

Supplemental Pages for Questions 9a and 9b On the Waiver Template

Topic	Pages
Answers to Questions 9a and 9b.....	7-8
Project Schedule.....	9-15
Emails with Suppliers.....	16-48
Project Specs Detailing Materials.....	49-62

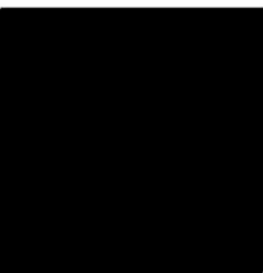
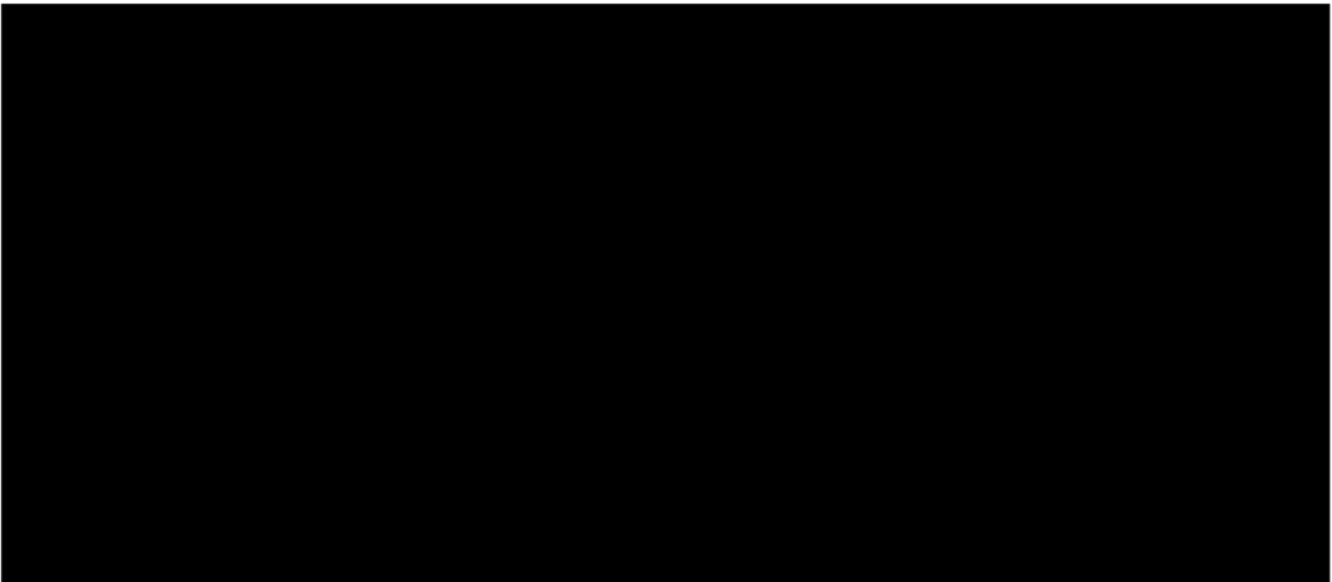
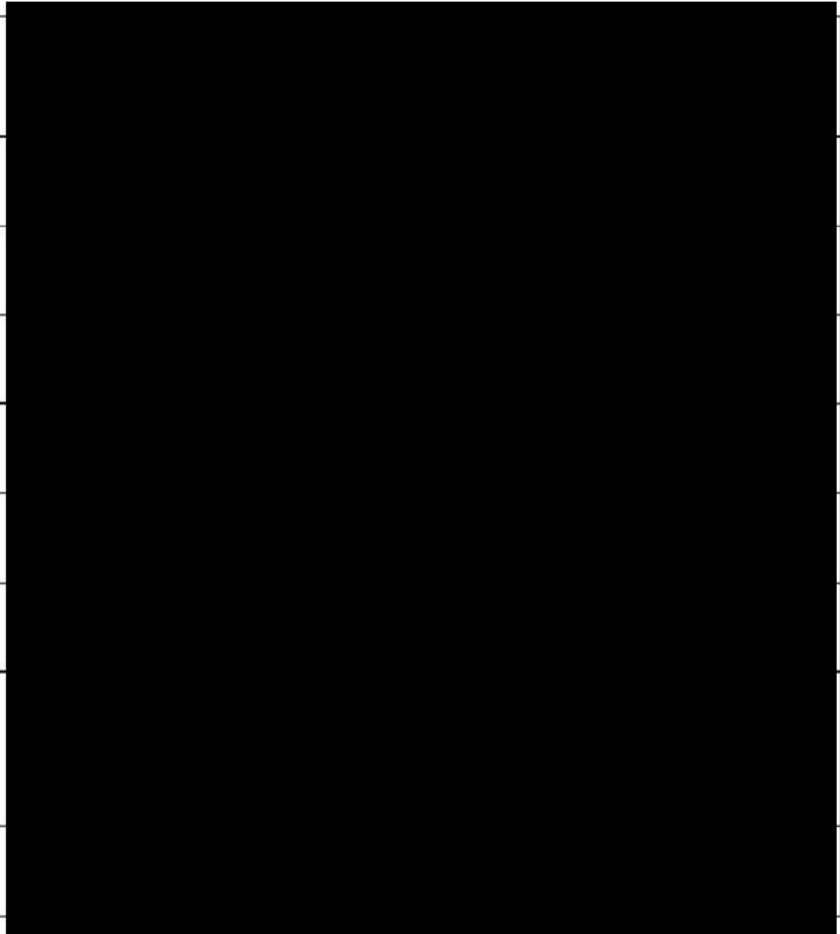
NOTE:

