



B E R R Y V I L L E
EST. 1798 *Genuine* **VIRGINIA**

Street & Utilities Committee Regular Meeting
24 October 2023
3 p.m.

1. Call to Order
2. Approval of Agenda
3. Unfinished Business
 - a. Curb Painting
 - i. 214 E. Main Street
 - b. Truck Restrictions
 - c. Restrooms at 23 E. Main St
4. New Business
 - a. Construction Standards Revision
 - i. Section 3, *T. of Berr. Construction Standards and Specifications 2015, Updated 2021*
 - b. Chlorination Byproduct update
 - i. Copy of Notice to Consumers
 - c. Committee Budget Discussion/Requests
5. Adjourn

Streets and Utilities Committee Meeting Report
24 October 2023

Item Title: Curb painting on E. Main Street

Prepared By: Jean Petti

Background/History General Information: During routine curb painting in summer 2023, Public Works did not paint curbs on E. Main Street pending discussion/direction from Committee.

Findings/Current Activity: Regarding the discussion of parking Main Street in downtown, here is a summary Chief White provided of parking restrictions that may occasion painting a curb:

- Within fifteen (15) feet of a fire hydrant
- Within twenty (20) feet of a crosswalk at an intersection; provided, that where there is no crosswalk at an intersection, no person shall park a vehicle within twenty (20) feet from the intersection of curb lines or, if none, within fifteen (15) feet of the intersection of property lines; unless parking within an officially designated and marked parking space.
- Within thirty (30) feet upon the approach to any flashing beacon, stop sign or traffic-control signal located at the side of a roadway.
- Within fifty (50) feet of the nearest rail of a railroad grade crossing
- Within an intersection, or within twenty (20) feet from the intersection of curb lines, or if none, then within fifteen (15) feet of the intersection of property lines at an intersection of streets; unless parking within an officially designated and marked parking space.

As I compiled the summary of curb painting along Main Street between the Presbyterian church and N&S tracks, there were only two areas of current curb painting that did not meet these requirements. Discussion among staff indicates these addresses may have previously been subject to more intense use. There is one parking spot in front of 209 E Main (see mail truck) and although there is a hydrant to the west end of this lot, there is also approximately 16' of yellow paint on the east side of where the mail truck is parked. The second is in front of 211 E Main, where the space is only about 12' and is not sufficient to allow parking a full-size vehicle. However, I was unable to discover a current reason for the paint.

In addition, there is faded curb paint in front of 319 E Main and in front of Duncan Methodist where it looks like the repainting has already been skipped once.

Attachments:

1. Map of Current curb painting on Main Street
2. Photos of curb paint on E. Main as of summer 2023

Recommendation: Please provide direction to staff regarding extent of curb painting on E. Main Street prior to next season (approximately May 2024)

