

## EXHIBIT A

### TASK ORDER

This Task Order pertains to an Agreement by and between UNION COUNTY ("OWNER"), and WK Dickson & Co., LLC. d/b/a Ardurra Group North Carolina (formerly known as W.K. Dickson & Co., Inc.) ("ENGINEER"), dated January 1, 2024, ("the Agreement"). ENGINEER shall perform services on the project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the project described below.

TASK ORDER NUMBER: 8678-~~04~~ 03 (all references to Task Order 8678-04 herein shall be deemed to refer to Task Order 8678-03)

RELATED RFQ NUMBER: 2024-021

Int \_\_\_\_\_

PROJECT NAME: FY22 Short Water Line Extensions Phase C  
Construction Contract Administration and Observation Services

#### PART 1.0 PROJECT DESCRIPTION

ENGINEER was retained by OWNER under Task Order 2021-10 to provide design plans and specifications for permitting and bidding of a series of water line extensions associated with the County's FY22 Short Waterline Extension Program.

Under this Task Order 8678-04, ENGINEER will provide engineering services associated with administering and observing the construction contract for Phase C of the FY22 Short Water Line Extensions project. The ENGINEER will provide the scope of services outlined by the following phases for the fees listed herein.

#### PART 2.0 SCOPE OF BASIC SERVICES TO BE PERFORMED BY ENGINEER ON THE PROJECT

The detailed scope of services for Basic Services is as follows:

##### Construction Administration Services (LS)

- 2.1 ENGINEER's Project Manager shall coordinate and oversee all project activity on a regular basis related to all administrative and technical aspects of the project. In particular, the Project Manager will supervise and direct all staff related technical components of the project.
- 2.2 ENGINEER's shall provide project tracking as follows:
  - 2.2.1 ENGINEER shall prepare monthly invoices for its services in format acceptable to OWNER.
  - 2.2.2 ENGINEER shall maintain a project cost accounting system throughout the life of the Project.

- 2.3 ENGINEER shall act as initial interpreter of the requirements of the Contract Documents, judge the acceptability of the Work and make decisions on all claims of the OWNER and Contractor relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the Work.
- 2.4 Organize and facilitate a Pre-Construction Conference and record minutes for distribution to all attendees, the OWNER, and Contractor.
  - 2.4.1 Pre-construction conference may be held in person, remotely via a conference call, or virtual platform. OWNER elect to conduct the pre-construction conference remotely, ENGINEER shall host platform for conference call or virtual video/tele-conference for the meeting.
- 2.5 Review and approve or take other appropriate action with respect to Shop Drawings, samples, and other data which Contractor is required to submit, but only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Such reviews or other action shall not include, means, methods, techniques, sequences, or procedures of construction or safety programs and precautions incident thereto.
- 2.6 ENGINEER shall determine a recommended amount owed to the Contractor based on ENGINEER's and OWNER's observations and inspections at the Site and the data comprising the Application for Payment, and the accompanying data and schedules, and recommend in writing payments to Contractor in such amounts. OWNER's representative shall work with ENGINEER to provide documentation of quantities of work completed in the absence of ENGINEER and shall collaborate with ENGINEER regarding quantities of completed work for the purposes of pay application review. Such recommendations of payment will constitute a representation to the OWNER that the Work has progressed to the point indicated and that, to the best of ENGINEER's and OWNER's representative knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents. The issuance of a recommendation will further constitute ENGINEER's representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a recommendation for payment will not be a representation that the ENGINEER is responsible for construction means, methods, techniques, sequences, or procedures or has ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Price. ENGINEER has budgeted for nine (9) payment applications, one being the final payment.
- 2.7 Make recommendations to OWNER concerning the disapproval or rejection of Contractor's Work while it is in progress if ENGINEER believes that such Work does not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the Project as reflected in the Contract Documents. ENGINEER shall have access to the Work at all times whenever it is in preparation or progress.

- 2.8 Debrief with OWNER and ENGINEER's field representative to determine if the completed Work is acceptable to OWNER so that ENGINEER may recommend, in writing, final payment to Contractor and may give written notice to OWNER and Contractor that the work is acceptable. Accompanying the recommendation for final payment, ENGINEER shall indicate that the work is acceptable and in conformance with the Contract Documents to the best of ENGINEER's knowledge, information and belief and based on the extent of the services performed and furnished by ENGINEER to OWNER under this Agreement, as well as the Agreement between the parties dated January 1, 2024, including, without limitation, Task Order 2021-10 issued thereunder. After determining that the completed Work is acceptable, ENGINEER shall issue a written Notice of Acceptance to the Contractor. Notice of Acceptance shall establish the completion date.
- 2.9 Receive, review, and recommend for approval, Contractor's final payment request. Prepare a final adjusting Change Order to be signed by the Contractor and submitted to the OWNER with the final pay request.

