



Andy Beshear
GOVERNOR

TRANSPORTATION CABINET

200 Mero Street
Frankfort, Kentucky 40601

Jim Gray
SECRETARY

August 14, 2025

CALL NO. 202
CONTRACT ID NO. 251022
ADDENDUM # 3

Subject: Rockcastle County, 102GR25D022
Letting August 21, 2025

- (1) Added - Special Notes - Pages 35A-35C of 390
- (2) Added - Sewer Specs - Pages 201A-201F of 390
- (3) Revised - Special Notes - Pages 240-249 of 390
- (4) Revised - Material Summary - Pages 321-329A of 390
- (5) Revised - Proposal Bid Items - Pages 383-390A of 390
- (6) Revised/Added - Plan Sheets R2F, R82A, UQ1

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

A handwritten signature in black ink that reads "Rachel Mills".

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:mr
Enclosures

Special Note for Staking

Perform Contractor Staking according to Section 201; except, in addition to the requirements of Section 201, perform the following:

Once all pavement operations have been completed and there are no further project operations interfering with the travel lanes, notify in writing the Project Engineer and District Traffic Engineer to schedule the collection of CARS curve data, process and analyze the data collected and generate an updated proposed sign plan for the horizontal curves in or impacted by the project. Provide the District Traffic Engineer up to 4 weeks to provide the Project Engineer an updated proposed sign plan that incorporates changes resulting from the CARS data analysis. The Project Engineer will forward the revisions to the appropriate contractor(s). Then use stakes, paint marks on the pavement, mag nails, and/or any other means approved by the District Traffic Engineer, the Contractor shall mark and/or stake the proposed sign locations in the field. NOTE: The proposed signs are listed in the proposal by approximate location and are NOT to be taken as the exact location for the signs. During staking operations, the Contractor shall review the signing layout and existing field conditions and look for potential conflicts, including but not limited to utilities, driveways, visual obstructions, etc. When conflicts are found, adjust the staked location of signs to mitigate conflicts. Because the sign locations in the proposal are approximate and the location of some signs may need to be adjusted due to conflicts, during staking operations the Contractor shall refer to and utilize the information in the Manual on Uniform on Traffic Control Devices (MUTCD), current edition. The MUTCD cover items such as: appropriate sign location, advance placement distances, and spacing requirements for signing. The intent is for the proposed signs to be consistent with, and meet the requirements of, the MUTCD. Once the proposed sign locations have been staked and/or marked, notify and coordinate with the District Traffic Engineer, and perform a review of the staked and/or marked locations. Provide the District Traffic Engineer with 4 weeks of notice when a route will be ready for a review of the staked locations. This review will also be used to determine if there are any existing signs that require removal and/or relocation. Adjust the staked and/or marked locations, as directed by the District Traffic Engineer and obtain approval of the final staked and/or marked locations. Any pavement marking review requested for passing zones should be completed prior to final approval of staked and/or marked locations. Provide the District Traffic Engineer with an additional 4 weeks of notice when a route will be ready for a review of the staked locations. If there are multiple routes to be reviewed, the Contractor is encouraged to notify the District Traffic Engineer when each route is ready for a review of the staked locations. NOTE: The District Traffic Engineer may determine that the proposed signing, including sign types and messages, needs to be adjusted and/or modified from what is shown in the proposal. Therefore, the Contractor shall not order any sign material for a route until the route has been staked and final sign location approval has been given by the District Traffic Engineer.

Special Note for Signage

All sign sheeting shall be from the Cabinet's List of Approved Materials.

All permanent signs and sign components shall be fabricated using Type XI sheeting.

The following signs and sign components shall be fabricated using Type XI fluorescent yellow sheeting:

- Horizontal Alignment Signs and Plaques, including signs shown in Figure 2C-1 of the MUTCD
- All Advisory Speed (W13-1P) plaques

The following signs shall be fabricated using Type XI fluorescent yellow-green sheeting:

- School and school bus warning signs, including the fluorescent yellow-green signs shown in Figures 7B-1 and 7B-6 of the MUTCD and other school-related warning signs that are not included in the MUTCD.
- Bicycle Warning (W11-1) signs and SHARE THE ROAD (W16-1P) plaques or diagonal downward pointing arrow (W16-7P) plaques that supplement Bicycle Warning signs.
- Pedestrian Warning signs and diagonal downward pointing arrow plaques that supplement Pedestrian Warning signs.
- In-Street Pedestrian Crossing (R1-6) signs and Overhead pedestrian Crossing (R1-9) signs
- Supplemental plaques to any of the previously listed signs

Special Note for Signage

The final advisory speeds and some sign types will have to be determined after the curve superelevation improvements and final surfacing operations have been completed. The Contractor shall notify the Engineer and District Traffic Engineer when all of the superelevation improvements and surfacing operations have been completed. Once notified, the District Traffic Engineer will ball-bank the newly surfaced curves to determine the appropriate advisory speeds and work with the Contractor to determine the final Signing Plan. The Engineer and/or District Traffic Engineer will provide the Contractor with the final advisory speeds, any changes to proposed sign types, and the final quantities within three (3) weeks of being notified by the Contractor that final surfacing operations are complete. After the Contractor has received this information from the Engineer and/or the District Traffic Engineer, the Contractor shall then proceed to layout and stake the signing according to the Special Note for Staking, included elsewhere in this Proposal.

All sign sheeting shall be from the Cabinet's List of Approved Materials.

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- Supplemental plaques to any of the previously listed signs

SECTION 02960

TEMPORARY BYPASS PUMPING SYSTEMS

1.0 GENERAL

1.1 DESCRIPTION

Section includes requirements for implementing a temporary pumping system for the purpose of diverting existing sewage flow around work area for duration of the project.

1.2 QUALITY ASSURANCE

1. Follow national standards and as specified herein.
2. Perform leakage and pressure tests on discharge piping using clean water, before operation. Contractor shall notify Owner & Engineer 24 hours prior to testing.
3. Maintain and inspect temporary pumping system every two hours. Contractor shall maintain an experienced and responsible operator on-site when bypass pump system is operating.
4. Keep and maintain spare parts for pumps and piping on site, as required.
5. Maintain adequate hoisting equipment, backup power supply, suction and discharge piping and appropriate accessories on-site for each pump within bypass pumping system.

1.3 SUBMITTALS

1. Contractor shall submit a detailed plan and description of proposed pumping system. Indicate number, size, material, location, and method of installation of suction and discharge piping, size of pipeline or conveyance system to be bypassed, staging area for pumps, site access point, and flow capacity of system.
 - a. Size and location of manhole or access points for suction and discharge hose or piping.
 - b. Sections showing suction and discharge pipe depth, embedment, select fill and special backfill, if buried.
 - c. Temporary pipe supports and anchoring, if required.
 - d. Thrust and restraint block sizes and locations, if necessary.
 - e. Sewer plugging method and type of plugs.
 - f. Bypass pump sizes, capacity, number of each size to be on site and power requirements.

- g. Backup pump, power and piping equipment that will be kept on-site.
- h. Calculations of static lift, friction losses, and flow velocity. Pump curves showing pump operating range.
- i. Design plans and access to bypass pumping locations are indicated on drawings.
- j. Calculations for selection of bypass pumping pipe size.
- k. Method of noise control for each pump and/or generator.
- l. Method of protecting discharge manholes or structures from erosion and damage.
- m. Schedule for installation and maintenance of bypass pumping lines.
- n. Procedures to monitor upstream mains for backup impacts.
- o. Procedures for setup and breakdown of pumping operations.
- p. Emergency plan detailing procedures to be followed in event of pump failures, sewer overflows, service backups, and sewage spillage. Contractor shall maintain a copy of their emergency plan on site for duration of project. All personnel assigned to monitor and operate the bypass pumping system shall have a thorough understand the emergency plan.

1.4 CONTRACTORS RESPONSIBILITY FOR OVERFLOWS AND SPILLS

The contractor shall schedule and perform work in a manner that does not cause or contribute to incidence of overflows, releases, or spills of sewage from sanitary sewer system or bypass operation. Contractor will be responsible for reporting any overflows or spills to the proper permitting office. Any overflows or spills caused by any action of the contractor will be the responsibility of the contractor, including any fines levied for uncontrolled discharge.

1.5 DELIVERY AND STORAGE

- 1. Contractor shall transport, deliver, handle, and store pipe, fittings, pumps, ancillary equipment, and all materials necessary to prevent damage to any of the products within the bypass pumping system and shall follow all manufacturer's recommendations.
- 2. Inspect all material and equipment for proper operation before initiating work. Any material found to be defective or damaged due to manufacturer or shipment of products shall be reported to the Owner & Engineer. If Owner or Engineer deems any product is not repairable or in conformance with these specifications, the contractor shall replace as directed before initiating work.
- 3. Repair or replacement of defective or damaged material and equipment shall be at no cost to utility or engineer.

2.0 PRODUCTS

2.1 MATERIALS

1. Discharge and Suction Pipes: Shall be approved by Engineer.
 - a. Discharge piping: Determined according to flow calculations and system operating calculations.
 - b. Suction piping: Determined according to pump size, flow calculations, and manhole depth following manufacturer's specifications and recommendations.
2. Polyethylene Plastic Pipe.
 - a. High density solid wall and following ASTM F714 Polyethylene (PE) Plastic Pipe (SDR-DR) based on Outside Diameter, ASTM D1248 and ASTM D3550
 - b. Homogenous throughout, free of visible cracks, discoloration, pitting, varying wall thickness, holes, foreign material, blisters, or other deleterious faults.
3. High-Density Polyethylene (HDPE).
 - a. Homogenous throughout, free of visible cracks, discoloration, pitting, varying wall thickness, holes, foreign material, blisters, or other deleterious faults.
 1. Defective areas of pipe: Cut out and joint fused as stated herein.
 - b. Assembled and joined at site using couplings, flanges, or butt-fusion method to provide leak proof joint. Follow manufacturer's instructions and ASTM D 2657.
 2. Threaded or solvent joints and connections are not permitted.
 - c. Fusing: By personnel certified as fusion technicians by manufacturer of HDPE pipe and/or fusing equipment.
 - d. Butt-fused joint: True alignment and uniform roll-back beads resulting from use of proper temperature and pressure.
 1. Allow adequate cooling time before removal of pressure.
 2. Watertight and have tensile strength equal to that of pipe
 3. Acceptance by Engineer before insertion
 - e. Use in streams, storm water culverts and environmentally sensitive areas.
4. Flexible Hoses and Associated Couplings and Connectors.
 - a. Abrasion resistant.
 - b. Suitable for intended service.
 - c. Rated for external and internal loads anticipated, including test pressure.
 1. External loading design: Incorporate anticipated traffic loadings, including traffic impact loading.
 - d. When subject to traffic loading, compose system, such as traffic ramps

or covers.

1. Install system and maintain H-20 loading requirements while in use or as directed by the Engineer.
5. Valves and Fittings: Determined according to flow calculations, pump sizes previously determined, and system operating pressures.
6. Plugs: Selected and installed according to size of line to be plugged, pipe and manhole configurations, and based on specific site.
 - a. Additional plugs shall be available in the event a plug fails. Plugs will be inspected by owner and engineer or engineers representative before use for defects which may lead to failure.
7. Aluminum "irrigation type" piping or glued PVC piping will not be permitted.
8. Discharge hose will only be allowed in short sections when approved by Engineer.

2.2 EQUIPMENT

1. Pumps.
 - a. Fully automatic self-priming units that do not require the use of foot-valves or vacuum pumps in priming system.
 - b. Electric or diesel powered.
 - c. Constructed to allow dry running for long periods of time to accommodate cyclical nature of effluent flows.
2. Provide.
 - a. Necessary stop/start controls for each pump.
 - b. One standby pump of each size maintained on site.
 1. On-line, isolated from primary system by a valve.
 - c. Quiet flow pumps at request of Owner or Engineer.

2.3 DESIGN REQUIREMENTS

1. Bypass pumping systems:
 - a. Sufficient capacity to pump peak flow of **100 GPM.**
2. Engineer will provide flow data for bypass system.
 - a. Contractor shall have in place staff for manual operation or automatic pump controls to maintain operation of bypass pumping. Pumps to be operated as needed, with the capacity to operate 24 hours per day, if necessary.
3. Provide pipeline plugs and pumps of adequate size to handle peak flow, and temporary discharge piping to ensure total flow of main can be safely

diverted around section to be repaired/replaced/constructed.

3.0 EXECUTION

3.1 PREPARATION

1. Determining location of bypass pipelines.
 - a. Minimal disturbance to existing utilities.
 1. Field locate existing utilities in proposed bypass area.
 - b. Obtain approvals for placement within public or private property.
 - c. Obtain Owner and Engineer's approval of location.
 - d. Costs associated with relocation of utilities and obtaining approvals will be at no cost to the utility or engineer.

3.2 INSTALLATION AND REMOVAL

1. Provisions and requirements must be reviewed by Engineer before starting construction.
2. Remove manhole sections or make connections to existing sewer and construct temporary bypass pumping structures at location(s) indicated on Drawings and as required to provide adequate suction conduit.
3. Plugging or blocking of sewage flows shall incorporate a primary and secondary plugging device. When plugging or blocking is no longer needed for performance and acceptance of work, remove in a manner that permits the sewage flow to slowly return to normal without surge, to prevent surcharging or causing other major disturbances downstream.
4. When working inside manhole or force main, exercise caution. Contractor shall closely follow all OSHA, Local, State and Federal requirements as applicable. Take required measures to protect workforce against sewer gases and/or combustible or oxygen-deficient atmosphere. Contractor is solely responsible for jobsite safety.
5. Installation of Bypass Pipelines:
 - a. Pipeline may be placed along shoulder of roads.
 1. Do not place in streets or sidewalks.
 - b. When bypass pipeline crosses local streets and private driveways, place in roadway ramps, or as directed by Engineer.
 1. When roadway ramps cannot be used, place bypass in trenches and cover with temporary pavement or road plates as approved by Engineer.
6. During bypass pumping operation, protect pumps and sewer lines from damage that may be inflicted by equipment or vandalism. Contractor shall

erect berms, barricades, or temporary fencing as necessary to protect bypass pumping system and discourage or prevent entry by unauthorized personnel. Contractor is solely responsible for jobsite security and controlled access.

7. Upon completion of bypass pumping operations, and after the receipt of written permission from Engineer, remove piping, restore property to pre-construction condition and restore pavement.

END OF SECTION 02960

SECTION 15103

PRESSURE TESTING AND STERILIZATION

1.0 TESTING

1.1 After the pipe has been laid, all newly laid pipe or any valved section thereof shall be subjected to a hydrostatic pressure test of at least 1.5 times the working pressure at the point of testing, but in no case less than that required by other Sections herein. In addition, a leakage test shall be conducted concurrently with the pressure test.

1.2 PRESSURE TEST

A. Test pressure shall:

1. Not be less than 1.25 times the working pressure at the highest point along the test section.
2. Not exceed pipe or thrust restraint design pressures at the lowest point along the test section.
3. Be of at least six (6) hour duration unless otherwise stipulated by Owner.
4. Not vary by more than plus or minus 5 psi.
5. Not exceed twice the rated pressure of the valves or hydrants when the pressure of the test section includes closed gate valves or hydrants.
6. Not exceed the rated pressure of resilient seat butterfly valves when used.

B. Each valved section of pipe shall be filled with water slowly and the specified test pressure, based on the elevation of the lowest point of the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer.

C. Before applying the specified test pressure, air shall be expelled completely from the pipe, valves, and hydrants. If permanent air vents are not located at all high points, the contractor shall install corporation cocks at such points so that the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation cocks shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation cocks shall be removed and plugged, or left in place at the discretion of the Engineer.

D. All exposed pipe, fittings, valves, hydrants, and joints shall be examined carefully during the test. Any damage or defective pipe,

fittings, valves, hydrants or other appurtenances that are discovered during or following the pressure test shall be repaired or replaced with sound equipment and materials, and the test shall be repeated until all test results are satisfactory in the opinion of the Engineer.

1.3 LEAKAGE TESTING

- A. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.
- B. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{\sqrt{NDP}}{100}$$

in which L is the allowable leakage, in gallons per hour; N is the length of pipeline tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge.

- 1. Allowable leakage at various pressures is shown in Table K-1.
 - 2. When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gal/hr/in of nominal valve size shall be allowed.
 - 3. When hydrants are in the test section, the test shall be made through the open isolation valve and against the closed hydrant valve.
- C. Acceptance shall be determined on the basis of allowable leakage. If any test of pipe laid discloses leakage greater than that specified in Section 1.03.B the Contractor shall, at his own expense, locate and repair the defective material until the leakage is within the specified allowance.

All visible leaks are to be repaired regardless of the amount of leakage.

