Workflow Information Packet

Land Development Linear Projects

This packet is intended to assist the Contractor with general information regarding pre-construction meeting topics, inspections, and key project milestone checklists. This information is a guide and should be applied, as warranted, to the Project.

Typical Construction Flow Diagram for Land Development Linear Projects

1 **Construction Plans Approved and Construction Permit Issued by Loudoun Water**

⇩

2 **Pre-Construction Meeting Occurs**
(submit request through website – LW inspector schedules meeting/invite)

Pre-Con Agenda and Workflow Packet Discussed

⇩

3 **Inspections Occur** Throughout Construction Project, as Required

⇩

4 Beneficial Use Inspection Requirements are Completed by Contractor
(submit request through website after checklist is completed)

Beneficial Inspection Passed

5 **Meter Request**
(submit request through website)

Meter crock/Vault Inspection prior to release of meter
All required office paperwork must be complete prior to requesting the meter

⇩

6 Final Inspection Requirements are Completed by Contractor
(submit request through website after checklist is completed)

Project As-builts are Complete by Loudoun Water

Final Inspection Occurs and Passed

Notes:

- Payment and Performance Bond Reductions, Maintenance Bond: refer to LW website

Loudoun Water Land Development Linear Projects – General Workflow Procedure

1. Construction Plans Approved – Construction Permit Issued

- □ Loudoun Water (LW) reviews the construction plans and provides an approval letter containing a list of requirements for permit
- □ Once all requirements are met, the Manager of Land Development signs the construction permit
- □ LW emails the Developer a copy of the executed construction permit, the contact information for the LW inspector assigned to the project, and Workflow Information Packet.

2. Pre-Construction Meeting

- □ "Pre-Construction Meeting Request" made via LW website.
- □ LW Inspector sets meeting and sends invite.
    - Required attendees: General Contractor Project Manager and/or Site Superintendent and Piping Contractor.
    - *Pre-con meeting agenda:* Discuss scope of the project and specific construction related issues to include construction water, utility protection, bypass plans, tie-in, meter release, reclaimed water, etc. (see workflow packet pre-con agenda).

3. Inspections

- □ Occur throughout the installation of the water and sanitary.
- □ Notes:
    - *Building lateral sewer inspections from the test tee to the building:* observed by LW; project plumber requests the inspection(s) via the LW website – "Lateral Request Form"
    - *Fire lines*: LW only inspects installation and pressure test to the limit of public right of way or property line. For continuation to the building, acquire fire service permit and inspections from Loudoun County Building and Development.
    - *Fill and Flush during commissioning*: Refer to the LW website "Commercial and Industrial Wastewater Treatment Program" and the Temporary Sanitary Sewer Discharge Application

4. Beneficial Inspection

- □ Beneficial Use Inspection checklist completed.
- □ "Beneficial Use Inspection Request" made via the LW website.
- □ The LW inspector:
  - Walks the project for beneficial inspection.
  - Generates a punch list as required.
  - Re-walks the site when all punch list items are complete.
  - **Passes** the Beneficial Use Inspection.

5. Meter Request

- □ "How to Obtain a Meter" (see LW website):
  - Beneficial Use Inspection passed.
  - Request for "Connection Invoice" made via LW website.
  - Connection Invoice paid.
  - Administrative paperwork is complete with LW Engineer.
  - "Request Your Meter" made via LW website.
  - Backflow devices must have passed test results submitted via LW website (www.loudounwater.org) or email (backflow@loudounwater.org)
  - **Pass meter crock/vault inspection** with the Field Services team, which occurs at meter delivery.

6. Final Inspection

- □ "Final Inspection" checklist completed.
- □ Project As-builts are complete by Loudoun Water.
- □ "Final Inspection Request" made via the LW website.
- □ The LW inspector:
  - Walks the project for final inspection.
  - Generates a punch list as required.
  - Re-walks the site when all punch list items are complete.
  - **Passes** the Final Inspection.

Note for Occupancy Permit Requests:

https://www.loudounwater.org/occupancy-sign-applications-occupancy-permits

- For Loudoun Water Occupancy Sign-Off Applications / Occupancy Permits signatures - email the permit to occupancypermit@loudounwater.org.
- Occupancy permit sign-off from Loudoun Water can occur after the site has received the domestic meter.