Construction Administration services to be provided on an hourly (NTE) basis, as needed:

- 2.10 ENGINEER shall conduct monthly construction progress meetings and site visits to observe as an experienced and qualified design professional, the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. However, ENGINEER's inspections shall not be intended to involve work beyond the responsibility specifically assigned to the ENGINEER in the Agreement or Contract Documents. On the basis of on-site inspections, ENGINEER shall keep the OWNER informed of the progress and quality of the Work, and shall alert OWNER to defects and deficiencies in the Work of the Contractor. Nine (9) progress meetings/site visits (one per month at approximately 5 hours each, including travel time) are budgeted for the Contract. ENGINEER shall develop and issue meeting minutes/inspection report for each progress meeting/site visit.
- 2.11 Following notice from Contractor that Contractor considers each of the two (2) individual extension areas ready for its intended use, the ENGINEER and OWNER, accompanied by designated representatives thereof and the Contractor, shall conduct a final inspection to determine if the Work is substantially and satisfactorily complete. If such Work is determined by ENGINEER to be substantially complete, ENGINEER shall provide a notice of substantial completion to OWNER and Contractor. If the Work is not deemed suitable, ENGINEER shall provide in writing a list of deficiencies to be corrected before the Work can be deemed substantially complete. ENGINEER shall re-inspect the work when the Contractor provides written statement that all deficiencies have been corrected. For each of the two (2) areas, one (1) walkthrough inspection, one (1) issuance of notice of deficiencies to be corrected, and one (1) re-inspection after Contractor provides written statement that all deficiencies have been corrected

have been accounted for. The budget for this work is included in Engineer's monthly site visits item (outlined above).

- 2.12 ENGINEER shall issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of the Work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents. ENGINEER may issue Field Orders authorizing minor variations from the requirements of the Contract Documents. Field Orders shall not involve change in Contract Price or Time. ENGINEER has budgeted a total of three (3) responses during the Construction duration for the Contract.
- 2.13 ENGINEER shall recommend Change Orders and Work Change Directives to OWNER as appropriate, and the ENGINEER shall prepare Change Orders and Work Change Directives as required. ENGINEER shall not issue such Change Orders and Work Change Directives until OWNER has approved and accepted Contractors cost and schedule change proposal to implement such Change Orders and Work Change Directives. The ENGINEER has budgeted for preparation and processing of up to two (2) such Change Orders/Work Change Directive, beyond the summary/closeout Change Order mentioned elsewhere herein.
- 2.14 Following construction and acceptance, but prior to operation, the ENGINEER shall prepare and submit to NCDEQ – PWS, the completed Engineering Certification form with supporting documents (bacteriological and acceptance test results, etc). We have budgeted for preparation and submittal of a final certification package for each of the two (2) individual extension areas.

Construction Observation Services to be provided on an hourly (NTE) basis:

- 2.15 ENGINEER shall assign a representative (Construction Observer) to the project to provide construction observation services during active construction activities only within the construction contract duration of 260 consecutive calendar days or less. Observation services can be provided beyond 260 days or more frequently than outlined herein, if requested, as an additional service. The representative will call to the attention of the Contractor deficient work noted in the field and, through the assistance of the Project Manager, interpret the contract documents when questions arise. Construction observation includes up to 180 man-hours (approximately 6 man-hours per week, for up to 30 weeks) plus expenses (mileage) for the Construction Observer. This budget assumes Construction Observer will be on-site only during periods of active construction and that only one (1) of the project areas will be visited during any given once-per-week site visit. It is further assumed that the Contractor will perform work at only one of the two (2) individual project areas at any one time. ENGINEER will provide general consultation as may be necessary to achieve successful construction for the duration outlined above, including:
  - 2.15.1 Perform observation of the project construction to verify conformance with the Contract Documents;

- 2.15.2 Call to the attention of the Contactor any deficient work noted in the field;
- 2.15.3 Through the assistance of the ENGINEER's Project Manager, will interpret Contract Documents and Work Orders on behalf of the Owner as questions arise;
- 2.15.4 Document construction activities and photograph critical portions of the project. A daily observation report will be generated to document each site visit. Daily observation reports will be provided to OWNER (in PDF format via email) on a weekly basis;
- 2.15.5 Schedule and conduct pre-final site visit to establish initial punch list items, and;
- 2.15.6 Perform final inspection to assure that all punch list items have been completed per the Contract Documents.
- 2.15.7 Perform twelve (12) month warranty inspection.

