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PUBLIC SERVICES CONTACTS

ELECTRIC	-	DOMINION VIRGINIA POWER (866) 366-4357	PHONE	-
WATER	-	CITY OF EMPORIA PUBLIC UTIL. 1921 SUNNYSIDE ROAD EMPORIA, VIRGINIA 23847 MELVIN PRICE - DIRECTOR (434) 348-9111	CABLE	-
SEWER	-	CITY OF EMPORIA PUBLIC UTIL. 1921 SUNNYSIDE ROAD EMPORIA, VIRGINIA 23847 MELVIN PRICE - DIRECTOR (434) 348-9111	SOLID WASTE & RECYCLING	-
GAS	-	N/A	CITY OF EMPORIA DEPARTMENT OF PUBLIC WORKS 1921 SUNNYSIDE ROAD EMPORIA, VIRGINIA 23847 ANTHONY GILLUS - SANITATION SUPERVISOR	

GENERAL NOTES:

- CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE CITY/TOWN/COUNTY STANDARD DETAILS, CODE OF ORDINANCES AND STANDARD SPECIFICATIONS IF APPLICABLE.
- ALL SITE WORK, AT A MINIMUM, SHALL BE PERFORMED IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS (CURRENT EDITIONS) AS SHOWN.
- CONSTRUCTION ON THIS PROJECT SHALL BE IN ACCORDANCE WITH ALL APPLICABLE AND THE MOST CURRENT TOWN, COUNTY, STATE, AND UTILITY PROVIDER STANDARDS, SPECIFICATIONS AND BUILDING CODES.
- UNDERGROUND UTILITIES MAY EXIST ON, ALONG OR WITHIN CONFLICT OF THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING VA-ONE-CALL OR THE APPROPRIATE UTILITY COMPANIES PRIOR TO ANY EXCAVATION.
- THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE DEMOLITION OF ALL EXISTING ON-SITE ITEMS, ABOVE AND BELOW GROUND. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REMOVAL OF ALL WASTE RESULTING FROM DEMOLITION, AS WELL AS GRADING AND FILLING OF ALL DEPRESSIONS TO INSURE THE SITE REMAINS AESTHETICALLY ACCEPTABLE, SAFE AND FUNCTIONAL.
- THE CONTRACTOR SHALL OBSERVE ALL REQUIRED SAFETY PRECAUTIONS IN THE PERFORMANCE OF ALL WORK IN ACCORDANCE WITH OSHA REQUIREMENTS.
- THE CONTRACTOR SHALL GRADE, SEED AND SOD OR OTHERWISE PROVIDE TEMPORARY AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, ESPECIALLY SLOPES. SEE EROSION CONTROL INSTRUCTIONS, IF APPLICABLE.
- WORK WITHIN PUBLIC RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS, NOTIFICATIONS, STANDARDS AND POLICIES.
- ANY SUBSTITUTIONS, CHANGES, OR MODIFICATIONS SHALL BE APPROVED IN WRITING BY THE PROJECT ENGINEER AND CITY OF EMPORIA, PRIOR TO INSTALLATION/CONSTRUCTION OF CORRESPONDING ITEMS.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS NECESSARY FOR CONSTRUCTION. THE CONTRACTOR SHALL READ ALL PERMITS AND ENSURE THAT CONSTRUCTION COMPLIES WITH THE PERMITS. REQUIRED PERMITS AND REVIEWS MAY INCLUDE, BUT ARE NOT LIMITED TO: CITY/COUNTY APPROVALS/PERMITS, CITY FIRE DEPARTMENT, SOLID WASTE REVIEWS, DRIVEWAY PERMITS, RIGHT OF WAY ENCROACHMENT AGREEMENTS, SOIL AND EROSION CONTROL PERMITS, VIDEO PERMITS, WATER PERMITS, SEWER PERMITS, ENVIRONMENTAL PERMITS, WETLAND DISTURBANCE PERMITS, STREAM CROSSING PERMITS, POWER EASEMENT ENCROACHMENT AGREEMENTS, USACE/DWQ PERMITS, STORMWATER PERMITS, ZONING APPROVAL, AND BUILDING CODE APPROVALS/PERMITS. IF THE CONTRACTOR HAS QUESTIONS ABOUT PERMIT LANGUAGE, OR THE NEED FOR A PERMIT, HE MUST CONTACT THE CITY AND THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IN ACCORDANCE WITH THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK AND VIRGINIA STORMWATER MANAGEMENT PROGRAM. AN INDIVIDUAL, CERTIFIED BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY, HOLDING A RESPONSIBLE LAND DISTURBER CERTIFICATION, SHALL BE IN CHARGE OF THE LAND DISTURBING ACTIVITY AND ON THE WORK SITE AT ALL TIMES.
- ALL PRECAST UNITS SHALL BE VDOT APPROVED. CERTIFICATION AND VDOT STAMP WILL BE REQUIRED ON ALL UNITS. SHOP DRAWINGS, GEOTECHNICAL DATA, SOIL BEARING CAPACITY, AND PLAN VIEW SHALL BE SUBMITTED AS A PACKAGE FOR REVIEW AND APPROVAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UNDERGROUND AND OVERHEAD UTILITIES, WHETHER OR NOT THEY ARE SHOWN ON THE PLANS, PRIOR TO STARTING WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRS, AT HIS OWN EXPENSE, OF ANY UTILITIES DAMAGED BY HIS CONSTRUCTION METHODS. VA 811 MUST BE CONTACTED AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITY WITHIN EXISTING OR PROPOSED RIGHT OF WAY.
- ALL CONSTRUCTION DEBRIS, MATERIALS, DUMPSTERS, ETC. SHALL BE LOCATED OUTSIDE THE RIGHT OF WAY.
- ALL COST FOR AGGREGATE BEDDING OR AGGREGATE BASE MATERIAL SHALL BE INCLUDED IN THE PRICE OF OTHER ITEMS.
- ALL COST FOR REMOVAL OF EXISTING ITEMS SHALL BE INCLUDED IN THE PRICE FOR CLEARING & GRUBBING / DEMOLITION. THIS WORK INCLUDES COMPLETE REMOVAL OF ALL LANDSCAPING, FIXTURES, UTILITIES, CURB, GUTTER, DRAINAGE PIPES, PAVEMENT AND BASE MATERIAL DOWN TO SUBGRADE ELEVATION. ANY ABANDONED PLUMBING OR WIRING SHALL BE CAPPED IN ACCORDANCE WITH APPLICABLE CODE(S) AND APPROVED BY THE ENGINEER. COST FOR DISPOSAL OF ALL WASTE MATERIAL SHALL BE INCLUDED IN THE PRICE FOR CLEARING & GRUBBING / DEMOLITION.



Know what's below.
Call before you dig.

CONTRACTOR SHALL NOTIFY "VA811" (811) OR (1-800-822-8849) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "VA811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

CONSTRUCTION DRAWINGS FOR SOUTH MAIN ST IMPROVEMENTS CITY OF EMPORIA, VIRGINIA SEPTEMBER, 2025

OWNER / DEVELOPER:

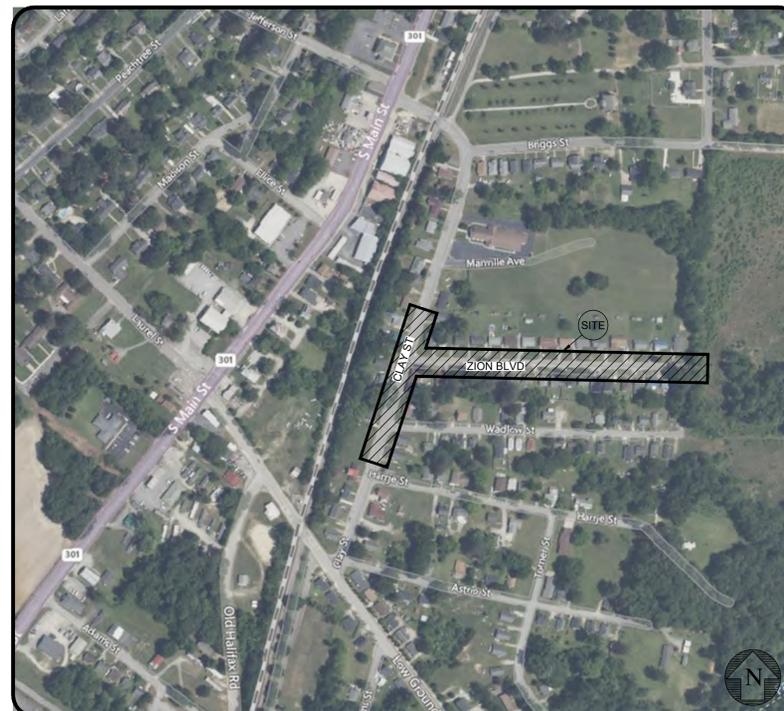
CITY OF EMPORIA
WILLIAM JOHNSON, CITY MANAGER
201 SOUTH MAIN STREET
EMPORIA, VA 23847
(434) 634-3332 (PHONE)
(434) 634-0003 (FAX)
WJOHNSON@CI.EMPORIA.VA.US

SURVEY INFORMATION PROVIDED BY:

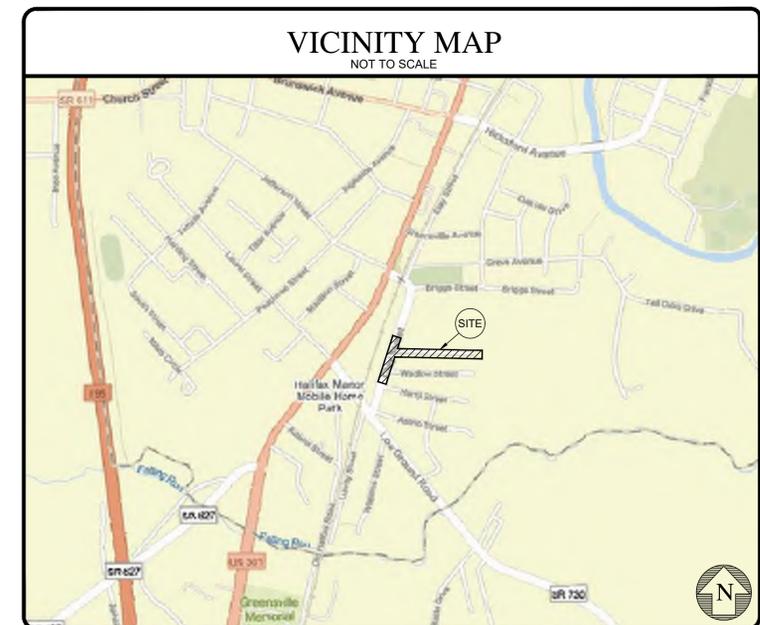
STEVEN CRUTCHFIELD
CRUTCHFIELD & ASSOCIATES, INC
7996 HIGHWAY 47
CHASE CITY, VA 23924
(434) 372-5884 (PHONE)
STEVEN@CRUTCHFIELDINC.COM

CIVIL & SITE ENGINEER CONTACT:

MATT HASTINGS
SUMMIT DESIGN & ENGINEERING SERVICES, INC
606 BROAD STREET, SUITE C
SOUTH BOSTON, VA 24592
(434) 575-0617 (OFFICE)
(434) 579-4604 (DIRECT)
MATT.HASTINGS@SUMMITDE.COM



