

MECHANICAL ABBREVIATIONS AND SYMBOLS

AAE	AUTOMATIC AIR ELEMATOR	m	METER
AAV	AUTOMATIC AIR VENT	MAX	MAXIMUM
AE	AIR ELIMINATOR	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MFG	MANUFACTURER
AFG	ABOVE FINISHED GRADE	MH	MANHOLE
API	AMERICAN PETROLEUM INSTITUTE	MIN	MINIMUM
ASTM	AMERICAN FOR TESTING AND MATERIALS	MOV	MOTOR OPERATED VALVE
ATG	AUTOMATIC TANK GAUGE	MPC	METER PROVING CONNECTION
BLDG	BUILDING	MSS	MANUFACTURER STANDARDIZATION SOCIETY
BOP	BOTTOM OF PIPE	N	NORTH
BPCV	BYPASS CONTROL VALVE	NC	NORMALLY CLOSED
BS	BASKET STRAINER	NIC	NOT IN CONTRACT
BV	BYPASS VENTURI	NO	NUMBER OR NORMALLY OPEN
CLR	CLEAR	NPT	NATIONAL PIPE THREAD
CM	CUBIC METER	NTS	NOT TO SCALE
CONC	CONCRETE	OA	OUTSIDE AIR
CS	CARBON STEEL	OC	ON CENTER
CV	CONTROL VALVE	OPS	OPERATIONS
DBB	DOUBLE BLOCK AND BLEED	OST	OPERATING STORAGE TANK
DEG	DEGREES	OTR	OVER THE ROAD
DIA	DIAMETER	OV	OVERFILL VALVE
DPT	DIFFERENTIAL PRESSURE INDICATING TRANSMITTER	P	PUMP
DRN	DRAIN	PCP	PUMP CONTROL PANEL
DWG	DRAWING	PI	PRESSURE INDICATOR
ECC	ECCENTRIC	PIT	PRESSURE INDICATING TRANSMITTER
ELEC	ELECTRICAL	PLC	PROGRAMMABLE LOGIC CONTROL
ELL	ELBOW	PRT	PRODUCT RECOVERY TANK
EQ	EQUAL	PS	PIPE SUPPORT
ETC	ET CETERA	PSI	POUNDS PER SQUARE INCH
EXIST	EXISTING	PV	PRESSURE/VACUUM
FIN	FINISHED	RED	REDUCER
FL	FUSIBLE LINK	REINF	REINFORCING
FM	FLOWMETER OR FORCED MAIN	REQ'D	REQUIRED
FOT	FLAT ON TOP	S	STRAINER
FP	FUEL PUMP	SCH	SCHEDULE
FQI	FLOW QUANTITY INDICATOR (FUEL METER)	SCV	SOLENOID CONTROL VALVE
FQM	FUEL QUANTITY MONITOR	SFI	SIGHT FLOW INDICATOR
F/S	FILTER/SEPARATOR	SHT	SHEET
FS	FILTER/SEPARATOR OR FLOW SWITCH	SRV	SAFETY RELIEF VALVE
FSCV	FILTER/SEPARATOR CONTROL VALVE	SS	STAINLESS STEEL
FSI	FILTER/SEPARATOR ISSUE	STA	STATION
FSP	FUEL SAMPLE POINT CONNECTION	SV	SOLENOID VALVE
FSR	FILTER SEPARATOR RECEIPT	SW	SOCKET WELD
GALV	GALVANIZED	TFCV	TRUCK LOADING CONTROL VALVE
GPM	GALLONS PER MINUTE	THK	THICK
HOA	HAND-OFF-AUTOMATIC	TOP	TOP OF PIPE
HPV	HIGH POINT VENT	TRV	THERMAL RELIEF VALVE
HSS	HOLLOW STRUCTURAL SECTION	TYP	TYPICAL
ID	INSIDE DIAMETER	UG	UNDERGROUND
IF	INSULATING FLANGE	UGE	UNDERGROUND ELECTRICAL
IV	ISSUE VENTURI	UON	UNLESS OTHERWISE NOTED
JA1	JET-A1 JET FUEL	VERT	VERTICAL
KPa	KILOPASCAL	WNF	WELD NECK FLANGE
LAH	LEVEL ALARM HIGH	WSP	WATER DRAW-OFF PUMP
LAHH	LEVEL ALARM HIGH-HIGH	⊙	AT
LAL	LEVEL ALARM LOW	⊕	CENTERLINE
LALL	LEVEL ALARM LOW-LOW	∅	DIAMETER
LCV	LEVEL CONTROL VALVE	⊥	PLATE
LI	LEVEL INDICATOR	±	PLUS/MINUS (APPROXIMATE)
LPD	LOW POINT DRAIN	%	PERCENT
LSH	LEVEL SWITCH HIGH	#	NUMBER
LSHH	LEVEL SWITCH HIGH-HIGH	5D	5 DIAMETERS
LSL	LEVEL SWITCH LOW	W/	WITH
LSLL	LEVEL SWITCH LOW-LOW		
L/S	LITERS PER SECOND		
M	MOTOR ACTIVATED		

MECHANICAL LEGEND

EXISTING	NEW	DESCRIPTION
		FLOW OR PRESSURE CONTROL VALVE
		FLOW OR PRESSURE CONTROL VALVE WITH INTEGRAL THERMAL RELIEF BYPASS (ARROW SHOWS DIRECTION OF RELIEF)
		DOUBLE BLOCK AND BLEED VALVE WITH INTEGRAL BYPASS THERMAL RELIEF (ARROW SHOWS DIRECTION OF BYPASS THERMAL RELIEF FLOW)
		DOUBLE BLOCK AND BLEED PLUG VALVE WITHOUT INTEGRAL BYPASS THERMAL RELIEF
		MOTORIZED ACTUATOR
		BALL VALVE
		BUTTERFLY VALVE
		CHECK VALVE
		HIGH POINT VENT
		WELD NECK FLANGE
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		THERMAL OR SAFETY RELIEF VALVE
		PRESSURE INDICATOR
		BASKET STRAINER WITH DIFFERENTIAL PRESSURE INDICATOR
		FLOW QUANTITY METER
		FUSIBLE LINK ACTUATOR
		FEMALE HOSE CONNECTION
		AIRCRAFT PRESSURE FUELING NOZZLE
		FILTER/SEPARATOR
		AIR ELIMINATOR
		AVIATION FUELING HOSE WITH DRY BREAK COUPLER
		SWIVEL JOINTS
		BLIND FLANGE CONNECTION
		FLOW ARROW
		CONNECT TO EXISTING
		PIPE SUPPORT TYPE, SEE SHEETS M-506, S-508, & S-509
		KEYED NOTE
		FLOW SWITCH
		SOLENOID VALVE
		FUEL PUMP
		DEMOLISH, SEE DEMOLITION NOTES
		FUEL SAMPLE POINT CONNECTION
		UNDERGROUND LINE
		ABOVEGROUND LINE
		PIPE UTILITY LINE ABBREVIATION
		SIZE
		MATERIAL TYPE
		BITUMINOUS CONCRETE
		CONCRETE SLAB (PLAN)
		CONCRETE (SECTION)
		COMPACTED FILL
		COARSE AGGREGATE

MECHANICAL NOTES

- SEE G-003 FOR GENERAL NOTES AND SEQUENCE OF CONSTRUCTION.
- UNLESS OTHERWISE INDICATED, ALL RECEIPT AND RETURN PIPING AND FITTINGS SHALL BE INTERIOR AND EXTERIOR COATED CARBON STEEL. ALL TRUCK FILLSTAND SUPPLY PIPING AND FITTINGS, AND WHERE ELSEWHERE SPECIFIED OR INDICATED, SHALL BE STAINLESS STEEL. ALL CARBON STEEL PIPING SHALL BE INTERIOR AND EXTERIOR COATED. ALL UNDERGROUND OR ENCASED STAINLESS STEEL PIPING SHALL BE EXTERIOR COATED.
- ALL DIMENSIONS SHOWN WITHOUT A DECIMAL POINT ARE MILLIMETERS AND ALL THOSE SHOWN WITH A DECIMAL POINT ARE METERS, UNLESS OTHERWISE NOTED.
- PROVIDE HIGH POINT VENTS WHERE INDICATED AND AT ALL HIGH POINTS. PROVIDE LOW POINT DRAINS WHERE INDICATED AND AT ALL LOW POINTS.
- INSTALL FUEL PIPING WITH A MINIMUM SLOPE OF 0.2% DOWN FROM HIGH POINTS TO LOW POINTS, UNLESS OTHERWISE INDICATED.
- ALL NEW CONNECTIONS TO EXISTING PIPING SHALL BE MADE WITH WELD NECK FLANGES, UNLESS OTHERWISE INDICATED.
- SEE C-001, S-001, AND E-001 FOR OTHER LEGENDS, SYMBOLS AND ABBREVIATIONS. SEE SHEET M-602 FOR FUELING EQUIPMENT SCHEDULE.
- PIPE SUPPORTS WELDED TO STAINLESS STEEL SHALL BE STAINLESS STEEL AND PIPE SUPPORTS WELDED TO EXTERIOR COATED CARBON STEEL SHALL BE EXTERIOR COATED CARBON STEEL. ALL OTHER PIPE SUPPORTS AND OTHER MISCELLANEOUS METAL SHAPES SHALL BE HOT DIPPED GALVANIZED CARBON STEEL, UNLESS OTHERWISE INDICATED.
- EXISTING FUEL SYSTEMS SHALL REMAIN IN OPERATION THROUGHOUT THE PROJECT EXCEPT FOR INDIVIDUAL PIPELINES AND SYSTEMS TAKEN OUT OF SERVICE BRIEFLY TO MAKE THE FINAL PIPING CONNECTIONS. SEE G-003 FOR ALLOWABLE OUTAGES.
- HPV, LPD, TRV, PI, FSP, FS, IF, PIT, BS AND MPC ARE INDICATED ON THE PLANS WITH A LEADER AND AN ABBREVIATION. THE DETAILS ARE LOCATED AS FOLLOWS:

HPV		PI		IF	
LPD		FSP		MPC	
TRV		FS		PIT	
BS					

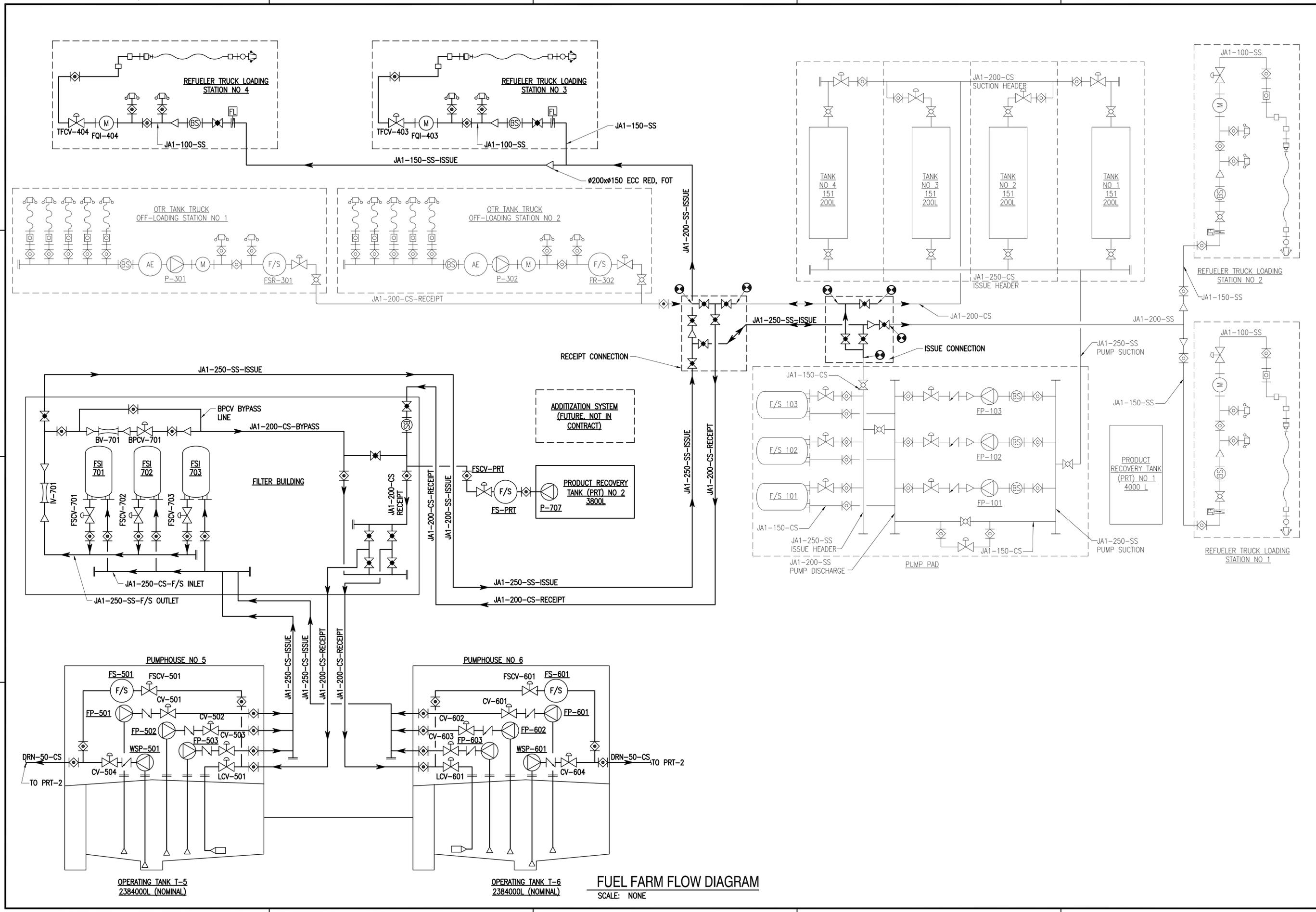
DEMOLITION NOTES

- WORK SHALL BE SEQUENCED. SEE G-003 FOR SEQUENCE OF CONSTRUCTION.
- UNLESS OTHERWISE INDICATED, ALL EXISTING FUEL PIPING IS CARBON STEEL.
- DEFINITIONS
 - A. "DEMOLISH" - REMOVE IN ITS ENTIRETY.
- THE ACTIVITY WILL, TO THE FULLEST EXTENT POSSIBLE, EMPTY THE ACTIVE UNDERGROUND AND ABOVEGROUND PIPELINES, TANKS AND EQUIPMENT. FOR BASIS OF BIDS, EXCEPT WHERE INDICATED, THE PIPES ARE FULL OF FUEL ON TOP OF 2" OF PETROLEUM CONTAMINATED SLUDGE AND WATER. THE SLUDGE AND WATER SHALL BE DISPOSED OF BY THE CONTRACTOR AT A DISPOSAL FACILITY OFFSITE. THE CONTRACTOR SHALL COORDINATE WITH THE CONTRACTING OFFICER FOR DISPOSAL OF THE PETROLEUM CONTAMINATED WATER. THE CONTRACTOR SHALL DRAIN, COLLECT, AND TURN OVER TO THE GOVERNMENT ANY FUEL NOT EMPTIED BY THE ACTIVITY.

DATE	4/29/16
DESCRIPTION	REVISED LEGEND
APPROVED	A/E INFO
FOR COMMANDER NAVFAC	
ACTIVITY	APPROVED BY ANDREA LEMON VIA EMAIL
SATISFACTORY TO	DATE 4/1/16
DESIGN	DWN DRW WMG CHK WVB
PM/DM	LET/PER
BRANCH MANAGER	
DESIGN DIRECTOR	R.B. FITCH, III P.E.
FIRE PROTECTION	
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC	NORFOLK, VIRGINIA
LANT CAPITAL IMPROVEMENTS	DUBOUIFF AFRICA
CAMP LEMONNIER	DESC 1701/P-1701
	CONSTRUCT FUEL STORAGE FACILITIES
	ABBREVIATIONS, LEGEND AND NOTES
SCALE:	AS NOTED
PROJECT NO.:	1344008
CONSTR. CONTR. NO.:	
	N62470-16-R-6004
NAVFAC DRAWING NO.:	14047081
SHEET	117 OF 186
M-001	
DRAWFORM REVISION: 10 MARCH 2009	

FILE NAME: G:\14 Jobs\14-013 Dibuair - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-001 ABBREVIATIONS, LEGEND AND NOTES.dwg LAYOUT NAME: ABBREVIATIONS, LEGEND AND NOTES.dwg PLOTTED: Friday, May 06, 2016 - 10:32am USER: mhoppers

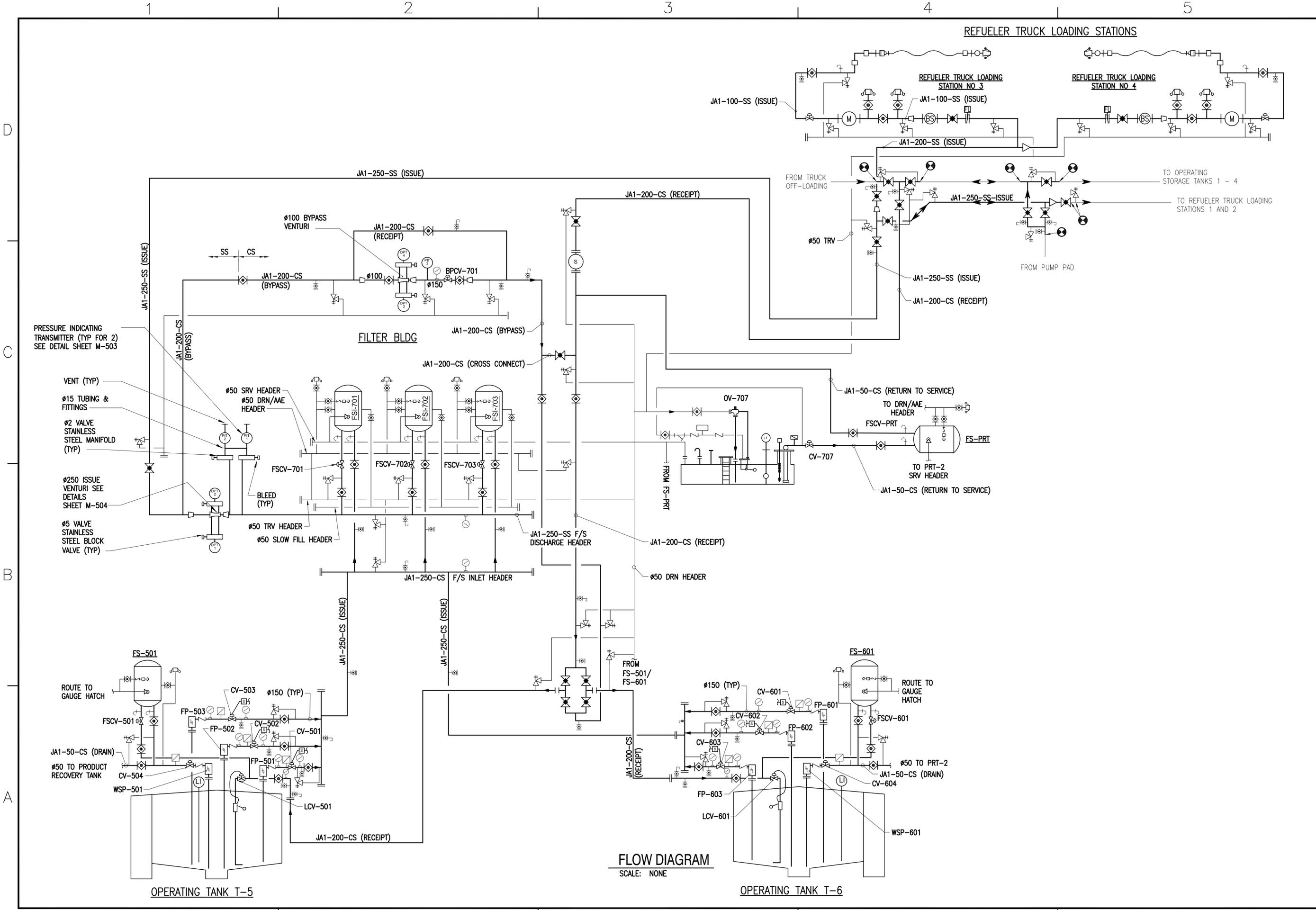
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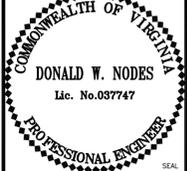
FUEL FARM FLOW DIAGRAM
SCALE: NONE

APPR	
DATE	
SYN	
DESCRIPTION	
 NAFAC COMMONWEALTH OF VIRGINIA DONALD W. NODES Lic. No. 037747 PROFESSIONAL ENGINEER	
Austin Brockenbrough ENGINEERING - CONSULTING	
APPROVED	A/E INFO
FOR COMMANDER NAFAC	
ACTIVITY	
APPROVED BY ANDREA LEMON VIA EMAIL	
SATISFACTORY TO	DATE 4/4/16
DES	DWN DRW WMC CHK WVB
PM/OM	LET/RES
BRANCH MANAGER	
DESIGN DIRECTOR R.B. FITCH, III P.E.	
FIRE PROTECTION	
NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC	
NORFOLK, VIRGINIA	
DIBOUTI, AFRICA	
CAMP LEMONNIER	
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES OVERALL FLOW DIAGRAM	
SCALE:	AS NOTED
PROJECT NO.:	1344008
CONSTR. CONTR. NO.:	
N62470-16-R-6004	
NAFAC DRAWING NO.:	14047082
SHEET	118 OF 186
M-002	
DRAWING REVISION: 10 MARCH 2009	

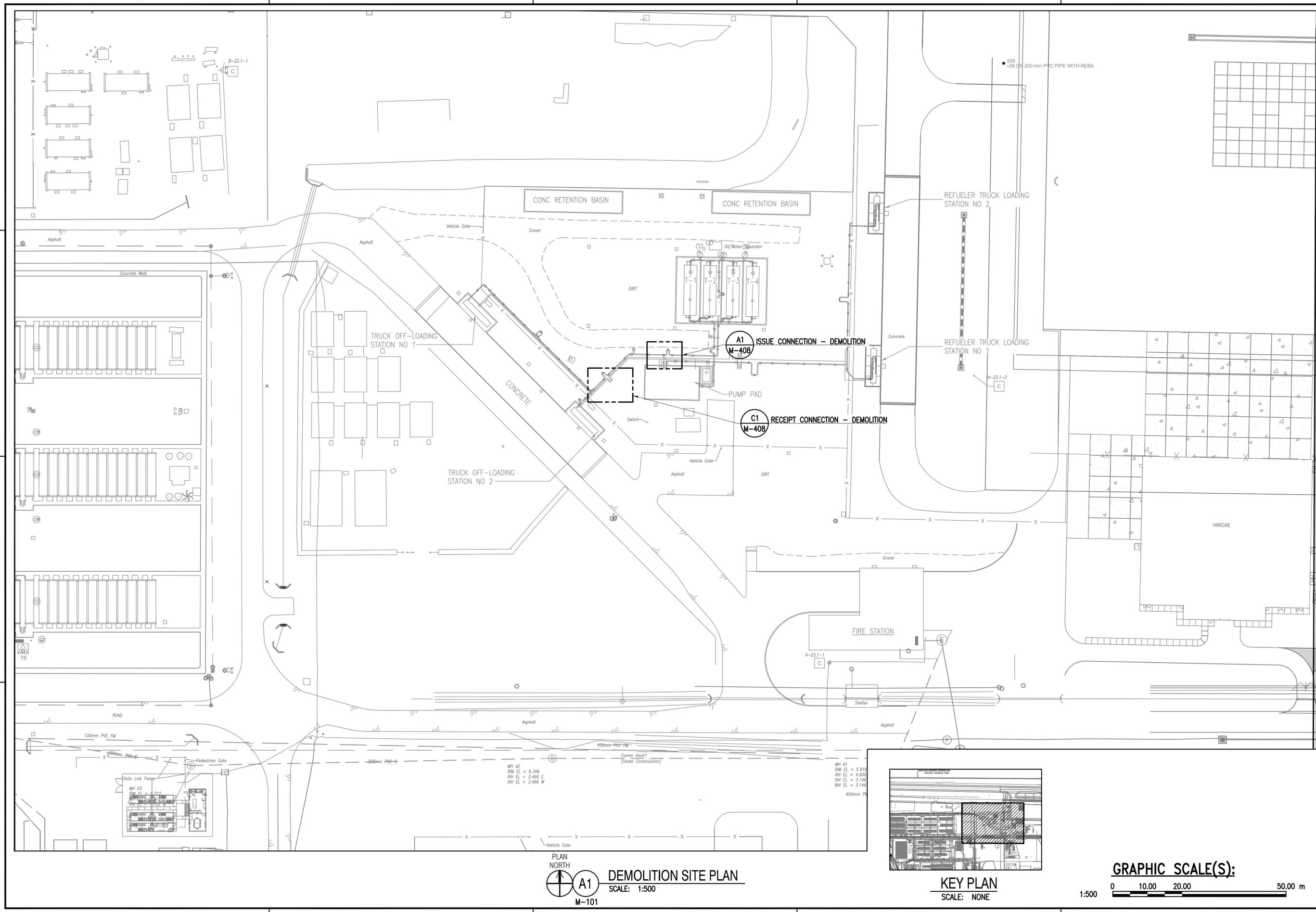
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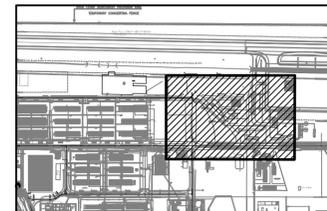
FLOW DIAGRAM
SCALE: NONE

APPROVED	DATE	DESCRIPTION	SYN
  			
APPROVED BY ANDREA LEMON VIA EMAIL SATISFACTORY TO DATE 4/1/16 DES: DWN DRW: WMC CHK: WVB PM/OM: LET/RES BRANCH MANAGER DESIGN DIRECTOR: R.B. FITCH, III P.E. FIRE PROTECTION			
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC LANT CAPITAL IMPROVEMENTS CAMP LEMONNIER		DUBOULT AFRICA DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES FLOW DIAGRAM	
SCALE: AS NOTED PROJECT NO.: 1344008 CONSTR. CONTR. NO.: N62470-16-R-6004 NAVFAC DRAWING NO.: 14047083 SHEET 119 OF 186 M-003 <small>DRAWING REVISION: 10 MARCH 2009</small>			

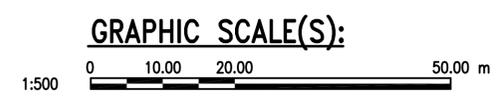
FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - Fuel Storage Facility - Demolition Site Plan - PLOTTED: Friday, May 06, 2016 - 10:34am USER: mhoppers



PLAN NORTH
A1
DEMOLITION SITE PLAN
 SCALE: 1:500
 M-101



KEY PLAN
 SCALE: NONE



APPROVED	DATE	DESCRIPTION	SYN

COMMONWEALTH OF VIRGINIA
DONALD W. NODDES
 Lic. No. 037747
 PROFESSIONAL ENGINEER

Austin
Brockenbrough
 ENGINEERING • CONSULTING

APPROVED

FOR COMMANDER NAVFAC

ACTIVITY
APPROVED BY ANDREA LEMON
 VIA EMAIL

SATISFACTORY TO DATE 4/4/16

DES **DWN** | DRW **WMC** | CHK **WVB**

PM/DM LET/RES

BRANCH MANAGER

DESIGN DIRECTOR R.B. FITCH, III P.E.