**Project Closeout – As-built Survey and Record Documents**

- 2.16 OWNER's Digital and GIS Data As-built Submittal – ENGINEER will prepare and submit to OWNER, at the completion of the project, an as-built submittal in complete accordance with OWNER's "Digital and GIS Data Requirements for Construction Drawings and As-Built Submittals" (included as Attachment B, attached and incorporated herein by reference). As-built digital submittal shall consist of the following:
  - 2.16.1 As-built Survey – ENGINEER's professional survey subconsultant shall conduct a complete as-built survey (excluding Subsurface Utility Engineering (SUE) services) of the completed project, as required by, and outlined in Attachment B.
    - 2.16.1.1 Text Files for as-built submittal shall be included in accordance with Attachment B.
  - 2.16.2 Record Drawings – ENGINEER shall prepare and furnish to OWNER "Record Drawings" of the completed water line project, which will provide location, depths, and elevations obtained from the Contractor's records and measurements of the installed water main, service laterals, hydrant lateral, valves, service meter box, and hydrants, as noted on Contractor's redline field markup drawings. The record drawings shall also incorporate the OWNER's and Construction Observer's observations of changes made during construction. The Record Drawings shall also incorporate survey grade location data obtained by the as-built survey provided by ENGINEER's subconsultant.
  - 2.16.3 Format and delivery of As-Built submittal shall be in accordance with Attachment B and/or as directed otherwise by the OWNER.

**PART 3.0 ADDITIONAL SERVICES**

The engineer will perform additional services as requested by the Owner. If the need for such

**TASK ORDER: 8678-04 – FY22 Short Water Line Extensions Phase C Construction Admin. Services**

services is identified, the Engineer will prepare an amendment to this Task Order or prepare a new Task Order for the Owner's approval. Additional Services will be performed upon written authorization from the Owner.

**PART 4.0 OWNER'S RESPONSIBILITIES**

The OWNER shall be required to provide the ENGINEER access to the site.

**PART 5.0 PERIODS OF SERVICE**

The ENGINEER shall provide these services to the OWNER during the construction phase of the project. It is assumed the construction of the project will not exceed 260 consecutive calendar days.

**PART 6.0 PAYMENTS TO ENGINEER**

The ENGINEER will be compensated for the work on a lump sum basis and hourly basis, not to exceed **\$115,100**, as outlined below:

<b>Phase/Task Description</b>	<b>Fee</b>
Construction Administration 01 – Lump Sum	\$26,800
Construction Administration 02 – Hourly NTE	\$27,400
Construction Observation – Hourly NTE	\$26,000
Project Closeout – As-built Submittal – Hourly NTE	\$34,900
<b>Total Construction Phase Services</b>	<b>\$115,100</b>

For Lump Sum (LS) Fee work, a percentage of the Lump Sum Fee will be billed on the last day of each month. The percentage billed will be the percentage of work estimated to be completed as of the day of billing.

For Hourly Not to Exceed (NTE) Fee work, the ENGINEER will bill the Owner on the last day of each month for the labor and expenses incurred during that month. Due to ENGINEER's proximity to the project location, expenses associated with meals and/or accommodations are not eligible for reimbursement. All hourly fee work will be charged based upon the personnel classifications performing the work and corresponding hourly rate set forth in the attached "Attachment A," which is attached and incorporated herein by reference.

Fee summary is attached as "Attachment A." OWNER's "Digital and GIS Data Requirements for Construction Drawings and As-Built Submittals" attached as Attachment B.

**TASK ORDER: 8678-04 – FY22 Short Water Line Extensions Phase C Construction Admin. Services**

This Task Order is executed this\_\_\_\_\_.

OWNER:

UNION COUNTY  
NORTH CAROLINA

ENGINEER:

W.K. Dickson & Co., LLC.

