



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: Commerce Road Improvements

Project Address: Bells Road to Bellemeade Road

Brief Project Description (this is not a replacement for the required detailed narrative) : Roadway reconstruction to add a raised median, landscaping, storm sewer, curb & gutter, sidewalks, intersection improvements at Bellemeade, street trees, streetlights, bike lanes (Bells Rd to Bells Rd Connector), entrance improvements and aesthetic improvements throughout the corridor.

Applicant Information

(on all applications other than encroachments, a City agency representative must be the applicant)

Name: Kevin Newcomb Email: kevin.newcomb@richmondgov.com

City Agency: DPW - CPM Phone: 804-646-1847

Address: 900 E. Broad Street, Rm 603

Main Contact (if different from Applicant): _____

Company: City of Richmond 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.



CITY OF RICHMOND

DEPARTMENT OF PUBLIC WORKS

April 17, 2014

To: Urban Design Committee and City Planning Commission
Attn.: Mr. Jeff Eastman

Re.: Commerce Road Improvements Project
FINAL UDC/CPC Approval Application
Detailed Project Narrative to accompany the UDC application form

PROJECT DESCRIPTION:

Commerce Road is an urban minor arterial road serving regional traffic and the surrounding neighborhoods and businesses. Commerce Road provides direct access to Interstate 95 (I-95) via the Bells Road Interchange and carries an average daily traffic volume in excess of 4,000 vehicles (2012). Due to the industrial development along Commerce Road and adjacent roadways, the percentage of heavy vehicles (multi-axle trucks) in the existing and design year volumes exceeds 32%. Commerce Road currently has drainage issues (particularly at the underpasses), minimal pedestrian access, deteriorated pavement, a deficient bridge, minimal landscaping and there are no bicycle accommodations.

The proposed improvements to Commerce Road will provide curb and gutter with improved storm water runoff control, pedestrian sidewalks and improved crossings at Bells Road, Ruffin Road and Bellemeade Road. Street lighting and landscaping consistent with the City's plans will be provided along the corridor. With the recommended enhancements the new roadway will provide a safe, multi-modal corridor for all users and improve the overall look and function of Commerce Road.

PROJECT SCOPE:

Commerce Road will be improved to include 11 foot travel lanes in each direction, a 14 foot raised landscaped median or left turn lane along the entire corridor, curb and gutter, 5' sidewalk along the southbound side, pedestrian crosswalks, and a closed storm sewer system that will improve drainage issues and runoff control.

PROJECT GOALS:

Pedestrian Safety:

- Provide sidewalk along the west side and striped pedestrian crosswalks at Bells Road, Ruffin Road and Bellemeade Road.

Landscaping:

- Landscaped medians and roadside trees to enhance aesthetics
- Specific landscaping at intersections and along the corridor to reduce headlight glare onto southbound I-95.

Environmental Benefits:

- Provides drainage improvements and treatment for storm water runoff, and air quality benefits.

Vehicular Safety:

- Median permits separate left turn lanes. This reduces rear end crashes from through vehicles and angle crashes (drivers waiting in the designated left turn lane are not holding up through traffic are more likely to wait for a safe gap in opposing traffic).
- Median or left turn lane (flush median) separate opposing through traffic and reduces number of conflict points thereby reducing head on and other types of crashes.
- Right turn lanes further reduce through lane conflicts

Access Management:

- Enhances safe access for vehicles turning in / out of properties.
- Railroad crossing improvements.
- Bridge replacement with pedestrian accommodations.

ANTICIPATED PROJECT COSTS:

Total estimated Cost: \$14 million

The current design phase estimated cost: \$1.25 million

Right of Way Acquisition, Relocation Assistance and Utility Relocation: \$0.5 million

Construction: \$12.25 million

The project is fully funded with Federal Funds.

CURRENT PROJECT SCHEDULE:

Public Hearing / Environmental Document – Held March 11, 2014

UDC Final – May 8, 2014

CPC Final – May 19, 2014

Begin R.O.W. Acquisition – July, 2014

Begin Construction – Spring, 2015

Complete Construction – Spring, 2017

PUBLIC INPUT MEETING HISTORY:

DPW initiated Commerce Road Improvement Design	10/27/2011
CIM - (Citizen Information Meeting)	7/18/2012
Streetlight Design Review Meeting	8/30/2012
Initial UDC Review	9/6/2012
Initial PDC Review	9/17/2012
JMT met with Mr. Edmunds to review his property concerns	6/6/2013
Formal Public Hearing	3/11/14

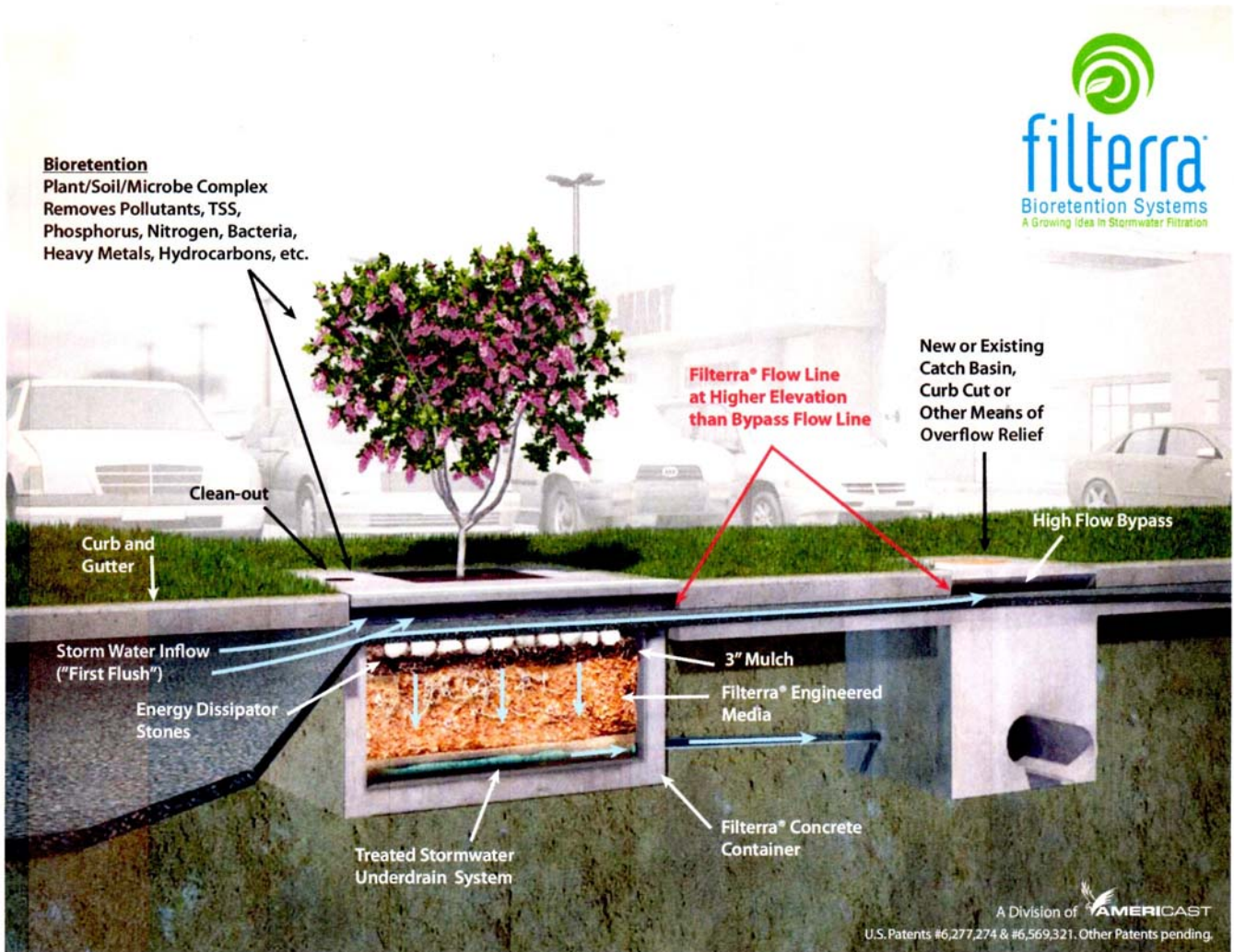
Commerce Road; Summary of Changes Based on Citizen, UDC and CPC Input, Since Project Inception:

1. Pedestrian Crosswalk striping to be provided at the Commerce Road intersections with Bells Road, Ruffin Road and Bellemeade Road.
2. Added Bike lanes along both sides of the Bells Road Connector from Commerce Road to Deepwater Terminal.
3. Added proposed sidewalk along north side of Bellemeade to connect the Commerce Road sidewalk with the existing sidewalk at Royall Avenue and Bellmeade Road.
4. Existing pavement width on northbound Commerce Road at the intersection with the Bells Road Connector to Deepwater Terminal utilized to provide one through lane for northbound Commerce Road and one dedicated right turn lane to the Bells Road Connector
5. The existing pavement on northbound Commerce Road in front of Philip Morris reduced to improve the through lane alignment, minimize pavement width and provide continuity of the through lane
6. Locations of proposed raised median and left turn lanes (flush median) adjusted to reduce locations of left turning traffic and align with primary property entrances
7. Bridge carrying the proposed Commerce Road over Goodes Creek to be replaced in place minimizing alignment shift and reducing construction time and costs.

Commerce Road; Summary of Changes to the Landscape plans since the Initial presentation to the UDC September 6, 2012:

1. Landscaping along east side of Commerce Road adjacent to I95 expanded from spot improvements to reduce headlight glare on I95 to include trees and shrubs along project area further reducing headlight glare on southbound I95.

DPW proposes using Filterra units, underground water retention structures and storm water management pond to treat the storm water from this project:



Commerce Road Improvement Project – Public Hearing Summary
Project No. U000-127-139, PE-101, RW-201, C-501, B-617
From: Bells Road (South Intersection)
To: 0.13 Miles North of Bellmeade Road Intersection
UPC No. 15958

City of Richmond
Department of Public Works
CIP# 100691

On Tuesday, March 11, 2014, The City of Richmond Department of Public Works held a Design Public Hearing for the Commerce Road Improvement Project at the Ruffin Road Elementary School Annex, located at 2001 Ruffin Road, Richmond, VA, 23234 from 5:00 pm to 7:00 pm.

The Public Hearing was conducted in an “Open House” format with information (design and construction plans, right of way plans, landscape plans and preliminary bridge plans) located around the room to allow each person easy access to review the plans and to have their questions and concerns answered. An information handout was given out, which included, the project scope, project description, a proposed roadway typical section, anticipated construction cost and the current project schedule, also included was a Summary of Changes to the project since its inception, along with a pre-addressed Comment Sheet. Citizens were provided ten (10) days to return their written comments to the City, if they chose not to return them at the meeting. One verbal comment was made at the meeting and documented by a court reporter and one written comment sheet was received (copies attached).

The Public Hearing was attended by one (1) area / local resident, one representative of Altria (Philip Morris), Ms. Reva Trammell - City Council 8th District and Mr. Henry Mease – 8th District Council Liaison.

Comment and Responses’:

Mr. Richard C. Edmunds

2102 and 2107 Commerce Road

Comments: Mr. Edmund’s verbal statements at the public hearing are provided by a certified court reporter and attached hereto. Mr. Edmunds does not agree with the project purpose and need. Mr. Edmunds is opposed to closing Commerce Road at Goodes Creek during construction of the new structure and does agree with the need for sidewalks for the corridor. Mr. Edmunds expressed concern that the road closure for 9-12 months to construct the proposed bridge would put his business and his tenants out of business. Response and detailed considerations to Mr. Edmund’s concerns are provided in the responses to Ms. Trammell attached hereto.

Response: Response to Mr. Edmund’s concerns and detailed considerations are provided in the responses to Ms. Trammell attached hereto.

Mr. Shawn Howell

4001 Commerce Road

Comments: Mr. Howell reviewed the plans and displays available and did not express any concerns with the design as shown. Copies of the public hearing displays have been provided to Mr. Howell for his coordination with the appropriate offices at Altria.

Ms. Reva Trammell

City Council, 8th District

Mr. Henry Mease

Council Liaison, 8th District

Comments: Ms. Trammell expressed several concerns related to Mr. Edmund's comments and had multiple questions regarding design changes or additions that may alleviate his concerns.

Response: Responses to Ms. Trammell's concerns/questions are attached hereto.

Written Public Comments Received:

Mr. Richard C. Edmunds

2102 and 2107 Commerce Road

Comments: Mr. Edmunds does not agree with the project purpose and need and is opposed to the project and the closing of Commerce Road at Goodes Creek during construction of the new structure. Mr. Edmund does agree with the need for sidewalks for the corridor. Mr. Edmunds does not agree with the location of the Storm Water Management Pond located near his property and adjacent to Goodes Creek.

Response: Response to Mr. Edmund's concerns and detailed considerations are provided in the responses to Ms. Trammell attached hereto.

Questions/Comments from 8th District Council Member - Ms. Reva Trammell:

One of the justifications for the project is the condition of the existing Commerce Road Bridge over Goodes Creek. The age of the existing structure (built in 1940) combined with the continual use by heavy trucks have contributed to the need to replace the structure. Closing Commerce Road and replacing the structure in the existing location saves construction time and costs, reduces utility impacts and eliminates the need to purchase construction easements.

Can we eliminate the sidewalk from the project? No.

1. The project is federally funded and requires that the City make/address multimodal improvements with new projects.
2. The UDC/CPC has endorsed the sidewalk.
3. The sidewalk provides pedestrian connectivity from Royall Avenue (at Bellmeade) to Bells Road.
4. There are bus stops (Ruffin Road and Philip Morris) along Commerce Road that the sidewalk will serve passengers.
5. There is a park project planned adjacent to the James River that the sidewalks would serve.
6. Those using the bus service may be walking along the edge of Commerce Road to / from their home or work destination. Several individuals were noted waiting at the bus stop at Ruffin Road and Commerce Road on the evening of the hearing. Since they were waiting to ride a bus on the westbound side of Ruffin Road they either walked along Commerce Road or may have been dropped off.

Can we provide bike lanes throughout the project? Partially.

1. The plans show connectivity of the City bike route from Bells Road under I-95 to Deepwater Terminal Road as required by the UDC/CPC.
2. The corridor is not designated on the City's bike route. Avid cyclists tend to prefer riding in the street on the through lane pavement since that is usually cleaner of sand and grit than designated

bike lanes. Placing cyclists close to the through lanes on a corridor with 30% heavy truck traffic is not desirable.

3. Providing bike lanes throughout the entire project would require addition of five feet (5') of pavement in each direction. To add bike lanes on both sides of the roadway with full depth pavement would add extensive cost to the project.
4. The bike lanes would require extensive redesign of the project.
5. There is insufficient space to provide southbound connectivity on the west side due to right of way width constraints without extensive right of way acquisition.
6. There is no connectivity available on the north end of the project (at Bellemeade).
7. Would require increasing the width of the bridge twelve feet (12') at substantial additional cost.

Can we change the sidewalk to a shared use path (pedestrians and bicyclist)? No.

1. A single side shared use path must be ten feet (10') wide per AASHTO.
2. A shared use path requires eight (8') from the face of curb to the inside path edge and would increase the footprint of the project.
3. There is insufficient right of way along the east side between Commerce Road and I-95 and the private properties to add a shared use path without relocating Commerce Road to the west along the entire corridor.
4. There is insufficient right of way at the south end on the west side of the project adjacent to Philip Morris to provide connectivity to Bells Road.
5. A Shared Use Path would require widening the bridge an additional 11.5 feet (11.5') and would impact additional underground utilities at substantial cost. To add a 10' shared-use path on a 45mph design speed corridor, the currently proposed 6' wide bridge sidewalk must be widened to provide 5.5 feet from the face of curb to the inside edge of the path, plus the 10' wide shared-use path, plus 2' from the outside edge of the path to the bridge rail for a total of 17.5 feet or 11.5' wider than the currently proposed structure. This would be a substantial increase in impacts, transitions on and off the structure and in construction costs.
6. Additional impervious area would increase runoff pollutants that would require redesign of the storm sewer system and additional storm water treatment would be required at additional cost.
7. Additional project width may impact additional underground utilities not currently impacted.
8. There would be no connectivity for the path at Bellemeade.
9. Additional cost to the City for initial construction and maintenance of the path.

Can we relocate the storm water basin to the west onto Mr. R.C. Edmunds property and do a land swap for the property currently owned by the City-DPW on which the basin is proposed?

1. This is an unnecessary additional cost to the project since DPW owns the land on which the basin is currently proposed.
2. The basin is designed at the best location hydraulically to minimize storm sewer size and length and reduce property acquisition cost.
3. There is a floodway adjacent to Goode's Creek that may prevent the relocation of the basin in the area west on Mr. Edmunds property. The CSX Railroad right of way and Goodes Creek get closer and there is ponded water on the site that restricts the use of the area.
4. Storm sewer cost would increase in order to pipe to the more remote location requiring drainage easements.
5. The proposed location adjacent to Commerce Road and on City owned property is easily accessible for monitoring and maintenance by the City. To move the basin away from Commerce Road would require (assuming it can be relocated – see No. 3 above), additional construction costs and access easements or other right of entry from Mr. Edmunds for the access road to the new basin location.
6. The change will require additional survey and engineering cost to redesign the basin and legal fees for the land swap.

Public Comments Received:

CITY OF RICHMOND
DEPARTMENT OF PUBLIC WORKS

IN RE: PUBLIC HEARING
COMMERCE ROAD
HEARD BEFORE: KEVIN NEWCOMB, PE
PROJECT MANAGER

MARCH 11, 2014

RUFFIN ROAD ELEMENTARY SCHOOL ANNEX
2001 RUFFIN ROAD
RICHMOND, VIRGINIA
5:00 P.M.

COMMONWEALTH REPORTERS, LLC.
P. O. Box 13227
Richmond, Virginia, 23225
Tel. No. 804-859-2051 Fax No. 804-291-9460

1 CITY OF RICHMOND:

2 Kevin Newcomb, PE, Presiding

3 Lamont Benjamin

4

5 RICHMOND CITY COUNCIL:

6 Reva M. Trammell, 8th District

7

8 JOHNSON, MIRMIRAN & THOMPSON

9 Mark White

10 Andy Payne

11 Dick Ashbury

12 Trip Phaup

13

14 EEE CONSULTING:

15 Carter Teague

16

17

18

19

20

21

22

23

24

25

COMMONWEALTH REPORTERS, LLC
804-859-2051

1	I N D E X	
2	NAME	PAGE
3	Richard Edmunds	4
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

CERTIFIED COPY

COMMONWEALTH REPORTERS, LLC
804-859-2051

1 (The public hearing commenced at 5:00 p.m. Three
2 members of the community signed in and the taking of oral
3 comments commenced as follows:)

4
5 MR. EDMUNDS: My name is Richard C.
6 Edmunds and I own the property at 2102 and 2107
7 Commerce Road. Over 70 years ago, two great
8 countries tried to put the United States out of
9 business.

10 First was the Japanese who tried to
11 bomb us out and failed. Then Adolph Hitler and
12 the Germans wanted to conquer the world so the
13 United States would be out of business. They
14 failed.

15 Now we got a situation that the
16 Department of Public Works is putting me out of
17 business. And I'll tell you who they're doing
18 it. I own on both sides of Commerce Road and
19 they're talking about a year that we can't -- my
20 people, and -- and I have anywhere from three to
21 seven tenants normally on both sides of the road.

22 And they will not be able to get
23 there because they're going to close a 40-foot
24 bridge, which is inexcusable in my opinion. And
25 for the length of that time -- I see the new

COMMONWEALTH REPORTERS, LLC
804-859-2051

1 Huguenot, much larger, went up in a shorter
2 amount of time. I'm not an engineer but I do not
3 understand how it's going to do it. But it's
4 going to put me out of business all because the
5 City doesn't have to pay but 2% of the cost of
6 this \$14M project.

7 Which is just inexcusable, they're
8 making Taj Mahal out of something that's not
9 necessary to have to be all this grandiose. Not
10 even -- not even close.

11 The idea of having sidewalks -- I've
12 owned this property for 46 years and I have never
13 seen an employee walk to work on any of the
14 businesses on Commerce Road. And in -- there are
15 no homes on Commerce.

16 So it is an all business situation.
17 And in fact, I'm told that the City is
18 contemplating other nearby roads, which are
19 needed more will be needing -- to cost money.

20 This money should go -- with all the
21 needs we have in the -- in the City of Richmond
22 area, \$14M -- the time has gone past when this
23 may have made sense. Particularly if the new
24 Deepwater Terminal Road comes about. And in
25 fact, with -- this is -- who is the money really

COMMONWEALTH REPORTERS, LLC
804-859-2051

1 -- where is the money really coming from in this
2 \$14M project? It's coming from working men and
3 women and businesses, namely taxpayers. That's
4 where we get our taxpayers from.

5 And despite the fact that the City
6 of Richmond thinks it's got a real bargain and
7 therefore wants to go ahead with it -- of course,
8 it only costs them 2%. The fact remains that
9 it's taxpayers of the City, the State and the
10 federal government that is paying for it.

11 I don't want to be put out of
12 business. I oppose it 100%. But even past that
13 point, as a taxpayer, this -- heaven help us if
14 this is the best we can spend our taxpayer funds
15 on, and not end up with anything better. That's
16 all. Thank you.

17
18
19 (The public hearing concluded at 7:00 p.m.)
20
21
22
23
24
25

COMMONWEALTH REPORTERS, LLC
804-859-2051

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE OF COURT REPORTER

I, Debroah Carter, hereby certify that I was the Court Reporter at the public hearing regarding CITY OF RICHMOND, DEPARTMENT OF PUBLIC WORKS, COMMERCE ROAD PROJECT, heard in Richmond, Virginia, on March 11th, 2014, at the time of the public hearing herein.

I further certify that the foregoing transcript is a true and accurate record of the testimony and other incidents of the public hearing herein.

Given under my hand this 11th day of March, 2014.



Debroah Carter, CMRS, CCR
Virginia Certified
Court Reporter

My certification expires June 30, 2014.

COMMONWEALTH REPORTERS, LLC
804-859-2051



DESIGN PUBLIC HEARING
COMMERCE ROAD

Project No: U000-127-139, P101, R201, C501, B617
City of Richmond

Tuesday, March 11, 2014 from 5pm -7 pm

CITY OF RICHMOND
DEPARTMENT OF PUBLIC WORKS

Ruffin Road Elementary School Annex
2001 Ruffin Road, Richmond, VA

COMMENT SHEET

All comments are subject to public disclosure.

Name (optional): R.C. EDMUNDS
Address: 2102 + 2107 COMMERCE RD
TEL# 200-1360

- 1) Do you support the project improvements as they were presented at this meeting? Please explain why or why not. NO - SINCE IT WILL PUT ME OUT OF BUSINESS ON BOTH SIDES OF COMMERCE. Save the money for needed need in our City.
2) Are there modifications or changes to the project that you recommend or would like to see incorporated? Please explain as necessary. ELIMINATE PROJECT COMPLETELY + SPEND the 14 million dollars in City where it can be more good put storm water pond in less desirable location.
3) Were the proposed roadway and bridge improvements explained to you? with 9-12 months of close the road is ridiculous sidewalk not needed for City Council member since no residents live on Comm. Rd. compare time + length of this project with Huguenot Bridge improvements.
4) Was the Goodes Creek Bridge closing during construction explained to you and were the detour routes illustrated and explained? a pond of water on desirable - business based projects in service nearby location make much more sense. (Storm water pond) DON'T CLOSE BRIDGE & FIX BRIDGE ONLY IF NECESSARY.
5) What effect will this improvement have on your everyday travel? PUT ME OUT OF BUSINESS w/ MY TENANTS. I've heard Dreyfus Terminal Rd + being improved. That's enough money spent for traffic improvements for this area.
6) Please provide any additional information/comments that you believe will assist the City in developing the final design for this improvement. I've owned this property for 46 yrs - Never have I seen an employee or accident parking on Commerce Rd. I think P. Morris has less employees + they have had No person showed up to the meeting from their place to my knowledge.
7) Please circle your level of satisfaction (1 being dissatisfied and 10 being very satisfied) regarding the City's efforts to improve Commerce Road.

1 2 3 4 5 6 7 8 9 10
IT WILL PUT ME OUT OF BUSINESS...

Please leave this Comment Sheet at the designated location or mail your comments (post marked by Tuesday, February 4, 2014) to the addressee on the reverse side.

COMMERCE ROAD

Project No: U000-127-139, P101, R201, C501, B617
 From: Intersection with Bells Road (South Intersection)
 To: 0.13 mile North of Intersection with Bellemeade Road
 City of Richmond



**CITY OF RICHMOND
 DEPARTMENT OF PUBLIC WORKS**

DESIGN PUBLIC HEARING SIGN-IN SHEET

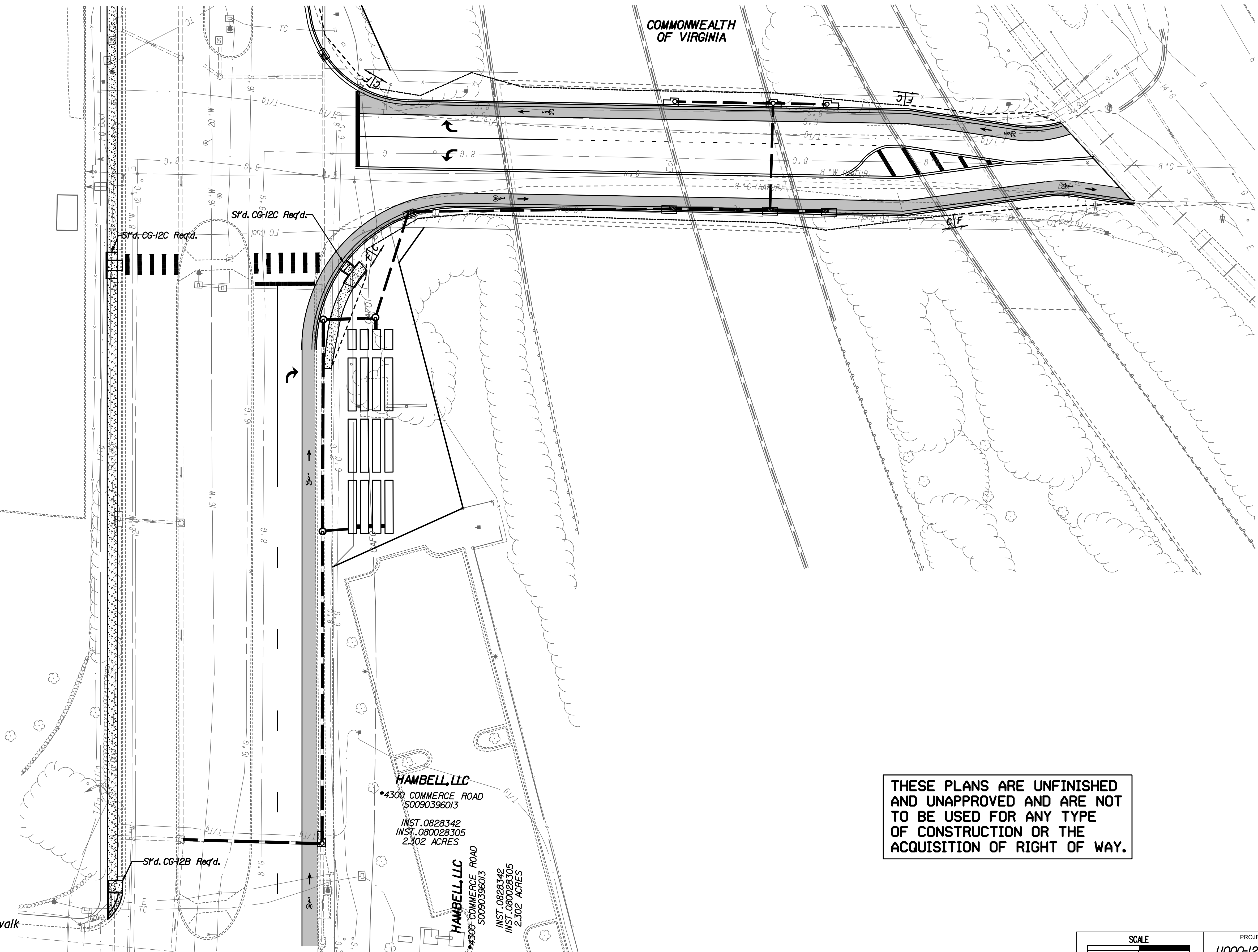
Tuesday, March 11, 2014, 5pm - 7 pm
 Ruffin Road Elementary School Annex
 2001 Ruffin Road, Richmond, VA

Name	Address	Phone Number	EMAIL Address:
Shirley Howell	4001 Commerce Rd. Richmond, VA	274-7595	ShirleyHowell@Aflac.com
R. E. Dumb	2107 + 2102 Commerce Rd	200-1360	
Henry Mense	8th Dist. Council Liaison	912-7450	city website
R. E. Dumb		2465750	

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

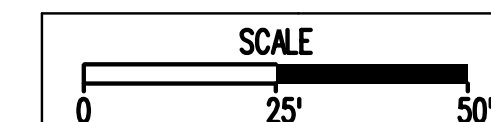
CROSSWALKS & BICYCLE LANES

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	



- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk
- Denotes bike lane

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



PROJECT	SHEET NO.
U000-127-139	

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	

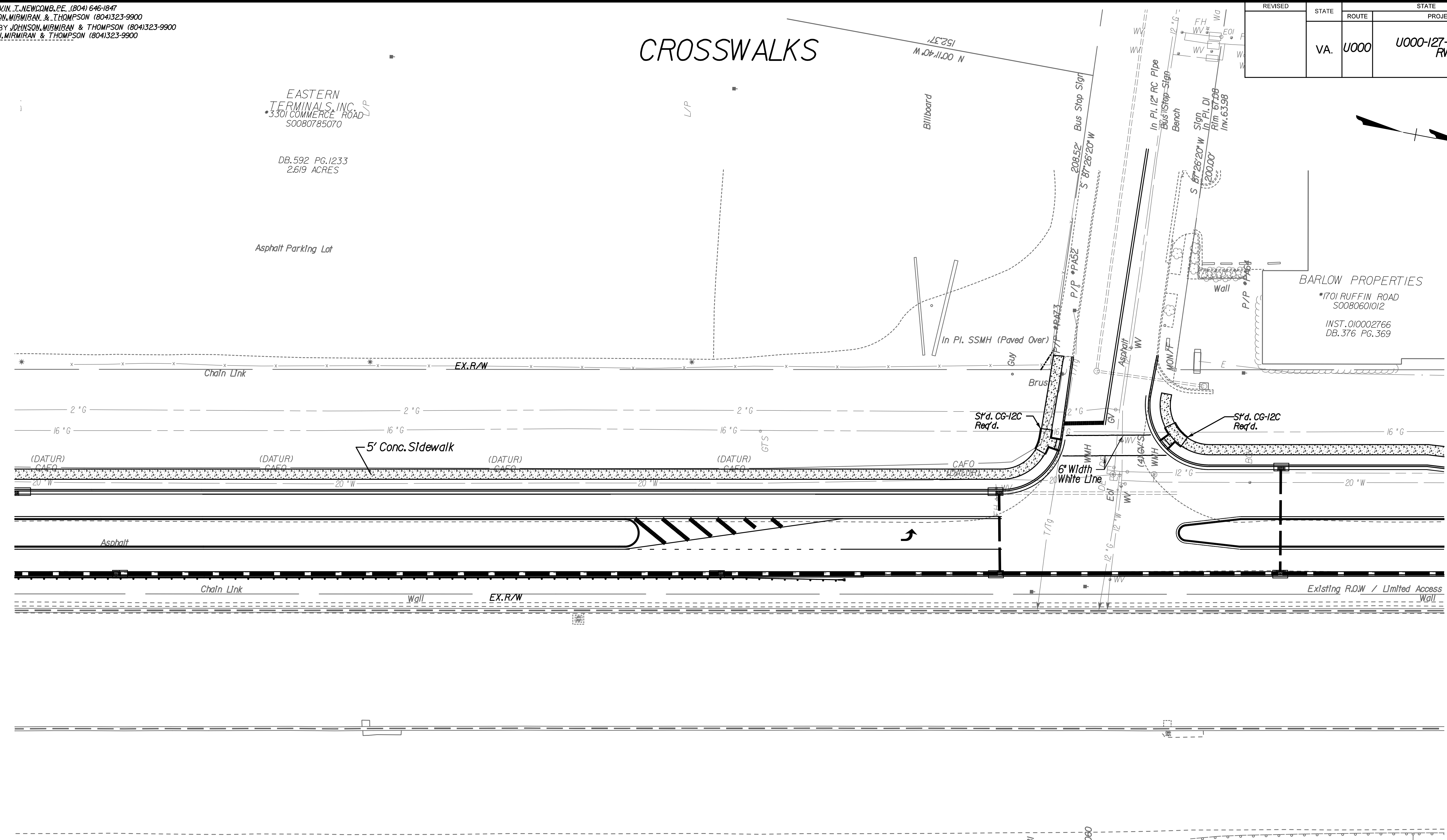
CROSSWALKS

EASTERN TERMINALS, INC.
*3301 COMMERCE ROAD
50080785070

DB.592 PG.1233
2.619 ACRES

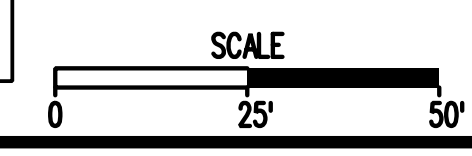
Asphalt Parking Lot

BARLOW PROPERTIES
*1701 RUFFIN ROAD
50080601012
INST. 010002766
DB.376 PG.369



- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Stippled Pattern] Denotes area of proposed construction
- [Hatched Pattern] Denotes mill and overlay
- [Diagonal Hatched Pattern] Denotes demolition
- [Dotted Pattern] Denotes proposed hydraulic cement sidewalk

