

Application for URBAN DESIGN COMMITTEE Review

Department of Planning and Development Review Planning & Preservation Division 900 E. Broad Street, Room 510 Richmond, Virginia 23219 (804) 646-6335

http://www.richmondgov.com/CommitteeUrbanDesign

Application Type Addition/Alteration to Existing Structure New Construction Streetscape Site Amenity	Encroachment Master Plan Sign Other	Review Type Conceptual Final
Project Name:		
Project Address:		
Applicant Information (on all applications other than encroachments, a City agency	·	
Name:	_ Email:	
City Agency:	Phone:	
Address:		
Main Contact (if different from Applicant):		
Company:	Phone:	
Email:		

Submittal Deadlines

All applications and support materials must be filed no later than 21 days prior to the scheduled meeting of the Urban Design Committee (UDC). Please see the schedule on page 3 as actual deadlines are adjusted due to City holidays. Late or incomplete submissions will be deferred to the next meeting.

Filing

Applications can be mailed or delivered to the attention of "Urban Design Committee" at the address listed at the top of this page. It is important that the applicant discuss the proposal with appropriate City agencies, Zoning Administration staff, and area civic associations and residents prior to filing the application with the UDC.

UDC Background

The UDC is a ten member committee created by City Council in 1968 whose purpose is to advise the City Planning Commission on the design of projects on City property or right-of-way. The UDC provides advice of an aesthetic nature in connection with the performance of the duties of the Commission under Sections 17.05, 17.06 and 17.07 of the City Charter. The UDC also advises the Department of Public Works in regards to private encroachments in the public right-of-way.

Canal Street and Virginia Street Streetscape Project, Phases 1 and 2 (UPC 102658)

Project Narrative for Richmond UDC Final Review Meeting – Submitted February 12, 2015

Project Purpose

The purpose of this project is to implement streetscape infrastructure improvements along East Canal Street and Virginia Street in the Shockoe Slip area of the City of Richmond. The project is divided into two phases. Phase 1 is East Canal Street from Virginia Street to South 13th Street. Phase 2 is East Canal Street from South 13th Street to South 12th Street, and also on Virginia Street from East Canal Street to East Cary Street. At the present time, only Phase 1 is funded with an estimated construction start date in Spring 2015 and completion date of August 15, 2015. Phase 2 is not funded but funds have been requested in the FY 2016-2020 CIP budget. No project construction is proposed during the Richmond 2015 UCI Road World Championships to be held September 19-27, 2015.

The streetscape improvements along East Canal Street (Phase 1 and Canal portion of Phase 2) include full depth replacement of cobblestone street surface (granite spall), replacement of concrete sidewalks with brick paver sidewalks, replacement of damaged brick sidewalk, a stamped pavement crosswalk to match brick pattern at east side of Canal Street and 12th Street intersection, ornamental pedestrian streetlights (Charleston style poles), ADA-compliant curb ramps at intersections, pavement markings, traffic sign relocations, street trees in sidewalk, and tree wells for proposed and existing trees. The proposed improvements along East Canal Street maintain the existing roadway width, travel lanes, and number of parking and loading zones.

The streetscape improvements on Virginia Street (in Phase 2) include widening of the west sidewalk from approximately 6' to 12' wide. The west sidewalk will be entirely replaced with new brick paver sidewalk, relocated ornamental pedestrian streetlights (Charleston style poles), ADA-compliant curb ramps at intersections, traffic sign relocations, a new tree in the sidewalk and affiliated tree well. New granite curb will be set at the new curb location. The improvements on Virginia Street results in a loss of four (4) on-street parking spaces along the west side of Virginia Street. The proposed street width of Virginia Street is 26' wide, or one 13' wide travel lane in each direction.

For Phases 1 and 2, the type and style of streetscape improvements will match the existing types of streetscaping amenities found in Shockoe Slip. In particular, the segment of East Canal Street between Virginia Street and 14th Street has already been improved and this project will model this segment for consistency of material color, style, and texture.

Preceding Phase 1 of this project, the City of Richmond Department of Public Utilities is performing a water line replacement project along Canal Street. Construction for the water line replacement is estimated to take 3-4 weeks with an estimated completion date in March 2015. This DPU water line replacement project is unrelated to this streetscape project in terms of funding and project management.

Project Background

The project is located in the Shockoe Slip neighborhood of the City of Richmond. Phase 1 project limits are East Canal Street from the west side of Virginia Street to the west side of South 13th Street. Phase 2 project limits are 1) East Canal Street from the west side of South 13th Street to the east side of South 12th Street, and 2) the west side of Virginia Street from the north side of East Canal Street to the south side of East Cary Street.

This is a City of Richmond Department of Public Works project managed by Kevin T. Newcomb, P.E. (City Project Manager – Engineer III). As part of their on-call engineering services contract with the City, RK&K was hired in Fall 2014 to provide engineering design services.

Project Budget / Funding Sources

The design fees for Phases 1 and 2 are \$60,000. The preliminary engineering cost estimates for construction are \$440,000 for Phase 1, and \$600,000 for Phase 2.

Funding sources include:

- Phase 1: \$500,000 (Richmond CIP funding, FY 2015 Approved)
- Phase 2: \$600,000 (CIP funding requested in FY 2016-2020 Not funded)

Description of Construction / Proposed Modifications

Proposed construction and modifications for the project include the following (see the corresponding engineering plans for additional details):

- On Canal Street, full depth replacement of cobblestone street surface. Granite spall
 (cobblestone) pavers will sit on a 2" sand/cement base, 8" reinforced concrete base, and 4"
 no. 21A stone base. The street section will also include an underdrain to provide for proper
 drainage and reduce risk of movement during freeze/thaw cycles.
- On Canal Street, replace existing concrete sidewalk and existing damaged brick sidewalk with new brick paver sidewalk. Sidewalk width will be maximized up to right-of-way to

- provide widest pedestrian path possible throughout project limits. Brick pavers will sit on a 0.5" mortar setting bed, 4" concrete base, and compacted subgrade. Brick paver sidewalks will be installed in a running bond pattern.
- On Canal Street, Charleston style (Philips 1229 or equivalent) black streetlights will be installed at a 30′ +/- interval and placed 24 ″ from face of curb on a 24″x24″ concrete pole foundation. Some ornamental lights of this type are already in place along this corridor. For Canal Street Phase 1, two (2) streetlights are proposed on the north side of Canal Street, and seven (7) streetlights are proposed on the south side of Canal Street. For Canal Street Phase 2, nine (9) streetlights are proposed on the south side of Canal Street, and nine (9) streetlights are proposed on the north side of Canal Street.
- On Canal Street, a small concrete retaining wall / planter box is proposed near the southwest corner of Canal Street and Virginia Street to remove a sidewalk drop-off / tripping hazard behind the existing sidewalk.
- On Canal Street, tree wells are proposed for existing and proposed street trees. For Phase 1, four (4) tree wells are proposed for existing trees. For Phase 2, nine (9) tree wells are proposed for eight existing trees and one proposed tree. The proposed tree location is on the north side of Canal Street roughly midblock between 13th Street and 12th Street. The proposed tree type shall be consistent with existing trees in this block segment.
- On Canal Street, ADA-compliant curb ramps will be installed on the northwest and northeast corners of Canal Street at 13th Street, and also along the east side of the intersection of Canal Street at 12th Street. At all curb ramps along the project corridor, truncated domes will be colonial red / maroon color (Federal color no. 20109). Any existing yellow truncated domes at ADA-compliant ramps will also be replaced with colonial red for color consistency.
- Canal Street project limits end at the east side of 12th Street. The pavement section transitions to standard asphalt. The crosswalk from the southeast corner of Canal Street at 12th Street to the triangular splitter island will be a white painted ladder bar crosswalk. The crosswalk from this same island to the northeast corner is proposed as a stamped concrete crosswalk (herringbone brick pattern) to match adjacent brick paver sidewalks and will include a 12" concrete trim bulkhead to provide a construction edge for the cobblestone section. This crosswalk type was selected due to the cobblestone-to-asphalt transition.
- On Virginia Street, the existing west sidewalk will be widened from approximately 6' to 12' into the existing roadway width. The improvements on Virginia Street results in a loss of four (4) on-street parking spaces along the west side of Virginia Street. Post construction, the proposed street width of Virginia Street is 26' wide (one 13' wide travel lane in each direction).
- On Virginia Street, a new granite curb will be set at the proposed west side curb line.

- On Virginia Street, existing brick sidewalk will be removed and new brick paver sidewalk installed for new widened sidewalk width. Brick pavers will sit on a 0.5" mortar setting bed, 4" concrete base, and compacted subgrade. Brick paver sidewalks will be installed in a running bond pattern.
- On Virginia Street, three (3) existing streetlights will be relocated to standard offset from face of curb. One (1) new proposed streetlight will be installed roughly midblock between Canal Street and Cary Street.
- On Virginia Street, one (1) proposed tree and tree well will be installed roughly midblock between Canal Street and Cary Street. The proposed tree type shall be consistent with existing trees in this block segment.
- On Virginia Street, ADA-compliant curb ramps will be installed on the southwest corner of Virginia Street and Cary Street and northwest corner of Virginia Street and Canal Street. At all curb ramps, truncated domes will be colonial red / maroon color (Federal color no. 20109). Any existing yellow truncated domes at ADA-compliant ramps will also be replaced for color consistency within project limits.
- On Virginia Street, sidewalk ground mounted traffic signs will be removed or relocated, as needed.
- On Virginia Street, the parking deck entrance will be modified to accommodate the new sidewalk width to a VDOT standard CG-9D.

Project Schedule

•	Project scoping meeting	December 2, 2014
•	RK&K submitted 60% complete plans to City	January 20, 2015
•	City 60% plan review meeting	February 2, 2015
•	RK&K UDC final review submittal package	February 12, 2015
•	City preparing MBE goal and RFQ waiver	February 2015
•	UDC final review meeting	March 5, 2015
•	Planning Commission final review meeting	March 16, 2015
•	RK&K 100% complete plan, quantities & cost estimate	March 31, 2015
•	City 100% complete plan final review meeting	April 1-10, 2015
•	Final submittal to City Procurement	Mid-April 2015

Application Attachments

Canal Street and Virginia Street Streetscape, Phases 1 and 2 – 100% Review Engineering Plans, dated February 2015

FHWA REGION	STATE	FEDERAL PROJECT NUMBER	STATE PROJECT NUMBER
3	VA.		CIP

CITY OF RICHMOND, VIRGINIA DEPARTMENT OF PUBLIC WORKS TRANSPORTATION ENGINEERING DIVISION



102658 / CANAL STREET / VIRGINIA STREET STREETSCAPE, PHASES 1 AND 2

INDEX OF SHEETS

SHEET TITLE	SHEET NO.
TITLE SHEET	1
NOTES	2
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TYPICAL SECTIONS AND PAVEMENT DETAILS	4
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DEMOLITION PLAN	8a AND 8b
STREETSCAPE PLAN	9a AND 9b
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CONDUIT AND LIGHTING PLAN	12 (TO BE ADDED)
PROPOSED SIGNING AND PAVEMENT MARKING PLAN (FINAL PLANS)) 13 (TO BE ADDED)
TRAFFIC CONTROL PLAN (FINAL PLANS)	14 (TO BE ADDED)