FIRE PROTECTION

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
 LANT CAPITAL IMPROVEMENTS
 CAMP LEMONNIER

NAVFAC LANT/CDR AUC604/VM MD102 DEMOLITION SITE PLAN
 LAYOUT NAME: DEMOLITION SITE PLAN
 PLOTTED: Friday, May 06, 2016 - 10:34am USER: mhoppers

DUBOUI AFRICA

DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 DEMOLITION SITE PLAN

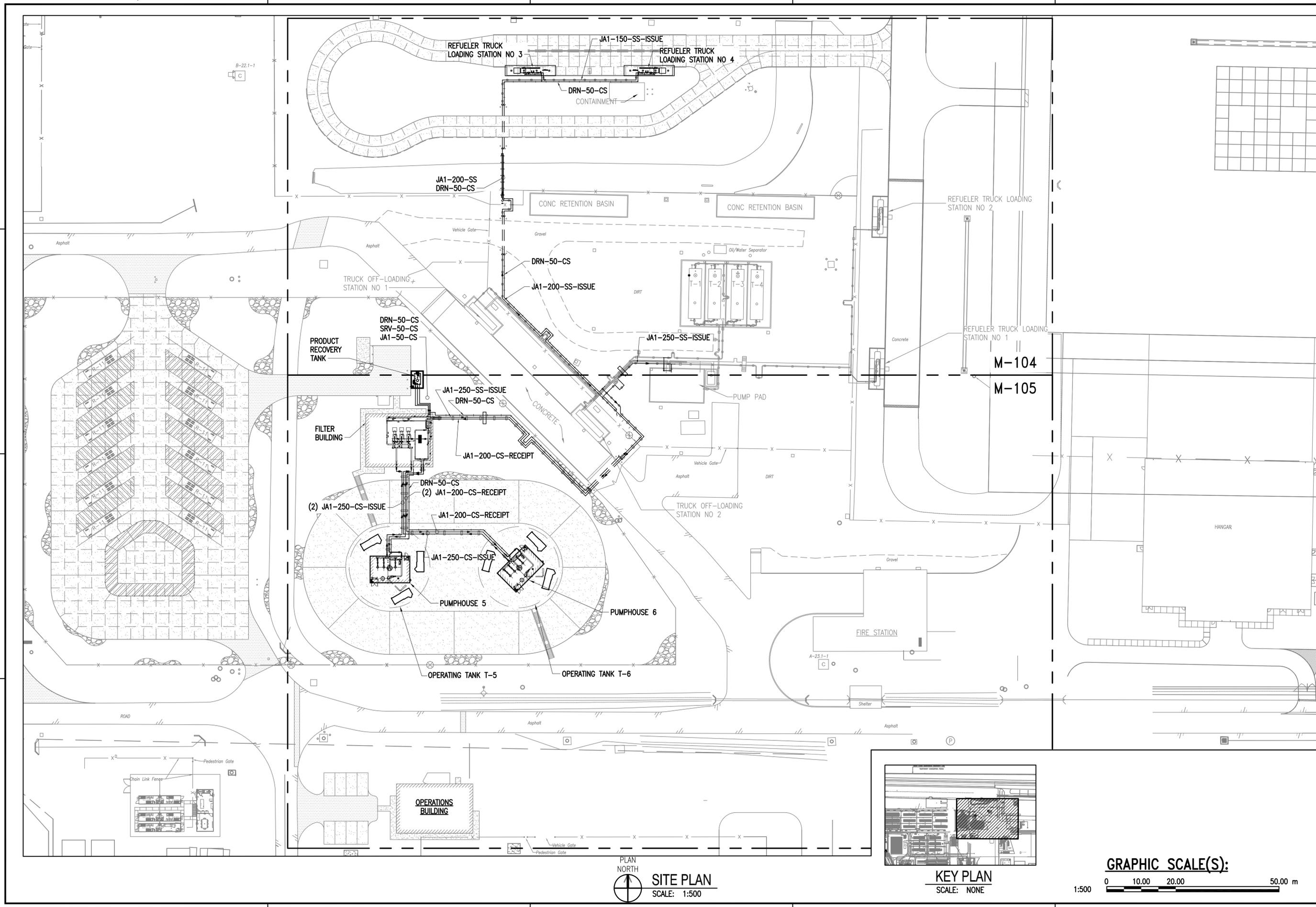
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 PROJECT NO.: 1344008
 CONSTR. CONTR. NO.
 N62470-16-R-6004
 NAVFAC DRAWING NO.
 14047085

SHEET 121 OF 186

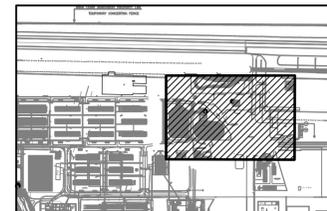
MD102

DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-103 MECHANICAL SITE PLAN.dwg LAYOUT NAME: MECHANICAL SITE PLAN PLOTTED: Friday, May 06, 2016 - 10:35am USER: rhpkins



PLAN NORTH
SITE PLAN
 SCALE: 1:500

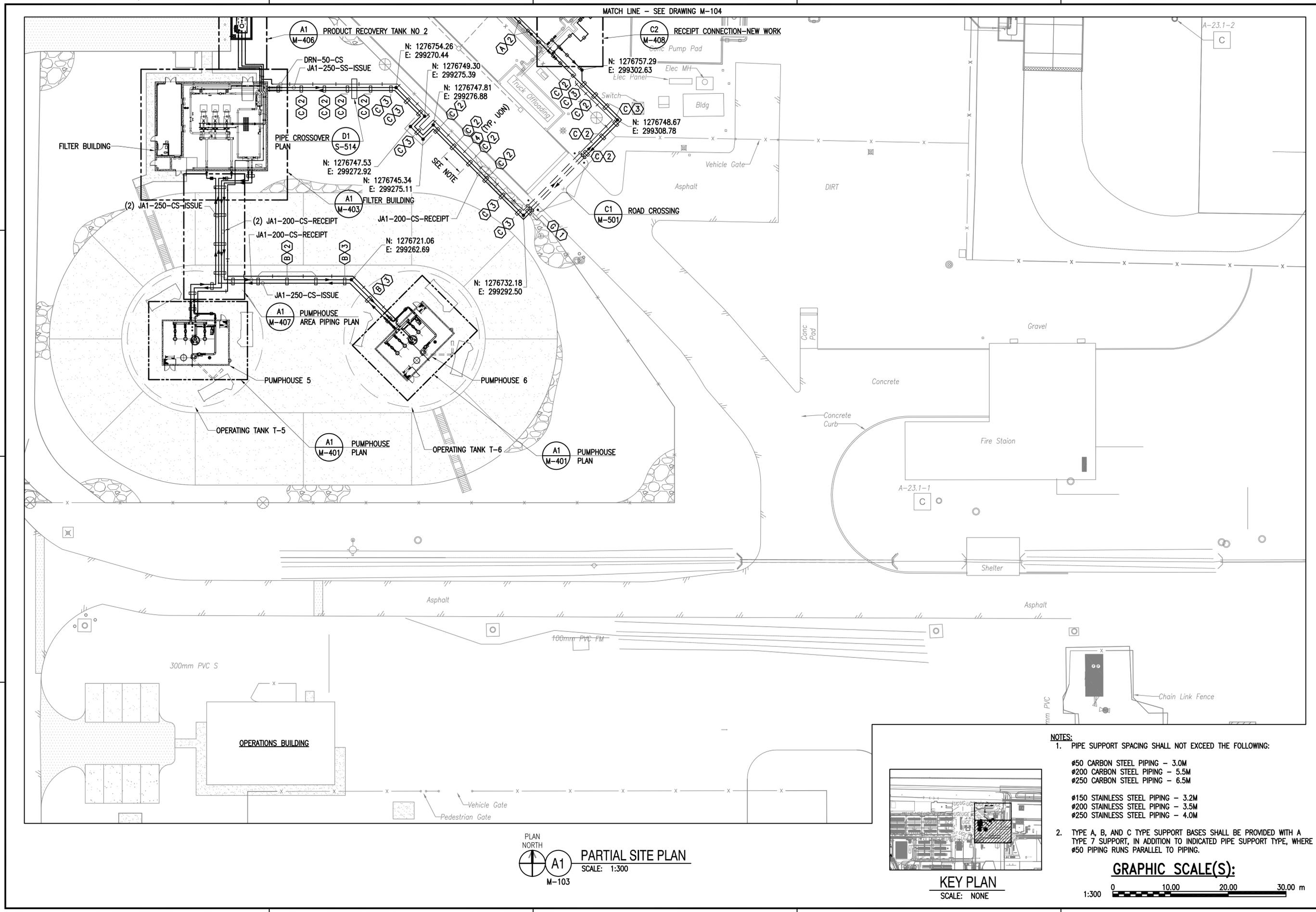


KEY PLAN
 SCALE: NONE

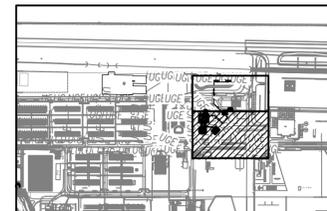


SYN	DESCRIPTION	DATE	APPR
Brockenbrough ENGINEERING - CONSULTING			
APPROVED			
FOR COMMANDER NAVFAC			
ACTIVITY			
APPROVED BY ANDREA LEMON VIA EMAIL			
SATISFACTORY TO DATE 4/4/16			
DES	DWN	DRW	WMC
PM/DM	LET/RES	CHK	WVB
BRANCH MANAGER			
DESIGN DIRECTOR R.B. FITCH, III P.E.			
FIRE PROTECTION			
NAVAL FACILITIES ENGINEERING COMMAND			
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC			
NORFOLK, VIRGINIA			
DIBOUTI, AFRICA			
CAMP LEMONNIER			
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES MECHANICAL SITE PLAN			
SCALE: AS NOTED			
PROJECT NO.: 1344008			
CONSTR. CONTR. NO.			
N62470-16-R-6004			
NAVFAC DRAWING NO.			
14047086			
SHEET 122 OF 186			
M-103			
DRAWING REVISION: 10 MARCH 2009			

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\M-103 PARTIAL SITE PLAN.dwg LAYOUT NAME: PARTIAL SITE PLAN PARTIAL SITE PLAN PLOTTED: Friday, May 06, 2016 - 10:40am USER: mhopkins



PLAN NORTH
A1
PARTIAL SITE PLAN
 SCALE: 1:300
 M-103



KEY PLAN
 SCALE: NONE

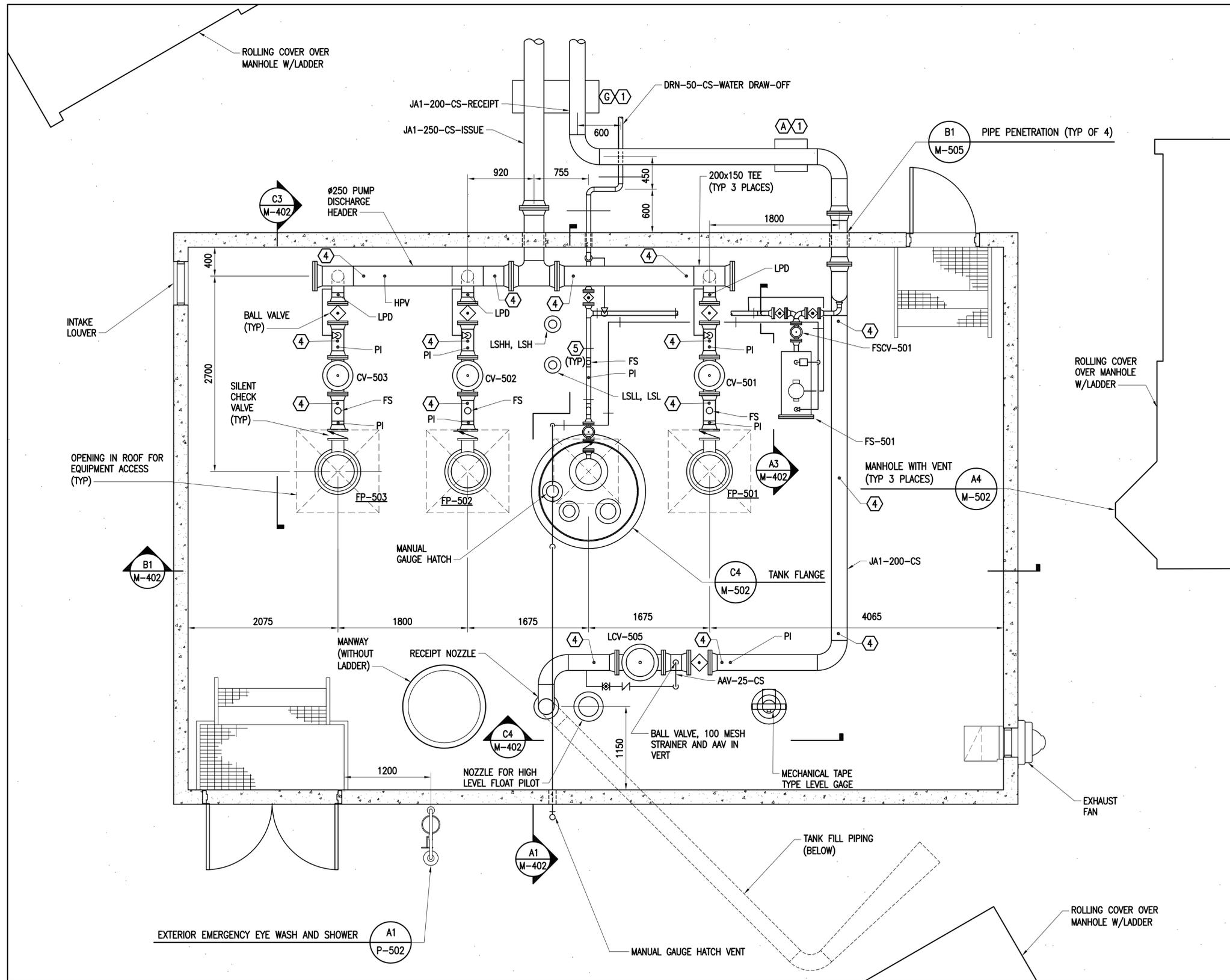
- NOTES:**
- PIPE SUPPORT SPACING SHALL NOT EXCEED THE FOLLOWING:
 #50 CARBON STEEL PIPING - 3.0M
 #200 CARBON STEEL PIPING - 5.5M
 #250 CARBON STEEL PIPING - 6.5M
 #150 STAINLESS STEEL PIPING - 3.2M
 #200 STAINLESS STEEL PIPING - 3.5M
 #250 STAINLESS STEEL PIPING - 4.0M
 - TYPE A, B, AND C TYPE SUPPORT BASES SHALL BE PROVIDED WITH A TYPE 7 SUPPORT, IN ADDITION TO INDICATED PIPE SUPPORT TYPE, WHERE #50 PIPING RUNS PARALLEL TO PIPING.

GRAPHIC SCALE(S):



APPROVED	DATE	APPR
SYN	DESCRIPTION	D
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC		
ACTIVITY		
APPROVED BY ANDREA LEMON VIA EMAIL		
SATISFACTORY TO	DATE	CHK
DES	DWN	DRW
PM/DM	LET/RES	WVB
BRANCH MANAGER		
DESIGN DIRECTOR R.B. FITCH, III P.E.		
FIRE PROTECTION		
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC LANT CAPITAL IMPROVEMENTS CAMP LEMONNIER DUBOUI AFRICA CONSTRUCT FUEL STORAGE FACILITIES PARTIAL SITE PLAN		
SCALE:	AS NOTED	
PROJECT NO.:	1344008	
CONSTR. CONTR. NO.:	N62470-16-R-6004	
NAVFAC DRAWING NO.:	14047088	
SHEET	124	OF 186
M-105		
DRAWFORM REVISION: 10 MARCH 2009		

FILE NAME: G:\14 Jobs\14-013 Djibouti - NAFAF LANT\CAD AutoCAD\M-401 PUMPHOUSE PIPING.dwg LAYOUT NAME: PUMPHOUSE PIPING PLOTTED: Friday, May 06, 2016 - 10:40am USER: rhopkins