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

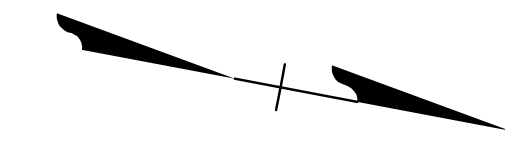


PROJECT	SHEET NO.
U000-127-139	

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	

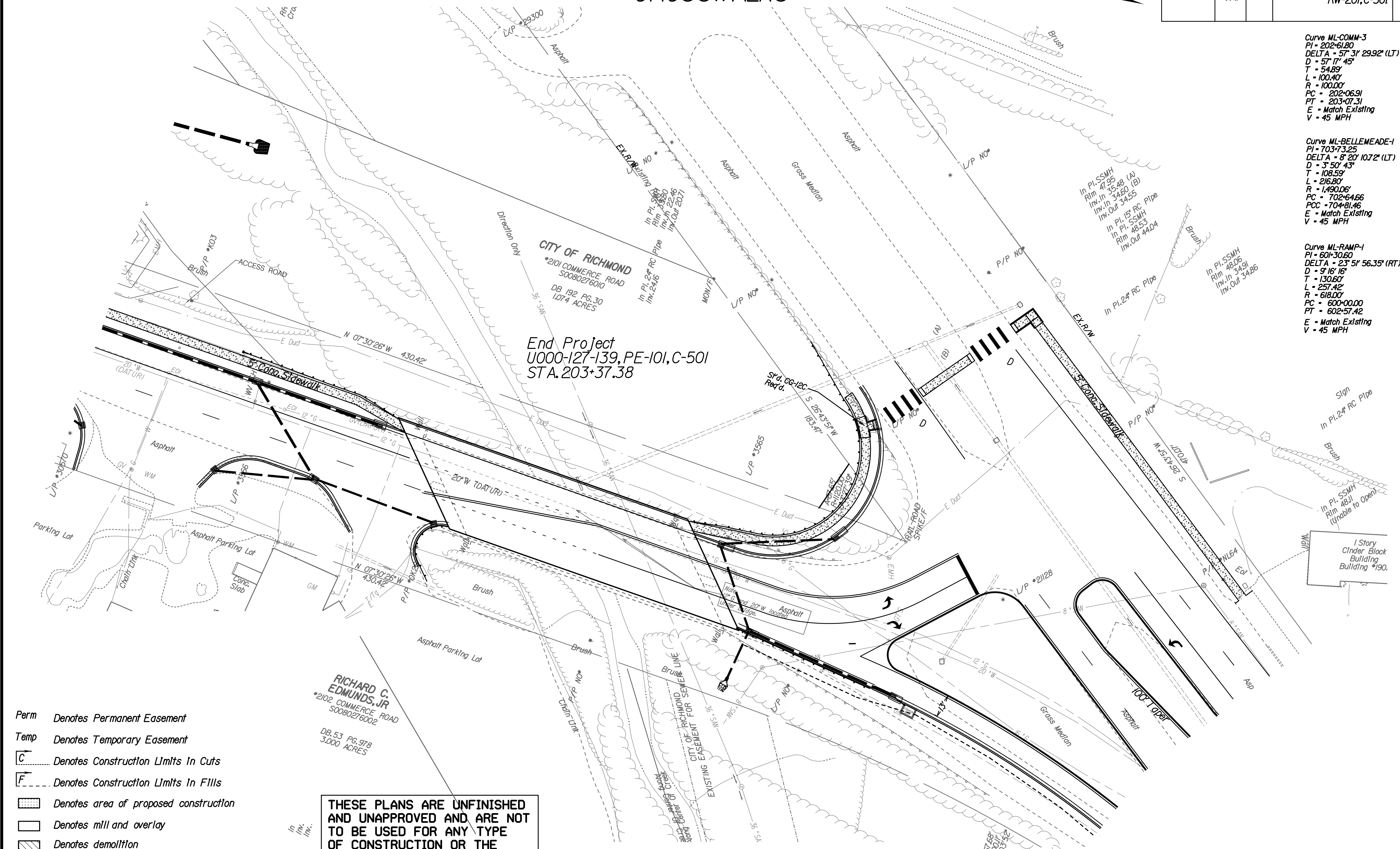
CROSSWALKS



Curve ML-COMM-3
PI - 202+61.80
DELTA - 57° 31' 29.92" (LT)
D - 57' 17" 45"
T - 54.89'
L - 100.40'
R - 100.00'
PC - 202+06.91
PT - 203+07.31
E - Match Existing
V - 45 MPH

Curve ML-BELLEMEADE-1
PI - 703+73.25
DELTA - 8° 20' 10.72" (LT)
D - 3° 50' 43"
T - 108.59'
L - 216.80'
R - 1,490.06'
PC - 702+64.66
PCC - 704+81.46
E - Match Existing
V - 45 MPH

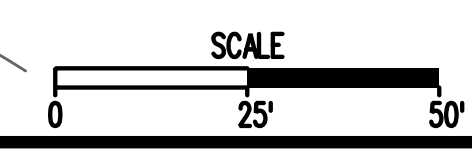
Curve ML-RAMP-1
PI - 601+30.60
DELTA - 23° 51' 56.35" (RT)
D - 9° 16' 16"
T - 130.60'
L - 257.42'
R - 618.00'
PC - 600+00.00
PT - 602+57.42
E - Match Existing
V - 45 MPH



End Project
U000-127-139, PE-101, C-501
STA. 203+37.38

- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Hatched Box] Denotes area of proposed construction
- [White Box] Denotes mill and overlay
- [Diagonal Lines] Denotes demolition
- [Dotted Box] Denotes proposed hydraulic cement sidewalk

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

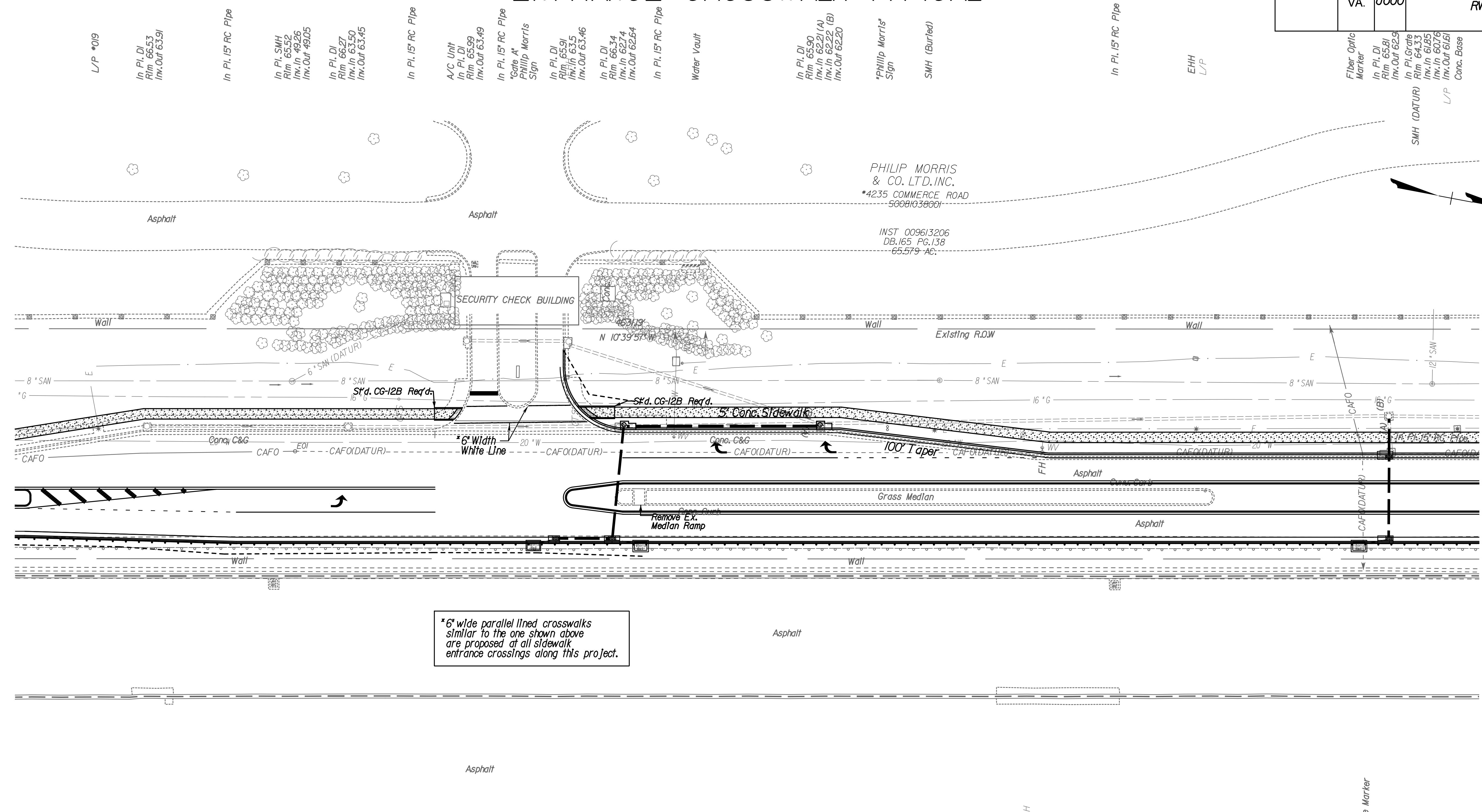


PROJECT	SHEET NO.
U000-127-139	

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

ENTRANCE CROSSWALK TYPICAL

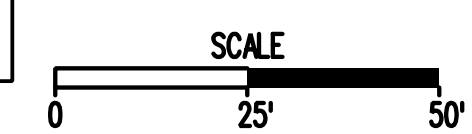
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	



*6' wide parallel lined crosswalks similar to the one shown above are proposed at all sidewalk entrance crossings along this project.

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

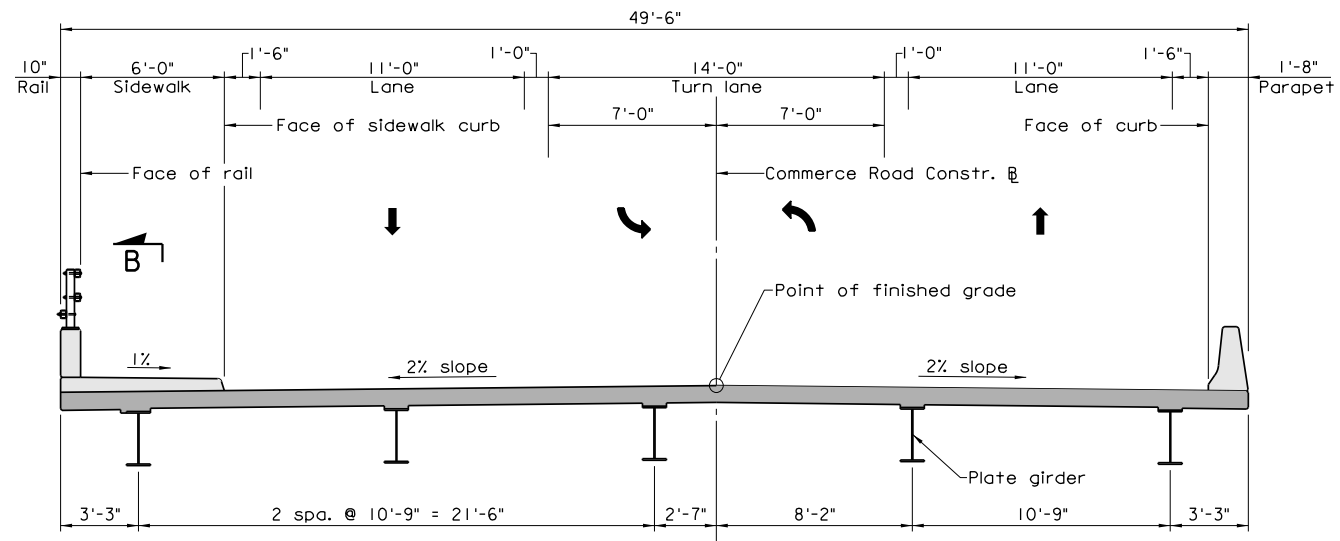
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Stippled] Denotes area of proposed construction
- [Diagonal Lines] Denotes mill and overlay
- [Cross-hatched] Denotes demolition
- [Dotted] Denotes proposed hydraulic cement sidewalk



PROJECT	SHEET NO.
U000-127-139	



VIEW OF RAILING AT SIDEWALK (SIMILAR PROJECT)

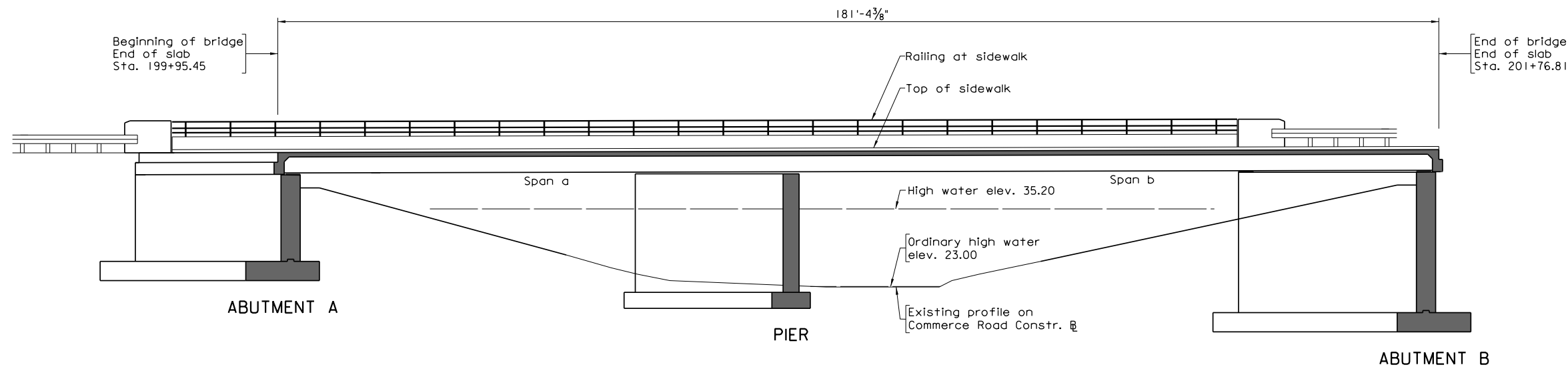
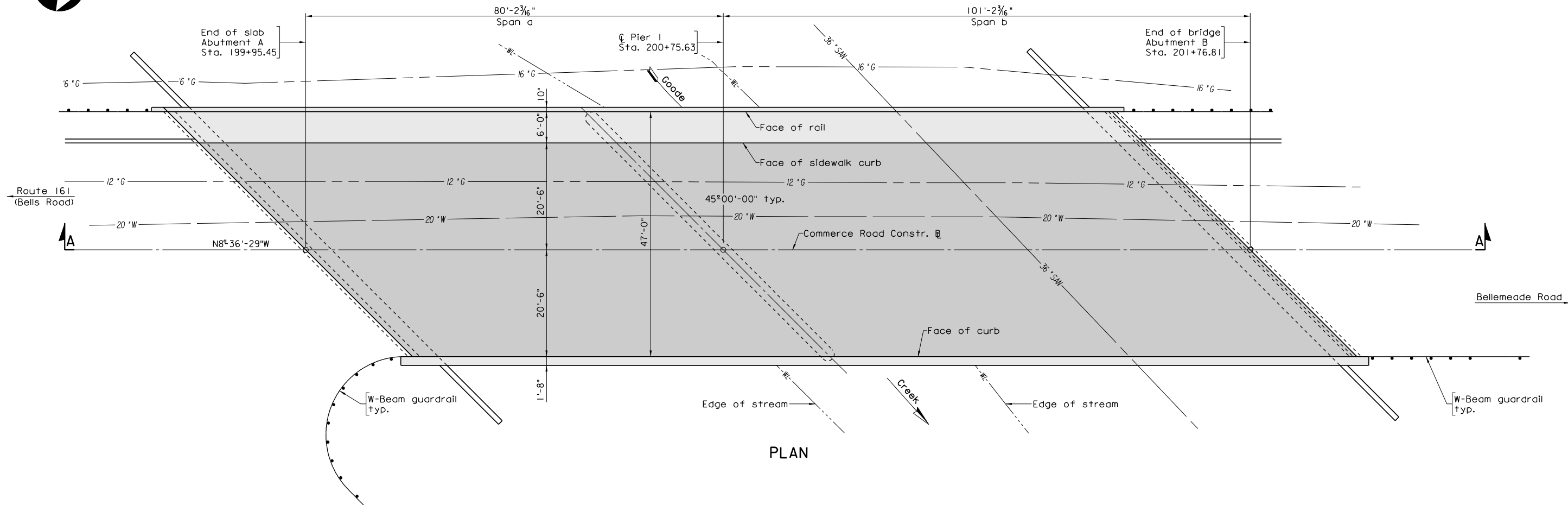


TYPICAL BRIDGE SECTION



VIEW B (SIMILAR PROJECT)

TYPICAL BRIDGE SECTION
COMMERCE ROAD OVER GOODE CREEK



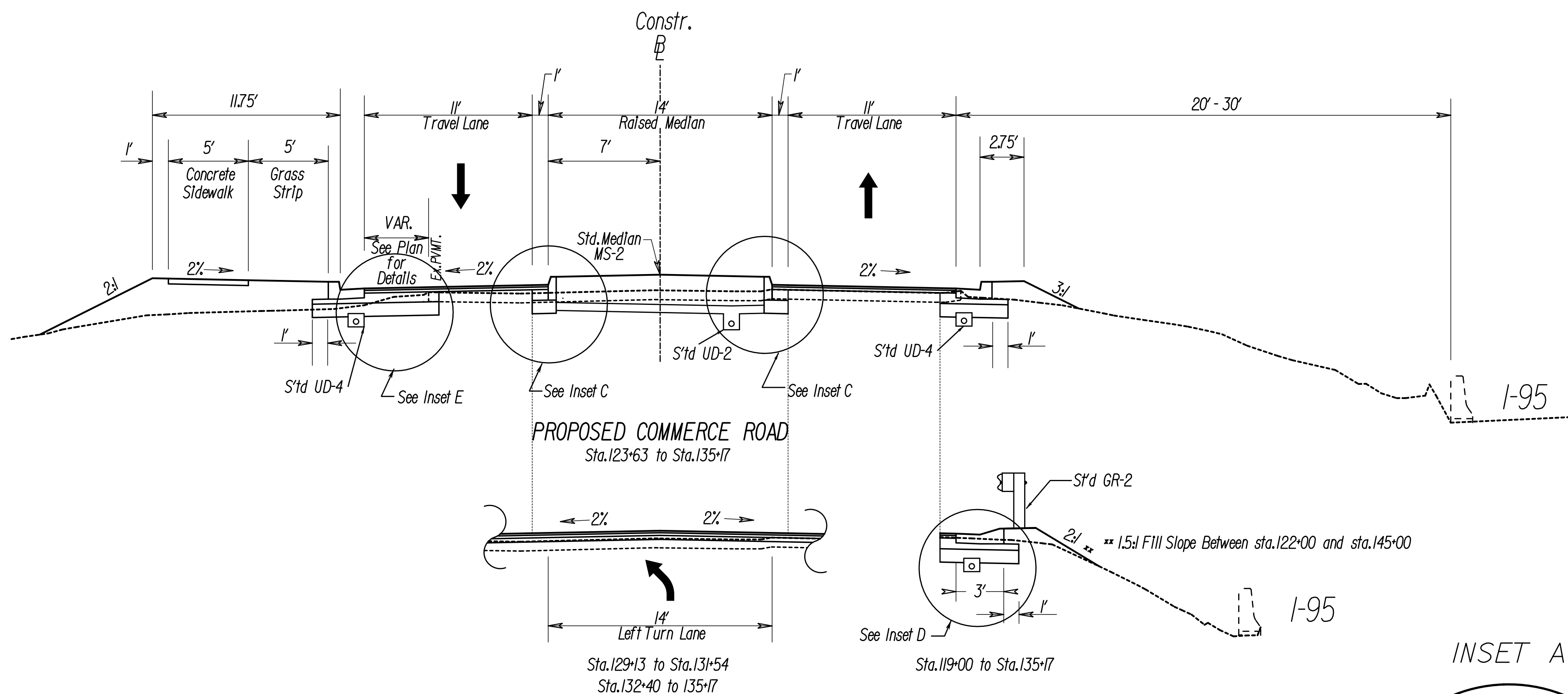
PROPOSED BRIDGE ON
 COMMERCE ROAD OVER GOODE CREEK
 CITY OF RICHMOND - 0.1 MI. S. BELLEMEADE RD.
 PROJ. U000-127-139, B617

PROJECT MANAGER KEVIN NEWCOMB, PE., - CITY OF RICHMOND
SURVEYED BY JOHNSON, MIRIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRIRAN & THOMPSON (804) 323-9900

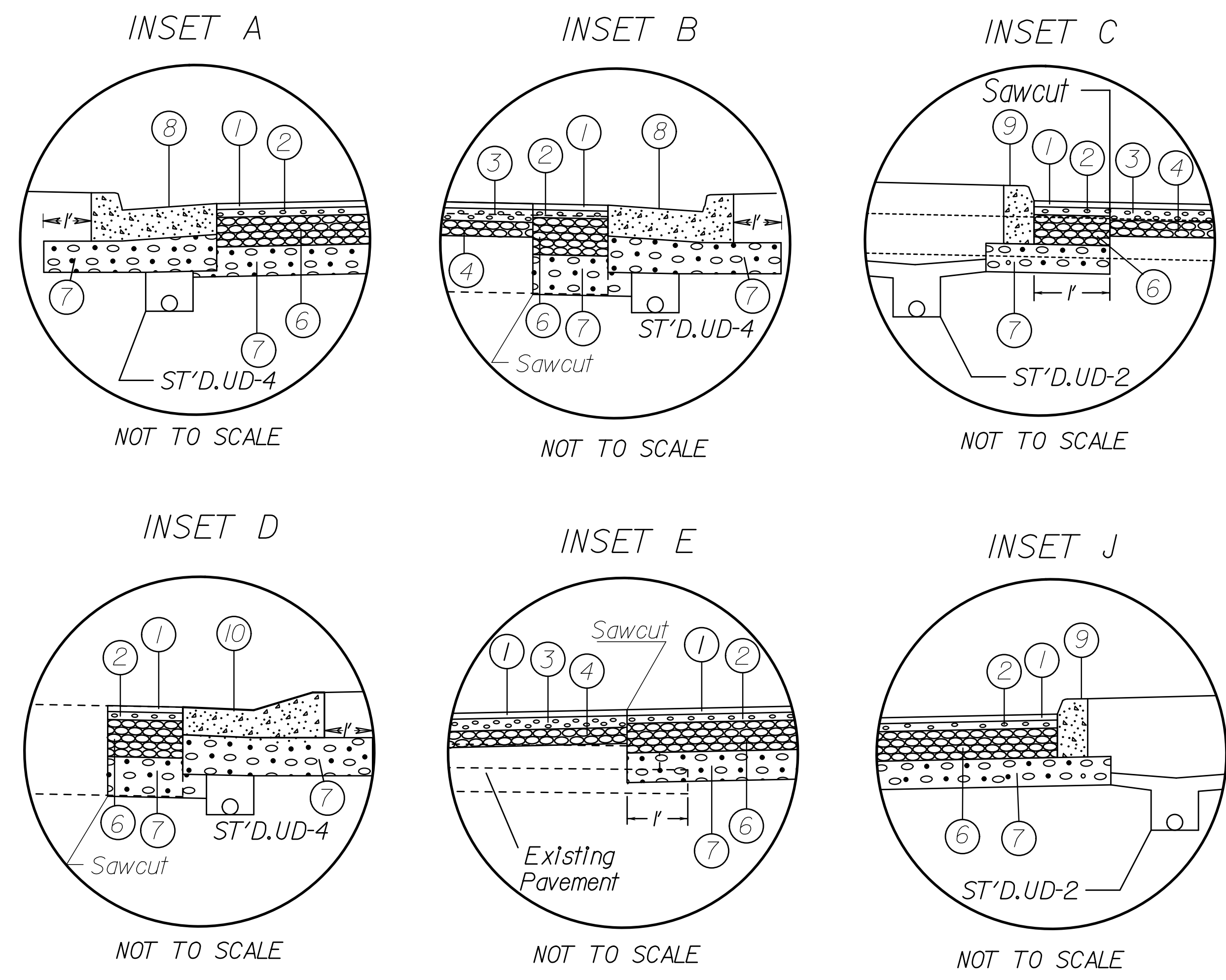
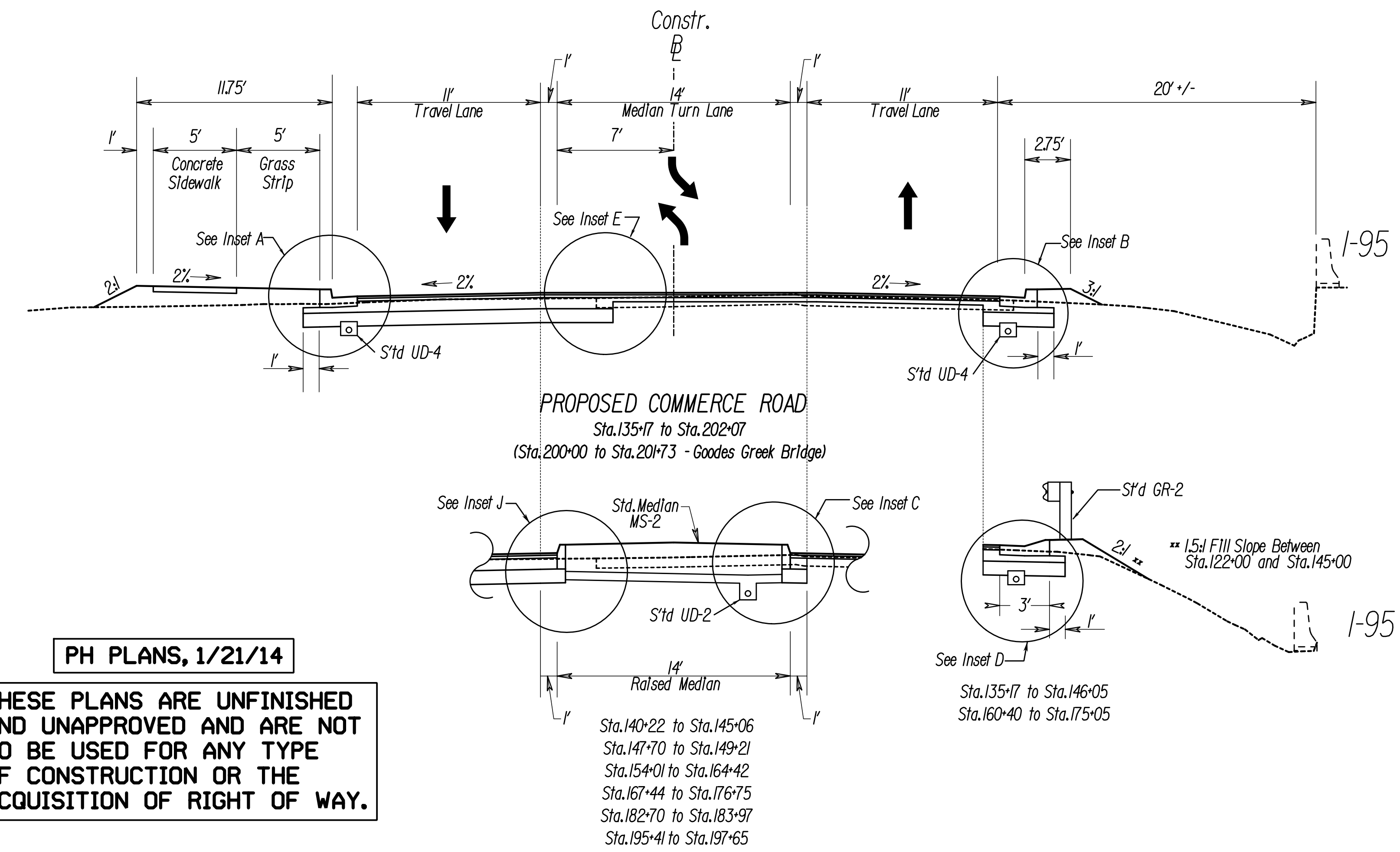
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	2B

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

TYPICAL SECTIONS



- PAVEMENT LEGEND**
- ① 1.5" Asphalt Concrete, Type SM-9.5D estimated at 165 lbs/sy
 - ② 2" Asphalt Concrete Type IM-19.0A estimated at 220 lbs/sy
 - ③ 2.5" Asphalt Concrete Type IM-19.0A estimated at 275 lbs/sy
 - ④ 3.5" Asphalt Concrete Type BM-25.0A
 - ⑤ 7" Asphalt Concrete Type BM-25.0A
 - ⑥ 8" Asphalt Concrete Type BM-25.0A
 - ⑦ 8" Aggregate Subbase Material, Size No. 21B connected to standard UD-4 edge drain located below the curb and gutter
 - ⑧ City of Richmond S'd Monolithic Concrete Curb and Gutter (2.25')
 - ⑨ City of Richmond S'd Concrete Curb (9')
 - ⑩ City of Richmond Roll Face Curb and Gutter (3')



PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

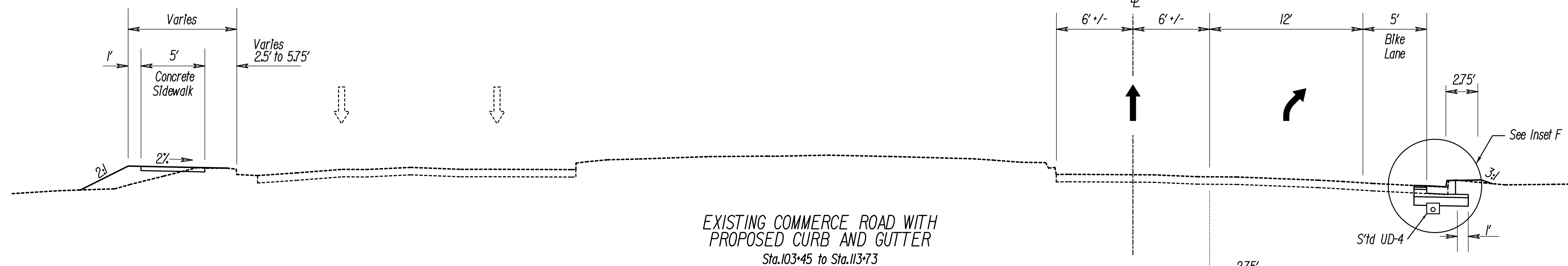
PROJECT MANAGER KEVIN NEWCOMB, P.E. - CITY OF RICHMOND
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	2A

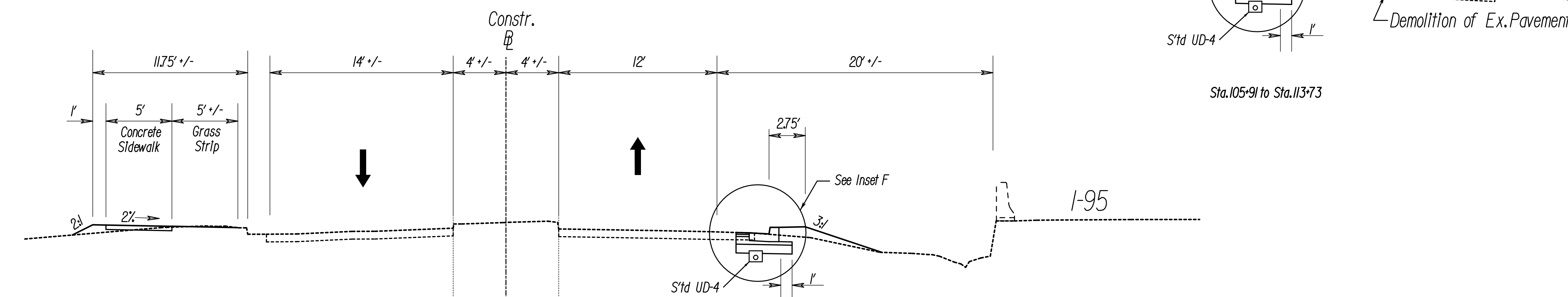
TYPICAL SECTIONS

Commerce Road
(GS-6, Urban Minor Arterial - Level, 45 mph Design Speed)
Constr.