Notes for Reclaimed Water Projects:

The processes for potable water service connections also apply to reclaimed water service connections; however, there are additional regulations required by Virginia DEQ.

1. Any activity that could impact reclaimed water service must be coordinated with LW Inspector (5 day notice) to include: reclaimed water tie-ins, bypasses, etc.
2. Reclaimed Water Service Agreement to be executed and provided to Loudoun Water prior to meter release.
3. All reclaimed line testing will be performed using potable water.
4. Flushing of reclaimed water piping must be directed to an approved sanitary manhole and cannot be put to ground or stormwater facilities; LW inspector will test for chlorine residual to achieve 1 mg/L.
5. LW Reclaimed Water inspection required prior to meter release.
    1. Required inspections include: signage, labeling, color-coding, and differential pressure test (performed by contractor in the presence of LW representative).
    2. **Pass meter crock/vault inspection** with the Field Services team, which occurs at meter delivery.
6. Backflow devices must have passed test results submitted via LW website (www.loudounwater.org) or email (backflow@loudounwater.org).
7. Irrigation requirements:
    1. Submit an irrigation design and component cut sheets to LW for review and approval.
    2. Inspection prior to meter release.

Pre-Construction Agenda

Date: _____

Inspector: _____ Project Number:_____

- □ Introduction of Teams
- □ Construction Plans (Rev and Date) confirmation; Current Standard Details

Job Details Discussion:

- □ Inspector presence on site
- □ Cut sheets –email copy to Inspector and provide hard copy
- □ Gravel Requirements
- □ Marking tape/tracer wire
- □ Sewer installation (slopes, materials, installation)
- □ Laterals (Footer must be present; Commercial – lateral must be isolated until Beneficial use)
- □ Grinder Pumps
- □ Bypass Pumping or shutting off valves – Plan and schedule
- □ Grease Interceptor, oil water separator – material submittal to LW; who is installing; inspection requirements
- □ Casing pipe/concrete encasement
- □ Water line installation
- □ Blocking/Cross-blocking
- □ Water quality samples
- □ Meters (size, type, std details that are applicable)
- □ Meter Crock Protection – Protective Orange Fencing (residential)
- □ Meter crock inspection and roles – inspector vs field service
    - Curb and gutter must be present (as applicable); testing and samples done and passed
- □ Hydrants for Construction water
    - Hydrants and obtaining hydrant meter
    - Construction Water: Rates and Usage
- □ Fire Lines
- □ Reclaimed system – installation, flushing/discharge, filling, testing, coordination/notification
- □ Backflow Prevention
    - Service Line Protection
    - Air gaps are required between storage tanks, basins, or reservoirs of any kind and the incoming potable water supply
    - Secondary/Auxiliary sources cannot be directly connected to potable water lines
- □ Questions/schedule regarding approved materials
- □ Other Project Specific Items (structures/walls near/crossing LW utilities, flush/fill commissioning, onsite/offsite work, etc.)
- □ Project phasing/scheduling – occupancy/meter needs?
- □ Utility Protection – protection of existing LW utilities; protection of new utilities; critical crossings; retaining walls, structures near easements/crossing utilities; reclaimed crossings; blasting requirements

General Information

- □ Memorandums to the Industry (see Loudoun Water website for full list)
- □ Checklists - Workflow Information Packet for Land Development Projects
    - Request Beneficial Use Inspection and Final Inspection on website (see checklists)
    - CCBF Inspection Requirements (see checklist)
    - CCTV Inspection Requirements (see checklist)
    - Meter Installation/Transfer Requirements (see checklist)
- □ OT Policy (request/cancel on website)
- □ LW calendar (online website) and Holidays

LOUDOUN WATER

Pre-Construction Meeting – Attendance

Date: _____

Location: _____

Printed Name	Title	Company	Email	Phone Number

Printed Name	Title	Company	Email	Phone Number

Requirements for Beneficial Use Inspection

Date:_____ Project Number:_____

Inspector:_____

Sewer System:

- □ All manholes to be cleaned (all invert/benching work to be completed)
- □ Hydrostatic testing completed and passed (mains)
- □ Sanitary lines flushed and CCTV inspection completed (refer to "Requirements for CCTV Inspection" checklist for criteria)
- □ Removal or relocation of bulk heads / plugs
- □ House to main lateral installed and tested (for Connection Invoice Request)