By:\_\_\_\_\_

Name: Brian W. Matthews

Title: County Manager

Address: 500 N. Main Street, Ste 600  
Monroe, NC 28112

Approved as to Legal Form:\_\_\_\_\_

By:\_\_\_\_\_

Name: Jeremy L. Brashears, PE

Title: Client Services Director

Address: 1213 W. Morehead Street, Ste 300  
Charlotte, NC 28208

This instrument has been preaudited in the manner  
required by the Local Government Budget and  
Fiscal Control Act.

\_\_\_\_\_  
Deputy Finance Officer

Attachment A

123456789101112131415161718192021																				
Budget Table W.K. Dickson & Co., Inc. FY22 Short Waterline Extensions Construction Phase C																				
PLANtrax®																				
ALL	ALL	Totals				\$ 115,100	\$ 88,285	\$ 26,815	501	\$ 176.22	Labor Category									
											8	-	111	93	-	73	-	36	180	
Phase and/or	Task Manager			Start Date	Finish Date	Total Cost	Total Labor Cost	Total ODC	Total Hours	Labor Ave Hourly Rate	Principal	Sr PM	PM	Sr PE	PE	Sr Dsgnr	Dsgnr	Admin	Const. Obs	
Task Code	Task Description			1-Jun-25	1-Jun-26	\$	\$	\$		\$	\$ 290.00	\$ 255.00	\$ 230.00	\$ 230.00	\$ 185.00	\$ 165.00	\$ 150.00	\$ 100.00	\$ 130.00	
Enter hours (not \$) below																				
01	_Construction Admin. Services 01 (LS)																			
01	Project Development			1-Jun-25	1-Jun-26	1,700	1,700		8	212.50	2		4					2		
01	Coordinate & attend preconst meeting			1-Jun-25	1-Jun-26	2,610	2,505	105	14	178.93			5			7		2		
01	WK Dickson Shop drawing review & approval			1-Jun-25	1-Jun-26	4,340	4,340		20	217.00			6	12				2		
01	Review & approval - Contractor Pay Req. (up to 9)			1-Jun-25	1-Jun-26	10,810	10,810		47	230.00			9	38						
01	Summary Change Order & Closeout			1-Jun-25	1-Jun-26	2,040	2,040		10	204.00			4	4				2		
01	Project Management: Invoicing & Budgeting			1-Jun-25	1-Jun-26	5,300	5,300		26	203.85	6		12					8		
02	_Construction Admin Services 02 (HNTE)																			
02	Monthly Prog Mtgs/Engineer's Site Visits (incl. final insp)			1-Jun-25	1-Jun-26	14,934	14,310	624	69	207.39			45			24				
02	Clarifications & Interpretations to Contractor (up to 3)			1-Jun-25	1-Jun-26	3,450	3,450		15	230.00			6	9						
02	Change Orders (up to 2, beyond summary CO)			1-Jun-25	1-Jun-26	4,800	4,800		22	218.18			8	12				2		
02	Final Letter of Certifications & State PWS Submittals (up to 3)			1-Jun-25	1-Jun-26	4,216	4,140	76	18	230.00			6	12						
03	_Construction Observation Services (HNTE)																			
03	Construction Observation for Conformance & Cert.			1-Jul-25	1-May-26	26,000	24,800	1,200	194	127.84								14	180	
03	(6 hours per wk, up to 30 weeks)																			
04	_Closeout: As-Built Survey & Record Docs (HNTE)																			
04.2	As-built Survey (subconsultant)			1-May-26	1-Jun-26	24,770		24,770												
04.1	Record Drawings CAD			1-May-26	1-Jun-26	6,660	6,660		38	175.26			2	6		28		2		
04.1	Summary Info, Text File, & PDF file			1-May-26	1-Jun-26	1,945	1,945		11	176.82			2			9				
04.1	Combining and submittal of digial record package			1-May-26	1-Jun-26	1,525	1,485	40	9	165.00			2			5		2		
Total						\$ 115,100	\$ 88,285	\$ 26,815	501	176.22	8	-	111	93	-	73	-	36	180	



Attachment B:  
Provided by Grant Moore, PE,  
Union County CIP Project Manager.  
Received via email on April 15, 2020

## **Digital and GIS Data Requirements for Construction Drawings and As-Built Submittals**

### **I. Introduction**

Digital and GIS Data for Construction Drawings and As Built submittals will be required for all new Sewer and Water infrastructure in Union County, NC. This document describes the new digital submittal standard.