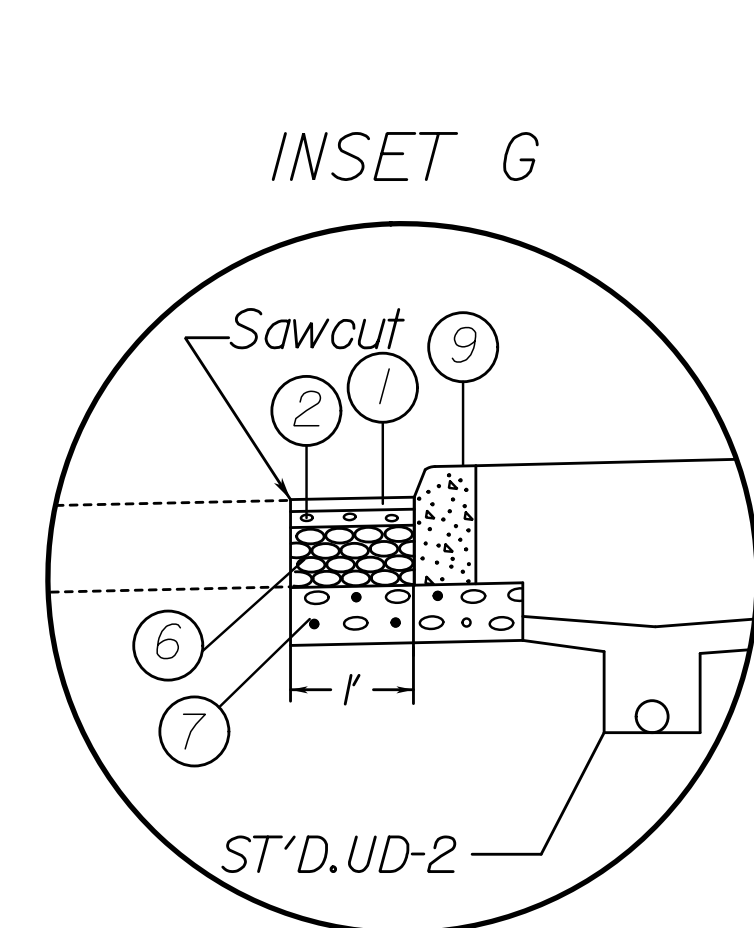
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



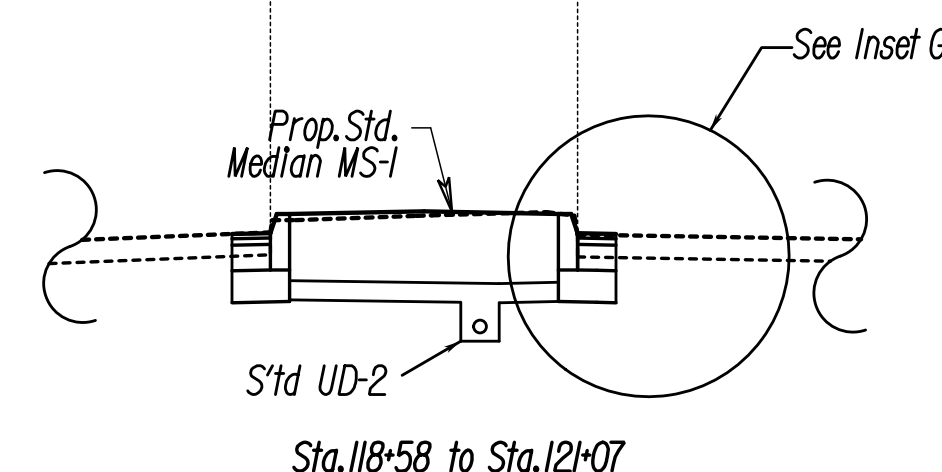
EXISTING COMMERCE ROAD WITH PROPOSED CURB AND GUTTER
Sta. 103+45 to Sta. 113+73



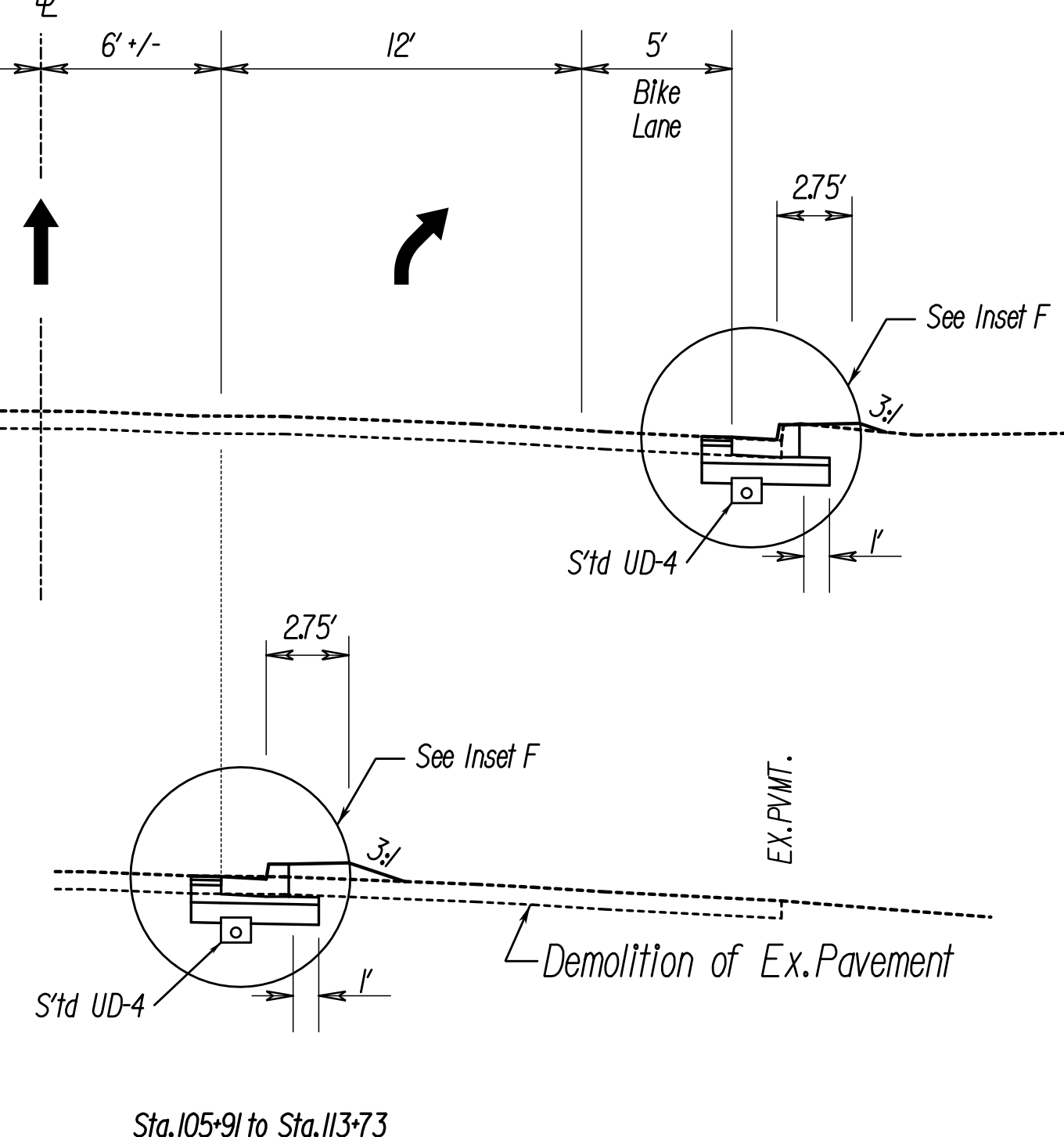
EXISTING COMMERCE ROAD WITH PROPOSED CURB AND GUTTER
Sta. 113+73 to Sta. 123+63



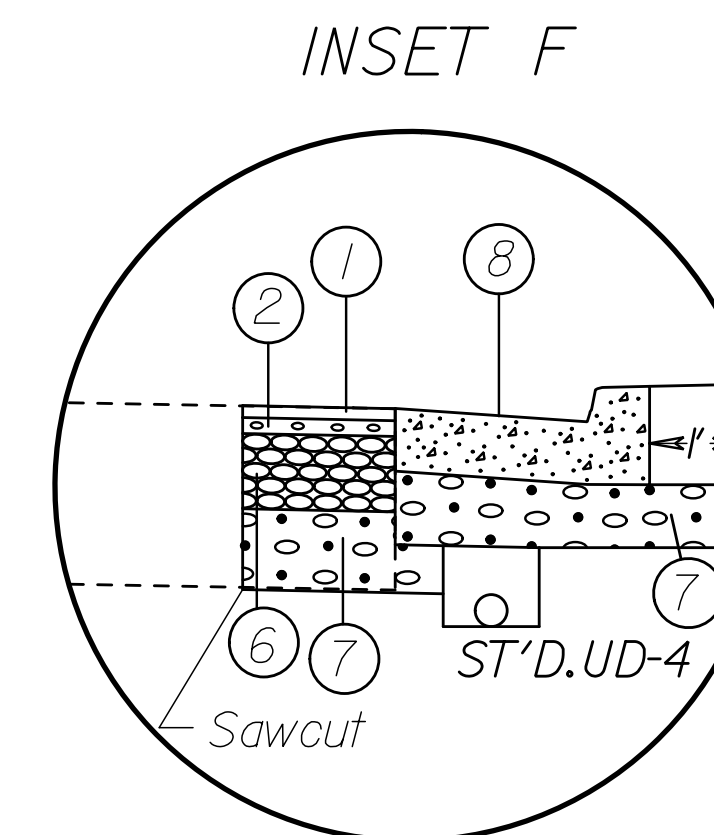
NOT TO SCALE



Sta. 118+58 to Sta. 121+07

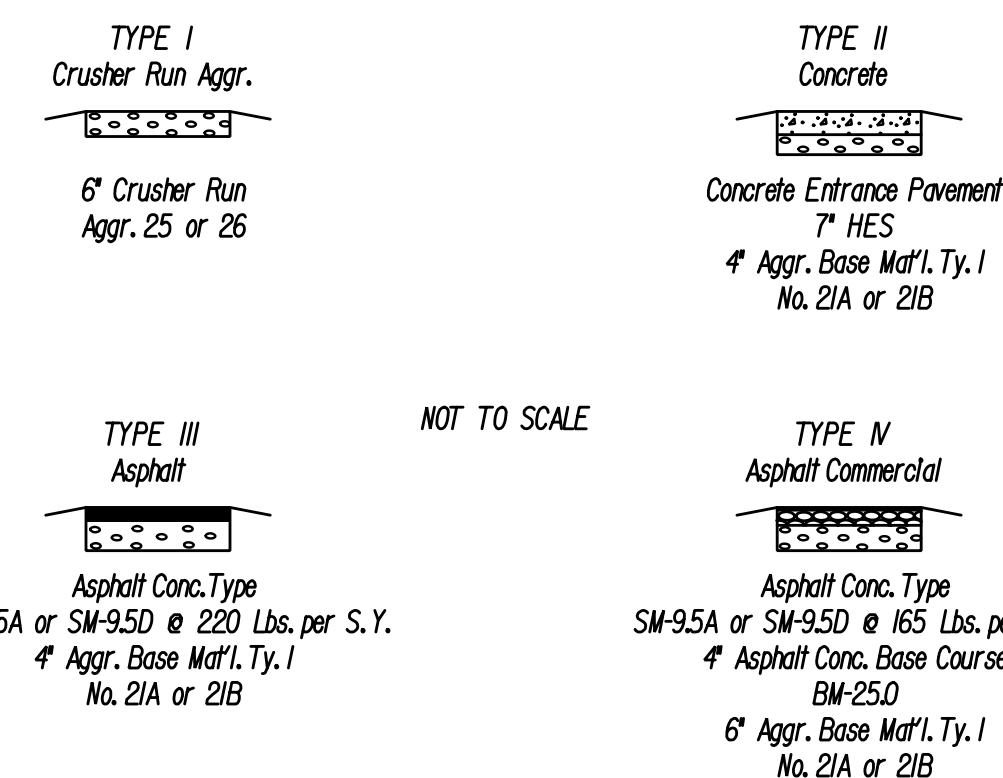


Sta. 105+91 to Sta. 113+73



NOT TO SCALE

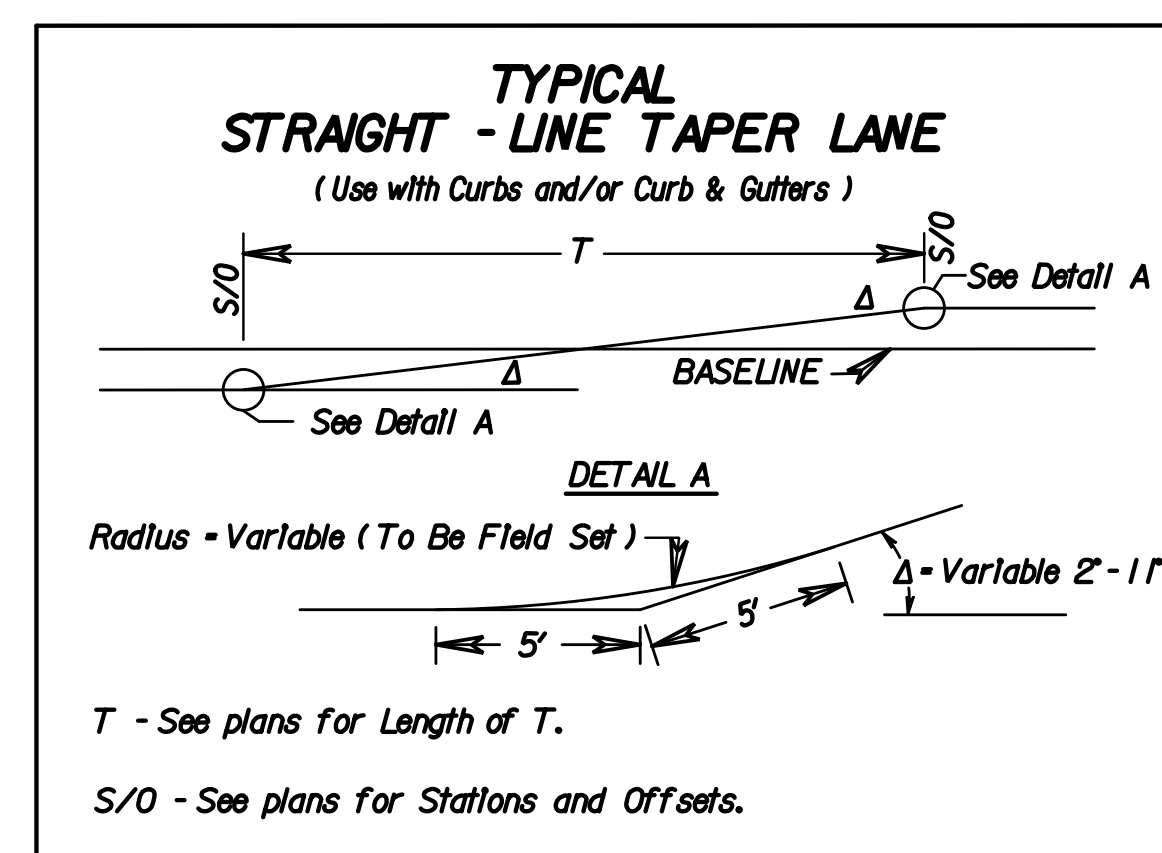
PRIVATE AND COMMERCIAL ENTRANCES



The type of entrance (I, II, III, M) to be constructed will be determined by the existing condition at the time of construction.

PAVEMENT LEGEND

- ① 1.5" Asphalt Concrete, Type SM-9.5D estimated at 165 lbs/sy
- ② 2" Asphalt Concrete Type IM-19.0A estimated at 220 lbs/sy
- ③ 2.5" Asphalt Concrete Type IM-19.0A estimated at 275 lbs/sy
- ④ 3.5" Asphalt Concrete Type BM-25.0A
- ⑤ 7" Asphalt Concrete Type BM-25.0A
- ⑥ 8" Asphalt Concrete Type BM-25.0A
- ⑦ 8" Aggregate Subbase Material, Size No. 21B connected to standard UD-4 edge drain located below the curb and gutter
- ⑧ City of Richmond S'td Monolithic Concrete Curb and Gutter (2.25')
- ⑨ City of Richmond S'td Concrete Curb (9")
- ⑩ City of Richmond Roll Face Curb and Gutter (3')



PH PLANS, 1/21/14

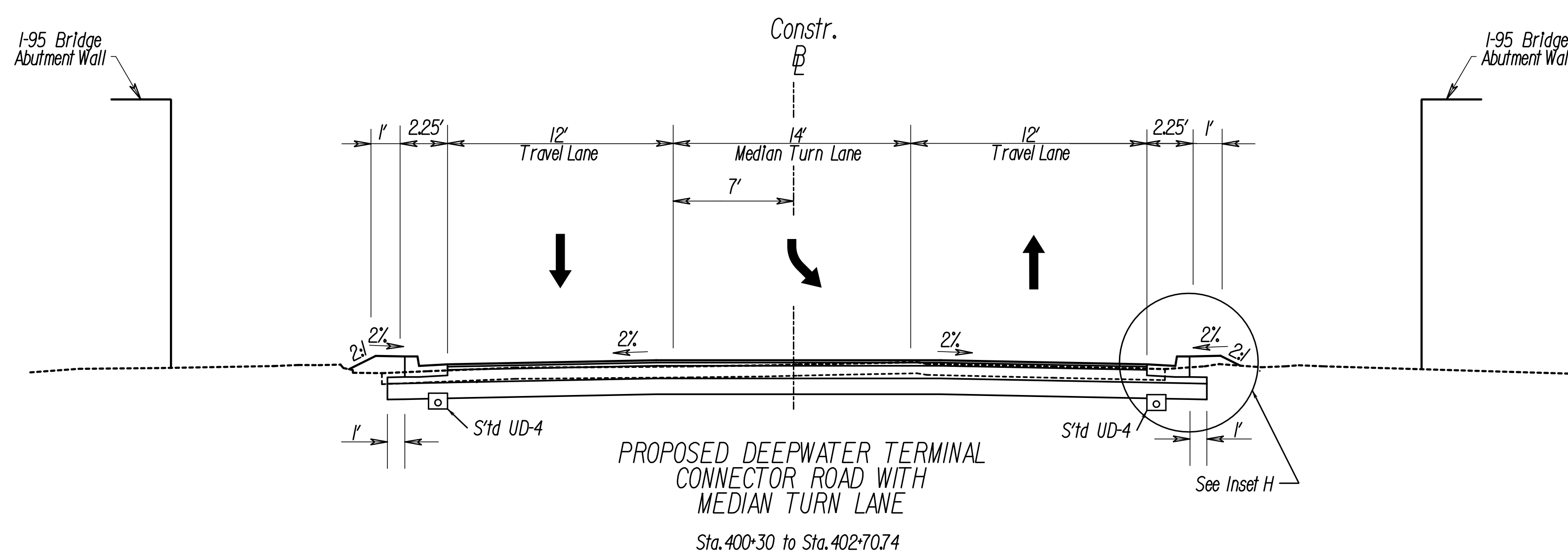
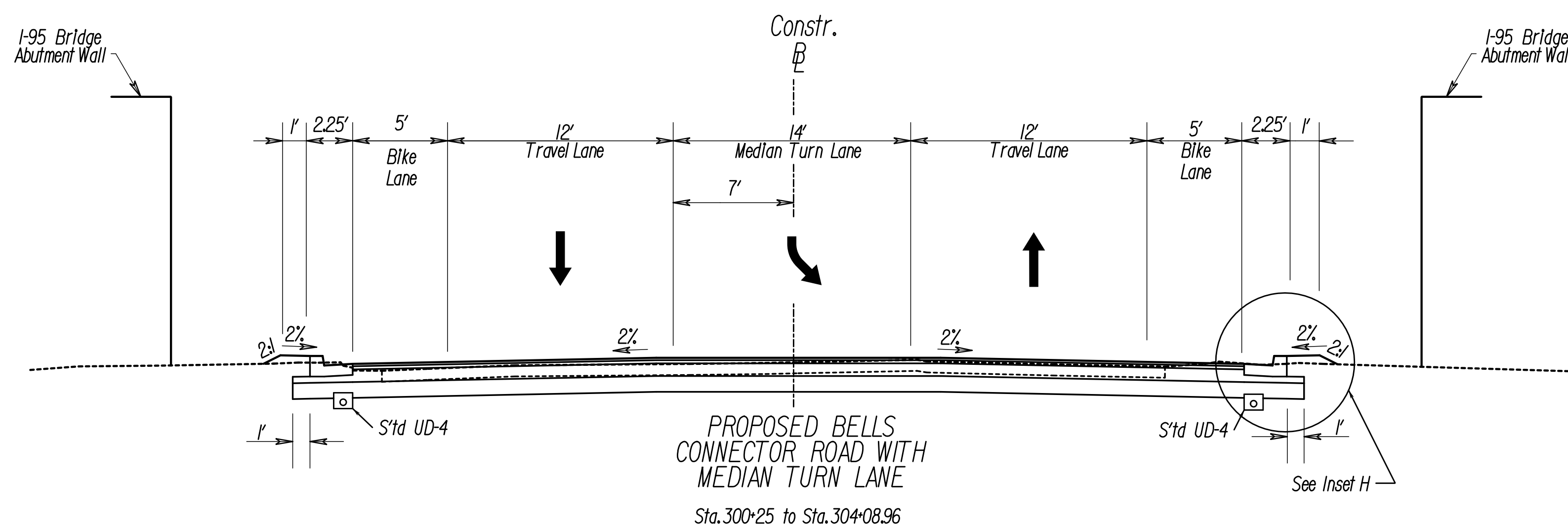
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

PROJECT MANAGER KEVIN NEWCOMB, PE., - CITY OF RICHMOND
SURVEYED BY JOHNSON, MIRIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRIRAN & THOMPSON (804) 323-9900

TYPICAL SECTIONS

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	2C

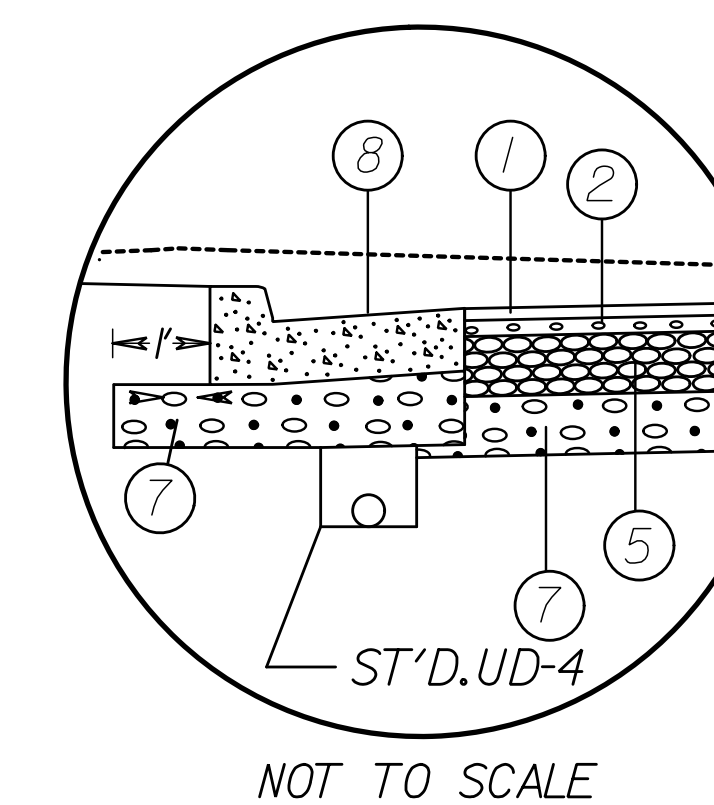
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



PAVEMENT LEGEND

- ① 1.5" Asphalt Concrete, Type SM-9.5D estimated at 165 lbs/sy
- ② 2" Asphalt Concrete Type IM-19.0A estimated at 220 lbs/sy
- ③ 2.5" Asphalt Concrete Type IM-19.0A estimated at 275 lbs/sy
- ④ 3.5" Asphalt Concrete Type BM-25.0A
- ⑤ 7" Asphalt Concrete Type BM-25.0A
- ⑥ 8" Asphalt Concrete Type BM-25.0A
- ⑦ 8" Aggregate Subbase Material, Size No. 21B connected to standard UD-4 edge drain located below the curb and gutter
- ⑧ City of Richmond Std Monolithic Concrete Curb and Gutter (2.25')
- ⑨ City of Richmond Std Concrete Curb (9")
- ⑩ City of Richmond Roll Face Curb and Gutter (3')

INSET H



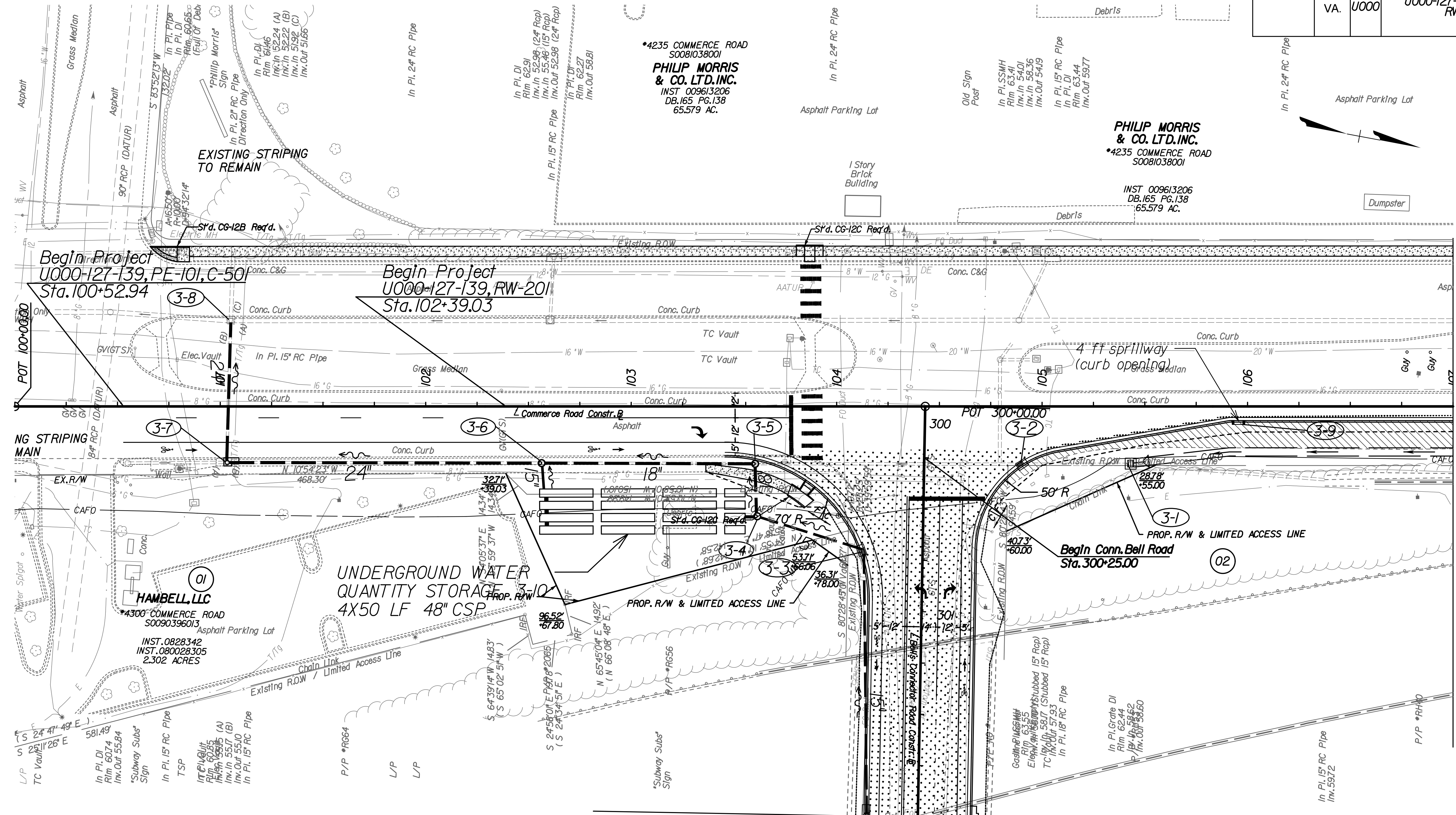
PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

PROJECT	SHEET NO.
U000-127-139	2C

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	3



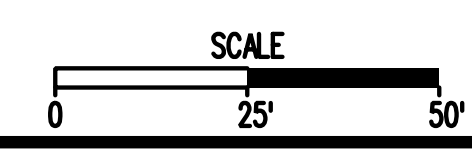
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
PROFILE	3A
BELLS CONN. RD.	19A

(02)
COMMONWEALTH OF VIRGINIA



PROJECT	U000-127-139	SHEET NO.	3
---------	--------------	-----------	---

Station 107+00 Matchline Sheet 4

Station 302+00 Matchline Sheet 19

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
9201 Arbolatum Parkway, Suite 140, Richmond, Virginia 23236

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

DRAINAGE DESCRIPTIONS

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	3B

SHEET 3

- 1 SY'd, DI-7 Req'd. Grate A Type II Req'd. H=3.8' Inv. 58.60
- 52'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 58.60 Inv. (Out) 58.18
- 1 SY'd, DI-2B Req'd. L=6', H=4.4' Inv. 58.16
- 127'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 58.16 Inv. (Out) 57.19
- 1 SY'd, DI-2B Req'd. L=6', H=5.9' Inv. 55.99
- 52'-15" Storm Sewer Pipe Req'd. (4' Cover) Inv. (In) 55.99 Inv. (Out) 55.78
- 7.7 Lin. Ft. MH-I or 2 Req'd. 1 SY'd, MH Frame & Cover Req'd Inv. 55.70 1 SY'd, SL-I Req'd. SY'd IS-I Req'd.
- 23'-18" Storm Sewer Pipe Req'd. (6' Cover) Inv. (In) 55.70 Inv. (Out) 55.59
- 6.5 Lin. Ft. MH-I or 2 Req'd. 1 SY'd, MH Frame & Cover Req'd Inv. 55.50 1 SY'd, SL-I Req'd. SY'd IS-I Req'd.
- 102'-18" Storm Sewer Pipe Req'd. (15' Cover) Inv. (In) 55.50 Inv. (Out) 53.46
- 8.7 Lin. Ft. MH-I or 2 Req'd. 1 SY'd, MH Frame & Cover Req'd Inv. 52.65 1 SY'd, SL-I Req'd. SY'd IS-I Req'd.
- 151'-18" Storm Sewer Pipe Req'd. (7' Cover) Inv. (In) 52.65 Inv. (Out) 51.90
- 1 SY'd, DI-3BB Req'd. L=10', H=9.0' Inv. 51.90
- 67'-18" Storm Sewer Pipe Req'd. (7' Cover) Inv. (In) 51.90 Inv. (Out) 51.66
- Curb Opening Sprillway 4' Opening Req'd.
- 200'-48" CSP UNDERGROUND WATER QUANTITY STORAGE Req'd (4' cover) Inv. (In) 56.75 Inv. (out) 56.75

SHEET 4

- Curb Opening Sprillway 4' Opening Req'd.
- Curb Opening Sprillway 4' Opening Req'd.
- Curb Opening Sprillway 4' Opening Req'd.

SHEET 5

- Curb Opening Sprillway 4' Opening Req'd.
- Curb Opening Sprillway 4' Opening Req'd.

SHEET 6

- 1 SY'd, DI-2B Req'd. L=8', H=3.8' Inv. 62.85
- 24'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 62.85 Inv. (Out) 62.66
- 1 SY'd, DI-2C Req'd. L=6', H=4.0' Inv. 62.66
- 53'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 62.66 Inv. (Out) 62.39
- 1 SY'd, DI-3B Req'd. L=6', H=4.2' Inv. 62.39
- 9'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 62.39 Inv. (Out) 62.21
- 1 SY'd, DI-3B Req'd. L=8', H=4.6' Inv. 62.20
- 27'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 62.20 Inv. (Out) 60.76
- 1 SY'd, DI-2B Req'd. L=6', H=4.1' Inv. 62.77
- 39'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 62.77 Inv. (Out) 62.19
- 1 SY'd, DI-2B Req'd. L=8', H=4.7' Inv. 62.19
- 18'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 62.19 Inv. (Out) 61.85
- Filterra 8'X4' Req'd
- Filterra 6'X4' Req'd
- Filterra 6'X4' Req'd

SHEET 7

- 1 SY'd, DI-2C Req'd. L=6', H=4.1' Inv. 62.85
- 49'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 61.03 Inv. (Out) 60.05
- 1 SY'd, DI-2B Req'd. L=6', H=5.2' Inv. 60.50
- 116'-15" Storm Sewer Pipe Req'd. (4' Cover) Inv. (In) 60.50 Inv. (Out) 57.73
- 1 SY'd, DI-2EE Req'd. L=6', H=10.8' Inv. 59.94
- 69'-30" Storm Sewer Pipe Req'd. (8' Cover) Inv. (In) 59.94 Inv. (Out) 54.70
- 1 SY'd, DI-2B Req'd. L=8', H=5.8' Inv. 60.00
- 26'-15" Storm Sewer Pipe Req'd. (4' Cover) Inv. (In) 60.00 Inv. (Out) 59.00
- 9.8 Lin. Ft. MH-I or 2 Req'd. 1 SY'd, MH Frame & Cover Req'd Inv. 54.50 1 SY'd, SL-I Req'd. SY'd IS-I Req'd.
- 37'-30" Storm Sewer Pipe Req'd. (7' Cover) Inv. (In) 54.50 Inv. (Out) 54.25
- 1 SY'd, DI-7 Req'd. Grate A Type II Req'd. H=15.1' Inv. 48.85
- 86'-30" Storm Sewer Pipe Req'd. (12' Cover) Inv. (In) 48.85 Inv. (Out) 48.60
- 16.4 Lin. Ft. MH-I or 2 Req'd. 1 SY'd, MH Frame & Cover Req'd Inv. 48.38 1 SY'd, SL-I Req'd. SY'd IS-I Req'd.
- 102'-18" Storm Sewer Pipe Req'd. (14' Cover) Inv. (In) 48.38 Inv. (Out) 48.25
- 1 SY'd, DI-2B Req'd. L=6', H=4.1' Inv. 60.17
- 19'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 60.17 Inv. (Out) 58.00
- 1 SY'd, DI-2C Req'd. L=7.1', H=4.1' Inv. 58.00
- 16'-15" Storm Sewer Pipe Req'd. (6' Cover) Inv. (In) 58.00 Inv. (Out) 57.50
- 130'-60" CSP UNDERGROUND WATER QUANTITY STORAGE Req'd (3' cover) Inv. (In) 54.50 Inv. (out) 54.50
- 250'-96" CSP UNDERGROUND WATER QUANTITY STORAGE Req'd (4' cover) Inv. (In) 49.00 Inv. (out) 49.00

SHEET 8

- 7.2 Lin. Ft. MH-I or 2 Req'd. 1 SY'd, MH Frame & Cover Req'd Inv. 58.25 1 SY'd, SL-I Req'd. SY'd IS-I Req'd.
- 16'-18" Storm Sewer Pipe Req'd. (5' Cover) Inv. (In) 58.25 Inv. (Out) 58.17
- 1 SY'd, DI-3B Req'd. L=4', H=7.2' Inv. 58.17
- 133'-18" Storm Sewer Pipe Req'd. (6' Cover) Inv. (In) 58.17 Inv. (Out) 57.64
- 1 SY'd, DI-2B Req'd. L=6', H=4.1' Inv. 61.22
- 40'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 61.22 Inv. (Out) 58.82
- 1 SY'd, DI-2B Req'd. L=6', H=8.7' Inv. 56.64
- 33'-18" Storm Sewer Pipe Req'd. (7' Cover) Inv. (In) 56.64 Inv. (Out) 55.65
- 10.2 Lin. Ft. MH-I or 2 Req'd. 1 SY'd, MH Frame & Cover Req'd Inv. 53.80 1 SY'd, SL-I Req'd. SY'd IS-I Req'd.
- 11'-18" Storm Sewer Pipe Req'd. (9' Cover) Inv. (In) 53.80 Inv. (Out) 53.43
- 1 SY'd, DI-7 Req'd. Grate A Type II Req'd. H=9.6' Inv. 53.43
- 58'-18" Storm Sewer Pipe Req'd. (8' Cover) Inv. (In) 53.43 Inv. (Out) 48.76
- Filterra 6'X4' Req'd
- Filterra 6'X4' Req'd

SHEET 9

- 1 SY'd, DI-2C Req'd. L=6', H=4.0' Inv. 63.89
- 50'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 63.89 Inv. (Out) 61.89
- 1 SY'd, DI-2BB Req'd. L=8', H=7.8' Inv. 60.55
- 135'-24" Storm Sewer Pipe Req'd. (5' Cover) Inv. (In) 60.55 Inv. (Out) 60.01
- 1 SY'd, DI-2B Req'd. L=6', H=4.0' Inv. 64.30
- 39'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 64.30 Inv. (Out) 63.91
- 1 SY'd, DI-2B Req'd. L=6', H=8.3' Inv. 60.01
- 134'-24" Storm Sewer Pipe Req'd. (6' Cover) Inv. (In) 60.01 Inv. (Out) 59.34
- 1 SY'd, DI-2B Req'd. L=4', H=9.3' Inv. 59.34
- 294'-24" Storm Sewer Pipe Req'd. (7' Cover) Inv. (In) 59.34 Inv. (Out) 58.16
- 1 SY'd, DI-2BB Req'd. L=6', H=10.3' Inv. 58.16
- 257'-24" Storm Sewer Pipe Req'd. (8' Cover) Inv. (In) 58.16 Inv. (Out) 57.13
- 1 SY'd, DI-2B Req'd. L=8', H=4.0' Inv. 64.40
- 206'-15" Storm Sewer Pipe Req'd. (12' Cover) Inv. (In) 64.40 Inv. (Out) 62.34

SHEET 10

- 1 SY'd, DI-2B Req'd. L=6', H=3.8' Inv. 66.64
- 39'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 66.64 Inv. (Out) 65.86
- 1 SY'd, DI-2B Req'd. L=6', H=6.3' Inv. 64.12
- 214'-18" Storm Sewer Pipe Req'd. (15' Cover) Inv. (In) 64.12 Inv. (Out) 63.05
- 1 SY'd, DI-2B Req'd. L=6', H=4.0' Inv. 65.62
- 39'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 65.62 Inv. (Out) 65.23
- 1 SY'd, DI-2B Req'd. L=6', H=6.4' Inv. 63.05
- 202'-18" Storm Sewer Pipe Req'd. (15' Cover) Inv. (In) 63.05 Inv. (Out) 62.04
- 1 SY'd, DI-2B Req'd. L=8', H=3.8' Inv. 65.23
- 39'-18" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 65.23 Inv. (Out) 64.45
- 1 SY'd, DI-2B Req'd. L=6', H=7.0' Inv. 62.04
- 180'-18" Storm Sewer Pipe Req'd. (15' Cover) Inv. (In) 62.04 Inv. (Out) 61.41
- 1 SY'd, DI-2B Req'd. L=6', H=4.0' Inv. 64.49
- 39'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 64.49 Inv. (Out) 62.93
- 1 SY'd, DI-2B Req'd. L=6', H=7.1' Inv. 61.41
- 172'-24" Storm Sewer Pipe Req'd. (15' Cover) Inv. (In) 61.41 Inv. (Out) 60.55

SHEET 11

- 1 SY'd, DI-2B Req'd. L=6', H=4.1' Inv. 68.23
- 39'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 68.23 Inv. (Out) 67.84
- 1 SY'd, DI-2B Req'd. L=6', H=4.5' Inv. 67.84
- 227'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 67.84 Inv. (Out) 66.48
- 1 SY'd, DI-2B Req'd. L=8' H=4.0' Inv. 67.65
- 39'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 67.65 Inv. (Out) 66.87
- 1 SY'd, DI-2B Req'd. L=6', H=5.4' Inv. 66.28
- 219'-15" Storm Sewer Pipe Req'd. (4' Cover) Inv. (In) 66.28 Inv. (Out) 65.18
- 1 SY'd, DI-2B Req'd. L=8', H=4.0' Inv. 66.96
- 39'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 66.96 Inv. (Out) 66.18
- 1 SY'd, DI-2B Req'd. L=6', H=5.8' Inv. 65.18
- 1785' Storm Sewer Pipe Req'd. (15 Cover) Inv. (In) 65.18. (Out) 64.12
- Filterra 6'X4' Req'd

SHEET 12

- 1 SY'd, DI-2B Req'd. L=6', H=3.8' Inv. 68.21
- 38'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 68.21 Inv. (Out) 67.83
- 1 SY'd, DI-2B Req'd. L=6', H=4.2' Inv. 67.83
- 105'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 67.83 Inv. (Out) 66.78
- 1 SY'd, DI-2C Req'd. L=6', H=5.4' Inv. 66.58
- 18'-15" Storm Sewer Pipe Req'd. (4' Cover) Inv. (In) 66.58 Inv. (Out) 66.44
- 1 SY'd, DI-2C Req'd. L=6', H=3.8' Inv. 68.18
- 18'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 68.18 Inv. (Out) 67.82
- 1 SY'd, DI-2B Req'd. L=10', H=4.5' Inv. 67.62
- 38'-24" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 67.62 Inv. (Out) 67.24
- 1 SY'd, DI-2B Req'd. L=10', H=5.6' Inv. 66.44
- 13'-24" Storm Sewer Pipe Req'd. (4' Cover) Inv. (In) 66.44 Inv. (Out) 66.32
- Filterra 6'X4' Req'd
- Filterra 6'X4' Req'd

SHEET 14

- 1 SY'd, DI-2B Req'd. L=14', H=3.8' Inv. 68.23
- 38'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 61.95 Inv. (Out) 61.38
- 1 SY'd, DI-2B Req'd. L=12', H=5.6' Inv. 60.43
- 289'-18" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 60.43 Inv. (Out) 51.76
- 1 SY'd, DI-2B Req'd. L=14', H=3.8' Inv. 52.27
- 38'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 52.27 Inv. (Out) 51.89
- 1 SY'd, DI-2B Req'd. L=14', H=4.5' Inv. 51.56
- 7'-18" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 51.56 Inv. (Out) 51.50
- 1 SY'd, ES-I or 2 (24") Req'd. Inv. 51.50 SY'd, EC-I Class I Spr'llway, Type A Installation
- Curb Opening Spr'llway 6' Opening Req'd.