Water System:

- □ Pressure testing completed and passed (mains) (150 psi minimum)
- □ Fire line pressure testing completed and passed (200 psi test pressure)
- □ Water quality samples taken and passed (Contractor to record flushing time and provide to Inspector)
- □ Curb and Gutter installed
- □ Water service lines installed and approved
- □ Fire Hydrants – Reflective white top; bollards installed as required by plans
- □ CCBF Air Gap and Secondary Source Inspection completed (if applicable, refer to CCBF Requirements)
- □ For all backflow device installations, backflow test reports must be submitted via the Loudoun Water website or by email (backflow@loudounwater.org)
- □ For all backflow device installations, provide backflow test reports to Loudoun Water by submitting through the LW website
- □ Meter crocks/vaults installed per standard details (LW field service has last inspection prior to meter release/placement – see "Requirements for Meter installation/Meter Transfer")

NOTE: Meter request occurs after all pertinent field inspections are passed and any required administrative paperwork is complete with the LW Engineer.

General:

- □ Base asphalt installation surrounding all valves and manholes (anything in the street); includes snow caps on manholes and valves as needed
- □ Contractor has located all valves, manholes, and any other grade-level appurtenances
- □ Contractor to verify all valves and fire hydrants are in working condition
- □ Contractor to verify proper frame and covers for manholes (per detail); easement manhole frame and cover bolted to top of manhole
- □ Concrete pads poured for LW utilities not in asphalt / finished grading of non asphalt areas around LW utilities
- □ Cleanout's are capped and protected
- □ Easements are to be free and clear of all encroachments

Requirements for CCBF Inspections

Date:_____ Project Number:_____

Inspector:_____

General:

□ Backflow Prevention Devices must be in place
□ Air Gaps and dedicated piping shall be installed if applicable
□ Backflow Prevention Devices must be tested by a DPOR Certified Backflow Prevention Worker, and submitted via Loudoun Water Website (www.loudounwater.org) or by email (backflow@loudounwater.org)
□ Backflow Prevention Devices should never be installed in the following scenarios:

- In areas subject to flooding, in a pit, or vault
- In areas where atmospheric conditions that represent a contamination threat to the potable water supply
- In such a manner that the device can be bypassed, without the bypass containing an identical backflow prevention device or assembly in parallel that provides equal protection.

□ All temporary or emergency service connections for industrial/process water shall be protected where reasonable cause can be shown for a potential backflow or cross-connection hazard. Backflow prevention assemblies or backflow elimination methods used shall be appropriately approved to match Loudoun Water requirements. Temporary or emergency service connections that are directly connected to internal building piping that supplies drinking water to the building are prohibited.

□ Whenever a building's plumbing or industrial process piping is supplied with potable water from Loudoun Water, and incorporates an auxiliary/redundant source (e.g., ground/well water, rainwater, storage tank, reclaimed water, process, or industrial water etc.), an approved Loudoun Water air gap shall be provided between the building's potable service line, and the subject plumbing or process piping.

Additional specifics for CCBF Inspection

□ Except in the case of fire suppression systems, no pipe connected with the mains of Loudoun Water shall be connected with pipes supplied with water from any other source (e.g., ground/well water, rainwater, storage tank, reclaimed water.) In the case of fire suppression systems with redundant sources, reduced pressure zone (RPZ) devices or assemblies will be considered by Loudoun Water for approval.

□ Premises that require booster or fire pumps, that are connected to Loudoun Waters service line, must be equipped with control devices (pressure switches, program control logic) to prevent a reduction of pump suction line pressure to 10 psig or less.

Additional specifics for CCBF Air Gap Inspection

□ Whenever Loudoun Water's potable water is to be stored in a basin, tank, or reservoir of any kind, an approved Loudoun Water air gap must be provided between the incoming potable supply and the storage vessel.