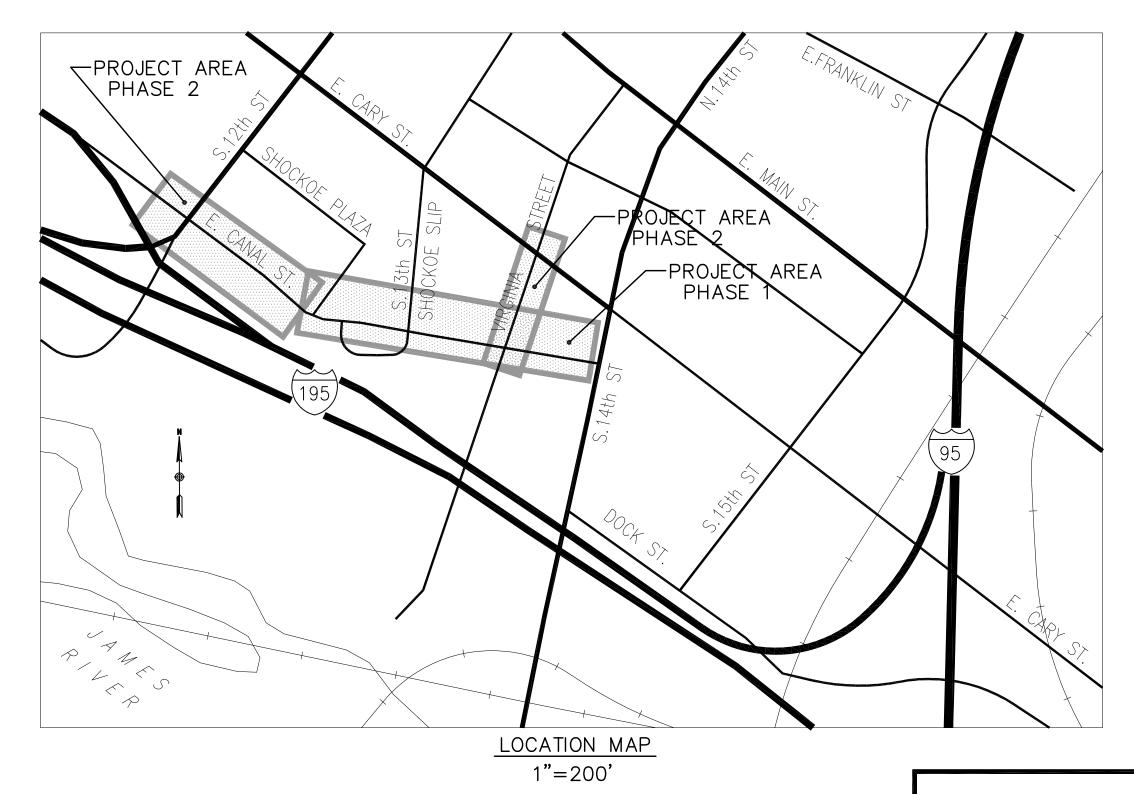
SURVEY NOTES

- 1. THE TOPOGRAPHIC SURVEY WAS PREPARED BY H&B SURVEYING AND MAPPING, LLC, ON NOVEMBER 18, 2014.
- 2. INLET INVERTS SHOWN HEREON ARE APPROXIMATE AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION OR DESIGN TIE IN.
- 3. EXISTING GROUND SURFACE LOCATION PERFORMED BY CONVENTIONAL INSTRUMENT SURVEY.
- 4. HORIZONTAL (NAD'83) AND VERTICAL (NAVD'88) DATUM ESTABLISHED THROUGH REAL TIME KINEMATIC (RTK) GPS
 OBSERVATIONS ON AUGUST 19, 2014. DIFFERENTIAL CORRECTIONS WERE DERIVED FROM NATIONAL GEODETIC SURVEY (NGS)
 CONTINUALLY OPERATING REFERENCE STATION (CORS) "LOY3". COORDINATE VALUES, IF SHOWN HEREON, ARE BASED ON VIRGINIA
 STATE GRID, SOUTH ZONE.
- 5. UNDERGROUND UTILITIES WERE DESIGNATED (PAINTED) BY MISS UTILITY. H & B SURVEYING AND MAPPING, LLC SURVEYED THE PAINTED LINE AS PAINTED AND IS NOT RESPONSIBLE FOR THE ACCURACY OF THE PAINT DESIGNATION. UTILITY INFORMATION ON THIS DRAWING WILL NEED TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
- 6. PROPERTY LINES SHOWN HEREON TAKEN FROM COURT HOUSE RECORDS AND EVIDENCE OF MONUMENTATION AND OCCUPATION FOUND IN THE FIELD. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY AND WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT; THEREFORE ALL EASEMENTS MAY OR MAY NOT BE SHOWN ON THIS SURVEY.

7. RIGHT OF WAY LINES SHOWN ARE BASED ON CITY BASELINE SHEETS 2NE AND 2SE MONUMENTATION FOUND IN FIELD.



102658



FEBRUARY 2015

100% SUBMITTAL FEBRUARY 2015

REVISIONS

NO.	DATE	COMMENTS

CITY OF RICHMOND

APPROVED FOR CONSTRUCTION							
— — — Date	SURVEYS SUPERINTENDENT						
DATE	PROJECT MANAGER						
DATE	MAINTENANCE ENGINEER						
DATE	CITY TRANSPORTATION ENGINEER						
DATE	CAPITAL PROJECTS ADMINISTRATOR						
DATE	CITY ENGINEER						
DATE	DIRECTOR OF PUBLIC WORKS						

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE CITY OF RICHMOND.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISIONS OF THE 2007 VDOT ROAD AND BRIDGE SPECIFICATIONS, 2008 VDOT ROAD AND BRIDGE STANDARDS, 2009 FHWA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL, APPLICABLE CITY OF RICHMOND STANDARDS AND SPECIFICATIONS, AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC VERSION OF THE PLAN ASSEMBLY.

NO ADDITIONAL RIGHT OF WAY REQUIRED FOR THIS PROJECT.

CITY OF RICHMOND

DEPARTMENT OF PUBLIC WORKS

RICHMOND, VIRGINIA
CIP: 102658

DRAWING NO: 0-28633



2100 EAST CARY STREET, SUITE 309 RICHMOND, VIRGINIA 23223 (P) 804 782-1903 (F) 804 782-2142

RUMMEL, KLEPPER & KAHL, LLP

CONSTRUCTION NOTES:

ATTENTION: UTILITY "WORK IN THE STREETS" PERMITS FROM: DEPARTMENT OF PUBLIC WORKS-DIVISION OF RIGHT OF WAY MANAGEMENT - OFFICE OF THE PERMITS ENGINEER

1. ALL CUTS IN THE STREETS AND SIDEWALKS SHALL BE PERFORMED UNDER A PERMIT AND MONITORED BY THE PERMIT INSPECTOR.

2. WORK SHALL NOT COMMENCE UNTIL THE PERMIT INSPECTOR HAS BEEN NOTIFIED, A PRE-CONSTRUCTION CONFERENCE HELD AND MISS UTILITY CLEARS.

3. CUTS SHALL BE AS CLEAN AND STRAIGHT AS POSSIBLE, WITH NO OUTLINE DIMENSIONS LESS THAN 3 FEET WITHOUT SPECIAL APPROVAL OF THE DEPARTMENT'S INSPECTOR. 4. THE DETAILS OF TRENCHING CUTS FOR UTILITY STRIPS MUST BE SHOWN IN A TYPICAL SECTION ON THE DRAWINGS OR PROVIDED IN A SUBMITTAL WITH CONSTRUCTION NOTES SPECIFYING WIDTHS,

BY THE DPW ATTACHMENT STANDARD. 5. ALL ASPHALT PAVEMENT RESTORATION THICKNESS SHALL BE 1 1/2 TIMES THE EXISTING SECTION OR A MINIMUM OF 8 INCHES WHICHEVER IS GREATER. SEE THE DPW TRENCH RESTORATION

DEPTHS, METHODS, MATERIALS, COMPACTION REQUIREMENTS AND PAVEMENT RESTORATION OF ABIDING

ILLUSTRATION FOR THE TYPICAL CONFORMANCE STANDARDS. 6. THE FINAL RESTORATION ON OPEN TRENCH CUTS REQUIRES THE DISTURBED ASPHALT PAVEMENT ZONE TO BE A SQUARE POINTED OFF AND STRAIGHT LINE. THE AREA OF PAVEMENT RESTORATION IS TO BE FULLY ENVELOPED BY THE FINAL SURFACE COURSE REPAIRS. THE ADJOINING SURFACE/TOP COURSE LAYER IS TO BE OVER-MILLED A MINIMUM DEPTH OF 1.25 INCHES OR MORE, A MINIMUM DISTANCE OF ONE FOOT BEYOND EACH SIDE OF THE TRENCH WALL. THIS STEP OUT IS TO OCCUR ALONG THE ENTIRE TRENCH LINE RUN AND/OR SQUARED POINTED AREA. CUTS INVOLVING CONTINUOUS NETWORK RUNS, WHICH EXCEED 350 FEET IN LENGTH OR TYPICALLY OVER ONE FULL CITY BLOCK, WILL BE CONSIDERED MULTIPLE BLOCK CUTS. ON MULTIPLE BLOCK CUT ZONES, THE OVER MILLING OF THE TRENCH LINE AND ADJOINING SURFACE COURSE LAYER MUST BE DONE WITH

TYPICAL HIGH PRODUCTION ROADWAY COLD PLANNING EQUIPMENT. IN MULTIPLE BLOCK RESTORATION CASES, WHERE THE HIGH PRODUCTION COLD PLANNER IS REQUIRED, FINAL PAVING SHALL BE DONE BY A HIGH PRODUCTION HIGHWAY PAVER. 7. CONTRACTOR MUST PROVIDE AND COORDINATE THE NECESSARY GEOTECHNICAL SERVICES FROM A

QUALIFIED FIRM TO INSURE COMPACTION APPROVAL. APPROVAL OF IN-PLACE MATERIAL MUST BE FOLLOWED UP WITH A WRITTEN SUMMARY REPORT. COMPACTION REQUIREMENTS WILL BE REVIEWED FOR APPROVAL BY THE PERMITS ENGINEER OR HIS RESPRESENTATIVE. 8. ALL DISTURBED SIDEWALK AND CURB SHALL BE REPAIRED AND REPLACED IN ACCORDANCE WITH

9. ALL UTILITY CUTS ARE TO BE EXAMINED AND APPROVED BY THE APPROPRIATE UTILITY

INSPECTOR/REPRESENTATIVE 10. ALL ENCROACHMENTS MUST BE SATISFIED BY ORDINANCE.

11. CONTRACTOR TO COORDINATE WITH THE CITY OF RICHMOND DPW 48 HOURS IN ADVANCE OF CLOSING THE CITY DOCKS PARKING LOT TO GENERAL VEHICULAR TRAFFIC. ALL TRAFFIC CLOSURES SHALL BE IN COMPLIANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL (VWAPM), 2011 EDITIONS.

PAVEMENT DESIGN

DESIGNS FOR "RESIDENTIAL SUBDIVISIONS" AND "NON-RESIDENTIAL" ROAD PAVEMENTS

1. RESIDENTIAL— THE REQUIRED DESIGN THICKNESS OF THE AGGREGATE BASE (6", 21A), BASE COURSE ASPHALT (3.5", BM-25.0) AND SURFACE COURSE ASPHALT(2", SM-9.5) ARE SHOWN IN THE STREET STANDARDS ILLUSTRATIONS. PAVEMENT SECTION DESIGN THICKNESS IS BASED ON A CBR VALUE OF TEN AND MAY BE INCREASED OR DECREASED AS ALLOWED BY THE STANDARDS. IT SHALL NOT BE DECREASE BELOW THE CITY OF RICHMOND'S MINIMUM DESIGN STANDARD OF 6 INCHES OF 21A AGGREGATE BASE, 2 INCHES OF SM-9.5 BASE COURSE ASPHALT AND 1.5 INCHES OF SM-9.5 SURFACE/TOP COURSE ASPHALT.

2. ALTERNATE EQUIVALENT PAVEMENT SECTIONS MAY BE SUBSTITUTED FOR THOSE CALLED FOR IN STANDARDS. THE APPROVAL PROCEDURES CALL FOR A QUALIFIED PAVEMENT ENGINEER TO REFERENCE AND FOLLOW THE ESTABLISHED VIRGINIA DEPARTMENT OF TRANSPORTATION GUIDELINES IN THEIR PAMPHLET ENTITLED, "PAVEMENT DESIGN GUIDE FOR SUBDIVISION AND SECONDARY ROADS", YEAR 2000 EDITION, AS AMENDED. ALTERNATE PAVEMENT SECTIONS MUST BE PRE-APPROVED BY THE DEPARTMENT OF PUBLIC WORKS, RIGHT OF WAY MANAGER. NOTE THE MINIMUM CITY OF RICHMOND

RESIDENTIAL PAVEMENT SECTION DESCRIBED ABOVE. 3. NON-RESIDENTIAL STREET PAVEMENT SECTIONS MUST MEET THE MINIMUM DESIGN THICKNESS OF 8 INCHES OF 21A BASE AGGREGATE, 6 INCHES BM-25.0 BASE COURSE ASPHALT AND 2 INCHES OF SM-9.5 SURFACE COURSE ASPHALT. ANY REQUESTED REDUCTIONS IN THIS DESIGN MUST BE FULLY SUPPORTED BY A COMPREHENSIVE ENGINEERING ANALYSIS.

4. NO REDUCTIONS IN THE MINIMUM PAVEMENT SECTION DESIGN THICKNESS (8INCHES 21A BASE AGGREGATE, 6 INCHES BM-25.0 BASE COURSE ASPHALT AND 2 INCHES OF SM-9.5 SURFACE COURSE ASPHALT) WILL BE CONSIDERED IN THE DOWNTOWN, ARTERIAL STREETS, MAJOR COLLECTORS AND/OR ANY OTHER MAJOR CONNECTION STREETS.

5. AS PER DIRECTION OF THE PERMITS ENGINEER, RIGHT OF WAY MANAGER OR THE DIRECTOR, THE PUBLIC WORKS PERMITTING REQUIREMENTS MAY DESIGNATE SPECIFIC ANTI-RUTTING TYPES OF ASPHALT MIX DESIGNS REQUIREMENTS (I.E. SM-9.5A/SM-9.5D) THAT WILL BETTER SUIT PROBLEM CONDITIONS AND/OR BETTER SERVE LOCATIONS WITH CERTAIN TYPES AND VOLUMES OF TRAFFIC.