This waiver submission may include references to proprietary items and brand name products. These references have been retained to provide context for the waiver submission. EPA does not evaluate a waiver based on a proprietary item but reviews the performance-based specifications for the project/products. As such, any references to brand or proprietary items are reviewed on an "or equal" basis by EPA.

Items and pages may have been intentionally redacted or excluded by the EPA. Contact WIFIAWaiver@epa.gov for more information if necessary.

9a. Complete the following table to provide information about the product(s) for which the waiver is being requested. *For each product listed, attach a copy of the relevant technical specifications of the product to this form.*

Product Name	Brief Description (type and size)
Knife Gate Valve	12"
Knife Gate Valve	6"
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
Pinch Valve Cast Iron	4"
3-Way Plug Valve	4"
SS Ball Valves	1.5"
3-Way Plug Valve	4"



Specs-Exhibit C

40 05 61.91

KNIFE GATE VALVE, STAINLESS STEEL BONNETLESS

GENERAL
<ol style="list-style-type: none">1. Line Size: 2 through 24 inches.2. Rated Limits: Pressure 150 psi; Temperature 122 °F
VALVE MATERIALS
<ol style="list-style-type: none">1. Body: Stainless Steel (304 or 316)2. Gate: Stainless Steel (304 or 316)3. Packing: PTFE-impregnated synthetic fiber4. Seat Rings: Buna N, FKM, Neoprene, or EPDM5. Stem: Stainless Steel (304 or 316)
VALVE CONFIGURATION
<ol style="list-style-type: none">1. Valve End/Connections: Fully Lugged, ANSI B16.1 Class 1502. Operator: Handwheel, bonnetless; rising stem, outside screw and yoke, provide geared operators for valves 6 inches and larger, valves 4 inches and less shall have direct acting handwheels
SUBMITTALS
<ol style="list-style-type: none">1. Submittals: As specified in Section 40 05 60.
CANDIDATE MANUFACTURERS
<ol style="list-style-type: none">1. DeZurik KGC2. Fabri-Valve C673. Approved Equal

END OF SECTION

SECTION 40 05 62.12

GLASS LINED, AWWA C517, FULL (100%) PORT, CAST OR DUCTILE IRON, ECCENTRIC PLUG VALVES

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes requirements for Glass Lined, Full Port, Cast Iron or Ductile Iron, Eccentric Plug Valves conforming to AWWA C517 are listed in this Section. Comply with the provisions of Section 40 05 60 - Valves in addition to the requirements specified herein.

1.02 SUBMITTALS

- A. Submittals as specified in Section 40 05 60 - Valves.
- B. In addition to submittals specified in 40 05 60 - Valves, provide the following Action Submittal items:
 - 1. Certified copy of a report from an independent testing laboratory certifying successful completion of proof-of-design testing conducted in accordance with AWWA C517, Section 5.2. In lieu of testing the valves at an independent testing laboratory, proof-of-design testing may be performed at the valve manufacturer's laboratory but must be witnessed by a representative of a qualified independent testing laboratory, and all test reports certified by the laboratory representative. Proof-of-design testing performed on not less than three 6-inch diameter valves, with all three test units demonstrating full compliance with the test standards. Failure to satisfactorily complete the test shall be deemed sufficient evidence to reject all valves of the proposed make or manufacturer's model number.

