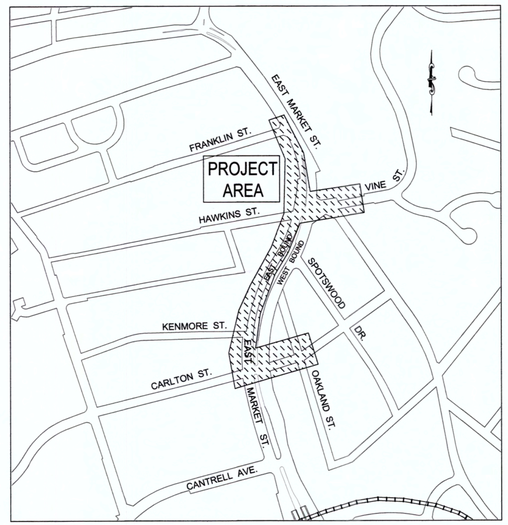
City of Harrisonburg, Virginia

EAST MARKET STREET SIDEWALKS – PHASE IV

LEGEND

- BENCHMARK
- CONTOURS, EXISTING
- CONTOURS, PROPOSED
- CURB AND GUTTER, EXISTING
- CURB AND GUTTER, PROPOSED
- EDGE OF PAVEMENT, EXISTING
- SHOULDER, EXISTING
- DRAINAGE STRUCTURES, EXISTING
- DRAINAGE STRUCTURES, PROPOSED
- GRATE INLET (DI-1), PROPOSED
- ELECTRICAL TRANSFORMER/BOX, EXISTING
- ELECTRICAL TRANSFORMER/BOX, PROPOSED
- FENCE LINE, EXISTING
- FENCE LINE, PROPOSED
- FIRE HYDRANT, EXISTING
- FIRE HYDRANT, PROPOSED
- GAS LINE, EXISTING
- GAS LINE, PROPOSED
- GUARD RAIL, EXISTING
- GUARD RAIL, PROPOSED
- HANDRAIL, PROPOSED
- IRON PIN
- LIGHT, EXISTING
- LIGHT, PROPOSED
- MAIL BOX, EXISTING
- MAIL BOX, PROPOSED
- MONUMENT
- PROPERTY LINE, EXISTING
- PROPERTY LINE, PROPOSED
- RETAINING WALL, EXISTING
- RETAINING WALL, PROPOSED
- RIGHT-OF-WAY, EXISTING
- RIGHT-OF-WAY, PROPOSED
- SANITARY SEWER LINE, EXISTING
- SANITARY SEWER LINE, PROPOSED
- SANITARY SEWER MANHOLE, EXISTING
- SANITARY SEWER MANHOLE, PROPOSED
- SIGN, EXISTING
- SIGN, PROPOSED
- SIGNAL BOX, EXISTING
- SIGNAL BOX, PROPOSED
- TRAVERSE POINT
- UTILITIES – OVERHEAD, EXISTING
- UTILITIES – OVERHEAD, PROPOSED
- UTILITIES – UNDERGROUND, EXISTING
- UTILITIES – UNDERGROUND, PROPOSED
- UTILITY POLE W/ GUY WIRE, EXISTING
- UTILITY POLE W/ GUY WIRE, PROPOSED
- WATER LINE, EXISTING
- WATER LINE, PROPOSED
- WATER METER, EXISTING
- WATER METER, PROPOSED
- WATER VALVE, EXISTING
- WATER VALVE, PROPOSED
- SIGNAL POLE, EXISTING
- BACKFLOW PREVENTOR, EXISTING
- BACKFLOW PREVENTOR, PROPOSED
- TRW — TOP OF RETAINING WALL ELEVATION
- TSW — TOP OF SIDEWALK ELEVATION

MAYOR ..... TED BYRD
CITY MANAGER ..... KURT HODGEN
CITY ENGINEER ..... DANIEL J. RUBLEE
DIRECTOR OF PUBLIC WORKS ..... JAMES D. BAKER
DIRECTOR OF PUBLIC UTILITIES ... A. MICHAEL COLLINS



VICINITY SKETCH
SCALE: 1" = 400' +/-

EROSION CONTROL NOTES

1. Erosion and sediment control measures shall be installed and maintained in accordance with the Virginia Erosion and Sediment Control Handbook. They shall be maintained continuously, relocated when and as necessary and shall be checked after every rainfall. Seeded areas shall be checked regularly and shall be watered, fertilized, reseeded and mulched as necessary to obtain a dense stand of grass.
2. 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 30 days.
3. During construction of the project, soil stock piles shall be stabilized and protected with sediment trapping measures.
4. 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, in the opinion of the City Erosion Control Administrator or his designated agent, is uniform, mature enough to survive and will inhibit erosion.
5. Erosion and sediment control measures shall be constructed as a first step and shall be installed and made functional before upslope land disturbance takes place.
6. 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 time.
   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, and discharged in a manner that does not adversely affect flowing streams or off-site property.
   d. Applicable safety regulations shall be complied with.
7. Where construction vehicle access routes intersect paved 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 public road surface, the road 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.
8. 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 achieved.
9. The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the City.
10. 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 City Erosion Control Administrator. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

APPROVED FOR CONSTRUCTION	
Date 12/20/13	James D. Baker Director of Public Works, City of Harrisonburg

EROSION AND SEDIMENT CONTROL LEGEND

3.05	SILT FENCE	SF
3.07	STORM DRAIN INLET PROTECTION	IP

ALL STANDARDS PER VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK

SHEET INDEX

SHEET	DESCRIPTION
1	TITLE SHEET, NOTES AND LEGEND
2	PLAN - STA. 10+00 TO STA. 14+80
3	PLAN - STA. 14+80 TO STA. 19+50
4	PLAN - STA. 19+50 TO OAKLAND ST.
5	DETAILS
6	PEDESTRIAN SIGNALS

