

FIRE FLOW METER VAULT CHECKLIST

Section 1. PURPOSE

This policy is to explain the review process that the Bedford Regional Water Authority (“Authority”) utilizes for fire flow meter vault projects planned within the service areas of the Authority.

Section 2. FIRE FLOW METER VAULT CHECKLIST

The checklist that will be utilized by the Authority for the review of the project will be similar to that which is shown below.

A. PHASE 1 – REVIEW/DESIGN

1.	<p>PRELIMINARY REVIEW</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Initial plans are submitted for review along with the Base Project Review Fee. <input checked="" type="checkbox"/> Bedford Regional Water Authority (“Authority”) performs a preliminary review of the site plan showing the proposed fire flow meter vault (FFMV) location. Comments generated from this review will be forwarded at the Bedford County Planning Department’s monthly Technical Review Committee meeting.
2.	<p>DESIGN FLOW DEMANDS</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Domestic demands and fire flow demands are submitted to the Authority.
3.	<p>DEVELOPER PACKAGE</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Developer package is sent to the developer <input checked="" type="checkbox"/> Preliminary sizes of the fire and domestic meters are included with the developer package. <input checked="" type="checkbox"/> The developer package includes the following documents: <ul style="list-style-type: none"> • Cover Letter • Review Schedule and Process Guidelines • Fire Flow Meter Vault Checklist • Developer Agreement • (Sample) Irrevocable Letter of Credit • (Sample) Bedford Regional Water Authority Water and Sewer Projects – Developer Performance Bond • BRWA Standard Detail FM-1 Fire Flow Meter Installation • BRWA Standard Detail FM-2 Fire Flow Meter Vault External Bypass • List of Approved Contractors for Fire Flow Meter Vault Construction
4.	<p>REVIEW FEES</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Developer pays applicable FFMV Review and Inspection Fees to the Authority and submits an executed Developer Agreement (further referenced as the Agreement).
5.	<p>CONTRACTOR SELECTION</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Developer selects Authority approved contractor for FFMV installation.

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6.	SURETY <input checked="" type="checkbox"/> Developer provides Authority with surety in the form of a letter of credit, performance bond, or cashier's check as outlined in the Agreement.
7.	PLAN REVISIONS <input checked="" type="checkbox"/> Authority releases additional comments, clarifications, etc. to Developer and/or design engineer (if applicable). <input checked="" type="checkbox"/> Extended Plan Review Fee needs to be submitted with third submittal and beyond.
8.	PLAN APPROVAL <input checked="" type="checkbox"/> Site plan showing an approved location and easement for the FFMV is approved by the Authority for construction.
9.	ADDITIONAL REQUIREMENTS <input checked="" type="checkbox"/> Contractor submits shop drawings to the Authority for review and approval. <input checked="" type="checkbox"/> Other items may be required including but not limited to easements, permits, etc.
10.	PARCEL SIGNUP FEES <input checked="" type="checkbox"/> Design plans and meter sizing information is submitted by Developer to the Authority's Customer Service Department to determine the New Customer Fees. All applicable New Customer Fees must be paid prior to water being turned on to the meter.
11.	CERTIFICATE TO CONSTRUCT <input checked="" type="checkbox"/> Authority Engineering Department submits the Certificate to Construct (C2C) to the Authority field representative(s) for final approval.
12.	SURVEY / STAKE-OUT <input checked="" type="checkbox"/> The design engineer performs a survey and stakes out the FFMV prior to construction commencing. Surveying is to be performed by a licensed surveyor with a notice submitted by the surveyor or surveying company upon completion verifying what has been surveyed along with the date of survey.

B. PHASE 2 – CONSTRUCTION

13.	SITE GRADING <input checked="" type="checkbox"/> Grading contractor performs site grading to within 6-inches of final sub-grade and a licensed surveyor and shall verify that sub-grade has been established.
14.	PRE-CONSTRUCTION <input checked="" type="checkbox"/> Developer/Contractor schedules a pre-construction conference with the Authority field representative(s).
15.	EXECUTED CERTIFICATE TO CONSTRUCT <input checked="" type="checkbox"/> C2C is issued to the Developer/Contractor by the Authority upon site approval determined by the pre-construction conference.