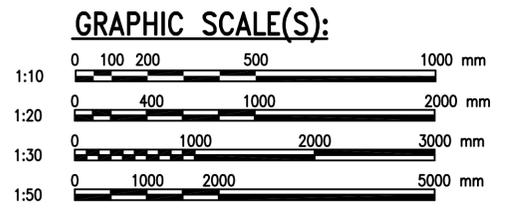
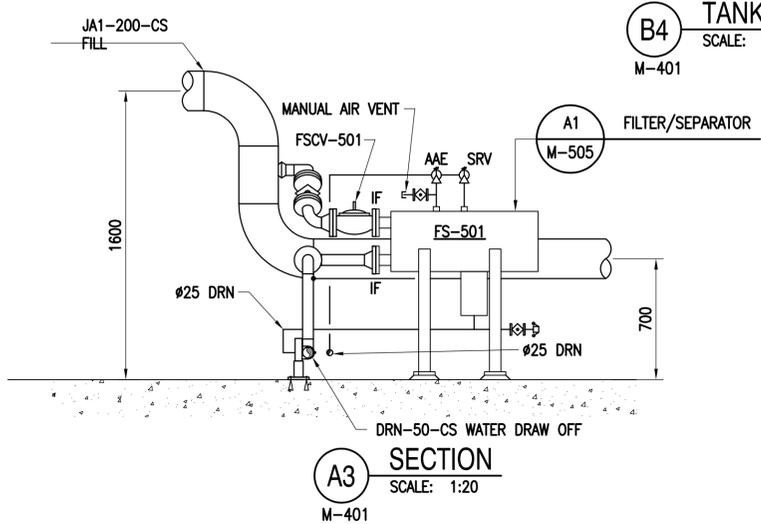
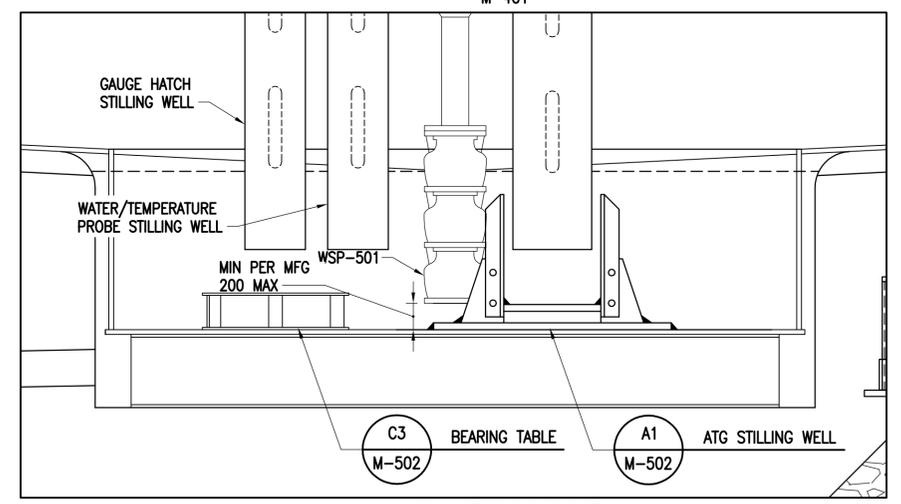
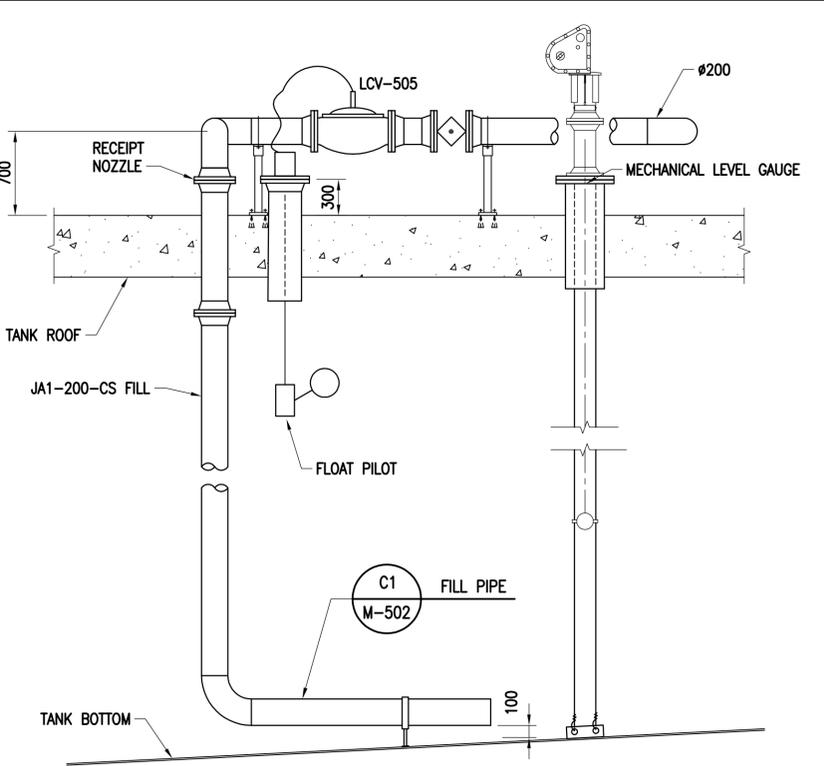
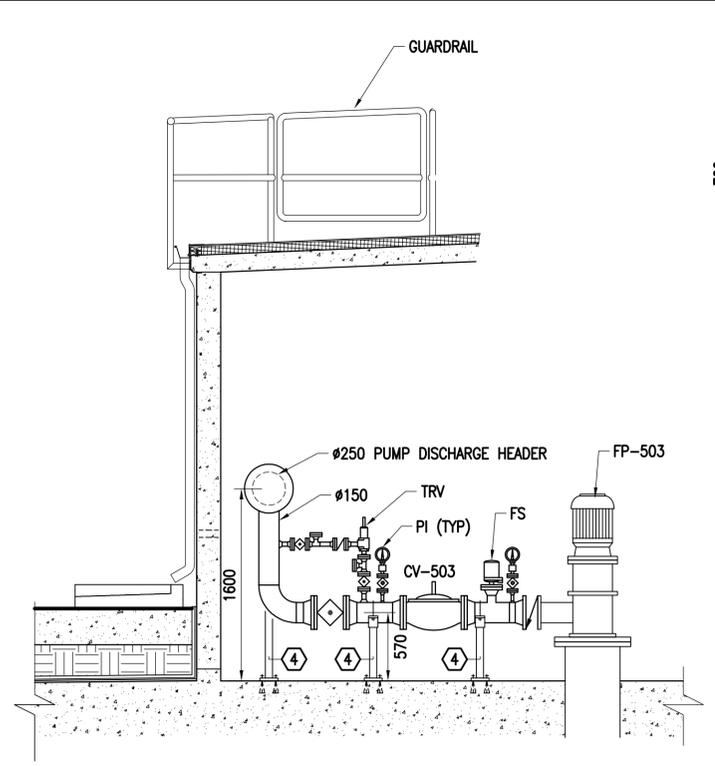
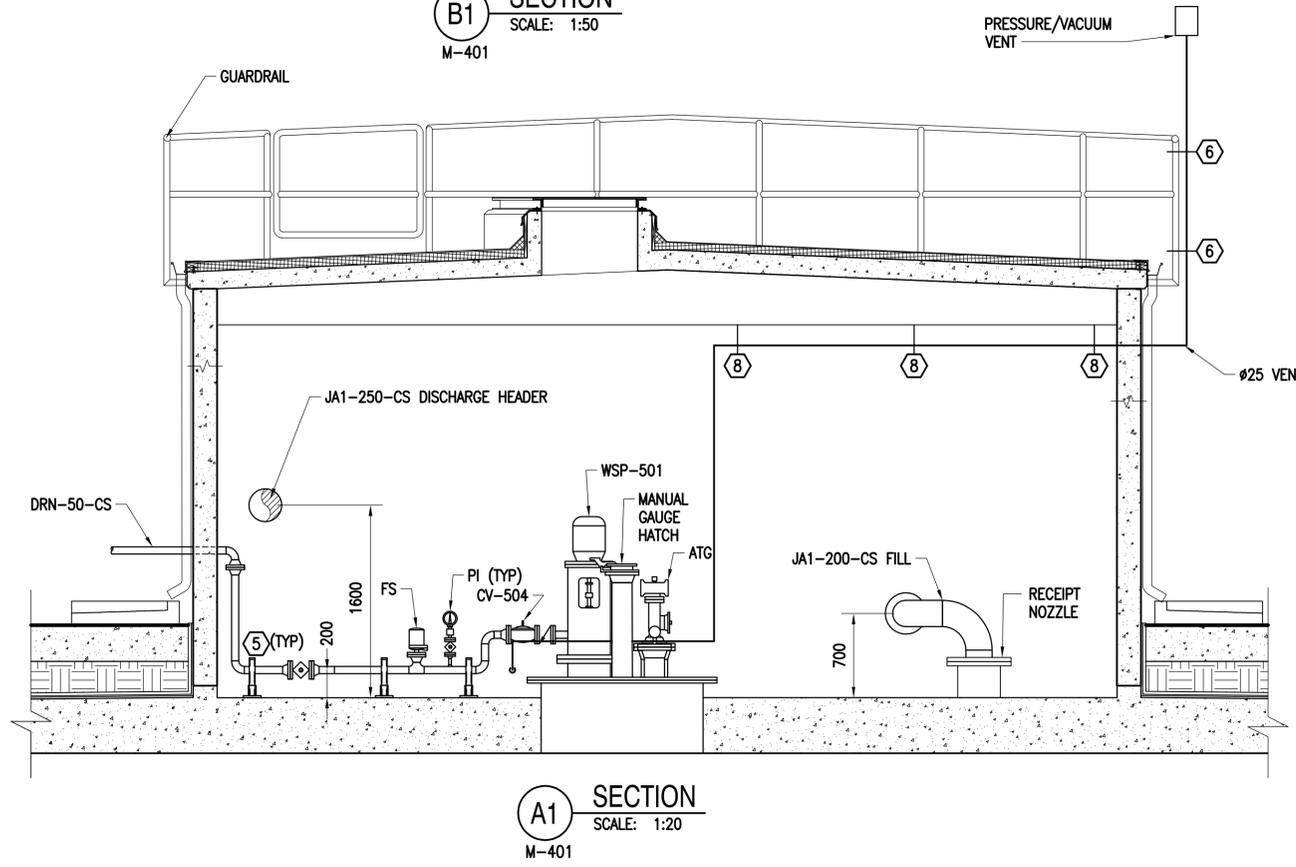
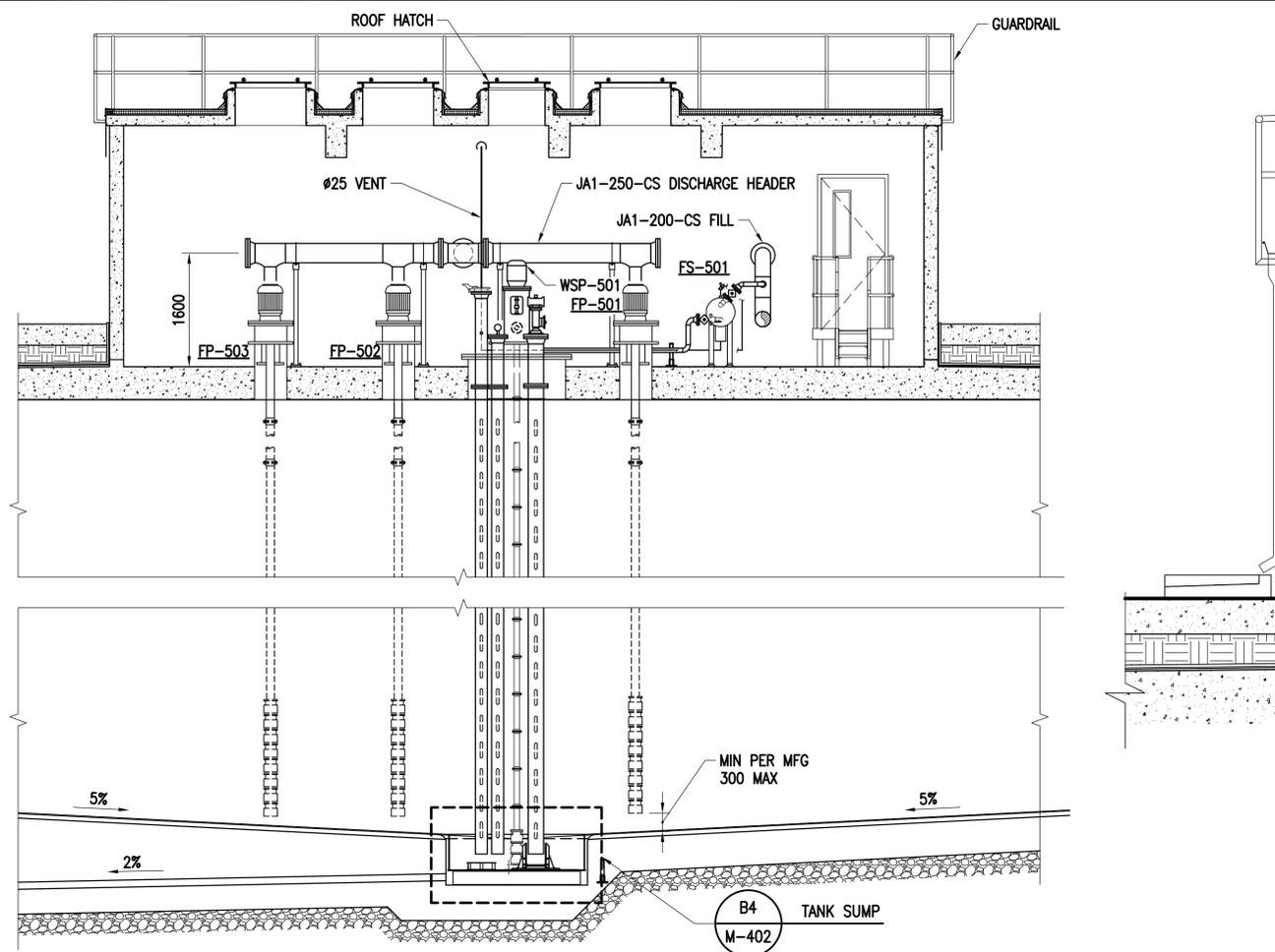
NOTE: TANK T-5 SHOWN, TANK T-6 SIMILAR.

PLAN NORTH
PUMPHOUSE PLAN
 SCALE: 1:30
 A1 M-105



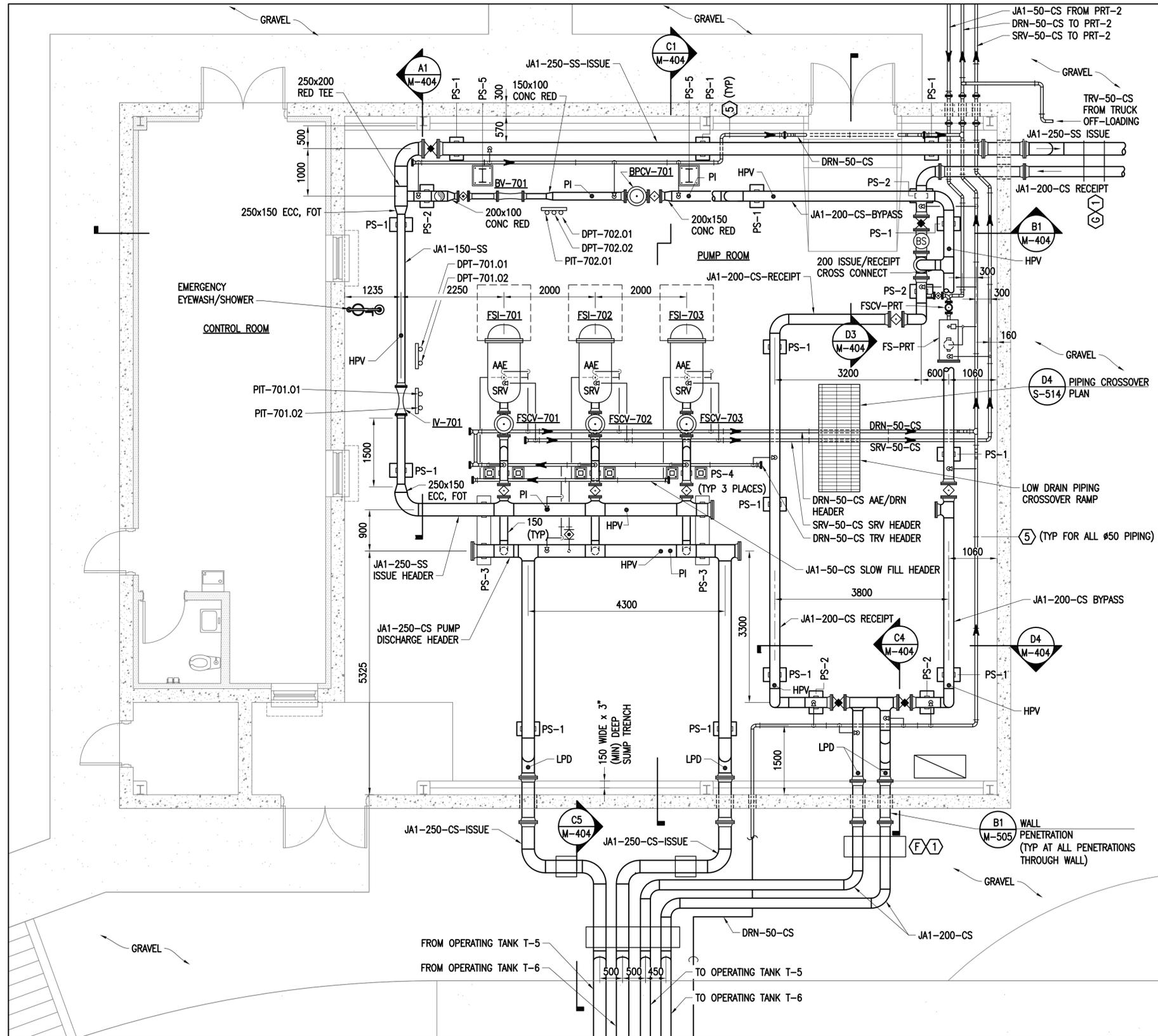
APPROVED	DATE	APPR
DESCRIPTION	DATE	APPR
SYN	DESCRIPTION	APPR
 NAFAF COMMONWEALTH OF VIRGINIA DONALD W. NODDES Lic. No. 037747 PROFESSIONAL ENGINEER		
Austin Brockenbrough ENGINEERING - CONSULTING		
A/E INFO		
APPROVED		
FOR COMMANDER NAFAF		
ACTIVITY		
APPROVED BY ANDREA LEMON VIA EMAIL		
SATISFACTORY TO DATE 4/4/16		
DES	DRW	CHK
DWN	WMC	WVB
PM/DM	LET/RES	
BRANCH MANAGER		
DESIGN DIRECTOR R.B. FITCH, III P.E.		
FIRE PROTECTION		
NAVAL FACILITIES ENGINEERING COMMAND	DIBOUTI AFRICA	
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC	NORFOLK, VIRGINIA	
LANT CAPITAL IMPROVEMENTS		
CAMP LEMONNIER		
DESC 1701/P-1701		
CONSTRUCT FUEL STORAGE FACILITIES		
PUMPHOUSE PIPING		
SCALE:	AS NOTED	
PROJECT NO.:	1344008	
CONSTR. CONTR. NO.		
	N62470-16-R-6004	
NAFAF DRAWING NO.	14047089	
SHEET	125 OF 186	
M-401		
<small>DRAWING REVISION: 10 MARCH 2009</small>		

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-402 PUMPHOUSE PIPING SECTIONS.dwg LAYOUT NAME: PUMPHOUSE PIPING SECTIONS - PLOTTED: Friday, May 06, 2016 - 10:40am USER: rhopkins



APPROVED	DATE	APPR
SYN	DESCRIPTION	
 NAVFAC COMMONWEALTH OF VIRGINIA DONALD W. NODDES Lic. No. 037747 PROFESSIONAL ENGINEER		
Austin Brockenbrough ENGINEERING - CONSULTING		
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC		
ACTIVITY		
APPROVED BY ANDREA LEMON VIA EMAIL		
SATISFACTORY TO	DATE	4/4/16
DES	DWN	DRW
PM/OM	LET/RES	WMC
BRANCH MANAGER		
DESIGN DIRECTOR R.B. FITCH, III P.E.		
FIRE PROTECTION		
NAVAL FACILITIES ENGINEERING COMMAND		
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC		
LANT CAPITAL IMPROVEMENTS		
NORFOLK, VIRGINIA		
DUBOULT, AFRICA		
CAMP LEMONNIER		
DESC 1701/P-1701		
CONSTRUCT FUEL STORAGE FACILITIES		
PUMPHOUSE PIPING SECTIONS		
SCALE:	AS NOTED	
PROJECT NO.:	1344008	
CONSTR. CONTR. NO.:		
	N62470-16-R-6004	
NAVFAC DRAWING NO.:	14047090	
SHEET	126	OF 186
M-402		
DRAWFORM REVISION: 10 MARCH 2009		

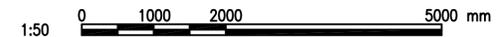
FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-403 FILTER BUILDING PIPING.dwg LAYOUT NAME: FILTER BUILDING PIPING PLOTTED: Friday, May 06, 2016 - 10:41am USER: rnpkline



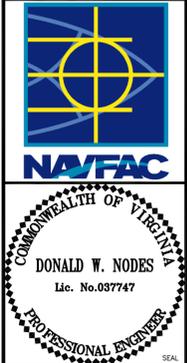
NOTE: SEE STRUCTURAL SHEETS FOR PIPE SUPPORT DEFINITIONS

PLAN NORTH
A1
 M-105
FILTER BUILDING
 SCALE: 1:50

GRAPHIC SCALE(S):



SYN	DESCRIPTION	DATE	APPR



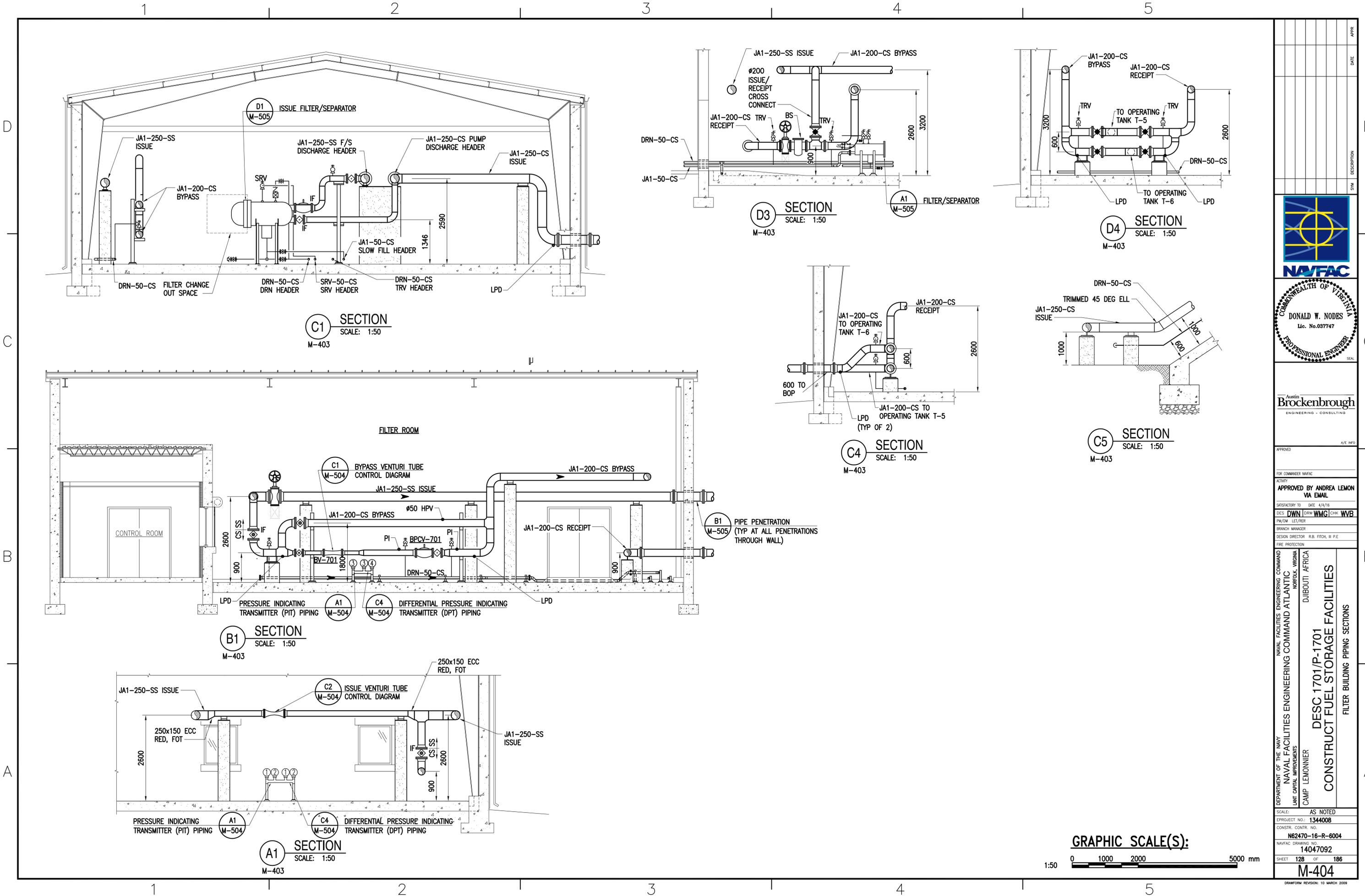
Austin
Brockenbrough
 ENGINEERING - CONSULTING

APPROVED BY ANDREA LEMON VIA EMAIL
 SATISFACTORY TO DATE 4/4/16
 DES: DWN | DRW: WMG | CHK: WVB
 PM/DM: LET/RES
 BRANCH MANAGER
 DESIGN DIRECTOR: R.B. FITCH, III P.E.
 FIRE PROTECTION

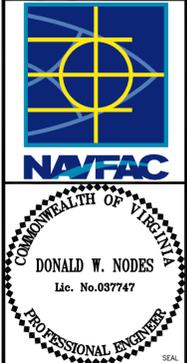
DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
 NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
 LANT CAPITAL IMPROVEMENTS
 CAMP LEMONNIER
 DUBOULT AFRICA
 NORFOLK, VIRGINIA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 FILTER BUILDING PIPING

SCALE: AS NOTED
 PROJECT NO.: 1344008
 CONSTR. CONTR. NO.
 N62470-16-R-6004
 NAVFAC DRAWING NO.: 14047091
 SHEET 127 OF 186
M-403
DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Dhhout - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-404 FILTER BUILDING PIPING SECTIONS.dwg LAYOUT NAME: FILTER BUILDING PIPING SECTIONS PLOTTED: Friday, May 06, 2016 - 10:41am USER: rhopkins



NO.	DATE	DESCRIPTION	BY	CHK	APPR

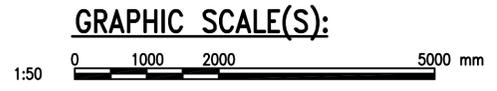


Austin
Brockenbrough
ENGINEERING - CONSULTING

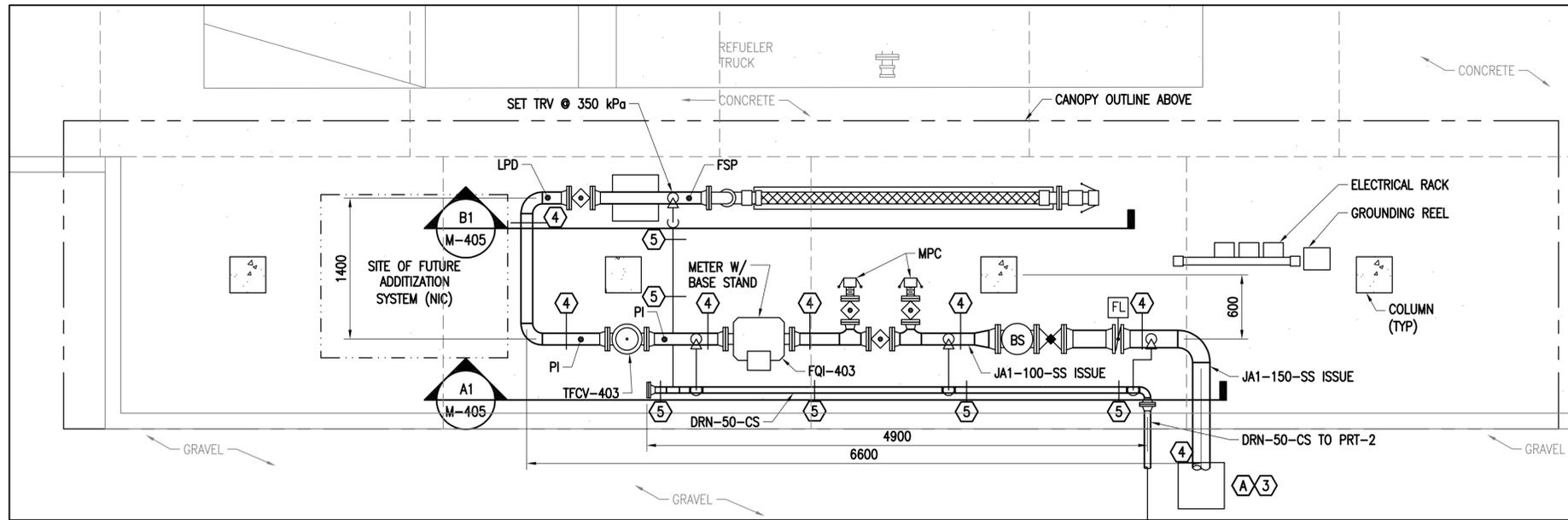
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
APPROVED BY ANDREA LEMON
VIA EMAIL
SATISFACTORY TO DATE 4/4/16
DES: DWN | DRW: WMG | CHK: WVB
PM/DM: LET/RES
BRANCH MANAGER
DESIGN DIRECTOR: R.B. FITCH, III P.E.
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LANT CAPITAL IMPROVEMENTS
CAMP LEMONIER
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
DUBOUI: AFRICA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
FILTER BUILDING PIPING SECTIONS

SCALE: AS NOTED
PROJECT NO.: 1344008
CONSTR. CONTR. NO.
N62470-16-R-6004
NAVFAC DRAWING NO.: 14047092
SHEET 128 OF 186
M-404
DRAWING REVISION: 10 MARCH 2009

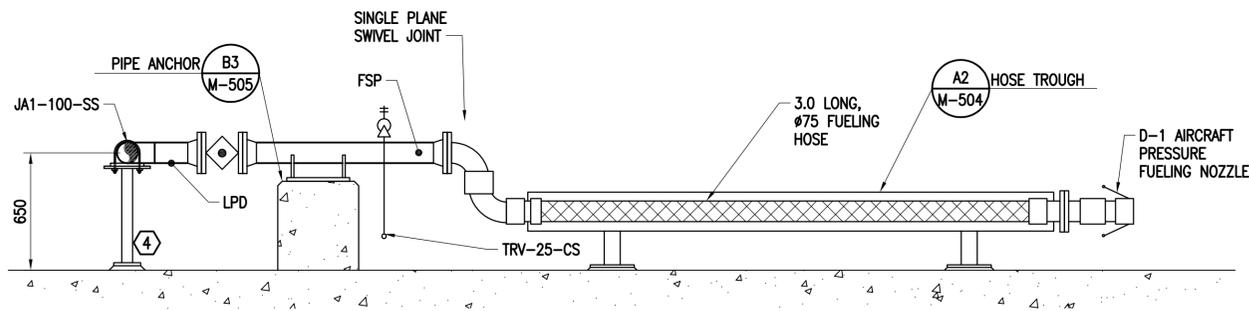


FILE NAME: G:\14_Jobs\14-013_Djibouti - Fuel Storage Facility - NAVFAC LANT\14040 AutoCAD\M-405 REFUELER TRUCK LOADING PLAN.dwg LAYOUT NAME: REFUELER TRUCK LOADING PLAN PLOTTED: Friday, May 06, 2016 - 10:42am USER: mplehns