Table K-1
Allowable Leakage Per 1,000 Ft. Of Pipeline (GPH)

Avg. Test Pressure (psi)	Nominal Pipe Diameter (Inches)								
	2	3	4	6	8	10	12	14	16
450	0.32	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55
400	0.30	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40
350	0.28	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25
300	0.26	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08
275	0.25	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99
250	0.24	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90
225	0.23	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80
200	0.21	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70
175	0.20	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59
150	0.19	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47
125	0.17	0.25	0.34	0.50	0.67	0.84	0.01	1.18	1.34
100	0.15	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20

Avg. Test Pressure (psi)	Nominal Pipe Diameter (Inches)							
	18	20	24	30	36	42	48	54
450	2.87	3.18	3.82	4.78	5.73	6.69	7.65	8.60
400	2.70	3.00	3.60	4.50	5.41	6.31	7.21	8.11
350	2.53	2.81	3.37	4.21	5.06	5.90	6.74	7.58
300	2.34	2.60	3.12	3.90	4.68	5.46	6.24	7.02
275	2.24	2.49	2.99	3.73	4.48	5.23	5.98	6.72
250	2.14	2.37	2.85	3.56	4.27	4.99	5.70	6.41
225	2.03	2.35	2.70	3.38	4.05	4.73	5.41	6.03
200	1.91	2.12	2.55	3.19	3.82	4.46	5.09	5.73
175	1.79	1.98	2.38	2.98	3.58	4.17	4.77	5.36
150	1.66	1.84	2.21	2.76	3.31	3.86	4.41	4.97
125	1.51	1.68	2.01	2.52	3.02	3.53	4.03	4.53
100	1.35	1.50	1.80	2.25	2.70	3.15	3.60	4.05

2.0 STERILIZATION

2.1 GENERAL

It is the intent of this Section to present essential procedures for disinfecting new and repaired water mains. This Section is patterned after AWWA C651. The basic procedure comprises:

- A. Preventing contaminating materials from entering the water mains during construction or repair and removing by flushing materials that may have entered the water main.
- B. Disinfecting any residual contamination that may remain.
- C. Determining the bacteriologic quality by laboratory test after disinfection.

2.2 PREVENTIVE MEASURES DURING CONSTRUCTION

- A. Precautions shall be taken to protect pipe interiors, fittings, and valves against contamination. Pipe delivered for construction shall be strung so as to minimize entrance of foreign material. When pipe laying is not in progress, for example at the close of the day's Work, all openings in the pipe line shall be closed by water tight plugs. Joints of all pipe in the trench shall be completed before Work is stopped. If water accumulates in the trench, the plugs shall remain in place until the trench is dry.

If dirt that, in the opinion of the Engineer, will not be removed by the flushing operation (Section 2.3) enters the pipe, the interior of the pipe shall be cleaned and swabbed as necessary, with a five (5%) percent hypochlorite disinfecting solution.

- B. Packing Materials and Joints—No contaminated material or any material capable of supporting prolific growth of micro-organisms shall be used for sealing joints. Packing material shall be handled in such a manner as to avoid contamination. Where applicable, packing materials must conform to AWWA standards. Packing material for cast iron pipe must conform to AWWA C600. Yarning or packing material shall consist of molded or tubular rubber rings, rope of asbestos or treated paper. Materials such as jute or hemp shall not be used. The lubricant used in the installation of sealing gaskets shall be suitable for use in potable water. It shall be delivered to the job in enclosed containers and shall be kept clean.

2.3 PRELIMINARY FLUSHING

The main shall be flushed prior to disinfection unless disinfected by the method in Section 2.04.B.1. It is recommended that the flushing velocity be not less than 2.5 ft/sec. The rate of flow required to produce this velocity in various diameters

is shown in Table K-2. No site for flushing should be chosen unless it has been determined that drainage is adequate at the site.

Table K-2
Required Openings To Flush Pipelines
(40-PSI Residual Pressure)

Pipe Size (in.)	Flow Required to Produce 2.5 fps Velocity (gpm)	Orifice Size (in.)	Hydrants Required	
			Number of Hydrants	Nozzle Size (in.)
4	100	15/16	1	2 1/2
6	220	1 3/8	1	2 1/2
8	390	1 7/8	1	2 1/2
10	610	2 5/16	1	2 1/2
12	880	2 13/16	1	2 1/2
14	1,200	3 1/4	2	2 1/2
16	1,565	3 5/8	2	2 1/2
18	1,980	4 3/16	2	2 1/2

2.4 FORM OF CHLORINE FOR DISINFECTION

The most common forms of chlorine used in the disinfecting solutions are liquid chlorine (gas at atmospheric pressure), calcium hypochlorite granules, and sodium hypochlorite solutions.

A. Liquid Chlorine

1. Use: Liquid chlorine shall be used only when suitable equipment is available and only under the direct supervision of a person familiar with the physiological, chemical, and physical properties of this element and who is properly trained and equipped to handle any emergency that may arise. Introduction of chlorine-gas directly from the supply cylinder is unsafe and shall not be permitted.

NOTE: The preferred equipment consists of a solution fed chlorinator in combination with a booster pump for injecting the chlorine-gas water mixture into the main to be disinfected. Direct feed chlorinators are not recommended because their use is limited to situations where the water pressure is lower than the chlorine cylinder pressure.

B. Hypochlorites

1. Calcium Hypochlorite: Calcium hypochlorite contains seventy (70%) percent available chlorine by weight. It is either granular or tabular in form. The tablets, 6-8 to the ounce, are designed to dissolve slowly in water. Calcium hypochlorite is packaged in containers of various types and sizes ranging from small plastic bottles to one hundred (100) pound drums.

A chlorine-water solution is prepared by dissolving the granules in water in the proportion requisite for the desired concentration.

2. Sodium Hypochlorite: Sodium hypochlorite is supplied in strengths from five and one-quarter (5.25%) to sixteen (16%) percent available chlorine. It is packaged in liquid form in glass, rubber, or plastic containers ranging in size from one (1) quart bottles to five (5) gallon carboys. It may also be purchased in bulk for delivery by tank truck.

The chlorine-water solution is prepared by adding hypochlorite to water. Product deterioration must be reckoned with in computing the quantity of sodium hypochlorite required for the desired concentration.

3. Application: The hypochlorite solutions shall be applied to the water main with a gasoline or electrically powered chemical feed pump designed for feeding chlorine solutions. For small applications, the solutions may be fed with a hand pump, for example, a hydraulic test pump. Feed lines shall be of such material and strength as to withstand safely the maximum pressures that may be created by the pumps. All connections shall be checked for tightness before the hypochlorite solution is applied to the main.

2.5 METHODS OF CHLORINE APPLICATION

- A Continuous Feed Method: This method is suitable for general application.

1. Water from the existing distribution system or other approved sources of supply shall be made to flow at a constant, measured rate into the newly-laid pipe line. The water shall receive a dose of chlorine, also fed at a constant, measured rate. The two rates shall be proportioned so that the chlorine concentration in the water in the pipe is maintained at a minimum of 50 mg/L available chlorine. To assure that this concentration is maintained, the chlorine residual should be measured at regular intervals in accordance with the procedures described in the current edition of Standard

Methods and AWWA M12—Simplified Procedures for Water Examination.

NOTE: In the absence of a meter, the rate may be determined either by placing a pitot gauge at the discharge or by measuring the time to fill a container of known volume.

Table K-3 gives the amount of chlorine residual required for each one hundred (100) feet of pipe of various diameters. Solutions of one (1%) percent chlorine may be prepared with sodium hypochlorite or calcium hypochlorite. The latter solution requires approximately one pound (1 lb.) of calcium hypochlorite in eight and five tenths (8.5) gallons of water.

Table K-3
Chlorine Required To Produce 50 mg/L Concentration
In 100 Ft. Of Pipe (By Diameter)

Pipe Size (in.)	100 Percent Chlorine (lb)	1 Percent Chlorine Solutions (gal)
4	0.027	0.33
6	0.061	0.73
8	0.108	1.30
10	0.170	2.04
12	0.240	2.88

2. During the application of the chlorine, valves shall be manipulated to prevent the treatment dosage from flowing back into the line supplying the water. Chlorine application shall not cease until the entire main is filled with the chlorine solution. The chlorinated water shall be retained in the main for at least twenty-four (24) hours during which time all valves and hydrants in the section treated shall be operated in order to disinfect the appurtenances. At the end of this twenty-four (24) hour period, the treated water shall contain no less than 25 mg/L chlorine throughout the length of the main.
- B. Slug Method: This method is suitable for use with mains of large diameter for which, because of the volumes of water involved, the continuous feed method is not practical.
1. Water from the existing distribution system or other approved source of supply shall be made to flow at a constant, measured rate (see section 2.5.1.1) into the newly laid pipe line. The water

shall receive a dose of chlorine also fed at a constant, measured rate. The two rates shall be proportioned so that the concentration in the water entering the pipe line is maintained at no less than 300 mg/L. The chlorine shall be applied continuously and for a sufficient period to develop a solid column or "slug" of chlorinated water that will, as it passes along the line, expose all interior surfaces to a concentration of at least 300 mg/L for at least three (3) hours. The application shall be checked at a tap near the upstream end of the line by chlorine residual measurements.

2. As the chlorinated water flows past tees and crosses, related valves and hydrants shall be operated as to disinfect appurtenances.

2.6 FINAL FLUSHING

- A. After the applicable retention period, the heavily chlorinated water shall be flushed from the main until the chlorine concentration in the water leaving the main is no higher than that generally prevailing in the system, or less than 1 mg/L. Chlorine residual determination shall be made to ascertain that the heavily chlorinated water has been removed from the pipeline.
- B. Disposing of Heavily Chlorinated Water. The environment into which the chlorinated water is to be discharged shall be inspected. If there is any possibility that the chlorinated discharge will cause damage to the environment, then a neutralizing chemical shall be applied to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. See Table K-4 for neutralizing chemicals. Federal, state, provincial, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water.

Table K-4
Amount of Chemicals Required to Neutralize Various Residual Chlorine Concentrations in 100,000 Gallons of Water

Residual Chlorine Concentration	Sulfur Dioxide (SO ₂)		Sodium Bisulfate (NaHSO ₃)		Sodium Sulfite (Na ₂ SO ₃)		Sodium Thiosulfate (Na ₂ S ₂ O ₃ • 5H ₂ O)	
	lb	kg	lb	kg	lb	kg	lb	kg
1	0.8	0.36	1.2	0.54	1.4	0.64	1.2	0.54
2	1.7	0.77	2.5	1.13	2.9	1.32	2.4	1.09
10	8.3	3.76	12.5	5.67	14.6	6.62	12.0	5.44
50	41.7	18.91	62.6	28.39	73.0	33.11	60.0	27.22

2.7 BACTERIOLOGIC TESTS

1. After final flushing, and before the water main is placed in service, a sample or samples shall be collected from the end of the line and tested for bacteriologic quality and shall show the absence of coliform organisms. If the number and frequency of samples is not prescribed by the public health authority having jurisdiction, at least one (1) sample shall be collected from chlorinated supplies where a chlorine residual is maintained throughout the new main. From unchlorinated supplies at least two (2) samples shall be collected at least twenty-four (24) hours apart.
2. Samples for bacteriologic analysis shall be collected in sterile bottles treated with sodium thiosulphate. No hose or fire hydrant shall be used in collection of samples. A suggested sampling tap consists of a standard corporation cock installed in the main with a copper tube gooseneck assembly. After samples have been collected, the gooseneck assembly may be removed, and retained for future use.

2.8 REPETITION OF PROCEDURE

If the initial disinfection fails to produce satisfactory samples, disinfection shall be repeated until satisfactory samples have been obtained. The tablet method cannot be used in these subsequent disinfections. When the sample tests indicate that disinfection has been effective, the main may be placed in service.

2.9 PROCEDURE AFTER CUTTING INTO OR REPAIRING EXISTING MAINS

The procedures outlined in this Section apply primarily when mains are wholly or partially dewatered. Leaks or breaks that are repaired with clamping devices while the mains remain full of water under pressure present little danger of contamination and require no disinfection.

- A. Trench "Treatment": When an old line is opened, either by accident or by design, the excavation will likely be wet and may be badly contaminated from nearby sewers. Liberal quantities of hypochlorite applied to open trench areas will lessen the danger from such pollution. Tablets have the advantage in such a situation because they dissolve slowly and continue to release hypochlorite as water is pumped from the excavation.
- B. Main Disinfection: The following procedure is considered as a minimum that may be used.

1. Swabbing With Hypochlorite Solution: The interior of all pipe and fittings used in making the repair (particularly couplings and tapping sleeves) shall be swabbed with a five (5%) percent hypochlorite solution before they are installed.
 2. Flushing: Thorough flushing is the most practical means of removing contamination introduced during repairs. If valving and hydrant locations permit, flushing from both directions is recommended. Flushing shall be started as soon as the repairs are completed and continued until discolored water is eliminated.
 3. Slug Method: Where practicable, in addition to the procedures of section 2.9.2.1, a section of main in which the break is located shall be isolated, all service connections shut off, and the section flushed and chlorinated as described in section 2.5.2, except that the dose may be increased to as much as 500 mg/L, and the contact time reduced to as little as one-half (1/2) hour. After chlorination, flushing shall be resumed and continued until discolored water is eliminated.
- C. Sampling: Bacteriologic samples shall be taken after repairs to provide a record by which the effectiveness of the procedures used can be determined. If the direction of flow is unknown, samples shall be taken on each side of the main break.

3.0 PAYMENT

No separate payment shall be made for testing and sterilization of water lines. Items described in this Section shall be incidental to the cost of installing the water line.

