FIRE PROTECTION CODE REQUIREMENTS

1. THE SCOPE OF THIS PROJECT INCLUDES THE FOLLOWING FOR THE NEW POA TERMINAL 1:
   - 1.1. PROVIDE A MANUAL CLASS 1 DRY STANDPIPE SYSTEM TO SERVE NEW FIRE HOSE STATIONS ON TERMINAL 1 WHARF AND ALONG TRESTLE AT MID-PONT, DESIGNED IN ACCORDANCE WITH NFPA 14-STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS.
   - 1.2. PROVIDE NEW SHORE SIDE FIRE DEPARTMENT CONNECTION(S) (HEADER ASSEMBLY WITH EIGHT (4) HOSE INLETS AND ASSOCIATED CAPS) TO SERVE TERMINAL 1 MANUAL DRY STANDPIPE SYSTEM
   - 1.3. PROVIDE INTERCONNECTIONS TO EXISTING POA UNDERGROUND FIRE WATER SUPPLY PIPING NETWORK TO SUPPLY NEW FIRE SERVICE LINE TO ADMINISTRATIVE/STEVEDORE BUILDING FIRE SPRINKLER SYSTEM. ALL UNDERGROUND FIRE SERVICE LINE PIPING, FITTINGS AND THRUST BLOCKING SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 24 - STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
   - 1.4. PROVIDE INTERCONNECTIONS TO EXISTING POA UNDERGROUND FIRE WATER SUPPLY PIPING NETWORK TO SUPPLY NEW MANUAL DRY STANDPIPE SYSTEM, INCLUDING TWO NEW DRY BARREL FIRE HYDRANTS WITHIN 100 FEET OF THE NEW FIRE DEPARTMENT CONNECTIONS (FDC) THAT IS CONFIGURED FOR CITY OF ANCHORAGE FIRE DEPARTMENT PUMPER TRUCK TO DRAW WATER FROM THE NEW FIRE HYDRANT AND TO THEN CONNECT HOSE LINES BETWEEN THE FIRE HYDRANT AND THE PUMPER TRUCK AND TO CONNECT HOSE LINES FROM THE PUMPER TRUCK TO THE NEW MANUAL DRY STANDPIPE SYSTEM FDC.

2. NEW WORK SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH CODES AND STANDARDS, AS ADOPTED BY THE STATE OF ALASKA AND ANCHORAGE TOWNSHIP, TO INCLUDE THE FOLLOWING:
   - 2.1. TITLE 23 - BUILDING CODES MUNICIPALITY OF ANCHORAGE (MOA), 2018 EDITION
   - 2.2. ANCHORAGE ADMINISTRATIVE CODE, 2018 EDITION
   - 2.3. INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION WITH MOA AMENDMENTS
   - 2.4. INTERNATIONAL FIRE CODE (IFC), 2018 EDITION WITH MOA AMENDMENTS
   - 2.5. NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2019 EDITION
   - 2.6. NFPA 14, STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS, 2019 EDITION
   - 2.7. NFPA 24 - STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND APPURTENANCES, 2019 EDITION
   - 2.8. NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE, 2019 SEDATION, WITH MOA AMENDMENTS
   - 2.9. NFPA 307, STANDARD FOR THE CONSTRUCTION AND FIRE PROTECTION OF MARINE TERMINALS, PIERS AND WHARVES, 2016 EDITION
   - 2.10. NFPA 101 - THE LIFE SAFETY CODE

3. THE MANUAL DRY STANDPIPE SYSTEM SHALL INCLUDE TWO (2) FREESTANDING PEDESTAL TYPE FIRE DEPARTMENT CONNECTIONS (FDC) WITH FOUR (4) 2-1/2 INCH HOSE CONNECTIONS AND ASSOCIATED CAPS WITH CHAINS WITH THREADS THAT MATCH CITY OF ANCHORAGE FIRE DEPARTMENT REQUIREMENTS FOR A TOTAL OF EIGHT (8) INLETS AT EACH FDC LOCATION.

4. ALL PIPING, HANGERS, SEISMIC BRACING, PIPE FITTINGS AND FLEXIBLE PIPING ASSEMBLIES ASSOCIATED WITH THE MANUAL DRY STANDPIPE SYSTEM SHALL BE HOT DIPPED GALVANIZED COATED (DESIGNED TO PROTECT AGAINST SALTWATER AND SALTWATER AIR EXPOSURES) AND DIELECTRIC UNIONS SHALL BE PROVIDED BETWEEN GALVANIZED PIPING AND BRASS HOSE OUTLETS/ HOSE VALVES.

5. FDC SHALL BE LOCATED TO BE ACCESSIBLE BY FIRE DEPARTMENT VEHICLE APPARATUS/PUMPER TRUCK AND SHALL BE LOCATED WITHIN 25 FEET OF FD VEHICLE RESPONSE DESIGNATED PARKING/STAGING LOCATION AND NEW DRY BARREL FIRE HYDRANT. LOCATION OF THE MANUAL DRY STANDPIPE FREESTANDING PEDESTAL TYPE FDC SHALL BE APPROVED BY THE ANCHORAGE FIRE DEPARTMENT AND THE CONTRACTOR SHOP DRAWINGS SHALL CLEARLY DEPICT THE FDC LOCATION AS APPROVED BY THE FIRE DEPARTMENT ALONG WITH DIMENSIONS RELATIVE TO FD VEHICLE DESIGNATED PARKING/STAGING LOCATION, NEW DRY BARREL FIRE HYDRANT, ALONG WITH FIRE DEPARTMENT VEHICLE ACCESS ROADWAY COMPLIANCE WITH ANCHORAGE FIRE DEPT./FIRE PREVENTION POLICY #08-007 - EMERGENCY VEHICLE ACCESS ROAD DESIGN CRITERIA.

6. VERIFY DIMENSIONS AND CONDITIONS AT JOB SITE CONCERNING THE WORK BEFORE PROCEEDING WITH EITHER FABRICATION OR INSTALLATION.

7. PIPE ROUTINGS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC ONLY.

8. SUBMIT HYDRAULIC CALCULATIONS FOR THE MANUAL DRY STANDPIPE SYSTEM IN ACCORDANCE WITH MOA, AMENDMENT 903.3.5.3.

9. PROVIDE PIPING SO THAT EVERY PORTION OF THE SYSTEM CAN BE DRAINED BACK THROUGH THE DRAIN VALVES. WHERE PIPING CAN NOT BE DRAINED BACK TO SPRINKLER SYSTEM ZONE CONTROL VALVES, PROVIDE AUXILIARY DRAIN(S) IN ACCORDANCE WITH NFPA 13 & 14.

10. THE TERM “PROVIDE” MEANS CONTRACTOR SHALL FURNISH NEW, AND INSTALL COMPLETE AND READY FOR INTENDED USE.

11. PROVIDE REQUIRED SIGNAGE FOR MANUAL DRY STANDPIPE SYSTEM EQUIPMENT AND COMPONENTS IN ACCORDANCE WITH NFPA 14 AND NFPA 307.

12. ALL PIPE PENETRATIONS THROUGH THE TERMINAL 1 CONCRETE STRUCTURE MUST BE SLEEVED AND SEALED. PROVIDE A MINIMUM CLEARANCE OF 3 FEET ACCESS TO AND IN FRONT OF ALL EQUIPMENT AND 6 INCHES BEHIND THE EQUIPMENT. PROVIDE A SIGN ON ALL MANUAL DRY STANDPIPE HOSE OUTLET ASSEMBLIES STATING: “MAINTAIN 3 FT. CLEARANCE”, FOR MAINTENANCE AND FIRE DEPARTMENT ACCESS.

