

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

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PUBLIC SERVICE  
COMMISSION

In the Matter of:

APPLICATION OF HARDIN COUNTY WATER )  
DISTRICT NO. 1 FOR APPROVAL OF A )  
CONTRACT WITH THE UNITED STATES ARMY ) CASE NO. 2011-00416  
TO PROVIDE WATER SERVICE TO THE FORT )  
KNOX MILITARY INSTALLATION )

PETITION FOR REHEARING

Comes the Hardin County Water District No. 1, (“the District”) by counsel, and requests a rehearing in the above referenced case. Specifically, the District respectfully requests the Commission reconsider, or in the alternative, clarify, paragraph nineteen (19) of the Order entered in this case on January 27, 2012. Said paragraph requires the District to apply for a Certificate of Public Convenience and Necessity (CCN) for “initial system deficiency corrections” (ISDC) that involve “significant capital outlays.”

The District acknowledges that KRS 278.020 generally requires a certificate of public convenience and necessity before construction of any facilities for furnishing to the public services enumerated in KRS 278.010. The District would submit, however, that the ISDC do not involve the furnishing of services to the public. Rather, the contract is between the District and the Government and the District is providing all services to the Government. This is, in other words, a private transaction. Since the District is not furnishing anything to the public, it would submit that a CCN is not required for the ISDC.

Should the Commission disagree, the District also submits, in the alternative, that a CCN is not required for the ISDC pursuant to 807 KAR 5:001(9). First, the ISDC do not create wasteful duplication of plant, equipment, property or facilities. Rather, as can be gathered from

the attached list that describes each ISDC in detail (See Exhibit A), all of the ISDC involve either gathering information about the Installation's water system or ensuring the continued functionality of said system. No duplication of resources will occur because the system is already in place and presently serving the Installation.

Furthermore, the ISDC will not conflict with another utility's existing certificates of service. The ISDC involve the Ft. Knox Military Installation (the "Installation"), which has defined boundaries, and the Installation's water system. In completing the ISDC, the District will either be working within the Installation's boundaries or on property owned by the United States Government. At no point will the District be competing with any other providers; in fact, since the District was the sole entity awarded the contract to operate the water system on the Installation, there cannot be any other providers in the area.

Lastly, the ISDC do not involve sufficient capital outlay to materially effect the existing financial condition of the utility involved. The ISDC were incorporated into the contract at the request of the Government to ensure the continued viability of the Installation's water system. Each ISDC is entirely funded by the fees and charges detailed in the contract. The District will not be funding any of the ISDC and will incur no debt by completing them. While it is true that the District is taking in funds in the form of the fees and charges, it is simply reallocating these funds back to the government to pay for the ISDC. In other words, the process is simply a debit, credit exercise which will not materially affect the existing financial condition of the utility. Moreover, the ISDC will not result to any increased charges to the Installation's customers because the contract is structured so that the District has only one customer, the Government, and the fees and charges to the Government are predetermined.

Should the Commission disagree that a CCN is not required under 807 KAR 5:001(9), the district would submit that, at minimum, a CCN is not required for every ISDC. Some ISDC involve only services and others do not involve significant capital outlay. Attached hereto for the convenience of the Commission is a chart which summarizes each ISDC. (See Exhibit A). As the chart makes clear, and as the ISDC descriptions also attached as Exhibit A explain in more detail, ISDC numbers 1, 2, 3, 30, 31, 32, 33, and 34 involve professional or operational services only and do not result in any construction.<sup>1</sup> As such, the District believes a CCN is unnecessary for these ISDC.

As to the remaining ISDC, the District believes they do not involve significant capital outlay because they are funded by the government, as set forth above. If this rationale is rejected by the Commission, the District believes a benchmark number should be set by the Commission by which “substantial capital outlay” can be judged. Given the substantial nature of this entire transaction<sup>2</sup>, the District believes a benchmark of one million dollars (\$1,000,000.00) is reasonable. Seven (7) of the ISDC, numbers 6, 10, 11, 15, 20, 21, and 23, are in excess of one million dollars (\$1,000,000.00). The District is certainly willing to submit a single application for a CCN for ISDCs 6, 10, 11, 15, 20, and 21 but believes a CCN is not required for the remaining ISDC given their relatively lower cost.

