AUGUST 4, 2016 ORIGINAL

TECHNICAL PROPOSAL - VOLUME I

I-95/ROUTE 630 RECONSTRUCTION AND WIDENING

STAFFORD COUNTY, VIRGINIA
STATE PROJECT NO.: I-95/ROUTE 630 INTERCHANGE RELOCATION (0095-089-F09), UPC 13558
ROUTE 630 WIDENING (0630-089-202), UPC 4632
COMMUTER PARK AND RIDE LOT EXPANSION (0095-089-282), UPC 108573
FEDERAL PROJECT NO.: I-95/ROUTE 630 INTERCHANGE RELOCATION (NH-095-2)
ROUTE 630 WIDENING (STP-089-6)

CONTRACT ID NUMBER: C00013558DB83

PREPARED FOR:

VDOT

SUBMITTED BY:

LANE

4.1 LETTER OF SUBMITTAL

LANE

August 4, 2016

Mr. John Daoulas, P.E.
Virginia Department of Transportation
1401 East Broad Street
Annex Building, 8th Floor
Richmond, Virginia 23219

RE: I-95/Route 630 Reconstruction and Widening, Stafford County, Virginia
State Project Nos.: I-95/Route 630 Interchange Relocation (0095-089-F09), UPC 13558;
Route 630 Widening (0630-089-202), UPC 4632
Commuter Park and Ride Lot Expansion (0095-089-282), UPC 108573
Federal Project No.: NHPP-095-2(537)
Contract ID Number: C00013558DB83

Dear Mr. Daoulas:

The Lane Construction Corporation (LANE) is pleased to present our Technical Proposal for the above referenced Design-Build (D-B) project. Our response contains all information requested in the RFP dated April 19, 2016 and Addenda 1, 2, 3, 4, and 5. LANE is teamed with Rinker Design Associates, P.C. (RDA), Lead Designer, to provide the Virginia Department of Transportation (VDOT) a Team with a solid reputation for completing complex projects innovatively, on time, and often ahead of schedule. Our Team's experience enables us to deliver the high quality and technically-sound project both VDOT and the public expects. Our Team has taken every opportunity to include enhancements, provide value-added features, diligently manage and mitigate risk, and reduce both construction and long-term maintenance costs. By focusing on our quality, safety, public information, and environmental protection programs, VDOT, the traveling public, business and residential stakeholders will benefit by the final results as this project is completed.

4.1.1 Offeror's Full Legal Name and Address:

The Lane Construction Corporation
90 Fieldstone Court
Cheshire, CT 06410

4.1.2 Declaration of Intent: It is the Offeror's intent, if selected, to enter into a contract with VDOT for the Project in accordance with the terms of this RFP.

4.1.3 120-Day Declaration: Pursuant to Part 1, Section 8.2, we declare that the offer represented by this Technical Proposal will remain in full force and effect for one hundred twenty (120) days after the date the Technical Proposal is actually submitted to VDOT.

4.1.4 Offeror's Point of Contact Information: Mr. Robert E. Watt is the authorized representative and point of contact for the LANE Team for all matters associated with this submittal.

Robert E. Watt, Pursuit Manager
14500 Avion Parkway, Suite 200
Chantilly, VA 20151
Tel: (703) 222-5670 Fax: (703) 222-5960
Email: REWatt@laneconstruct.com

4.1.5 Offeror's Principal Officer Information: Mr. Mark A. Schiller is a Principal Officer of LANE.

Mark A. Schiller, Senior Vice President
14500 Avion Parkway, Suite 200
Chantilly, VA 20151
Tel: (703) 222-5670 Fax: (703) 222-5960
Email: MASchiller@laneconstruct.com

4.1.6 Interim Milestone and Final Completion Dates: In accordance with RFP Section 2.3.1, LANE proposes an Interim Milestone Completion Date for Option 1 (I-95 4th Lane) of December 1, 2017 and a Final Completion Date of July 31, 2020.

4.1.7 Proposal Payment Agreement: An executed Proposal Payment Agreement (Attachment 9.3.1) can be found in the Appendix of Volume 1.

4.1.8 Certification Regarding Debarment Forms: Certifications for Debarment for Primary and Lower Tier Transactions have been completed and executed for the Offeror and all subconsultants, subcontractors, and other entities as identified as members of the LANE Team. These can be found in the Appendix of Volume 1.

The LANE Team appreciates the opportunity to provide our Proposal for this extremely important project. We look forward to working closely with VDOT and the stakeholders in our development and delivery to make the I-95/Route 630 Reconstruction and Widening project a landmark success for the citizens of Virginia.

Respectfully submitted,

Robert E. Watt
Pursuit Manager
The Lane Construction Corporation

4.2 OFFEROR'S QUALIFICATIONS

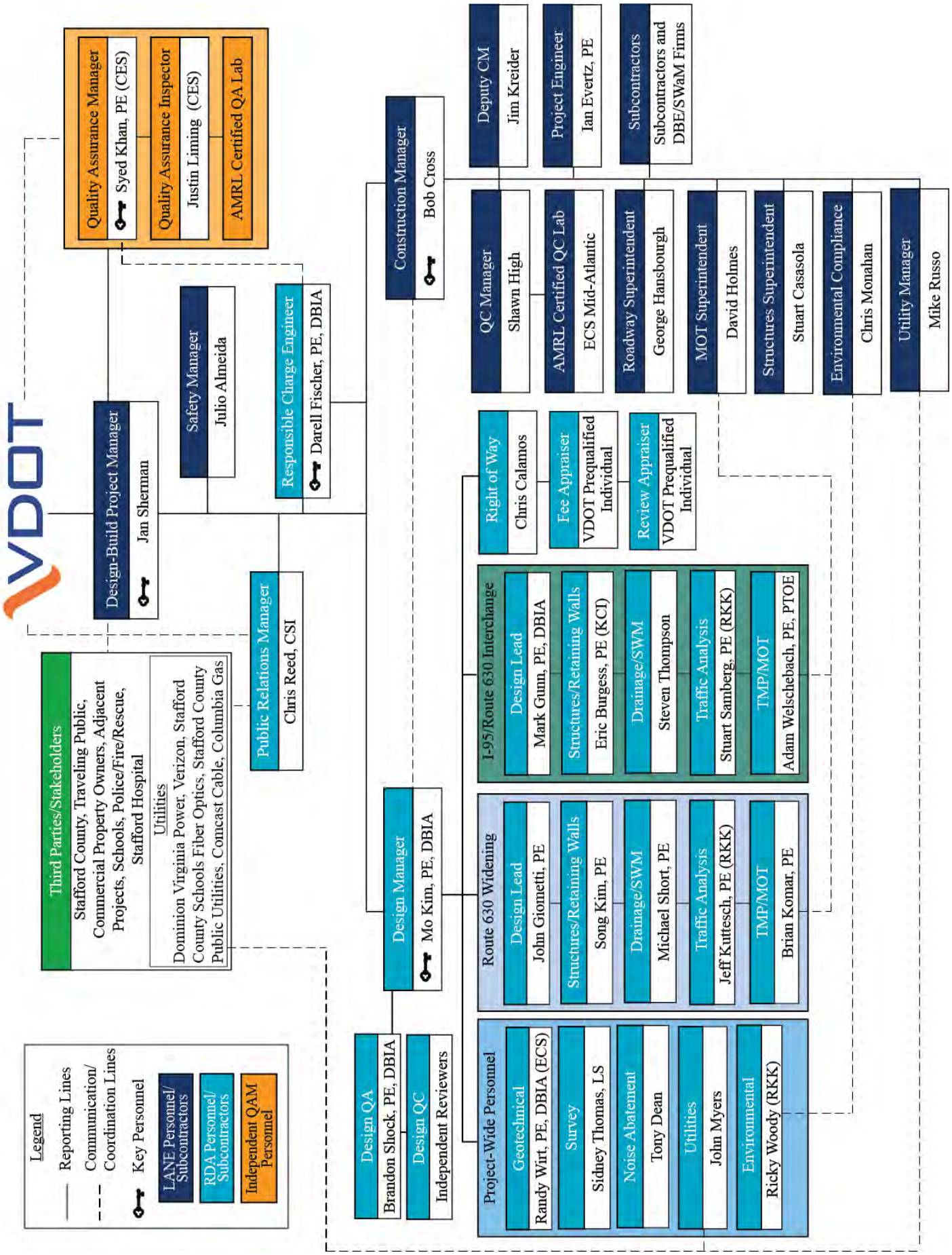
4.2 | OFFEROR'S QUALIFICATIONS

4.2.1 Qualifications of Key Personnel

LANE confirms all information presented in the Statement of Qualifications (SOQ) dated February 2, 2016 remains true and accurate in accordance with Part 1, Section 11.4. As demonstrated in the organizational chart presented on the following page, the team proposed by LANE, including but not limited to our organizational structure, lead contractor, lead designer, key personnel, and other individuals identified pursuant to Part 1, Section 4.2, will remain intact for the duration of the contract.

4.2.2 Organizational Chart

Under the leadership of our Design-Build Project Manager (DBPM), Jan Sherman, the LANE Team is structured to effectively manage and deliver the design and construction of this project. The LANE Team is organized to provide VDOT with a single-source point of contact, responsible for all design and construction activities. Our Team organization has a straightforward chain of command, with individual tasks and functional responsibilities clearly identified. This organizational chart identifies key personnel and major functions to be performed for the successful management, design, and construction of the project. Though reporting relationships are rigid, the lines of communication within the Team will remain fluid and flexible to meet the requirements of each individual project task. In order to prevent unnecessary project delays, it may be prudent at times for other members within the LANE Team to communicate directly with their counterparts at VDOT. This will be directed and authorized in advance by Mr. Sherman and the VDOT Project Manager.


VDOT
Quality Assurance Manager
Syed Khan, PE (CES)
Quality Assurance Inspector
Justin Liming (CES)
AMRL Certified QA Lab
Design-Build Project Manager
Jan Sherman
Safety Manager
Julio Almeida
Responsible Charge Engineer
Darell Fischer, PE, DBIA
Construction Manager
Bob Cross
Deputy CM
Jim Kreider
Project Engineer
Ian Evertz, PE
Subcontractors
Subcontractors and DBE/SWaM Firms
QC Manager
Shawn High
AMRL Certified QC Lab
ECS Mid-Atlantic
Roadway Superintendent
George Hansbourgh
MOT Superintendent
David Holmes
Structures Superintendent
Stuart Casasola
Environmental Compliance
Chris Monahan
Utility Manager
Mike Russo
Right of Way
Chris Calamos
Fee Appraiser
VDOT Prequalified Individual
Review Appraiser
VDOT Prequalified Individual
Public Relations Manager
Chris Reed, CSI
Third Parties/Stakeholders
Stafford County, Traveling Public, Commercial Property Owners, Adjacent Projects, Schools, Police/Fire/Rescue, Stafford Hospital
Utilities
Dominion Virginia Power, Verizon, Stafford County Schools Fiber Optics, Stafford County Public Utilities, Comcast Cable, Columbia Gas
I-95/Route 630 Interchange
Design Lead
Mark Gunn, PE, DBIA
Structures/Retaining Walls
Eric Burgess, PE (KCI)
Drainage/SWM
Steven Thompson
Traffic Analysis
Stuart Samberg, PE (RKK)
TMP/MOT
Adam Welschebach, PE, PTOE
Design Manager
Mo Kim, PE, DBIA
Route 630 Widening
Design Lead
John Giometti, PE
Structures/Retaining Walls
Song Kim, PE
Drainage/SWM
Michael Short, PE
Traffic Analysis
Jeff Kuttesch, PE (RKK)
TMP/MOT
Brian Komar, PE
Design QA
Brandon Shock, PE, DBIA
Design QC
Independent Reviewers
Project-Wide Personnel
Geotechnical
Randy Wirt, PE, DBIA (ECS)
Survey
Sidney Thomas, LS
Noise Abatement
Tony Dean
Utilities
John Myers
Environmental
Ricky Woody (RKK)
Legend
Reporting Lines
Communication/ Coordination Lines
Key Personnel
LANE Personnel/ Subcontractors
RDA Personnel/ Subcontractors
Independent QAM Personnel

4.3 DESIGN CONCEPT

4.3 | DESIGN CONCEPT

Introduction of Design Strategy

Our approach focused on the Sequence of Construction (see Section 4.5.1) first in order to layout the design. Next, we reviewed the constructability of the major features to determine if there were optimizations that could simplify construction while reducing costs. We then looked at how future widening of the interchange would be best accommodated from a construction and maintenance perspective. Finally, we evaluated design and construction features to determine where we could provide value-added benefit to the project while minimizing costs. Each idea is summarized below:

Constructability Optimizations

- Shorten the proposed bridges (reduces construction cost and future maintenance)
- Realign Austin Ridge Road (better reuse of recently constructed road and reduces cost)
- Avoid large sliver fills on I-95 widening (avoid difficult and costly construction, avoid large culvert extensions)
- Adjust vertical profile on Route 630 widening (improves safety, lessens temporary pavement, and reduces cost)

Future Widening Accommodations

- Construct the SUP crossing of I-95 between the two bridges along the north side of the southern bridge (safer and more efficient pedestrian access and reduces cost)
- Future widening of the bridges will have the option to either widen to the inside or widen to the outside

Value-Added Benefits

- Evaluated a split diverging diamond interchange (DDI) design that would salvage the existing Route 630 crossing under I-95 for the eastbound (EB) direction while building a new overpass for the WB direction.
- Conceptual layout of three Park & Ride options to maximize commuter features (focused on traffic flow and maximum parking)
- Evaluated the temporary construction for permanent enhancement (i.e. use temporary I-95 northbound (NB) on-ramp as a permanent second on-ramp lane for the Park & Ride) – improved operations.

4.3.1 Conceptual Roadway Plans

The LANE Team's Conceptual Roadway plans meet or exceed all RFP requirements. Our Team's design reduces the overall footprint of the project and the limits of construction remain within the existing and/or reduced proposed ROW limits as shown in our Team's Conceptual Plans. Our concept does not include design elements requiring design exceptions or design waivers beyond those shown in the RFP documents.

Conceptual Roadway Plans (Provided in Volume II)

The project Base Scope consists of two UPC projects: one for the interchange and one for the widening of Route 630 to the west. Additionally, the project includes an option to widen I-95 southbound (SB) from south of Garrisonville Road to approximately one-half mile south of the proposed I-95/Route 630 interchange footprint.

The Conceptual Plans summarize the individual design elements and conform to all AASHTO, VDOT, and RFP requirements, including those listed in RFP Part 2, Attachment 2.2.1. Enhancements to the RFP Plans are highlighted in our Conceptual Roadway Plans. These plans will be prepared using MicroStation CADD and provided in .dgn and .pdf formats, as well as paper prints at the submission milestones outlined in the RFP. Record plans depicting the as-built condition will be provided in accordance with VDOT requirements.

Each element below describes the project in accordance with the RFP. We have provided further breakdown within each of these elements according to the four distinct but integrated portions of the project: I-95/Route 630 Interchange, Route 630 Widening, I-95 SB Widening, and Park & Ride Expansion.

(a) General Geometry Including the Number and Widths of Lanes, Shoulders, Ramps to Interchange, Commuter Park and Ride Lots, and Shared Use Paths

I-95/Route 630 Interchange. Through the interchange proper, Route 630 will maintain three 12-foot lanes which widen to a minimum of 15 feet to accommodate side-by-side WB-67 truck movements through the crossovers of the DDI. The typical will utilize a curb and gutter section in lieu of a shoulder design. Ramps leading into and out of the interchange will be dual 12-foot lanes with a single lane at the diverge/merge with I-95. Where single turning lanes are utilized, they will be a minimum of 16 feet – dual lanes would be a minimum of 14 feet each.

Outside of the interchange proper to the east, Route 630 will generally have two 12-foot lanes in the westbound direction. There will be added lanes for turning movements along with three 12-foot lanes in the eastbound direction to the connection with US Route 1. Two lanes will proceed as through lanes and one will become a right turn lane. Two additional left turn lanes will also be added at this intersection.

Outside of the interchange proper to the west, Route 630 will generally have two 12-foot lanes in each direction with added lanes for turning movements.

Realignment of Austin Ridge Drive to the west will provide two 12-foot lanes in each direction, along with a center turn lane (14 feet wide). Similarly, Wyche Road will be realigned to the east, providing 12-foot lanes (two in each direction north of Route 630, one in each direction south of Route 630).

A 10-foot shared use path (SUP) will be designed and constructed along the north side of Route 630 to the west. It will be contiguous to the roadway and cross into the median at the signalized DDI crossover. The SUP will cross I-95 along the north side of the WB bridge before crossing back to the north side of Route 630, again at the signalized DDI crossover. The SUP will then proceed north to connect with the relocated Park & Ride.

The aforementioned Park & Ride lot will be constructed along the south side of existing Courthouse Road (east of the interchange) as a replacement to the existing Park & Ride which will be impacted by the interchange improvements. A second Park & Ride lot will be built in the southwest quadrant of relocated Route 630 and Wyche Road. At a minimum, these lots will accommodate 1,100 spaces, bus access/shelters, along with both kiss and ride and slug waiting areas as prescribed by the RFP and Addenda.

Route 630 Widening. Widening of Route 630 will include two 12-foot lanes in each direction along with the implementation of a closed section (i.e., curb and gutter). The roadway footprint will be widened out at intersections, in accordance with the Design Criteria Table and the Road Design Manual, to provide turning movements. A SUP will be provided along the north side to tie to the SUP described above. Additionally, a 5-foot-wide sidewalk will be constructed along the south side of Route 630 from the relocated Ramoth Church Road to just east of Liberty Knolls Drive.

I-95 4th Lane (Option 1). If executed, the I-95 4th Lane option (Option 1) will provide an additional 12-foot lane in the southbound direction along with a 15-foot shoulder which will be comprised of a 10-foot paved shoulder and MC-4 to adequately address the need for guardrail.

(b) Horizontal Alignments

I-95/Route 630 Interchange. The horizontal alignment of Route 630, the ramps, and the relocation of Wyche Road generally follow the RFP, staying within the defined limits of existing and proposed right of way in accordance with the RFP. Minor design optimizations to the alignments, both horizontal and vertical, have been made to realize efficiencies and better accommodate our approach.

Our Team's design for the realignment of Austin Ridge Drive deviates from the RFP by utilizing more of the existing Austin Ridge Drive alignment and creating a slightly skewed intersection with Route 630 while

Our Team's design for the realignment of Austin Ridge Drive deviates from the RFP by utilizing more of the existing Austin Ridge Drive alignment and creating a slightly skewed intersection with Route 630 while remaining within acceptable design standards. This allows for a more efficient use of the existing roadway along existing Austin Ridge Drive and the undeveloped property to the south of Route 630 at the intersection.

The Park & Ride locations were evaluated and multiple layouts were created in order to determine the most efficient layout which could maximize spaces/features. Upon award, these alternatives will be explored further. However, for bidding purposes, the layouts prescribed by the RFP will be used.

Route 630 Widening. The LANE Team's design for the Route 630 Widening will generally follow the RFP horizontal alignment. However, some adjustments were made based on the design of our Maintenance of Traffic (MOT) plan. In order to ensure the MOT of the project remains safe and efficient, minor adjustments to the vertical alignment were made in critical or tight areas. These adjustments allow for reduced temporary paving and minimized detours to accommodate the proposed construction.

I-95 4th Lane (Option 1). Given that the widening of I-95 is contiguous to the existing lanes, our design will follow the RFP conceptual plan.

(c) Maximum Grade for all Segments and Connectors

I-95/Route 630 Interchange. The grades along Route 630 generally follow the RFP. Minor adjustments were made while maintaining adherence the criteria established in the Design Criteria Table. Likewise, the ramps, realigned roadways (Austin Ridge Drive and Wyche Road), Park & Ride, and SUP (when not contiguous to the roadway) follow the Design Criteria Table or Road Design Manual when not addressed in the Design Criteria Table.

Roadway	RFP Plan	LANE Concept Plan	Max. Grade per Design Criteria
Route 630	5.0%	5.0%	10.0%
Ramps	7.0%	6.44%	7.0%
Austin Ridge Dr.	7.0%	4.88%	10.0%
Wyche Rd.	7.69%	6.6%	11.0%

Route 630 Widening. Adherence to the Design Criteria Table governed all adjustments made to the vertical profile along the Route 630 Widening. The table below provides a summary for both Route 630 and the improved connecting roadways.

Roadway	Min. Grade Provided	Max. Grade Provided	Max. Grade per Design Criteria
Route 630	7.0%	7.21%	9%
Ramoth Church Road	2.47%	2.47%	9%
Winding Creek Road	2.75%	2.75%	9%
Reids Road	3.73%	3.73%	10%
Rockdale Road	6.02%	6.02%	10%
Kelsey Road	4.51%	4.51%	10%
Cedar Lane	6.82%	6.82%	10%

I-95 4th Lane (Option 1). The grades of the I-95 SB Widening improvements will follow the existing I-95 profile. Based on our design, the profile will have a maximum grade of 2.88%.

(d) Typical Sections of the Roadway Segments to Include Shared Use Paths, Ramps, Retaining Walls and Bridge Structures

I-95/Route 630 Interchange. The typical sections utilized for each of the roadways and critical features in the interchange portion of the project are described in the table below:

Roadway	GS Std. or Type	Design Speed	No. and Width of Lanes	Width of Paved Shoulders or Curb & Gutter Type	Width of Bicycle/ Pedestrian Facilities
Route 630	GS-7	40 mph	4-6/12'	CG-6	5' Sidewalk/ 10' SUP
Ramps	GS-R	25 mph – 50 mph	1-2/12' – 16'	8' RT/4' LT	N/A
Austin Ridge Dr.	GS-7	40 mph	4/12'	CG-6	5' Sidewalk
Wyche Rd.	GS-7	30 mph	2/12'	CG-6	N/A
US Route 1	GS-5	50 mph	4/12'	CG-7	5' Sidewalk/ 10' SUP
I-95	GS-1	70 mph	6/12'	10' LT/Exist RT	N/A
Service Road	GS-9	20 mph	2/8'	N/A	N/A

Route 630 Widening. The typical sections utilized for each of the roadways and critical features in the Route 630 Widening portion of the project are described in the table below:

Roadway	GS Std. or Type	Design Speed	No. and Width of Lanes	Width of Paved Shoulders or Curb & Gutter Type	Width of Bicycle/ Pedestrian Facilities
Route 630	GS-7	45 mph	4/12'	CG-6	5' Sidewalk/ 10' SUP
Ramoth Church Road	GS-7	45 mph	2/12'	CG-6	N/A
Winding Creek Road	GS-7	40 mph	2/12'	CG-6	N/A
Reids Road	GS-8	25 mph	2/9'	N/A	N/A
Kelsey Road	GS-8	25 mph	2/11'	N/A	N/A
Rockdale Road	GS-8	25 mph	2/11'	N/A	N/A
Cedar Lane	GS-8	25 mph	2/11'	N/A	N/A

I-95 4th Lane (Option 1). The typical section of the I-95 widening will be in accordance with the GS-1 standard. Additionally, we intend to strategically use retaining walls, steepened slopes, or reinforced earth slopes in areas of high fill to avoid sliver fills, extension of culverts, and acquisition of timely permits. The specifics of this approach have not been determined as it is driven by cost. But regardless of the treatment, guardrail or traffic barrier will be placed along the edge of the shoulder to meet clear zone and safety requirements.

(e) Conceptual Hydraulic and Stormwater Management Design

I-95/Route 630 Interchange. As shown in our Conceptual Plans in Volume II, proposed drainage will be provided through a combination of closed storm drain systems at curb sections and roadside ditches at shoulder/ramp areas conveyed to stormwater management facilities. Purchase of Nutrient Credits will be

utilized to the 25% credit coverage allowed by current (IIC, grandfathered) regulations. Our SWM concept plans propose combination of dry extended detention and bio retention facilities which satisfy water quality and quantity control requirements for project outfalls. Our drainage system layout is arranged to maximize capture and treatment of onsite drainage areas while bypassing offsite cross flows to the extent practical. Through drainage on the interchange portion of the project has been evaluated to determine if any cross pipes require a detailed H&HA analysis. None meet the requirement.

The Park & Ride facilities will utilize sheet flow and storm sewer collection to on-site SWM facilities. Water quality and quantity requirements will be satisfied through use of bio retention extended detention SWM facilities. Purchase of Nutrient Credits will be used to supplement water quality coverage as appropriate to satisfy water quality requirements. No additional H&HA's would be required for this work.

Route 630 Widening. The use of a combination of closed storm drain systems and ditches will convey drainage through the corridor. The closed systems will primarily carry the improvements and the open ditch designs will convey off-site drainage around proposed stormwater management facilities. Proposed facilities include extended detention dry ponds with bio retention areas as appropriate. The purchase of Nutrient Credits will be used to supplement proposed onsite facilities to a maximum of 25% of the required coverage. Proposed improvements impact a number of existing private SWM facilities in the project area. These facilities will be individually assessed to determine the viability for restoration, the need for replacement, and/or onsite supplement to maintain existing levels of SWM service. Our concept drainage layout also utilizes channelization, as appropriate, to minimize the number and length of proposed culvert crossing which will also reduce stream impacts.
Through drainage on Route 630 widening has been evaluated to determine if any cross pipes require a detailed H&HA analysis. None meet the requirement.

I-95 4th Lane (Option 1). In order to minimize maintenance requirements within the I-95 roadway, our design intent is to satisfy SWM requirements related to the I-95 widening through use of facilities in the interchange and ramp areas. We will compensate for uncontrolled widening areas in the I-95 roadway based upon our outfall analysis and water quality assessments of the overall watersheds and outfalls. Satisfaction of SWM requirements will be verified and documented in final design.

Our intended use of retaining walls will eliminate the need for extending large diameter pipes/boxes that would require detailed H&HA studies. We anticipate no potential impact to existing flood plains at major crossings.

(f) Proposed Right of Way Limits

Right-of-way (ROW) reductions are minor and have therefore not been captured on the Volume II Plans. Instead, our design adheres to the ROW limits as shown in the RFP Concept Plans. Total takes not acquired by VDOT but identified on the RFP Plans will be initiated at NTP in order to ensure that critical ROW elements are in place for Phase 1 construction. A reduction/change in ROW is achieved along the Austin Ridge Drive realignment with our Team's proposal of a shift of the roadway to the east and slightly skewing its connection with Route 630.

With regards to the Route 630 Widening, VDOT is acquiring the ROW associated with the RFP plans. The LANE Team's design approach and construction will not increase the ROW needs on this portion of the project.

No ROW is required for the I-95 SB Widening option as the widening occurs to the median of the existing I-95 corridor.

(g) Proposed Utility Impacts

Utility avoidance has been prioritized by our Team to reduce cost and schedule impacts. Utility impacts based on our evaluation are extensive and have been identified in the table on the following page:

Utility Company	Locations	Strategy
Stafford County Sewer	Crosses new alignment of 630 just East of the bridge	Design final drainage to avoid sanitary
DVP	Mainly along the South side of existing 630 and along ramp B	Relocate in line with vertical adjustments to avoid replacing lines wherever possible.
Verizon	Aerial North of Existing 630, underground on South side of existing 630 and Wyche Road	Testholes will show if drainage can be designed around the underground.
Stafford County Water	Austin Ridge and crossing new 630 East of the overpass	Testhole and redesign the drainage around the waterline on Austin Ridge. If the cut on 630 isn't a direct conflict, visit protect in place options with the owner.
Columbia Gas	Crosses new alignment of 630 just East of the bridge, Also in the proposed parking lot	Testhole and design drainage around the gas in the parking lot. If the cut on Route 630 isn't a direct conflict with the gas, visit protect in place options with the owner.
Summit IG	Along East side of 95, comes up Ramp A and down Ramp B (existing)	Get designation to ensure, but thought no conflict at this time.
Stafford County Schools	Buried along the south side of 630	Testhole and attempt to design drainage around the line or adjust in place for cut areas.
Peg Bandwidth	Along the north side of existing 630 East of I-95	Thought to not be in conflict except a possible adjust in place at their tie into Summit top of Existing Ramp A
Comcast	Attached to DVP Poles	Will have to follow DVP relocation plan, try to limit to transfers if possible.

(h) Soundwall Locations

I-95/Route 630 Interchange. Based on the RFP, a wall was found to be reasonable and feasible along the on-ramp to I-95 north and along I-95 NB. However, because it further identified that this work falls into the study limits of the I-95 4th Lane project (Option 1), we should evaluate the wall as an existing barrier. Regardless of the I-95 SB Widening option is authorized or not, this barrier (Barrier C) will be constructed as part of the I-95/Route 630 Interchange project if found to be warranted during the reevaluation process.

Route 630 Widening. A preliminary noise evaluation and qualitative final Noise Abatement Design Report (NADR) was performed by VDOT. As a result of that analysis, no barriers were found to be reasonable and feasible. No walls are anticipated or reevaluation required unless substantial horizontal or vertical alterations are done as defined by the RFP.

I-95 4th Lane (Option 1). A Final Design Noise Analysis will be prepared based upon the Preliminary Noise Analysis Final Report provided by VDOT. If the need for a noise wall (Barrier C) is confirmed, it will be constructed as part of the interchange project.

(i) Any other Key Project Features

SUP. As allowed for in the RFP, our design has opted to provide a more traditional movement through the interchange for pedestrians at at-grade crossings and down the middle of the bridges (located on the north edge of the WB bridge between the DDI crossovers). By constructing the SUP with the southern bridge, we will be able to offer early occupancy of the pedestrian movements to the new park and ride facility – a value added benefit.

4.3.2 Conceptual Structural Plans

Design Approach. Based on our review of the RFP and supporting documents, we have a full understanding of the design requirements and additional factors affecting the bridges for the Project. Loading requirements will be calculated in accordance with the AASHTO LRFD Bridge Design Specifications, 7th Edition, and VDOT Modifications and 2015 Interim Revisions. Also, additional loads accounting for future wearing surface and construction tolerances will be considered, in accordance with VDOT I&IM S&B-80.

Route 630 Bridges over I-95. The LANE Team proposes to construct two new bridges as required by the RFP for the eastbound and westbound movements of Route 630 across I-95. Both bridges will be 3 span continuous with spans of approximately 107' to accommodate the future I-95 Express Lanes. The approach spans have been shortened, utilizing TL-5 pier protection while maintaining existing shoulder widths adjacent to I-95 travel lanes in combination with mechanically stabilized earth (MSE) wall abutments. Additionally, the bridge bents will be skewed to closely parallel I-95 in order to further reduce the overall bridge lengths and align the abutment MSE walls that are shared by both bridges.

The LANE Team has evaluated the use of structural steel (to minimize profile) versus pre-stressed concrete girders to see if the more economical section is driven by the increased approach work versus increased procurement lead time and initial material costs. The preliminary evaluation indicates that the use of pre-stressed concrete girders will provide the most efficient design and has the added benefit of reduced long term maintenance by VDOT. Therefore, our concept plans have been developed with vertical profile considerations utilizing pre-stressed concrete girders. With the reduced approach and main spans being 107' or less, the LANE Team proposes to use 45" PCBT beams in lieu of the 61" PCBT's that would have been required with the conceptual bridge layout from the RFP.

The overall bridge widths have been set as 41'-0" for the eastbound bridge and 55'-10" for the westbound bridge, which contains the 14'-0" wide barrier separated shared use path (SUP). The LANE Team has considered issues of future widening of the bridges to the inside while working between two closely spaced structures and concluded that VDOT will face more constructability issues with this approach than widening each bridge to the outside. Therefore, we propose that the SUP be shifted to the north side of the westbound bridge, as allowed by Addendum 1 of the RFP, in order to facilitate VDOT's ability to widen the bridges to the outside in the future. The bridges have been shifted horizontally to comply with the 30' minimum distance as required by VDOT.

Retaining Walls. Retaining walls for roadway fills are not anticipated based on our team's evaluation of steepened slopes. Should our further collection of data after award require that structural measures be used, they will adhere to the Structure and Bridge Manual of Instructions. This approach will ensure that our cut/fill slopes are within the current cut/fill limits, especially as it relates to the I-95 4th Lane option, to significantly minimize costly impacts to streams, wetlands, and large drainage structures. However, MSE walls will be used in support of the abutments for the Route 630 bridges over I-95 as described previously.

Major Drainage Structures. No major structures are anticipated or proposed. Avoidance of extending and/or rehabilitating drainage structures is being implemented through the use of steepened slopes and/or MB-8A barrier.

4.4 PROJECT APPROACH

4.4 | PROJECT APPROACH

The LANE Team's approach to the Project is to engage highly qualified construction, design, maintenance of traffic and permitting personnel in order to provide VDOT the proficiency required to manage and control all facets of this important D-B project. Our Team synergy's and composition allows VDOT to function strictly in an oversight role, and allows the Project to be continuously advanced through the Project Milestones, having diligently planned for and managed risk, cost, and schedule. We will work closely with VDOT and other stakeholders to maintain open lines of communication using practical work sessions to address concerns and needs. This proactive management of the project will result in a best value implemented project for VDOT and Virginia taxpayers.

4.4.1 Environmental Management

The LANE Team is committed to the successful completion of the project in a manner that minimizes impacts to natural resources and the project schedule, staying in full compliance with applicable laws, regulations, VDOT specifications and special provisions, and the project environmental commitments.

Approach to Environmental Management. Our Team's approach to Environmental Management establishes objectives and targets for the project that are realistic for meeting environmental compliance and performance. Our Environmental Management approach provides a substantial investment of resources to coordinate commitments across the project team through the life of a project. Our Environmental Management approach is flexible because there are often changes in the project design during construction, changing how the environmental commitments must be implemented. Our Team is experienced at delivering multi-projects under a D-B project contract like this one and has designated an environmental lead, Ricky Woody, who will oversee delivery and implementation of the environmental commitments. The strength of our approach is using the same environmental staff throughout the procurement, design and construction phases. Our approach ensures compliance throughout the entire Project. We have used this approach on each of our D-B projects, and it has enabled us to complete every Project without delays due to specific environmental commitment compliance.

Avoidance/Minimization Strategies. Our environmental team has developed an Environmental Compliance Matrix (ECM) that contains listings of environmental commitments for each project phase based on the NEPA documents, special provisions, and other project documentation. The ECM outlines our approach to avoid and minimize potential impacts to environmental resources and potential impacts to the project schedule throughout design and construction. The ECM is our lead environmental management tool defining the procedures for achieving the environmental milestones and establishes a program of monitoring, reporting and tracking of those milestones. Each environmental milestone is a hold point in the project schedule to ensure that any regulatory issues that may arise are dealt with quickly and efficiently. Our environmental lead will participate in scheduled team meetings to report the status of the environmental milestones and ensure the environmental commitments are incorporated into the design.

Design Avoidance. Environmental studies and surveys will be completed to identify the exact locations of environmental resources and information on critical areas, sensitive properties, protected species, wetlands and streams. These surveys will be presented on design-level mapping.

Design level-mapping will be shared with the entire Team, including design, utility, and construction staff. Having this information at the outset of preliminary design activities ensures that avoidance and minimization efforts can be investigated early in the design process, as opposed to after more significant design details have been developed.

The project will impact waters of the United States which will require a USACE jurisdictional determination to support the acquisition of water quality permits. Once design has progressed to a detailed level

(approximately 60%), our environmental staff will prepare the necessary permit plates, exhibits, and documentation for submission to the permitting agencies. We will then immediately apply for the appropriate permits. The water quality permit acquisition process is expected to take approximately 9 months to complete. We anticipate the following permits will be required for the following project segments:

Project	USACE Section 404	VDEQ Virginia Water Protection Permit	VDEQ Virginia Stormwater Management Program (VSMP)	VDEQ Coastal Zone Management Area (CZMA) Consistency Determination	Wetlands Impacts Acres	Stream Impacts LF
UPC 13558 Route 630 DDI	Individual Permit	Individual Permit	General Permit	Required	1.2	3,220
UPC 4632 Route 630 Widening	Individual Permit & State Programmatic Permit	General Permit WP3	General Permit	Required	1.0	300
I-95 4th Lane Option	Nationwide Permit 3	Conditionally Granted	General Permit	Conditionally Granted	0.1	100

During the design and permit acquisition, we will work with the regulatory agencies to further avoid and minimize the impacts to the jurisdictional areas and prepare restoration approaches for temporary impact areas. We anticipate the standard wetlands compensation ratios 2:1 forested, 1.5:1 scrub-shrub and 1:1 for emergent for permanent wetlands impacts and 1:1 ratio for wetlands habitat for wetlands areas within the interchange. We will complete USM to determine stream compensation requirements for the project's permanent stream impacts. The project's mitigation needs will be met through the purchase of mitigation bank credits. Several mitigation banks currently have mitigation credits for both wetland and stream impacts available in the watershed.

Our Team understands the environmental sensitivity for water quality on this project. All work will be in accordance with VDOT requirements, as well as the Virginia Erosion and Sediment Control (ESC) Handbook and Regulations. As part of the project QC plan, these ESC designs will be reviewed by a DEQ certified plan reviewer on our Team, as well as the Construction staff. We have found this review minimizes field changes and maximizes environmental protection measures to the receiving waters.

Once the specific project environmental clearances are obtained, our team will record them in the ECM. The ECM will be coordinated with VDOT to complete the EQ103, EQ200, and EQ201.

Construction Avoidance. Our approach to implementing environmental commitments during construction is to ensure they are communicated effectively to the construction staff. We are experienced at providing environmental engineering design solutions for construction implementation, negotiating with regulatory agencies to solve difficult environmental issues, identifying efficiencies to minimize project delays while encouraging workable solutions to keep projects on schedule and in compliance with environmental commitments.

Once plans are approved and released for construction, our environmental staff will shift to the monitoring and compliance assistance phase. The same environmental staff who secured the environmental clearances will perform the monthly site visits to ensure areas of avoidance are protected and to ensure that the site is either temporarily or permanently stabilized as required by the permit documents. At the completion of construction, environmental staff performs a site visit to document the final conditions. Final project completion documentation will then be sent to the agencies. Additionally, Staff dedicated to erosion and sediment control will inspect the site on a regularly, paying close attention to the effectiveness of installed E&S devices. Our team will avoid and minimize impacts to environmental resources during construction by evaluating locations of soil borrow/disposal areas, staging locations, and use of temporary/permanent easements. We have

successfully used this approach on other design-build projects, none of which has been temporarily stopped for an environmental non-compliant situation.

Environmental Constraints. We have completed a project environmental constraints analysis using the environmental commitments, natural, cultural, biological, recreational, conservation and geological resources within the project corridors. Our analysis identified aspects of design and construction that could have an environmental impact and assesses the potential impact of that activity on the environmental resource. Evaluating the Noise effects on adjacent properties and securing the water quality permits and the coastal zone management consistency determination are critical to completing the environmental certifications for these projects. To minimize the effects on the project schedule, we are staged to begin the Noise Analysis Design Report (NADR) which involves ambient noise and the TNM modeling and abatement analysis and design, at notice to proceed. This will allow a decision on the noise abatement requirements on the project with VDOT during the early stages of the project. Concurrently, our team will finalize the wetland delineation and stream assessment to obtain the USACE Jurisdictional Determination to provide the best opportunities to consider further avoidance and minimization actions that will support the submittal of the coastal zone management documentation and the permit applications at approximately 60% design. We feel our approach to these identified constraints will minimize any affects to the project schedule.

Environmental Commitments. Prior to the development of design plans and detailed engineering, our Team identified a few key environmental commitments and required project authorizations necessary to complete the Department's EQ103, EO200, and EQ 201 (Table 4.4.1.2).

Table 4.4.1.2 – Environmental Commitments

Environmental Commitments	
NEPA	• Reevaluation of NEPA documents for RW (EQ-201) and PS&E (EQ-200) • Track NEPA Commitments within a project specific Environmental Compliance Matrix • Completion of Environmental Certification/Environmental Checklist (EQ-103)
Cultural resources	• Removal of 2 obelisks to VDOT property • Clark Family Cemetery (DHR#44ST1139), to be protected • Phase I studies required if operations are planned outside right-of-way and easements on RFP plans
Water quality permits	• Obtain the Jurisdictional Determination • Acquire the required Water Quality permits • Provide Wetland compensation & Stream compensation
Hazardous Materials	• Asbestos inspection of any bridges and demolition of structures • Phase I EA for all properties to be acquired as project rights-of-way beyond RFP plans • All solid waste, hazardous waste, and hazardous materials shall be managed in accordance with all applicable federal, state, and local environmental regulations
Threatened and Endangered Species	• Confirm VDOT's determination that this project will have no adverse effects on T&E species and no TOYR are required
Air	• Adhered to during the construction: Open Burning restrictions; Cutback Asphalt restrictions; Fugitive Dust precautions and Special Provision for Volatile Organic Compound Emissions Control Areas. • Construction emissions performed in accordance with VDOT's Road and Bridge Specifications.
Noise	• Construct VDOT/FHWA Approved Noise Walls • Walls shall not be located within 5.0 feet from the VDOT Right of Way line for maintenance purposes • Locate noise barrier walls as close to the roadway as possible outside the clear zone.
Erosion and Sediment Control & Stormwater Management	• Provide in accordance all VDOT requirements as well as the Virginia Erosion and Sediment Control (ESC) Handbook and Regulations • Comply with Virginia Stormwater Management Program (VSMP) and the Stormwater Pollution Prevention Plans (SWPPP)
CZM Consistency Determination	• Required if an USACE requires an Individual Permit – Secure this clearance concurrently with regulatory review.

Schedule Integration. Our Team has established a detailed time-driven plan for the environmental clearances that supports and ensures that on-time delivery is achieved. Our ECM is a tracking and status tool that will be used during project delivery. Our ECM shows progress, interrelationships and dependencies of the design, the required environmental clearances and the aspect of construction delivery. A key in establishing our project schedule was to determine points in the plan development to ensure there is enough detail for grading, drainage, and temporary construction items to meet the informational requirements to file for the required environmental clearances. Once these points in time were identified, we used them to support the project design and construction schedule.

During the project development, we will perform constructability reviews considering logistical, economic and environmental constraints to confirm that environmental commitments are reflected in the project plans prior to construction activities. We will continually identify project risk reduction opportunities by determining the variables and effects of NEPA documentation, noise clearances, permit acquisition, environmental certifications, permit required monitoring, the phases of erosion and sediment controls, stormwater management implementation, and project construction activities.

4.4.2 Utilities

The LANE Team will not only follow the VDOT Utility Relocation Manual to perform the utility coordination on this project, but will take full advantage of the design-build aspect of the project to begin utility coordination as early as possible for this time sensitive project. We have established, working relationships with all utility owners in this corridor. Our years of experience in the utility sector has established working relationships with these utility companies that make them comfortable working with us.

Approach. In addition to the fact that we have extensive experience and an established working relationship with the utility owners in the corridor, our utility lead, RDA, has also performed design work for several of the utility companies (i.e. DVP, Summit IG, and Stafford County Utilities).

Our Team has completed an in-depth conflict analysis for the entire project area, as well as preliminary UT-9 forms to determine cost responsibilities for the "out of plan" utilities. We have developed preliminary alignments for needed relocations that will allow us to hit the ground running as soon as we receive Notice of Award, and will provide a faster start to utility relocation designs for the project.

For in-plan utilities, our Team already has the experience and working relationships with the companies, both private and public, that will give us a working knowledge of their standards and specs to ease and accelerate the design of acceptable relocation plans.

One of the keys to a successful utility relocation plan is starting early. The LANE Team has already done that. With the years of relationships and experience with the companies involved we have welcomed the utility companies as our partner in the project making them aware they have a stake in the project's success and that their needs and concerns are important as well. We will keep them in the loop and consult them constantly as the design is moved forward and completed to ensure that we have the most cost effective and schedule friendly solutions to known and future/unknown utility issues. We have always and will continue to pride ourselves on finding the unforeseen problems and solutions. We will use our knowledge and experience in the various utility fields to provide running lines, lay down areas, equipment locations, etc to streamline any needed work from the utility company itself as we are well aware that the more we can do to minimize the work of the utility company itself, the better the benefit to the team and the project.

Identification of Utilities in Conflict with Design (and the Solutions). For the widening section of the Route 630, the utilities are currently being relocated. Our first action item for this section will be to request the as-built drawings of the relocations performed and integrate them into the design to ensure construction avoidance. We will use this information to help finalize the plans, not only allowing for the planned location of the relocations, but the actual locations. This should either negate or limit any chance of utility conflicts and possible second relocations on this phase.

For the interchange portion of the project, the LANE Team has performed in depth conflict analysis of all utilities in the corridor, as well as developed strategies to address the conflicts. Due to the limited area to work in and the scale of the project there were little chances to mitigate conflicts, so we instead focused on minimizing the conflicts where possible and creating solutions that would best benefit the accelerated schedule of the project.

Dominion Virginia Power (DVP) – DVP has aerial 3-phase distribution power along the existing alignment of Route 630 that will be in conflict in various areas. Three phase power also runs many of the other areas of the project and adjustments to about 19 poles at minimum will be needed. Some of these will just be taller poles set to allow for cuts, but most will be moved to re-align the pole line out of conflict with the project and possibly will affect other poles not in conflicts with angles and support needs.

There is also approximately 650 LF of underground power that will need to be testholed as soon as possible to help the hydraulic and roadway team adjust vertically to mitigate relocations. Mitigation through design will always be the primary goal with relocation saved as the last option.

Comcast – Comcast has aerial fiber optic and coaxial cable throughout the project primarily attached to the Dominion Virginia Power poles. They will remain so and relocate based on the Dominion relocation. To save time and money, transfers will be the primary choice in relocation when existing slack is available or the adjustments can be made in a way to gain slack. Where this is not possible, relocation will be needed but historically Comcast relocation efforts can be done quickly in comparison to the power and telephone companies. The key effort in the Comcast relocation will be to keep them informed and involved in the project so that when the pole line is ready for their relocation to occur they are prepared to act quickly.

Columbia Gas – Columbia Gas has a 6” gas line that runs across the new alignment of Route 630, through the edge of the proposed commuter parking lot and through the area of a possible storm water basin. The line as it crosses the new alignment of 630 is in a designated cut area and will be testholes as soon as possible to hopefully design a profile for the road that will allow for it to remain in place. If this is not possible, a new line will be installed deeper within the crossing area and tied into the existing line.

For the portion in the storm basin proposed by the RFP plans, the team has selected alternative sites to treat the project drainage to avoid this relocation.

