

**TOWN COUNCIL STAFF REPORT**  
**\*TOWN DESIGN STANDARDS UPDATE:**  
**MONDAY, APRIL 24<sup>th</sup>, 2023\***

The Public Works and Utilities Department reviews the Town Design Standards for Water and Sanitary Sewer Systems annually. As per of our annual review, we propose the following edits and additions:

Section 1.1: Change ‘Town Engineer’ to ‘Public Works Department’.

Section 2.6: Dedication of an easement is not acceptance of the utilities in the easement.

Section 2.18: Delete letter F – no stub outs on manholes.

Section 2.28.B: PVC pipe less than 4-inch shall be Municipex pipe.

Section 2.28.E: Fire hydrants shall be installed on dead-end lines instead of blow-offs. Maintain 6” line all the way to FH.

Section 2.29: Town will purchase meters 1” and smaller.

Section 2.31: Update weblink.

Section 2.32: Delete sentence near end of the paragraph that says, “Valves shall have remote control and SCADA features as required by the Town.” (Only the pressure reducing and altitude valves have remote control features).

Section 2.36: Delete section. Contractor will get water from the plant.

Section 4.1.B.c: Correct reference to Easement section – should reference Section 2.6.

Section 4.3: Revise text to make clear that easement dedication does not mean acceptance of the utilities. Two paper copies of the recorded plat will be required, no mylar drawing required, and electronic files in CAD and PDF.

Section 4.4: No water meter allowance. All utilities have to be accepted by Town before installation of meters.

Section 5.1: Town will require meter that show reverse flow (Rosemount magmeter)

Section 5.2.D.1: Superstructure walls shall be pre-cast.

Section 5.2.D.4. No lighting in wet well.

Section 5.2.D.20: 5 exterior mounted lights (1 pole mounted) and controlled by switch.

Section 5.2.D.22: Correct typo and delete reference to Detail S-4.

Section 5.3: As-builts required (electronic CAD and PDF copy) Added to Section 5.1 and 5.2

Section 6.1.B: Clarify that CTC is from DEQ/VDH.

Section 6.1.C: Clarify language.

Section 6.1: Add requirement for Rosemount magmeters to be tied into SCADA. **Added to 5.1.B**

Section 6.1.F: Contact Public Works and Utility Department instead of Town Inspector.

Section 6.1.I: Contractor purchases meter larger than 1”.

Section 6.1.S and 6.1.T: update phone number.

Section 6.2.Y: Clarify that SCADA needs to tie into Town’s system. **Moved this to 5.1.B**

Section 6.2.AA: Clarify that dedication does not mean acceptance of utility. **This is Section 6.2.Z now.**

Section 6.1.BB: 8’ fence with barbed wire. **This is 6.2.AA now.**

Add requirement for service lines to be 10 feet apart in relevant sections. **Added to Section 2.28.J**

Add requirement for service lines and laterals to stay 18” of driveways. At no point shall they run under driveway on public ROW. **Added to 2.29.1 and 6.1.L and 6.1.Z**

Section 2. 2.28 (H) Remove property line or right of way line and add Water Meter and Sewer Clean-out should be installed 3' to S' behind curb. **Edited 2.28.H and added 2.29.2. Edited Detail S-1.**

When sewer laterals are laid from the sewer main, it must come up to no more than 5' under the curb and be no deeper than 4.5 foot at the clean out invert tie in. Similar to a deep sewer connection. **Edited Detail S-1.**

Must install a 12" long ½" SCH 40 or better pipe in the center hole of the meter setter bottom for stabilization. **Added to Detail W-8.**

For ductile iron pipe used for sewer laterals, must use a fernco flexible cap with band. No mechanical gripper plugs shall be used. **Added note to Detail S-1.**

For PVC pipe must use a glue cap. No mechanical gripper plugs shall be used. **Added note to Detail S-1.**

All utilities must maintain a 5' separation from town owned utilities. No other utilities shall use town owned easements without written permission. **Added to Section 2.6**

2.18 Manhole (I) and Section 6. General Notes 6.1 Y. Remove. Add. All sewer laterals will connect to the main unless otherwise directed by the town.