In conclusion, the District requests the Commission to reconsider or clarify paragraph 19 of the Order entered on January 27, 2012. The District believes a CCN is not required because the ISDC do not involve the public, because a CCN is not required under 807 KAR 5:0001(9), and because some ISDC are for professional services only. Should the Commission disagree, the

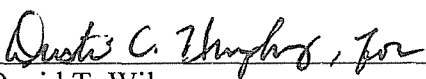
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<sup>1</sup> Note that ISDC Nos. 30-34 do not appear on detailed list in Exhibit A; since these ISDC are only for operation of the Muldraugh WTP, a detailed description was not provided by the Government.

<sup>2</sup> The Contract is for a total of \$253,843,146.00 over 50 years.

District asks the Commission to set a benchmark of \$1,000,000.00 for “substantial capital outlay” and required a CCN only for ISDC above the benchmark.


Respectfully Submitted,



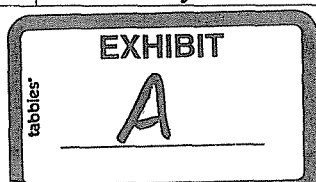
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### CERTIFICATION OF SERVICE

The undersigned, Mr. David T. Wilson II, attorney for the Hardin County Water District No. 1, hereby verifies that the foregoing was served on Mr. Jeff Derouen, Executive Director, Kentucky Public Service Commission, 211 Sower Boulevard, Frankfort, KY. 40601-8204 and on the office of Attorney General, ATTENTION Mr. David Spenard, Esq., 1024 Capitol Center Drive, Frankfort, KY, 40601 on this the 10<sup>th</sup> day of February, 2012.

  
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David T. Wilson II, ESQ.  
SKEETERS, BENNETT, WILSON & PIKE  
Attorney for Hardin County Water District No. 1

ISDC PROJECT NO.	PROJECT COST	SUMMARY DESCRIPTION
1	\$121,610	<b>System Survey/Assessment and Re-Map the Utility System:</b> complete survey/map of potable water system. No construction; professional services only.
2	\$49,530	<b>Leak Detection Survey:</b> check entire system for leaks. No construction; professional services only.
3	\$22,050	<b>Hydraulic Model:</b> development of hydraulic model for entire system. No construction; professional services only.
4	\$24,909	<b>Master Flow Meters at WTPs:</b> replace master meter at Muldraugh WTP; calibrate meters at Muldraugh WTP and Central WTP.
5	\$89,319	<b>20-Inch Valves:</b> replace valves on 20" pipe from well fields to Muldraugh WTP.
6	\$1,946,203	<b>New Raw Water from the Muldraugh WTP to the 16-inch Raw Water Line between Otter Creek PS and Central WTP:</b> design and construction of new 16-inch raw water line.
7	\$117,449	<b>Otter Creek Pump Station:</b> repairs to Otter Creek PS including erosion control work, new roof, windows and doors.
8	\$108,234	<b>Muldraugh HLPS:</b> install new windows, doors, roof and paint exterior.
9	\$64,202	<b>Central WTP:</b> replace roof of Central WTP; test for asbestos and lead paint.
10	\$1,825,443	<b>Central WTP Clear Well:</b> replace roof; install interior liner system.
11	\$1,957,620	<b>Fire Hydrants:</b> replacement of approximately 600 hydrants.
12		Item deleted by government; not part of final contract.
13	\$439,499	<b>Water Storage Tank No. 5:</b> renovate existing tank including new altitude valve and rectifier.
14	\$248,658	<b>Automatic Transfer Switches:</b> design and install switches at Otter Creek PS, Central WTP, and Muldraugh HLPS; installation of necessary transformers.
15	\$1,773,822	<b>Pipe Between Otter Creek PS and Central WTP:</b> design and construct replacement of 16 cast iron pipe with ductile iron pipe; just replacing existing line.
16	\$395,981	<b>Water Storage Tank No. 6:</b> renovate existing tank including new altitude valve and rectifier.
17	\$395,981	<b>Water Storage Tank No. 8:</b> renovate existing tank including new altitude valve and rectifier.
18	\$199,980	<b>Water Storage tank No. 7:</b> renovate existing tank including new altitude valve and rectifier.
19	\$335,784	<b>SCADA System:</b> design and install comprehensive new SCADA system.