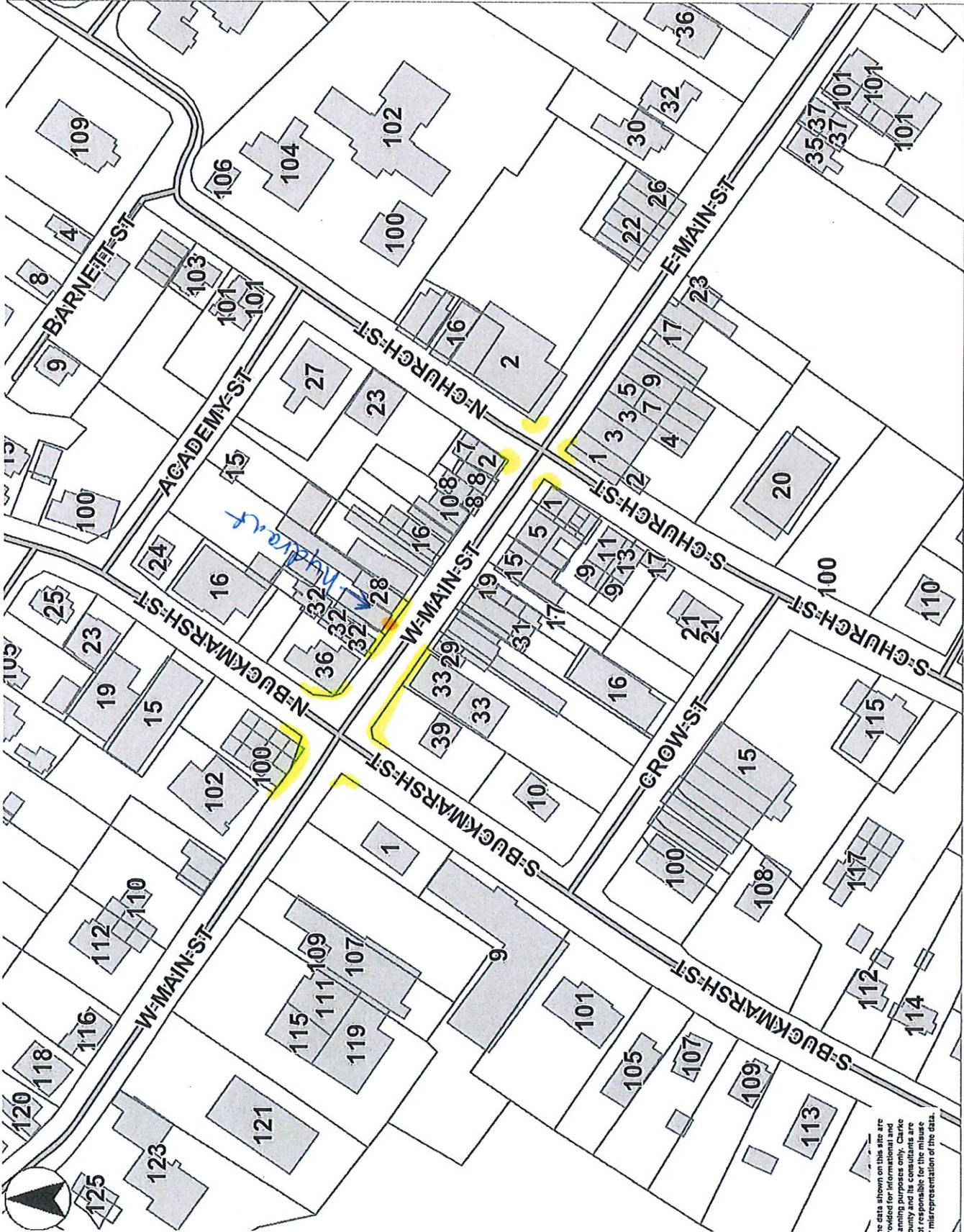








- Parcels
- Clarke County Boundary
- Major Roads
- US Interstate
- US Highway
- State Highway
- Surrounding Counties Ops
- Clarke County Roads
- Private Roads
- Rail
- Buildings
- Appalachian Trail
- Streams
- Perennial Streams
- Intermittent Streams
- Ponds
- Rivers



