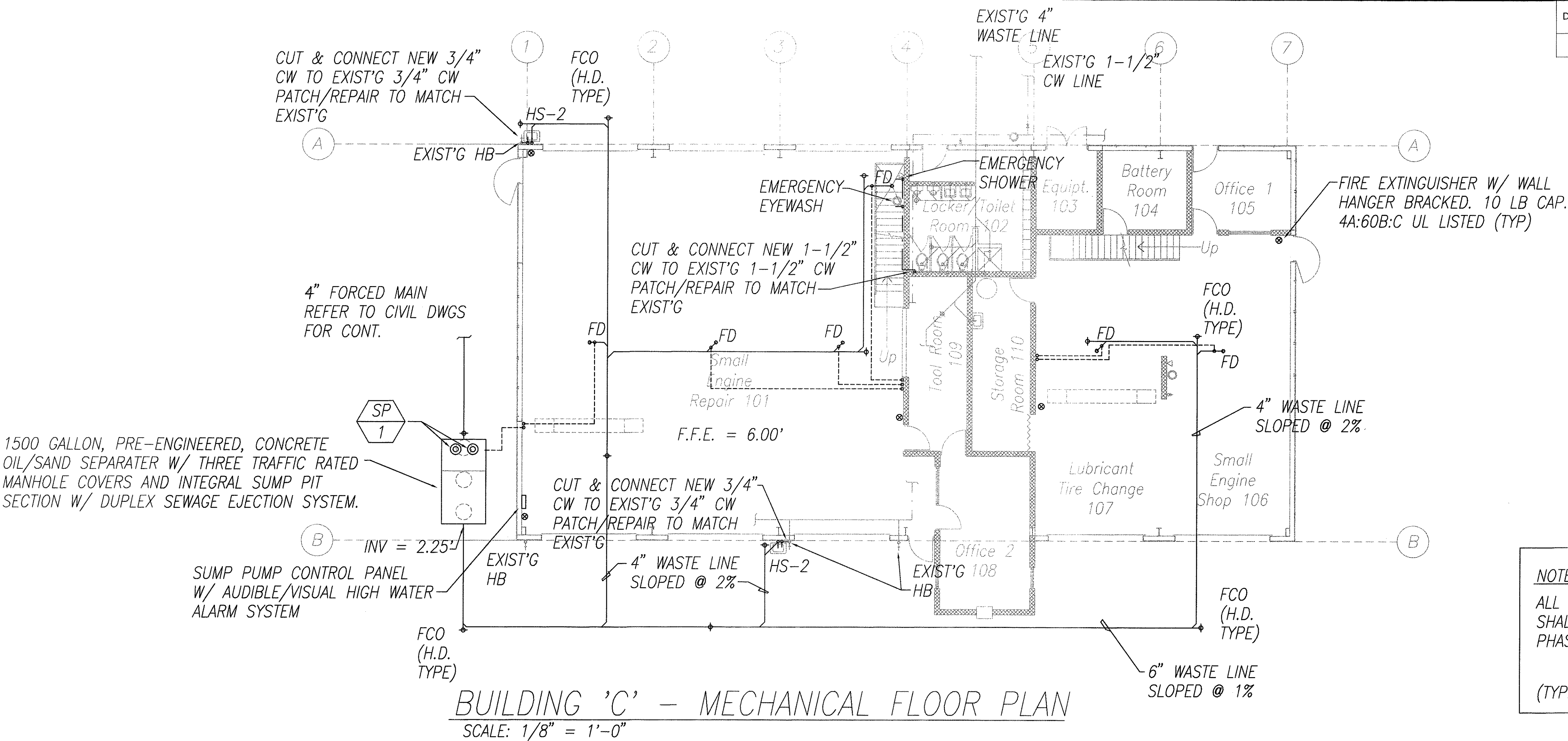
ORIGINAL SURVEY PLOTTED BY	DATE
DRAWN BY	8/99
DESIGNED BY	8/99
QUANTITIES BY	8/99
CHECKED BY	8/99
No.	

BUILDING 'A' - MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"



M-1	7/23/01	ADDED ACCU AND FCU
	6/6/2000	RELOCATED CW VALVES & C.O.
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION BUILDING A - MECHANICAL FLOOR PLAN OAHU DISTRICT WAREHOUSE BUILDING Project No. HWY-0-05-98 Scale: AS SHOWN Date: APRIL, 2000 SHEET No. M-1 OF 116 SHEETS		

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	1998	ADD. 95	116



DOMESTIC PLUMBING FLOW REQUIREMENT:

METER NUMBER: 21-800529 EXIST'G 2" METER
PREMISE NUMBER: 1060325

	FU	GPM	GPD	EXIST'G DC METER: 93189602 (NOT INVOLVED IN PROJECT)
PROPOSED DOMESTIC	77.0	60	4000	
PROPOSED IRRIGATION	-	-	-	
PROPOSED TOTAL	77.0	60	4000	
TO BE REMOVED/DEMO	-	-	-	
NET TOTAL	77.0	60	4000	
EXISTING TO REMAIN	110.2	70	6500	
GRAND TOTAL	187.2	88	10500	

NOTE: THIS PROJECT DID NOT INVOLVE ANY DEMOLITION OF EXISTING PLUMBING FIXTURES

FIXTURE UNIT INFORMATION (NEW FIXTURES - BUILDING "A")

QTY	REGULAR F.U.	FIXTURE TYPE	QTY	LOW FLOW F.U.	TOTAL F.U.
-	-	WATER CLOSET	1	3.4	3.4
-	-	LAVATORY	1	0.6	0.6
-	-	SHOWER	1	1.6	1.6
9	3	HOSE BIBB	-	-	27.0
2	1	DRINKING FOUNTAIN	-	-	2.0
1	3	EMER. SHOWER	-	-	3.0
1	2	EMER. EYEWASH	-	-	2.0
-	-	TOTAL	-	-	39.6

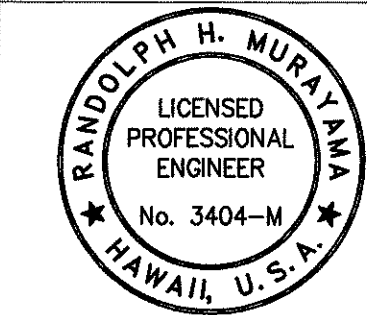
FIXTURE UNIT INFORMATION (NEW FIXTURES - BUILDING "B")

QTY	REGULAR F.U.	FIXTURE TYPE	QTY	LOW FLOW F.U.	TOTAL F.U.
-	-	BREAK ROOM SINK	1	1.6	1.6
8	3	HOSE BIBB	-	-	24.0
-	-	HAND SINK	1	0.6	0.6
1	3	EMER. SHOWER	-	-	3.0
1	2	EMER. EYEWASH	-	-	2.0
-	-	TOTAL	-	-	31.2

FIXTURE UNIT INFORMATION (NEW FIXTURES - BUILDING "C")

QTY	REGULAR F.U.	FIXTURE TYPE	QTY	LOW FLOW F.U.	TOTAL F.U.
-	-	HAND SINK	2	0.6	1.2
1	3	EMER. SHOWER	-	-	3.0
1	2	EMER. EYEWASH	-	-	2.0
-	-	TOTAL	-	-	6.2

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DESIGNED BY	RR	8/99
NOTE BOOK	DESIGNED BY	RR
QUANTITIES BY	RR	8/99
CHECKED BY	RR	8/99
No.		



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Randolph H. Murayama
SIGNATURE

M-3
6/6/2000 REVISED NOTES/ADDED BWS CALC

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BUILDING C - MECHANICAL FLOOR PLAN

OAHU DISTRICT WAREHOUSE BUILDING

Project No. HWY-0-05-98

Scale: AS SHOWN Date: APRIL, 2000

SHEET No. M-3 OF 116 SHEETS

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	1998	C.O. 96	116

DOMESTIC PLUMBING FLOW REQUIREMENT:

METER NUMBER: 21-800529 EXIST'G 2" METER
PREMISE NUMBER: 1060325

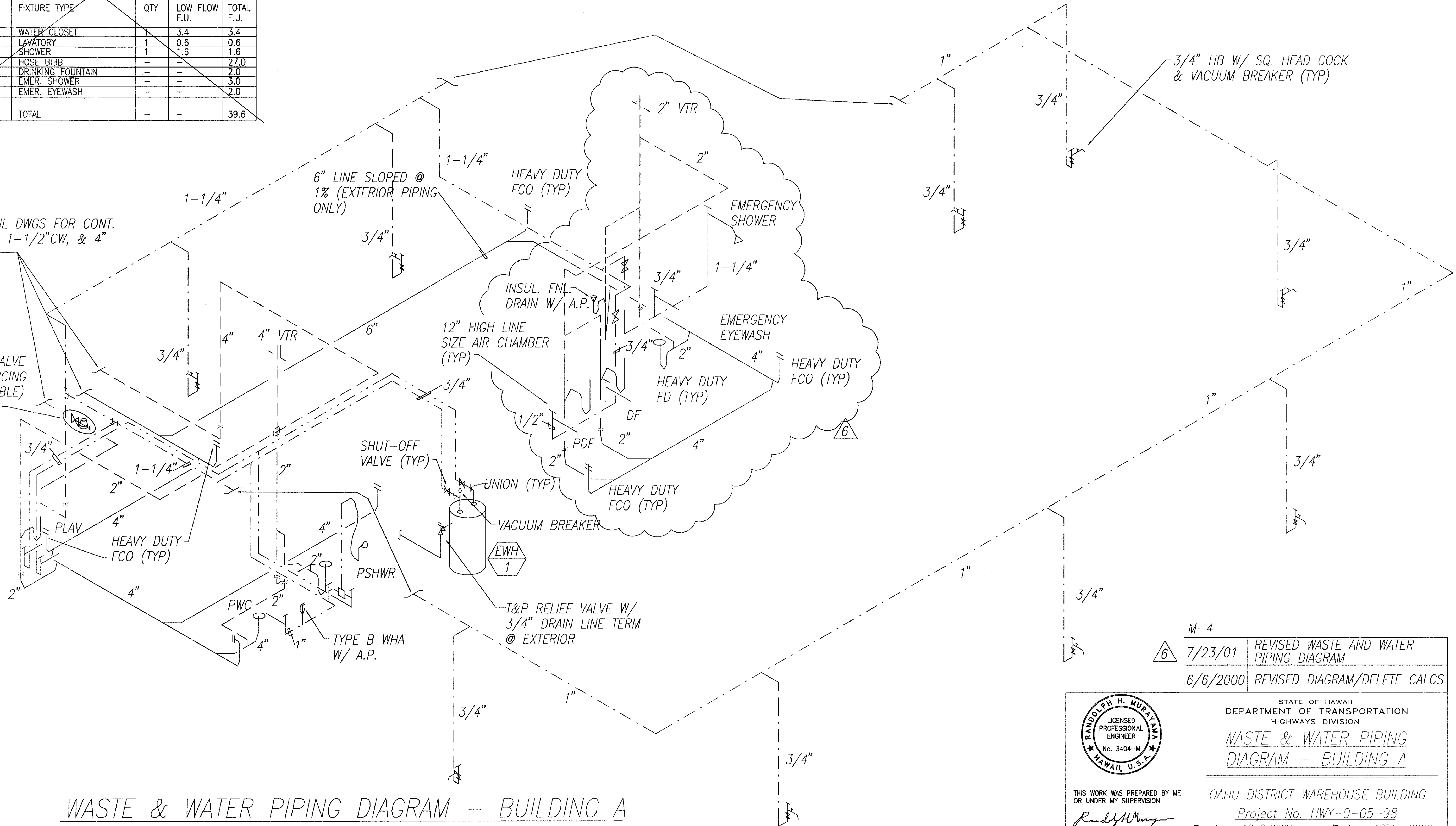
	FU	GPM	GPD	EXIST'G DC METER: 93189602 (NOT INVOLVED IN PROJECT)
PROPOSED DOMESTIC	39.6	46	2000	
PROPOSED IRRIGATION	-	-	-	
PROPOSED TOTAL	39.6	46	2000	
TO BE REMOVED/DEMO	-	-	-	
NET TOTAL	39.6	46	2000	
EXISTING TO REMAIN	110.2	70	6500	
GRAND TOTAL	149.8	80	8500	

FIXTURE UNIT INFORMATION (NEW FIXTURES)

QTY	REGULAR F.U.	FIXTURE TYPE	QTY	LOW FLOW F.U.	TOTAL F.U.
-	-	WATER CLOSET	1	3.4	3.4
-	-	LAVATORY	1	0.6	0.6
-	-	SHOWER	1	1.6	1.6
9	3	HOSE BIBB	-	-	27.0
2	1	DRINKING FOUNTAIN	-	-	2.0
1	3	EMER. SHOWER	-	-	3.0
1	2	EMER. EYEWASH	-	-	2.0
-	-	TOTAL	-	-	39.6