20	\$1,113,332	<b>Distribution System Pipe and Valves:</b> replace transite pipe ranging from 1" to 10"; replace pipe less than 10" with PVC.
21	\$3,034,103	<b>Distribution Pipes and Valves:</b> replace ductile iron pipe ranging from 1" to 14"; replace pipe less than 10" with PVC.
22	\$188,402	<b>Distribution Pipes and Valves:</b> replace 8" pipe and also valves at Human Resources Command; replace with PVC.
23	\$6,618,777	<b>Distribution Pipes and Valves:</b> replace cast iron pipe ranging from 1" to 14"; replace pipe less than 10" with PVC; replace pipe larger than 12" with ductile iron pipe
24	\$24,398	<b>Water Storage Tank No. 1:</b> partial renovation of tank limited to cleaning and spot coating.
25	\$24,398	<b>Water Storage Tank No. 2:</b> partial renovation of tank limited to cleaning and spot coating.
26	\$45,636	<b>Water Storage Tank No. 4:</b> partial renovation of tank limited to cleaning and spot coating; includes installation of new 8" overflow pipe.
27	\$63,891	<b>West Point Well Field:</b> partial renovation of well platforms; includes cleaning and new mastic.
28	\$8,776	<b>Van Voorhis Pump Station:</b> partial renovation including cleaning and top coat finish.
29	\$496,146	<b>Decommission Muldraugh WTP:</b> demolition of above-ground facilities; no new construction
30	\$999,495	<b>Muldraugh WTP Operation Year 1:</b> operate WTP; professional service only, no new construction.
31	\$997,297	<b>Muldraugh WTP Operation Year 2:</b> operate WTP; professional service only, no new construction.
32	\$997,297	<b>Muldraugh WTP Operation Year 3:</b> operate WTP; professional service only, no new construction.
33	\$997,297	<b>Muldraugh WTP Operation Year 4:</b> operate WTP; professional service only, no new construction.
34	\$999,297	<b>Muldraugh WTP Operation Year 5:</b> operate WTP; professional service only, no new construction.

where practical, or on allowances when the actual scope was unknown.

All upgrades/replacements proposed by HCWD1 are based on one or more of the following specific and clearly defined drivers:

- Regulatory compliance, including drinking water quality standards and all applicable codes, including health and safety codes
- Performance and service requirements specified in the RFP
- Operational efficiencies resulting in lower costs for Fort Knox
- Repair or replacement of aging or failing components for system dependability and reliability

Potential projects not driven by at least one of the above criteria are not considered beneficial and are therefore not proposed in HCWD1's work plan.

A partial list of the codes and standards typically considered in developing upgrades is provided below:

- OSHA
- ADA
- Federal Codes and Regulations including CFR 141 and 143
- EM 38 3-1.1 USACE Safety and Health Requirements Manual
- Standards for Water Facilities Industry
- AWWA Recommended Practices
- Federal EPA and KDOW Regulations
- U.S. Public Health Service Standards
- Army and Fort Knox Regulations
- NFPA Codes and Standards
- Great Lakes Upper Mississippi River Board of State Public Health & Environmental Managers Recommended Standards for Water Works

The ISDC and R&R Plans provided in this proposal address these codes to the extent that we are aware of the current condition of the facilities. All new

facilities identified in the capital improvement plans will be designed and constructed to meet these applicable standards.