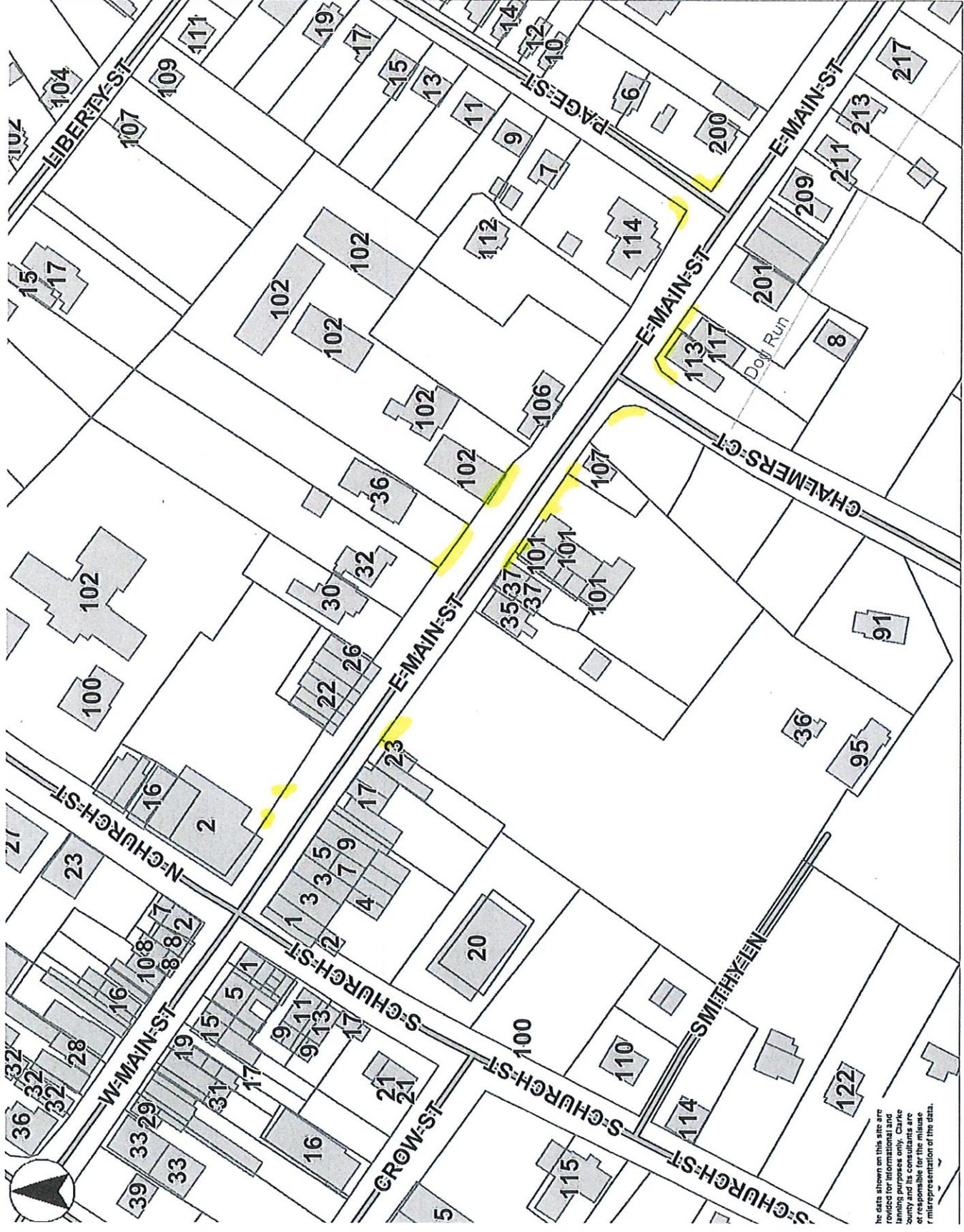
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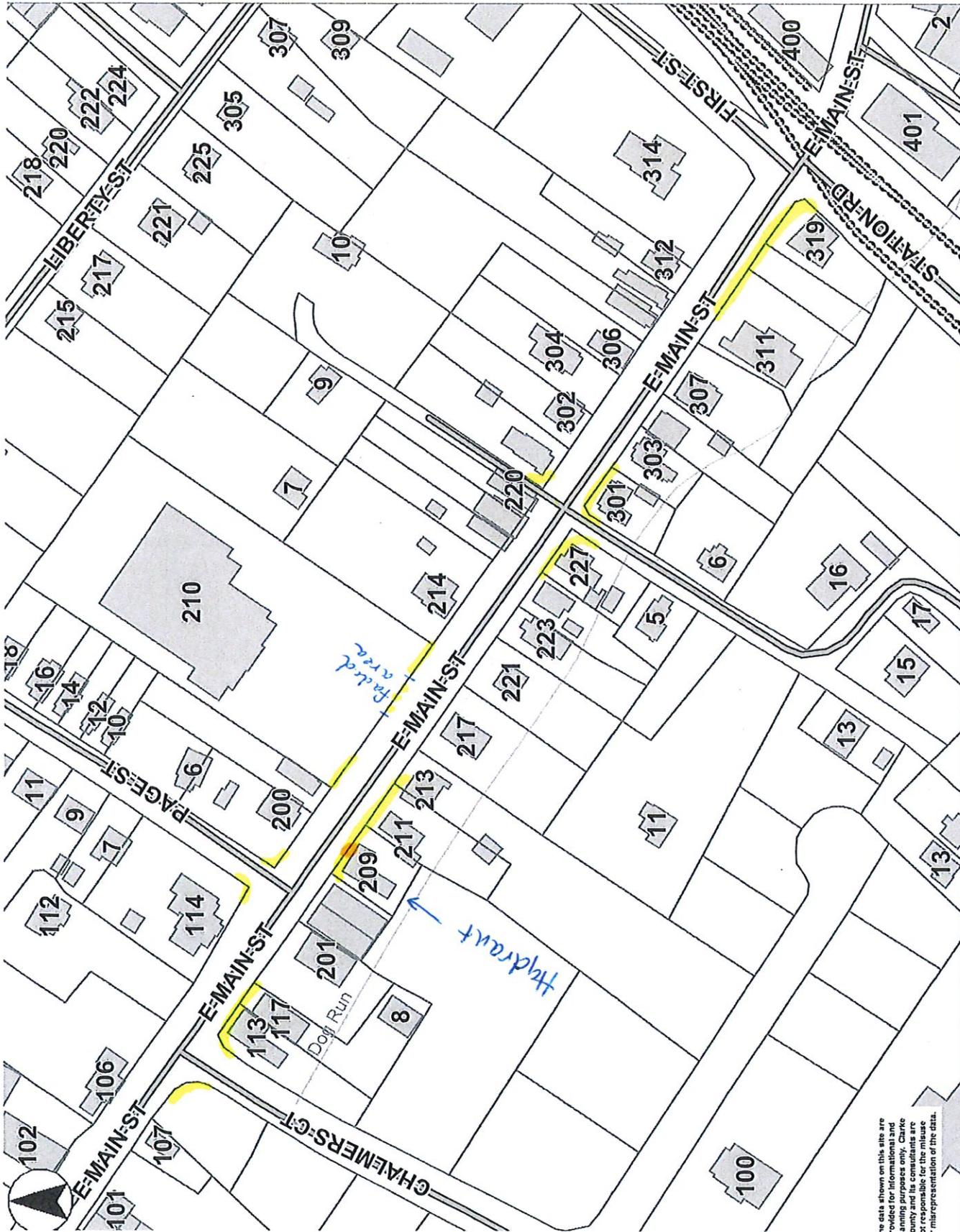
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- Parcels
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October 24, 2023
Discussion

Proposed Truck Traffic Length Restrictions on Byrd Avenue, Hermitage Boulevard east of South Buckmarsh Street, Josephine Street, South Church Street between Crow and South Buckmarsh Streets, Swan Avenue east of South Buckmarsh Street, and Taylor Street east of South Buckmarsh Street

October 24, 2023 Streets and Utilities Committee Report

The Town Council held a public hearing on this matter on June 13, 2023. The minutes of that meeting are attached.

The Council determined that the town manager should review this matter with VDOT and report his findings to the Town Council.

At the October 10, 2023 Council meeting it was agreed that the Streets and Utilities Committee should review this matter and finalize recommendations for sign design and location. That proposal is to be forwarded to VDOT for review before the Council acts on this proposal.

Attachments

- Draft Section 15-22 of the Berryville Code
- Minutes from the June 13, 2023 meeting
- Email thread with VDOT
- Map on which the 12 proposed sign locations are highlighted in pink

Draft sign design will be provided to the Committee at the meeting.