13. TERMINAL 1 MANUAL DRY STANDPIPE SYSTEM HOSE OUTLETS SHALL CONSIST OF A 6 INCH PIPING RISER FEEDING A MANIFOLD ARRANGEMENT OF TWO 2-1/2 INCH VALVE HOSE CONNECTIONS. PROVIDE 4 INCH VALVE HOSE CONNECTIONS IN A MANIFOLD ARRANGEMENT AT THE OUTBOARD ENDS OF TERMINAL 1 TO SERVE FIREBOAT. ALL TERMINAL 1 MANUAL DRY STANDPIPE SYSTEM HOSE CONNECTIONS SHALL BE PROTECTED BY A CORROSION RESISTANT CHAINED CAP, SIZED TO SUPPORT THE WEIGHT OF THE CAP ON THE CHAIN OR EXTENDED PERIODS OF TIME.

14. PER MOA SECTION 903.3.9, FIRE PROTECTION SYSTEMS/PIPING (INCLUDING MANUAL DRY STANDPIPE SYSTEM) SHALL HAVE A MINIMUM SEISMIC DESIGN COEFFICIENT Cp OF 0.72 OR GREATER AS OUTLINED BY NFPA 13.

15. NEW STANDPIPE SYSTEM SHALL BE ABOVE-GROUND, AND SHALL BE SECURED TO THE SIDE AND BENEATH THE CONCRETE DECK/TRESTLE SURFACE OF THE TERMINAL. PROVIDE STANDPIPE SYSTEM WITH APPROPRIATE SLOPE AND DRAINS ASSEMBLIES TO ALLOW FOR SYSTEM TO BE DRAINED AFTER USE.

16. PIPE SHALL BE SCHEDULE 40, GALVANIZED STEEL PIPE WITH GALVANIZED COUPLINGS AND GALVANIZED COMPONENTS FOR ALL PIPE HANGING METHODS.

17. PIPES SHALL BE CUT-GROOVED. ROLL-GROOVING SHALL NOT BE PERMITTED, AS THESE PROCESSES DEGRADE THE GALVANIZING OF THE PIPE.

18. PIPING MATERIALS, INCLUDING PIPE, FITTING HANGERS AND RESTRAINTS, VALVES AND CONNECTIONS, SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF RECOGNIZED NATIONAL TESTING AGENCY (UL OR FM).

WATER SUPPLY INFORMATION

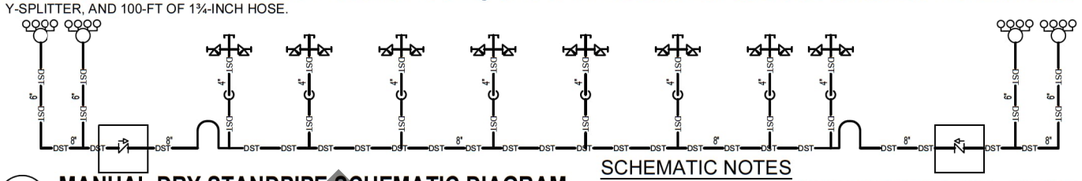
TEST 1 - 08/08/2023
TEST HYDRANT - HY31030017
STATIC PRESSURE AT TEST HYDRANT - 100 PSI
RESIDUAL PRESSURE AT TEST HYDRANT FLOWING FROM HY31030001 - 85 PSI
FLOW/PRESSURE AT HY31030001 - 2,000 GPM / 91 PSI

TEST 2 - 08/08/2023
TEST HYDRANT HY31030001
STATIC PRESSURE AT TEST HYDRANT - 95 PSI
RESIDUAL PRESSURE AT TEST HYDRANT FLOWING FROM HY31030017 - 85 PSI
FLOW/PRESSURE AT HY31030017 - 1920 GPM/ / 80 PSI
STATIC PRESSURE AT HY31030018 - 100 PSI
RESIDUAL PRESSURE AT HY31030018 WHILE FLOWING FROM HY31030017 - 95 PSI

HYDRAULIC STANDPIPE REQUIREMENTS

STANDPIPE SYSTEM SHALL DELIVER:
- A MINIMUM FLOW RATE OF 500 GPM THROUGH THE TWO MOST REMOTE 2½-INCH OUTLETS AND A MINIMUM FLOW RATE OF 250 GPM FOR ADDITIONAL HOSE STATIONS UP TO A MAXIMUM FLOW RATE OF 1,000 GPM. (NFPA 14 §13.5.5).
- 100 PSI AT THE OUTLET OF THE MOST REMOTE 2½-INCH OUTLET.

CALCULATIONS SHALL ALSO SHOW THE ABILITY TO ACHIEVE 175 GPM @ 100 PSI AT THE FIRE DEPARTMENT DUAL-FORCE FOG NOZZLE AT THE REMOTE END OF 100-FT OF 3-INCH HOSE, Y-SPLITTER, AND 100-FT OF 1¾-INCH HOSE.



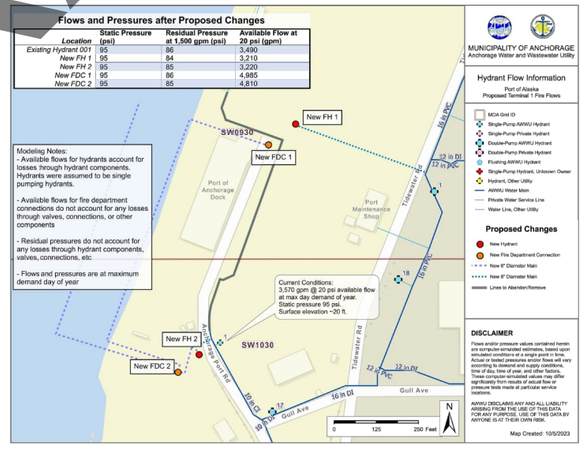
1 **MANUAL DRY STANDPIPE SCHEMATIC DIAGRAM**
SCALE: N.T.S.

SCHEMATIC NOTES
1. RISER DIAGRAM IS SCHEMATIC IN NATURE AND NOT ALL EQUIPMENT IS SHOWN. REFER TO FLOOR PLANS FOR EQUIPMENT LOCATIONS, PIPE LENGTHS AND COUNTS. FLOOR PLANS GOVERN.

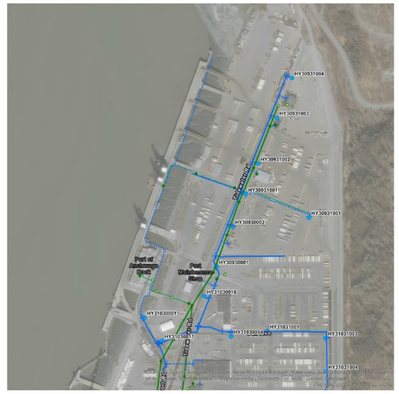
FIRE SUPPRESSION SYMBOLS

SYMBOLS	DESCRIPTION
DST — DST	DRY STANDPIPE PIPING
DST — 4" — DST	PIPE SIZE
DST	PIPE CAP
	PIPE TURNED AWAY FROM VIEW
	DRY STANDPIPE HOSE OUTLET STATION
	FIRE HOSE VALVE (LOCATED AT HOSE STATION)
	4-INLET FREESTANDING FIRE DEPARTMENT CONNECTION
	WATER VAULT WITH DRY CHECK VALVE AND LOW POINT DRAIN
	SEISMIC SEPARATION ASSEMBLY
1	HYDRAULIC CALCULATION NODE
W	WATERLINE (PROVIDED BY OTHERS)
	SEISMIC BRACING