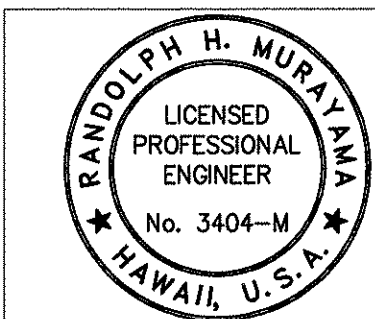
REFER TO CIVIL DWGS FOR CONT.
OF 6" WASTE, 1-1/2" CW, & 4"
VENT LINES

1-1/2" GATE VALVE
& PRESS. REDUCING
VALVE (ADJUSTABLE)
IN CONC. VALVE
BOX



WASTE & WATER PIPING DIAGRAM - BUILDING A
NOT TO SCALE

ORIGINAL PLAN	SURVEY PLOTTED BY DATE 8/99
TRACED BY DATE 8/99	DESIGNED BY DATE 8/99
NOTE BOOK QUANTITIES BY CHECKED BY DATE 8/99	



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OR UNDER MY SUPERVISION
Randy H. Murayama
SIGNATURE

M-4	7/23/01	REVISED WASTE AND WATER PIPING DIAGRAM
6	6/6/2000	REVISED DIAGRAM/DELETE CALCS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WASTE & WATER PIPING
DIAGRAM - BUILDING A

OAHU DISTRICT WAREHOUSE BUILDING

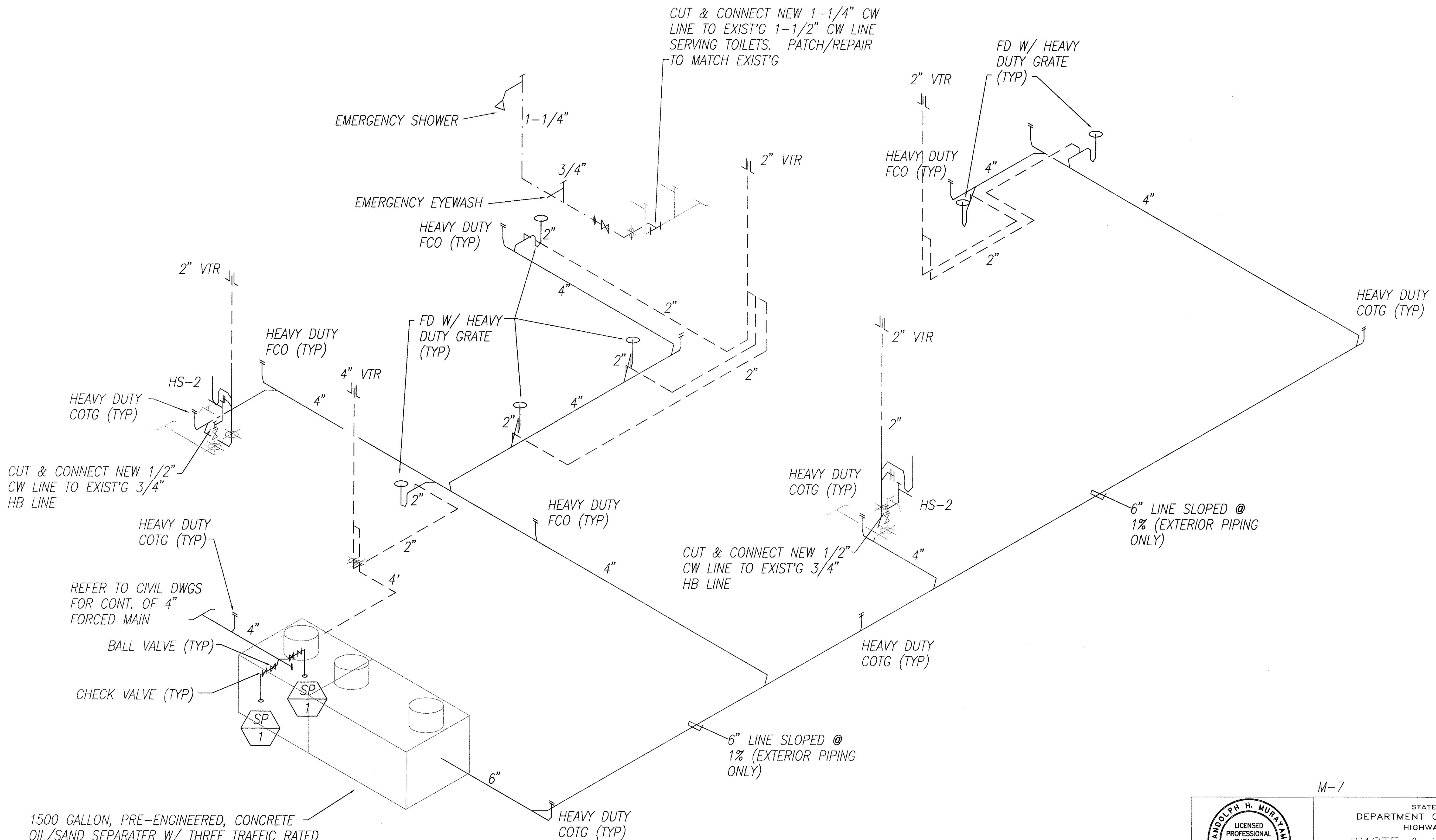
Project No. HWY-0-05-98

Scale: AS SHOWN

Date: APRIL, 2000

SHEET No. M-4 OF 116 SHEETS

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	2000	99	116



1500 GALLON, PRE-ENGINEERED, CONCRETE OIL/SAND SEPARATOR W/ THREE TRAFFIC RATED MANHOLE COVERS AND INTEGRAL SUMP PIT SECTION W/ DUPLEX SEWAGE EJECTION SYSTEM.

WASTE & WATER PIPING DIAGRAM - BUILDING C
NOT TO SCALE

ORIGINAL PLAN	DATE
DRAWN BY	8/99
DESIGNED BY	8/99
QUANTITIES BY	8/99
CHECKED BY	8/99
NO.	

M-7

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Randy H. Murakami

SIGNATURE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**WASTE & WASTER PIPING
DIAGRAM - BUILDING C**

OAHU DISTRICT BASEYARD
FACILITIES

Project No. HWY-0-05-98

Scale: AS SHOWN Date: APRIL, 2000

SHEET No. M-7 OF 116 SHEETS

GENERAL CONDITIONS:

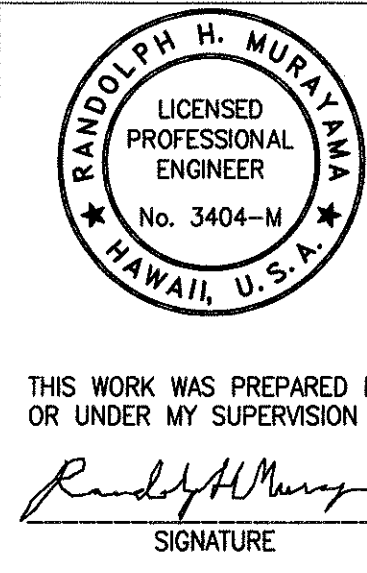
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	2000	100	116

- CONFORM TO ALL REQUIREMENTS OF THE BUILDING, PLUMBING, AND ELECTRICAL CODES OF THE CITY & COUNTY OF HONOLULU, STATE OF HAWAII HEALTH REGULATIONS, FIRE DEPARTMENT REGULATIONS, MANUFACTURER’S RECOMMENDATIONS AND OTHER APPLICABLE REGULATIONS.
- EXAMINE ALL PROJECT PLANS AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND THE EXTENT OF REMOVAL, RELOCATION AND/OR NEW WORK PRIOR TO BIDDING. NOTIFY AND COORDINATE WITH THE ENGINEER FOR ANY MAJOR DEVIATIONS OR DISCREPANCIES DISCOVERED IN THE PLANS AND SPECIFICATIONS DUE TO UNFORESEEN OR VARYING FIELD CONDITONS.
- INSTALLATION SHALL BE GUARANTEED TO BE FREE FROM DEFECTS FOR ONE YEAR FROM FINAL DATE OF ACCEPTANCE OF THE PROJECT AS A WHOLE.
- CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO BID AND CONSTRUCTION
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING LINE SIZES, CONDITIONS, AND INVERTS PRIOR TO BID AND CONSTRUCTION.
- PROVIDE ADDITIONAL MATERIALS AND LABOR FOR A COMPLETE AND OPERABLE SYSTEM AT NO ADDITIONAL COST TO THE OWNER.
- PAY FOR ALL PERMITS AND APPLICATIONS.
- CAULK ALL PENETRATIONS WATERTIGHT (NON SHRINK / FIRE RATED). PROVIDE ALL CUTTING, PATCHING, AND RESTORING OF EXISTING SURFACES TO MATCH ORIGINAL SURFACE FINISHES. SPOT PAINT TO MATCH EXISTING SURFACES/COLOR.
- PREPARE SIX (6) SETS OF SHOP DRAWINGS SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. NO REPRODUCTIONS OF ANY KIND OF THE CONTRACT DOCUMENTS SHALL BE ACCEPTABLE AS SHOP DRAWINGS. PROVIDE ONE SET OF REPRODUCIBLE AS-BUILT DRAWINGS SHOWING THE ACTUAL INSTALLED CONDITIONS AND SUBMIT TO THE OWNERS UPON COMPLETION OF WORK.
- ALL EQUIPMENT AND FIXTURES SHALL BE CAPABLE OF FITTING INTO THE SPACES ALLOTTED WHILE MEETING THE MANUFACTURER’S RECOMMENDED ACCESS REQUIREMENTS. REVIEW ALL SPACES WHERE EQUIPMENT AND FIXTURES ARE TO BE INSTALLED PRIOR TO ORDERING OF ITEMS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY INADEQUATE CLEARANCES OR CONDITIONS THAT WILL PREVENT THE PROPER INSTALLATION, MAINTENANCE,AND OPERATION OF THE EQUIPMENT AND FIXTURES.
- DRAWINGS ARE DIAGRAMATIC IN NATURE AND DO NOT SHOW EVERY EXACT DETAIL OF PIPING AND DUCTWORK. PROVIDE OFFSETS AS NECESSARY TO AVOID LOCAL OBSTRUCTIONS OR INTERFERENCES WITH OTHER TRADES. REVIEW ALL PIPING AND DUCT RUNS PRIOR TO FABRICATION AND IMMEDIATELY NOTIFY THE STATE OF ANY INTERFERENCES AND/OR LACK OF ADEQUATE CLEARANCES.
- SHOULD PROJECT CONDITIONS REQUIRE REARRANGEMENT OF WORK, MARK SUCH CHANGES ON THE AS-BUILT DRAWINGS. IF THESE CHANGES REQUIRE ALTERNATE METHODS TO THOSE APPROVED BY THE CONTRACT DOCUMENTS, SUBMIT SHOP DRAWINGS SHOWING THE PROPOSED ALTERNATE METHODS TO THE STATE FOR REVIEW/APPROVAL PRIOR TO PROCEEDING WITH WORK.
- COORDINATE ALL WORK WHICH WILL AFFECT AREAS WITH BUILDING SUPERVISOR. SCHEDULE OFF-HOUR WORK WHEN REQUIRED TO MINIMIZE DISRUPTIONS.
- COORDINATE ALL SWITCH, THERMOSTAT, FIRE EXTINGUISHER, ETC. LOCATIONS WITH USER/ENGINEER PRIOR TO INSTALLATION TO AVOID INTERFERENCES WITH PAINTING, BULLETIN BOARDS, FURNITURE, ETC.
- ALL STEEL SHALL BE HOT DIPPED GALVANIZED. GALVANIZED STEEL EXPOSED TO WEATHER SHALL HAVE WEATHER PROOF PAINT TO MATCH SURFACES. PROVIDE TWO EXTRA COATS OF EPOXY PAINT.
- ALL ELECTRICAL AND CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE GALVANIZED STEEL PIPE CONDUIT FOR EXPOSED TO WEATHER CONDUIT.

- ALL DUCT DIMENSIONS SHOWN ARE NET DIMENSIONS.
- PROVIDE DUCTWORK REDUCER FITTINGS AT AIR DEVICE CONNECTIONS AS REQUIRED.
- PROVIDE OPPOSED BLADE VOLUME DAMPERS AND STAINLESS STEEL BIRDScreens FOR ALL OUTSIDE AIR DUCTS.
- ALL SWITCHES, TIMECLOCKS, THERMOSTATS, AND CONTROL ITEMS SHALL BE MOUNTED AT 44” AFF AS PER ADA REQUIREMENTS AND SHALL BE ADA ACCESSIBLE.
- PROVIDE REBALANCING DURING ONE YEAR GUARANTEE PERIOD TO SATISFY USER’S REQUIREMENTS. CONTRACTOR SHALL PROVIDE TEST AND BALANCING REPORTS.
- COORDINATE ALL WORK WITH OTHER TRADES TO AVOID INTERFERENCES AND DELAYS.
- EXISTING PLUMBING/SD/FS LINES SHALL BE REHUNG/REROUTED AS REQUIRED TO ACCOMODATE NEW HVAC EQUIPMENT AND DUCTWORK. VERIFY ALL WASTE AND WATER INVERTS, LOCATIONS, SIZES, AND CONDITIONS OF PIPING.
- ALL HVAC DUCTWORK SHALL HAVE EITHER TURNING VANES OR RADIUS ELBOWS AT EACH BEND OR ELBOW.
- SEISMICALLY BRACE ALL EQUIPMENT, PIPING, AND DUCTWORK IN ACCORDANCE WITH THE CURRENT BUILDING CODE AND THEIR RESPECTIVE SEISMIC ZONE LOCATIONS. (HONOLULU ZONE 2A)
- TONE AND LOCATE ALL UTILITY LINES OR OTHER INTERFERENCES IN AREAS OF PROPOSED TRENCH WORK PRIOR TO START OF EXCAVATION. REPAIR OR PAY FOR ALL DAMAGES TO EXISTING UTILITIES.
- PROVIDE DIELECTRIC UNIONS OR SEPARATIONS AT ALL DISSIMILAR METALS.
- PROVIDE ACCESS PANELS FOR ALL ITEMS UNDER THIS SECTION REQUIRING SERVICING, INSPECTION, MAINTENANCE, AND ADJUSTMENT.
- PROVIDE ESCUTCHEON PLATES AT ALL EXPOSED WALL PENETRATIONS IN FINISHED AREAS, EXTERIOR WALL, ETC.
- AFTER CONNECTION OF NEW FIXTURES TO WASTE, CLEANOUT/SNAKE EXISTING LINES FOR PROPER OPERATION.