The HCWD1 Project Manager will provide an oversight and strategic planning role. The Project Manager will:

- Develop the Annual Plan and the Budget and Expenditure Report before submission to the Contracting Officer for approval.
- Oversee ISDC and CIP project design and construction activities.
- Make recommendations and review strategies for R&R.
- Coordinate and provide ISDC project management and oversight, or engage outside engineering services as needed.
- Conduct management and environmental compliance reviews based on performance metrics
- Review overall project performance and customer satisfaction
- Participate in regular meetings with Fort Knox leadership

### 1.3.1 Initial System Deficiency Correction Plan

The ISDC plan is summarized in Exhibit 1.3-1 and discussed in detail in this section. The projects listed represent upgrades/replacements that the Government has recognized and that HCWD1 believes need to be completed soon after transfer of ownership, as indicated in the exhibit.

The immediate timing of these projects is required to allow HCWD1 to comply with regulatory and service requirements or to maximize operational cost savings. We understand the constraints (both legal and budgetary) within which Fort Knox must operate, so we do not expect that HCWD1 will be permitted to construct any projects before transfer of ownership. Therefore, these projects are expected to be implemented after transfer of ownership, unless they are implemented by Fort Knox before that time.

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VOLUME I: Technical Approach Subfactor 3, Initial System Deficiency Corrections and Initial and Renewals and Replacements Plan

EXHIBIT I.3-1  
Initial System Deficiency Corrections Summary

Project	Project Name	Contract Start	Contract Completion	Project Status
<b>Water System</b>				
ISDC#1	System Survey/Assessment and Re-Map the Utility System	2	7	Government Recognized Deficiency
ISDC#2	Leak Detection Survey	7	9	Government Recognized Deficiency
ISDC#3	Hydraulic Model	7	9	Government Recognized Deficiency
ISDC#4	Master Flow Meters at the WTPs	3	5	Government Recognized Deficiency
ISDC#5	20-inch Valves	4	5	Government Recognized Deficiency
ISDC#6	New Raw Water from the Muldraugh WTP to the 16-inch Raw Water Line between Otter Creek PS and Central WTP	2	12	Government Recognized Deficiency
ISDC#7	Otter Creek PS	6	8	Government Recognized Deficiency
ISDC#8	Muldraugh HLPs	6	8	Government Recognized Deficiency
ISDC#9	Central WTP	6	8	Government Recognized Deficiency
ISDC#10	Central WTP Clear Well	7	12	Government Recognized Deficiency
ISDC#11	Fire Hydrants	37	48	Government Recognized Deficiency
ISDC#13	Water Storage Tank No. 5	8	12	Government Recognized Deficiency
ISDC#14	Automatic Transfer Switches	13	17	Government Recognized Deficiency
ISDC#15	Pipe between Otter Creek PS and Central WTP	13	23	Government Recognized Deficiency
ISDC#16	Water Storage Tank No. 6	13	18	Government Recognized Deficiency
ISDC#17	Water Storage Tank No. 8	20	24	Government Recognized Deficiency
ISDC#18	Water Storage Tank No. 7	25	29	Government Recognized Deficiency
ISDC#19	SCADA System	28	33	Government Recognized Deficiency
ISDC#20	Distribution System Pipe and Valves	25	36	Government Recognized Deficiency
ISDC#21	Distribution System Pipe and Valves	25	36	Government Recognized Deficiency
ISDC#22	Distribution System Pipes and Valves	25	28	Government Recognized Deficiency
ISDC#23	Distribution System Pipe and Valves	37	48	Government Recognized Deficiency

Improvements to Fort Knox's water systems are described in this section. The improvements range from performance of studies to construction of piping improvements.