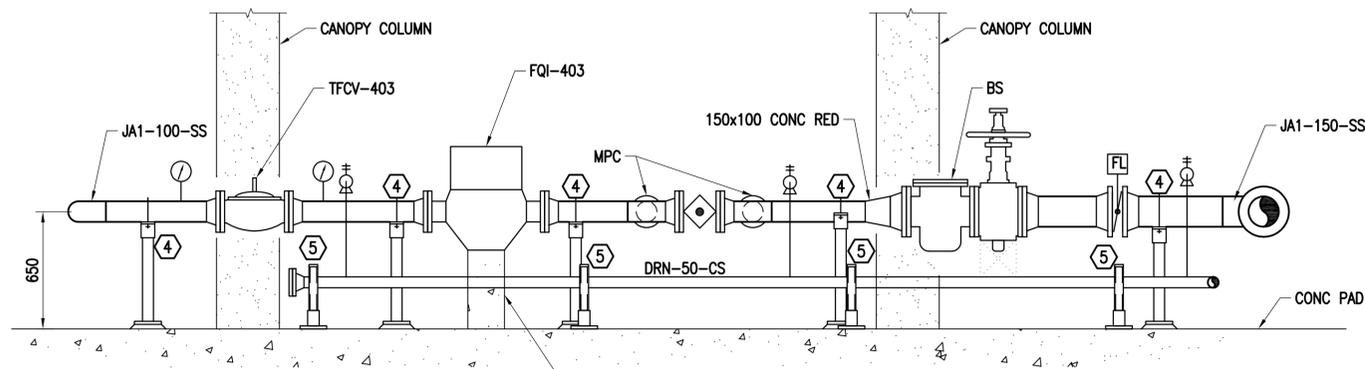


NOTE:
REFUELER TRUCK STATION LOADING STATION NO 4 SIMILAR

C1 REFUELER TRUCK LOADING STATION NO 3
SCALE: 1:30
M-104



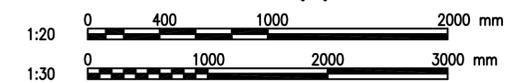
B1 SECTION
SCALE: 1:20
M-405



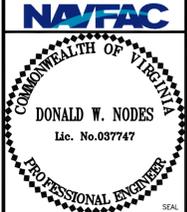
A1 SECTION
SCALE: 1:20
M-405

PROVIDE REINFORCED CONCRETE BASE UNDER FQI PER MFG'S RECOMMENDATIONS

GRAPHIC SCALE(S):



SYN	DESCRIPTION	DATE	APPR



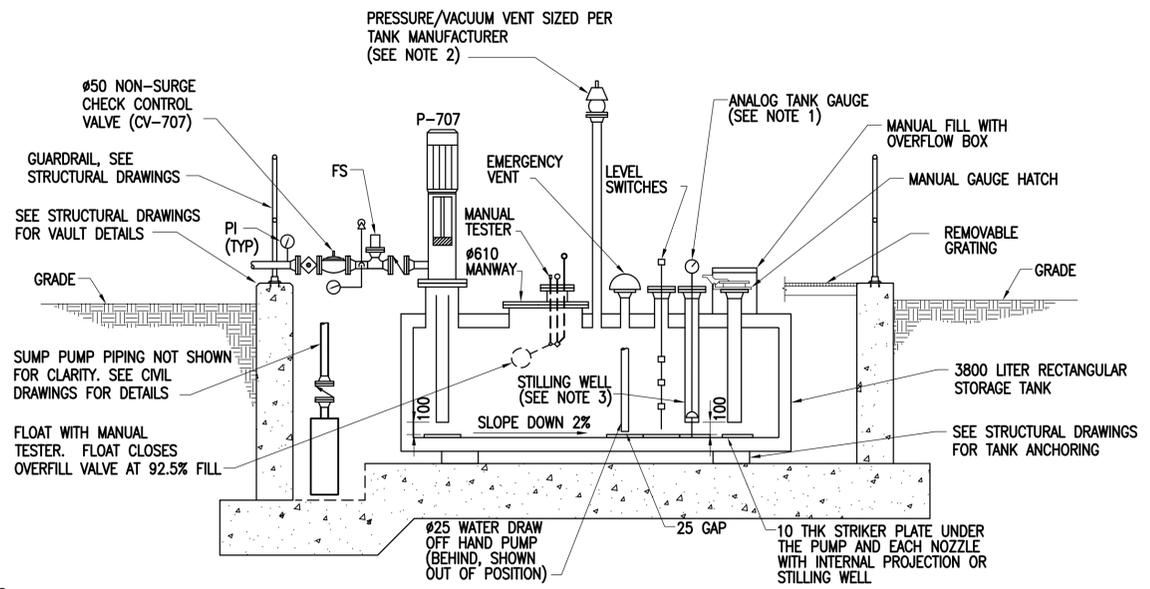
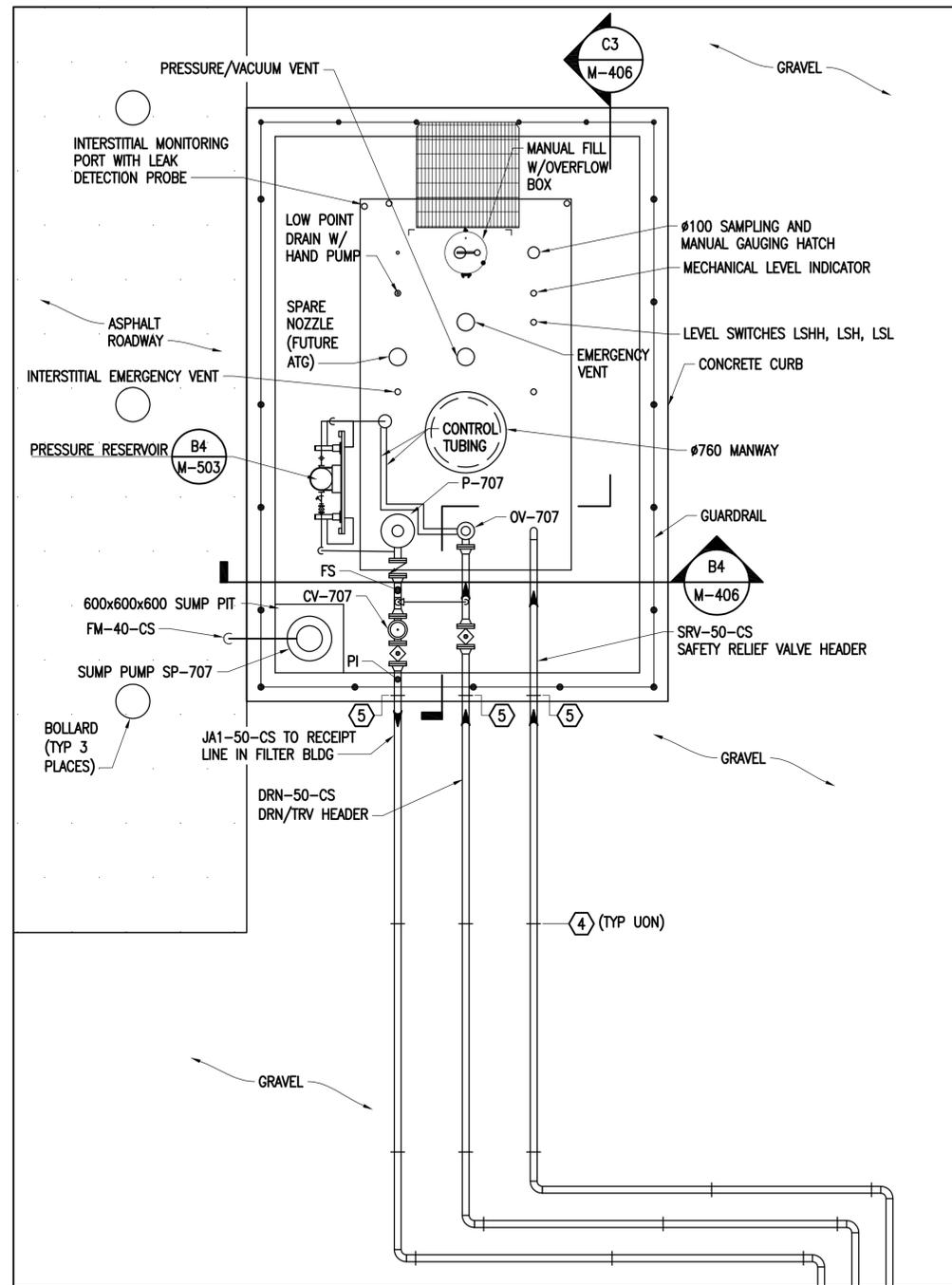
Austin
Brockenbrough
ENGINEERING - CONSULTING

APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
APPROVED BY ANDREA LEMON
VIA EMAIL
SATISFACTORY TO DATE 4/4/16
DES: DWN | DRW: WMC | CHK: WVB
PM/DM: LET/RES
BRANCH MANAGER
DESIGN DIRECTOR: R.B. FITCH, III P.E.
FIRE PROTECTION

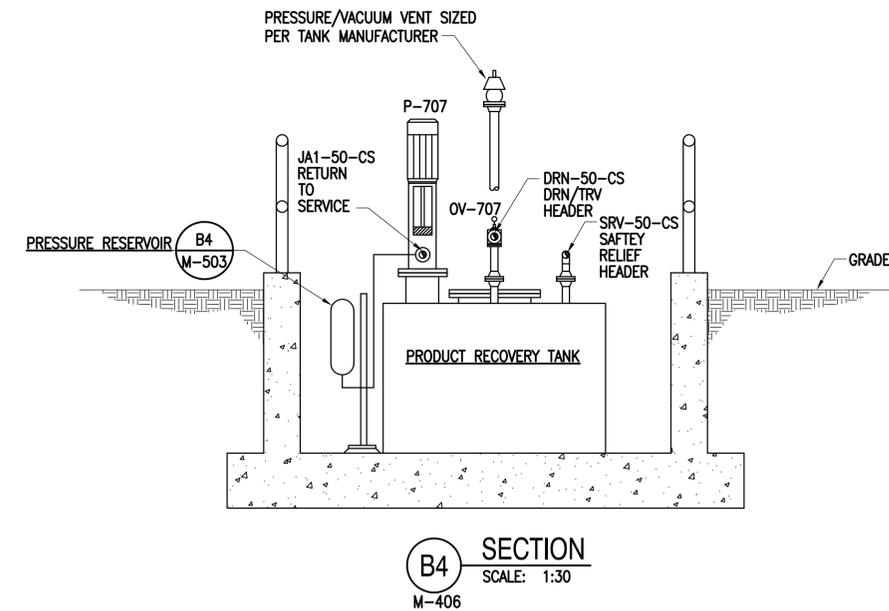
DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
LANT CAPITAL IMPROVEMENTS
CAMP LEMONNIER
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NORFOLK, VIRGINIA
DUBOULT AFRICA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
REFUELER TRUCK LOADING PLAN

SCALE: AS NOTED
PROJECT NO.: 1344008
CONSTR. CONTR. NO.: N62470-16-R-6004
NAVFAC DRAWING NO.: 14047093
SHEET 129 OF 186
M-405
DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-406 PRODUCT RECOVERY TANK.dwg LAYOUT NAME: PRODUCT RECOVERY TANK PLOTTED: Friday, May 06, 2016 - 10:42am USER: rhopkins



- NOTES:
1. WATER DRAW OFF NOZZLE WITH HAND PUMP BEHIND SHOWN OUT OF POSITION.
 2. SPARE NOZZLE BEHIND NOT SHOWN.
 3. PROVIDE STILLING WELL WITH (4) Ø15 HOLES.
 4. PROVIDE TANK FILL NOZZLES (SRV AND DRN/TRV) WITH INTERNAL FILL LINE TERMINATING 100 ABOVE TANK FLOOR. PROVIDE STRIKER PLATE UNDER BOTH NOZZLES.
 5. NOT ALL TANK APPURTENANCES SHOWN.

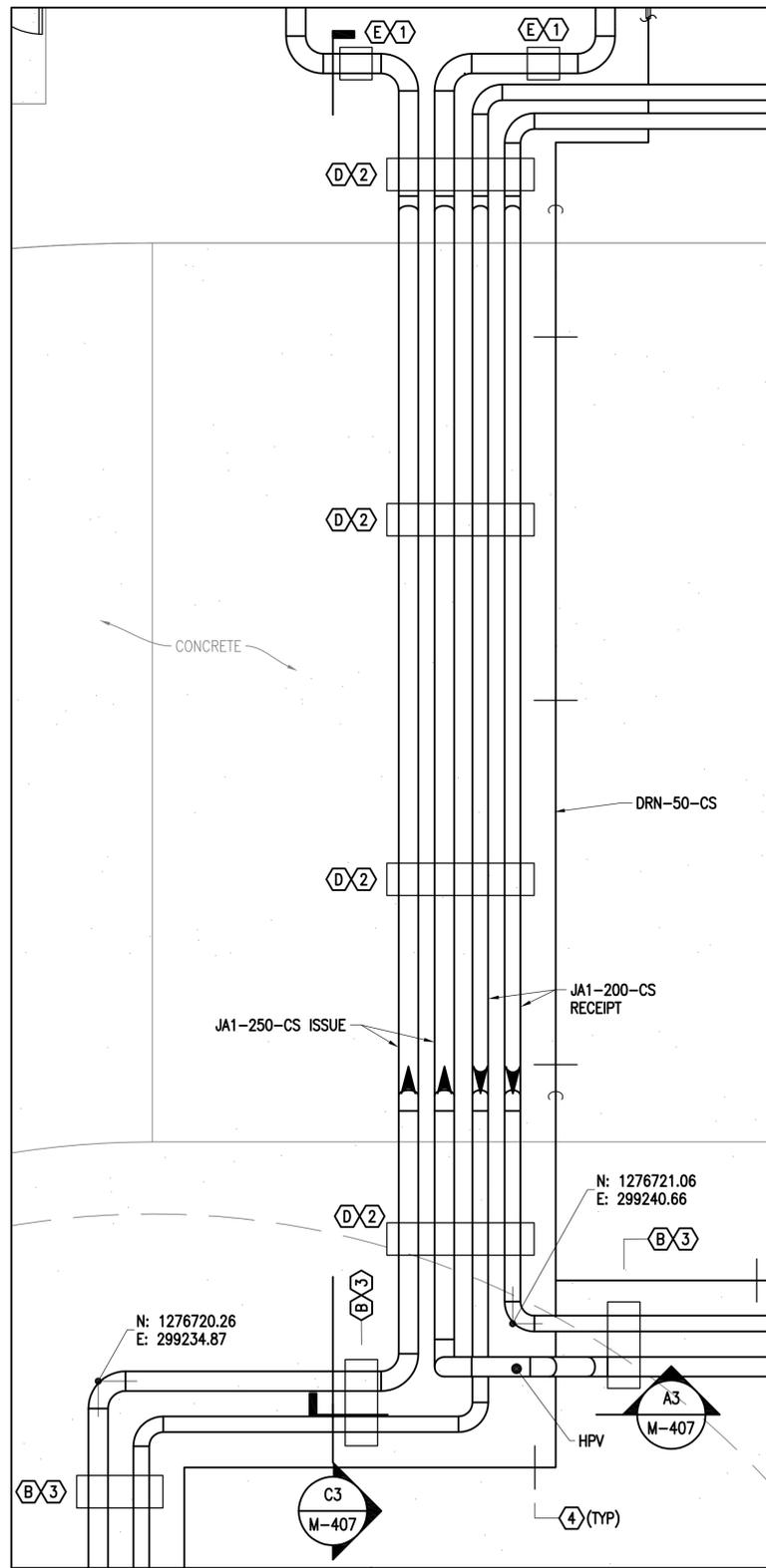


GRAPHIC SCALE(S):

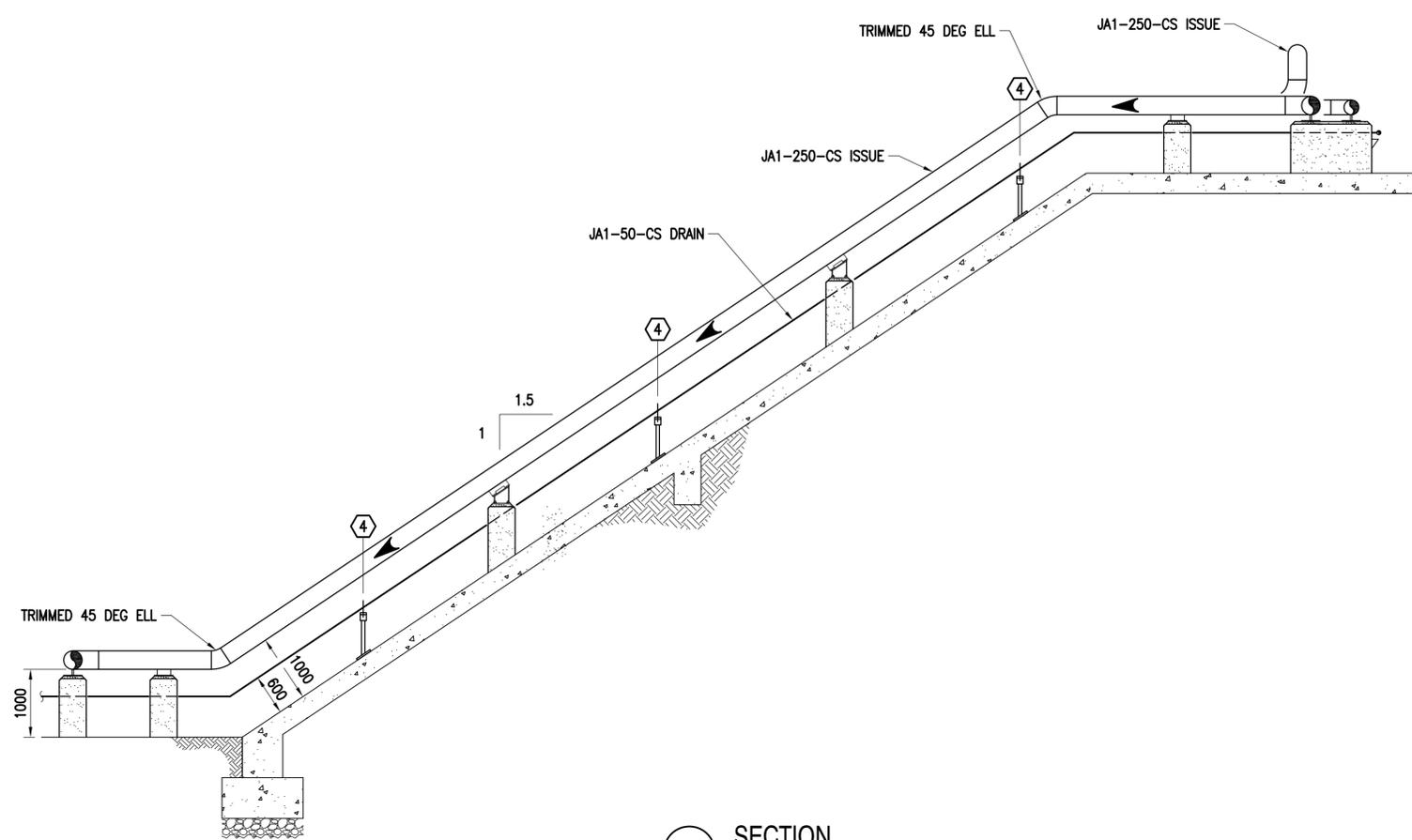


APPROVED	DATE	APPR
DESCRIPTION	DATE	APPR
SYN	DATE	APPR
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC		
ACTIVITY	APPROVED BY ANDREA LEMON VIA EMAIL	
SATISFACTORY TO DATE 4/4/16		
DESIGNER	DRW	CHK
PM/OM	LET/REV	WVB
BRANCH MANAGER		
DESIGN DIRECTOR	R.B. FITCH, III P.E.	
FIRE PROTECTION		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	DIBOUTI AFRICA
LANT CAPITAL IMPROVEMENTS	NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC	NORFOLK, VIRGINIA
CAMP LEMONNIER	DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES	
	PRODUCT RECOVERY TANK	
SCALE:	AS NOTED	
PROJECT NO.:	1344008	
CONSTR. CONTR. NO.		
	N62470-16-R-6004	
NAVFAC DRAWING NO.	14047094	
SHEET	130	OF 186
M-406		
<small>DRAWFORM REVISION: 10 MARCH 2009</small>		

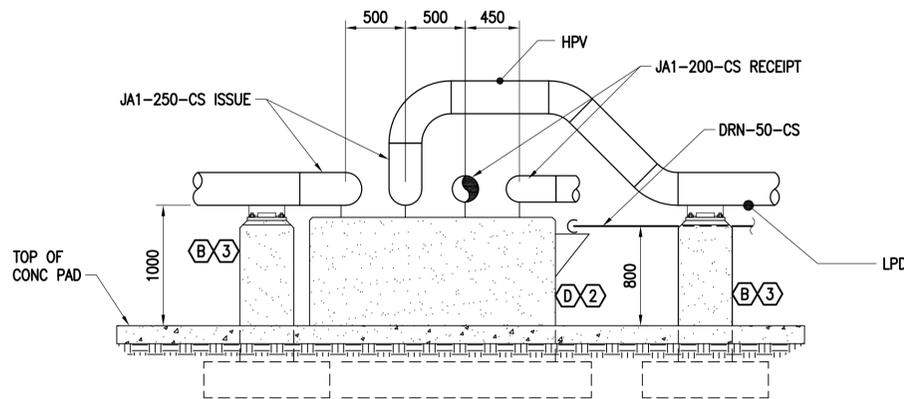
FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-407 PUMPHOUSE AREA PIPING PLAN.dwg LAYOUT NAME: PUMPHOUSE AREA PIPING PLAN PLOTTED: Friday, May 06, 2016 - 10:43am USER: rhopkins



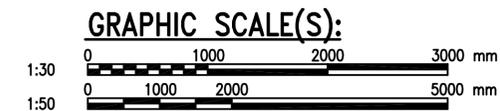
PLAN NORTH
A1
PUMPHOUSE AREA PIPING PLAN
 SCALE: 1:50
 M-105

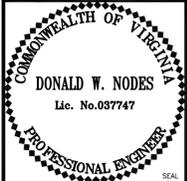


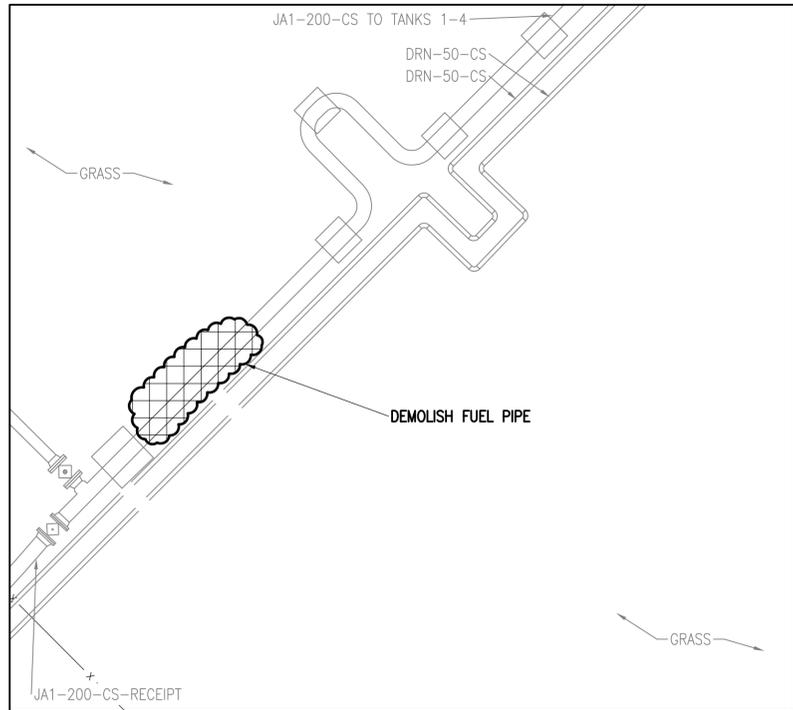
C3 SECTION
 SCALE: 1:50
 M-407



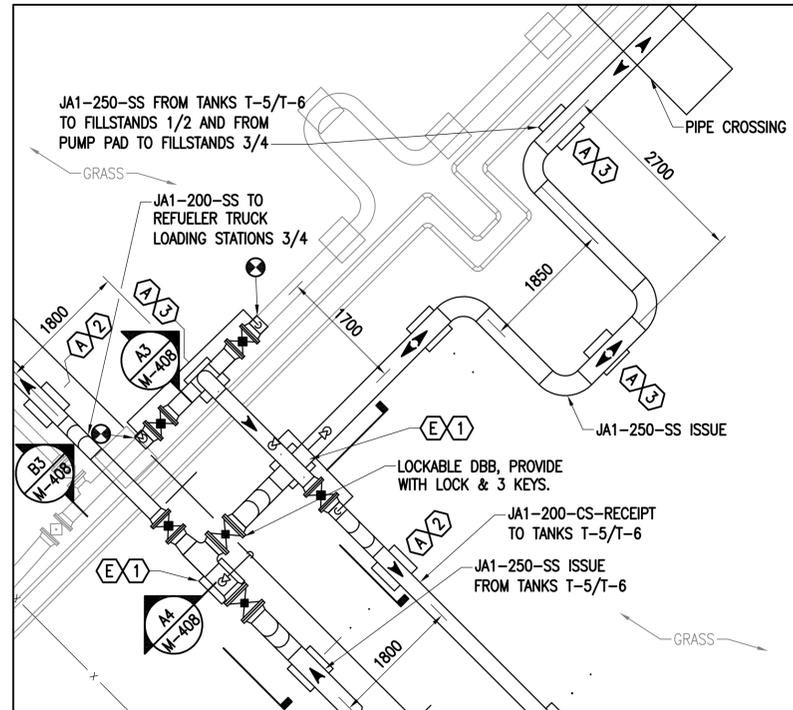
A3 SECTION
 SCALE: 1:30
 M-407



APPROVED	DATE	APPR
DESCRIPTION	DATE	APPR
SYN	DESCRIPTION	SYN
 NAVFAC  DONALD W. NODES Lic. No. 037747 PROFESSIONAL ENGINEER SEAL		
 Brockenbrough ENGINEERING - CONSULTING A/E INFO		
APPROVED	DATE	APPR
FOR COMMANDER NAVFAC	DATE	APPR
ACTIVITY	DATE	APPR
APPROVED BY ANDREA LEMON VIA EMAIL	DATE	APPR
SATISFACTORY TO	DATE	APPR
DES: DWN DRW: WMC CHK: WVB	DATE	APPR
PM/DM: LET/RES	DATE	APPR
BRANCH MANAGER	DATE	APPR
DESIGN DIRECTOR: R.B. FITCH, III P.E.	DATE	APPR
FIRE PROTECTION		
NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC NORFOLK, VIRGINIA DUBOITI AFRICA CAMP LEMONNIER DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES PUMPHOUSE AREA PIPING PLAN		
SCALE: AS NOTED	PROJECT NO.: 1344008	CONSTR. CONTR. NO.
	N62470-16-R-6004	NAVFAC DRAWING NO. 14047095
	SHEET 131 OF 186	M-407
DRAWFORM REVISION: 10 MARCH 2009		