ROAD SUBGRADE

1. INSPECTION AND APPROVAL OF THE SUBGRADE WILL BE REQUIRED PRIOR TO THE PLACEMENT OF THE APPROVED PAVEMENT SECTION MATERIAL.

2. ANY CLAY DEPOSITS IN THE TOP TWO FEET OF THE SUBGRADE MUST BE REMOVED OR ADDRESSED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.

3. SUBGRADE APPROVAL SHALL BE ACCOMPANIED BY THE SUPPORTING DOCUMENTATION VERIFYING DENSITY TEST RESULTS OF 92% OR GREATER.

THE ENTIRE SUBGRADE WILL HAVE BEEN PROOFROLLED IN THE PRESENCE OF THE SITE INSPECTOR AND GEOTECHNICAL REPRESENTATIVE. PROOFROLLING SHALL BE A RUBBER TIRE VEHICLE SUCH AS A LOADED TEN (10) TON TRUCK OR APPROVAL COMPACTION EQUIPMENT. THE FINAL SUBGRADE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER AND SITE INSPECTOR

SEEDING NOTES

Lot dimensions in parentheses are from deed.

. Property owners correct as of _____, 20__

Ordinance Number_

. Adopted___

Accepted_

REFERENCES

- 1. ALL STABILIZATION/SEEDING WILL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA EROSION
- AND SEDIMENTATION CONTROL HANDBOOK 2. ANY DISTURBED AREA NOT PAVED, SODDED, OR BUILT UPON, WILL HAVE A VEGETATIVE COVER PRIOR TO FINAL INSPECTION, AND IN THE OPINION OF THE ENVIRONMENTAL ENGINEER, WILL BE MATURE ENOUGH TO CONTROL SOIL EROSION SATISFACTORILY AND SURVIVE SEVERE WEATHER
- 3. STREAM DIVERSION AREAS, WATERWAYS, BANKS AND RELATED AREAS WILL BE SEEDED AND MULCHED IMMEDIATELY AFTER WORK IN WATERCOURSE IS COMPLETED. IN NO CASE SHALL WETLAND AREAS BE RESEEDED WITH ANY SPECIES OF FESCUE.
- 4. WINTERIZATION ANY DISTURBED AREA NOT PAVED, SODDED OR BUILT UPON BY OCTOBER 15 IS TO BE SEEDED AND MULCHED ON THAT DATE UNLESS WAIVED BY THE ENVIRONMENTAL **FNGINFFR**
- 5. TEMPORARY SEEDING WILL BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. FOR TEMPORARY SEEDING USE 50% OF THE RECOMMENDED RATÉS OF FERTILIZER, LIME AND FULL AMOUNT OF SEED AND MULCH REQUIRED FOR REGULAR SEEDING.
- . ELECTRIC POWER, TELEPHONE, AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED
- AND MULCHED WITHIN 7 DAYS AFTER BACKFILL.

BEFORE PLACEMENT OF PAVMENT SECTION MATERIALS.

7. ALL TEMPORARY EARTH BERMS, DIVERSIONS, AND SILT DAMS ARE TO BE MULCHED AND SEEDED FOR VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO ALL STOCKPILES, ON SITE AS WELL AS SOIL (INTENTIONALLY) TRANSPORTED FROM THE PROJECT SITE.

TRAFFIC CONTROL AND **CONSTRUCTION HOUR NOTES**

OPERATIONS MUST BE COMPLETE BY 9 PM.

- RESIDENT AND EMERGENCY ACCESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION REGARDLESS OF WHETHER A STREET CLOSURE IS OR
- 2. FROM 9 AM TO 4 PM, MONDAY THROUGH FRIDAY, NO MORE THAN
- TWO TRAFFIC LANES CAN BE CLOSED, ON ANY ONE STREET AT A TIME. NIGHT WORK IS NOT PERMITTED ON THIS PROJECT. ALL CONSTRUCTION
- 4. WORK IS PERMITTED ON THIS PROJECT FROM 8 AM TO 9 PM, SATURDAY AND SUNDAY. NO MORE THAN TWO TRAFFIC LANES CAN BE CLOSED, ON ANY ONE STREET AT A TIME.
- 5. A MINIMUM OF ONE TRAVEL LANE MUST BE MAINTAINED AT ALL TIMES ALONG CANAL STREET.
- 6. NO WORK IS PERMITTED ON THE PROJECT BETWEEN THANKSGIVING DAY AND NEW YEARS DAY WITHOUT WRITTEN PERMISSION FROM THE CITY MANAGER
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL TRAFFIC CONTROL AND WORK-IN-STREETS PERMITS WITHIN THE CITY.

CITY OF RICHMOND

STANDARD EROSION CONTROL NOTES

- 1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN, DORMANT (UNDISTURBED) FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- 2. EXCESS EXCAVATION DISPOSED OF OFF THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL
- 3. EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP OF THE LAND DISTURBING **ACTIVITY**
- 4. EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED SO THAT THE SEDIMENT CARRYING RUNOFF FROM THE SITE WILL NOT ENTER STORM DRAINAGE FACILITIES.
- 5. EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED UNTIL THE
- DISTURBED AREA IS STABILIZED. 6. PROPERTIES ADJOINING THE SITE SHALL BE KEPT CLEAN OF MUD OR
- SILT CARRIED FROM THE SITE BY VEHICULAR TRAFFIC OR RUNOFF. 7. THE DISPOSAL OF WASTE MATERIALS REMOVED FROM EROSION AND SEDIMENT CONTROL FACILITIES AND THE DISPOSAL OF THESE FACILITIES SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
- 8. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- 9. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

GENERAL E&S CONTROL NOTES

ES-1. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTURCTION CONFERENCE, ON WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON SITE AT ALL TIMES.

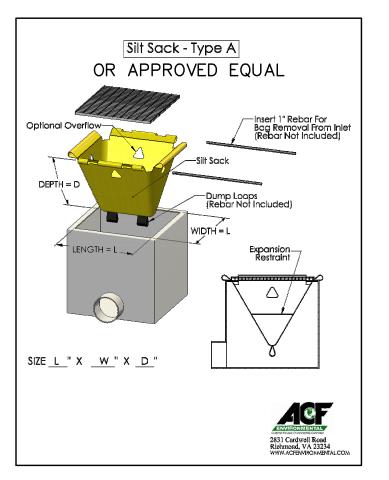
ES-5. PRIOR TO COMMENCING LAND DISTRUBING ACTIVITES IN AREAS OTHER THAN INDICTED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO. OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEDVED.

ES-8. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.



APPLICABLE MINIMUM STANDARDS (EROSION AND SEDIMENT CONTROL LAW AND **REGULATIONS**)

- MS-1: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE
- APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. MS-2: DURING CONSTRUCTION, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES.TEMPORARY PROTECTION AND PERMANENT STABILIZATION SHALL BE APPLIED TO ALL SOIL STOCKPILES ON SITE AND BORROW AREAS OR SOIL INTENTIONALLY TRANSFERRED OFF SITE.
- MS-3: A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS
- UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION. MS-4: SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL
- BEFORE UP SLOPE LAND DISTURBANCE TAKES PLACE. MS-5: STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- MS-7: CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.
- MS-10: ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- MS-11: BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
- MS-16: UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS IN ADDITION TO OTHER APPLICABLE CRITERIA.
- MS-17: WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
- MS-18: ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- MS-19: PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUN-OFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. (REFER TO SITE PLAN FOR FULL STORMWATER MANAGEMENT PLAN AS IT APPLIES TO MS-19.)

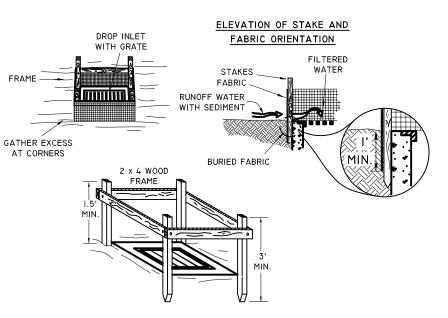
DUE TO THE NATURE OF THIS SPECIFIC PROJECT, THE FOLLOWING MINIMUM STANDARDS ARE NOT APPLICABLE: MS-4, MS-5, MS-11

BLOCK AND GRAVEL CURB

INLET SEDIMENT FILTER STD. & SPEC. 3.07 - VA. EROSION AND SEDIMENT CONTROL HANDBOOK (1992) * GRAVEL SHALL BE VDOT #3, #357 #5 COARSE AGGREGATE CURB INLET WIRE SCREEN

> SPECIFIC APPLICATION THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE

SILT FENCE DROP INLET PROTECTION STD. & SPEC. 3.07 - VA. EROSION AND SEDIMENT CONTROL HANDBOOK (1992)



SPECIFIC APPLICATION THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5%) WHERE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING I CFS ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS

Technical

9VAC25-840-40. MINIMUM STANDARDS:

A VESCP MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:

1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 14 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.

3. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT

4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

6. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN. A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.

B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL, AT A MINIMUM, MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A 25-YEAR STORM OF 24-HOUR DURATION, RUNOFF COEFFICIENTS USED IN RUNOFF CALCULATIONS SHALL CORRESPOND TO A BARE EARTH CONDITION OR THOSE CONDITIONS EXPECTED TO EXIST WHILE THE SEDIMENT BASIN IS UTILIZED.

7. CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

8. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING

CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT. BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR

PIPES ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL. 12. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING

CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS. 13. WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD. A TEMPORARY

VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL

BE PROVIDED. 14. ALL APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. 15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED

IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED. 16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE

B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES. C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.

D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION. E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THIS

F. APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH. 17. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED OR PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL DEVELOPMENT LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.

18. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. UNLESS OTHERWISE AUTHORIZED BY THE VESCP AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR

NATURAL OR MAN-MADE CHANNELS: A. CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE OUTFALL OF THE PIPE

OR PIPE SYSTEM SHALL BE PERFORMED. B. ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING

CHANNEL BED OR BANKS.

(1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA TO THE POINT OF ANALYSIS WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION; OR (2) (A) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF

(B) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO—YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND (C) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN—YEAR

STORM TO VERIFY THAT STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM. C. IF EXISTING NATURAL RECEIVING CHANNELS OR PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS OR PIPES ARE NOT ADEQUATE, THE APPLICANT SHALL (1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR STORM WILL NOT DVERTOP THE BANKS AND A TWO-YEAR STORM WILL NOT CAUSE EROSION TO THE

CHANNEL, THE BED, OR THE BANKS; OR (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;

(3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL; OR (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE VESCP AUTHORITY TO PREVENT DOWNSTREAM EROSION.

D. THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS. E. ALL HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT PROJECT. F. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION, HE SHALL OBTAIN APPROVAL FROM THE VESCP OF A PLAN FOR MAINTENANCE OF THE DETENTION FACILITIES. THE PLAN SHALL SET FORTH THE MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE. G. OUTFALL FROM A DETENTION FACILITY SHALL BE DISCHARGED TO A RECEIVING CHANNEL, AND ENERGY DISSIPATORS SHALL BE PLACED AT THE OUTFALL OF ALL DETENTION FACILITIES AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO

THE RECEIVING CHANNEL. H. ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE

I. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY. J. IN APPLYING THESE STORMWATER MANAGEMENT CRITERIA, INDIVIDUAL LOTS OR PARCELS

IN A RESIDENTIAL, COMMERCIAL OR INDUSTRIAL DEVELOPMENT SHALL NOT BE CONSIDERED TO BE SEPARATE DEVELOPMENT PROJECTS. INSTEAD, THE DEVELOPMENT, AS A WHOLE, SHALL BE CONSIDERED TO BE A SINGLE DEVELOPMENT PROJECT. HYDROLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS. K. ALL MEASURES USED TO PROTECT PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIOLOGICAL

INTEGRITY OF RIVERS. STREAMS AND OTHER WATERS OF THE STATE. L. ANY PLAN APPROVED PRIOR TO JULY 1, 2014, THAT PROVIDES FOR STORMWATER MANAGEMENT THAT ADDRESSES ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS SHALL SATISFY THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 24-HOUR PERIOD THE EXPECTED RAINFALL RESULTING FROM THE ONE YEAR, 24-HOUR STORM; AND (III) REDUCE THE ALLOWABLE PEAK FLOW RATE RESULTING FROM THE 1.5, 2, AND 10-YEAR, 24-HOUR STORMS TO A LEVEL THAT IS LESS THAN OR EQUAL TO THE PEAK FLOW RATE FROM THE SITE ASSUMING IT WAS IN A GOOD FORESTED CONDITION, ACHIEVED THROUGH MULTIPLICATION OF THE FORESTED PEAK FLOW RATE BY A REDUCTION FACTOR THAT IS EQUAL TO THE RUNOFF VOLUME FROM THE SITE WHEN IT WAS IN A GOOD FORESTED CONDITION DIVIDED BY THE RUNOFF VOLUME FROM THE SITE IN ITS PROPOSED CONDITION, AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS AS DEFINED IN ANY REGULATIONS PROMULGATED PURSUANT TO

§ <u>62.1-44.15:54</u> OR <u>62.1-44.15:65</u> OF THE ACT. M. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF § 62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLÈSS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP)

N. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF SUBDIVISIÓN 19 OF

STATUTORY AUTHORITY § 62.1-44.15:52 OF THE CODE OF VIRGINIA. HISTORICAL NOTES

FORMER 4VAC50-30-40, DERIVED FROM VR625-02-00 § 4; EFF SEPTEMBER 13, 1990; AMENDED, VIRGINIA REGISTER VOLUME 11, ISSUE 11, EFF. MARCH 22, 1995; VOLUME 29, ISSUE 4, EFF. NOVEMBER 21, 2012; AMENDED AND RENUMBERED, VIRGINIA REGISTER VOLUME 30, ISSUE 2, EFF. OCTOBER 23, 2013.