CCTV- Do as HRPDC states but add clean and flush all laterals along with the main. After cleaning, Before inserting the camera, introduce a min. 15 gallons of water to each lateral and 1000 gallons of water in the main line, before the camera starts. Must camera within 8 hrs. after water has been introduced to the lateral or main, if not repeat water steps. All joints are to be camera along with the pipe and manhole inverts. No CCTV while the cleaning of the lines will be accepted. **Edited Special Provisions (Item 33)**

Standard Detail- WD-03 Change from Carson #1324 (no longer available) to DFW1324C-18-1MT DEEP. Also Lid# DFW1324C-1MT DEEP-LID **Edited Special Provisions Details (Item 7)**

Any water meter Larger than 2" must install a Hymax dismantling joint. **Edited Special Provisions Details (Item 11)**

Any service change, removal, or disconnect must install a brass end cap on the corp stop. **Added to Section 6.1 (Item AA).**

Manual blow off valves shall be blow off ball valves by Ford. **Edited Special Provisions for Detail WD-05 (Item 9)**

Water meters 1 ½" and 2" shall be Neptune Mach 10 ultrasonic meters. **Added to Detail W-8.**

Manhole rim and lid should be centered with manhole. **Added note 9 to Town Detail S-3**

2.18 Manholes (J) Remove 24". Add 15". Inside drop pipe shall extend to the invert and turn towards the flow to dump in the same direction. **Added a note on Detail S-3**

Public Works must be notified 48 hrs. in advance before testing of any kind takes place. **Added to Special Provisions (Item 26). 48-hr requirement already in HRPDC for sewer testing.**

Inside drop (reliner) with bowl will be required for wet wells. Added as #8 to Section 5.2.C.

A station guard manual bar screen will be required for wet wells. Added as #8 to Section 5.2.C. Install either this or the reliner, as determined by the Town.

Sewer saddles shall be Romac Style - CB Fits 6" to 54" pipe, outlet sizes 4" to 6" unless approved by Public Works Director. Added in notes on Detail S-1.

Ventilation for a big Pump Station wet well must be separate from the dry well ventilation. Dry. well ventilation shall vent thru the wall and be thermostat controlled. Added to Section 5.2C (#10).

Pump Station - Must have Pressure Gauge and valve installed on force main. This is covered in Section 5.2.D.18.

All vaults and wet wells must have a Zinc plated floor mount #DH-7ZPI or wall mount #DH-8ZPI. Town will instruct where to place and what type. Added to Section 5.2.D (Item #27)

Require arc flash study on all electrical panels and boxes. Added a section to 5.1 (Letter C: Arc Flash) and 5.2 (Letter E: Arc Flash)

Added requirement for flow meter on all pump stations downstream of emergency bypass (Section 5.2.C.11 and 5.2.D.18)

Edited 6.1.E to require Contractor to adjust height of meter boxes, cleanouts, etc. if they adjust site grading after utilities have been installed.

Section 2.20: Added: Where Class 52 Ductile Iron Pipe is used, Protecto 401 Ceramic Epoxy Lining shall be applied.

Section 2.28.L – Added requirement for butterfly valves on water mains 16-in and greater, unless otherwise directed by the Town.

Section 5.2.C.2: Added: Pump stations must have an electric hoist installed on the dry well..

Section 5.2.C.3: Added as new paragraph: If non-clog pump is selected, it shall be a Hydromatic chopper pump, or approved equal.

Section 5.2.D.2: Added as new paragraph: Pump Station building shall have a GFI receptacle on the outside of the building.

Section 5.2.D.9: Added: Coating shall be applied by a qualified and approved applicator.

Application procedures shall conform to the recommendations of the coating product manufacturer, including environmental controls, product handling, mixing, application, safety, equipment, and methods.

Section 5.2.D.10: Deleted Paragraph (Arc Flash requirements are covered in Section 5.2.E.

Section 5.2.D.13: Edited to read: Emergency pump connection shall be furnished on the discharge force main with a 6-inch 90 degree bend, 4-inch check valve and 4-inch quick disconnect compatible with the Town system. The check valve is only necessary if the permanent bypass pump is connected at this location. Any above ground pipe shall be insulated.

Section 5.2.D.14: Changed 6-inch quick disconnect to 4-inch.

Section 5.2.D.15: Added: It shall be wired to prevent station pumps from running when the bypass pump is running. Above ground piping shall be insulated.

Section 5.2.D.16: Added requirement for a 3' walk-through gate.

Section 5.2.D.18: Added: Swing check valves shall be provided with a limit switch.

Section 5.2.D.21: Added: The flow meter shall be installed on the force main downstream of the emergency bypass pump connection.

Section 5.2.D.22: Edited to read: A compact or submersible station shall have at least a 10x10 enclosed building with HVAC split system for control panels. Construction shall be of concrete block or pre-cast concrete with brick exterior. All wall penetrations shall be sleeved.

Section 5.2.D.23: Edited to read: Level controls shall be a level transducer with float backup. A digital force main pressure indicator shall also be included.