**ISDC#1 – System Survey/Assessment and Re-Map the Utility System.** HCWD1 will complete a system survey/assessment and revised map of the potable water distribution system, complete with GIS coordinates. A comprehensive survey of the water distribution system will be conducted. The survey will use GPS to provide X,Y coordinates and approximate ground elevation at visible water system features in the system, including hydrants, valves, meters, and water storage tanks. Updated maps and hydrant coordinate database shall be provided to the CO for use by the fire department. Naming conventions used in the database will support linking with other physical attributes and condition attributes prepared for the

water system GIS and hydraulic models. All maps and associated data will comply with the latest version of SDSFIE, and the data collected in the computerized model will be made available to the Government upon reasonable request and with reasonable notice. HCWD1 will maintain all maps and data collected for the Fort Knox system separately from HCWD1's existing GIS maps.

In order to establish what information already exists and what new information needs to be collected, a gap analysis will be performed on the current GIS database. Existing GIS files will be analyzed for content, and known CAD drawings will be converted into GIS and populated with attributes. The water system GIS database will be populated with the new inventory and field survey data. This task will incorporate new location and elevation data from the field survey with other data previously collected for

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the water system. This task also includes the development of an accurate computerized model of the system. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#2 – Leak Detection Survey.** HCWD1 will conduct a leak detection survey of the entire potable water system lines within the main cantonment area and the range areas, as well as the raw water lines. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#3 – Hydraulic Model.** HCWD1 will develop a hydraulic model of the entire potable water utility system. This model will be used during the design and replacement of the existing potable water distribution system.

The water distribution system hydraulic model will be created with the inventory data and used to model the flows in the water distribution system. All electronic input files (inventory, system water demands, fire flows, etc.) will either be used from an existing water system hydraulic model (if one exists), or the files will be built based on water demand, inventory, and fire flow data. The model input files will be updated based upon the new inventory and GPS/GIS data for all main water pipes that are 6-inch diameter and larger.

A non-proprietary software-based water distribution system hydraulic model will be created with the inventory data and used to model the flows in the water distribution system. The system will be modeled for existing flow demands and for a design fire flow condition. Upon completion of the updates and verification of model results, the updated hydraulic model will be used to identify the location and size of improvements necessary to the water distribution system. These improvements will be sized to maintain the needed pressure and flow capacity for average day, maximum day, minimum hour plus tank replenishment, and fire flow conditions.

The model will be used to evaluate the system and identify the size and location of new infrastructure necessary for the water system. The model will be

used to simulate the system's performance. We will then develop a system upgrade program to address the defects of each segment and to evaluate the cost of renewal and replacement of the pipelines. The results will be used to identify projects for the annually updated R&R Plan. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#4 – Master Flow Meters at the WTPs.** The finished water master meter at the Muldraugh WTP pump house is well beyond the useful design life and will be replaced with a new magnetic flow meter or similar meter. The finished master water meters at the Muldraugh and Central WTPs will also be calibrated to allow for more accurate measurement and totalization. This project includes replacement of 3 magnetic flow meters, each rated at approximately 7,500 gpm. The estimate includes labor, materials and equipment.

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#5 – 20-inch Valves.** The original 20-inch valves on the 20-inch cast iron pipe from the West Point well fields to the Muldraugh WTP are the original valves and are not operable, so they will be replaced with 20-inch full body valves. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#6 – New Raw Water from the Muldraugh WTP to the 16-inch Raw Water Line between Otter Creek PS and Central WTP.** HCWD1 will design and construct a new 16-inch raw water line (approximately 15,840 LF) from the Muldraugh WTP to the raw line connecting the Otter Creek PS to the Central WTP. This line is critical since the raw water lines from the West Point well field are utilized when the raw water from McCracken Spring and Otter Creek is not suitable to treat at the Central WTP. Fort Knox has indicated that its lease of the three wells and the 14-inch line from HCWD1 will terminate once Fort Knox's potable water utility system is privatized. This