- Physical separation between the vessel and supply pipe that shall be at least 8 inches or twice the influent pipe diameter, whichever is greater
- Physical separation must be measured vertically from the lowest end of the potable water outlet to the flood rim of the receiving fixture or vessel from which potable water discharges
- Inlet piping shall be mounted external to the vessel and cannot be installed internally for any reason
- Air gaps must be visible for annual inspection by Loudoun Water

Requirements for Final Inspection

Date:_____ Project Number:_____

Inspector:_____

NOTE: Final Inspection should be requested after project as-builts are completed by Loudoun Water

General:

- □ Final paving
- □ Contractor has located all valves, manholes, and any other grade-level appurtenances
- □ All manholes to be cleaned
- □ Sanitary lines flushed and final CCTV inspection completed (refer to "Requirements for CCTV Inspection" checklist for criteria)
- □ Contractor has verified all valves and fire hydrants are in working condition
- □ Fire hydrants to be painted in accordance with approved drawings and details
  NOTE: Any hydrants that painted for construction usage during construction, will be checked for proper operation and any damage; damaged components to be repaired by Contractor
- □ Restoration of project easement areas completed by contractor (general grading and seeded/straw)
- □ Check meter crocks (refer to "Requirements for Meter Installation/Transfer" checklist for criteria)
- □ Cathodic protection test passed and locating wire on PVC water mains and pressure force mains; All documentation received by Loudoun Water
- □ Marker posts installed, where applicable, per Loudoun Water Standard Detail
- □ Completed punch list items as generated during the Beneficial Inspection
- □ Verify any reclaimed (above grade) hydrants on site are locked out with proper locking collar (provided by Loudoun Water)
- □ Confirm final status for flushing station has been executed (i.e., remaining, removed, relocated, replaced).

Requirements for CCTV Inspections

Note: Loudoun Water performs the CCTV Inspection prior to beneficial and final inspections.

General:

- ☐ All necessary Loudoun Water inspections have been passed
- ☐ Manhole frames are set/sealed/no leaks
- ☐ Bulk Heads / Plugs are removed
- ☐ Manhole sewer lines are vacuumed and/or flushed and free of debris, grease, rocks, gravel, etc
  Note: CCTV Crew may inspect past the last manhole for the job to ensure debris was not flushed to existing sanitary line
- ☐ No leaks at joints, connections, inverts, or in manhole
- ☐ Free of low spots

Additional specifics for CCTV1 inspection (occurs immediately preceding Beneficial Inspection):

- ☐ All manholes have base asphalt
- ☐ All manholes not in pavement and/or still having active construction nearby must have 3-sided orange fence
- ☐ All inverts finished

Additional specifics for CCTV2 inspection (occurs immediately preceding Final Inspection):

- ☐ Final paving

Requirements for Meter Installation/Transfer
(Meter Crock/Vault Inspection)

A failed meter crock inspection results in a re-inspection fee and the need to re-schedule meter delivery

NOTE: Meter release occurs after all pertinent field inspections are passed and any required administrative paperwork is complete with the LW Engineer.

- ☐ All meters are delivered to the site by LW, once LW field service team inspect the crock/vault.
    - Meters 1-inch and below are installed by Loudoun Water
    - Meters 1 ½ - inch and above are installed by the Contractor

Prior to Submitting Meter Request

General:

- ☐ Connection Invoice paid
- ☐ Beneficial Inspection passed
- ☐ Backflow devices must have passed test results submitted via LW website.
- ☐ All associated piping connections not leaking
- ☐ Corp stop/isolation valve is turned on; check valves are operational
- ☐ Tracer wire is installed per detail
- ☐ Grade around crock/vault is correct and cover installed to grade (crock)
- ☐ Frame is level and centered on crock and frame tabs (3) are within crock
- ☐ Meter setter is level, centered in meter crock, set to correct min/max level from grade
- ☐ Maintain easement accessibility around crock/vault
- ☐ Meter crock is installed in grass area, unless approved by LW during design
- ☐ Bottom of crock has appropriate gravel/bedding layer (no dirt layers between gravel)
- ☐ Debris and rocks are removed from bottom of crock/vault
- ☐ Correct meter crock/setter is installed for the meter size requested. *Loudoun Water's standard practice is not to allow the use of meter adaptors.*

Additional specifics for commercial meter installation:

- ☐ Flared connections at meter setter are located inside meter crock
- ☐ Power Requirements:
    - Sump pump installed/powered by outlet
    - NEMA box installed/powered
    - Grounding harness installed for meter
- ☐ Vault pipes aligned to accept meter
- ☐ H20 rated hatch installed and accessible; ladder installed
- ☐ Reclaimed pipe purple and labeled