MECHANICAL LEGEND:

SA	SUPPLY AIR	Ⓓ	THERMOSTAT (SPACE OR DUCT)
RA	RETURN AIR	Ⓔ	STARTER
OA	OUTSIDE AIR	FCU	FAN COIL UNIT
SD	SUPPLY DIFFUSER	ACCU	AIR COOLED CONDENSING UNIT
RR	RETURN REGISTER	⎓	OPPOSED BLADE VOLUME DAMPER
ER	EXHAUST REGISGER	—	NEW FLEXIBLE DUCT
TG	TRANSFER GRILLE	⊠	NEW EXHAUST, RETURN AIR OR TRANSFER GRILLE
OBVD	OPPOSED BLADE VOLUME DAMPER	⊠	NEW SUPPLY AIR
FFE	FINISHED FLOOR ELEVATION	⊠	NEW OUTSIDE AIR
FE	FIRE EXTINGUISHER	WAC	WINDOW AIR CONDITIONER
—CD—	CONDENSATE DRAIN LINE	S.S.	STAINLESS STEEL
—	WASTE LINE	EWB	ELECTRIC WATER HEATER
-----	VENT LINE		
— · —	COLD WATER LINE		
— · —	HOT WATER LINE		
HD	HEAVY DUTY		
PWC	ACCESSIBLE WATER CLOSET		
PLAV	ACCESSIBLE LAVATORY		
PDF	ACCESSIBLE DRINKING FOUNTAIN		
DF	DRINKING FOUNTAIN		
FD	FLOOR DRAIN		
COTG	CLEAN OUT TO GRADE		
FCO	FLOOR CLEAN OUT		



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES, DETAILS

OAHU DISTRICT BASEYARD
FACILITIES

Project No. HWY-0-05-98

Scale: AS SHOWN Date: APRIL, 2000

SHEET No. M-8 OF 116 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	8/99
QUANTITIES BY	TRACED BY	8/99
CHECKED BY	REVIEWED BY	8/99
No.		

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	1998	ADD. 101	116

MECHANICAL EQUIPMENT SCHEDULE

PROVIDE MAGNETIC STARTER/DISCONNECT W/ PHASE FAILURE/PHASE REVERSAL/ OVERVOLTAGE/UNDERVOLTAGE ELECTRICAL PROTECTION AND AUTOMATIC RESET FOR ALL UNITS. PROVIDE CONTROL VOLTAGE TRANSFORMERS.

PROVIDE NEMA-4X STARTER ENCLOSURE FOR ALL OUTDOOR EQUIPMENT. ALL OUTDOOR EQUIPMENT SHALL HAVE POLYSILOXANE COATING PROTECTION ON INSIDE AND OUTSIDE OF HOUSING. COILS (CONDENSER) SHALL HAVE FACTORY BAKED PHENOLIC COATINGS. PROVIDE HORIZONTALLY AND VERTICALLY RESTRAINED SPRING ISOLATORS WITH NEOPRENE DIPPED SPRINGS AND GALVANIZED HOUSINGS ON ALL EQUIPMENT.

PROVIDE PLASTIC COATED CABLE SWAY BRACING ON ALL SUSPENDED EQUIPMENT.

PROVIDE FLEXIBLE DUCT CONNECTIONS AT ALL EQUIPMENT.

PROVIDE S.S. BIRDSCREEN AT ALL OA INTAKES.

EW
1 ELECTRIC WATER HEATER - 1: (SERVING BUILDING "A")
BRADFORD WHITE MODEL M-II-40T6 ELECTRIC WATER HEATER, 40 GALLON TANK CAPACITY, 4500 WATT, 208V/1PH/60HZ, 20 GPH RECOVERY @ 90°F TEMP RISE. PROVIDE T&P RELIEF VALVE AND DRAIN LINE, ADJUSTABLE THERMOSTAT (MAX 140°), 2" NON-CFC FOAM INSULATION. PROVIDE VACUUM BREAKERS, DIELECTRIC UNIONS, SHUT-OFF VALVES.

WAC
1 WINDOW AIR CONDITIONER - 1: (SERVING BUILDING "A")
CARRIER MODEL YCE213D WINDOW AIR CONDITIONER OR APPROVED EQUAL. 20,100 BTUH TOTAL COOLING CAPACITY AT 80/67 DB/WB AND 95F AMBIENT. 600 CFM SA (MAX), 208V/1PH/60HZ, 2400 WATTS, MIN. 8.4 EER. MIN. 3 SPEED FAN. UNIT SHALL BE EQUIPPED WITH VENTILATION FEATURE. PROVIDE SILOXANE COATING INSIDE AND OUT. PROVIDE FACTORY BAKED PHENOLIC COATING ON CONDENSER COIL. PROVIDE FACTORY 5 YEAR WARRANTY.

AC
1 AIR COMPRESSOR - 1: (SERVING BUILDING "B")
INGERSOLL-RAND PACKAGED AIR COMPRESSOR SYSTEM MODEL 2475N7.5 SYSTEM SHALL BE TOTALLY PACKAGED & SELF CONTAINED TYPE WITH SIMPLEX COMPRESSOR CONFIGURATION, AIR COOLED AFTERCOOLER, AUTOMATIC TANK DRAIN, LOW OIL LEVEL SWITCH, AND MOUNTED & WIRED MAGNETIC STARTER. TANK SHALL BE VERTICAL WITH 80 GALLON CAPACITY. 7.5 HP MOTOR, 1500 RPM, 208V/3PH/60HZ, 24.0 ACFM DELIVERY @ 175 PSI RATING. PROVIDE THERMAL OVERLOAD PROTECTION, BELT GUARD, INTAKE FILTER/SILENCER, AUTOMATIC PRESSURE SWITCH, PRESSURE GAGES, SAFETY VALVE, DRAIN COCK, SHUT-OFF VALVES & FLEXIBLE COUPLINGS, VIBRATION ISOLATORS, AND OIL FILTERS.

RAD
1 REFRIGERATED AIR DRYER - 1: (SERVING BUILDING "B")
CYCLING REFRIGERATED AIR DRYER, ZEKs "HEATSINK" MODEL 24HSE. 115V/1PH/60HZ, 250 PSIG MAX WORKING PRESSURE, 1/3 HP (REFRIG), 0.72 KW OPERATING, 24 SCFM @ 38F PRESSURE DEWPOINT. UNIT SHALL BE EQUIPPED WITH COMPUSTAT PACKAGE AND GAUGE PACKAGE. PROVIDE ZEKs MODEL 50 LT ACCRALESOR FILTER.

EF
1 EXHAUST FAN - 1: (SERVING BUILDING "B")
CENTRIFUGAL, DIRECT DRIVE, INLINE CABINET EXHAUST FAN, GREENHECK MODEL CSP-255 OR APPROVED EQUAL. 360 CFM EXHAUST @ 0.5" E.S.P., 1080 RPM, 115V/1PH/60HZ 4.4 AMPS, 325 WATTS. PROVIDE BACKDRAFT DAMPER AND FLEX CONNECTIONS. MAX 5.7 SONES. PROVIDE FAN MOUNTED VARIABLE SPEED CONTROL SWITCH. INTERLOCK W/ LIGHT SWITCH. APPROX. 25 LB OPERATING WT.

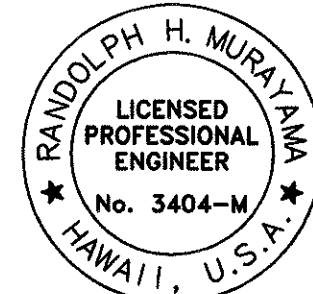
EF
2A **EF**
2B EXHAUST FAN - 2A & 2B: (SERVING BUILDING "B")
SIDEWALL, BELT DRIVE, PROPELLER TYPE EXHAUST FAN, GREENHECK MODEL SBE-1L36 OR APPROVED EQUAL. 10,000 CFM EXHAUST @ .20" ESP, 485 FRPM, 1 HP, 208V/3PH/60HZ. MAX 14.6 SONES, APPROX. 110 OPERATING WT. PROVIDE REMOTE ON-OFF SWITCH WITH CONDUIT/WIRING. PROVIDE WALL MOUNT HOUSING, WALL MOUNT HOUSING GUARD, DAMPER, DAMPER GUARD AND 20 GAUGE GALV. SHEETMETAL TRANSITION DUCTWORK TO MATE FAN ASSEMBLY WITH NEW S.S. LOUVER (BY ARCHITECT). SEE ARCHITECTURAL DETAIL

EF
3 EXHAUST FAN - 3: (SERVING BUILDING "B")
CENTRIFUGAL, DIRECT DRIVE, INLINE CABINET EXHAUST FAN, GREENHECK MODEL CSP-258 OR APPROVED EQUAL. 680 CFM EXHAUST @ 0.5" E.S.P., 1590 RPM, 115V/1PH/60HZ 455 WATTS. PROVIDE BACKDRAFT DAMPER AND FLEX CONNECTIONS. MAX 5.6 SONES. PROVIDE FAN MOUNTED VARIABLE SPEED CONTROL SWITCH. INTERLOCK W/ LIGHT SWITCH. APPROX. 40 LB OPERATING WT.

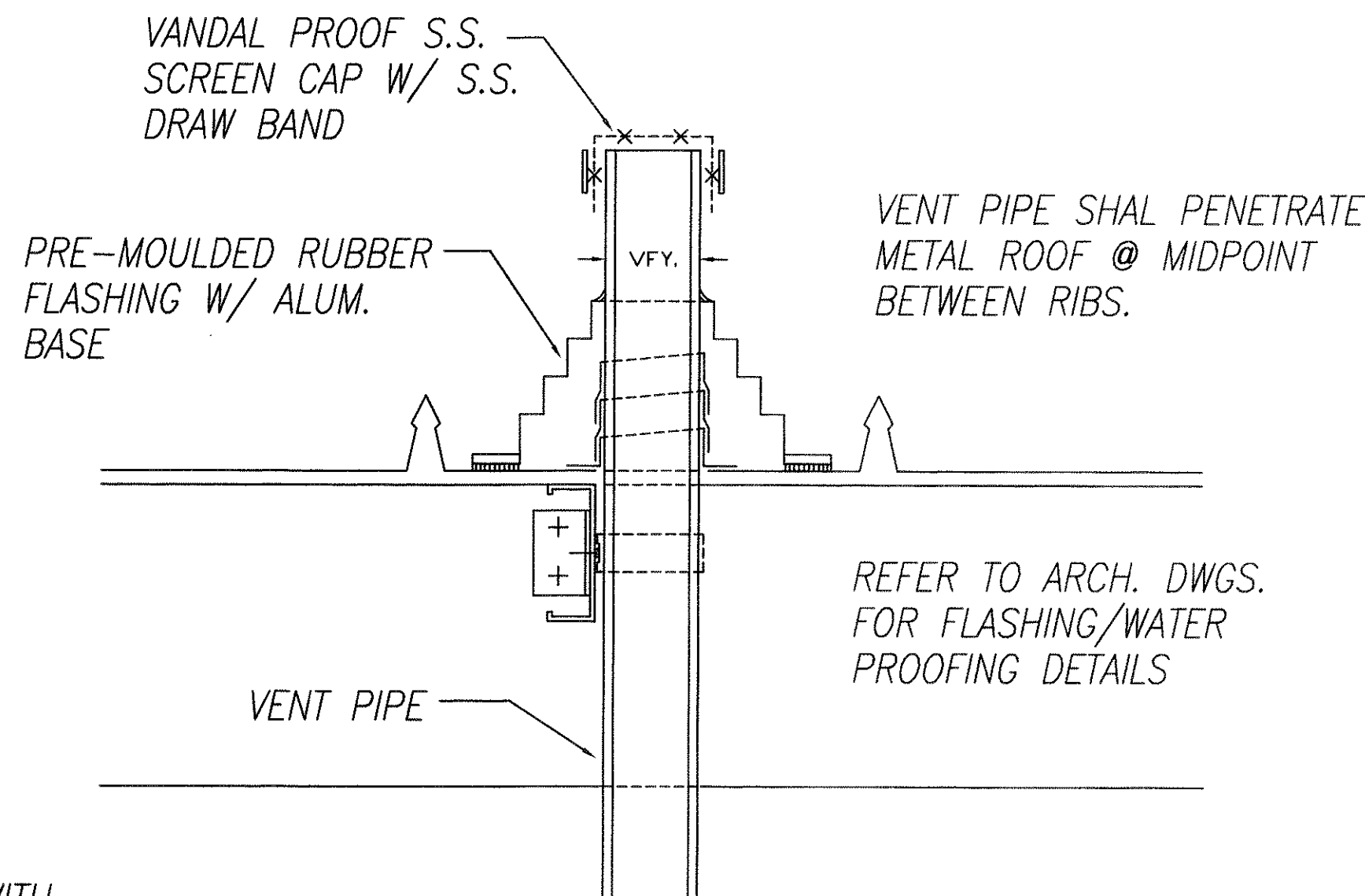
SP
1 SUMP PUMP - 1: (SERVING BUILDING "B & C")
SUBMERSIBLE GRINDER TYPE, DUPLEX, NON-CLOG SEWAGE PUMP, AURORA HYDROMATIC MODEL SPGL200, 35 GPM @ 20' TDH, 2 HP, 208V/3PH/60HZ, 3500 RPM. PROVIDE TYPE 316 DUPLEX GUIDE RAIL SYSTEM WITH CHAIN AND QUICK DISCONNECT. PROVIDE HYDROMATIC 3900 MERCURY SWITCH LEVEL FLOAT CONTROLS AND DUPLEX CONTROL PANEL WITH PUMP RUN LIGHTS, ALARM "ON-OFF-TEST" SWITCH, NON-FLASHING ALARM LIGHT & BELL, PUMP FAIL START LAG PUMP AND ALARM ACTIVATION, ALARM ACTIVATION ON LAG PUMP START, SILENCE SWITCH, RESETABLE ELAPSED TIME METERS FOR EACH PUMP, CONVENIENCE OUTLET, SEAL FAIL INDICATION FOR EACH PUMP AND NEMA 4X ENCLOSURES AND ALTERNATOR RELAYS TO ALTERNATE PUMPS. PROVIDE ALL CONDUIT AND WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