END OF SECTION 15103

MATERIAL SUMMARY

CONTRACT ID: 251022

102GR25D022

DE10200252522

US-25 ADDRESS SAFETY MOBILITY AND CONGESTION WITH ACCESS MANAGEMENT ALONG US-25 FROM THE US-25/US-461 INTERSECTION TO I-75 GRADE DRAIN & SURFACE WITH BRIDGE, A DISTANCE OF .77 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1105	00003	CRUSHED STONE BASE	14,888.00	TON
1110	00020	TRAFFIC BOUND BASE	500.00	TON
1115	00190	LEVELING & WEDGING PG64-22	2,226.00	TON
1120	00210	CL4 ASPH BASE 1.50D PG76-22	827.00	TON
1125	00214	CL3 ASPH BASE 1.00D PG64-22 (REVISED 8-14-25)	9,055.00	TON
1130	00219	CL4 ASPH BASE 1.00D PG76-22	589.00	TON
1135	00342	CL4 ASPH SURF 0.38A PG76-22	225.00	TON
1140	00388	CL3 ASPH SURF 0.38B PG64-22	4,693.00	TON
1145	02084	JPC PAVEMENT-8 IN	324.00	SQYD
1150	02101	CEM CONC ENT PAVEMENT-8 IN	2,900.00	SQYD
1155	02677	ASPHALT PAVE MILLING & TEXTURING	1,716.00	TON
1160	01000	PERFORATED PIPE-4 IN	5,670.00	LF
1165	01010	NON-PERFORATED PIPE-4 IN	315.00	LF
1170	01810	STANDARD CURB AND GUTTER	9,071.00	LF
1175	01875	STANDARD HEADER CURB	3,950.00	LF
1180	01891	ISLAND HEADER CURB TYPE 2	783.00	LF
1185	01939	MOUNTABLE MEDIAN TYPE 3	2,195.00	SQYD
1190	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	18.00	EACH
1195	01992	INSTALL TEMP CONC MED BARR	1,455.00	LF
1200	02014	BARRICADE-TYPE III	20.00	EACH
1205	02091	REMOVE PAVEMENT	3,570.00	SQYD
1210	02159	TEMP DITCH	2,665.00	LF
1215	02160	CLEAN TEMP DITCH	2,665.00	LF
1220	02230	EMBANKMENT IN PLACE	8,756.00	CUYD
1225	02242	WATER	200.00	MGAL
1230	02351	GUARDRAIL-STEEL W BEAM-S FACE	1,112.50	LF
1235	02369	GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH
1240	02381	REMOVE GUARDRAIL	643.00	LF
1245	02383	REMOVE & RESET GUARDRAIL	150.00	LF
1250	02391	GUARDRAIL END TREATMENT TYPE 4A	1.00	EACH
1255	02429	RIGHT-OF-WAY MONUMENT TYPE 1	7.00	EACH
1260	02432	WITNESS POST	7.00	EACH
1265	02483	CHANNEL LINING CLASS II	1,680.00	TON
1270	02545	CLEARING AND GRUBBING - 12 ACRES	1.00	LS
1275	02562	TEMPORARY SIGNS	536.00	SQFT
1280	02585	EDGE KEY	136.00	LF
1285	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
1290	02671	PORTABLE CHANGEABLE MESSAGE SIGN	4.00	EACH
1295	02701	TEMP SILT FENCE	2,665.00	LF
1300	02703	SILT TRAP TYPE A	12.00	EACH
1305	02704	SILT TRAP TYPE B	12.00	EACH
1310	02705	SILT TRAP TYPE C	12.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1315	02706	CLEAN SILT TRAP TYPE A	12.00	EACH
1320	02707	CLEAN SILT TRAP TYPE B	12.00	EACH
1325	02708	CLEAN SILT TRAP TYPE C	12.00	EACH
1330	02720	SIDEWALK-4 IN CONCRETE	7,701.00	SQYD
1335	02726	STAKING	1.00	LS
1340	02900	INSTALL TEMP CRASH CUSHION	2.00	EACH
1345	05950	EROSION CONTROL BLANKET	2,704.00	SQYD
1350	05952	TEMP MULCH	12,072.00	SQYD
1355	05953	TEMP SEEDING AND PROTECTION	9,009.00	SQYD
1360	05963	INITIAL FERTILIZER	1.30	TON
1365	05964	MAINTENANCE FERTILIZER	0.80	TON
1370	05985	SEEDING AND PROTECTION	18,018.00	SQYD
1375	05990	SODDING	4,236.00	SQYD
1380	06511	PAVE STRIPING-TEMP PAINT-6 IN	51,131.00	LF
1385	06530	PAVE STRIPING REMOVAL-4 IN	55,100.00	LF
1390	06542	PAVE STRIPING-THERMO-6 IN W	17,500.00	LF
1395	06543	PAVE STRIPING-THERMO-6 IN Y	12,800.00	LF
1400	06568	PAVE MARKING-THERMO STOP BAR-24IN	125.00	LF
1405	06569	PAVE MARKING-THERMO CROSS-HATCH	1,225.00	SQFT
1410	06573	PAVE MARKING-THERMO STR ARROW	4.00	EACH
1415	06574	PAVE MARKING-THERMO CURV ARROW	25.00	EACH
1420	06575	PAVE MARKING-THERMO COMB ARROW	8.00	EACH
1425	06610	INLAID PAVEMENT MARKER-MW	148.00	EACH
1430	06612	INLAID PAVEMENT MARKER-BY	173.00	EACH
1440	10020NS	FUEL ADJUSTMENT	20,885.00	DOLL
1445	10030NS	ASPHALT ADJUSTMENT	80,887.00	DOLL
1450	20471ES09	TEMP CONC MED BARRIER	1,470.00	LF
1455	20550ND	SAWCUT PAVEMENT	7,600.00	LF
1460	21289ED	LONGITUDINAL EDGE KEY	7,600.00	LF
1465	23607EC	PAVE MARK THERMO-LANE REDUCTION ARROW	1.00	EACH
1470	24423EC	TEMPORARY SHORING	1.00	LS
1475	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN	310.00	LF
1480	24918ES601	CONCRETE-CLASS A	2,982.00	SQYD
1485	26248EC	ELECTRONIC DELIVERY MGMT SYSTEM - AGG	1.00	LS
1490	00441	ENTRANCE PIPE-18 IN	73.00	LF
1495	00443	ENTRANCE PIPE-24 IN	62.00	LF
1500	00521	STORM SEWER PIPE-15 IN	73.00	LF
1505	00522	STORM SEWER PIPE-18 IN	4,081.00	LF
1510	00524	STORM SEWER PIPE-24 IN	1,160.00	LF
1515	00526	STORM SEWER PIPE-30 IN	1,631.00	LF
1520	00528	STORM SEWER PIPE-36 IN	342.00	LF
1525	00529	STORM SEWER PIPE-42 IN	505.00	LF
1530	00530	STORM SEWER PIPE-48 IN	439.00	LF
1535	00534	STORM SEWER PIPE-72 IN	89.00	LF
1540	01208	PIPE CULVERT HEADWALL-24 IN	2.00	EACH
1545	01212	PIPE CULVERT HEADWALL-36 IN	1.00	EACH
1550	01216	PIPE CULVERT HEADWALL-48 IN	1.00	EACH
1555	01371	METAL END SECTION TY 1-18 IN	2.00	EACH
1560	01373	METAL END SECTION TY 1-24 IN	2.00	EACH
1565	01391	METAL END SECTION TY 3-18 IN	1.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1570	01393	METAL END SECTION TY 3-24 IN	1.00	EACH
1575	01450	S & F BOX INLET-OUTLET-18 IN	1.00	EACH
1580	01456	CURB BOX INLET TYPE A	34.00	EACH
1585	01490	DROP BOX INLET TYPE 1	12.00	EACH
1590	01496	DROP BOX INLET TYPE 3	4.00	EACH
1595	01538	DROP BOX INLET TYPE 7	3.00	EACH
1600	01544	DROP BOX INLET TYPE 11	1.00	EACH
1605	01559	DROP BOX INLET TYPE 13G	9.00	EACH
1610	01568	DROP BOX INLET TYPE 13S	1.00	EACH
1615	01642	JUNCTION BOX-18 IN	3.00	EACH
1620	01643	JUNCTION BOX-24 IN	1.00	EACH
1625	01646	JUNCTION BOX-42 IN	2.00	EACH
1630	01649	JUNCTION BOX-60 IN	1.00	EACH
1635	01650	JUNCTION BOX - 72 IN	2.00	EACH
1640	01756	MANHOLE TYPE A	1.00	EACH
1645	01767	MANHOLE TYPE C	3.00	EACH
1650	02607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	11,211.00	SQYD
1655	24025EC	PIPE CULVERT HEADWALL-72 IN	1.00	EACH
1660	06406	SBM ALUM SHEET SIGNS .080 IN	1,032.00	SQFT
1665	06407	SBM ALUM SHEET SIGNS .125 IN	488.00	SQFT
1670	06410	STEEL POST TYPE 1	1,955.00	LF
1675	06490	CLASS A CONCRETE FOR SIGNS	13.75	CUYD
1680	21596ND	GMSS TYPE D	55.00	EACH
1685	24265EC	INSTALL SIGN POST REFLECTORS	22.00	EACH
1690	24631EC	BARCODE SIGN INVENTORY	270.00	EACH
1695	04811	ELECTRICAL JUNCTION BOX TYPE B	4.00	EACH
1700	04820	TRENCHING AND BACKFILLING	1,040.00	LF
1705	04844	CABLE-NO. 14/5C	2,760.00	LF
1710	04845	CABLE-NO. 14/7C	900.00	LF
1715	04886	MESSENGER-15400 LB	610.00	LF
1720	04932	INSTALL STEEL STRAIN POLE	6.00	EACH
1725	06406	SBM ALUM SHEET SIGNS .080 IN	71.70	SQFT
1730	06472	INSTALL SPAN MOUNTED SIGN	2.00	EACH
1735	20188NS835	INSTALL LED SIGNAL-3 SECTION	4.00	EACH
1740	20189NS835	INSTALL LED SIGNAL-5 SECTION	1.00	EACH
1745	20408ES835	INSTALL LED BEACON-12 IN	2.00	EACH
1750	21659NN	RELOCATE SIGNAL HEAD	8.00	EACH
1755	21743NN	INSTALL PEDESTRIAN DETECTOR	6.00	EACH
1760	23068NN	REMOVE & REINSTALL COORDINATING UNIT	1.00	EACH
1765	23157EN	TRAFFIC SIGNAL POLE BASE	31.00	CUYD
1770	23222EC	INSTALL SIGNAL PEDESTAL	6.00	EACH
1775	24525EC	ADVANCE WARNING FLASHER	1.00	EACH
1780	24528ED	TETHER WIRE	110.00	LF
1785	24601EC	INSTALL - INSTALL RRFB	6.00	EACH
1790	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	1,050.00	LF
1795	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80	50.00	LF
1800	24908EC	INSTALL SIGNAL CONTROLLER-TY ATC	1.00	EACH
1805	24955ED	REMOVE SIGNAL EQUIPMENT	2.00	EACH
1810	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A	3.00	EACH
1815	04701	POLE 40 FT MTG HT	18.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1820	04725	BRACKET 15 FT	18.00	EACH
1825	04740	POLE BASE	43.00	EACH
1830	04750	TRANSFORMER BASE	18.00	EACH
1835	04780	FUSED CONNECTOR KIT	36.00	EACH
1840	04793	CONDUIT-1 1/4 IN	160.00	LF
1845	04797	CONDUIT-3 IN	1,325.00	LF
1850	04800	MARKER	8.00	EACH
1855	04820	TRENCHING AND BACKFILLING	6,935.00	LF
1860	04821	OPEN CUT ROADWAY	545.00	LF
1865	04832	WIRE-NO. 12	3,550.00	LF
1870	04860	CABLE-NO. 8/3C DUCTED	2,250.00	LF
1875	04940	REMOVE LIGHTING	1.00	LS
1880	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	22.00	EACH
1885	23778EC	WIRE-NO. 10	10,950.00	LF
1890	24589ED	LED LUMINAIRE	21.00	EACH
1895	24851EC	CABLE-NO. 10/3C DUCTED	10,385.00	LF
1900	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	7,240.00	LF
1905	02568	MOBILIZATION	1.00	LS
1910	02569	DEMOBILIZATION	1.00	LS
1915	14003	W CAP EXISTING MAIN	12.00	EACH
1920	14014	W ENCASEMENT STEEL OPEN CUT RANGE 3	75.00	LF
1925	14017	W ENCASEMENT STEEL OPEN CUT RANGE 6	260.00	LF
1930	14019	W FIRE HYDRANT ASSEMBLY	3.00	EACH
1935	14023	W FLUSHING ASSEMBLY	4.00	EACH
1940	14028	W METER 3/4 INCH	1.00	EACH
1945	14036	W PIPE DUCTILE IRON 06 INCH	305.00	LF
1950	14042	W PIPE DUCTILE IRON 24 INCH	95.00	LF
1955	14053	W PIPE DCTL IRON RSTRND JOINT 24 IN	1,020.00	LF
1960	14053	W PIPE DCTL IRON RSTRND JOINT 24 IN - w/Nitrile Gaskets	72.00	LF
1965	14059	W PIPE PVC 06 INCH	145.00	LF
1970	14077	W SERV PE/PLST LONG SIDE 1 IN	1.00	EACH
1975	14085	W SERV PE/PLST SHORT SIDE 3/4 IN	3.00	EACH
1980	14089	W TAPPING SLEEVE AND VALVE SIZE 1	5.00	EACH
1985	14090	W TAPPING SLEEVE AND VALVE SIZE 2	6.00	EACH
1990	14105	W VALVE 06 INCH	1.00	EACH
1995	15022	S ENCASEMENT STEEL OPEN CUT RANGE 3	90.00	LF
2000	15023	S ENCASEMENT STEEL OPEN CUT RANGE 4	110.00	LF
2005	15060	S FORCE MAIN PVC 06 INCH	545.00	LF
2010	15062	S FORCE MAIN PVC 10 INCH	428.00	LF
2015	15069	S FORCE MAIN TAP SLEEVE/VALVE RNG 1	2.00	EACH
2020	15070	S FORCE MAIN TAP SLEEVE/VALVE RNG 2	2.00	EACH
2025	15089	S LATERAL SHORT SIDE 04 INCH	2.00	EACH
2030	15092	S MANHOLE	18.00	EACH
2035	15093	S MANHOLE ABANDON/REMOVE	6.00	EACH
2040	15094	S MANHOLE ADJUST TO GRADE	5.00	EACH
2045	15097	S MANHOLE RECONSTRUCT INVERT	1.00	EACH
2050	15112	S PIPE PVC 08 INCH	134.00	LF
2055	15113	S PIPE PVC 10 INCH	1,258.00	LF
2060	15155	S CAP EXISTING MAIN - CUT AND CAP	18.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
2065	15155	S CAP EXISTING MAIN - FORCE MAIN CUT AND CAP	4.00	EACH
2070	15158	S FORCE MAIN PVC RSTRND JOINT 10 INCH	108.00	LF
2075	04793	CONDUIT-1 1/4 IN	20.00	LF
2080	04820	TRENCHING AND BACKFILLING	17.00	LF
2085	04830	LOOP WIRE	1,150.00	LF
2090	04895	LOOP SAW SLOT AND FILL	200.00	LF
2095	20360ES818	WOOD POST	1.00	EACH
2100	20468EC	ELECTRICAL JUNCTION BOX-10 X 8 X 4	1.00	EACH
2105	24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING - (ADDED 8-14-25)	24.12	TON
2110	08911	CRASH CUSHION TY 6 CLASS T TL2 - (ADDED 8-14-25)	2.00	EACH
2115	15000	S BYPASS PUMPING - (ADDED 8-14-25)	4.00	EACH

CONTRACT ID: 251022

102GR25D022

DE10204612522

KY-461 IMPROVE KY-461 FROM US-150 TO THE EXISTING FOUR LANE APPROACH AT US-25 GRADE & DRAIN WITH ASPHALT SURFACE, A DISTANCE OF 2.72 MILES.

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0005	00003	CRUSHED STONE BASE	62,777.00	TON
0010	00020	TRAFFIC BOUND BASE	138.00	TON
0015	00100	ASPHALT SEAL AGGREGATE	288.00	TON
0020	00103	ASPHALT SEAL COAT	35.00	TON
0025	00190	LEVELING & WEDGING PG64-22	3,968.00	TON
0030	00212	CL2 ASPH BASE 1.00D PG64-22	6,150.00	TON
0035	00214	CL3 ASPH BASE 1.00D PG64-22	24,855.00	TON
0040	00301	CL2 ASPH SURF 0.38D PG64-22	2,664.00	TON
0045	00307	CL2 ASPH SURF 0.38B PG64-22	171.00	TON
0050	00356	ASPHALT MATERIAL FOR TACK	68.00	TON
0055	00388	CL3 ASPH SURF 0.38B PG64-22	9,570.00	TON
0060	02676	MOBILIZATION FOR MILL & TEXT	1.00	LS
0065	02677	ASPHALT PAVE MILLING & TEXTURING	200.00	TON
0070	00071	CRUSHED AGGREGATE SIZE NO 57	933.00	TON
0075	00078	CRUSHED AGGREGATE SIZE NO 2	11.00	TON
0080	01000	PERFORATED PIPE-4 IN	5,572.00	LF
0085	01010	NON-PERFORATED PIPE-4 IN	92.00	LF
0090	01020	PERF PIPE HEADWALL TY 1-4 IN	5.00	EACH
0095	01028	PERF PIPE HEADWALL TY 3-4 IN	1.00	EACH
0100	01032	PERF PIPE HEADWALL TY 4-4 IN	4.00	EACH
0105	01810	STANDARD CURB AND GUTTER	237.00	LF
0110	01982	DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE	160.00	EACH
0115	02091	REMOVE PAVEMENT	657.00	SQYD
0120	02159	TEMP DITCH	7,210.00	LF
0125	02160	CLEAN TEMP DITCH	3,605.00	LF
0130	02200	ROADWAY EXCAVATION	422,794.00	CUYD
0135	02242	WATER	754.00	MGAL