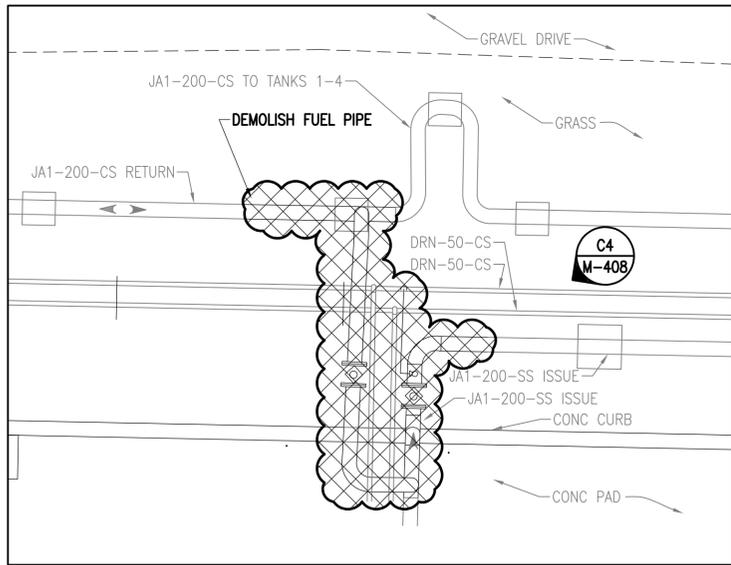
C1 RECEIPT CONNECTION - DEMOLITION
SCALE: 1:50
MD102



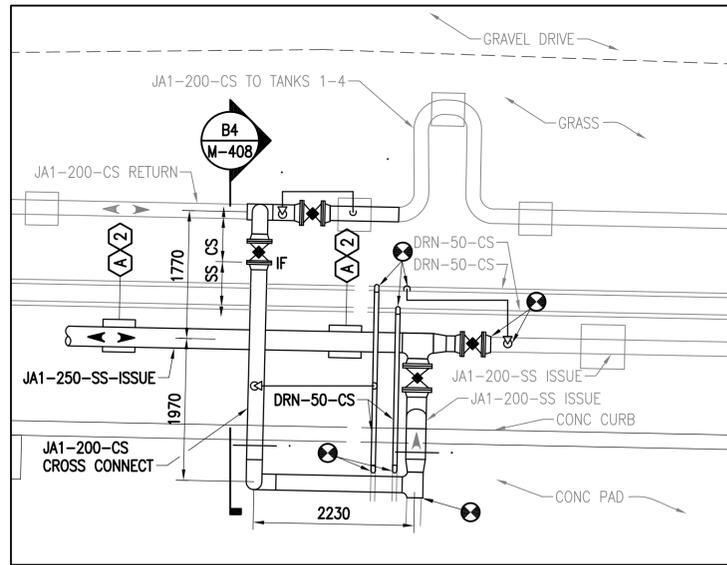
C2 ISSUE CONNECTION - NEW WORK
SCALE: 1:50
M-104



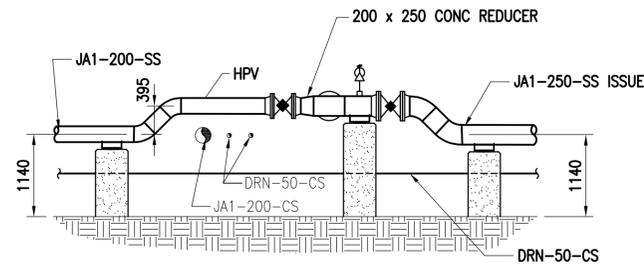
C4 PHOTOGRAPH
SCALE: NONE
M-408



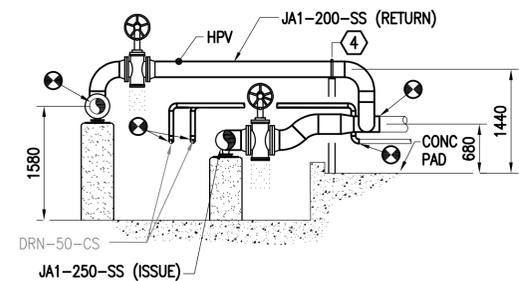
A1 ISSUE CONNECTION - DEMOLITION
SCALE: 1:50
MD102



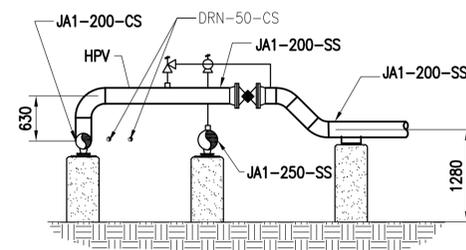
A2 ISSUE CONNECTION - NEW WORK
SCALE: 1:50
M-104



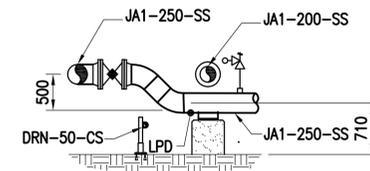
B3 SECTION
SCALE: 1:50
M-408



B4 SECTION
SCALE: 1:50
M-408

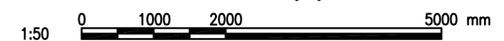


A3 SECTION
SCALE: 1:50
M-408

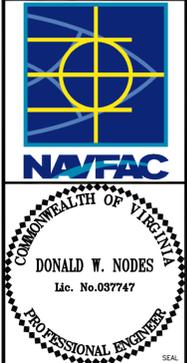


A4 SECTION
SCALE: 1:50
M-408

GRAPHIC SCALE(S):



SYN	DESCRIPTION	DATE	APPR



Brockenbrough
ENGINEERING • CONSULTING

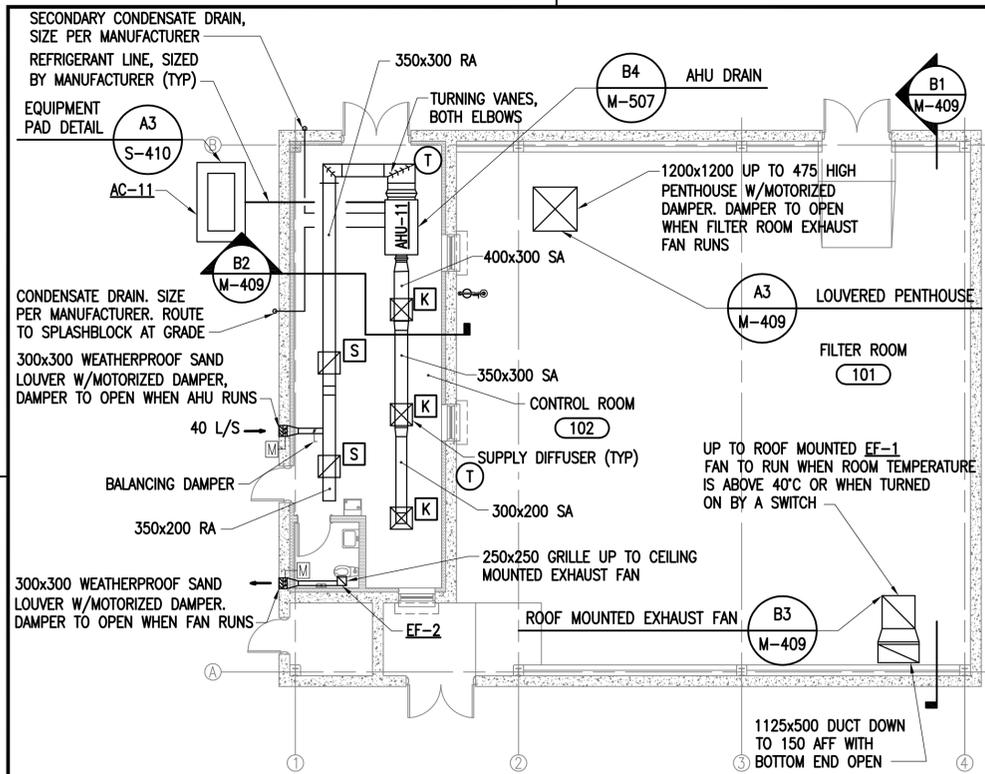
APPROVED
FOR COMMANDER NAVFAC
ACTIVITY
APPROVED BY ANDREA LEMON
VIA EMAIL
SATISFACTORY TO DATE 4/4/16
DES DWN | DRW WMC | CHK WVB
PM/DM LET/PER
BRANCH MANAGER
DESIGN DIRECTOR R.B. FITCH, III P.E.
FIRE PROTECTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
LANIT CAPITAL IMPROVEMENTS
CAMP LEMONNIER
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA
DUBOULT AFRICA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
PIPING CONNECTIONS

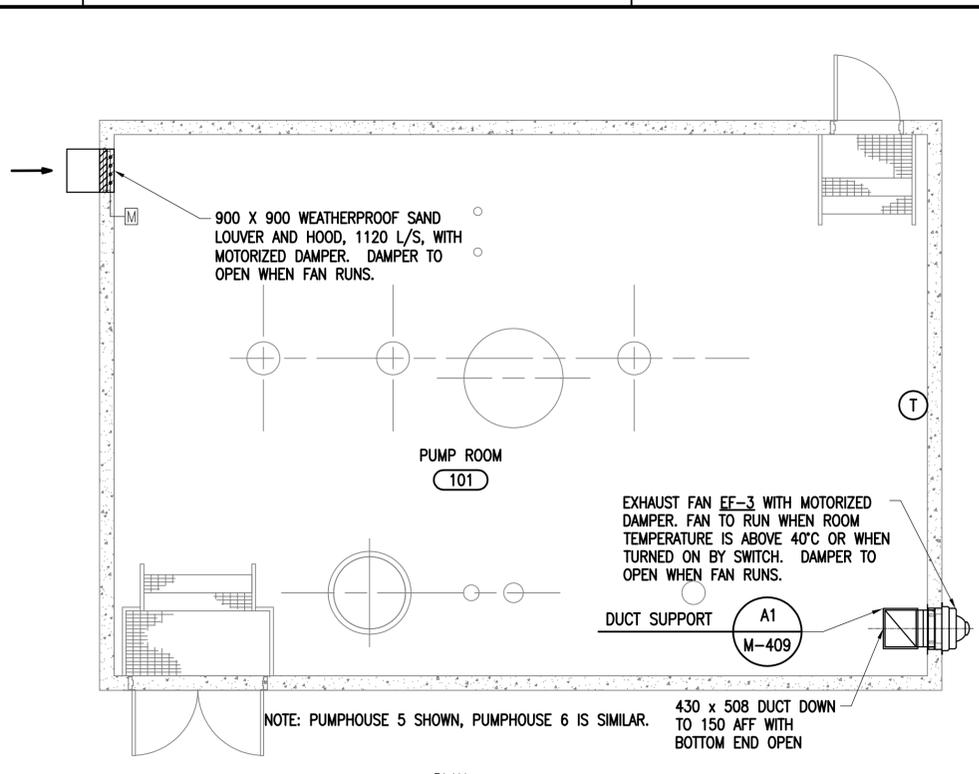
SCALE: AS NOTED
PROJECT NO.: 1344008
CONSTR. CONTR. NO.
N62470-16-R-6004
NAVFAC DRAWING NO.
14047096
SHEET 132 OF 186
M-408
DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Djibouti - Fuel Storage Facility - NAVFAC LANIT\CAD AutoCAD\M-408 PIPING CONNECTIONS.dwg LAYOUT NAME: PIPING CONNECTIONS PLOTTED: Friday, May 06, 2016 - 10:43am USER: rhopkins

FILE NAME: G:\14 Jobs\14-013 Dlubat - Filter Storage Facility - NAVFAC LANTCOM AutoCAD\M-409 FILTER BLDG & PUMP HOUSE HVAC PLAN AND DETAILS.dwg LAYOUT NAME: FILTER BLDG & PUMP HOUSE HVAC PLAN AND DETAILS PLOTTED: Friday, May 06, 2016 - 10:44am USER: mhopkins



PLAN NORTH
↑
FILTER BUILDING HVAC PLAN
 SCALE: 1:100



PLAN NORTH
↑
PUMPHOUSE HVAC PLAN
 SCALE: 1:50

HVAC NOTES:

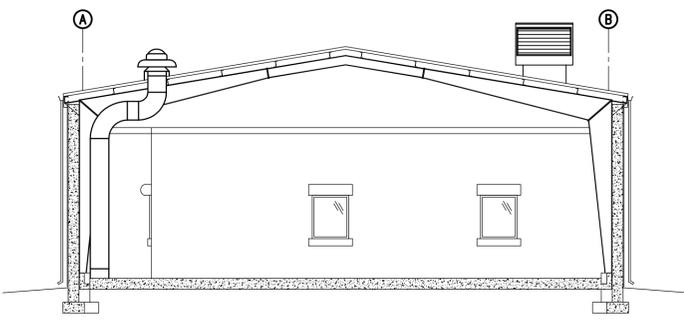
1. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO SHOW THE EXACT LOCATIONS OF COMPONENTS, NOR SHOW ALL SYSTEM COMPONENTS. CONTRACTOR SHALL VERIFY STRUCTURAL AND ELECTRICAL INSTALLATIONS AND DRAWINGS TO AVOID OBSTRUCTIONS OR INTERFERENCE.
2. MOUNT ALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
3. ALL DUCT TO EQUIPMENT CONNECTIONS SHALL BE MADE WITH FLEXIBLE CONNECTORS.
4. ALL DUCT SHALL HAVE 50mm EXTERNAL INSULATION.
5. ALL REFRIGERANT AND CONDENSATE PIPING SHALL BE ROUTED IN THE WALLS OR ABOVE THE CEILING UNLESS OTHERWISE INDICATED.

SEQUENCE OF OPERATIONS:

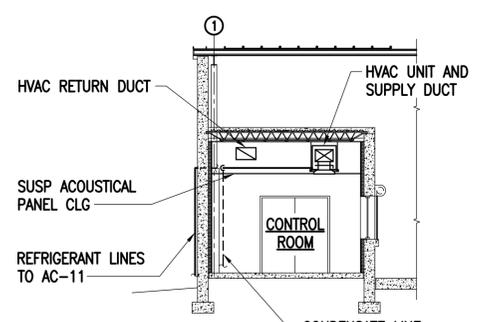
- EF-1 SEQUENCE OF OPERATION:**
 EXHAUST FAN SHALL RUN WHEN TEMPERATURE IN SPACE REACHES 40°C OR WHEN TURNED ON BY SWITCH. EXHAUST FAN IS INTERLOCKED WITH MOTORIZED DAMPER IN PENTHOUSE.
- EF-2 SEQUENCE OF OPERATION:**
 EXHAUST FAN SHALL RUN WHEN TURNED ON BY SWITCH. EXHAUST FAN IS INTERLOCKED WITH MOTORIZED DAMPER.
- EF-3/EF-4 SEQUENCE OF OPERATION:**
 EXHAUST FAN SHALL RUN WHEN TEMPERATURE IN SPACE REACHES 40°C OR WHEN TURNED ON BY SWITCH. EXHAUST FAN IS INTERLOCKED WITH MOTORIZED DAMPER.
- AHU/AC SEQUENCE OF OPERATION:**
 AHU FAN SHALL RUN CONTINUOUSLY. AC SHALL BE CYCLED ON AND OFF AS CALLED FOR BY THE THERMOSTAT AND THE MANUFACTURER'S STANDARD CONTROL SEQUENCE.

MECHANICAL ABBREVIATIONS

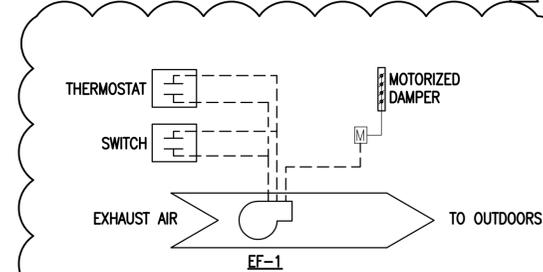
A	AMPS	LAT	LEAVING AIR TEMP
AC	AIR CONDITIONING CONDENSING UNIT	MCA	MINIMUM CIRCUIT AMPACITY
AHU	AIR HANDLING UNIT	MECH	MECHANICAL
C	CELSIUS	MIN	MINIMUM
CO	CLEANOUT	MOCOP	MAXIMUM OVER CIRCUIT PROTECTION
DB	DRY BULB	OA	OUTSIDE AIR
ELEC	ELECTRICAL	PA	PASCAL
EA	EXHAUST AIR	PERF	PERFORATED
EAT	ENTERING AIR TEMP	RH	RELATIVE HUMIDITY
EER	ENERGY EFFICIENCY RATIO	SA	SUPPLY AIR
EF	EXHAUST FAN	SP	STATIC PRESSURE
ERV	ENERGY RECOVERY VENTILATOR	TEMP	TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE	TYP	TYPICAL
FH	FUME HOOD	W/	WITH
HZ	HERTZ	WB	WET BULB
JAN	JANITOR	%	PERCENT
KW	KILOWATT	.	DEGREES
L/S	LITERS PER SECOND		



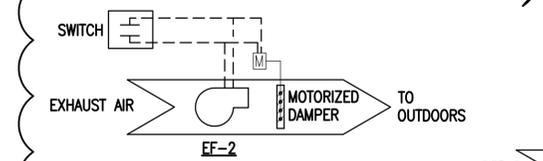
B1 SECTION
 SCALE: 1:100
 M-409



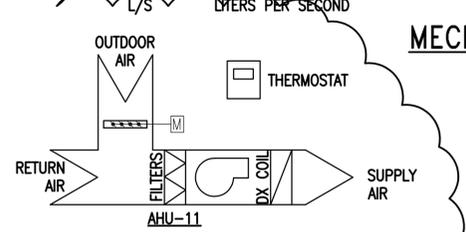
B2 SECTION
 SCALE: 1:100
 M-409



EF-1 CONTROL SCHEMATIC
 TYPICAL OF EF-3 AND EF-4



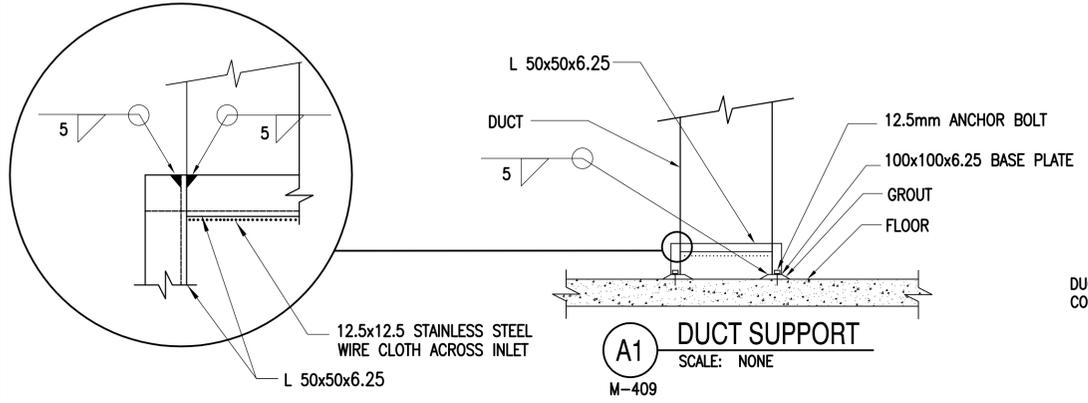
EF-2 CONTROL SCHEMATIC



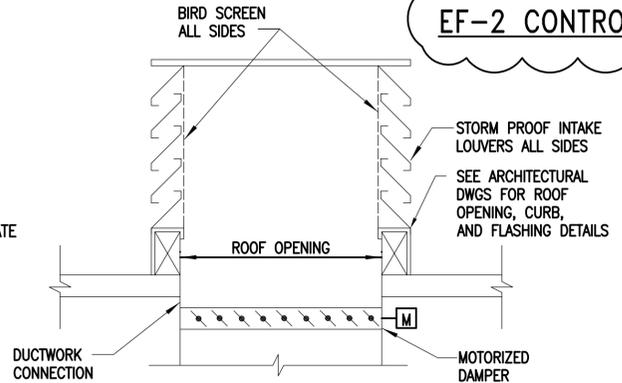
AHU-11 CONTROL SCHEMATIC

MECHANICAL (HVAC) LEGEND

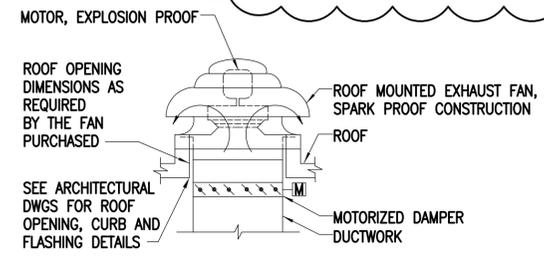
- DUCT
- FLEXIBLE DUCT
- ⊗ SUPPLY DIFFUSER
- ⊗ EXHAUST/RETURN GRILLE
- ⊗ THERMOSTAT
- ⊗ CAP
- ⊗ MOTORIZED DAMPER
- ▲ DOOR UNDERCUT



A1 DUCT SUPPORT
 SCALE: NONE
 M-409

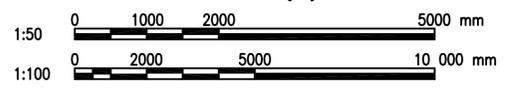


A3 LOUVERED PENTHOUSE
 SCALE: NONE
 M-409



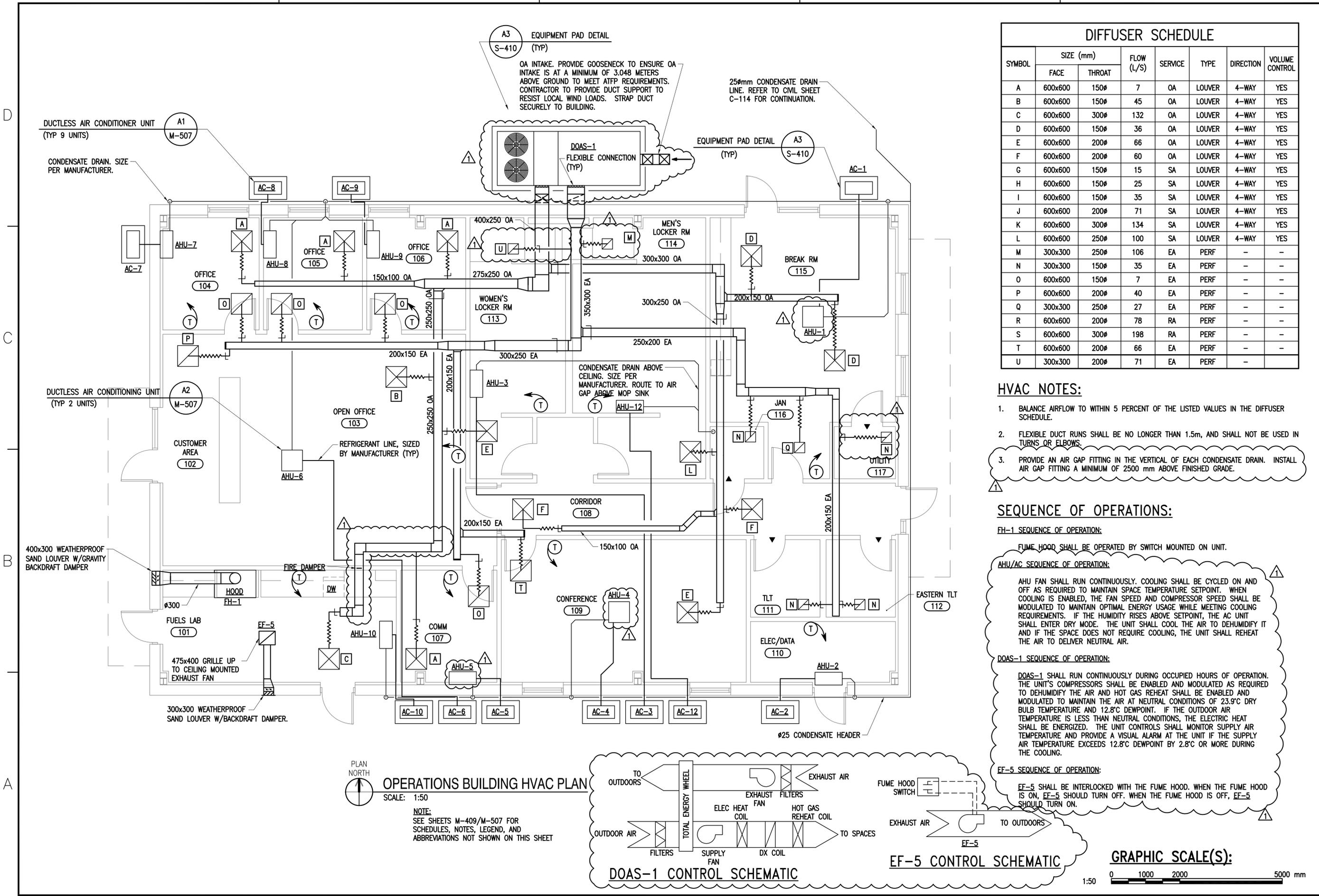
B3 ROOF MOUNTED EXHAUST FAN
 SCALE: NONE
 M-409

GRAPHIC SCALE(S):



APPROVED: [Signature]
 DATE: 4/29/16
 DESCRIPTION: ADDED CONTROL SCHEMATICS
 NAVFAC
 COMMONWEALTH OF VIRGINIA
 WILLIAM R. HERRMANN
 Lic. No. 045837
 PROFESSIONAL ENGINEER
 Austin
 Brockenbrough
 ENGINEERING - CONSULTING
 APPROVED: [Signature]
 FOR COMMANDER NAVFAC
 ACTIVITY: APPROVED BY ANDREA LEMON VIA EMAIL
 SATISFACTORY TO: DATE 4/4/16
 DES: WRH | DRW: WMG | CHK: WVB
 PM/DM: [Signature]
 BRANCH MANAGER
 DESIGN DIRECTOR: R.B. FITCH, III P.E.
 FIRE PROTECTION
 DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
 NORFOLK, VIRGINIA
 LANT CAPITAL IMPROVEMENTS
 CAMP LEMONIER
 DUBOULT AFRICA
 DESC 1701/P-1701
 CONSTRUCT FUEL STORAGE FACILITIES
 FILTER BLDG & PUMP HOUSE HVAC PLAN AND DETAILS
 SCALE: AS NOTED
 EPROJCT NO.: 1344008
 CONSTR. CONTR. NO.: N62470-16-R-6004
 NAVFAC DRAWING NO.: 14047097
 SHEET 133 OF 186
 M-409
 DRAWFORM REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Dhhout - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\M-410 OPERATIONS BUILDING HVAC PLAN AND DETAILS.dwg LAYOUT NAME: OPERATIONS BUILDING HVAC PLAN AND DETAILS PLOTTED: Friday, May 06, 2016 - 10:44am USER: rhopkins



A3 EQUIPMENT PAD DETAIL (TYP)
S-410
 OA INTAKE. PROVIDE GOOSENECK TO ENSURE OA INTAKE IS AT A MINIMUM OF 3.048 METERS ABOVE GROUND TO MEET ATFP REQUIREMENTS. CONTRACTOR TO PROVIDE DUCT SUPPORT TO RESIST LOCAL WIND LOADS. STRAP DUCT SECURELY TO BUILDING.