The Widening project has Columbia Gas installing new 6” line in the area of Mine Road. We will request the as-builts for this line as soon as they are available to better account for this new placement with our proposed design.

Verizon South – Verizon South has underground facilities along existing Route 630 as well as Wyche Road. Additionally, they have large copper and fiber aerial facilities along Route 630. These large copper cables will have large impacts on the project schedule due to the time needed to make the needed splices. While this pole line cannot be avoided because it is clearly through the alignment of the proposed new Route 630, we will move to minimize the realignment to as small an area as possible to limit the needed splicing. While a joint pole line is an option to save room, the need to build the utilities consecutively would further prolong the schedule for the relocations.

The underground will be testholed and mitigated as much as possible with the project. Any needed relocations will be approached in separate projects to allow the work to have multiple crews assigned to it and worked congruently.

Stafford County Water and Sewer – On the widening portion of the project, a preliminary plan has been supplied. We will confirm that the preliminary plan still works compared to the as builts of the other utility relocations and our final design and move it forward to a final relocation plan to get approved by Stafford County and built in the field.

On the intersection project, testholes will be performed on the force main and water lines at minimal drainage crosses to ensure the drainage can be designed around the force main. Likewise, testholes will performed on the water crossings of proposed Route 630 and Proposed Ramp B to ensure the profiles can be designed to

allow the existing lines to remain in place. As required by the contract, a new 12" water crossing 95 and a new force main will be designed to tie the existing pump station to Austin Ridge Road will be installed.

Stafford County Public Schools – Through the interchange portion of the project, Stafford County Schools has a 96 armored fiber underground along the South side of existing Route 630, including an underground crossing of Interstate 95. This line has been found in conflict West of the crossing and will be relocated back underground or adjusted in place (dependent upon testhole results).

Summit IG – Summit owns and operates a fiber optic duct bank that runs along the outside of the 95 Northbound lanes and comes up and back down the existing ramps. Currently this line does not appear to be shown on the project designation based on the records provided by Summit. This line will be designated and test holed as soon as possible. Based on experience with Summit, they prefer to adjust in place wherever possible. Based on the testhole information we will strive to keep the existing line in and adjust it in place vertically wherever it cannot be avoided.

PEG Bandwidth – PEG bandwidth ties into the Summit line in the NE quadrant of the existing interchange. Initial reviews show that this line also was not picked up during the RFP designation and we will move quickly to show it and determine a course of action for this line. While PEG is a rather new utility to this area, our team is one of the few companies with a good established relationship with them. The area engineer, Steve Kneipp, was a consultant to a utility company heavily involved in the 29 Solutions project and we worked closely with him throughout the entire engineering phase of that project before he left to join PEG. The report facilities on the North side of Old Route 630 and were found not in conflict with the project. They will need slight adjustment when the new Summit handhole is installed and per agreement Summit should move this line to the new handhole location/

Mitigation Strategies and Schedule Impact Avoidance

Based on RDA's on-going coordination and lasting relationships with each of the utility companies, our team will work with them to define mitigation threshold's and limits at which relocation is the only option. However, situations that arise that might not fit clearly into these defined thresholds will be discussed on a case by case basis to find a mitigation strategy that will meet the needs of both the Team and the utility owner.

In most cases, storm drainage systems are the main reason for relocations. In order to avoid and/or minimize impacts, our design efforts will focus on drainage design modifications. We will investigate ways to reroute our designs to go over, under or around underground utilities. Only moving the utility where avoidance is not feasible.

Integration into Project Sequencing

The LANE Team will integrate these utility relocations into the sequence of construction in the Project schedule based the utility types: Private vs. Public. For private utility relocation, the relocation will be performed by the utility owner, and LANE will team will coordinate with the utility owner for time and location to identify the Work driven by these utility relocations and reflect these restrictions accordingly in the Project Schedule. For public utility (water, sewer, and Stafford County Schools), the LANE Team will be incorporated into the roadway construction sequence, which is typically about the same time as drainage work.

LANE and RDA successfully coordinated, integrated into the schedule and relocated numerous utilities on two recent / high profile projects – 29 Solutions and I-66/Route 15 DDI.

4.4.3 Geotechnical

The LANE Team's Geotechnical Consultant, ECS Mid-Atlantic, has a specific approach to identify, reduce, and mitigate geotechnical risks to benefit the Contractor and the Owner. The result of a sound technical approach, based on years of similar experience in the local area, is a successful, best-value design. ECS

believes that the available subsurface information must be well understood and used to the fullest extent, and when necessary, it should be complimented with supplementary studies early in the project design process. This project is unique in that there has been a significant amount of preliminary geotechnical information prepared from 2012 to 2016 to draw upon, that must be carefully reviewed to supplement the findings from the final phase geotechnical exploration.

ECS personnel have been working across the state with the Lead Designer, RDA, for many years, including recent experience on Route 15/I-66 Interchange Reconstruction, Route 1 Widening and Improvements, Garrisonville Road Improvements, and others. The design-build team of Lane/RDA understands the importance of identifying and mitigating geotechnical risks in order to keep them off the project's critical path. Key elements to ECS' approach to are outlined below.

A thorough site reconnaissance will be conducted to confirm existing site conditions, affirmation of the potential geotechnical risks, identification of possible site constraints, and observations to tailor the geotechnical exploration program to address the real geotechnical issues relative to the proposed design.

Utilization of the Available Information. Two Geotechnical Data Reports (GDRs) have been provided by VDOT for this project. The reports provided with the RFP include the GDR prepared by ECS Mid-Atlantic, dated October 21, 2015, and the GDR prepared by CH2M, dated April 13, 2016. A total of 477 Standard Penetration Test (SPT) borings and 75 Rotosonic borings were previously completed for various portions and/or previous design iterations during the evolution of this project. As part of Team's pre-bid effort, a comprehensive review and evaluation of all available geotechnical data and information regarding the project area and subsurface soils was completed. Some of the sources of this data includes the USGS geologic maps and soil survey reports, existing as-built roadway and bridge plans, existing soil test borings, and laboratory data. Furthermore, a thorough site reconnaissance was conducted to confirm existing site conditions, affirmation of the potential geotechnical risks, identification of possible site constraints, and observations to tailor the geotechnical exploration program to address the real geotechnical issues relative to the proposed design. Further, and more in-depth reconnaissance will be performed upon NTP to refine our efforts.

Risk Identification. It is our experience that risks to the Contractor as well as the Owner are best handled when they are accurately identified as early as possible. By understanding the available information, performing supplemental studies, and conducting appropriate engineering analyses, effective plans can be developed to reduce risks. The geologic conditions at the site are not overly problematic; however, specific concerns must be addressed. Some of these issues include:

- Extent of unsuitable soils,
- Global slope stability, and
- Acid-bearing soils.

ECS will work with the Design Team to assist the Contractor in developing an excavation and earthwork management plan. Essential recommendations for design will be based on long-term performance and risk. Critical design elements that are affected by these major geotechnical risks include:

- Bridge foundations
- Retaining walls/sound walls
- Cut and fill slopes
- Protection of existing structures and slopes
- Pavements
- Culverts, drainage structures, and stormwater management facilities

Perform Supplemental Geotechnical Investigations. As noted above, some additional borings and laboratory testing will be required, notably at locations of critical geotechnical analyses including:

- Route 630 bridge over I-95
- Retaining walls ranging from Sta. 2898+00 to 3090+50
- Ramp and bridge approach side slopes

The laboratory testing will be primarily focused on strength and consolidation properties of soils located in slopes and/or beneath slopes and major structures. ECS and its drilling subcontractors have substantial experience drilling in difficult settings requiring special equipment, traffic control, utility avoidance, and short time schedules. Examples include: I-495 Express Lanes, Charlottesville Bypass, Route 29 Solutions, and I-64 Widening in Short Pump, VA. Each of these projects had similar constraints as anticipated for this Project.

Staff the Project with Experienced Personnel. Success depends on using qualified, experienced personnel. Geologists assigned to monitoring the field data collection will be personnel that are local to the region and have worked directly with VDOT personnel from the Fredericksburg District Office. ECS has developed a field manual for guiding its personnel in conducting field investigations for VDOT that was created based on Chapter 3 of VDOT's Manual of Instruction. The engineering staff for the analysis and development of design and construction recommendations will include personnel experienced with VDOT roadway and bridge projects. Overall Quality Assurance for geotechnical engineering services will be provided by Mr. Randy Wirt, P.E, who has over 17 years of transportation experience in the Commonwealth. This experience includes 150 plus bridge and interchange projects in Virginia.

Design Liaison Support. To ensure that all geotechnical design recommendations are implemented during construction, the LANE Team has specifically tasked ECS to serve as the Geotechnical Engineer (GE) and QC lab to review the geotechnical testing and inspection program. The GE will provide requisite inspections/certifications as stipulated by the VDOT approved QA/QC plan and the VDOT QA/QC manual, will collaborate with the CM, RCE, and QAM. He will ensure that all work progresses only after quality certification/assurance checks have been completed, logged, and accepted by the QAM.

Geotechnical Risks and Challenges

We identified the following geotechnical risks and challenges during the qualifications portion of this pursuit. Based on our understanding of the geologic setting for the Project, review of the additional information provided by VDOT as well as other available soils and geological information for this area, particularly Potomac clay shear strength data, and the potential impacts to quality and schedule, we reaffirm these risks as critical project elements:

- Unsuitable subgrade soils
- Global stability of cut and fill slopes with Potomac clay
- Acid-bearing soils in planned cuts and fills.

Our proven risk mitigation approach is to identify potential risks early, develop a mitigation action plan, and communicate/ implement the action plan with all appropriate parties.

The recognition and unabated mitigation of these geotechnical risks could impact the overall schedule and adversely affect the traveling public due to increases in construction truck traffic. Our proven risk mitigation approach is to identify potential risks early, develop a mitigation action plan, and communicate / implement the action plan with all appropriate parties. To ensure proper safeguards are taken and the mitigation strategy results in a quality product, significant design and construction coordination is required between the GE, RCE, CM, Construction QC Manager, and the QAM. The GE will provide the appropriate expertise and oversight to ensure the geotechnical risk is mitigated.

Unsuitable Subgrade Soils. Based on review of the provided GDRs, the near surface soils consisting of coarse-grained soils (SC, SM, and SP) are generally suitable subgrade materials. Lean clays (CL) with appreciable amounts of sand and lower plasticity also have the potential to be suitable subgrade material. The majority of

the CBR tests performed to date and included in the GDRs indicate suitable subgrade soils. We anticipate that low CBR soils and high plasticity soils (CH/MH) will be the major unsuitable subgrade conditions encountered. Together, these potential unsuitable soils could account for 20 to 30% of the widened areas. Some of the suitable types of subgrade soils exhibit very high natural moisture contents; therefore, depending on the time of year, drying through natural and/or chemical processes may be implemented. The risk of potential unsuitable soils may be mitigated using one or a combination of the following methods:

- Undercut and replace the unsuitable soils,
- In-situ stabilization using admixtures, and/or
- Partial undercut and replacement combined with geotextiles.

Roadway	Total Length of Potential Unsuitable Materials (Undercut)
Route 630 Widening	1500 LF (700 LF)
Route 630 DDI	1775 LF (1418 LF)
Ramp A	300 LF (125 LF)
Ramp B	0 LF (0 LF)
Ramp C	325 LF (325 LF)
Ramp D	882 LF (727 LF)
Wyche Road	396 LF (147 LF)
Austin Ridge Dr.	440 LF (315 LF)
I-95 4th Lane	5914 LF (5435 LF)

Following the design level geotechnical investigation, locations where unsuitable soils are anticipated to be encountered will be delineated on the project drawings (both in areal extent and depth) and discussed with the CM and MOT Coordinator. Collectively the GE, CM and MOT Coordinator will develop an unsuitable soils remediation plan that considers constructability, safety, schedule, and cost. The final plan will be shared with the RCE and QAM to ensure its compliance with the project requirements and will show the extents of unsuitable soils, the cause for unsuitability, and availability of multiple viable subgrade treatment options provided to obtain maximum construction flexibility.

Global Stability of Cut and Fill Slopes. Where fill is required, existing slopes will be benched to allow the proposed slopes to be keyed-in and to avoid sliver fills. It is anticipated that fill slopes for the I-95 4th Lane Option will be constructed at slope angles up to 1H:1V. For slopes greater than 10 feet in height and/or steeper than 2H:1V, detailed global stability analyses will be performed using site specific soil strength parameters as obtained from recent and historical laboratory tests. The slopes will be evaluated and designed to maintain a minimum Factor of Safety of 1.5 per Table 3.7 in the VDOT Manual of Instruction Chapter 3. Particular attention and emphasis will be paid to the presence of Potomac Clays within cut and/or fill slopes. Slickensides are commonly present within Potomac Clays; therefore, residual strength parameters will be critical to the design and long-term stability of planned slopes. Residual strength values in this material have been documented in the range of 5 to 14 degrees. An average value of about 10 degrees was calculated.

Slickensides are commonly present within Potomac Clays; therefore, residual strength parameters will be critical to the design and long-term stability of planned slopes. Residual strength values in this material have been documented in the range of 5 to 14 degrees.

Slope stabilization measures will be further analyzed, but typical solutions available in this area include:

- Geogrid reinforcement,
- Stabilizing berms,
- In-situ ground improvements,
- Undercut,
- Rammed aggregate piers, and/or
- Deep foundations.

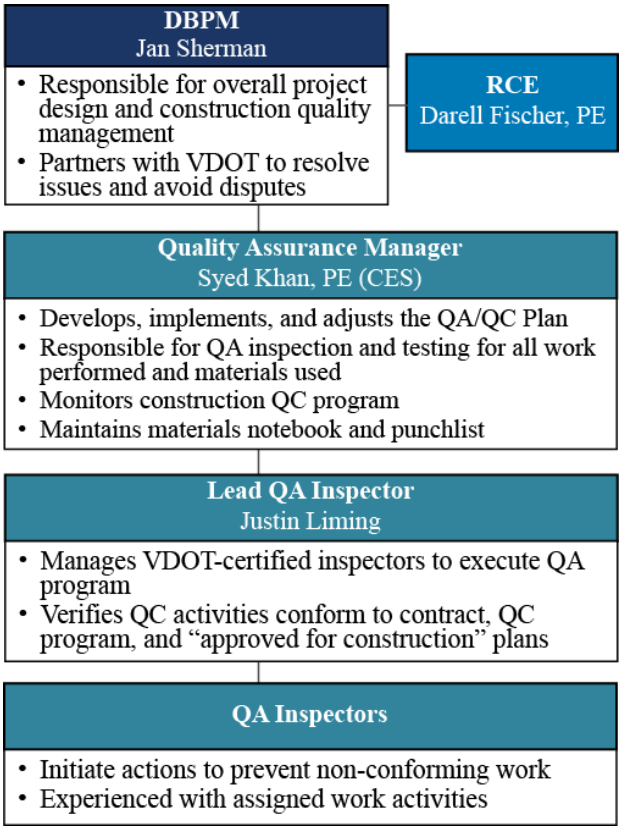
Acid-Bearing Soils. The provided GDRs indicate that acid-bearing soils (ABS) are present at the project site. Additional acid-base accounting tests will be performed to identify and delineate the presence of ABS in earthwork operations. The slopes will be evaluated and designed to maintain a minimum Factor of Safety of 1.5 per Table 3.7 in the VDOT Manual of Instruction Chapter 3. ABS can either be treated with lime or stabilized

using non-ABS soil cover to protect the ABS from water intrusion and leaching. The areas that tend to be most problematic are exposed cut slopes that generally exhibit low-chroma soils. Fill slopes tend to be less problematic as they are generally composed of a blend of soils that have neutralizing effects. It is our experience, based on recent projects in the region, that early identification and tabulation of likely problem areas are essential steps to determine specific cover and grading requirements to mitigate well-known problems with ABS soils.

4.4.4 Quality Assurance/Quality Control (QA/QC)

Design-Build is predicated on all of the design, construction, and oversight parties working together in a unified partnership. The QA/QC process is where this alliance is most apparent. The LANE Team comprised of design and construction staff, QC inspectors, and an independent QAM and QA unit, will work side-by-side with VDOT to ensure the project meets or exceeds the requirements established by the RFP. The QA/QC Plan which will be based on the VDOT's Minimum Requirements for QA and QC on Design-Build and PPTA Projects, January 2012 and will be a "living" document that is updated as elements or situations arise that require specificity not previously included. The QA/QC Plan will not only include roles, responsibilities, authorities, and organizational structure; it will provide for mechanisms to address and report nonconforming (NCR) workmanship, materials, and/or equipment and auditing and recovery plans (AR) to control and repair deficient items.

The LANE Team provides this sound approach that has been used by LANE to develop, execute, and update seven individual QA/QC plans for successful VDOT design-build projects. With each successful design-build project, LANE' quality, design, and construction teams have gained additional experience and lessons learned to improve the effectiveness of the next QA/QC Plan. The LANE Team will provide a well-structured, easily audited plan that minimizes the need to expand VDOT's contract administration efforts.



Approach to QA/QC. Our Team's approach to quality management is focused on continuous improvement and ensuring that all levels of the design and construction team obtain, understand, implement, monitor, and document quality procedures. The project QA/QC Plan will include:

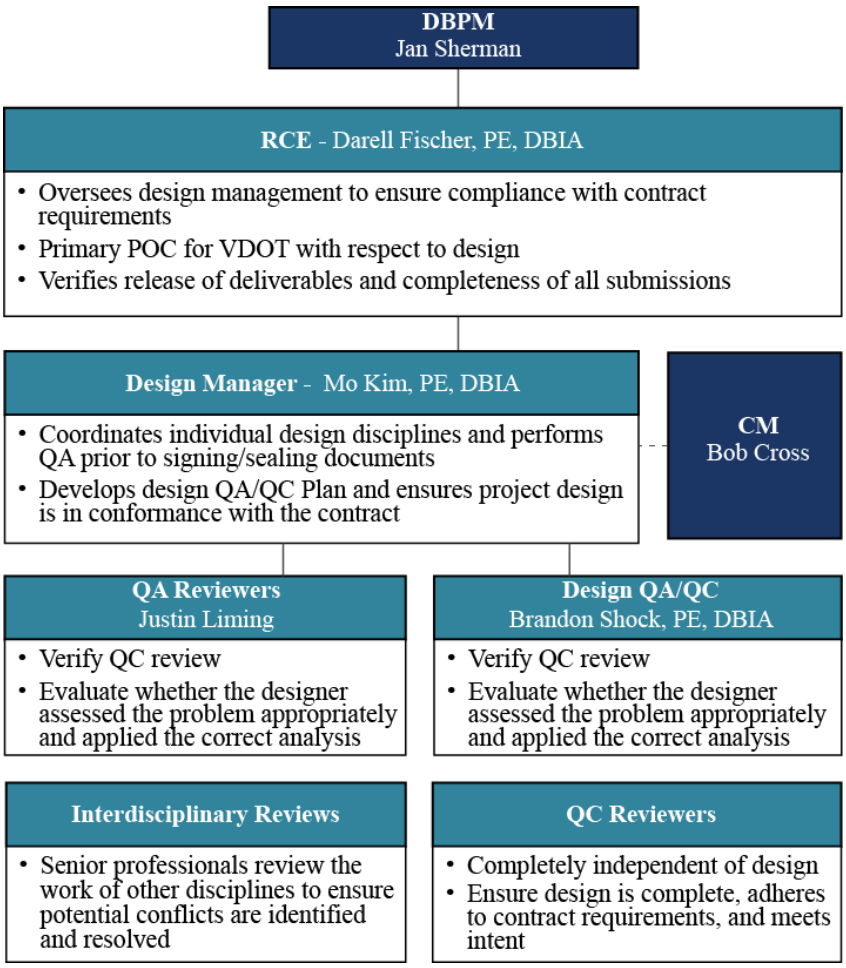
- Clear provisions for identifying, notifying, and tracking potential non-conforming work, materials, or equipment and administering a quality assurance auditing and nonconformance recovery plan (AR)
- Clear stipulation that the QAM does not report to production forces, has the authority to stop work, and will communicate daily with the CM / lead inspector based on daily monitoring of the QC program
- Clearly identify the roles and responsibilities of the RCE noting his control authority in making and approving engineering decisions during construction
- A design QA/QC plan which specifies cross-disciplinary and constructability reviews
- A construction QC Plan which requires qualified, VDOT certified, QC inspectors and uses checklists to document inspections

The LANE QA Team depicted above, overseen by the DBPM (with input from the RCE), and led by the QAM, will implement the Project's QA/QC plan to verify contract requirements are met; work and materials are performed in the manner for which they are intended; and records, materials notebook, and documentation are accurate and complete.

Design QA/QC. Our approach to design QA/QC is a team effort involving the Responsible Charge Engineer (RCE), Design Manager (DM), design leads, Construction Manager (CM), and the Design-Build Project Manager (DBPM). The Design QA/QC, overseen by the DBPM and RCE, will be led by the DM to provide quality designs and plans in accordance with VDOT's QA/QC Guide and minimize VDOT's administrative efforts by:

- Designing features that are safe and meet (or exceed) VDOT regulations and established criteria
- Conforming to the standards and reference documents in the RFP
- Designing elements that are constructible, durable, economical, and minimize future maintenance
- Meeting design schedule, budget, and construction staging requirements
- Providing an organized and indexed set of design calculations, criteria, and assumptions

To kick-off the design QA/QC process, the RCE, DM, lead discipline engineers, and Design QA Manager will establish the design criteria and checklists for each design element, then distribute to assigned staff engineers and sub-consultants. Design deliverables will be prepared under the lead discipline engineers and reviewed to ensure completeness and all necessary and appropriate construction requirements/details. The processes/procedures defined in the QA/QC Plan will be strictly enforced and thoroughly documented to minimize VDOT reviews. To ensure well-structured and easily audited documents, forms and certifications will be completed and electronically submitted with each design submittal to digitally track drawing review certifications, calculation review certifications, and release for deliverables.



Weekly design meetings, directed by the RCE and led by the DM, will include the Lead Engineers, CM, and other field engineers as needed. All plans will be reviewed by the CM and field engineers for constructability and means/methods.

VDOT and key stakeholders will be invited to participate in over-the-shoulder reviews to streamline the review process by citing preferences and clarifications.

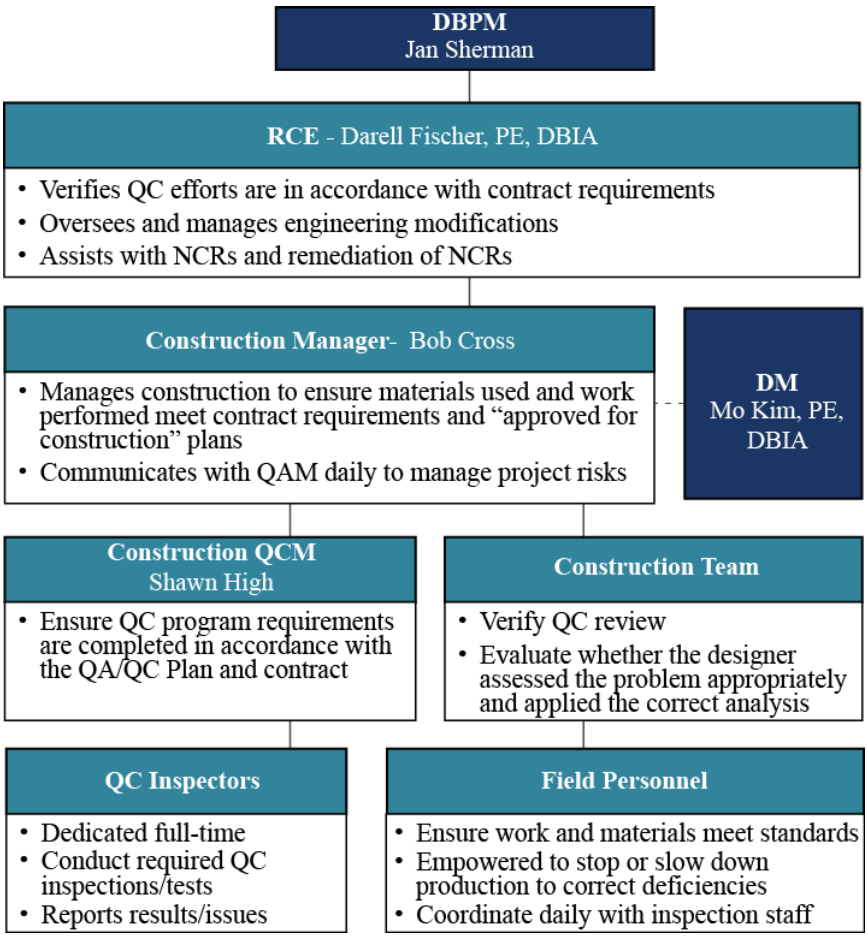
The QAM will certify that all QA/QC efforts are completed in accordance with the required procedures and the DM, RCE, and DBPM will sign-off on their acceptance. For final submissions, deliverables will be signed and sealed by discipline leads and accepted by the RCE prior to submitting to VDOT for acceptance.

Design changes during construction will be reviewed using the same process as the original design; however, the RCE will be directly involved and have control authority when making and approving these changes. Changes, such as field design changes and nonconformance evaluations, will be maintained in a database to track revisions and update the as-built documents.

Construction QA/QC.

Construction QA/QC is established in our Quality Management Plan (QMP) to provide clear and complete procedures for construction inspection, testing, and the oversight of the project and its processes. While VDOT will provide verification, our QMP will continue to reduce their involvement level by providing a streamlined process with readily available access to reports/documents, such as inspection forms and photos that we will quickly create, maintain, and submit thru the HCSS Heavy Job Project Management system. All team members, as well as the subcontractors and suppliers for the project, will be required to submit corresponding Quality Plans that are compliant with respect to our QMP. Any variance from the implemented standards will not be tolerated and as such, continuous audits will be performed to verify adherence and to deploy updates, betterments, and amendments as the project progresses.

Construction Quality Control (QC) - LANE is responsible for the QC during construction where it begins at the working level with LANE's QC inspectors. Management and leadership is provided by Shawn High in his role of Construction QC Manager and ultimately with Jan Sherman as the DBPM. All work will be in accordance with the QMP derived from LANE's in-house construction QC Plan, the requirements of the RFP and VDOT's Minimum Requirements for Quality Assurance and Quality Control on Design-Build and Public-Private Transportation Act Projects. The QC Program will make continuous assessments of all activities and when necessary make adjustments to methods or materials to achieve or exceed the required quality levels. Continuous verification of the QC program by the RCE will allow engineering decisions to be implemented responsibly, efficiently, and effectively throughout construction. Our QC personnel for this project will possess and maintain current VDOT certifications. This proven and strong QC program is self-contained with respect to operations, management and documentation thus requiring minimal oversight by VDOT's resources.



Construction Quality Assurance (QA) - Led by Quality Assurance Manager (QAM), Syed Khan, PE, (CES), the Quality Assurance program operates independently from the construction QC program and has oversight/verification responsibilities for all QC testing and monitoring activities. The QAM provides confirmation that all RFP requirements, specifications and special provisions are being met or exceeded. The independent role of the QAM provides direct information to the DBPM and VDOT outside of the Construction QC chain of command. Additionally, the QA operation will monitor and audit QC procedures and activities to verify proper performance. A high level of authority is given the QAM to make certain that the Construction QA function does its job and as such minimizes the requirement of resources and involvement by VDOT. The QAM is authorized to stop any and all work on this project if quality measures and controls are not being properly maintained.

QA/QC Approach to the Unique Design Element: Maintenance of Traffic

Public opinion of a construction project is first formed based on maintenance of traffic (MOT) impacts. A successful MOT plan will leave a positive lasting impression on travelers and result in efficient execution of the construction. A strong MOT plan begins with a commitment to the QA/QC process in order to reap the benefits that it provides during construction. Our weekly design meetings will serve as the opportunity to integrate both design and construction personnel in the establishment of the MOT schemes. Integration of construction personnel is crucial to match the means and methods of construction with the design criteria, design manuals, and traffic needs.

As this integrated design progresses and before submitting to the QC Engineers for review, the MOT will be reviewed by the Design Manager and other discipline leads for an inter-disciplinary review. This review will focus beyond the criteria and ensure that each discipline's elements of design are integrated for each phase of the MOT. Critical for these reviews will be the development of cross-sections for each phase to ensure drainage, utilities, and traffic control elements are properly accounted for and coordinated. For instance, the Hydraulics/SWM lead will ensure that both permanent and temporary drainage features are appropriately integrated. However, perhaps the most important inter-disciplinary review is that of the construction staff who will ensure that there is safe access into the work area for construction staff and equipment, and material deliveries. Furthermore, the construction staff will ensure that the work area defined has adequate laydown area for storage of equipment and materials and maneuverability of equipment and personnel.

Once these reviews are complete and the design has been revised to reflect all discipline markups, the plans will be submitted to the QC Engineers for review. Given that the QC Engineers have not been involved in the development of the design, their perspective is fresh and uninfluenced by the day to day involvement of the Project. Their review will focus on meeting and exceeding the design criteria for the Project and ensuring that safety related to foreseeable scenarios (i.e. work area access, lane shifts, clear zone protection, etc.) has been addressed and meets expectations. Comments will be generated and submitted back to the Design Manager and other discipline leads for consideration/implementation.

A revised set of plans with responses to QC comments, where needed, will be provided to the QA Engineer for final inspection. This review ensures that comments have been incorporated or adequately addressed and that the process, procedures, and criteria have been followed.

Before releasing the plans for VDOT review, construction staff will perform one last review. Focus will be on constructability, feasibility, practicality, efficiency, and most importantly safety (of the workers and traveling public). Once this review and appropriate changes are complete, the Release for Deliverable form will be executed starting with the QA Engineer and progressing through the DM, QAM, RCE, and finally the DBPM before being submitted to VDOT as a complete package containing the plans, calculations, the form, and a statement that the QA/QC Plan has been followed in the implementation and execution of the design.

QA/QC Approach to the Unique Construction Project Element: Maintenance of Traffic

As stated above in the design portion, in our view, the most unique aspect of this project relates to how the high volumes of traffic on Route 630 will be phased and shifted in order to maintain a high level of safety for the traveling public while at the same time executing acceptable construction production levels to meet schedule. There will be multiple phases of less-than full width paving on Route 630 with temporary pavements to allow shifting of traffic to allow for partial construction on the opposite side of the road. With the high volumes of traffic that this corridor experiences, we anticipate implementing an increased QC effort to ensure compliance in several areas:

- TMP plan meets all VDOT work zone safety requirements
- A proper and effective public outreach plan has been implemented on a daily basis ensure all temporary and permanent "sliver" pavements provide a safe travel corridor
- MOT devices are properly set up, maintained and do not pose a hazard
- Access to all residences and businesses are maintained

Expanding on the QA/QC summary above, construction (much like design) has its own QA/QC elements. Within the LANE Team's organization, the QC begins with LANE's QC inspectors but overall Construction QC responsibility resides with the Design-Build Project Manager. All work will be completed in accordance with the construction portion of the QMP derived from LANE's in-house construction QC Plan and our Team will continually assess construction quality and when necessary make adjustments to phasing, methods, materials or temporary pavements to achieve or exceed the required quality levels.

Up-to-date VDOT certifications will be in place with our QC personnel for this project. This proven and strong QC program is self-contained thus requiring little to no effort of VDOT's resources. All work will be in accordance with the construction portion of the QMP derived from LANE's in-house construction QC Plan.

Construction QA is an independent operation. Led by the QAM, this effort will have oversight of the QC results to confirm all outcomes conform to the specifications, special provisions, contract and RFC plans. The independent functions of the QAM provide direct information to the Design-Build Project Manager outside of the Construction QC chain of command. Additionally, the QA operation will monitor and audit QC procedures and activities to verify proper performance. A high level of authority is given the QAM to insure that the Construction QA function does its job and as such minimizes the requirement of resources and involvement by VDOT.

The integration between design and construction is clearly identified in the narratives above. However, an added level of integration to ensure that decisions are made immediately and with authority is the inclusion of the RCE. The RCE will continually verify the design to ensure it is consistent with construction approach and the construction to ensure it is implementing the design intent. As situations are encountered where deviations from the design are needed, the RCE will have the authority to ensure that the proper engineering decision is made to maintain compliance with design requirements.

4.5 CONSTRUCTION OF THE PROJECT

4.5 | CONSTRUCTION OF THE PROJECT

The I-95 / Route 630 Reconstruction and Widening is a complex infrastructure project intended to better serve the fast growing community of Stafford County, Virginia. The Project construction scope includes the widening of Route 630 for approximately 2 miles, the relocation of I-95 / Route 630 interchange, the construction of a new and expanded Commuter Parking Lot, and the widening of I-95 4th Lane (Option 1). The LANE Team has approximately 46 months to design and construct the Work and achieve Interim Milestone and Final Completion dates no later than December 01, 2017 (Option 1) and July 31, 2020, respectively. This Project requires a heightened degree of coordination and effective communication between design, construction and local stakeholders. LANE is currently constructing two other DDI's for VDOT, the nearly complete I-581/Valley View DDI in Roanoke and the LANE/RDA DDI at I-66/Route 15 in Northern Virginia. The LANE Team will employ the same core management and operational personnel to this important project in order to capitalize on their valuable DDI design and construction experience so as to ensure a seamless & efficient DB process.

General Sequence of Construction

I-95/Route 630 Interchange. In **Phase 1** we will construct the new I-95 NB off-ramp, relocate Wyche Road and build the new Park-n-Ride lot. In **Phase 1A**, the second Park-n-Ride lot and the new alignment connector to Route 1 will be constructed. **Phase 2** consists of constructing the SB I-95 on-ramp and **Phase 3** consists of building both new bridges over I-95 as well as the approaches and roadways for the southernmost bridge. In **Phase 4** we will construct the re-aligned Austin Ridge Rd., the I-95 SB off ramp and a portion of the Route 630 widening. **Phase 5** consists of building the I-95 NB on-ramp and connection/approach to the new bridge and the completion of Route 630 widening.

Route 630 Widening. This portion of the project will be completed in four phases. During **Phase 1**, traffic will remain on the existing alignment while temporary pavement is placed in select locations to the outside, discussed in more detail below in 4.5.1 "Sequence of Construction". Some permanent pavement will also be placed in phase one. During Phase 2, there will be minor traffic shifts in several locations while the construction of the permanent EB lanes are constructed for the entire length. In **Phase 3**, traffic is shifts to the newly constructed pavement while the permanent WB lanes are constructed. **Phase 4** consists of constructing the medians and the Cedar Lane connection.

I-95 4th Lane (Option 1). If VDOT opts to exercise the I-95 4th Lane (Option 1), LANE will construct this in two main phases which are described in greater detail in section 4.5.1 below. We begin in Phase 1 by placing temporary concrete barrier on the median shoulder to allow for construction of the new full strength shoulder, slopes and guardrail. The barrier will then be jumped to the next work area. We currently plan to have up to four work zones, "jumping" the barrier in +/- 1 mile sections. In **Phase 2** we will construct the new travel lane (4th Lane) at night time behind barrels with a lane closure by milling and overlaying the existing shoulder.

4.5.1 Sequence of Construction (SOC)

The RFP Part 2 identifies three major construction areas for the Project: I-95/Route 630 Interchange, Route 630 Widening, and I-95 4th Lane (Option 1). All three areas have different sequencing constraints, MOT requirements, ROW dependencies, and utility relocation requirements:

I-95/Route 630 Interchange. As discussed above, this area is sequenced in five main phases with one sub-phase.

- **Phase 1** - The major constraint in this area is ensuring the new Park-n-Ride lot is completed for commuters to utilize which will then allow for the removal of the existing lot. In order to build the new Park-n-Ride lot in its entirety, Wyche Rd. must first be re-routed to its final location. We have

explored the possibility of constructing a partial lot leaving Wyche Rd. in its current location and although the required number of spaces could be accommodated in this manner, we concluded the operational conditions of the lot and/or the safety of users could potentially be compromised. Therefore, our Team will first re-locate Wyche Rd. and then construct the fully functional lot in its entirety. In addition, the NB I-95 off ramp will be constructed along with connections to Wyche Rd. which in turn provides access to EB & WB Courthouse Rd.

- **Phase 1A** – This phase consists of constructing the small commuter parking lot, newly aligned Rt-630 from Wyche Road intersection to Route 1, and the Route 1 widening and signalization work there. This Work can proceed concurrently for the most part with Phase 1, but its completion is not required for Phase 2 construction. No road closures are required for the commuter parking lot expansion or the Rt-630 roadway work. However, lane-closures will be required for the Route 1 work. Also, in this phase, the I-95 sound wall will be constructed, which will not impact traffic.
- **Phase 2** – The work begins by relocating the commuter parking lot traffic to its new location and closing the existing lot. The Project will then construct the new I-95 SB on-ramp and relocated Route 630 from existing Route 630 to the new I-95 SB on-ramp. We will then partially demolish the existing parking lot and construct temporary connector(s) between the existing Route 630 and the newly constructed Route 630 roadways. Traffic changes for Phase 2 construction consist solely of switching commuter parking traffic from the existing lot to the new lot.
- **Phase 3** – In Phase 3, we will construct both bridges over I-95 with the southernmost bridge configured to accommodate two-way traffic in a temporary condition. NB I-95 to WB Route 630 and WB Route 630 to SB I-95 temporary ramp connectors will be built as well as approaches to the southernmost bridge which will allow for a through movement of Courthouse Rd. across the southernmost bridge from Route 1 to the vicinity of Austin Ridge Rd. A temporary signal and minor temporary pavement will be needed at the tie-in to Courthouse Rd. Traffic from the new I-95 NB off-ramp will use the newly constructed Route 630 onto Wyche Road, taking them back to the existing Route 630. The Project will shift traffic from the existing I-95 SB on-ramp and NB off-ramp roadways to/from the newly constructed alignments. The construction of roadway connecting to the EB bridge will be coordinated with the bridge construction. The Project will also connect two temporary connectors: I-95 NB off-ramp traffic left-turn onto Route 630 WB and Route 630 WB traffic left-turn onto I-95 SB. Both connectors are necessary for Phase 5 traffic patterns. The SUP will be located on the north side of the southernmost bridge (WB final configuration). This will allow for pedestrian and bicycles to have access to the new Park-n-Ride lot earlier in the construction period.
- **Phase 4** – This Phase will overlap and be partially concurrent with the Phase 3 work. Phase 4 consists of constructing the I-95 SB off ramp, which will require a small amount of temporary pavement and/or wire wall and a slight traffic shift in order to maintain traffic on the existing exit ramp. Phase 4 also consists of completion of Austin Ridge Rd and the remaining Route 630 roadway outside of the existing alignment. We will complete the approach to the northernmost bridge (west side only), temporary connector for I-95 SB off-ramp, left-turn onto Route 630 EB and a temporary NB on ramp to I-95 will be constructed off of the newly built cul-de-sac on Courthouse Rd.
- **Phase 5** – In this phase we will construct the remaining 2 segments of Route 630 roadway- (WB traffic east of the bridges & EB traffic west of the bridges), and the permanent I-95 NB on-ramp. In order to perform the work, existing traffic on Route 630 will be shifted to the newly constructed roadway as follows:
    i. Route 630 through traffic will be transferred onto the new roadway and will utilize the southern-most (WB) bridge over I-95.
    ii. Route 630 EB traffic to I-95 NB will turn left onto the newly constructed Wyche Road, then left again onto old Route 630, and finally onto the temporary I-95 NB on-ramp.
    iii. Route630 WB traffic to I-95 NB has two options: either take the old Route 630 from Route 1 to the temporary on-ramp or, using the new Route 630 alignment from Rt. 1, take a right-turn onto

new Wyche Road, then left onto old Route 630, and finally onto the temporary I-95 NB on-ramp.

iv. Route 630 EB traffic to I-95 SB will utilize the newly constructed I-95 SB on-ramp (Phase 2) to access I-95 SB.

v. Route 630 WB traffic to I-95 SB will utilize temporary pavement to cross over onto the newly constructed I-95 SB on-ramp (Phase 3) to access I-95 SB.

vi. I-95 SB off-ramp traffic to Route 630 WB will utilize the newly constructed I-95 SB off-ramp (Phase 4).

vii. I-95 SB off-ramp traffic to Route 630 EB will utilize the temporary connector to a signalized intersection and turn left onto RT.-630EB across the southern most bridge..

viii. I-95 NB off-ramp traffic to Route 630 EB will utilize the newly constructed I-95 NB off-ramp (Phase 1).

ix. I-95 NB off-ramp traffic to Route630 WB will utilize the temporary connector (Phase 3), and left-turn onto Route 630 WB.

Upon the completion of Phase 5 construction, traffic will be switched onto its permanent alignment and the DDI will be brought on-line. This will allow for a safer traffic switch condition for the general public.

Route 630 Widening. The LANE Team will construct the Route 630 Widening Segments in four phases. The scope of work includes widening from Station 100+00 to 208+89, the realignment of Ramath Church Road, Winding Creek Road, Rockdale Rd, and Kelsey Road. It also includes the reconstruction of six other intersections (Raid Road, Snowbird Lane, Woodcutter Road, Liberty Knolls Drive, Rolling Wood Lane and Mine Rd). Throughout construction, the LANE team will maintain access to all local businesses, residential communities, and private entrances at all times, while maintaining pedestrian access within 1000' of Colonial High School.

This phase is further detailed below;

- **Phase 1** - During this Phase, traffic will run on the existing alignment. We will build temporary pavement outside of the WB lanes on Route 630 from Sta. 189+00 to 193+00 and outside of the EB lanes on Route 630 from Sta. 206+00 to 208+00. At the same time, we will construct permanent and temporary pavement on the outside of WB Route 630 from Sta. 157+00 to 173+50. Since pedestrian access must be open at all times within 1,000 feet of the high school, the sidewalk in front of the school will be built prior to removing the existing sidewalk. This Phase will also construct temporary pavement on the outside of WB Route 630 from approximately Sta. 124+00 to 145+00.
- **Phase 2** - During this phase traffic will be running on the existing alignment except for the locations where pavement was constructed in phase 1 that requires a shift in the traffic. Work in this phase includes the construction of the eastbound lanes for the entire length of the project. Select intersection work will also be included as well as drainage, utilities, electrical, and signalization work outside of the existing roadway alignment. The travelling public will continue to utilize the existing Route 630 roadway and the temporary roadway from Phase 1 while new construction occurs. For the Route 630 intersections, the scope of construction is:
    - LANE will construct Woodcutter Road and Snowbird Lane intersections in 2 stages. We will partially construct the new intersection in Stage 1, off-set traffic through the new intersection, and construct the remainder in Stage 2. Temporary pavement will be installed as required.
    - The travelling public will continue to utilize the existing intersections of Ramath Church Road, Winding Creek Road, and Kelsey Road while construction of their re-alignments are completed. Traffic will then be switched onto the new alignment and the existing roadway will be demolished.
    - The Reid Road and Rolling Wood Lane intersections will be constructed with lane closures.

  The Project will also construct two temporary roadways to connect the newly constructed roadways above for Phase 3 traffic.

- **Phase 3** - During this phase two-way traffic will be running on the newly constructed eastbound lanes and we will continue to construct the proposed Route 630 roadway and intersections including: drainage, utilities, electrical, and signalization work over the existing roadway alignment. We will then construct the re-alignment of Winding Creek Road while traffic continues to utilize the existing intersection. Upon completion of roadway re-alignment, traffic will be moved back onto the new alignment. The intersection construction includes:
    - Constructing the remainder of Rockdale Road intersection in two stages similar to Snowbird Lane.
    - Constructing the Liberty Knolls Drive intersection under lane closures.
    - Construct Mine Road in two stages similar to Woodcutter Road
    - For the two entrances to Colonial High School, the LANE team will construct one entrance at a time during the school summer off-season, this will minimize impacts to students and the traveling public, increase safety/minimize disruption to school traffic, and eliminate the requirement of temporary access.
- **Phase 4** - Traffic will be in the final alignment, demo temporary pavement from previous phases, construct the remaining Route 630 roadway, complete the signalization work, and install the proposed permanent medians. Final paving and pavement markings will then be installed.

I-95 4th Lane (Option 1).

- **Phase 1** – We will set temporary concrete barrier on the shoulder the proper distance off of travel way in approximately 1 mile segments and will jump the barrier approximately four times. The barrier allows a safe work zone for construction and inspection personnel as well as material deliveries and ingress/egress to the work area. We will then saw-cut a portion of the existing shoulder off and dispose of. The new full strength 12' wide shoulder will then be constructed. New guardrail and any slope work needed will be completed.
- **Phase 2** – After the barrier has jumped to the next work area, we will construct the new travel lane (4th Lane) at night time behind barrels with a lane closure by milling and overlaying the existing shoulder.

The LANE Team will design and construct each of these three work areas "independent" of the others, with each area having its own sequencing and phasing, and will essentially progress independent of the others. This approach allows flexibility throughout the design and construction phases while also mediating some of the schedule delay risks.

Public Safety Considerations

In order to have minimal impact on the public, the project will streamline all construction activities to progress in a logical and uninterrupted sequence.

First, we will coordinate a partnering-type meeting with all project stakeholders immediately upon Notice to Proceed.

Second, we will meet one-on-one with VDOT's assigned team members. This will be done in order to establish clear lines of communication, educate each individual on their responsibilities as part of the team, and establish the design/construction schedule for the project.

Third, the Engineer of Record will take the information gained in the coordination meetings and develop final drawings.

Fourth, raise the general public's awareness of the Project. To achieve this, the LANE Team will implement the public involvement and relations program as defined in the RFP Part 2 Section 2.11 and hold "Pardon Our Dust" meetings for the general public, the public safety officials, and other stakeholders prior to the start of the major phases of construction.

Measures to Limit Disruptions to Vehicular and Pedestrian Traffic

- Vehicular and Pedestrian Traffic through Segment 1 and 2 – The LANE Team will strictly comply with RFP Part 2 Section 2.10.3 for lane and road closure restrictions. In all phases of construction, lane capacity of the Route 630 and I-95 ramp accesses will be equivalent to existing conditions. Pedestrian traffic will be maintained where required via sidewalk (new, temporary or existing) or SUP.
- The LANE Team will utilize multi-stage construction in Route 630 intersections as the preferred construction approach over lane-closures to minimize disruptions to vehicular traffic.
- Access to all businesses, residential communities, and private entrances – The LANE Team will utilize either temporary or permanent access to allow uninterrupted access to all businesses, residential, and private entrances.
- I-95 Traffic – With the exception of work zone set-up and other incidental work (nighttime lane closure), the I-95 traffic will not be disrupted by the construction of the fourth lane or the sound wall.
- Prior to the start of construction within the 1000 LF limit of the high school (Segment 2, Phase 3), the Project will construct the new sidewalk to avoid disruption of pedestrian access to the facility.
- Construction signage is extremely important. Off ramps- Roadway & Lane Closures signs, Detours, etc. will be maintained by a dedicated MOT crew when in place.