100% SUBMITTAL FEBRUARY 2015

102658 / CANAL STREET / VIRGINIA STREET STREETSCAPE, PHASES 1 AND 2 NOTES

Director of Public Works AUTHORITY: CITY OF RICHMOND, DPW, PROJECT NO.: 0-28633

DRAWING NO.

FEBRUARY, 2015 SHEET 2 OF 14

REVISIONS

Gas Line Electric Line Overhead Utility ---- T-Duct----Telephone/Telegraph Water Line Property Line Storm Basin Storm or Sanitary Manhole or s Fire Hydrant / Valve FH-6- OWV

Existing Legend

Storm Sewer

Water Meter Existing Curb Cut Ramp Gas Meter / Valve Power/Light Pole **Guy Anchor**

GM · GV

Sanitary Sewer Storm Sewer Curb Cut Ramp ____

Proposed Legend

City Traffic Engine DEPARTMENT OF PUBLIC WORKS

Surveys Superintend

Project Manag

Maintenance Engine

RICHMOND. VIRGINIA

Administrative

Capital Project Administrato

City Enginee

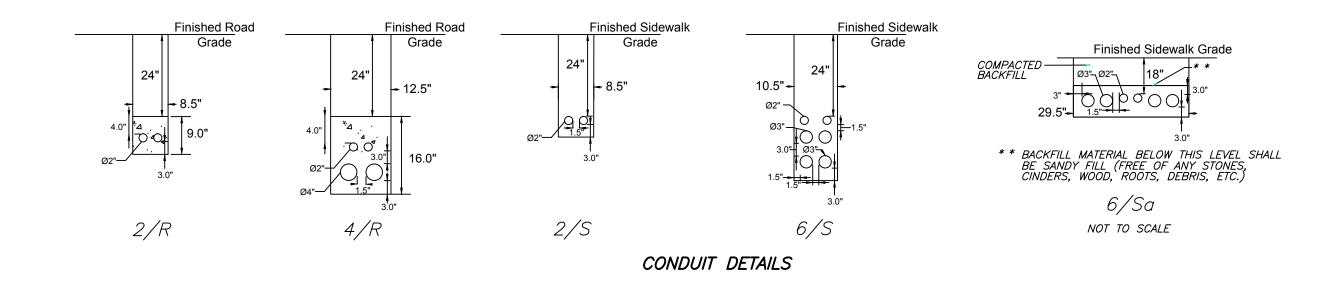
DESIGN BY: KYarberry DRAWN BY: TRevell

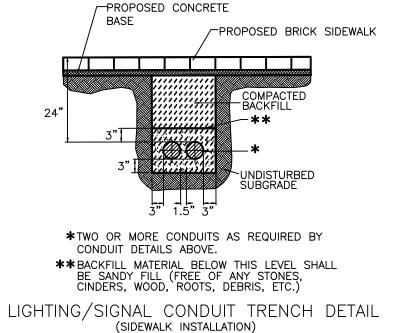
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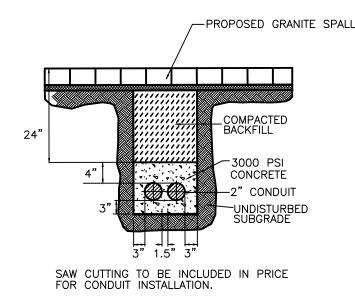
0-28633

LIGHTING GENERAL NOTES:

- 1. STREET LIGHTS AND CONDUIT SHALL BE INSTALLED AS DESIGNATED ON THE PLANS. ORNAMENTAL POLES, LIGHTS, AND BASES SHALL BE FURNISHED BY NOLAND COMPANY OR APPROVED EQUAL, 2101 STAPLES MILL ROAD, RICHMOND VA, 23230. FOUNDATIONS SHALL BE HANOVER POLE FOUNDATION, PER DETAIL SHEET 6. PEDESTRIAN LUMINAIRES SHALL BE 150 WATT HIGH PRESSURE SODIUM WITH 6-IN. TYPE V OPTICS. LUMINAIRE MODEL SHALL BE PHILIPS LIGHTING CHARLESTON (1229) BLACK FINISH, CLEAR ACRYLIC PANEL/GLOBE, MEDIUM SOCKET, 240 V, OR APPROVED EQUAL. COMBINATION LUMINAIRES INSTALLED ON MAST ARM POLES SHALL BE 250 WATT HIGH PRESSURE SODIUM (HPS)
- 2. PEDESTRIAN LUMINAIRES SHALL BE MOUNTED TO 12' DECORATIVE BLACK POLE. POLE MODEL SHALL BE PHILIPS LIGHTING ANCHOR BASE POST (316-) OR APPROVED EQUAL.
- 3. THE CITY OF RICHMOND DEPARTMENT OF PUBLIC UTILITIES (DPU) SHALL FINISH AND INSTALL ELECTRICAL SERVICE AND ALL WIRING FOR LIGHTING CIRCUITS TO PEDESTRIAN LUMINAIRES. CONTRACTOR SHALL COORDINATE WITH BRIAN CULVER (804-646-8105, OR BRIAN.CULVER@RICHMONDGOV.COM)
- 4. JUNCTION BOXES SHALL BE HIGHLINE PRODUCTS COMPOSITE HANDHOLE ASSEMBLY CHA132412, OR APPROVED EQUAL. JUNCTION BOX COVERS SHALL BE MARKED "ELECTRIC".
- 5. CONDUITS SHOWN ON THESE PLANS ARE DIAGRAMMATIC. ACTUAL CONDUIT RUNS SHALL CONFORM TO FIELD CONDITIONS. CONDUIT SHALL BE INSTALLED ACCORDING TO DETAILS ON SHEET 9. A NYLON PULL-CORD MUST BE PROVIDED IN ALL CONDUIT. CONTRACTOR SHALL BACKFILL TRENCH WITH NO. 21B AGGREGATE AND ASPHALT IN ACCORDANCE WITH TYPICAL PAVEMENT SECTION. CABLES INSIDE OF CONDUIT SHALL BE INSTALLED BY DPU FORCES. CONTRACTOR MUST CONTACT ROBBIE PARHAM (TEL. # 804-363-3437) PRIOR TO INSTALLATION OF STREET LIGHTING ITEMS.
- 6. CONTRACTOR SHALL CONTACT BRIAN CULVER (804-646-8105) OR MR. TRACY WRIGHT (804-363-5601) PRIOR TO INSTALLATION OF LIGHTING EQUIPMENT. CERTAIN UTILITIES WITHIN THE VICINITY OF THIS PROJECT AREA ARE SHOWN ON THE PLANS. THE UTILITIES SHOWN ARE NOT GUARANTEED TO BE COMPLETE OR ACCURATELY LOCATED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES BEFORE PROCEEDING WITH THE WORK.
- 7. ALL LIGHTING CONDUITS SHALL BE INSTALLED WITH A MINIMUM DEPTH OF 36".
- 8. ALL UNDERGROUND CONDUITS SHALL BE SLOPED TO DRAIN TO THE NEAREST JUNCTION BOX. IF THIS CANNOT BE ACCOMPLISHED, DRAINAGE TEES SHALL BE PROVIDED AT THE LOW POINT OF THE CONDUIT RUN. DRAINAGE TEES SHALL BE INCIDENTAL TO CONDUIT.
- 9. AREAS AROUND THE PROPOSED LIGHTING EQUIPMENT SHALL BE GRADED AS APPROVED BY THE ENGINEER.
- 10. CONDUITS SHALL BE INSTALLED WITH LARGE RADIUS OFFSETS (5' MINIMUM RADIUS) TO BYPASS DRAINAGE INLETS, MANHOLES, AND OTHER OBSTRUCTIONS. GROUND RODS SHALL BE INSTALLED AT ALL LIGHT POLE FOUNDATIONS, JUNCTION BOXES, ELECTRICAL SERVICES AND CONTROL CABINETS.
- 11. ALL ELECTRICAL WORK SHALL BE PERFORMED AND ALL MATERIAL PROVIDED SHALL BE IN ACCORDANCE WITH VDOT STANDARDS AND SPECIFICATIONS, UNLESS OTHERWISE NOTED.
- 12. THE ELECTRICAL/LIGHTING CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL THE CONTRACTORS INVOLVED ON THIS PROJECT. THE ELECTRICAL/LIGHTING CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND GENERAL SUPERINTENDENT THE LOCATIONS OF ALL CONDUIT AND POLE BASES TO ELIMINATE CONSTRUCTION CONFLICTS.
- 13. ALL FIELD CHANGES MUST BE APPROVED BY DPU STREETLIGHT ENGINEER.
- 14. ALL ELECTRICAL WORK SHALL BE PERFORMED AND ALL MATERIAL PROVIDED SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, TO ALL LOCAL AND SPECIAL LAWS, AND/OR TO ORDINANCES GOVERNING SUCH MATERIAL. CODE SHALL BE CONSIDERED THE MINIMUM REQUIREMENTS FOR THE ELECTRICAL WORK AND IF THERE IS A CONFLICT BETWEEN THE REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS AND THE CODE, THE MORE STRINGENT REQUIREMENT WILL APPLY AS DETERMINED AND APPROVED BY THE ENGINEER. WHEN THESE REQUIREMENTS DO NOT GOVERN, AND WHERE NOT OTHERWISE SPECIFIED, ELECTRICAL MATERIALS SHALL CONFORM TO THE STANDARDIZATION RULES OF THE INSTITUTE OF ELECTRICAL ENGINEERS.







STREET LIGHT CONDUIT TRENCH DETAIL (STREET INSTALLATION)

NOT TO SCALE

100% SUBMITTAL FEBUARY 2015

1. Lot dimensions in parentheses are from deed. 2. Property owners correct as of _____, 20__ 3. Ordinance Number____ 1. Adopted____ . Accepted_

REVISIONS

REFERENCES

Existing Legend Storm Sewer Gas Line Electric Line Overhead Utility Telephone/Telegraph Water Line Property Line Storm Basin