GENERAL AND CONSTRUCTION NOTES

1. Erosion and sediment control measures shall be maintained continuously, relocated when and as necessary and shall be checked after every rainfall. Seeded areas shall be checked regularly and shall be watered, fertilized, reseeded and mulched as necessary to obtain a dense stand of grass.
2. All drain inlets shall be protected from siltation. Ineffective protection devices shall be immediately replaced and the inlet cleaned. Flushing is not an acceptable method of cleaning.
3. The location of existing utilities as shown is approximate only. The contractor is responsible for locating all public or private utilities which lie in or adjacent to the construction site. The contractor shall be responsible for repairing, at his expense, all existing utilities damaged during construction. Forty-eight (48) hours prior to any excavation call Miss Utility 1 (800) 552-7001.
4. All underground facilities shall be installed prior to the placement of any part of the pavement structure.
5. All materials used for fill or back-fill shall be free of wood, roots, rocks, boulders or any other non-compactible soil type material. Unsatisfactory materials also include man-made fills and refuse debris derived from any source.
6. Satisfactory material for use as fill includes material classified in ASTM D-2487 as GW, GP, GM, GC, SW, SP, SM, SC, ML, and CL groups. The moisture content shall be controlled within plus or minus 2 percentage points of optimum to facilitate compaction. Generally, unsatisfactory materials include materials classified in ASTM D-2487 as PT, CH, MH, OL, OH, and any soil too wet to facilitate compaction. Excavated soils may be used subject to approval of the City Engineer or his designee.
7. Materials used to construct embankments for any purpose, back-fill around drainage structures or in utility trenches or any other depression requiring fill or back-fill shall be compacted to a minimum of 95% of maximum density as determined by the standard Proctor test as set out in ASTM standard D-698. Maximum density to be used for density tests on 21A base stone shall be 142 PCF minimum.
8. Embankment fill and trench back-fill shall be placed in lifts at a maximum uncompacted depth of 8-inches and 6-inches, respectively.
9. All excavations, including trenches, shall be kept dry to protect their integrity.
10. Contractor shall provide qualified on-site inspectors to perform density tests on fill and sub-base, and proctor testing on fill soils. Contractor shall coordinate with on-site inspector and give adequate notice to see that proper testing is performed. Contractor shall not place any part of the pavement structure, including stone base, until testing is completed and continuance of work is authorized by the City Engineer. All test reports shall be provided to the City Engineer and the Resident Project Representative.
11. City inspectors, whether employed or contracted, have full authority to reject fill or backfill materials, require undercutting or subgrade stabilization, require provisions for subdrainage, or require other measure which affect the integrity of road and utility construction.
12. Compaction: Each lift of fill material must be tested at least once per 10,000 square feet. Each lift of trench backfill material must be tested at least once per 500 linear feet.
13. Pipe lengths shown are from center – to – center of structures.
14. Temporary construction easements shown are being provided by private property owners in total cooperation with the City. Such easements are for access and temporary occupation only as necessary to complete the Work. Unless an Owner specifically agrees, Contractor shall not use these areas for long term storage of materials, equipment or vehicles (including employee vehicles) and shall endeavor to limit impact on these areas to a minimum. Contractor shall cooperate with property owners to address their concerns over use of, or access to, their property. All damage to public and private properties caused by the Contractor's operations or negligence, beyond that defined by the work itself, shall be repaired to the City's satisfaction at no additional cost to the Owner.
15. Miscellaneous items of work shown on the drawings for which there is no specified unit price are considered to be incidental and the costs for such items shall be included in the price bid for other items.
16. Unless a separate pay item is listed, cost for removal of an item is included in the contract unit price for the corresponding new item.
17. Earth work shall include cut and fill adjacent to sidewalks and driveways to provide smooth transitions to existing grades with slopes not exceeding 3:1.
18. Sidewalks shall be doweled into storm structures to prevent differential settlement
19. Plans are based upon NAD83 Va State plane north zone. Efforts have been made to portray the scope of work based upon 2009 conditions, but contractor needs to verify actual conditions.
20. Existing large trees and shrubs planned for removal are shown on the plans. Smaller trees and shrubs may not be shown. Contractor shall examine site prior to bid and determine extent of trees and shrub removal necessary to complete the work and shall include the cost for such removal in the bid item for clearing and grubbing.
21. Vehicle access shall be maintained at commercial entrances.
22. Price for segmental retaining wall shall include design and construction of wall systems to lines and grades shown on plans. Design shall, at minimum, consider soil bearing capacity, slope stability, backfill material, excavation requirements, drainage conditions, dead loads, live loads, existing facilities and planned construction. Wall design calculations and construction drawings shall be submitted to owner for review prior to start of construction. All documents shall include the services of a geotechnical engineer and soils testing firm to evaluate foundation and backfill soils and to perform compaction per wall manufacturer's requirements. Upon completion, the geotechnical engineer shall provide a signed statement that walls were constructed in accordance with the approved construction documents for the project. Price shall include all earthwork, backfill, drainage items, appurtenances, utility relocation and incidental items required to construct the retaining wall. Walls shall include matching solid caps. Wall systems shall be equivalent in quality to retaining wall systems by Anchor"s Diamond Pro Retaining Wall System, straight face, color "James River" or equivalent as approved by the City. Unit price is for exposed face of wall. See detail sheet 5.
23. Temporary and permanent relocation of signs and mailboxes in project area shall be performed in accordance with section 104.05 of VDOT Standard Specifications. Contractor shall consider that all reinstalled signs must meet current M.U.T.C.D. height standards regardless of existing sign heights. Bottom edge of signs shall be at least 7'-0" above finished grade.
24. All signs to be installed or upgraded in the City are to be made by M.U.T.C.D. standards and made of diamond grade 3M Brand Scotchlite materials.
25. Post sizes, dimensions and parts list are as follows.
    a. Post sizes are 2"x 2" (in.) outside diameter square galvanized metal posts with holes on all sides and entire length of post. Length varies depending on size of signs to be installed. Average post sizes are 12 ft. and 14 ft. in length.
    b. Anchors are 2.25" x 2.25" (in.) outside diameter square, 36" (in.) in length. Outside sleeves are 2.25"x 2.25" inside diameter square, 12" (in.) in length. Anchors and sleeves to have holes also.
    c. Corner bolts are used to connect posts, anchors and sleeves together to complete assembly at about 2" (in.) above ground or sidewalk level. The minimum depth of the post down inside of the anchor and sleeve assembly is 12" (in.).
    d Sign mounting rivets (3/8th inch drive rivets) need to be tamper proof approved. If signs are being installed on a temporary basis use 5/16"x 2 1/2"-18 bolts with 1/2" head, 5/16"-18 nylon locking nut with 1/2" head and a 7/8" outside diameter nylon washer with 5/16" hole. Place nylon washer on bolt so that it is up against the sign face.
26. When installed the average distance will be 24" (in.) from backside of curb to the edge of sign. This distance may vary depending on sidewalk, utility strip construction and sight distance.
27. Before any signs are installed, the locations of the posts need to be checked in the M.U.T.C.D. and an engineering study done to make sure that clearances for wheelchair access is met.