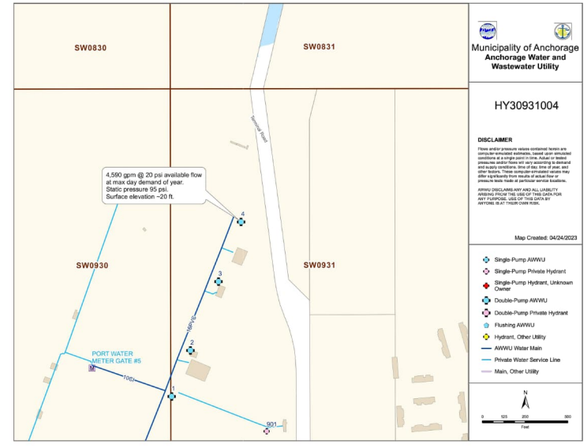
AWWU MODELED/CALCULATED AVAILABLE WATER SUPPLY UPON COMPLETIONOF TERMINAL 1 PROJECT



HYDRANT LOCATIONS



EXISTING POA FIRE HYDRANT FLOW TEST DATA IN VICINITY OF TERMINAL 1 SCOPE OF WORK



65% SUBMITTAL

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
	J. MCQUAY		

CONSULTANT

STATE OF ALASKA 49th — REGISTERED PROFESSIONAL ENGINEER — 11/10/23
SEAL

PORT of ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM

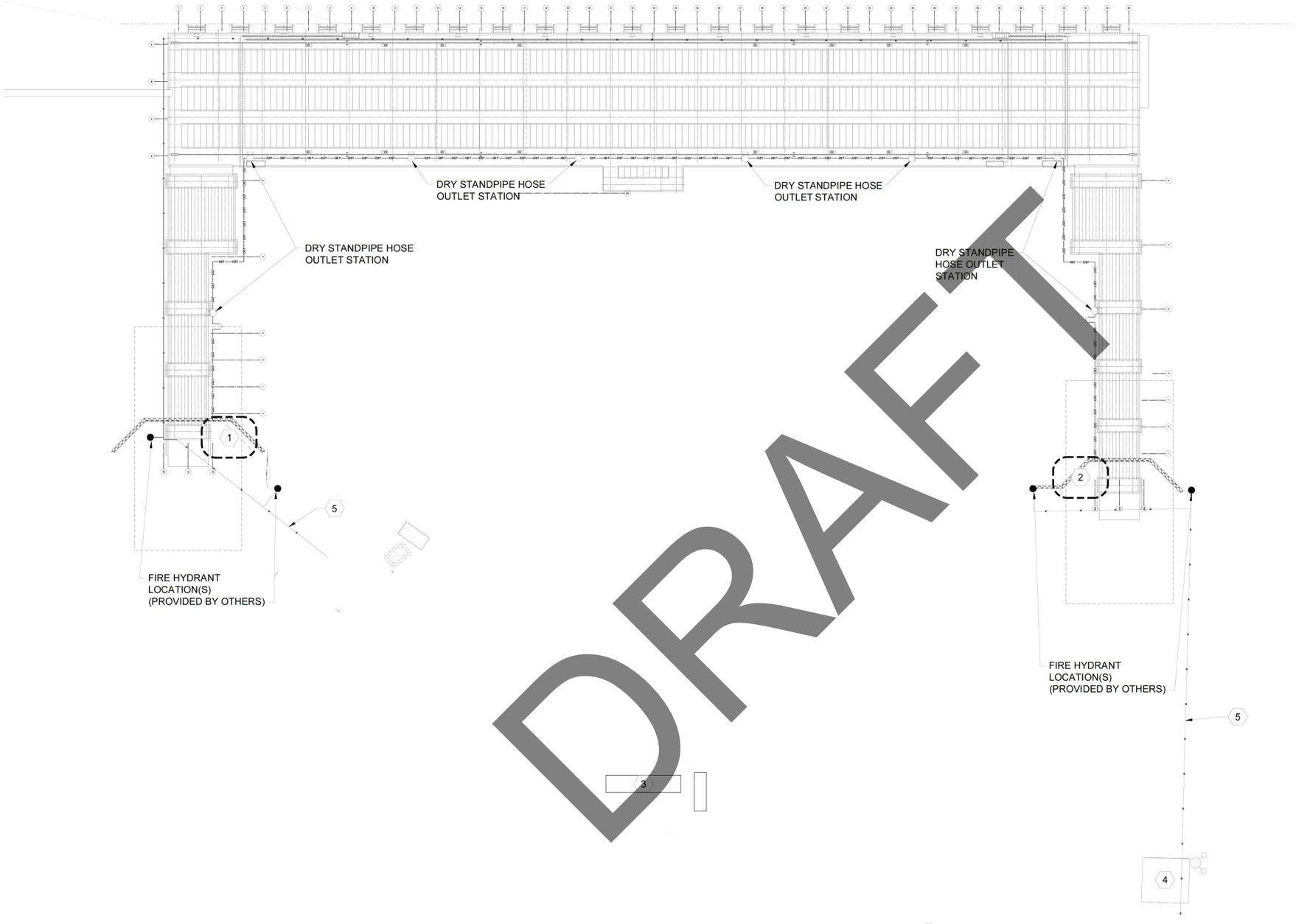
FIRE PROTECTION
NOTES & ABBREVIATIONS

PORT OF ALASKA
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: N.T.S
VERT SCALE:
DATE:
SHEET: 1 OF
T1-F-001

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

Last Saved by: Jmcquay on: Nov 14, 2023 2:26 PM File: C:\Users\bblanchard\DC\ACCDocs\GHD Services Pty Ltd\12609997 - POA-Terminal Replacement\Project Files\01 WIP\Dwgs\13_T1-F-001.dwg



SHEET KEYNOTES

1. REFER TO SHEET T1-F-201 FOR WORK WITHIN THIS AREA.
2. REFER TO SHEET T1-F-202 FOR WORK WITHIN THIS AREA.
3. AS DISCUSSED/DOCUMENTED WITH ANCHORAGE FIRE PREVENTION BUREAU REPRESENTATIVES, THE NEW PRE-FABRICATED SUBSTATION CONTROL BUILDING IS NOT REQUIRED TO BE PROVIDED WITH AUTOMATIC FIRE SPRINKLER PROTECTION NOR FIRE DETECTION / ALARM SYSTEM.
4. STEVEDORE BUILDING TO BE PROVIDED WITH FIRE SUPPRESSION SYSTEM.
5. 6-INCH UNDERGROUND FIRE SERVICE LINE (PROVIDED BY OTHERS).

MANUAL DRY STANDPIPE - OVERALL SITE PLAN

SCALE: 1" = 50'

65% SUBMITTAL

VERIFY SCALES
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0 1"
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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