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16-inch-diameter pipe will be constructed of Ductile Iron pipe. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#7 – Otter Creek PS.** To prevent further erosion and consequential damages, HCWD1 will repair the creek side of the Otter Creek PS where the bank of the creek has been severely eroded. We will also install new windows and doors and replace the roof. A pre-finished 24-gauge standing seam metal roof, with lightning protection, will be furnished and installed. The estimate includes demolition and disposal of the existing roof and labor, materials, and equipment to install the new roof. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#8 – Muldraugh HLPS.** HCWD1 will install new windows and doors, paint the exterior face of the concrete block façade, and replace the roof. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#9 – Central WTP.** HCWD1 will replace the roof of the Central WTP. The estimate includes an allowance for the testing and abatement of asbestos and lead-based paint materials. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#10 – Central WTP Clear Well.** HCWD1 will replace the existing roof with a Geo-dome roof. An interior liner system will be installed on the sidewalls and floor of the 2 MG clear well. The estimate includes demolition and disposal of the existing roof and labor, materials, and equipment to install the new roof and liner system. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#11 – Fire Hydrants.** To improve fire protection reliability, HCWD1 will replace roughly 600 fire

hydrants identified by the Fort Knox Fire Department. In as much as is practical, the installation of the new hydrants will be completed to coincide with distribution system piping improvements projects. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the fourth year after the contract start date.

**ISDC#13 – Water Storage Tank No. 5.** HCWD1 will completely renovate Tank No. 5 to include the coating of the interior of the tank, the painting of the exterior of the tank and legs, and the installation of new sacrificial anodes in the tank, a new rectifier on the outside of the tank, and a new altitude valve. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the first year after the contract start date.

**ISDC#14 – Automatic Transfer Switches.** To improve electrical system reliability, HCWD1 will design and install automatic transfer switches at the Otter Creek PS, the Central WTP facility, and the Muldraugh HLPS. The operation and monitoring of the switches will be tied into the new Supervisory Control and Data Acquisition (SCADA) system. The SCADA signal will include status of switch (active or not active), run time since last active, and any other discrete alarm or status conditions available from the ATS control panel.

The automatic transfer switches are service-rated in standalone outdoor enclosures with draw-out normal and emergency switches for servicing one while the other remains in service. Two transformers will be 480V/1200A and one transformer will be 480V/1600A. The estimate includes labor, materials, and equipment to install the automatic transfer switches. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the second year after the contract start date.

**ISDC#15 – Pipe between Otter Creek PS and Central WTP.** HCWD1 will design and construct the replacement of approximately 14,437 LF of 16-inch cast iron raw water pipe between the Otter Creek WTP and the Central WTP. The 16-inch diameter

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pipe will be replaced with Ductile Iron pipe. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the second year after the contract start date.

**ISDC#16 – Water Storage Tank No. 6.** HCWD1 will completely renovate Tank No. 6 to include the coating of the interior of the tank, the painting of the exterior of the tank and legs, and the installation of new sacrificial anodes in the tank, a new rectifier on the outside of the tank, and a new altitude valve. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the second year after the contract start date.

**ISDC#17 – Water Storage Tank No. 8.** HCWD1 will completely renovate Tank No. 8 to include the coating of the interior of the tank, the painting of the exterior of the tank and legs, and the installation of new sacrificial anodes in the tank, a new rectifier on the outside of the tank, and a new altitude valve. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the second year after the contract start date.

**ISDC#18 – Water Storage Tank No. 7.** HCWD1 will completely renovate Tank No. 7 to include the coating of the interior of the tank, the painting of the legs, and the installation of new sacrificial anodes in the tank, a new rectifier on the outside of the tank and a new altitude valve. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the third year after the contract start date.

**ISDC#19 – SCADA System.** HCWD1 will design and install a comprehensive SCADA system to assist in monitoring and controlling the utility water system components, including the raw water wells and pumps and other critical system features. The design and installation will be coordinated with the Post's Directorate of Information Management. The selection of the SCADA upgrade will also seek to allow integrated implementation of the new water meters. The SCADA system estimate includes labor, materials, telemetry equipment, computers, software

and programming. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the third year after the contract start date.