June 13, 2023 Town Council Report

Update

The Council directed staff to advertise a public hearing at which truck length restrictions on South Church Street between Crown and South Buckmarsh Streets would be discussed. To properly restrict trucks in excess of a certain length on the street section in question, it appears necessary to consider placing restrictions on truck traffic on other streets that lead to that area. Accordingly, the public hearing was advertised representing a broader restricted area, thereby permitting the Council to hear comment on the broader area and pare it down if the Council deems it appropriate to do so.

The public hearing notice was published in the *Winchester Star* on June 6, 2023. The notice was posted on the Town's website June 1, 2023.

Proposed Ordinance

The proposed ordinance would restrict trucks in excess of 50 feet in length from traveling on Byrd Avenue, Hermitage Boulevard east of South Buckmarsh Street, Josephine Street, South Church Street between Crow and South Buckmarsh Streets,

Swan Avenue east of South Buckmarsh Street, and Taylor Street east of South Buckmarsh Street.

The proposed ordinance provides for exceptions to the restrictions on truck length within the prescribed areas. The exceptions provide for both emergencies and unplanned incidents as well as planned events or projects.

Drivers violating this ordinance would be charged with failure to obey highway sign (\$25.00 fine + court costs).

Attachments

- Public Hearing Notice
- Proposed Section 15-22 of the Berryville Code: Truck Length Restrictions on Certain Streets
- Chapter 15 of the Berryville Code
- Map on which streets proposed for truck length restriction are highlighted in yellow and proposed sign locations are represented by pink dots
- §46.2-1304 of the Code of Virginia
- §46.2-1112 of the Code of Virginia

Suggested action

After receiving public comment, determine whether the Council is interested in pursuing this matter. If the Council is interested in pursuing this matter further, then VDOT should be engaged regarding the sign package that would be required to enforce in the area that is chosen for truck length restrictions and legal counsel would review the final ordinance language.

May 9, 2023 Report

History

The Streets and Utilities Committee has discussed concerns about truck traffic on South Church Street (and adjoining streets – Josephine Street and Byrd Avenue) several times in the past. The Committee has discussed various restrictions that may be able to be adopted and most recently led the effort to site signs on South Buckmarsh Street advising drivers that South Church Street is not suitable for tractor trailers. Dead End Street signs were also installed at the entrance of Josephine Street and Byrd Avenue.

Current request

Streets and Utilities Committee Chair Harrison remains concerned about the level of tractor trailer traffic on South Church Street and asked the Committee to review the matter further to determine if there are other measures that can be employed to reduce tractor trailer traffic in the area.

At its April 25, 2023 meeting, the Committee discussed this matter and determined that truck length restrictions should be considered for the area in question. The Committee directed Town staff to place this matter before the Town Council for consideration.

Enabling legislation

§46.2-1304 of the Code of Virginia permits governing bodies of counties, cities, and towns to, by ordinance, restrict the use of trucks passing through the city or town whenever in their judgement conditions so require.

No public hearing is required before passing an ordinance restricting the use of trucks.

§46.2-1112 of the Code of Virginia addresses truck length limitations.

Possible limitations that may be addressed in an ordinance

Limits of restricted area:

South Church Street from the southern edge of its intersection with Crow Street to its intersection with South Buckmarsh Street.

Limits on truck length within restricted area:

No trucks exceeding 50 feet in length will be permitted within the restricted area.

Note: Length of certain vehicles

| | |
|--|---------|
| Tractor trailer with 53-foot trailer - | 72 feet |
| JHEVFD ladder truck - | 42 feet |
| CCPS Bus maximum length - | 40 feet |
| Straight truck - | 26 feet |

Exceptions:

- Fire, EMS, and other emergency response equipment
- Traffic that has been detoured away from an occupancy's primary access/egress route by an appropriate authority

Town Manager may grant permits for oversized trucks needed for the following activities in the restricted area:

- construction
- moving equipment or furniture from an occupancy
- deliveries/departures to and from an occupancy during period of detour from primary access/egress route

Attachments

- §46.2-1304 of the Code of Virginia
- §46.2-1112 of the Code of Virginia
- Maps with street section that is under consideration for truck length restrictions highlighted in blue
- DMV 109

Suggested action

Review the matter and determine whether to proceed with adoption of an ordinance that limits the length of trucks on a portion of South Church Street. If the Council determines that it wants to proceed with such an ordinance, then the Council should, as a part of the motion to adopt the ordinance, make a finding that outlines why such a restriction is appropriate for this particular street section.

The Council must also decide on the process it wants to employ during consideration of this matter. The Virginia Code does not require a public hearing on this matter, but it would be advisable to conduct one in this instance.

Sample Motion

I move that the Council of the Town of Berryville set a public hearing on this matter for its June 13, 2023 meeting and that Town staff be directed to advertise this hearing once in the *Winchester Star* and post the hearing notice on the Town's website.