25mm CONDENSATE DRAIN LINE. REFER TO CIVIL SHEET C-114 FOR CONTINUATION.

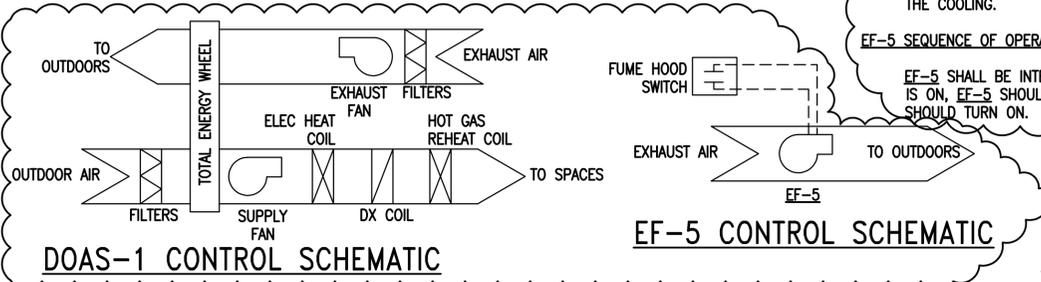
DIFFUSER SCHEDULE							
SYMBOL	SIZE (mm)		FLOW (L/S)	SERVICE	TYPE	DIRECTION	VOLUME CONTROL
	FACE	THROAT					
A	600x600	150φ	7	OA	LOUVER	4-WAY	YES
B	600x600	150φ	45	OA	LOUVER	4-WAY	YES
C	600x600	300φ	132	OA	LOUVER	4-WAY	YES
D	600x600	150φ	36	OA	LOUVER	4-WAY	YES
E	600x600	200φ	66	OA	LOUVER	4-WAY	YES
F	600x600	200φ	60	OA	LOUVER	4-WAY	YES
G	600x600	150φ	15	SA	LOUVER	4-WAY	YES
H	600x600	150φ	25	SA	LOUVER	4-WAY	YES
I	600x600	150φ	35	SA	LOUVER	4-WAY	YES
J	600x600	200φ	71	SA	LOUVER	4-WAY	YES
K	600x600	300φ	134	SA	LOUVER	4-WAY	YES
L	600x600	250φ	100	SA	LOUVER	4-WAY	YES
M	300x300	250φ	106	EA	PERF	-	-
N	300x300	150φ	35	EA	PERF	-	-
O	600x600	150φ	7	EA	PERF	-	-
P	600x600	200φ	40	EA	PERF	-	-
Q	300x300	250φ	27	EA	PERF	-	-
R	600x600	200φ	78	RA	PERF	-	-
S	600x600	300φ	198	RA	PERF	-	-
T	600x600	200φ	66	EA	PERF	-	-
U	300x300	200φ	71	EA	PERF	-	-

HVAC NOTES:

- BALANCE AIRFLOW TO WITHIN 5 PERCENT OF THE LISTED VALUES IN THE DIFFUSER SCHEDULE.
- FLEXIBLE DUCT RUNS SHALL BE NO LONGER THAN 1.5m, AND SHALL NOT BE USED IN TURNS OR ELBOWS.
- PROVIDE AN AIR GAP FITTING IN THE VERTICAL OF EACH CONDENSATE DRAIN. INSTALL AIR GAP FITTING A MINIMUM OF 2500 mm ABOVE FINISHED GRADE.

SEQUENCE OF OPERATIONS:

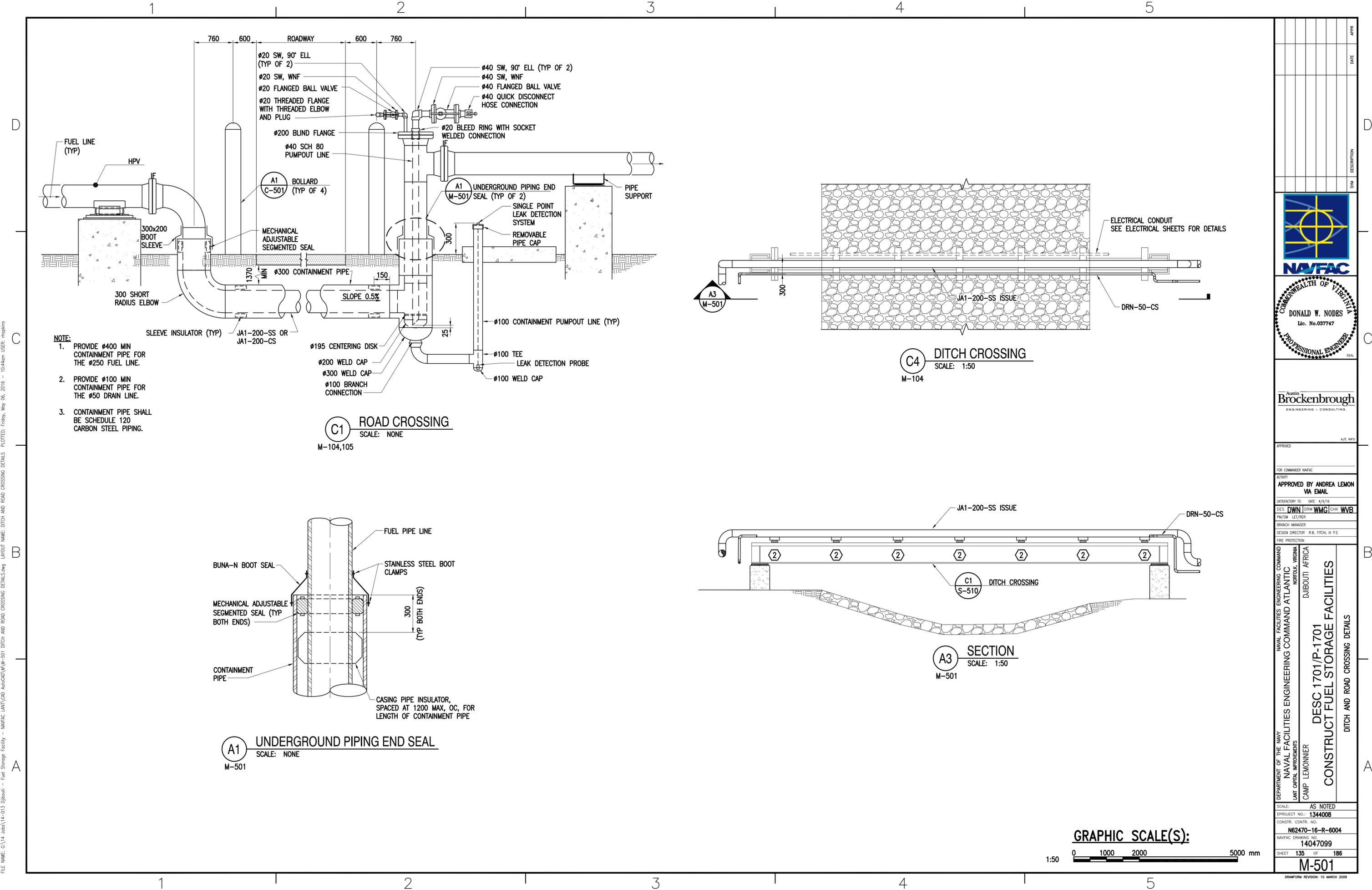
- FH-1 SEQUENCE OF OPERATION:**
 FUME HOOD SHALL BE OPERATED BY SWITCH MOUNTED ON UNIT.
- AHU/AC SEQUENCE OF OPERATION:**
 AHU FAN SHALL RUN CONTINUOUSLY. COOLING SHALL BE CYCLED ON AND OFF AS REQUIRED TO MAINTAIN SPACE TEMPERATURE SETPOINT. WHEN COOLING IS ENABLED, THE FAN SPEED AND COMPRESSOR SPEED SHALL BE MODULATED TO MAINTAIN OPTIMAL ENERGY USAGE WHILE MEETING COOLING REQUIREMENTS. IF THE HUMIDITY RISES ABOVE SETPOINT, THE AC UNIT SHALL ENTER DRY MODE. THE UNIT SHALL COOL THE AIR TO DEHUMIDIFY IT AND IF THE SPACE DOES NOT REQUIRE COOLING, THE UNIT SHALL REHEAT THE AIR TO DELIVER NEUTRAL AIR.
- DOAS-1 SEQUENCE OF OPERATION:**
 DOAS-1 SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS OF OPERATION. THE UNIT'S COMPRESSORS SHALL BE ENABLED AND MODULATED AS REQUIRED TO DEHUMIDIFY THE AIR AND HOT GAS REHEAT SHALL BE ENABLED AND MODULATED TO MAINTAIN THE AIR AT NEUTRAL CONDITIONS OF 23.9°C DRY BULB TEMPERATURE AND 12.8°C DEWPOINT. IF THE OUTDOOR AIR TEMPERATURE IS LESS THAN NEUTRAL CONDITIONS, THE ELECTRIC HEAT SHALL BE ENERGIZED. THE UNIT CONTROLS SHALL MONITOR SUPPLY AIR TEMPERATURE AND PROVIDE A VISUAL ALARM AT THE UNIT IF THE SUPPLY AIR TEMPERATURE EXCEEDS 12.8°C DEWPOINT BY 2.8°C OR MORE DURING THE COOLING.
- EF-5 SEQUENCE OF OPERATION:**
 EF-5 SHALL BE INTERLOCKED WITH THE FUME HOOD. WHEN THE FUME HOOD IS ON, EF-5 SHOULD TURN OFF. WHEN THE FUME HOOD IS OFF, EF-5 SHOULD TURN ON.



OPERATIONS BUILDING HVAC PLAN
 SCALE: 1:50
 NOTE: SEE SHEETS M-409/M-507 FOR SCHEDULES, NOTES, LEGEND, AND ABBREVIATIONS NOT SHOWN ON THIS SHEET

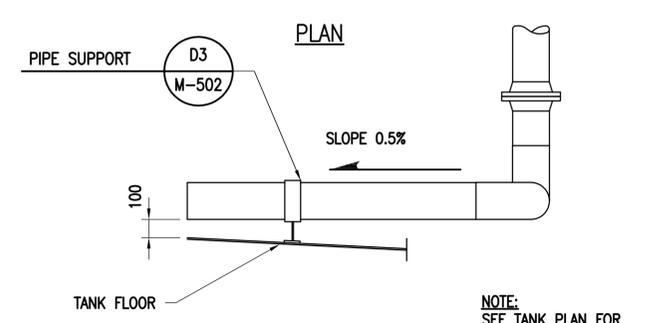
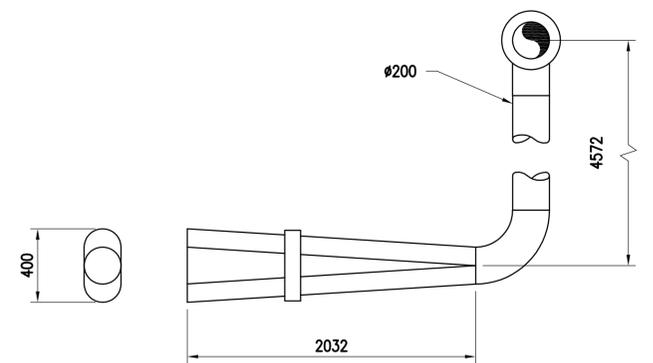
GRAPHIC SCALE(S):
 0 1000 2000 5000 mm
 1:50

APPROVED	DATE	4/29/16
MISC REVISIONS	DESCRIPTION	
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC	ACTIVITY	APPROVED BY ANDREA LEMON VIA EMAIL
SATISFACTORY TO	DATE	4/4/16
DES	WRH	DRW
PM/DM	LET/PER	CHK
BRANCH MANAGER		WVB
DESIGN DIRECTOR	R.B. FITZ	III P.E.
FIRE PROTECTION		
DEPARTMENT OF THE NAVY	NAVAL FACILITIES ENGINEERING COMMAND	DUBOULT AFRICA
LANT CAPITAL IMPROVEMENTS	NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC	NORFOLK, VIRGINIA
CAMP LEMONIER		
DESC 1701/P-1701		
CONSTRUCT FUEL STORAGE FACILITIES		
OPERATIONS BUILDING HVAC PLAN AND DETAILS		
SCALE:	AS NOTED	
PROJECT NO.:	1344008	
CONSTR. CONTR. NO.:	N62470-16-R-6004	
NAVFAC DRAWING NO.:	14047098	
SHEET	134	OF 186
M-410		
DRAWING REVISION: 10 MARCH 2009		

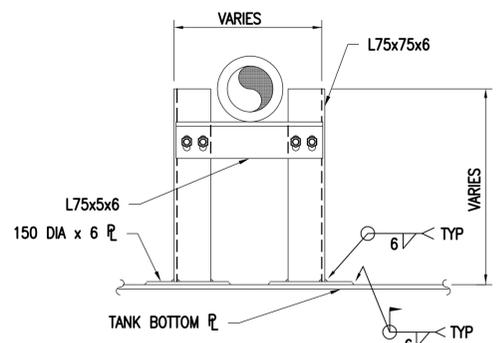


FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT/CAD AutoCAD\M-501 DITCH AND ROAD CROSSING DETAILS.dwg LAYOUT NAME: DITCH AND ROAD CROSSING DETAILS PLOTTED: Friday, May 06, 2016 - 10:44am USER: mhoppers

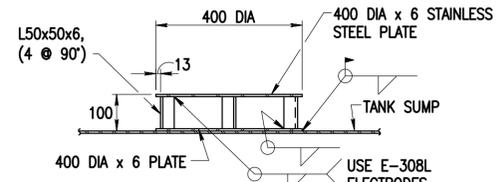
1 2 3 4 5



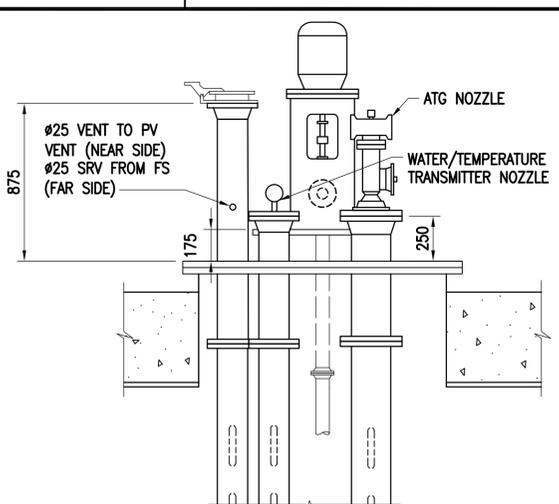
C1 **FILL PIPE**
SCALE: NONE
M-402



D3 **PIPE SUPPORT**
SCALE: 1:10
M-502

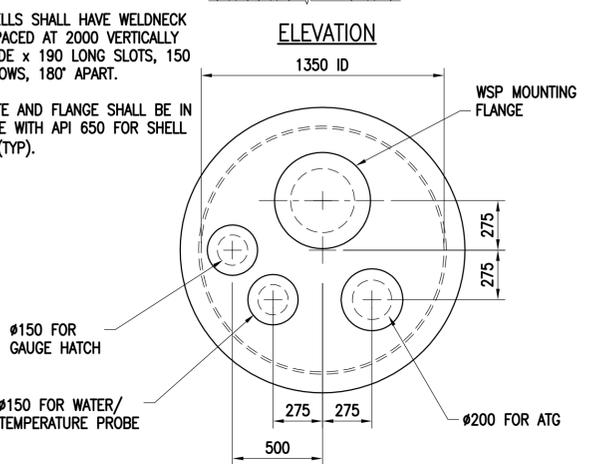


C3 **BEARING TABLE**
SCALE: NONE
M-402

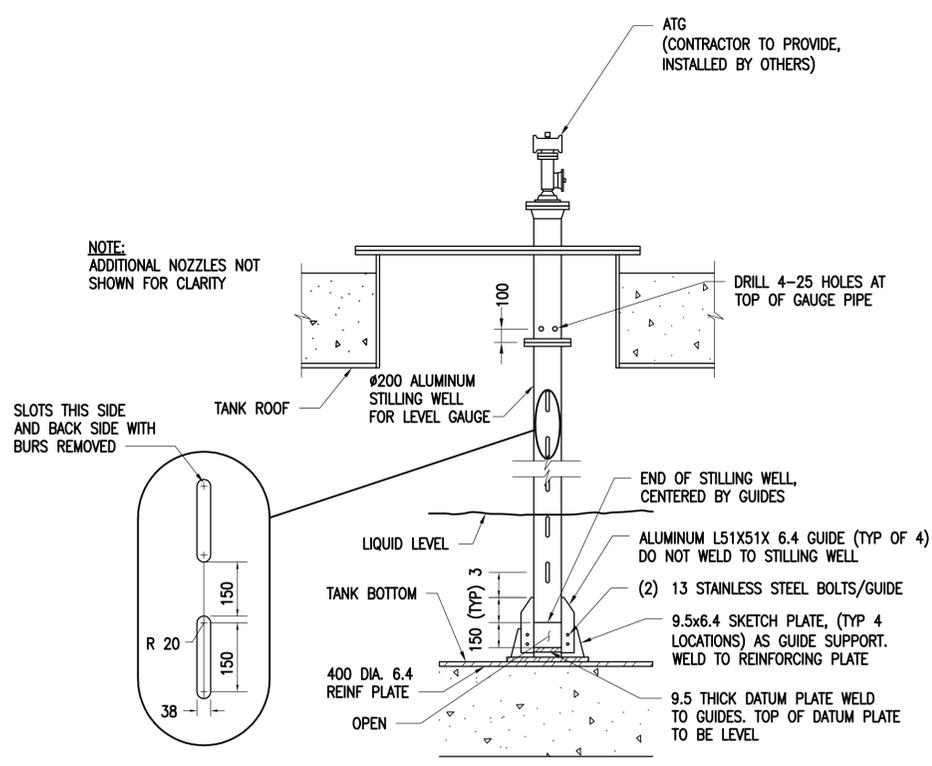


NOTES:

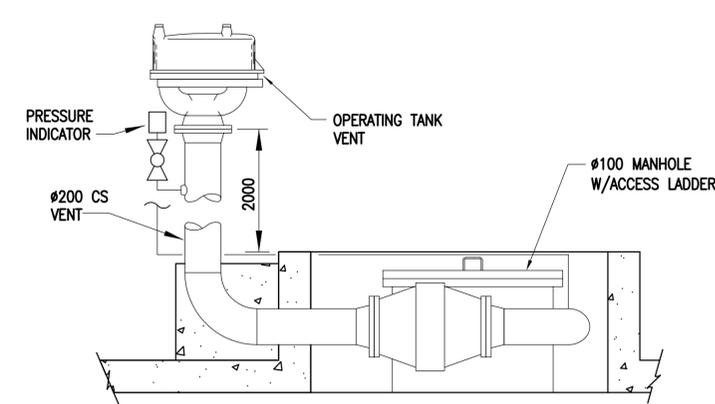
1. STILLING WELLS SHALL HAVE WELDNCK FLANGES SPACED AT 2000 VERTICALLY WITH 38 WIDE x 190 LONG SLOTS, 150 OC, IN 2 ROWS, 180° APART.
2. COVER PLATE AND FLANGE SHALL BE IN ACCORDANCE WITH API 650 FOR SHELL MANHOLES (TYP).