**ISDC#20 – Distribution System Pipe and Valves.** HCWD1 will replace approximately 23,462 LF of transite pipe ranging from 1 inch to 10 inch. This pipe is located in the North Dietz Housing area. All pipes that are 10 inches and smaller in diameter will be replaced with PVC pipe. The transite pipe will be abandoned in place. The estimate includes all labor, materials, and equipment. (See Attachment I-4 for Scope of Work)

- 834 LF of 1-inch
- 1,988 LF of 1.5-inch
- 3,726 LF of 2-inch
- 284 LF of 3-inch
- 4,231 LF of 6-inch
- 6,472 LF of 8-inch
- 5,927 LF of 10-inch
- 93 valves total

The project is anticipated to be completed within the third year after the contract start date.

**ISDC#21 – Distribution System Pipe and Valves.** HCWD1 will replace approximately 73,735 LF of ductile iron pipe ranging from 1 inch to 14 inches. This pipe is located in the Van Voorhis Housing area. Pipe that is 10 inches and smaller in diameter will be replaced with PVC pipe. Pipe that is 12 inches and larger in diameter will be replaced with Ductile Iron pipe. The estimate includes all labor, materials, and equipment. (See Attachment I-4 for Scope of Work)

- 180 LF of 1-inch
- 7,076 LF of 1.25-inch
- 4,293 LF of 1.5-inch
- 11,436 LF of 2-inch
- 1,115 LF of 3-inch
- 25,835 LF of 6-inch
- 18,034 LF of 8-inch
- 4,677 LF of 10-inch
- 897 LF of 12-inch
- 192 LF of 14-inch
- 294 valves total

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The project is anticipated to be completed within the third year after the contract start date.

**ISDC#22 – Distribution System Pipes and Valves.** HCWD1 will replace approximately 4,237 LF of 8-inch pipe and 17 valves at the site of the new Human Resource Center. This pipe will be replaced with PVC pipe. The estimate includes all labor, materials, and equipment. (See Attachment I-4 for Scope of Work)

The project is anticipated to be completed within the third year after the contract start date.

**ISDC#23 - Distribution System Pipe and Valves.** HCWD1 will replace approximately 136,740 LF of cast iron pipe ranging from 1-inch to 14-inch. Pipe that is 10 inches and smaller in diameter will be replaced with PVC pipe. Pipe that is 12 inches and larger in diameter will be replaced with Ductile Iron pipe. The estimate includes all labor, materials, and equipment. (See Attachment I-4 for Scope of Work)

- 994 LF of 1-inch
- 29 LF of 1.25-inch
- 759 LF of 1.5-inch

- 3,720 LF of 2-inch
- 483 LF of 2.5-inch
- 4,280 LF of 3-inch
- 3,754 LF of 4-inch
- 61,582 LF of 6-inch
- 38,255 LF of 8-inch
- 17,066 LF of 10-inch
- 4,153 LF of 12-inch
- 1,665 LF of 14-inch
- 545 valves total

The project is anticipated to be completed within the fourth year after the contract start date.

**I.3.2 Offeror Recommended Additional Upgrades**

In addition to the Government Recognized ISDC Upgrades, HCWD1 has also identified a few other system deficiencies that we recommend for improvement based on our site visits. Those additional upgrades and corresponding schedule for improvement are as follows:

Project#	Project Name	Quantity	Project Description
<b>Water System</b>			
ISDC#24	Water Storage Tank No. 1	3	Interior/Exterior spot cleaning, surface preparation
ISDC#25	Water Storage Tank No. 2	3	Interior/Exterior spot cleaning, surface preparation
ISDC#26	Water Storage Tank No. 4	3	Interior/Exterior spot cleaning, surface preparation. Install new 8" overflow pipe
ISDC#27	West Point Well Field	1	Rehabilitate Well Platforms
ISDC#28	Van Voorhis Pump Station	1	Rehabilitate Pump House
ISDC#29	Decommission Muldraugh WTP	5	Purchase Off-Post Water

**ISDC#24 – Water Storage Tank No. 1.** HCWD1 will perform a partial renovation of Tank No. 1 to include interior and exterior spot cleaning followed by surface preparation, priming, and finish coating. (See Attachment I-4 for Scope of Work)

The project is recommended to be completed during the third year after the contract start date.