FH++ WV

Fire Hydrant / Valve

Water Meter Existing Curb Cut Ramp Guy Anchor

Proposed Legend _____



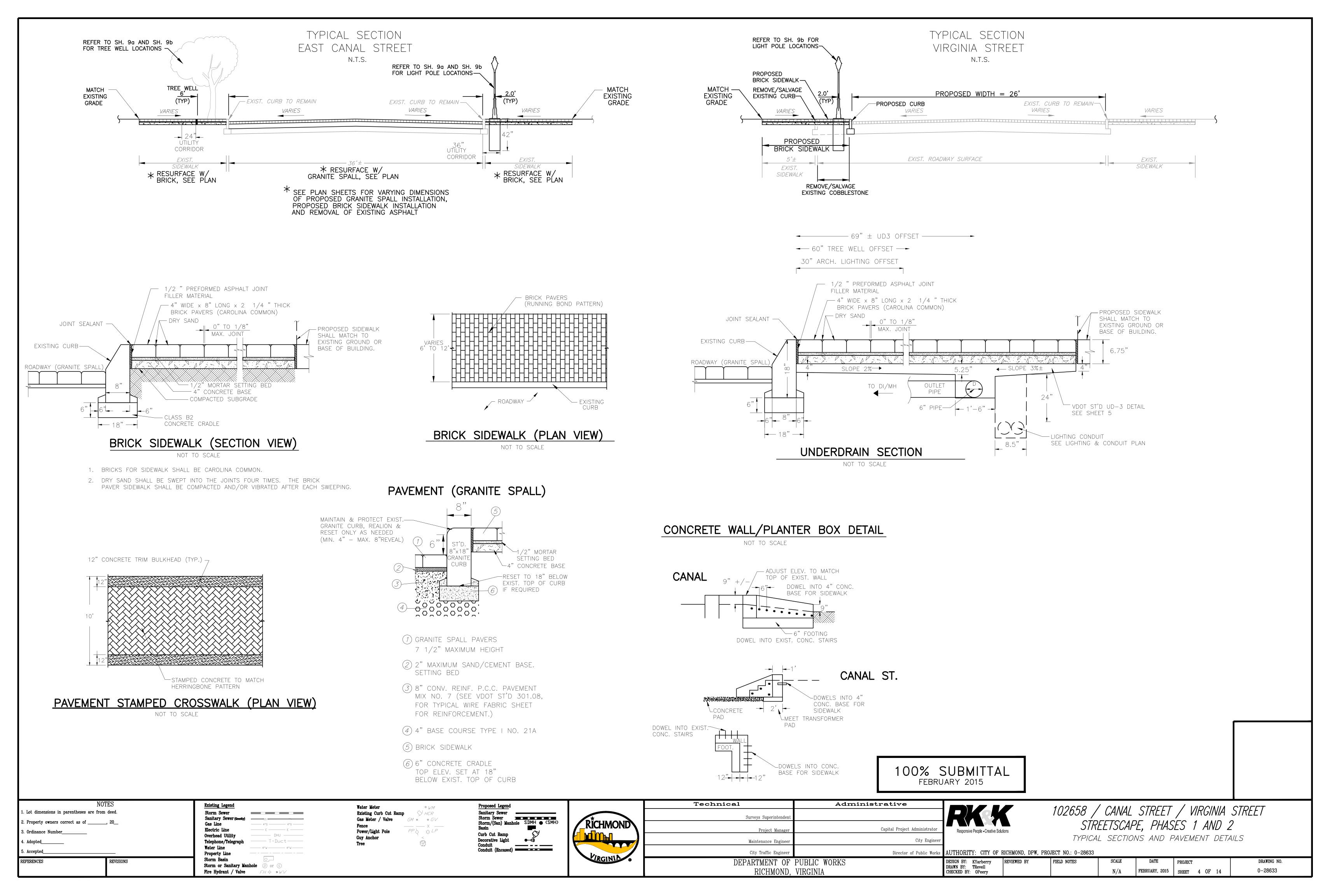
	Technical	Administrative
	Surveys Superintendent	
OND	Project Manager	Capital Project Administrator
	Maintenance Engineer	City Engineer
	City Traffic Engineer	Director of Public Works
A o	DEPARTMENT OF	PUBLIC WORKS

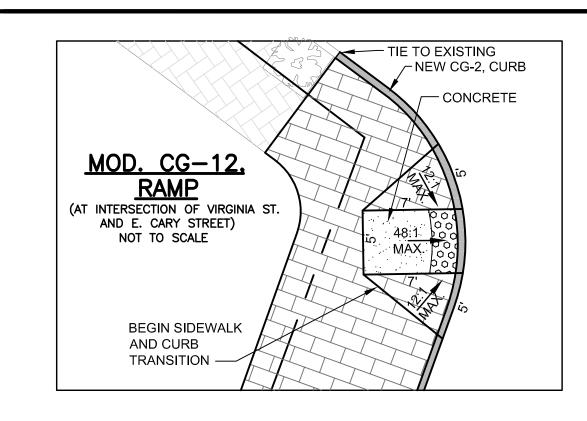
RICHMOND. VIRGINIA

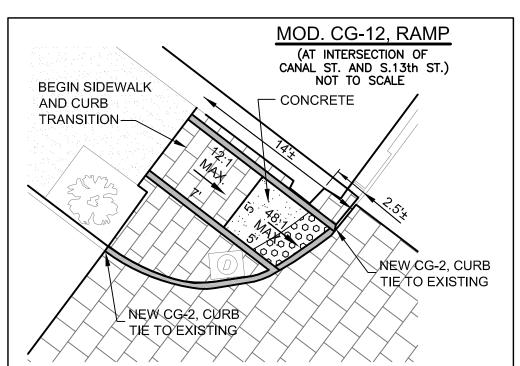
102658 / CANAL STREET / VIRGINIA STREET STREETSCAPE, PHASES 1 AND 2

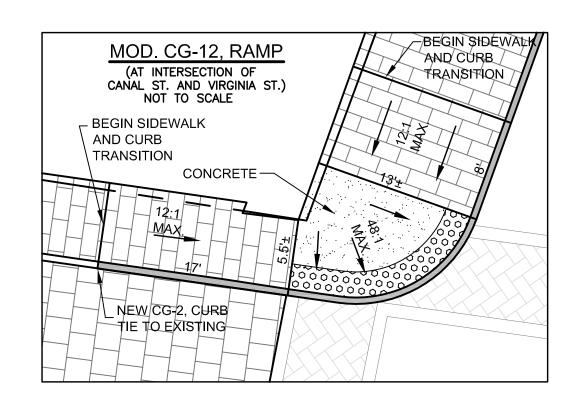
LIGHTING NOTES AND DETAILS

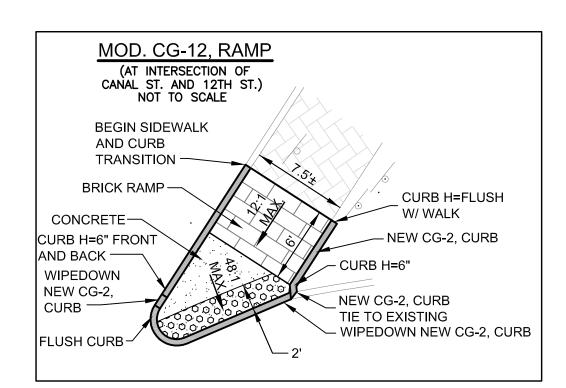
AUTHORITY: CITY OF RICHMOND, DPW, PROJECT NO.: 0-28633 DRAWN BY: TRevell CHECKED BY: OPeery FEBRUARY, 2015 | SHEET 3 OF 14 0-28633

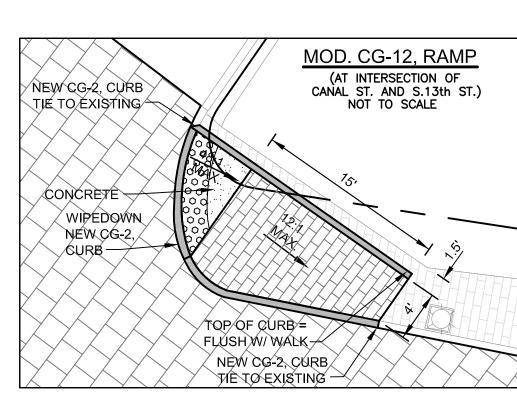


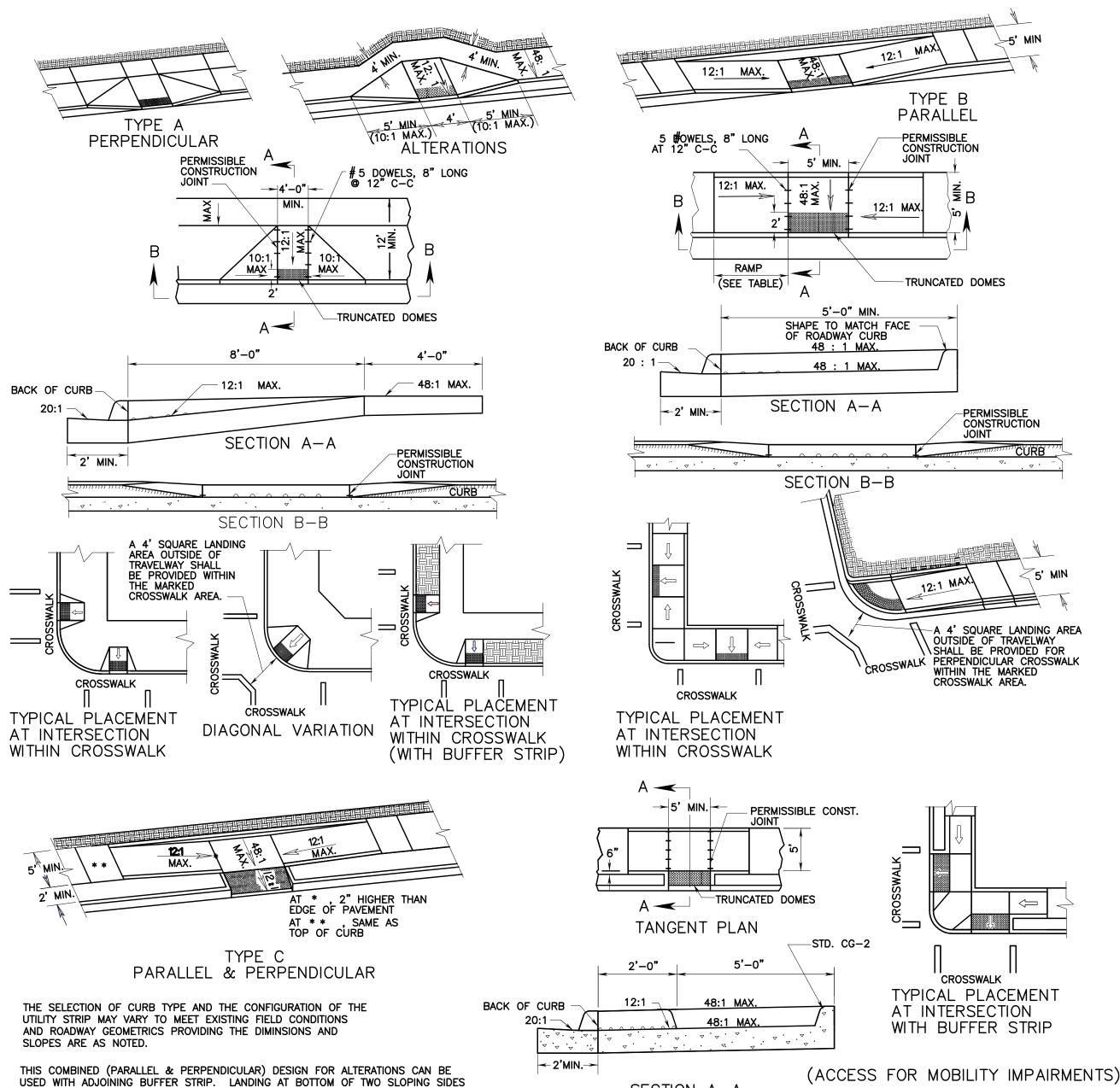




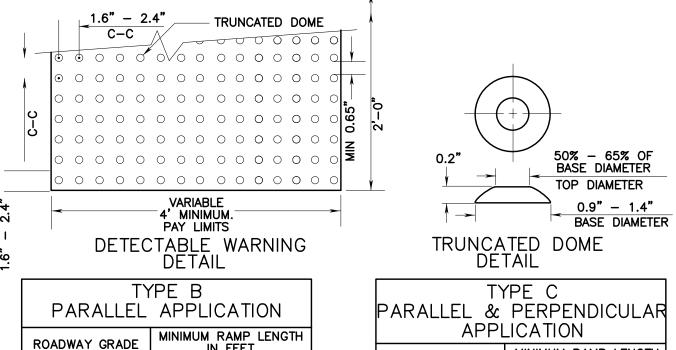


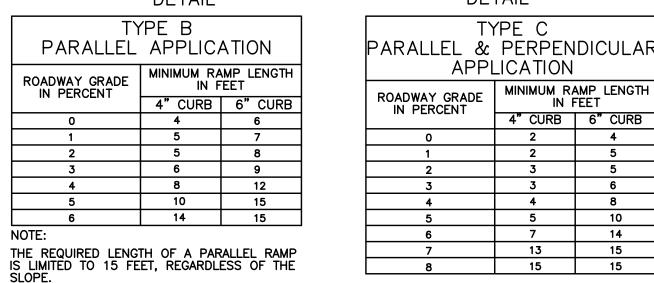






SECTION A-A WITH 60" X 60" MIN. DIMENSIONS. THE SHORT PERPENDICULAR RUN TO THE STREET CAN BE PROTECTED BY A LANDSCAPED SETBACK OR CONNECTED TO THE SIDEWALK VDOT CG-12, HANDICAP RAMP SPEC. REF. DWG. NO. 105 502