Section 5.2.D.28: Added requirements for a spare transducer and VFD.

### **Special Provisions: Standard Details**

Item 7 – Water Meter Box (Traffic Rated): Added alternate box and lid option

Item 8 – 5/8" Water Meter Box (Non-Traffic Rated): Added alternate lid option

Item 23 – Corporation Stop and Swivel Eighth Bend – Added detail

Item ~~23~~ 24 – Sewer Lateral By Developer – Edited detail

Item ~~24~~ 25 – Sewer Lateral by Plumber – Edited detail

Item ~~28~~ 29 – Wet Well Instrumentation Detail – Added as a new detail

Section 5.2 C.2: Revised second to last sentence: If three-phase power is not available, a VFD (type approved by Town) shall be used to convert single-phase power to three-phase power.

Section 5.2.D.1: Revised paragraph to read: Building construction shall be approved by the Town.

Section 5.2 D.11 – Added: The Town's programmer will take it from termination in the panel box to the RTU and do start-up, but the work shall be paid for by the developer.

Section 5.2 D.13: Revised second to last sentence: The check valve is only necessary if the permanent bypass pump is ~~connected~~ not at this location.

Section 5.2 D.18: Revised first sentence: ~~Submersible~~ All stations shall have separate check valves and gate valves located outside the wet well in an approved vault with aluminum weather tight top and access hatch.

Edit second sentence to read: All stations shall have separate check valves and gate valves located outside the wet well in an approved vault with aluminum weather tight top and access hatch.

Section 5.2.D.24: Revised first sentence: ~~Submersible~~ All pump stations shall have a submersible liquid level transmitter, digital level indicator/controller with float backup. A digital force main pressure transmitter shall be included.

Section 5.2.D.26: Added: m. High Wet Well

Section 6.1.O: Revised to read: Bedding of Town utilities shall be in accordance with HRPDC Detail EW\_01, Type IV for sewer pipe and Type II for storm drain pipe.

Section 6.1.R: All proposed utilities in the right-of-way shall be 5-feet away from Town utilities. ~~Proposed water and sanitary sewer systems shall maintain a minimum horizontal separation of 5-feet from other utilities and structures, including but not limited to storm sewers, street lights,~~

~~etc.~~ Water and sanitary sewer facilities shall have a minimum 10-foot horizontal edge-to-edge separation.

Section 6.1.CC: Added paragraph: All water and sewer accessory kits, adapter fittings, pipe restraint bolts, T-bolts and nuts shall be Cor-Blue type or Fluoropolymer epoxy coated bolts and nuts.

### **Special Provisions:**

Item 13 – Added requirement for manhole joints or intrusions to be cemented or mortared inside and out of manhole.

Item 26 – Water sampling stations shall be underground unless approved otherwise by the Town. Sampling stations shall be MainGuard #94WM manufactured by Kupferle Corporation.

### **Special Provisions: Standard Details**

Item 3 – Pipe Bedding Details: Changed note in HRPDC standard detail to require pipe bedding to be #57 stone

Item 7 – Water Meter Box (Traffic Rated): Updated box and lid model #

Item 8 – 5/8" Water Meter Box (Non-Traffic Rated): Updated box and lid model #

## **Appendix G**

### **PERFORMANCE GUARANTEE**

#### **PURPOSE AND INTENT**

The Town Council has delegated the authority for performance guarantee, releases, reduction, extension and drafts to the Department of Community Development and Planning. Therefore, the purpose for this section is to provide the policies, procedural guidelines, and forms for providing an acceptable guarantee of performance to ensure compliance with Town and state codes, and timely construction, completion and acceptance of improvements in accordance with approved plans and specifications.

#### **PERFORMANCE GUARANTEE REQUIREMENTS**

##### **Subdivision/Site Plan Performance Guarantee**

Bonding or acceptable performance guarantees for all public infrastructure is a pre-requisite to the release of approved site plans, subdivision plans, and prior to the approval of subdivision plats unless otherwise exempt from Town of Smithfield (Town) ordinances. Such guarantees include, but are not limited to bicycle trails; streets, and their associated curb and gutter, sidewalks; sewerage systems, waterlines, and facilities as part of a public or approved private

system; drainage/stormwater management facilities; or other improvements dedicated for public use and maintained by the Town, state or other public agencies. These improvements also can be for the provision of other site related improvements required by local or state land development regulations and codes for vehicular ingress and egress, public access streets, for structures necessary to ensure the stability of soils and critical slopes, and for stormwater facilities to be financed in part or whole by private funds.