4.5.2 Transportation Management Plan (TMP)

The LANE Team will develop and implement the Transportation Management Plan (TMP) in accordance with VDOT's Requirements in IIM-241/TED-351 and incorporate all the strategies outlined for a Type C, Category V project for I-95 and Type B, Category IV for all other roadways. The LANE Team recognizes that the I-95 corridor is one of the most heavily traveled interstate systems in the region and that Route 630 is also an important link in the area's roadway network. Additionally, we recognize the importance and necessity of maintaining traffic with the least amount of disruption to the area. Members (design and construction) of the LANE Team have demonstrated their expertise in both developing and implementing effective TMPs for numerous projects including the I-495 Express Lanes, I-95 Express Lanes, and the Interstate 66/Route 15 DDI currently under construction. The LANE Team understands the dynamics of maintaining traffic along a heavily traveled corridor, particularly for I-95. The LANE Team's TMP encompasses the following critical parts:

- Temporary Traffic Control (TTC)
- Public Communications Plan
- Incident Management Plan

Temporary Traffic Control (TTC)

There will be several phases for the Project's TTC plan to include: roadway widening, two bridges, extensive pavement replacement, and pavement marking/signage to provide for an adequate tie to existing conditions north and south along I-95, as well as, east and west on Route 630. In general, the types of TTC applications fall within several categories: lane closures, shoulder closures, ramp closures, temporary detours, and total roadway closures. Additionally, detailed traffic control designs will be provided for all construction access points to ensure the safety of the traveling public and workers during all phases of construction.

The LANE Team's TMP will utilize various temporary traffic control applications over the course of the project (discussed below).

Proposed Lane or Ramp Closures

Lane Closures. Closures will generally be implemented for the following proposed elements: installing concrete barrier to provide separation/protection for the construction work zone, installing project signage, installing ITS infrastructure, installing foundations for overhead signs and bridge structure components that will span the roadway, and increasing the space between the travel way and the work zone activities when the work zone does not have a barrier present. In all cases, the clear zone for the work area will be met per the VWAPM.

- Within the project's limits, VWAPM TTC 16.0 and/or TTC 17.0 will be implemented to provide a work zone area as needed and to install the concrete barrier to provide additional separation between the travel way and construction work zone for all phases of the project.
- All lane closures will be implemented during allowable closure timeframes listed in RFP Section 2.10.3.

Shoulder Closures. These closures will generally consist of temporarily closing the shoulder. A majority of the project's roadway/ drainage improvements, bridge and other structural components will be constructed within the work zone separated by a shoulder closure.

- The LANE Team will implement VWAPM TTC-4.0 and/or TTC-6.0 as applicable for all shoulder closures to provide for a safe separation for the construction work zone.
- For the I-95 On-Ramp and Off-Ramp at Route 630, when the construction work zone requires entering into the travelway's clear zone, the LANE Team will implement VWAPM TTC 37.0, 38.0 and/or 39.0 as appropriate during non-peak hours as permitted by the RFP.

Temporary Ramp Closures. As part of the LANE Team's TMP design, only limited closures, when no practical alternative exists, will be considered. Should a ramp closure be deemed necessary to ensure safety of the traveling public, we will seek approval from VDOT outlining detours for each instance. The LANE Team's TMP Design approach will be such that ramp closures do not extend more than one overnight shift, the ramps will be re-opened to traffic the following morning and may be re-implemented the next available overnight shift to avoid major disruption to traffic.

- The LANE Team will design temporary/short term detours, compliant with VWAPM TTC 46.0, for each occurrence in which there is a need to close an interchange's ramp access, noting that the LANE Team will use the optional PCMS to further advise the public as appropriate. For exit ramps that are closed, the LANE Team will direct travelers to the preceding or acceding interchanges, guiding travelers to desired destinations from the opposite direction of travel along I-95.

Total Roadway Closures. This project will require roadway closures to complete bridge construction and overhead signage work. The LANE Team will follow the mandated time-limit requirements (20-minute maximum per RFP Section 2.10.3) and will follow the TTC applications outlined in the VWAPM. In all instances of roadway closures, the LANE Team will provide the required advance notification outlined by the RFP and communicate the TMP implementation plans to all stakeholders (including the traveling public).

Temporary Detours. This project (outside of the temporary detours mentioned for the temporary ramp closures) does not anticipate the need for temporary detours. If such circumstances arise, particularly due to unanticipated work zone incidents, the LANE Team is more than able to adapt and provide for a temporary detour with accompanying work zone traffic impact analysis that complies with Section 2.10.3's requirements for impacts on adjacent side-streets and intersections.

Time of Day Restrictions. For all roadway, lane, and ramp closures, the LANE Team will follow the time-of-day restrictions outlined in Section 2.10.3 of the RFP.

Flagging Operations. Flagging Operations will only be permitted as allowed by the VWAPM and all flaggers will have the required certifications.

Minimum Lane Widths. All lanes on I-95 as part of the TMP will be a minimum 12 feet in width, and all temporary traffic control devices (TCD) will be a minimum of two feet from the travelway.

For all other roadways within the project limits, the existing roadway widths will be a maintained, and all temporary TCD will be a minimum of one foot away from the travelway.

Work Zone Speed Reductions Required. The LANE Team does not anticipate the need for any speed reduction requests.

Major Project Stakeholders (Impacts During Construction of Base Scope and Option 1)

Public Communications Plan. A Public Communications Plan developed with the project's TMP will be incorporated into the LANE Team's overall Public Involvement Plan. Through this plan, the LANE Team will

maintain multiple channels of communication with the traveling public, mass transit systems, local jurisdiction fire and rescue, utilities, local residents and businesses, and other stakeholders. The major stakeholders include, but are not limited to: Stafford County, VDOT's TOC, project managers of adjacent VDOT projects, and the traveling public. As required by the RFP, the LANE Team has designated Mr. Reed, the Team's Public Relations Manager, to be the project's liaison/Point of Contact between VDOT and the project's stakeholders to help provide notification to the affected property owners and traveling public. These open channels of communication will be used throughout the life of the project to disseminate project information, including TMP information such: lane closures, traffic pattern changes, the implementation of ramp closures, and, if necessary, temporary detours. The LANE Team will provide the required weekly updates to VDOT's Fredericksburg District Communications Office to enable information to be posted on VDOT's website for anyone who may be seeking project updates. In addition to ongoing communication, the LANE Team will hold coordination meetings with VDOT and any other stakeholders to provide critical information for continuity of operations along I-95 and Route 630.

The LANE Team will provide advanced notification of construction activities to VDOT and the public to minimize the disruption to travelers through the project area. We will address this with proper signage and notification, as stated above, but it will require some exposure to the traffic pattern to complete the education and to normalize traffic movement. As required, all steps will be followed to schedule significant construction events and activities for off-peak times. Likewise, strict attention will be paid to construction activities being normalized in the appropriate flow direction during peak hours.

Incident Management Plan. The LANE Team will coordinate with VDOT to develop protocols for the implementation of incident management. We will develop the necessary list of contacts for any emergency action required and will develop plans to address incident scenarios. Such plans will include the utilization of strategically-placed variable message signs to assist motorists in dealing with the incident. These plans may also include:

- Recommended alternative routes and procedures for emergency lane closures or hazard protection
- Recommended signal timing changes at affected intersections
- Possible turn movement restrictions, by the installation of cones or drums to be placed in addition to what may be reflected in the plan.

It is also appropriate to consider the effect of an incident outside the project boundary. The LANE Team will develop protocols and procedures for various incidents that could affect travel patterns in and around the project area. LANE will also have tools to immediately deploy for incident management including: variable message sign boards, signs, and channelizing devices. The LANE Team will keep this, along with a list of emergency contacts, onsite. This approach will allow our project team to be prepared and react quickly to any incident affecting travel through/around the project.

Recently, LANE was responsible for maintaining traffic on two mega construction projects on the region's most congested commuter routes, the I-495 Express Lanes and I-95 Express Lanes construction. The lessons learned on these projects in moving high volumes of traffic through extremely tight construction limits will be integrated as part of our overall TMP approach.

4.6 DISADVANTAGED BUSINESS ENTERPRISES (DBE)/LOCAL HIRING PROGRAM

4.6 | DISADVANTAGED BUSINESS ENTERPRISES (DBE)

The LANE Team embraces and supports VDOT's DBE program and is committed to meeting or exceeding the 15% goal for the design and construction of this project. We will take all necessary and reasonable steps to provide SWaM firms with the maximum opportunity to compete for and perform services on this contract. Futhermore, the LANE Team is committed to development of a Hiring Development Plan and to achieve a minimum 75% for local worker and/or veteran new hire participation in accordance with Attachment 11.5.6 (VDOT Special Provision For Local Hiring Program For Design-Build Projects).

DBE Subconsultants. The LANE Team includes the following highly qualified DBE subconsultants: DMY (Geotechnical) and CES (Quality Assurance Management).

Subcontracting Plan. LANE implements a subcontracting plan on all of our projects to offer the maximum opportunity for DBE and SWaM subcontractors to qualify for and provide services. The first step is source selection. LANE researches the capabilities of a wide range of subcontractors. This includes an evaluation of past performance, socioeconomic status, financial condition, current availability, and safety performance. Based on this research, a list of potential subcontractors is developed. The second step is the outcome of the proposal process. Once a solicitation for pricing has been set, potential subcontractors have the opportunity to respond with their site specific worker protection program and best price proposals. LANE reviews the price proposal to determine price reasonableness. The final selection of the subcontractor is made by combining the results of the safety and price evaluations to determine the proposal that provides the best value to VDOT and LANE.

Safety is an integral part of any scope of work performed on this project. Accordingly, a subcontractor's safety approach is a key component of our evaluation process. All subcontractors must meet our stringent safety requirements to be a member of the Team.

LANE also conducts a technical evaluation of the qualifications presented in the subcontractor's proposal, as well as an independent review of their past performance. References provided with their price proposal are contacted and questioned about the subcontractor's past performance. The topics covered include safety, schedule and cost compliance, and quality of work. If the potential subcontractor has worked for LANE before, its past performance and safety record for LANE will be evaluated. If the potential subcontractor is required to submit a Quality Control Program or Worker Protection Program with their proposal, these documents will also be evaluated. If the subcontractor has not worked for LANE previously, a project interview will be required.

LANE solicits subcontractor and supplier price proposals and evaluates for award of a subcontract or purchase order based on quality, past performance, and competitiveness. Once these reviews are complete, our evaluation team members discuss the results and select the subcontractors and suppliers that best satisfy the requirements of the contract. Any subcontractor that fails to meet these requirements will be eliminated without further consideration. This approach was successfully employed on the I-495 and I-95 Express projects. Both projects obtained their goals; I-495 Express Lanes was awarded the Virginia DBE project of the year.

4.7 PROPOSAL SCHEDULE

4.7 | PROPOSAL SCHEDULE

4.7.1 Proposal Schedule

The enclosed CPM proposal schedule outlines the LANE Team's plan to successfully construct the I-95/Route 630 Reconstruction and Widening project in compliance with the RFP. The schedule depicts our overall sequence of work, work tasks, and major deliverables required to complete the Project. This Proposal schedule is broken down into major phases using the hierarchical Work Breakdown Structure, clearly illustrating the anticipated Critical Path, review responsibilities of VDOT, FHWA, and other regulatory agencies, as well as activities for the LANE Team and their suppliers and subcontractors. In addition, the LANE team utilized Resource Loading and Leveling in the development of the Proposal schedule to determine the resource requirement in the Project as well as prevent over-allocation of resources. Thus providing a more accurate and robust Proposal Schedule.

4.7.2 Proposal Schedule Narrative

The LANE Team has developed the following Proposal Schedule narrative for our overall plan to execute the work. The narrative includes overall sequencing of Project, the Critical Path, the LANE Team's proposed means and methods, and other key assumptions on which the schedule is based. We also explain how the LANE team optimizes the benefits of the D-B delivery method to mitigate known risks, conform to MOT requirements, minimize impacts of construction activities on the environment, and deliver the Project on-time.

Key Milestone

The LANE Team is committed to a final completion date of July 31, 2020. The table below identifies Key Milestone dates which, in order to be met, will require coordination not only between the D-B Team and VDOT but also other reviewing agencies (FHWA, USFWS, etc.). Post Project award, the LANE Team, will implement our assertive D-B approach, local experience, and relationships to potentially improve these dates.

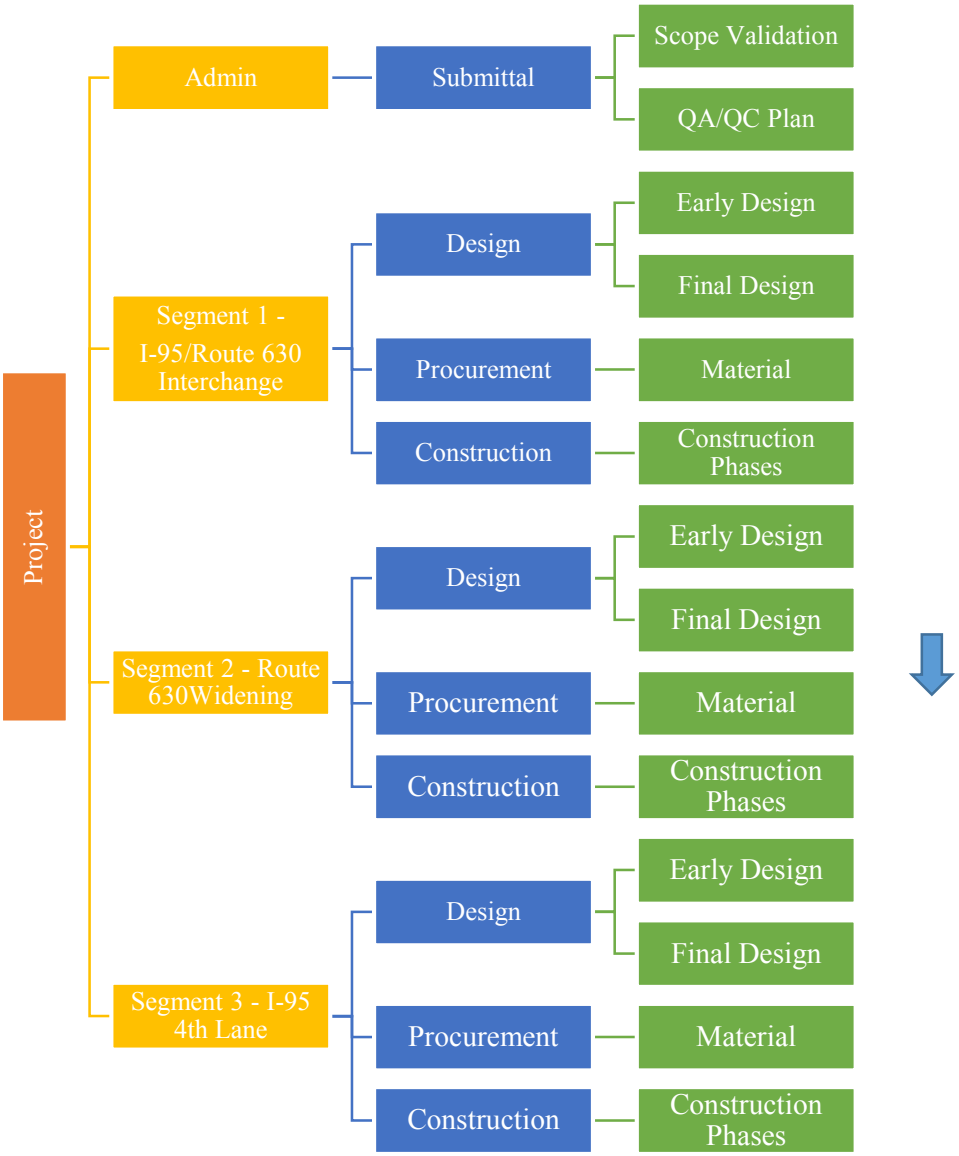
Key Milestone	Milestone Date
Notice of Intent to Award	September 13, 2016
Notice to Award	October 19, 2016
Design-Build Contract Execution	November 16, 2016
Notice to Proceed	November 18, 2016
Scope Validation Period Complete	March 17, 2017
Start of Construction	December 30, 2016
Interim Milestones (Option 1)	December 1, 2017
Early Completion	May 2, 2020
Final Completion Date	July 31, 2020

Work Breakdown Structure (WBS)

The WBS is a multi-level, hierarchical arrangement of the work to be performed on the Project. The LANE Team has laid out the WBS to break down the major phases of the Project by Project Element and type of

work. The type of work has been broken down by Phases, Areas and respective components such as Milestones, Project Management, Scope Validation, Environmental/Permitting, ROW, Design, Public Involvement, Utility Relocation, and Construction.

The WBS areas for the Project have been developed as a collaborative effort between the design and construction teams by evaluating the Project as a whole including type of work along the alignments design considerations, and management of the construction efforts.



Levels 2, 3, and 4 of the WBS as depicted in the Proposal Schedule include but are not limited to the following items for the respective Project components:

- Administration: includes the contract milestones, the start and completion milestones of major project components, submittals - plan development (QA/QC review is included in the plan development activities), and the monitoring project durations.
- Segment 1 – I-95/ Route 630 Interchange: includes the design, material procurement, and construction for the relocation and full reconstruction of the existing I-95/Route 630 (Court House Road). Since Option 2 Work – Commuter Park and Ride Lot Expansion is physically within the limit of this segment, the scope of this optional will be folded under this segment.

- Segment 2 – Route 630 Widening: includes the design, material procurement, and construction for the widening of Courthouse Road (Route 630) from two-lane to four-lane divided section from Cedar Lane (Route 732) to intersection of Ramoth Church Road (Route 628) and Winding Creek Road (Route 6285).
- Segment 3 – I-95 4th Lane (Option 1): includes the design, material procurement, and construction for the 4th Lane on I-95 Southbound beginning at the termini of I-95 Express Lane South Terminus Extension Project and extending approximately 2600' beyond the merge for the southern facing on-ramps from the DDI at exit 140.
- Within each segment, the work is further broken down as follows:
    - Design: includes survey, geotechnical engineering services, VDOT review, and approval of the plans. This section includes additional levels to the WBS. The design activities are grouped by type of design submission packages including geotechnical, bridge, and roadway packages. These also include the following:
        - ROW: summarized the acquisition process for the ROW required including title research, appraisals, offers, and negotiations.
        - Environmental and Permitting: comprises the activities required to obtain the key environmental permits. The remaining necessary permits include: Cultural Resources, stormwater monitoring, and noise evaluations. They will be added in the Baseline schedule.
        - Utility Relocation: includes the activities for development utility relocation plan, which incorporated UFI meetings, preparation of preliminary engineering (PE) estimates, and approval of PE estimates into its activity durations. The project will then perform utility relocation design, approval of the utility design, and relocation / protection of utilities for construction.
    - Procurement: includes the procurement and fabrication of long lead items within each segment.
    - Construction: includes all the components of the DDI interchange, Route 630 Widening, 4th lane on I-95 southbound and additional commuter parking including but not limited to: MOT, erosion & sediment controls, QA/QC, storm water management, drainage, lighting, signalization, phasing, bridge construction, mill-and-overlay paving, and roadway construction.

Calendars

The LANE team uses five different calendars to represent a variety of work scenarios:

- **"Calendar Days"** – Based on seven days per week and is used for review periods and milestones.
- **"5 Days with Holidays"** – Based on five working days per week and includes standard holidays. Used for design activities and work not impacted by adverse weather and holiday restrictions.
- **"5 Days with Weather & Holidays"** – Based on five working days per week, specified holiday restrictions, and anticipated weather days. Used for construction activities.
- **"5 Days with AC Paving & Holidays"** – Based on the "*5 Days with Weather & Holidays"* with non-working periods from December through February. Used for asphalt paving activities.
- **"5 Days with Final AC Paving & Holidays"** – Based on the "*5 Days with Weather & Holidays"* with extended non-working periods from November through March.

For weather analysis, LANE has reviewed the weather data (January 2011 to December 2015) provided by NOAA observation center at Quantico MCAS, VA (http://www.ncdc.noaa.gov/cdo-web/). Using on 0.1 inch of participation per day as the threshold for weather impact and taking into consideration of weekends, the LANE team accounts the following number of weather days each month:

Month	Anticipated Weather Days
Jan	3
Feb	3
Mar	5
Apr	4
May	4
Jun	6
Jul	3
Aug	4
Sep	4
Oct	4
Nov	3
Dec	6

The LANE Team will observe the following holidays from 2016 to 2020, and marks the following dates as standard holiday days in all the calendar except *"Calendar Days"*:

Holiday	2016	2017	2018	2019	2020
New Year	1/1/2016	1/2/2017	1/1/2018	1/1/2019	1/1/2020
Memorial Day	5/30/2016	5/29/2017	5/28/2018	5/27/2019	5/25/2020
4th July	7/4/2016	7/4/2017	7/4/2018	7/4/2019	7/3/2020
Labor Day	9/5/2016	9/4/2017	9/3/2018	9/2/2019	9/7/2020
Thanksgiving 1	11/24/2016	11/23/2017	11/22/2018	11/28/2019	11/26/2020
Thanksgiving 2	11/25/2016	11/24/2017	11/23/2018	11/29/2019	11/27/2020
Christmas	12/26/2016	12/25/2017	12/25/2018	12/25/2019	12/25/2020

Activity Identification

The LANE Team is proposing a smart activity identification system in the Proposal Schedule, in which a unique alphanumeric is utilized. Each activity identification is broken down into five parts: Phase of Work, Work Area, Sub-Location, and Unique Identifier, described in detail below:

As an example is C 1 00 B 2680.

Type of Work | Segment | Phase & Work Area | Sub-Area | Unique Identifier

A. Type of Work – The first digit in the Activity ID pertain into the types of work for the project with the abbreviation and orders as follows:
   - A = Administration / Project Management
   - D = Design
   - P = Procurement
   - C = Construction
B. Phasing – The 2nd digit in the Activity ID pertain into the segments of the Project, with the abbreviation and orders as follows:

- 1 = Segment 1: I-95/Route 630 Interchange
- 2 = Segment 2: Route 630 Widening
- 3 = Segment 3: I-95 Southbound 4th Lane (Option 1)

C. Work Area – The 3rd & 4th digit in the Activity ID pertain into the construction phasing & work area of the project, respectively, with the abbreviation and orders as follows:
- 00 = Segment Wide
- 11, 12, etc… = Phase 1 Area 1, Phase 1 Area 2 etc.
- 21, 22, etc… = Phase 2 Area 1, Phase 2 Area 2, etc..

D. Sub-Location – The 5th digit in the Activity ID pertain into the sub-location within a work area of the project with the abbreviation and orders as follows:
- - = Area Wide
- A = Sub-Work Area A
- B = Sub-Work Area B

E. Unique Identifier - The last four digits in the activity identification structure are numeric increment starting with 1000, and incremented in steps of 10. This is done to leave ample room between activities so that additional activities may be inserted as necessary.

Plan and Strategy

The LANE Team has developed a comprehensive plan to complete the Project in a timely and professional manner. Our goal is to minimize the number of construction phasing, traffic switches, and disturbance to the existing environment/natural resources. This will reduce the overall duration of construction, which, in-turn, will diminish the interruption to the travelling public, and at same time allow the LANE to provide a better quality and more economical product to the VDOT.

Design

The design process is divided according to the three (3) main segments of the Project:

Segment 1 – The scope of Work is for the design of the I-95/Route 630 Interchange, which includes the geotechnical, utility relocations, ROW acquisitions, permitting, early and final design for roadway and bridges.

Segment 2 – The scope of Work is for the design of the Route 630 Widening, which includes the geotechnical, permitting, early and final roadway design.

Segment 3 – The scope of Work is for the design of Option 1 – I-95 4th Lane, which includes the geotechnical, permitting, early and final roadway design.

Environmental /Permitting

The environmental protection and permitting for the Project is critical to the Project success. For the purpose of the proposal schedule, the LANE Team only showed the permit that will impact the project progress, but the baseline schedule will contain all necessary environmental and permitting activities as required.

- The LANE Team will meet and/or exceed the Noise Mitigation requirement per RFP Part 2 - Technical Requirement Section 2.4.8.

ROW Acquisition

ROW acquisition will be performed in accordance with VDOT requirements and the RFP. The initiation of the ROW Acquisition phase is dependent on the Approval of the Acquisition and Relocation Plan and obtaining the Notice to Commence Acquisition from VDOT. Our project schedule reflects the necessary durations needed to perform all ROW acquisition tasks including: Title Reports, Appraisals, Appraisal Reviews, Submittal of Offers, Negotiations, and Settlement/Closing. The LANE Team has minimized schedule risk due to ROW acquisition utilizing the following approaches:

- Identify the parcels on or near the critical path in Segment 1 (I-95/Route 630 Interchange) Phase 1 and focus the project resources in obtaining these parcels as priority.
- No additional parcels are expected for Segment 2 (Route 630 Widening) work except for utility and temporary easements.
- No additional parcels are expected for Segment 3 (I-95 4th Lane) work.

Utility Relocation

The proposal schedule incorporates utility relocation activities necessary to clear existing utilities from the work areas. Utility related activities include the Preliminary Utility Status Report, utility designation and location, UFI meetings, utility plan and estimate preparation by utility owners, review and approval of plan and estimates, authorization to relocate, and the relocation of utilities by appropriate party. Schedule risk due to utility relocation has been minimized by:

1) Prioritize the design and construction resources for resolving any utility conflicts for Segment 1 – I-95/Route 630 Interchange so that work can proceed in a timely manner.
2) Verify all necessary utility relocates for Segment 2 – Route 630 Widening, and resolve any potential conflicts or problems in a timely manner.
3) Verify the utilities location for Segment 3 – I-95 4th Lane in a timely manner, so as to resolve any potential conflicts or problems in a timely manner and avoid delays to the Project.

Public Involvement

Public Involvement activities will be performed as required in the contract documents and relevant tasks are included in our proposal schedule. The activities included in our proposal schedule consist of:

- Per RFP Part 2 - Technical Requirement Section 2.11 - “Pardon Our Dust” meetings for each the 3 major phases of the construction are represented by the following activities in this proposal schedule:
    - C110-1020, Seg 1, Ph 1 - "Pardon Our Dust" Meeting” for the start of I-95/Route 630 Interchange construction.
    - C210-1000, Seg 2 Ph 1 - "Pardon Our Dust" Meeting” for the start of Route 630 Widening construction.
    - C311-1180, Seg 3 - "Pardon Our Dust" Meeting” for the start of I-95 4th Lane construction.
    - C150-1020, Seg 1 Ph 5 - "Pardon Our Dust" Meeting - DDI Opening for the opening of the diverging diamond interchange.
- ROW Acquisitions activities based on RFP Part 2 - Technical Requirement Section 2.12
- The LANE Team will meet and/or exceed the Public Involvement / Relation requirement per RFP Part 2 - Technical Requirement Section 2.11.

QA/QC Inspection, Acceptance and Testing

QA/QC activities will be performed as required in the contract documents and relevant tasks are included in our proposal schedule. The activities included in our proposal schedule consist of:

- QA/QC Plan Submittal – the process is represented by the QA/QC plan development activity (Activity ID “D000-2370”).
- QA/QC Plan Presentation – the process is incorporated in the document review duration by VDOT (Activity ID “D000-2380”).
- QA/QC review of design packages – the process is taken into account, when determining the design deliverable development durations.
- Design and Construction Hold Points – The LANE Team will incorporate hold points in the Baseline schedule.

- VDOT Inspections are taken into consideration for estimating the duration of construction operations.

Construction

The LANE Team's phases of construction on which this schedule is based, has been developed to mitigate impacts to the traveling public, delays to construction and ultimately to facilitate a timely and compliant final completion of the project. Some potential delays include (but not limited to): utility relocations, environmental impacts, and right of way acquisition.

In developing the schedule and construction sequences, the LANE Team put public safety first and included measures to limit disruptions to vehicular and pedestrian traffic. To achieve this, the LANE Team's approach to constructing the project is as follows:

- The Project will be sub-divided into the three segments to represent the three major areas of work: I-95/Route 630 DDI Interchange, Route 630 Widening, and I-95 4th Lane (Option 1). Since each of these areas are subject to different sequencing constraints and MOT requirements, this approach allows the LANE Team to design and construct each major area or "segment" independently. It also allows for the development of specific construction phasing and sequencing to meet the specific needs/constraints of each segment.
- I-95/Route 630 Interchange – This segment will be constructed in five phases. This phasing / MOT plan allows the project to meet the Commuter Parking Lot requirement, provide continuous accesses to I-95 via the four on/off ramps (existing or new), and maintain access to all business, residential communities, and private entrances at all times.
- Route 630 Widening - This segment will be constructed in four phases. This phasing / MOT plan allows the project to maintain access to all business, residential communities, and private entrances at all times as well as maintain pedestrian access within 1000' of Colonial High School.
- I-95 4th Lane (Option 1) – Work to be accomplished in two phases. We begin in Phase 1 by placing temporary concrete barrier on the median shoulder to allow for construction of the new full strength shoulder, slopes and guardrail. The barrier will then be jumped to the next work area. We currently plan to have up to four work areas, "jumping" the barrier in +/- 1 mile sections. In **Phase 2** we will construct the new travel lane (4th Lane) at night time behind barrels with a lane closure by milling and overlaying the existing shoulder.

Sequence of Construction

Segment 1 – I-95/Route 630 Interchange

The LANE Team will construct the I-95/Route 630 Interchange segment, which includes four ramps, roadway, commuter parking lot, the shared use path (SUP), and the two bridges. In order to meet the two major operation requirements in this segment: provide continuous Commuter Parking Lot access, and access on and off I-95 from Route 630, the construction will be accomplished in five phases.

Phase 1 – The construction phase is divided into five areas:

1. Commuter Parking Lot - work includes commuter parking lot, bus station, lighting, signage, access roads, drainage, concrete flatwork, and SWM Pond 11-1.
2. Wyche Road – work includes roadway construction in the new alignment, lighting, drainage, concrete flatwork, and signalization.
3. Route 630 from east of the bridges to Wyche Road intersection - work includes roadway construction, lighting, drainage, concrete flatwork, and signalization.
4. I-95 NB off-ramp – work includes roadway construction, lighting, drainage, concrete flatwork, and guardrail.
5. I-95 Soundwall – work includes site prep, construction of the soundwall, and incidental site / drainage work.

The project will start construction with Wyche Road. Upon completion of the work, traffic will then be shifted onto the new alignment. We then demo the existing road, and construct the new commuter parking lot. Along with this work, we will construct the I-95 NB off-ramp and the I-95 soundwall.

Phase 1A – This construction phase is divided into three areas:

1. Courthouse Road (Route 630) from Wyche Road intersection to Route 1 - work includes roadway construction, lighting, drainage, concrete flatwork, and signalization.
2. The Commuter Parking lot Expansion - work includes commuter parking lot, lighting, signage, access roads, drainage, and concrete flatwork.
3. Route 1 – work includes roadway widening, mill-and-overlay, concrete flatwork, signalization, and lighting.

The Work can start at same time as Phase 1, but its completion is not required for Phase 2 construction. No road closure is required for Courthouse Rd. (Route 630) work and the additional Commuter Parking Lot Lane closures will be required for the Route 1 work.

Phase 2 – This construction phase is divided into 2 areas:

1. Route 630 from existing Route 630 east to I-95 SB on-ramp – work includes roadway construction, drainage, lighting, signage, and signalization.
2. I-95 SB on-ramp – work includes clearing, demolition, roadway construction, drainage, lighting, signage, guardrail, and signalization.

The work starts with relocating the commuter parking lot traffic to its new location and closing the existing lot. The Project will partially demo the existing parking lot and then construct the Route 630 portion and I-95 SB on-ramp. The Project will also construct a temporary connector between the existing Route 630 and the newly constructed Route 630 roadway (Phase 2).

Phase 3 – This construction phase is divided into 4 areas:

1. EB Bridge over I-95 – work includes roadway demolition, piling, MSE wall, substructure, girder erection, diaphragms, bridge deck, approach slabs, parapets, and other incidental structural work.
2. WB Bridge over I-95 - work includes roadway demolition, piling, MSE wall, substructure, girder erection, diaphragms, bridge deck, approach slabs, parapets, and other incidental structural work.
3. Route 630 east approaches to the WB Bridge over I-95– work includes embankment, roadway construction, drainage, lighting, signage, and signalization.
4. Route 630 west approaches to the WB Bridge over I-95 – work includes embankment, roadway construction, drainage, lighting, signage, and signalization.

In this phase, LANE will transfer traffic from the existing I-95 SB on-ramp and NB off-ramp roadway to the newly constructed ramps. This will allow closure and demolition of the existing ramps. Construction will then begin on the 2 bridges over I-95. The east and west roadway approaches to the WB bridge will be completed here as well. 2 temporary connectors will also be constructed for the I-95 SB on-ramp and NB off-ramp movement to the new Rt. 630 alignment.

Phase 4 – This construction phase is divided into 4 areas:

1. I-95 Temporary NB on-ramp & Cul-De-Sac – work includes embankment, roadway construction, drainage, temporary roadway and traffic control devices.
2. I-95 SB off-ramp - work includes demolition, embankment, temporary pavement, roadway construction, drainage, lighting, signage, guardrail, and signalization.
3. Route 630 West of the Bridges – work includes embankment, roadway construction, drainage, lighting, signage, guardrail, and signalization.
4. Austin Ridge Road – work includes roadway construction, drainage, lighting, signage, signalization, mill-and-overlay, and roadway demolition.

Since no additional traffic change from Phase 3 is required for Phase 4 construction, the Project can perform Phase 4 and Phase 3 work simultaneously as allowed by normal construction constraints such as available

work area. Temporary pavement will be used in some areas in Phase 5 for Route 630 connectors between Phase 2 and 4 construction and connector for I-95 SB off-ramp traffic left-turn onto Route 630 EB.

Phase 5 - This construction phase is divided into three areas:

1. Route 630 Roadway West – work includes demolition, roadway construction, drainage, lighting, signage, guardrail, and signalization.
2. I-95 NB On-ramp- work includes demolition, embankment, roadway construction, drainage, lighting, signage, guardrail, and signalization.
3. Route 630 Roadway East – work includes demolition, roadway construction, drainage, lighting, signage, guardrail, and signalization.

The Project will transfer traffic from the existing Route 630 to the newly constructed Route 630 alignment. Traffic is connected via the I-95 NB off-ramp and the SB on-ramp/off-ramp directly from Route 630, taking either a slip ramp or a signaled left-turn (temporary). To access I-95 NB on-ramp, WB traffic can take either Wyche Rd. to Courthouse or the existing Route 630., while EB traffic can turn left onto the new Wyche Road, old Route 630, and then the on-ramp. Once construction is complete, traffic will be switched into its permanent movement and all remaining temporary pavement will be removed.

Segment 2 – Route 630 Widening

The LANE Team will construct the Route 630 Widening Segments from Station 100+00 to 208+89, the realignment of Ramath Church Road, Winding Creek Road, the Rockdale Rd, and Kelsey Road, and the reconstruction of 6 intersections (Raid Road, Snowbird Lane, Woodcutter Road, Liberty Knolls Drive, Rolling Wood Lane and Mine Rd). The LANE team will construct this segment in four main phases in order to maintain access for all local businesses, residential communities, and private entrances while also maintaining pedestrian access within 1000' of Colonial High School.

Phase 1 – The LANE Team will construct temporary paving from approximately Station 124+50 to 139+25, and permanent roadway from Station 160+50 to 170+50. The general scope of work is to construct the proposed Route 630 roadway and intersections, drainage, utilities, electrical, and signalization work outside of the existing roadway alignment.

Phase 2 – This construction phase is divided in eight areas while Area 1 is divided into four sub-areas. The general scope of work is to construct the proposed Route 630 roadway and intersections, drainage, utilities, electrical, and signalization work outside of the existing roadway alignment. Hence, the construction work will occur while the travelling public continues to utilize the existing Route 630 roadway and the temporary roadway from Phase 1. The eight main work areas are as follow:

- Area 1 – Route 630 Sta 108+25 to 162+75 – construct the Route 630 widening in the following subsections:
    - Area 1A - Sta 108+25 to 128+25
    - Area 1B - Sta 128+75 to 135+80
    - Area 1C - Sta 136+20 to 141+60
    - Area 1D - Sta 142+00 to 162+75
- Area 2 - Ramath Church Rd – Construct the roadway re-alignment while the travel public continues to utilize the existing intersection. Upon completion of roadway re-alignment, the Project will switch traffic into the new alignment and demolish the existing roadway.
- Area 3 – Route 630 Sta 160+50 to 171+25 - Construct the Route 630 widening and two temporary roadways to connect the newly constructed roadways to Area 1 and Area 4 during Phase 3 construction.
- Area 4 – Route 630 Sta 168+10 to Cedar Ln - Construct the Route 630 widening and temporary connector between the newly constructed roadways to Segment 1 construction.
- Area 5 - Raid Rd – LANE will perform the roadway reconstruction under lane closures.
- Area 6 - Kelsy Rd – Construct the roadway realignment in the same basic sequence as Area 2.

- Area 7 - Snowbird Lane –Construct the intersections in 2 stages. The general approach is to partially construct the new intersection in Stage 1, shift traffic off the existing alignment, and construct the remainder of the intersection in Stage 2. The project will construct incidental temporary pavement as required for the traffic switches.
- Area 8 - Woodcutter Rd - Construct the intersections in the same two stages as Area 7. LANE will construct incidental temporary pavement as required for the traffic switches.

Phase 3 – This construction phase is divided in four areas. The general scope of work is to construct the proposed Route 630 roadway and intersections, drainage, utilities, electrical, and signalization work over the existing roadway alignment. The construction work will start with transferring Route 630 traffic onto the newly constructed Route 630 roadway. The five main work areas are as follow:

- Area 1 – Route 630 Sta 100+00 to 160+20 –construct the Route 630 roadway over the existing alignment.
    - Area 1A - School Access West –construct this access during the summer months.
    - Area 1B - School Access East –start the construction of Area 1B after the completion of Area 1A in order to maintain accesses to the school.
    - Area 1C - Liberty Knolls Dr - perform the roadway reconstruction under a lane closure.
- Area 2 - Winding Creek Rd - the Project will construct the roadway re-alignment, while motorists continue to utilize the existing intersection. Upon completion of the roadway re-alignment, we will switch traffic into the new alignment, and remove the existing roadway.
- Area 3 – Route 630 Sta. 171+20 to Cedar Ln - construct the Route 630 roadway over the existing alignment.
    - Area 3A - Rollingwood Ln - perform the roadway reconstruction under a lane closure.
- Area 5 - Rockdale Rd - the project will construct the intersection in two stages. The general approach is to partially construct the new intersection in Stage 1 and shift traffic off the existing alignment, then construct the remainder of the intersection in Stage 2. The project will construct incidental temporary pavement as required.

Phase 4 – The Project will demolish all temporary roadway and construct the remaining Route 630 roadway and medians. Then the Project will complete the signalization, perform the final paving and striping for Route 630.

Segment 3 – I-95 4th Lane (Option 1)

- **Phase 1** – We will set temporary concrete barrier on the shoulder the proper distance off of travel way in approximately 1 mile segments and will jump the barrier approximately four times. The barrier allows a safe work zone for construction and inspection personnel as well as material deliveries and ingress/egress to the work area. We will then saw-cut a portion of the existing shoulder off and dispose of properly. The new full strength 12' wide shoulder will then be constructed. New guardrail and any slope work needed will be completed.
- **Phase 2** – After the barrier has jumped to the next work area, we will construct the new travel lane (4th Lane) at night time behind barrels with a lane closure by milling and overlaying the existing shoulder.

Critical Path

There are two contractual milestones that the Project has to meet: Interim Milestone and Final Completion Milestone:

- For Interim Milestone, the critical path starts with verification and updates. This is followed by the development of MOT Plans and then the start of MOT, and subsequent drainage and roadway construction. The critical path ends with the installation of ITS components and burn in period.
- For the final completion milestone, the critical path starts with Segment 2 geotechnical investigation, and the application for and obtaining permits. This is followed by the Segment 2 Phase 1 roadway construction then Segment 2 Phase 2 Area 4 roadway construction. The critical path splits between

Segment 2 Phase 3 Area 1 construction sequence until the completion of Segment 2 Phase 3. At this time, the critical path follows through Segment 2 Phase 4 roadway construction sequence. The critical path ends with system acceptance and the 30-days burn-in period.

Key Assumptions

The LANE Team made the following key assumptions on which our Proposal Schedule is based:

- Effective partnering and coordination between the LANE Team, the VDOT, adjacent contracts, and all stakeholders.
- The ROW acquisition by VDOT will occur according to RFP Part 2 - Section 2.12.1 and 2.12.2.
- The utility relocations for the Segment 2 (Route 630 Widening) will occur according to RFP Part 2 - Section 2.13.1.

Schedule Management

Effective management and control of a construction project of this scope requires the use of a proven software package for scheduling, documentation control, cost control, and design functions of the integrated team concept to the Design-Build approach. The LANE Team shall develop and maintain the Project Schedule in accordance with the VDOT Special Provision for Design-Build Project Schedule (RFP Exhibit 11.1).

The LANE Team will use Primavera P6 (P6) scheduling software to plan, schedule, and monitor its construction projects. This software is an industry standard of practice for scheduling projects, allowing us to plan, organize, and control the project with the Precedence Diagram Method (PDM) of scheduling. As a management tool, P6 is powerful and flexible enough to handle all project scheduling needs including the following capabilities:

- CPM scheduling
- Cost management
- Resource management
- Data exchange
- Reporting capabilities
- Networking

P6 also has tools to assist the project management team in tracking and forecasting the project performance from the milestone level to the smallest work activity.

LANE will coordinate the scope of all project-related activities to establish a timely Critical Path Method (CPM) job schedule that will help ensure on-time completion and identify potential risks. LANE's Project Controls will be coordinated from the on-site project office. The Project Engineer is responsible for scheduling, cost engineering, and cost forecasting. The Design-Build Project Manager, supported by the Construction Manager, is ultimately responsible for the implementation of the project controls system.

Upon award of the contract, LANE's project team will collaborate to develop the Preliminary and the Baseline schedules based on the proposal design plans. To control time spent on activities, LANE will develop a detailed, time-phased CPM project schedule and timelines outlined within the scope of work. After an internal analysis and review of the general schedule logic and critical path, the schedule is completed. The P6 software program is used to generate a time-scaled logic diagram reflecting the interdependencies of all the activities incorporated into the schedule. In addition, other various tabular reports are produced, as required, for submission to the owner.

This schedule will indicate the necessary procurement and construction activities for each area of the project. Various calendars will be incorporated into the project schedule to reflect holidays, seasonal work, temperature and precipitation restrictions, owner requirements, etc. The activities within the CPM schedule will be organized according to a WBS that has been developed for the project. An Activity Coding Structure

will be utilized in the project schedule to organize data output. The project schedule will be the tool used for coordination by both on-site and off-site LANE management. Schedule updates are used by managers to review progress and coordinate the efforts of all entities involved. A full-time, on-site engineer will be tasked with the responsibility to track schedule progress on a daily basis and provide bi-weekly updates.

Detailed schedules are used to plan and monitor specific items of work. They will be prepared as necessary to deal with individual work packages or smaller work activities as the need arises. As the work progresses, the following items will be updated to report progress of each work activity: start dates, finish dates, percent complete, and remaining durations. The Construction Manager will incorporate current data into the CPM schedule on an ongoing basis, review the results internally/ and with the owner, and prepare the required reports for submittal. Bi-weekly updates of the CPM schedule provide the foundation of progress reports utilized by the project team.

When changes or unforeseen circumstances arise that impacts the project schedule, the LANE Team will immediately notify VDOT (and other appropriate stakeholders) and begin incorporating changes into the "live" CPM schedule. If changes to any task or phase in the schedule result in schedule slippage, the Design-Build Project Manager will divide the task into its components to determine the reason(s) for falling behind. LANE will develop and implement a recovery plan to put the project back on track. Progress can then be tracked daily via the schedule compared to the previously accepted schedule. LANE's management will evaluate any slippage to determine if additional manpower, equipment, multiple shifts, a change in subcontractor, or additional subcontractors is required. If so, the necessary resources will be mobilized to correct the slippage and maintain the schedule. Scheduling practices and concerns will be clearly communicated to all subcontractors and key suppliers. Delays and schedule slippage will not be tolerated.

Conclusion

LANE has developed a Proposal Schedule and Proposal Schedule Narrative that demonstrates our understanding of the complexities and interrelationships of the technical elements of this Project. Additionally, our Proposal Schedule takes into account: internal plan reviews, VDOT plan reviews and approvals, environmental permitting, right of way acquisitions, utility relocations, and construction activities.

The LANE Team is committed to improve the enclosed Proposal Schedule to better serve VDOT, all associated stakeholders, and the traveling public. Once we have notice to proceed and the final design process begins, all team members will actively work to improve this schedule.

APPENDIX

ATTACHMENT 4.0.1.1
TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

ATTACHMENT 4.0.1.1

I-95/ROUTE 630 RECONSTRUCTION AND WIDENING

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Offerors shall furnish a copy of this Technical Proposal Checklist, with the page references added, with the Technical Proposal.