Sec. 15-22. Truck length restrictions on certain streets

- (a) Unless otherwise permitted by this section, trucks with a total length greater than fifty (50) feet are prohibited from traveling on the following streets:

Byrd Avenue

Hermitage Boulevard east of South Buckmarsh Street

Josephine Street

South Church Street between Crow and South Buckmarsh Streets

Swan Avenue east of South Buckmarsh Street

Taylor Street east of South Buckmarsh Street

- (b) The truck length restrictions enumerated in subsection (a) of this section do not apply to:
- a. fire, emergency medical services, and other emergency response equipment, or
 - b. vehicles that have detoured to the restricted street(s) by duly authorized authority.
- (c) The town manager is authorized to grant permits authorizing trucks with a total length greater than fifty (50) feet to travel on the streets enumerated in subsection (a) of this section for uses to include, but not limited to the following:
- a. construction activities
 - b. moving of equipment or furniture
 - c. deliveries and departures to and from an occupancy during a period in which traffic is detoured from the occupancy's primary access and egress route.

MINUTES
BERRYVILLE TOWN COUNCIL
Berryville-Clarke County Government Center
Regular Meeting
June 13, 2023
7:00 p.m.

Town Council: Present—Harry Lee Arnold, Jr., Mayor; Erecka L. Gibson, Vice Mayor; William Steinmetz, Diane Harrison, Grant Mazzarino, Ryan Tibbens.

Staff: Present--Keith Dalton, Town Manager; Jean Petti, Deputy Town Manager; Cynthia Poulin, Treasurer; Paul Culp, Town Clerk; Christy Dunkle, Community Development Director; Chief Neal White, Berryville Police Department

Press: Mickey Powell, *The Winchester Star*

1. Call to Order

Mayor Arnold called the meeting to order at 7:00 p.m.

2. Pledge of Allegiance

3. Approval of Agenda

Ms. Harrison moved to approve the agenda. The motion passed by unanimous voice vote.

4. Presentations, Awards, and Recognitions

None.

5. Public Hearings

Proposed establishment of truck length restrictions on the following streets: Byrd Ave., Hermitage Blvd. east of South Buckmarsh St., Josephine St., South Church St. between Crow St. and South Buckmarsh St., Swan Ave. east of South Buckmarsh St., and Taylor St. east of South Buckmarsh St.

Ms. Dunkle displayed via projector a map of the area in question, and Mr. Dalton explained that the proposed ordinance would prohibit use by trucks more than fifty feet long, with exceptions for emergencies, unplanned events, and planned events and projects within the purview of the town manager. He said the penalty for violation would be a \$25 fine, plus court costs, for failure to obey a highway sign.

Ms. Harrison said she would like to see a resolution of the problem, which she described as worsening.

Mr. Mazzarino expressed concerns about the efficacy of the proposed change, saying that it would be unfortunate for the Town to be stuck with the signage for a prohibition not readily enforceable.

Mr. Dalton said many drivers follow the directions given by a GPS, which is not helpful, but that the signs might provide a hint. He said he believed further consultation with the Virginia Department of Transportation would be advisable. Ms. Harrison said this should be the next step after the hearing.

Mssrs. Dalton, Mazzarino, and Tibbens discussed costs and the installation process. Mssrs. Tibbens and Dalton also discussed the possibility of the problem being relieved by the eventual opening of the southeast collector.

Mayor Arnold opened the public hearing at 7:09 p.m.

Janice Badal said she resides on South Church Street and that the truck problem is worsening. She recommended making South Church a cul-de-sac and doing more to enforce the speed limit.

Kenneth Liggins, a former resident of Josephine Street, said the sign on Church Street directing trucks away from Josephine Street was positioned too low to attract the notice of truckers.

Deborah Liggins of Josephine Street said the truck problem has been occurring for several years and that signs on both ends of Josephine Street are needed.

Steve Dawson of Josephine Street complained of yard damage and of nocturnal truck noise.

No one else expressing a desire to address the meeting, Mayor Arnold closed the public hearing at 7:14 p.m.

6. Discussion of Public Hearing Items

Mr. Tibbens asked Chief White whether a larger fine for violations would be possible. Chief White said he believed it would not be, that the figure had been set by the Virginia General Assembly as a legislative act.

Mayor Arnold recommended further consultation with VDOT.

Mr. Steinmetz moved that the Council of the Town of Berryville direct Town staff to review the proposed truck length restriction with officials from VDOT and report their findings to the Council. The motion passed by voice vote, Mayor Arnold being the only member opposed.

Keith Dalton

From: Carter, Edwin (VDOT) <Edwin.Carter@vdot.virginia.gov>
Sent: Thursday, September 7, 2023 4:33 PM
To: Keith Dalton
Subject: Fwd: Proposed Truck Restriction-Clarke

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Sorry it took so long. Let me know if you have any questions.