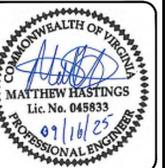
SITE LOCATION MAP
NOT TO SCALE



VICINITY MAP
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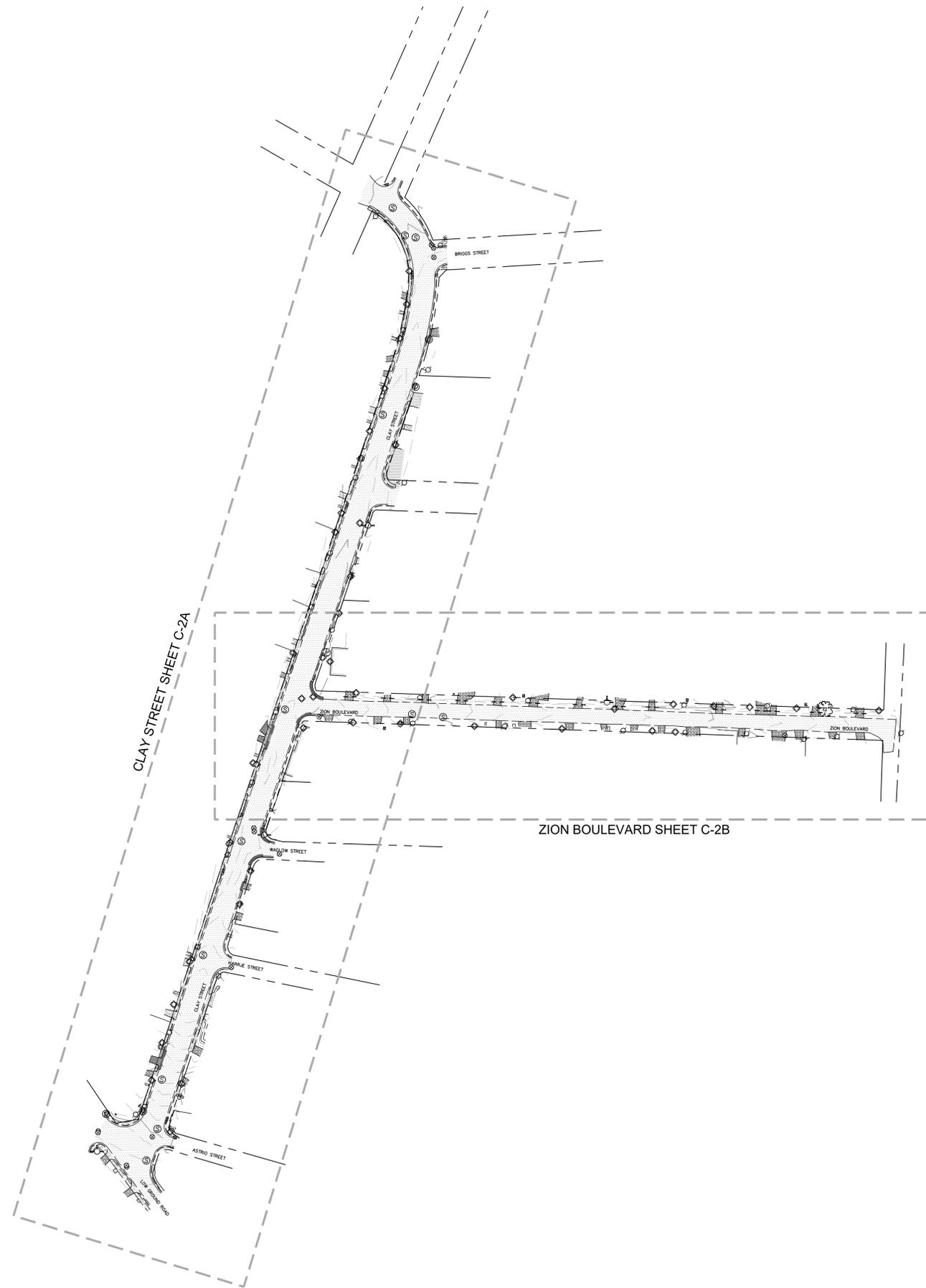
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CONSTRUCTION DRAWINGS
SOUTH MAIN ST IMPROVEMENTS
SOUTH MAIN ST
EMPORIA, VA
COVER SHEET

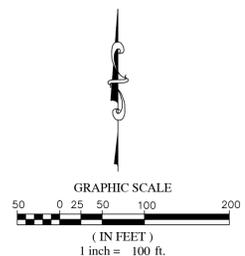
PROJECT NO.
25-0029.240
DRAWING NAME:
25-0029.240_C_DWG
SHEET NO.
C-1

DEMOLITION NOTES:

- PRIOR TO ANY DEMOLITION, SITE BENCHMARK(S) MUST BE ESTABLISHED BY A LICENSED SURVEYOR IN PROTECTED AREA(S).
- ALL DEMOLITION, TRANSPORT, AND DISPOSAL OF WASTE MATERIALS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE TOWN, COUNTY, STATE AND FEDERAL REGULATIONS.
- REGULATED MATERIALS SUCH AS ASBESTOS, LEAD, ETC. MAY EXIST ON SITE AND SHALL BE IDENTIFIED AND A PLAN FOR DEMOLITION AND DISPOSAL PRESENTED TO AND APPROVED BY THE CITY/COUNTY AND OWNERS PRIOR TO COMMENCING DEMOLITION ON CORRESPONDING STRUCTURES.
- THE LOCATIONS OF ALL EXISTING FEATURES SHOWN ON THIS SHEET WERE PROVIDED AS PART OF THE SURVEY REFERENCED ON THIS SHEET. OTHER UNIDENTIFIED UTILITIES OR SITE FEATURES MAY EXIST AND SPECIAL CARE SHALL BE EXERCISED DURING ANY SUBGRADE WORK OR DEMOLITION TO PREVENT UNINTENDED LOSS OF SERVICE TO SURROUNDING PROPERTIES.
- BURIED UTILITIES AND/OR PIPE LINES ARE SHOWN PER VISIBLE SURFACE EVIDENCE AND/OR UTILITY LOCATES PROVIDED PRIOR TO FIELD SURVEY EFFORTS. THE CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF ALL EXISTING UTILITY CONNECTIONS AND CROSSINGS PRIOR TO ANY CONSTRUCTION. IF A CONFLICT OCCURS BETWEEN EXISTING AND PROPOSED UTILITIES AND/OR DESIGN MODIFICATION IS REQUIRED, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. THE ENGINEER AND/OR THE SURVEYOR OF RECORD SHALL NOT BE LIABLE FOR THE LOCATION OF OR THE FAILURE TO NOTE THE LOCATION OF NON-VISIBLE UTILITIES.
- BELOW GRADE UTILITY LOCATIONS WERE NOT PROVIDED. CONTRACTOR TO CONFIRM ALL UTILITY LOCATIONS AND NOTIFY OWNER OF ANY CONFLICTS PRIOR TO THE COMMENCEMENT OF WORK.
- IF DAMAGE TO EXISTING UTILITIES OCCURS DURING CONSTRUCTION/DEMOLITION. THE CONTRACTOR SHALL MAKE IMMEDIATE REPAIRS TO DAMAGED UTILITIES PRIOR TO MOVING FORWARD WITH PLANNED CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY PERMITS FOR WORK IN THE CITY OF EMPORIA RIGHTS-OF-WAY. ANY DAMAGED INFRASTRUCTURE IN THE RIGHTS-OF-WAY CAUSED BY CONSTRUCTION ACTIVITIES MUST BE REPAIRED TO REQUIRED STANDARDS. THIS INCLUDES, BUT IS NOT LIMITED TO UTILITIES, CURB & GUTTER, PAVEMENT, SIGNS AND ROADSIDE SWALES.
- CONTRACTOR SHALL OBTAIN TEMPORARY CONSTRUCTION EASEMENTS FROM INDIVIDUAL PROPERTY OWNERS AS NEEDED. ALL WORK TO BE PERFORMED ON EXISTING RIGHT-OF-WAY OR EASEMENTS.
- ALL COST FOR SAW CUTTING AND REMOVAL OF EXISTING PAVEMENT SHALL BE INCLUDED IN THE COST FOR PAVEMENT AND ASPHALT REPAIR. SEE DETAIL.
- LIMITS OF STREET CUT SHOWN ARE APPROXIMATE. FINAL LIMITS ARE TO BE DETERMINED IN THE FIELD BY CITY INSPECTOR. ALL REPAIRS TO BE IN ACCORDANCE WITH CITY STANDARDS.
- ALL COST FOR REMOVAL AND DISPOSAL OF UNSUITABLE BACKFILL AND MISCELLANEOUS ITEMS ASSOCIATED WITH DIGGING TO BE INCLUDED IN THE COST FOR PIPE INSTALLATION.
- EXISTING TOPSOIL SHALL BE STRIPPED TO THE EXTENT POSSIBLE AND STOCKPILED ON-SITE IN LOCATION DETERMINED BY OWNER AND CONTRACTOR. STOCKPILE LOCATIONS TO BE DETERMINED BY CONTRACTOR MUST NOT RESULT IN ADDITIONAL LAND DISTURBANCE.



- LEGEND**
- ⊙ EX. WATER VALVE
 - ⊕ EX. SEWER CLEANOUT
 - ⊗ EX. WATER METER
 - ⊠ EX. UTILITY POLE
 - ⊡ EX. GUY WIRE
 - ⊢ EX. SIGN
 - ⊣ EX. FIRE HYDRANT
 - ⊤ EX. SANITARY SEWER MANHOLE
 - ⊥ EX. STORM DRAINAGE MANHOLE
 - ⊦ EX. RAILROAD TRACKS
 - ⊧ EX. FENCE
 - ⊨ EX. RIGHT OF WAY
 - ⊩ EX. GRAVEL
 - ⊪ EX. CONCRETE
 - ⊫ EX. ASPHALT
 - ⊬ LIMITS OF DEMOLITION



811
Know what's below.
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CONTRACTOR SHALL NOTIFY "811" (811) OR (1-800-633-4849) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

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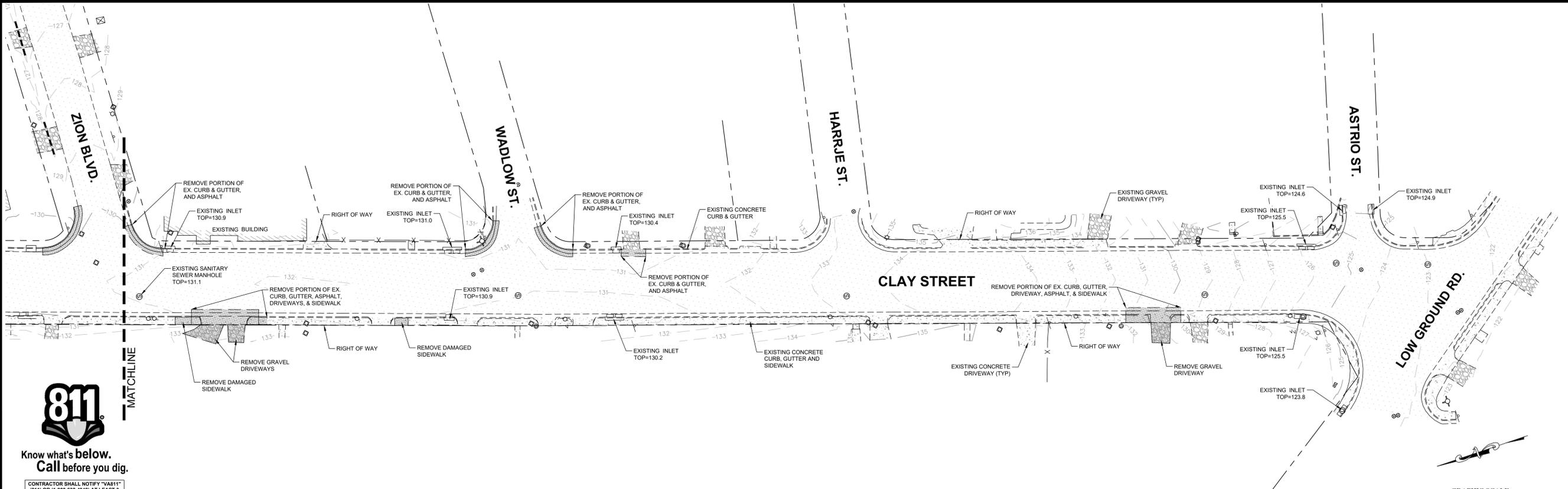
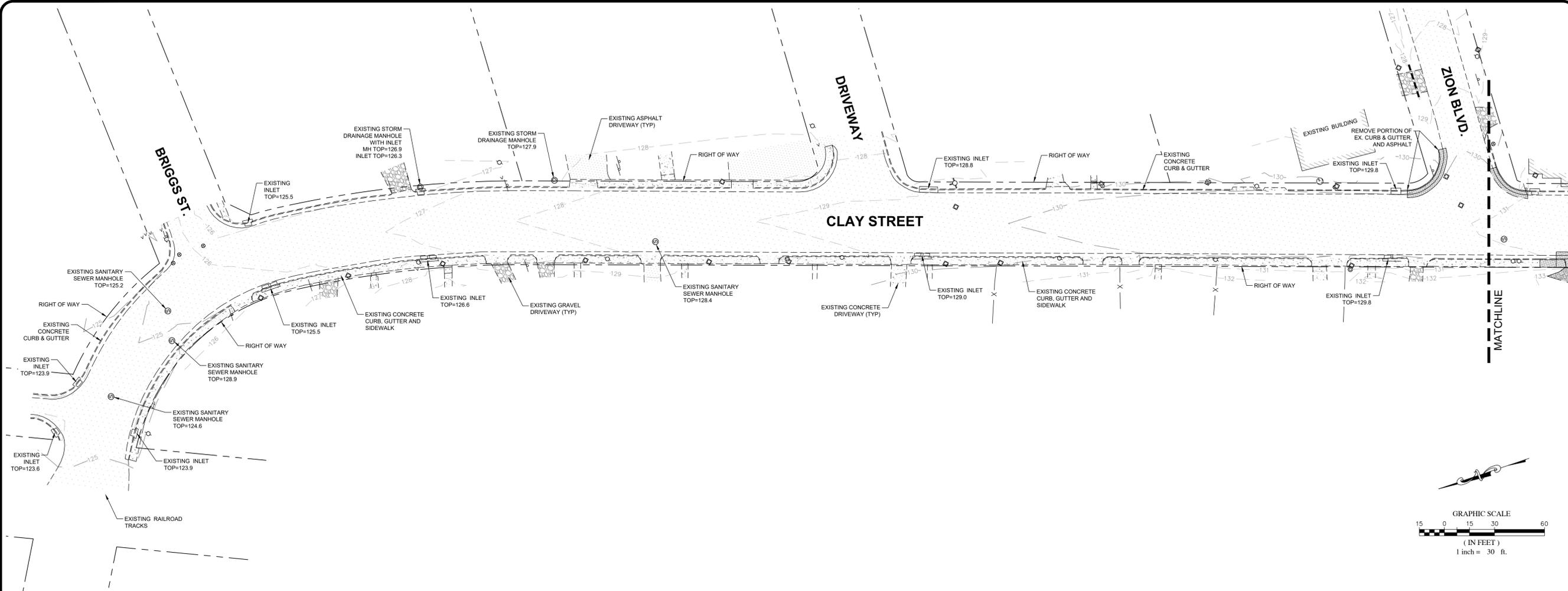
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PROJECT MANAGER
LAJ (LOGAN) JOHNSON@SUMMITDE.COM
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FIRST ISSUE DATE
2025-09-25