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Technical Proposal Checklist and Contents	Attachment 4.0.1.1	Section 4.0.1.1	no	Volume I Appendix
Acknowledgement of RFP, Revisions, and/or Addenda	Attachment 3.6 (Form C-78-RFP)	Sections 3.6, 4.0.1.1	no	Volume I Appendix
Letter of Submittal	NA	Sections 4.1		
Letter of Submittal on Offeror's letterhead	NA	Section 4.1.1	yes	Volume I - Page 1
Identify the full legal name and address of Offeror	NA	Section 4.1.1	yes	Volume I - Page 1
Authorized representative's original signature	NA	Section 4.1.1	yes	Volume I - Page 1
Declaration of intent	NA	Section 4.1.2	yes	Volume I - Page 1
120 day declaration	NA	Section 4.1.3	yes	Volume I - Page 1
Point of Contact information	NA	Section 4.1.4	yes	Volume I - Page 1
Principal Officer information	NA	Section 4.1.5	yes	Volume I - Page 2
Interim Milestone and Final Completion Date(s)	NA	Section 4.1.6	yes	Volume I - Page 2
Proposal Payment Agreement or Waiver of Proposal Payment	Attachment 9.3.1 or 9.3.2	Section 4.1.7	no	Volume I - Appendix
Certification Regarding Debarment Forms	Attachment 11.8.6(a) Attachment 11.8.6(b)	Section 4.1.8	no	Volume I - Appendix
Offeror's Qualifications	NA	Section 4.2		

ATTACHMENT 4.0.1.1

I-95/ROUTE 630 RECONSTRUCTION AND WIDENING

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Confirmation that the information provided in the SOQ submittal remains true and accurate or indicates that any requested changes were previously approved by VDOT	NA	Section 4.2.1	yes	Volume I Page 3
Organizational chart with any updates since the SOQ submittal clearly identified	NA	Section 4.2.2	yes	Volume I Page 4
Revised narrative when organizational chart includes updates since the SOQ submittal	NA	Section 4.2.2	yes	N/A
Design Concept	NA	Section 4.3		
Conceptual Roadway, Interstate and Interchange Plans and description	NA	Section 4.3.1.1	yes	Volume I -Pages 5-10 Volume II(Plans)
Conceptual Structural Plans and description	NA	Section 4.3.1.2	yes	Volume I -Page 11 Volume II(Plans)
Project Approach	NA	Section 4.4		
Environmental Management	NA	Section 4.4.1	yes	Volume I Pages 12-15
Utilities	NA	Section 4.4.2	yes	Volume I Pages 15-17
Geotechnical	NA	Section 4.4.3	yes	Volume I Pages 17-21
Quality Assurance/ Quality Control (QA/QC)	NA	Section 4.4.4	yes	Volume I Pages 21-25
Construction of Project	NA	Section 4.5		
Sequence of Construction	NA	Section 4.5.1	yes	Volume I Pages 26-30

ATTACHMENT 4.0.1.1

I-95/ROUTE 630 RECONSTRUCTION AND WIDENING

TECHNICAL PROPOSAL CHECKLIST AND CONTENTS

Technical Proposal Component	Form (if any)	RFP Part 1 Cross Reference	Included within page limit?	Technical Proposal Page Reference
Transportation Management Plan	NA	Section 4.5.2	yes	Volume I Pages 30-32
Disadvantaged Business Enterprises (DBE)/Local Hiring Program	NA	Section 4.6		
Written statement of percent DBE participation	NA	Section 4.6	yes	Volume I Page 33
Written statement of percent local worker and/or veteran new hire participation	NA	Section 4.6	yes	Volume I Page 33
Proposal Schedule	NA	Section 4.7		
Proposal Schedule	NA	Section 4.7	no	Volume II
Proposal Schedule Narrative	NA	Section 4.7	no	Volume I S1-S12
Proposal Schedule in electronic format (CD-ROM)	NA	Section 4.7	no	CD- ROM

ATTACHMENT 3.6
FORM C-78-RFP

Form C-78-RFP

ATTACHMENT 3.6

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

RFP NO. C00013558DB83

PROJECT NOs.: 0095-089-F09, 0630-089-202 and 0095-089-282

ACKNOWLEDGEMENT OF RFP, REVISION AND/OR ADDENDA

Acknowledgement shall be made of receipt of the Request for Proposals (RFP) and/or any and all revisions and/or addenda pertaining to the above designated project which are issued by the Department prior to the Letter of Submittal submission date shown herein. Failure to include this acknowledgement in the Letter of Submittal may result in the rejection of your proposal.

By signing this Attachment 3.6, the Offeror acknowledges receipt of the RFP and/or following revisions and/or addenda to the RFP for the above designated project which were issued under cover letter(s) of the date(s) shown hereon:

1. Cover letter of RFP – April 19, 2016 (Date)
2. Cover letter of RFP Addendum No. 1 - June 29, 2016 (Date)
3. Cover letter of RFP Addendum No. 2 – July 14, 2016 (Date)
4. Cover letter of RFP Addendum No. 3 – July 26, 2016 (Date)
5. Cover letter of RFP Addendum No. 4 – July 29, 2016 (Date)
6. Cover letter of RFP Addendum No. 5 – Aug 2, 2016 (Date)

SIGNATURE — DATE: August 4, 2016

PRINTED NAME: Robert E. Watt — TITLE: Pursuit Manager

ATTACHMENT 9.3.1
PROPOSAL PAYMENT AGREEMENT

ATTACHMENT 9.3.1
PROPOSAL PAYMENT AGREEMENT

THIS PROPOSAL PAYMENT AGREEMENT (this "Agreement") is made and entered into as of this 4th day of August, 2016, by and between the Virginia Department of Transportation ("VDOT"), and The Lane Construction Corporation ("Offeror").

WITNESSETH:

WHEREAS, Offeror is one of the entities who submitted Statements of Qualifications ("SOQs") pursuant to VDOT's January 14, 2016 Request for Qualifications ("RFQ") and was invited to submit proposals in response to a Request for Proposals ("RFP") for the I-95/Route 630 Reconstruction and Widening, **Project Nos. 0095-089-F09, 0630-089-202 and 0095-089-232** ("Project"), under a design-build contract with VDOT ("Design-Build Contract"); and

WHEREAS, as part of the procurement process for the Project, Offeror has already provided and/or furnished to VDOT, and may continue to provide and/or furnish to VDOT, certain intellectual property, materials, information and ideas, including, but not limited to, such matters that are: (a) conveyed verbally and in writing during proprietary meetings or interviews; and (b) contained in, related to or associated with Offeror's proposal, including, but not limited to, written correspondence, designs, drawings, plans, exhibits, photographs, reports, printed material, tapes, electronic disks, or other graphic and visual aids (collectively "Offeror's Intellectual Property"); and

WHEREAS, VDOT is willing to provide a payment to Offeror, subject to the express conditions stated in this Agreement, to obtain certain rights in Offeror's Intellectual Property, provided that Offeror submits a proposal that VDOT determines to be responsive to the RFP ("Offeror's Proposal"), and either (a) Offeror is not awarded the Design-Build Contract; or (b) VDOT cancels the procurement or decides not to award the Design-Build Contract to any Offeror; and

WHEREAS, Offeror wishes to receive the payment offered by VDOT, in exchange for granting VDOT the rights set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and agreements set forth in this Agreement and other good and valuable consideration, the receipt and adequacy of which are acknowledged by the parties, the parties agree as follows:

1. **VDOT's Rights in Offeror's Intellectual Property**. Offeror hereby conveys to VDOT all rights, title and interest, free and clear of all liens, claims and encumbrances, in Offeror's Intellectual Property, which includes, without restriction or limitation, the right of VDOT, and anyone contracting with VDOT, to incorporate any ideas or information from Offeror's Intellectual Property into: (a) the Design-Build Contract and the Project; (b) any other contract awarded in reference to the Project; or (c) any subsequent procurement by VDOT. In receiving all rights, title and interest in Offeror's Intellectual Property, VDOT is deemed to own all intellectual property rights, copyrights, patents, trade secrets, trademarks, and service marks in Offeror's Intellectual Property, and Offeror agrees that it shall, at the request of VDOT, execute all papers and perform all other acts that may be necessary to ensure that VDOT's rights, title and interest in Offeror's Intellectual Property are protected. The rights conferred herein to VDOT include, without limitation, VDOT's ability to use Offeror's Intellectual Property without the obligation to notify or seek permission from Offeror.

2. **Exclusions from Offeror's Intellectual Property**. Notwithstanding Section 1 above, it is understood and agreed that Offeror's Intellectual Property is not intended to include, and Offeror does not convey any rights to, the Escrow Proposal Documents submitted by Offeror in accordance with the RFP.

3. **Proposal Payment**. VDOT agrees to pay Offeror the lump sum amount of **One Hundred Thousand and 00/100 Dollars ($100,000.00)** ("Proposal Payment"), which payment constitutes payment in full to Offeror for the conveyance of Offeror's Intellectual Property to VDOT in accordance with this Agreement. Payment of the Proposal Payment is conditioned upon: (a) Offeror's Proposal being, in the sole discretion of VDOT, responsive to the RFP; (b) Offeror complying with all other terms and conditions of this Agreement; and (c) either (i) Offeror is not awarded the Design-Build Contract, or (ii) VDOT cancels the procurement or decides not to award the Design-Build Contract to any Offeror.

4. **Payment Due Date**. Subject to the conditions set forth in this Agreement, VDOT will make payment of the Proposal Payment to the Offeror within forty-five (45) days after the later of: (a) notice from VDOT that it has awarded the Design-Build Contract to another Offeror; or (b) notice from VDOT that the procurement for the Project has been cancelled and that there will be no Contract Award.

5. **Effective Date of this Agreement**. The rights and obligations of VDOT and Offeror under this Agreement, including VDOT's ownership rights in Offeror's Intellectual Property, vests upon the date that Offeror's Proposal is submitted to VDOT. Notwithstanding the above, if Offeror's Proposal is determined by VDOT, in its sole discretion, to be nonresponsive to the RFP, then Offeror is deemed to have waived its right to obtain the Proposal Payment, and VDOT shall have no obligations under this Agreement.

6. Indemnity. Subject to the limitation contained below, Offeror shall, at its own expense, indemnify, protect and hold harmless VDOT and its agents, directors, officers, employees, representatives and contractors from all claims, costs, expenses, liabilities, demands, or suits at law or equity ("Claims") of, by or in favor of or awarded to any third party arising in whole or in part from: (a) the negligence or wilful misconduct of Offeror or any of its agents, officers, employees, representatives or subcontractors; or (b) breach of any of Offeror's obligations under this Agreement, including its representation and warranty under Section 8 hereof. This indemnity shall not apply with respect to any Claims caused by or resulting from the sole negligence or wilful misconduct of VDOT, or its agents, directors, officers, employees, representatives or contractors.

7. Assignment. Offeror shall not assign this Agreement, without VDOT's prior written consent, which consent may be given or withheld in VDOT's sole discretion. Any assignment of this Agreement without such consent shall be null and void.

8. Authority to Enter into this Agreement. By executing this Agreement, Offeror specifically represents and warrants that it has the authority to convey to VDOT all rights, title, and interest in Offeror's Intellectual Property, including, but not limited to, those any rights that might have been vested in team members, subcontractors, consultants or anyone else who may have contributed to the development of Offeror's Intellectual Property, free and clear of all liens, claims and encumbrances.

9. Miscellaneous.

a. Offeror and VDOT agree that Offeror, its team members, and their respective employees are not agents of VDOT as a result of this Agreement.

b. Any capitalized term used herein but not otherwise defined shall have the meanings set forth in the RFP.

c. This Agreement, together with the RFP, embodies the entire agreement of the parties with respect to the subject matter hereof. There are no promises, terms, conditions, or obligations other than those contained herein or in the RFP, and this Agreement shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties hereto.

d. It is understood and agreed by the parties hereto that if any part, term, or provision of this Agreement is by the courts held to be illegal or in conflict with any law of the Commonwealth of Virginia, validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular part, term, or provisions to be invalid.

e. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

IN WITNESS WHEREOF, this Agreement has been executed and delivered as of the day and year first above written.

VIRGINIA DEPARTMENT OF TRANSPORTATION

By: _____

Name: _____

Title: _____

The Lane Construction Corporation

By: _____

Name: Robert E. Watt

Title: Pursuit Manager

ATTACHMENT 11.8.6 (a)
CERTIFICATION REGARDING DEBARMENT FORMS

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

Project Nos.: 0095-089-F09, 0630-089-202 and 0095-089-282

1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:

a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; and have not been convicted of any violations of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;

c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1) b) of this certification; and

d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

	August 4, 2016	Pursuit Manager
Signature	Date	Title

The Lane Construction Corporation
Name of Firm

ATTACHMENT 11.8.6 (b)
CERTIFICATION REGARDING DEBARMENT FORMS

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project Nos.: 0095-089-F09, 0630-089-202 and 0095-089-282

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

Jn. Chowdhary	7/15/16	PRINCIPAL
Signature	Date	Title

CES CONSULTING LLC

Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project Nos.: 0095-089-F09, 0630-089-202 and 0095-089-282

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

July 14, 2016 — Vice President

Signature — Date — Title

DMY Engineering Consultants Inc.

Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project Nos.: 0095-089-F09, 0630-089-202 and 0095-089-282

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

J. Randy Wirt 07-19-2016 Principal

Signature Date Title

ECS Mid-Atlantic, LLC

Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project Nos.: 0095-089-F09, 0630-089-202 and 0095-089-282

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

W. Merritt King 07-14-16 VICE PRESIDENT

Signature Date Title

KCI TECHNOLOGIES, INC.

Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project Nos.: 0095-089-F09, 0630-089-202 and 0095-089-282

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

	7/14/2016	COO / President
Signature	Date	Title

Rinker Design Associates, P.C.
Name of Firm

ATTACHMENT 11.8.6(b)
CERTIFICATION REGARDING DEBARMENT
LOWER TIER COVERED TRANSACTIONS

Project Nos.: 0095-089-F09, 0630-089-202 and 0095-089-282

1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The undersigned makes the foregoing statements to be filed with the proposal submitted on behalf of the Offeror for contracts to be let by the Commonwealth Transportation Board.

	7-18-16	DIRECTOR
Signature	Date	Title

RK+K LLP

Name of Firm

LANE

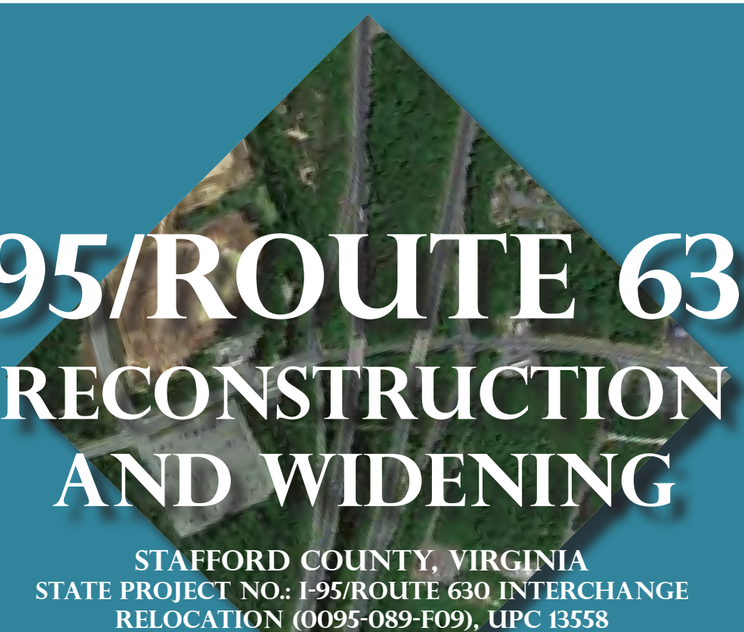
14500 AVION PARKWAY
SUITE 200
CHANTILLY, VA 20151
703.222.5670

www.laneconstruct.com

AUGUST 4, 2016

ORIGINAL

TECHNICAL PROPOSAL - VOLUME II



I-95/ROUTE 630
RECONSTRUCTION AND WIDENING

STAFFORD COUNTY, VIRGINIA
STATE PROJECT NO.: I-95/ROUTE 630 INTERCHANGE RELOCATION (0095-089-F09), UPC 13558
ROUTE 630 WIDENING (0630-089-202), UPC 4632
COMMUTER PARK AND RIDE LOT EXPANSION (0095-089-282), UPC 108573
FEDERAL PROJECT NO.: I-95/ROUTE 630 INTERCHANGE RELOCATION (NH-095-2)
ROUTE 630 WIDENING (STP-089-6)

CONTRACT ID NUMBER: C00013558DB83

PREPARED FOR:

VDOT

SUBMITTED BY:

LANE

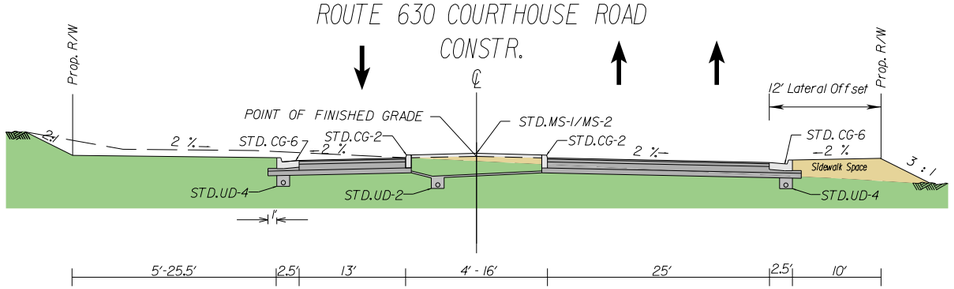
4.3.1 CONCEPTUAL ROADWAY, INTERSTATE AND INTERCHANGE PLANS

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	2

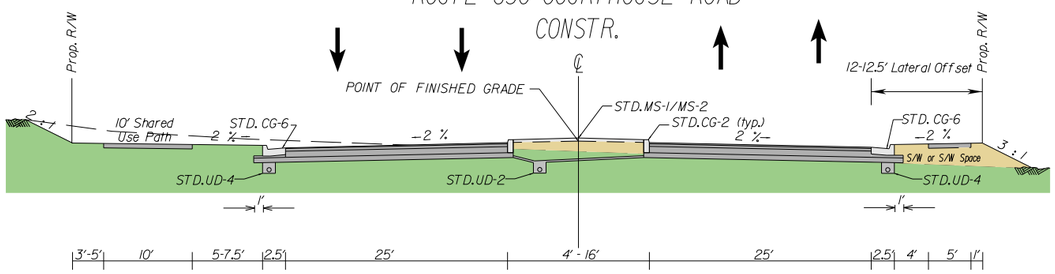
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

TYPICAL SECTIONS

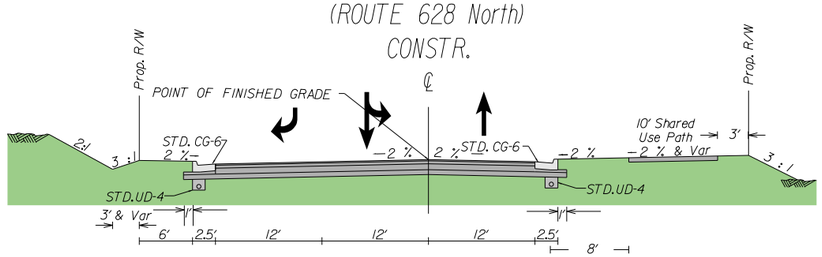
ROUTE 630 COURTHOUSE ROAD CONSTR.



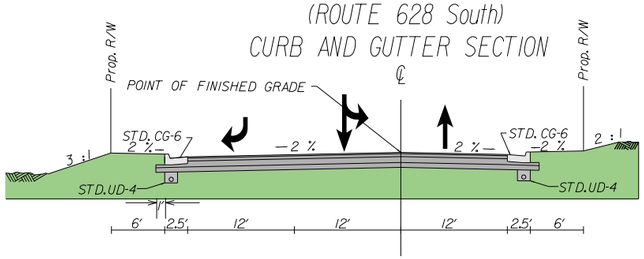
ROUTE 630 COURTHOUSE ROAD CONSTR.



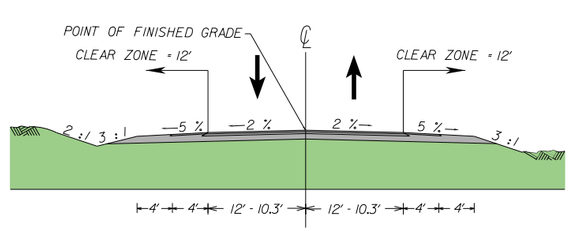
WINDING CREEK ROAD (ROUTE 628 North) CONSTR.



RAMOTH CHURCH ROAD (ROUTE 628 South) CURB AND GUTTER SECTION

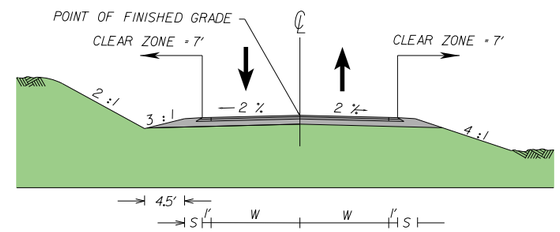


RAMOTH CHURCH ROAD (ROUTE 628 South) SHOULDER SECTION



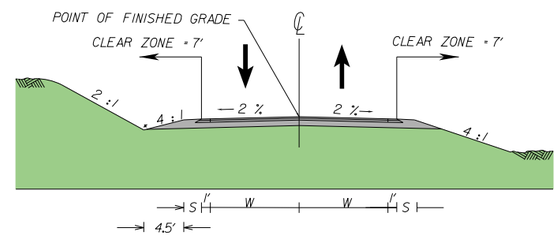
ROCKDALE RD.(ROUTE 617) / KELSEY RD.(ROUTE 759) REIDS RD.(ROUTE 672) / CEDAR LANE (ROUTE 732)

SHOULDER SECTION



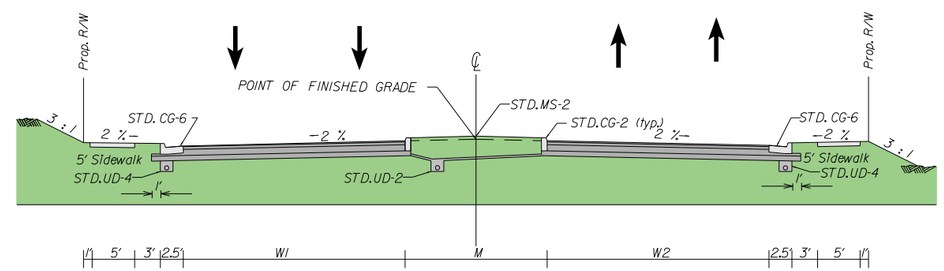
ROADWAY	W	S
ROCKDALE RD.	11'-9'	4'
KELSEY RD.	11'	4'-2'
REIDS RD.	9'	4'-2'
CEDAR LN.	11'-10'	2'

Existing Private Road Connections



ROADWAY	W	S
ROLLINGWOOD LANE	10' - 9.4'	2'
SNOWBIRD LANE	8'-6'	2'

Proposed Subdivision Road Connections



ROADWAY	W1	W2	M
WOODCUTTERS RD.	23'	23'	16'
LIBERTY KNOLLS DR.	25'	15'	10'
MINE RD.	25'	37'	28'

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

ROUTE 630 WIDENING

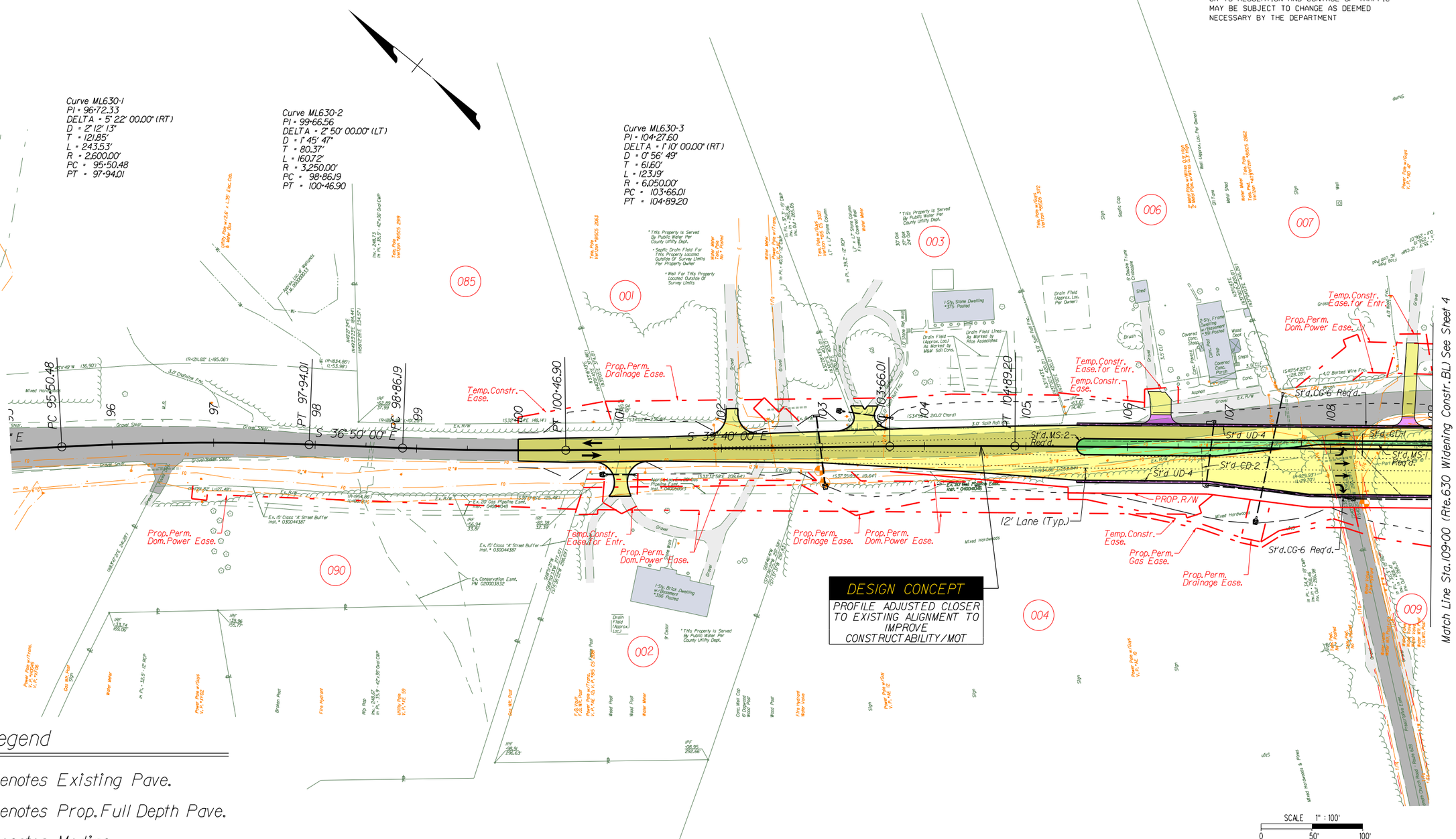
LANE

rda

PROJECT	SHEET NO.
0630-089-202	2

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	3

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



Legend

- Denotes Existing Pave.
- Denotes Prop. Full Depth Pave.
- Denotes Median
- Denotes Shared Use Path
- Denotes Bridge
- Denotes Pond & Bio-filters

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

ROUTE 630 WIDENING

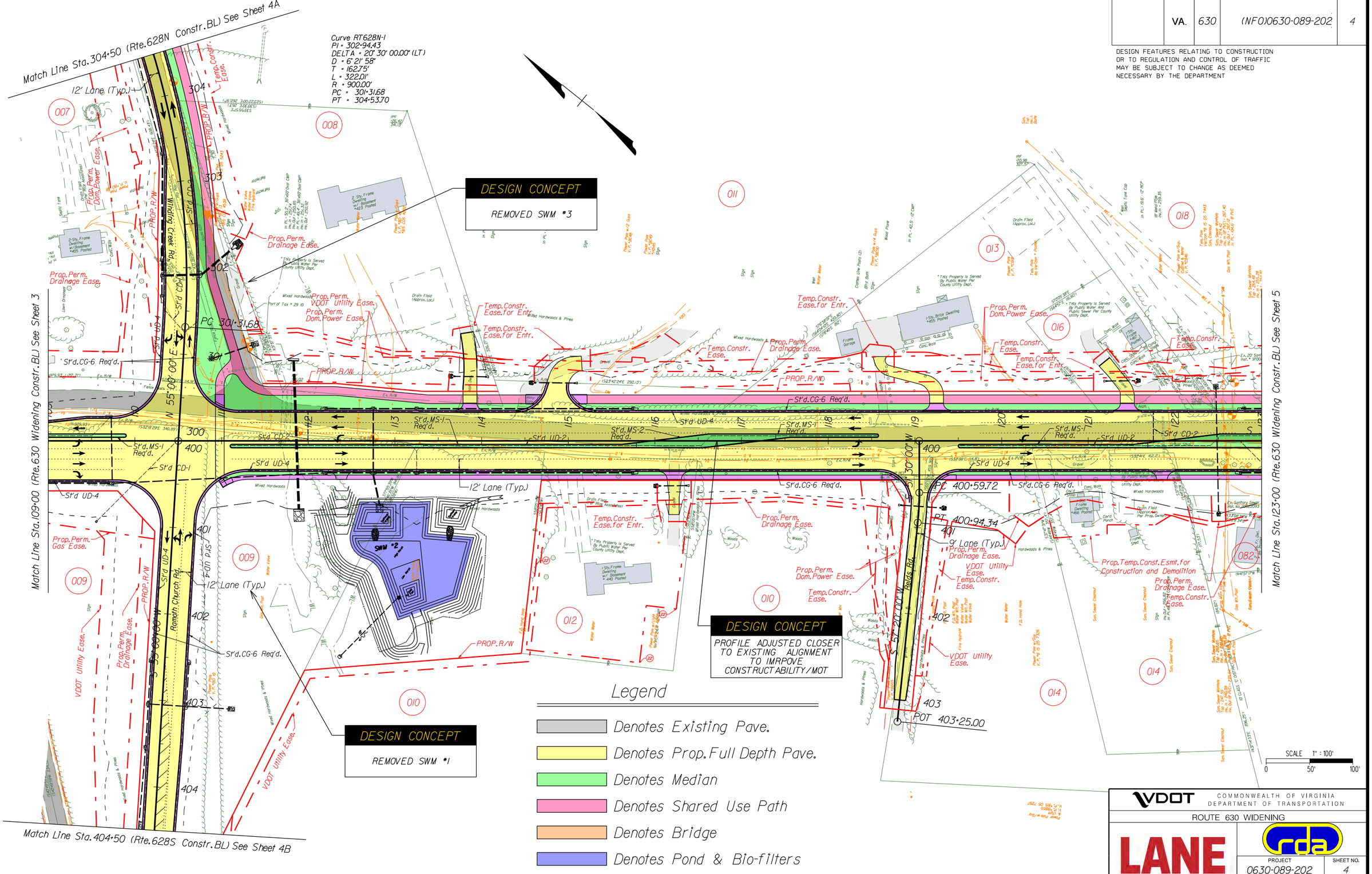
LANE

rda

PROJECT	SHEET NO.
0630-089-202	3

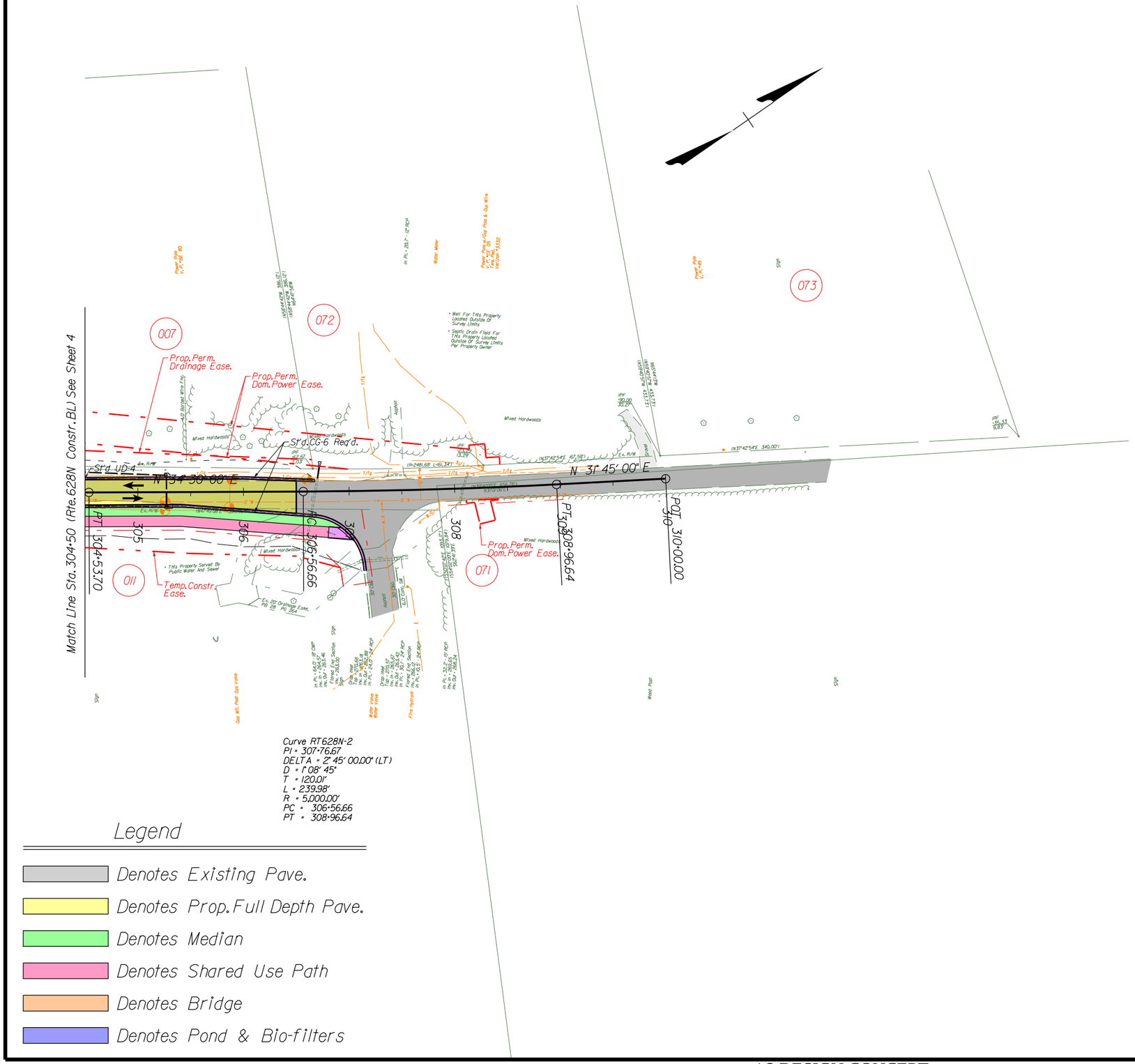
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	4

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



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	4A

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



SCALE 1" : 100'
0 50' 100'

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

ROUTE 630 WIDENING

LANE

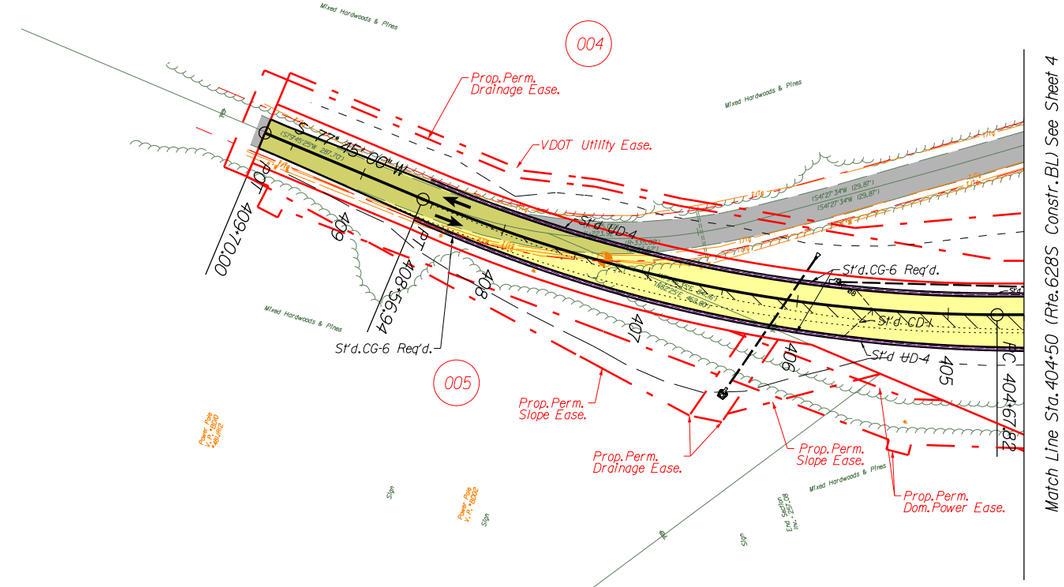
rda

PROJECT	SHEET NO.
0630-089-202	4A

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	4B

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

Curve RT628S-1
PI = 406+64.98
DELTA = 22° 45' 00.00" (RT)
D = 5° 50' 47"
T = 197.16'
L = 389.12'
R = 980.00'
PC = 404+67.82
PT = 408+56.94



SCALE 1" : 100'
0 50' 100'

Legend

- Denotes Existing Pave.
- Denotes Prop. Full Depth Pave.
- Denotes Median
- Denotes Shared Use Path
- Denotes Bridge
- Denotes Pond & Bio-filters

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

ROUTE 630 WIDENING

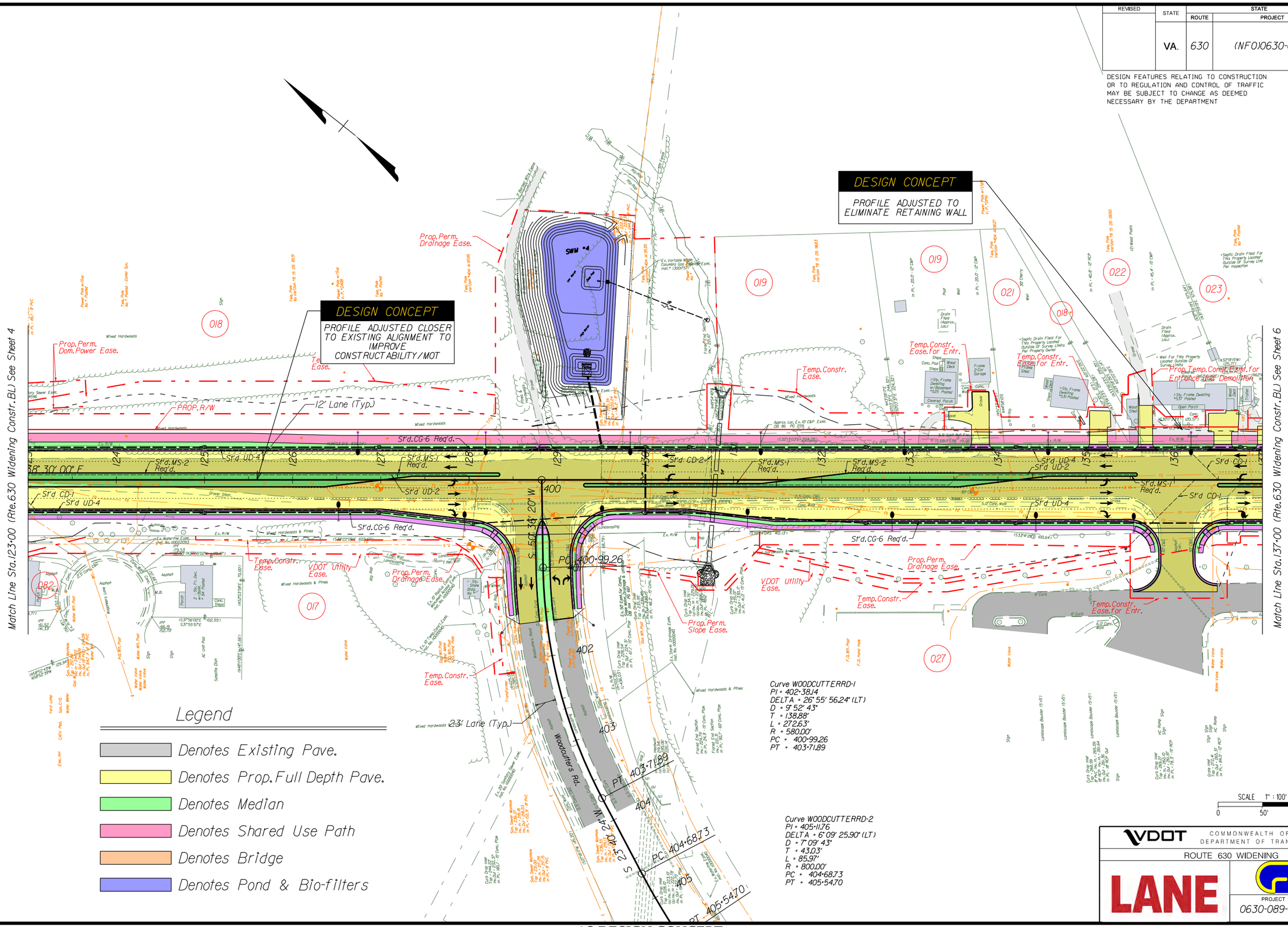
LANE

rda

PROJECT	SHEET NO.
0630-089-202	4B

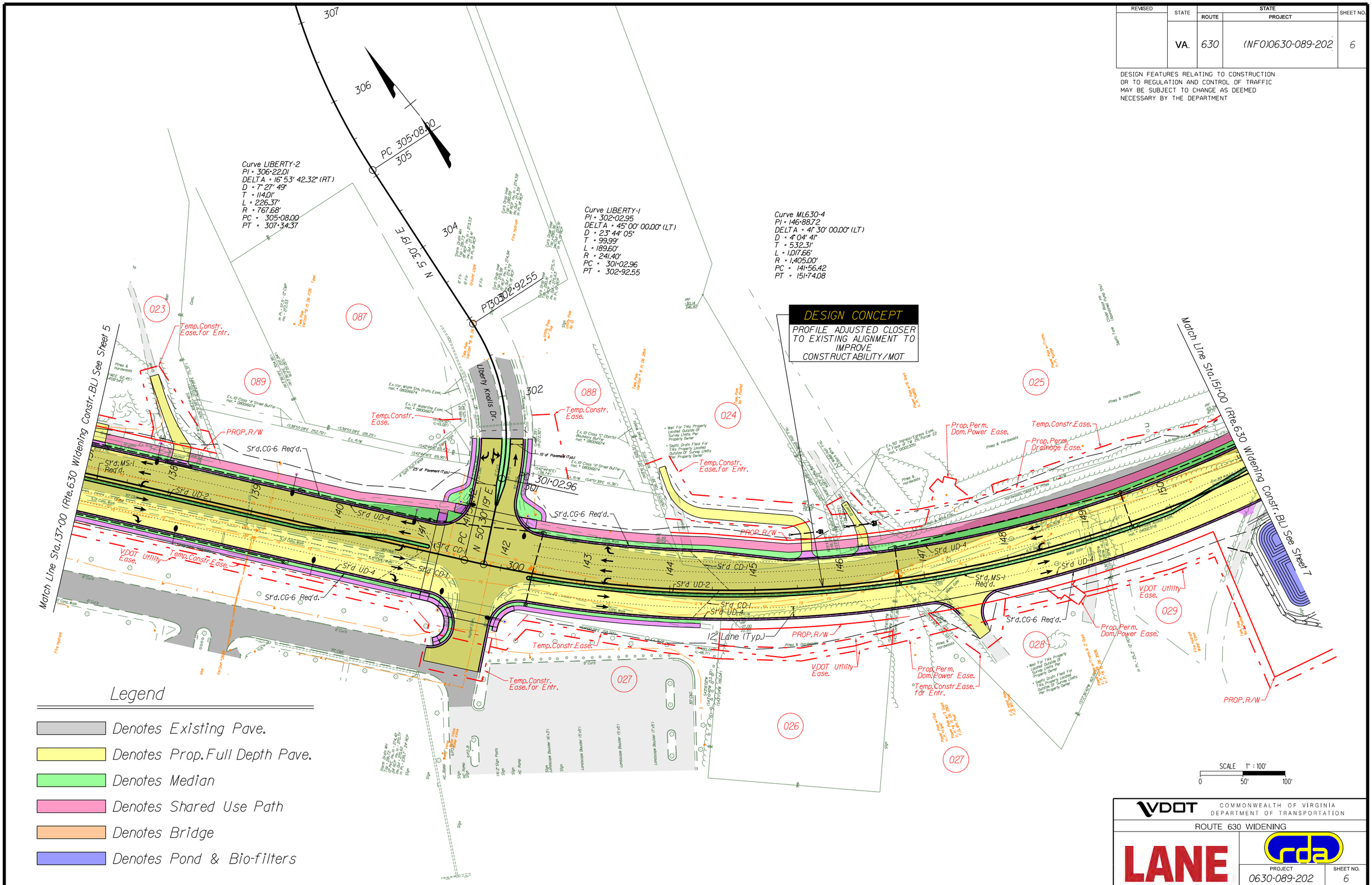
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	5