SHEET 15

- 1 SY'd, DI-2B Req'd. L=4', H=3.8' Inv. 41.44
- 175'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 41.44 Inv. (Out) 39.34
- 1 SY'd, DI-2B Req'd. L=6', H=3.9' Inv. 39.34
- 120'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 39.34 Inv. (Out) 38.38
- 1 SY'd, DI-2B Req'd. L=6', H=4.3' Inv. 38.38
- 75'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 38.38 Inv. (Out) 37.78
- 1 SY'd, DI-2C Req'd. L=8', H=4.7' Inv. 37.78
- 48'-15" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 37.78 Inv. (Out) 37.40
- 1 SY'd, DI-2B Req'd. L=6', H=5.2' Inv. 37.40
- 38'-18" Storm Sewer Pipe Req'd. (4' Cover) Inv. (In) 37.40 Inv. (Out) 37.21
- 1 SY'd, DI-2B Req'd. L=6', H=4.0' Inv. 39.20
- 555'-15" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 39.20 Inv. (Out) 38.38
- 1 SY'd, EW-I (30") Req'd. Inv. 38.00
- 17'-30" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 38.00 Inv. (Out) 37.93
- 1 SY'd, DI-2E Req'd. L=4', H=4.8' Inv. 37.93
- 113'-30" Storm Sewer Pipe Req'd. (2' Cover) Inv. (In) 37.93 Inv. (Out) 37.37
- 1 SY'd, DI-2E Req'd. L=6', H=5.1' Inv. 37.37
- 60'-30" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 37.37 Inv. (Out) 37.07
- 1 SY'd, DI-2E Req'd. L=6', H=5.5' Inv. 37.07
- 157'-30" Storm Sewer Pipe Req'd. (3' Cover) Inv. (In) 37.07 Inv. (Out) 36.44
- Curb Opening Spr'llway 8' Opening Req'd.

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

PROJECT	SHEET NO.
U000-127-139	3B

PROJECT: MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

DRAINAGE DESCRIPTIONS

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	3B

SHEET 15 (CONT)

- 151-152 1 St'd. ES-1 or 2 (2#) Req'd.
Inv. 39.50
- 152-153 26'-24" Storm Sewer Pipe Req'd. (1' Cover)
Inv. (In) 39.50 Inv. (Out) 39.03
- 153-154 3.5 Lin. Ft. MH-1 or 2 Req'd.
1 St'd. MH Frame & Cover Req'd
Inv. 39.03
1 St'd. SL-1 Req'd.
St'd. IS-1 Req'd.
- 154-155 62'-24" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 39.03 Inv. (Out) 38.41
- 155-156 1 St'd. DI-2B Req'd.
L-8', H-3.8' Inv. 39.00
- 156-157 16'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 39.00 Inv. (Out) 38.76
- 157-158 1 St'd. DI-2B Req'd.
L-8', H-4.6' Inv. 38.41
- 158-159 6'-24" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 38.41 Inv. (Out) 38.40
- 159-160 1 St'd. ES-1 or 2 (2#) Req'd.
Inv. 38.40
St'd. EC-1 Class 1 Req'd. Type A Installation

SHEET 16

- 160-161 1 St'd. DI-2B Req'd.
L-8', H-4.1' Inv. 38.54
- 161-162 38'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 38.54 Inv. (Out) 37.40
- 162-163 1 St'd. DI-2E Req'd.
L-6', H-46.6' Inv. 36.44
- 163-164 153'-30" Storm Sewer Pipe Req'd. (4' Cover)
Inv. (In) 36.44 Inv. (Out) 35.98
- 164-165 1 St'd. DI-2E Req'd.
L-8', H-7.5' Inv. 35.98
- 165-166 265'-30" Storm Sewer Pipe Req'd. (5' Cover)
Inv. (In) 35.98 Inv. (Out) 35.19
- 166-167 1 St'd. DI-2B Req'd.
L-6', H-3.8' Inv. 40.33
- 167-168 59'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 40.33 Inv. (Out) 37.38
- 168-169 1 St'd. DI-2EE Req'd.
L-6', H-8.9' Inv. 35.19
- 169-170 157'-15" Storm Sewer Pipe Req'd. (6' Cover)
Inv. (In) 35.19 Inv. (Out) 34.79
- 170-171 1 St'd. DI-2EE Req'd.
L-6', H-9.4' Inv. 34.79
- 171-172 38'-30" Storm Sewer Pipe Req'd. (7' Cover)
Inv. (In) 34.79 Inv. (Out) 34.60
- 172-173 1 St'd. DI-2B Req'd.
L-4', H-4.0' Inv. 39.98
- 173-174 102'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 39.98 Inv. (Out) 37.94
- 174-175 1 St'd. DI-2EE Req'd.
L-6', H-9.8' Inv. 34.60
- 175-176 49'-30" Storm Sewer Pipe Req'd. (7' Cover)
Inv. (In) 34.60 Inv. (Out) 34.00
- 176-177 1 St'd. ES-1 or 2 (30") Req'd.
Inv. 34.00
St'd. EC-1 Class 1 Req'd. Type A Installation
- 177-178 7.0' Std. SWM-1 Req'd.
Bottom Elevation 32.00
Connect to 137'-30" Pipe Inv. (In) 32.75
Inv. (Out) 28.00
- 178-179 137'-30" Storm Sewer Pipe Req'd. (9' Cover)
Inv. (In) 32.75 Inv. (Out) 28.00

SHEET 17

- 179-180 1 St'd. DI-2C Req'd.
L-6', H-3.8' Inv. 40.55
- 180-181 70'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 40.55 Inv. (Out) 39.15
- 181-182 1 St'd. DI-2A Req'd.
L-2', H-3.8' Inv. 40.55
- 182-183 70'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 40.55 Inv. (Out) 39.15
- 183-184 1 St'd. DI-2A Req'd.
L-2', H-43.8' Inv. 38.75
- 184-185 56'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 38.75 Inv. (Out) 37.63
- 185-186 1 St'd. DI-2B Req'd.
L-4', H-6.7' Inv. 37.63
- 186-187 62'-15" Storm Sewer Pipe Req'd. (5' Cover)
Inv. (In) 37.63 Inv. (Out) 36.70
- 187-188 1 St'd. DI-2B Req'd.
L-6', H-7.1' Inv. 36.70
- 188-189 140'-15" Storm Sewer Pipe Req'd. (6' Cover)
Inv. (In) 36.70 Inv. (Out) 35.58
- 189-190 1 St'd. DI-2B Req'd.
L-6', H-3.8' Inv. 38.75
- 190-191 58'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 38.75 Inv. (Out) 38.69
- 191-192 1 St'd. DI-2B Req'd.
L-12', H-3.8' Inv. 41.76
- 192-193 64'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 41.76 Inv. (Out) 38.56
- 193-194 1 St'd. DI-2B Req'd.
L-8', H-4.1' Inv. 41.57
- 194-195 87'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 41.57 Inv. (Out) 38.96
- 195-196 1 St'd. DI-2B Req'd.
L-8', H-7.5' Inv. 37.56
- 196-197 50'-15" Storm Sewer Pipe Req'd. (6' Cover)
Inv. (In) 37.56 Inv. (Out) 36.06
- 197-198 1 St'd. DI-2BB Req'd.
L-8', H-10.5' Inv. 34.56
- 198-199 31'-15" Storm Sewer Pipe Req'd. (9' Cover)
Inv. (In) 34.56 Inv. (Out) 34.00
- 199-200 1 St'd. ES-1 or 2 (15") Req'd.
Inv. 34.00
St'd. EC-1 Class 1 Req'd. Type A Installation
- 200-201 1 St'd. ES-1 or 2 (30") Req'd.
Inv. 28.00
St'd. EC-1 Class 1 Req'd. Type A Installation
- 201-202 Filterra
8'x4' Req'd

SHEET 18

- 180-181 1 St'd. DI-2B Req'd.
L-8', H-4.0' Inv. 42.87
- 181-182 51'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 42.87 Inv. (Out) 42.36
- 182-183 1 St'd. DI-2C Req'd.
L-8', H-4.7' Inv. 42.16
- 183-184 31'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 42.16 Inv. (Out) 41.85
- 184-185 1 St'd. DI-2C Req'd.
L-8', H-5.4' Inv. 41.65
- 185-186 30'-15" Storm Sewer Pipe Req'd. (4' Cover)
Inv. (In) 41.65 Inv. (Out) 41.35
- 186-187 1 St'd. DI-2B Req'd.
L-8', H-5.9' Inv. 41.15
- 187-188 38'-15" Storm Sewer Pipe Req'd. (4' Cover)
Inv. (In) 41.15 Inv. (Out) 40.77
- 188-189 1 St'd. DI-3B Req'd.
L-6', H-8.4' Inv. 39.05
- 189-190 35'-15" Storm Sewer Pipe Req'd. (7' Cover)
Inv. (In) 39.05 Inv. (Out) 38.70
- 190-191 1 St'd. DI-2B Req'd.
L-8' H-4.0' Inv. 43.15
- 191-192 82'-15" Storm Sewer Pipe Req'd. (2' Cover)
Inv. (In) 43.15 Inv. (Out) 41.51
- 192-193 1 St'd. DI-2B Req'd.
L-8' H-3.8' Inv. 40.27
- 193-194 27'-18" Storm Sewer Pipe Req'd. (5' Cover)
Inv. (In) 40.27 Inv. (Out) 39.73
- 194-195 10.0 Lin. Ft. MH-1 or 2 Req'd.
1 St'd. MH Frame & Cover Req'd
Inv. 37.87
1 St'd. SL-1 Req'd.
St'd. IS-1 Req'd.
- 195-196 77'-24" Storm Sewer Pipe Req'd. (8' Cover)
Inv. (In) 37.87 Inv. (Out) 36.33
- 196-197 1 St'd. DI-2B Req'd.
L-8', H-4.5' Inv. 43.42
- 197-198 9'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 43.42 Inv. (Out) 43.24
- 198-199 12.0 Lin. Ft. MH-1 or 2 Req'd.
1 St'd. MH Frame & Cover Req'd
Inv. 35.93
1 St'd. SL-1 Req'd.
St'd. IS-1 Req'd.
- 199-200 Filterra
8'x4' Req'd

SHEET 19

- 199-200 1 St'd. DI-3B Req'd.
L-6', H-4.0' Inv. 57.61
- 200-201 46'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 57.61 Inv. (Out) 57.15
- 201-202 1 St'd. DI-3C Req'd.
L-6', H-4.4' Inv. 57.15
- 202-203 51'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 57.15 Inv. (Out) 56.90
- 203-204 1 St'd. DI-3B Req'd.
L-4', H-4.0' Inv. 57.58
- 204-205 25'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 57.58 Inv. (Out) 57.33
- 205-206 1 St'd. DI-2C Req'd.
L-6', H-4.7' Inv. 56.90
- 206-207 46'-15" Storm Sewer Pipe Req'd. (4' Cover)
Inv. (In) 56.90 Inv. (Out) 56.62
- 207-208 1 St'd. DI-2B Req'd.
L-6', H-3.8' Inv. 57.83
- 208-209 25'-15" Storm Sewer Pipe Req'd. (3' Cover)
Inv. (In) 57.83 Inv. (Out) 57.46
- 209-210 1 St'd. DI-2B Req'd.
L-6', H-5.0' Inv. 56.62
- 210-211 126'-15" Storm Sewer Pipe Req'd. (4' Cover)
Inv. (In) 56.62 Inv. (Out) 55.99

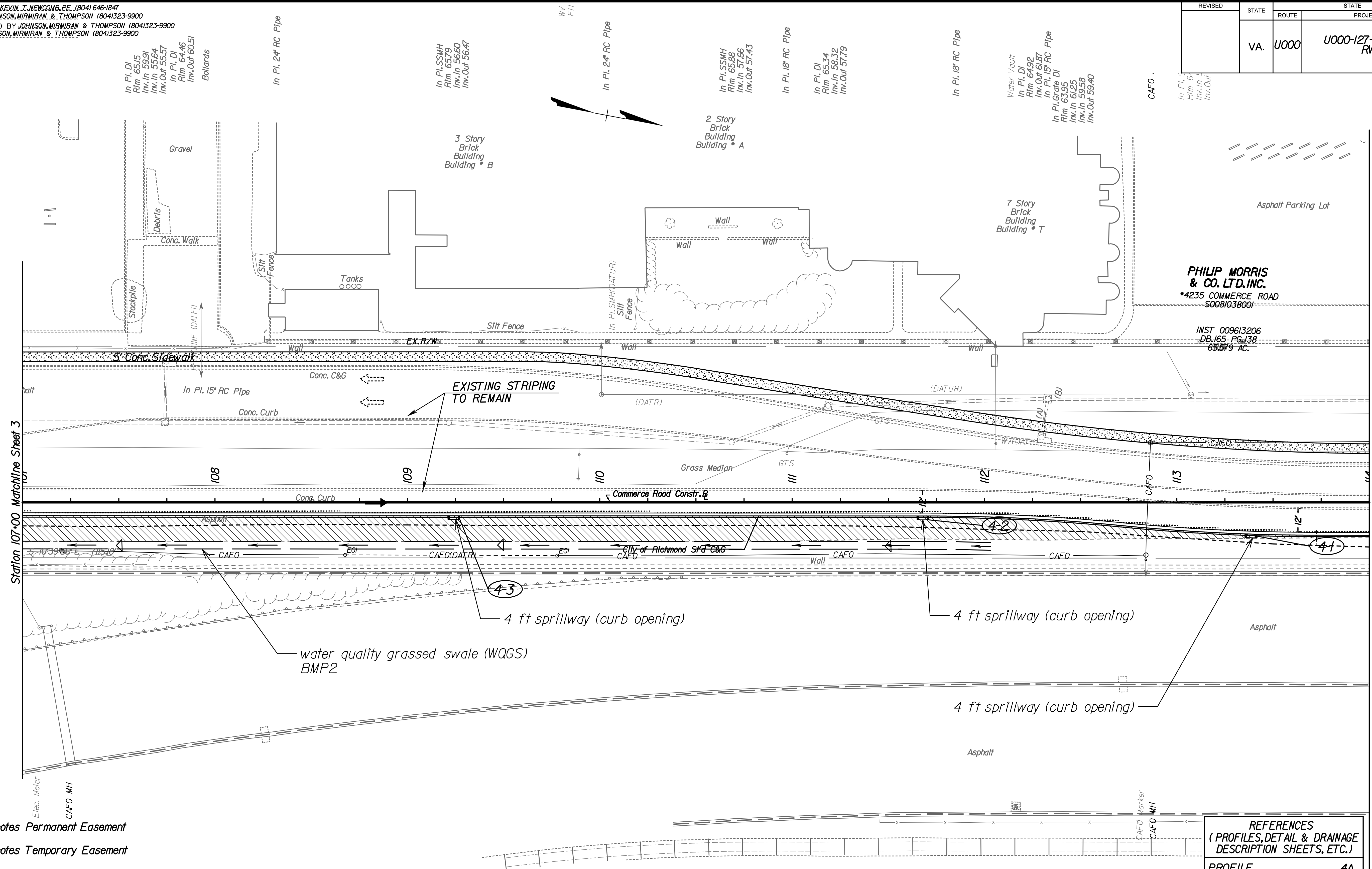
PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

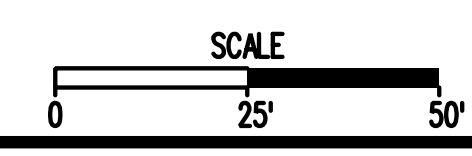
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	4



- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

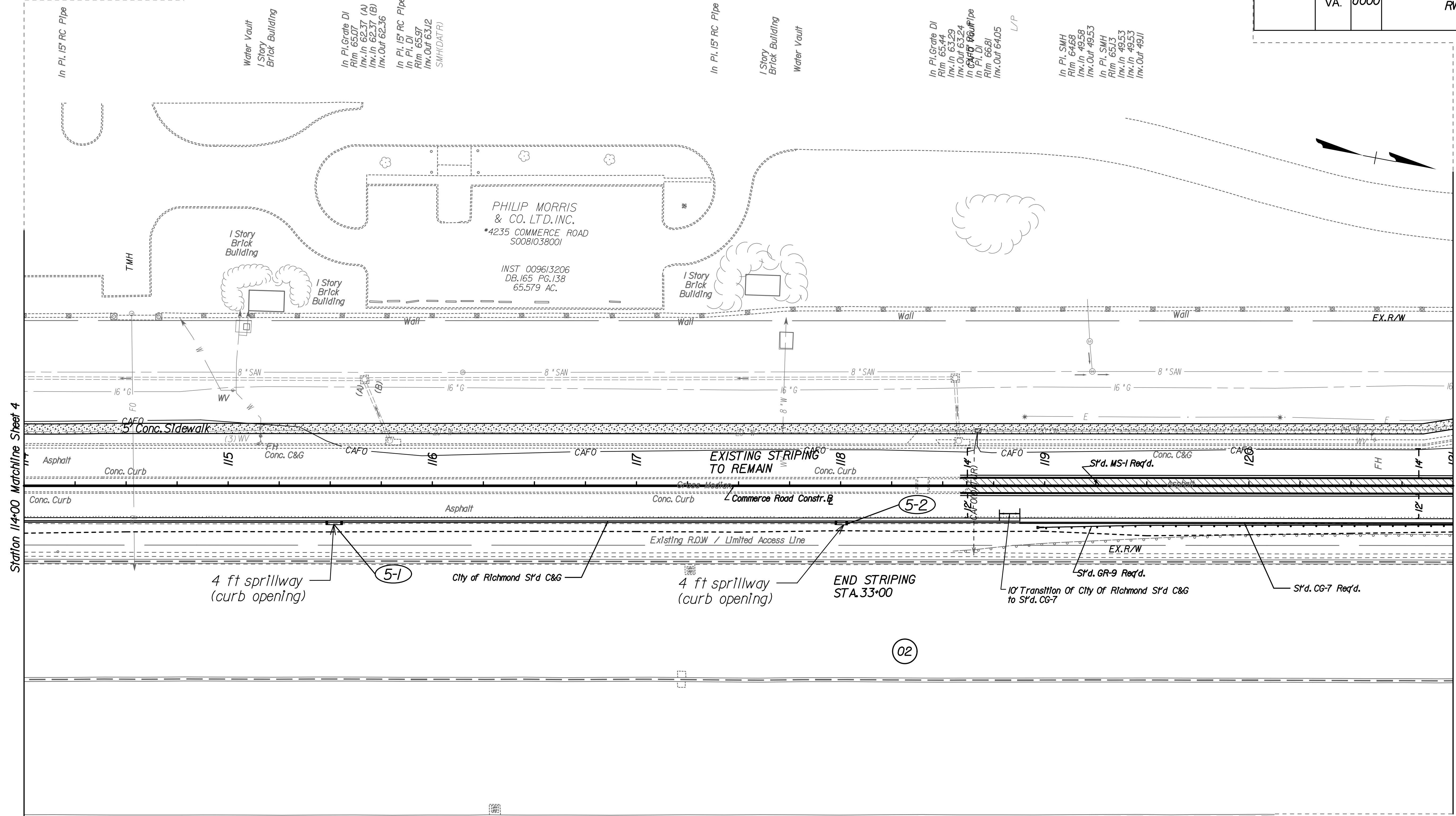


REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
PROFILE	4A

PROJECT	U000-127-139
SHEET NO.	4

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	5



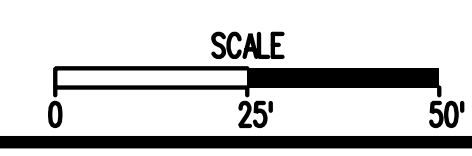
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Stippled Box] Denotes area of proposed construction
- [Hatched Box] Denotes mill and overlay
- [Diagonal Hatched Box] Denotes demolition
- [Dotted Box] Denotes proposed hydraulic cement sidewalk

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

PROFILE 5A

PH PLANS, 1/21/14

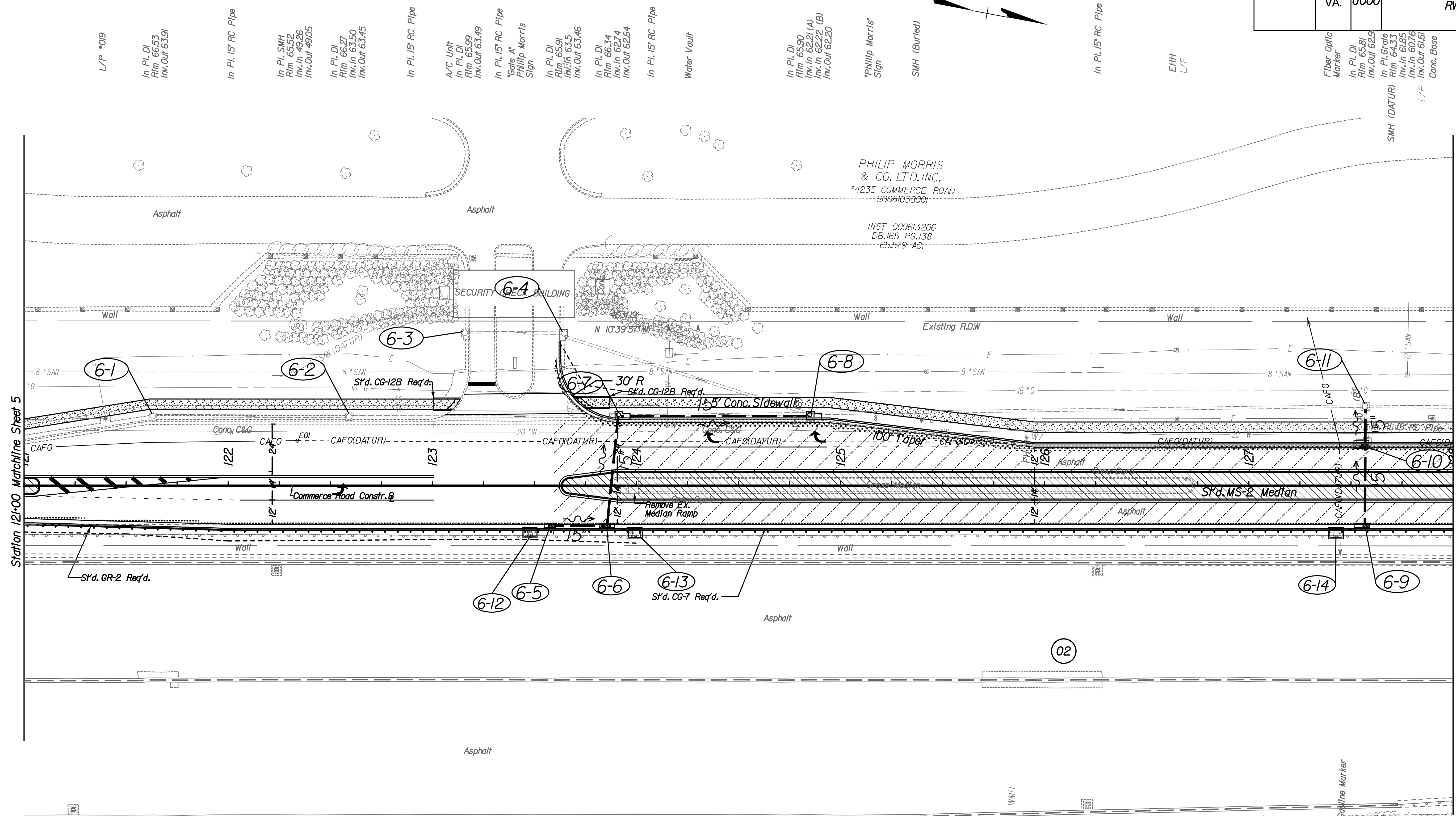
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



PROJECT	SHEET NO.
U000-127-139	5

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	6



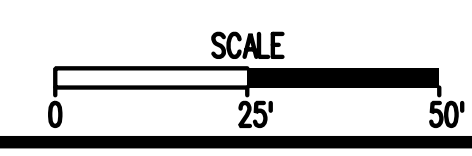
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Stippled] Denotes area of proposed construction
- [Diagonal Hatching] Denotes mill and overlay
- [Cross-hatching] Denotes demolition
- [Dotted] Denotes proposed hydraulic cement sidewalk

REFERENCES
(PROFILES, DETAIL & DRAINAGE
DESCRIPTION SHEETS, ETC.)

PROFILE	6A
---------	----

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



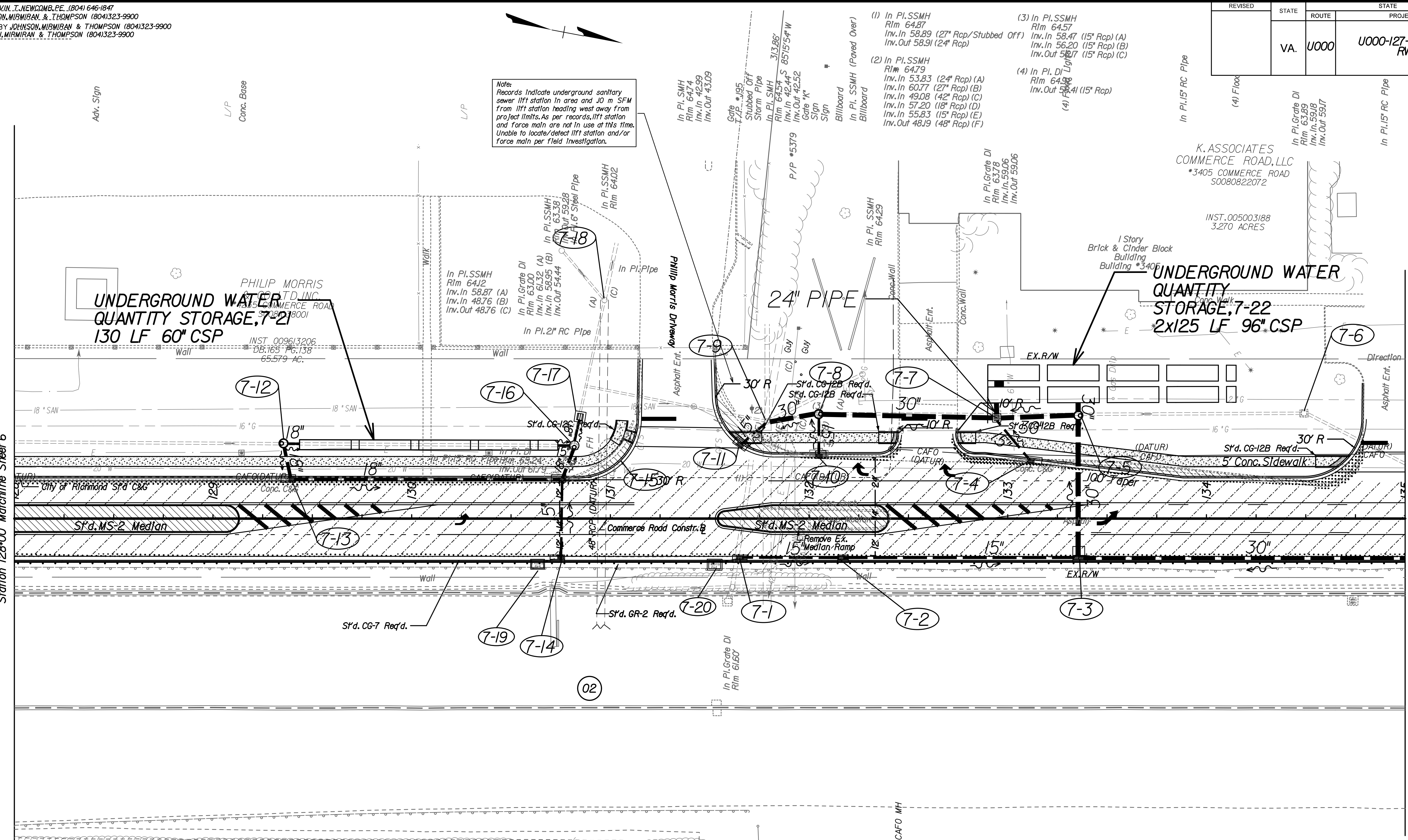
PROJECT	U000-127-139	SHEET NO.	6
---------	--------------	-----------	---

02
COMMONWEALTH OF VIRGINIA

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	7

Note:
Records indicate underground sanitary sewer lift station in area and 10 m SFM from lift station heading west away from project limits. As per records, lift station and force main are not in use at this time. Unable to locate/detect lift station and/or force main per field investigation.