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CONSTRUCTION DRAWINGS
SOUTH MAIN ST IMPROVEMENTS
SOUTH MAIN ST
EMPORIA, VA
OVERALL EXISTING CONDITIONS

PROJECT NO.
25-0029.240
DRAWING NAME:
25-0029.240_XC.DWG
SHEET NO.
C-2



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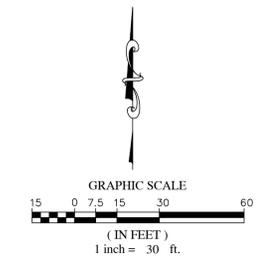
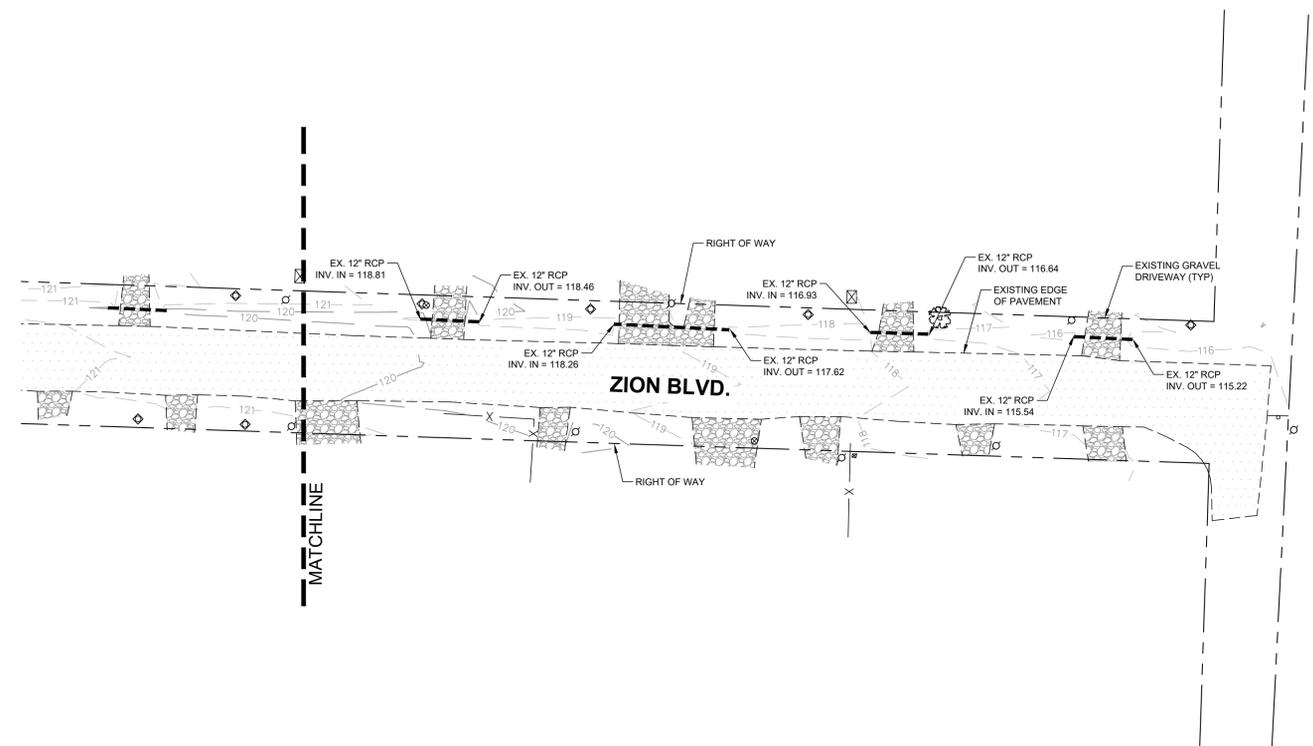
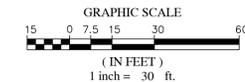
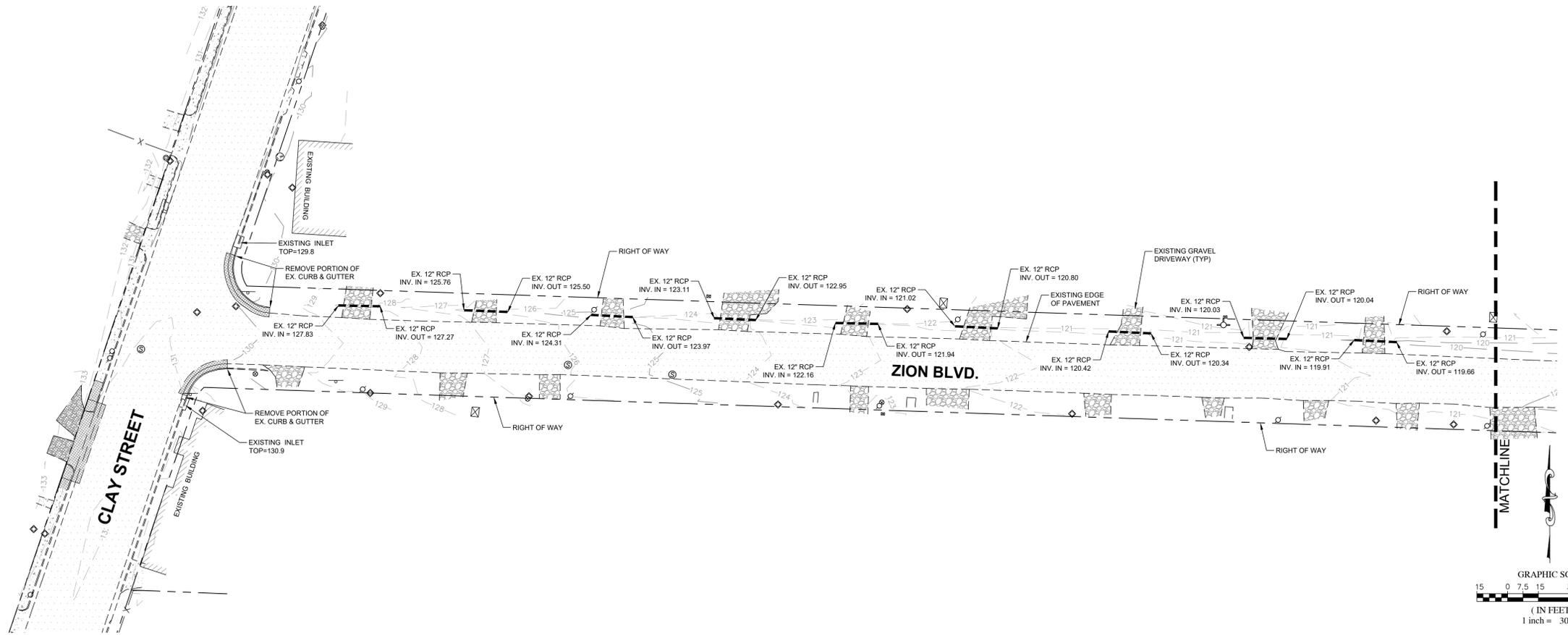
CONSTRUCTION DRAWINGS
SOUTH MAIN ST IMPROVEMENTS
SOUTH MAIN ST
EMPORIA, VA

EXISTING CONDITIONS
CLAY STREET

PROJECT NO.
25-0029.240

DRAWING NAME:
25-0029.240_XC.DWG

SHEET NO.
C-2A



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PROJECT ENGINEER/ARCHITECT
DOB (DEREK) BUTLER@SUMMITDE.COM
PROJECT MANAGER
LAJ (LOGAN) JOHNSON@SUMMITDE.COM
DRAWN BY
SLF (SANDY) FALK@SUMMITDE.COM
FIRST ISSUE DATE
2025-09-25



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CONSTRUCTION DRAWINGS
SOUTH MAIN ST IMPROVEMENTS
SOUTH MAIN ST
EMPORIA, VA

EXISTING CONDITIONS
ZION BOULEVARD

PROJECT NO.
25-0029.240
DRAWING NAME:
25-0029.240_XC.DWG
SHEET NO.
C-2B

SITE NOTES:

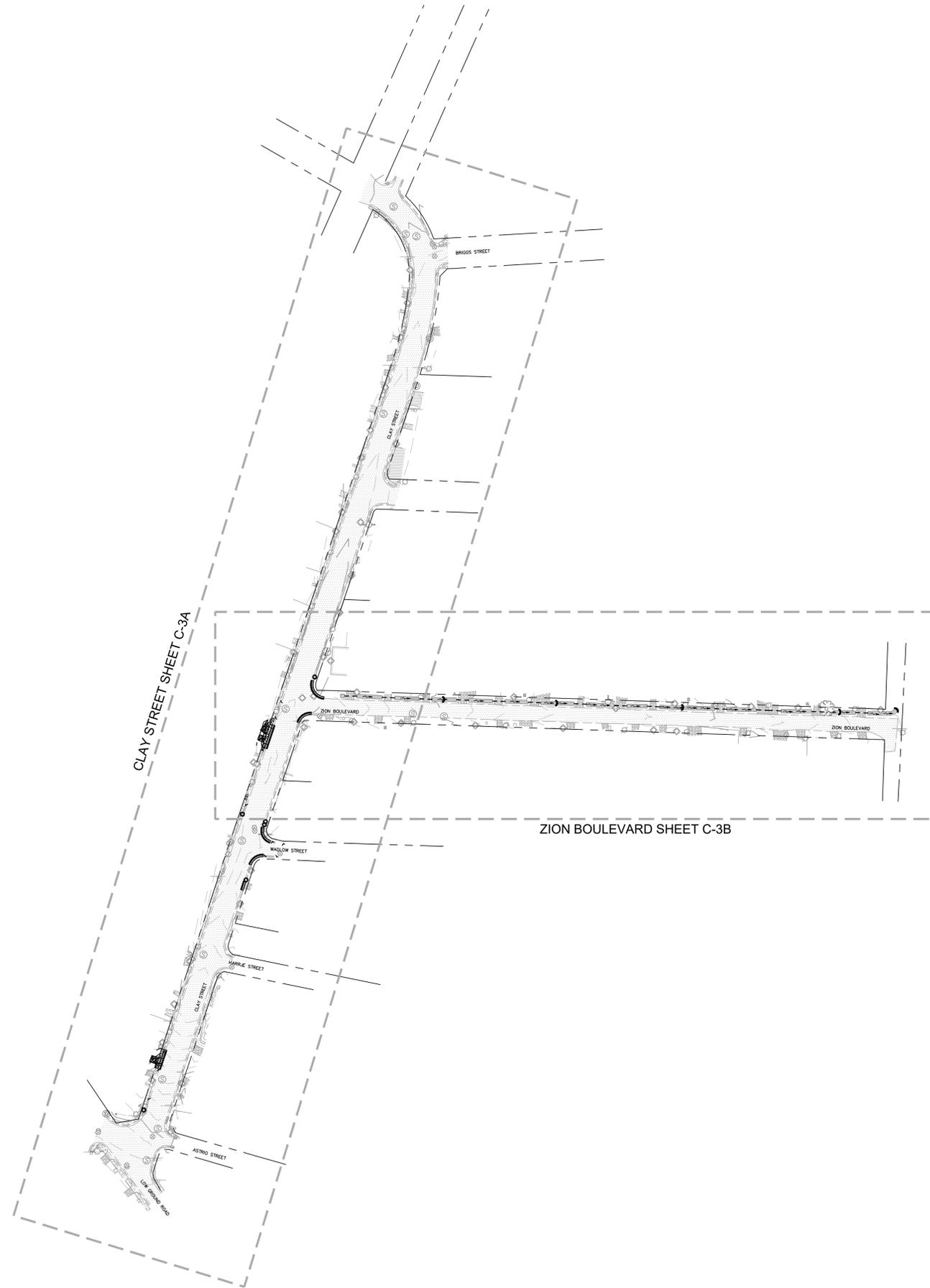
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF EMPORIA AND/OR VDOT STANDARDS AND SPECIFICATIONS.
2. CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL DURING ALL PHASES OF CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL THROUGHOUT THE SITE DURING ALL PHASES OF CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY ALL STORMWATER STRUCTURE RIMS/INVERTS PRIOR TO ORDERING ANY NEW MATERIALS.
5. CONTRACTOR SHALL MAINTAIN ANY EXISTING ACCESSSES TO ADJACENT RESIDENCES, BUSINESSES AND PROPERTIES AT ALL TIMES.
6. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY PERMITS NECESSARY FOR CONSTRUCTION.
7. ALL NEW SIDEWALK AND CURB AND GUTTER SHALL MATCH THE EXISTING UNLESS NOTED OTHERWISE ON THE PLANS.
8. CONTRACTOR SHALL COMPLETE ALL SITE WORK PRIOR TO ACCEPTANCE, INCLUDING BUT NOT LIMITED TO DEMOLITION, DISPOSAL, MINOR GRADING, UTILITY REPLACEMENT, CONCRETE REPLACEMENT, PAVING, SEEDING, LANDSCAPING, ETC.
9. AT COMPLETION LANDSCAPING AND SITE WORK SHALL BE FREE OF DEBRIS, MOWED, AND IN LIKE NEW CONDITION.

UTILITY NOTES:

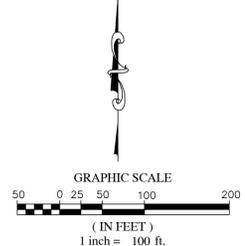
1. ALL NEW UTILITIES SHALL BE LOCATED UNDERGROUND IF ALLOWED BY LOCAL CODES.
2. ALL PUBLIC UTILITIES AND CONNECTIONS TO PUBLIC UTILITIES SHALL CONFORM TO CITY OF EMPORIA STANDARDS AND SPECIFICATIONS.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY PERMITS NECESSARY FOR CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF THE LOCATION AND/OR RELOCATION OF ALL EXISTING UTILITIES WITH THE APPROPRIATE UTILITY, AGENCY OR COMPANY.
5. THE CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS AND DISTURBANCES WITH EXISTING USERS AND THE CITY OF EMPORIA SO THAT ANY SERVICE INTERRUPTIONS ARE MINIMAL.
6. ALL WATERLINE JOINTS/CONNECTIONS SHALL BE RESTRAINED W/ MECHANICAL JOINT FITTINGS AND THRUST BLOCKS.
7. ALL GRAVITY SEWER SHALL BE SDR-35 PVC UNLESS NOTED OTHERWISE ON PLANS.
8. ALL WATERLINE SHALL BE C-900 UNLESS NOTED OTHERWISE ON THE PLANS.

EROSION CONTROL NOTES:

1. EXISTING TOPSOIL SHALL BE STRIPPED TO THE EXTENT POSSIBLE AND STOCKPILED ON-SITE IN LOCATION DETERMINED BY OWNER AND CONTRACTOR. STOCKPILE LOCATIONS MUST NOT RESULT IN ADDITIONAL LAND DISTURBANCE.
2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONCRETE WASHOUT. CONCRETE WASHOUT MUST NOT BE LOCATED WITHIN 50' OF ANY DRAINAGE WAY, STORMWATER CONVEYANCE, OR CURB & GUTTER.
3. ADDITIONAL NON-STRUCTURAL PRACTICES ARE STRONGLY ENCOURAGED SUCH AS MINIMIZING THE DISTURBANCE OF SOILS AND VEGETATION, PROVIDING EDUCATIONAL MATERIALS ON DISPOSAL / RECYCLING, SPILL PREVENTION CLEAN-UP, IDENTIFICATION AND ELIMINATION OF ILLICIT DISCHARGES, PROMOTION OF STREET SWEEPING AND THE DEVELOPMENT OF PUBLIC EDUCATION PROGRAMS.
4. ANY SOIL THAT IS REMOVED OR TRACKED FROM THE SITE IS TO BE DISPOSED OF PROPERLY BY SCRAPING OR SWEEPING.



- LEGEND**
- ⊙ EX. WATER VALVE
 - ⊙ EX. SEWER CLEANOUT
 - ⊙ EX. WATER METER
 - ⊙ EX. UTILITY POLE
 - ⊙ EX. GUY WIRE
 - ⊙ EX. SIGN
 - ⊙ EX. FIRE HYDRANT
 - ⊙ EX. SANITARY SEWER MANHOLE
 - ⊙ EX. STORM DRAINAGE MANHOLE
 - ⊙ EX. RAILROAD TRACKS
 - ⊙ EX. FENCE
 - ⊙ EX. GRAVEL
 - ⊙ EX. CONCRETE
 - ⊙ EX. ASPHALT
 - ⊙ CONCRETE REPLACEMENT
 - ⊙ ASPHALT PATCH
 - ⊙ TURF REINFORCEMENT MAT
 - ⊙ GRAVEL DRIVEWAY REPLACEMENT
 - ⊙ STRAW WATTLE
 - ⊙ INLET PROTECTION
 - ⊙ ROCK SOCK



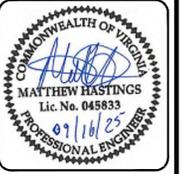
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PROJECT MANAGER
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SIF (SANDY) FALK@SUMMITDE.COM
FIRST ISSUE DATE
2025-09-05



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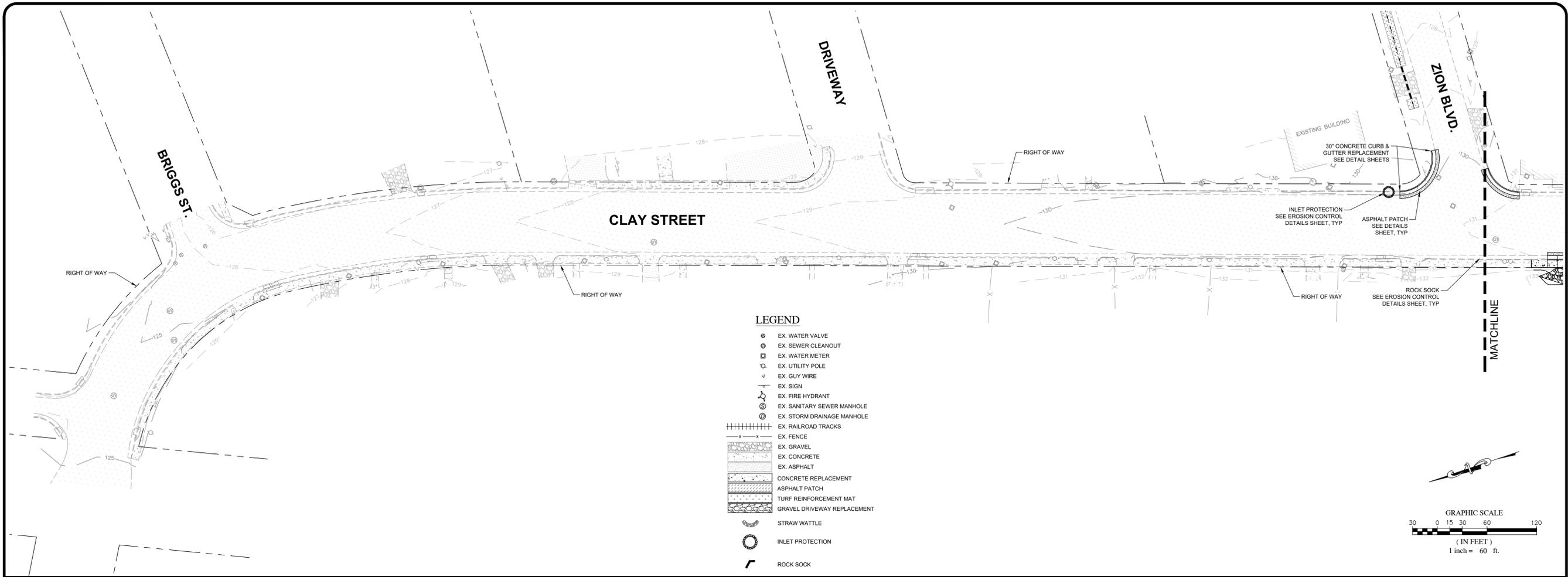
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SOUTH MAIN ST
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OVERALL SITE IMPROVEMENTS

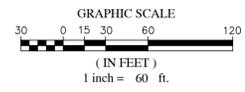
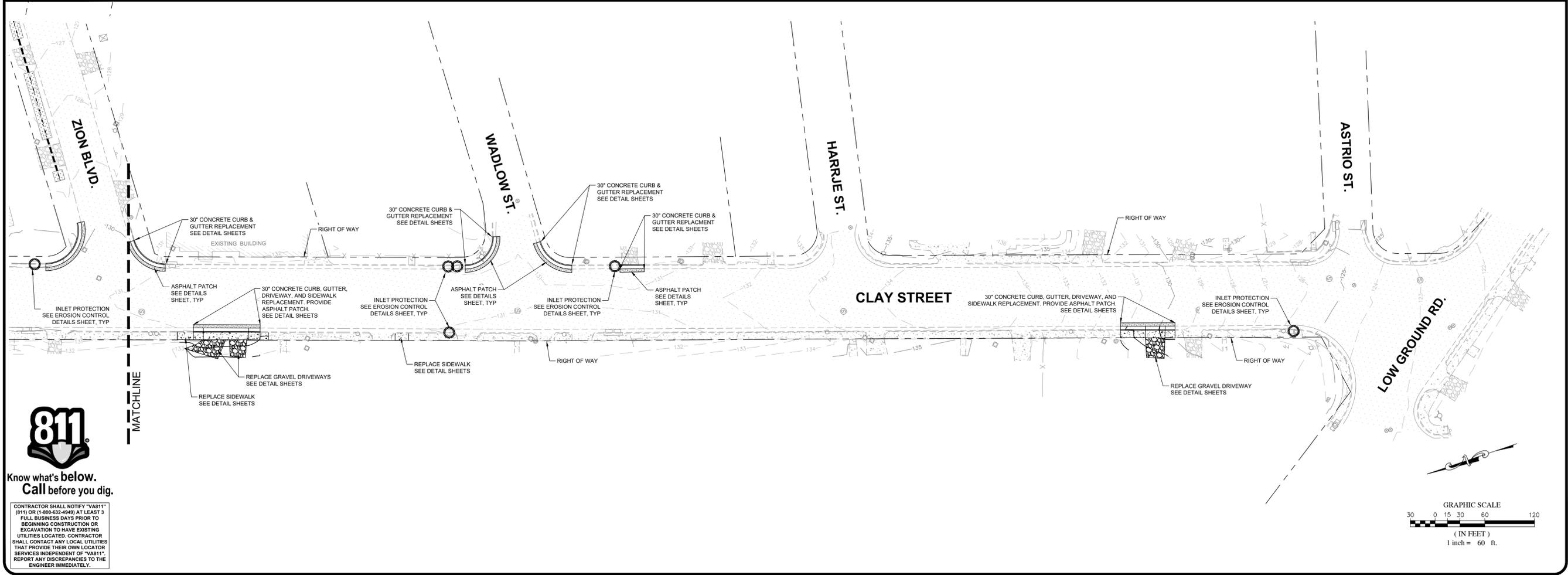
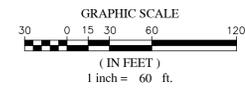
PROJECT NO.
25-0029.240