REVISED ORDINANCE OF HONOLULU
CHAPTER 32
BUILDING ENERGY EFFICIENCY STANDARDS
THE BUILDING ENERGY EFFICIENCY STANDARDS HAVE BEEN REVIEWED AND TO THE BEST OF MY KNOWLEDGE THIS DESIGN SUBSTANTIALLY CONFORMS TO THE MECHANICAL REQUIREMENTS OF SECTIONS 8.3, 9.3, 10.3, 11.3, 12.3 OR 13.3

Randolph H. Murayama
Signature
Randolph H. Murayama
Name (Print)
President
Title



THE AIR CONDITIONING AND VENTILATION SYSTEM SHALL COMPLY WITH TITLE 11, ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, CHAPTER 39, AIR CONDITIONING AND VENTILATING REQUIREMENTS

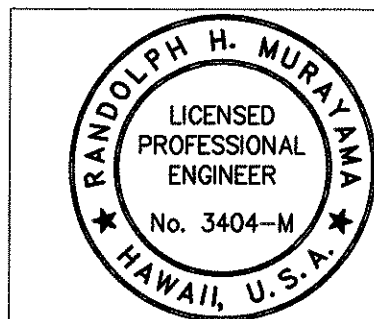


VENT THRU ROOF DETAIL

NOT TO SCALE

M-9

6/6/2000 REVISED EQUIP. SCHEDULE



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OR UNDER MY SUPERVISION
Randolph H. Murayama
SIGNATURE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MECHANICAL EQUIPMENT SCHEDULE, DETAILS