COMMONWEALTH OF VIRGINIA
THOMAS A. HARTMAN
Lic. No. 047782
12/20/13
PROFESSIONAL ENGINEER

VDOT PROJECT 0033-150-229, P101, R201, M50, UPC 100545

REV	DATE	DESCRIPTION	BY

SCALE: 1" = 400'	
DRAWN BY	DATE
JRS & FEA	12/20/2013
CHECKED BY	DATE
TAH	12/20/2013
DESIGN BY	DATE
JWP & FEA	12/20/2013
TAX MAP	
28 & 27	

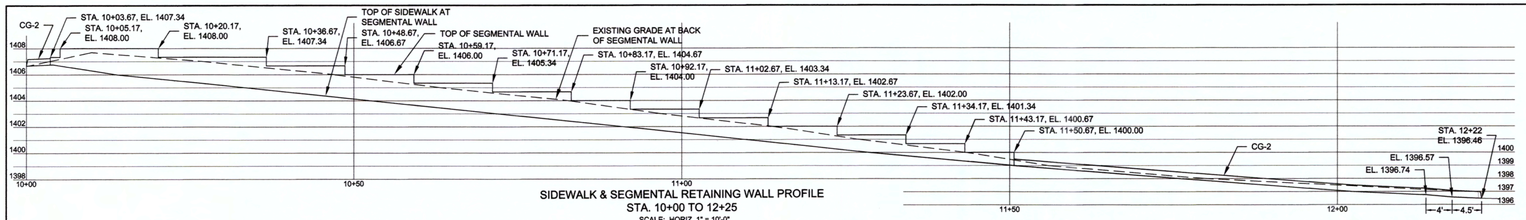
EAST MARKET STREET
SIDEWALKS–PHASE IV
TITLE SHEET, NOTES & LEGEND

DIVISION OF ENGINEERING
CITY OF HARRISONBURG
409 SOUTH MAIN STREET
HARRISONBURG, VIRGINIA

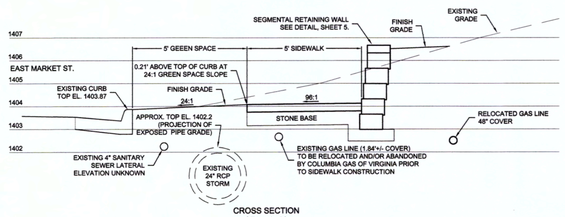
PROJECT # 1126

Project: 1126
Drawing: East Market St. – Phase 4

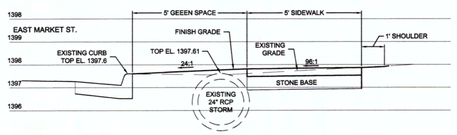
Printed: 12/12/13



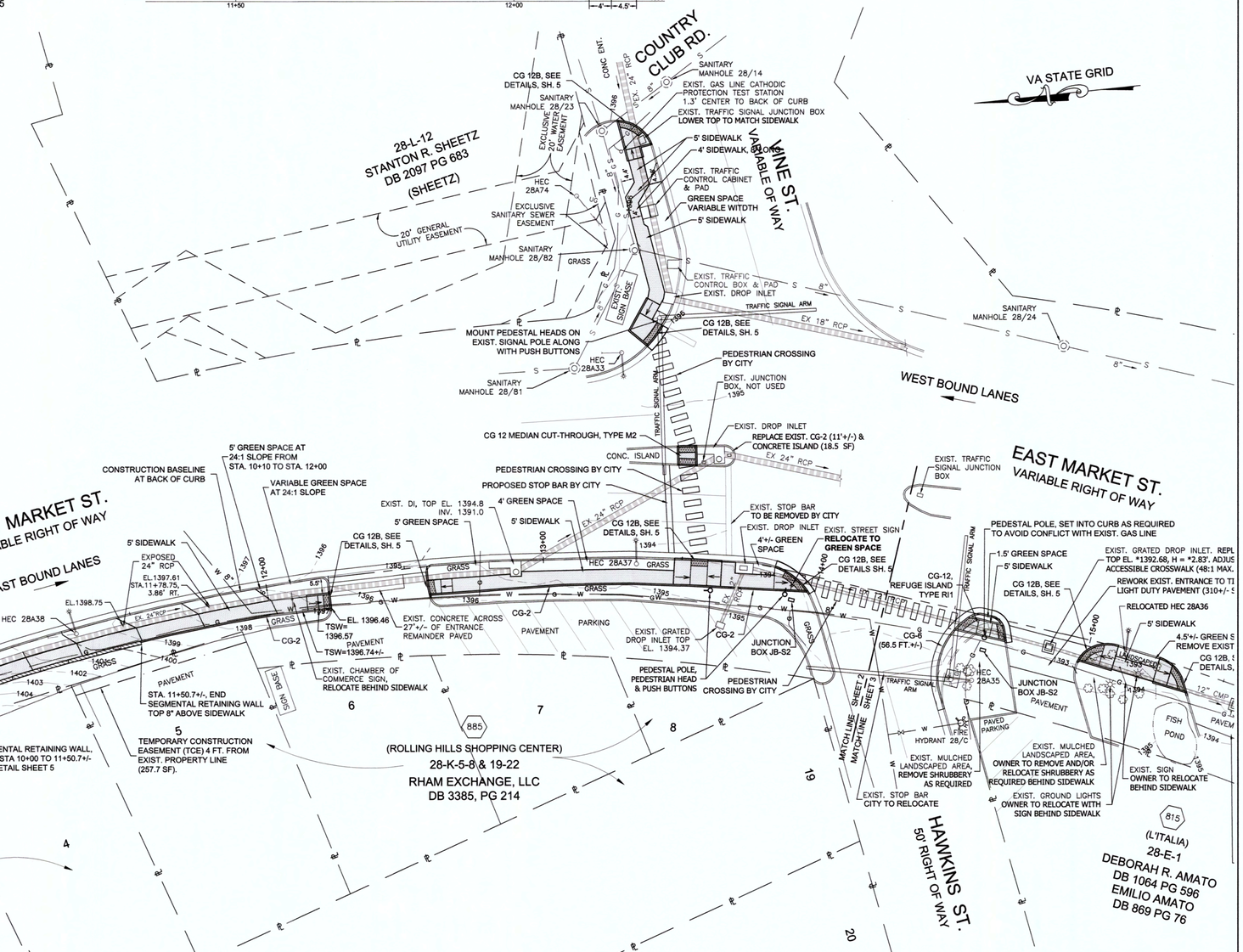