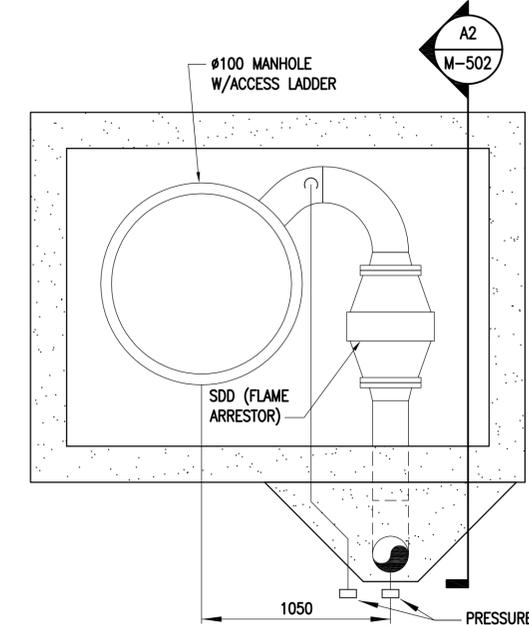
C4 **TANK FLANGE**
SCALE: 1:20
M-401



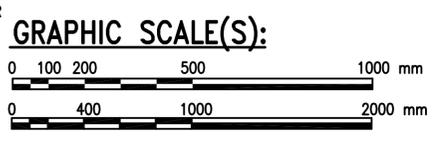
A1 **ATG STILLING WELL**
SCALE: NONE
M-402



A2 **SECTION**
SCALE: 1:20
M-502

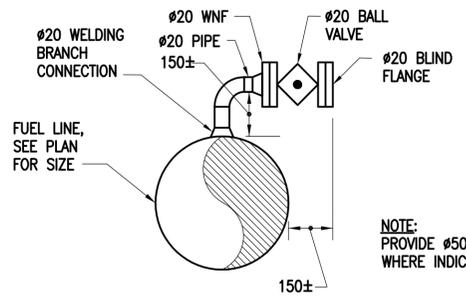


A4 **MANHOLE W/VENT**
SCALE: 1:20
M-401

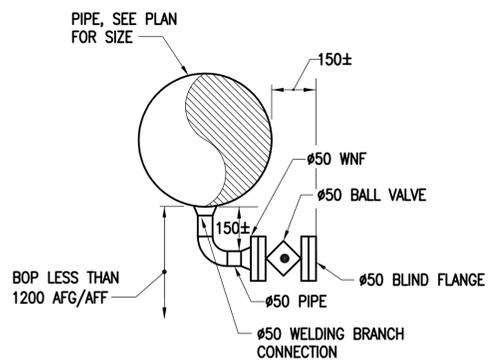


APPROVED	DATE	APPR
DESCRIPTION	DATE	APPR
SYN	DATE	APPR
APPROVED		
FOR COMMANDER NAVFAC		
ACTIVITY		
APPROVED BY ANDREA LEMON VIA EMAIL		
SATISFACTORY TO DATE 4/4/16		
DES DWN DRW WMC CHK WVB		
PM/DM LET/RES		
BRANCH MANAGER		
DESIGN DIRECTOR R.B. FITCH, III P.E.		
FIRE PROTECTION		
NAVAL FACILITIES ENGINEERING COMMAND	DUBOULT AFRICA	
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC	NORFOLK, VIRGINIA	
LANT CAPITAL IMPROVEMENTS		
CAMP LEONORRITTING TANK DETAILS		
CONSTRUCT FUEL STORAGE FACILITIES		
DESC 1701/P-1701		
OPERATING TANK DETAILS		
SCALE: AS NOTED	PROJECT NO.: 1344008	
CONSTR. CONTR. NO.	N62470-16-R-6004	
NAVFAC DRAWING NO.	14047100	
SHEET 136 OF 186		
M-502		
DRAWING REVISION: 10 MARCH 2009		

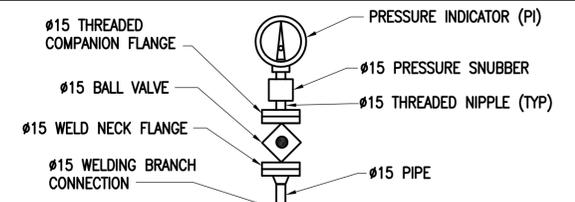
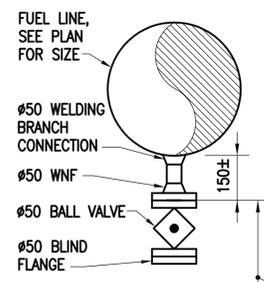
FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-502 OPERATING TANK DETAILS.dwg LAYOUT NAME: OPERATING TANK DETAILS PLOTTED: Friday, May 06, 2016 - 10:44am USER: rhpkins



D1 HIGH POINT VENT (HPV)
SCALE: NONE
M-001

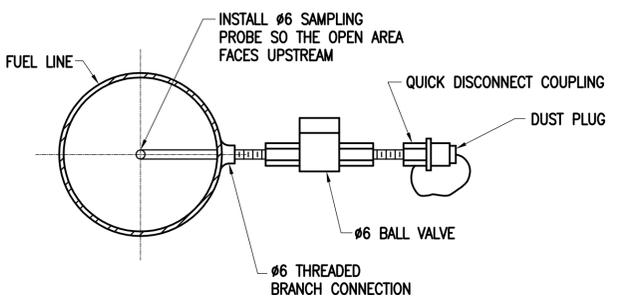


D3 LOW POINT DRAIN (LPD)
SCALE: NONE
M-001

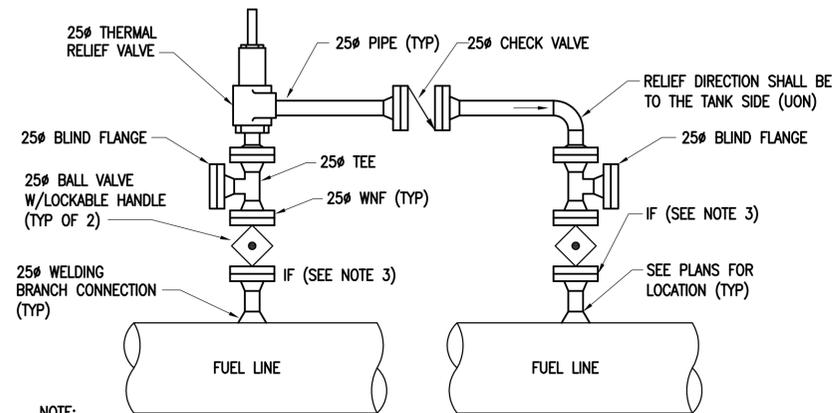


NOTE: UNLESS OTHERWISE INDICATED, PRESSURE INDICATORS ON THE DISCHARGE SIDE OF FUELING PUMPS SHALL HAVE A RANGE OF 0-2000 kPa. PRESSURE INDICATORS ON THE SUCTION SIDE OF FUELING PUMPS SHALL HAVE A RANGE OF 700 Hg VACUUM TO 400 kPa.

D5 PRESSURE INDICATOR (PI)
SCALE: NONE
M-001

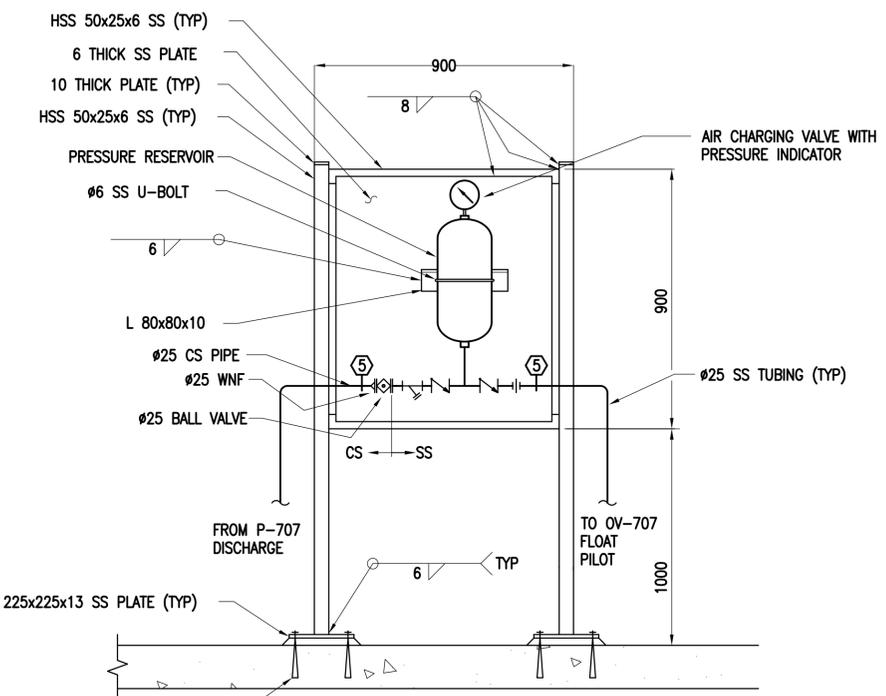


C1 FUEL SAMPLE POINT CONNECTION (FSP)
SCALE: NONE
M-001



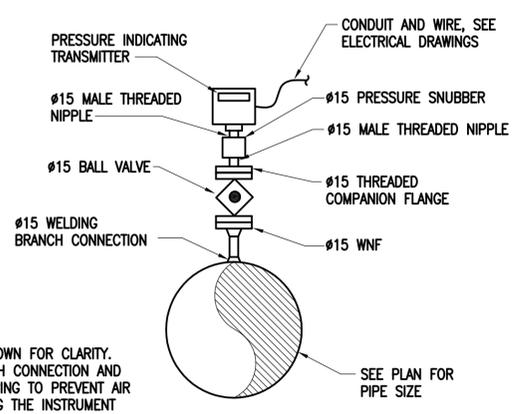
- NOTE:**
- ALL INTEGRAL AND EXTERNAL THERMAL RELIEF VALVES SHALL BE SET TO OPEN AT A PRESSURE OF 1500 kPa, UNLESS OTHERWISE INDICATED.
 - THERMAL RELIEF VALVES SHALL BE INSTALLED IN THE VERTICAL POSITION OR PER MANUFACTURERS INSTRUCTIONS.
 - PROVIDE AN INSULATING GASKET (IF) WHEN LOCATED ON CATHODICALLY PROTECTED FUEL LINES OR WHERE DISSIMILAR METALS ARE ENCOUNTERED (STAINLESS TO CARBON STEEL).

B2 THERMAL RELIEF VALVE (TRV)
SCALE: NONE
M-001



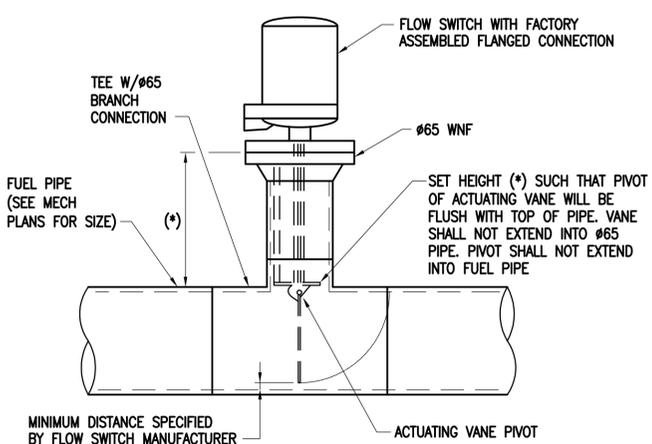
NOTES:
1. CHECK VALVES, STRAINER AND PRESSURE RESERVOIR SHALL BE PRODUCTS OF CONTROL VALVE MANUFACTURER.

B4 PRESSURE RESERVOIR
SCALE: NONE
M-406



NOTE: SCHEMATIC SHOWN FOR CLARITY. LOCATE BRANCH CONNECTION AND CONFIGURE PIPING TO PREVENT AIR FROM ENTERING THE INSTRUMENT

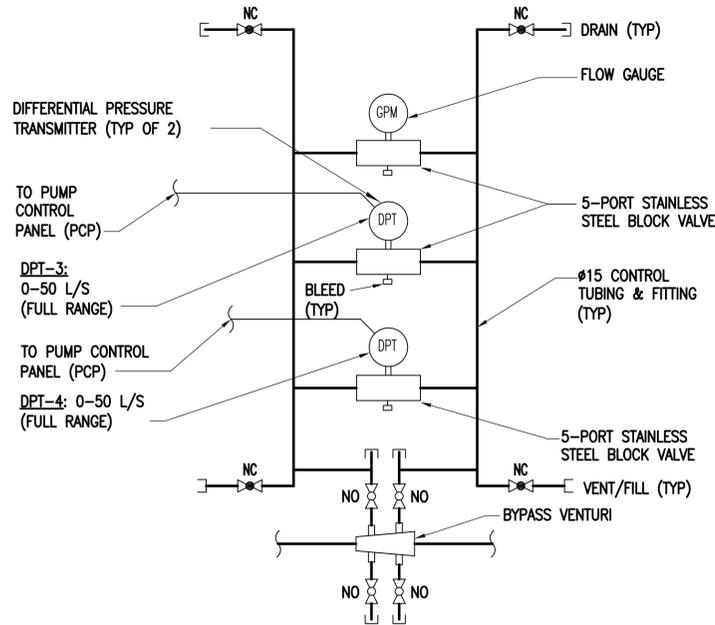
A1 PRESSURE INDICATING TRANSMITTER (PIT)
SCALE: NONE
M-001



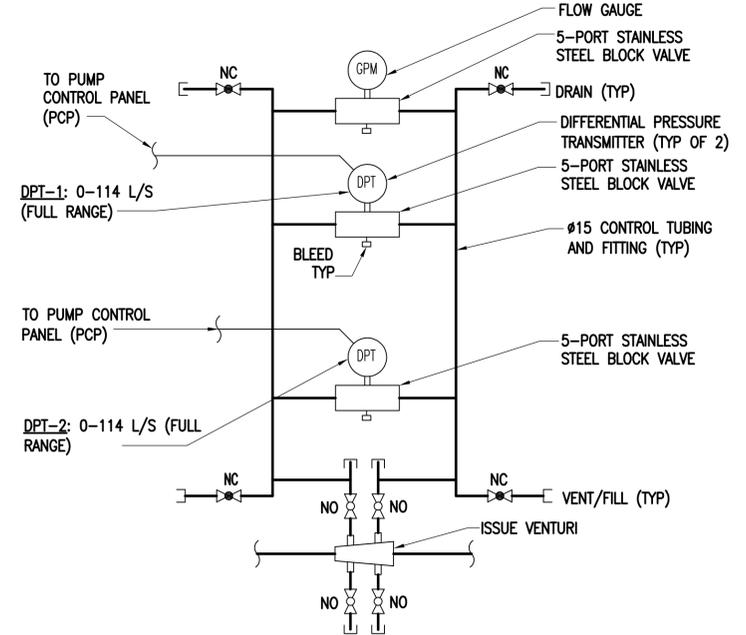
A2 FLOW SWITCH (FS)
SCALE: NONE

APPROVED	DATE	DESCRIPTION	SYN
APPROVED FOR COMMANDER NAVFAC ACTIVITY APPROVED BY ANDREA LEMON VIA EMAIL SATISFACTORY TO DATE 4/4/16 DES: DWN DRW: WMC CHK: WVB PM/DM: LET/RES BRANCH MANAGER DESIGN DIRECTOR: R.B. FITCH, III P.E. FIRE PROTECTION			
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC LANT CAPITAL IMPROVEMENTS CAMP LEMONIER		NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA DUBOULT AFRICA	
DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES PIPING DETAILS			
SCALE: AS NOTED PROJECT NO.: 1344008 CONSTR. CONTR. NO. N62470-16-R-6004 NAVFAC DRAWING NO.: 14047101 SHEET 137 OF 186 M-503 <small>DRAWFORM REVISION: 10 MARCH 2009</small>			

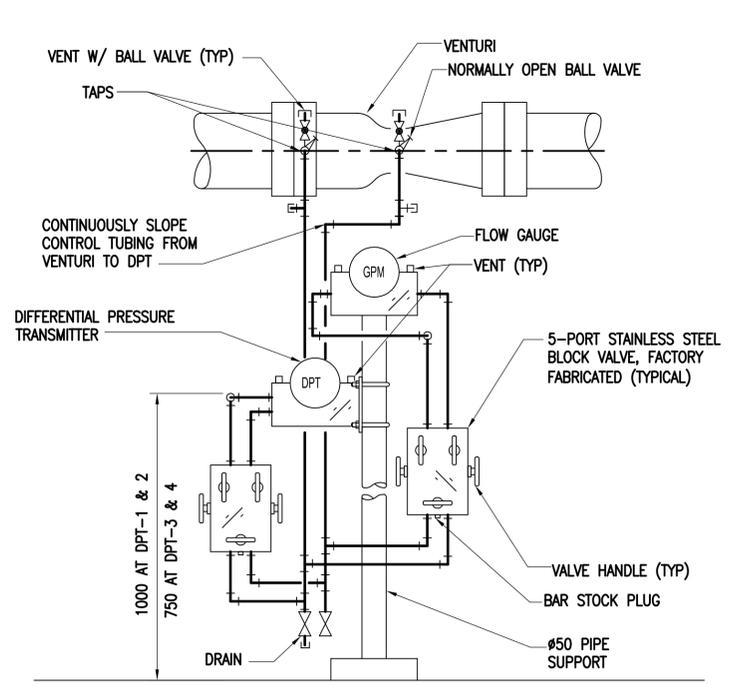
FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\M-503 PIPING DETAILS.dwg LAYOUT NAME: PIPING DETAILS PLOTTED: Friday, May 06, 2016 - 10:45am USER: mspines



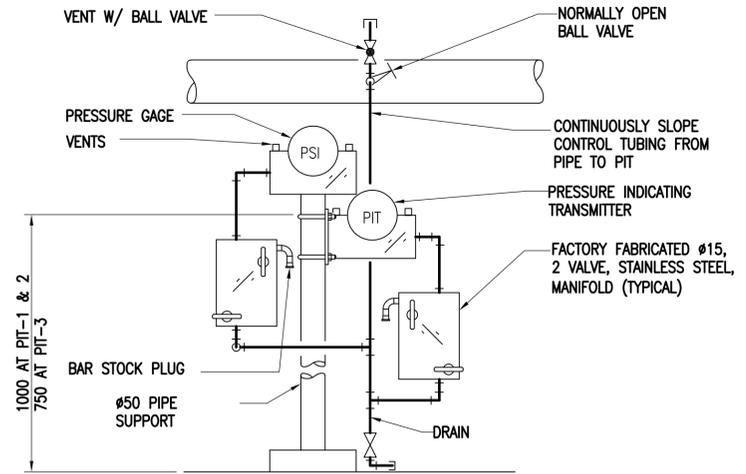
C1 BYPASS VENTURI TUBE CONTROL DIAGRAM
SCALE: NONE
M-404



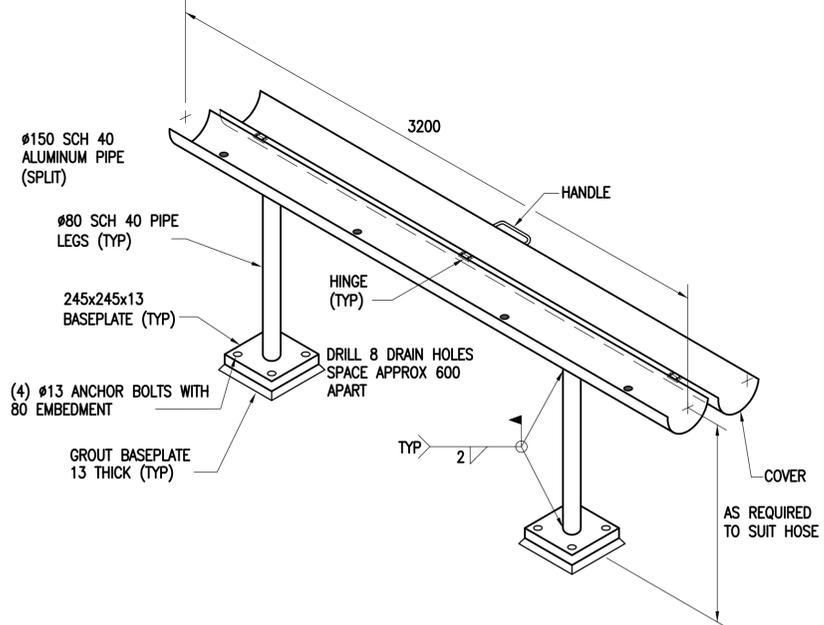
C2 BYPASS VENTURI TUBE CONTROL DIAGRAM
SCALE: NONE
M-404



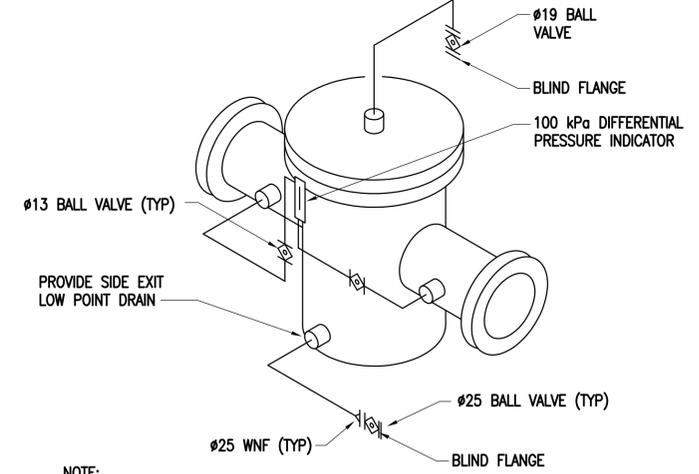
C4 DIFFERENTIAL PRESSURE INDICATING TRANSMITTER (DPT) PIPING
SCALE: NONE
M-404



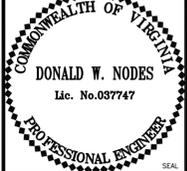
A1 PRESSURE INDICATING TRANSMITTER (PIT) PIPING
SCALE: NONE
M-404



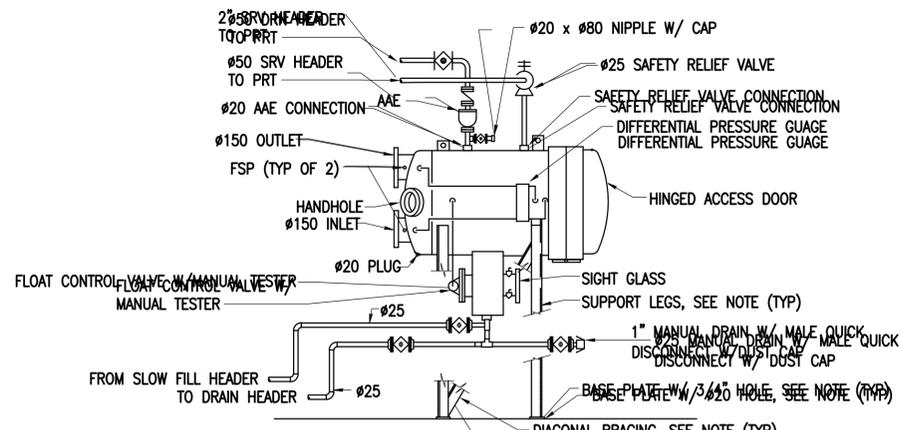
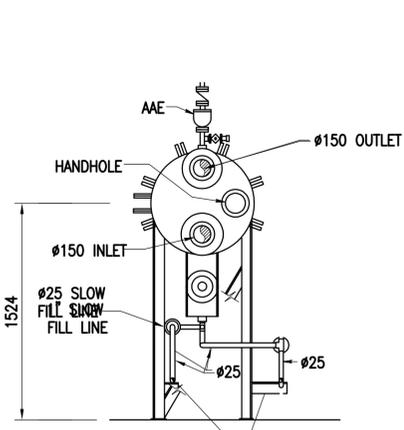
A2 HOSE TROUGH
SCALE: NONE
M-405



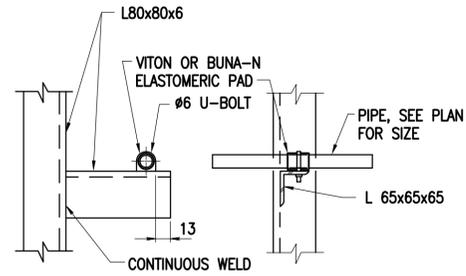
A4 BASKET STRAINER (BS)
SCALE: NONE
M-001

APPROVED	DATE	DESCRIPTION	SYN
  			
FOR COMMANDER NAVFAC	ACTIVITY	APPROVED BY ANDREA LEMON VIA EMAIL	SATISFACTORY TO DATE 4/4/16
DESIGN DIRECTOR R.B. FITCH, III P.E.	DESIGN MANAGER	DESIGN CHECKER W.M.B.	DATE 4/4/16
NAVAL FACILITIES ENGINEERING COMMAND	NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC	DUBOULT AFRICA	NAVFAC DRAWING NO. 14047102
NAVFAC DRAWING NO. 14047102	PROJECT NO. 1344008	CONSTR. CONTR. NO. N62470-16-R-6004	SHEET 138 OF 186
M-504 <small>DRAWING REVISION: 10 MARCH 2009</small>			

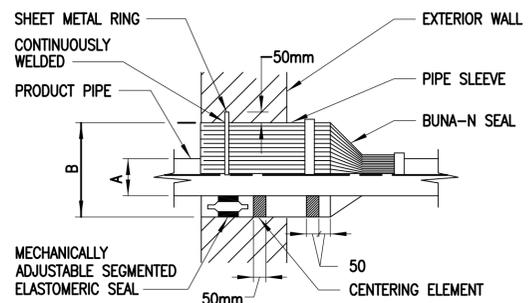
FILE NAME: G:\14 Jobs\14-013 D:\boudr - Fuel Storage Facility - NAVFAC LANTCOM AutoCAD\M-504 MISCELLANEOUS DETAILS.dwg LAYOUT NAME: MISCELLANEOUS DETAILS PLOTTED: Friday, May 06, 2016 - 10:45am USER: rhopkins



D1 ISSUE FILTER/SEPARATOR
SCALE: NONE
M-404

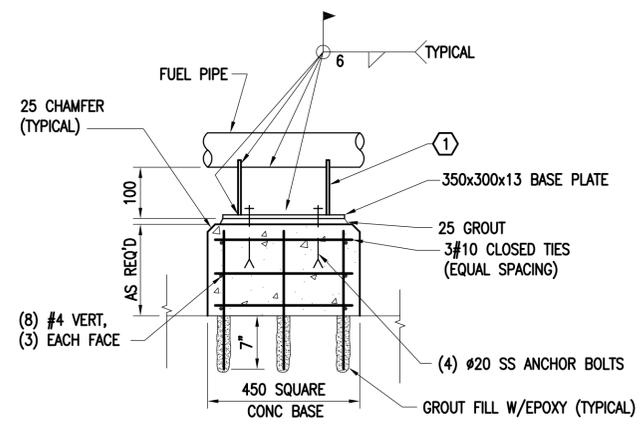


D3 PIPE SUPPORT
SCALE: NONE
M-505



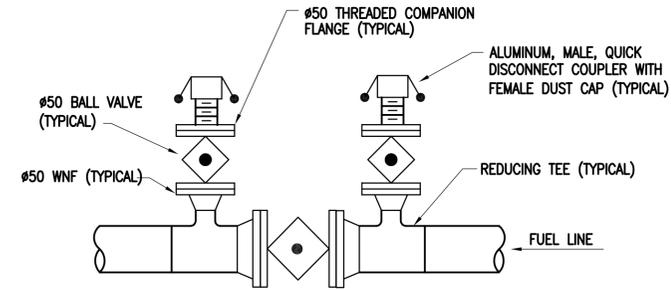
PRODUCT PIPE	A (DIA)	B (DIA)
300	324	350
250	273	324
200	219	324
150	168	273
100	115	219
50	60	168

B1 PIPE PENETRATION
SCALE: NONE
M-401, M-403, M-404

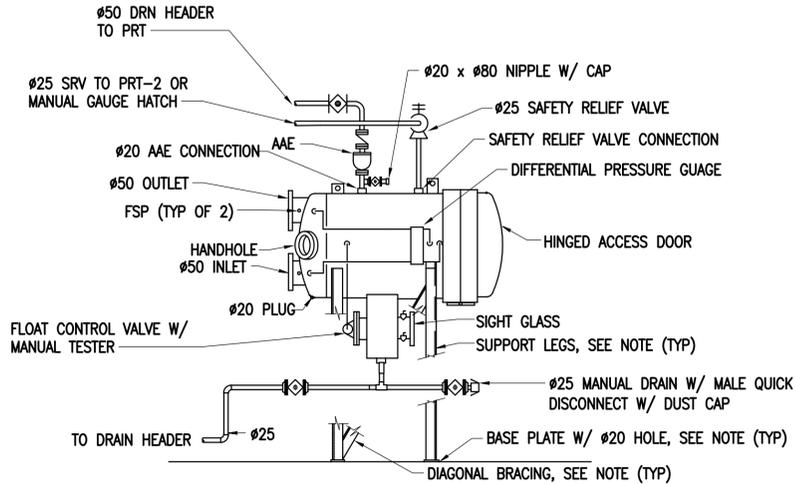
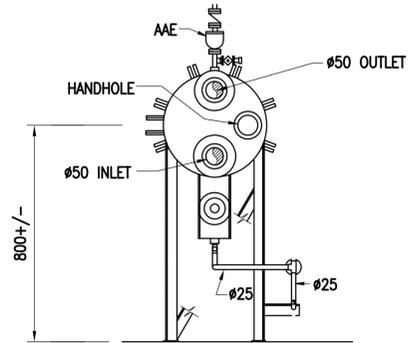


NOTE:
FOR STAINLESS STEEL PIPING, BASE PLATE AND ANCHOR SHALL BE STAINLESS STEEL.