OAHU DISTRICT WAREHOUSE BUILDING

Project No. HWY-0-05-98

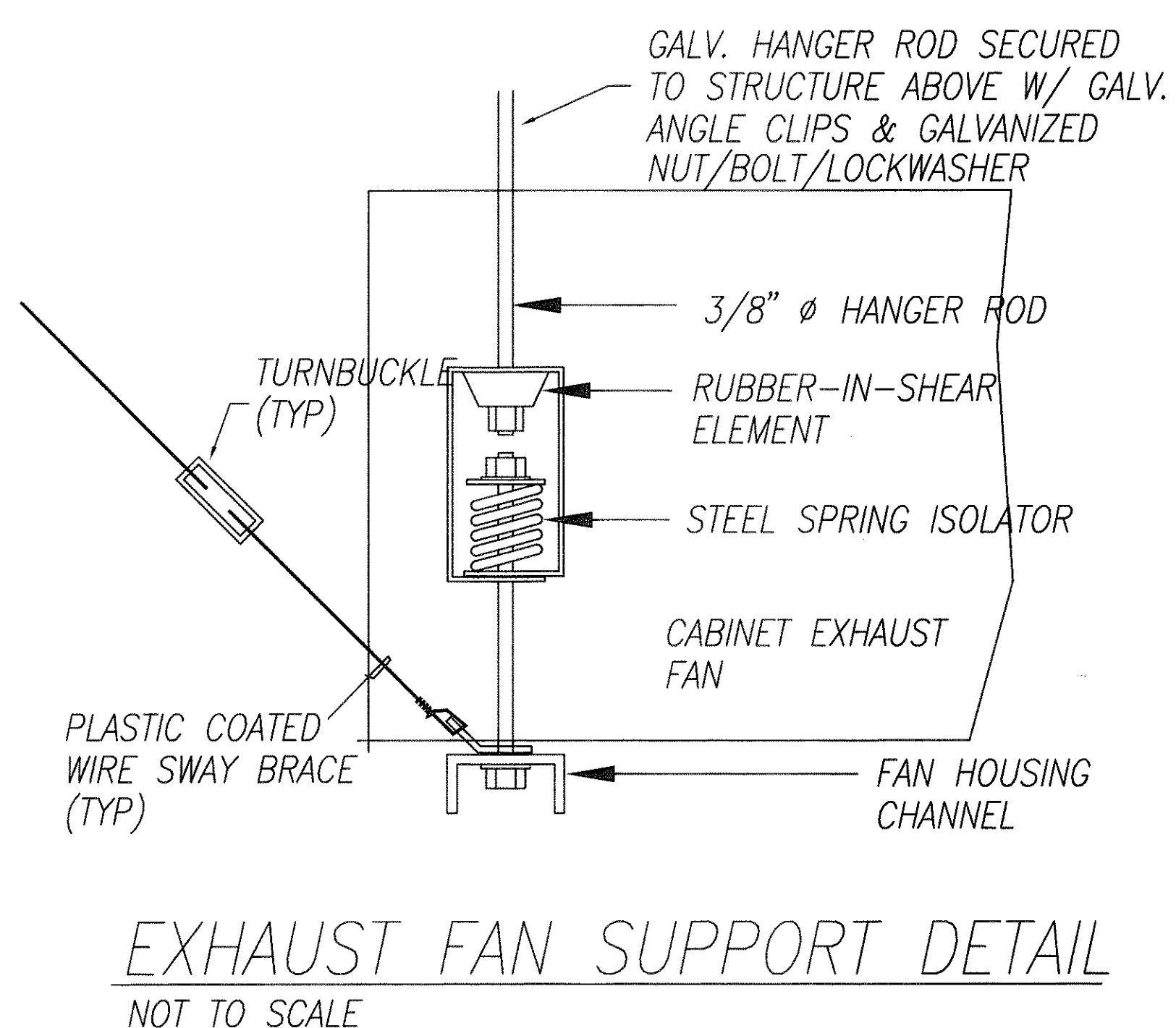
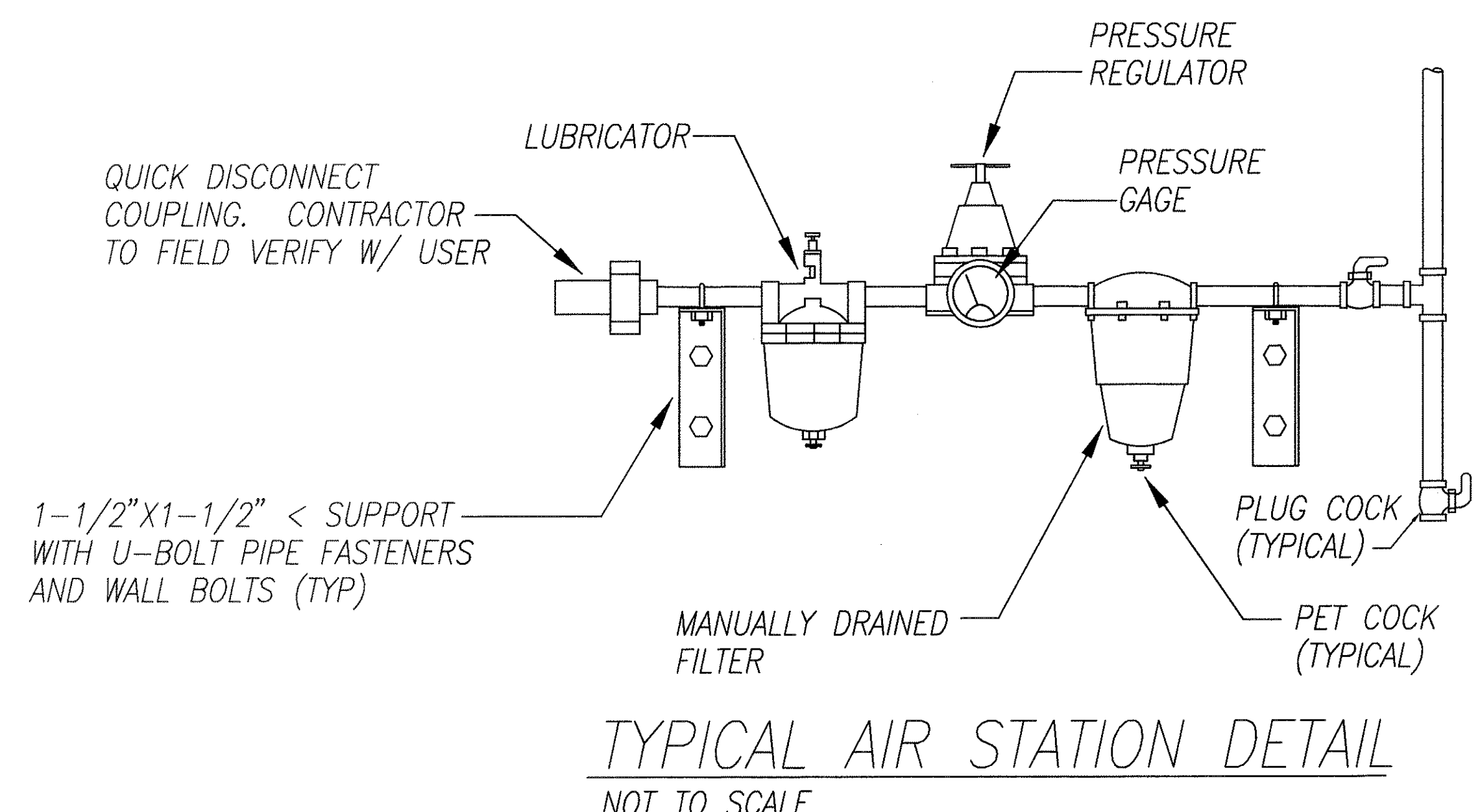
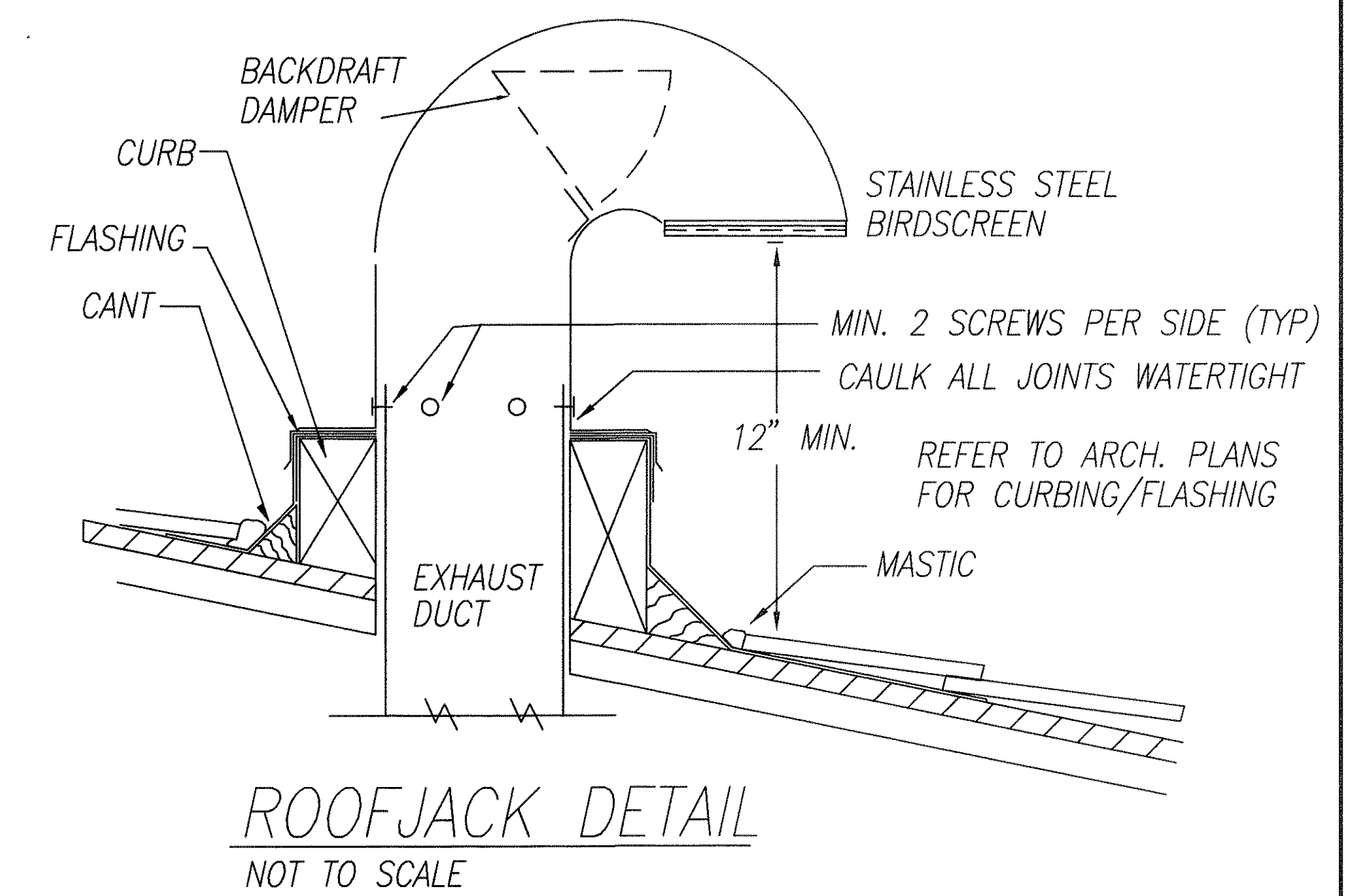
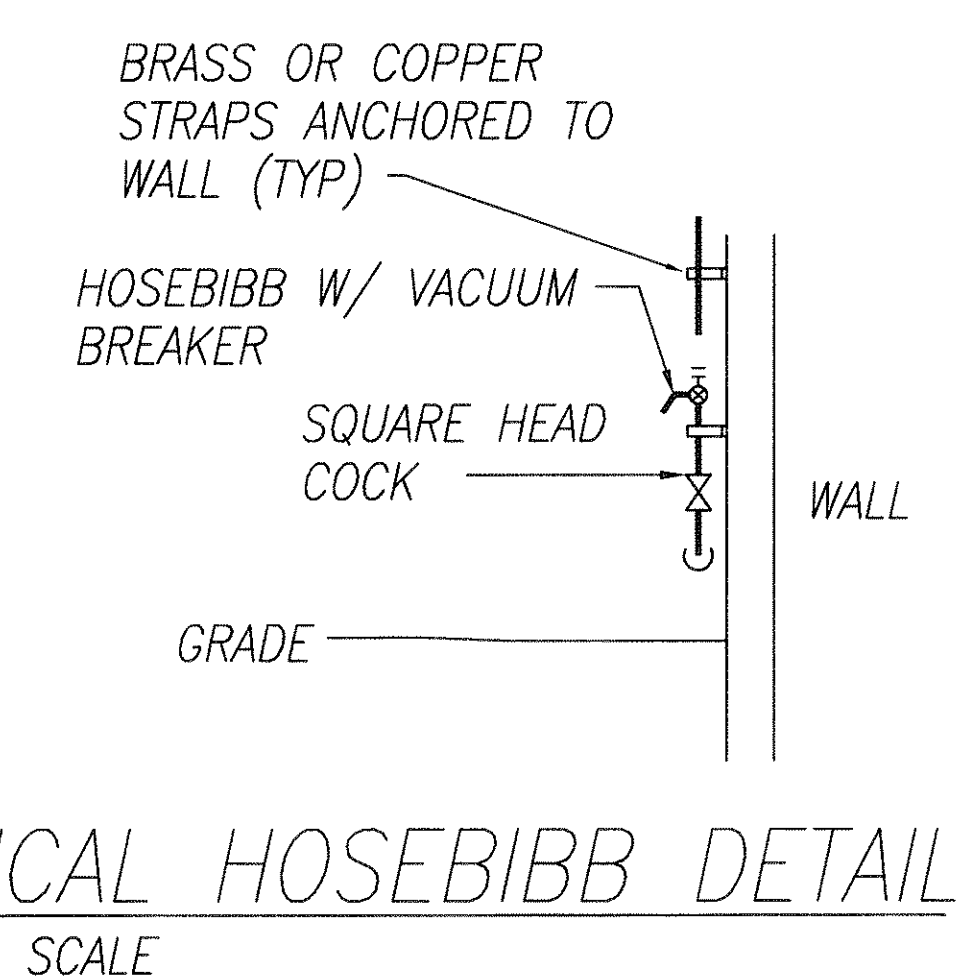