Requirements for Temporary Hydrant Request

Date:_____ Project Number:_____

Inspector:_____

Is a temporary construction hydrant(s)/water needed on the active construction site? Contractor should be prepared to discuss the following at the pre-construction meeting:

- Contractor proposed plan, including:
  - Reason for request (why existing yellow hydrants are not the preferred option)
  - Proposed location of hydrant(s)
    - New infrastructure*
    - No more than 2 hydrants can be designated construction hydrants at a time
    - Preferred includes new infrastructure or temporary hydrant installed – usage after testing and sampling complete.
    - No temporary yard hydrants
    - No use of a blow-off unless approved by inspector
    - No use of a transmission main hydrant
  - Anticipated use of hydrant(s)
    - Hours of use per day and number of days per week
    - Uses of hydrant(s), for example truck washing, dust control, equipment testing, etc.
    - Date in which the hydrant(s) use will end – hydrant must be painted red prior to Final Inspection
  - Acknowledgement that hydrant component parts may need to be replaced prior to terminating use based on the condition determination of the hydrant(s) by Loudoun Water inspector (part of beneficial and/or final inspection)
  - Acknowledgement that temporary construction hydrant will be painted blue (Rustoleum Safety Blue); white bonnet remains white.

The Loudoun Water inspector will work with the Contractor to determine if the proposed plan is acceptable. Once the plan is agreed upon, the Contractor must use a Loudoun Water issued hydrant meter (to obtain a hydrant meter https://www.loudounwater.org/commercial-customers/obtaining-hydrant-meter).

*If Contractor is proposing to use an existing hydrant near the construction site that is Loudoun Water owned, Contractor needs to apply for a temporary hydrant permit from the office.

NOTE: If the adjacent landowner hydrant is not Loudoun Water owned, the hydrant cannot be used.

Loudoun Water Utility Protection – General Information for Excavators

- A valid VA811 ticket is required for all excavation work, throughout the life of the project.
    - When to call in ticket?
        - Within 30 working days of work commencing
    - How long does it take LW to respond to a ticket?
        - LW has 48 hours to respond to a ticket and the active ticket is valid for 15 working days
    - What is required for a ticket?
        - Less than 1 mile of work per ticket
        - Less than 15 working days of work to be performed
        - Communicate accurate scope for ticket
        - White lining is encouraged
    - When to update ticket?
        - If the work exceeds 15 working days
        - Update ticket on day 12 to avoid expired excavation ticket
        - If scope of work on ticket has changed, enter new ticket before old ticket expires and update the scope

  NOTE: Excavator must make every effort to protect the marks.

- An automated email response from Loudoun Water will be sent for key response codes, i.e., Code 32, Code 70.

