

July 6, 2017

Mr. Eddie Rhandour, PE
Drinking Water State Revolving Fund Engineering Manager
Water Quality Division
Oklahoma Department of Environmental Quality
PO Box 707 (707 N. Robinson)
Oklahoma City, OK 73101

Subject: AIS Availability Waiver Application for TR Flex Fittings
City of Norman Public Water Supply, PWSID No. 1020801
Norman Water Treatment Plant Phase II Improvements
DWSRF Project No. P40-1020801-02

Dear Mr. Rhandour:

The purpose of this application is to obtain an AIS availability waiver for the specified TR Flex ductile iron fittings in sizes ranging from 4" to 24" for this critical project for a Water Treatment Plant upgrade to the Norman Water Treatment Facility for the Norman Utilities Authority in the City of Norman, Oklahoma. The specified fittings are not produced in the United States (See Exhibit A from US Pipe Manufacturer). This project is the second phase of the water treatment plant upgrade for supplying potable water to residents and Phase II consists of constructing a new 17 Million Gallon per Day (MGD) ozone system, ultraviolet disinfection system, low lift pump station, chemical equipment and building and rehabilitation of the high pressure zone pump station including all associated improvements. The following information follows the Information Checklist for Waiver Requests form:

General:

1. Description: U.S. Pipe TR Flex ductile iron fittings in sizes ranging from 4" to 24", See attached Exhibit A from U.S. Pipe for further description.
2. Scheduled Quantity/Item Type/Unit of Measure:
4" Fittings – 1 tee, 1 plug, 2 90-degree bends, and 2 45-degree bends
6" Fittings – 4 90-degree bends, 6 45-degree bends, and 5 solid sleeves
10" Fittings – 2 45-degree bends
12" Fittings – 1 45-degree bend and 2 90-degree bends
20" Fittings – 1 90-degree bend, 1 11/4-degree bend, and 3 solid sleeves
24" Fittings – 1 90-degree bend and 2 solid sleeves
3. Time of Delivery or Availability:
 - a. 3 weeks for waiver approval; plus 4 weeks' delivery. Total 7 weeks
4. Location of Construction Projects:
 - a. Project located at the Norman Water Treatment Plant
3000 E. Robinson, Norman, Oklahoma 73071
5. Name and Address of Proposed Supplier
 - a. Adam R. Martin, PMP
Sales Engineer

U.S. Pipe and Foundry, LLC
Two Chase Corporate Drive, Suite 200
Birmingham, Alabama 35244
Cell: 518-598-4278
e-mail: armartin@uspipe.com

6. Supporting documentation including that the contractor made a reasonable survey of the market, such as description of the process for identifying suppliers and a list of contacted suppliers.
 - a. Foley Construction has contacted Ferguson Supply and Fortiline Waterworks, the main suppliers in the area and determined the TR Flex restrained joint fittings are not available from other suppliers or manufacturers. US Pipe is the sole manufacturer of TR Flex fittings.
7. Supplier information or pricing information from a reasonable number of domestic suppliers indicating availability/deliver date for construction materials
 - a. See attached Exhibit A.
8. Contractor and/or supplier to provide a statement confirming the non-availability of the domestic construction material which is sought
 - a. See attached Exhibit A.
9. Has the State received other waiver requests from the materials described in the request for comparable projects?
 - a. The EPA has approved several projects in the United States with comparable projects including waivers for usage of the TR Flex restrained joint fittings for the following projects. Please see attached Exhibits B, C, D, and E.
 - i. West County Wastewater District, Richmond, California, CWSRF
 - ii. City of Winston-Salem, North Carolina, CWSRF
 - iii. San Francisco Public Utilities Commission, California, CWSRF Recycled water pipeline
 - iv. City of Belton, Missouri, WSRF
10. Project Schedule:
 - a. The affected project has a contract price of \$29,990,165.00 and is scheduled to be completed by May 29, 2019. Time is of the essence on the procurement of these fittings as it involves work in areas that are on the critical path to meet the scheduled completion date.
11. Engineering Discussion Re: TR Flex Restrained Joint fittings:
 - a. The Oklahoma Department of Environmental Quality acknowledges that there are other methods of restraining pipe joint fittings that use products other than the TR Flex fittings. However, for this particular project, the design engineer required the use of TR Flex or Bolt-Lok fittings for a critical application. Neither TR Flex nor Bolt-Lok fittings meet AIS requirements. Bolt-Lok fittings have a higher cost and longer lead time than TR Flex fittings and are therefore not desirable for use on this project. Requiring the applicant use other methods of restraining pipe joints would result in

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- significant redesign of the project, which in turn would cause delays in the project construction.
- b. The buried piping on this project was designed to allow maximum deflection at the joints to accommodate differential settlement between the unsupported pipes and the pier/pile supported structures which they span between. TR Flex joints provide adequate allowable deflections and also offer restraint at the joint. TR Flex's unique design provides restraint (to prevent lateral movement of the piping system) without sacrificing deflection.

Should you have any questions regarding these documents or should you require additional information, please contact our consultant Amber Wooten, PE, Carollo Engineers at (918) 822-4969 or awooten@carollo.com.

Sincerely,
CAROLLO ENGINEERS, INC.



Amber L. Wooten, PE

cc: Chris Mattingly, PE, City of Norman
Tom Crowley, PE, Carollo Engineers, Inc.
Dave Hoover, Foley Company

This waiver request was submitted to the EPA by the state of Oklahoma. All supporting correspondence and/or documentation from contractors, suppliers or manufacturers included as a part of this waiver request was done so by the recipient to provide an appropriate level of detail and context for the submission. Some referenced attachments with project diagrams, schedules, and supplier correspondence are in formats that do not meet the Federal accessibility requirements for publication on the Agency's website. Hence, these exhibits have been omitted from this waiver publication. They are available upon request by emailing SRF_AIS@epa.gov.