PART 2 PRODUCTS

2.01 CANDIDATE MANUFACTURERS

Manufacturer	Model/Series
A. Dezurik	PEF
B. Pratt	Ballcentric
C. Valmatic	Cam-Centric
D. Approved Equal	

2.02 VALVE TYPE/CONFIGURATION

Component	Configuration Requirement
A. Design, Manufacture, and Testing	AWWA C517
B. Valve End/Connections	Flanged, ASME B16.1 Class 125 Flange
C. Pattern	Eccentric Plug with resilient facing
D. Port	Full 100% Port
E. Bearings	Sleeve Type, permanently lubricated
F. Seat	1/8 inch thick welded overlay with raised surface seat
G. Manual Actuator, valve size less than 8-inch	Lever or Handwheel

Component	Configuration Requirement
H. Manual Actuator, valve size 8-inch or greater	Handwheel with totally enclosed, permanently lubricated, worm gear reduction
I. Packing	Externally adjustable and replaceable without removing actuator, multiple V-ring or chevron type with a packing gland follower

2.03 VALVE MATERIALS

Component	Material
A. Body	Cast Iron, ASTM A126 Class B or Ductile Iron, ASTM A536 Grade 65-45-12
B. Plug	Cast Iron, ASTM A126 Class B or Ductile Iron, ASTM A536 Grade 65-45-12
C. Plug face	Chloroprene, Neoprene, or Buna-N
D. Lining and Coating	See glass lining requirements below
E. Bearings	Stainless Steel, Type 316 or ASTM A743 Grade CF8M
F. Shaft	Cast Iron or Ductile Iron ASTM A 536
G. Seat	Nickel
H. Packing	Nitrile/NBR/Buna-N or TFE
I. Nuts, Bolts, Hardware, and Fasteners	Stainless Steel
J. Grit Excluder	PTFE or Buna N

2.04 GLASS LINING

- A. Glass lining per ASTM B1000
- B. Glass lining applied to interior of valve.
 - 1. Provide a dual layer coating system of vitreous material.
 - 2. 10 mils minimum thickness
 - 3. Continuous coverage of glass lining as verified by a low voltage holiday detector.
 - 4. Voids, other than isolated pinholes, shall be cause for rejection.
 - 5. Isolated voids due to casting anomalies are not cause for rejection.
- C. Candidate manufacturers for glass lining material:
 - 1. Ferroch MEH 32
 - 2. Vitco SG 14
 - 3. Approved equal.

2.05 DESIGN REQUIREMENTS

Item	Value
Valve End Connections	
A. Line Size, Inches	3 thru 72
Rated Limits	
B. Pressure, psi	175 (3 to 12 inches)
C. Temperature, degrees Fahrenheit	125

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install valve with shaft or plug horizontal. (Axis of rotation for plug lies in a horizontal plane.)
- B. Vertical Pipe: Valve seat at the top or upper valve port
- C. Horizontal Pipe: Valve seat and plug face upstream (against the normal flow direction) when the valve is closed. Plug rotates up (away from the invert of the valve) to open the valve.