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0140	02351	GUARDRAIL-STEEL W BEAM-S FACE	12,237.50	LF
0145	02360	GUARDRAIL TERMINAL SECTION NO 1	13.00	EACH
0150	02367	GUARDRAIL END TREATMENT TYPE 1	3.00	EACH
0155	02369	GUARDRAIL END TREATMENT TYPE 2A	1.00	EACH
0160	02381	REMOVE GUARDRAIL	12,862.00	LF
0165	02391	GUARDRAIL END TREATMENT TYPE 4A	5.00	EACH
0170	02469	CLEAN SINKHOLE	2.00	EACH
0175	02488	CHANNEL LINING CLASS IV	5,373.00	CUYD
0180	02545	CLEARING AND GRUBBING - 84 ACRES	1.00	LS
0185	02555	CONCRETE-CLASS B	155.60	CUYD
0190	02562	TEMPORARY SIGNS	755.00	SQFT
0195	02585	EDGE KEY	134.00	LF
0200	02603	FABRIC-GEOTEXTILE CLASS 2	5,563.00	SQYD
0205	02650	MAINTAIN & CONTROL TRAFFIC	1.00	LS
0210	02653	LANE CLOSURE	1.00	EACH
0215	02671	PORTABLE CHANGEABLE MESSAGE SIGN	7.00	EACH
0220	02696	SHOULDER RUMBLE STRIPS	24,060.00	LF
0225	02701	TEMP SILT FENCE	7,210.00	LF
0230	02703	SILT TRAP TYPE A	53.00	EACH
0235	02704	SILT TRAP TYPE B	53.00	EACH
0240	02705	SILT TRAP TYPE C	53.00	EACH
0245	02706	CLEAN SILT TRAP TYPE A	53.00	EACH
0250	02707	CLEAN SILT TRAP TYPE B	53.00	EACH
0255	02708	CLEAN SILT TRAP TYPE C	53.00	EACH
0260	02726	STAKING	1.00	LS
0265	02731	REMOVE STRUCTURE	1.00	LS
0270	02775	ARROW PANEL	2.00	EACH
0275	05950	EROSION CONTROL BLANKET	7,416.00	SQYD
0280	05952	TEMP MULCH	177,600.00	SQYD
0285	05953	TEMP SEEDING AND PROTECTION	133,200.00	SQYD
0290	05963	INITIAL FERTILIZER	6.00	TON
0295	05964	MAINTENANCE FERTILIZER	10.00	TON
0300	05985	SEEDING AND PROTECTION	187,500.00	SQYD
0305	05992	AGRICULTURAL LIMESTONE	121.00	TON
0310	06511	PAVE STRIPING-TEMP PAINT-6 IN	33,372.00	LF
0315	06542	PAVE STRIPING-THERMO-6 IN W	62,329.00	LF
0320	06543	PAVE STRIPING-THERMO-6 IN Y	45,953.00	LF
0325	06546	PAVE STRIPING-THERMO-12 IN W	1,267.00	LF
0330	06568	PAVE MARKING-THERMO STOP BAR-24IN	446.00	LF
0335	06569	PAVE MARKING-THERMO CROSS-HATCH	11,332.00	SQFT
0340	06573	PAVE MARKING-THERMO STR ARROW	29.00	EACH
0345	06574	PAVE MARKING-THERMO CURV ARROW	92.00	EACH
0350	06575	PAVE MARKING-THERMO COMB ARROW	6.00	EACH
0355	06576	PAVE MARKING-THERMO ONLY	9.00	EACH
0360	06610	INLAID PAVEMENT MARKER-MW	438.00	EACH
0365	06612	INLAID PAVEMENT MARKER-BY	415.00	EACH
0370	08150	STEEL REINFORCEMENT	1,916.00	LB
0375	10020NS	FUEL ADJUSTMENT	121,818.00	DOLL
0380	10030NS	ASPHALT ADJUSTMENT	192,298.00	DOLL
0385	20191ED	OBJECT MARKER TY 3	3.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0390	20550ND	SAWCUT PAVEMENT	32,024.00	LF
0395	21289ED	LONGITUDINAL EDGE KEY	21,365.00	LF
0400	23274EN11F	TURF REINFORCEMENT MAT 1	833.00	SQYD
0405	23275EN11F	TURF REINFORCEMENT MAT 2	319.00	SQYD
0410	23607EC	PAVE MARK THERMO-LANE REDUCTION ARROW	3.00	EACH
0415	23791EC	PAVE STRIPING-CHEVRON MARKINGS	1,023.00	SQFT
0420	24683ED	PAVE MARKING-THERMO DOTTED LANE EXTEN	147.00	LF
0425	25078ED	THRIE BEAM GUARDRAIL TRANSITION TL-3	4.00	EACH
0430	26248EC	ELECTRONIC DELIVERY MGMT SYSTEM - AGG	1.00	LS
0435	00440	ENTRANCE PIPE-15 IN	160.00	LF
0440	00441	ENTRANCE PIPE-18 IN	153.00	LF
0445	00443	ENTRANCE PIPE-24 IN	152.00	LF
0450	00445	ENTRANCE PIPE-30 IN	66.00	LF
0455	00461	CULVERT PIPE-15 IN	24.00	LF
0460	00462	CULVERT PIPE-18 IN	228.00	LF
0465	00464	CULVERT PIPE-24 IN	122.00	LF
0470	00466	CULVERT PIPE-30 IN	189.00	LF
0475	00468	CULVERT PIPE-36 IN	26.00	LF
0480	00469	CULVERT PIPE-42 IN	79.00	LF
0485	00471	CULVERT PIPE-54 IN	89.00	LF
0490	00473	CULVERT PIPE-66 IN	45.00	LF
0495	00521	STORM SEWER PIPE-15 IN	113.00	LF
0500	00522	STORM SEWER PIPE-18 IN	94.00	LF
0505	01210	PIPE CULVERT HEADWALL-30 IN	1.00	EACH
0510	01214	PIPE CULVERT HEADWALL-42 IN	1.00	EACH
0515	01222	PIPE CULVERT HEADWALL-66 IN	1.00	EACH
0520	01310	REMOVE PIPE	69.00	LF
0525	01433	SLOPED BOX OUTLET TYPE 1-18 IN	4.00	EACH
0530	01453	S & F BOX INLET-OUTLET-36 IN	1.00	EACH
0535	01487	CURB BOX INLET TYPE F	1.00	EACH
0540	01490	DROP BOX INLET TYPE 1	7.00	EACH
0545	01502	DROP BOX INLET TYPE 5A	2.00	EACH
0550	01514	DROP BOX INLET TYPE 5E	1.00	EACH
0555	01642	JUNCTION BOX-18 IN	1.00	EACH
0560	01643	JUNCTION BOX-24 IN	2.00	EACH
0565	01646	JUNCTION BOX-42 IN	1.00	EACH
0570	02607	FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	4,857.00	SQYD
0575	02625	REMOVE HEADWALL	15.00	EACH
0580	15007	S CIPP LINER 24 INCH	170.00	LF
0585	15128	S CIPP LINER 30 INCH	160.00	LF
0590	15130	S CIPP LINER 42 INCH	309.00	LF
0595	15132	S CIPP LINER 54 INCH	423.00	LF
0600	15134	S CIPP LINER 66 INCH	361.00	LF
0605	23970NC	RESET GRATE	1.00	EACH
0610	24026EC	PIPE CULVERT HEADWALL-54 IN	3.00	EACH
0615	24575ES610	HEADWALL - CONC SLOPED AND PAVED	13.00	EACH
0620	04811	ELECTRICAL JUNCTION BOX TYPE B	5.00	EACH
0625	04820	TRENCHING AND BACKFILLING	915.00	LF
0630	04844	CABLE-NO. 14/5C	4,605.00	LF
0635	04845	CABLE-NO. 14/7C	950.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0640	04850	CABLE-NO. 14/1 PAIR	235.00	LF
0645	04886	MESSENGER-15400 LB	1,665.00	LF
0650	04932	INSTALL STEEL STRAIN POLE	14.00	EACH
0655	04953	TEMP RELOCATION OF SIGNAL HEAD	68.00	EACH
0660	20188NS835	INSTALL LED SIGNAL-3 SECTION	22.00	EACH
0665	20266ES835	INSTALL LED SIGNAL- 4 SECTION	6.00	EACH
0670	20408ES835	INSTALL LED BEACON-12 IN	2.00	EACH
0675	22939ND	INSTALL LUMINAIRE POLE	2.00	EACH
0680	23157EN	TRAFFIC SIGNAL POLE BASE	74.05	CUYD
0685	23982EC	INSTALL ANTENNA	3.00	EACH
0690	24525EC	ADVANCE WARNING FLASHER	2.00	EACH
0695	24601EC	INSTALL - SCHOOL FLASHER	2.00	EACH
0700	24900EC	PVC CONDUIT-1 1/4 IN-SCHEDULE 80	890.00	LF
0705	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80	95.00	LF
0710	24908EC	INSTALL SIGNAL CONTROLLER-TY ATC	3.00	EACH
0715	24955ED	REMOVE SIGNAL EQUIPMENT	3.00	EACH
0720	24955ED	REMOVE SIGNAL EQUIPMENT	3.00	EACH
0725	26119EC	INSTALL RADAR PRESENCE DETECTOR TYPE A	12.00	EACH
0730	26120EC	INSTALL RADAR ADVANCE DETECTOR TYPE B	6.00	EACH
0735	02565	OBJECT MARKER TYPE 2	4.00	EACH
0740	06406	SBM ALUM SHEET SIGNS .080 IN	284.90	SQFT
0745	06407	SBM ALUM SHEET SIGNS .125 IN	1,187.70	SQFT
0750	06411	STEEL POST TYPE 2	2,488.60	LF
0755	06412	STEEL POST MILE MARKERS	6.00	EACH
0760	06490	CLASS A CONCRETE FOR SIGNS	5.50	CUYD
0765	21596ND	GMSS TYPE D	24.00	EACH
0770	24525EC	ADVANCE WARNING FLASHER	4.00	EACH
0775	24601EC	INSTALL - SIGN PROVIDED BY OTHERS	5.00	EACH
0780	24601EC	INSTALL - SOLAR SCHOOL FLASHER ASSEMBLY	2.00	EACH
0785	24631EC	BARCODE SIGN INVENTORY	188.00	EACH
0790	24751ED	REMOVE STORE & REINSTALL - SIGN FACE	5.00	EACH
0795	04740	POLE BASE	10.00	EACH
0800	04820	TRENCHING AND BACKFILLING	1,650.00	LF
0805	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	7.00	EACH
0810	21543EN	BORE AND JACK CONDUIT	350.00	LF
0815	24901EC	PVC CONDUIT-2 IN-SCHEDULE 80	2,000.00	LF
0820	02568	MOBILIZATION	1.00	LS
0825	02569	DEMOBILIZATION	1.00	LS
0830	14001	W AIR RELEASE VALVE 3/4 INCH	1.00	EACH
0835	14003	W CAP EXISTING MAIN	22.00	EACH
0840	14008	W ENCASEMENT STEEL BORED RANGE 3	460.00	LF
0845	14009	W ENCASEMENT STEEL BORED RANGE 4	285.00	LF
0850	14010	W ENCASEMENT STEEL BORED RANGE 5	485.00	LF
0855	14011	W ENCASEMENT STEEL BORED RANGE 6	255.00	LF
0860	14016	W ENCASEMENT STEEL OPEN CUT RANGE 5	120.00	LF
0865	14019	W FIRE HYDRANT ASSEMBLY	6.00	EACH
0870	14023	W FLUSHING ASSEMBLY	9.00	EACH
0875	14042	W PIPE DUCTILE IRON 24 INCH	215.00	LF
0880	14053	W PIPE DCTL IRON RSTRND JOINT 24 IN	85.00	LF
0885	14059	W PIPE PVC 06 INCH	510.00	LF

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
0890	14060	W PIPE PVC 08 INCH	40.00	LF
0895	14061	W PIPE PVC 10 INCH	735.00	LF
0900	14062	W PIPE PVC 12 INCH	5,395.00	LF
0905	14085	W SERV PE/PLST SHORT SIDE 3/4 IN	4.00	EACH
0910	14089	W TAPPING SLEEVE AND VALVE SIZE 1	7.00	EACH
0915	14090	W TAPPING SLEEVE AND VALVE SIZE 2	15.00	EACH
0920	14095	W TIE-IN 08 INCH	1.00	EACH
0925	14097	W TIE-IN 12 INCH	3.00	EACH
0930	14106	W VALVE 08 INCH	1.00	EACH
0935	14108	W VALVE 12 INCH	1.00	EACH
0940	14183	W PIPE PVC RSTRND JOINT 06 INCH	510.00	LF
0945	14184	W PIPE PVC RSTRND JOINT 10 INCH	315.00	LF
0950	14185	W PIPE PVC RSTRND JOINT 12 INCH	655.00	LF
0955	14186	W PIPE DUCTILE IRON 18 INCH	150.00	LF
0960	14187	W PIPE DUCTILE IRON RSTRND JOINT 18 INCH	200.00	LF
0965	15015	S ENCASEMENT STEEL BORED RANGE 2	370.00	LF
0970	15028	S FORCE MAIN AIR RLS/VAC VLV 04 IN	1.00	EACH
0975	15059	S FORCE MAIN PVC 04 INCH	3,065.00	LF
0980	15069	S FORCE MAIN TAP SLEEVE/VALVE RNG 1	2.00	EACH
0985	15073	S FORCE MAIN TIE-IN 04 INCH	1.00	EACH
0990	15084	S FORCE MAIN VALVE GATE	2.00	EACH
0995	15119	S PUMP STATION	1.00	EACH
1000	15155	S CAP EXISTING MAIN	2.00	EACH
1005	15157	S FORCE MAIN PVC RSTRND JOINT 04 INCH	395.00	LF
1010	01643	JUNCTION BOX-24 IN	4.00	EACH
1015	02231	STRUCTURE GRANULAR BACKFILL	621.70	CUYD
1020	03299	ARMORED EDGE FOR CONCRETE	191.60	LF
1025	08002	STRUCTURE EXCAV-SOLID ROCK	360.90	CUYD
1030	08003	FOUNDATION PREPARATION	1.00	LS
1035	08020	CRUSHED AGGREGATE SLOPE PROT	228.20	TON
1040	08100	CONCRETE-CLASS A	142.10	CUYD
1045	08104	CONCRETE-CLASS AA	308.00	CUYD
1050	08150	STEEL REINFORCEMENT	12,051.00	LB
1055	08151	STEEL REINFORCEMENT-EPOXY COATED	67,245.00	LB
1060	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	4.00	EACH
1065	23378EC	CONCRETE SEALING	12,073.70	SQFT
1070	23981EC	PPC I-BEAM TYPE HN 42-49	924.00	LF
1075	25028ED	RAIL SYSTEM SINGLE SLOPE - 40 IN	172.40	LF
1080	02403	REMOVE CONCRETE MASONRY	27.00	CUYD
1085	08002	STRUCTURE EXCAV-SOLID ROCK	41.00	CUYD
1090	08003	FOUNDATION PREPARATION	1.00	LS
1095	08100	CONCRETE-CLASS A	143.00	CUYD
1100	08150	STEEL REINFORCEMENT	27,568.00	LB
1105	04793	CONDUIT-1 1/4 IN	50.00	LF
1110	04795	CONDUIT-2 IN	10.00	LF
1115	04820	TRENCHING AND BACKFILLING	52.00	LF
1120	04829	PIEZOELECTRIC SENSOR	4.00	EACH
1125	04830	LOOP WIRE	2,900.00	LF
1130	04895	LOOP SAW SLOT AND FILL	600.00	LF
1135	20359NN	GALVANIZED STEEL CABINET	1.00	EACH

MATERIAL SUMMARY

Project Line No	Bid Code	DESCRIPTION	Quantity	Unit
1140	20360ES818	WOOD POST	3.00	EACH
1145	20391NS835	ELECTRICAL JUNCTION BOX TYPE A	1.00	EACH
1150	20468EC	ELECTRICAL JUNCTION BOX-10 X 8 X 4	1.00	EACH

251022

Section: 0001 - PAVING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00003		CRUSHED STONE BASE	77,665.00	TON		\$	
0020	00020		TRAFFIC BOUND BASE	638.00	TON		\$	
0030	00100		ASPHALT SEAL AGGREGATE	288.00	TON		\$	
0040	00103		ASPHALT SEAL COAT	35.00	TON		\$	
0050	00190		LEVELING & WEDGING PG64-22	6,194.00	TON		\$	
0060	00210		CL4 ASPH BASE 1.50D PG76-22	827.00	TON		\$	
0070	00212		CL2 ASPH BASE 1.00D PG64-22	6,150.00	TON		\$	
0080	00214		CL3 ASPH BASE 1.00D PG64-22 (REVISED 8-14-25)	33,910.00	TON		\$	
0090	00219		CL4 ASPH BASE 1.00D PG76-22	589.00	TON		\$	
0100	00301		CL2 ASPH SURF 0.38D PG64-22	2,664.00	TON		\$	
0110	00307		CL2 ASPH SURF 0.38B PG64-22	171.00	TON		\$	
0120	00342		CL4 ASPH SURF 0.38A PG76-22	225.00	TON		\$	
0130	00356		ASPHALT MATERIAL FOR TACK	68.00	TON		\$	
0140	00388		CL3 ASPH SURF 0.38B PG64-22	14,263.00	TON		\$	
0150	02084		JPC PAVEMENT-8 IN	324.00	SQYD		\$	
0160	02101		CEM CONC ENT PAVEMENT-8 IN	2,900.00	SQYD		\$	
0170	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0180	02677		ASPHALT PAVE MILLING & TEXTURING	1,916.00	TON		\$	
			ASPHALT MATERIAL FOR TACK NON-TRACKING					
0185	24970EC		(ADDED 8-14-25)	24.12	TON		\$	

Section: 0002 - ROADWAY

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0190	00071		CRUSHED AGGREGATE SIZE NO 57	933.00	TON		\$	
0200	00078		CRUSHED AGGREGATE SIZE NO 2	11.00	TON		\$	
0210	01000		PERFORATED PIPE-4 IN	11,242.00	LF		\$	
0220	01010		NON-PERFORATED PIPE-4 IN	407.00	LF		\$	
0230	01020		PERF PIPE HEADWALL TY 1-4 IN	5.00	EACH		\$	
0240	01028		PERF PIPE HEADWALL TY 3-4 IN	1.00	EACH		\$	
0250	01032		PERF PIPE HEADWALL TY 4-4 IN	4.00	EACH		\$	
0260	01810		STANDARD CURB AND GUTTER	9,308.00	LF		\$	
0270	01875		STANDARD HEADER CURB	3,950.00	LF		\$	
0280	01891		ISLAND HEADER CURB TYPE 2	783.00	LF		\$	
0290	01939		MOUNTABLE MEDIAN TYPE 3	2,195.00	SQYD		\$	
			DELINEATOR FOR GUARDRAIL MONO DIRECTIONAL WHITE					
0300	01982			178.00	EACH		\$	
0310	01992		INSTALL TEMP CONC MED BARR	1,455.00	LF		\$	
0320	02014		BARRICADE-TYPE III	20.00	EACH		\$	
0330	02091		REMOVE PAVEMENT	4,227.00	SQYD		\$	
0340	02159		TEMP DITCH	9,875.00	LF		\$	
0350	02160		CLEAN TEMP DITCH	6,270.00	LF		\$	
0360	02200		ROADWAY EXCAVATION	422,794.00	CUYD		\$	