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



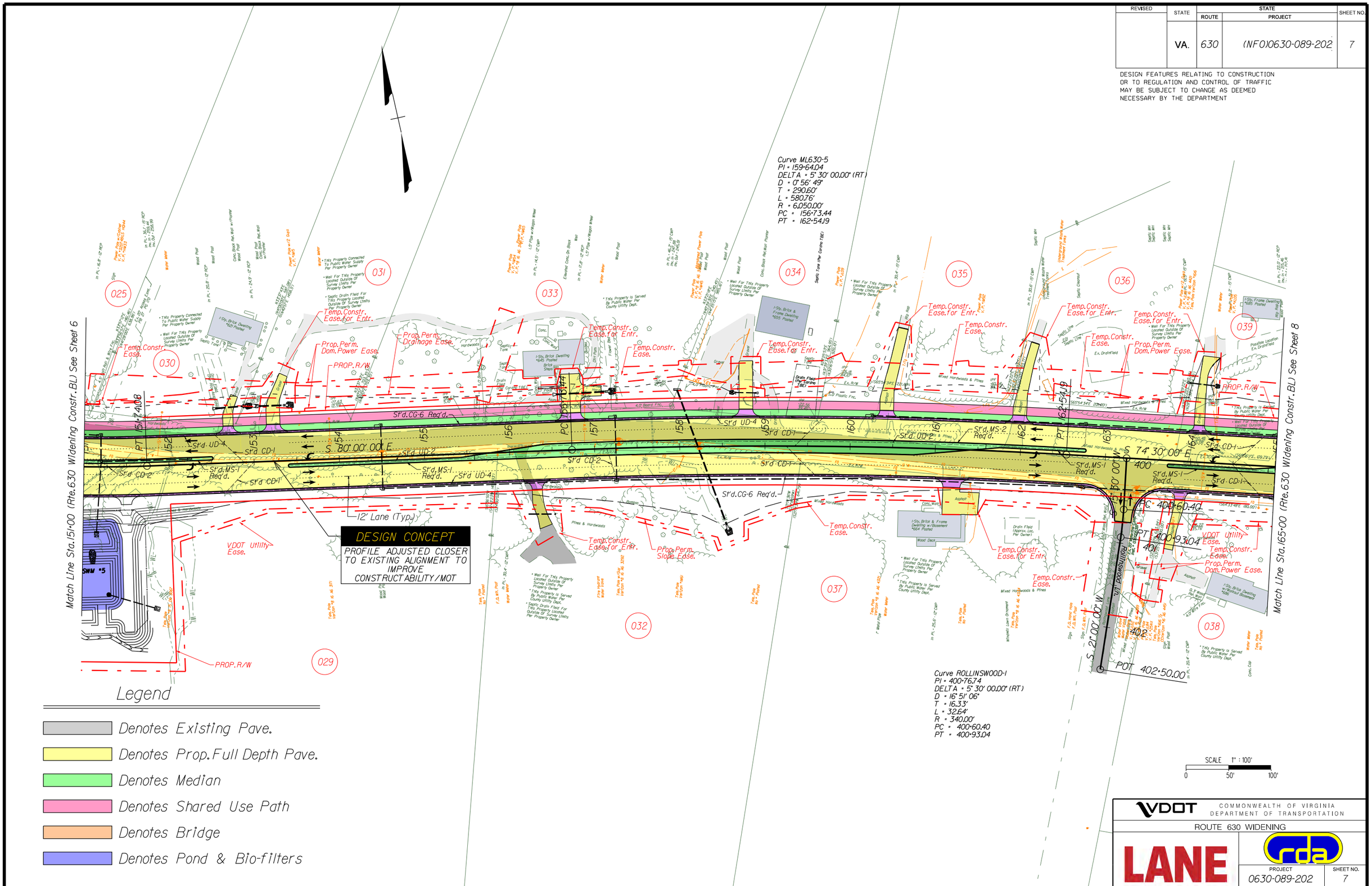
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	6

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



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	7

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



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	8

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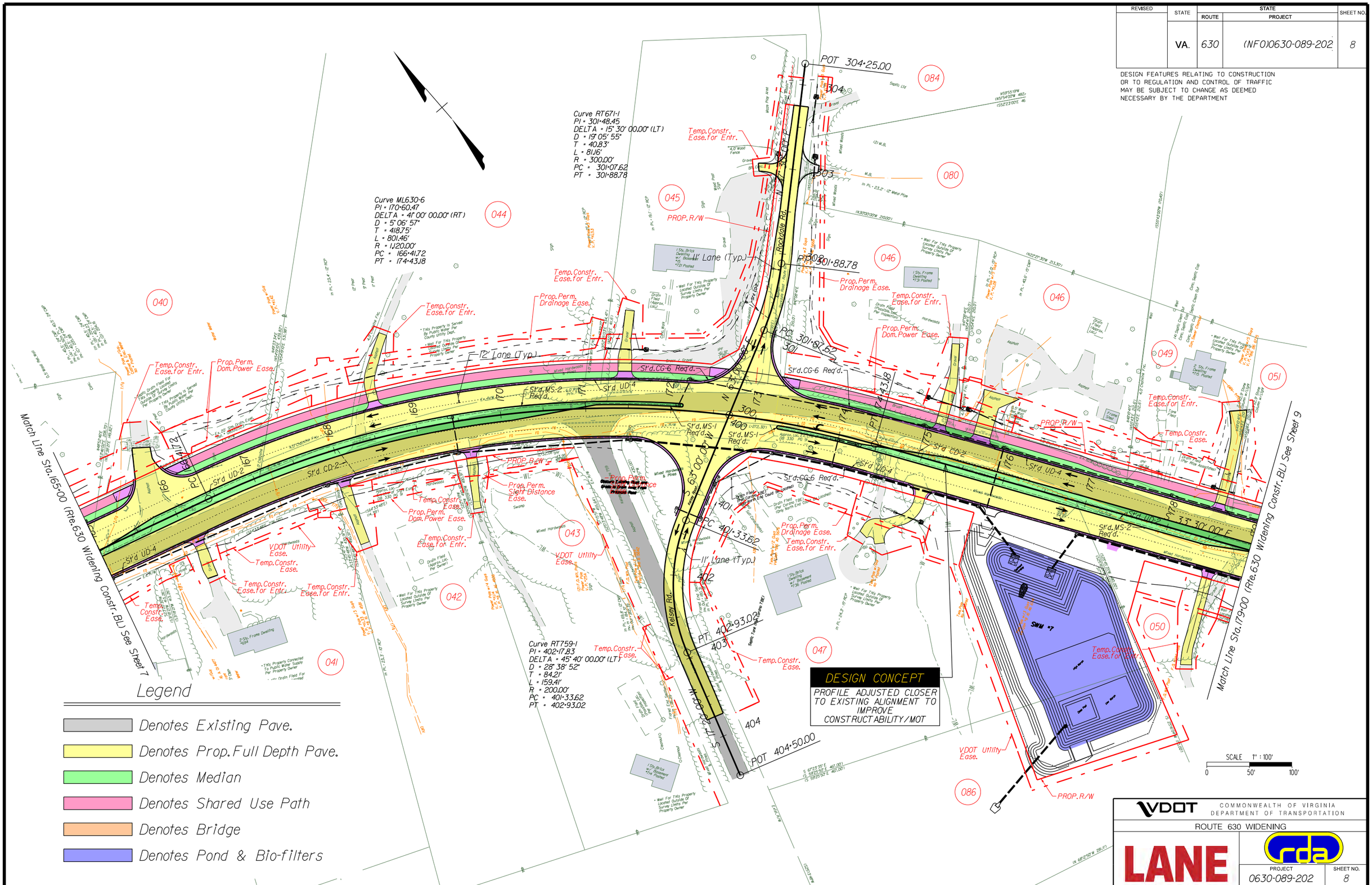
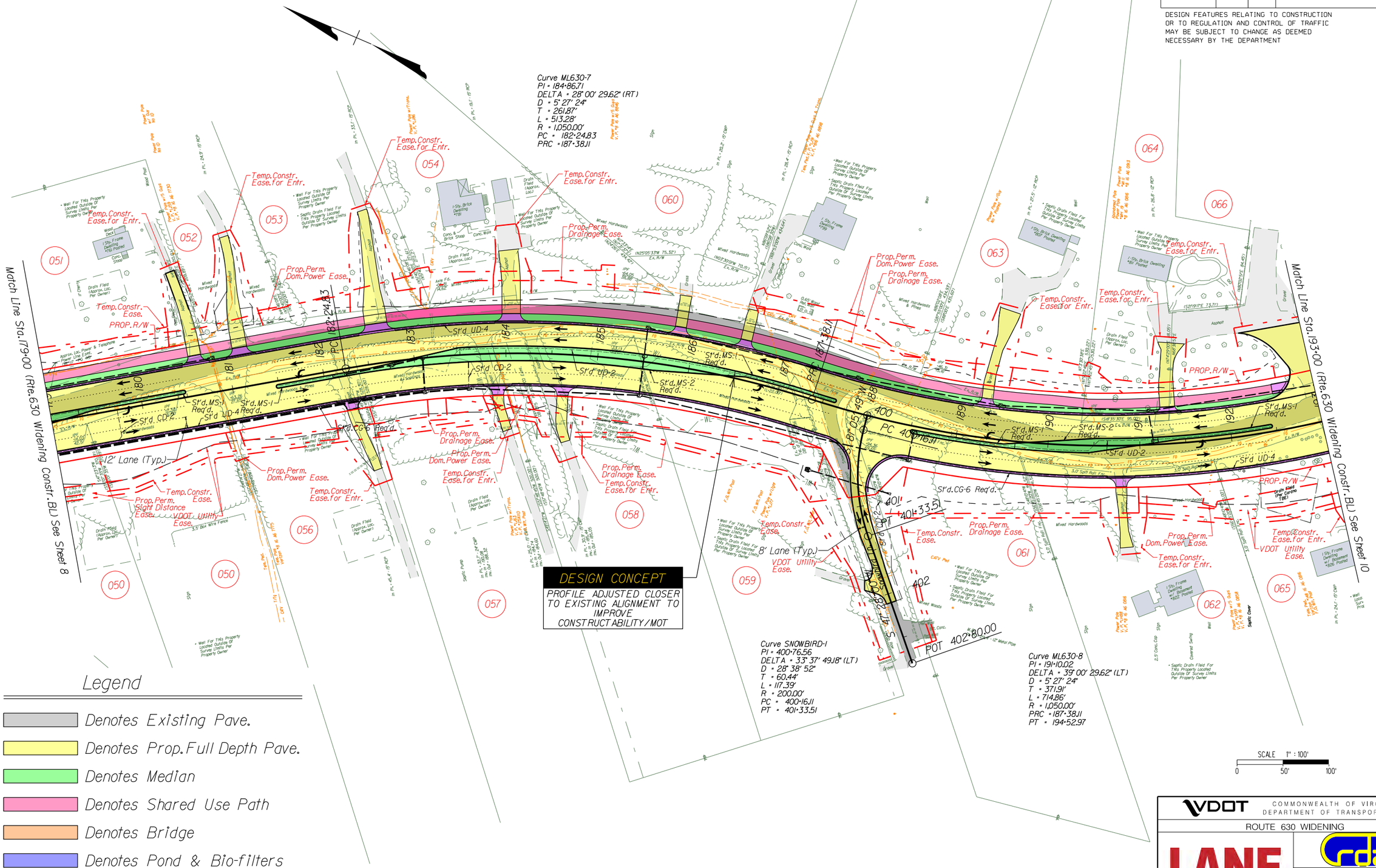


REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	9

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



VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

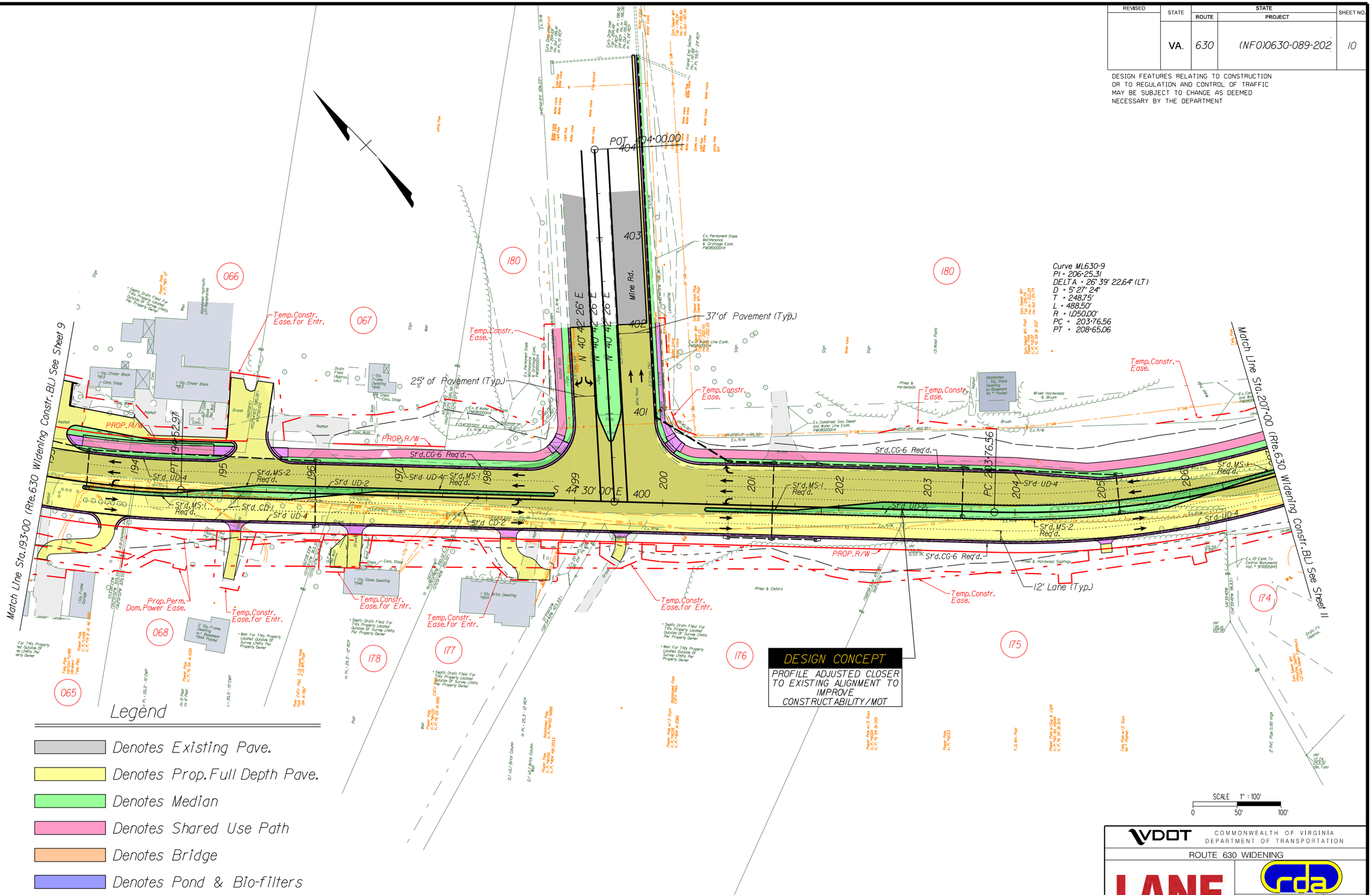
ROUTE 630 WIDENING

LANE

PROJECT	SHEET NO.
0630-089-202	9

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	10

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



VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

ROUTE 630 WIDENING

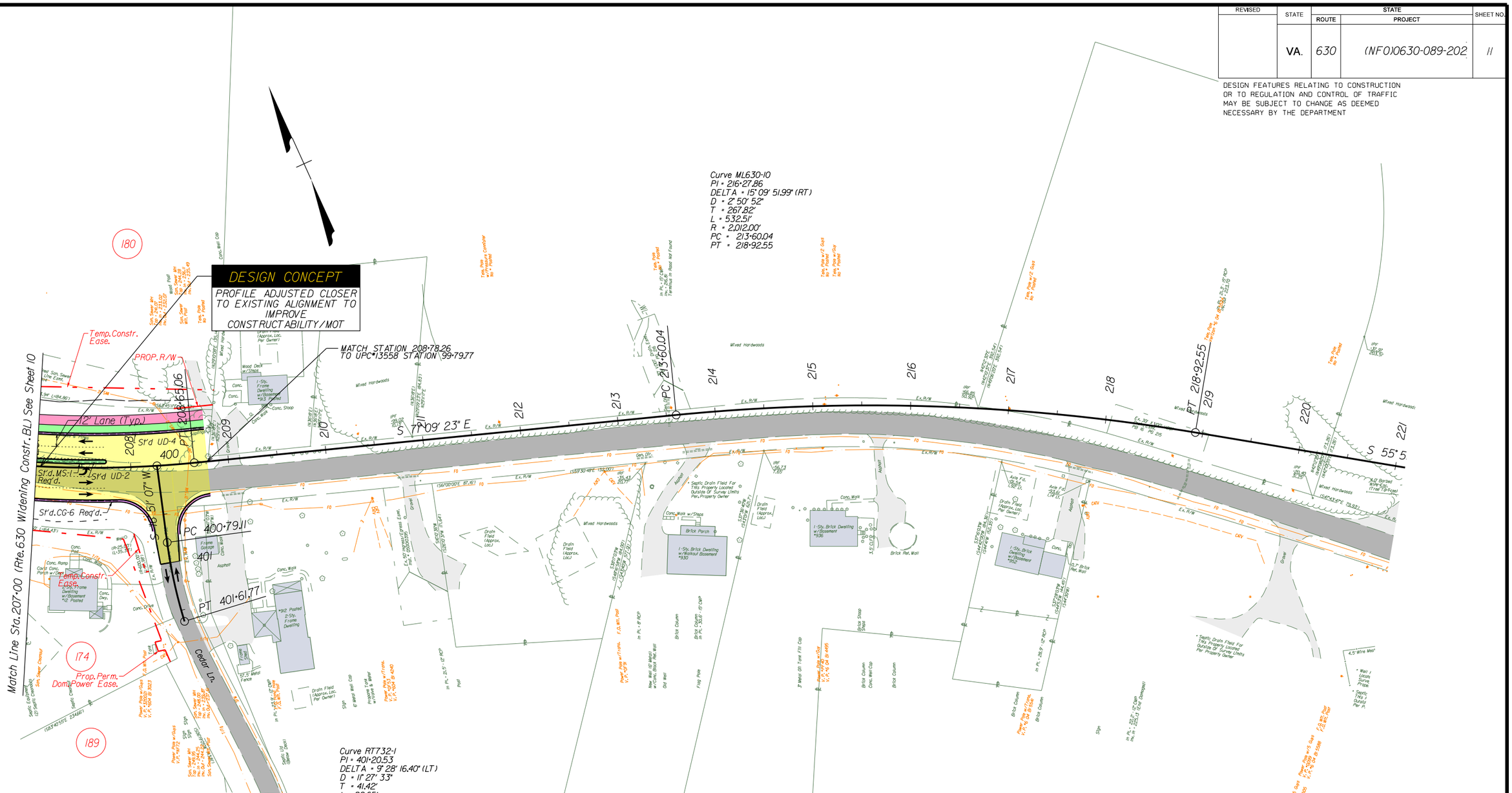
LANE

rda

PROJECT	SHEET NO.
0630-089-202	10

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	630	(NFO)0630-089-202	11

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

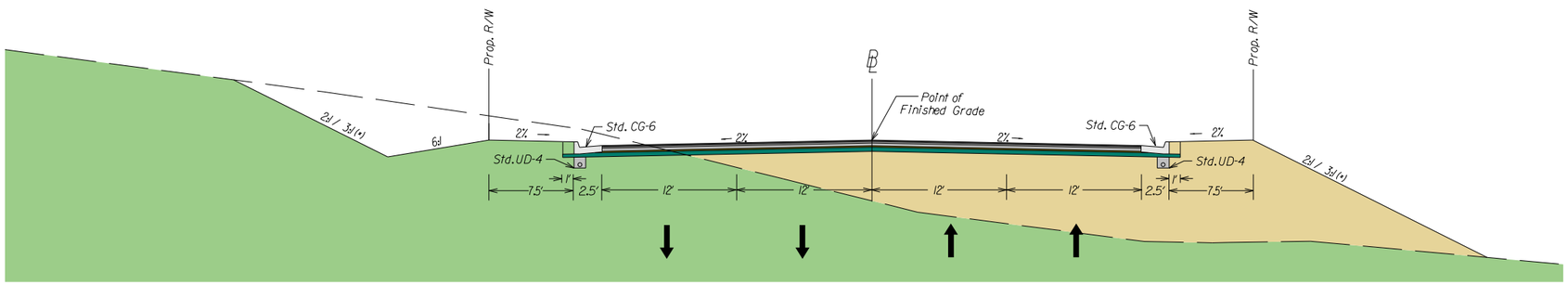


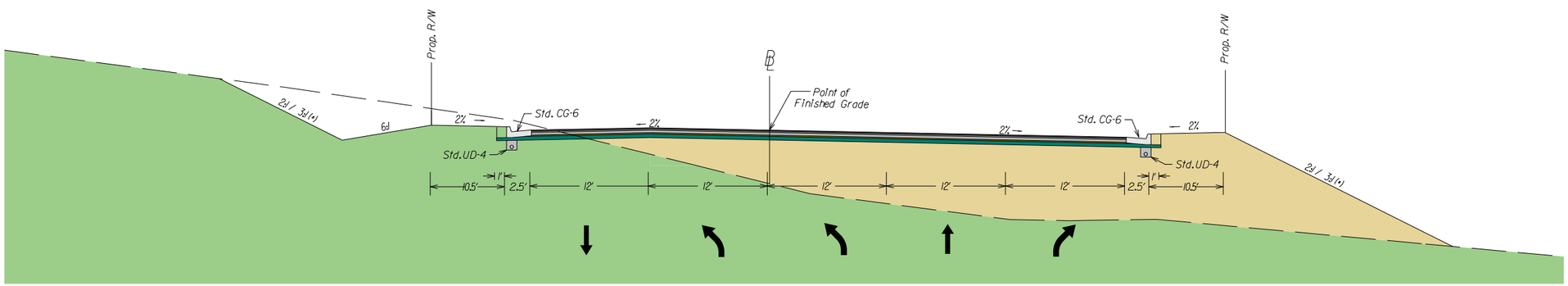
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	12

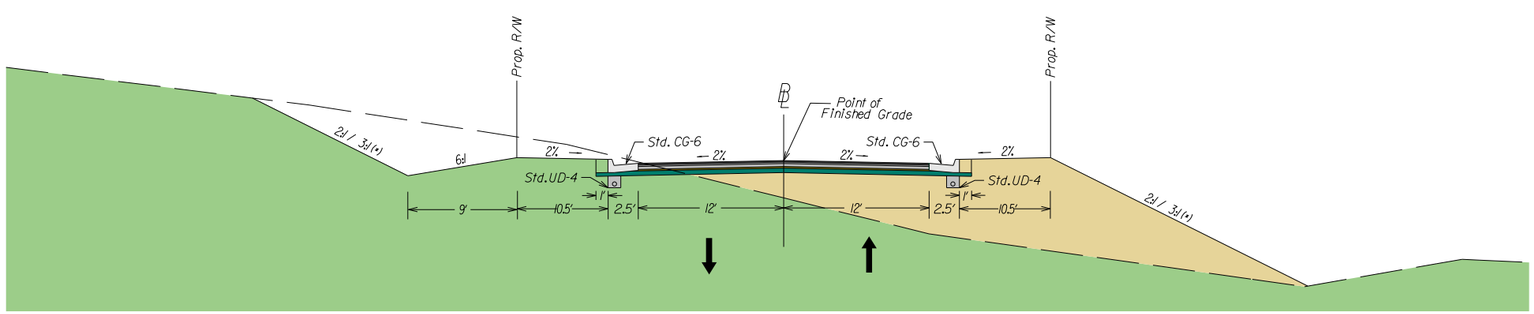
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

TYPICAL SECTIONS

Wyche Road







(*) 3:1 and flatter slopes will be used when Right of Way is behind the sidewalk (or sidewalk space) in residential or other areas where the slope will be maintained by the property owners.

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

rda

PROJECT	SHEET NO.
0095-089-F09	12

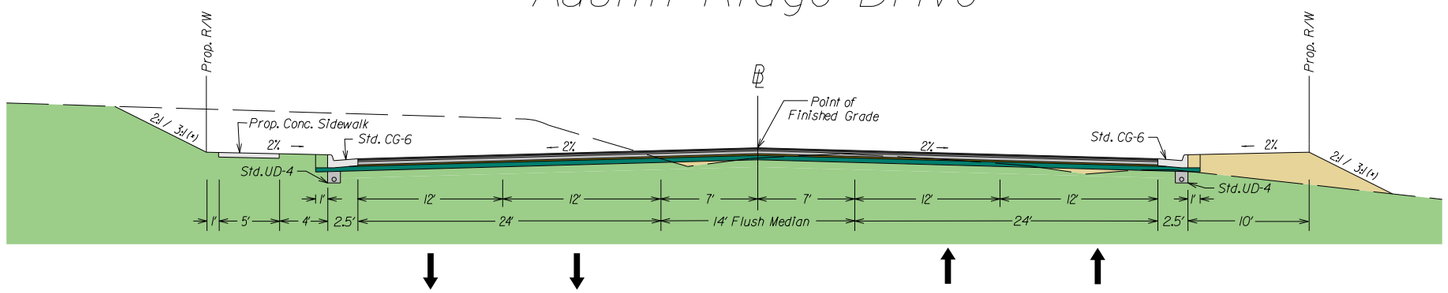
$TIME$STAMP$

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	12(1)

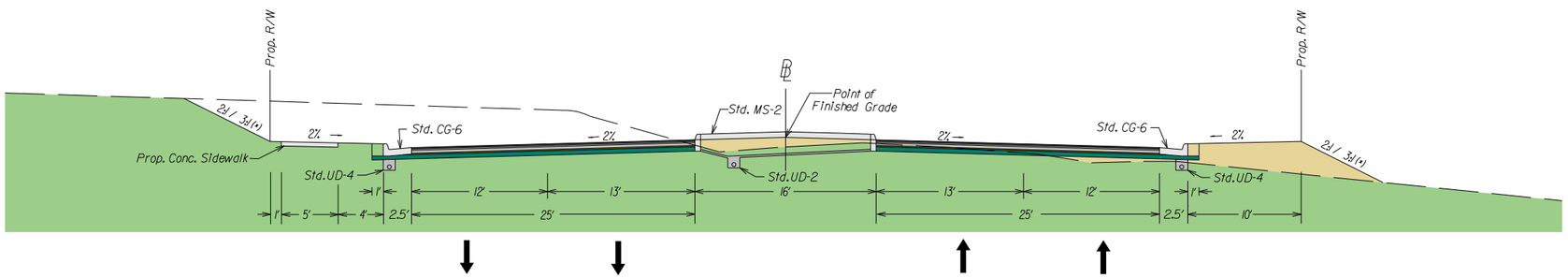
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

TYPICAL SECTIONS

Austin Ridge Drive

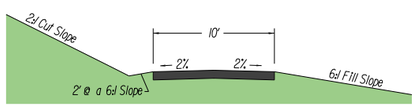


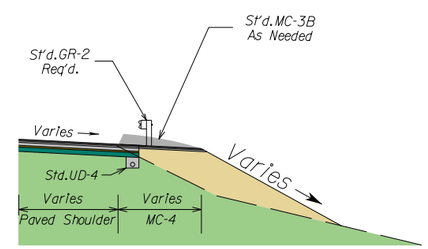
(*) 3:1 and flatter slopes will be used when Right of Way is behind the sidewalk (or sidewalk space) in residential or other areas where the slope will be maintained by the property owners.



Independent Shared Use Path

General Guardrail Typical





VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

rda

PROJECT	SHEET NO.
0095-089-F09	12(1)

$DGNLEV $LEV001 $LEV002 $LEV003 $LEV004 $LEV005 $LEV006

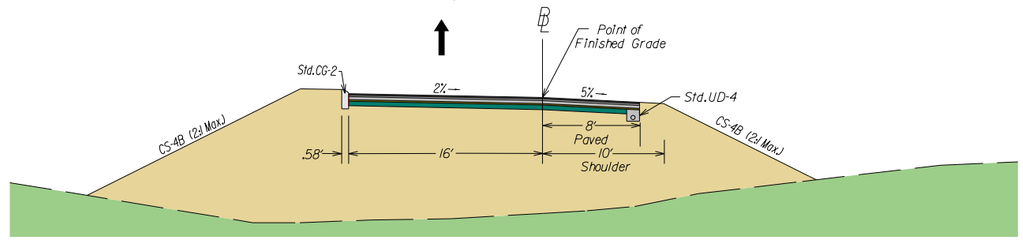
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	12(2)

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

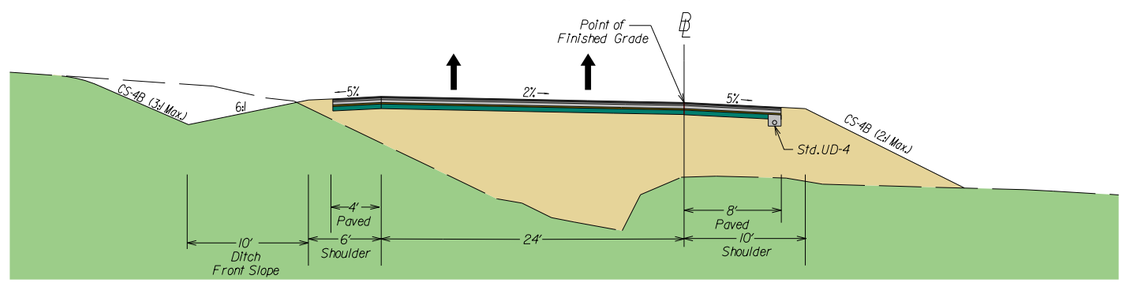
TYPICAL SECTIONS

Ramps

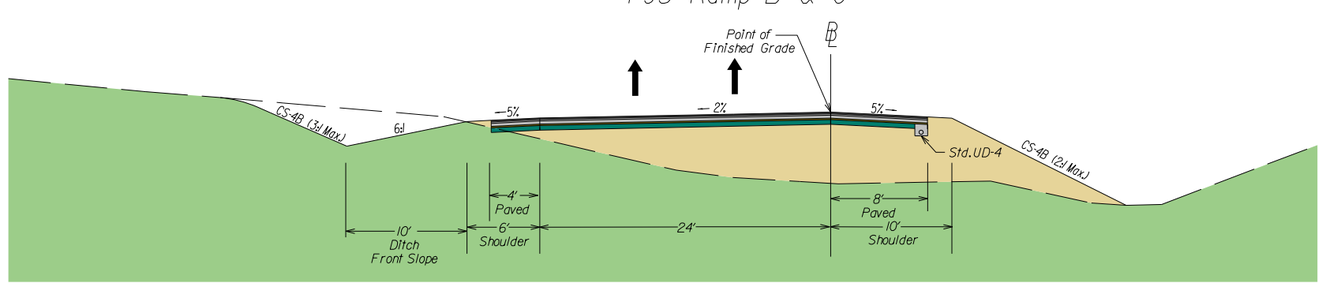
I-95 Ramp A,B,C & D



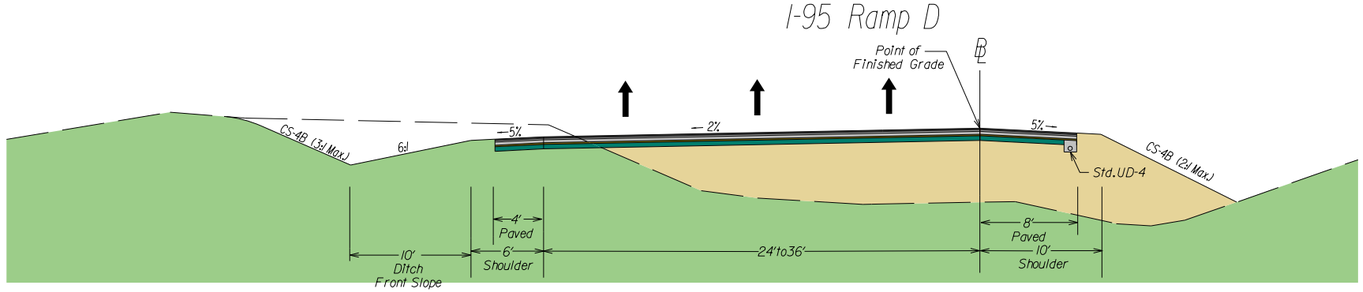
I-95 Ramp A



I-95 Ramp B & C



I-95 Ramp D



VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

PROJECT	SHEET NO.
0095-089-F09	12(2)

$TIME$STAMP$

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	12(3)

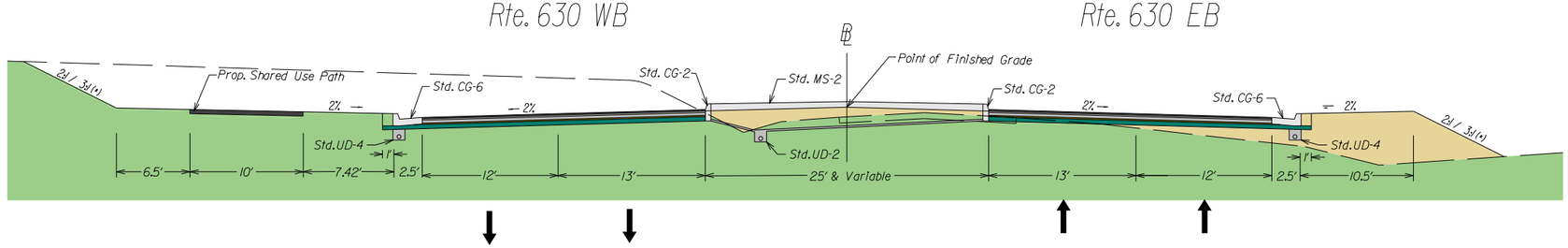
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

TYPICAL SECTIONS

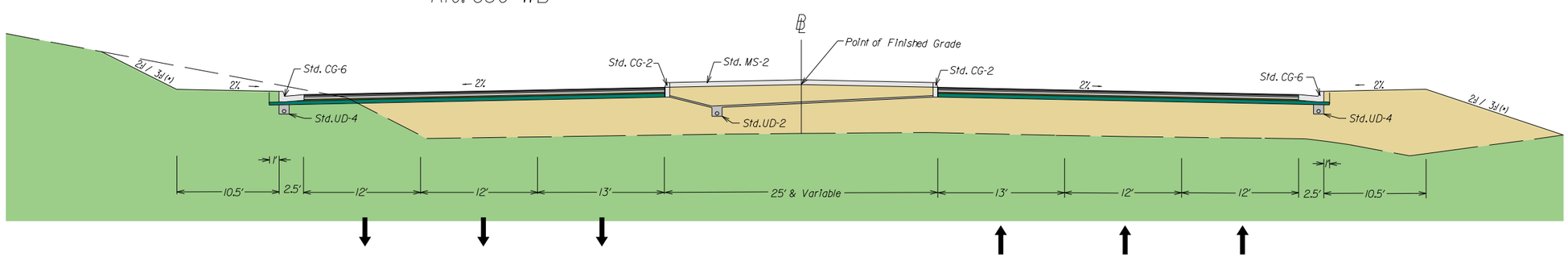
Rte. 630

(*) 3:1 and flatter slopes will be used when Right of Way is behind the sidewalk (or sidewalk space) in residential or other areas where the slope will be maintained by the property owners.

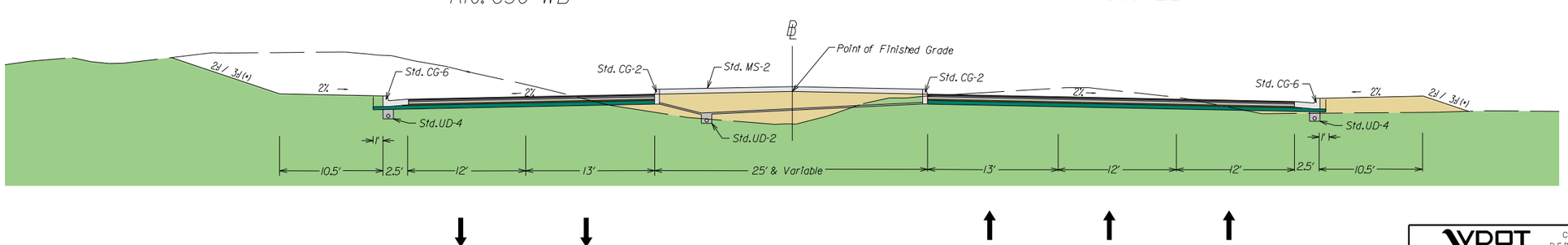
Rte. 630 WB Rte. 630 EB



Rte. 630 WB Rte. 630 EB



Rte. 630 WB Rte. 630 EB



VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

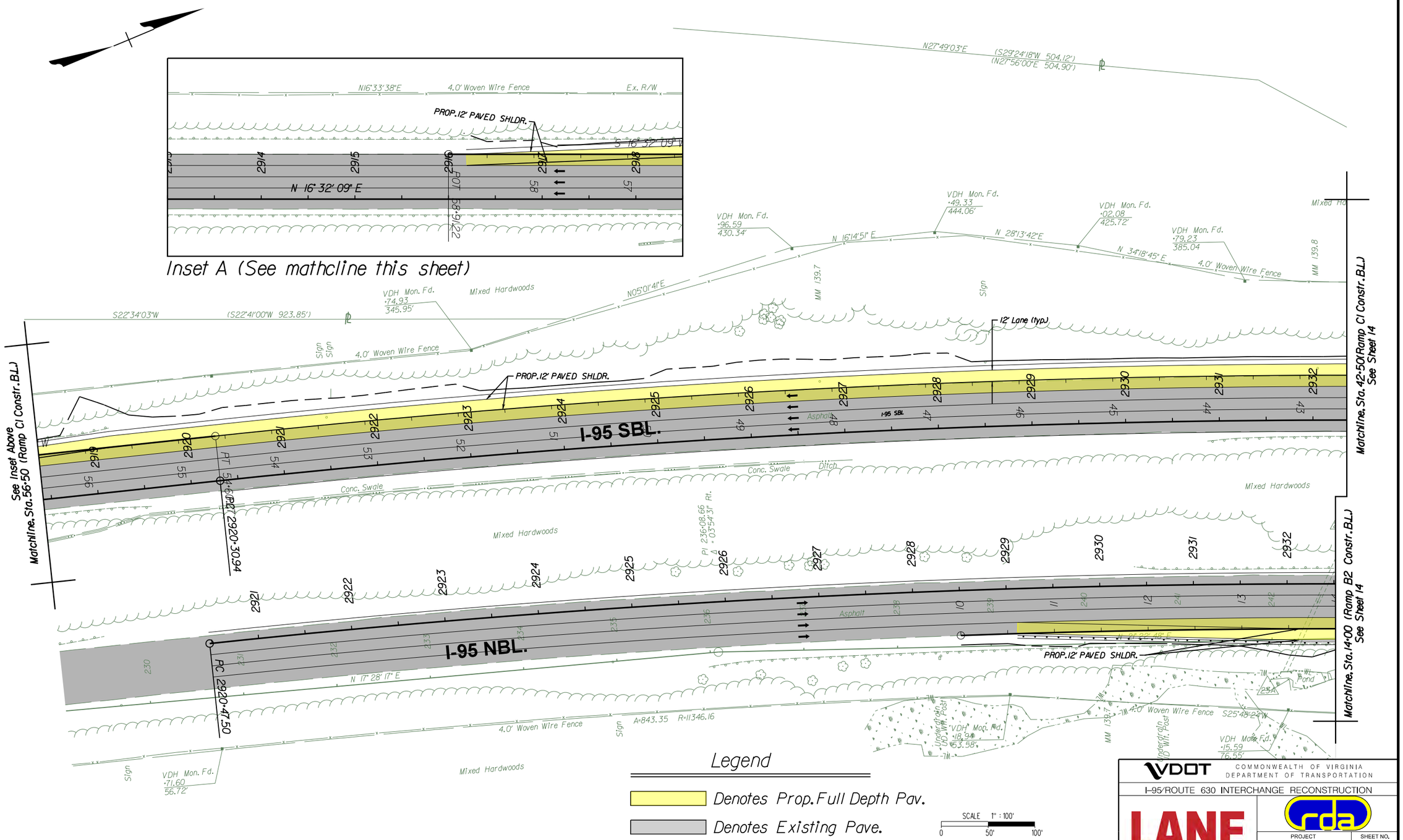
rda

PROJECT	SHEET NO.
0095-089-F09	12(3)

$TIME $STAMP$

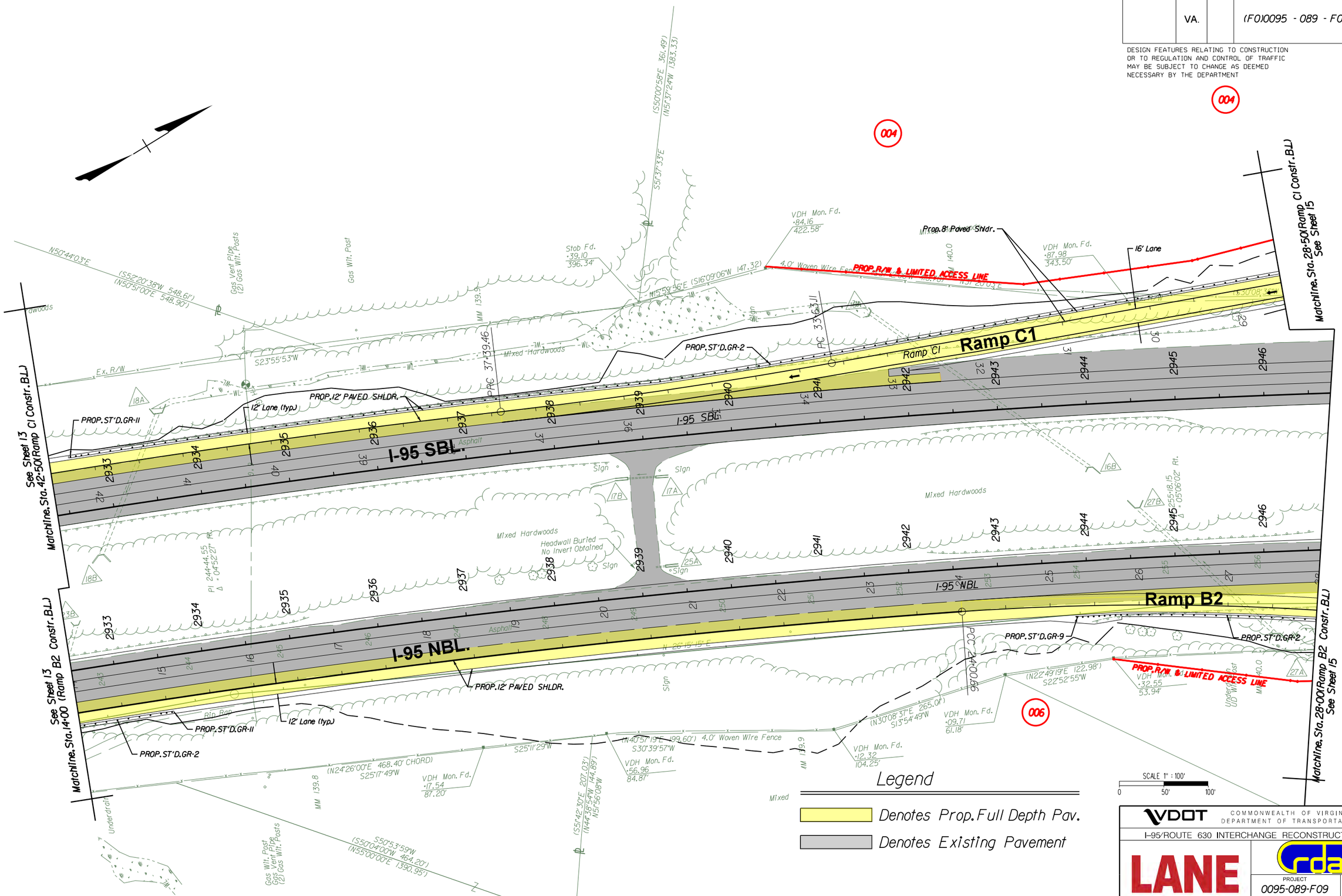
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F01)0095 - 089 - F09	13

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



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	14

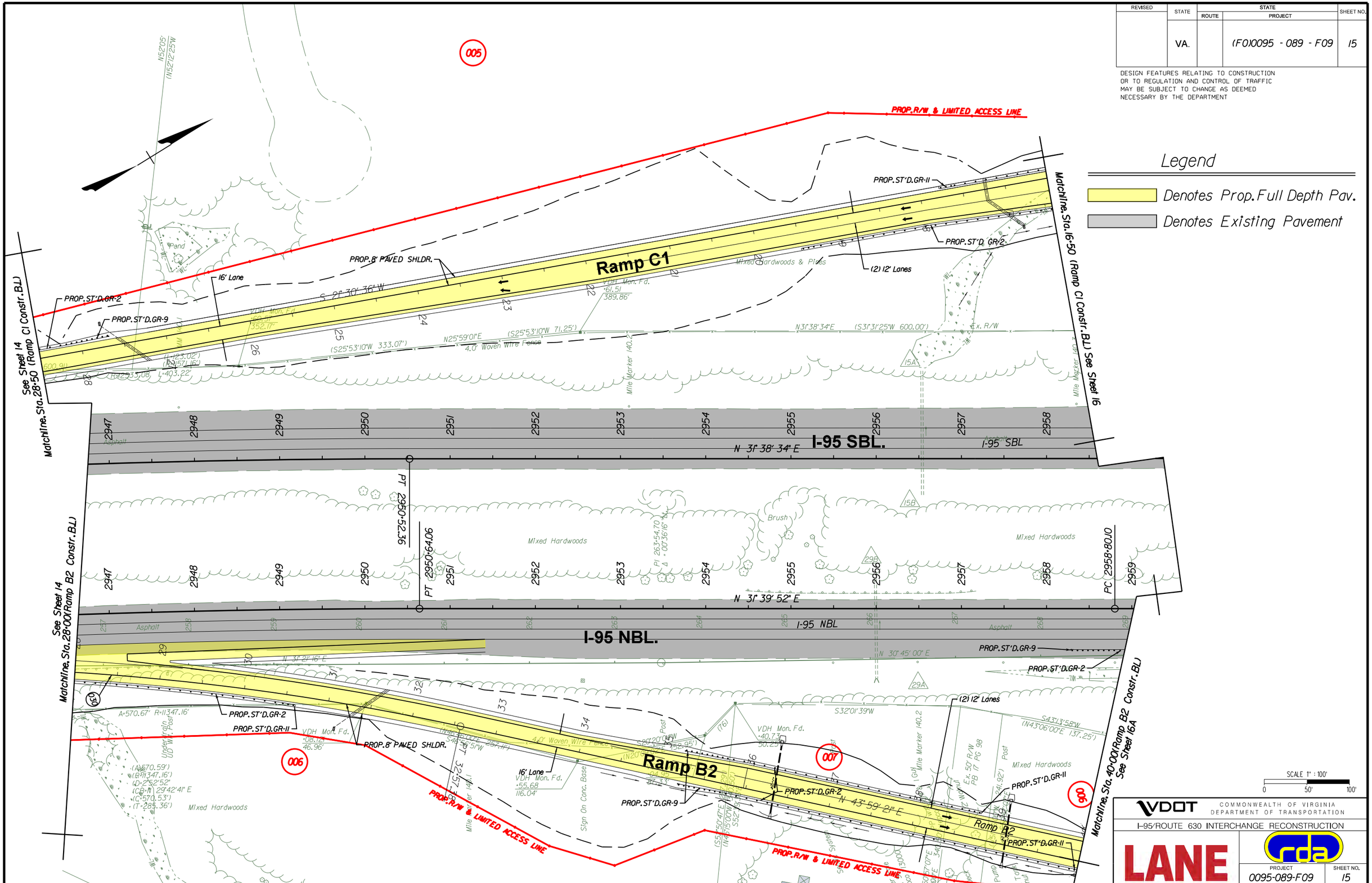
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