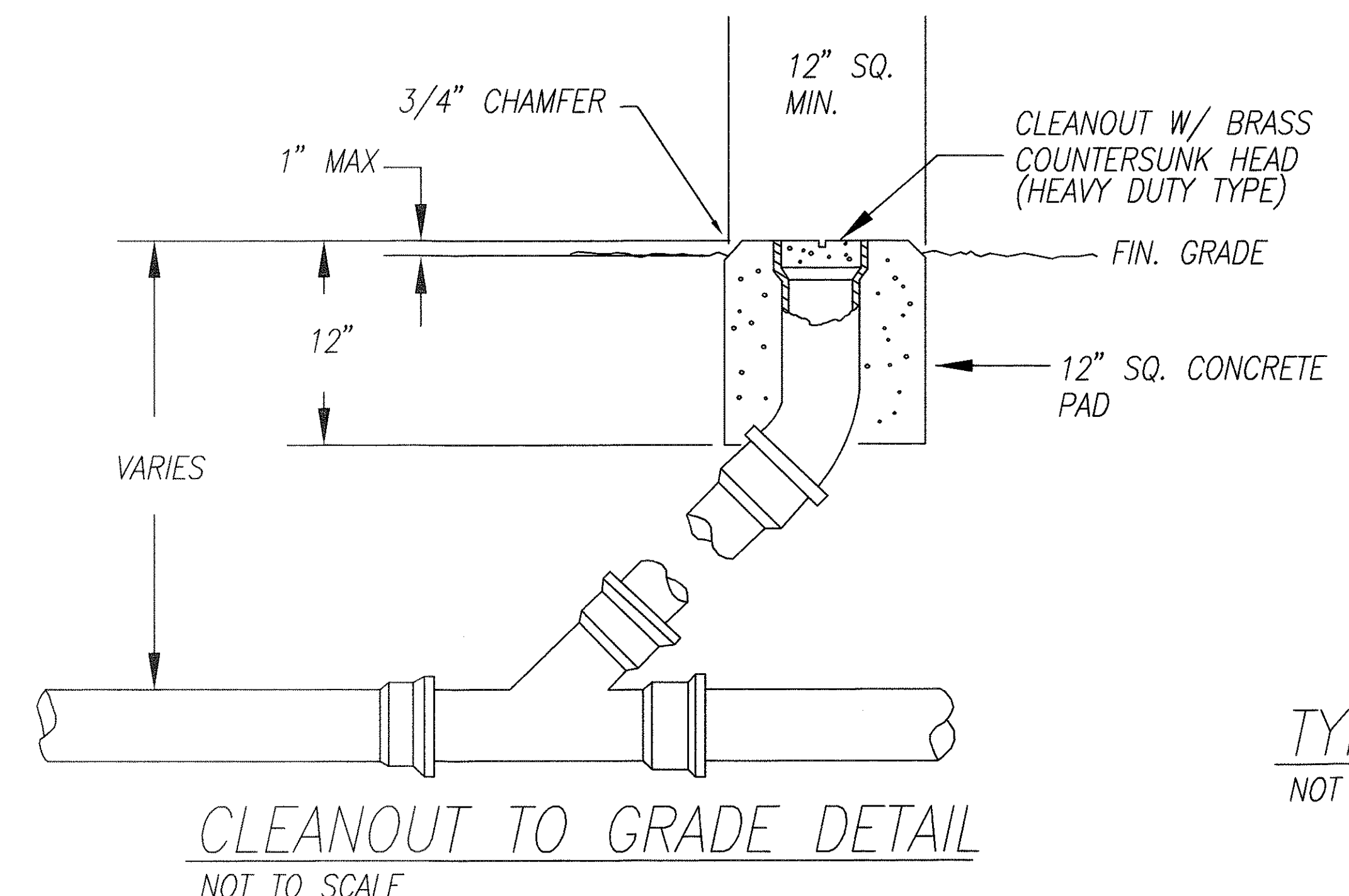
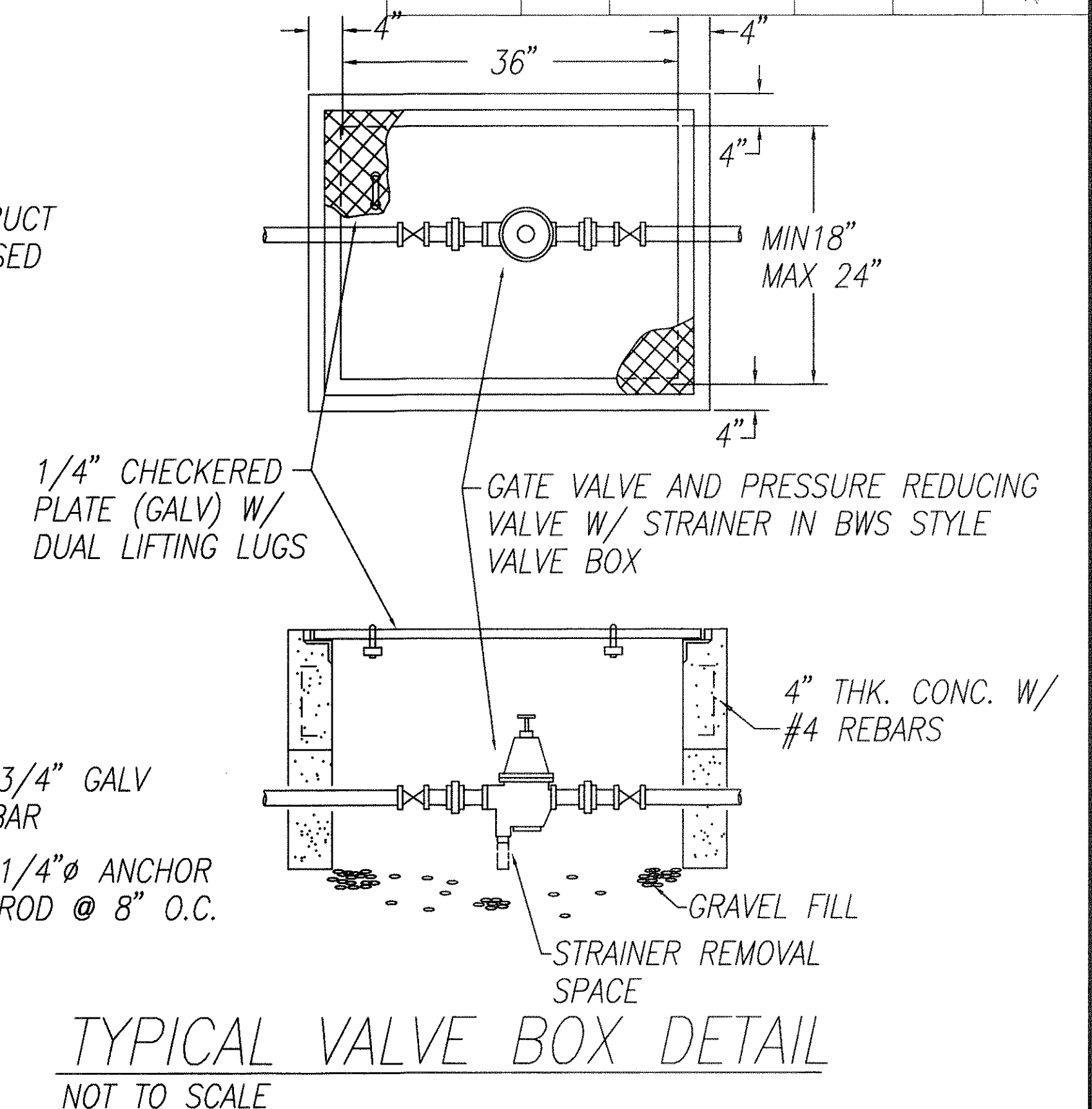
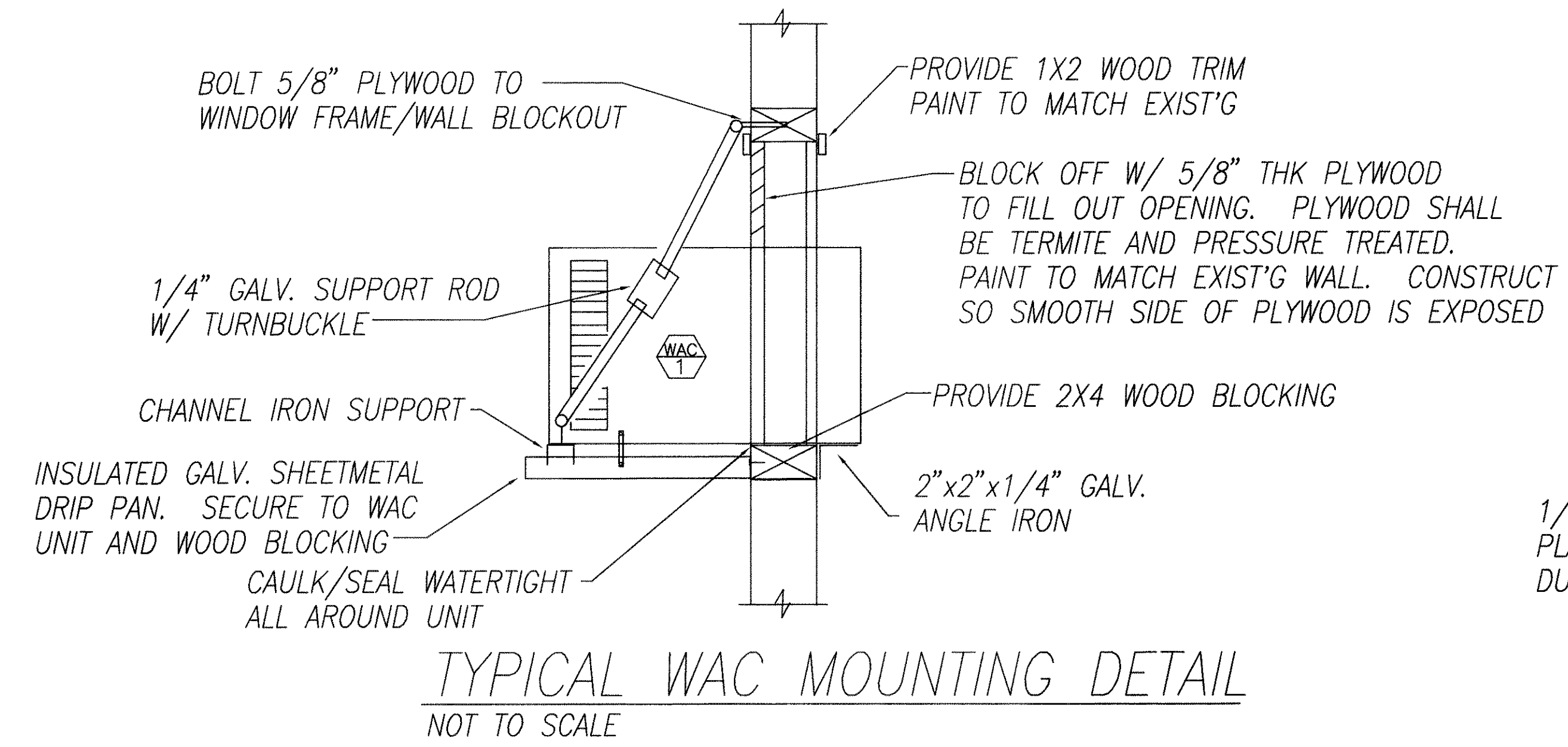
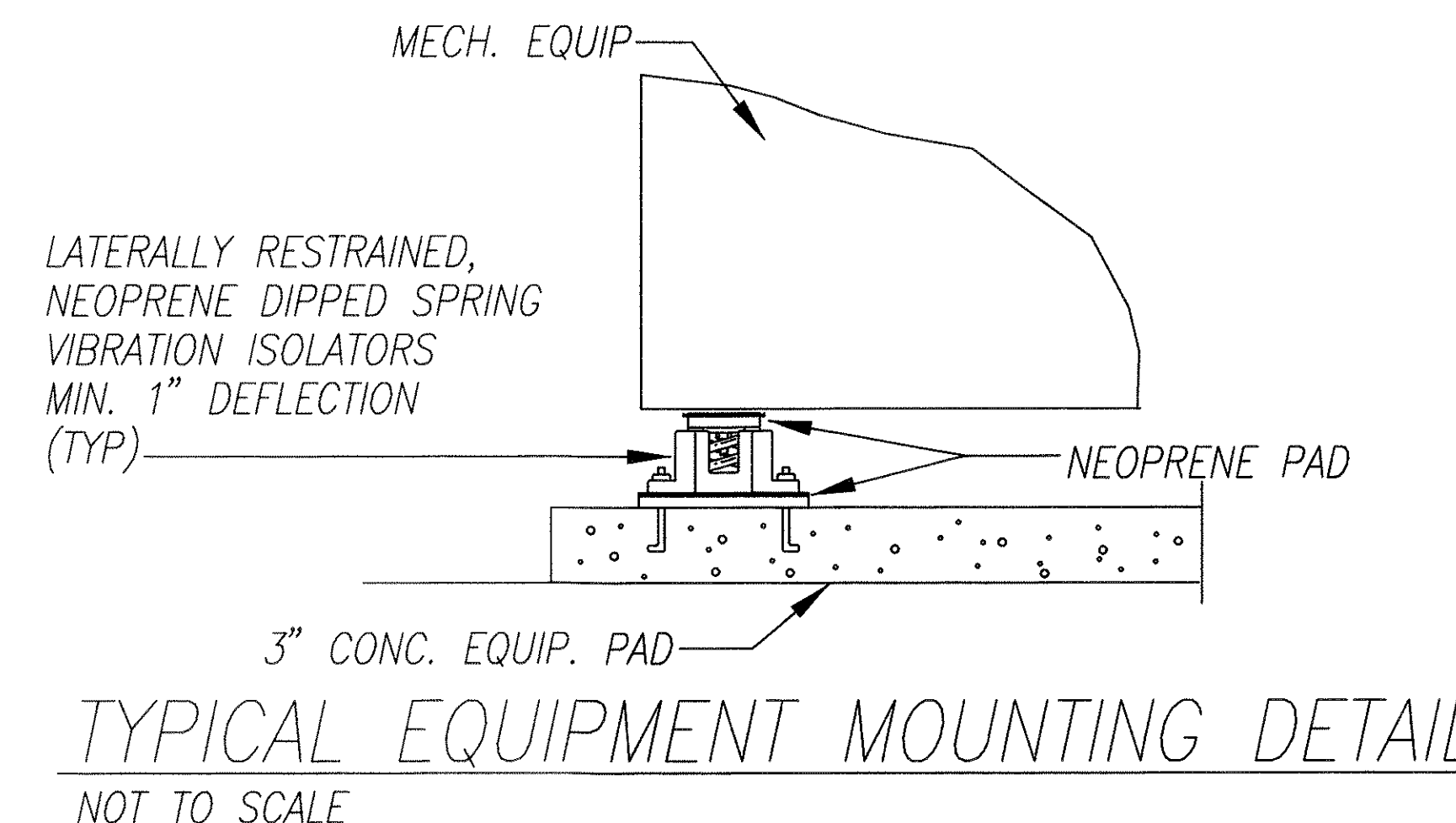
Scale: AS SHOWN Date: APRIL, 2000