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DSGN	DR	CHK	APVD
	J. MCQUAY		

CONSULTANT

SEAL 11/10/23

FIRE PROTECTION

FIRE PROTECTION SITE PLAN

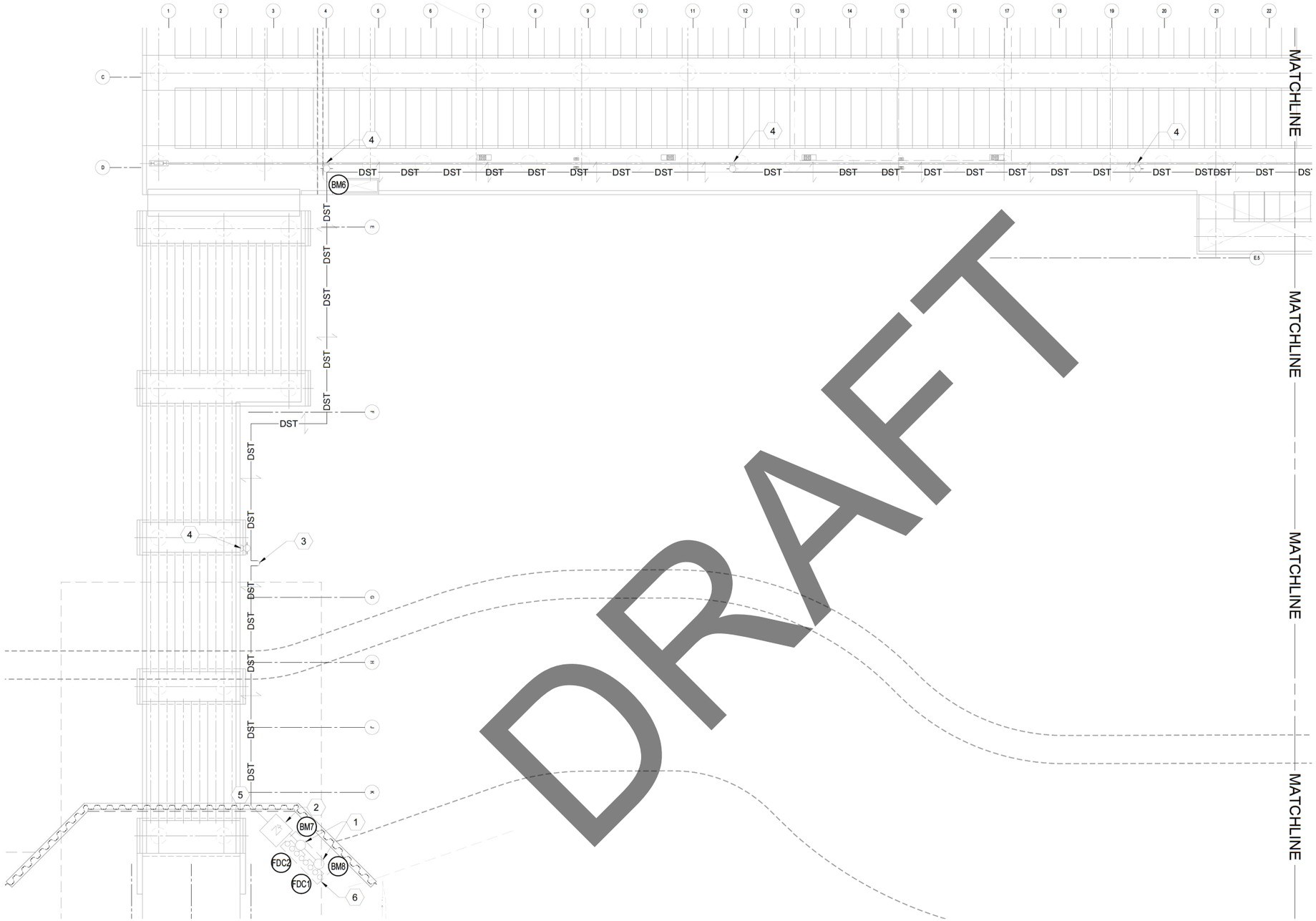
PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: N.T.S
VERT SCALE:
DATE:
SHEET: 1 OF

T1-F-200

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

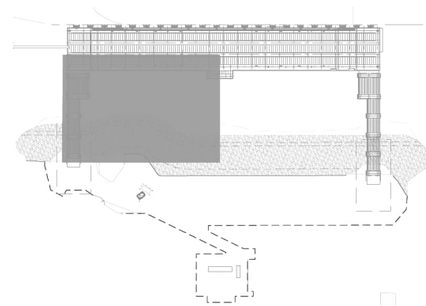


GENERAL NOTES

1. HOSE CONNECTIONS SHALL BE PROVIDED AT A MINIMUM EVERY 150FT IN ACCORDANCE WITH NFPA 14, 2019 EDITION.
2. DRY STANDPIPE PIPING SHALL BE PITCHED TO DRAIN AT LEAST $\frac{1}{4}$ INCH PER 10 FEET IN ACCORDANCE WITH NFPA 14, 2019 EDITION.

SHEET KEYNOTES

1. PROVIDE FIRE DEPARTMENT CONNECTION (FDC) ABOVEGROUND HOT DIPPED GALVANIZED COATED STEEL PIPING MANIFOLD HEADER ASSEMBLY (FOUR - 2 $\frac{1}{2}$ INCH HOSE VALVE INLETS) WITH CHECK VALVE LOCATED DOWNSTREAM OF MANIFOLD ASSEMBLY THAT IS ARRANGED TO SUPPLY WATER TO MANUAL DRY STANDPIPE SYSTEM/HOSE OUTLETS ALONG TERMINAL 1. FDC ASSEMBLY SHALL BE LOCATED UNDER CANOPIED STRUCTURE AND PROPER SIGNAGE PROVIDED IN ACCORDANCE WITH CITY OF ANCHORAGE FIRE DEPARTMENT REQUIREMENTS.
2. PROVIDE WATER VAULT WITH CHECK VALVE AND LOW POINT DRAIN.
3. PROVIDE SEISMIC SEPARATION ASSEMBLY AT EXPANSION JOINT. PROVIDE HORIZONTALLY (ALLOW DRAINAGE) AND PER NFPA 13. ENSURE MOUNTING STRUCTURE IS CAPABLE OF SUPPORTING WATER FILLED SEISMIC JOINT. REFER TO DETAIL 2 ON SHEET T1-F-500.
4. PROVIDE DRY STANDPIPE HOSE OUTLET STATION.
5. DRY STANDPIPE PIPING TO TRAVERSE OVER ABUTMENT ABOVE GROUND.
6. PROVIDE CONCRETE PAD AROUND FDC. REFER TO SHEET T1-F-500 DETAIL 1.



KEYPLAN

65% SUBMITTAL

MANUAL DRY STANDPIPE - NORTH TRESTLE AND WHARF

SCALE: 1" = 20'

VERIFY SCALES
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0 1"
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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

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DSGN	DR	CHK	APVD
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CONSULTANT

STATE OF ALASKA 49th PROFESSIONAL ENGINEER 11/10/23

SEAL

PORT of ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

FIRE PROTECTION

FIRE PROTECTION SITE PLAN

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: N.T.S
VERT SCALE:
DATE:
SHEET: 1 OF