UNDERGROUND WATER QUANTITY STORAGE, 7-12
130 LF 60" CSP

UNDERGROUND WATER QUANTITY STORAGE, 7-22
2x125 LF 96" CSP

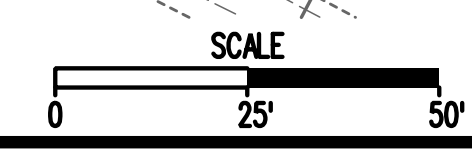
PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

PROFILE 7A



PROJECT	SHEET NO.
U000-127-139	7

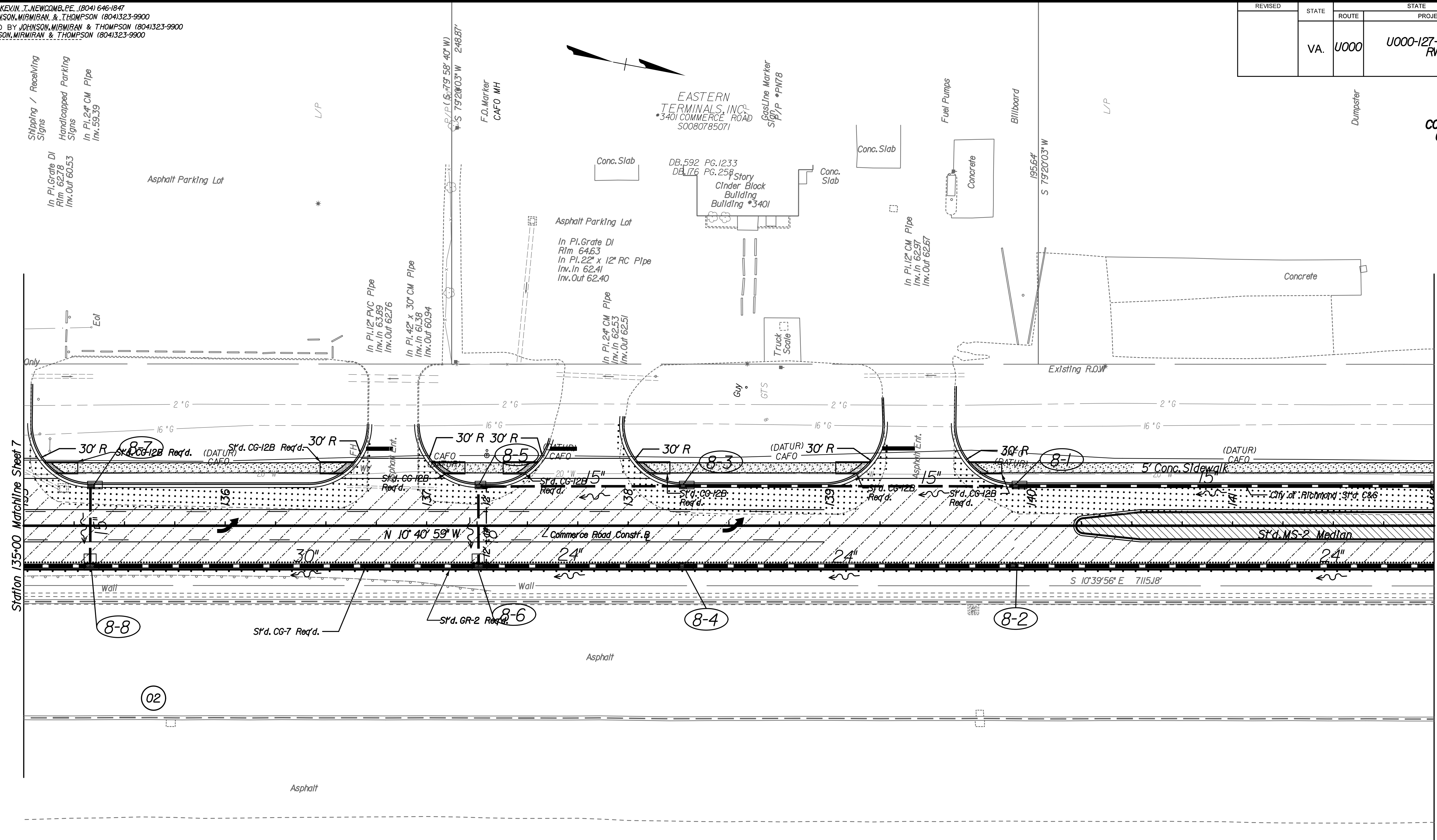
Station 128+00 Matchline Sheet 6

Station 135+00 Matchline Sheet 8

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	8

02
COMMONWEALTH OF VIRGINIA



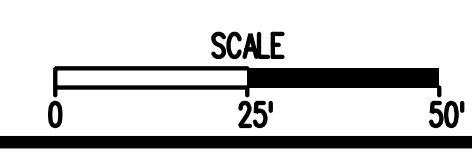
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

PROFILE	8A
---------	----



PROJECT	U000-127-139	SHEET NO.	8
---------	--------------	-----------	---

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

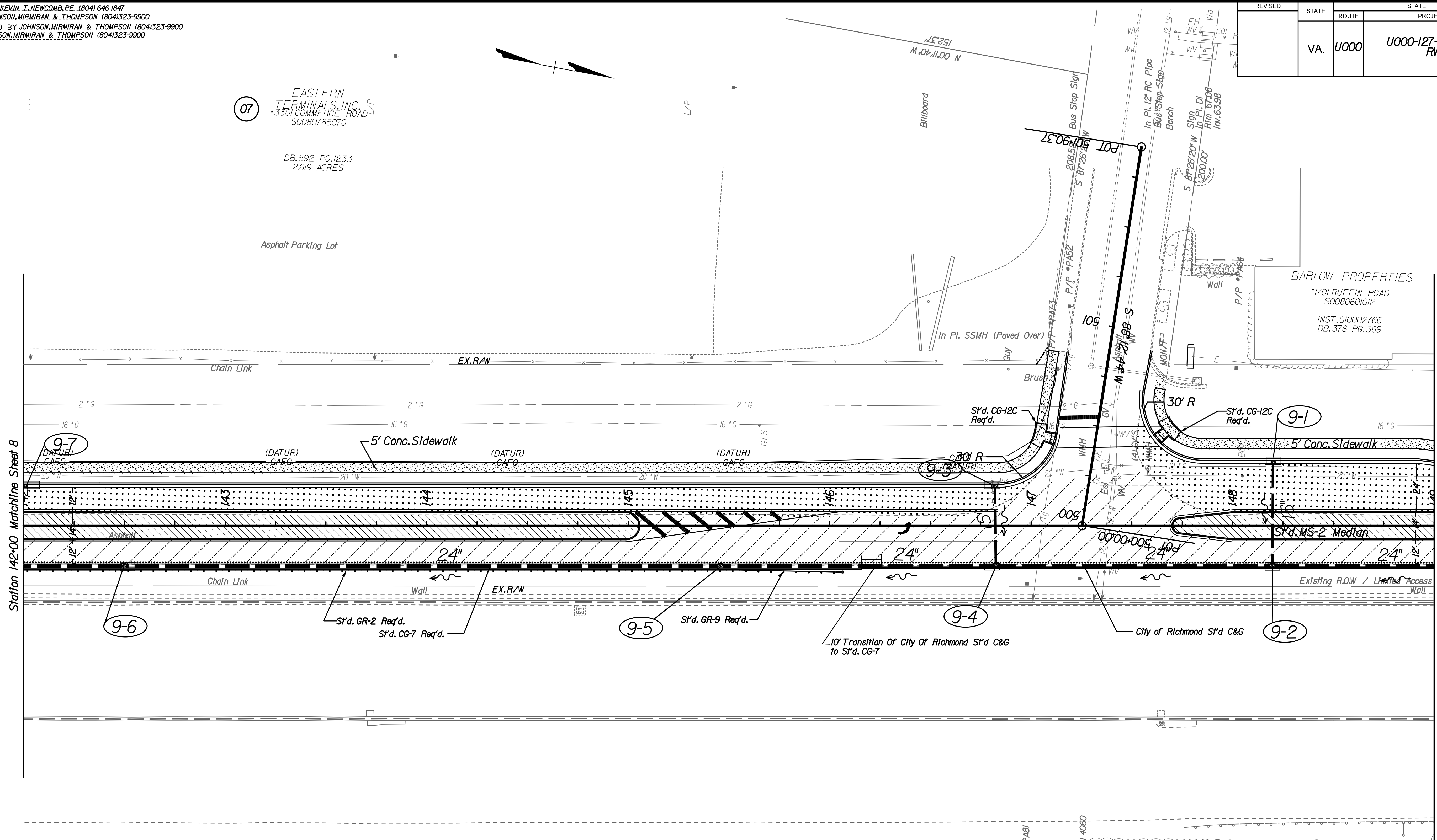
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	9

07 EASTERN TERMINALS, INC.
*3301 COMMERCE ROAD
S0080785070

DB.592 PG.1233
2.619 ACRES

Asphalt Parking Lot

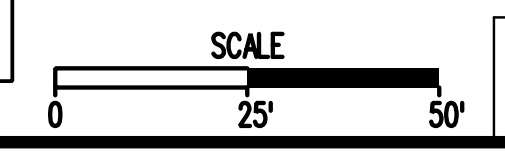
BARLOW PROPERTIES
*1701 RUFFIN ROAD
S0080601012
INST. 010002766
DB.376 PG.369



- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

PROFILE 9A

PROJECT	SHEET NO.
U000-127-139	9

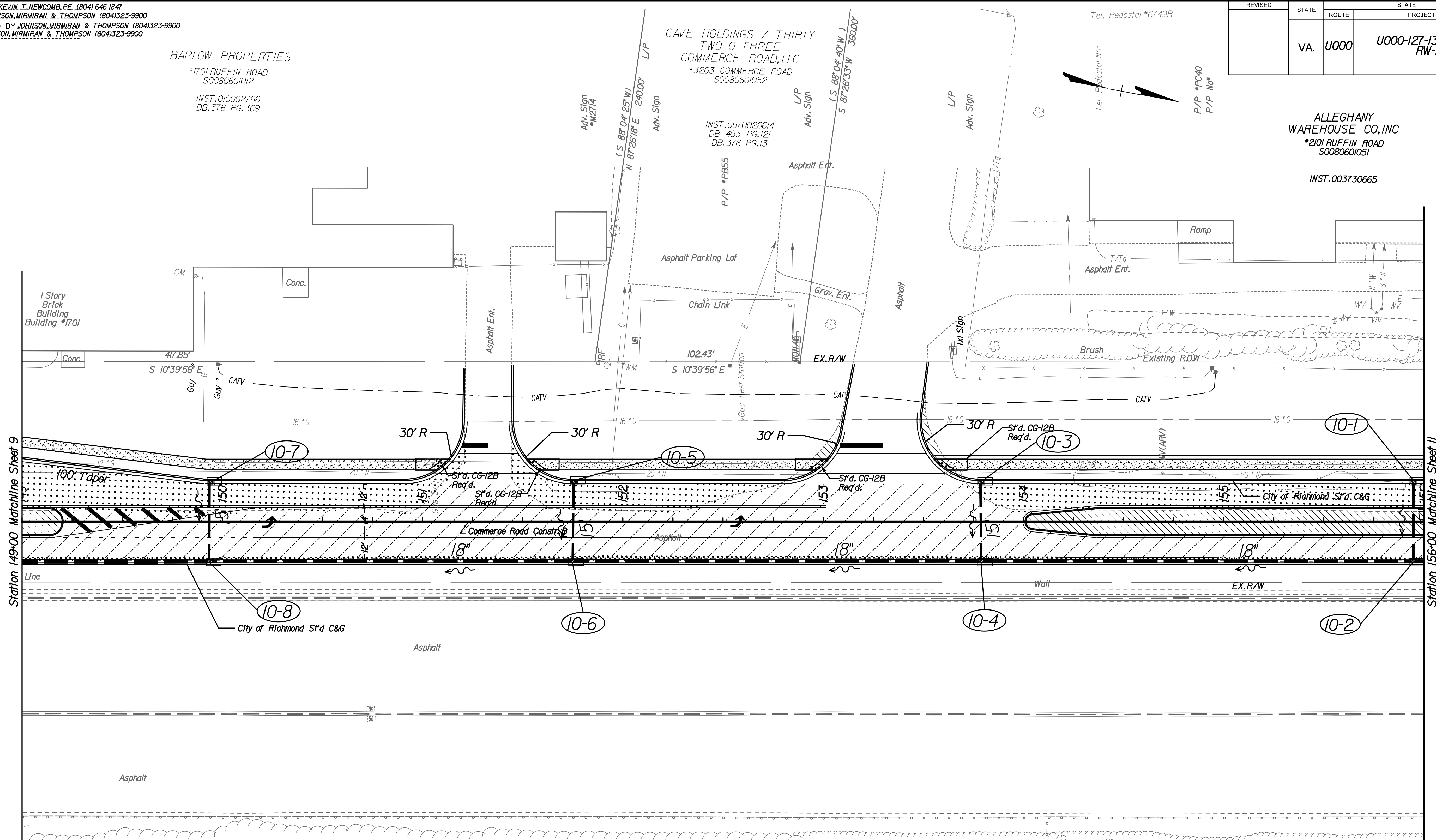
PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

BARLOW PROPERTIES
*1701 RUFFIN ROAD
50080601012
INST. 010002766
DB. 376 PG. 369

CAVE HOLDINGS / THIRTY TWO 0 THREE COMMERCE ROAD, LLC
*3203 COMMERCE ROAD
50080601052
INST. 0970026614
DB. 493 PG. 121
DB. 376 PG. 13
P/P *PB55

ALLEGHANY WAREHOUSE CO., INC
*2101 RUFFIN ROAD
50080601051
INST. 003730665

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	10



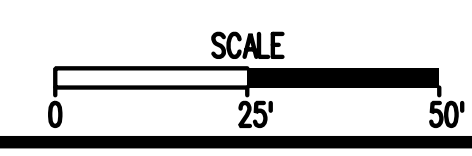
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

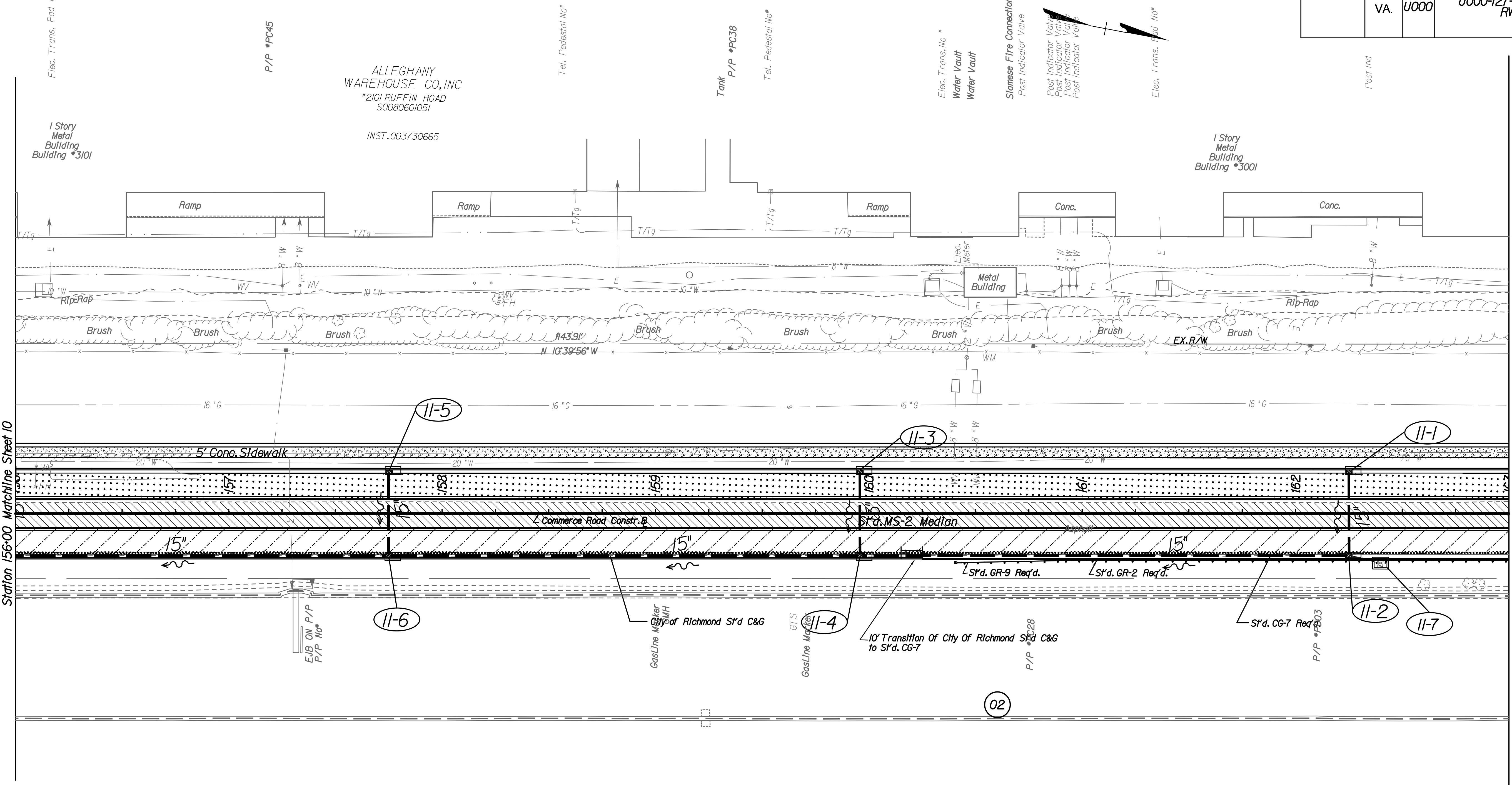
PROFILE	10A
---------	-----



PROJECT	U000-127-139	SHEET NO.	10
---------	--------------	-----------	----

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	11

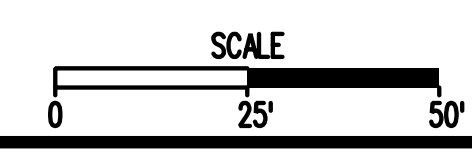


- Perm** Denotes Permanent Easement
- Temp** Denotes Temporary Easement
- C** Denotes Construction Limits In Cuts
- F** Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

REFERENCES (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)	
PROFILE	11A

PH PLANS, 1/21/14

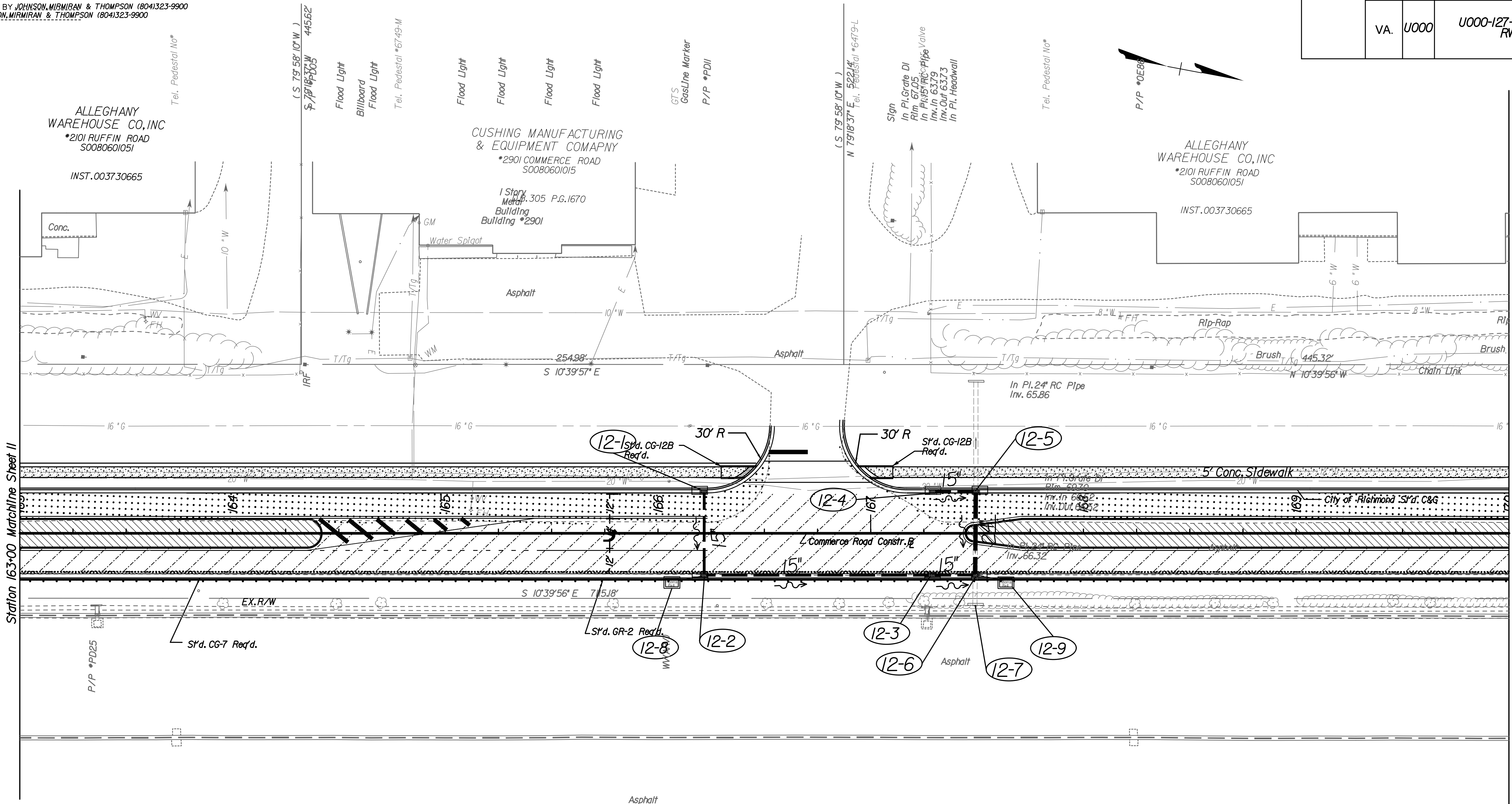
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



PROJECT	U000-127-139	SHEET NO.	11
---------	--------------	-----------	----

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	12



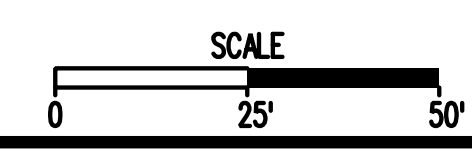
- Perm** Denotes Permanent Easement
- Temp** Denotes Temporary Easement
- C** Denotes Construction Limits In Cuts
- F** Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

REFERENCES
(PROFILES, DETAIL & DRAINAGE
DESCRIPTION SHEETS, ETC.)

PROFILE 12A

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED
AND UNAPPROVED AND ARE NOT
TO BE USED FOR ANY TYPE
OF CONSTRUCTION OR THE
ACQUISITION OF RIGHT OF WAY.

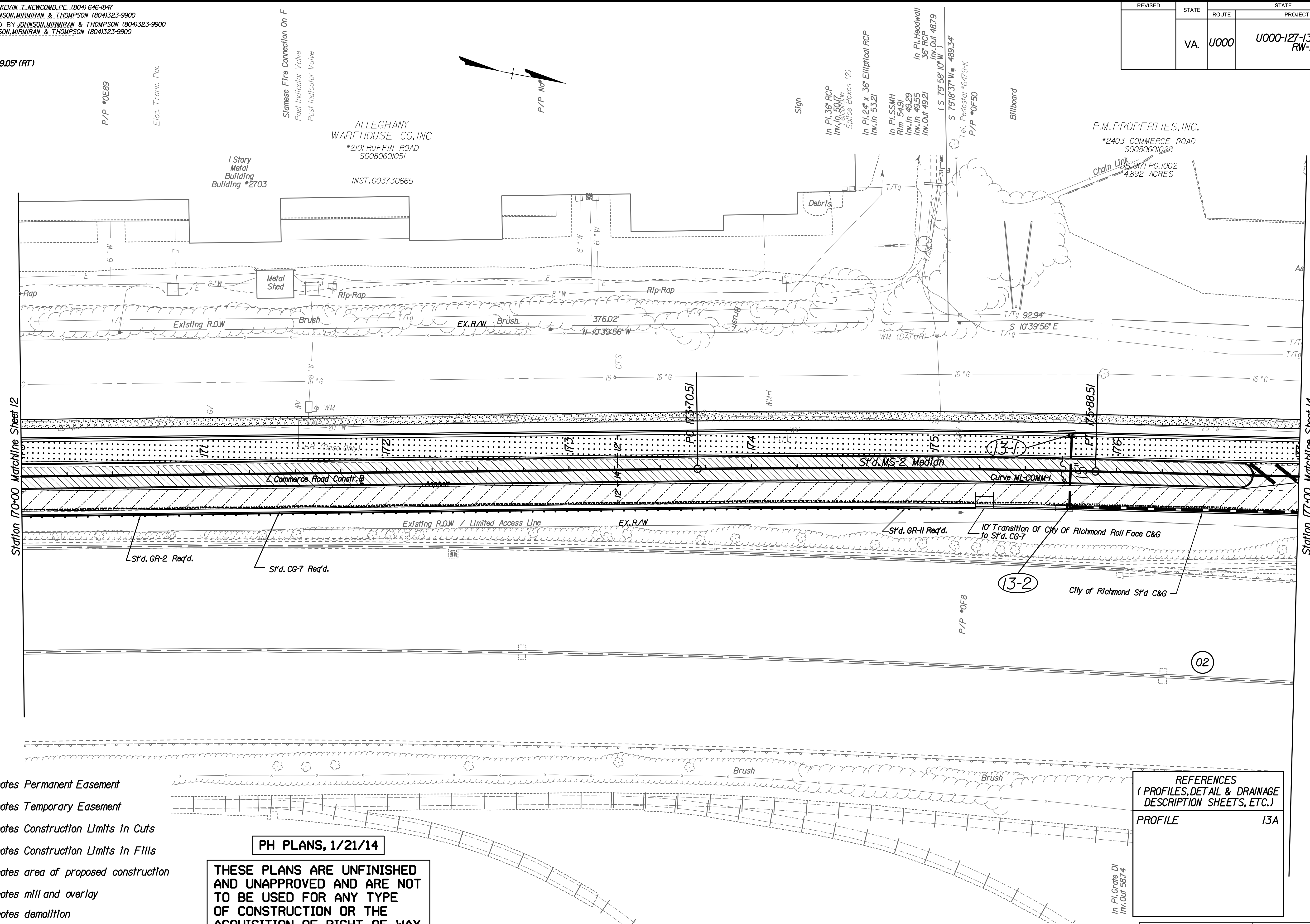


PROJECT	U000-127-139	SHEET NO.	12
---------	--------------	-----------	----

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

Curve ML-COMM-1
PI = 7479.52
DELTA = 2° 04' 29.05" (RT)
D = 0' 57" 06"
T = 109.02'
L = 218.07'
R = 6,020.50'
PC = 73+70.51
PT = 75+88.51
Lr = 56'
E = 2.0%
V = 45 MPH

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	13



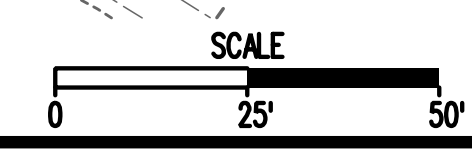
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

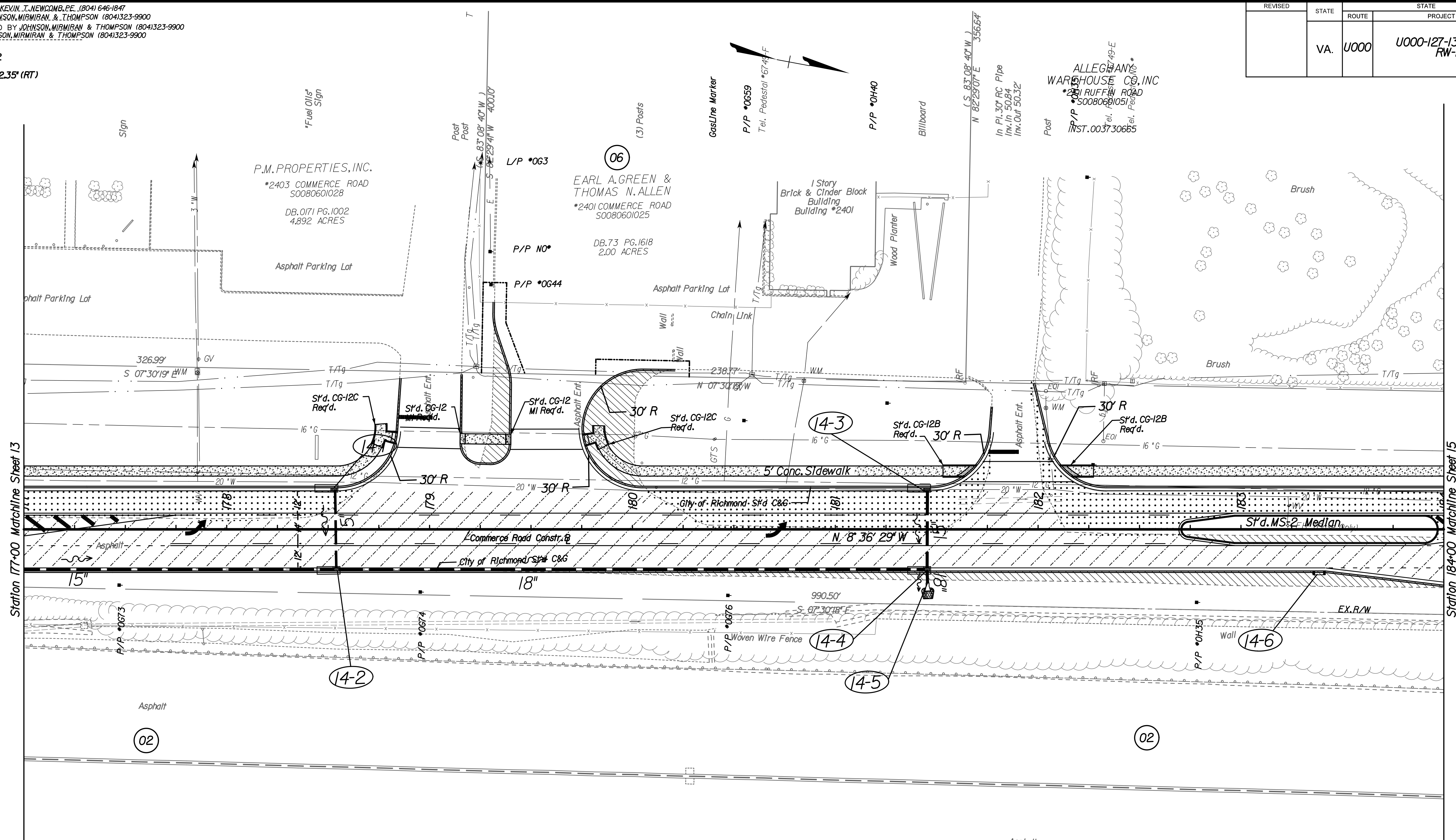
PROFILE	13A
---------	-----



PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

Curve ML-COMM-2
PI = 187+19.41
DELTA = 0° 57' 42.35" (RT)
D = 0° 57' 06"
T = 50.53'
L = 101.06'
R = 6,020.50'
PC = 186+68.88
PT = 187+69.94
Lr = 59'
E = 2.0%
V = 35 MPH

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	14



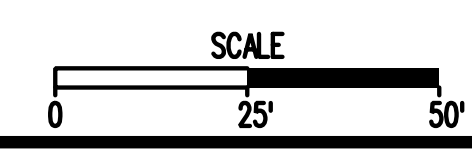
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- Denotes area of proposed construction
- Denotes mill and overlay
- Denotes demolition
- Denotes proposed hydraulic cement sidewalk

REFERENCES
(PROFILES, DETAIL & DRAINAGE
DESCRIPTION SHEETS, ETC.)

PROFILE 14A

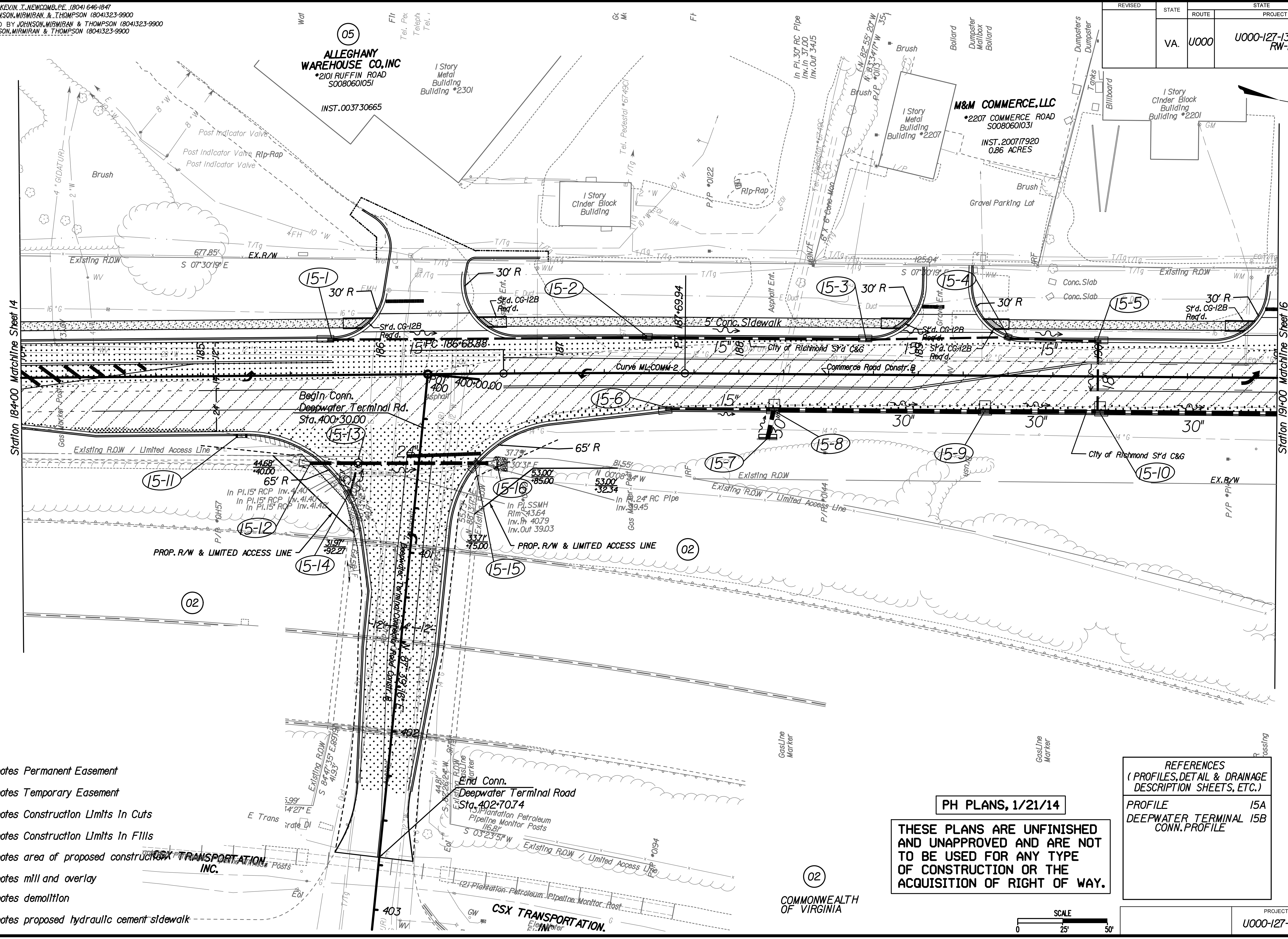
PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED
AND UNAPPROVED AND ARE NOT
TO BE USED FOR ANY TYPE
OF CONSTRUCTION OR THE
ACQUISITION OF RIGHT OF WAY.



PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	15



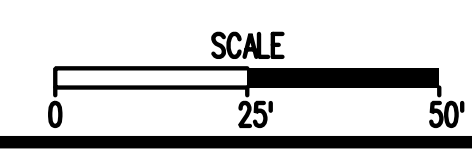
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Hatched Box] Denotes area of proposed construction
- [Solid Box] Denotes mill and overlay
- [Diagonal Hatched Box] Denotes demolition
- [Dotted Box] Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

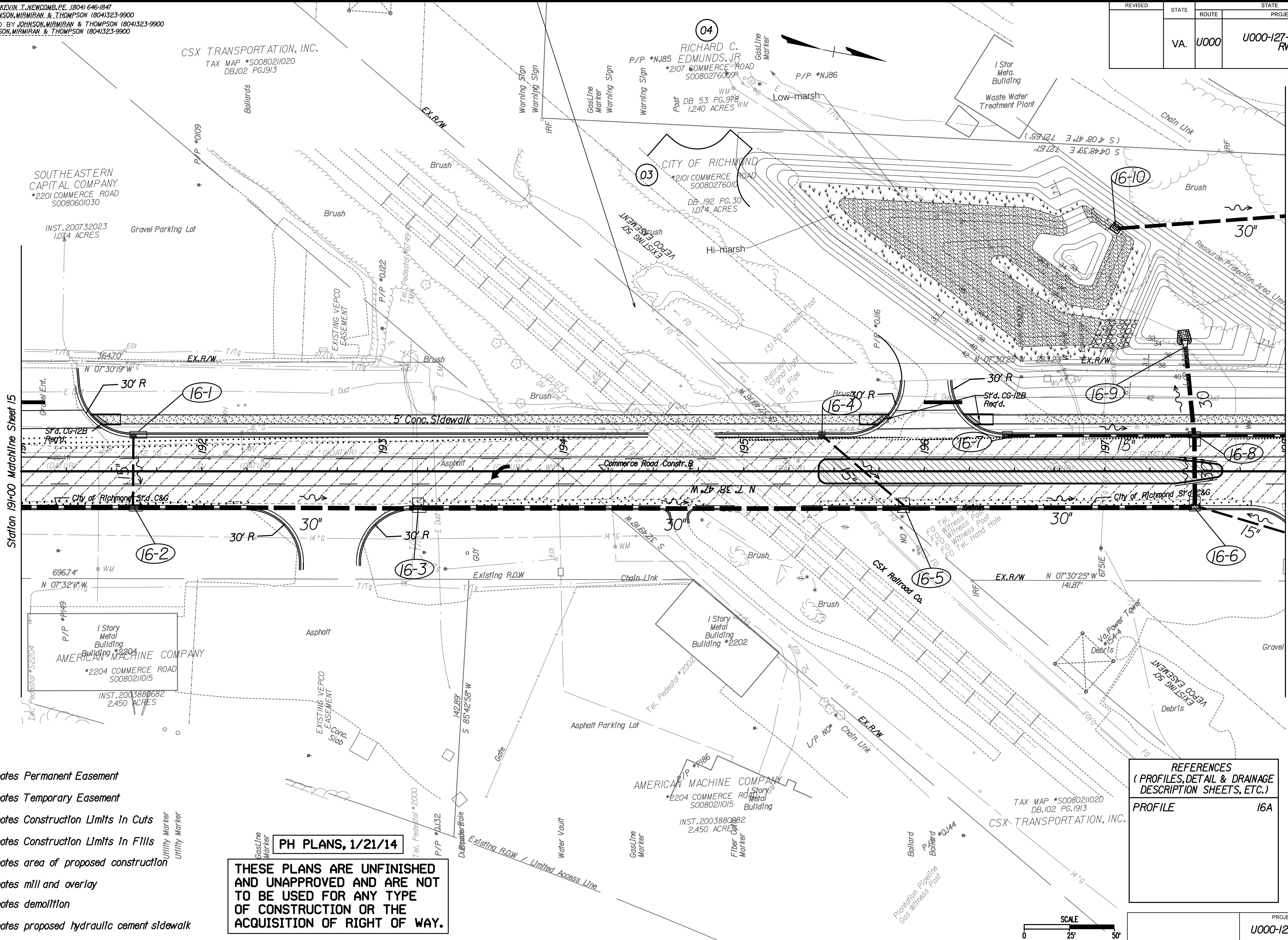
PROFILE 15A
DEEPWATER TERMINAL 15B
CONN. PROFILE



PROJECT	SHEET NO.
U000-127-139	15

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	16



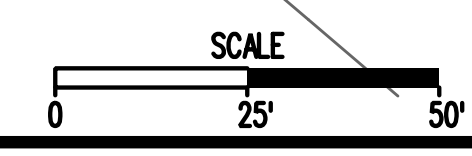
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Stippled Area] Denotes area of proposed construction
- [Hatched Area] Denotes mill and overlay
- [Cross-hatched Area] Denotes demolition
- [Dotted Area] Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

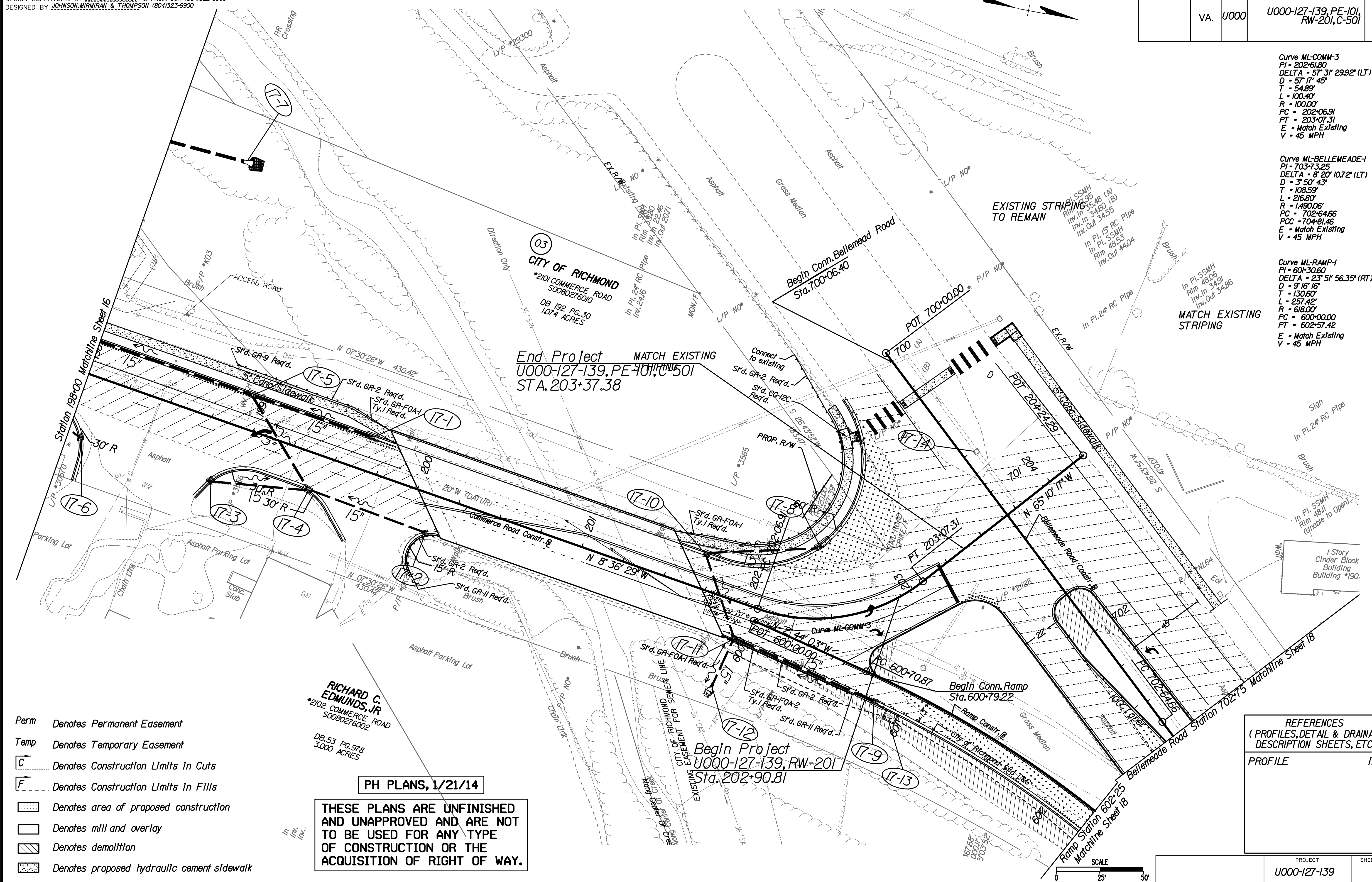
PROFILE	16A
---------	-----



PROJECT	U000-127-139	SHEET NO.	16
---------	--------------	-----------	----

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	17



- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Hatched Box] Denotes area of proposed construction
- [White Box] Denotes mill and overlay
- [Diagonal Lines Box] Denotes demolition
- [Dotted Box] Denotes proposed hydraulic cement sidewalk

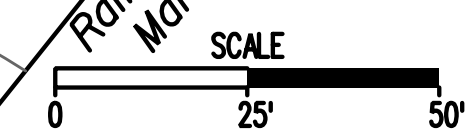
RICHARD C. EDMUNDS, JR.
*2102 COMMERCE ROAD
50080276002
DB.53 PG.978
3.000 ACRES

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

PROFILE 17A



PROJECT	SHEET NO.
U000-127-139	17

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

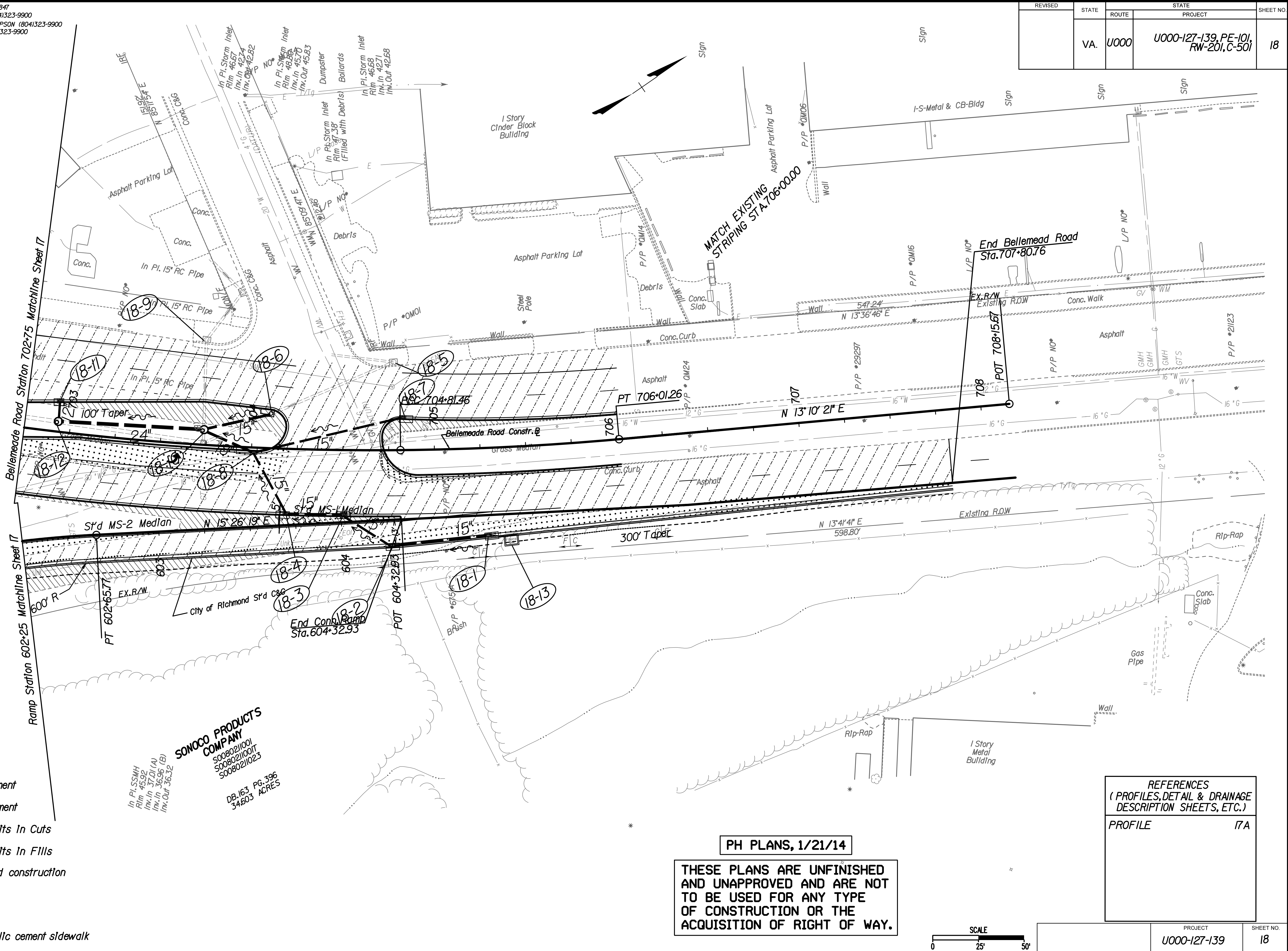
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	18

Curve ML-COMM-3
PI = 202+61.80
DELTA = 57° 31' 29.92" (LT)
D = 57' 17" 45"
T = 54.89'
L = 100.40'
R = 100.00'
PC = 202+06.91
PT = 203+07.31
E = Match Existing
V = 45 MPH

Curve ML-BELLEMEADE-1
PI = 703+73.25
DELTA = 8° 20' 10.72" (LT)
D = 3° 50' 43"
T = 108.59'
L = 216.80'
R = 1,490.06'
PC = 702+64.66
PCC = 704+81.46
E = Match Existing
V = 45 MPH

Curve ML-BELLEMEADE-2
PI = 705+41.39
DELTA = 4° 38' 30.20" (LT)
D = 3° 52' 29"
T = 59.93'
L = 119.79'
R = 1,478.70'
PCC = 704+81.46
PT = 706+01.26
E = Match Existing
V = 45 MPH

Curve ML-RAMP-1
PI = 60+30.60
DELTA = 23° 51' 56.35" (RT)
D = 9° 16' 16"
T = 130.60'
L = 257.42'
R = 618.00'
PC = 60+00.00
PT = 602+57.42
E = Match Existing
V = 45 MPH



SONOCO PRODUCTS COMPANY
S008021001
S00802100T
S008021023
DB 163 PG 396
34.603 ACRES

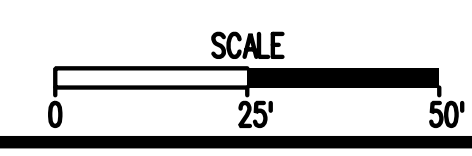
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Hatched Box] Denotes area of proposed construction
- [White Box] Denotes mill and overlay
- [Diagonal Lines] Denotes demolition
- [Dotted Box] Denotes proposed hydraulic cement sidewalk

REFERENCES
(PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

PROFILE	17A
---------	-----

PH PLANS, 1/21/14

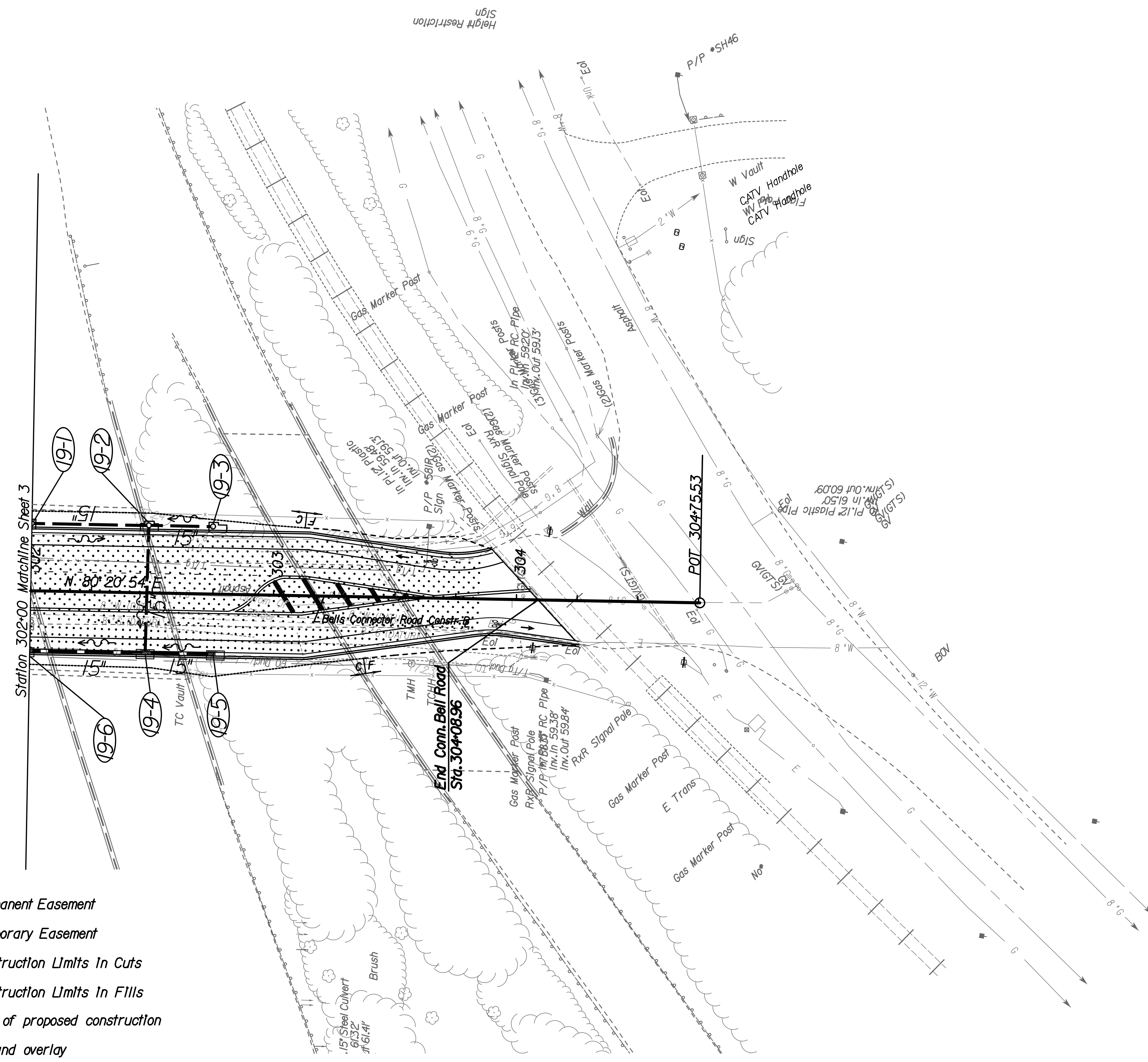
THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.



PROJECT	U000-127-139	SHEET NO.	18
---------	--------------	-----------	----

PROJECT MANAGER KEVIN T. NEWCOMB, P.E. (804) 646-1847
 SURVEYED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
 DESIGN SUPERVISED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900
 DESIGNED BY JOHNSON, MIRMIRAN & THOMPSON (804) 323-9900

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	U000	U000-127-139, PE-101, RW-201, C-501	19



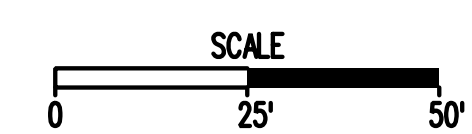
- Perm Denotes Permanent Easement
- Temp Denotes Temporary Easement
- C Denotes Construction Limits In Cuts
- F Denotes Construction Limits In Fills
- [Stippled] Denotes area of proposed construction
- [Diagonal Hatching] Denotes mill and overlay
- [Cross-hatching] Denotes demolition
- [Dotted] Denotes proposed hydraulic cement sidewalk

PH PLANS, 1/21/14

THESE PLANS ARE UNFINISHED AND UNAPPROVED AND ARE NOT TO BE USED FOR ANY TYPE OF CONSTRUCTION OR THE ACQUISITION OF RIGHT OF WAY.

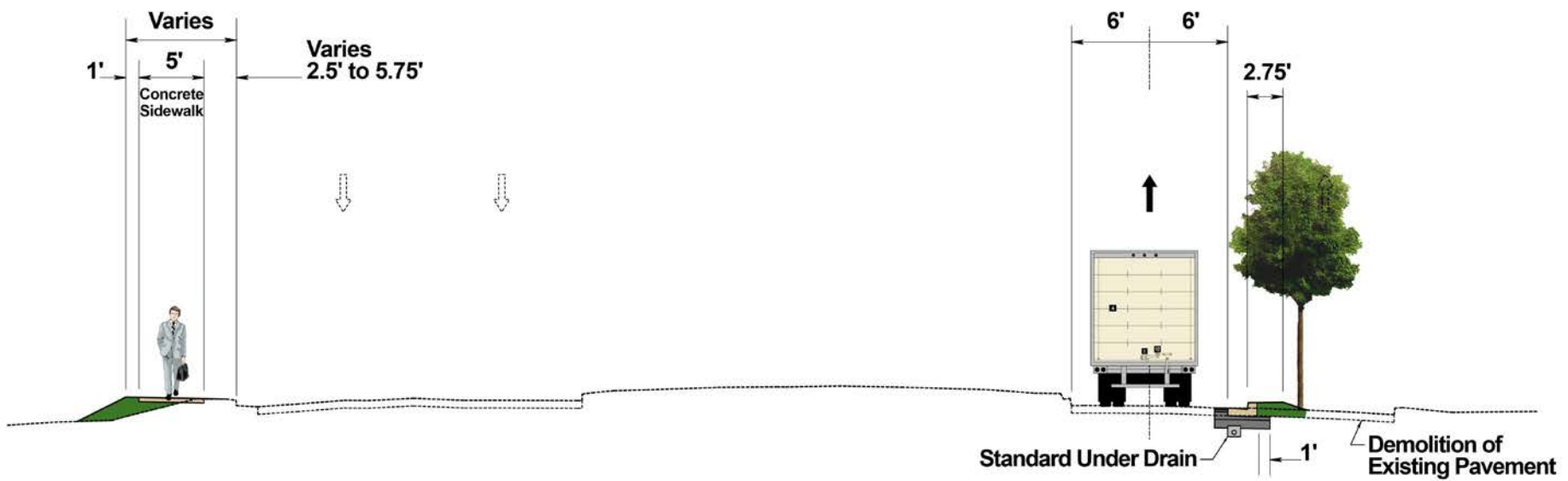
REFERENCES
 (PROFILES, DETAIL & DRAINAGE DESCRIPTION SHEETS, ETC.)

PROFILE 19A



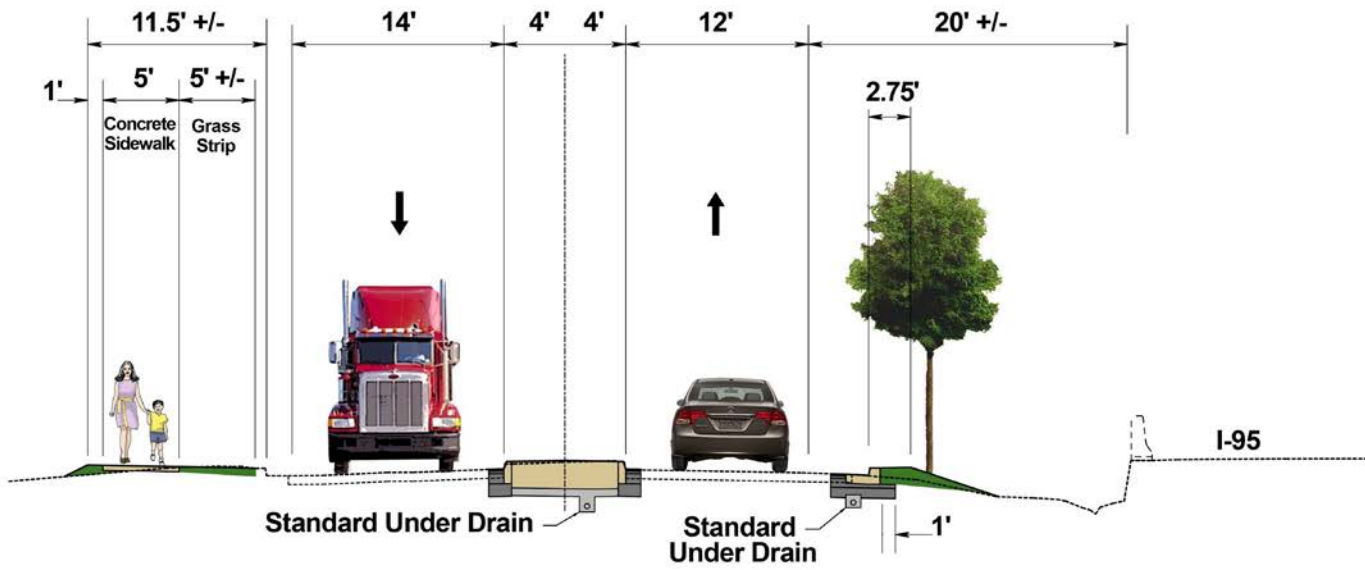
PROJECT	SHEET NO.
U000-127-139	19

COMMERCE ROAD - PROPOSED TYPICAL SECTIONS



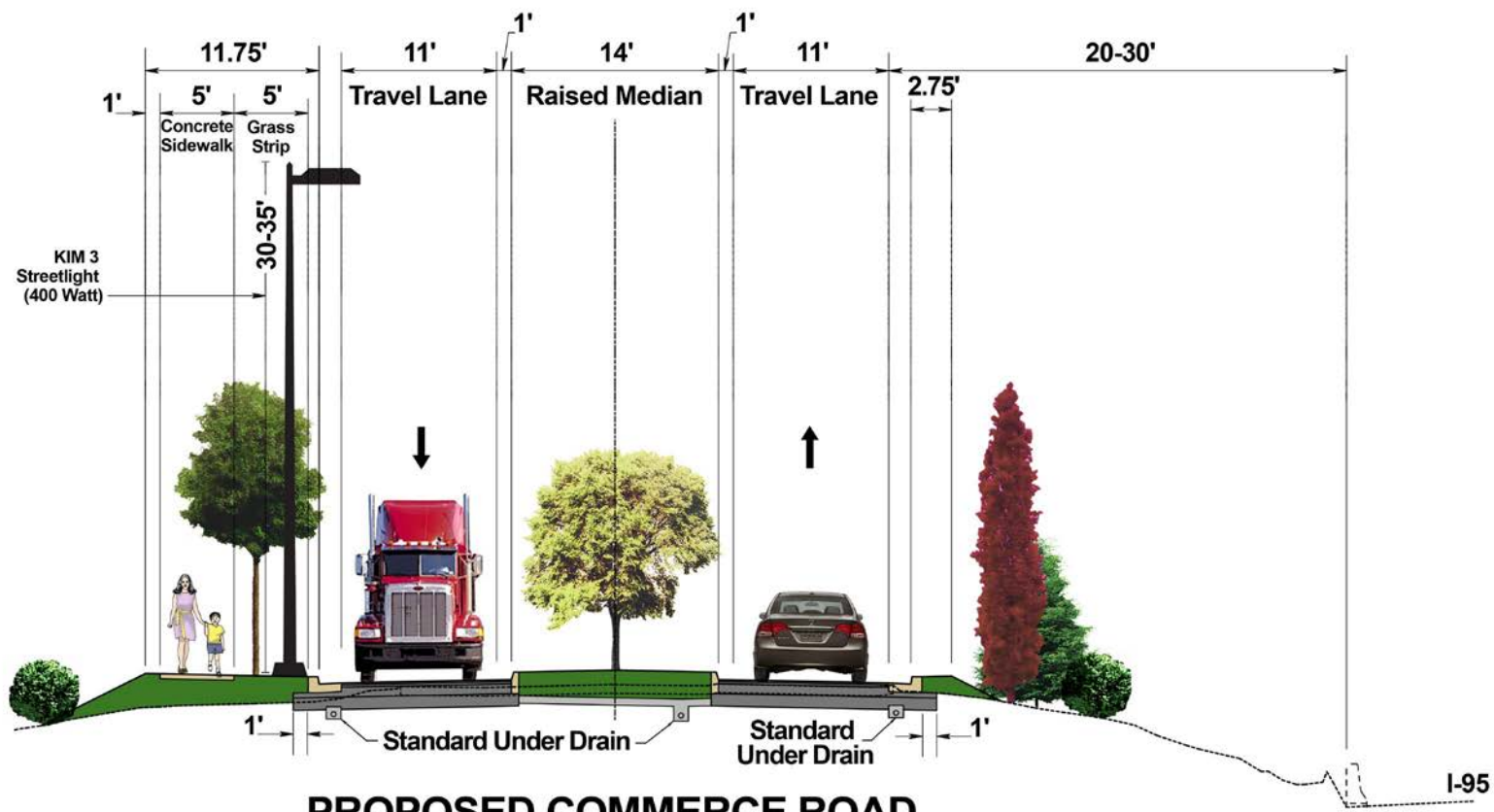
**EXISTING COMMERCE ROAD
WITH PROPOSED CURB AND GUTTER**

COMMERCE ROAD - PROPOSED TYPICAL SECTIONS



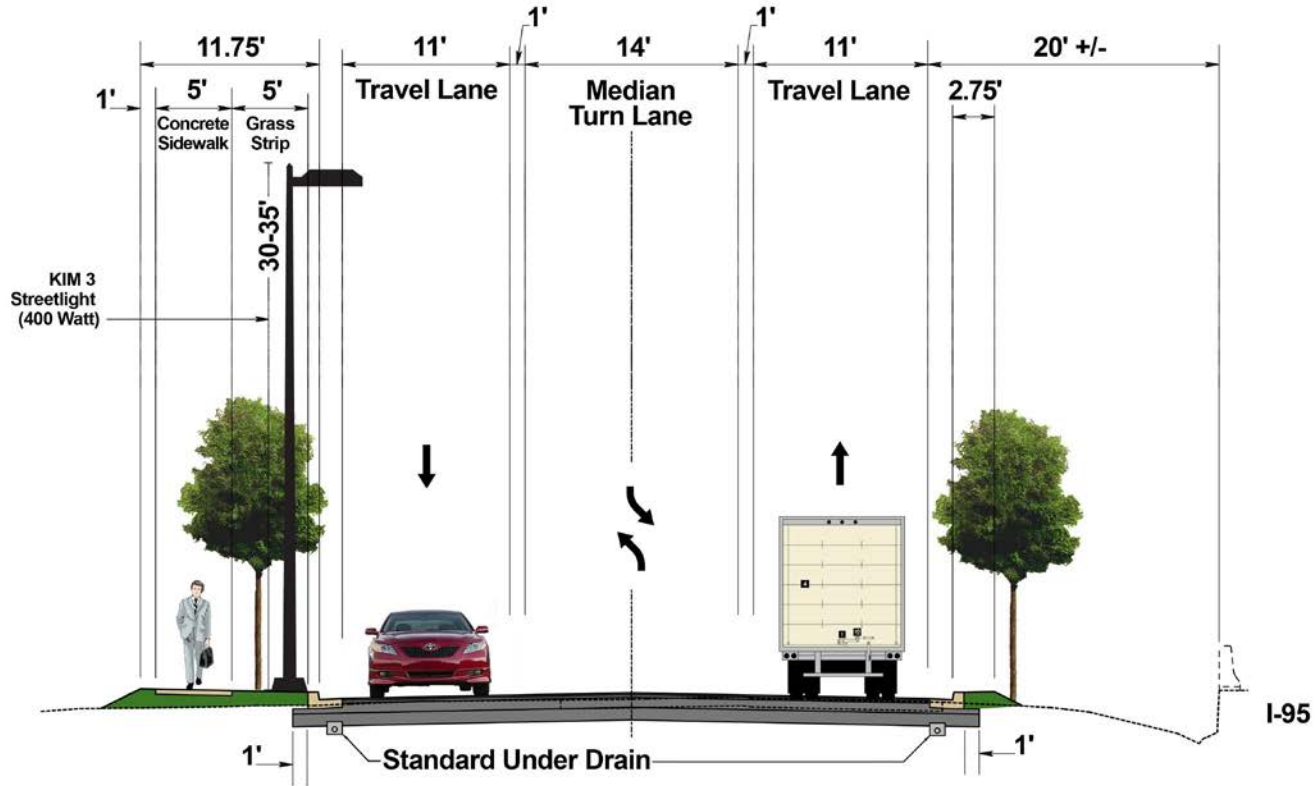
**EXISTING COMMERCE ROAD WITH
PROPOSED MEDIAN AND CURB AND GUTTER**

COMMERCE ROAD - PROPOSED TYPICAL SECTIONS



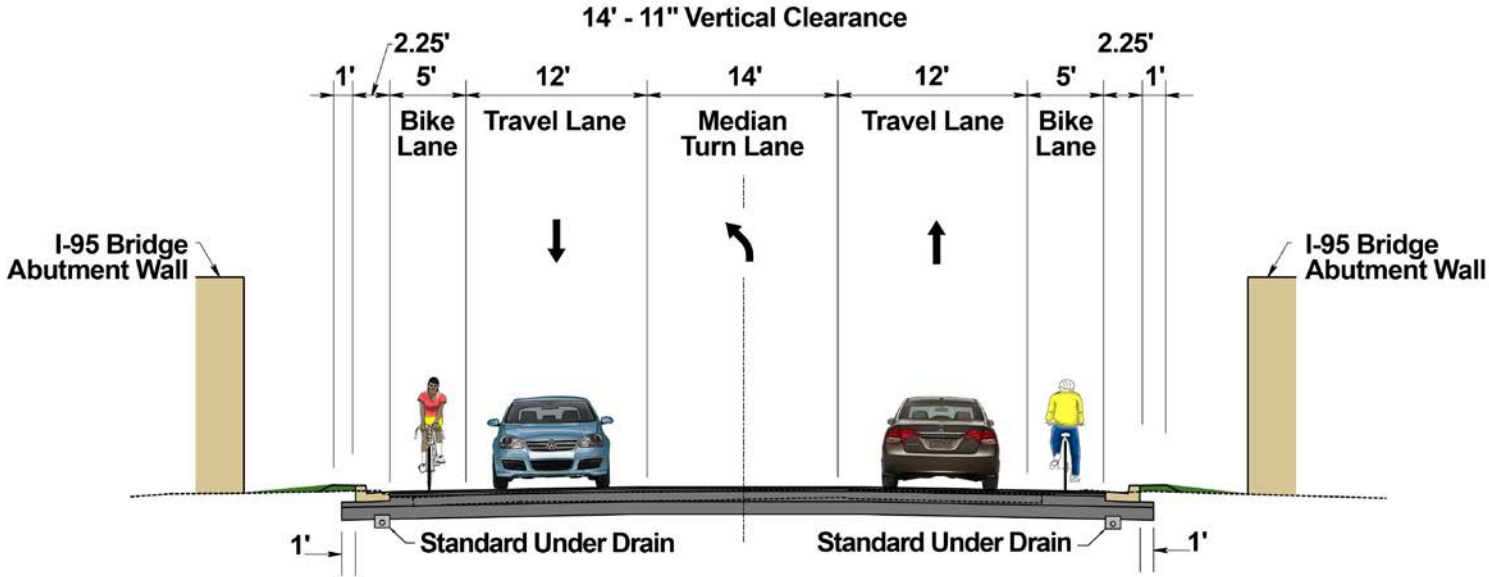
**PROPOSED COMMERCE ROAD
WITH RAISED MEDIAN**

COMMERCE ROAD - PROPOSED TYPICAL SECTIONS



**PROPOSED COMMERCE ROAD
WITH MEDIAN TURN LANE**

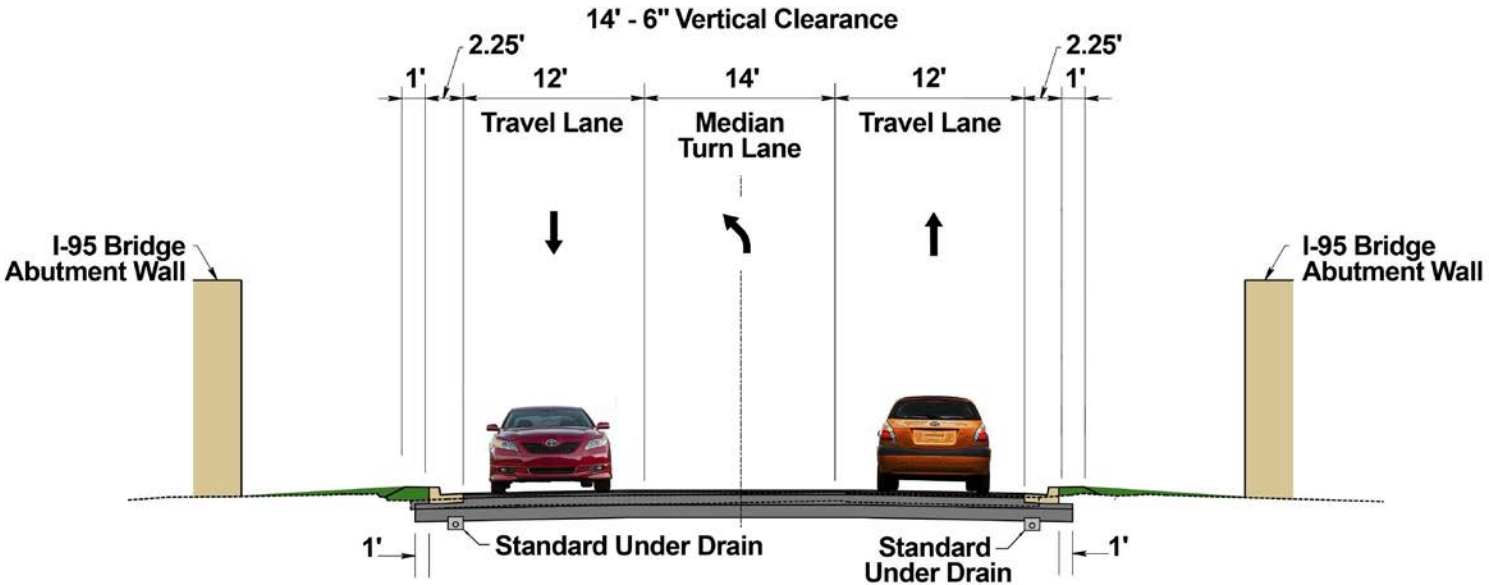
COMMERCE ROAD - PROPOSED TYPICAL SECTIONS