SIDEWALK & SEGMENTAL RETAINING WALL PROFILE
STA. 10+00 TO 12+25
SCALE: HORIZ. 1" = 10'-0"
VERT. 1" = 5'-0"



CROSS SECTION
STA. 10+50
SCALE: 1" =2'-0"



CROSS SECTION
STA. 11+78.84
SCALE: 1" = 2'-0"



VDOT PROJECT 0033-150-229, P101, R201, M50, UPC 100545

COMMONWEALTH OF VIRGINIA
THOMAS A. SHERMAN
LIC. No. 047782
12/2013
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	BY	SCALE: 1" = 20'	
				DRAWN BY	DATE
				JRS & FEA	12/20/2013
				CHECKED BY	DATE
				TAH	12/20/2013
				DESIGN BY	DATE
				JWP & FEA	12/20/2013
				TAX MAP	
				28 & 27	

EAST MARKET STREET
SIDEWALKS-PHASE IV
STA. 10+00 TO 14+80

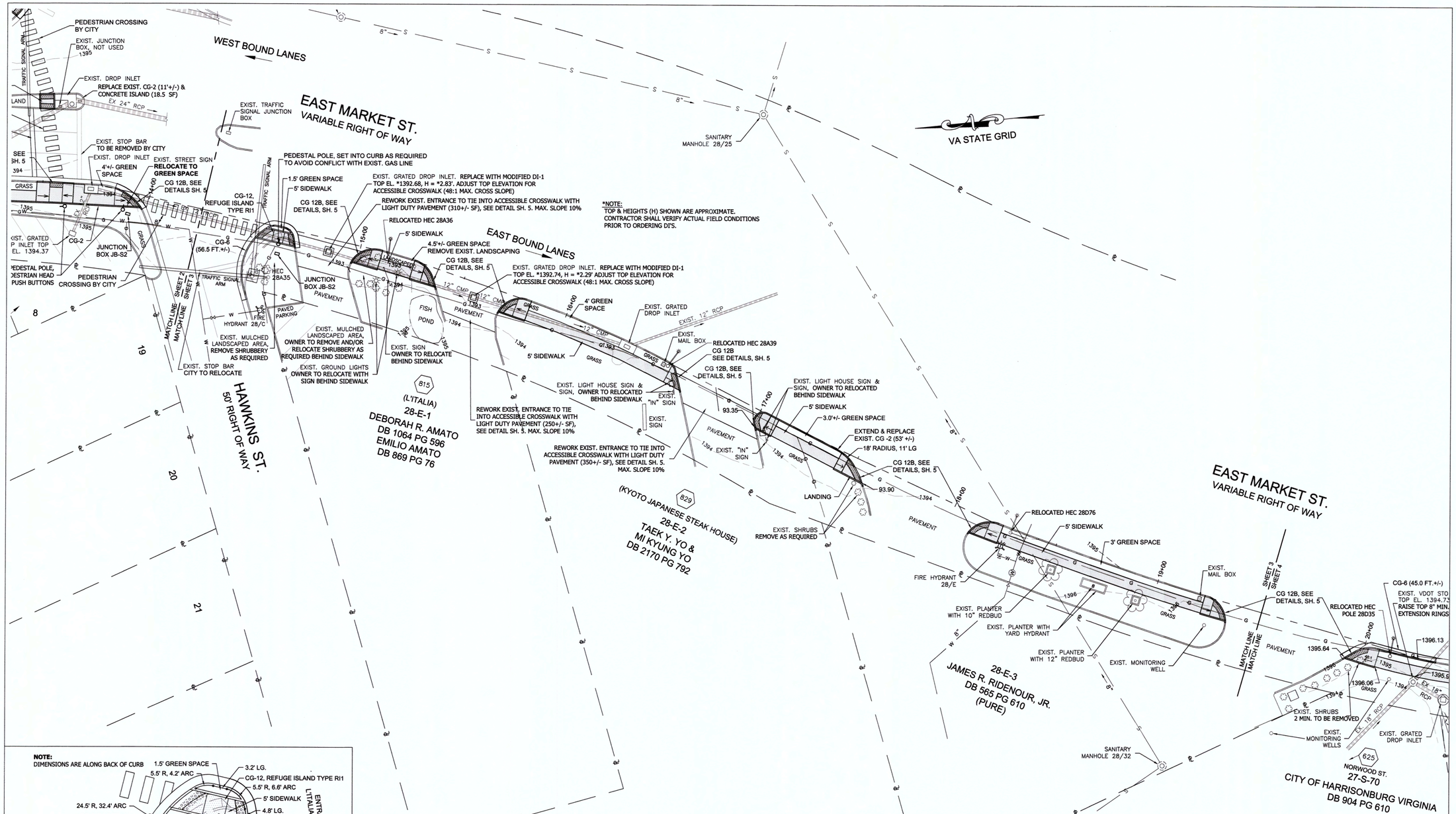
DIVISION OF ENGINEERING
CITY OF HARRISONBURG
409 SOUTH MAIN STREET
HARRISONBURG, VIRGINIA