Best
Get [Outlook for iOS](#)

From: Simpson, Darin (VDOT) <Darin.Simpson@vdot.virginia.gov>
Sent: Thursday, September 7, 2023 4:30:26 PM
To: Carter, Edwin (VDOT) <Edwin.Carter@vdot.virginia.gov>
Cc: True, Mike (VDOT) <Mike.TRUE@VDOT.Virginia.gov>; Smith, Matthew, P.E. (VDOT) <Matthew.Smith@vdot.virginia.gov>; Hottle, Cathy (VDOT) <Cathy.Hottle@VDOT.Virginia.gov>
Subject: FW: Proposed Truck Restriction-Clarke

Ed,

See Mike's comments below. In addition to his comments, I would recommend they restrict all through trucks and not just do a 50' length restriction. The length restriction requires more "verbage" for a truck driver to read (if they can) plus they need to know how long there truck is (not sure if all drivers do). Also, if the citizens see a tractor trailer that is within the 50' length restriction, they are still seeing a tractor trailer. Deliveries will still be allowed regardless of the truck size. Let us know if you need additional info or have any questions. Thanks and have a great evening - Darin

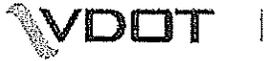
Darin Simpson, P.E.
Staunton District Traffic Engineer
Virginia Department of Transportation
M - 540-416-5093
O - 540-836-6398
darin.simpson@VDOT.Virginia.gov

From: True, Mike (VDOT) <Mike.TRUE@VDOT.Virginia.gov>
Sent: Thursday, September 7, 2023 4:23 PM
To: Simpson, Darin (VDOT) <Darin.Simpson@vdot.virginia.gov>; Leckrone, Sam (VDOT) <Sam.Leckrone@vdot.virginia.gov>; Holt, Douglas (VDOT) <Douglas.Holt@vdot.virginia.gov>; Lynch, Aaron (VDOT) <Aaron.Lynch@vdot.virginia.gov>
Subject: RE: Proposed Truck Restriction-Clarke

Darin,

We have reviewed the proposed truck restriction route and have no objections to restricting trucks on the routes listed. In addition to the length restriction signs, the Town may want to consider providing "Truck Route" signs or something of that nature to provide more positive guidance through and around town so that trucks might be less inclined to follow GPS into the downtown area.

Thanks.



Mike True
Traffic Engineering / Staunton District
Virginia Department of Transportation
540-480-0816
mike.true@VDOT.Virginia.gov

From: Simpson, Darin (VDOT) <Darin.Simpson@vdot.virginia.gov>
Sent: Thursday, September 7, 2023 1:29 PM
To: True, Mike (VDOT) <Mike.TRUE@VDOT.Virginia.gov>; Leckrone, Sam (VDOT) <Sam.Leckrone@vdot.virginia.gov>; Holt, Douglas (VDOT) <Douglas.Holt@vdot.virginia.gov>; Lynch, Aaron (VDOT) <Aaron.Lynch@vdot.virginia.gov>
Subject: FW: Proposed Truck Restriction-Clarke

Found it.

Darin Simpson, P.E.
Staunton District Traffic Engineer
Virginia Department of Transportation
M - 540-416-5093
O - 540-836-6398
darin.simpson@VDOT.Virginia.gov

From: Hottle, Cathy (VDOT) <Cathy.Hottle@VDOT.Virginia.gov>
Sent: Tuesday, June 27, 2023 7:43 AM
To: Simpson, Darin (VDOT) <Darin.Simpson@vdot.virginia.gov>
Cc: Carter, Edwin (VDOT) <Edwin.Carter@vdot.virginia.gov>
Subject: Proposed Truck Restriction-Clarke

Good morning! Ed asked that I send to you. Once you've had a chance to "digest", please give him a call.

Thanks,

Cathy C. Hottle

AOS III/Adopt A Highway Coordinator



Edinburg Residency

540-534-3203

cathy.hottle@VDOT.Virginia.gov

DUCTILE IRON PIPE VERSUS PVC PIPE COMPARISON

MCWANE DUCTILE

IRON STRONG

| COMPARISON | DUCTILE IRON PIPE | C 900 PVC | C905 PVC | C909 PVC |
|--|--|--|---|--|
| SIZES | 3" — 64" | 4" — 12" | 14" — 48" | 4" — 24" |
| Pressure Ratings | 12" and smaller: 350 psi min 14" — 20": 250 psi min 24": 200 psi min 30" — 64": 150 psi min Higher pressure pipes are available. | 12" and smaller DR 25 — 165 psi DR 18 — 235 psi DR 14 — 305 psi | DR 51 — 80 psi DR 32.5 — 125 psi DR 25 — 165 psi DR 18 — 235 psi | Pressure Classes 100, 150, 200 No DRs used but if used would be: PC100 — DR 47 PC200 — DR 25.5 |
| Surge Allowance | 100 psi | | | |
| Internal Pressure Safety Factor | Design Safety Factor is 2.0 based on Design Working Pressure PLUS surge allowance. Cyclic loading does not affect ductile iron pipe properties or performance over time. | | | Material properties and pressure ratings reduced at temperatures other than 73.4 degrees Fahrenheit. |
| Maximum Allowable Velocity | No max allowed velocity due to higher internal design pressure. Addition of surge allowance and safety factor applied to combined working and surge pressure. | | | No surge allowance is included in design. If surge pressures are anticipated, reduce pipe pressure rating by the design or anticipated surge pressure. Cyclic loading reduces the life span of the pipe. Pipe is affected by a minor change in velocity of .10 ft/sec. |
| Capabilities for Fire Flows | Pipe design allows for high velocities plus surges based on 50 psi per ft/sec. change in velocity. | | | Uses a higher HDB of 7,100 psi and a Safety Factor of 2.5 but no surge allowance. Not proven in practical experience. |
| Special Considerations for Cyclic Loading | None needed because ductile iron does not lose strength over time. | | | Design Safety Factor is 2.0. Stress due to working pressure plus surge pressure cannot exceed the HDB (4,000 psi) divided by 2.0 Safety Factor (HDS = 2,000 psi). |
| Material Description | Recycled steel and iron scrap. | | | |
| Susceptibility to Shipping Damage | Scratch resistant. Not affected by cold temperatures. Not affected by truck smoke. | | | |