DRAWING NAME:
25-0029.240_S.DWG

SHEET NO.
C-3



- LEGEND**
- ⊙ EX. WATER VALVE
 - ⊙ EX. SEWER CLEANOUT
 - ⊙ EX. WATER METER
 - ⊙ EX. UTILITY POLE
 - ⊙ EX. GUY WIRE
 - ⊙ EX. SIGN
 - ⊙ EX. FIRE HYDRANT
 - ⊙ EX. SANITARY SEWER MANHOLE
 - ⊙ EX. STORM DRAINAGE MANHOLE
 - ⊙ EX. RAILROAD TRACKS
 - ⊙ EX. FENCE
 - ⊙ EX. GRAVEL
 - ⊙ EX. CONCRETE
 - ⊙ EX. ASPHALT
 - ⊙ CONCRETE REPLACEMENT
 - ⊙ ASPHALT PATCH
 - ⊙ TURF REINFORCEMENT MAT
 - ⊙ GRAVEL DRIVEWAY REPLACEMENT
 - ⊙ STRAW WATTLE
 - ⊙ INLET PROTECTION
 - ⊙ ROCK SOCK



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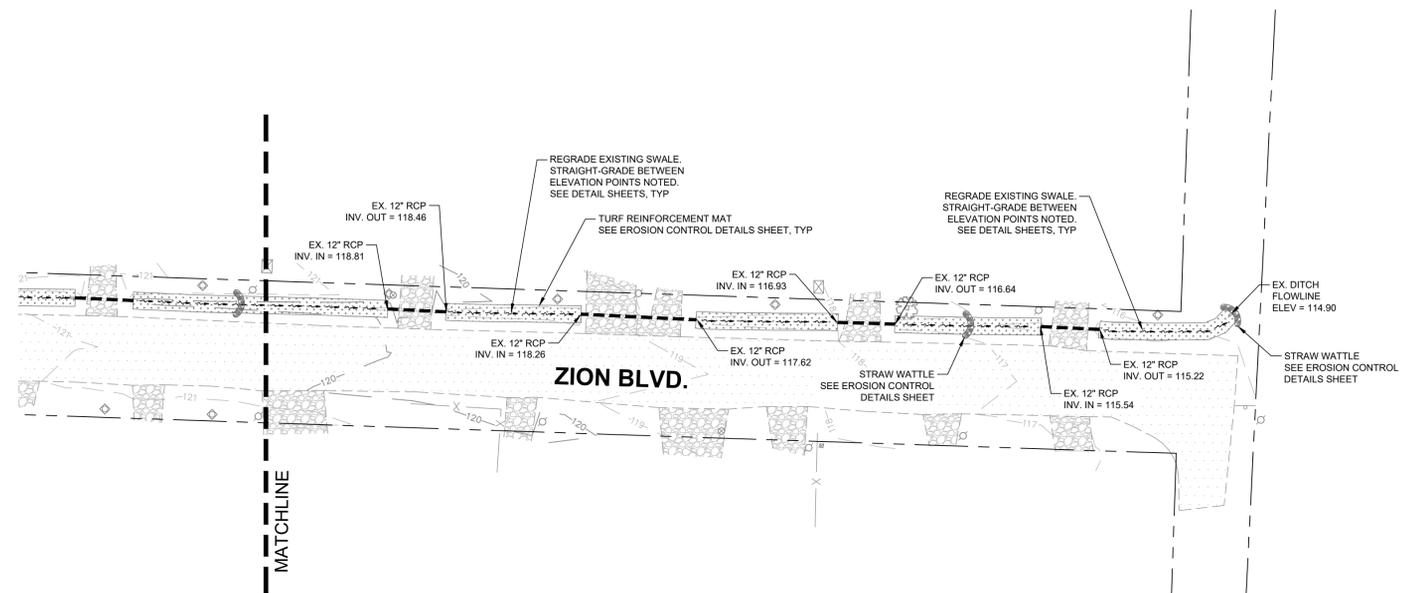
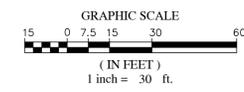
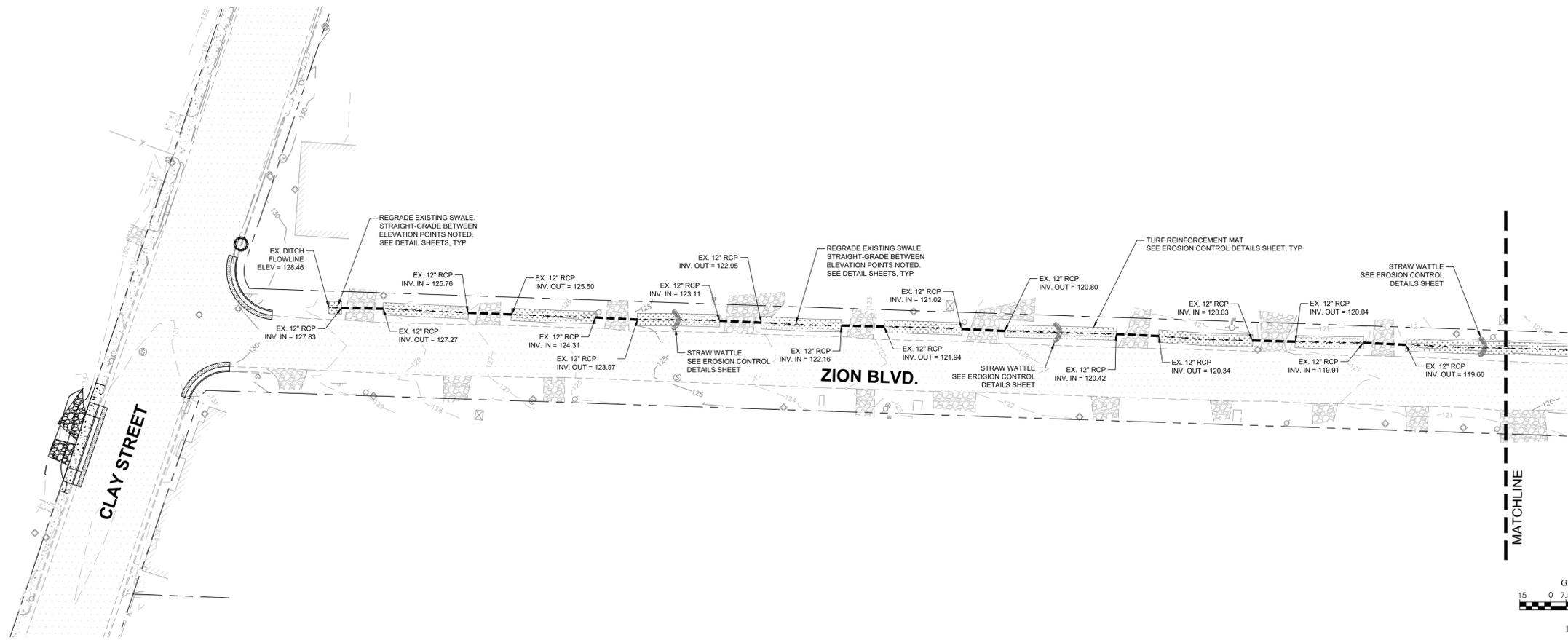
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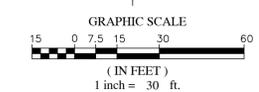
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PROJECT NO.
25-0029.240
DRAWING NAME:
25-0029.240_S.DWG
SHEET NO.
C-3A



- LEGEND**
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 - ⊙ EX. SEWER CLEANOUT
 - ⊙ EX. WATER METER
 - ⊙ EX. UTILITY POLE
 - ⊙ EX. GUY WIRE
 - ⊙ EX. SIGN
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 - ⊙ GRAVEL DRIVEWAY REPLACEMENT
 - ⊙ STRAW WATTLE
 - ⊙ INLET PROTECTION
 - ⊙ ROCK SOCK



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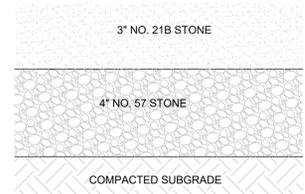
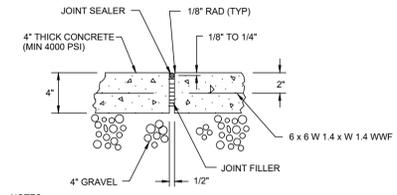
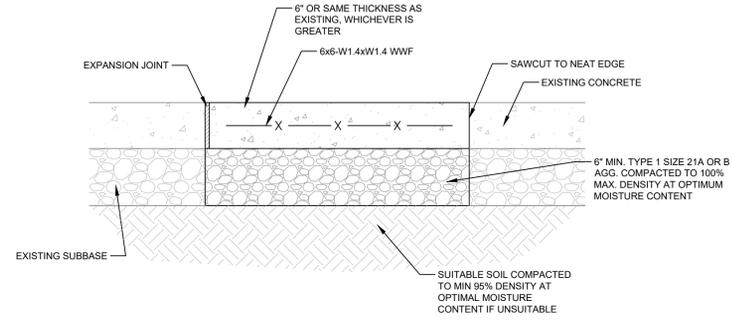
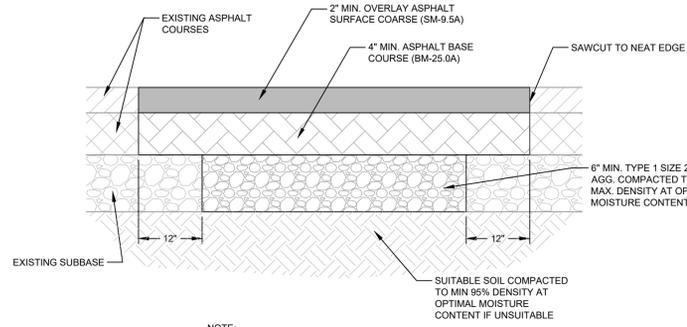
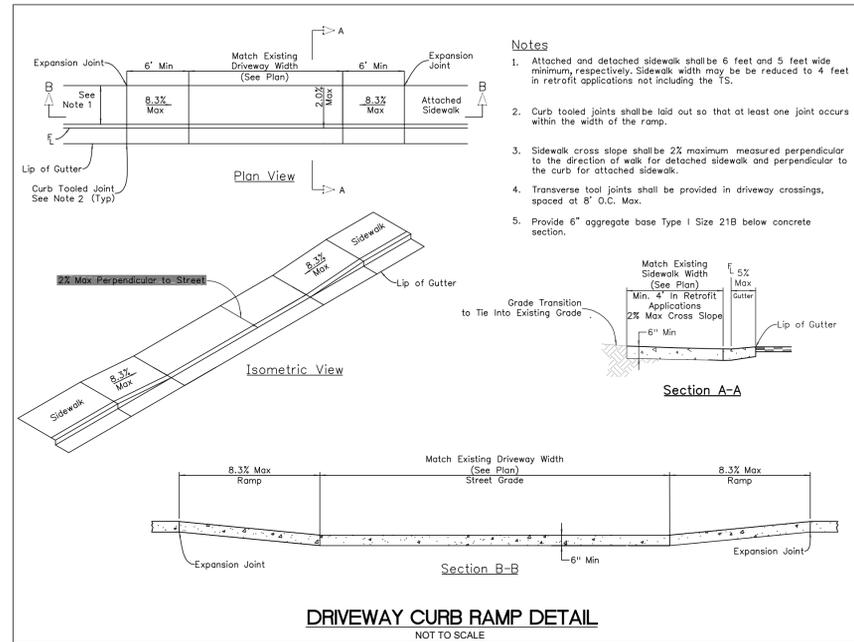
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SOUTH MAIN ST
EMPORIA, VA