END OF SECTION

40 05 62.13

PLUG VALVE, GAS TIGHT, THREE-WAY, TRANSFLOW, ECCENTRIC

GENERAL
<ol style="list-style-type: none"> 1. Line Size: 3 through 16 inches 2. Rated Limits: Pressure 100 psi; Temperature 125 °F
VALVE MATERIALS
<ol style="list-style-type: none"> 1. Body: Cast Iron, ASTM A126, Grade B 2. Plug: Cast Iron, ASTM A126, Grade B; Ductile Iron, ASTM A536, Grade 65-45-12 3. Plug Facing: Neoprene; provide resilient plug with dead-tight or gas-tight shutoff 4. Lining: Glass lined 5. Packing: Buna V-flex; packing shall be self-adjusting chevron type replaceable without disassembling the valve 6. Bearings: Stainless Steel, Type 316; upper and lower journal bearings shall be replaceable, sleeve-type, corrosion resistant, and permanently lubricated 7. Bolts, Nuts, Hardware: Stainless Steel
VALVE CONFIGURATION
<ol style="list-style-type: none"> 1. Valve End/Connections: ANSI B16.1 Class 125 Flange 2. Pattern: Three-Way, Transflow, L-Pattern Flow, Single Style Plug; transflow valve pattern provides for flow entering a common port and exiting either discharge port or both discharge ports without simultaneously blocking both exit ports at any point in the travel of the plug between valve positions, valve shall not close or block any part of the common port connection at any point in the travel of the plug between valve positions, common port shall be the tee or branch connection, travel stops shall be used to ensure the valve meets the criteria specified 3. Operator: Double Handwheel, 180-degree Plug Rotation with Travel Stops; double handwheel be capable of lift, turn, and reseal of plug, transflow valve pattern provides for flow entering a common port and exiting either discharge port or both discharge ports without simultaneously blocking both exit ports at any point in the travel of the plug between valve positions, valve shall not close or block any part of the common port connection at any point in the travel of the plug between valve positions, common port shall be the tee or branch connection, travel stops shall be used to ensure the valve meets the criteria specified
SUBMITTALS
<ol style="list-style-type: none"> 1. As required in Section 40 05 60 - Valves. 2. Manufacturer's standard product data.
CANDIDATE MANUFACTURERS
<ol style="list-style-type: none"> 1. DeZurik PTW 2. Approved equal.

END OF SECTION

40 05 63.03

BALL VALVE, STAINLESS STEEL THREADED

GENERAL
<ol style="list-style-type: none">1. Line Size: ¼ through 3 inches2. Rated Limits: Pressure 1000 psig; Temperature 100 °F (WOG).
VALVE MATERIALS
<ol style="list-style-type: none">1. Body: A351-CF8M Stainless Steel2. Ball: A276-316 Stainless Steel3. Seats: RPTFE4. Packing: MPTFE5. Stem: A276-316 Stainless Steel; blowout-proof stem design.
VALVE CONFIGURATION
<ol style="list-style-type: none">1. Valve End/Connections: Female NPT Thread (ASME B1.20.1 NPT).2. Pattern: Compact, Regular Port3. Ball Mount: Floating4. Manual Operator: 304SS Lever and nut with Vinyl Grip.
SUBMITTALS
<ol style="list-style-type: none">1. As required by Section 40 05 60 – Valves.
CANDIDATE MANUFACTURERS
<ol style="list-style-type: none">1. Apollo 76J-100.2. Elite B01.3. Bray 5000/60004. Approved Equal

END OF SECTION

SECTION 40 05 72
SPECIALTY VALVES

PART 1 GENERAL

1.01 DESCRIPTION

A. This section specifies specialty valves which are auxiliary to process piping systems.

1.02 REFERENCES

- A. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
- B. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids). If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ASME SEC VIII D2	Boiler and Pressure Vessel Code, Pressure Relief Devices
ASTM A126	Gray Iron Castings for Valves, Flanges, and Pipe Fittings

PART 2 PRODUCTS

2.01 SHEAR GATES (NOT USED)

2.02 FLAP GATES (NOT USED)

2.03 MUD VALVES (NOT USED)

2.04 PRESSURE RELIEF VALVES (NOT USED)

2.05 COMBINATION TEMPERATURE-PRESSURE RELIEF VALVES (NOT USED)

2.06 HOSE VALVES

A. Unless specified otherwise, hose valves shall be a brass angle valve, composition disc, Crane 17, Lunkenheimer 214, Powell 151, or equal with threaded nipple adapter for hose connection.

2.07 FLUSHING COCKS

- A. Flushing cocks shall consist of a DeZurik 159/118-S, Keystone Fig 541, or equal, neoprene-faced eccentric plug valve with a hose nipple adapter if required. Unless specified otherwise, flushing cocks shall be 1-½ inch in diameter.

2.08 QUICK DISCONNECTS

- A. Quick disconnects shall not be disconnectable under pressure. Quick disconnects for water service shall be EverTite Part B, Gate Part B, or equal, and shall be 1 inch, unless specified otherwise.

2.09 STOP AND DRAIN VALVES

- A. Stop and drain valves shall be Mueller H-10284, or equal.

2.10 PRODUCT DATA

- A. Manufacturer's product data shall be provided in accordance with Section 01 33 00.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Specialty valves shall be installed in accordance with the manufacturer's recommendations.

END OF SECTION

THIS PAGE INTENTIONALLY LEFT BLANK