T1-F-201

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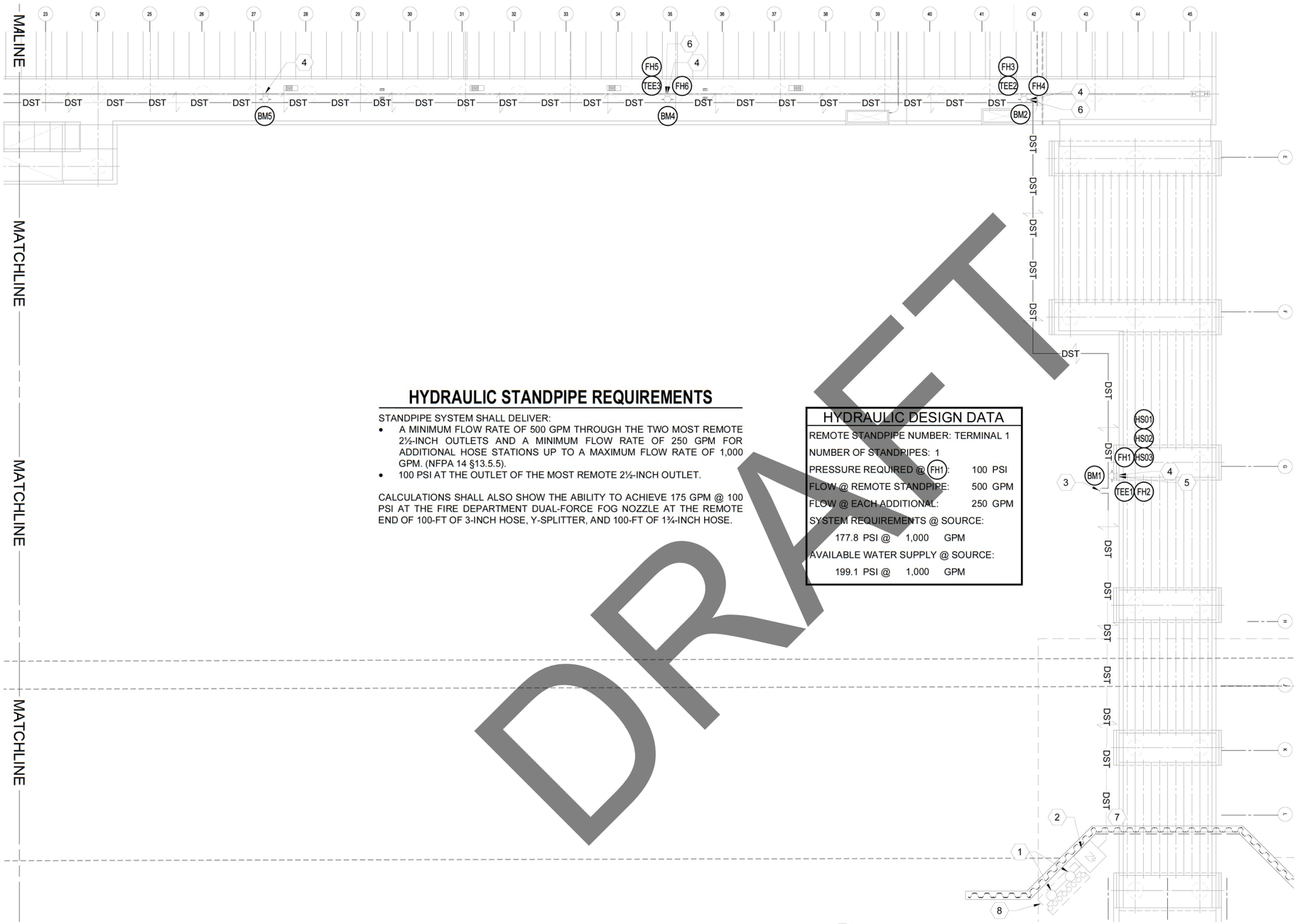


HYDRAULIC STANDPIPE REQUIREMENTS

STANDPIPE SYSTEM SHALL DELIVER:

- A MINIMUM FLOW RATE OF 500 GPM THROUGH THE TWO MOST REMOTE 2½-INCH OUTLETS AND A MINIMUM FLOW RATE OF 250 GPM FOR ADDITIONAL HOSE STATIONS UP TO A MAXIMUM FLOW RATE OF 1,000 GPM. (NFPA 14 §13.5.5).
- 100 PSI AT THE OUTLET OF THE MOST REMOTE 2½-INCH OUTLET.

CALCULATIONS SHALL ALSO SHOW THE ABILITY TO ACHIEVE 175 GPM @ 100 PSI AT THE FIRE DEPARTMENT DUAL-FORCE FOG NOZZLE AT THE REMOTE END OF 100-FT OF 3-INCH HOSE, Y-SPLITTER, AND 100-FT OF 1¾-INCH HOSE.

HYDRAULIC DESIGN DATA

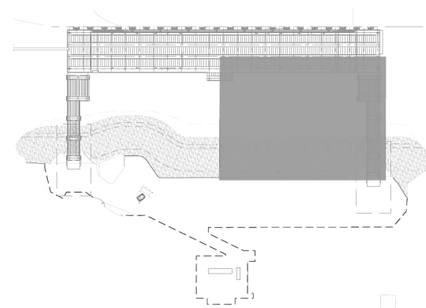
REMOTE STANDPIPE NUMBER: TERMINAL 1		
NUMBER OF STANDPIPES: 1		
PRESSURE REQUIRED @ (FH1):	100	PSI
FLOW @ REMOTE STANDPIPE:	500	GPM
FLOW @ EACH ADDITIONAL:	250	GPM
SYSTEM REQUIREMENTS @ SOURCE:		
177.8 PSI @	1,000	GPM
AVAILABLE WATER SUPPLY @ SOURCE:		
199.1 PSI @	1,000	GPM

GENERAL NOTES

1. HOSE CONNECTIONS SHALL BE PROVIDED AT A MINIMUM EVERY 150FT IN ACCORDANCE WITH NFPA 14, 2019 EDITION.
2. DRY STANDPIPE PIPING SHALL BE PITCHED TO DRAIN AT LEAST ¼ INCH PER 10 FEET IN ACCORDANCE WITH NFPA 14, 2019 EDITION.

SHEET KEYNOTES

1. PROVIDE FIRE DEPARTMENT CONNECTION (FDC) ABOVEGROUND HOT DIPPED GALVANIZED COATED STEEL PIPING MANIFOLD HEADER ASSEMBLY (FOUR - 2 ½ INCH HOSE VALVE INLETS) WITH CHECK VALVE LOCATED DOWNSTREAM OF MANIFOLD ASSEMBLY THAT IS ARRANGED TO SUPPLY WATER TO MANUAL DRY STANDPIPE SYSTEM/HOSE OUTLETS ALONG TERMINAL 1. FDC ASSEMBLY SHALL BE LOCATED UNDER CANOPIED STRUCTURE AND PROPER SIGNAGE PROVIDED IN ACCORDANCE WITH CITY OF ANCHORAGE FIRE DEPARTMENT REQUIREMENTS.
2. PROVIDE WATER VAULT WITH CHECK VALVE AND LOW POINT DRAIN.
3. PROVIDE SEISMIC SEPARATION ASSEMBLY AT EXPANSION JOINT. PROVIDE HORIZONTALLY (ALLOW DRAINAGE) AND PER NFPA 13. ENSURE MOUNTING STRUCTURE IS CAPABLE OF SUPPORTING WATER FILLED SEISMIC JOINT. REFER TO DETAIL 2 ON SHEET T1-F-500.
4. PROVIDE DRY STANDPIPE HOSE OUTLET STATION.
5. REMOTE HOSE OUTLET USED IN HYDRAULIC CALCULATION (FLOWING 500 GPM).
6. HOSE OUTLET USED IN HYDRAULIC CALCULATION (FLOWING 250 GPM).
7. DRY STANDPIPE PIPING TO TRAVERSE OVER ABUTMENT ABOVE GROUND.
8. PROVIDE CONCRETE PAD AROUND FDC. REFER TO SHEET T1-F-500 DETAIL 1.



KEYPLAN

MANUAL DRY STANDPIPE - NORTH TRESTLE AND WHARF

SCALE: 1" = 20'

65% SUBMITTAL

VERIFY SCALES
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0 1"
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REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

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DSGN	DR	CHK	APVD
	J. MCQUAY		

CONSULTANT

11/10/23
SEAL

FIRE PROTECTION

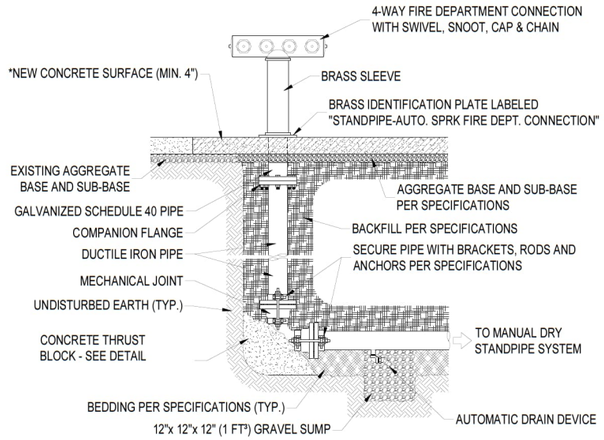
FIRE PROTECTION NORTH TRESTLE & WHARF

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

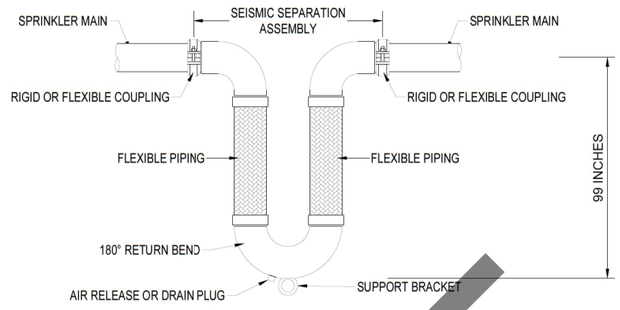
HORIZ SCALE: N.T.S
VERT SCALE:
DATE:
SHEET: 1 OF