Report Date 8/14/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0370	02230		EMBANKMENT IN PLACE	8,756.00	CUYD		\$	
0380	02242		WATER	954.00	MGAL		\$	
0390	02351		GUARDRAIL-STEEL W BEAM-S FACE	13,350.00	LF		\$	
0400	02360		GUARDRAIL TERMINAL SECTION NO 1	13.00	EACH		\$	
0410	02367		GUARDRAIL END TREATMENT TYPE 1	3.00	EACH		\$	
0420	02369		GUARDRAIL END TREATMENT TYPE 2A	2.00	EACH		\$	
0430	02381		REMOVE GUARDRAIL	13,505.00	LF		\$	
0440	02383		REMOVE & RESET GUARDRAIL	150.00	LF		\$	
0450	02391		GUARDRAIL END TREATMENT TYPE 4A	6.00	EACH		\$	
0460	02429		RIGHT-OF-WAY MONUMENT TYPE 1	7.00	EACH		\$	
0470	02432		WITNESS POST	7.00	EACH		\$	
0480	02469		CLEAN SINKHOLE	2.00	EACH		\$	
0490	02483		CHANNEL LINING CLASS II	1,680.00	TON		\$	
0500	02488		CHANNEL LINING CLASS IV	5,373.00	CUYD		\$	
0510	02545		CLEARING AND GRUBBING 12 ACRES	1.00	LS		\$	
0520	02545		CLEARING AND GRUBBING 84 ACRES	1.00	LS		\$	
0530	02555		CONCRETE-CLASS B	155.60	CUYD		\$	
0540	02562		TEMPORARY SIGNS	1,291.00	SQFT		\$	
0550	02585		EDGE KEY	270.00	LF		\$	
0560	02603		FABRIC-GEOTEXTILE CLASS 2	5,563.00	SQYD		\$	
0570	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0580	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0590	02653		LANE CLOSURE	1.00	EACH		\$	
0600	02671		PORTABLE CHANGEABLE MESSAGE SIGN	11.00	EACH		\$	
0610	02696		SHOULDER RUMBLE STRIPS	24,060.00	LF		\$	
0620	02701		TEMP SILT FENCE	9,875.00	LF		\$	
0630	02703		SILT TRAP TYPE A	65.00	EACH		\$	
0640	02704		SILT TRAP TYPE B	65.00	EACH		\$	
0650	02705		SILT TRAP TYPE C	65.00	EACH		\$	
0660	02706		CLEAN SILT TRAP TYPE A	65.00	EACH		\$	
0670	02707		CLEAN SILT TRAP TYPE B	65.00	EACH		\$	
0680	02708		CLEAN SILT TRAP TYPE C	65.00	EACH		\$	
0690	02720		SIDEWALK-4 IN CONCRETE	7,701.00	SQYD		\$	
0700	02726		STAKING	1.00	LS		\$	
0710	02726		STAKING	1.00	LS		\$	
0720	02731		REMOVE STRUCTURE	1.00	LS		\$	
0730	02775		ARROW PANEL	2.00	EACH		\$	
0740	02900		INSTALL TEMP CRASH CUSHION	2.00	EACH		\$	
0750	05950		EROSION CONTROL BLANKET	10,120.00	SQYD		\$	
0760	05952		TEMP MULCH	189,672.00	SQYD		\$	
0770	05953		TEMP SEEDING AND PROTECTION	142,209.00	SQYD		\$	
0780	05963		INITIAL FERTILIZER	7.30	TON		\$	
0790	05964		MAINTENANCE FERTILIZER	10.80	TON		\$	
0800	05985		SEEDING AND PROTECTION	205,518.00	SQYD		\$	
0810	05990		SODDING	4,236.00	SQYD		\$	
0820	05992		AGRICULTURAL LIMESTONE	121.00	TON		\$	
0830	06511		PAVE STRIPING-TEMP PAINT-6 IN	84,503.00	LF		\$	
0840	06530		PAVE STRIPING REMOVAL-4 IN	55,100.00	LF		\$	

251022

PROPOSAL BID ITEMS

Report Date 8/14/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0850	06542		PAVE STRIPING-THERMO-6 IN W	79,829.00	LF		\$	
0860	06543		PAVE STRIPING-THERMO-6 IN Y	58,753.00	LF		\$	
0870	06546		PAVE STRIPING-THERMO-12 IN W	1,267.00	LF		\$	
0880	06568		PAVE MARKING-THERMO STOP BAR-24IN	571.00	LF		\$	
0890	06569		PAVE MARKING-THERMO CROSS-HATCH	12,557.00	SQFT		\$	
0900	06573		PAVE MARKING-THERMO STR ARROW	33.00	EACH		\$	
0910	06574		PAVE MARKING-THERMO CURV ARROW	117.00	EACH		\$	
0920	06575		PAVE MARKING-THERMO COMB ARROW	14.00	EACH		\$	
0930	06576		PAVE MARKING-THERMO ONLY	9.00	EACH		\$	
0940	06610		INLAID PAVEMENT MARKER-MW	586.00	EACH		\$	
0950	06612		INLAID PAVEMENT MARKER-BY	588.00	EACH		\$	
0960	08150		STEEL REINFORCEMENT	1,916.00	LB		\$	
0975	08911		CRASH CUSHION TY 6 CLASS T TL2 (ADDED 8-14-25)	2.00	EACH		\$	
0980	10020NS		FUEL ADJUSTMENT	142,703.00	DOLL	\$1.00	\$	\$142,703.00
0990	10030NS		ASPHALT ADJUSTMENT	273,185.00	DOLL	\$1.00	\$	\$273,185.00
1000	20191ED		OBJECT MARKER TY 3	3.00	EACH		\$	
1010	20471ES509		TEMP CONC MED BARRIER	1,470.00	LF		\$	
1020	20550ND		SAWCUT PAVEMENT	39,624.00	LF		\$	
1030	21289ED		LONGITUDINAL EDGE KEY	28,965.00	LF		\$	
1040	23274EN11F		TURF REINFORCEMENT MAT 1	833.00	SQYD		\$	
1050	23275EN11F		TURF REINFORCEMENT MAT 2	319.00	SQYD		\$	
1060	23607EC		PAVE MARK THERMO-LANE REDUCTION ARROW	4.00	EACH		\$	
1070	23791EC		PAVE STRIPING-CHEVRON MARKINGS	1,023.00	SQFT		\$	
1080	24423EC		TEMPORARY SHORING	1.00	LS		\$	
1090	24683ED		PAVE MARKING-THERMO DOTTED LANE EXTEN	457.00	LF		\$	
1100	24918ES601		CONCRETE-CLASS A	2,982.00	SQYD		\$	
1110	25078ED		THRIE BEAM GUARDRAIL TRANSITION TL-3	4.00	EACH		\$	
1120	26248EC		ELECTRONIC DELIVERY MGMT SYSTEM - AGG	1.00	LS		\$	

Section: 0003 - DRAINAGE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1130	00440		ENTRANCE PIPE-15 IN	160.00	LF		\$	
1140	00441		ENTRANCE PIPE-18 IN	226.00	LF		\$	
1150	00443		ENTRANCE PIPE-24 IN	214.00	LF		\$	
1160	00445		ENTRANCE PIPE-30 IN	66.00	LF		\$	
1170	00461		CULVERT PIPE-15 IN	24.00	LF		\$	
1180	00462		CULVERT PIPE-18 IN	228.00	LF		\$	
1190	00464		CULVERT PIPE-24 IN	122.00	LF		\$	
1200	00466		CULVERT PIPE-30 IN	189.00	LF		\$	
1210	00468		CULVERT PIPE-36 IN	26.00	LF		\$	
1220	00469		CULVERT PIPE-42 IN	79.00	LF		\$	
1230	00471		CULVERT PIPE-54 IN	89.00	LF		\$	
1240	00473		CULVERT PIPE-66 IN	45.00	LF		\$	
1250	00521		STORM SEWER PIPE-15 IN	186.00	LF		\$	

Report Date 8/14/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1260	00522		STORM SEWER PIPE-18 IN	4,175.00	LF		\$	
1270	00524		STORM SEWER PIPE-24 IN	1,160.00	LF		\$	
1280	00526		STORM SEWER PIPE-30 IN	1,631.00	LF		\$	
1290	00528		STORM SEWER PIPE-36 IN	342.00	LF		\$	
1300	00529		STORM SEWER PIPE-42 IN	505.00	LF		\$	
1310	00530		STORM SEWER PIPE-48 IN	439.00	LF		\$	
1320	00534		STORM SEWER PIPE-72 IN	89.00	LF		\$	
1330	01208		PIPE CULVERT HEADWALL-24 IN	2.00	EACH		\$	
1340	01210		PIPE CULVERT HEADWALL-30 IN	1.00	EACH		\$	
1350	01212		PIPE CULVERT HEADWALL-36 IN	1.00	EACH		\$	
1360	01214		PIPE CULVERT HEADWALL-42 IN	1.00	EACH		\$	
1370	01216		PIPE CULVERT HEADWALL-48 IN	1.00	EACH		\$	
1380	01222		PIPE CULVERT HEADWALL-66 IN	1.00	EACH		\$	
1390	01310		REMOVE PIPE	69.00	LF		\$	
1400	01371		METAL END SECTION TY 1-18 IN	2.00	EACH		\$	
1410	01373		METAL END SECTION TY 1-24 IN	2.00	EACH		\$	
1420	01391		METAL END SECTION TY 3-18 IN	1.00	EACH		\$	
1430	01393		METAL END SECTION TY 3-24 IN	1.00	EACH		\$	
1440	01433		SLOPED BOX OUTLET TYPE 1-18 IN	4.00	EACH		\$	
1450	01450		S & F BOX INLET-OUTLET-18 IN	1.00	EACH		\$	
1460	01453		S & F BOX INLET-OUTLET-36 IN	1.00	EACH		\$	
1470	01456		CURB BOX INLET TYPE A	34.00	EACH		\$	
1480	01487		CURB BOX INLET TYPE F	1.00	EACH		\$	
1490	01490		DROP BOX INLET TYPE 1	19.00	EACH		\$	
1500	01496		DROP BOX INLET TYPE 3	4.00	EACH		\$	
1510	01502		DROP BOX INLET TYPE 5A	2.00	EACH		\$	
1520	01514		DROP BOX INLET TYPE 5E	1.00	EACH		\$	
1530	01538		DROP BOX INLET TYPE 7	3.00	EACH		\$	
1540	01544		DROP BOX INLET TYPE 11	1.00	EACH		\$	
1550	01559		DROP BOX INLET TYPE 13G	9.00	EACH		\$	
1560	01568		DROP BOX INLET TYPE 13S	1.00	EACH		\$	
1570	01642		JUNCTION BOX-18 IN	4.00	EACH		\$	
1580	01643		JUNCTION BOX-24 IN	3.00	EACH		\$	
1590	01646		JUNCTION BOX-42 IN	3.00	EACH		\$	
1600	01649		JUNCTION BOX-60 IN	1.00	EACH		\$	
1610	01650		JUNCTION BOX 72 IN	2.00	EACH		\$	
1620	01756		MANHOLE TYPE A	1.00	EACH		\$	
1630	01767		MANHOLE TYPE C	3.00	EACH		\$	
1640	02607		FABRIC-GEOTEXTILE CLASS 2 FOR PIPE	16,068.00	SQYD	\$2.00	\$	\$32,136.00
1650	02625		REMOVE HEADWALL	15.00	EACH		\$	
1660	15007		S CIPP LINER 24 INCH	170.00	LF		\$	
1670	15128		S CIPP LINER 30 INCH	160.00	LF		\$	
1680	15130		S CIPP LINER 42 INCH	309.00	LF		\$	
1690	15132		S CIPP LINER 54 INCH	423.00	LF		\$	
1700	15134		S CIPP LINER 66 INCH	361.00	LF		\$	
1710	23970NC		RESET GRATE	1.00	EACH		\$	
1720	24025EC		PIPE CULVERT HEADWALL-72 IN	1.00	EACH		\$	
1730	24026EC		PIPE CULVERT HEADWALL-54 IN	3.00	EACH		\$	

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1740	24575ES610		HEADWALL CONC SLOPED AND PAVED	13.00	EACH		\$	

Section: 0004 - BRIDGE-28990

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1750	01643		JUNCTION BOX-24 IN	4.00	EACH		\$	
1760	02231		STRUCTURE GRANULAR BACKFILL	621.70	CUYD		\$	
1770	03299		ARMORED EDGE FOR CONCRETE	191.60	LF		\$	
1780	08002		STRUCTURE EXCAV-SOLID ROCK	360.90	CUYD		\$	
1790	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1800	08020		CRUSHED AGGREGATE SLOPE PROT	228.20	TON		\$	
1810	08100		CONCRETE-CLASS A	142.10	CUYD		\$	
1820	08104		CONCRETE-CLASS AA	308.00	CUYD		\$	
1830	08150		STEEL REINFORCEMENT	12,051.00	LB		\$	
1840	08151		STEEL REINFORCEMENT-EPOXY COATED	67,245.00	LB		\$	
1850	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	4.00	EACH		\$	
1860	23378EC		CONCRETE SEALING	12,073.70	SQFT		\$	
1870	23981EC		PPC I-BEAM TYPE HN 42-49	924.00	LF		\$	
1880	25028ED		RAIL SYSTEM SINGLE SLOPE - 40 IN	172.40	LF		\$	

Section: 0005 - BRIDGE-CULVERT 28377

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1890	02403		REMOVE CONCRETE MASONRY	27.00	CUYD		\$	
1900	08002		STRUCTURE EXCAV-SOLID ROCK	41.00	CUYD		\$	
1910	08003		FOUNDATION PREPARATION	1.00	LS		\$	
1920	08100		CONCRETE-CLASS A	143.00	CUYD		\$	
1930	08150		STEEL REINFORCEMENT	27,568.00	LB		\$	

Section: 0006 - SEWER

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
1935	15000		S BYPASS PUMPING (ADDED 8-14-25)	4.00	EACH		\$	
1940	15015		S ENCASEMENT STEEL BORED RANGE 2	370.00	LF		\$	
1950	15022		S ENCASEMENT STEEL OPEN CUT RANGE 3	90.00	LF		\$	
1960	15023		S ENCASEMENT STEEL OPEN CUT RANGE 4	110.00	LF		\$	
1970	15028		S FORCE MAIN AIR RLS/VAC VLV 04 IN	1.00	EACH		\$	
1980	15059		S FORCE MAIN PVC 04 INCH	3,065.00	LF		\$	
1990	15060		S FORCE MAIN PVC 06 INCH	545.00	LF		\$	
2000	15062		S FORCE MAIN PVC 10 INCH	428.00	LF		\$	
2010	15069		S FORCE MAIN TAP SLEEVE/VALVE RNG 1	4.00	EACH		\$	
2020	15070		S FORCE MAIN TAP SLEEVE/VALVE RNG 2	2.00	EACH		\$	
2030	15073		S FORCE MAIN TIE-IN 04 INCH	1.00	EACH		\$	
2040	15084		S FORCE MAIN VALVE GATE	2.00	EACH		\$	

251022

PROPOSAL BID ITEMS

Page 6 of 9

Report Date 8/14/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2050	15089		S LATERAL SHORT SIDE 04 INCH	2.00	EACH		\$	
2060	15092		S MANHOLE	18.00	EACH		\$	
2070	15093		S MANHOLE ABANDON/REMOVE	6.00	EACH		\$	
2080	15094		S MANHOLE ADJUST TO GRADE	5.00	EACH		\$	
2090	15097		S MANHOLE RECONSTRUCT INVERT	1.00	EACH		\$	
2100	15112		S PIPE PVC 08 INCH	134.00	LF		\$	
2110	15113		S PIPE PVC 10 INCH	1,258.00	LF		\$	
2120	15119		S PUMP STATION	1.00	EACH		\$	
2130	15155		S CAP EXISTING MAIN	2.00	EACH		\$	
2140	15155		S CAP EXISTING MAIN CUT AND CAP	18.00	EACH		\$	
2150	15155		S CAP EXISTING MAIN FORCE MAIN CUT AND CAP	4.00	EACH		\$	
2160	15157		S FORCE MAIN PVC RSTRND JOINT 04 INCH	395.00	LF		\$	
2170	15158		S FORCE MAIN PVC RSTRND JOINT 10 INCH	108.00	LF		\$	

Section: 0007 - SIGNING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2180	02565		OBJECT MARKER TYPE 2	4.00	EACH		\$	
2190	06406		SBM ALUM SHEET SIGNS .080 IN	1,316.90	SQFT		\$	
2200	06407		SBM ALUM SHEET SIGNS .125 IN	1,675.70	SQFT		\$	
2210	06410		STEEL POST TYPE 1	1,955.00	LF		\$	
2220	06411		STEEL POST TYPE 2	2,488.60	LF		\$	
2230	06412		STEEL POST MILE MARKERS	6.00	EACH		\$	
2240	06490		CLASS A CONCRETE FOR SIGNS	19.25	CUYD		\$	
2250	21596ND		GMSS TYPE D	79.00	EACH		\$	
2260	24265EC		INSTALL SIGN POST REFLECTORS	22.00	EACH		\$	
2270	24525EC		ADVANCE WARNING FLASHER	4.00	EACH		\$	
2280	24601EC		INSTALL SIGN PROVIDED BY OTHERS	5.00	EACH		\$	
2290	24601EC		INSTALL SOLAR SCHOOL FLASHER ASSEMBLY	2.00	EACH		\$	
2300	24631EC		BARCODE SIGN INVENTORY	458.00	EACH		\$	
2310	24751ED		REMOVE STORE & REINSTALL SIGN FACE	5.00	EACH		\$	