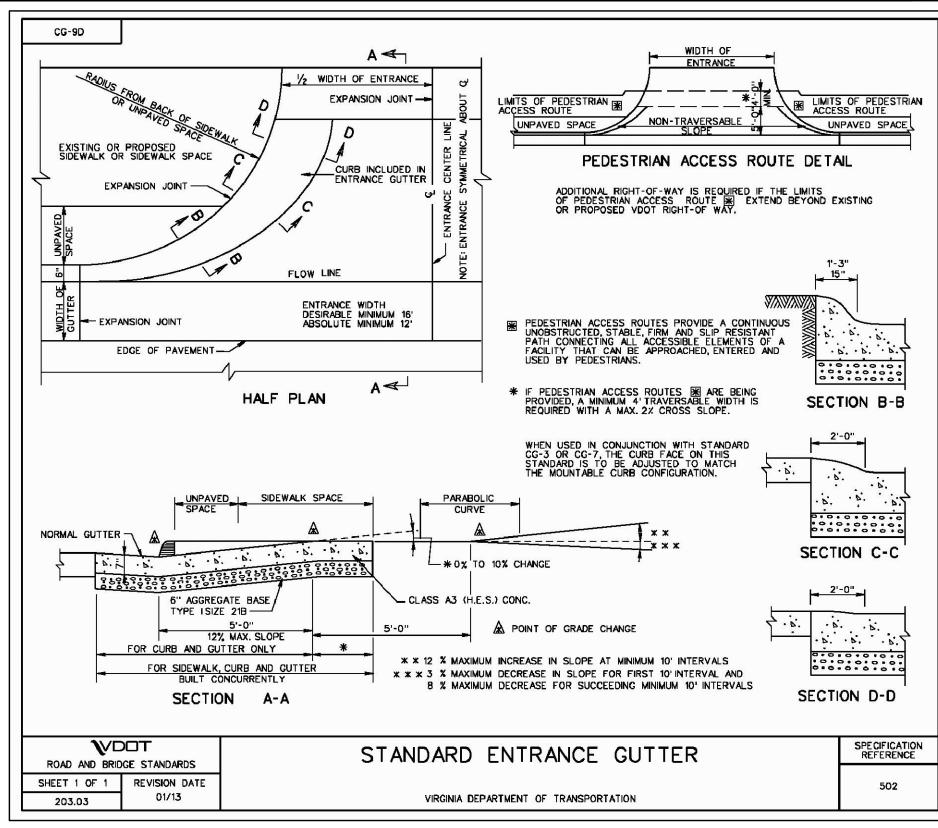
- 1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES. COLOR SHALL BE COLONIAL RED, CAST-IN-PLACE, AND REPLACEABLE INCLUDING A BASE PLATE SET INTO CONCRETE AND THE PAVER PLAT SECURED TO THE BASE WITH SCREWS. THE TRUNCATED DOME ASSEMBLY SHALL HAVE BOTTOM DOCKING ANCHORS THAT WILL BE EMBEDDED INTO WET CONCRETE.
- 2. DETECTABLE WARNING TO BE CLASS A-3 CONCRETE (CLASS A-4 IF PRECAST) WITH SLIP RESISTANT INTEGRAL SURFACE COVERING THE FULL WIDTH OF THE RAMP FLOOR BY 2' IN LENGTH IN THE DIRECTION OF PEDESTRIAN TRAVEL. OTHER TYPES OF MATERIAL WITH TRUNCATED DOMES DETECTABLE WARNING MAY BE USED WITH THE APPROVAL OF ENGINEER.

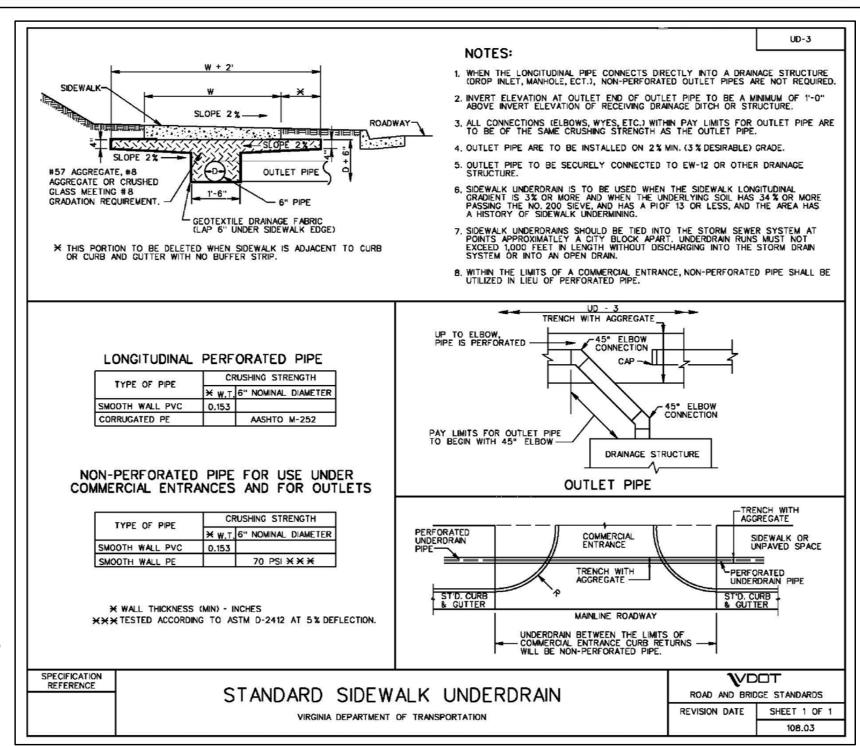
203.05

203.06

- 3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
- 4. IF RAMP FLOOR IS PRECAST, HOLES MUST BE PROVIDED FOR DOWEL BARS SO THAT ADJOINING FLARED SIDES CAN BE CAST IN PLACE AFTER PLACEMENT OF PRECAST RAMP FLOOR. PRECAST CONCRETE SHALL BE CLASS A-4.
- 5. REQUIRED BARS ARE TO BE NO. 5 X 8" PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 11/2".
- 6. CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
- 7. CURB RAMPS ARE TO BE LOCATED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THEY ARE TO BE PROVIDED AT INTERSECTIONS WHEREVER AN ACCESSIBLE ROUTE WITHIN THE RIGHT OF WAY OF A HIGHWAY FACILITY CROSSES A CURB REGARDLESS OF WHETHER SIDEWALK IS EXISTING, PROPOSED, OR NONEXISTENT. THEY MUST BE LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER, AND SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES. EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. ACCESSIBLE ROUTES PROVIDE A CONTINUOUS UNOBSTRUCTED, STABLE, FIRM AND SLIP RESISTANT PATH CONNECTING ALL ACCESSIBLE ELEMENTS OF A FACILITY THAT CAN BE APPROACHED, ENTERED AND USED BY PEDESTRIANS.
- RAMPS MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
- 9. TYPICAL CONCRETE SIDEWALK IS 4" THICK. WHEN THE ENTRANCE RADII CANNOT ACCOMMODATE THE TURNING REQUIREMENTS OF ANTICIPATED HEAVY TRUCK TRAFFIC THE CONCRETE SIDEWALK DEPTH SHOULD BE INCREASED TO 7".

10. WHEN CURB RAMPS ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.





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Lot dimensions in parentheses are from deed. 2. Property owners correct as of _____, 20_ 3. Ordinance Number_ l. Adopted____ Accepted__

REVISIONS

REFERENCES

Existing Legend Storm Sewer Gas Line Electric Line Overhead Utility Water Line Property Line Storm Basin Storm or Sanitary Manhole or s

FH - WV

Fire Hydrant / Valve

Water Meter Existing Curb Cut Ramp Gas Meter / Valve GM · GV Power/Light Pole Guy Anchor

IN PERCENT

NOTE:

Proposed Legend Sanitary Sewer
Storm Sewer
Storm/(San) Manhole Decorative Light



	Technical	Administrative
\ [Surveys Superintendent	
ND\	Project Manager	Capital Project Administrator
	Maintenance Engineer	City Engineer
	City Traffic Engineer	Director of Public Works
	DEPARTMENT OF	PUBLIC WORKS

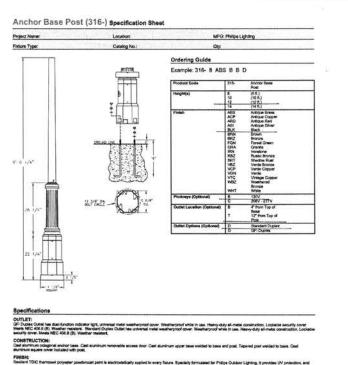
RICHMOND, VIRGINIA

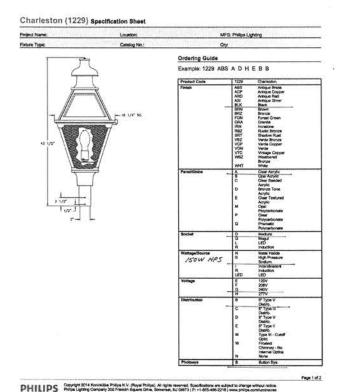
102658 / CANAL STREET / VIRGINIA STREET STREETSCAPE, PHASES 1 AND 2

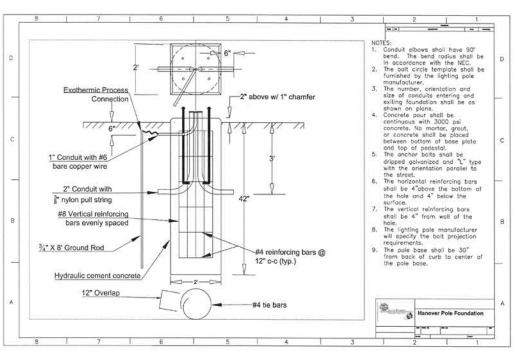
VDOT DETAILS AND NOTES

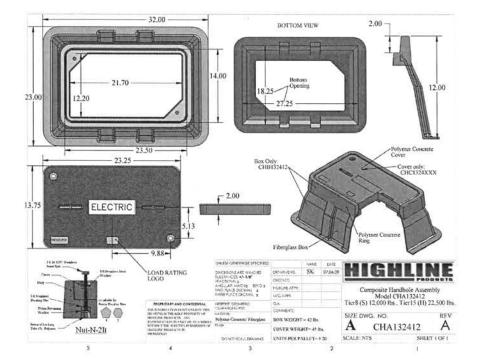
AUTHORITY: CITY OF RICHMOND, DPW, PROJECT NO.: 0-28633 DRAWING NO. DRAWN BY: TRevell CHECKED BY: OPeery FEBRUARY, 2015 | SHEET 5 OF 14 0-28633











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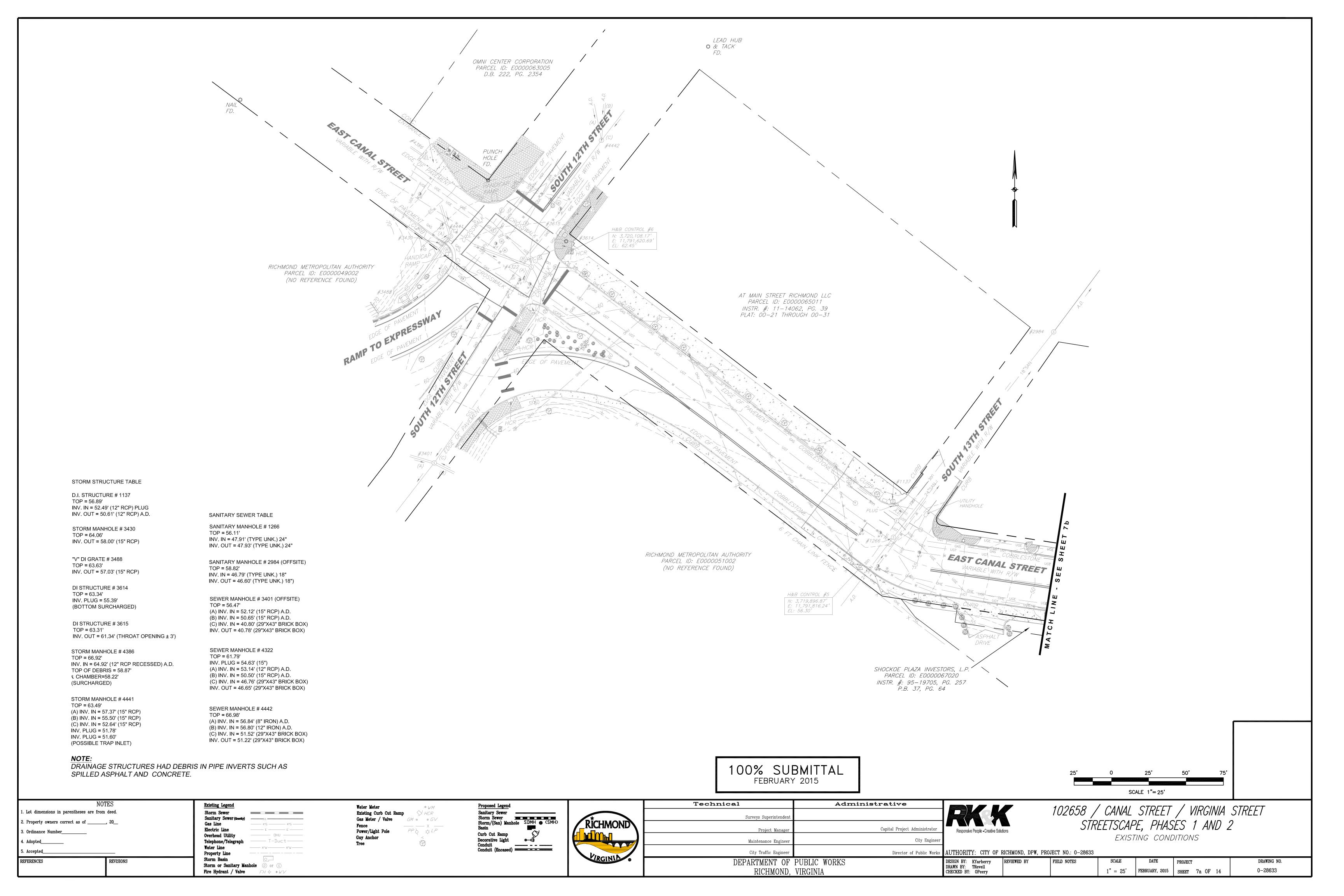
Philips Lighting Company 200 Previols Square Drine, Somenset, NJ 08873 (P. +1 455-488-2216) www.philips.com/unmarket