Construction and As-built drawings are surveys that contain critical information necessary for the continual maintenance of the county's water and sewer infrastructure. The following requirements are therefore added to UCPW's construction requirements in order to meet the consistency and accuracy of the county's sewer and water Geographic Information System (GIS) and Asset Management Program. The addition of the digital submittal requirement is in recognition of its standard use in practice, and in order to facilitate the efficient planning and management of Union County Public Works.

The information below outlines the components needed to complete the Digital Submittal Packet.

### **II. Overview**

The Digital Submittal Packet consists of four components:

1. **Summary Information File** – text file showing project details and survey control points.
2. **AutoCAD File** – a CAD drawing file containing each water and sewer asset found in the project. The final As-Built file should display each utility asset as an individual layer. This file is required at Approved Construction Plans and Approved Final As-Built stages.
3. **Text File** (For As-Built Submittals) – this is a survey-generated coordinate file (text/raw/ascii file) for all surface and above ground sewer and water features in P.N.E.Z.D. Format.
4. **PDF File(s)** – 1 native PDF exported from AutoCAD or other drawing software.

The Digital Submittal Packet is required at submittal of the following plan stages:

- a. Final Construction Drawings for Approval (***text file of as-built survey points not required***)
- b. Submittal of As Built Drawings for activation of utilities

\* See **Appendix I** for details on Stages of Submittals

### **III. Field Survey Requirements**

The digital data for Construction and As-built information are to be based on the North Carolina State Plane (NAD83 2011) Coordinate System (grid coordinates) using U.S. Survey Feet, and the North American Vertical Datum 1988 (NAVD 1988) U.S. Survey Feet for elevation coordinates. This coordinate system conforms to Union County Public Works GIS standards.

All As-Built digital data are to be based on field survey information. All survey work shall be performed under the supervision of a Professional Land Surveyor registered in the State of North Carolina. The surveyed as-built information shall conform to the following Survey Standards when submitted in electronic (AutoCAD and Text) format.

## **Digital and GIS Data Requirements for Construction Drawings and As-Built Submittals**

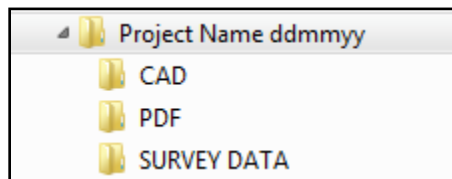
- Horizontal locations shall be recorded to within one tenth (0.1') of a foot. Rim and invert elevations shall be recorded to within one-hundredth (0.01') of a foot.
- The North Carolina State Plane Coordinate System (grid coordinates):
  - Horizontal:
    - North Carolina State Plane Coordinate System FIPS 3200 Feet
    - North American Datum 1983 2011
  - Vertical:
    - North American Vertical Datum 1988, U.S. Survey Feet
  - Convert to Grid Coordinates from Ground Coordinates when collecting data by total station

### **IV. Media Requirements**

The submittal of each item may be submitted via a USB Flash Drive, CD, or DVD. (Pending web portal with file upload will also soon be provided). The media should be labeled with the following information:

- a. Project Name
- b. Name of the firm which prepared the data
- c. Date the media was prepared

A Digital Submittal Package can be obtained from the Engineering Division in Union County Public Works prior to submittal of Drawings and As Built information. This package contains the appropriate file and folder structure and text files.



*Contents of the Digital Submittal Package*

### **V. Summary Information File**

The Summary Information File is a text file that contains the following information (a .txt file can be made in notepad or word; a template of this file can be found in the Digital Submittal Package):

- a. the name of the project
- b. name/phone/address/email of the firm that surveyed the data
- c. name/phone/address/email of the person and firm that prepared the data
- d. the date the digital submittal was prepared
- e. type/stage of submittal (Final Construction or Partial/Final As-Built)

## **Digital and GIS Data Requirements for Construction Drawings and As-Built Submittals**

- f. a list of control information for the project (two or more control monuments – *only needed for as-built drawings*)
- g. date of water/sewer installation (*only needed for as-built drawings*)

Control information shall include two or more control monuments used in the official as-built survey. For each monument, the following information is required:

- a. northing and easting coordinates in the North Carolina State Plane coordinate system (NAD83, grid coordinates, U.S. Survey Feet)
- b. elevation in the North American Vertical Datum 1988 (NAVD 1988, U.S. Survey Feet)
- c. a brief description of the control monument

A blank Summary Information File is found within the Digital Submittal Package; example shown below -