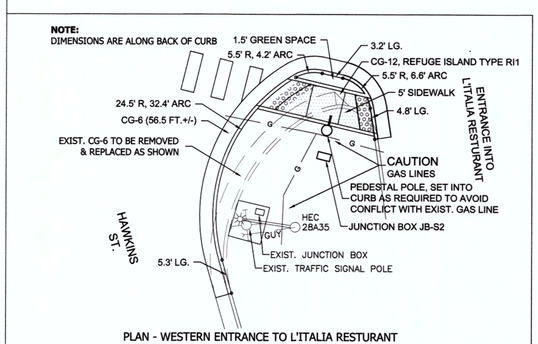
PROJECT # 1126

2 OF 6

Project: 1126
Drawing: E MARKET ST SIDEWALK PH 4.dwg

Printed: 12/13/13





PLAN - WESTERN ENTRANCE TO L'ITALIA RESTURANT
SCALE: 1" = 10'

VDOT PROJECT 0033-150-229, P101, R201, M50, UPC 100545

COMMONWEALTH OF VIRGINIA
THOMAS A. HARTMAN
Lic. No. 047782
12/20/13
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	BY	SCALE: 1" = 20'	
				DRAWN BY	DATE
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				DESIGN BY	DATE
				JWP & FEA	12/20/2013
				TAX MAP	
				28 & 27	

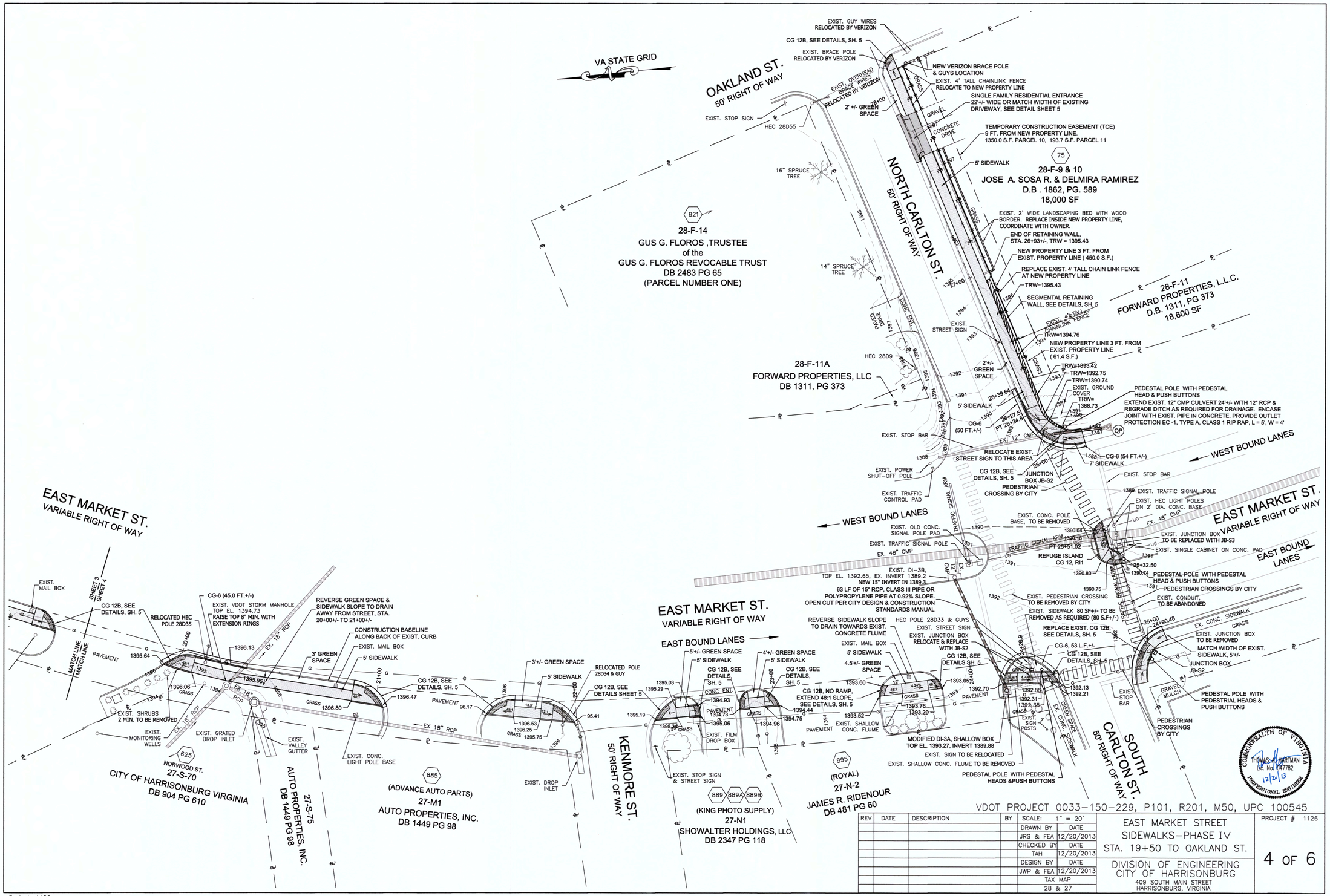
EAST MARKET STREET
SIDEWALKS-PHASE IV
STA. 14+80 TO STA. 19+50