B3 PIPE ANCHOR
SCALE: NONE
M-405



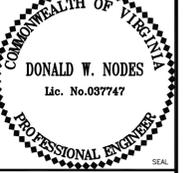
B4 METER PROVING CONNECTION (MPC)
SCALE: NONE
M-001



NOTE:
BASE PLATE, SUPPORT LEGS AND DIAGONAL BRACING TO BE SIZED BY F/S MFG.

A1 PRT AND PUMPHOUSE FILTER/SEPARATOR
SCALE: NONE
M-402, M-404

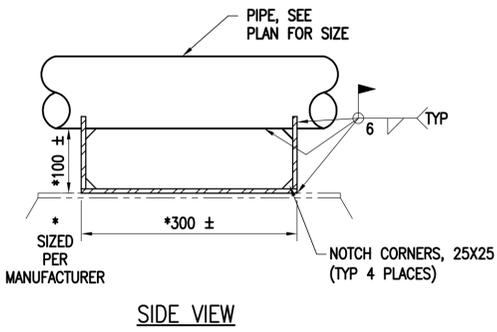
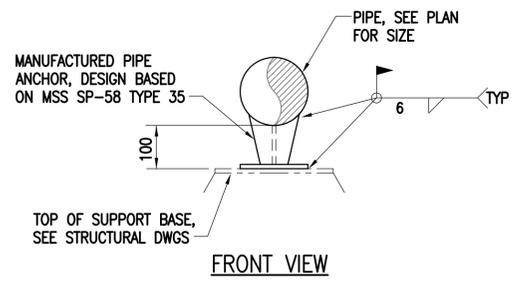
SYN	DESCRIPTION	DATE	APPR



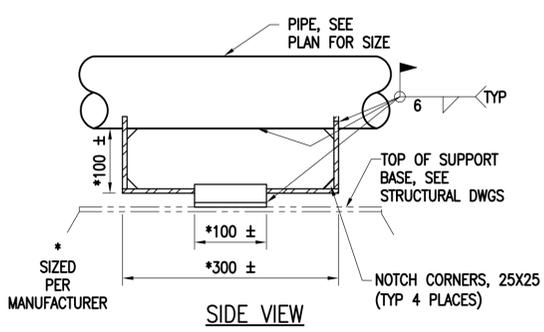
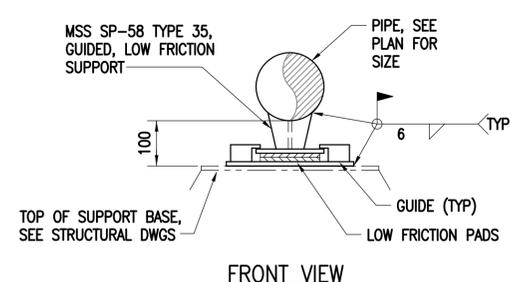
APPROVED	A/E INFO
FOR COMMANDER NAVFAC	
ACTIVITY	
APPROVED BY ANDREA LEMON VIA EMAIL	
SATISFACTORY TO DATE 4/4/16	
DES DWN DRW WMC CHK WVB	
PM/OM LET/RES	
BRANCH MANAGER	
DESIGN DIRECTOR R.B. FITCH, III P.E.	
FIRE PROTECTION	

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
NAVFAC LANT/CAP IMPROVEMENTS
CAMP LEMONNIER
NAVFAC LANT/CAP ATLANTIC
NORFOLK, VIRGINIA
DUBOULT AFRICA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
MISCELLANEOUS DETAILS

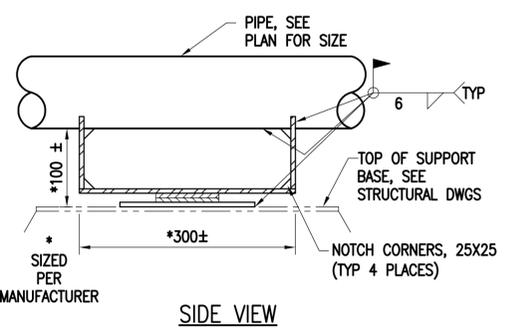
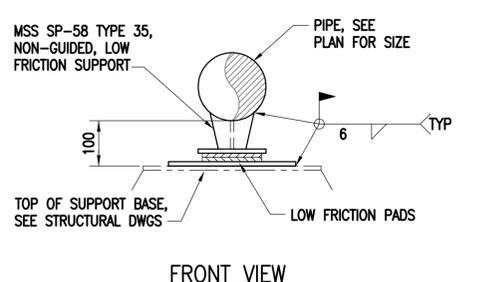
SCALE:	AS NOTED
PROJECT NO.:	1344008
CONSTR. CONTR. NO.:	
	N62470-16-R-6004
NAVFAC DRAWING NO.:	14047103
SHEET	139 OF 186
M-505	



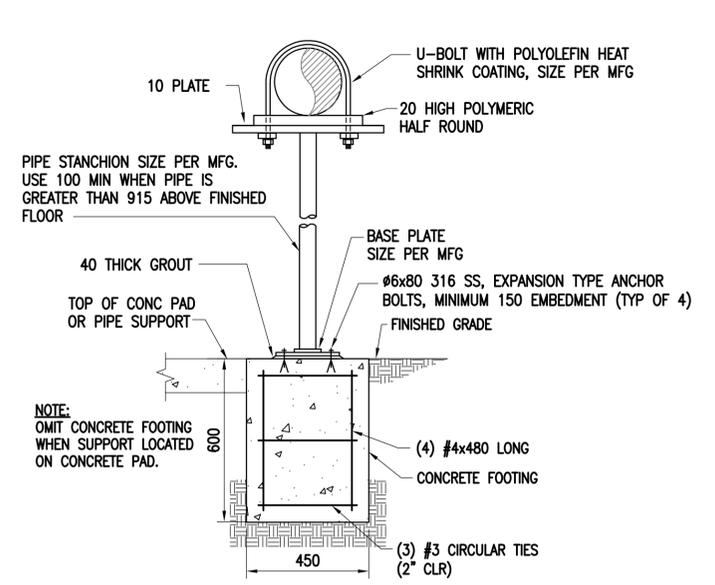
TYPE 1 ANCHORED PIPE SUPPORT
SCALE: NONE



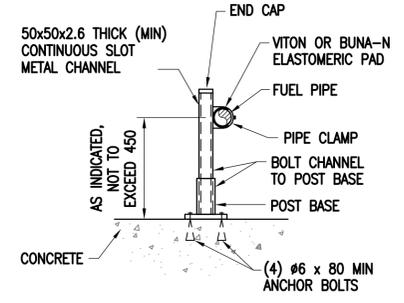
TYPE 2 GUIDED PIPE SUPPORT
SCALE: NONE



TYPE 3 UNGUIDED PIPE SUPPORT
SCALE: NONE

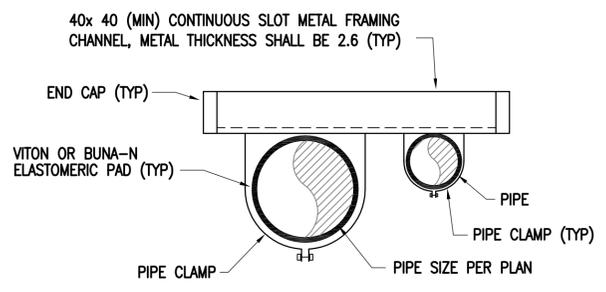


TYPE 4 FLOOR SUPPORTED LARGE PIPE SUPPORT
SCALE: NONE



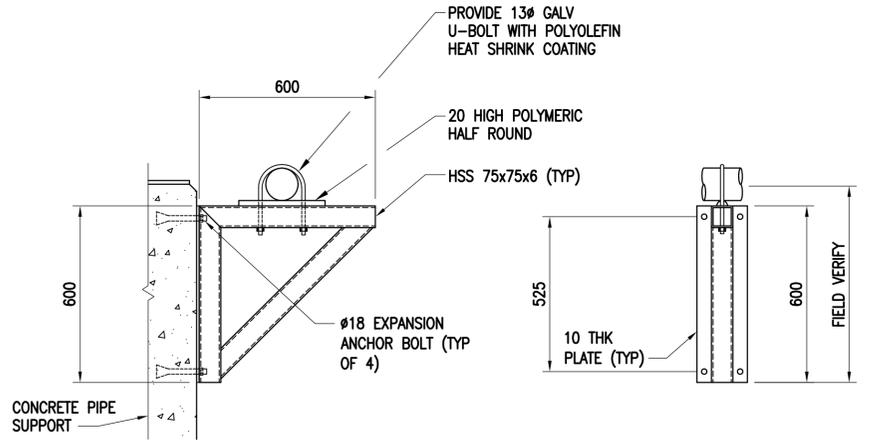
NOTE: CHANNEL, CLAMP, POST BASE, CAP AND MOUNTING HARDWARE SHALL BE A PRODUCT OF A SINGLE MANUFACTURER AND SHALL BE 304 OR 316 STAINLESS STEEL.

TYPE 5 SMALL PIPE SUPPORT
SCALE: NONE

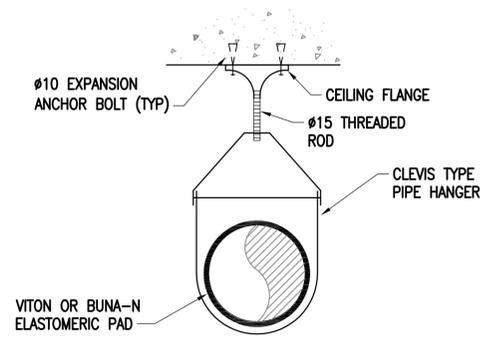


NOTE: CHANNEL, CLAMP, POST BASE, CAP AND MOUNTING HARDWARE SHALL BE A PRODUCT OF A SINGLE MANUFACTURER AND SHALL BE 304 OR 316 STAINLESS STEEL.

TYPE 6 SMALL PIPE SUPPORT
SCALE: NONE



TYPE 7 PIPE SUPPORT
SCALE: NONE



TYPE 8 CLEVIS TYPE PIPE SUPPORT
SCALE: NONE

APPROVED	DATE	APPR
DESCRIPTION	SYN	
 NAVFAC COMMONWEALTH OF VIRGINIA DONALD W. NODES Lic. No. 037747 PROFESSIONAL ENGINEER		
Austin Brockenbrough ENGINEERING • CONSULTING		
APPROVED	A/E INFO	
FOR COMMANDER NAVFAC		
ACTIVITY		
APPROVED BY ANDREA LEMON VIA EMAIL		
SATISFACTORY TO	DATE	4/4/16
DES	DWN	DRW WMG
PM/DM	LET/RES	CHK WVB
BRANCH MANAGER		
DESIGN DIRECTOR R.B. FITCH, III P.E.		
FIRE PROTECTION		
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC LANT CAPITAL IMPROVEMENTS CAMP LEMONIER DUBOULT AFRICA DESC 1701/P-1701 CONSTRUCT FUEL STORAGE FACILITIES PIPE SUPPORT DETAILS		
SCALE: AS NOTED		
PROJECT NO.: 1344008		
CONSTR. CONTR. NO.		
N62470-16-R-6004		
NAVFAC DRAWING NO. 14047104		
SHEET 140 OF 186		
M-506		
DRAWING REVISION: 10 MARCH 2009		

FILE NAME: G:\14 Jobs\14-013 Djbouti - Fuel Storage Facility - NAVFAC LANT\CAD AutoCAD\14-506 PIPE SUPPORT DETAILS.dwg LAYOUT NAME: PIPE SUPPORT DETAILS PLOTTED: Friday, May 06, 2016 - 10:45am USER: rhpklt

DEDICATED OUTSIDE AIR SYSTEM SCHEDULE

UNIT	OUTSIDE AIR FLOW RATE (L/S)	ESP (PA)	SUPPLY FAN MOTOR (KW)	NUMBER OF COMPRESSORS	COOLING PERFORMANCE AT 1% DRY BULB CONDITIONS										COOLING PERFORMANCE AT 1% HUMIDITY RATIO CONDITIONS						ELECTRIC HEAT COIL			EXHAUST FAN			ELECTRICAL DATA				REMARKS			
					WHEEL OA FLOW (L/S)	WHEEL EA FLOW (L/S)	WHEEL OA EAT DB/WB (°C)	WHEEL OA LAT DB/WB (°C)	WHEEL RA EAT DB/WB (°C)	DX COIL TOTAL CAPACITY (KW)	DX COIL SENSIBLE CAPACITY (KW)	DX COIL EAT DB/WB (°C)	DX COIL LAT DB/WB (°C)	HOT GAS REHEAT COIL LAT DB/WB (°C)	WHEEL OA EAT DB/WB (°C)	WHEEL OA LAT DB/WB (°C)	WHEEL RA EAT DB/WB (°C)	DX COIL TOTAL CAPACITY (KW)	DX COIL SENSIBLE CAPACITY (KW)	DX COIL EAT DB/WB (°C)	DX COIL LAT DB/WB (°C)	HOT GAS REHEAT COIL LAT DB/WB (°C)	EAT (°C)	LAT (°C)	CAPACITY (KW)	FLOW RATE (L/S)	ESP (PA)	FAN MOTOR (KW)	VOLTS	PHASE		HERTZ	MCA (AMPS)	MOC (AMPS)
DOAS-1	629	250	1.5	2	629	478	44 / 26	30.2 / 20.2	24 / 16.9	19.27	14.23	30.2 / 20.2	11.8 / 11.3	23.9 / 16.1	30.6 / 30.6	26.0 / 22.6	24 / 16.9	20.73	9.17	26 / 22.6	14.2 / 14.0	23.9 / 17.5	20	23.9	3	478	62	0.75	380	3	50	34.4	50	1, 2, 3

- REMARKS:
1. PROVIDE SINGLE-POINT POWER CONNECTION.
 2. PROVIDE NON-FUSED DISCONNECT.
 3. PROVIDE 50mm MERV 8 FILTERS FOR SUPPLY AND EXHAUST.

SPLIT SYSTEM AIR CONDITIONER SCHEDULE

UNITS	FAN DATA			COIL DATA								MIN EER
	SUPPLY AIR (L/S)	POWER INPUT (kW)	VOLTS/PHASE /HZ	COOLING				LEAVING AIR TEMPERATURE				
				TOTAL LOAD (kW)	SENSIBLE LOAD (kW)	DRY BULB (°C)	WET BULB (°C)	DRY BULB (°C)	WET BULB (°C)			
AHU-1/AC-1	362	.5	220/1/50	11.1	5.5	23.8	16.9	15.0	14.8	2.9		
AHU-2/AC-2	214	0.57	220/1/50	2.4	2.4	23.8	8.0	15.0	3.2	4.8		
AHU-3/AC-3	34	0.57	220/1/50	1.3	1.3	23.8	16.9	15.0	14.4	4.8		
AHU-4/AC-4	281	1.07	220/1/50	4.2	3.2	23.8	16.9	15.4	14.9	3.9		
AHU-5/AC-5	36	0.57	220/1/50	0.5	0.4	23.8	16.9	15.0	14.4	4.8		
AHU-6/AC-6	367	1.47	220/1/50	4.7	4.1	23.8	16.9	15.3	14.7	3.3		
AHU-7/AC-7	71	0.57	220/1/50	.9	.8	23.8	16.9	15.2	14.6	4.8		
AHU-8/AC-8	60	0.57	220/1/50	.7	.7	23.8	16.9	15.4	14.8	4.8		
AHU-9/AC-9	66	0.57	220/1/50	.8	.7	23.8	16.9	15.2	14.6	4.8		
AHU-10/AC-10	98	0.57	220/1/50	1.3	1.1	23.8	16.9	15.0	14.5	4.8		
AHU-11/AC-11	404	2.25	220/1/50	6.7	5.0	23.8	16.9	15.2	14.7	3.1		
AHU-12/AC-12	72	0.57	220/1/50	2.0	2.0	23.8	16.9	15.0	14.4	4.8		

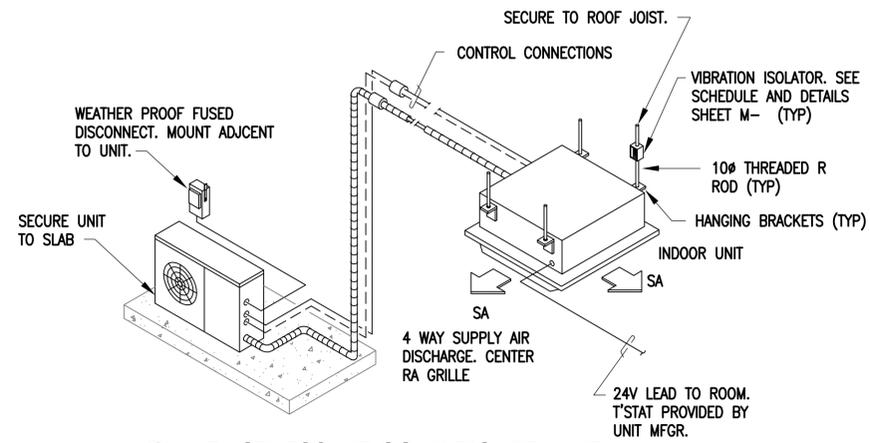
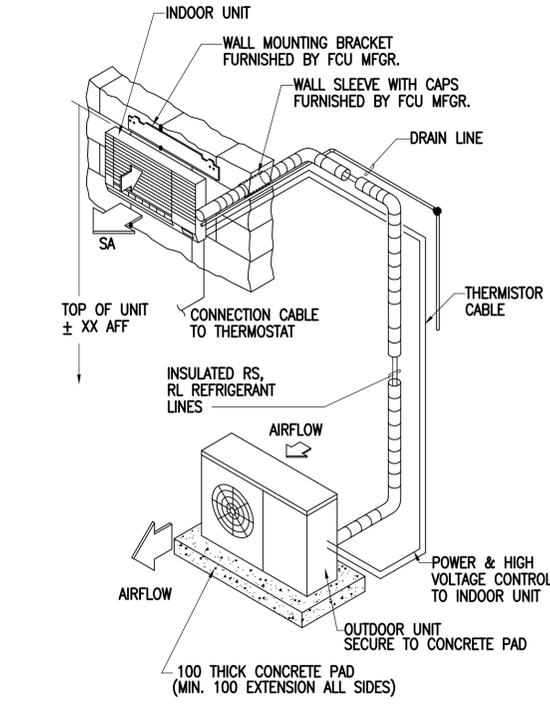
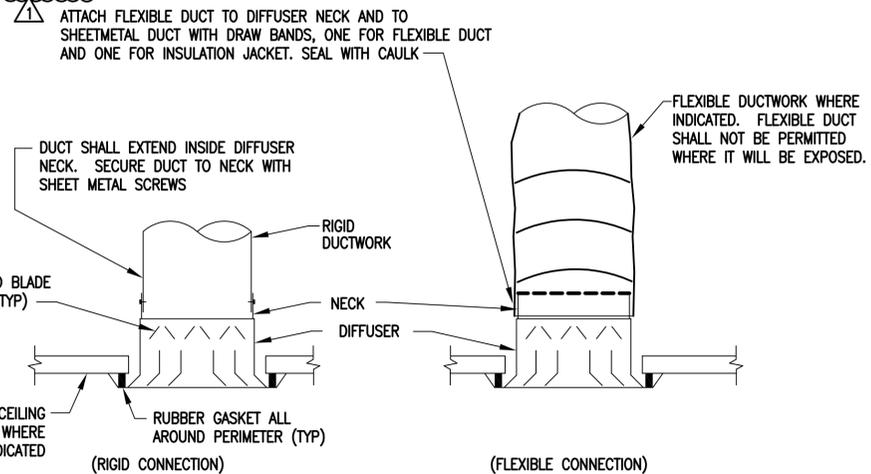
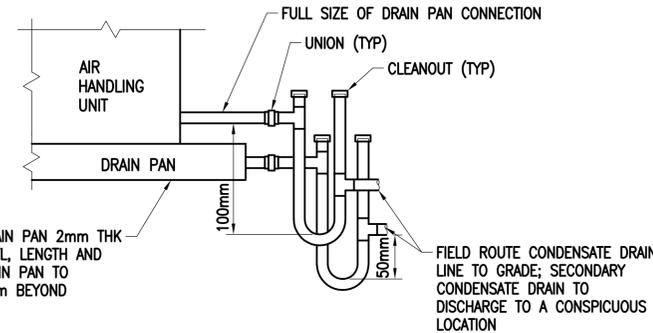
- REMARKS:
1. PROVIDE FACTORY CONDENSATE PUMP FOR ALL AIR HANDLING UNITS

OPERATING CONDITIONS

INDOORS				OUTDOORS		
SUMMER		WINTER		SUMMER		WINTER
°C DB	% RH	°C DB	°C DB	% RH	°C DB	
24	50	22	44	60	20	

FAN/BLOWER SCHEDULE

UNIT	FLOW RATE (L/S)	EXTERNAL STATIC PRESSURE (PA)	FAN MOTOR (kW)	VOLTS/PHASE/HZ	REMARKS
FH-1	132/208	62	0.25	220/1/50	FLOW RATE AT SASH 60%/100% OPEN
EF-1	2430	62	1.5	380/3/50	EXPLOSION PROOF MOTOR; ROOF MOUNT
EF-2	31	25	0.03	220/1/50	CEILING MOUNT
EF-3	1120	62	0.25	380/3/50	PUMPHOUSE 5/EXPLOSION PROOF MOTOR; WALL MOUNT
EF-4	1120	62	0.25	380/3/50	PUMPHOUSE 6/EXPLOSION PROOF MOTOR; WALL MOUNT
EF-5	132	62	0.25	220/1/50	CEILING MOUNT



DATE: 4/29/16
 REVISED SCHEDULES
 DESCRIPTION:

NAVFAC
 COMMONWEALTH OF VIRGINIA
 WILLIAM R. HERRMANN
 Lic. No. 045837
 PROFESSIONAL ENGINEER

Austin
Brockenbrough
 ENGINEERING - CONSULTING
 A/E D/P/O

APPROVED FOR COMMANDER NAVFAC
 ACTIVITY: APPROVED BY ANDREA LEMON VIA EMAIL
 SATISFACTORY TO: DATE 4/4/16
 DES: WRH | DRW: WMC | CHK: WVB
 PM/DM: LEY/REB
 BRANCH MANAGER
 DESIGN DIRECTOR: R.B. FITCH, III P.E.
 FIRE PROTECTION

NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC
 LANIT CAPITAL IMPROVEMENTS
 CAMP LEMONNIER
 DUBOULT AFRICA
DESC 1701/P-1701
CONSTRUCT FUEL STORAGE FACILITIES
 HVAC SCHEDULES AND DETAILS

SCALE: AS NOTED
 PROJECT NO.: 1344008
 CONSTR. CONTR. NO.: N62470-16-R-6004
 NAVFAC DRAWING NO.: 14047105
 SHEET 141 OF 186
M-507
DRAWING REVISION: 10 MARCH 2009

FILE NAME: G:\14 Jobs\14-013 Dhhair - Fuel Storage Facility - NAVFAC LANIT\CAD AutoCAD\M-507 HVAC SCHEDULES AND DETAILS.dwg LAYOUT NAME: HVAC SCHEDULES AND DETAILS
 PLOTTED: Friday, May 06, 2016 - 10:45am USER: mhpkins

