JUSTIFICATION AND APPROVAL FOR
USE OF OTHER THAN FULL AND OPEN COMPETITION

1. CONTRACTING ACTIVITY:

Architect-Engineer/Construction Contracts Branch, Naval Facilities Engineering Command, Pacific Division, Joint Base Pearl Harbor Hickam, Hawaii.

2. DESCRIPTION OF THE ACTION BEING APPROVED:

SPECIAL PROJECT ST09-1885, REPLACE 24-IN UNDERWATER WATERLINE CROSSING, Ford Island to Landing Charlie, Joint Base Pearl Harbor – Hickam (JBPHH), Oahu, will specify by brand name, Underground Solutions, Inc. fusible polyvinyl chloride (fPVC) pipe, which will not provide for full and open competition. The brand name description is essential to the Government's requirements, thereby precluding consideration of a product manufactured by any other company.

3. DESCRIPTION OF SUPPLIES/SERVICES:

This project will replace approximately 3,500 linear feet of a deteriorated 24-inch cast iron waterline with new 24-inch fusible polyvinyl chloride (PVC) pipe from Ford Island to Landing C at Joint Base Pearl Harbor – Hickam (JBPHH). Approximately 1,400 linear feet of the existing waterline to be replaced is located underwater. Project will replace the existing deteriorated underwater crossing using horizontal directional drilling (HDD). Due to the length of the proposed HDD bore, a steel casing will be installed prior to the pullback of the new pipe. The steel casing is required to reduce the amount of pullback stresses that will be imposed on the pipe string. The new 24-inch fusible PVC underwater crossing will be installed approximately 40 feet below the harbor floor. Work will include all necessary tie-ins to the existing system by HDD and/or open trenching, installation of valves, valve vaults, and testing and disinfection.

4. STATUTORY AUTHORITY PERMITTING OTHER THAN FULL AND OPEN COMPETITION:

The statutory authority 10 U.S.C. 2304(c)(1) - Only one responsible source and no other supplies or services will satisfy agency requirements.

5. RATIONALE JUSTIFYING USE OF CITED STATUTORY AUTHORITY:

The Government intends to utilize Underground Solutions, Inc. fusible polyvinyl chloride (fPVC) pipe for SPECIAL PROJECT ST09-1885, REPLACE 24-IN UNDERWATER WATERLINE CROSSING, Ford Island to Landing Charlie, Joint Base Pearl Harbor – Hickam (JBPHH), Oahu. Underground Solutions, Inc. manufactures polyvinyl chloride (PVC) pipe in accordance with American Water Works Association (AWWA) standards C900 and C905. In lieu of conventional pipe joints, Underground Solutions, Inc. utilizes a proprietary, patent-pending formulation that allows butt fusion of joints to produce a continuous PVC pipe string that can be up to several thousand feet in length. The PVC pipe string can then be sliplined into a steel casing installed under a body of water, i.e., Pearl Harbor, via a process known as Horizontal Directional Drilling (HDD). Piping sliplined inside the steel casing must be able to withstand tensile pulling and bending forces that can compromise the piping material, as well as be corrosion resistant due to the marine environment where the pipe will reside. In addition, the pipe string needs to be flexible enough to negotiate bends required for a successful installation between Ford Island and Landing C.

Commonly used piping materials for the HDD and sliplining process includes welded steel, fusible high density polyethylene (fHDPE), and fPVC. Steel piping is prone to corrosion, precluding its use as a carrier pipe in this particular project; however, it may be used as a casing pipe. Use of fHDPE pipe in potable water distribution systems is currently prohibited in the NAVFAC-prepared Unified Facilities Guide Specifications (UFGS) Section 33 11 00, Water Distribution. This moratorium is due to the effects of chlorinated water and its potential to create oxidation reduction potential (ORP) in fHDPE pipe, resulting in detrimental long term effects that can compromise the structural integrity of the fHDPE pipe. The moratorium specifically states that until the American Water Works

Association (AWWA) Manual of Water Supply Practice M55 is revised to provide designers more guidance in determining ORP, the material will not be allowed. fPVC is resistant to corrosion, hydrocarbon permeation, and oxidation from chlorine-based disinfectants. fPVC is flexible enough to negotiate bends with radii of curvature of 6,000 feet or less, withstand short-term installation tensile forces of up to 307,100 pounds and tensile stresses of 7,000 pounds per square inch (psi).