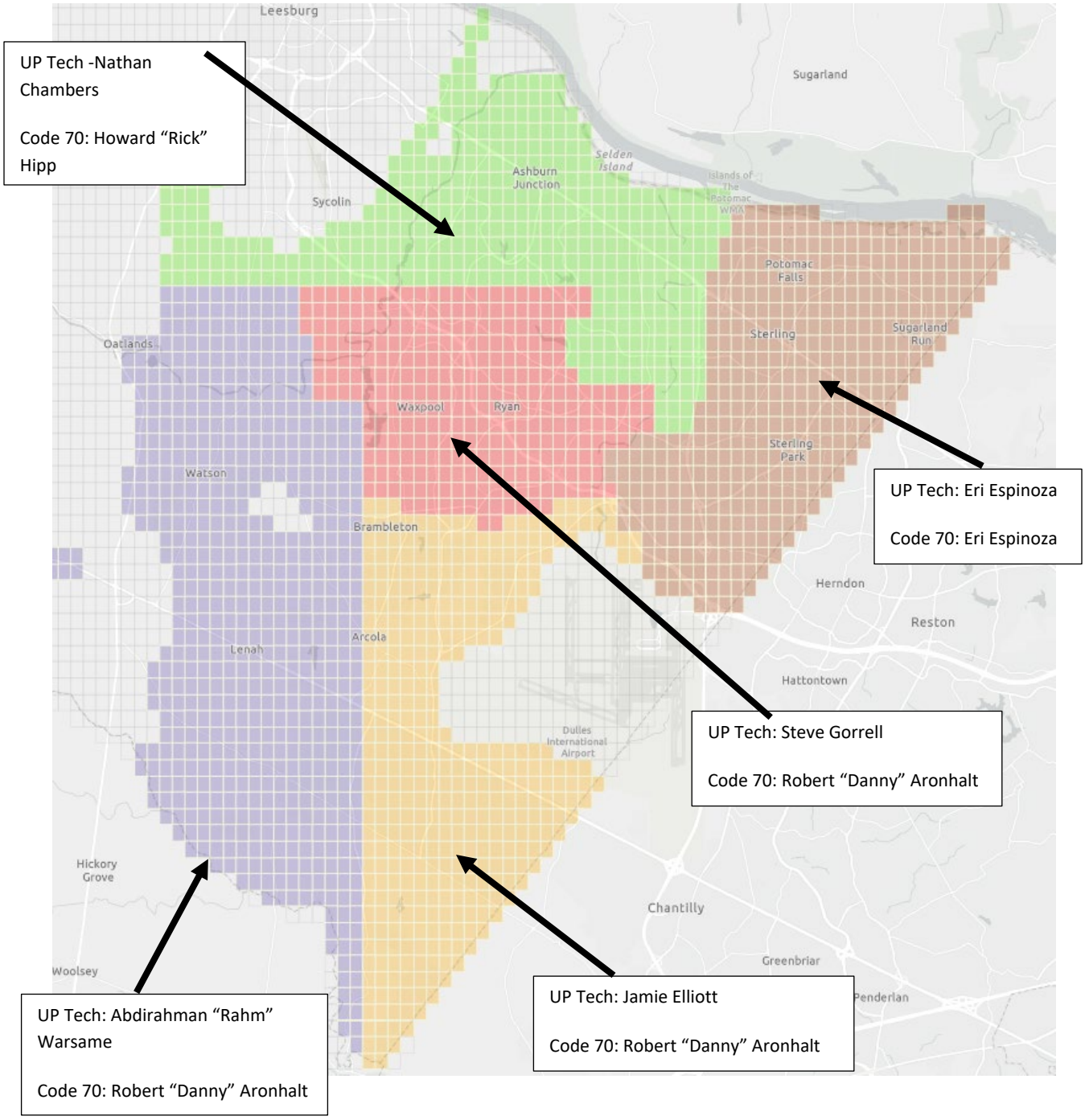
- For excavation work occurring within the property lines of Loudoun Water owned facilities, a VA811 ticket may be responded to as "private utilities" by Loudoun Water; however, the Contractor will still coordinate with a Loudoun Water Technician for private markings inside the property area, as required under the contract.

- The Contractor must adhere to all excavation guidelines set forth by the Underground Utility Damage Prevention Act and any additional Loudoun Water project specific needs, i.e.,
    - Hand digging vs mechanized equipment near utilities
    - Blasting near utilities
    - Heavy equipment crossing utilities