DIVISION OF ENGINEERING
CITY OF HARRISONBURG
409 SOUTH MAIN STREET
HARRISONBURG, VIRGINIA

PROJECT # 1126

Project: 1126
Drawing: E MARKET ST SIDEWALK PH 4.dwg

Printed: 12/13/13



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				DESIGN BY	DATE
				JWP & FEA	12/20/2013
				TAX MAP	
				28 & 27	

EAST MARKET STREET
SIDEWALKS-PHASE IV
STA. 19+50 TO OAKLAND ST.

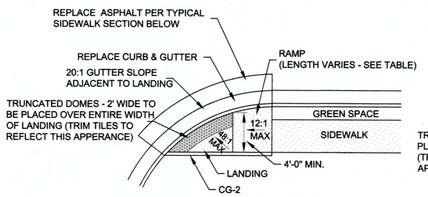
DIVISION OF ENGINEERING
CITY OF HARRISONBURG
409 SOUTH MAIN STREET
HARRISONBURG, VIRGINIA

PROJECT # 1126

Project: 1126
Drawing: E MARKET ST SIDEWALK PH 4.dwg

Printed: 12/12/13

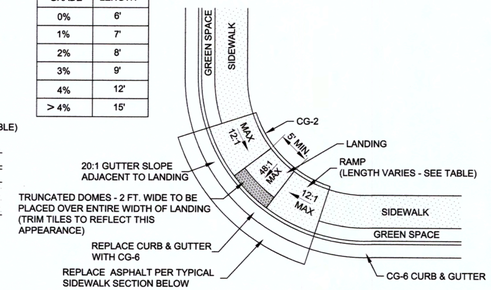
RAMP LENGTHS	
GRADE	LENGTH
0%	6'
1%	7'
2%	8'
3%	9'
4%	12'
> 4%	15'



CG-12B ONE-WAY CURB RAMP

4" CLASS A-3 CONCRETE
4" 21-A COMPACTED STONE BASE

SCALE: 1" = 10'

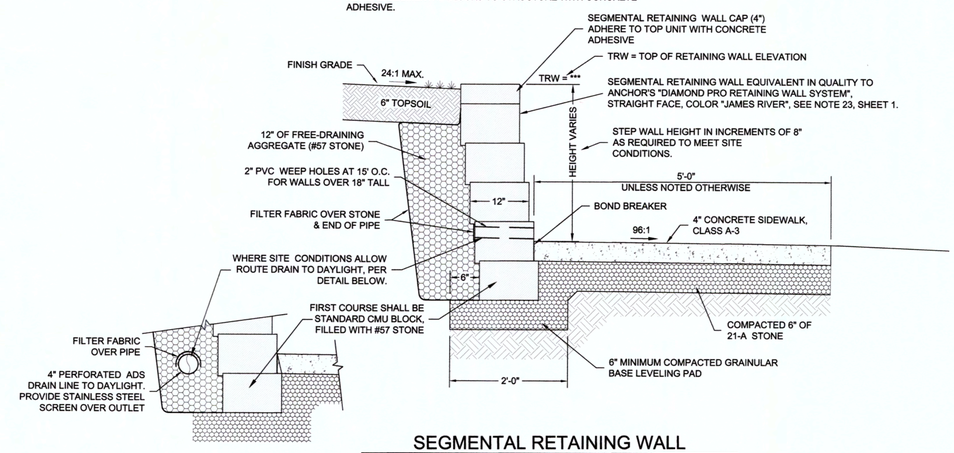


CG-12B TWO-WAY CURB RAMP

4" CLASS A-3 CONCRETE
4" 21-A STONE BASE

SCALE: 1" = 10'

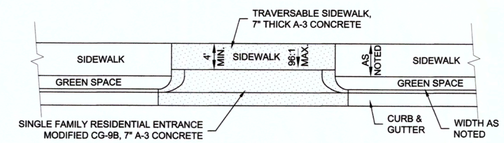
NOTE:
WHERE SEGMENTAL RETAINING WALLS ABUT AN EXISTING STRUCTURE ADHERE SEGMENTAL BLOCKS TO STRUCTURE WITH CONCRETE ADHESIVE.



SEGMENTAL RETAINING WALL

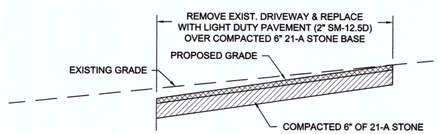
(NTS)

NOTE: UNIT PRICE IS FOR EXPOSED FACE OF WALL.