DUCTILE IRON PIPE VERSUS PVC PIPE COMPARISON...CONTINUED FROM PAGE 1

| COMPARISON | DUCTILE IRON PIPE | C 9000 PVC | C905 PVC | C909 PVC |
|--|--|---|---|---|
| SIZES | 3" — 64" | 4" — 12" | 14" — 48" | 4" — 24" |
| Susceptibility to UV Rays | Does not affect tensile/impact strength. | Uni-Bell Study: Can lose up to 34 percent of impact strength after one year of exposure. Avoid discolored areas. Warranty concern: Potential exclusions from coverage due to UV degradation. | | |
| Direct Tap | DIPRA test shows 20" wall thickness capable of multiple taps. | Warning: Over-tightening tapping machine may distort the pipe. Do not use a hand-held drill. | | Direct Tapping not permitted. Over-tightening tapping machine may distort the pipe. Do not use a hand-held drill. |
| Susceptibility to Corrosion | V-Bloc® Polyethylene Encasement cost effective; proven method of corrosion control. | Does not resist damage from UV rays and temperature fluctuations. Strength breaks down over time. | | Resistant to "hot" soils. |
| Susceptibility to Temperature | Charpy Impact Test performed at -40 degrees Fahrenheit. | PVC becomes less resistant to impact at very low temperatures. At high temperatures, PVC lowers pressure rating and becomes more flexible and susceptible to over tightening of tapping machines and saddles. | | |
| Tracer Wire Required | Tracer Wire is not necessary. | | Trace Wire required! Does not help with leak detection. | |
| Deflection | 5 degrees/19 inches | | | No deflection at joints. Deflection by bending pipe which creates stress (DO NOT TAP HERE). |
| Pumping Costs | No increase | | | Increased due to wall thickness requirements. Weaker due to less tensile strength. |
| 100+ Year Service | 600 Utilities in the U.S. and Canada with 100 years of service and 23 with 150 years of service. | | | The first PVC waterline installation occurred in 1955. Therefore any communications suggesting PVC has a 100+ year lifespan has not been proven. AWWA's Study "Buried No Longer" gives independent life expectancy of 55 to 70 years. |
| Sustainability & Recycled Content | Made from 95% recycled content. No end of life. Can easily be recycled. | | | PVC pipe can only be downcycled, therefore the recyclability of PVC is nearly zero. Releases Carcinogens, Vinyl Chloride, Ethylene, and Dichlorides during manufacturing. Not recognized by any "Green" organization as an environmentally sustainable product. |
| Horizontal Directional Drilling | Extreme safe-end-pull capacities. Pipe not affected by scratches or bore loads. | | | Factors of concern include weakening from scratches and buckling loads from bore fluids or soils. |
| Permeability & Absorption | Non-permeable | | | Susceptible to permeation and absorption of hydrocarbons and other harmful chemicals. |
| Combustibility | Non-combustible | | | Combustible and subject to melting. |

To view an informative blog and video on the advantages of using Ductile iron pipe over PVC, visit McWaneDuctile.com/blog.



Section 3

Water Main and Appurtenances

I. General

- A. This section includes construction of distribution system mains, service laterals, and other associated appurtenances. Also included are testing and disinfection requirements.
- B. All mains shall be cement mortar lined ductile iron or PVC (C909), with a minimum diameter of six inches (6"). The pipe shall have rubber gasket push-on joints, and all fittings shall be mechanical joint except as approved by the Town. Where special fabrication of ductile iron pipe is required to fit water mains within vaults, structures and buildings, the Contractor shall submit fully dimensioned drawings showing the piping in full detail with exact locations, dimensions, and schedules of all pipe, fittings, hangers, supports, and appurtenances before starting fabrication of the pipe and/or fittings. Where special fittings are required, they shall be shown in detail with all necessary dimensions. The design of such installations shall provide adequate space within the housing, and around the fittings to allow easy disassembly of pipe sections or other appurtenances.
- C. Utility Locations: Water mains shall be located a minimum of three (3) feet from the gutter of the streets with curb and gutter; or three (3) feet within the pavement edge of streets without curb and gutter. Whenever practical, sewer mains shall be located in the center of the street. A minimum 10 foot horizontal separation (outside to outside), or 6 feet horizontal separation with at least 1.5 foot vertical separation from bottom of water to top of sewer, shall be provided between all water lines and sanitary sewer lines. Should conditions require the water and sewer lines to be installed in the same trench, the water line must rest on a shelf of undisturbed earth to one side of the sewer with at least 18 inches of vertical separation between the top of the sewer line and bottom of the water line. Approval from the Town Engineer and Director of Public Works must be acquired before same trench installation is permitted. Typical minimum cover of four feet is to be provided for water mains. For short distances, reduced cover of as little as three feet may be approved, so as to preclude locating water below a crossing utility.