PROPOSED BELLS CONNECTOR ROAD

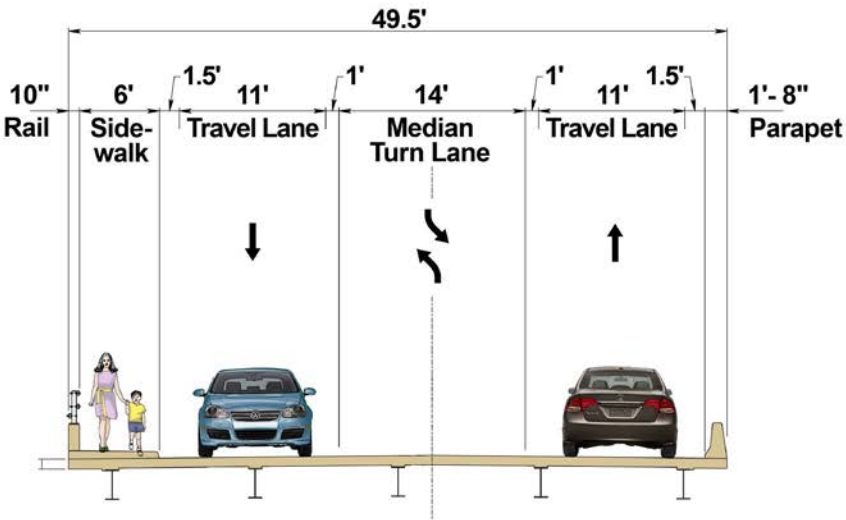


COMMERCE ROAD - PROPOSED TYPICAL SECTIONS



PROPOSED DEEPWATER TERMINAL CONNECTOR ROAD

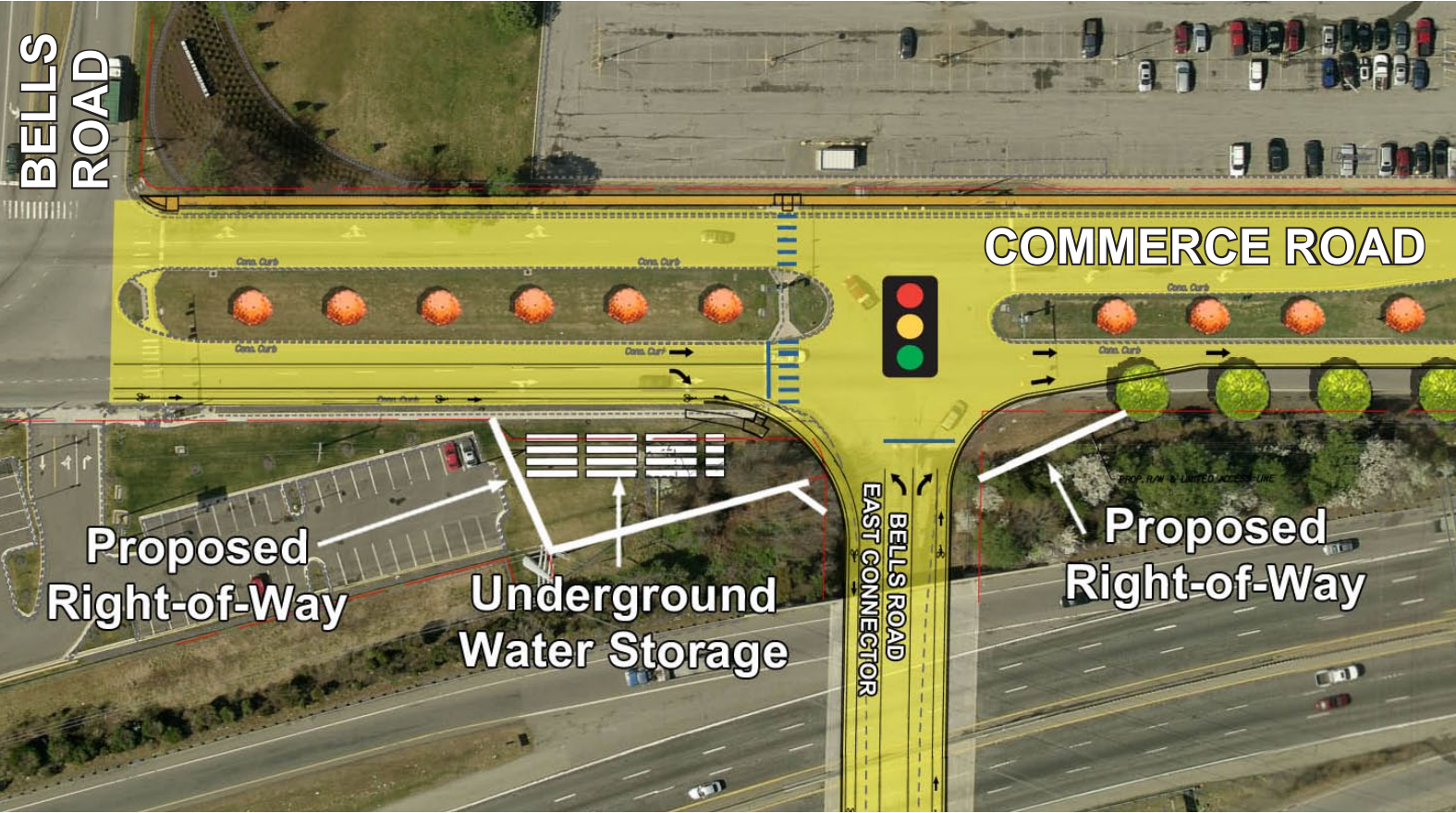
COMMERCE ROAD - PROPOSED TYPICAL SECTIONS



PROPOSED GOODES CREEK BRIDGE TYPICAL



COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND

- Existing Right-of-Way
- Proposed Roadway
- Proposed Sidewalk
- Directional Arrows
- Stop Bar
- Pedestrian Crosswalk
- KIM 3 Streetlight (400 Watt)
- TM Turfgrass Management
- PB Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND

- Existing Right-of-Way
- Proposed Roadway
- Proposed Sidewalk
- Directional Arrows
- Stop Bar
- Pedestrian Crosswalk
- KIM 3 Streetlight (400 Watt)
- Turfgrass Management
- Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND

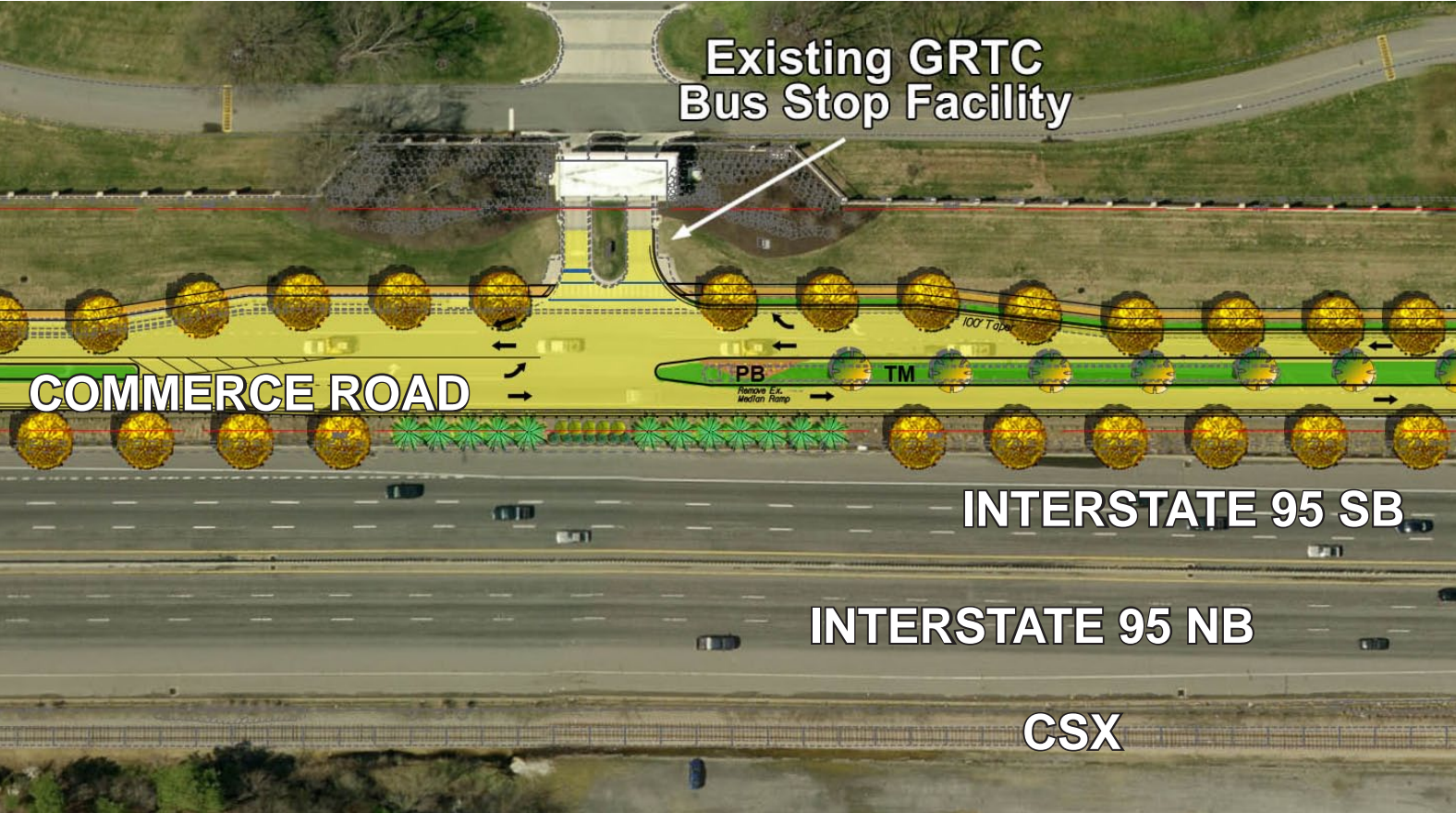
- Existing Right-of-Way
- Proposed Roadway
- Proposed Sidewalk
- Directional Arrows
- Stop Bar
- Pedestrian Crosswalk
- KIM 3 Streetlight (400 Watt)
- Turfgrass Management
- Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



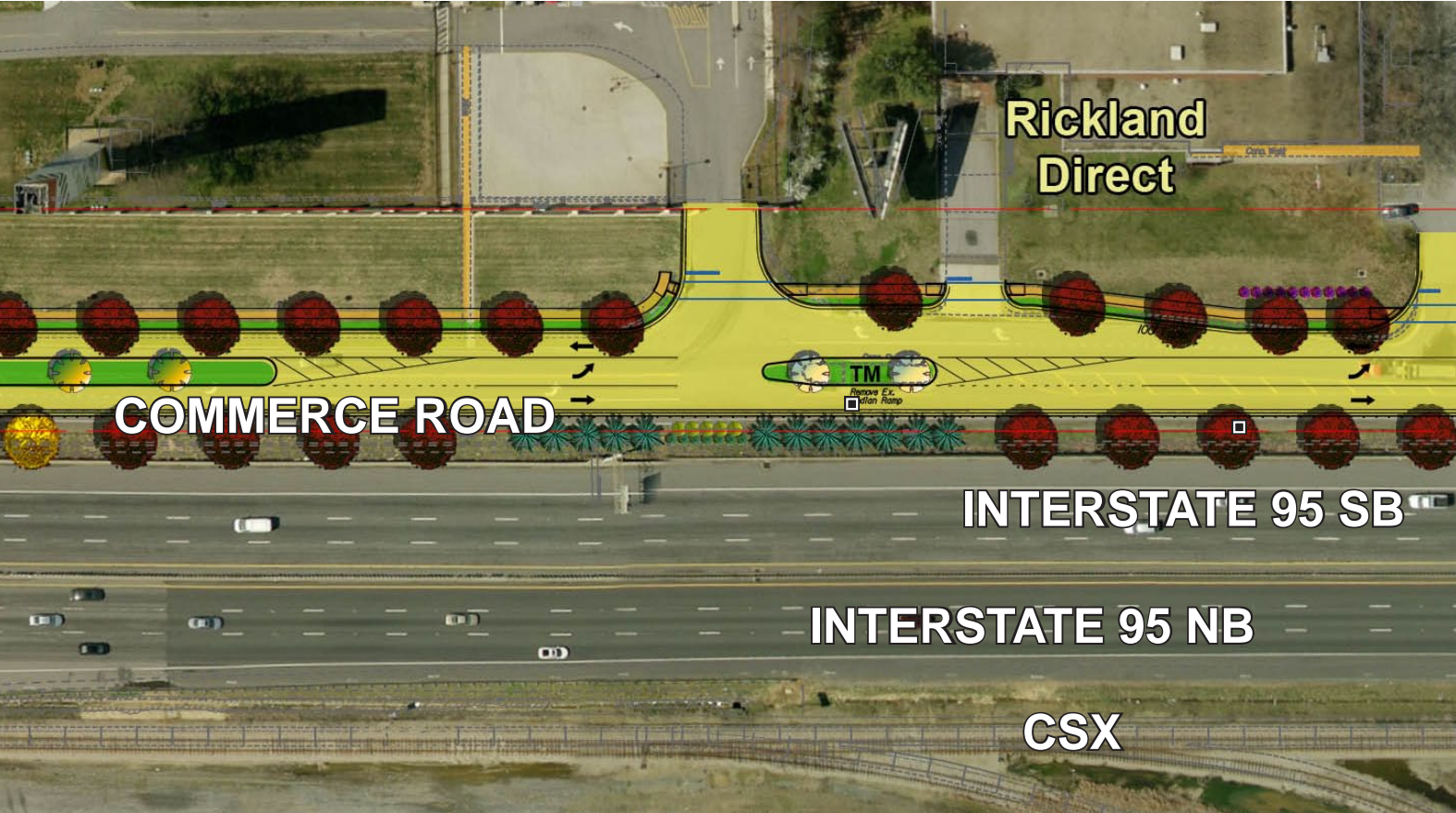
LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



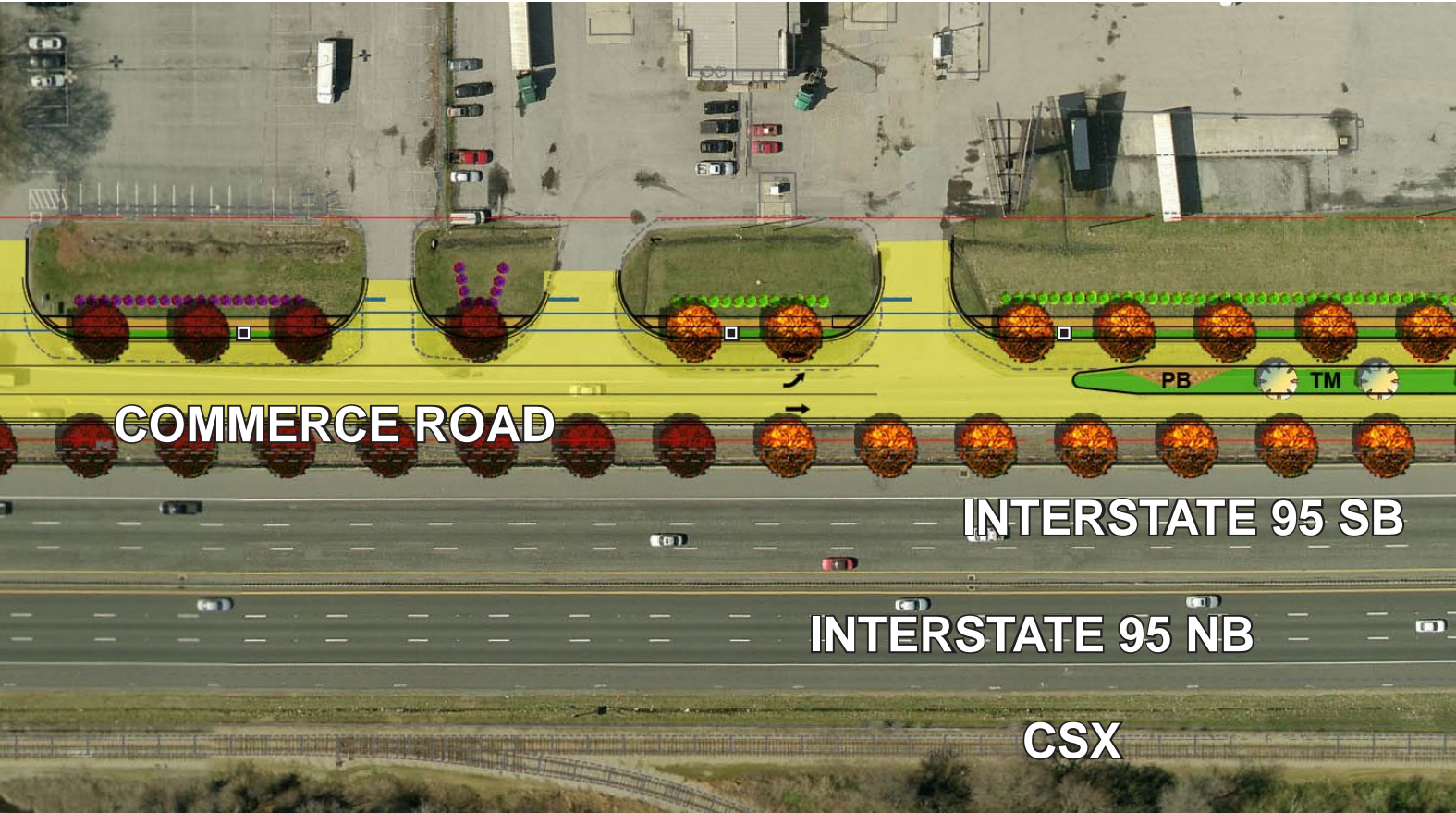
LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



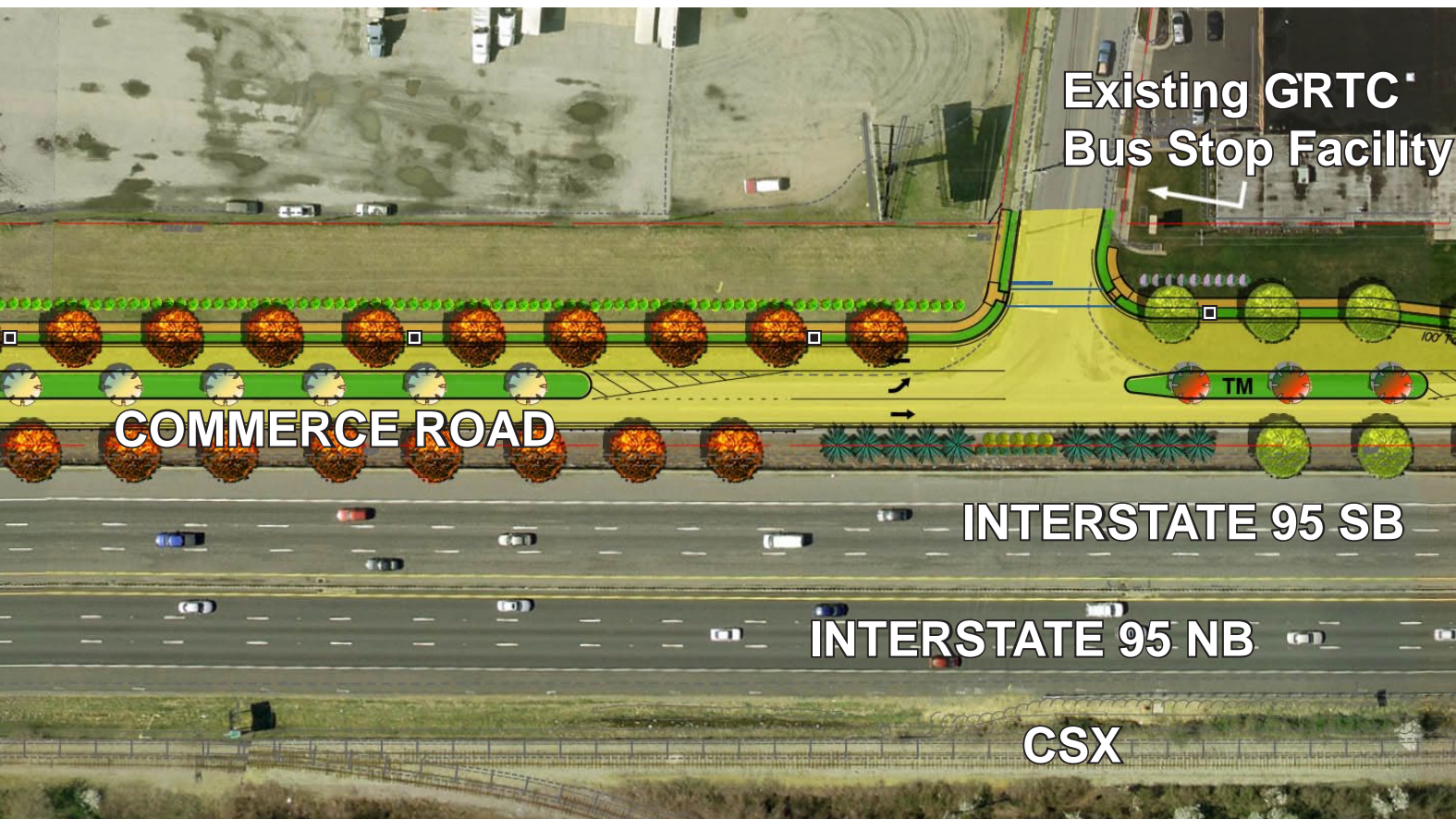
LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crape myrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crape myrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



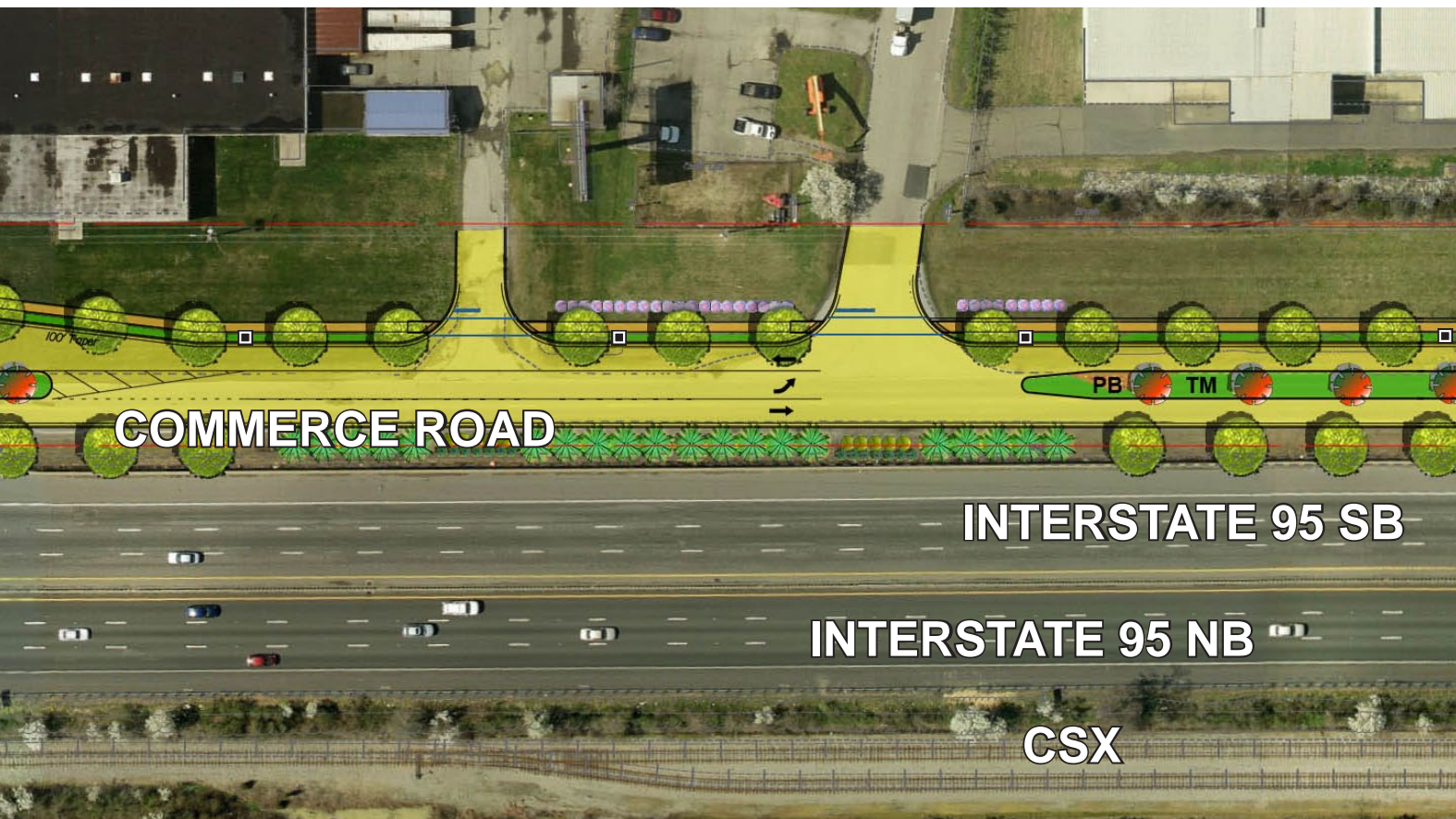
LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



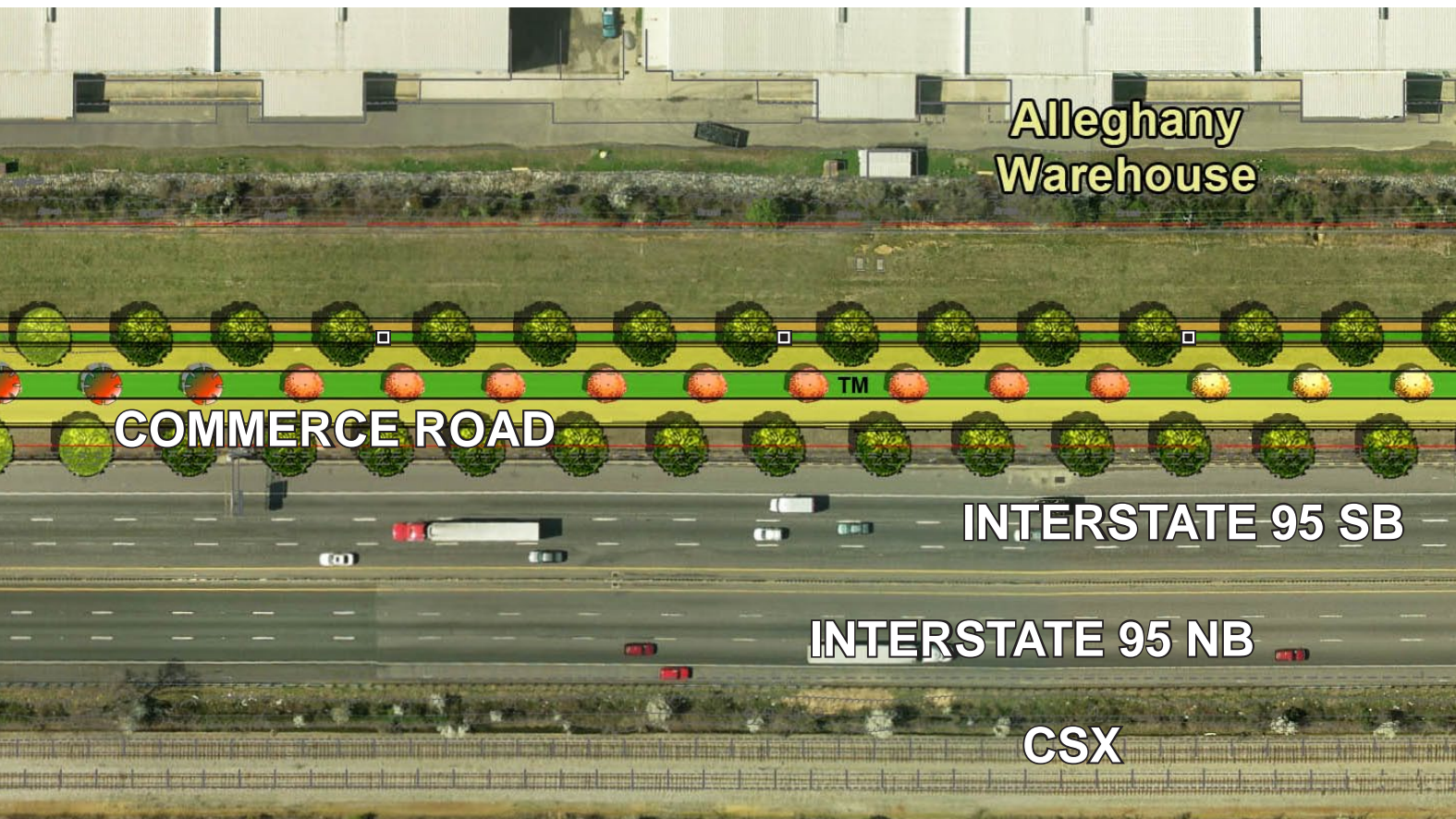
LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND

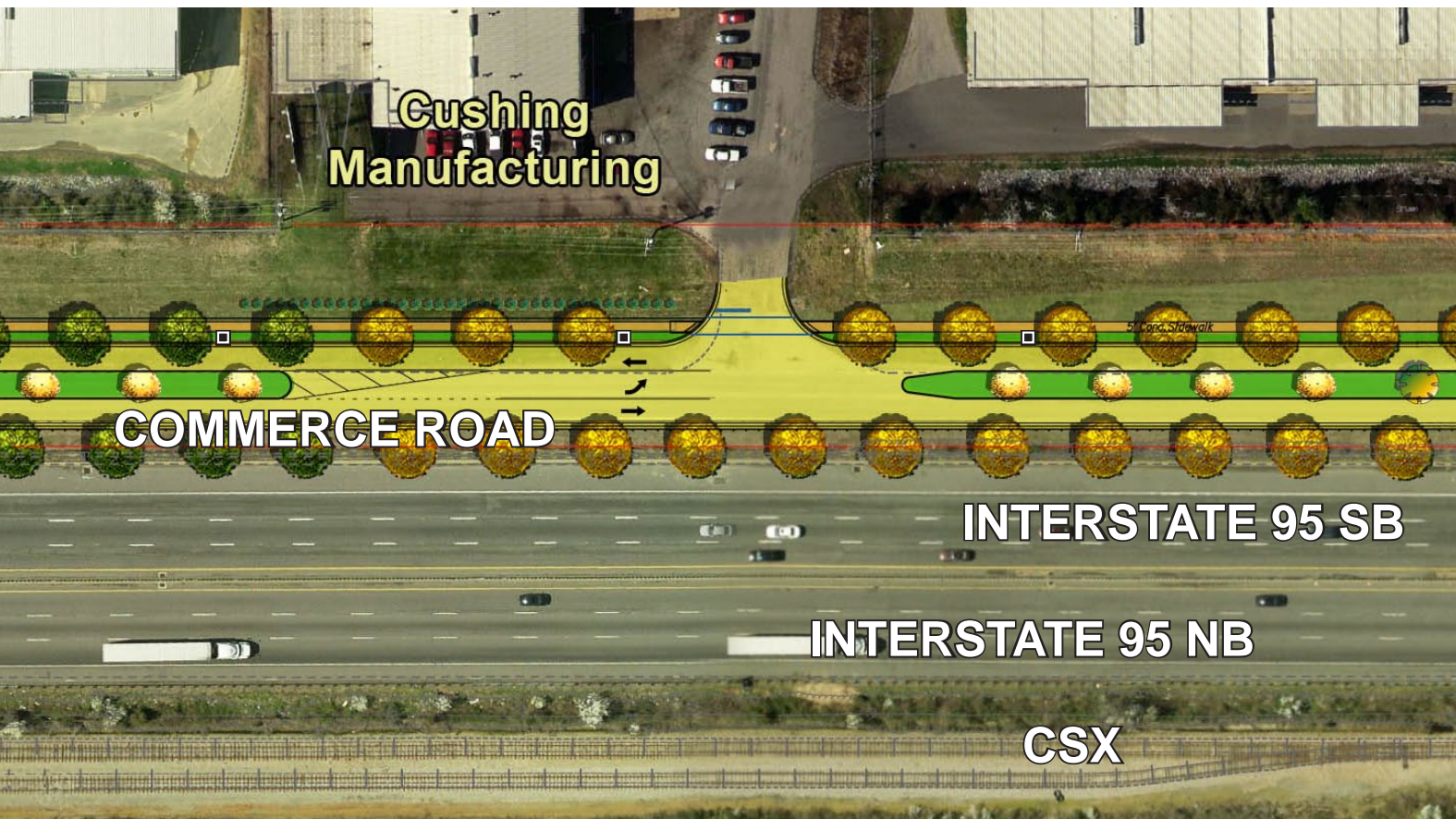
- Existing Right-of-Way
- Proposed Roadway
- Proposed Sidewalk
- Directional Arrows
- Stop Bar
- Pedestrian Crosswalk
- KIM 3 Streetlight (400 Watt)
- Turfgrass Management
- Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



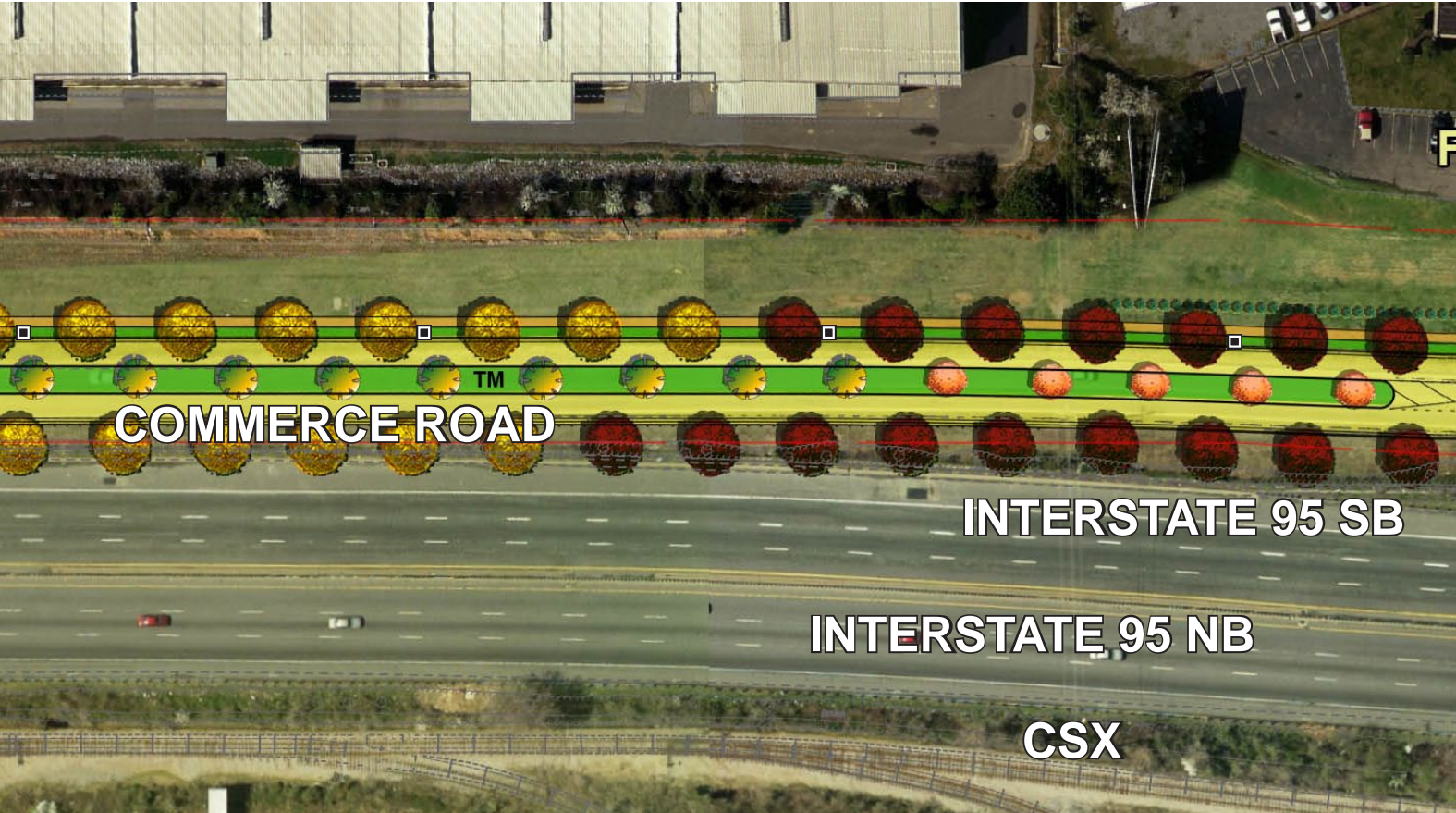
LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylilly	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