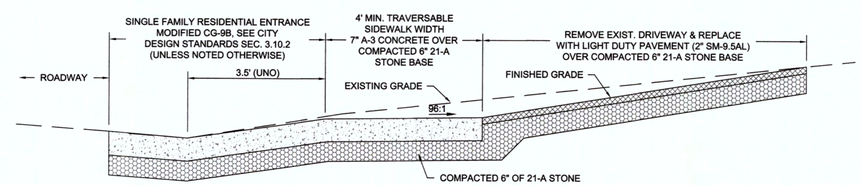
SINGLE FAMILY RESIDENTIAL ENTRANCE MODIFIED CG-9B

(NTS)



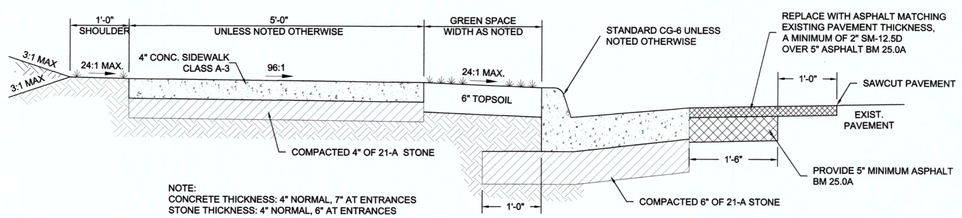
TYPICAL LIGHT DUTY ASPHALT PAVEMENT REPLACEMENT

(NTS)



SINGLE FAMILY RESIDENTIAL ENTRANCE & TYPICAL ASPHALT DRIVEWAY REPLACEMENT

(NTS)



NOTE:
CONCRETE THICKNESS: 4" NORMAL, 7" AT ENTRANCES
STONE THICKNESS: 4" NORMAL, 6" AT ENTRANCES

TYPICAL SIDEWALK SECTION (NTS)

(NTS)

COMMONWEALTH OF VIRGINIA
THOMAS J. HARMAN
Lic. No. 047782
12/20/13
PROFESSIONAL ENGINEER

VDOT PROJECT 0033-150-229, P101, R201, M50, UPC 100545

REV	DATE	DESCRIPTION	BY

SCALE: AS NOTED	
DRAWN BY	DATE
FEA	12/20/2013
CHECKED BY	DATE
TAH	12/20/2013
DESIGN BY	DATE
JWP & FEA	12/20/2013
TAX MAP	
28 & 27	

EAST MARKET STREET
SIDEWALKS-PHASE IV
DETAILS

DIVISION OF ENGINEERING
CITY OF HARRISONBURG
409 SOUTH MAIN STREET
HARRISONBURG, VIRGINIA

PROJECT # 1126

Project: 1126
Drawing: E MARKET ST SIDEWALK PH 4.dwg

Printed: 12/13/13

PEDESTRIAN SIGNALS AT EAST MARKET ST., VINE & HAWKINS ST. - DESCRIPTION OF WORK

Provide conduits where shown on plans with 18" minimum cover and 8" minimum separation at cross pipe barrels and 18" minimum separation within two feet of cross pipe joints. Existing conduits and conductors not required for signal or lighting operations shall be removed as directed by City. Conduits shall run under & elbow up into new junction boxes from below. Conduits placed in existing junction boxes shall be placed as directed by City. Directional boring is required for conduit installations. Contractor shall contact "MISS UTILITY" at least 48 hours before starting directional boring. Coordinate work with City Traffic Engineering.

Provide 3 each: JB-S2 junction boxes at locations shown

Provide 3 each: pedestal poles, bases and concrete foundations at locations shown

Provide 4 each: pedestal heads at locations shown. At Sheetz corner pedestal lights on existing signal pole upright

Provide 4 each: pedestal push buttons

Provide 1-4 C cable and terminations from controller cabinets to each pedestal head as shown

Provide 1-4 C cable and terminations from controller cabinets to each actuation device as shown

Existing pedestrian signal equipment removed shall be delivered to City Traffic Engineering.

MATERIAL SPECIFICATIONS (Provide specified products or equivalent as approved by Engineer)

Pedestal Heads: Standard SP-8, Leotek Model TP-16H-CIL-9

Polara Accessible Pedestrian Signals (APS) EZ Communicator Navigator, 2 wire system

Central Control Unit: CCU2EN w/panel & harness

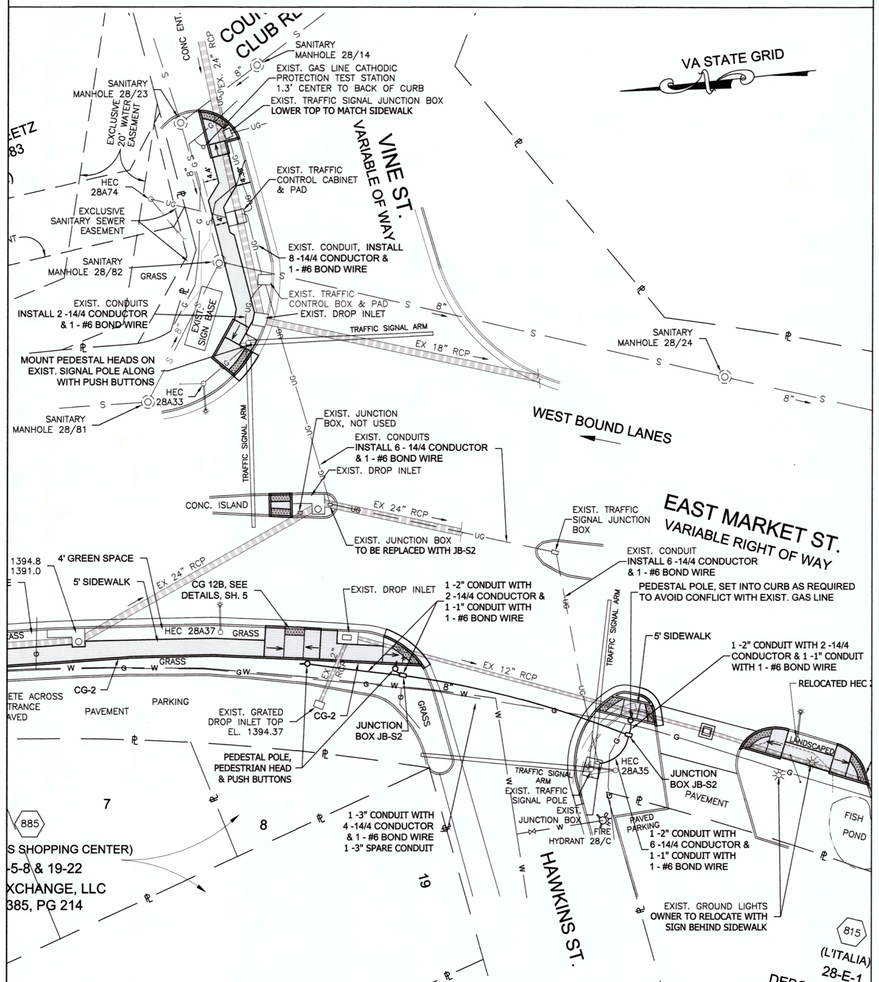
Push Button Stations: EN25DB1B

Junction Boxes: Amorcast Products Company, 20K rated polymer concrete cover, polymer concrete ring w/FRP skirt, type JB-S2 . The word "TRAFFIC" shall be stamped on the cover.