**ISDC#25 – Water Storage Tank No. 2.** HCWD1 will perform a partial renovation of Tank No. 2 to include interior and exterior spot cleaning followed by surface

preparation, priming, and finish coating. (See Attachment I-4 for Scope of Work)

The project is recommended to be completed during the third year after the contract start date.

**ISDC#26 – Water Storage Tank No. 4.** HCWD1 will perform a partial renovation Tank No. 4 to include interior and exterior spot cleaning followed by surface preparation, priming, and finish coating. In addition, HCWD1 will also install a new 8-inch-diameter

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overflow pipe. (See Attachment I-4 for Scope of Work)

The project is recommended to be completed during the third year after the contract start date.

**ISDC#27 – West Point Well Field.** HCWD1 will perform a partial renovation of each of the 13 well platforms to include spot-blasting and application of top coat finish. The estimate includes labor, materials, equipment to spot apply prime epoxy mastic 4.0 – 6.0 mils dry film thickness (dft) and 3.0 – 4.0 mils (dft) UV compatible finish coating. (See Attachment I-4 for Scope of Work)

The project is recommended to be completed during the first year after the contract start date.

**ISDC#28 – Van Voorhis Pump Station.** HCWD1 will perform a partial renovation of the pump station to include spot-blasting and application of top coat finish. (See Attachment I-4 for Scope of Work)

The project is recommended to be completed during the first year after the contract start date.

**ISDC#29 – Decommission Muldraugh WTP.** The Army is planning to replace the potable water capacity at the Muldraugh WTP with purchased water from a local municipality within 5 years. HCWD1 will perform demolition of above-ground facilities to an elevation just below grade and decommission the operation of the facility. (See Attachment I-4 for Scope of Work)

The project is recommended to be completed during the fifth year after the contract start date.

In addition to the HCWD1 ISDC, HCWD1 has also priced an O&M building as an R&R in Year 1 of this proposal. The O&M building will provide the necessary space for staff to work and store tools, equipment, materials, records, and vehicles. Dedicated space for our water utility is essential to providing a safe, healthy, and efficient work environment to best serve Fort Knox.

### I.3.3 Conceptual Plans for, Including Methods for Monitoring the Effectiveness of, Energy Efficiencies and Conservation

As evidenced by the in-place Conservation Plans and continuing improvement of Standards of Operation, HCWD1 has set the goal of developing “Benchmark” energy- and water-efficient systems. Procedures now in place for the Fort Knox water system will be strengthened and ultimately incorporated into the HCWD1 operations plan.

HCWD1 will work with the Government to facilitate any future energy- and/or water-savings projects determined to reduce the Government’s costs, while still meeting their service requirements. Current HCWD1 water conservation programs encourage system efficiency within the service area and may be applied to the Government’s facilities.

#### Water Conservation

Unaccounted-for-water (UAW) is defined as the difference between the total amount of water pumped into the water system from the treatment facilities and the amount of (metered) use by the customers of the water system expressed as a percentage of the total water pumped into the system. UAW generally includes system leakage, inaccurate meters, accounting errors, and unmetered use, such as fire fighting, line flushing, broken water mains, etc. A standard industry goal of 10 percent UAW in municipal systems the size of Fort Knox’s is optimal.

The current UAW for Fort Knox is unknown because the system is largely not metered. To immediately address conservation objectives, HCWD1 will initiate the first defined meter installation projects during the transition period to improve measurement of water use and more clearly understand water losses. This effective approach to water conservation will incorporate the Fort Knox Service Area, enabling more accurate measurement of water use. This also assists maintenance personnel with identifying potential problem areas with unusual water use/loss before they develop into major losses.

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