SITE IMPROVEMENTS
ZION BOULEVARD

PROJECT NO.
25-0029.240

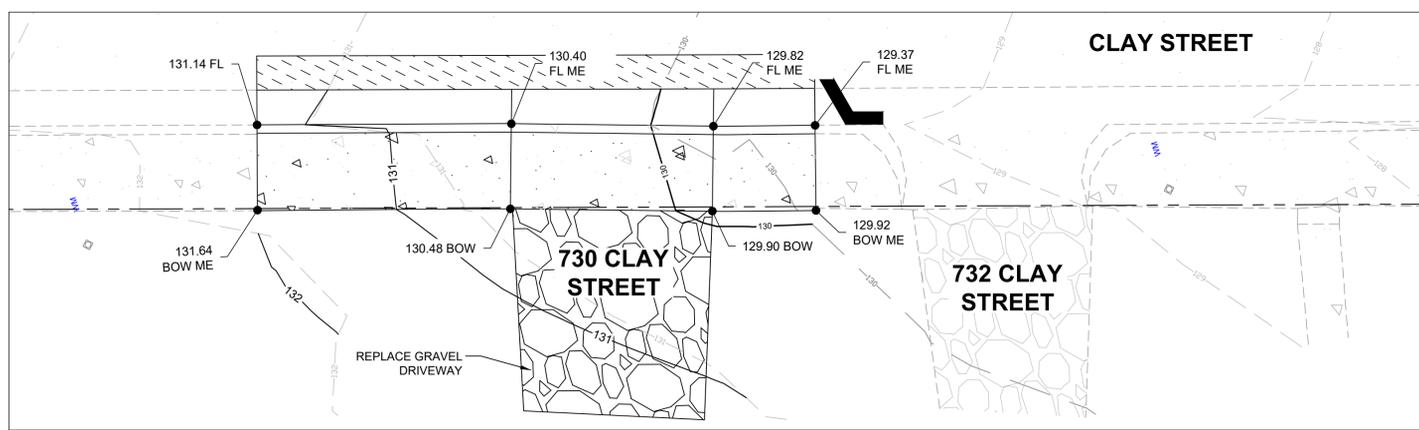
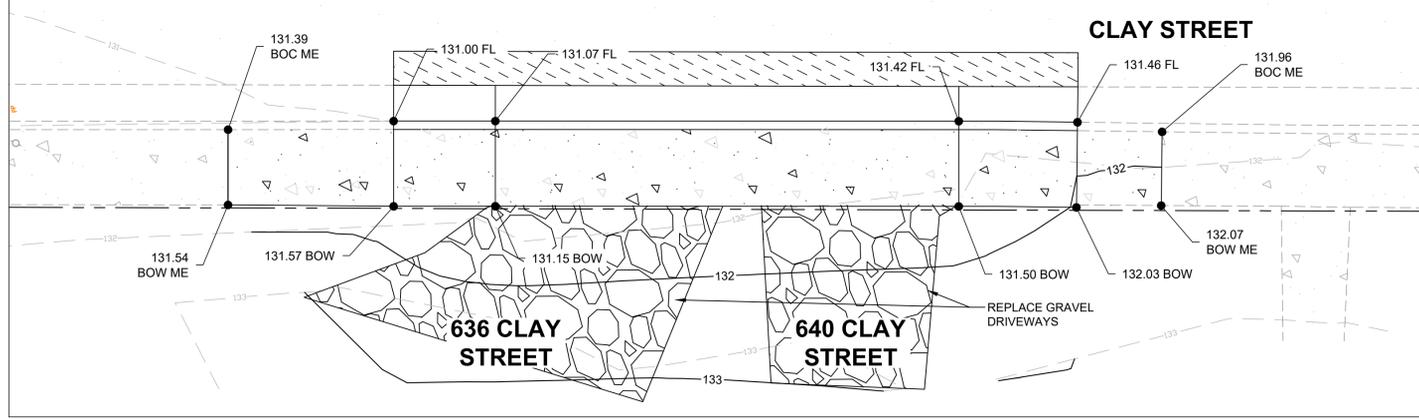
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SHEET NO.
C-3B



NOTES:

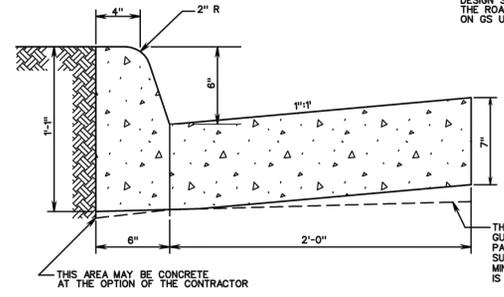
- A GROOVE JOINT 1" DEEP W/ 1/8" RADIUS SHALL BE REQUIRED IN THE CONC. SIDEWALK AT 5' INTERVALS. ONE 1/2" EXPANSION JOINT WILL BE REQUIRED AT 50' INTERVALS. A 1/2" EXPANSION JOINT WILL BE REQUIRED WHERE THE SIDEWALK JOINS ANY RIGID STRUCTURE.
- FINISHED SURFACE OF SIDEWALK TO BE BROOM FINISHED, PERPENDICULAR TO TRAFFIC FLOW.
- SIDEWALK WIDTH VARIES & SHALL MATCH THE EXISTING SIDEWALK WIDTHS UNLESS NOTED OTHERWISE ON THE PLANS.



2016 ROAD & BRIDGE STANDARDS

NOTES:

- THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
- CONCRETE TO BE CLASS A3 IF CAST IN PLACE, 4000 PSI IF PRECAST.
- COMBINATION CURB & GUTTER HAVING A RADIUS OF 300 FEET OR LESS (ALONG FACE OF CURB) SHALL BE PAID FOR AS RADIAL COMBINATION CURB & GUTTER.
- FOR USE WITH STABILIZED OPEN-GRADED DRAINAGE LAYER, THE BOTTOM OF THE CURB & GUTTER SHALL BE CONSTRUCTED PARALLEL TO THE SLOPE OF SUBBASE COURSES AND TO THE DEPTH OF THE PAVEMENT.
- ALLOWABLE CRITERIA FOR THE USE OF CG-6 IS BASED ON ROADWAY CLASSIFICATION AND DESIGN SPEED AS SHOWN IN APPENDIX A OF THE ROAD DESIGN MANUAL IN THE SECTION ON GS URBAN STANDARDS.

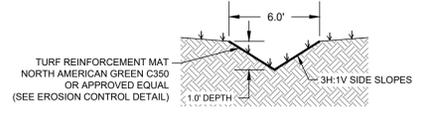


SPECIFICATION REFERENCE	105 502	VDOT ROAD AND BRIDGE STANDARDS	REVISION DATE	SHEET 1 OF 1
2016 ROAD & BRIDGE STANDARDS		201.03		



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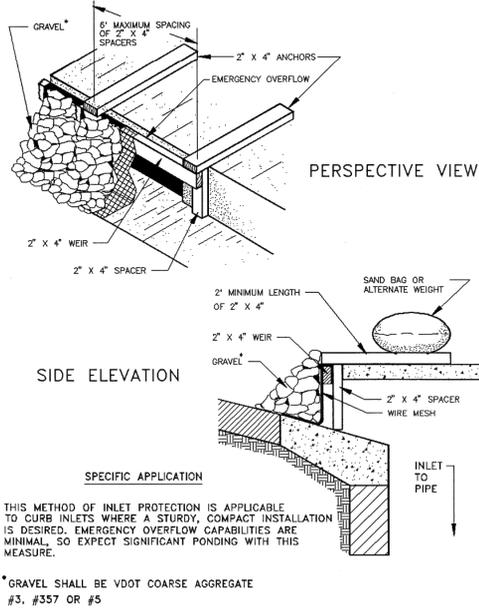


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SOUTH MAIN ST IMPROVEMENTS
SOUTH MAIN ST
EMPORIA, VA
SITE DETAILS

PROJECT NO.
25-0029.240
DRAWING NAME:
25-0029.240_D.DWG
SHEET NO.
D-1

CURB INLET PROTECTION WITH 2-INCH X 4-INCH WOODEN WEIR



THIS METHOD OF INLET PROTECTION IS APPLICABLE TO CURB INLETS WHERE A STURDY, COMPACT INSTALLATION IS DESIRED. EMERGENCY OVERFLOW CAPABILITIES ARE MINIMAL, SO EXPECT SIGNIFICANT PONDING WITH THIS MEASURE.

* GRAVEL SHALL BE VDOT COARSE AGGREGATE #3, #357 OR #5

Source: 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control, and USDA-SCS Plate 3.07-7

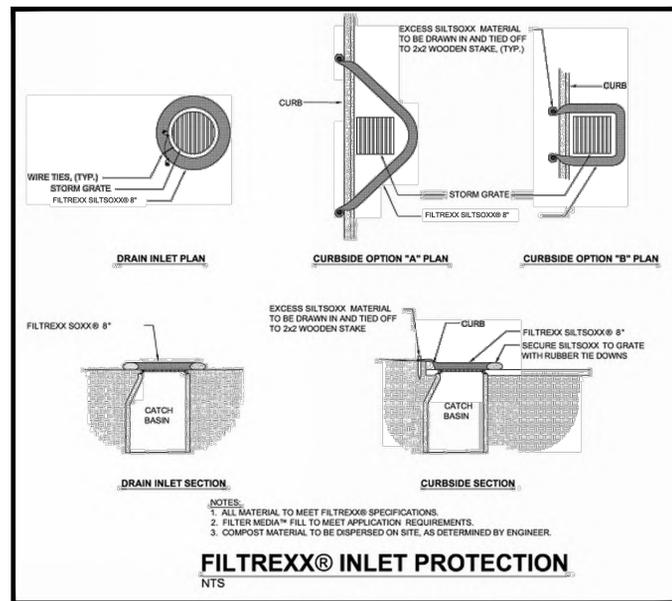
- b. A 2-inch x 4-inch stud shall be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.
- c. Concrete blocks shall be placed on their sides across the front of the inlet and abutting the spacer blocks as depicted in Plate 3.07-8.
- d. Wire mesh shall be placed over the outside vertical face (webbing) of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire mesh with 1/2-inch openings shall be used.
- e. Coarse aggregate shall be piled against the wire to the top of the barrier as shown in Plate 3.07-8.
- f. If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the blocks, cleaned and/or replaced.

Maintenance

- 1. The structure shall be inspected after each rain and repairs made as needed.
- 2. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- 3. Structures shall be removed and the area stabilized when the remaining drainage area has been properly stabilized.

INLET PROTECTION DETAIL

NTS



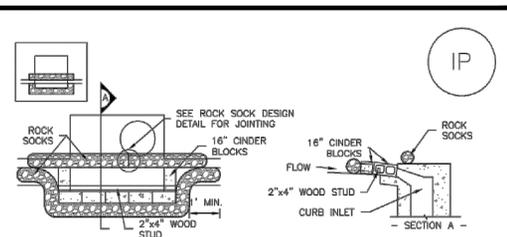
NOTES:
 1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
 2. FILTER MEDIA** FILL TO MEET APPLICATION REQUIREMENTS.
 3. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

FILTREXX® INLET PROTECTION

NTS

SILT SOCK INLET PROTECTION DETAIL

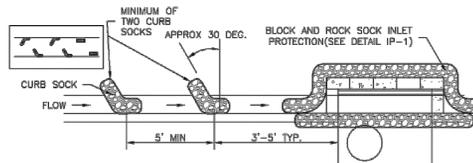
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IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

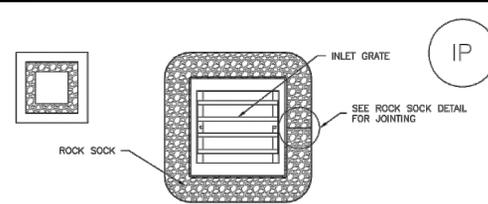
- 1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
- 2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
- 3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

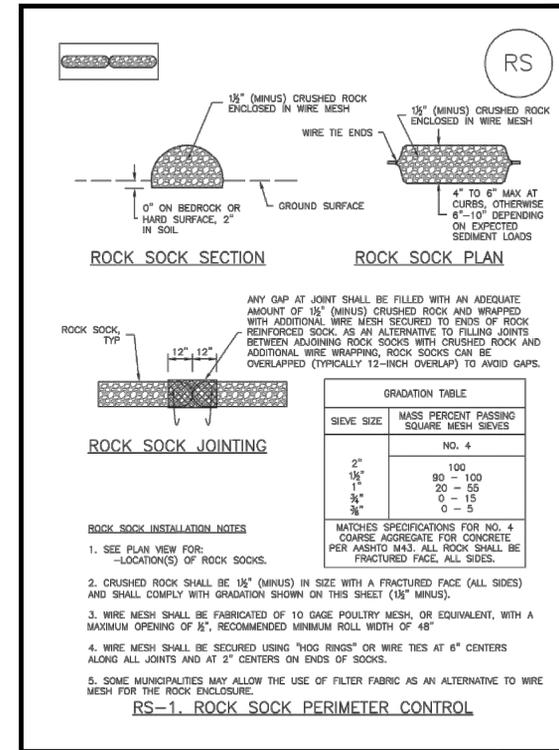
- 1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
- 2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- 3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
- 4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.



IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK INLET PROTECTION DETAIL

NTS



ROCK SOCK GENERAL DETAIL

NTS

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1 1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

ROCK SOCK INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR: -LOCATION(S) OF ROCK SOCKS.
- 2. CRUSHED ROCK SHALL BE 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1 1/2" MINUS).
- 3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48"
- 4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
- 5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS-1. ROCK SOCK PERIMETER CONTROL



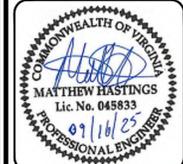
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CONSTRUCTION DRAWINGS
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 SOUTH MAIN ST
 EMPORIA, VA
 EROSION CONTROL DETAILS

PROJECT NO.
 25-0029.240
 DRAWING NAME:
 25-0029.240_D.DWG
 SHEET NO.
 D-2

STD & SPEC 3.31
TEMPORARY SEEDING

- PURPOSES**
1. TO REDUCE EROSION AND SEDIMENTATION BY STABILIZING DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 30 DAYS.
 2. TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM OR OFF-SITE AREAS AND TO PROVIDE PROTECTION TO BANK SOILS EXPOSED DURING CONSTRUCTION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED.

- SPECIFICATIONS**
- PRIOR TO SEEDING, INSTALL NECESSARY EROSION CONTROL PRACTICES SUCH AS DIKES, WATERWAYS, AND BASINS.
- PLANT SELECTION**
- SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS FROM TABLE 3.31-B AND 3.31-C. NOTE THAT TABLE 3.31-B PRESENTS PLANTS WHICH CAN BE USED WITHOUT EXTENSIVE EVALUATION OF SITE CONDITIONS; TABLE 3.31-C PRESENTS MORE IN-DEPTH INFORMATION ON THE PLANT MATERIALS.
- SEED PREPARATION**
- TO CONTROL EROSION ON BARE SOIL SURFACES, PLANTS MUST BE ABLE TO GERMINATE AND GROW. SEEDBED PREPARATION IS ESSENTIAL.

1. **LIMEING:** AN EVALUATION SHOULD BE CONDUCTED TO DETERMINE IF LIME IS NECESSARY FOR TEMPORARY SEEDING IN ACID SOILS. IT TAKES UP TO 6 MONTHS FOR ADJUSTMENTS TO OCCUR FOLLOWING THE APPLICATION OF LIME. THEREFORE, IT MAY BE DIFFICULT TO JUSTIFY THE COST OF LIMEING A TEMPORARY SITE, ESPECIALLY WHEN THE SOIL WILL LATER BE MOVED AND REGRAINED. THE FOLLOWING TABLE MAY BE USED TO DETERMINE THE ACTUAL NEED ALONG WITH SUGGESTED APPLICATION RATES.
2. **FERTILIZER:** SHALL BE APPLIED AS 600 LBS./ACRE OF 10-20-10 (14 LBS./1,000 SQ. FT.) OR EQUIVALENT NUTRIENTS. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2 TO 4 INCHES OF THE SOIL, IF POSSIBLE.
3. **SURFACE ROUGHENING:** IF THE AREA HAS BEEN RECENTLY LIQUIDENED OR DISTURBED, NO FURTHER ROUGHENING IS REQUIRED. WHEN THE AREA IS COMPACTED, CRUSTED, OR HARDENED, THE SOIL SURFACE SHALL BE LOOSENED BY DISKING, RAVING, HARROWING, OR OTHER ACCEPTABLE MEANS (SEE SURFACE ROUGHENING, STD. & SPEC. 3.29).
4. **TRACKING:** TRACKING WITH BULLDOZERS CREATES IS NOT EFFECTIVE ON SANDY SOILS. THIS PRACTICE OFTEN CAUSES UNDER-COMPACTION OF THE SOIL SURFACE, ESPECIALLY IN CLAYEY SOILS, AND DOES NOT AID PLANT GROWTH AS EFFECTIVELY AS OTHER METHODS OF SURFACE ROUGHENING.

- SEEDING**
- SEED SHALL BE EVENLY APPLIED WITH A BROADCAST SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEDER. SMALL GRASS SHALL BE PLANTED NO MORE THAN ONE INCH DEEP. GRASSES AND LEGUMES SHALL BE PLANTED WITH NO LESS THAN 1/4" SOIL COVER.
- MULCHING**
1. SEEDINGS MADE IN FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS SHALL BE MULCHED ACCORDING TO MULCHING, STD. & SPEC. 3.25. EXCEPT THAT HYDROSEEDING SHALL NOT BE CONSIDERED ACCEPTABLE. STRAW MULCH SHOULD BE USED DURING THESE PERIODS.
 2. TEMPORARY SEEDINGS MADE UNDER FAVORABLE SOIL AND SITE CONDITIONS DURING OPTIMUM SPRING AND FALL SEEDING DATES MAY NOT REQUIRE MULCH.
- RE-SEEDING**
- AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION WILL BE RESEED AS SOON AS SUCH AREAS ARE IDENTIFIED.

TABLE 3.31-B
ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS
QUICK REFERENCE FOR ALL REGIONS

PLANTING DATES	SPECIES	RATE (LBS./ACRE)
SEPT. 1-FEB. 15	50/50 MIX OF ANNUAL RYEGRASS (LULIUM MULTIFLORUM) CEREAL (WINTER) RYE (SECALE CEREALE)	50 - 100
FEB. 16-APR. 30	ANNUAL RYEGRASS (LULIUM MULTIFLORUM)	60 - 100
MAY 1-AUG. 31	GERMAN MILLET (SETARIA ITALICA)	50

TABLE 3.31-C
TEMPORARY SEEDING PLANT MATERIALS, SEEDING RATES, AND DATES

SPECIES	SEEDING RATE (ACRE)	NORTH ^a		SOUTH ^b		PLANT CHARACTERISTICS	
		2/1 to 4/30	5/1 to 8/15	8/15 to 11/1	2/1 to 4/30		5/1 to 8/15
DATS (Avena sativa)	3 lbs (up to 100 lbs. max. rate)	X	-	-	X	-	Use spring varieties (e.g., Nobles)
RYE (Secale cereale)	2 lbs (up to 110 lbs. max. rate)	X	-	X	X	-	Use for late fall seedings. Winter cover. Tolerates cold and low moisture.
GERMAN MILLET (Setaria italica)	50 lbs	approx. 1 lb.	-	X	-	X	Non-season annual. Best at first frost. May be added to summer mixes.
ANNUAL RYEGRASS (Lolium multiflorum)	60 lbs	1.5 lbs	X	-	X	X	May be added to mixes. Will not set out of most states.
KEEPING LOVEGRASS (Eragrostis curvula)	15 lbs	5.5 lbs.	-	X	-	X	Non-season perennial. May winter-kill in some areas. May be added to mixes.
KIPRAN LESPEDEZA (Lespedeza stipulacea)	25 lbs	approx. 1.5 lbs.	X	X	-	X	Warm season annual legume. Winter-kill in some areas. May be added to mixes.

- ^a NORTHERN PIEDMONT AND MOUNTAIN REGION. SEE PAGES 3.02-1 AND 3.02-2.
- ^b SOUTHERN PIEDMONT AND COASTAL PLAIN.
- c MAY BE USED AS A COVER CROP WITH SPRING SEEDING.
- d MAY BE USED AS A COVER CROP FOR FALL SEEDING.
- x MAY BE PLANTED BETWEEN THESE DATES.
- MAY NOT BE PLANTED BETWEEN THESE DATES.

1922
STD & SPEC 3.32

PERMANENT SEEDING

THE ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEED.

- PURPOSES**
1. TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM DISTURBED AREAS.
 2. TO PERMANENTLY STABILIZE DISTURBED AREAS IN A MANNER THAT IS ECONOMICALLY ADAPTABLE TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.
 3. TO IMPROVE WILDLIFE HABITAT.
 4. TO ENHANCE NATURAL BEAUTY.

- CONDITIONS WHERE PRACTICE APPLIES**
1. DISTURBED AREAS WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL.
 2. ROUGH-GRADED AREAS WHICH WILL NOT BE BROUGHT TO FINAL GRADE FOR A YEAR OR MORE.

LAND USE: A PRIME CONSIDERATION IN SELECTING WHICH PLANTS TO ESTABLISH IS THE INTENDED USE OF THE LAND. ALL OF THESE USES - RESIDENTIAL, INDUSTRIAL, COMMERCIAL, RECREATIONAL - CAN BE SEPARATED INTO TWO MAJOR CATEGORIES: HIGH-MAINTENANCE AND LOW MAINTENANCE.

HIGH-MAINTENANCE AREAS WILL BE MOWED FREQUENTLY, LIMED AND FERTILIZED REGULARLY, AND WILL EITHER RECEIVE INTENSE USE (e.g., ATHLETICS) OR REQUIRE MAINTENANCE TO AN AESTHETIC STANDARD (HOME LAWNS). GRASSES USED FOR THESE SITUATIONS MUST BE FINE-LEAVED AND ATTRACTIVE IN APPEARANCE, ABLE TO FORM TIGHT SOIL, AND BE LONG-LIVED PERENNIALS. THEY MUST BE WELL-ADAPTED TO THE GEOGRAPHIC AREA WHERE THEY ARE PLANTED, BECAUSE CONSTANT MOWING PUTS TURF UNDER GREAT STRESS. SITES WHERE HIGH-MAINTENANCE VEGETATIVE COVER IS DESIRABLE INCLUDE HOMES, INDUSTRIAL PARKS, SCHOOLS, CHURCHES, ATHLETIC PLAYING SURFACES AS WELL AS SOME RECREATIONAL AREAS.

LOW-MAINTENANCE AREAS WILL BE MOWED INFREQUENTLY OR NOT AT ALL, AND FERTILIZER MAY NOT BE APPLIED ON A REGULAR BASIS. THE AREAS WILL NOT BE SUBJECT TO INTENSE USE, NOR REQUIRED TO HAVE A UNIFORM APPEARANCE. THESE PLANTS MUST BE ABLE TO PERSIST WITH LITTLE MAINTENANCE OVER LONG PERIODS OF TIME. GRASS AND LEGUME MIXTURES ARE FAVORED FOR THESE SITES BECAUSE LEGUMES ARE CAPABLE OF FIXING NITROGEN FROM THE AIR FOR THEIR OWN USE, AND THE USE OF THE PLANTS AROUND THEM, SUCH MIXED STANDS ARE BETTER ABLE TO WITHSTAND ADVERSE CONDITIONS. SITES WHICH WOULD BE SUITABLE FOR LOW-MAINTENANCE VEGETATION INCLUDE STEEP SLOPES, STREAM OR CHANNEL BANKS, SOME COMMERCIAL PROPERTIES, AND "UTILITY TURF" AREAS SUCH AS ROADBANKS.

TABLE 3.32-D
SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

MIXTURE	PLANT MATERIALS	RATE (LBS./ACRE)
MINIMUM CARE LAWN	- COMMERCIAL OR RESIDENTIAL - KENTUCKY 31 OR TURF-TYPE TALL FESCUE - IMPROVED PERENNIAL RYEGRASS - KENTUCKY BLUEGRASS	175-200 LBS./AC. 95-100% 0-5% 0-5%
HIGH-MAINTENANCE LAWN	- KENTUCKY 31 OR TURF-TYPE FESCUE	200-250 LBS./AC. 100%
GENERAL SLOPE (3:1 OR LESS)	- KENTUCKY 31 FESCUE - RED TOP GRASS - SEASONAL NURSE CROP *	128 LBS. 2 LBS. 20 LBS./AC.
LOW-MAINTENANCE SLOPE (STEEPER THAN 3:1)	- KENTUCKY 31 FESCUE - RED TOP GRASS - SEASONAL NURSE CROP *	108 LBS. 2 LBS. 20 LBS./AC.

- * USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES AS STATED BELOW:
- FEBRUARY 15TH THROUGH APRIL _____ ANNUAL RYE
MAY 1ST THROUGH AUGUST 15TH _____ FOXTAIL MILLET
AUGUST 16TH THROUGH OCTOBER _____ ANNUAL RYE
NOVEMBER THROUGH FEBRUARY 15TH _____ WINTER RYE
- ** SUBSTITUTE SERICEA LESPEDEZA FOR CROWNVECH EAST OF FARMVILLE, VA. (MAY THROUGH SEPTEMBER USE HULLED SERICEA, ALL OTHER PERIODS, USE UNHULLED SERICEA). IF PLAYAREA IS USED IN USE OF CROWNVECH, INCREASE RATE TO 30 LBS./ACRE. ALL LEGUME SEED MUST BE PROPERLY INOCULATED. KEEPING LOVEGRASS MAY BE ADDED TO ANY SLOPE OR LOW-MAINTENANCE MIX DURING WARMER SEEDING PERIODS. ADD 10-20 LBS./ACRE IN MIXES.

3.32
LIME AND FERTILIZER

LIME AND FERTILIZER NEEDS SHOULD BE DETERMINED BY SOIL TESTS. SOIL TESTS MAY BE PERFORMED BY THE COOPERATIVE EXTENSION SERVICE SOIL TESTING LABORATORY AT VPI & SU, OR BY A REPUTABLE COMMERCIAL LABORATORY. INFORMATION CONCERNING THE STATE SOIL TESTING LABORATORY IS AVAILABLE FROM COUNTY EXTENSION AGENTS.

UNDER UNUSUAL CONDITIONS WHERE IT IS NOT POSSIBLE TO OBTAIN A SOIL TEST, THE FOLLOWING SOIL AMENDMENTS WILL BE APPLIED:

- LIME**
- PIEDMONT AND APPALACHIAN REGION: 2 TONS/ACRE PULVERIZED AGRICULTURAL GRADE LIMESTONE (90 LBS./1,000 FT.²)
- NOTE: AN AGRICULTURAL GRADE OF LIMESTONE SHOULD ALWAYS BE USED.
- FERTILIZER**
- MIXED GRASSES & LEGUMES: 100 LBS./ACRE 10-20-10 OR EQUIVALENT NUTRIENTS (23 LBS./1,000 FT.²).
- LEGUME STANDS ONLY: 1000 LBS./ACRE 5-20-10 (23 LBS./1,000 FT.²) IS PREFERRED; HOWEVER, 1000 LBS./ACRE OF 10-20-10 OR EQUIVALENT MAY BE USED.
- GRASS STANDS ONLY: 1000 LBS./ACRE 10-20-10 OR EQUIVALENTS, (23 LBS./1,000 FT.²).

OTHER FERTILIZER FORMULATIONS, INCLUDING SLOW-RELEASE SOURCES OF NITROGEN (PREFERRED FROM A WATER QUALITY STANDPOINT), MAY BE USED PROVIDED THEY CAN SUPPLY THE SAME AMOUNTS AND PROPORTIONS OF PLANT NUTRIENTS.

MAINTENANCE OF NEW SEEDING

IN GENERAL, A STAND OF VEGETATION CANNOT BE DETERMINED TO BE FULLY ESTABLISHED UNTIL IT HAS BEEN MAINTAINED FOR ONE FULL YEAR AFTER PLANTING.

- IRRIGATION:** NEW SEEDINGS SHOULD BE SUPPLIED WITH ADEQUATE MOISTURE. SUPPLY WATER AS NEEDED, ESPECIALLY LATE IN THE SEASON, IN ABNORMALLY HOT OR DRY WEATHER, OR ON ADVERSE SITES. WATER APPLICATION RATES SHOULD BE CONTROLLED TO PREVENT EXCESSIVE RUNOFF. INADEQUATE AMOUNTS OF WATER MAY BE MORE HARMFUL THAN NO WATER.
- RE-SEEDING:** INSPECT SEEDING AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RE-SEEDINGS WITHIN THE SAME SEASON, IF POSSIBLE.
- a. IF VEGETATIVE COVER IS INADEQUATE TO PREVENT RILL EROSION, OVER-SEED AND FERTILIZE IN ACCORDANCE WITH SOIL TEST RESULTS.
 - b. IF A STAND HAS LESS THAN 40% COVER, RE-EVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. THE SOIL MUST BE TESTED TO DETERMINE IF ACIDITY OR NUTRIENT IMBALANCES ARE RESPONSIBLE. RE-ESTABLISH THE STAND FOLLOWING SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS.

FERTILIZATION: COOL SEASON GRASSES SHOULD BEGIN TO BE FERTILIZED 90 DAYS AFTER PLANTING TO ENSURE PROPER STAND AND DENSITY. WARM SEASON FERTILIZATION SHOULD BEGIN AT 30 DAYS AFTER PLANTING.

APPLY MAINTENANCE LEVELS OF FERTILIZER AS DETERMINED BY SOIL TEST. IN THE ABSENCE OF A SOIL TEST, FERTILIZATION SHOULD BE AS FOLLOWS:

- COOL SEASON GRASSES**
- 4 LBS. NITROGEN (N)
 - 1 LB. PHOSPHORUS (P) > PER 1000 FT.² PER YEAR
 - 2 LBS. POTASH (K)

SEVENTY-FIVE PERCENT OF THE TOTAL REQUIREMENTS SHOULD BE APPLIED BETWEEN SEPTEMBER 1 AND DECEMBER 31st. THE BALANCE SHOULD BE APPLIED DURING THE REMAINDER OF THE YEAR. MORE THAN 1 LB. OF SOLUBLE NITROGEN PER 1000 FT.² SHOULD NOT BE APPLIED AT ANY ONE TIME.

WARM SEASON GRASSES

APPLY 4-5 LBS. NITROGEN (N) BETWEEN MAY 1 AND AUGUST 15th PER 1000 FT.² PER YEAR.

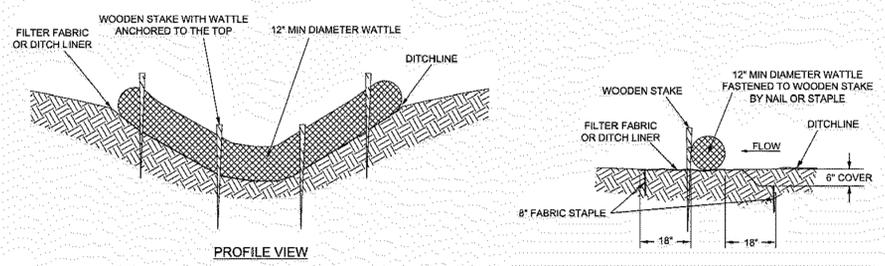
PHOSPHORUS (P) AND POTASH (K) SHOULD ONLY BE APPLIED ACCORDING TO SOIL TEST.

NOTE: THE USE OF SLOW-RELEASE FERTILIZER FORMULATIONS FOR MAINTENANCE OF TURF IS ENCOURAGED TO REDUCE THE NUMBER OF APPLICATIONS AND THE IMPACT ON GROUNDWATER.

SEED QUALITY CRITERIA

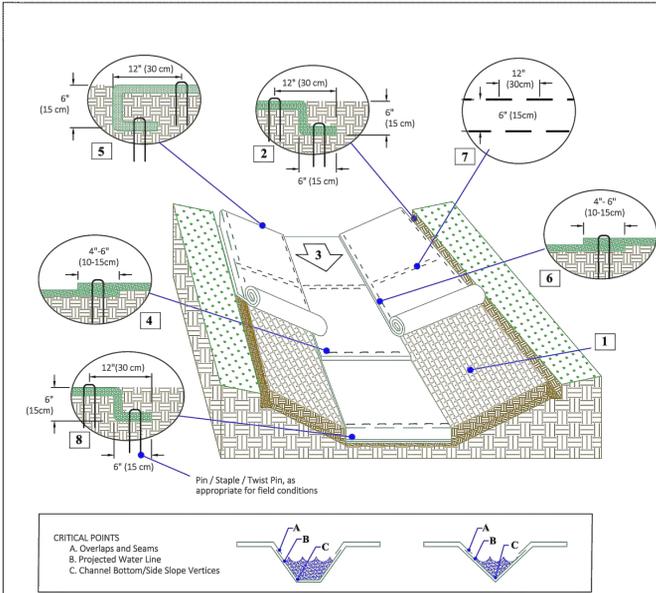
WHERE CERTIFIED SEED IS NOT AVAILABLE, THE MINIMUM REQUIREMENTS FOR GRASS AND LEGUME SEED USED IN VEGETATIVE ESTABLISHMENT ARE AS FOLLOWS:

- a. ALL TAGS ON CONTAINERS OF SEED SHALL BE LABELED TO MEET THE REQUIREMENTS OF THE STATE SEED LAW.
- b. ALL SEED SHALL BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY THAT EMPLOYS A REGISTERED SEED TECHNOLOGIST OR BY A STATE SEED LAB.
- c. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN TWELVE (12) MONTHS.
- d. INOCULANT - THE INOCULANT ADDED TO LEGUME SEED IN THE SEED MIXTURES SHALL BE A PURE CULTURE OF NITROGEN-FIXING BACTERIA PREPARED FOR THE SPECIES. INOCULANTS SHALL NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. TWICE THE SUPPLIER'S RECOMMENDED RATE OF INOCULANT WILL BE USED ON DRY SEEDINGS; FIVE TIMES THE RECOMMENDED RATE IF HYDROSEEDING.
- e. THE QUALITY OF THE SEED USED SHALL BE SHOWN ON THE BAG TAGS TO CONFORM TO THE GUIDELINES IN TABLE 3.32-E (VA. EROSION AND SEDIMENT CONTROL HANDBOOK)



- NOTES:**
1. WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
 2. SPACING FOR WATTLES SHALL BE DETERMINED BY THE SITE ENGINEER.
 3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE STORMWATER PROGRAM MANAGER OR DESIGNEE.
 4. FOR USE OF WATTLE IN A DITCH, GRADE OF DITCH MUST BE -2.5%.

STRAW WATTLE DETAIL
NTS

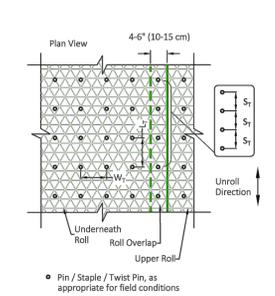


- NOTES:**
- * Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

Instructions

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. Ground surface must be free of debris, rocks, clay clods, and raked smooth sufficient to allow intimate contact of the RECP with the soil over the entirety of the installation.
2. Begin at the top of the channel by anchoring the RECPs in a 6" (15 cm) deep x 6" (15 cm) wide trench with approximately 12" (30 cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes/pins approximately 12" (30 cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12" (30 cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes/pins spaced approximately 12" (30 cm) apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes/pins in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end (shingle style) with a 4" (10-15 cm) overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.
5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes/pins spaced at S₁ apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECPs must be overlapped approximately 4" (10-15 cm) and secured with staples/stakes/pins at S₂.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9-12m) intervals. Use a double row of staples staggered 6" (15 cm) apart and 12" (30 cm) on center over entire width of the channel.
8. The terminal end of the RECPs must be anchored with a row of staples/stakes/pins spaced at S₁ apart in a 6" (15 cm) deep x 6" (15 cm) wide trench. Backfill and compact the trench after stapling.
9. Fasteners should provide a minimum of twenty pounds of pullout resistance. Six-inch (10 cm) X one-inch (2.5 cm) eleven gauge staples are typically adequate. In loose soils, longer staples may be necessary, twist pins can provide the greatest pullout resistance. In hard or rocky soils, straight pins may be used where staples or twist pins are refused, provided the minimum pullout requirements are met. Bio-degradable fasteners shall not be used with VMax (TRM) or TMax (HPTRM) materials.

Staple Pattern Guide



Dimension	E
W ₁	20" (50 cm)
L ₁	20" (50 cm)
S ₁	18" (45 cm)
Nominal Frequency	3.8 / SY
Required Fastener	Min. 20# Pullout

811
Know what's below.
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CONTRACTOR SHALL NOTIFY "811" (811) OR (1-800-432-4949) AT LEAST 3 FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES INDEPENDENT OF "811". REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.

WESTERN GREEN
WESTERN EMERALD
EAST COAST
NORTH AMERICAN GREEN

Project: Standard Slope/Rainfall Layout - ECB or TRM
Shown: Isometric View of Slope, Fastener Placement, Some Fasteners and Vegetation Omitted for Clarity, Trenching and Overlap, NTS

Date: 4/19/2022
WG: 886-540-9810
www.westerngreen.com
www.westernemerald.com
www.nagreen.com

TURF REINFORCEMENT MAT DETAIL
NTS

NO.	REVISIONS	DATE	BY
7			
6			
5			
4			
3			
2			
1			

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SOUTH MAIN ST
EMPORIA, VA
EROSION CONTROL DETAILS

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SHEET NO.
D-3