T1-F-202



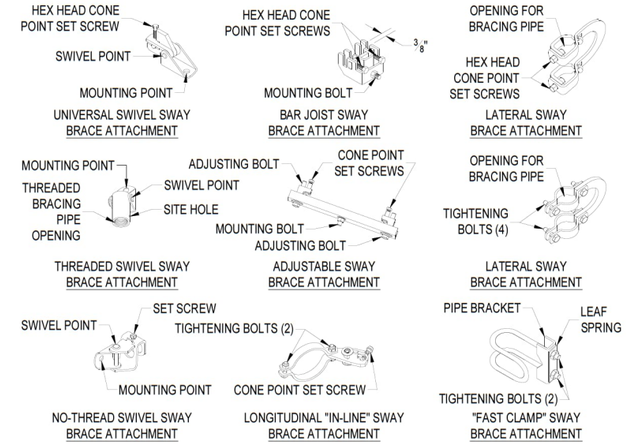
NOTES:
* - NEW CONCRETE PAD (6'x6') TO BE PROVIDED BY TERMINAL 1 PROJECT GENERAL CONCRETE TEAM AROUND EACH NEW MANUAL DRY STANDPIPE FDC ASSEMBLY ALONG WITH CONCRETE BOLLARDS AROUND THE PADS TO PROTECT THE FDC'S IN ACCORDANCE WITH ANCHORAGE FIRE CODE REQUIREMENTS.

1 4-INLET FIRE DEPARTMENT CONNECTION
SCALE: N.T.S.

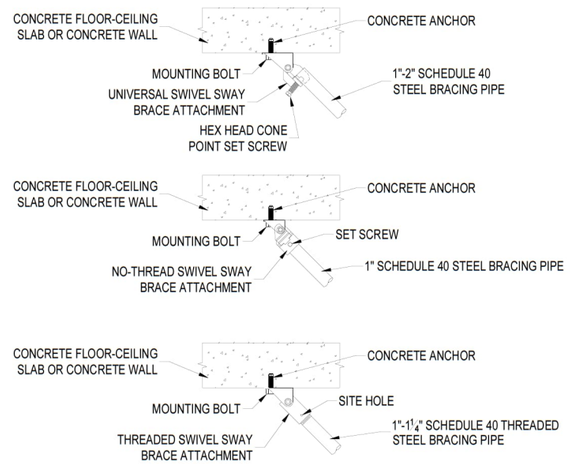


NOTES
1. A SEISMIC SEPARATION ASSEMBLY MAY BE INSTALLED IN ANY ORIENTATION / POSITION. WHEN THE SEISMIC SEPARATION ASSEMBLY IS INSTALLED IN THE UP POSITION (180° BEND ABOVE THE PIPE RUN) CONSIDERATION SHOULD BE GIVEN TO THE REMOVED OF ENTRAPPED AIR. SEE MANUFACTURER DATA FOR SUPPORT METHODS & REQUIREMENTS AND CLEARANCE REQUIREMENTS.
2. IF THE SEISMIC SEPARATION ASSEMBLY CANNOT SPAN THE BUILDING'S SEISMIC SEPARATION IT MAY BE INSTALLED WITH THE CLOSEST ELBOW NOT MORE THAN 24-INCHES FROM THE SEISMIC SEPARATION.

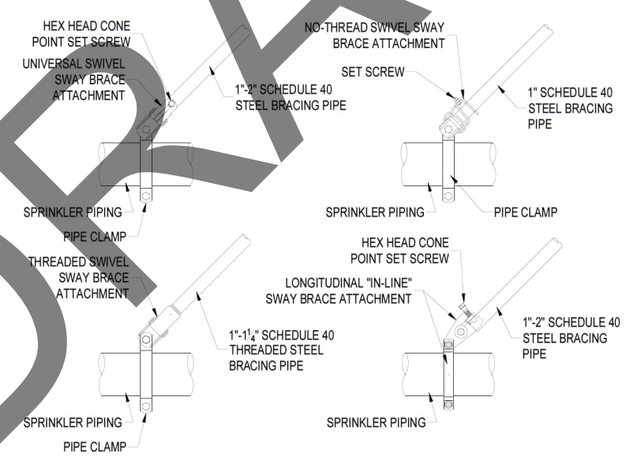
2 SEISMIC SEPARATION ASSEMBLY W/ FLEX PIPING
SCALE: N.T.S.



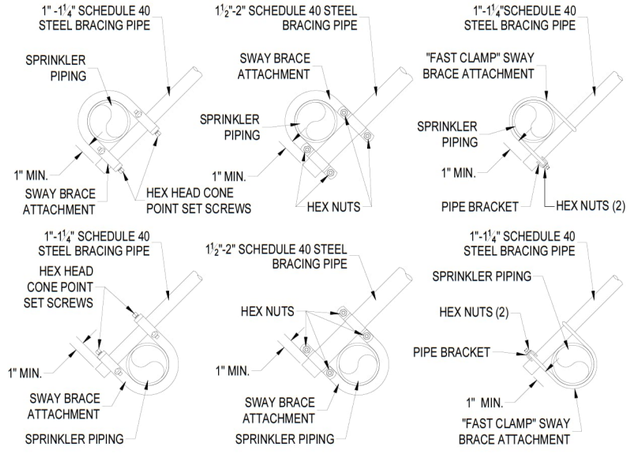
3 SEISMIC BRACING ATTACHMENTS
SCALE: N.T.S.



4 SEISMIC BRACING MOUNTED TO CONCRETE
SCALE: N.T.S.



5 LONGITUDINAL SEISMIC BRACING
SCALE: N.T.S.



6 LATERAL SEISMIC BRACING
SCALE: N.T.S.

65% SUBMITTAL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
	J. MCQUAY		

CONSULTANT

SEAL 11/10/23

PORT of ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM

FIRE PROTECTION

FIRE PROTECTION DETAILS

PORT OF ALASKA

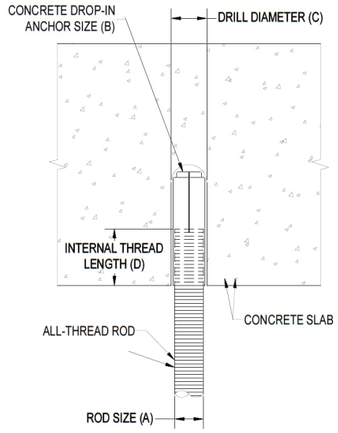
PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: N.T.S
VERT SCALE:
DATE:
SHEET: 1 OF

T1-F-500

PRELIMINARY. NOT FOR USE IN DEVELOPING CONSTRUCTION BIDS

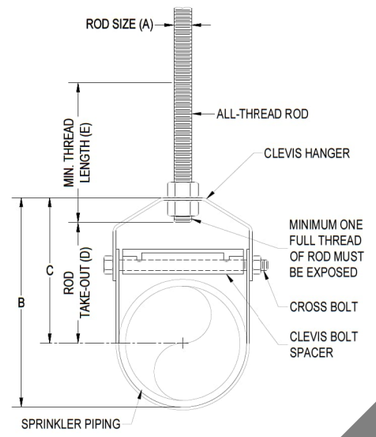
Last Saved by: Jmcquay on: Nov 14, 2023 2:40 PM File: C:\Users\bblanchard\DC\ACCDocs\GHD Services Pty Ltd\12609997 - POA-Terminal Replacement\Project Files\01 WIP\Dwgs\13_T1-F-500.dwg