PROJECT NAME:	Name of Project
SURVEYED BY:	Name of Survey Firm
PREPARED BY:	Name of Person and Firm that Prepared Data
DATE OF SUBMITTAL:	Submittal Date of Digital Submittal Packet
TYPE/STAGE OF SUBMITTAL (choose one of the following):	
1. Final Construction Drawings for Approval	
2. Partial Final As Built	
3. Complete Set of Final As Built	
AS-BUILT SURVEY CONTROL	
Northing:	
Easting:	
Elevation:	
Description:	
Northing:	
Easting:	
Elevation:	
Description:	
Horizontal Datum: NAD 83	
Vertical Datum: NAVD 88	
DATE OF INSTALLATION:	
Water:	mm/dd/yyyy
Sewer:	mm/dd/yyyy

*Example of Summary Information File*

## **VI. AutoCAD File**

**Digital and GIS Data Requirements for  
Construction Drawings and As-Built Submittals**

The AutoCAD file should be submitted in an AutoCAD 2013 or higher drawing (DWG) file format. All mapping elements are to adhere to the Field Survey Requirements described in Section 3 (North American Datum of 1983 (NAD83 2011), North Carolina State Plane Coordinates, with Units measured in survey feet).

**Construction Plan Requirements:** An AutoCad file is required at the time of Approved Final Construction Plans. Only the design model is required, which includes all utility, planimetrics, and associated text of the approved construction plan.

**As-Built Requirements:** An AutoCad file is required at submittal of Approved Final As-Built. Only the design model is required, which includes all utility, planimetrics, and associated text of the approved construction plan. The coordinate file is also required to be present within the AutoCad Final As-Built file.

The CAD file should contain the following individual layers, if present in the project:

<b>Sewer</b>	<b>Water</b>
Gravity Main (line)	Water Main (line)
Force Main (line)	Service Lateral (line)
Service Lateral (line)	Hydrant Lateral (line)
Manholes	Valves
Cleanouts	Air Release Valves
Air Release Valves	Vaults
Sewer Meter Locations	Service Meter Box
Valves	Hydrants
Dummy Valve on Force Mains	Back Flow Preventer
Receiving Well (at Lift Station)	
Vaults at Pump Stations	

Each utility feature must be a separate layer and have a projection. No Blocks or Smart Objects are to be in the file – only simple points and lines as their own layer, representing each asset.

**VII. Text Files (For As-Built Submittals)**

The Text File component is a coordinate file containing critical Elevation, Northing, and Easting information for any points captured during the Final Survey of As-built features. This can be in P.N.E.Z.D. format.

Features to be recorded: All surface and above ground sewer and water features

The survey of surface features should include, but is not limited to:

<b>Sewer</b>	<b>Water</b>
Manholes	Valves
Cleanouts	Air Release Valves
Air Release Valves	Vaults
Sewer Meter Locations	Service Meter Box
Valves	Hydrants

## **Digital and GIS Data Requirements for Construction Drawings and As-Built Submittals**

Dummy Valves on Force Mains      Back Flow Preventer  
Receiving Well (at Lift Station)  
Vaults at Pump Stations

Appropriate location information for text file:

Point Number (Identifier), Name (see below for abbreviations), Northing, Easting, and Elevation

**Suggested Abbreviations for Survey Points:**

GV or WV – Gate valve or water valve  
BO – Blow off  
WM – Water meter  
CO – Clean out  
LAT – Lateral  
FH – Fire hydrant  
MH – Manhole  
INV – Invert, just state in or out and MH number  
RPZ or BFP – reduced pressure assembly/back flow preventer  
FV – fire vault  
AR – air release

*\*\*\*The Text File (coordinate file) must also be included in the Final As-Built AutoCad file.*

### **VIII. PDF Files**

A PDF file is required, and should be an export from the native drawing file. This PDF should also be one document containing each page of the original as-built document, however in lieu of the seal, signature and date, the following statement is displayed:

“This document originally issued and sealed by (name of sealer), (license number), on (date of sealing). This medium shall not be considered a certified document.”

### **Appendix 1: Definition of Stages**

1. Final Construction Drawings for Approval - applicant will be notified when drawings are sufficiently revised and digital submittals are required. The Final Construction Drawings will be approved upon delivery of Digital Submittal Packet.
  - a. New Development – Required at time of permitting and agreement.
  - b. CIP – Required at time of bidding.
2. Partial and/or Complete Final As Built Drawings - applicant will be notified when drawings are sufficiently revised and digital submittals are required. The Partial or Final As-Built drawings will be approved upon delivery of the Digital Submittal Packet.