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<p>16.</p>	<p>CONSTRUCTION STARTS</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Developer/Contractor notifies Authority of anticipated start date at least three working days in advance and prior to construction. <input checked="" type="checkbox"/> The Authority may halt construction and require pipe and appurtenances to be removed if construction begins prior to the issuance of the Certificate to Construct. <input checked="" type="checkbox"/> Construction may be halted at any time if the Developer/Contractor fails to comply with any of the requirements set forth by the Agreement and associated documents. <input checked="" type="checkbox"/> The Contractor is required to arrange for an Authority field representative to be on-site at the beginning of any FFMV construction project. <input checked="" type="checkbox"/> The Contractor is required to have the latest Authority Master Specifications on-site at all times. Construction may be halted until this documentation is on-site and verified by the Authority's field representative. <input checked="" type="checkbox"/> The latest edition of the Authority Master Specifications shall serve as the standard for water/sewer construction practices in Bedford County. Any changes required by the Authority or noted deficiencies during construction shall be corrected by the Contractor.
<p>17.</p>	<p>TESTING</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The contractor shall give notice to the Authority's field representative at least three working days in advance (after the FFMV is complete) prior to pressure testing. <input checked="" type="checkbox"/> Pressure tests are performed by the Contractor and approved by the Authority's field representative upon satisfactory test results as per Authority Master Specifications. <input checked="" type="checkbox"/> Bacterial tests are performed by the Authority. <input checked="" type="checkbox"/> Other tests may be required to ensure that installation, materials, etc. is in accordance with the Authority Master Specifications as prescribed in the Agreement
<p>18.</p>	<p>PROJECT COMPLETION</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Authority Utility Locator schedules walk through to verify proper trace wire and Omni Marker installations, and Engineering Department notifies Developer and Engineer of scheduled date. <input checked="" type="checkbox"/> Authority Utility Locator marks lines during verification of trace wire and Omni Markers. <input checked="" type="checkbox"/> Authority's field representative conducts a substantial completion walk-thru and issues a project punch-list to the Contractor. <input checked="" type="checkbox"/> Punch-list items are completed by the Contractor and verified by the Authority in a final completion inspection. <input checked="" type="checkbox"/> Field drawings and field notes are reviewed with the Authority's field representative for correctness and accuracy. <input checked="" type="checkbox"/> Field drawings and field notes are submitted by the Contractor to the Developer and/or the design engineer for inclusion in the as-built drawings.

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C. PHASE 3 – PROJECT CLOSEOUT

<p>19.</p>	<p>LETTER OF WARRANTY</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The Contractor submits a Letter of Warranty for materials and workmanship, and a draft of as-built drawings to the Authority. <input checked="" type="checkbox"/> The Authority shall retain the complete surety for a warranty period of one year. This warranty period shall not go into effect until the Authority is in receipt of both the letter of warranty from the Contractor and the Bill of Sale / Quit Claim Deed from the Developer, and the project has been deemed complete by the Authority. <input checked="" type="checkbox"/> When the warranty period has expired the surety shall be released to the Developer upon written request provided the following conditions have been met: <ul style="list-style-type: none"> • The Developer/Contractor has fulfilled all requirements set forth by the Agreement and associated documents. • Punch list items from Final Warranty inspection have been corrected.
<p>20.</p>	<p>AS-BUILT DRAWINGS</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The Developer/design engineer submits surveyed as-built drawings to the Authority per the Authority’s Surveyed As-Built Requirements. <input checked="" type="checkbox"/> AutoCAD and Adobe Acrobat files of the as-built drawings and other associated files need to be submitted per the Authority’s Surveyed As-Built Requirements. <input checked="" type="checkbox"/> Authority’s field representative reviews drawings for accuracy; if information is shown accurately, as-built drawings are forwarded to the Utility Locators and the Maintenance Department.
<p>21.</p>	<p>BILL OF SALE / QUIT CLAIM DEED</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The developer submits an executed Bill of Sale / Quit Claim Deed, included in the Developer Package, to the Authority. This needs to be dated after the contractor has been paid in full. <input checked="" type="checkbox"/> Proof of recordation of any and all associated plats and easements.
<p>22.</p>	<p>CERTIFICATE OF COMPLETION</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> The FFMV will be accepted into the public system for maintenance and operations upon completion of all requirements as prescribed in the Agreement. <input checked="" type="checkbox"/> A Certificate of Completion with copies of the as-built drawings shall be issued to the Customer Service Department upon approval given by the Authority Engineering, Maintenance, and Operations Departments and water will be made available to the site through the FFMV. A copy of this Certificate will be mailed to the Developer. <input checked="" type="checkbox"/> Final plats and any necessary easements must be recorded prior to the acceptance of the system(s). Recordation information and/or instrument numbers must be provided to the Authority prior to the issuance of a Certificate of Completion.

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23.	PROJECT SURETY <ul style="list-style-type: none"><input checked="" type="checkbox"/> The Authority reserves the right to retain the complete surety of 105% construction costs. Twelve months after the Authority has accepted the project for service, the surety may be released to the Developer upon written request.<input checked="" type="checkbox"/> Should the requirements of the Agreement and associated documents not be met by the Developer within a reasonable time frame, the Authority reserves the right not to release the Developer's surety until all requirements have met the satisfaction of the Authority. Water service to the FFMV may also be denied.
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Section 3. REVISIONS

- A. This policy was approved and adopted by the Authority's Executive Director on April 23, 2013, effective July 1, 2013.
- B. This policy was modified as follows:
 - 1. Approved July 15, 2014, effective July 16, 2014:
 - a. Section 3.J was added clarifying recorded final plats and easements.
 - 2. Approved April 3, 2015, effective April 22, 2015:
 - a. References to Inspector were modified to Authority's field representative.
 - 3. Approved October 4, 2022, effective October 4, 2022:
 - a. Fee designations were updated throughout to match the Rates and Rate Information policies.
 - b. Section 3 General notes were incorporated into overall checklist with minor modifications and clarifications made throughout the checklist.
 - c. Section 2.A.2: Revised references to calculations to reflect flow demands.
 - d. Section 2.A.3: Developer package documents were updated.
 - e. Section 2.A.10: Added PARCEL SIGNUP FEES in its entirety
 - f. Section 2.A.12: Added SURVEY /STAKE-OUT in its entirety
 - g. Section 2.B.13: Added SITE-GRADING in its entirety
 - h. Section 2.B.18: Added verification of Omni Markers to PROJECT COMPLETION
 - i. Section 2.C.20: Revised to reference Surveyed As-Built Requirements.