Conduits: Schedule 80 PVC

Wire: 14 AWG STRANDED IMSA approved

Pole & base: VDOT PF-2 H=8'



SCHEMATIC PLAN

PEDESTRIAN SIGNALS EAST MARKET ST. / HAWKINS ST. / VINE ST.

PEDESTRIAN SIGNALS AT EAST MARKET ST., NORTH & SOUTH CARLTON ST. - DESCRIPTION OF WORK

Provide conduits where shown on plans with 18" minimum cover and 8" minimum separation at cross pipe barrels and 18" minimum separation within two feet of cross pipe joints. Existing conduits and conductors not required for signal or lighting operations shall be removed as directed by City. Conduits shall run under and elbow up into new juction boxes from below. Conduits placed in existing junction boxes shall be placed as directed by City. Open cut is required for conduit installations. Contractor shall contact "MISS UTILITY" at least 48 hours before starting directional boring. Coordinate work with City Traffic Engineering.

Provide 3 each: JB-S2 junction boxes at locations shown

Provide 1: JB-S3 junction box at location shown

Provide 4 each: pedestal poles, bases and concrete foundations at locations shown

Provide 6 each: pedestal heads at locations shown. Pedestal lights in median next to west bound traffic go on existing traffic pole

Provide 6 each: pedestal push buttons

Provide 1-4 C cable and terminations from controller cabinets to each pedestal head as shown

Provide 1-4 C cable and terminations from controller cabinets to each actuation device as shown

City Traffic Engineering will provide programming of the controllers.

MATERIAL SPECIFICATIONS (Provide specified products or equivalent as approved by Engineer)

Pedestal Heads: Standard SP-8, Leotek Model TP-16H-CIL-9

Polara Accessible Pedestrain Signals (APS) EZ Communicator Navigator, 2 wire system

Central Control Unit: CCU2EN w/panel & harness

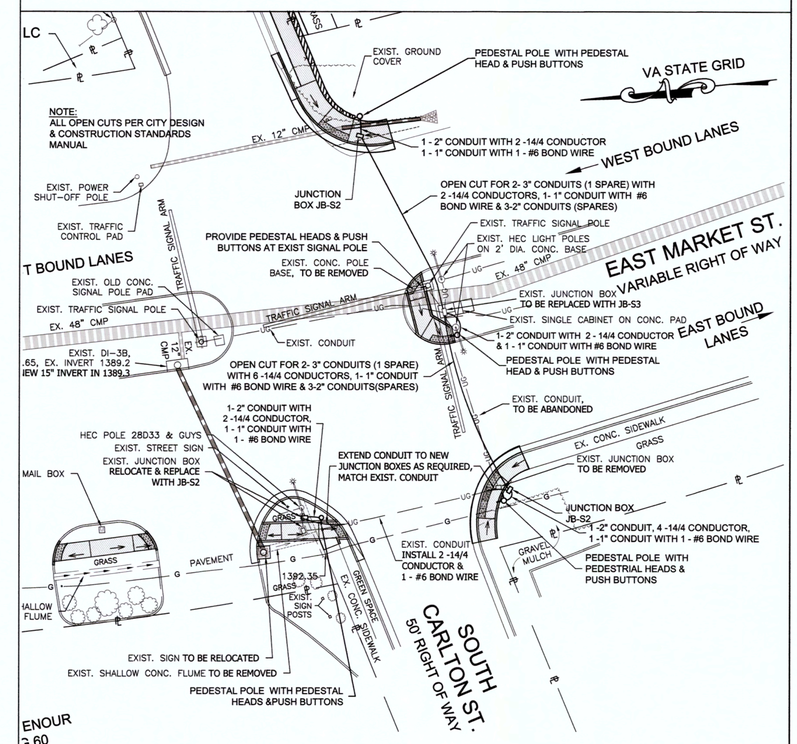
Push Buttons Stations: EN25DB1B

Junction Boxes: Amorcast Products Company, 20K rated polymer concrete cover, polymer concrete ring w/FRP skirt, type JB-S2 & JB-S3 . The word "TRAFFIC" shall be stamped on the cover.

Conduits: Schedule 80 PVC

Wire: 14 AWG STRANDED IMSA approved

Pole & base: VDOT PF-2 H=8'



SCHEMATIC PLAN

PEDESTRIAN SIGNALS EAST MARKET ST. / SOUTH CARLTON ST.

VDOT PROJECT 0033-150-229, P101, R201, M50, UPC 100545

COMMONWEALTH OF VIRGINIA
THOMAS A. HARTMAN
Lic. No. 047782
12/20/13
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	BY	SCALE: 1" = 20'		EAST MARKET STREET SIDEWALKS-PHASE IV PEDESTRIAN SIGNALS	PROJECT # 1126
				DRAWN BY	DATE		
				JRS & FEA	12/20/2013		
				CHECKED BY	DATE		
				TAH	12/20/2013		6 OF 6
				DESIGN BY	DATE	DIVISION OF ENGINEERING CITY OF HARRISONBURG 409 SOUTH MAIN STREET HARRISONBURG, VIRGINIA	
				JWP & FEA	12/20/2013		
				TAX MAP			
				28 & 27			