Prior to issuance of any zoning permit there shall be an agreement executed by the owner/ developer with the Town to construct required public improvements, together with a performance guarantee. The agreement and performance guarantee or condition shall provide for completion of all work within a specified time period.

All required improvements shall be installed at the cost of the subdivider. Where cost sharing or reimbursed agreements between the Town and the subdivider are appropriate, the same shall be entered into by formal agreement prior to final plat approval and shall be subject to Town inspection and acceptance. Town Design Standards and Specifications shall be followed.

The owner's/ developer's performance guarantee shall not be released in full until construction has been inspected and accepted by appropriate agent and the Town. All improvements shall be in accordance with the requirements as established by the approved plan. Upon written request by the subdivider or developer, the Town shall make periodic partial releases of the performance guarantee in a cumulative amount equal to no more than eighty (80) percent of the original performance guarantee amount. The Town shall not execute more than three (3) periodic and/or partial releases in any twelve-month period. Upon final completion and acceptance of said facilities, the Town shall release any remaining escrow, letter of credit or other performance guarantee to the owner/ developer.

The Town shall respond within thirty (30) days after acceptance of the developer's request to reduce or release the performance guarantee. The Town shall notify said owner and any additional applicants in writing of denial of any portion of the request by applicable agencies, including specified defects or deficiencies in construction and the requisite corrective measures. If no such action is taken by the Town, within the time specified above, the request shall be deemed approved, and a partial release granted to the subdivider or developer. No final release shall be granted until after expiration of such thirty (30) day period.

## TYPES OF SURETY

The acceptable forms of performance guarantee are:

- Cash escrows
- Letters of credit from an insured lending institution
- Cashier's or certified check
- Other surety as approved by the Town Attorney

## PERFORMANCE GUARANTEE PROCESS AND PROCEDURES

## A. Performance Guarantee Estimates

Erosion and sediment controls, stormwater management facilities, utilities, site improvements, and items specifically proffered for individual site plans and subdivisions as identified on an approved plan must be performance guaranteed prior to the release of approved site plans and approval of subdivision plats. The performance guarantee estimate must be signed and sealed by either a licensed professional engineer or qualified licensed land surveyor, and must provide unit pricing for individual items, plus a ten percent (10%) contingency.

A paper copy and an electronic copy of the performance guarantee estimate shall be submitted to the Town for review.

The Town will review the estimate and will respond in writing within thirty (30) days to establish the performance guarantee amount as well as the corresponding inspection fees . Should additional information be required to process the performance guarantee request, the Town will notify the applicant in writing.

## B. Performance Guarantee Documents

Once the performance guarantee estimate review has been completed and the performance guarantee amount has been established, the applicant shall submit the performance guarantee documents to the Department of Community Development and Planning, in conjunction with the Department of Public Works & Utilities, for review and approval . The performance guarantee package must include the following information:

- The applicable completed and executed Subdivision and/ or Right of Entry Agreements typed; and
- The Performance Guarantee (Letter of Credit, Surety Bond, or Cash, etc.) in the established amount.

The Agreements are legal, binding contracts between the developer and the Town that specify the manner and the date by which the physical site improvements indicated on the approved plan shall be completed. The agreement must be supported by an approved performance guarantee. The maximum time period allowed for agreements is eighteen (18) months. The time period of the performance guarantee shall match the time period established in the agreement. The only exception is for Letters of Credit, which must be valid for three additional months beyond the period established in the agreement.

Note: The applicant may submit the Zoning Permit Application concurrent with the performance guarantee package in an effort to streamline the overall permitting process. Upon approval of the performance guarantee documents, the Zoning Permit will be forwarded to the Director of Community Development and Planning for final approval. A Zoning Permit shall not be issued for any project until the associated performance guarantee documents have been approved.

## C. Performance Guarantee and Agreement Extensions

It is the responsibility of the developer to ensure the performance guarantee associated with the project is maintained and extended as needed until the project is completed and approved for release. The Developer's Agreement may be extended for up to one (1) year beyond the signature date by extending the performance guarantee. This extension provision should not be misinterpreted to imply that extending the performance guarantee is an acceptable substitution for completing the improvements depicted on the approved plan.

The Department of Community Development and Planning will provide one notification approximately thirty to sixty (30-60) days prior to the expiration date of the performance guarantee or Agreement. The notification will be sent to the owner/ developer at the address specified in the Agreement and will be copied to the lending institution that issued the current performance guarantee on file.