II. Mains

- A. Ductile Iron Pipe
 1. Ductile iron pipe shall be manufactured in accordance with ANSI A21.51/ AWWA C151. All pipe shall have a minimum Class 52 thickness.
 2. End designs shall conform to the ANSI/AWWA C 111/ A21.11 – “Rubber Gasket Joints Ductile Iron and Gray Iron Pressure Pipe and Fittings” Push-on

joints shall be "Tyton," "Super Bell Tite" or "Fast-Tite" joint, or approved equal.

3. The inside of the pipe shall be cement lined in accordance with ANSI/AWWA C 104/ A21.
4. Flanged connections shall only be permitted where indicated on construction plans and pre-approved by the Town, and shall conform to ANSI/AWWA C115/A21.15.

B. PVC (C909) Pipe

1. Select Backfill

- a. There shall be 24" of select backfill above the stone aggregate which shall be compacted in eight inch lifts. The maximum particle size of the backfill material shall be no greater than one (1) inch. Backfill shall be compacted to 95% of maximum density.
- b. Above the select backfill, material shall be deposited in lifts not to exceed two (2) feet, and have a compaction to 95% of maximum density.
- c. A six (6) inch wide magnetized locating ribbon labeled "WATER LINE BURIED BELOW" shall be placed above the select fill.
- d. No rock shall be used in the select backfill. Any rock used *above* the select backfill shall be no larger than six (6) inches in diameter.
- e. A #12 gauge wire shall be placed next to the PVC (C909) line during installation of the main. This wire must maintain positive continuity at all times.

2. Stone Bedding

1. For excavation in dirt or clay, there must be six (6) inches of stone under and over the pipe.
2. For excavation through rock, there shall be twelve (12) inches of stone under and over pipe in rock trenches.

C. Fittings

1. All fittings shall be cast of ductile iron, and shall conform to ANSI/AWWA C153/A21.53. Fittings shall be made with mechanical joint ends in accordance with ANSI/AWWA C 111/A21.11.
2. A sufficient number of bolts, nuts, glands and gaskets shall be provided for each fitting. These accessories shall be of the proper dimensions for the size pipe. The bolts shall be made of high strength low alloy steel in accordance with ANSI/AWWA C 111/ A21.11.
3. The cement lining, shall conform to ANSI/AWWA C 104/A21.4.

III. Handling Ductile Iron Pipe and Fittings

- A. It shall be the responsibility of the pipe manufacturer to thoroughly inspect each length of pipe according to the applicable ANSI and AWWA standards and other requirements as set forth in these specifications.

Dear Water Customer:

The notice on the opposite side of this page was developed using a template provided by the Virginia Department of Health (VDH). That template was utilized to ensure that the Town met notice requirements.

This page was developed by the Town of Berryville to provide our customers with additional information about the details of this possible exceedance of primary maximum contaminant levels for haloacetic acids (a by-product of the interaction of chlorine and organics) and the actions being taken to ensure compliance in the future. Please find below additional information on frequency of testing, plans to lower disinfection by-products, how the Town will update its customers on this matter, and where you can find additional information about the Town's drinking water.

Frequency of Testing

The Town of Berryville is required to test for certain chlorination by-products each quarter. VDH regulations are based on the average of tests because individual quarters (particularly during warm months) sometimes exceed maximum contaminant levels (MCL's*). Essentially, water providers must strike a balance between ensuring disinfection, maintaining necessary chlorine residual levels, and not exceeding chlorination by-product limits over time.

* Maximum Contaminant Levels (MCL's) are set at very stringent levels by the U.S. Environmental Protection Agency. In developing the standards, EPA assumes that the average adult drinks 2 liters of water each day throughout a 70-year life span. EPA generally sets MCL's at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-a-million chance of having the described health effect for other contaminants.

After consultation with the VDH and its consulting engineer, the Town developed a water quality surveillance program that provides for additional testing at various points in the treatment process and various locations in the water distribution system. The Town is making changes in its practices and procedures as suggested by VDH and its consulting engineer. These changes are being made incrementally to permit proper examination of post-adjustment test results.

Plans to Lower Disinfection By-products (particularly HAA5 and TTHM)

After consulting with VDH and its consulting engineer, the Town has:

- made adjustments to the feed rates of chlorine, alum, potassium permanganate, and granulated activated carbon, and
- made adjustments to its distribution system flushing program.

The Town is also working with its storage tank maintenance contractor to determine if there are measures available that can be employed within water storage facilities to either limit the production of chlorination by-products or eliminate the by-products before water is released.

Updates on this Matter

The Town will perform a Virginia Department of Health-required test for chlorination by-products in November. When the Town receives the results of that test, they will be posted at www.berryvilleva.gov. As a part of that posting, the Town will also update the public on actions that have been taken to address this matter. Because this possible exceedance represents an average of test results, it may take more than one quarter to return to compliance. Additional public notices will be forthcoming if the exceedance continues.

Annual Drinking Water Quality Report

The 2022 Annual Drinking Water Quality Report is available on the Town's website (www.berryvilleva.gov). This report provides a great deal of information about the Town's drinking water.

We take this matter very seriously and are working to return to full compliance with Virginia Department of Health requirements.

Sincerely,
Ernest Bussert, Chief Plant Operator