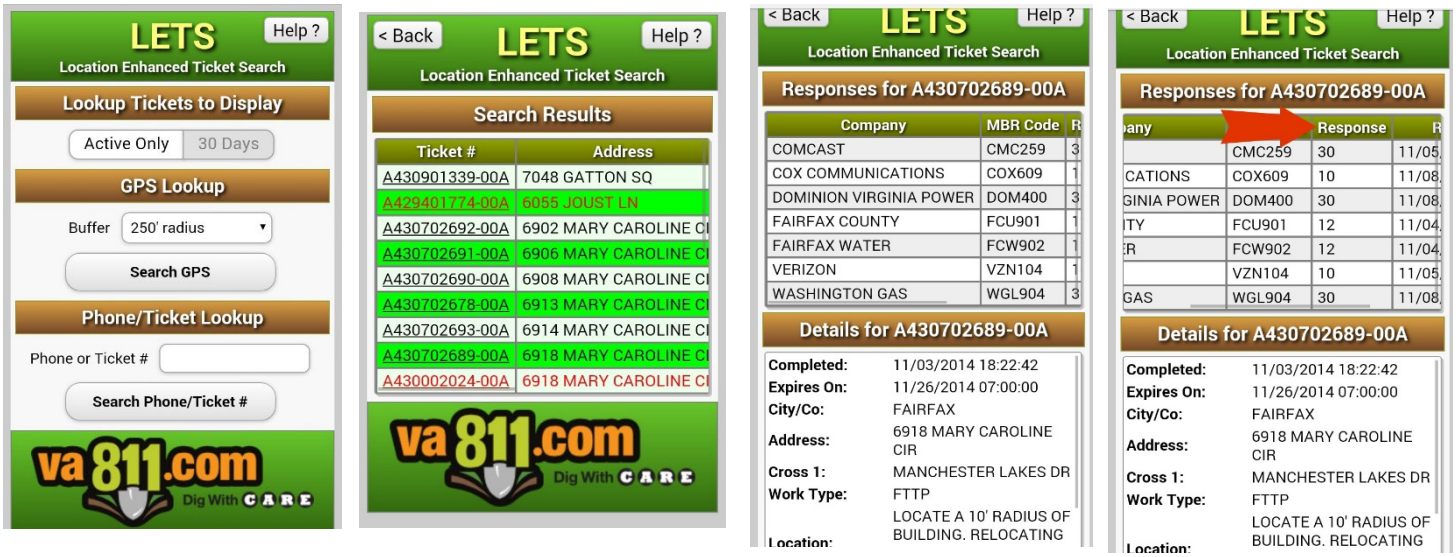
Utility Protection Team

Justin Scarlett – UP Manager	571-919-1657
Howard "Rick" Hipp- Supervisor	571-577-2424
Nathan Chambers – Technician	571-479-9762
Jamie Elliott -Technician	571-233-8374
Eri Espinoza -Technician	571-440-1881
Abdirahman "Rahm" Warsame -Technician	571-498-2849
Steve Gorrell -Technician	703-303-1593
Robert "Danny" Aronhalt – UP Coordinator	571-541-8414

For LW Utility Protection Technician location contacts, see map below:



Using Location Enhanced Ticket Search (LETS)



- Use GPS to search for tickets within 1000 feet of your mobile device.
- Access by going to lets.va811.com. Bookmark this site!
- You can look for active tickets or any ticket that was active in the last 30 days.
- Check positive response codes, double check that scope and polygon cover excavation area, and confirm expiration date using information provided in LETS.
- OR – you can access ticket search online at va811.com: [Ticket Search (va811.com)]

Free Training Available from VA811!

VA811 offers a variety of free training. Visit the VA811 website for more information: [Training - VA 811].

Code	Description
10	Marked.
11	Marked; abandoned utility lines may be in the area.
12	Marked up to privately owned utility; contact private utility owner for locate.
13	Marked up to privately owned utility; contact private utility owner for locate. Abandoned utility lines may be in the area.
30	No conflict; utility is outside of stated work area.
31	No conflict; utility is outside of stated work area. Abandoned utility lines may be in the area.
32	No conflict; privately owned utility on property. Contact private utility owner for locate
33	No conflict; privately owned utility on property. Contact private utility owner for locate. Abandoned utility lines may be in the area.
35	Used in response to excavator's 3-hour ticket after having observed clear evidence of the presence of an unmarked Verizon utility line in proposed excavation. If Verizon has determined it has no utility lines in conflict with the proposed excavation as delineated on the ticket, Verizon shall, within 30 minutes, respond to the excavator-operator information exchange system (Positive Response) with Code 35.
40	Agree to meeting as proposed by excavator.
41	Mutually agreed to alternative meeting time and location.
50	Installation records, maps or other documents have been provided.
51	Records or information regarding private sewer laterals have been provided.
52	Records regarding private sewer laterals have been provided on an accessible electronic system.
53	Agreed to an on-site meeting to provide additional information regarding private sewer laterals.
60	Locator and excavator agreed and documented marking schedule.
61	Locator and excavator agreed and documented marking schedule. Abandoned utility lines may be in the area.
70	Critical facility marked; locator or utility operator will contact excavator and operator must be present during excavation.
71	Critical facility not marked; locator or utility operator will contact excavator and operator must be present during excavation.
80	The status of the utility line has been determined to be abandoned.
81	Mutually agreed to alternative time to determine if the utility line is abandoned.
82	The utility line in question does not belong to this operator.
90	Locator could not gain access to property; locator will contact excavator.
91	Incorrect address information; please call Miss Utility and provide correct information.
93	Scope of work is too large; please call Miss Utility to reschedule.
94	Marking instructions are unclear; please call Miss Utility to reschedule.
96	No response required from this terminal.
97	Extraordinary circumstances exist.