$TIME$STAMP$

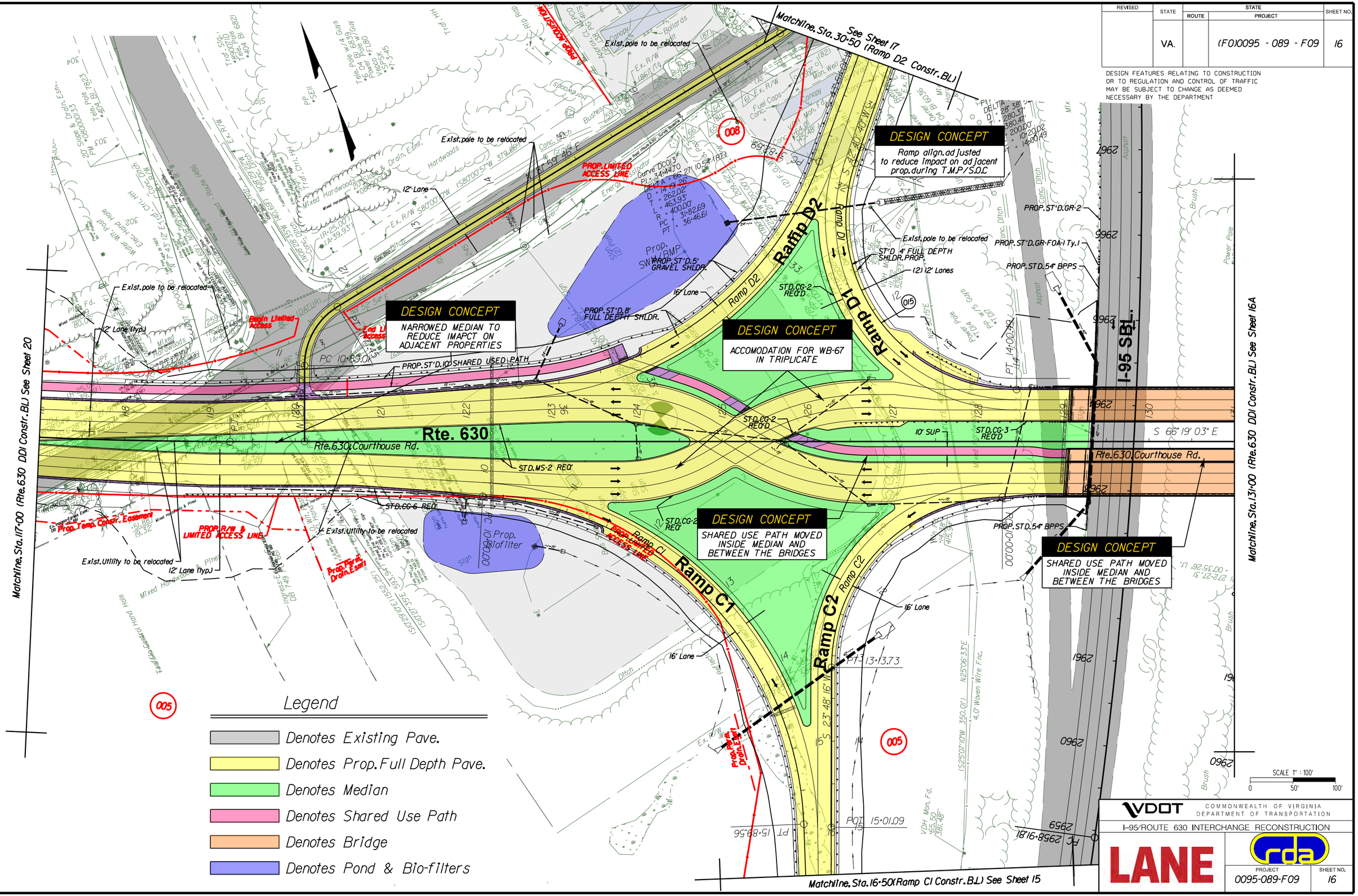
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	15

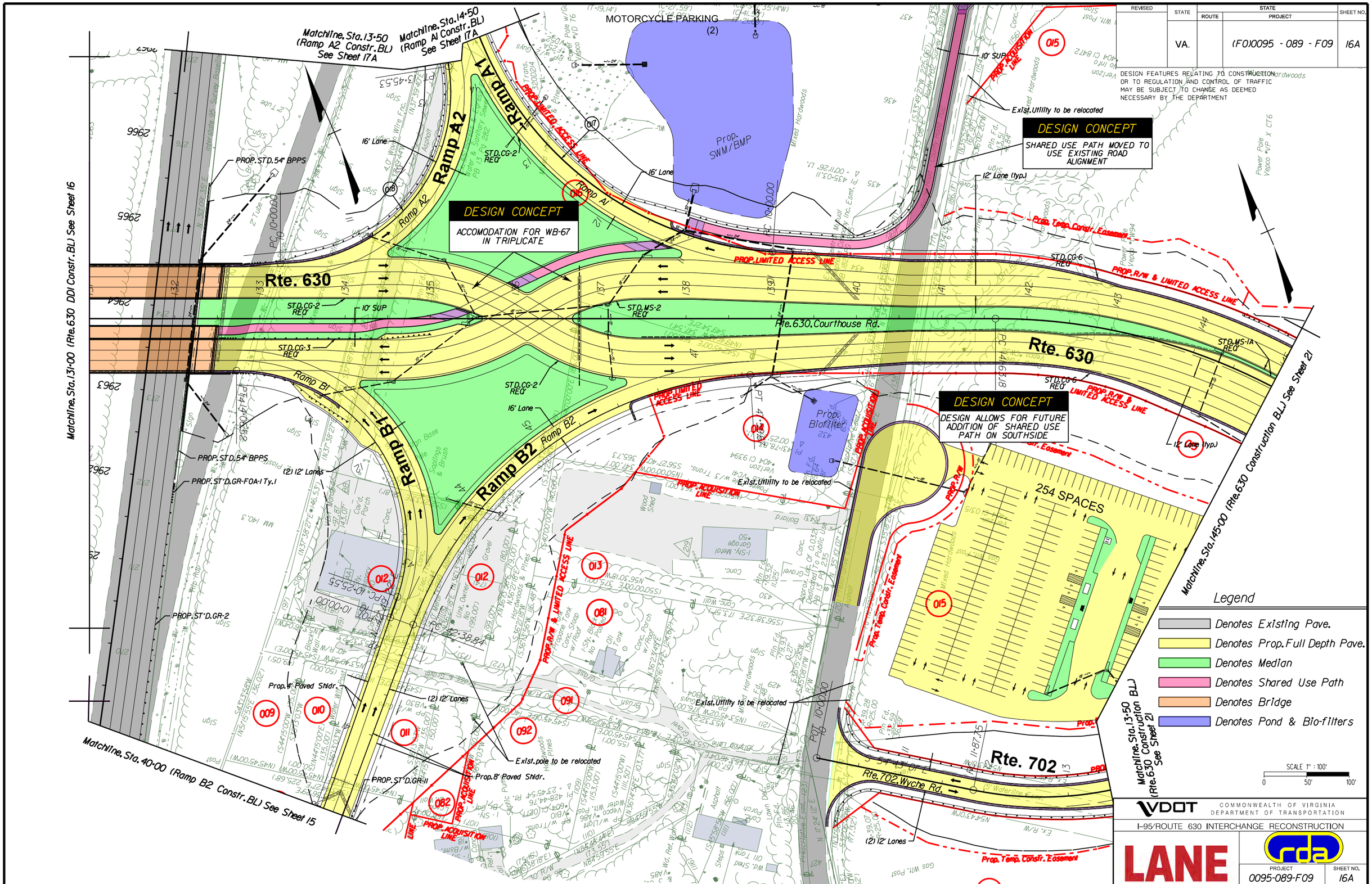
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	16

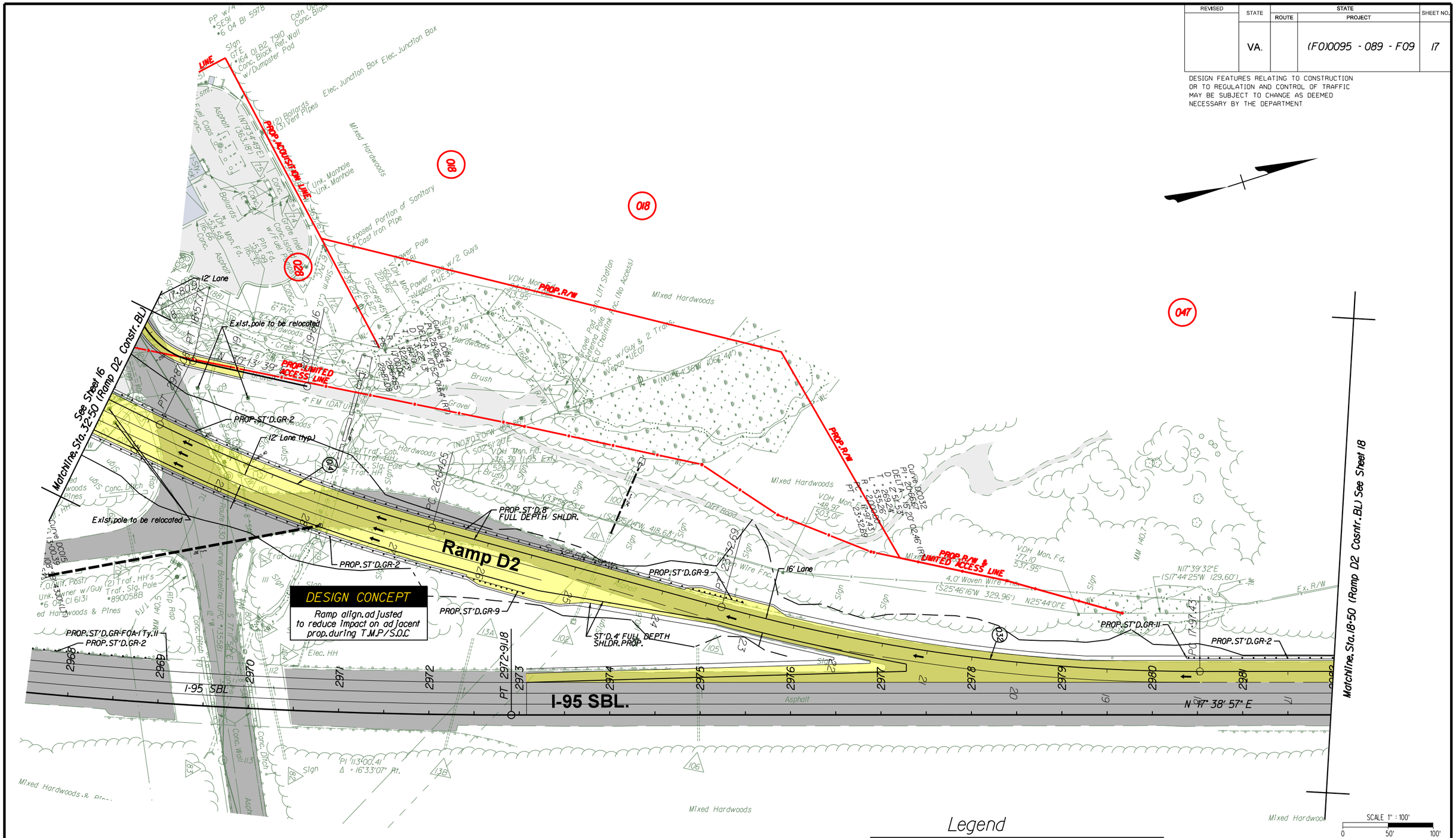
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT




REVISED
STATE
STATE
ROUTE
PROJECT
SHEET NO.
VA.
(FO)0095 - 089 - F09
16A
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT
DESIGN CONCEPT
SHARED USE PATH MOVED TO USE EXISTING ROAD ALIGNMENT
DESIGN CONCEPT
ACCOMODATION FOR WB-67 IN TRIPLICATE
DESIGN CONCEPT
DESIGN ALLOWS FOR FUTURE ADDITION OF SHARED USE PATH ON SOUTHSIDE
MOTORCYCLE PARKING
(2)
Prop. SWM/BMP
Prop. Biofilter
254 SPACES
Rte. 630
Rte. 630, Courthouse Rd.
Rte. 702
Rte. 702, Wyche Rd.
Ramp A2
Ramp A1
Ramp B1
Ramp B2
Matchline, Sta. 13+50 (Ramp A2 Constr. BL) See Sheet 17A
Matchline, Sta. 14+50 (Ramp A1 Constr. BL) See Sheet 17A
Matchline, Sta. 13+00 (Rte. 630 DDI Constr. BL) See Sheet 16
Matchline, Sta. 40+00 (Ramp B2 Constr. BL) See Sheet 15
Matchline, Sta. 145+00 (Rte. 630 Construction BL) See Sheet 21
Matchline, Sta. 13+50 (Rte. 630 Construction BL) See Sheet 21
PROP. ACQUISITION LINE
PROP. LIMITED ACCESS LINE
PROP. R/W & LIMITED ACCESS LINE
PROP. R/W
Prop. Temp. Constr. Easement
Exist. Utility to be relocated
Exist. pole to be relocated
Prop. 8' Paved Shldr.
Prop. 4' Paved Shldr.
(2) 12' Lanes
16' Lane
12' Lane (typ.)
10' SUP
PROP. ST'D. 54" BPPS
PROP. ST'D. GR-FOA-1 Ty. I
PROP. ST'D. GR-2
PROP. ST'D. GR-11
STD. CG-2 REQ'D
STD. CG-3 REQ'D
STD. CG-6 REQ'D
STD. MS-2 REQ'D
STD. MS-1A REQ'D
Legend
Denotes Existing Pave.
Denotes Prop. Full Depth Pave.
Denotes Median
Denotes Shared Use Path
Denotes Bridge
Denotes Pond & Bio-filters
SCALE 1" : 100'
0 50' 100'
VDOT
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION
LANE
rda
PROJECT
0095-089-F09
SHEET NO.
16A

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	17

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



Legend

- Denotes Prop. Full Depth Pave.
- Denotes Existing Pave.

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

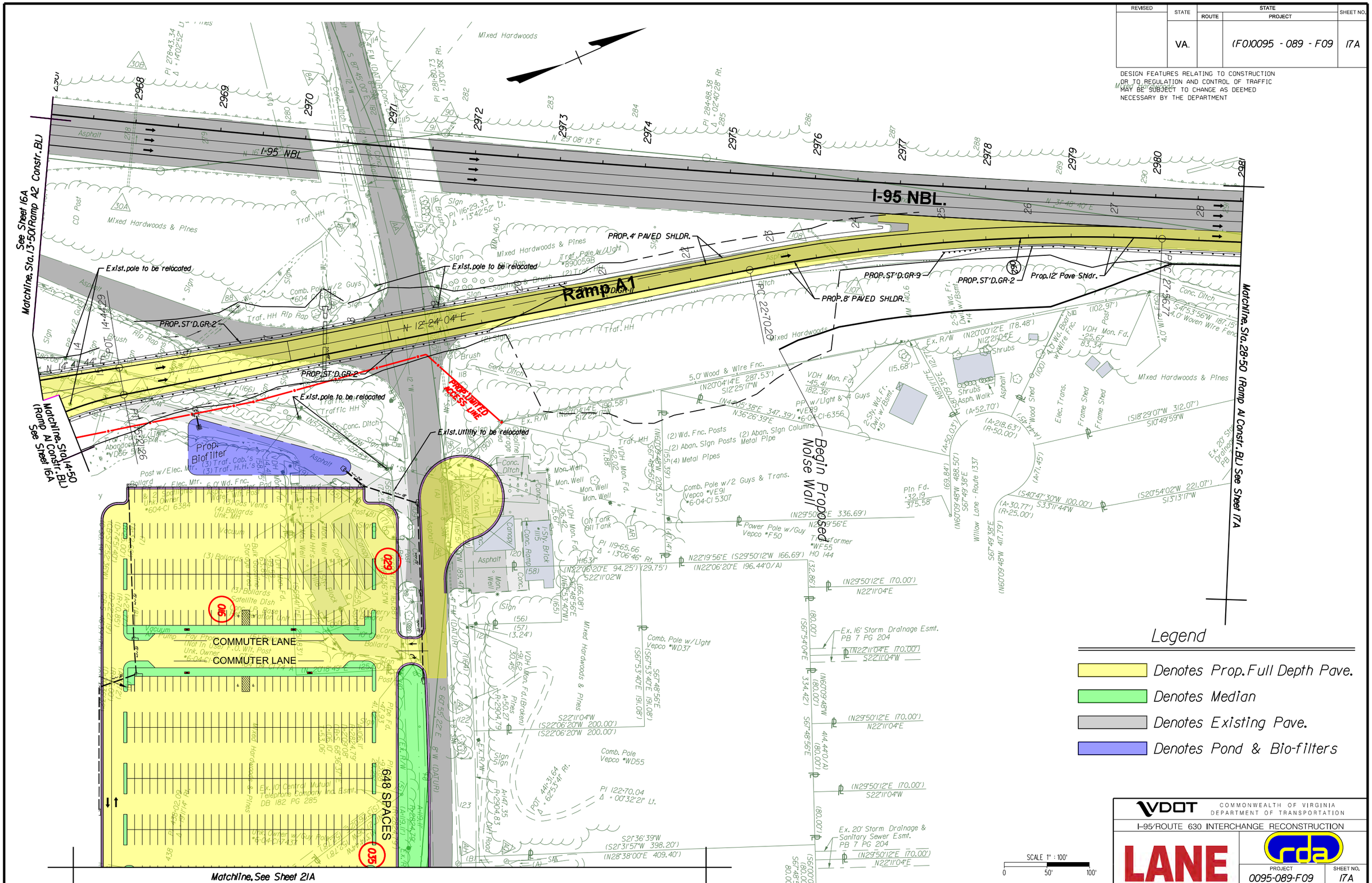
LANE

PROJECT	SHEET NO.
0095-089-F09	17

$TIME$STAMP$

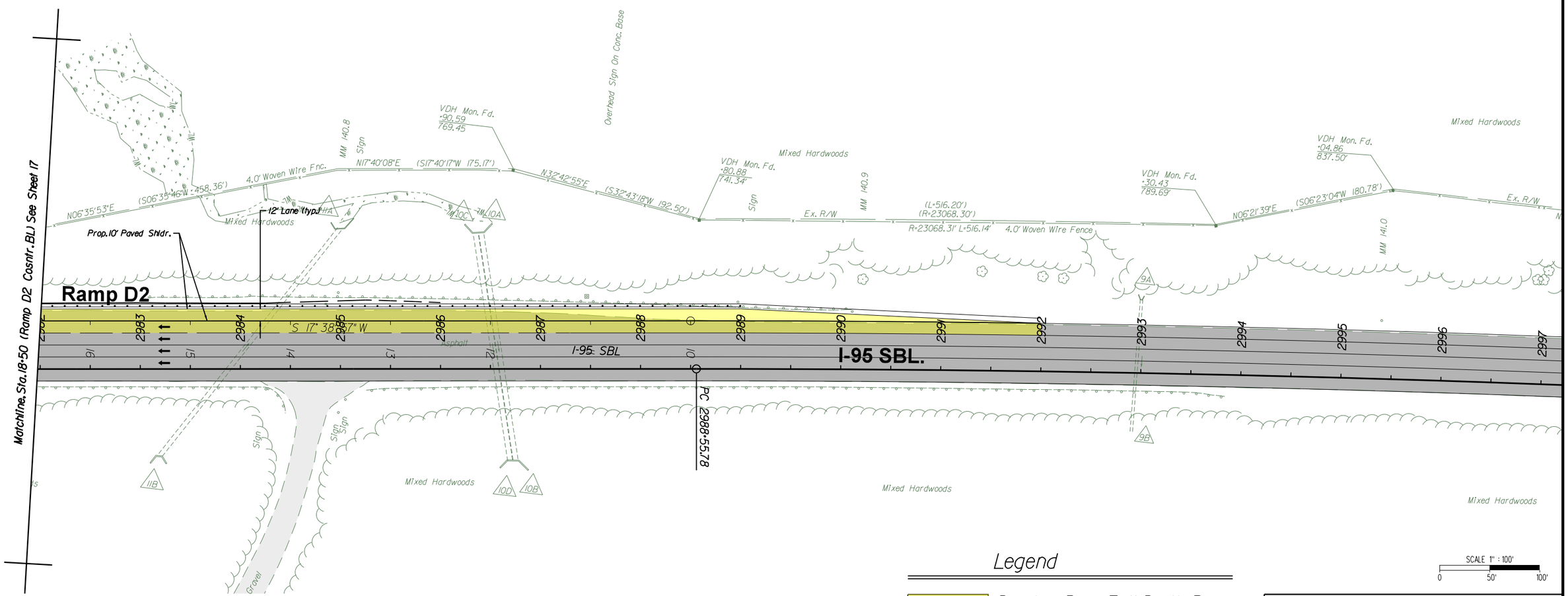
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	17A

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



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	18

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



VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

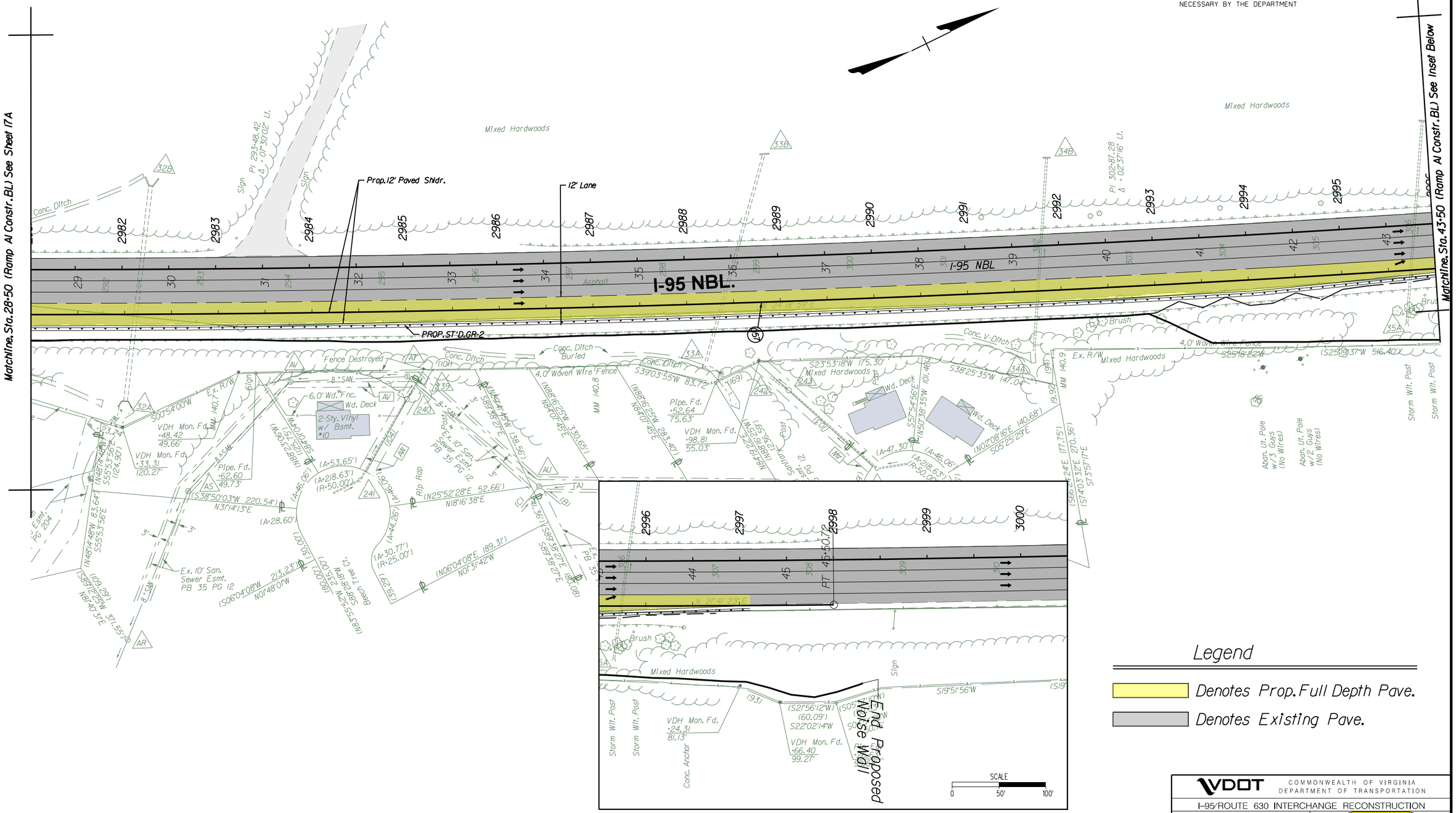
rda

PROJECT	SHEET NO.
0095-089-F09	18

$TIME $STAMP$

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	18A

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



VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

PROJECT	SHEET NO.
0095-089-F09	18A

$TIME$STAMP$

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	19

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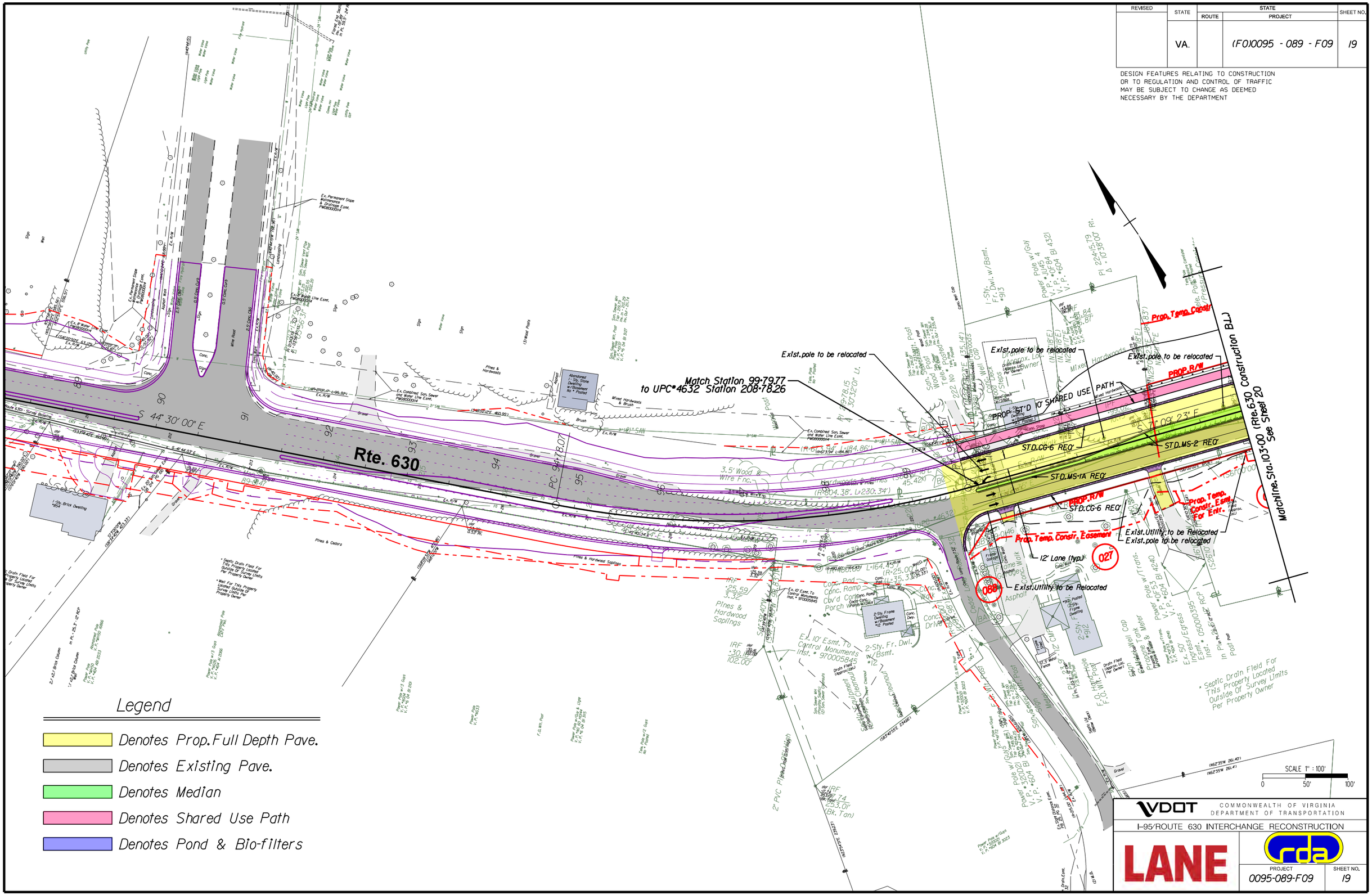

$TIME$STAMP$

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	20

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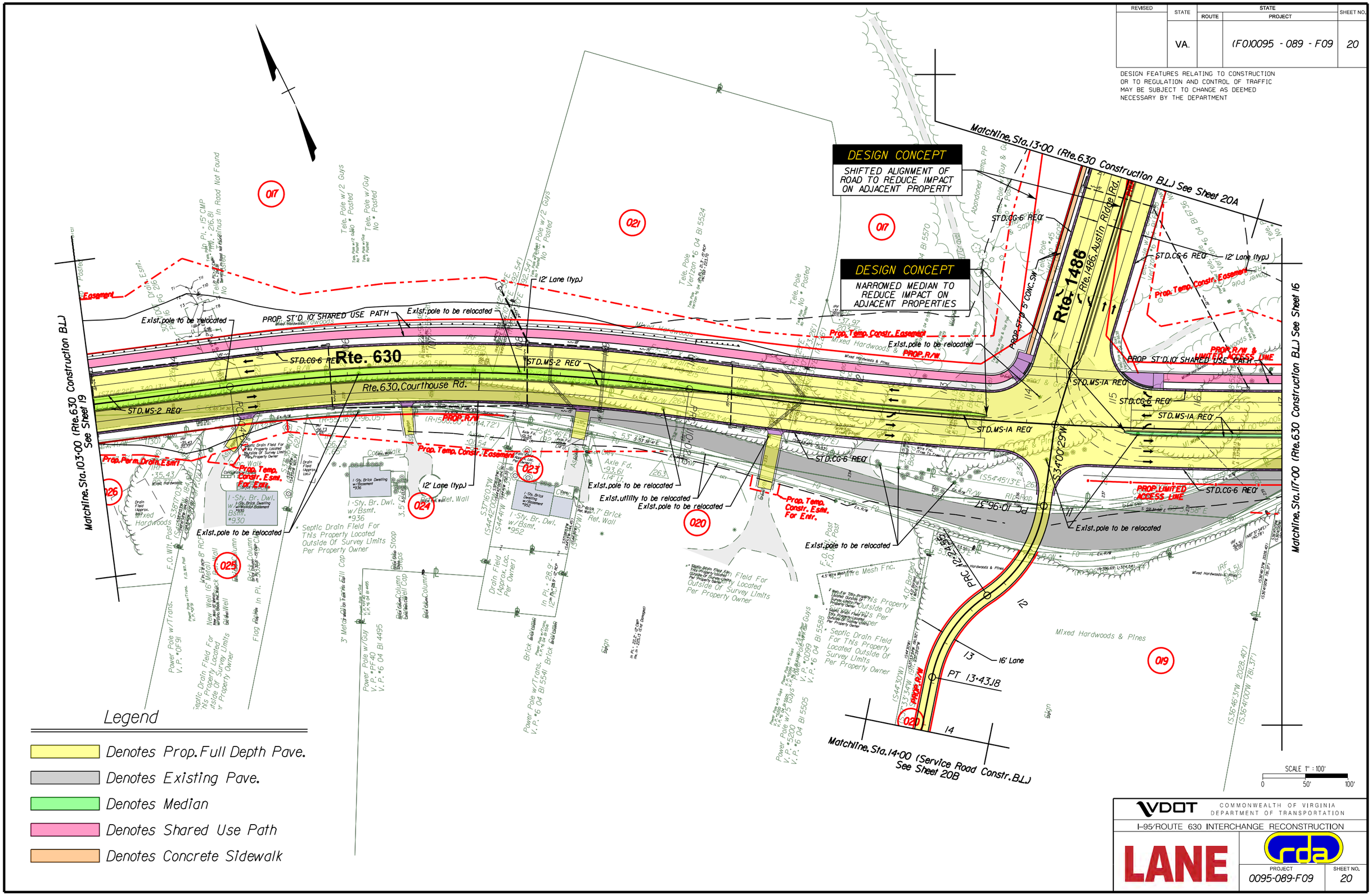

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

PROJECT	SHEET NO.
0095-089-F09	20

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	20A

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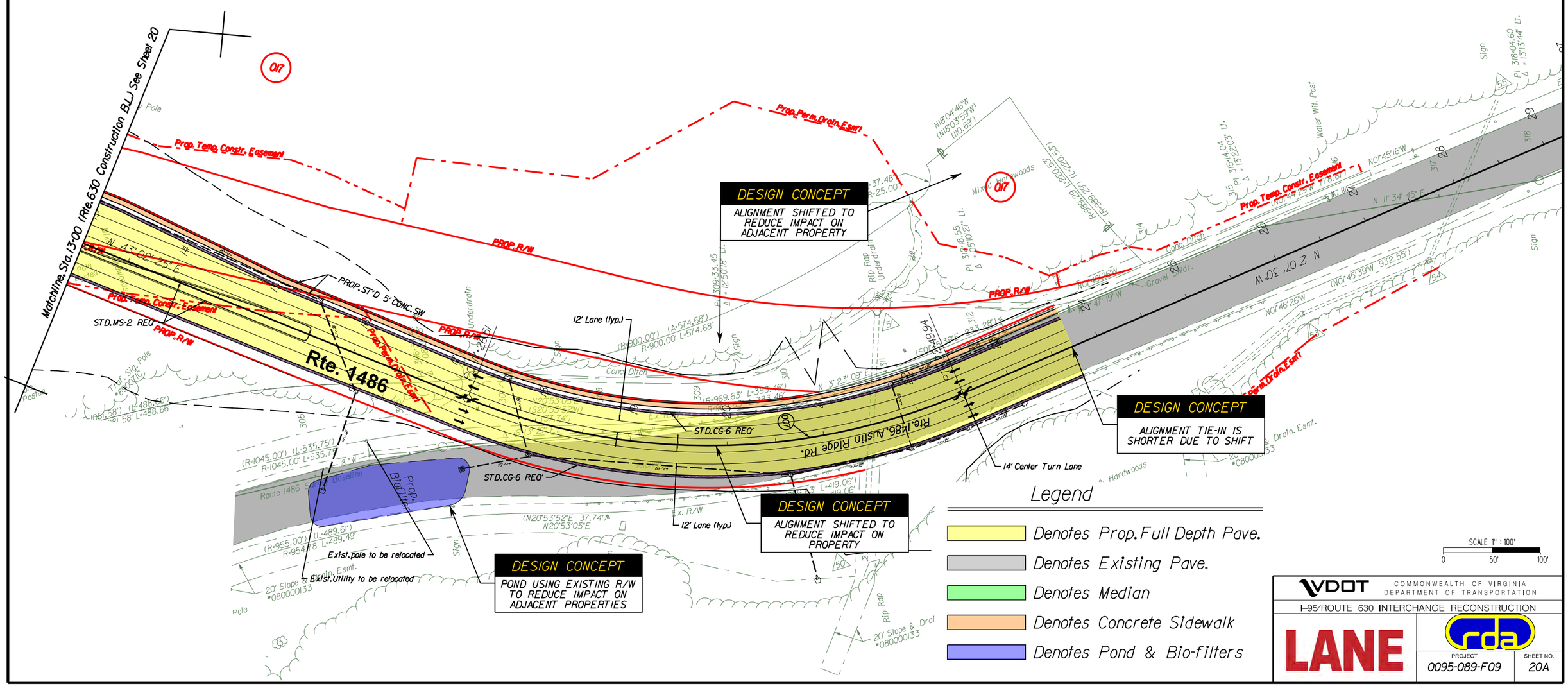

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REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	20B

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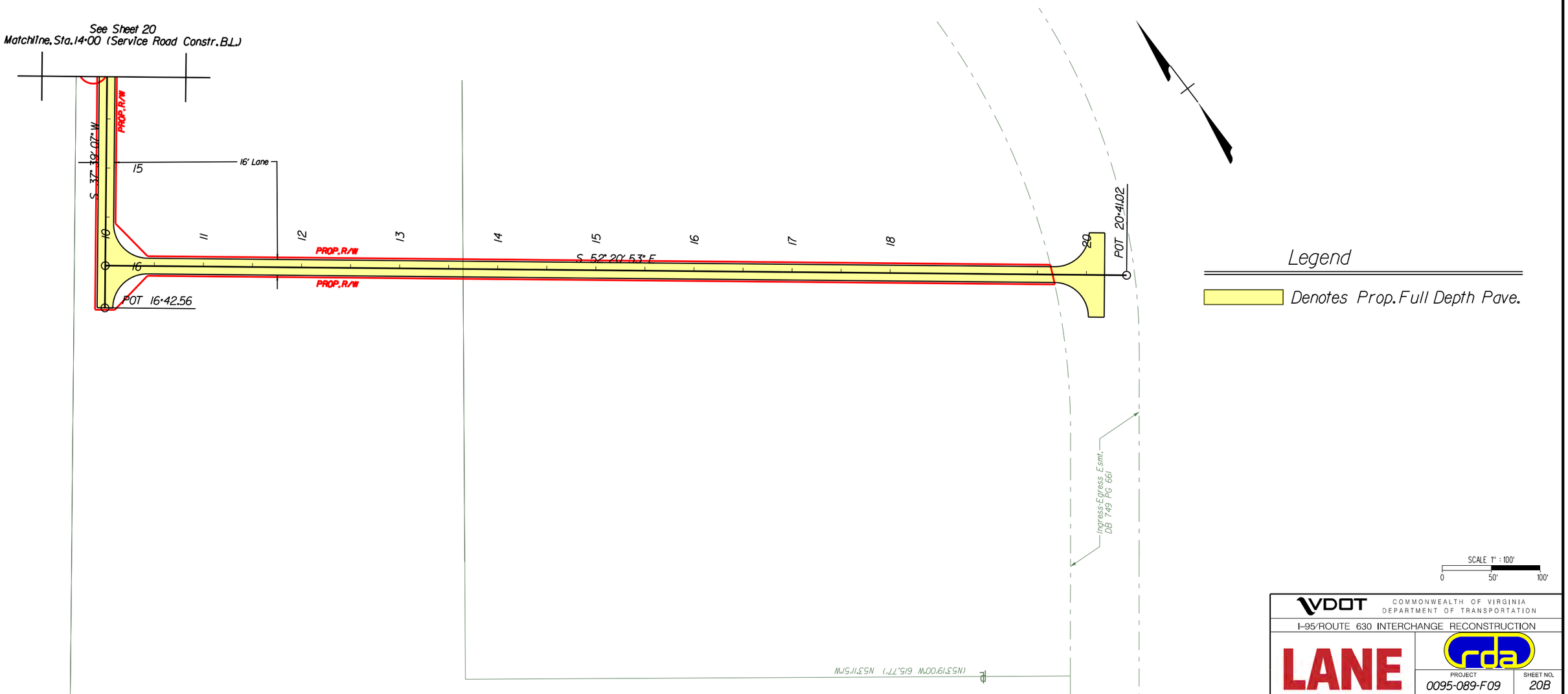
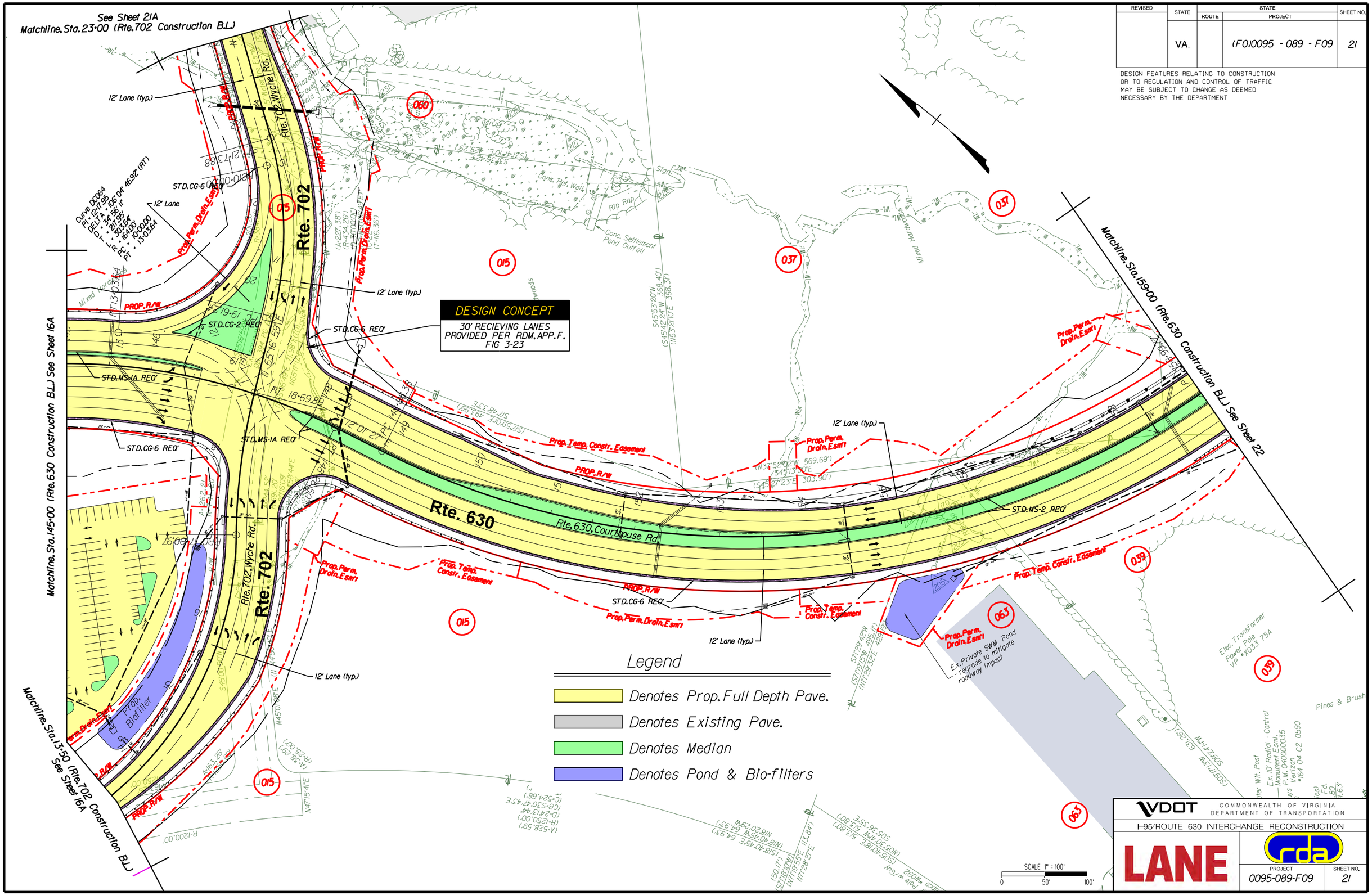