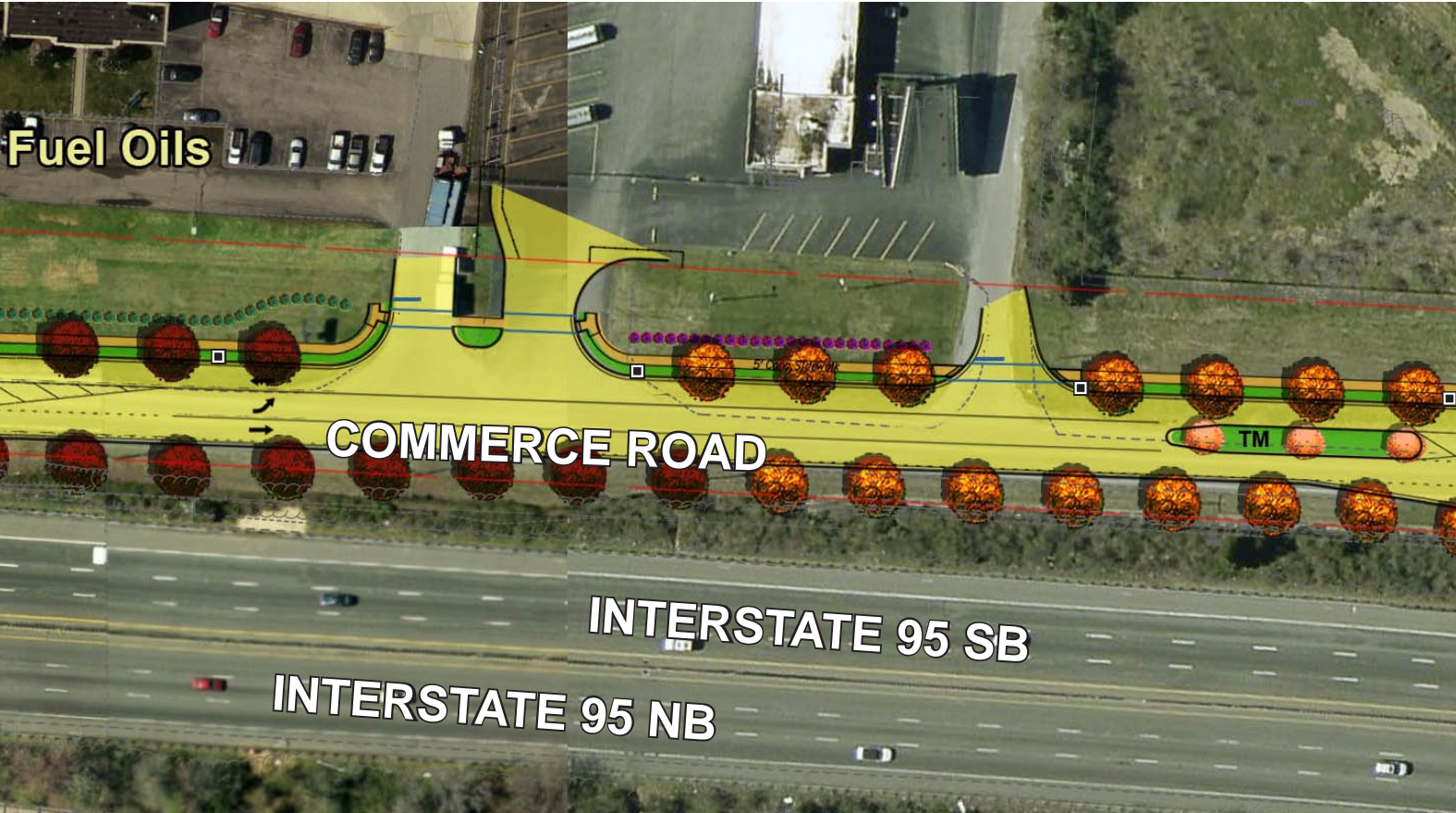
LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylilly	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND

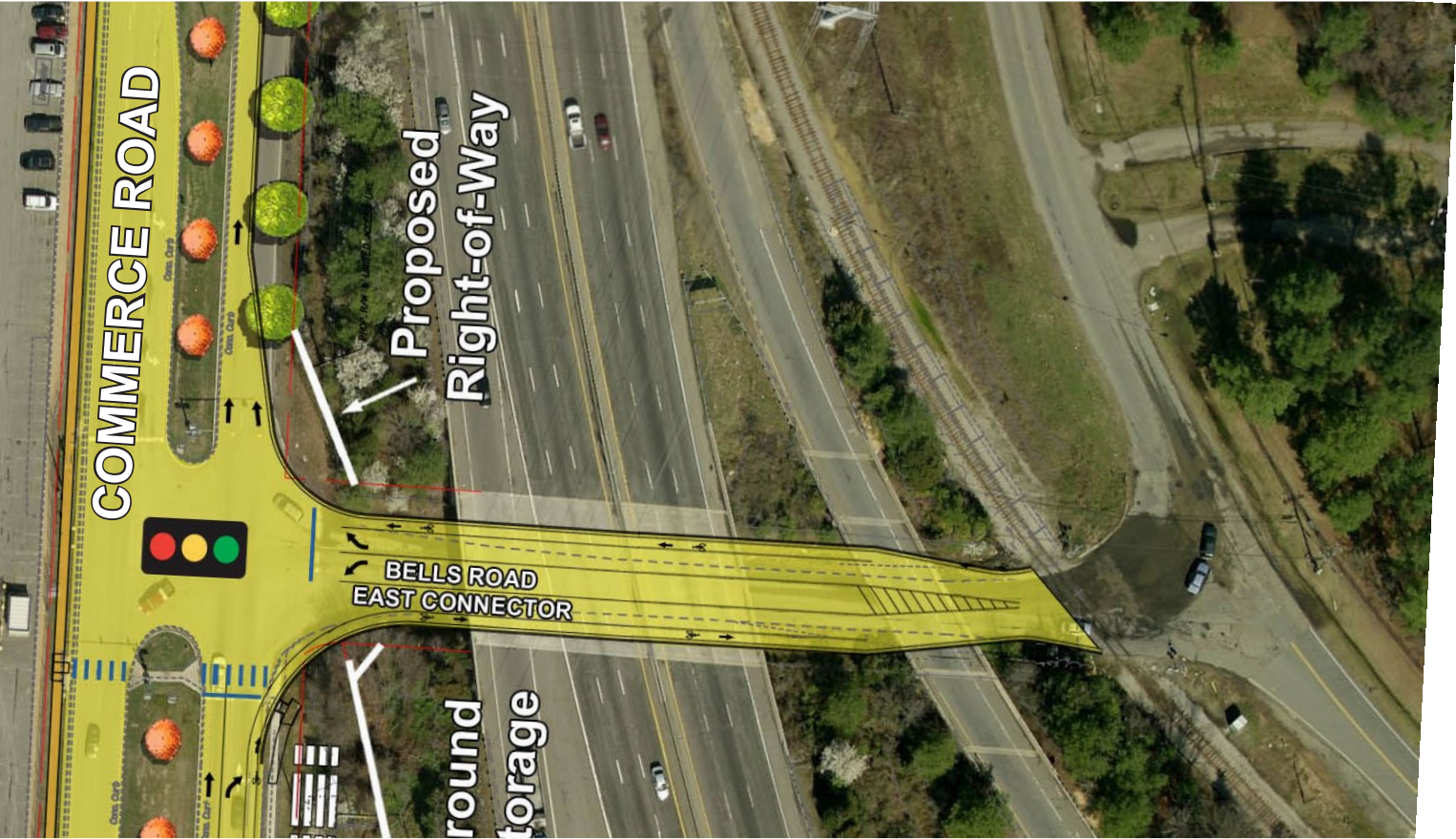
- Existing Right-of-Way
- Proposed Roadway
- Proposed Sidewalk
- ➔ Directional Arrows
- Stop Bar
- Pedestrian Crosswalk
- KIM 3 Streetlight (400 Watt)
- Turfgrass Management
- Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



LEGEND	
	Existing Right-of-Way
	Proposed Roadway
	Proposed Sidewalk
	Directional Arrows
	Stop Bar
	Pedestrian Crosswalk
	KIM 3 Streetlight (400 Watt)
	Turfgrass Management
	Perennial Bed



PROPOSED LANDSCAPE PLANTING LEGEND

KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE
	2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE
	2" CAL.	Chinese Elm	40' HT. x 30' WIDE		7' HT	White Fringetree	20' HT. x 20' WIDE		2' HT	Sea Green Juniper	6' HT. x 7' WIDE
	2" CAL.	Northern Red Oak	35' HT. x 35' WIDE		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE
	2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE
	2" CAL.	Willow Oak	60' HT. x 40' WIDE		8' HT	Norway Spruce	30' HT. x 20' WIDE		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE
	8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE
	1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE		4' HT	Border Forsythia	6' HT. x 7' WIDE		1 GAL.	Stella De Oro Daylily	18" HT. x 18" WIDE
	8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE		4' HT	Bayberry	9' HT. x 8' WIDE		SOD	Turfgrass	—

COMMERCE ROAD - PROPOSED IMPROVEMENTS



PROPOSED PLANT LIST						
QUANTITY	KEY	INSTALL SIZE	COMMON NAME	ULTIMATE SIZE @ 20 YR.	INSTALLED COST	TOTAL \$
62		2" CAL.	Bloodgood London Planetree	65' HT. x 40' WIDE	\$220.00	13,640.00
69		2" CAL.	Chinese Elm	40' HT. x 30' WIDE	\$225.00	15,525.00
64		2" CAL.	Northern Red Oak	35' HT. x 35' WIDE	\$260.00	16,640.00
58		2" CAL.	October Glory Red Maple	35' HT. x 35' WIDE	\$220.00	12,760.00
66		2" CAL.	Willow Oak	60' HT. x 40' WIDE	\$260.00	17,160.00
18		8' HT CLUMP	Allegheny Service Berry	30' HT. x 15' WIDE	\$270.00	4,860.00
15		1 3/4" CAL.	Goldenrain Tree	30' HT. x 25' WIDE	\$250.00	3,750.00
30		8' HT	Muskogee Crapemyrtle	25' HT. x 20' WIDE	\$280.00	8,400.00
17		8' HT	Natchez Crapemyrtle	25' HT. x 25' WIDE	\$280.00	4,760.00
13		7' HT	White Fringetree	20' HT. x 20' WIDE	\$235.00	3,055.00
25		8' HT	Dark Green Arborvitae	25' HT. x 8' WIDE	\$200.00	5,000.00
32		7' HT	Nellie R. Stevens Holly	15' HT. x 10' WIDE	\$330.00	10,560.00
22		8' HT	Norway Spruce	30' HT. x 20' WIDE	\$240.00	5,280.00
55		4' HT	Arrowwood Viburnum	9' HT. x 9' WIDE	\$60.00	3,300.00
130		4' HT	Border Forsythia	6' HT. x 7' WIDE	\$35.00	4,550.00
130		4' HT	Bayberry	9' HT. x 8' WIDE	\$50.00	6,500.00
64		2' HT	Dwarf Burford Holly	7' HT. x 7' WIDE	\$30.00	1,920.00
112		2' HT	Sea Green Juniper	6' HT. x 7' WIDE	\$25.00	2,800.00
96		1 GAL.	Big Blue Lilyturf	12" HT. x 18" WIDE	\$10.00	960.00
51		1 GAL.	Heavy Metal Switchgrass	4' HT. x 24" WIDE	\$10.00	510.00
240		1 GAL.	Prairie Splendor Coneflower	24" HT. x 18" WIDE	\$10.00	2,400.00
34		1 GAL.	Shenandoah Red Switchgrass	4' HT. x 24" WIDE	\$10.00	340.00
144		1 GAL.	Stella De Oro Daylilly	18" HT. x 18" WIDE	\$10.00	1,440.00
11,230 S.Y.		SOD	Turfgrass Management (SOD)	—	\$4.50/S.Y.	50,535.00
GRAND TOTAL (NO CONTINGENCIES) NIC: TOPSOIL, GRADING, WATERING, PERENNIAL BED PREPARATION INCLUDING 3" DEEP MULCH.						\$196,645.00



The Archetype®

Small 70-150W Luminaire

SAR



FEATURES

- Pulse start metal halide or high pressure sodium technology
- Efficient, effective downward control of light with full upright cutoff
- Easy-access, tool-less latches for lower maintenance

ORDERING INFORMATION (Example)

1SA	SAR1	100PMH120	SG	A-30	—	PRA12-5125SA/SG
MOUNTING		FIXTURE FINISH		FIXTURE OPTIONS		POLE / POLE ARM
EPA		BL Black		A-30 120 Volt photocell		See p. 766-770 for ordering no., pole and arm EPA.
1SA 1 Arm Side Mt. 0.7		DB Dark Bronze		A-30 120 Volt photocell		
2SB 2 Arm Side Mt. 1.4		LG Light Gray		A-31 208 Volt photocell		SLIPFITTER MOUNTING OPTIONS
2SL 2 Arm Side Mt. 1.2		SG Stealth Gray™		A-32 240 Volt photocell		
3ST 3 Arm Side Mt. 1.9		PS Platinum Silver		A-33 277 Volt photocell		
3SY 3 Arm Side Mt. 1.9		WH White		A-34 480 Volt photocell		
4SC 4 Arm Side Mt. 2.5		CC Custom Color*		A-35 347 Volt Photocell		
1W Single Wall Mt. ¹ —		*Consult representative		CGL Convex Glass Lens		
				LS Polycarbonate Lens ²		
				HS Houseside shield ³		
				HSC Houseside shield for Convex Glass Lens ⁴		
				NFS Neighbor Friendly Backlight Shield ⁵		
				TL Tamper Resistant Latch ⁶		
				AF Air Filter		

NOTE: EPA is for Fixture only

FIXTURE

SAR - Horizontal	
SAR1 Horizontal Type I	
SAR2 Horizontal Type II	
SAR3 Horizontal Type III	
SAR4 Horizontal Type IV	
SAR5 Horizontal Type V	

ELECTRICAL MODULE

70PMH 70W PMH	70HPS 70W HPS	55IF 55W IF ⁸
100PMH 100W PMH	100HPS 100W HPS	NEW
150PMH 150W PMH	150HPS 150W HPS	
<u>Voltages</u>		
120 120V	120 120V	120 120V
208 208V ⁷	208 208V ⁷	208 208V ⁷
240 240V ⁷	240 240V ⁷	240 240V ⁷
277 277V	277 277V	277 277V
347 347V	347 347V	
480 480V	480 480V	

PMH = Pulse Start Metal Halide
HPS = High Pressure Sodium
IF = Induction Fluorescent

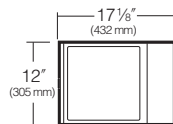
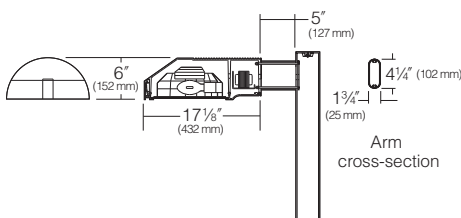
SLIPFITTER MOUNTING OPTIONS

VERTICAL	
4" Round, Standard Fixtures	
VSF-1SA 1 fixture side mt.	
VSF-2SB 2 fixtures side mt. 180°	
VSF-2SL 2 fixtures side mt. 90°	
VSF-3ST 3 fixtures side mt. 90°	
VSF-3SY 3 fixtures side mt. 120°	
VSF-4SC 4 fixtures side mt. 90°	
4" Square, Standard Fixtures	
SVSF-1SA 1 fixture side mt.	
SVSF-2SB 2 fixtures side mt. 180°	
SVSF-2SL 2 fixtures side mt. 90°	
SVSF-3ST 3 fixtures side mt. 90°	
SVSF-4SC 4 fixtures side mt. 90°	
HORIZONTAL	
HSF for Pole Davit Arm	

1 Junction box in wall must provide adequate fixture support.
2 Use only in high-vandalism situations. Useful life is limited by UV discoloration from sunlight and metal halide lamps.
3 Recommended for clear lamps only. Not for use with Type V light distributions.
4 For use with all fixtures with convex glass lens. Not for use with Type V light distributions.
5 Only available with Type IV reflectors.

6 Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.
7 Constant wattage isolated ballast is required on all 208V and 240V Canadian orders.
8 55W IF available in type III distribution only.

NOTE: Due to the Energy Independence and Security Act (EISA) of 2007, Kim Lighting can no longer supply probe start Metal Halide ballasts with its luminaires, effective January 1, 2009. Contact Kim Lighting for availability of replacement ballasts for warranty service claims. (Visit www.aboutlightingcontrols.org or the Library of Congress website for more details).



The Archetype®

Large 150-400W Luminaire

FEATURES

- Pulse start metal halide or high pressure sodium technology
- Efficient, effective downward control of light with full upright cutoff
- Easy-access, tool-less latches for lower maintenance

AR



SITE / ROADWAY

ORDERING INFORMATION (Example)

1A	AR1	250PMH120	SG	A-30	VSF-1A	PRA20-5125A/SG
MOUNTING		FIXTURE FINISH		FIXTURE OPTIONS		POLE
EPA		BL Black		A-30 120 Volt photocell		See p. 766-770 for ordering no., pole and arm EPA.
1A 1 Arm Side Mt. 1.2		DB Dark Bronze		A-30 120 Volt photocell		
2B 2 Arm Side Mt. 2.4		LG Light Gray		A-31 208 Volt photocell		SLIPFITTER MOUNTING OPTIONS
2L 2 Arm Side Mt. 2.0		SG Stealth Gray™		A-32 240 Volt photocell		
3T 3 Arm Side Mt. 3.2		PS Platinum Silver		A-33 277 Volt photocell		VERTICAL
3Y 3 Arm Side Mt. 3.2		WH White		A-34 480 Volt photocell		
4C 4 Arm Side Mt. 3.9		CC Custom Color*		A-35 347 Volt Photocell		4" Round, Standard Fixtures
1W Single Wall Mt. ¹ —		*Consult representative		CGL Convex Glass Lens		
NOTE: EPA is for Fixture only		ELECTRICAL MODULE		LS Polycarbonate Lens ²		4" Square, Standard Fixtures
		250PMH 250W PMH		HS Houseside shield ³		
FIXTURE		320PMH 320W PMH		HSC Houseside shield for Convex Glass Lens ⁴		VSF-1A 1 fixture side mt.
AR - Horizontal		350PMH 350W PMH		NFS Neighbor Friendly Backlight Shield ⁵		VSF-2B 2 fixtures side mt. 180°
AR1 Horizontal Type I		400PMH 400W PMH		TL Tamper Resistant Latch ⁶		VSF-2L 2 fixtures side mt. 90°
AR2 Horizontal Type II				TB Terminal Block		VSF-3T 3 fixtures side mt. 90°
AR3 Horizontal Type III ⁸				AF Air Filter		VSF-3Y 3 fixtures side mt. 120°
AR4 Horizontal Type IV						VSF-4C 4 fixtures side mt. 90°
AR5 Horizontal Type V						
		Voltages		Voltages		
		120 120V		120 120V		
		208 208V ⁷		208 208V ⁷		
		240 240V ⁷		240 240V ⁷		
		277 277V		277 277V		
		347 347V		347 347V		
		480 480V		480 480V		
				PMH = Pulse Start Metal Halide		
				HPS = High Pressure Sodium		
				IF = Induction Fluorescent		

¹ Junction box in wall must provide adequate fixture support.

² Use only in high-vandalism situations. Useful life is limited by UV discoloration from sunlight and metal halide lamps.

³ Recommended for clear lamps only. Not for use with Type V light distributions.

⁴ For use with all fixtures with convex glass lens. Not for use with Type V light distributions.

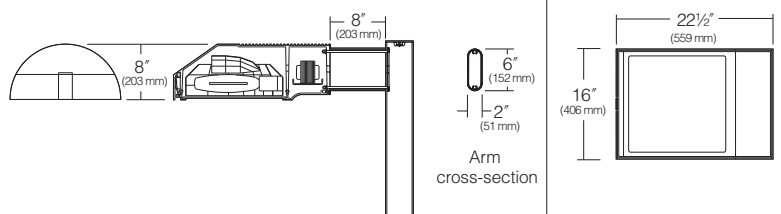
⁵ Only available with Type IV reflectors.

⁶ Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

⁷ Constant wattage isolated ballast is required on all 208V and 240V Canadian orders.

⁸ 85W and 165W IF available in type III distribution only.

NOTE: Due to the Energy Independence and Security Act (EISA) of 2007, Kim Lighting can no longer supply probe start Metal Halide ballasts with its luminaires, effective January 1, 2009. Contact Kim Lighting for availability of replacement ballasts for warranty service claims. (Visit www.aboutlightingcontrols.org or the Library of Congress website for more details).



The Archetype® LED

Small SAR LED

SAR LED



NEW

FEATURES

- Efficient, effective downward control of light with full upright cutoff
- IES Type II, III, IV, V, and One-Way L or R distribution patterns
- Easy-access, tool-less latches for lower maintenance
- LED models incorporating patent pending LED MicroEmitter technology

Features exclusive *wiHUBB* technology

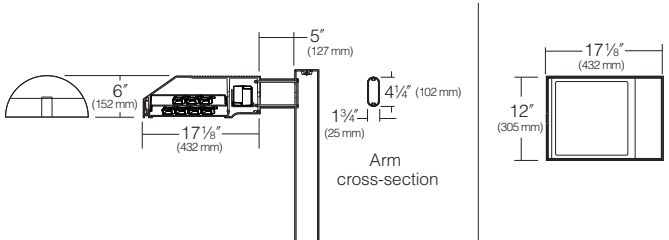
- Wireless system for 0-10VDC full range dimming control
- Programmable autonomous operation



ORDERING INFORMATION (Example)

1SA	SAR3	60L5K120	SG	A-30	VSF-1SA	PRA12-5125SA/SG
MOUNTING		FIXTURE FINISH		FIXTURE OPTIONS		POLE / POLE ARM
EPA						See p. 766-770 for ordering no., pole and arm EPA.
▬	1SA 1 Arm Side Mt. 0.7	BL Black		A-30 120 Volt photocell		
▬▬	2SB 2 Arm Side Mt. 1.4	DB Dark Bronze		A-30 120 Volt photocell		
▬▬▬	2SL 2 Arm Side Mt. 1.2	LG Light Gray		A-31 208 Volt photocell		
▬▬▬▬	3ST 3 Arm Side Mt. 1.9	SG Stealth Gray™		A-32 240 Volt photocell		
▬▬▬▬▬	3SY¹ 3 Arm Side Mt. 1.9	PS Platinum Silver		A-33 277 Volt photocell		
▬▬▬▬▬▬	4SC 4 Arm Side Mt. 2.5	WH White		A-34 480 Volt photocell		
▬▬▬▬▬▬▬	1W² Single Wall Mt. —	CC Custom Color*		A-35 347 Volt Photocell		
NOTE: EPA is for Fixture only		*Consult representative		CGL Convex Glass Lens	SLIPFITTER MOUNTING OPTIONS	
				LS Polycarbonate Lens	VERTICAL	
				TL Tamper Resistant Latch ⁵	4" Round, Standard Fixtures	
				AF Air Filter	VSF-1SA 1 fixture side mt.	
				wiH-IM In-Fixture wireless control module, PSG8 pg. 381.	VSF-2SB 2 fixtures side mt. 180°	
					VSF-2SL 2 fixtures side mt. 90°	
					VSF-3ST 3 fixtures side mt. 90°	
					VSF-3SY 3 fixtures side mt. 120°	
					VSF-4SC 4 fixtures side mt. 90°	
					4" Square, Standard Fixtures	
					SVVSF-1SA 1 fixture side mt.	
					SVVSF-2SB 2 fixtures side mt. 180°	
					SVVSF-2SL 2 fixtures side mt. 90°	
					SVVSF-3ST 3 fixtures side mt. 90°	
					SVVSF-4SC 4 fixtures side mt. 90°	
					HORIZONTAL	
					HSF for Pole Davit Arm	

¹ 3Y only available on round slipfitter.
² Junction box in wall must provide adequate fixture support.
³ 4300K and 6500K are also available on an "Engineered to Order" basis.
⁴ Due to current unavailability of 347V and 480V drivers, specification of these voltages may feature an integral step-down transformer.
⁵ Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



The Archetype® LED

Large AR LED

FEATURES

- Efficient, effective downward control of light with full uplight cutoff
- IES Type II, III, IV, V, and One-Way L or R distribution patterns
- Easy-access, tool-less latches for lower maintenance
- LED models incorporating patent pending LED MicroEmitter technology

Features exclusive *wiHUBB* technology

- Wireless system for 0-10VDC full range dimming control
- Programmable autonomous operation



AR LED



SITE / ROADWAY

ORDERING INFORMATION (Example)

MOUNTING		EPA
1A	1 Arm Side Mt.	1.2
2B	2 Arm Side Mt.	2.4
2L	2 Arm Side Mt.	2.0
3T	3 Arm Side Mt.	3.2
3Y ¹	3 Arm Side Mt.	3.2
4C	4 Arm Side Mt.	3.9
1W	Single Wall Mt. ²	—

NOTE: EPA is for Fixture only

FIXTURE

AR - Horizontal

AR2	Type II Full Cutoff
AR3	Type III Full Cutoff
AR4	Type IV Full Cutoff
AR5	Type V Full Cutoff
ARR	Type R Full Cutoff
ARL	Type L Full Cutoff

120L5K208 SG

FIXTURE FINISH

BL	Black
DB	Dark Bronze
LG	Light Gray
SG	Stealth Gray™
PS	Platinum Silver
WH	White
CC	Custom Color*

*Consult representative

A-25

FIXTURE OPTIONS

A-25	Photocell Receptacle
CGL	Convex Glass Lens
LS	Polycarbonate Lens
TL	Tamper Resistant Latch ⁴
TB	Terminal Block
AF	Air Filter
WIH-IM	In-Fixture wireless control module, PSG8 pg. 381.

ELECTRICAL MODULE

AR Large Electronic LED, 120 LEDs, 140W

Source	Color Temperature ³	Voltages
120	120 LEDs	L3K 3500K 120V
		L5K 5100K 208V
		L2K Amber 240V
		277 277V
		347 347V ⁴
		480 480V ⁴

L3K = 3500 Kelvin LED
L5K = 5100 Kelvin LED
L2K = 580 nm Amber LED

VSF-1A

PRA20-5125A/SG

POLE

See p. 766-770 for ordering no., pole and arm EPA.

SLIPFITTER MOUNTING OPTIONS

VERTICAL

4" Round, Standard Fixtures

VSF-1A	1 fixture side mt.
VSF-2B	2 fixtures side mt. 180°
VSF-2L	2 fixtures side mt. 90°
VSF-3T	3 fixtures side mt. 90°
VSF-3Y	3 fixtures side mt. 120°
VSF-4C	4 fixtures side mt. 90°

4" Square, Standard Fixtures

SVSF-1A	1 fixture side mt.
SVSF-2B	2 fixtures side mt. 180°
SVSF-2L	2 fixtures side mt. 90°
SVSF-3T	3 fixtures side mt. 90°
SVSF-4C	4 fixtures side mt. 90°

HORIZONTAL

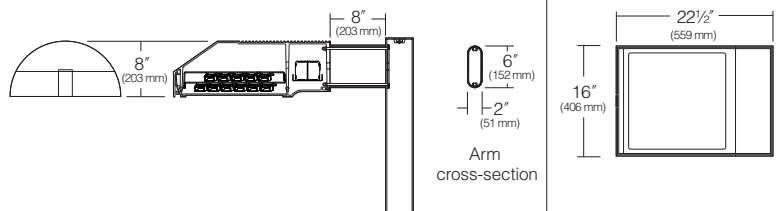
HSF for Pole Davit Arm

¹ 3Y only available on round slipfitter.

² Junction box in wall must provide adequate fixture support.

³ 4300K and 6500K are also available on an "Engineered to Order" basis.

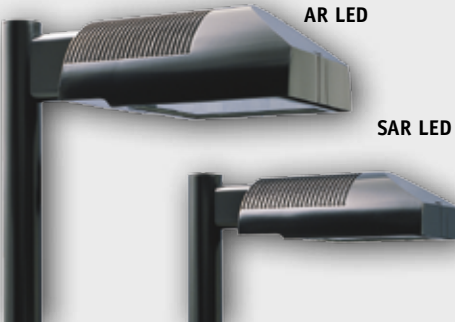
⁴ Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.



The Archetype® LED with PicoEmitter™

SAR Small and AR Large Luminaire

SITE / ROADWAY



FEATURES

- LED PicoEmitter technology with up to 25% boost in lumen output
- Efficient, effective downward control of light with full uplight cutoff
- IES Type II, III, IV, V, and One-Way L or R distribution patterns
- Easy-access, tool-less latches for lower maintenance

Features exclusive wiHUBB technology

- Wireless system for 0-10VDC full range dimming control
- Programmable autonomous operation



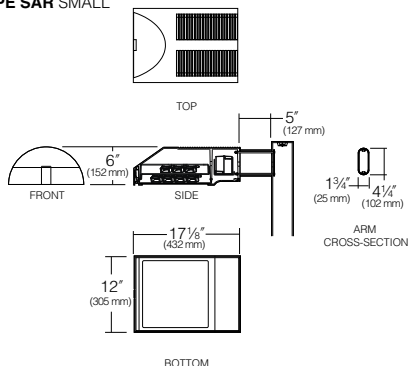
ORDERING INFORMATION (Example)

1SA	SAR3E35	60L5K120	SG	A-30	VSF-1SA	PRA12-5125SA/SG																																
MOUNTING <table border="1"> <thead> <tr> <th></th> <th></th> <th>EPA SAR LED</th> <th>AR LED</th> </tr> </thead> <tbody> <tr> <td>1SA</td> <td>1 Arm Side Mt.</td> <td>0.7</td> <td>1.2</td> </tr> <tr> <td>2SB</td> <td>2 Arm Side Mt.</td> <td>1.4</td> <td>2.4</td> </tr> <tr> <td>2SL</td> <td>2 Arm Side Mt.</td> <td>1.2</td> <td>2.0</td> </tr> <tr> <td>3ST</td> <td>3 Arm Side Mt.</td> <td>1.9</td> <td>3.2</td> </tr> <tr> <td>3SY¹</td> <td>3 Arm Side Mt.</td> <td>1.9</td> <td>3.2</td> </tr> <tr> <td>4SC</td> <td>4 Arm Side Mt.</td> <td>2.5</td> <td>3.9</td> </tr> <tr> <td>1W²</td> <td>Single Wall Mt.</td> <td>n/a</td> <td>n/a</td> </tr> </tbody> </table>				EPA SAR LED	AR LED	1SA	1 Arm Side Mt.	0.7	1.2	2SB	2 Arm Side Mt.	1.4	2.4	2SL	2 Arm Side Mt.	1.2	2.0	3ST	3 Arm Side Mt.	1.9	3.2	3SY ¹	3 Arm Side Mt.	1.9	3.2	4SC	4 Arm Side Mt.	2.5	3.9	1W ²	Single Wall Mt.	n/a	n/a	FIXTURE FINISH BL Black DB Dark Bronze LG Light Gray SG Stealth Gray PS Platinum Silver WH White CC Custom Color* <small>*Consult representative</small>		FIXTURE OPTIONS A-25 AR photocell A-30 120V SAR photocell A-31 208V SAR photocell A-32 240V SAR photocell A-33 277V SAR photocell A-34 480V SAR photocell A-35 347V SAR photocell LS Polycarbonate Lens ⁵ SF Single Fuse for 120, 277, 347V DF Double Fuse for 208, 240, 480V NFO Neighbor Friendly Optic TL Tamper Resistant Latch ⁵ WIH-IM In-Fixture wireless control module SCL Occupancy Sensor up to 16' ht. SCH Occupancy Sensor up to 30' ht.		POLE / POLE ARM See Arms & Poles Selection Guide at www.kimlighting.com for pole EPA & ordering.
		EPA SAR LED	AR LED																																			
1SA	1 Arm Side Mt.	0.7	1.2																																			
2SB	2 Arm Side Mt.	1.4	2.4																																			
2SL	2 Arm Side Mt.	1.2	2.0																																			
3ST	3 Arm Side Mt.	1.9	3.2																																			
3SY ¹	3 Arm Side Mt.	1.9	3.2																																			
4SC	4 Arm Side Mt.	2.5	3.9																																			
1W ²	Single Wall Mt.	n/a	n/a																																			
NOTE: EPA is for Fixture only		ELECTRICAL MODULE³ <table border="1"> <thead> <tr> <th></th> <th>Source</th> <th>Color Temp.</th> <th>Voltages</th> </tr> </thead> <tbody> <tr> <td>60L</td> <td>60 LEDs, 66W For SAR LED</td> <td>2K 580nm 3K 3000K 4K 4200K 5K 5100K</td> <td>120 120V 208 208V 240 240V 277 277V 347 347V⁴ 480 480V⁴</td> </tr> <tr> <td>120L</td> <td>120 LEDs, 130W For AR LED</td> <td></td> <td></td> </tr> </tbody> </table>			Source	Color Temp.	Voltages	60L	60 LEDs, 66W For SAR LED	2K 580nm 3K 3000K 4K 4200K 5K 5100K	120 120V 208 208V 240 240V 277 277V 347 347V ⁴ 480 480V ⁴	120L	120 LEDs, 130W For AR LED			SLIPFITTER MOUNTING OPTIONS VERTICAL 4" Round, Standard Fixtures VSF-1SA 1 fixture side mt. VSF-2SB 2 fixtures side mt. 180° VSF-2SL 2 fixtures side mt. 90° VSF-3ST 3 fixtures side mt. 90° VSF-3SY 3 fixtures side mt. 120° VSF-4SC 4 fixtures side mt. 90° 4" Square, Standard Fixtures SVSF-1SA 1 fixture side mt. SVSF-2SB 2 fixtures side mt. 180° SVSF-2SL 2 fixtures side mt. 90° SVSF-3ST 3 fixtures side mt. 90° SVSF-4SC 4 fixtures side mt. 90° HORIZONTAL HSF for Pole Davit Arm																						
	Source	Color Temp.	Voltages																																			
60L	60 LEDs, 66W For SAR LED	2K 580nm 3K 3000K 4K 4200K 5K 5100K	120 120V 208 208V 240 240V 277 277V 347 347V ⁴ 480 480V ⁴																																			
120L	120 LEDs, 130W For AR LED																																					
FIXTURE <table border="1"> <thead> <tr> <th>Distribution</th> <th>Current</th> </tr> </thead> <tbody> <tr><td>SAR2 Type II</td><td>E35 350mA PicoEmitter</td></tr> <tr><td>SAR3 Type III</td><td></td></tr> <tr><td>SAR4 Type IV</td><td></td></tr> <tr><td>SAR5 Type V</td><td></td></tr> <tr><td>SARR Type R</td><td></td></tr> <tr><td>SARL Type L</td><td></td></tr> <tr><td>AR2 Type II</td><td></td></tr> <tr><td>AR3 Type III</td><td></td></tr> <tr><td>AR4 Type IV</td><td></td></tr> <tr><td>AR5 Type V</td><td></td></tr> <tr><td>ARR Type R</td><td></td></tr> <tr><td>ARL Type L</td><td></td></tr> </tbody> </table>		Distribution	Current	SAR2 Type II	E35 350mA PicoEmitter	SAR3 Type III		SAR4 Type IV		SAR5 Type V		SARR Type R		SARL Type L		AR2 Type II		AR3 Type III		AR4 Type IV		AR5 Type V		ARR Type R		ARL Type L												
Distribution	Current																																					
SAR2 Type II	E35 350mA PicoEmitter																																					
SAR3 Type III																																						
SAR4 Type IV																																						
SAR5 Type V																																						
SARR Type R																																						
SARL Type L																																						
AR2 Type II																																						
AR3 Type III																																						
AR4 Type IV																																						
AR5 Type V																																						
ARR Type R																																						
ARL Type L																																						

¹ 3Y only available on round slipfitter.
² Junction box in wall must provide adequate fixture support.
³ Driver has a 0-10V dimming interface with a dimming range of 10-100%. Compatible with most control systems.
⁴ Due to current unavailability of 347V and 480V drivers, specification of these voltages may feature an integral step-down transformer.
⁵ Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

HID to LED Upgrade Kits available. Contact factory.

THE ARCHETYPE SAR SMALL



THE ARCHETYPE AR LARGE