Section: 0008 - SIGNALIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2320	04811		ELECTRICAL JUNCTION BOX TYPE B	9.00	EACH		\$	
2330	04820		TRENCHING AND BACKFILLING	1,955.00	LF		\$	
2340	04844		CABLE-NO. 14/5C	7,365.00	LF		\$	
2350	04845		CABLE-NO. 14/7C	1,850.00	LF		\$	
2360	04850		CABLE-NO. 14/1 PAIR	235.00	LF		\$	
2370	04886		MESSENGER-15400 LB	2,275.00	LF		\$	
2380	04932		INSTALL STEEL STRAIN POLE	20.00	EACH		\$	
2390	04953		TEMP RELOCATION OF SIGNAL HEAD	68.00	EACH		\$	

Report Date 8/14/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2400	06406		SBM ALUM SHEET SIGNS .080 IN	71.70	SQFT		\$	
2410	06472		INSTALL SPAN MOUNTED SIGN	2.00	EACH		\$	
2420	20188NS835		INSTALL LED SIGNAL-3 SECTION	26.00	EACH		\$	
2430	20189NS835		INSTALL LED SIGNAL-5 SECTION	1.00	EACH		\$	
2440	20266ES835		INSTALL LED SIGNAL- 4 SECTION	6.00	EACH		\$	
2450	20408ES835		INSTALL LED BEACON-12 IN	4.00	EACH		\$	
2460	21659NN		RELOCATE SIGNAL HEAD	8.00	EACH		\$	
2470	21743NN		INSTALL PEDESTRIAN DETECTOR	6.00	EACH		\$	
2480	22939ND		INSTALL LUMINAIRE POLE	2.00	EACH		\$	
2490	23068NN		REMOVE & REINSTALL COORDINATING UNIT	1.00	EACH		\$	
2500	23157EN		TRAFFIC SIGNAL POLE BASE	105.05	CUYD		\$	
2510	23222EC		INSTALL SIGNAL PEDESTAL	6.00	EACH		\$	
2520	23982EC		INSTALL ANTENNA	3.00	EACH		\$	
2530	24525EC		ADVANCE WARNING FLASHER	3.00	EACH		\$	
2540	24528ED		TETHER WIRE	110.00	LF		\$	
2550	24601EC		INSTALL INSTALL RRFB	6.00	EACH		\$	
2560	24601EC		INSTALL SCHOOL FLASHER	2.00	EACH		\$	
2570	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	1,940.00	LF		\$	
2580	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80	145.00	LF		\$	
2590	24908EC		INSTALL SIGNAL CONTROLLER-TY ATC	4.00	EACH		\$	
2600	24955ED		REMOVE SIGNAL EQUIPMENT	8.00	EACH		\$	
2610	26119EC		INSTALL RADAR PRESENCE DETECTOR TYPE A	15.00	EACH		\$	
2620	26120EC		INSTALL RADAR ADVANCE DETECTOR TYPE B	6.00	EACH		\$	

Section: 0009 - LIGHTING

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2630	04701		POLE 40 FT MTG HT	18.00	EACH		\$	
2640	04725		BRACKET 15 FT	18.00	EACH		\$	
2650	04740		POLE BASE	53.00	EACH		\$	
2660	04750		TRANSFORMER BASE	18.00	EACH		\$	
2670	04780		FUSED CONNECTOR KIT	36.00	EACH		\$	
2680	04793		CONDUIT-1 1/4 IN	160.00	LF		\$	
2690	04797		CONDUIT-3 IN	1,325.00	LF		\$	
2700	04800		MARKER	8.00	EACH		\$	
2710	04820		TRENCHING AND BACKFILLING	8,585.00	LF		\$	
2720	04821		OPEN CUT ROADWAY	545.00	LF		\$	
2730	04832		WIRE-NO. 12	3,550.00	LF		\$	
2740	04860		CABLE-NO. 8/3C DUCTED	2,250.00	LF		\$	
2750	04940		REMOVE LIGHTING	1.00	LS		\$	
2760	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	29.00	EACH		\$	
2770	21543EN		BORE AND JACK CONDUIT	350.00	LF		\$	
2780	23778EC		WIRE-NO. 10	10,950.00	LF		\$	
2790	24589ED		LED LUMINAIRE	21.00	EACH		\$	
2800	24851EC		CABLE-NO. 10/3C DUCTED	10,385.00	LF		\$	

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2810	24900EC		PVC CONDUIT-1 1/4 IN-SCHEDULE 80	7,240.00	LF		\$	
2820	24901EC		PVC CONDUIT-2 IN-SCHEDULE 80	2,000.00	LF		\$	

Section: 0010 - WATERLINE

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
2830	14001		W AIR RELEASE VALVE 3/4 INCH	1.00	EACH		\$	
2840	14003		W CAP EXISTING MAIN	34.00	EACH		\$	
2850	14008		W ENCASEMENT STEEL BORED RANGE 3	460.00	LF		\$	
2860	14009		W ENCASEMENT STEEL BORED RANGE 4	285.00	LF		\$	
2870	14010		W ENCASEMENT STEEL BORED RANGE 5	485.00	LF		\$	
2880	14011		W ENCASEMENT STEEL BORED RANGE 6	255.00	LF		\$	
2890	14014		W ENCASEMENT STEEL OPEN CUT RANGE 3	75.00	LF		\$	
2900	14016		W ENCASEMENT STEEL OPEN CUT RANGE 5	120.00	LF		\$	
2910	14017		W ENCASEMENT STEEL OPEN CUT RANGE 6	260.00	LF		\$	
2920	14019		W FIRE HYDRANT ASSEMBLY	9.00	EACH		\$	
2930	14023		W FLUSHING ASSEMBLY	13.00	EACH		\$	
2940	14028		W METER 3/4 INCH	1.00	EACH		\$	
2950	14036		W PIPE DUCTILE IRON 06 INCH	305.00	LF		\$	
2960	14042		W PIPE DUCTILE IRON 24 INCH	310.00	LF		\$	
2970	14053		W PIPE DCTL IRON RSTRND JOINT 24 IN	1,105.00	LF		\$	
2980	14053		W PIPE DCTL IRON RSTRND JOINT 24 IN w/Nitrile Gaskets	72.00	LF		\$	
2990	14059		W PIPE PVC 06 INCH	655.00	LF		\$	
3000	14060		W PIPE PVC 08 INCH	40.00	LF		\$	
3010	14061		W PIPE PVC 10 INCH	735.00	LF		\$	
3020	14062		W PIPE PVC 12 INCH	5,395.00	LF		\$	
3030	14077		W SERV PE/PLST LONG SIDE 1 IN	1.00	EACH		\$	
3040	14085		W SERV PE/PLST SHORT SIDE 3/4 IN	7.00	EACH		\$	
3050	14089		W TAPPING SLEEVE AND VALVE SIZE 1	12.00	EACH		\$	
3060	14090		W TAPPING SLEEVE AND VALVE SIZE 2	21.00	EACH		\$	
3070	14095		W TIE-IN 08 INCH	1.00	EACH		\$	
3080	14097		W TIE-IN 12 INCH	3.00	EACH		\$	
3090	14105		W VALVE 06 INCH	1.00	EACH		\$	
3100	14106		W VALVE 08 INCH	1.00	EACH		\$	
3110	14108		W VALVE 12 INCH	1.00	EACH		\$	
3120	14183		W PIPE PVC RSTRND JOINT 06 INCH	510.00	LF		\$	
3130	14184		W PIPE PVC RSTRND JOINT 10 INCH	315.00	LF		\$	
3140	14185		W PIPE PVC RSTRND JOINT 12 INCH	655.00	LF		\$	
3150	14186		W PIPE DUCTILE IRON 18 INCH	150.00	LF		\$	
3160	14187		W PIPE DUCTILE IRON RSTRND JOINT 18 INCH	200.00	LF		\$	

Section: 0011 - PLANNING LOOPS (ADDED 8-8-25)

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3161	04793		CONDUIT-1 1/4 IN	70.00	LF		\$	
3162	04795		CONDUIT-2 IN	10.00	LF		\$	

Report Date 8/14/25

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3163	04820		TRENCHING AND BACKFILLING	69.00	LF		\$	
3164	04829		PIEZOELECTRIC SENSOR	4.00	EACH		\$	
3165	04830		LOOP WIRE	4,050.00	LF		\$	
3166	04895		LOOP SAW SLOT AND FILL	800.00	LF		\$	
3167	20359NN		GALVANIZED STEEL CABINET	1.00	EACH		\$	
3168	20360ES818		WOOD POST	4.00	EACH		\$	
3169	20391NS835		ELECTRICAL JUNCTION BOX TYPE A	1.00	EACH		\$	
3171	20468EC		ELECTRICAL JUNCTION BOX-10 X 8 X 4	2.00	EACH		\$	

Section: 0012 - MOBILIZATION AND/OR DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
3170	02568		MOBILIZATION	1.00	LS		\$	
3180	02569		DEMOBILIZATION	1.00	LS		\$	

ITEM	DESCRIPTION	UNIT	MAINLINE	APPROACH RD. US 25	RAMP A	RAMP B	RAMP C	RAMP D		PROJECT TOTALS
01000	PERFORATED PIPE - 4 INCH	LF	5670							5670
01010	NON-PERFORATED PIPE - 4 INCH	LF	315							315
01810	STANDARD CURB AND GUTTER ③	LF	9071							9071
01875	STANDARD HEADER CURB	LF	3950							3950
01891	ISLAND HEADER CURB TY 2	LF	783							783
01982	DELINEATOR FOR GUARDRAIL M/W	EACH	18							18
02230	EMBANKMENT IN PLACE	CU YD	8199	536	0	6	10	5		8756
02242	WATER ②	M GAL	200							200
02351	GUARDRAIL - STEEL "W" BEAM SINGLE FACE	LF	1112.50							1112.50
02369	GUARDRAIL END TREATMENT TYPE 2A	EA	1							1
02381	REMOVE GUARDRAIL	LF	643							643
02383	REMOVE & RESET GUARDRAIL	LF				150				150
02391	GUARDRAIL END TREATMENT TYPE 4A	EA	1							1
24918E5601	CONCRETE CLASS-A (BETWEEN HEADER CURB)	SY	2982							2982
02429	RIGHT OF WAY MONUMENT TY 1	EACH	2	5						7
02432	WITNESS POST	EACH	2	5						7
02545	CLEARING AND GRUBBING ①	LS	1							1
02562	TEMPORARY SIGNS	SQ FT	536							536
02568	MOBILIZATION	LS	1							1
02569	DEMOBILIZATION	LS	1							1
02585	EDGE KEY	LF	136							136
02650	MAINTAIN AND CONTROL TRAFFIC	LS	1							1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	4							4
06511	PAVE STRIPING-TEMP PAINT-6 IN	LF	51131							51131
20471E5509	TEMP CONC MEDIAN BARRIER	LF	1470							1470
01992	TEMP CONC MEDIAN BARRIER (RE-SET)	LF	1455							1455
24423EC	TEMP SHORING (MOT) ⑤	LS	1							1
08911	CRASH CUSHION TY VI CLASS T TL2	EACH	2							2
02900	INSTALL TEMP CRASH CUSHION	EACH	2							2
02014	BARRICADE TYPE III	EACH	20							20
02091	REMOVE PAVEMENT	SQ YD	3570							3570
06530	PAVE STRIPING REMOVAL	LF	55100							55100
02720	SIDEWALK 4-IN CONCRETE	SQ YD	7701							7701
01939	MOUNTABLE MEDIAN TY 3	SQ YD	2195							2195
02726	STAKING	LS	1							1
02159	TEMPORARY DITCH	LF	2665							2665
02160	CLEAN TEMPORARY DITCH	LF	2665							2665
02701	TEMPORARY SILT FENCE	LF	2665							2665
02703	SILT TRAP TYPE A	EACH	12							12
02704	SILT TRAP TYPE B	EACH	12							12
02705	SILT TRAP TYPE C	EACH	12							12
02706	CLEAN SILT TRAP TYPE A	EACH	12							12
02707	CLEAN SILT TRAP TYPE B	EACH	12							12
02708	CLEAN SILT TRAP TYPE C	EACH	12							12
05950	EROSION CONTROL BLANKET	SQ YD	2704							2704
05952	TEMPORARY MULCH	SQ YD	12072							12072
05953	TEMPORARY SEEDING AND PROTECTION	SQ YD	9009							9009
05963	INITIAL FERTILIZER 20-10-10	TON	1.3							1.3
05964	MAINTENANCE FERTILIZER 20-10-10	TON	0.8							0.8
05985	SEEDING AND PROTECTION	SQ YD	18018							18018
05990	SODDING	SQ YD	4236							4236
02483	CHANNEL LINING CLASS II	TON	1680							1680
06542	PAVE STRIPING - THERMO - 6 IN W	LF	13970	630	350	400	1550	600		17500
06543	PAVE STRIPING - THERMO - 6 IN Y	LF	10960	745	220	155	635	85		12800
24683ED	PAVE MARKING - THERMO DOTTED LANE EXTENSION	LF	212		33			65		310
06568	PAVE MARK STOP BAR - 24 INCH THERMO	LF	101	24						125
06569	PAVEMENT MARKING - THERMO CROSS HATCH	SQ FT		1225						1225
06610	INLAID PAVEMENT MARKER-MW	EACH	143	3				2		148
06612	INLAID PAVEMENT MARKER-BY	EACH	136	9	5	4	13	6		173
06573	PAVE MARKING - THERMO STR ARROW	EACH	4							4
06574	PAVE MARKING - THERMO CURV ARROW	EACH	20	3	1			1		25
06575	PAVE MARKING - THERMO COMB ARROW	EACH	3	3	1			1		8
23607EC	PAVE MARK THERMO - LANE REDUCTION ARROW	EACH	1							1
10020NS	FUEL ADJUSTMENT	DOLLAR	20885							20885
10030NS	ASPHALT ADJUSTMENT	DOLLAR	80887							80887
20550ND	SAWCUT PAVEMENT	LF	7600							7600
21289ED	LONGITUDINAL EDGE KEY	LF	7600							7600

PAVING AREAS									
ITEM	MAINLINE	APPROACH RD. US 25	APPROACH RD. RAMP A	APPROACH RD. RAMP B	APPROACH RD. RAMP C	APPROACH RD. RAMP D	ENTRANCES		PROJECT TOTALS
	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.		SQ. YD.
3 ¼" CLASS 3 ASPHALT BASE 1.00D PG64-22	44683	5971							50654
1 ½" CLASS 3 ASPHALT SURFACE 0.38B PG64-22	46767	1989							48756
1 ¼" CLASS 4 ASPHALT SURFACE 0.38A PG76-22			594	814	494	1431			3334
3 ¼" CLASS 4 ASPHALT BASE 1.00D PG76-22			598	820	497	1440			3355
4 ½" CLASS 4 ASPHALT BASE 1.50D PG76-22			606	832	503	1462			3403
ASPHALT MATERIAL FOR TACK NON-TRACKING	44683	5971	1204	1652	1000	2902			57412
8" JPC PAVEMENT	1093								1093
8" CEMENT CONCRETE ENTRANCE PAVEMENT							2900		2900
LEVELING AND WEDGING	24671	2806							27477
8" CRUSHED STONE BASE	32840	379					2900		36119
10" CRUSHED STONE BASE			617	1090	522	1557			3787

PAVING SUMMARY							
ITEM CODE	ITEM	UNIT	MAINLINE	APPROACHES	ENTRANCES		PROJECT TOTALS
00388	CLASS 3 ASPHALT SURFACE 0.38B PG64-22	TON	4262	431			4693
00214	CLASS 3 ASPHALT BASE 1.00D PG64-22	TON	7987	1068			9055
00342	CLASS 4 ASPHALT SURFACE 0.38A PG76-22	TON		225			225
00219	CLASS 4 ASPHALT BASE 1.00D PG76-22	TON		589			589
00210	CLASS 4 ASPHALT BASE 1.50D PG76-22	TON		827			827
02084	JPC PAVEMENT	SY	324				324
00003	CRUSHED STONE BASE Ⓐ	TON	11334	3071	483		14888
00190	LEVELING AND WEDGING	TON	1998	227			2226
02677	ASPHALT PAVEMENT MILLING AND TEXTURING	TON	1383	333			1716
02101	8" CEMENT CONCRETE ENTRANCE PAVEMENT	SQYD			2900		2900
00020	4" TRAFFIC BOUND BASE Ⓑ ④	TON					500
XXXXX	TEMPORARY PAVEMENT (MOT)	SQ YD	3570				3570
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING Ⓔ	TON	18.77	5.35			24.12

PAVING NOTES

ALL ASPHALT MIXTURES SHALL BE ESTIMATED AT 110 LBS. PER SQ. YD. PER INCH OF DEPTH, UNLESS NOTED OTHERWISE

- ⒶESTIMATED AT 115 LBS. PER SQ. YD. PER INCH OF DEPTH
- ⒷESTIMATED AT 100 LBS. PER SQ. YD. PER INCH OF DEPTH
- ⒸESTIMATED AT 2.4 LBS. PER SQ. YD. (2 APPLICATIONS)
- ⒹESTIMATED AT 20 LBS. PER SQ. YD. (2 APPLICATIONS)
- ⒺESTIMATED AT 0.84 LBS. PER SQ. YD.