SHEET No. M-9 OF 116 SHEETS

ADD. 101

ORIGINAL SURVEY PLOTTED BY DATE	DATE
DRAWN BY	8/99
TRACED BY	
NOTE BOOK DESIGNED BY	8/99
CHECKED BY	
No.	

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	2000	102	116



ORIGINAL SURVEY PLOTTED BY DATE 8/99
DRAWN BY RRT
DESIGNED BY RRT
CHECKED BY RHM
No.

M-10

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS

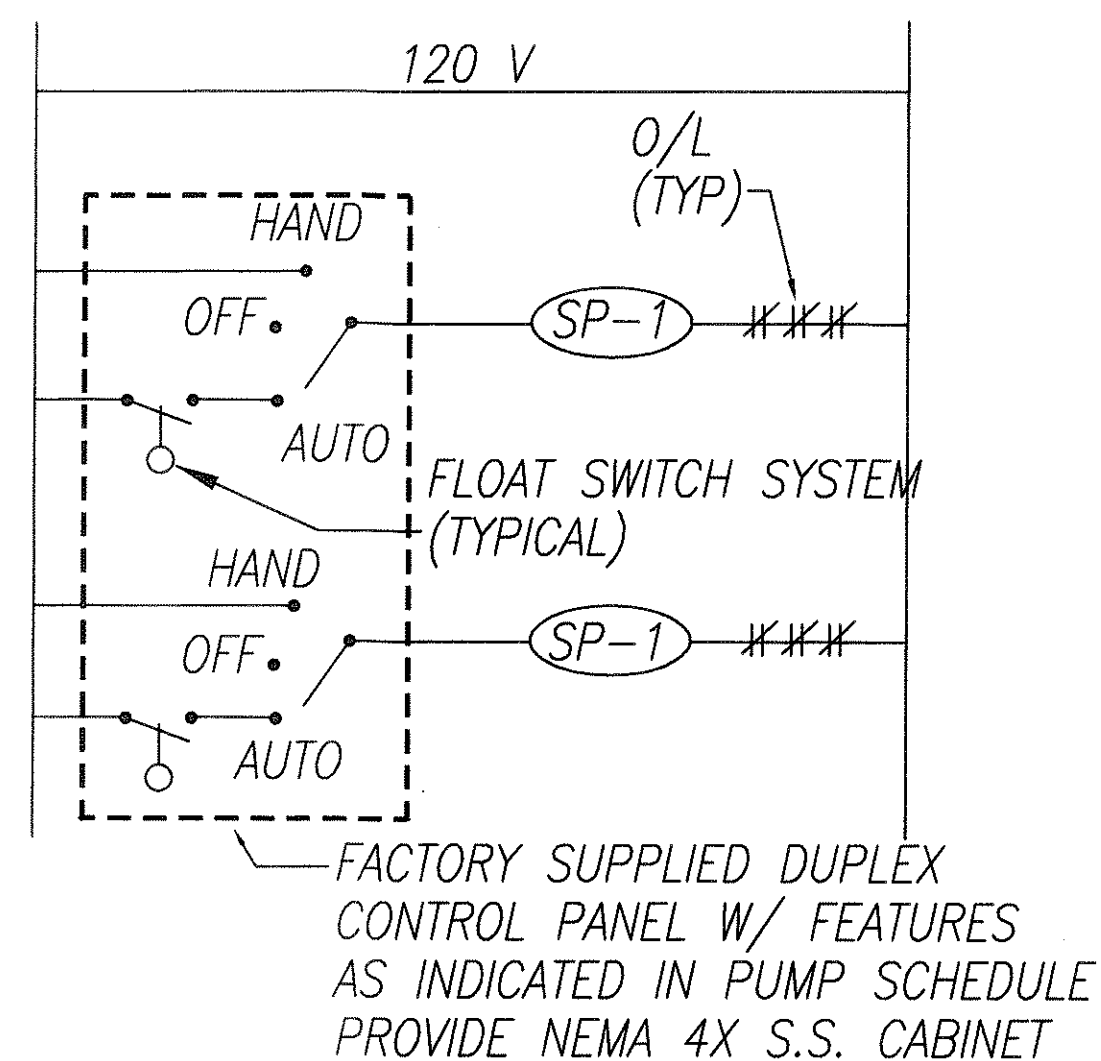
OAHU DISTRICT BASEYARD FACILITIES

Project No. HWY-0-05-98

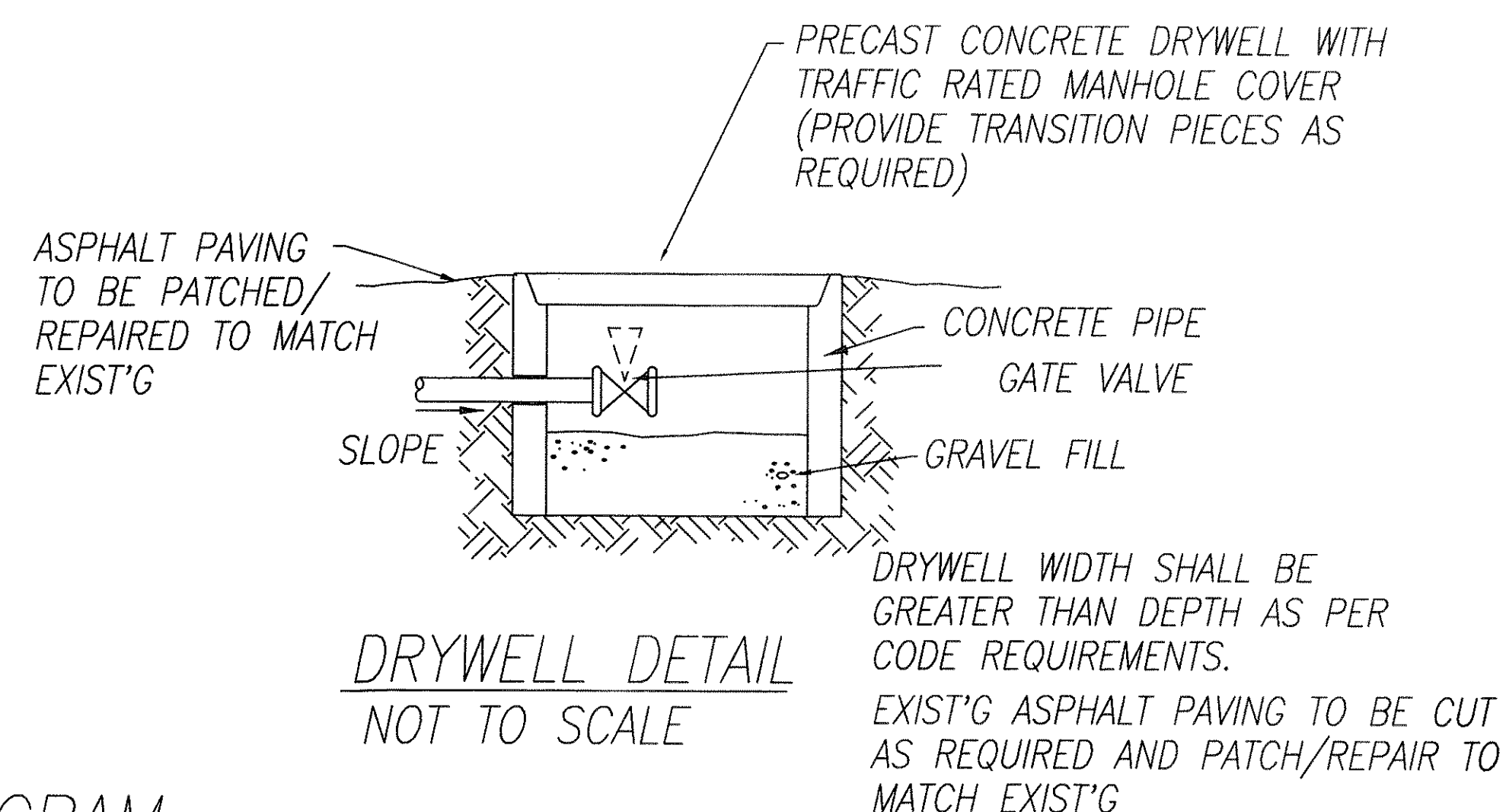
Scale: AS SHOWN Date: APRIL, 2000

SHEET No. M-10 OF 116 SHEETS

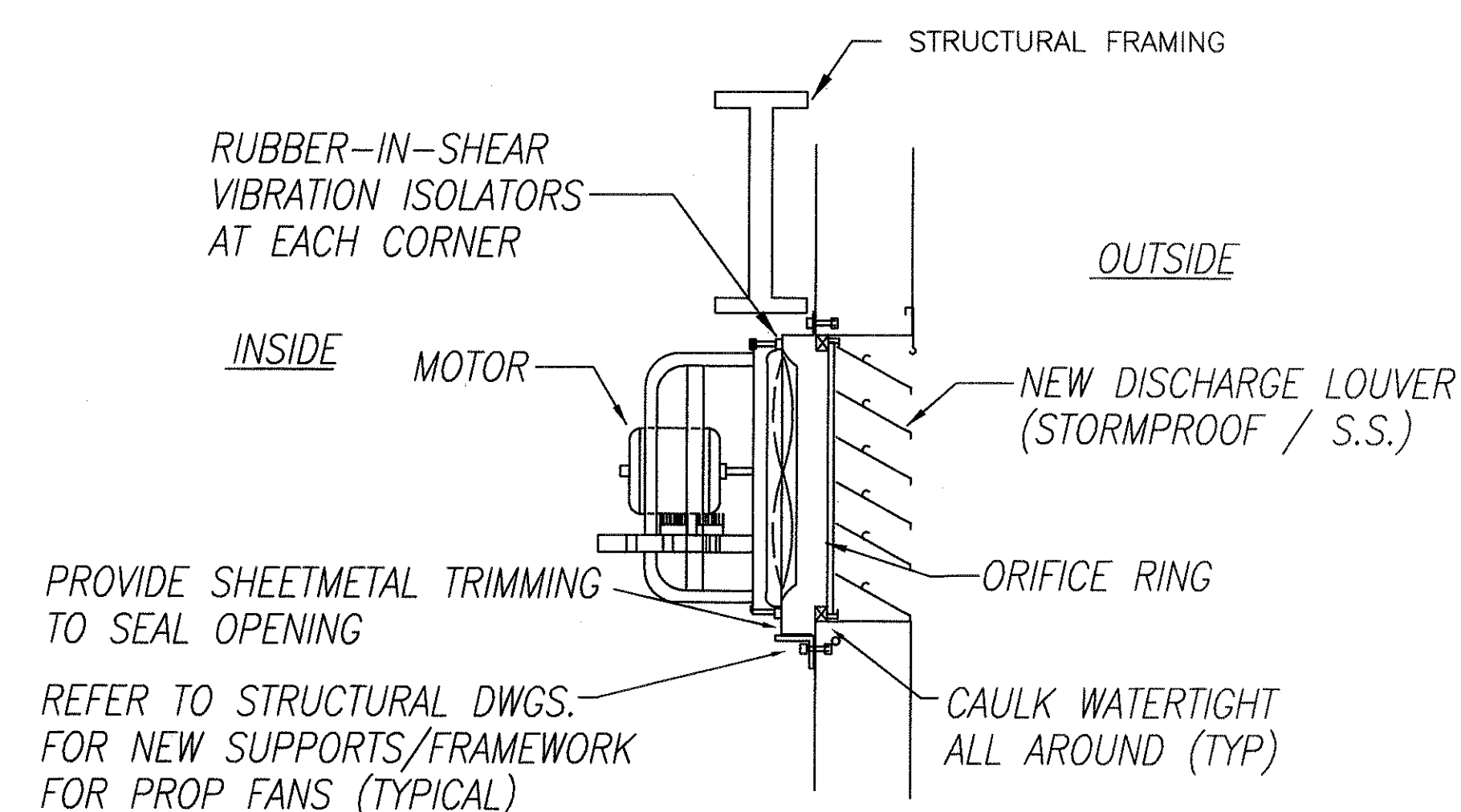
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	2000	103	116



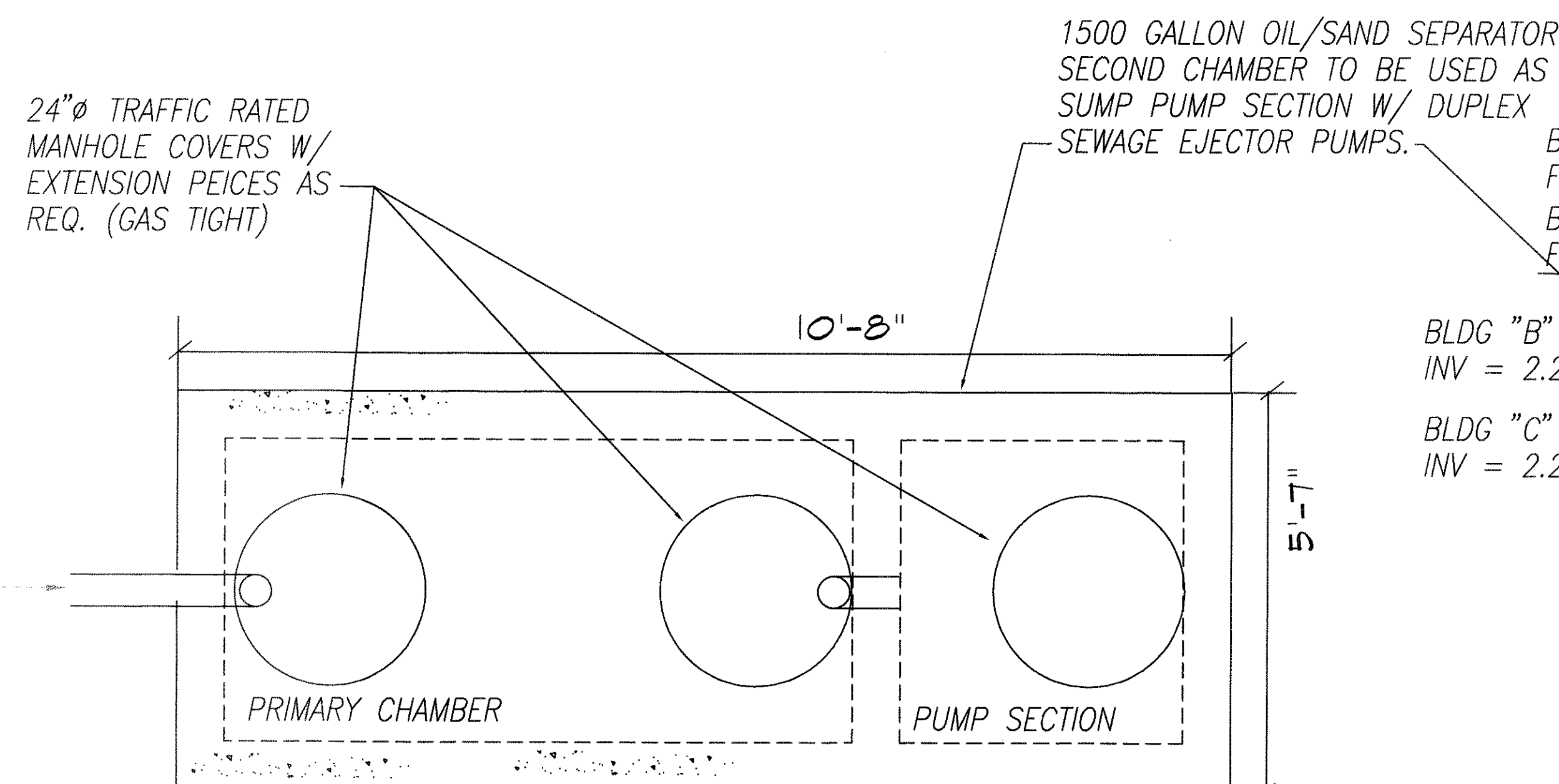
DUPLEX SUMP PUMP CONTROL DIAGRAM
NOT TO SCALE



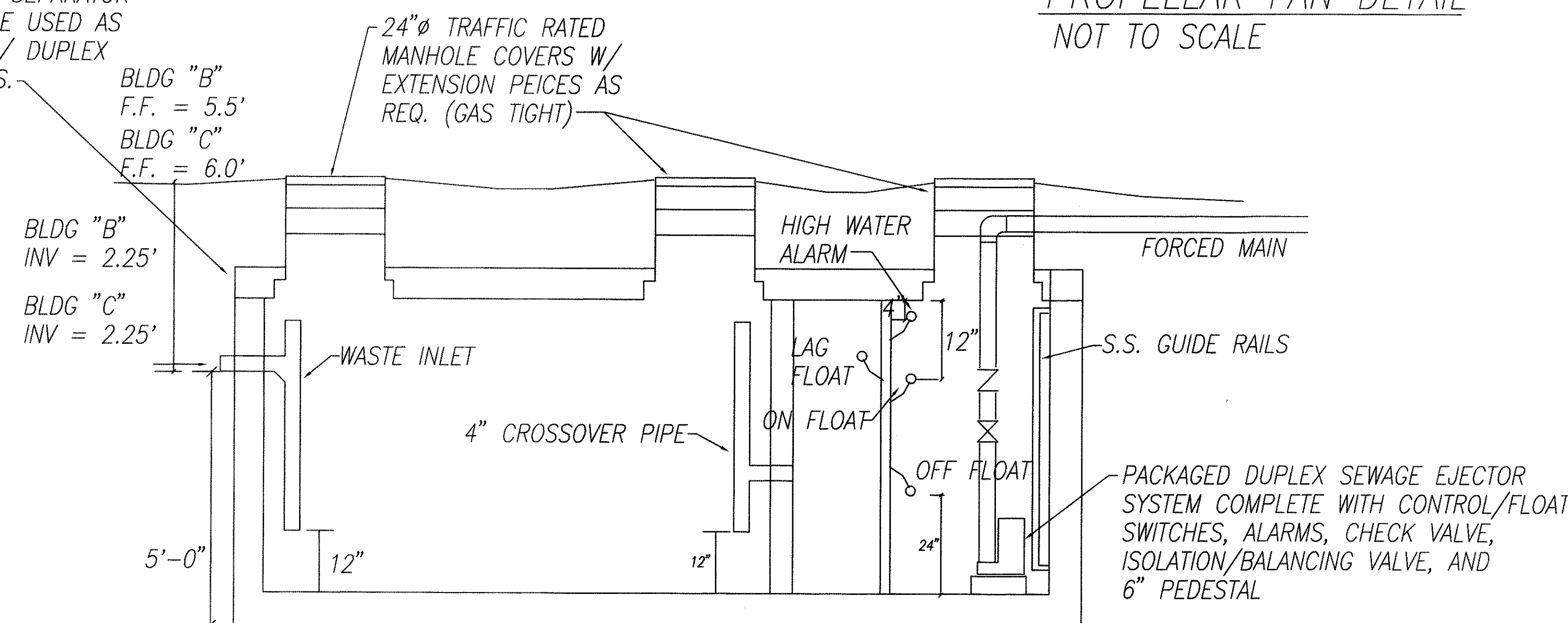
DRYWELL DETAIL
NOT TO SCALE



PROPELLAR FAN DETAIL
NOT TO SCALE



TOP VIEW



SIDE VIEW

NOTE:
CONTRACTOR SHALL CONSTRUCT ADDITIONAL CONSTRUCTION PITS/TRENCHES AND PROVIDE TEMPORARY DEWATERING PUMPS AS REQUIRED

SAND/OIL SEPARATOR NOTES:

- ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- CEMENT TO BE PORTLAND CEMENT CONFORMING TO ASTM C 150.
- REINFORCING STEEL SHALL BE INTERMEDIATE GRADE, DEFORMED CONFORMING TO ASTM A-616 GRADE 40.
- REINFORCING BARS SHALL BE IN LONG LENGTHS AND SHALL BE LAPPED A MINIMUM OF 15 INCHES, OR 40 BAR DIAMETERS.
- ALL TANKS SHALL BE COATED ON THE INTERIOR AND EXTERIOR & SHALL COVER ALL OF THE AREA WITH AN APPROVED WATERPROOF COATING AND SHALL BE APPLIED PER MANUFACTURER'S RECOMMENDATIONS.
- TANKS SHALL BEAR ON UNDISTURBED SOIL A MINIMUM OF 12" BELOW ORIGINAL GRADE ON A SOLID BED AND TO BE INSTALLED LEVEL.