If HDD methods are not used, other methods to install the pipeline would include laying the pipeline at the bottom of the channel, or another trenchless method. If the pipeline is laid at the bottom of the channel, it would be susceptible to damage due to dragging anchors of passing ships. Laying the pipeline on the channel bottom would also be more environmentally disruptive than installing the pipeline underground, as it may disturb the mudline sediments and any coral, sea grass, and other sensitive marine benthic habitat. This would also require more extensive and stringent monitoring and permitting requirements. Other trenchless methods would include microtunneling. However, microtunneling lengths are typically 600 to 1,000 feet long, far less than the required 3,500-foot long continuous alignment. If microtunneling methods were used, several overwater jacking and receiving shafts would be required at the middle of the channel to provide microtunnel drive lengths less than 1,000 feet long. Jacking and receiving shafts would also be required within the historical pavement on Ford Island. Furthermore, microtunneling through the very soft, slurry-like estuarine deposits at the middle of the channel would be highly risky to infeasible. The estuarine deposits encountered during the geotechnical exploration have Standard Penetration Test (SPT) blow counts of 0, and the heavy microtunnel machine will tend to sink during installation. Steering in the soft materials will be very difficult, and there is a high risk of losing the microtunnel machine after it sinks too deep.

Installation of underwater utilities via HDD has also been found to be the least environmentally disruptive process currently available. Other types of carrier pipe material currently available would not be able to meet the required diameter, distance, bending radius, corrosion resistivity, resistivity to hydrocarbon permeation, resistivity to oxidation form chlorine-based disinfectants, and/or pressure class.

Underground Solutions, lnc.'s fusible PVC pipe system utilizes a proprietary, patent-pending formulation that allows butt fusion of joints, to produce a continuous PVC pipe string that can be up to several thousand feet in length. This type of fPVC piping is only available from Underground Solutions, Inc and no other type of fPVC piping will satisfy carrier piping material use and installation requirements for this project.

6. DESCRIPTION OF EFFORTS MADE TO SOLICIT OFFERS FROM AS MANY OFFERORS AS PRACTICABLE:

In accordance with FAR 6.302-1, an announcement was recently published in December 2015 in the Navy Electronic Commerce Online (NECO) and Federal Business Opportunities (FBO) websites seeking any and all sources that could provide a fusible polyvinyl chloride pipe for use in underwater horizontal direction drilling (HDD). No responses were received for this announcement.

7. DETERMINATION OF FAIR AND REASONABLE COST:

The Government's estimated cost of [redacted] for the fPVC pipe, delivery and fusion was formulated by the [redacted] The cost for the fPVC pipe, delivery and fusion will be a part of the construction project which will be competitively procured. Therefore, fair and reasonable pricing will be obtained through competition.

8. ACTIONS TAKEN TO REMOVE BARRIERS TO FUTURE COMPETITION:

This is a one-time procurement. Although the utilization of a brand name in this project is indicated by this J&A, each future project that includes fPVC pipe, outside of one year of approval of this J&A, will conduct the same market survey to ascertain the availability of new technology that may provide for other sources to meet the Government’s needs. Should any other offers for compatible installation of fPVC pipe be submitted during the source selection process, the Government will consider each as applicable.

CERTIFICATIONS AND APPROVAL

I certify that the facts and representations under my cognizance which are included in this Justification and its supporting acquisition planning documents, except as noted herein, are complete and accurate to the best of my knowledge and belief.

TECHNICAL/REQUIREMENTS CERTIFICATION:

[redacted] [redacted]

[redacted] Phone No. Date

LEGAL SUFFICIENCY REVIEW

I have determined this Justification is legally sufficient.

[redacted] [redacted]

[redacted] Phone No. Date

CONTRACTING OFFICER CERTIFICATION

I certify that this Justification is accurate and complete to the best of my knowledge and belief.

[redacted]

[redacted] Phone No. Date

APPROVING OFFICIAL (NFAS 6.304)

Upon the basis of the above justification, I hereby approve the solicitation of the proposed procurement(s) described herein using other than full and open competition, pursuant to the authority of 10 U.S.C. 2304 (c)(1).

[redacted] [redacted]

[redacted] Phone No. Date

[redacted]