PIPE SIZE	A	B	C	D
$1\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
$\frac{3}{4}$	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
1	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
$1\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
$1\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
2	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
$2\frac{1}{2}$	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
3	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
4	$\frac{3}{8}$	$\frac{3}{8}$ x $1\frac{9}{16}$	$\frac{1}{2}$	$\frac{5}{8}$
5	$\frac{1}{2}$	$\frac{1}{2}$ x 2	$\frac{5}{8}$	$\frac{11}{16}$
6	$\frac{1}{2}$	$\frac{1}{2}$ x 2	$\frac{5}{8}$	$\frac{11}{16}$
8	$\frac{1}{2}$	$\frac{1}{2}$ x 2	$\frac{5}{8}$	$\frac{11}{16}$
10	$\frac{5}{8}$	$\frac{5}{8}$ x $2\frac{9}{16}$	$\frac{27}{32}$	$\frac{7}{8}$
12	$\frac{5}{8}$	$\frac{5}{8}$ x $2\frac{9}{16}$	$\frac{27}{32}$	$\frac{7}{8}$

ALL SIZES ARE IN INCHES

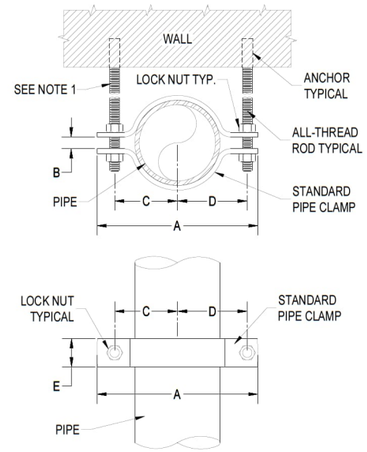
1 CONCRETE DROP-IN ANCHOR
SCALE: N.T.S.



PIPE SIZE	A	B	C	D	E
$1\frac{1}{2}$	$\frac{3}{8}$	$2\frac{1}{8}$	$1\frac{11}{16}$	$\frac{15}{16}$	$2\frac{1}{2}$
$\frac{3}{4}$	$\frac{3}{8}$	$2\frac{7}{16}$	$1\frac{7}{8}$	$1\frac{1}{8}$	$2\frac{1}{2}$
1	$\frac{3}{8}$	$2\frac{13}{16}$	$2\frac{1}{8}$	$1\frac{3}{8}$	$2\frac{1}{2}$
$1\frac{1}{4}$	$\frac{3}{8}$	$3\frac{7}{16}$	$2\frac{9}{16}$	$1\frac{13}{16}$	$2\frac{1}{2}$
$1\frac{1}{2}$	$\frac{3}{8}$	4	3	$2\frac{1}{4}$	$2\frac{1}{2}$
2	$\frac{3}{8}$	$4\frac{1}{2}$	$3\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{1}{2}$
$2\frac{1}{2}$	$\frac{3}{8}$	$5\frac{9}{16}$	4	$3\frac{1}{16}$	$2\frac{1}{2}$
3	$\frac{3}{8}$	$6\frac{3}{4}$	$4\frac{7}{8}$	$3\frac{15}{16}$	$2\frac{1}{2}$
4	$\frac{3}{8}$	$7\frac{13}{16}$	$5\frac{1}{2}$	$4\frac{3}{8}$	$2\frac{1}{2}$
5	$\frac{1}{2}$	$9\frac{1}{16}$	$6\frac{1}{8}$	5	$2\frac{1}{2}$
6	$\frac{1}{2}$	$10\frac{7}{16}$	$6\frac{15}{16}$	$5\frac{11}{16}$	3
8	$\frac{1}{2}$	$12\frac{3}{4}$	$8\frac{3}{8}$	$7\frac{1}{8}$	$3\frac{1}{2}$
10	$\frac{5}{8}$	$15\frac{1}{4}$	$9\frac{13}{16}$	$8\frac{3}{8}$	$3\frac{1}{2}$
12	$\frac{5}{8}$	$17\frac{5}{8}$	$11\frac{3}{16}$	$9\frac{11}{16}$	$3\frac{1}{2}$

ALL SIZES ARE IN INCHES

2 CLEVIS HANGER
SCALE: N.T.S.

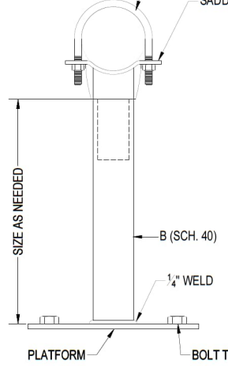


PIPE SIZE	A	B	C	D	E	ROD SIZE
1	$3\frac{9}{16}$	$1\frac{1}{4}$	$1\frac{1}{4}$	$1\frac{5}{16}$	$1\frac{1}{4}$	$\frac{5}{16}$
$1\frac{1}{4}$	$4\frac{3}{16}$	$\frac{3}{8}$	$1\frac{3}{8}$	$1\frac{11}{16}$	$1\frac{1}{4}$	$\frac{5}{16}$
$1\frac{1}{2}$	$4\frac{9}{16}$	$\frac{3}{8}$	$1\frac{5}{8}$	$1\frac{7}{8}$	$1\frac{1}{4}$	$\frac{5}{16}$
2	$5\frac{9}{16}$	$\frac{3}{8}$	2	$2\frac{1}{4}$	$1\frac{1}{4}$	$\frac{1}{2}$
$2\frac{1}{2}$	$6\frac{7}{16}$	$\frac{3}{8}$	$2\frac{1}{2}$	$2\frac{3}{4}$	$1\frac{1}{4}$	$\frac{1}{2}$
3	7	$\frac{3}{8}$	$2\frac{3}{4}$	$3\frac{1}{16}$	$1\frac{1}{4}$	$\frac{1}{2}$
4	$8\frac{1}{2}$	$\frac{5}{8}$	$3\frac{5}{16}$	$3\frac{11}{16}$	$1\frac{1}{2}$	$\frac{1}{2}$
5	$9\frac{3}{4}$	$\frac{3}{4}$	$3\frac{7}{8}$	$4\frac{3}{8}$	2	$\frac{5}{8}$
6	$11\frac{5}{8}$	$\frac{3}{4}$	$4\frac{7}{8}$	$5\frac{1}{8}$	2	$\frac{3}{4}$
8	$13\frac{5}{16}$	1	$5\frac{5}{8}$	6	2	$\frac{3}{4}$
10	$16\frac{1}{2}$	1	$7\frac{1}{4}$	$7\frac{1}{4}$	2	$\frac{7}{8}$
12	$18\frac{1}{2}$	1	$8\frac{1}{4}$	$8\frac{1}{4}$	2	$\frac{7}{8}$

ALL SIZES ARE IN INCHES

NOTES:
1. ALL-THREAD ROD LENGTH SHALL BE CUT IN FIELD. LENGTH WILL VARY BASED ON DISTANCES OF PIPE FROM MOUNTING WALL AND PIPE FITTINGS.
2. THIS ASSEMBLY SHALL BE USED FOR PIPE RESTRAINT ONLY. THIS ASSEMBLY SHALL NOT BE USED TO SUPPORT PIPE.