$TIME$STAMP$

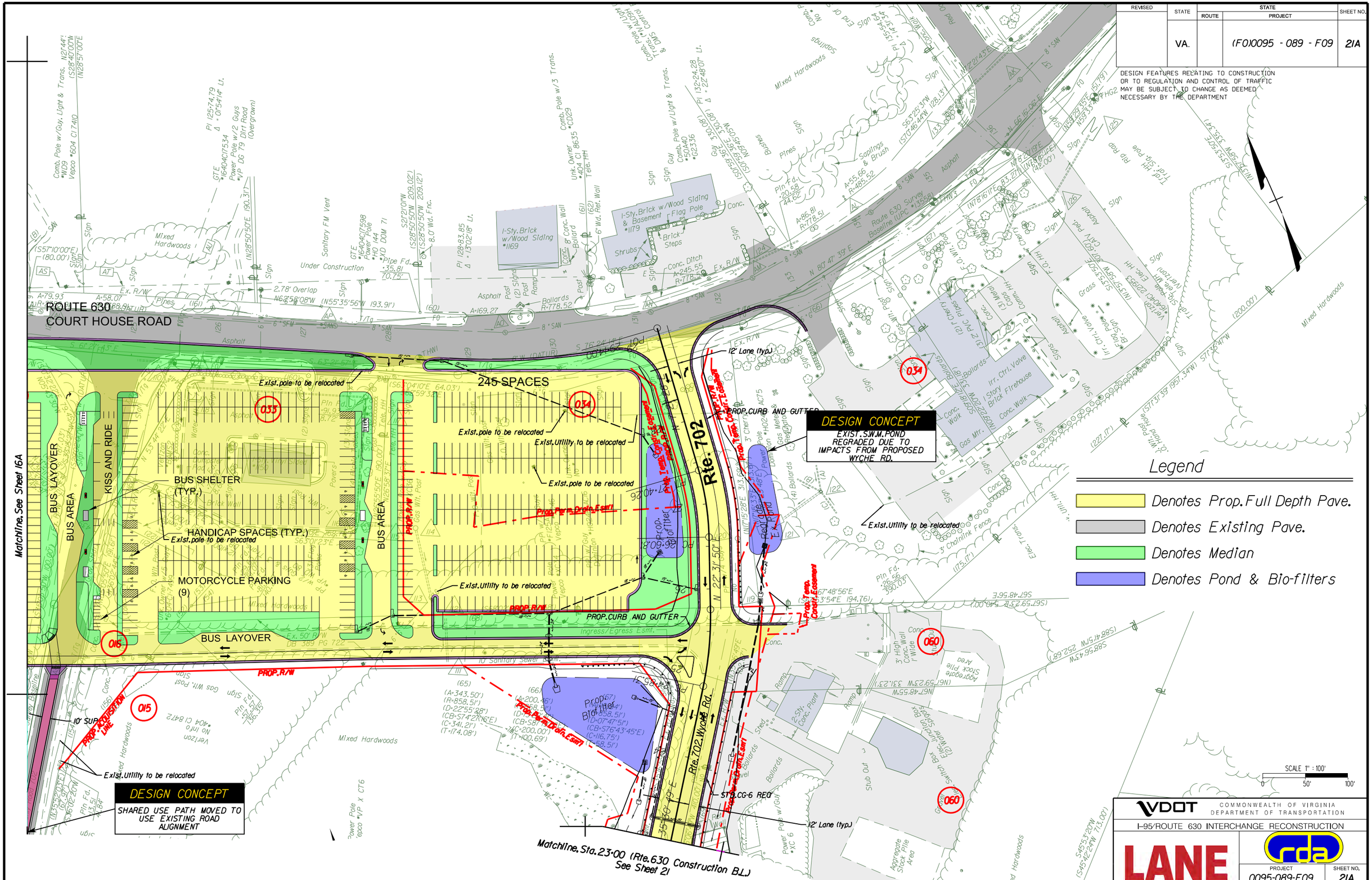


REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	21

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

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	21A

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



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	22

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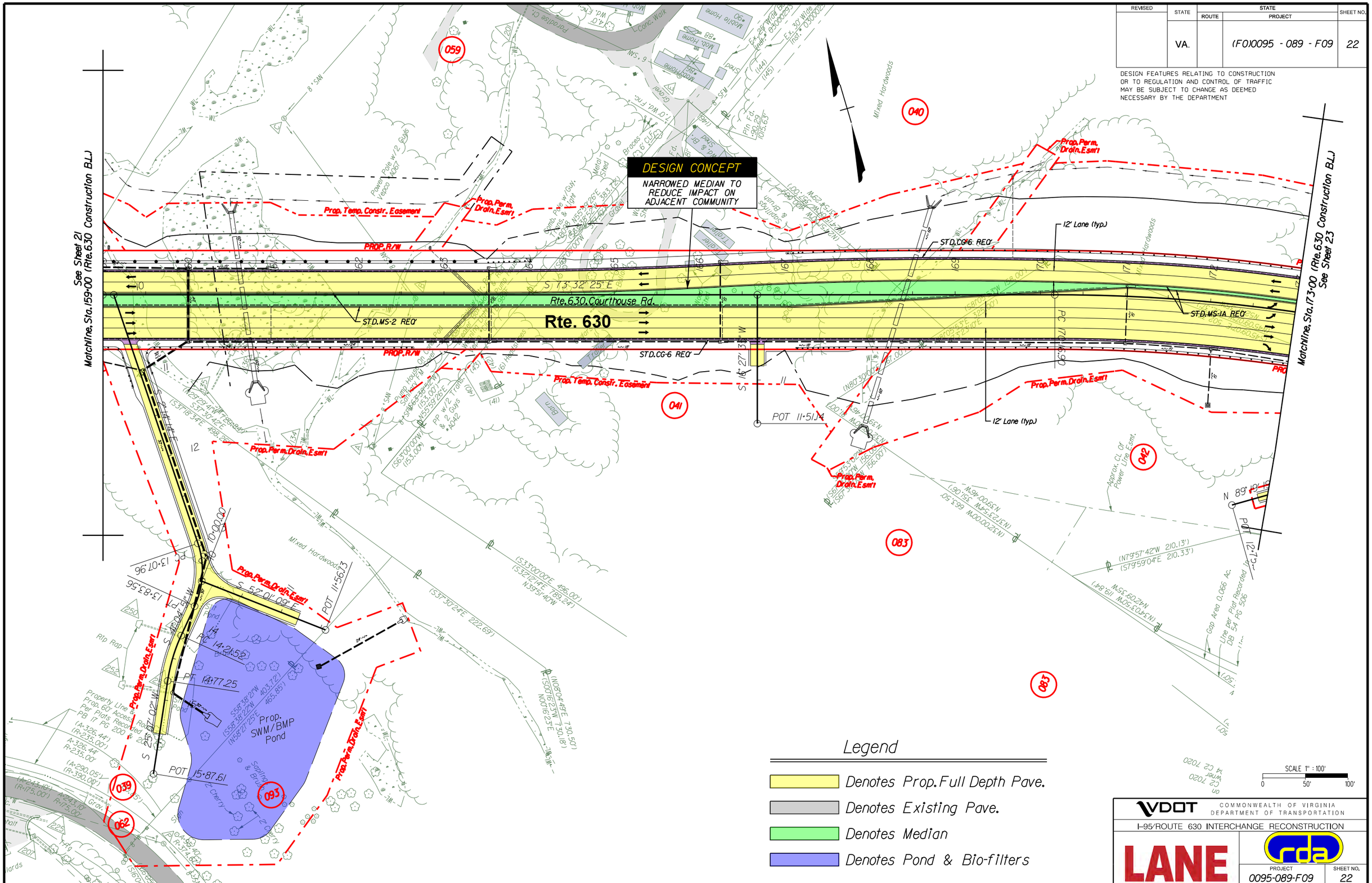

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	23

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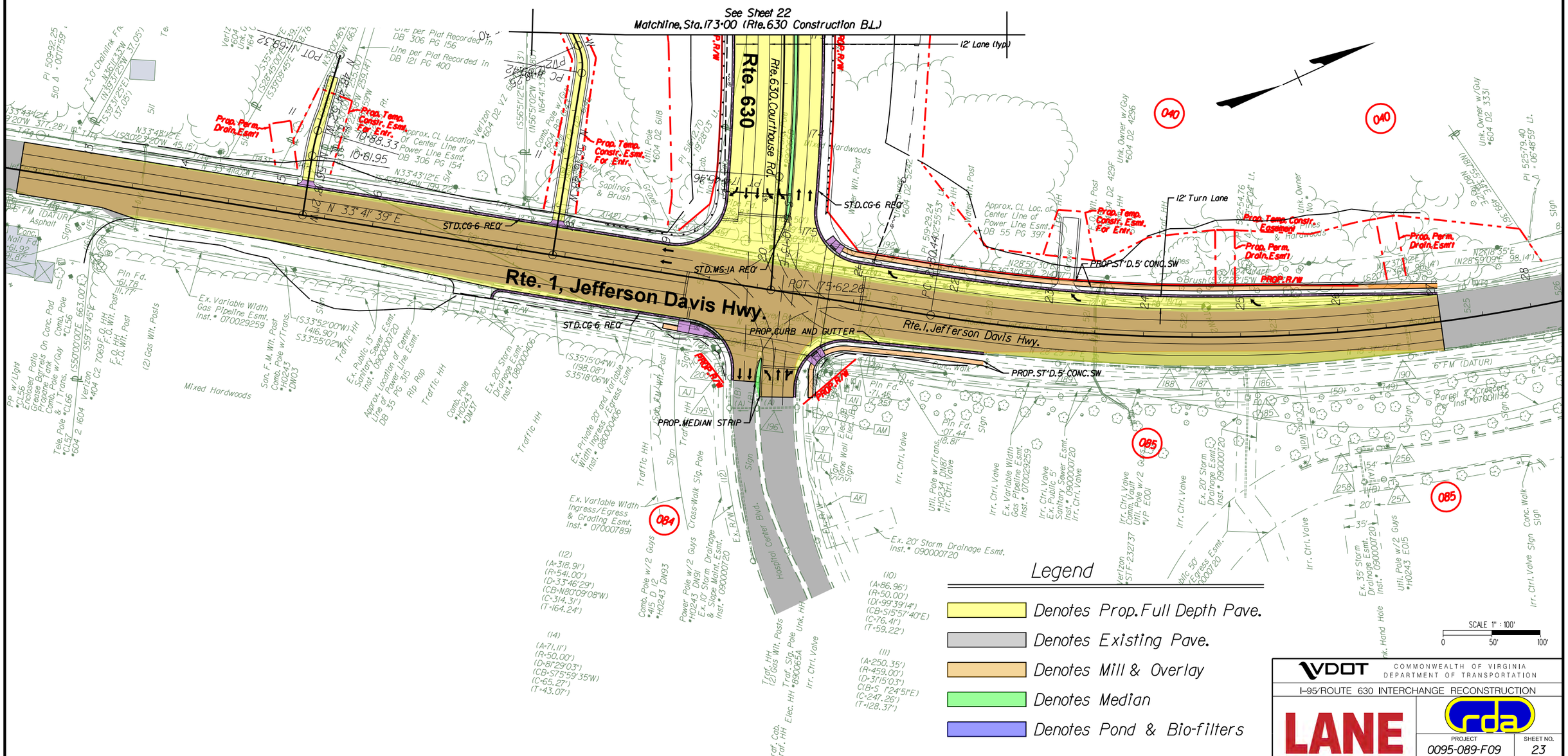
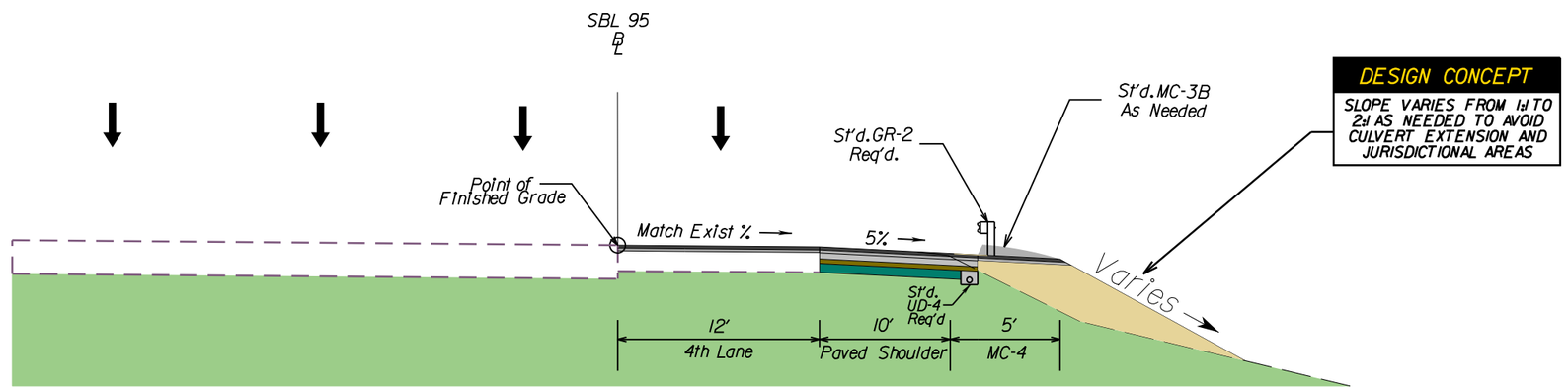


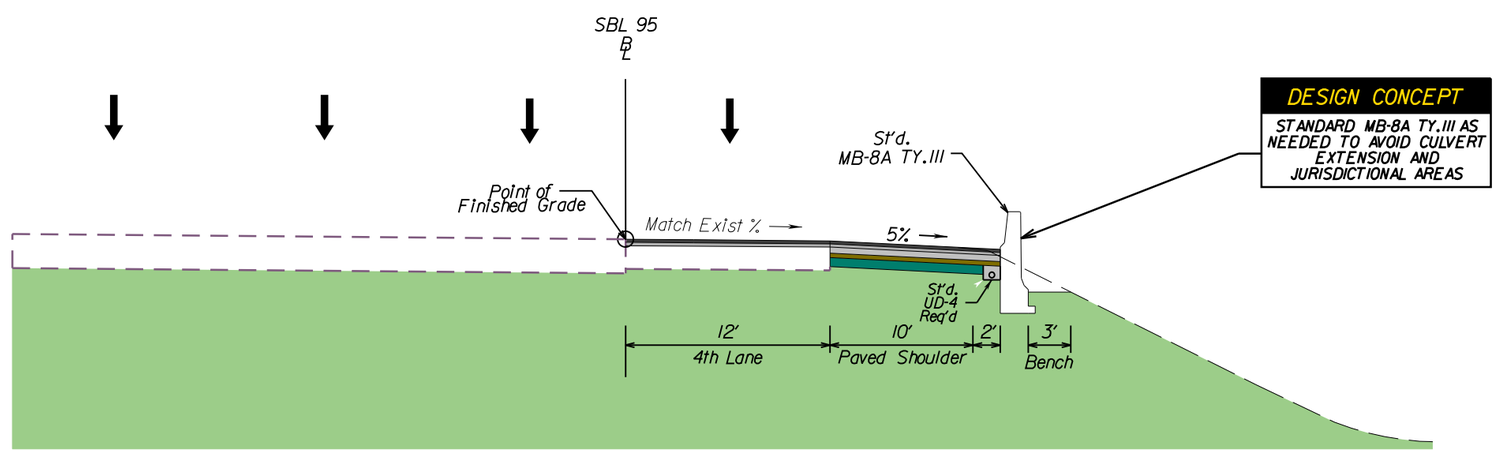
REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	28

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

I-95 4th Lane Option 1





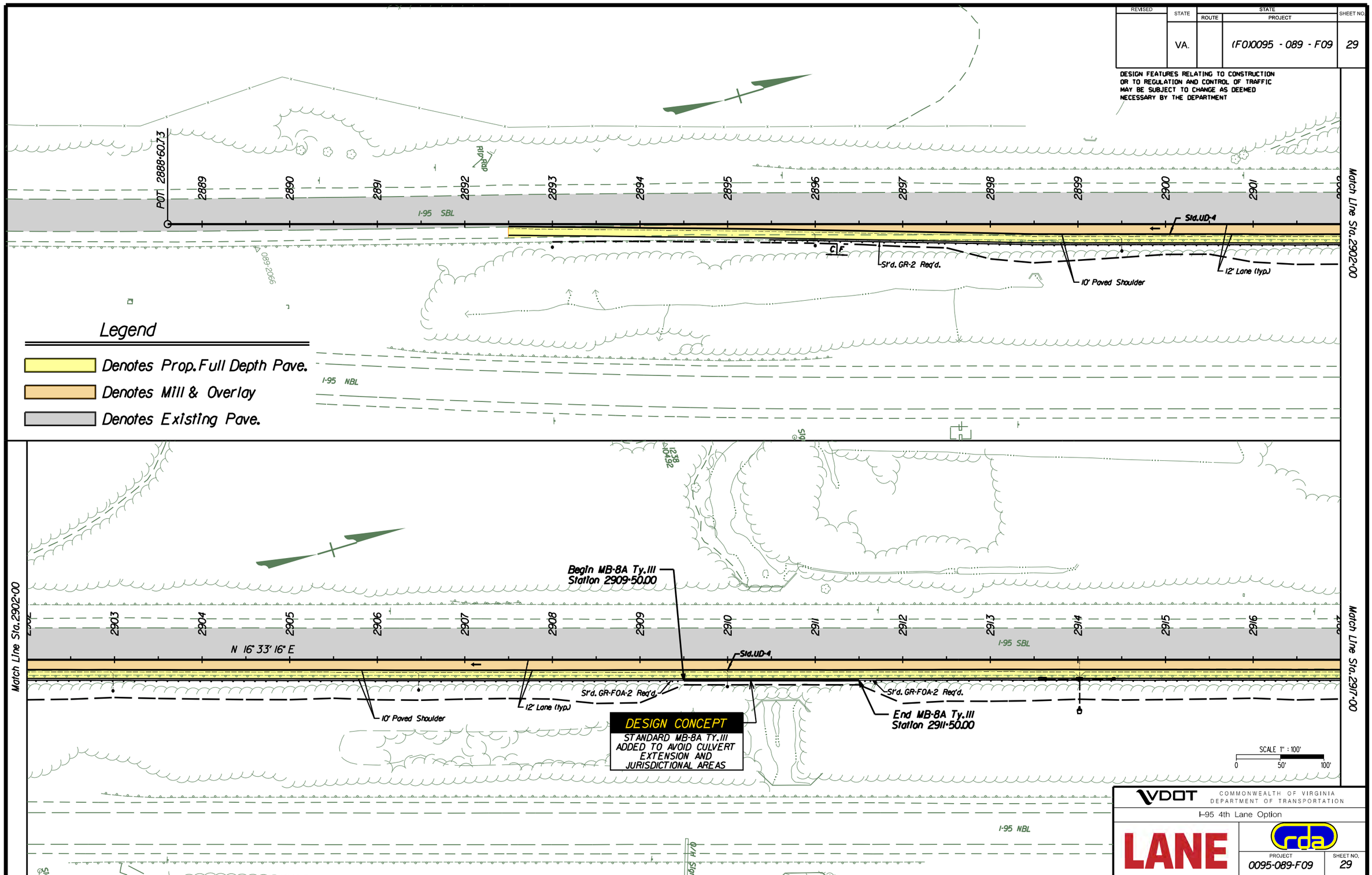
VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95 4th Lane Option

LANE

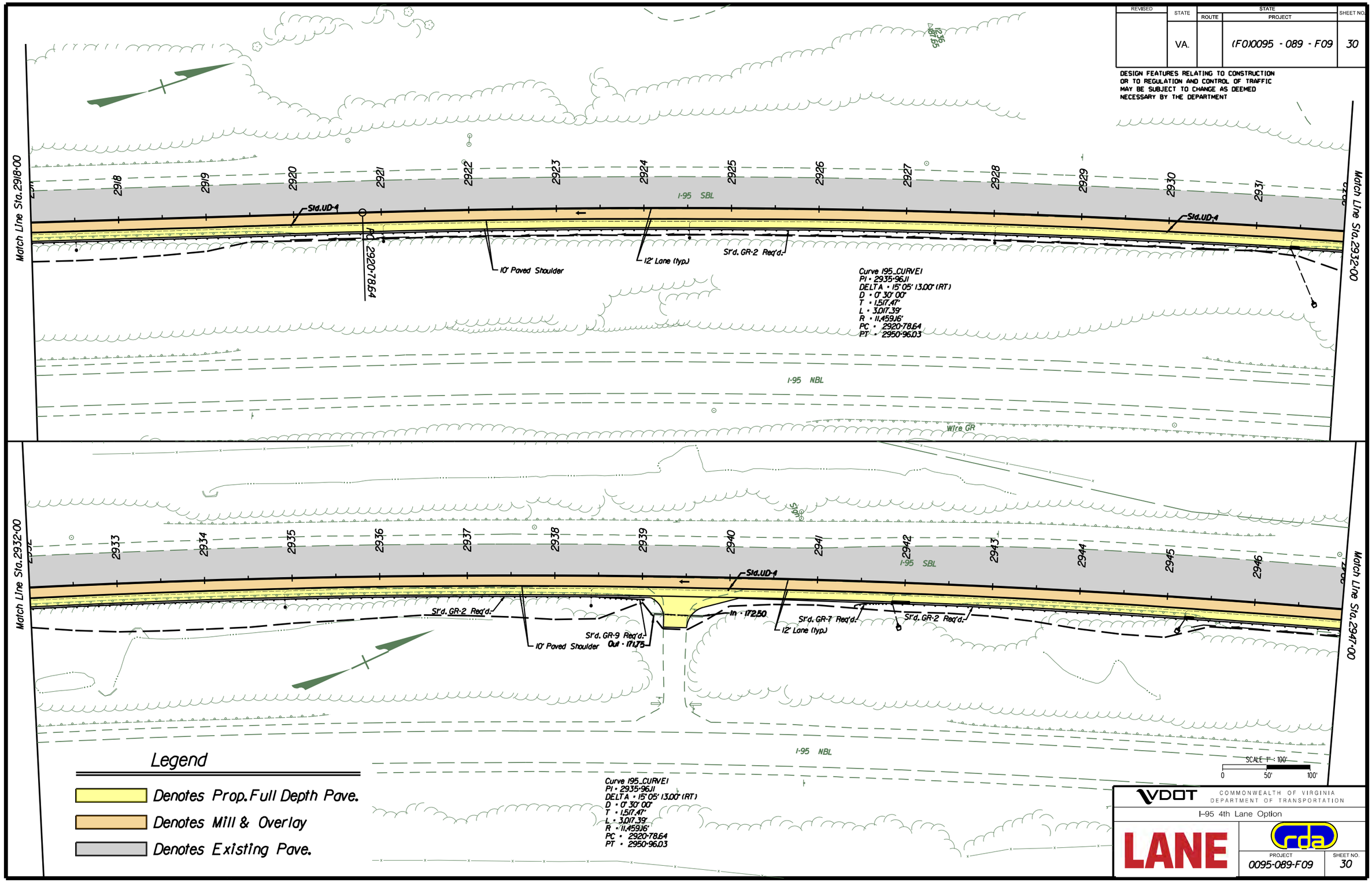
rda

PROJECT	SHEET NO.
0095-089-F09	28


REVISED
STATE
VA.
STATE
ROUTE
PROJECT
(FO)0095 - 089 - F09
SHEET NO.
29
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT
POT 2888+60.73
2889
2890
2891
2892
2893
2894
2895
2896
2897
2898
2899
2900
2901
2902
RIP RAP
I-95 SBL
Std.UD-4
C&F
Std. GR-2 Req'd.
10' Paved Shoulder
12' Lane (typ.)
Match Line Sta.2902+00
089-2066
Legend
Denotes Prop. Full Depth Pave.
Denotes Mill & Overlay
Denotes Existing Pave.
I-95 NBL
Match Line Sta.2902+00
2902
2903
2904
2905
2906
2907
2908
2909
2910
2911
2912
2913
2914
2915
2916
2917
N 16° 33' 16" E
I-95 SBL
Begin MB-8A Ty.III
Station 2909+50.00
Std.UD-4
Std. GR-FOA-2 Req'd.
Std. GR-FOA-2 Req'd.
12' Lane (typ.)
10' Paved Shoulder
End MB-8A Ty.III
Station 2911+50.00
DESIGN CONCEPT
STANDARD MB-8A TY.III
ADDED TO AVOID CULVERT
EXTENSION AND
JURISDICTIONAL AREAS
SCALE 1" : 100'
0
50'
100'
Match Line Sta.2917+00
I-95 NBL
VDOT
COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
I-95 4th Lane Option
LANE
rda
PROJECT
0095-089-F09
SHEET NO.
29

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	30

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



REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	31

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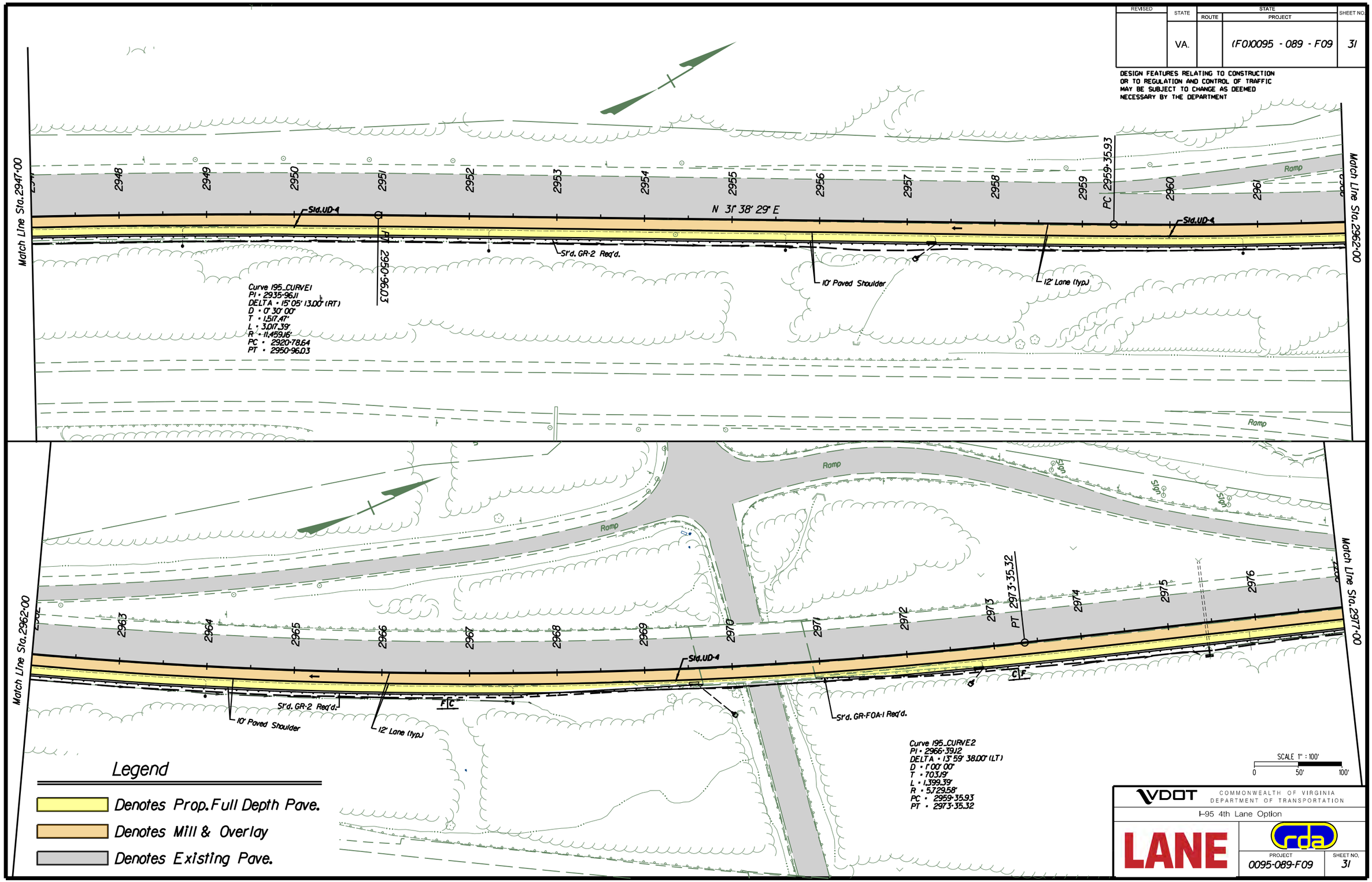

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	32

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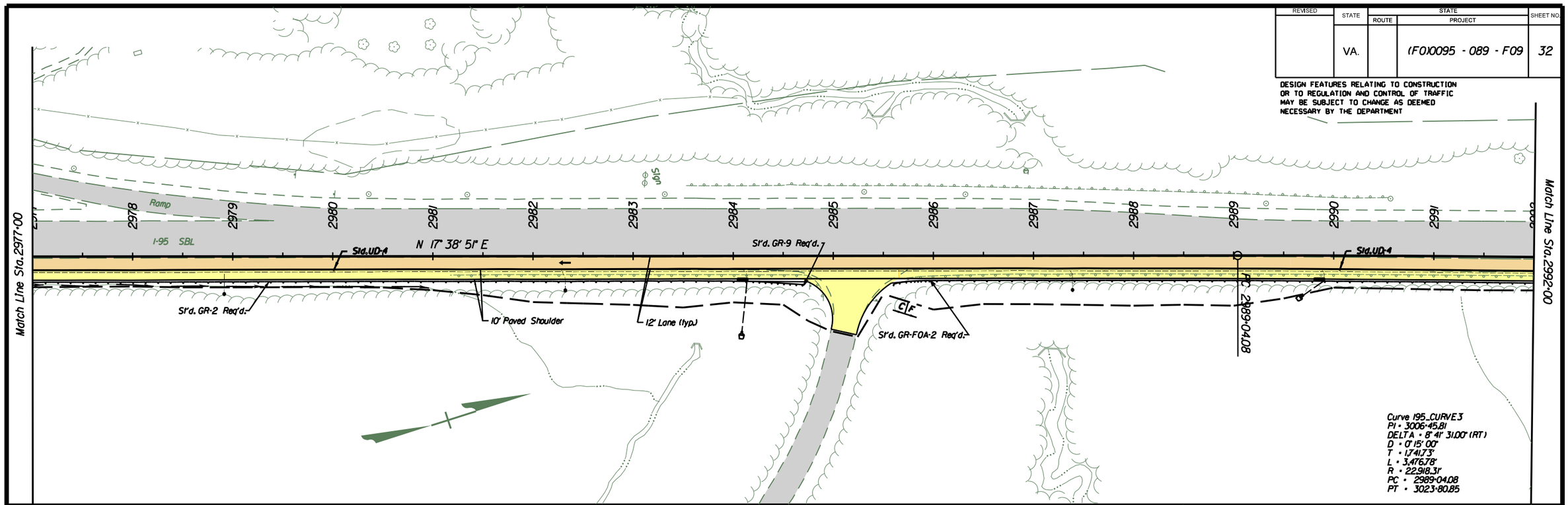

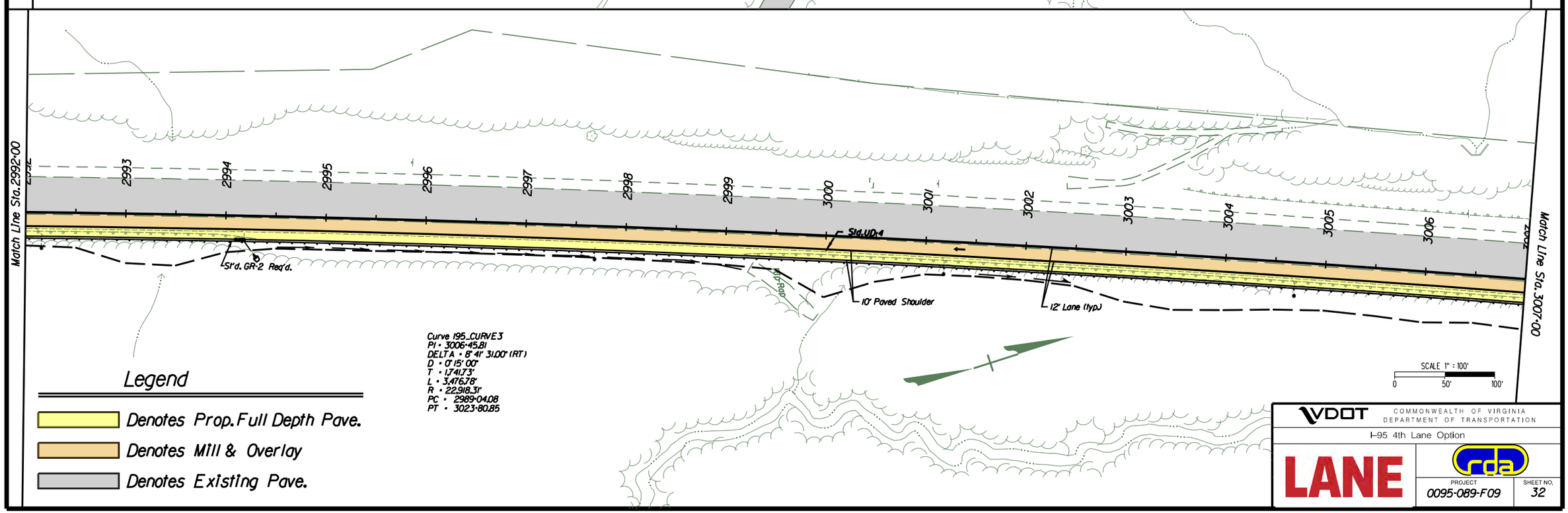

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	33

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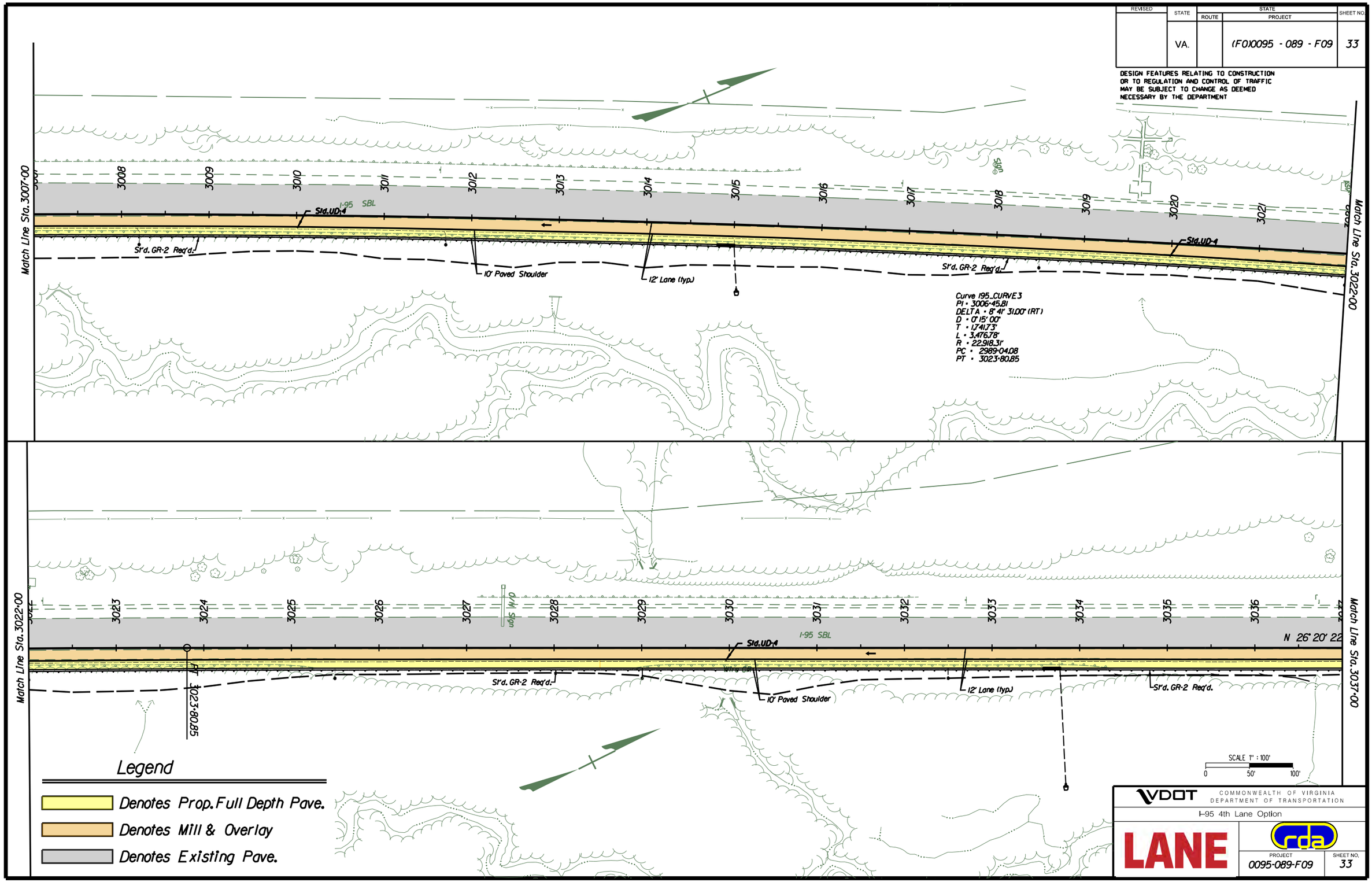

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	34

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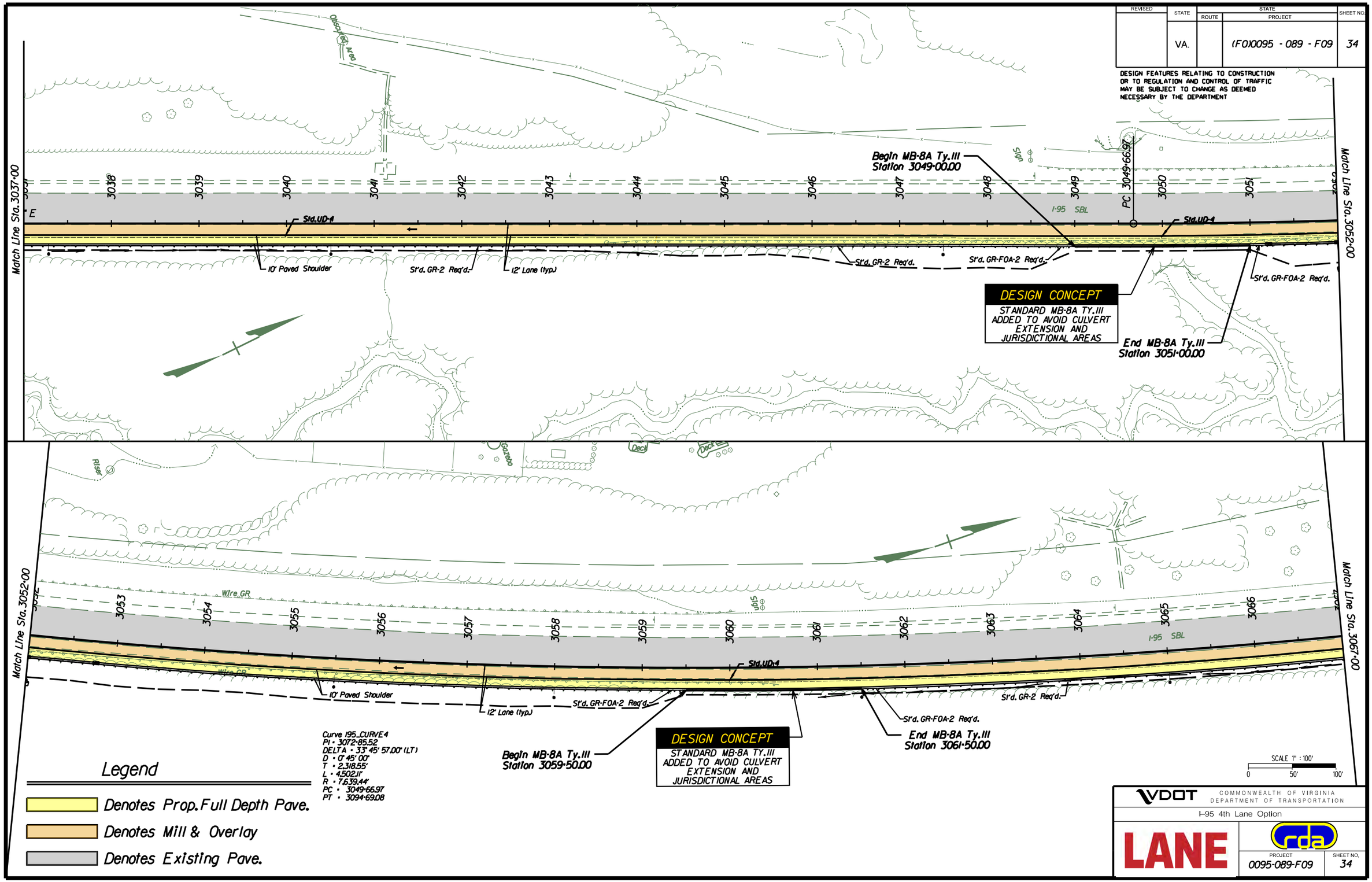

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	35

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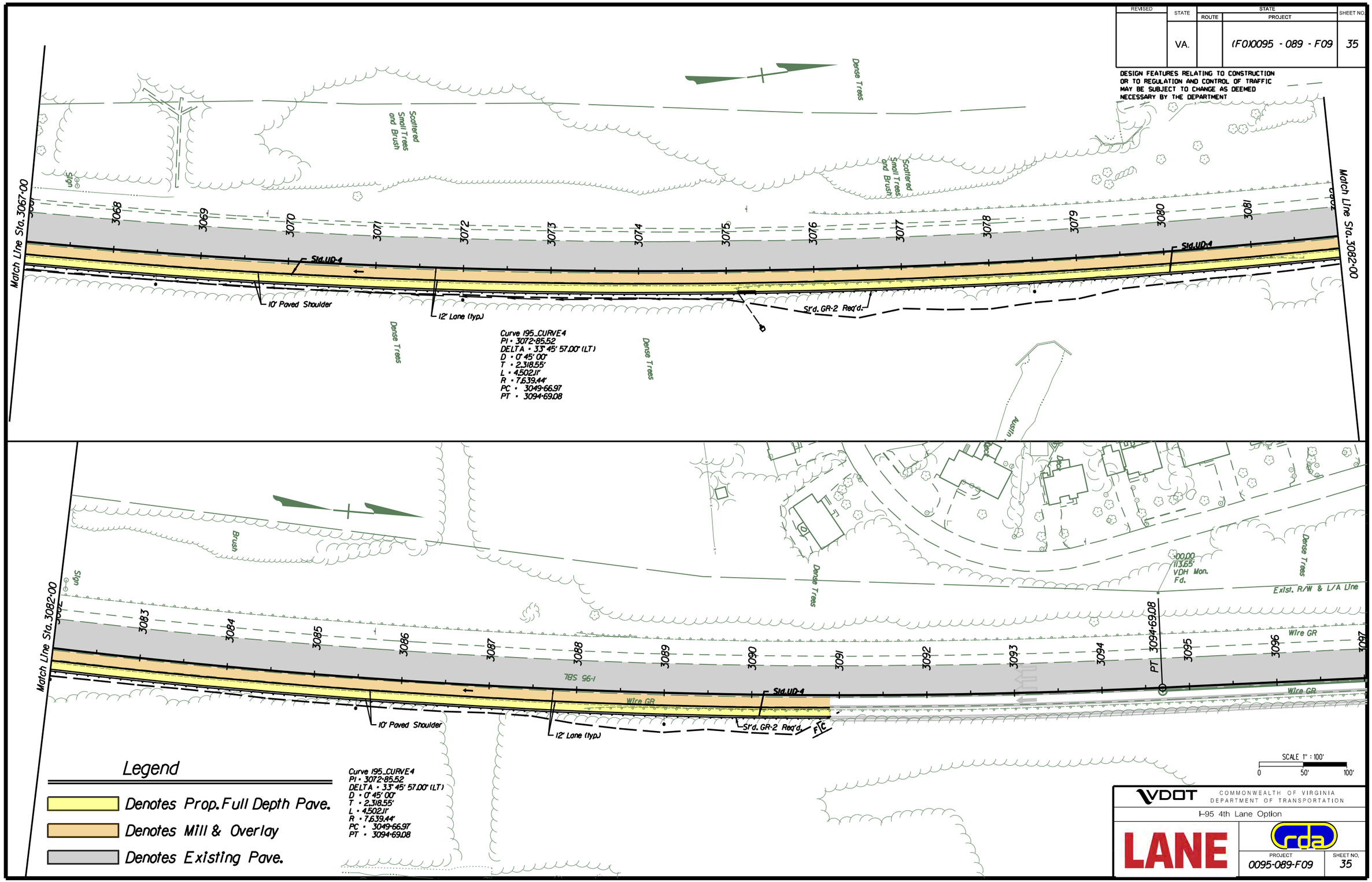
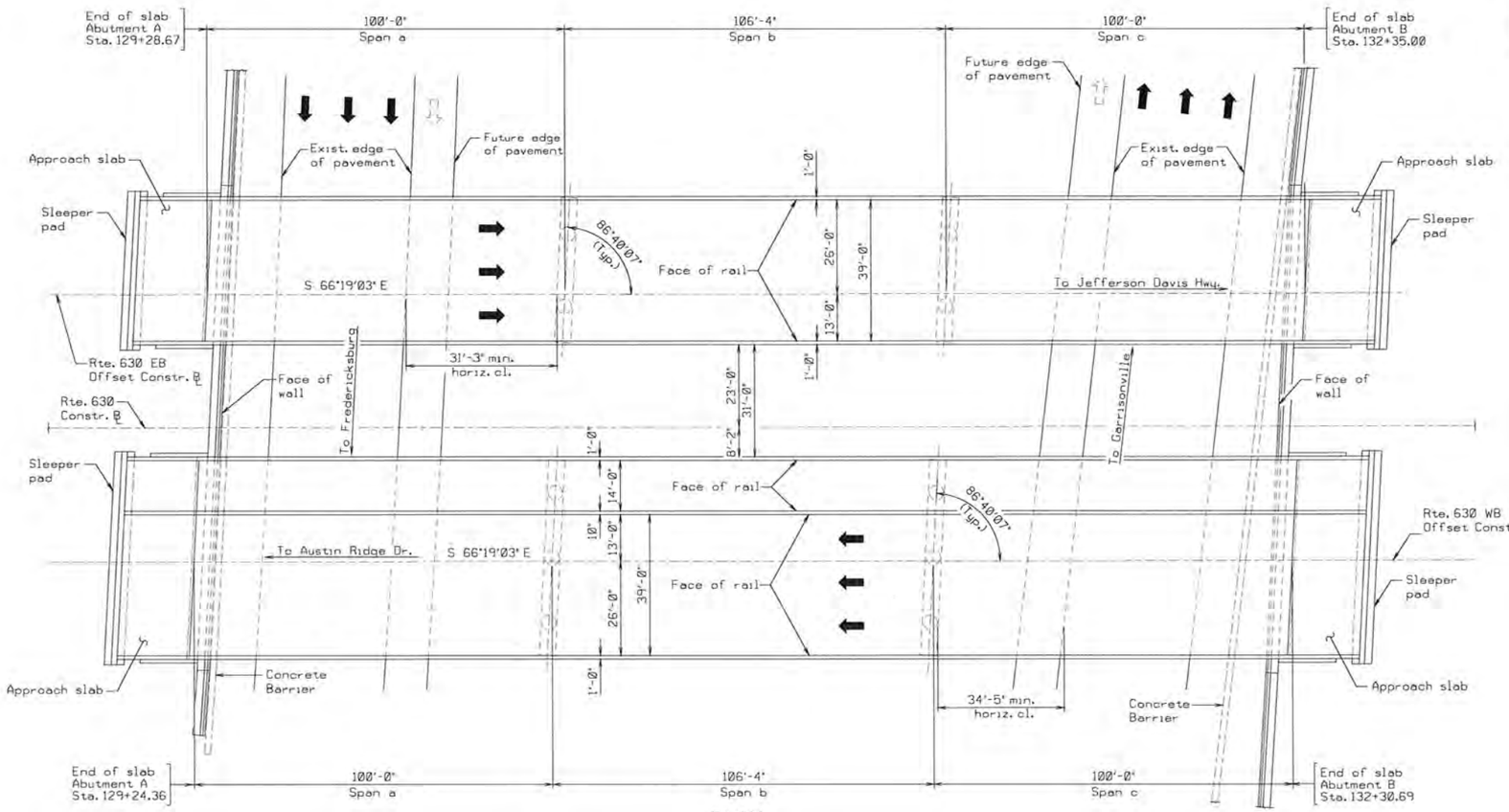
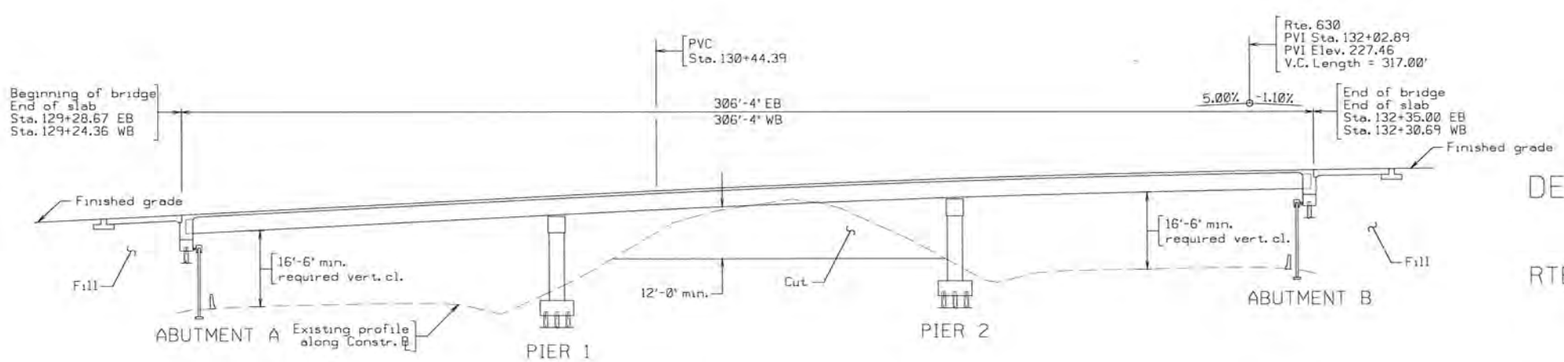


4.3.2 CONCEPTUAL STRUCTURAL PLANS

STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.	—	NH-095-2D	630	0095-089-F09, B647/B648	24
NBIS Number: 000000000029983 000000000029984			UPC No. 13558		
Federal Oversight Code: FO			FHWA Construction and Scour Code:		



PLAN



DEVELOPED SECTION ALONG RTE. 630 CONSTR. ℄

DESIGN EXCEPTION(S):

None

DESIGN EXCEPTION(S):

Roadway Width: 39'-0" face-to-face of rails.