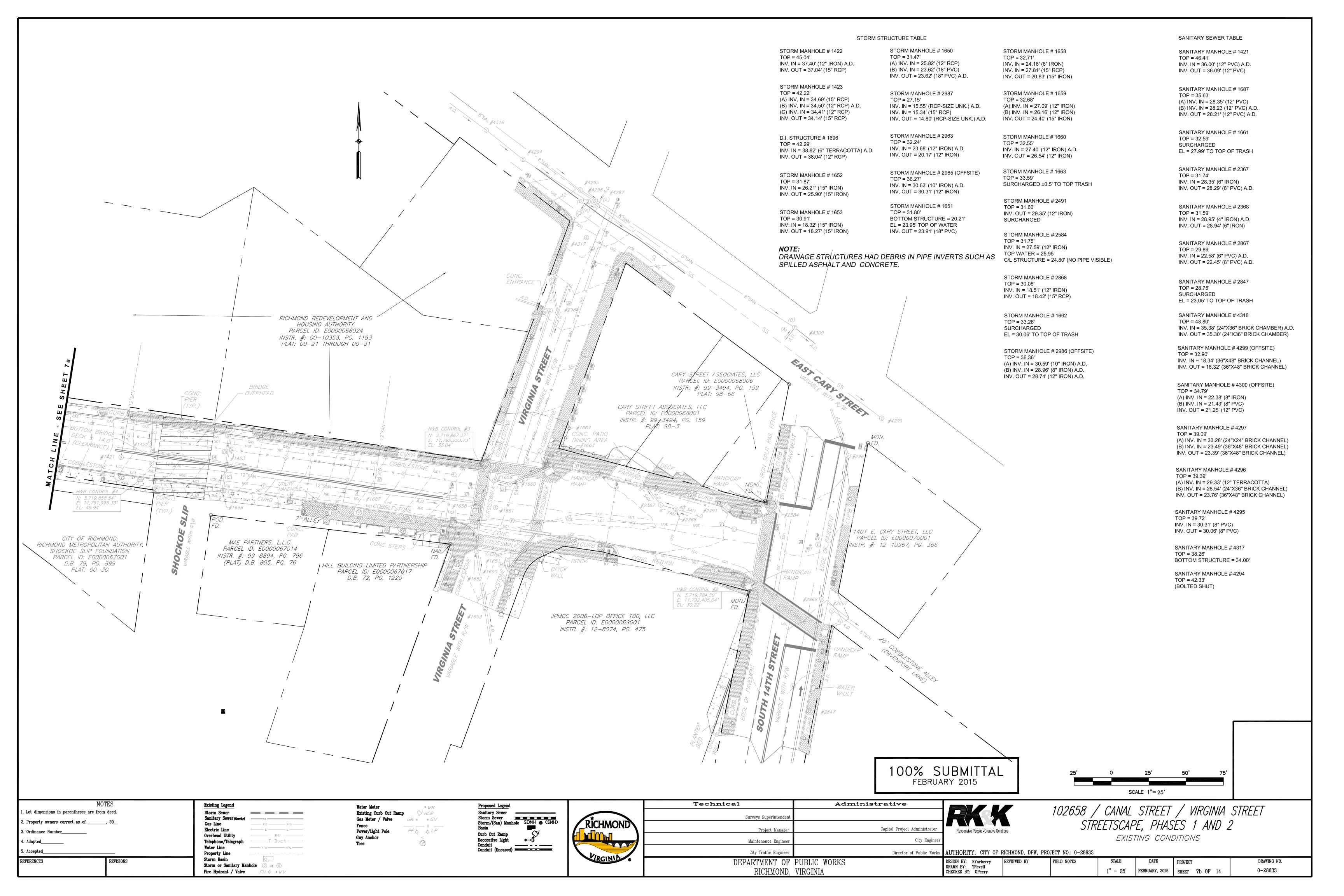
LIGHTING FOUNDATION NOTES:

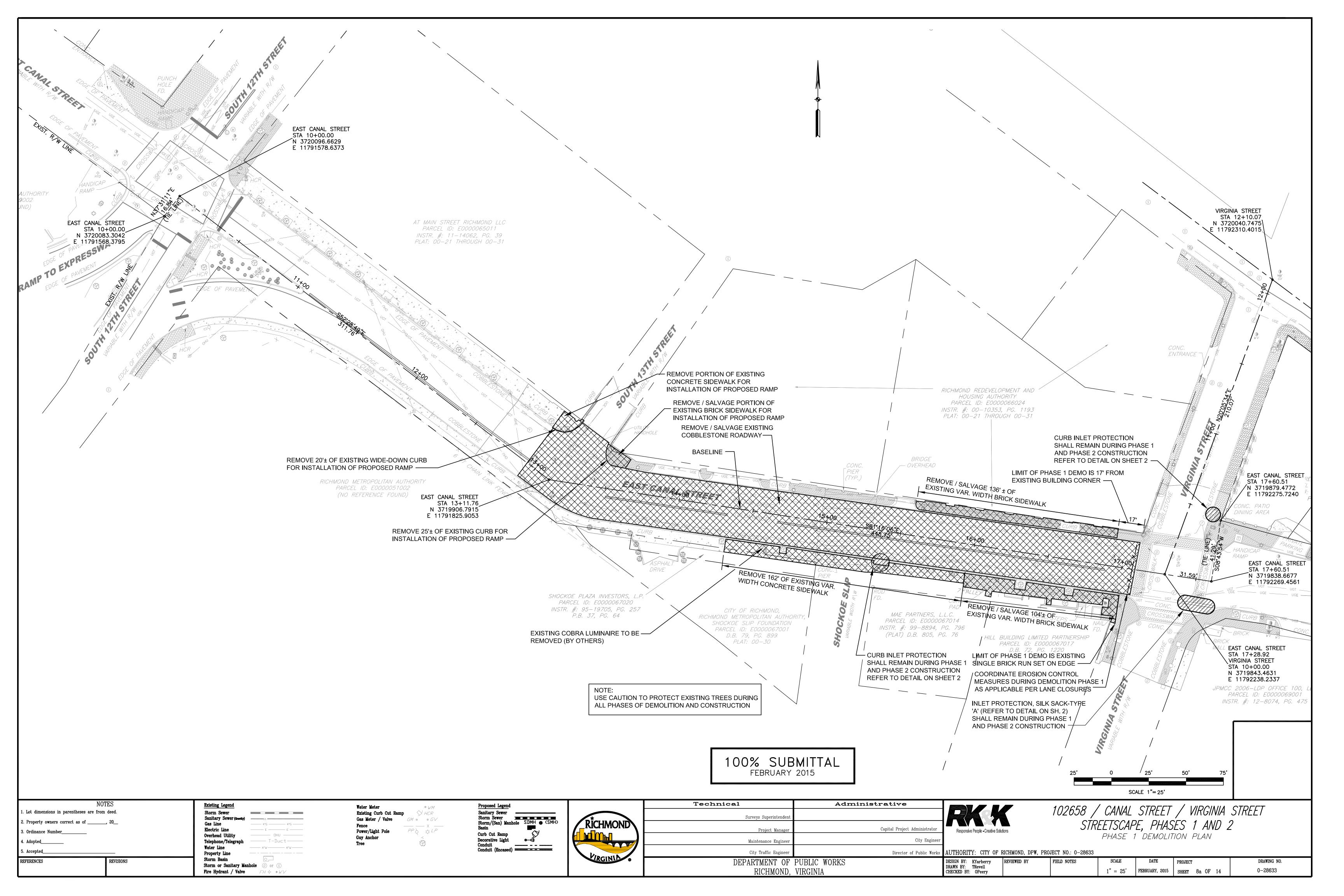
- 1. CONDUIT ELBOWS SHALL HAVE 90 DEGREE BEND. THE BEND RADIUS SHALL BE IN ACCORDANCE WITH THE 2011 NATIONAL ELECTRICAL CODE.
- 2. THE BOLT CIRCLE TEMPLATE SHALL BE FURNISHED BY THE LIGHTING POLE MANUFACTURER.
- 3. THE NUMBER, ORIENTATION AND SIZE OF CONDUITS ENTERING AND EXITING FOUNDATION SHALL BE SHOWN ON PLANS.
- CONCRETE POUR SHALL BE CONTINUOUS WITH 3000 PSI CONCRETE. NO MORTAR, GROUT, OR CONCRETE SHALL BE PLACED BETWEEN BOTTO OF BASE PLATE AND TOP OF PEDESTAL.
- 5. THE ANCHOR BOLTS SHALL BE DIPPED GALVANIZED AND "L" TYPE WITH THE ORIENTATION PARALLEL TO THE STREET.
- 6. THE HORIZONTAL REINFORCING BARS SHALL BE 4" ABOVE THE BOTTOM OF THE HOLE AND 4" BELOW THE SURFACE.
- 7. THE VERTICAL REINFORCING BARS SHALL BE 1" FROM WALL OF THE HOLE.
- 8. THE LIGHTING POLE MANUFACTURER WILL SPECIFY THE BOLT PROJECTION REQUIREMENTS.