3 PIPE RESTRAINING CLAMP ASSEMBLY
SCALE: N.T.S.

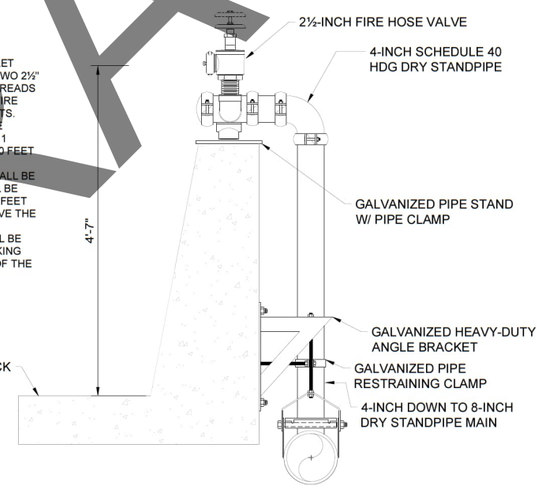


PIPE SIZE	A	B	SADDLE SIZE	PLATFORM SIZE	BOLT SIZE
1 (25)	$\frac{3}{4}$ (20)	$\frac{1}{4}$ (6.4)	$\frac{1}{4}$ x $1\frac{1}{2}$ (6.3 x 38.1)	$\frac{1}{4}$ x 6 x 6 (6.3 x 152.4 x 152.4)	$\frac{5}{8}$ (16)
$1\frac{1}{4}$ (32)	$\frac{3}{4}$ (20)	$\frac{3}{8}$ (10)	$\frac{1}{4}$ x 2 (6.3 x 50.8)	$\frac{1}{4}$ x 6 x 6 (6.3 x 152.4 x 152.4)	$\frac{5}{8}$ (16)
$1\frac{1}{2}$ (40)	$\frac{3}{4}$ (20)	$\frac{3}{8}$ (10)	$\frac{1}{4}$ x 2 (6.3 x 50.8)	$\frac{1}{4}$ x 6 x 6 (6.3 x 152.4 x 152.4)	$\frac{5}{8}$ (16)
2 (50)	$\frac{3}{4}$ (20)	$\frac{3}{8}$ (10)	$\frac{1}{4}$ x 2 (6.3 x 50.8)	$\frac{1}{4}$ x 6 x 6 (6.3 x 152.4 x 152.4)	$\frac{5}{8}$ (16)
$2\frac{1}{2}$ (65)	$1\frac{1}{2}$ (40)	$\frac{1}{2}$ (13)	$\frac{1}{4}$ x 2 (6.3 x 50.8)	$\frac{3}{8}$ x 8 x 8 (9.5 x 203.2 x 203.2)	$\frac{3}{4}$ (19)
3 (80)	$1\frac{1}{2}$ (40)	$\frac{1}{2}$ (13)	$\frac{1}{4}$ x 2 (6.3 x 50.8)	$\frac{3}{8}$ x 8 x 8 (9.5 x 203.2 x 203.2)	$\frac{3}{4}$ (19)
4 (100)	$2\frac{1}{2}$ (65)	$\frac{1}{2}$ (13)	$\frac{3}{8}$ x $3\frac{1}{2}$ (9.5 x 88.9)	$\frac{3}{8}$ x 12 x 12 (9.5 x 304.8 x 304.8)	$\frac{3}{4}$ (19)
5 (125)	$2\frac{1}{2}$ (65)	$\frac{1}{2}$ (13)	$\frac{3}{8}$ x $3\frac{1}{2}$ (9.5 x 88.9)	$\frac{3}{8}$ x 12 x 12 (9.5 x 304.8 x 304.8)	$\frac{3}{4}$ (19)
6 (150)	$2\frac{1}{2}$ (65)	$\frac{5}{8}$ (16)	$\frac{1}{2}$ x $3\frac{1}{2}$ (12.7 x 88.9)	$\frac{3}{8}$ x 12 x 12 (9.5 x 304.8 x 304.8)	$\frac{3}{4}$ (19)
8 (200)	$2\frac{1}{2}$ (65)	$\frac{5}{8}$ (16)	$\frac{1}{2}$ x $3\frac{1}{2}$ (12.7 x 88.9)	$\frac{3}{8}$ x 12 x 12 (9.5 x 304.8 x 304.8)	$\frac{3}{4}$ (19)
10 (250)	$2\frac{1}{2}$ (65)	$\frac{3}{4}$ (19)	$\frac{1}{2}$ x $3\frac{1}{2}$ (12.7 x 88.9)	$\frac{3}{8}$ x 12 x 12 (9.5 x 304.8 x 304.8)	$\frac{3}{4}$ (19)
12 (300)	$2\frac{1}{2}$ (65)	$\frac{7}{8}$ (22)	$\frac{1}{2}$ x $3\frac{1}{2}$ (12.7 x 88.9)	$\frac{3}{8}$ x 12 x 12 (9.5 x 304.8 x 304.8)	$\frac{3}{4}$ (19)

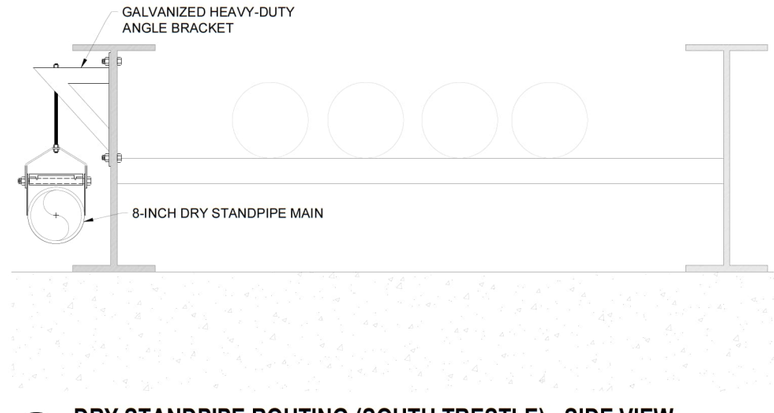
ALL SIZES ARE IN INCHES (MILLIMETERS)

4 PIPE SADDLE SUPPORT STAND
SCALE: N.T.S.

NOTES:
1. DRY STANDPIPE HOSE OUTLET STATIONS SHALL INCLUDE TWO 2½" FIRE HOSE VALVES WITH THREADS THAT MATCH ANCHORAGE FIRE DEPARTMENT REQUIREMENTS.
2. OUTLET STATIONS SHALL BE LOCATED ALONG TERMINAL 1 DOCK AT NO MORE THAN 150 FEET APART PER NFPA 14, 2019.
3. HOSE OUTLET STATIONS SHALL BE UNOBSTRUCTED AND SHALL BE LOCATED NOT LESS THAN 3 FEET OR MORE THAN 5 FEET ABOVE THE CONCRETE DECK/TRESTLE SURFACE. DIMENSION SHALL BE MEASURED FROM THE WALKING SURFACE TO THE CENTER OF THE HOSE VALVE.



5 FIRE HOSE STATION - SIDE VIEW
SCALE: N.T.S.



6 DRY STANDPIPE ROUTING (SOUTH TRESTLE) - SIDE VIEW
SCALE: N.T.S.

65% SUBMITTAL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

REV	DATE	DESCRIPTION	BY	APVD

REVISIONS

GHD-WSP JV
1400 W. BENSON BLVD, SUITE 400
ANCHORAGE, ALASKA 99503
AK ENGINEERING LICENSE # 197742(GHD) - AECC236(WSP)
AK BUSINESS LICENSE # 2164152(GHD) - 1113511(WSP)

DSGN	DR	CHK	APVD
	J. MCQUAY		

CONSULTANT

11/10/23
SEAL

FIRE PROTECTION

FIRE PROTECTION DETAILS

PORT OF ALASKA

PORT OF ALASKA MODERNIZATION PROGRAM
CARGO TERMINAL 1 DESIGN
ANCHORAGE, ALASKA

HORIZ SCALE: AS SHOWN
VERT SCALE:
DATE:
SHEET: 1 OF

T1-F-501