- IF TANK HOLE IS OVEREXCAVATED OR HAS A ROCKY UNLEVEL BOTTOM, 2" SAND-PEA GRAVEL 8" THICK SHALL BE ADDED TO LEVEL BOTTOM.
- FILL TANK WITH WATER AFTER IT HAS BEEN SET IN PLACE AND THE SIDES BACKFILLED.
- ALL PIPES LEAVING/ENTERING TANKS SHALL BE SEALED WITH A NON-SHRINK GROUT MIX.
- THE TANK MANUFACTURER SHALL SUBMIT TWO (2) SETS OF PLANS STAMPED BY A STRUCTURAL ENGINEER OF EACH TANK DRAWN TO SCALE TO THE WASTEWATER BRANCH, HAWAII DEPARTMENTS OF HEALTH AND THE DESIGN ENGINEER FOR APPROVAL BEFORE FABRICATION. THE PLANS SHALL SHOW ALL DIMENSION, MANHOLES, TEES, BAFFELS, COMPARTMENT WALLS AND CLEANOUTS. MATERIAL SPECIFICATIONS, LIQUID AND WATER VOLUME CALCULATIONS, INSTALLATION AND MAINTENANCE INSTRUCTIONS AND MANUFACTURER'S NAME, ADDRESS AND PHONE NUMBER SHALL BE SUBMITTED UNDER SEPARATE COVER.

PRECAST CONCRETE PIT SHALL HAVE WATERPROOFING ON INTERIOR AND EXTERIOR. GROUND WATER TO BE PUMPED INTO SUMP AS SUMP BEING INSTALLED. WATER SHALL BE ALLOWED TO SETTLE PRIOR TO DISCHARGING.

M-11

<p>THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION</p> <p><i>Randolph H. Murakami</i></p> <p>SIGNATURE</p>	<p>STATE OF HAWAII</p> <p>DEPARTMENT OF TRANSPORTATION</p> <p>HIGHWAYS DIVISION</p> <p>DETAILS</p> <p><u>OAHU DISTRICT BASEYARD</u></p> <p><u>FACILITIES</u></p> <p><u>Project No. HWY-0-05-98</u></p> <p>Scale: AS SHOWN Date: APRIL, 2000</p>
	<p>SHEET No. M-11 OF 116 SHEETS</p>
	<p>103</p>

ORIGINAL PLAN	DATE
DESIGNED BY	8/99
TRACED BY	8/99
NOTED BY	8/99
CHECKED BY	8/99
NO.	

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-98	1998	C.D. 103A	

ADDITIONAL MECHANICAL SCHEDULE (PCD #6)

FCU 1 FAN COIL UNIT - 1: (SERVING BLDG. "A" TOOL OFFICE)

DIRECT EXPANSION, CEILING TYPE DUCTLESS FAN COIL UNIT, CARRIER MODEL 40QAB-024 18,000 BTUH TOTAL, 14,000 BTUH SENSIBLE COOLING CAPACITY @ 80DB/67WB & 95 AMBIENT. 500 CFM SA (HI), 208V/1PH/60HZ, 0.5 FLA, 1/16 HP. PROVIDE WALL MOUNTED DIGITAL REMOTE CONTROLLER WITH TIMECLOCK FEATURE, 3 SPEED FAN CONTROL W/ AUTO MODE. UNIT TO BE FACTORY MATCHED TO ACCU-1. PROVIDE CONTROL VOLTAGE TRANSFORMERS AS REQ'D. PROVIDE FRESH AIR INTAKE KIT W/ OBVD AND FLEX CONTROL.

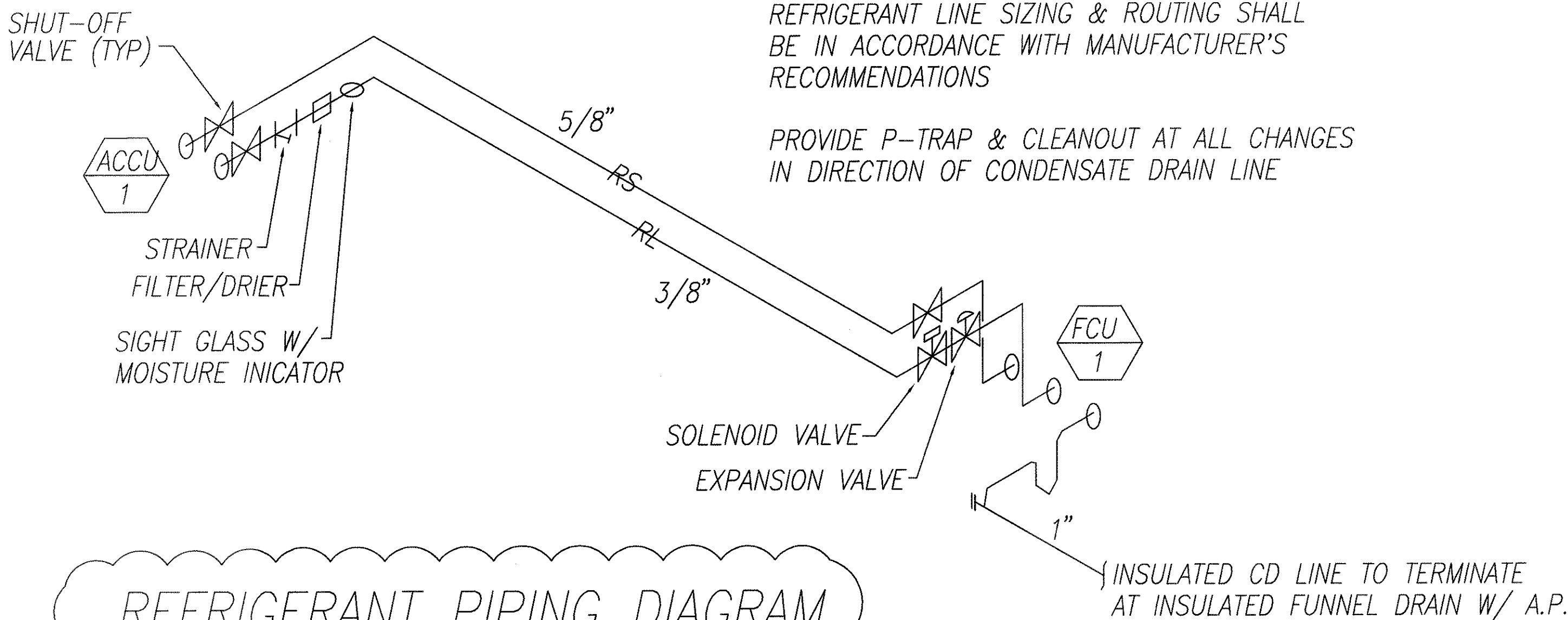
ACCU 1 AIR COOLED CONDENSING UNIT - 1: (SERVING BLDG. "A" TOOL OFFICE)

AIR COOLED CONDENSING UNIT WITH HORIZONTAL INAKE AND DISCHARGE. CARRIER MODEL 38HD-018. 18000 BTUH TOTAL COOLING CAPACITY @ 40 SST AND 95F AMBIENT. 208V/1PH/60HZ. COMP: 10.7 RLA, 47.0 LRA. COND. FAN: 0.70 FLA. MIN SEER: 10.0 MAX SOUND LEVEL 64 dBA. PROVIDE COPPER TUBE/ALUMINUM FIN CONDENSER COIL, BLYGOLD POLUAL COATING ON CONDENSER COIL, POLYSILOXANE COATING ON INSIDE AND OUTSIDE OF HOUSING. PROVIDE COMPRESSOR TIME DELAY RELAY, CRANKCASE HEATER, AND MOTOR/COMPRESSOR INTERNAL OVERLOAD PROTECTION. UNIT TO BE FACTORY MATCHED TO FCU-1.

NOTE:

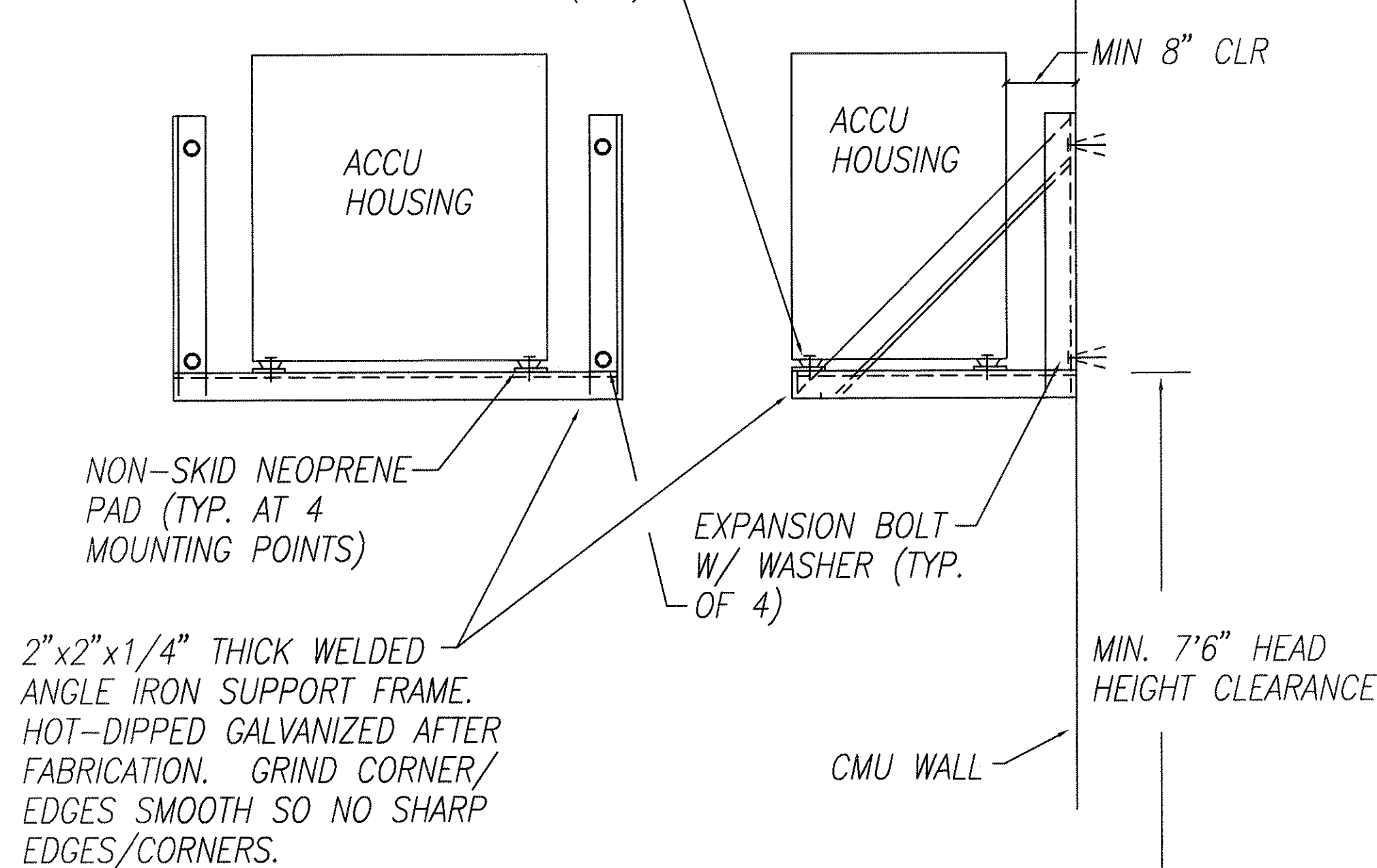
REFRIGERANT LINE SIZING & ROUTING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

PROVIDE P-TRAP & CLEANOUT AT ALL CHANGES IN DIRECTION OF CONDENSATE DRAIN LINE



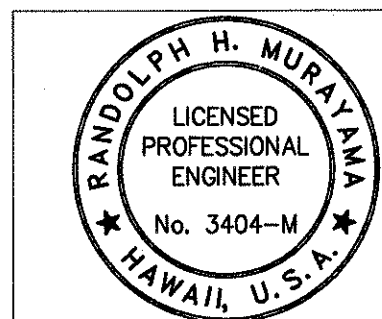
REFRIGERANT PIPING DIAGRAM
NOT TO SCALE

1/2" Ø BOLTS/NUTS/LOCKWASHER
SECURE UNIT TO SUPPORT (TYP)



WALL-MOUNTED ACCU MOUNTING DETAIL
NOT TO SCALE

ORIGINAL SURVEY PLOTTED BY	DATE
DRAWN BY	8/99
DESIGNED BY	8/99
NOTED BY	8/99
CHECKED BY	8/99



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
Randolph H. Murry
SIGNATURE

M-12

7/23/01

ADDED MECHANICAL SCHEDULE, ACCU
MOUNTING DETAIL & PIPING DIAGRAM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS

OAHU DISTRICT WAREHOUSE BUILDING

Project No. HWY-0-05-98

Scale: AS SHOWN

Date: APRIL, 2000

SHEET No. M-12 OF SHEETS

C.O. 103A