An original request of extension must be received five (5) days prior to the expiration date of the performance guarantee. Should an original request not be received five (5) days prior to the expiration date, the Town may draw on the performance guarantee to ensure the improvements indicated on the approved plan will be completed.

In the event that a project will not be completed within the maximum eighteen (18) month period allowed under the current Agreement, the owner must submit a new Agreement and performance guarantee to the Town for consideration and approval. The Town reserves the right to modify the performance guarantee amount associated with any project for which a new Agreement is requested to ensure that the performance guarantee adequately reflects current market conditions. Additional inspection fees will be required.

#### D. Performance Guarantee Reductions and Releases

Projects will be eligible for reduction only where it can be demonstrated that infrastructure improvements are progressing concurrent with associated site improvement requirements.

The first reductions may be requested when the project has reached at least thirty (30) percent completion. The improvements must be installed properly, protected against damage, and deemed to be in a stable, new condition. Final Releases may be requested when a project can be demonstrated to be one hundred (100) percent complete with all proposed improvements properly installed and protected against damage. Additionally, final releases are subject to acceptance of the improvements by the appropriate agencies.

Requests for performance guarantee reductions or releases must be submitted to Department of Community Development and Planning in writing and must be accompanied by the appropriate fee and application requirements. The request must be accompanied by an itemized reduction/release request signed and sealed by either a licensed professional engineer or qualified licensed land surveyor. For cash bonds, the name and address to whom the check should be made payable should be provided, as well as the Tax I.D. number for the corporation or the Social Security Number of the individual. No more than three (3) Performance Guarantee reduction requests may be submitted in any one twelve (12)-month period.



All reduction and release requests will be processed against the most current approved plan. The Town will conduct a site inspection to verify that the requested items have been completed and are in an acceptable, stable condition.

Performance Guarantees for improvements that are to be accepted by other agencies cannot be released until the improvements have been formally accepted for operation and maintenance by the appropriate agency.

For the purpose of final release, the term "acceptance" is deemed to mean: when said improvements are accepted by and taken over for operation and maintenance by the Town.

#### Performance Guarantee Reduction/Release

- Department of Community Development and Planning will respond to all reduction and release requests in writing within thirty (30) days.
- Reductions will not be approved without written authorization from the Department of Public Works and Utilities. The applicant shall be responsible for providing this information.
- No more than eighty (80) percent of any line item can be reduced prior to the final release.
- The mobilization or demobilization line item is not eligible for reduction until the final release.
- No reduction will be authorized for SWM/BMP facilities prior to submission and acceptance of record drawings. The record drawings should be prepared in accordance with Section 4.1.A of the Design Standards.
- The SWM/BMP and related landscape portion of the Performance Guarantee is not eligible for reduction or release until a one-year stabilization period has passed.
- Base stone for street improvements will only be reduced to a maximum of eighty (80) percent after base paving is completed.
- Base asphalt, if exposed, can only be reduced by a maximum of fifty (50) percent.
- Surface asphalt and shoulder stone will not be reduced on public streets until the streets have been accepted by the Town (see Street Acceptance Procedure).
- Storm sewer pipes and structures, driveway culverts, curb and gutter, sidewalks and driveway aprons on public streets will not be reduced below fifty (50) percent until such time as the streets have been accepted by the Town
- Permanent seeding may not be eligible for reduction until a one-year stabilization period has elapsed.
- Certification Required:

The Owner/Developer must supply a certification from a professional engineer or qualified land surveyor on the improvements being claimed as completed. That certification must state that the improvements have been completed consistent with the approved plans. In the case that any of the improvements were not installed consistent with the approved plans, each inconsistency must be specifically noted. At a minimum, certification must include the following:

- All improvements within rights of way, easements or outlots have been installed within the proposed rights of way, easements or outlots with no need for area added to them.

- Grades, cross-sections, horizontal and vertical alignment of all roadways match the approved plans.
- Inverts, slopes, lengths, structures, and materials for all drainage improvements match the approved plans.
- Sidewalks, trails, etc, associated with the road plans have been constructed per the grades and cross sections shown on the approved plans.

#### E. Performance Guarantee Default

The Town may demand payment on a performance guarantee in the following circumstances:

- If the Owner/Developer fails to:
  - a. Renew the performance guarantee.
  - b. Comply with a written Notice to Comply within the time specified in the notice.
  - c. Perform in a timely manner as determined by the performance guarantee term.
- The improvements are necessary to protect the public health, safety or general welfare.

\*Complete Design Standards manual attached

*For inquiries, contact Jack Reed at 1-(757)-365-4200 or [jreed@smithfieldva.gov](mailto:jreed@smithfieldva.gov).*