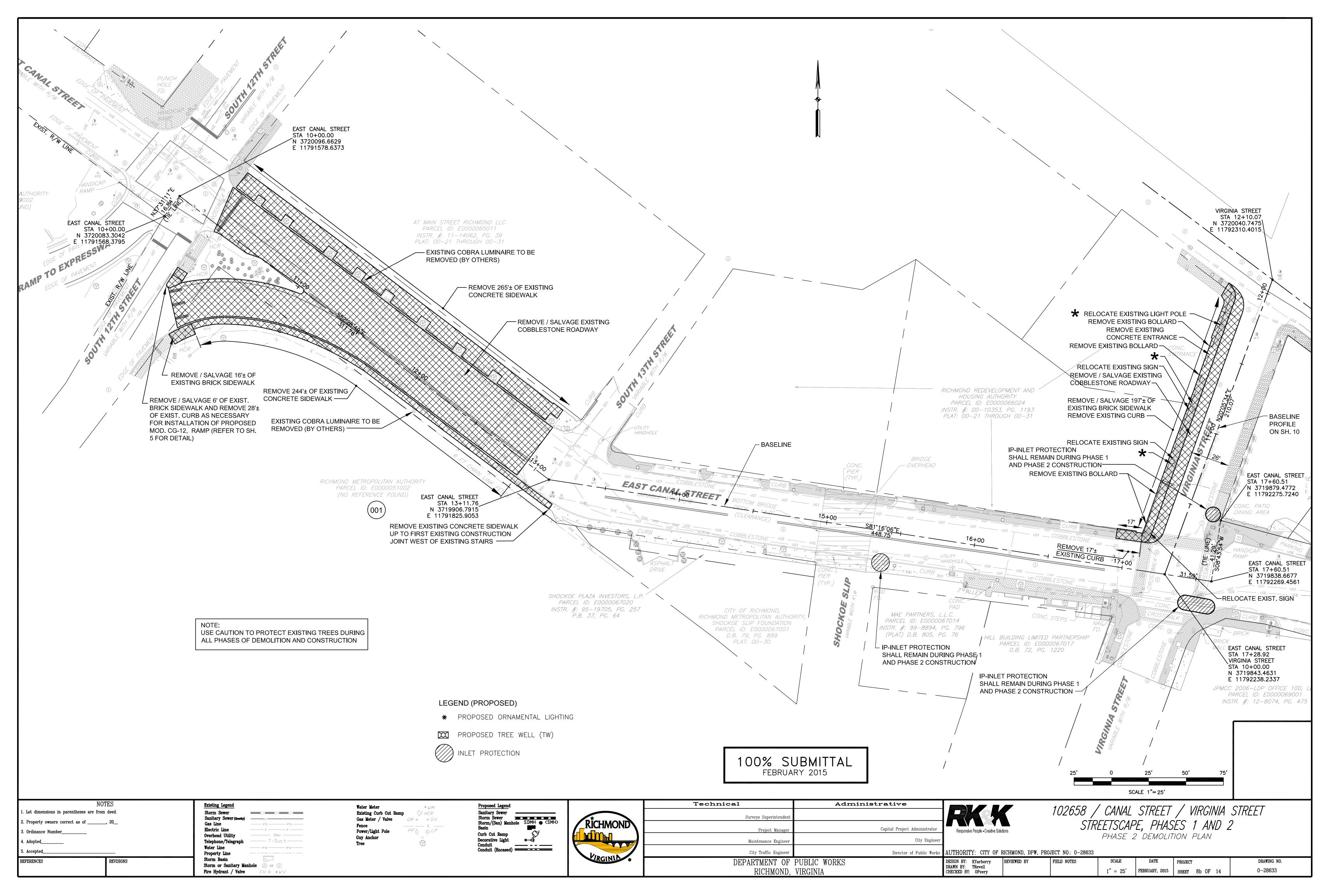
100% SUBMITTAL FEBRUARY 2015

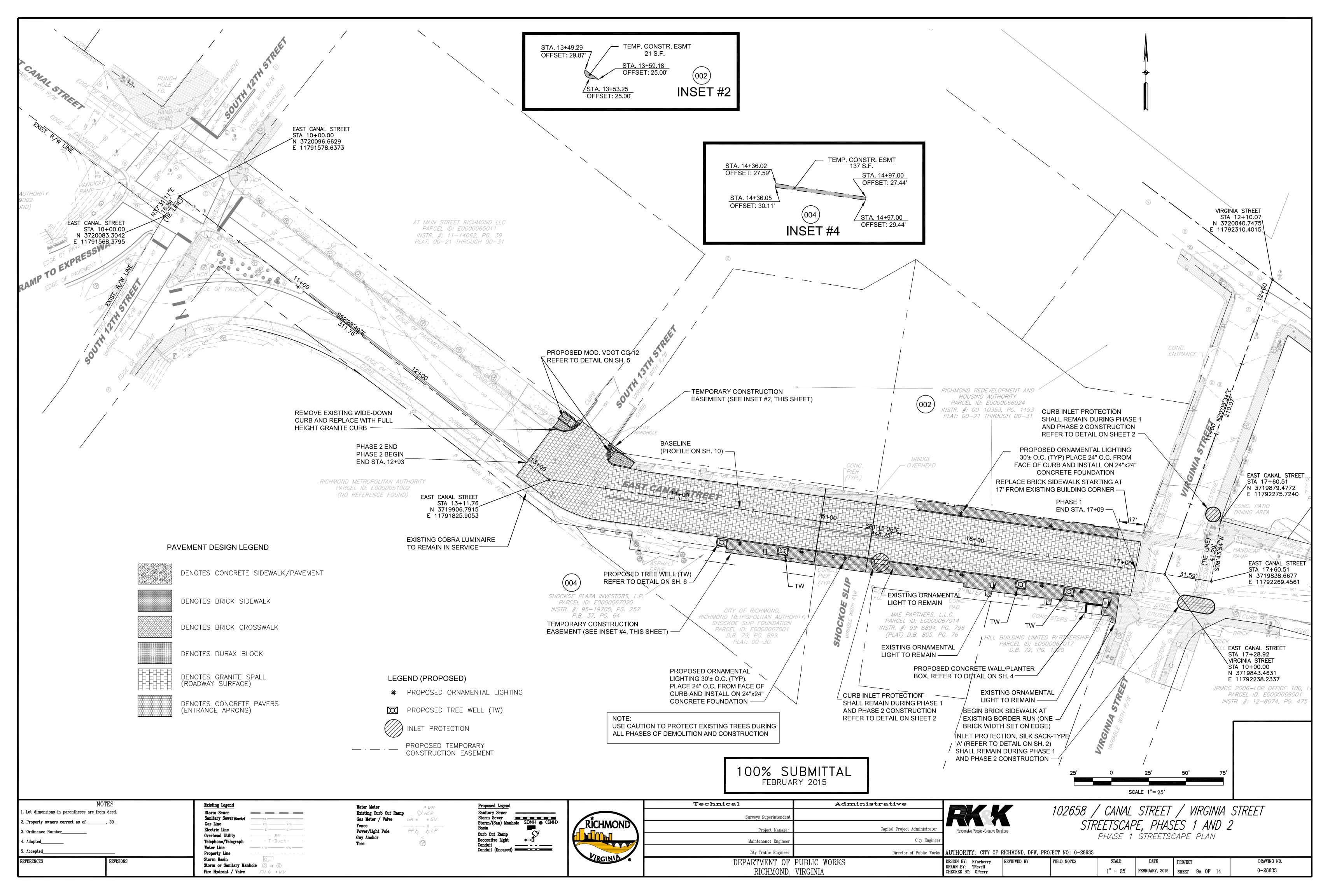
Existing Legend Sorma Sewer
Samilary Sewer (seein)
Gas Line
Electric Line
Overhead Utility
Telephono/Pelegraph
Water Line
Froperty Line
Storm Bantin
Storm of Sanitary Manhole
Fire Hydrant / Valve 102658 / CANAL STREET / VIRGINIA STREET Surveys Superinter Property owners correct as of ______ 20_ RICHMOND STREETSCAPE, PHASES 1 AND 2 Min Codinance Number Capital Project Administrate CONDUIT AND LIGHTING DETAILS City Engine Maintenance Engine PIRGINIA DEPARTMENT OF PUBLIC WORKS RICHMOND, VIRGINIA FEBRUARY, 2015 SHEET 6 OF 14 0-28633

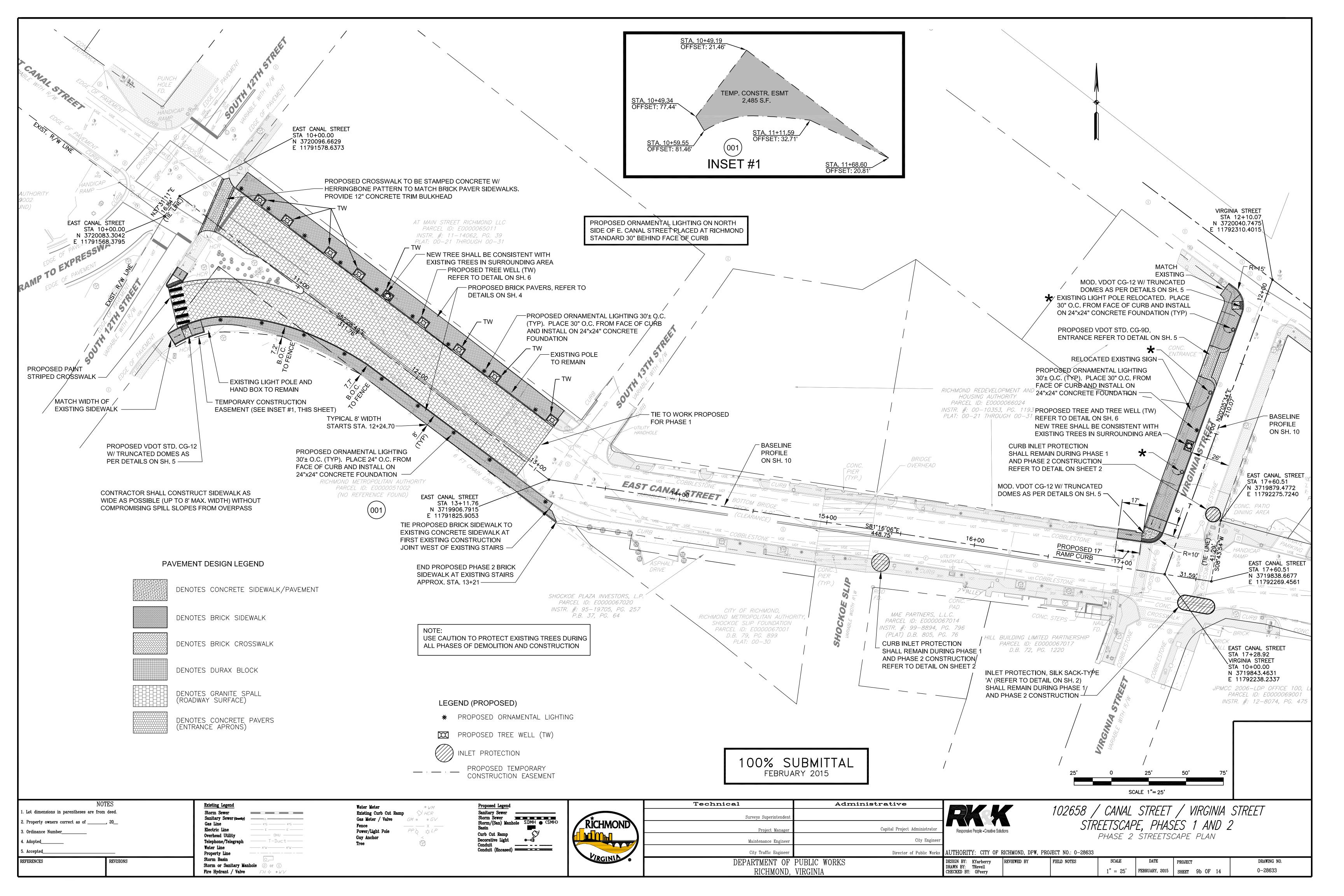












PRELIMINARY RIGHT OF WAY DATA SHEET

City/County: RICHMOND, VIRGINIA UPC No.:

	1	1	T														PC No.:	
PARCFI		SHFFT		AREA								EASEMENTS						
PARCEL LANDOWNER	SHEET NO.	TOTAL	FEE	FEE TAKING		PRESCRIPTIVE R/W		FEE REMAINDER		PERMANENT		UTILITY TEMPORARY			TEMPORARY(ENTRANCES)		PROFFER	
				ACRES OR	HECTARES/			ACRES OR	HECTARES/				1					
			ACRES OR SQUARE FEET	SQ. FEET	HECTARES/ OR SQ. METERS	SQ. FEET	OR SQ. METERS	ACRES OR SQ. FEET	OR SQ. METERS	SQ. FEET	HECTARES/ OR SQ. METERS	ACRES OR SQ. FEET	HECTARES/ORSQ. METERS	SQ. FEET	OR SQ. METERS	SQ. FEET	HECTARES/ OR SQ. METERS	YES / N
001	RICHMOND METROPOLITAN AUTHORITY	9b								2,230 (SF)								
		9a												2,485 (SF)				
002	RICHMOND REDEVELOPMENT AND																	
	HOUSING AUTHORITY	9a												21 (SF)				
004	SHOCKOE PLAZA INVESTORS, L.P.	9a												137 (SF)				-
	SHOCKOL FLAZA INVESTORS, E.F.	9a												137 (31)				
							<u> </u>					<u> </u>						

100% SUBMITTAL FEBRUARY 2015

NOTES	
$1. \ \text{Lot dimensions in parentheses are from deed}.$	
2. Property owners correct as of, 20	-
3. Ordinance Number	
4. Adopted	
5 Accepted	

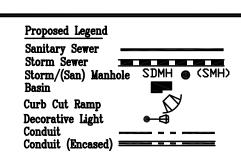
REVISIONS

Existing Legend
Storm Sewer
Sanitary Sewer (Gravity)
Gas Line Electric Line Overhead Utility
Telephone/Telegraph
Water Line
Property Line
Storm Basin
Storm or Sanitary Manhole
O or S

Fine Hydront / Volve

Fire Hydrant / Valve FH + • WV

Water Meter
Existing Curb Cut Ramp
Gas Meter / Valve
Fence
Power/Light Pole
Guy Anchor
Tree





	Administrative	Technical
RKX		Surveys Superintendent
Responsive People • Creative Solutions	Capital Project Administrator	Project Manager
	City Engineer	Maintenance Engineer
AUTHORITY: CITY OF RICHMON	Director of Public Works	City Traffic Engineer
DESIGN BY: KYarberry DRAWN BY: TRevell CHECKED BY: OPeery		DEPARTMENT OF RICHMOND,

102658 / CANAL STREET / VIRGINIA STREET
STREETSCAPE, PHASES 1 AND 2
RIGHT OF WAY DATA SHEET

THORITY:	CITY	OF	RICHMOND,	DPW,	PROJECT	NO.:	0-28633		
									_

ICHMOND, DPW, PROJECT NO.: 0-28633					
REVIEWED BY	FIELD NOTES	SCALE	DATE	PROJECT	DRAWING NO.
		1" = 25'	FEBRUARY, 2015	SHEET 11 OF 14	0-28633