NOTES

- ①CLEARING AND GRUBBING APPROXIMATEY 12 ACRES
- ②FOR CONTROLLING DUST CAUSED BY MAINTAINING TRAFFIC ONLY
- ③NOT INCLUDING CURB BOX INLETS OR ENTRANCES
- ④500 TONS ADDED FOR MAINTENANCE OF TRAFFIC
- ⑤FOR MOT 430 LF ESTIMATED

EARTHWORK SUMMARY

EXCAVATION TOTAL	3,683 CY
EMBANKMENT TOTAL	8,756 CY
BORROW NEEDED	5,073 CY



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



DRAWING TITLE: GENERAL SUMMARY, PAVING AREAS, & PAVING SUMMARY

ITEM	DESCRIPTION	UNIT	MAINLINE	APPROACH RD. US 25	RAMP A	RAMP B	RAMP C	RAMP D		PROJECT TOTALS
01000	PERFORATED PIPE - 4 INCH	LF	5670							5670
01010	NON-PERFORATED PIPE - 4 INCH	LF	315							315
01810	STANDARD CURB AND GUTTER ③	LF	9071							9071
01875	STANDARD HEADER CURB	LF	3950							3950
01891	ISLAND HEADER CURB TY 2	LF	783							783
01982	DELINEATOR FOR GUARDRAIL M/W	EACH	18							18
02230	EMBANKMENT IN PLACE	CU YD	8199	536	0	6	10	5		8756
02242	WATER ②	M GAL	200							200
02351	GUARDRAIL - STEEL "W" BEAM SINGLE FACE	LF	1112.50							1112.50
02369	GUARDRAIL END TREATMENT TYPE 2A	EA	1							1
02381	REMOVE GUARDRAIL	LF	643							643
02383	REMOVE & RESET GUARDRAIL	LF				150				150
02391	GUARDRAIL END TREATMENT TYPE 4A	EA	1							1
24918E5601	CONCRETE CLASS-A (BETWEEN HEADER CURB)	SY	2982							2982
02429	RIGHT OF WAY MONUMENT TY 1	EACH	2	5						7
02432	WITNESS POST	EACH	2	5						7
02545	CLEARING AND GRUBBING ①	LS	1							1
02562	TEMPORARY SIGNS	SQ FT	536							536
02568	MOBILIZATION	LS	1							1
02569	DEMOBILIZATION	LS	1							1
02585	EDGE KEY	LF	136							136
02650	MAINTAIN AND CONTROL TRAFFIC	LS	1							1
02671	PORTABLE CHANGEABLE MESSAGE SIGN	EACH	4							4
06511	PAVE STRIPING-TEMP PAINT-6 IN	LF	51131							51131
20471E5509	TEMP CONC MEDIAN BARRIER	LF	1470							1470
01992	TEMP CONC MEDIAN BARRIER (RE-SET)	LF	1455							1455
24423EC	TEMP SHORING (MOT) ⑤	LS	1							1
08911	CRASH CUSHION TY VI CLASS T TL2	EACH	2							2
02900	INSTALL TEMP CRASH CUSHION	EACH	2							2
02014	BARRICADE TYPE III	EACH	20							20
02091	REMOVE PAVEMENT	SQ YD	3570							3570
06530	PAVE STRIPING REMOVAL	LF	55100							55100
02720	SIDEWALK 4-IN CONCRETE	SQ YD	7701							7701
01939	MOUNTABLE MEDIAN TY 3	SQ YD	2195							2195
02726	STAKING	LS	1							1
02159	TEMPORARY DITCH	LF	2665							2665
02160	CLEAN TEMPORARY DITCH	LF	2665							2665
02701	TEMPORARY SILT FENCE	LF	2665							2665
02703	SILT TRAP TYPE A	EACH	12							12
02704	SILT TRAP TYPE B	EACH	12							12
02705	SILT TRAP TYPE C	EACH	12							12
02706	CLEAN SILT TRAP TYPE A	EACH	12							12
02707	CLEAN SILT TRAP TYPE B	EACH	12							12
02708	CLEAN SILT TRAP TYPE C	EACH	12							12
05950	EROSION CONTROL BLANKET	SQ YD	2704							2704
05952	TEMPORARY MULCH	SQ YD	12072							12072
05953	TEMPORARY SEEDING AND PROTECTION	SQ YD	9009							9009
05963	INITIAL FERTILIZER 20-10-10	TON	1.3							1.3
05964	MAINTENANCE FERTILIZER 20-10-10	TON	0.8							0.8
05985	SEEDING AND PROTECTION	SQ YD	18018							18018
05990	SODDING	SQ YD	4236							4236
02483	CHANNEL LINING CLASS II	TON	1680							1680
06542	PAVE STRIPING - THERMO - 6 IN W	LF	13970	630	350	400	1550	600		17500
06543	PAVE STRIPING - THERMO - 6 IN Y	LF	10960	745	220	155	635	85		12800
24683ED	PAVE MARKING - THERMO DOTTED LANE EXTENSION	LF	212		33			65		310
06568	PAVE MARK STOP BAR - 24 INCH THERMO	LF	101	24						125
06569	PAVEMENT MARKING - THERMO CROSS HATCH	SQ FT		1225						1225
06610	INLAID PAVEMENT MARKER-MW	EACH	143	3				2		148
06612	INLAID PAVEMENT MARKER-BY	EACH	136	9	5	4	13	6		173
06573	PAVE MARKING - THERMO STR ARROW	EACH	4							4
06574	PAVE MARKING - THERMO CURV ARROW	EACH	20	3	1			1		25
06575	PAVE MARKING - THERMO COMB ARROW	EACH	3	3	1			1		8
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	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.		SQ. YD.
3 ¼" CLASS 3 ASPHALT BASE 1.00D PG64-22	44683	5971							50654
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02101	8" CEMENT CONCRETE ENTRANCE PAVEMENT	SQYD			2900	2900
00020	4" TRAFFIC BOUND BASE ⑥ ④	TON				500
XXXXX	TEMPORARY PAVEMENT (MOT)	SQ YD	3570			3570
24970EC	ASPHALT MATERIAL FOR TACK NON-TRACKING ⑤	TON	18.77	5.35		24.12

PAVING NOTES

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- ④ 500 TONS ADDED FOR MAINTENANCE OF TRAFFIC
- ⑤ FOR MOT 430 LF ESTIMATED

EARTHWORK SUMMARY

EXCAVATION TOTAL	3,683 CY
EMBANKMENT TOTAL	8,756 CY
BORROW NEEDED	5,073 CY



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



DRAWING TITLE: GENERAL SUMMARY, PAVING AREAS,
& PAVING SUMMARY

ITEM NO. 8-80106.00 COUNTY OF ROCKCASTLE

SHEET NO. R2F

SPEED (MPH)	ATTENUATOR				SYSTEM LENGTH	SUGGESTED AADT* RANGE (P.C.P.L)**
	MODEL	PRODUCT NAME	MANUFACTURER	WIDTH		
45 & LESS	TL2	SCI 70 GM IMPACT ATTENUATOR SMART CUSHION	HILL AND SMITH OF COLUMBUS, OHIO	24"	13'-6"	UP TO 12,000
		3-BAY QUADGUARD M10	VALTIR OF DALLAS, TEXAS	24"	13'-0"	
OVER 45	TL3	SCI 100 GM SMART CUSHION	HILL AND SMITH OF COLUMBUS, OHIO	24"	21'-6"	UP TO 12,000
		6-BAY QUADGUARD M10	VALTIR OF DALLAS, TEXAS	24"	22'-0"	
OVER 45	TL3	SCI 100 GM SMART CUSHION	HILL AND SMITH OF COLUMBUS, OHIO	24"	21'-6"	≥8,000
		QUADGUARD ELITE M10	VALTIR OF DALLAS, TEXAS	24"	27'-2"	
OVER 45	TL3	REACT M	VALTIR OF DALLAS, TEXAS	38 ¾"	22'- 2¾"	≥15,000

*ANNUAL AVERAGE DAILY TRAFFIC **PASSENGER CARS PER LANE

TYPE VI CLASS T CRASH CUSHIONS ARE TEMPORARY DEVICES USED IN WORK ZONES AS PART OF TEMPORARY TRAFFIC CONTROL TO SHIELD THE BLUNT ENDS OF RIGID OBJECTS, SUCH AS TEMPORARY CONCRETE BARRIERS.

WHEN INSTALLING A CRASH CUSHION TYPE VI CLASS T, CONTRACTORS MAY SELECT ANY DEVICE FROM THE APPROVED SYSTEMS LIST ABOVE, PROVIDED THE SELECTED SYSTEM MEETS THE TEST LEVEL SPECIFIED IN THE PLANS AND IS APPROPRIATE FOR THE WORK ZONE CONTEXT.

~ NOTES ~

- 1 NOSE ASSEMBLY (OBJECT MARKER TYPE 1 AS REQUIRED)
- 2 CONSTRUCTION ZONE BACKUP ASSEMBLY PER MANUFACTURER'S ASSEMBLY INSTRUCTIONS
- 3 IN THE DRAWING ABOVE, THE CRASH CUSHION TYPE VI-T IS SHOWN ATTACHED TO A TEMPORARY CONCRETE BARRIER.
- 4 CONSULT THE PLANS TO DETERMINE THE TRAFFIC DIRECTION AND THE TYPE OF BARRIER OR ROADWAY FEATURE BEING SHIELDED BY THE CRASH CUSHION. REFER TO THE MANUFACTURER'S ASSEMBLY INSTRUCTIONS FOR TRANSITION DESIGN AND CRASH CUSHION INSTALLATION DETAILS. SELECT THE APPROPRIATE TRANSITION TYPE AND ALL NECESSARY COMPONENTS FOR INSTALLATION. ALL WORK AND MATERIALS RELATED TO THE TRANSITION ARE INCIDENTAL TO THE CRASH CUSHION TYPE VI-T BID ITEM.
- 5 PREPARE THE SITE AND INSTALL FOUNDATION PADS SUITABLE FOR TEMPORARY WORK ZONES IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS. FOLLOW MANUFACTURER INSTRUCTIONS FOR MATERIALS, THICKNESS, SPECIFICATIONS, AND ANCHORING. ALL WORK AND MATERIALS RELATED TO THE FOUNDATION PAD ARE INCIDENTAL TO THE CRASH CUSHION TYPE VI-T BID ITEM.
- 6 WHEN REQUIRED BY THE PLANS OR ENGINEER, RELOCATE CRASH CUSHION TYPE VI CLASS T AS DIRECTED. THE BID ITEM 'RELOCATE CRASH CUSHION' INCLUDES THE UNIT'S REMOVAL AND RE-INSTALLATION.
- 7 CRASH CUSHION TYPE VI CLASS T INSTALLATIONS SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS. SYSTEMS SHALL NOT BE MODIFIED FROM THEIR APPROVED CONFIGURATIONS.

BID ITEMS AND UNIT TO BID

CRASH CUSHION TY VI CLASS T ★ EACH
★ EITHER TL2 (TEST LEVEL 2) OR TL3 (TEST LEVEL 3), AS REQUIRED

RELOCATE CRASH CUSHION EACH

SCAN THE QR CODES TO ACCESS THE MANUFACTURER'S ASSEMBLY INSTRUCTIONS FOR THE CRASH CUSHIONS.

HILL AND SMITH
SMART CUSHION



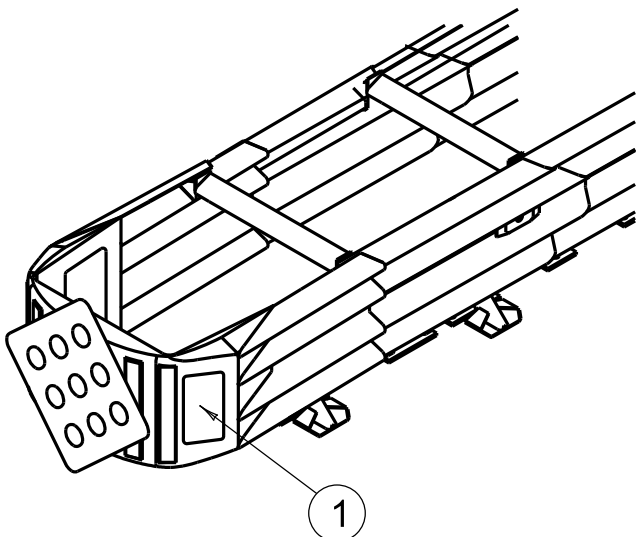
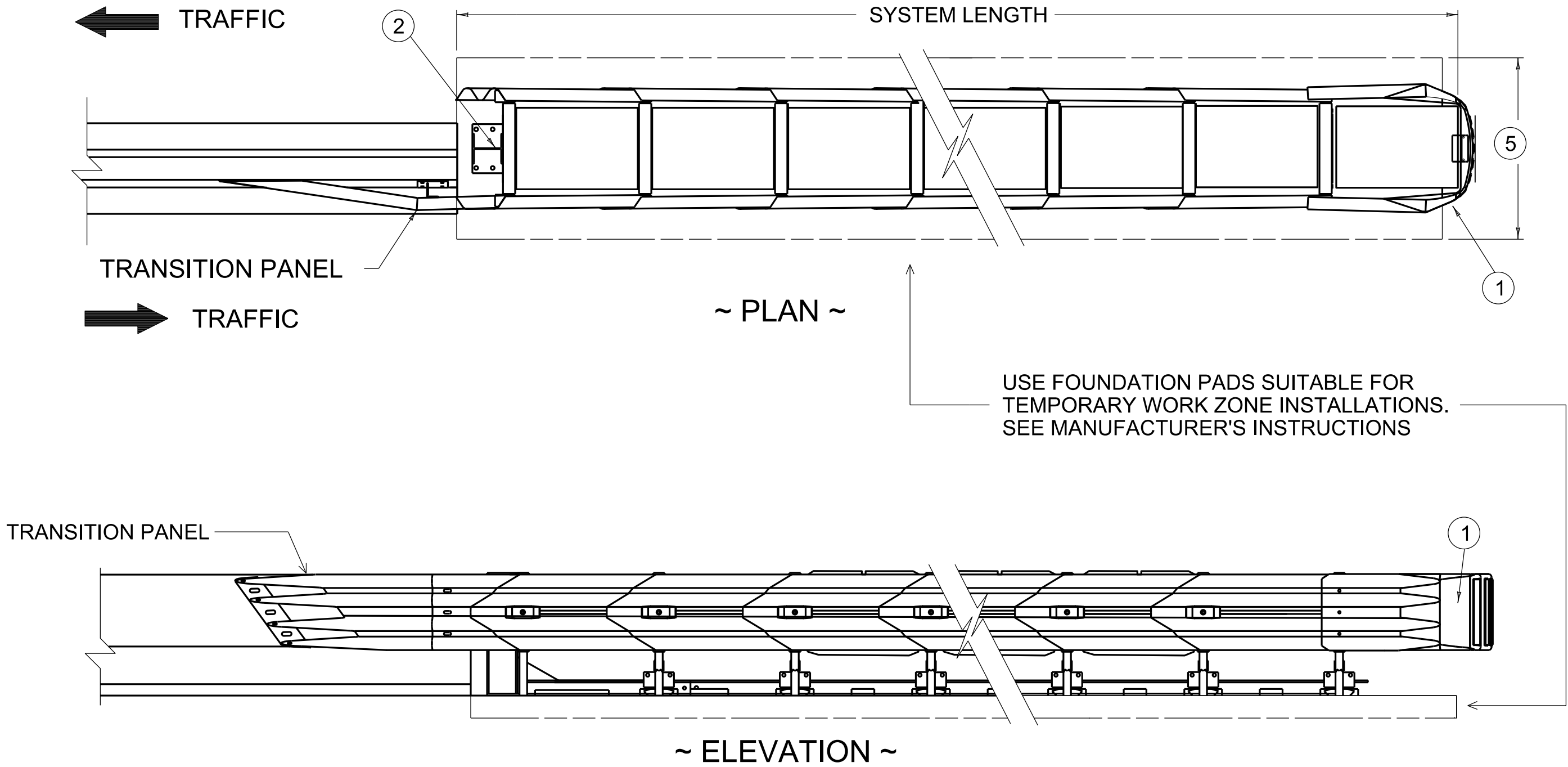
VALTIR
QUADGUARD M10



VALTIR
QUADGUARD
ELITE M10



VALIR
REACT M



~ PICTORIAL VIEW ~

THIS STANDARD DRAWING
PROVIDES GUIDANCE ONLY.
CONSULT THE MANUFACTURER
FOR THE LATEST DETAILS AND
INSTALLATION INSTRUCTIONS.



COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS



CRASH CUSHION

CRASH CUSHION TYPE VI CLASS T (TL2 AND TL3)

SEPIA NUMBER
SEPIA 037

SPEED (MPH)	ATTENUATOR				SYSTEM LENGTH	SUGGESTED AADT* RANGE (P.C.P.L)**
	MODEL	PRODUCT NAME	MANUFACTURER	WIDTH		
45 & LESS	TL2	SCI 70 GM IMPACT ATTENUATOR SMART CUSHION	HILL AND SMITH OF COLUMBUS, OHIO	24"	13'-6"	UP TO 12,000
		3-BAY QUADGUARD M10	VALTIR OF DALLAS, TEXAS	24"	13'-0"	
OVER 45	TL3	SCI 100 GM SMART CUSHION	HILL AND SMITH OF COLUMBUS, OHIO	24"	21'-6"	UP TO 12,000
		6-BAY QUADGUARD M10	VALTIR OF DALLAS, TEXAS	24"	22'-0"	
OVER 45	TL3	SCI 100 GM SMART CUSHION	HILL AND SMITH OF COLUMBUS, OHIO	24"	21'-6"	≥8,000
		QUADGUARD ELITE M10	VALTIR OF DALLAS, TEXAS	24"	27'-2"	
OVER 45	TL3	REACT M	VALTIR OF DALLAS, TEXAS	38 ¾"	22'- 2¾"	≥15,000

*ANNUAL AVERAGE DAILY TRAFFIC **PASSENGER CARS PER LANE

TYPE VI CLASS T CRASH CUSHIONS ARE TEMPORARY DEVICES USED IN WORK ZONES AS PART OF TEMPORARY TRAFFIC CONTROL TO SHIELD THE BLUNT ENDS OF RIGID OBJECTS, SUCH AS TEMPORARY CONCRETE BARRIERS.

WHEN INSTALLING A CRASH CUSHION TYPE VI CLASS T, CONTRACTORS MAY SELECT ANY DEVICE FROM THE APPROVED SYSTEMS LIST ABOVE, PROVIDED THE SELECTED SYSTEM MEETS THE TEST LEVEL SPECIFIED IN THE PLANS AND IS APPROPRIATE FOR THE WORK ZONE CONTEXT.

~ NOTES ~

- 1 NOSE ASSEMBLY (OBJECT MARKER TYPE 1 AS REQUIRED)
- 2 CONSTRUCTION ZONE BACKUP ASSEMBLY PER MANUFACTURER'S ASSEMBLY INSTRUCTIONS
3. IN THE DRAWING ABOVE, THE CRASH CUSHION TYPE VI-T IS SHOWN ATTACHED TO A TEMPORARY CONCRETE BARRIER.
4. CONSULT THE PLANS TO DETERMINE THE TRAFFIC DIRECTION AND THE TYPE OF BARRIER OR ROADWAY FEATURE BEING SHIELDED BY THE CRASH CUSHION. REFER TO THE MANUFACTURER'S ASSEMBLY INSTRUCTIONS FOR TRANSITION DESIGN AND CRASH CUSHION INSTALLATION DETAILS. SELECT THE APPROPRIATE TRANSITION TYPE AND ALL NECESSARY COMPONENTS FOR INSTALLATION. ALL WORK AND MATERIALS RELATED TO THE TRANSITION ARE INCIDENTAL TO THE CRASH CUSHION TYPE VI-T BID ITEM.
- 5 PREPARE THE SITE AND INSTALL FOUNDATION PADS SUITABLE FOR TEMPORARY WORK ZONES IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS. FOLLOW MANUFACTURER INSTRUCTIONS FOR MATERIALS, THICKNESS, SPECIFICATIONS, AND ANCHORING. ALL WORK AND MATERIALS RELATED TO THE FOUNDATION PAD ARE INCIDENTAL TO THE CRASH CUSHION TYPE VI-T BID ITEM.
6. WHEN REQUIRED BY THE PLANS OR ENGINEER, RELOCATE CRASH CUSHION TYPE VI CLASS T AS DIRECTED. THE BID ITEM 'RELOCATE CRASH CUSHION' INCLUDES THE UNIT'S REMOVAL AND RE-INSTALLATION.
7. CRASH CUSHION TYPE VI CLASS T INSTALLATIONS SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS. SYSTEMS SHALL NOT BE MODIFIED FROM THEIR APPROVED CONFIGURATIONS.

BID ITEMS AND UNIT TO BID

CRASH CUSHION TY VI CLASS T ★ EACH
★ EITHER TL2 (TEST LEVEL 2) OR TL3 (TEST LEVEL 3), AS REQUIRED

RELOCATE CRASH CUSHION EACH

SCAN THE QR CODES TO ACCESS THE MANUFACTURER'S ASSEMBLY INSTRUCTIONS FOR THE CRASH CUSHIONS.

HILL AND SMITH
SMART CUSHION



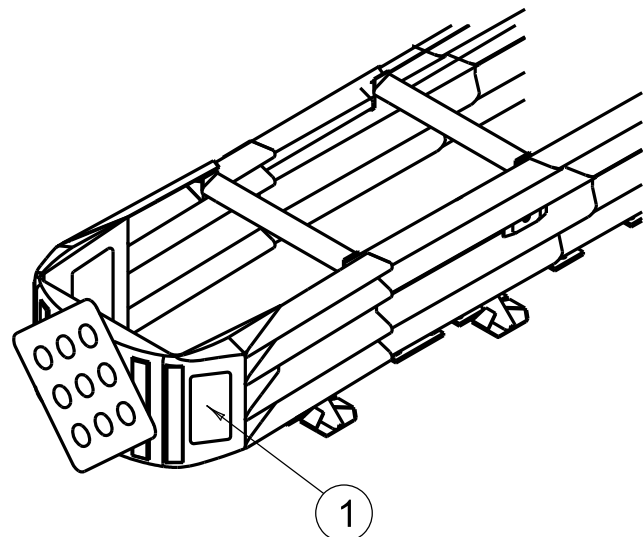
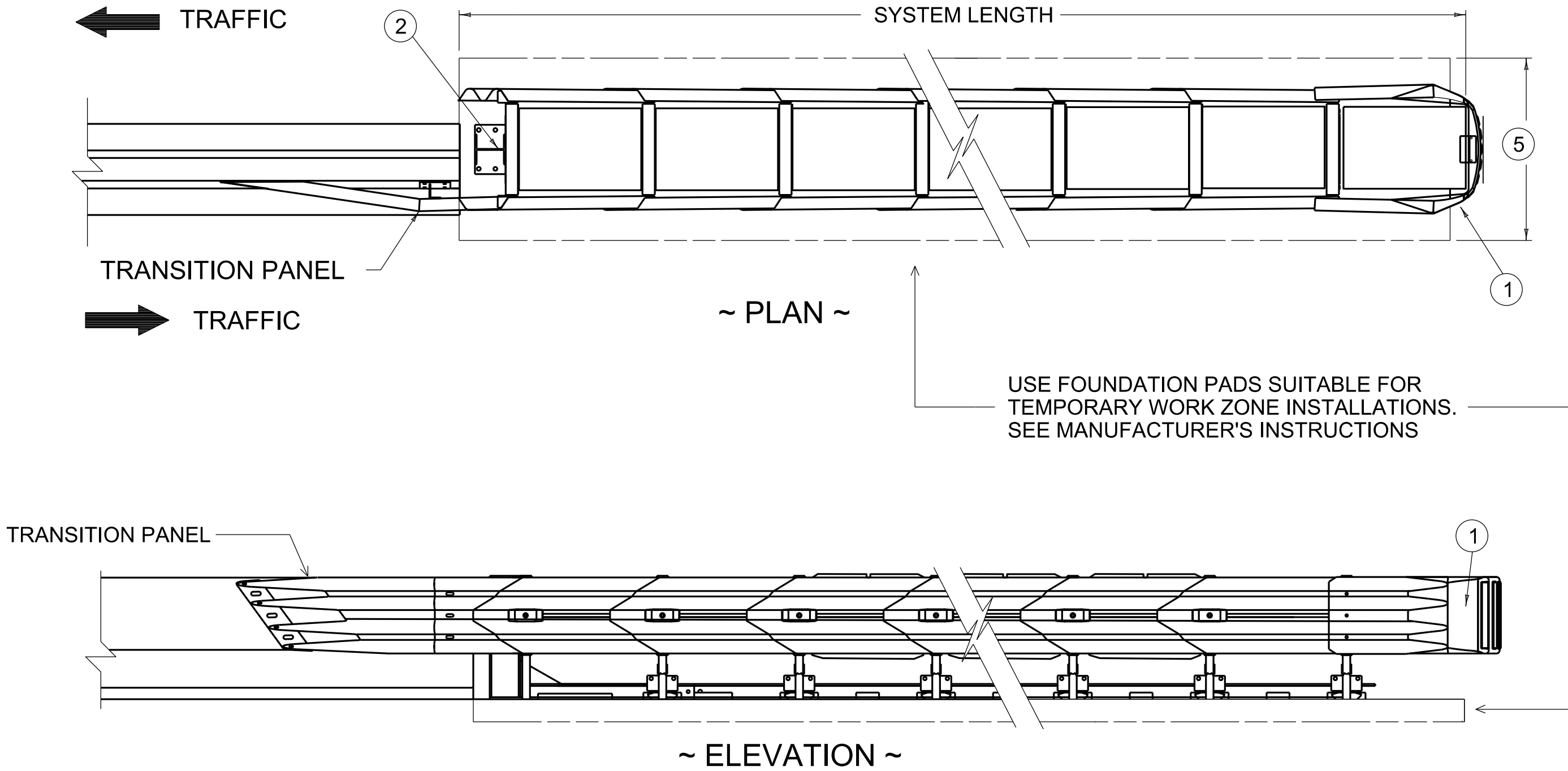
VALTIR
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COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS

CRASH CUSHION

CRASH CUSHION TYPE VI CLASS T (TL2 AND TL3)

SEPIA NUMBER
SEPIA 037

BARRIERS

REVISION DATE: 06.24.2025
REVISION NUMBER: 1

06-24-2025
DATE

SUBMITTED
DIVISION DIRECTOR

APPROVED

STATE HIGHWAY ENGINEER

F:\CLIENTS\Mount Vernon\2024073 - KY 461 Waterline Relocation Phase 2 - KYTC Item No. 8-80106.00\DRAWINGS\Plans\UQ1 - Quantities Sheet.dwg, 8/13/2025, 1:16:52 PM, .jpg

COUNTY OF	ITEM NO.	SHEET NO.
ROCKCASTLE	8-80106.00	UQ1

QUANTITIES FOR WATER LINE CONSTRUCTION				
BID CODE	ITEM	UNITS	PROPOSED	ABANDONED
14003	W Cap existing Main	EA	12	
14014	W Encasement Steel Open Cut Range 3	LF	75	
14017	W Encasement Steel Open Cut Range 6	LF	260	
14019	W Fire Hydrant Assembly	EA	3	
14023	W Flushing Assembly	EA	4	
14028	W Meter 3/4 Inch	EA	1	
14042	W Pipe Ductile Iron 24 Inch	LF	95	75
14053	W Pipe Dctl Iron Rstrnd Joint 24 Inch		1020	415
14059	W Pipe PVC 06 Inch	LF	145	140
14077	W Serv PE/PLST Short Side - 1 Inch	EA	1	
14085	W Serv PE/Plst Short Side 3/4"	EA	3	
14089	W Tapping Sleeve & Valve Size 1	EA	5	
14090	W Tapping Sleeve & Valve Size 2	EA	6	
14105	W Valve 06 Inch	EA	1	
14036	W Pipe Ductile Iron 06 Inch (w/Nitrile Gaskets)	LF	305	100
14053	W Pipe Ductile Iron Rstrnd Joint 24 Inch (w/ Nitrile Gaskets)	LF	72	

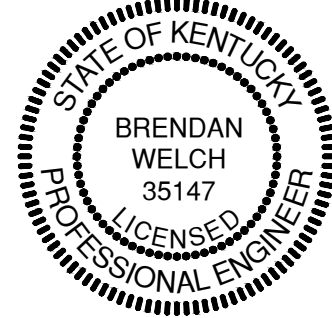
QUANTITIES FOR SANITARY SEWER CONSTRUCTION				
BID CODE	ITEM	UNITS	PROPOSED	ABANDONED
15155	S Cap existing Main (Cut & Cap)	EA	18	
15155	S Cap existing Main (Force Main Cut & Cap)	EA	4	
15023	S Encasement Steel Open Cut Range 4	LF	110	
15022	S Encasement Steel Open Cut RNG 3	LF	90	
15060	S Force Main Pvc 6 Inch	LF	545	530
15062	S Force Main Pvc 10 Inch	LF	428	478
15069	S Force Main Tap Sleeve/Valve RNG 1	EA	2	
15070	S Force Main Tap Sleeve/Valve RNG 2	EA	2	
15089	S Lateral Short Side 04 Inch	EA	2	
15092	S Manhole	EA	18	
15093	S Manhole Abandon/Remove	EA	6	
15094	S Manhole Adjust to Grade	EA	5	
15097	S Manhole Reconstruct Invert	EA	1	
15112	S Pipe PVC 8 Inch	LF	134.06	120
15113	S Pipe PVC 10 Inch	LF	1256.64	1430
15159	S Pipe PVC Rstrnd Joint 10 Inch	LF	108	
15000	S Bypass Pumping	EA	4	

CITY OF MOUNT VERNON WATER & SEWER RELOCATION ONLY



KENVIRONS
Civil & Environmental Engineers

PROJECT: 2024073
DRAWN BY: JKP
CHECKED BY: BRW
DATE: July 2025
SCALE: 1"=20'
REVISIONS



F:\CLIENTS\Mount Vernon\2024073 - KY 461 Waterline Relocation Phase 2 - KYTC Item No. 8-80106.00\DRAWINGS\Plans\UQ1 - Quantities Sheet.dwg, 8/12/2025, 3:52:29 PM, .jpg

COUNTY OF	ITEM NO.	SHEET NO.
ROCKCASTLE	8-80106.00	UQ1

QUANTITIES FOR WATER LINE CONSTRUCTION				
BID CODE	ITEM	UNITS	PROPOSED	ABANDONED
14003	W Cap existing Main	EA	12	
14014	W Encasement Steel Open Cut Range 3	LF	75	
14017	W Encasement Steel Open Cut Range 6	LF	260	
14019	W Fire Hydrant Assembly	EA	3	
14023	W Flushing Assembly	EA	4	
14028	W Meter 3/4 Inch	EA	1	
14042	W Pipe Ductile Iron 24 Inch	LF	95	75
14053	W Pipe Dctl Iron Rstrnd Joint 24 Inch		1020	415
14059	W Pipe PVC 06 Inch	LF	145	140
14077	W Serv PE/PLST Short Side - 1 Inch	EA	1	
14085	W Serv PE/Plst Short Side 3/4"	EA	3	
14089	W Tapping Sleeve & Valve Size 1	EA	5	
14090	W Tapping Sleeve & Valve Size 2	EA	6	
14105	W Valve 06 Inch	EA	1	
14036	W Pipe Ductile Iron 06 Inch (w/Nitrile Gaskets)	LF	305	100
14053	W Pipe Ductile Iron Rstrnd Joint 24 Inch (w/ Nitrile Gaskets)	LF	72	

QUANTITIES FOR SANITARY SEWER CONSTRUCTION				
BID CODE	ITEM	UNITS	PROPOSED	ABANDONED
15155	S Cap existing Main (Cut & Cap)	EA	18	
15155	S Cap existing Main (Force Main Cut & Cap)	EA	4	
15023	S Encasement Steel Open Cut Range 4	LF	110	
15022	S Encasement Steel Open Cut RNG 3	LF	90	
15060	S Force Main Pvc 6 Inch	LF	545	530
15062	S Force Main Pvc 10 Inch	LF	428	478
15069	S Force Main Tap Sleeve/Valve RNG 1	EA	2	
15070	S Force Main Tap Sleeve/Valve RNG 2	EA	2	
15089	S Lateral Short Side 04 Inch	EA	2	
15092	S Manhole	EA	18	
15093	S Manhole Abandon/Remove	EA	6	
15094	S Manhole Adjust to Grade	EA	5	
15097	S Manhole Reconstruct Invert	EA	1	
15112	S Pipe PVC 8 Inch	LF	134.06	120
15113	S Pipe PVC 10 Inch	LF	1256.64	1430
15159	S Pipe PVC Rstrnd Joint 10 Inch	LF	108	
15000	S Bypass Pumping	EA	4	

CITY OF MOUNT VERNON WATER & SEWER RELOCATION ONLY



KENVIRONS
Civil & Environmental Engineers

PROJECT: 2024073
DRAWN BY: JKP
CHECKED BY: BRW
DATE: July 2025
SCALE: 1"=20'
REVISIONS