Span layout:
EB: 100'-0" - 106'-4" - 100'-0"
WB: 100'-0" - 106'-4" - 100'-0"

Capacity: HL-93 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2007.

Design: AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014; and VDOT Modifications.

Standards: Virginia Department of Transportation Road and Bridge Standards, 2008.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

Corrosion Resistant Reinforcement (CRR) shall be used in accordance with IIM-S&B-81.

Low permeability concrete shall be used for 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.

VDOT

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
PROPOSED BRIDGE ON

RTE. 630 EB (COURTHOUSE ROAD) OVER I-95
STAFFORD CO. - 0.6 MI. W. OF RTE. 1
PROJ. 0095-089-F09, B647/B648

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION

VDOT PROJECT MANAGER

DISTRICT CONSTRUCTION MANAGER

PLANS BY:	Consultant
COORDINATED:	
SUPERVISED:	REB
DESIGNED:	TJE
DRAWN:	TJE
CHECKED:	REB

No.	Description	Date
	REVISIONS	
	For Table of Revisions, see Sheet 2.	

Scale: (Not to scale)

Recommended for Approval: _____ (Developer's Designee) Date

Approved: _____ Chief Engineer Date

Date: _____

293-75/293-76

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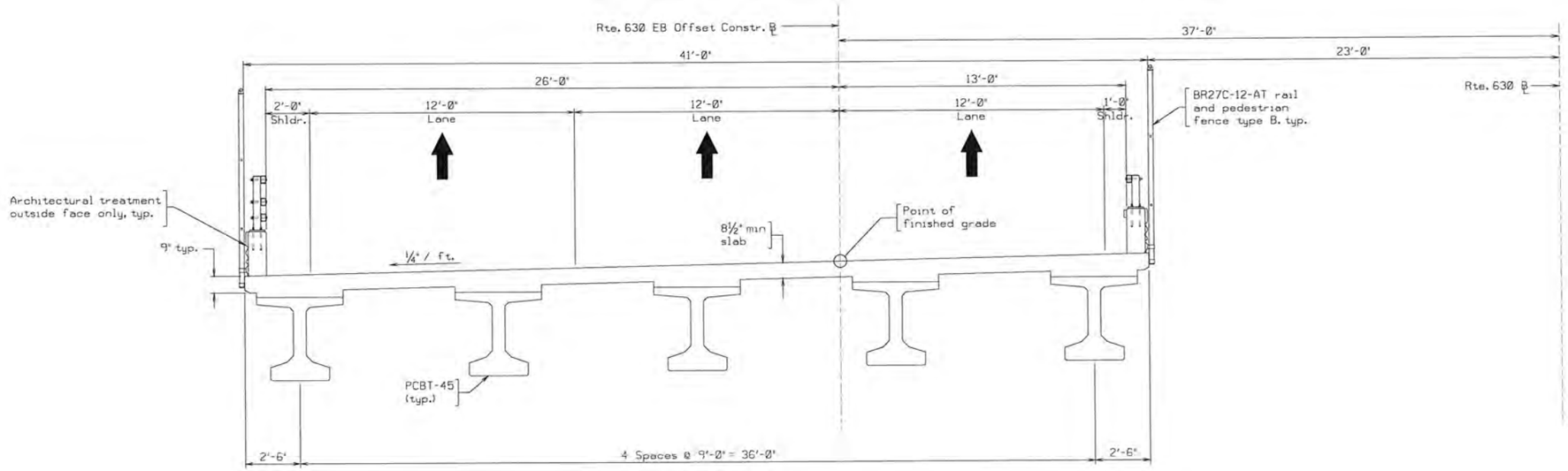
Sheet 24

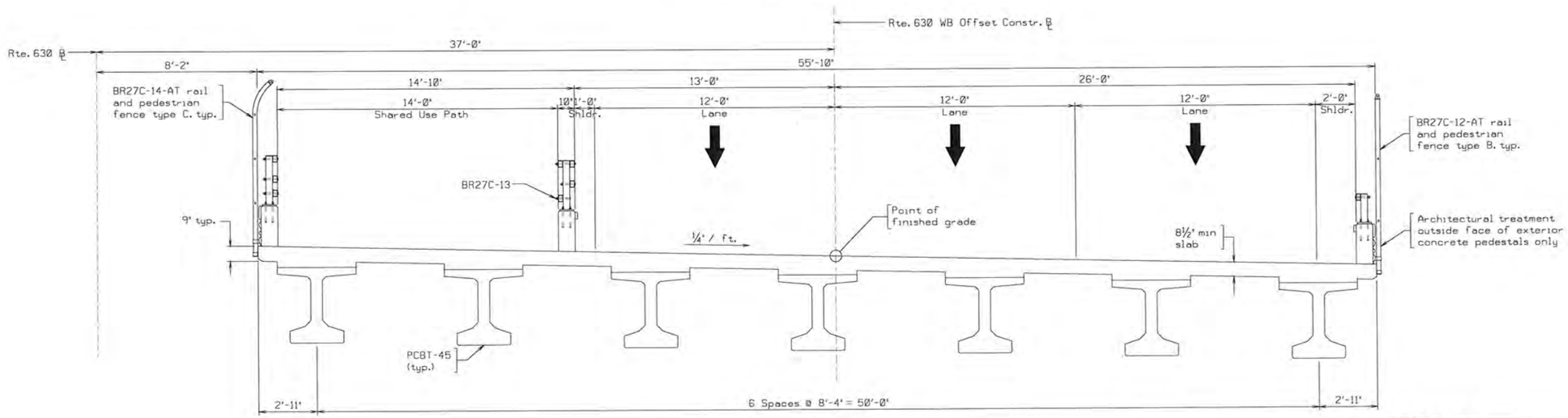
8/1/2016 5:03:06 PM

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	25

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



TRANSVERSE SECTION (EASTBOUND)
(Looking in direction of stationing)



TRANSVERSE SECTION (WESTBOUND)
(Looking in direction of stationing)

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

LANE

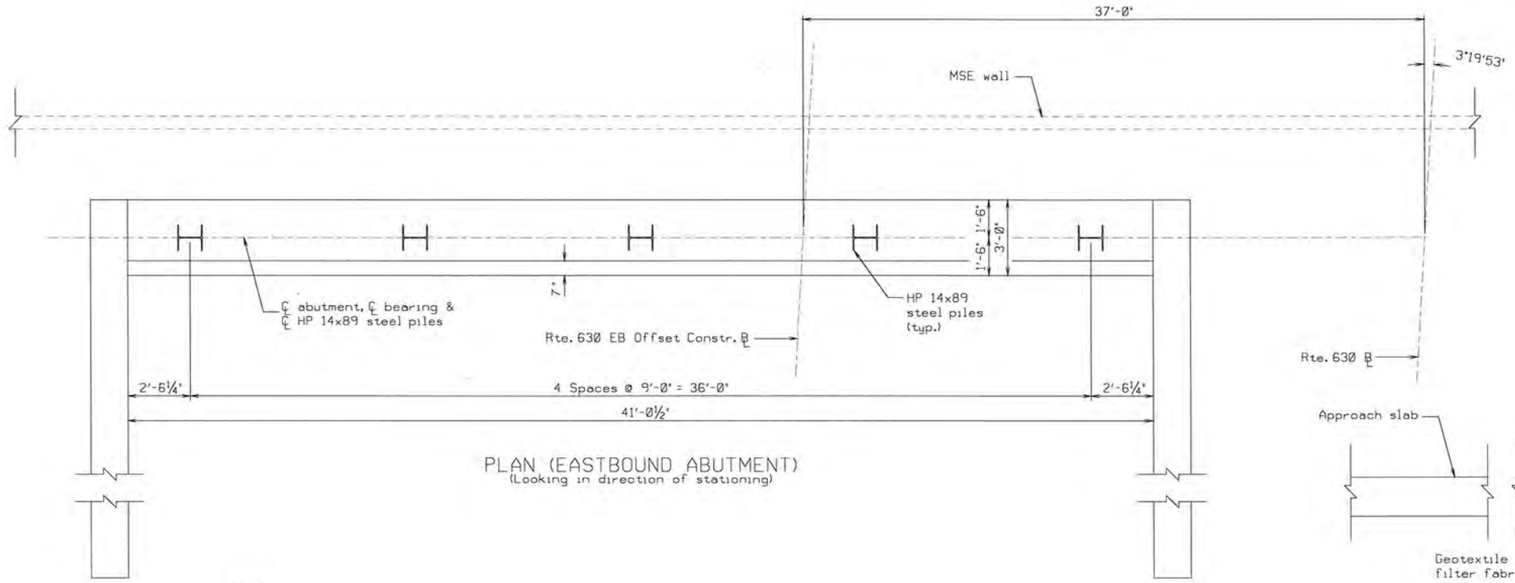
KCI TECHNOLOGIES ENGINEERS | PLANNERS | SCIENTISTS | CONSTRUCTION MANAGERS

PROJECT	SHEET NO.
0095-089-F09	25

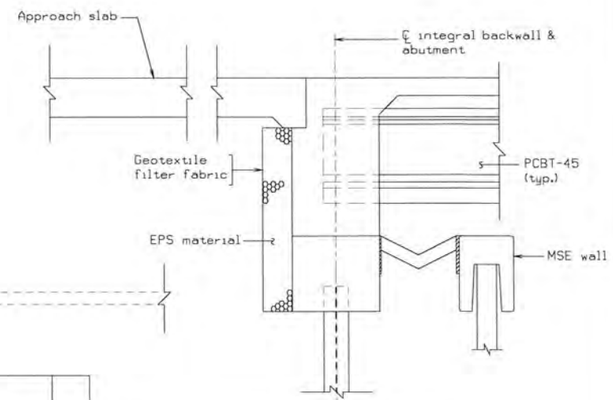
Scale: (Not to scale)

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(FO)0095 - 089 - F09	26

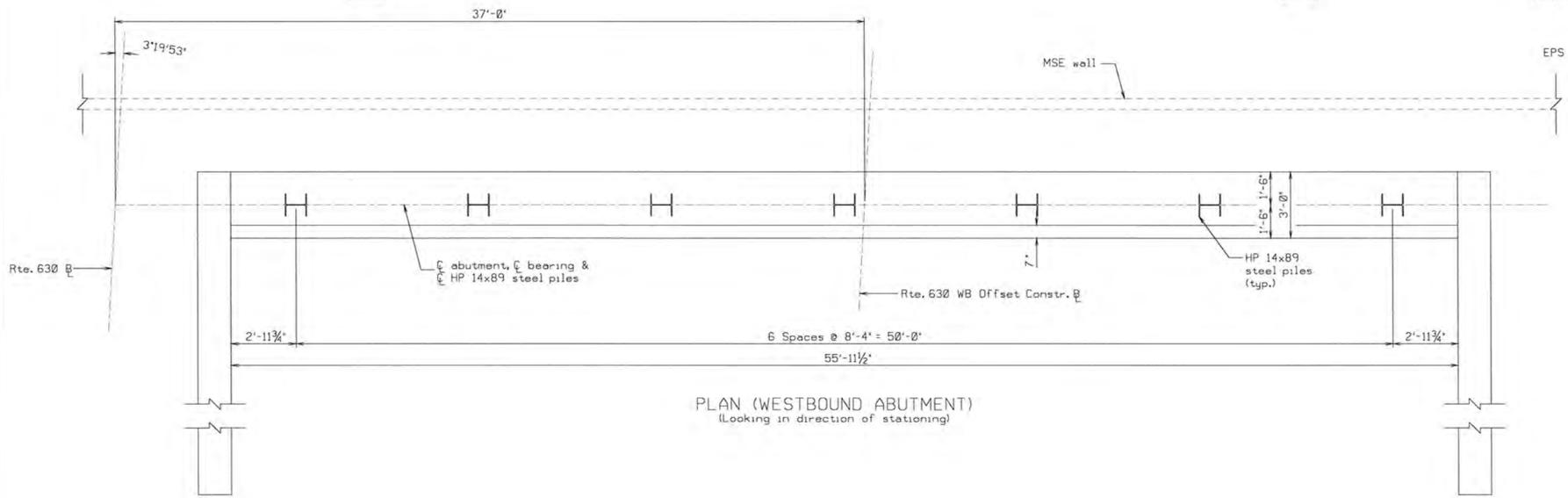
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



PLAN (EASTBOUND ABUTMENT)
(Looking in direction of stationing)



SECTION THROUGH INTEGRAL ABUTMENT



PLAN (WESTBOUND ABUTMENT)
(Looking in direction of stationing)

Scale: (Not to scale)

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

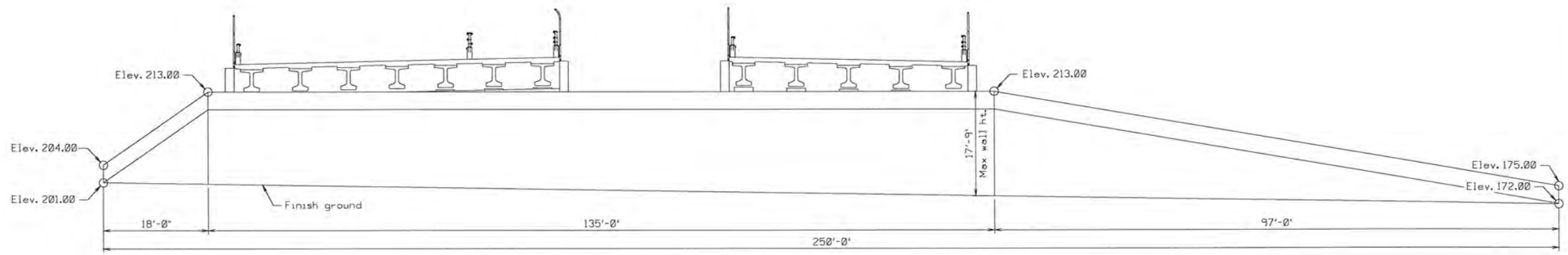
LANE

KCI TECHNOLOGIES ENGINEERS | PLANNERS | SCIENTISTS | CONSTRUCTION MANAGERS

PROJECT	SHEET NO
0095-089-F09	26

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		(F0)0095 - 089 - F09	27

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



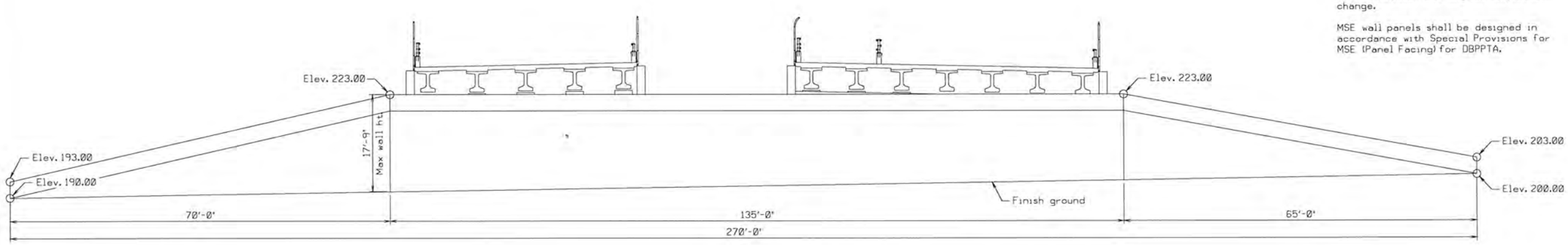
ABUTMENT A MSE WALL
(looking opposite direction of stationing)

Note:

Only exposed face of MSE walls shown; MSE walls below finish ground not shown.

Wall heights, elevations and lengths are conceptual and may be subject to change.

MSE wall panels shall be designed in accordance with Special Provisions for MSE (Panel Facing) for DBPPTA.



ABUTMENT B MSE WALL
(looking in direction of stationing)

Scale: (Not to scale)

VDOT COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION

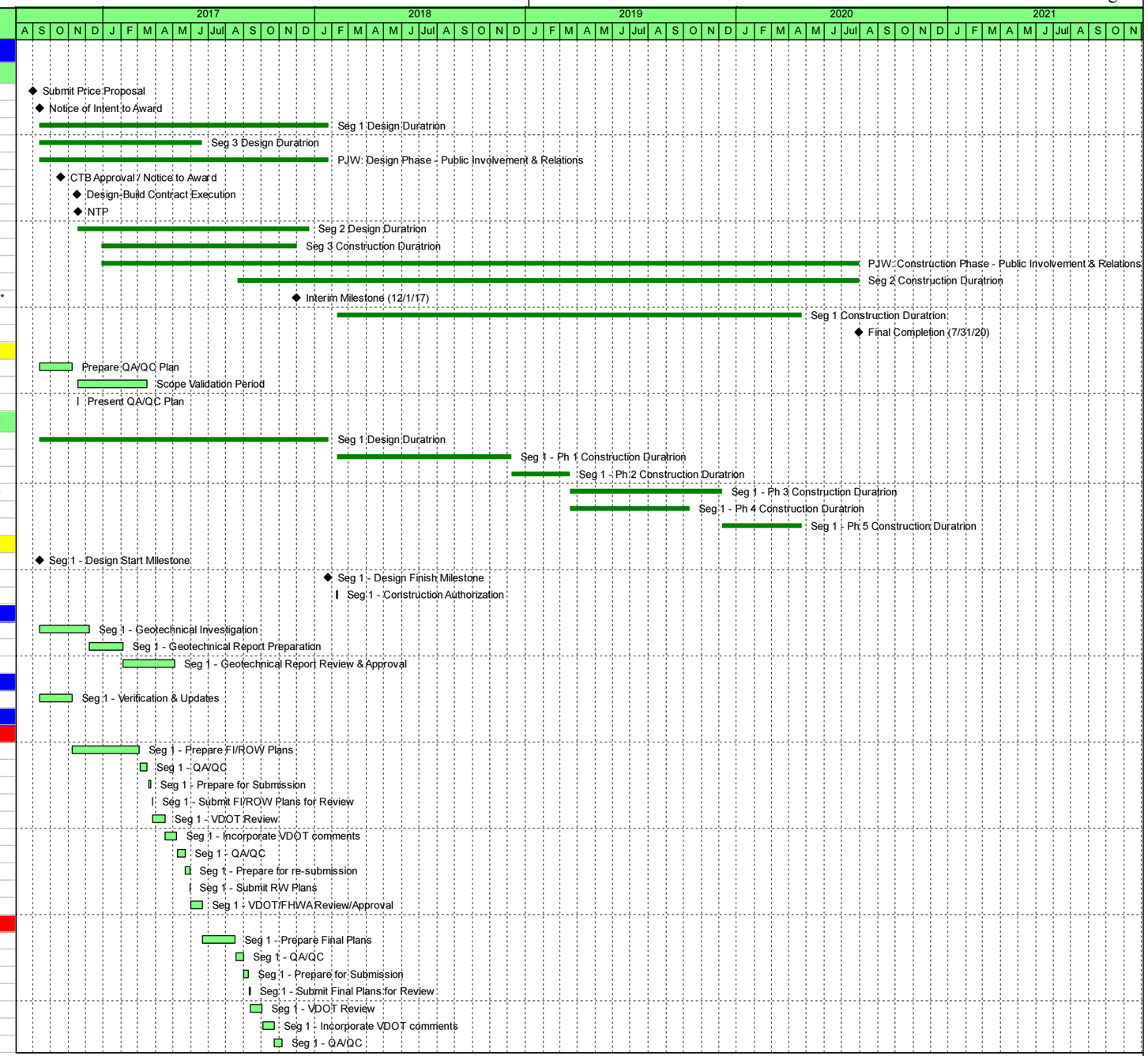
LANE

KCI TECHNOLOGIES (ENGINEERS | PLANNERS | SCIENTISTS | CONSTRUCTION MANAGERS)

PROJECT	SHEET NO.
0095-089-F09	27

4.7.1 PROPOSAL SCHEDULE

Activity ID	Activity Name	Original Duration	Start	Finish
I-95 & Rte 630 DDI Proposal Schedule Ver 1.5		800	01-Sep-16	29-Jul-20
Admin		800	01-Sep-16	29-Jul-20
A000-1000	Submit Price Proposal	0	01-Sep-16*	
A000-1010	Notice of Intent to Award	0	13-Sep-16*	
A000-1080	Seg 1 Design Duratrion	499	13-Sep-16	24-Jan-18
A000-1100	Seg 3 Design Duratrion	280	13-Sep-16	19-Jun-17
A000-1140	PJW: Design Phase - Public Involvement & Relations	499	13-Sep-16	24-Jan-18
A000-1020	CTB Approval / Notice to Award	0	19-Oct-16*	
A000-1030	Design-Build Contract Execution	0	16-Nov-16*	
A000-1040	NTP	0	18-Nov-16*	
A000-1090	Seg 2 Design Duratrion	399	18-Nov-16	21-Dec-17
A000-1130	Seg 3 Construction Duratrion	336	30-Dec-16	30-Nov-17
A000-1150	PJW: Construction Phase - Public Involvement & Relations	1308	30-Dec-16	29-Jul-20
A000-1120	Seg 2 Construction Duratrion	1073	22-Aug-17	29-Jul-20
A000-1050	Interim Milestone (12/1/17)	0		30-Nov-17*
A000-1110	Seg 1 Construction Duratrion	802	10-Feb-18	21-Apr-20
A000-1060	Final Completion (7/31/20)	0		29-Jul-20*
Submittals		106	13-Sep-16	17-Mar-17
D000-2370	Prepare QA/QC Plan	40	13-Sep-16	07-Nov-16
A000-1070	Scope Validation Period	120	18-Nov-16	17-Mar-17
D000-2380	Present QA/QC Plan	1	18-Nov-16	18-Nov-16
I-95 & R-630 DDI		757	13-Sep-16	21-May-20
A100-1000	Seg 1 Design Duratrion	499	13-Sep-16	24-Jan-18
A100-1010	Seg 1 - Ph 1 Construction Duratrion	301	10-Feb-18	07-Dec-18
A100-1020	Seg 1 - Ph 2 Construction Duratrion	101	08-Dec-18	18-Mar-19
A100-1030	Seg 1 - Ph 3 Construction Duratrion	263	19-Mar-19	06-Dec-19
A100-1040	Seg 1 - Ph 4 Construction Duratrion	206	19-Mar-19	10-Oct-19
A100-1050	Seg 1 - Ph 5 Construction Duratrion	137	07-Dec-19	21-Apr-20
Design		399	13-Sep-16	23-Aug-18
D100-2360	Seg 1 - Design Start Milestone	0	13-Sep-16	
D100-2350	Seg 1 - Design Finish Milestone	0	25-Jan-18	
D100-2370	Seg 1 - Construction Authorization	1	09-Feb-18	09-Feb-18
Geotechnical		132	13-Sep-16	04-May-17
D100-1010	Seg 1 - Geotechnical Investigation	60	13-Sep-16	07-Dec-16
D100-1020	Seg 1 - Geotechnical Report Preparation	40	08-Dec-16	03-Feb-17
D100-1030	Seg 1 - Geotechnical Report Review & Approval	90	04-Feb-17	04-May-17
Survey		40	13-Sep-16	07-Nov-16
D100-1050	Seg 1 - Verification & Updates	40	13-Sep-16	07-Nov-16
Roadway Design		220	08-Nov-16	05-Dec-17
FI/ROW Plans		125	08-Nov-16	21-Jun-17
D100-1080	Seg 1 - Prepare FI/ROW Plans	80	08-Nov-16	03-Mar-17
D100-1090	Seg 1 - QA/QC	10	06-Mar-17	17-Mar-17
D100-1100	Seg 1 - Prepare for Submission	5	20-Mar-17	24-Mar-17
D100-1110	Seg 1 - Submit FI/ROW Plans for Review	1	27-Mar-17	27-Mar-17
D100-1120	Seg 1 - VDOT Review	21	28-Mar-17	17-Apr-17
D100-1130	Seg 1 - Incorporate VDOT comments	15	18-Apr-17	08-May-17
D100-1140	Seg 1 - QA/QC	10	09-May-17	22-May-17
D100-1150	Seg 1 - Prepare for re-submission	5	23-May-17	30-May-17
D100-1160	Seg 1 - Submit RW Plans	1	31-May-17	31-May-17
D100-1170	Seg 1 - VDOT/FHWA Review/Approval	21	01-Jun-17	21-Jun-17
Final Roadway Plans		95	22-Jun-17	05-Dec-17
D100-1190	Seg 1 - Prepare Final Plans	40	22-Jun-17	17-Aug-17
D100-1200	Seg 1 - QA/QC	10	18-Aug-17	31-Aug-17
D100-1210	Seg 1 - Prepare for Submission	5	01-Sep-17	08-Sep-17
D100-1220	Seg 1 - Submit Final Plans for Review	1	11-Sep-17	11-Sep-17
D100-1230	Seg 1 - VDOT Review	21	12-Sep-17	02-Oct-17
D100-1240	Seg 1 - Incorporate VDOT comments	15	03-Oct-17	23-Oct-17
D100-1250	Seg 1 - QA/QC	10	24-Oct-17	06-Nov-17

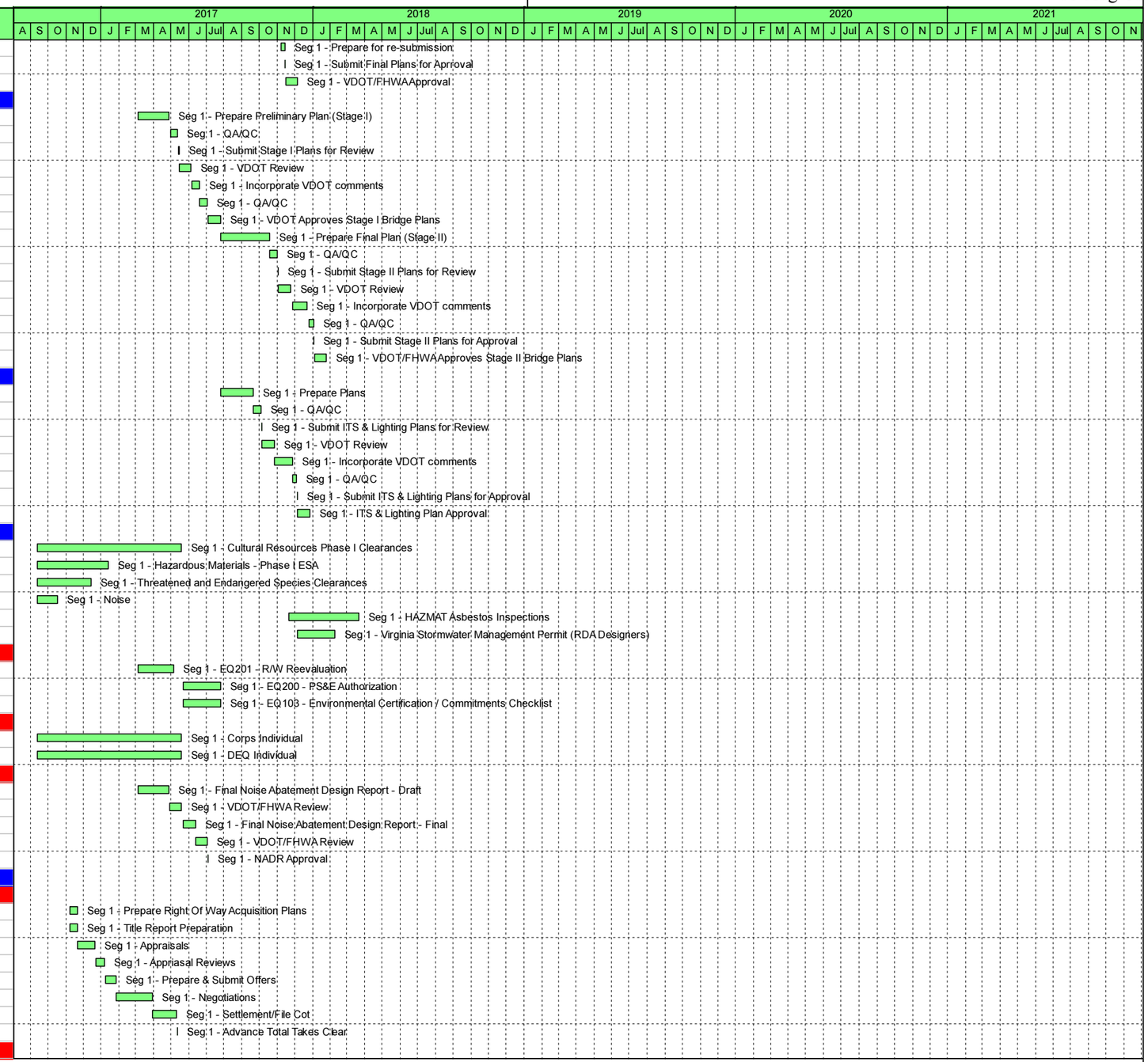


Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

I-95/Route 630 Reconstruction and Widening | Section 4.7 | 01-Aug-16

Activity ID	Activity Name	Original Duration	Start	Finish
D100-1260	Seg 1 - Prepare for re-submission	5	07-Nov-17	13-Nov-17
D100-1270	Seg 1 - Submit Final Plans for Aprroval	1	14-Nov-17	14-Nov-17
D100-1280	Seg 1 - VDOT/FHWAApproval	21	15-Nov-17	05-Dec-17
Bridge Design		**180**	**06-Mar-17**	**24-Jan-18**
D100-1300	Seg 1 - Prepare Preliminary Plan (Stage I)	40	06-Mar-17	28-Apr-17
D100-1310	Seg 1 - QA/QC	10	01-May-17	12-May-17
D100-1320	Seg 1 - Submit Stage I Plans for Review	1	15-May-17	15-May-17
D100-1330	Seg 1 - VDOT Review	21	16-May-17	05-Jun-17
D100-1340	Seg 1 - Incorporate VDOT comments	10	06-Jun-17	19-Jun-17
D100-1350	Seg 1 - QA/QC	10	20-Jun-17	03-Jul-17
D100-1360	Seg 1 - VDOT Approves Stage I Bridge Plans	15	05-Jul-17	25-Jul-17
D100-1370	Seg 1 - Prepare Final Plan (Stage II)	60	26-Jul-17	18-Oct-17
D100-1380	Seg 1 - QA/QC	10	19-Oct-17	01-Nov-17
D100-1390	Seg 1 - Submit Stage II Plans for Review	1	02-Nov-17	02-Nov-17
D100-1400	Seg 1 - VDOT Review	21	03-Nov-17	23-Nov-17
D100-1410	Seg 1 - Incorporate VDOT comments	20	27-Nov-17	22-Dec-17
D100-1420	Seg 1 - QA/QC	5	26-Dec-17	02-Jan-18
D100-1430	Seg 1 - Submit Stage II Plans for Approval	1	03-Jan-18	03-Jan-18
D100-1440	Seg 1 - VDOT/FHWAApproves Stage II Bridge Plans	15	04-Jan-18	24-Jan-18
ITS Lighting		**84**	**26-Jul-17**	**26-Dec-17**
D100-1460	Seg 1 - Prepare Plans	40	26-Jul-17	20-Sep-17
D100-1470	Seg 1 - QA/QC	10	21-Sep-17	04-Oct-17
D100-1480	Seg 1 - Submit ITS & Lighting Plans for Review	1	05-Oct-17	05-Oct-17
D100-1490	Seg 1 - VDOT Review	21	06-Oct-17	26-Oct-17
D100-1500	Seg 1 - Incorporate VDOT comments	20	27-Oct-17	27-Nov-17
D100-1510	Seg 1 - QA/QC	5	28-Nov-17	04-Dec-17
D100-1520	Seg 1 - Submit ITS & Lighting Plans for Approval	1	05-Dec-17	05-Dec-17
D100-1530	Seg 1 - ITS & Lighting Plan Approval	21	06-Dec-17	26-Dec-17
Environmental		**311**	**13-Sep-16**	**22-Mar-18**
D100-3070	Seg 1 - Cultural Resources Phase I Clearances	175	13-Sep-16	19-May-17
D100-3080	Seg 1 - Hazardous Materials - Phase I ESA	85	13-Sep-16	13-Jan-17
D100-3100	Seg 1 - Threatened and Endangered Species Clearances	65	13-Sep-16	14-Dec-16
D100-3110	Seg 1 - Noise	25	13-Sep-16	17-Oct-16
D100-3090	Seg 1 - HAZMAT Asbestos Inspections	85	20-Nov-17	22-Mar-18
D100-3120	Seg 1 - Virginia Stormwater Management Permit (RDA Designers)	45	06-Dec-17	08-Feb-18
Environmental Reevaluation		**100**	**06-Mar-17**	**25-Jul-17**
D100-3010	Seg 1 - EQ201 - R/W Reevaluation	45	06-Mar-17	05-May-17
D100-3020	Seg 1 - EQ200 - PS&E Authorization	45	22-May-17	25-Jul-17
D100-3030	Seg 1 - EQ103 - Environmental Certification / Commitments Checklist	45	22-May-17	25-Jul-17
Water Permit Acquistion		**175**	**13-Sep-16**	**19-May-17**
D100-3050	Seg 1 - Corps Individual	175	13-Sep-16	19-May-17
D100-3060	Seg 1 - DEQ Individual	175	13-Sep-16	19-May-17
Noise Analysis		**67**	**06-Mar-17**	**05-Jul-17**
D100-1590	Seg 1 - Final Noise Abatement Design Report - Draft	40	06-Mar-17	28-Apr-17
D100-1600	Seg 1 - VDOT/FHWA Review	21	29-Apr-17	19-May-17
D100-1610	Seg 1 - Final Noise Abatement Design Report - Final	15	22-May-17	12-Jun-17
D100-1620	Seg 1 - VDOT/FHWA Review	21	13-Jun-17	03-Jul-17
D100-1630	Seg 1 - NADR Approval	1	05-Jul-17	05-Jul-17
Right of Way Acquisition		**302**	**08-Nov-16**	**18-Jan-18**
Advance Total Take Acquisitions		**130**	**08-Nov-16**	**12-May-17**
D100-1660	Seg 1 - Prepare Right Of Way Acquisition Plans	10	08-Nov-16	21-Nov-16
D100-1670	Seg 1 - Title Report Preparation	10	08-Nov-16	21-Nov-16
D100-1680	Seg 1 - Appraisals	20	22-Nov-16	21-Dec-16
D100-1690	Seg 1 - Appriasal Reviews	10	22-Dec-16	06-Jan-17
D100-1700	Seg 1 - Prepare & Submit Offers	14	09-Jan-17	26-Jan-17
D100-1710	Seg 1 - Negotiations	45	27-Jan-17	30-Mar-17
D100-1720	Seg 1 - Settlement/File Cot	30	31-Mar-17	11-May-17
D100-1730	Seg 1 - Advance Total Takes Clear	1	12-May-17	12-May-17
Partial Take Acquisitions		**161**	**31-May-17**	**18-Jan-18**



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

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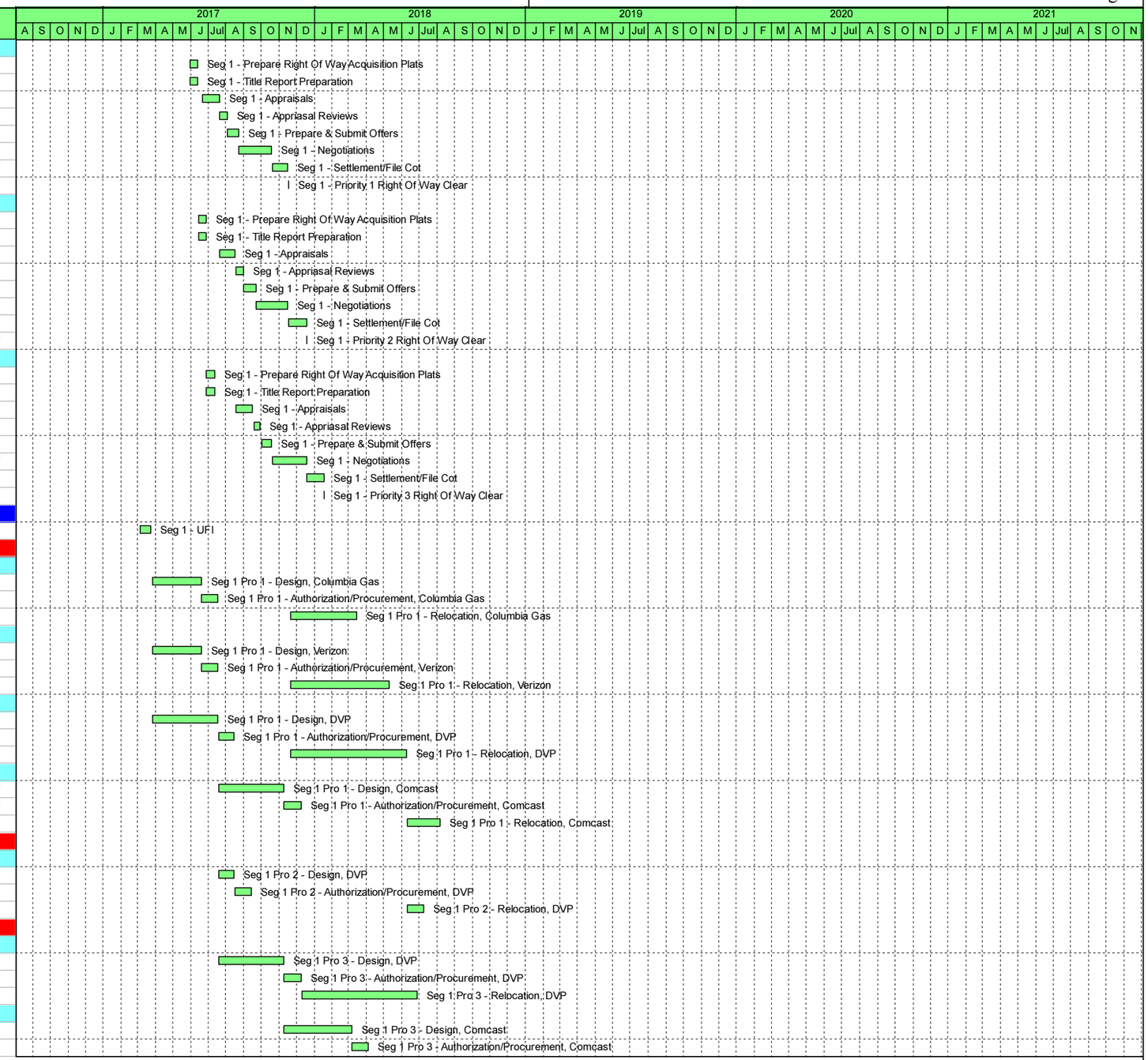
I-95/Route 630 Reconstruction and Widening | Section 4.7 | 01-Aug-16

Activity ID	Activity Name	Original Duration	Start	Finish
Priority 1 Acquisitions		121	31-May-17	17-Nov-17
D100-17	Seg 1 - Prepare Right Of Way Acquisition Plats	10	31-May-17	13-Jun-17
D100-17	Seg 1 - Title Report Preparation	10	31-May-17	13-Jun-17
D100-17	Seg 1 - Appraisals	20	22-Jun-17	20-Jul-17
D100-17	Seg 1 - Appriasal Reviews	10	21-Jul-17	03-Aug-17
D100-18	Seg 1 - Prepare & Submit Offers	14	04-Aug-17	23-Aug-17
D100-18	Seg 1 - Negotiations	40	24-Aug-17	19-Oct-17
D100-18	Seg 1 - Settlement/File Cot	20	20-Oct-17	16-Nov-17
D100-18	Seg 1 - Priority 1 Right Of Way Clear	1	17-Nov-17	17-Nov-17
Priority 2 Acquisitions		131	14-Jun-17	19-Dec-17
D100-18	Seg 1 - Prepare Right Of Way Acquisition Plats	10	14-Jun-17	27-Jun-17
D100-18	Seg 1 - Title Report Preparation	10	14-Jun-17	27-Jun-17
D100-18	Seg 1 - Appraisals	20	21-Jul-17	17-Aug-17
D100-18	Seg 1 - Appriasal Reviews	10	18-Aug-17	31-Aug-17
D100-18	Seg 1 - Prepare & Submit Offers	14	01-Sep-17	21-Sep-17
D100-19	Seg 1 - Negotiations	40	22-Sep-17	16-Nov-17
D100-19	Seg 1 - Settlement/File Cot	20	17-Nov-17	18-Dec-17
D100-19	Seg 1 - Priority 2 Right Of Way Clear	1	19-Dec-17	19-Dec-17
Priority 3 Acquisitions		141	28-Jun-17	18-Jan-18
D100-19	Seg 1 - Prepare Right Of Way Acquisition Plats	10	28-Jun-17	12-Jul-17
D100-19	Seg 1 - Title Report Preparation	10	28-Jun-17	12-Jul-17
D100-19	Seg 1 - Appraisals	20	18-Aug-17	15-Sep-17
D100-19	Seg 1 - Appriasal Reviews	10	18-Sep-17	29-Sep-17
D100-19	Seg 1 - Prepare & Submit Offers	14	02-Oct-17	19-Oct-17
D100-19	Seg 1 - Negotiations	40	20-Oct-17	18-Dec-17
D100-20	Seg 1 - Settlement/File Cot	20	19-Dec-17	17-Jan-18
D100-20	Seg 1 - Priority 3 Right Of Way Clear	1	18-Jan-18	18-Jan-18
Utility Relocation		375	06-Mar-17	23-Aug-18
D100-2030	Seg 1 - UFI	15	06-Mar-17	24-Mar-17
Priority 1 Relocation		347	27-Mar-17	06-Aug-18
Columbia Gas		247	27-Mar-17	15-Mar-18
D100-20	Seg 1 Pro 1 - Design, Columbia Gas	60	27-Mar-17	19-Jun-17
D100-20	Seg 1 Pro 1 - Authorization/Procurement, Columbia Gas	20	20-Jun-17	18-Jul-17
D100-20	Seg 1 Pro 1 - Relocation, Columbia Gas	80	20-Nov-17	15-Mar-18
Verizon		287	27-Mar-17	10-May-18
D100-21	Seg 1 Pro 1 - Design, Verizon	60	27-Mar-17	19-Jun-17
D100-21	Seg 1 Pro 1 - Authorization/Procurement, Verizon	20	20-Jun-17	18-Jul-17
D100-21	Seg 1 Pro 1 - Relocation, Verizon	120	20-Nov-17	10-May-18
Dominion Virginia Power		307	27-Mar-17	08-Jun-18
D100-21	Seg 1 Pro 1 - Design, DVP	80	27-Mar-17	18-Jul-17
D100-21	Seg 1 Pro 1 - Authorization/Procurement, DVP	20	19-Jul-17	15-Aug-17
D100-21	Seg 1 Pro 1 - Relocation, DVP	140	20-Nov-17	08-Jun-18
Comcast		267	19-Jul-17	06-Aug-18
D100-21	Seg 1 Pro 1 - Design, Comcast	80	19-Jul-17	08-Nov-17
D100-21	Seg 1 Pro 1 - Authorization/Procurement, Comcast	20	09-Nov-17	08-Dec-17
D100-22	Seg 1 Pro 1 - Relocation, Comcast	40	11-Jun-18	06-Aug-18
Priority 2 Relocation		247	19-Jul-17	09-Jul-18
Dominion Virginia Power		247	19-Jul-17	09-Jul-18
D100-22	Seg 1 Pro 2 - Design, DVP	20	19-Jul-17	15-Aug-17
D100-22	Seg 1 Pro 2 - Authorization/Procurement, DVP	20	16-Aug-17	13-Sep-17
D100-22	Seg 1 Pro 2 - Relocation, DVP	20	11-Jun-18	09-Jul-18
Priority 3 Relocation		280	19-Jul-17	23-Aug-18
Dominion Virginia Power		240	19-Jul-17	27-Jun-18
D100-22	Seg 1 Pro 3 - Design, DVP	80	19-Jul-17	08-Nov-17
D100-22	Seg 1 Pro 3 - Authorization/Procurement, DVP	20	09-Nov-17	08-Dec-17
D100-23	Seg 1 Pro 3 - Relocation, DVP	140	11-Dec-17	27-Jun-18
Comcast		200	09-Nov-17	23-Aug-18
D100-23	Seg 1 Pro 3 - Design, Comcast	80	09-Nov-17	06-Mar-18
D100-23	Seg 1 Pro 3 - Authorization/Procurement, Comcast	20	07-Mar-18	03-Apr-18

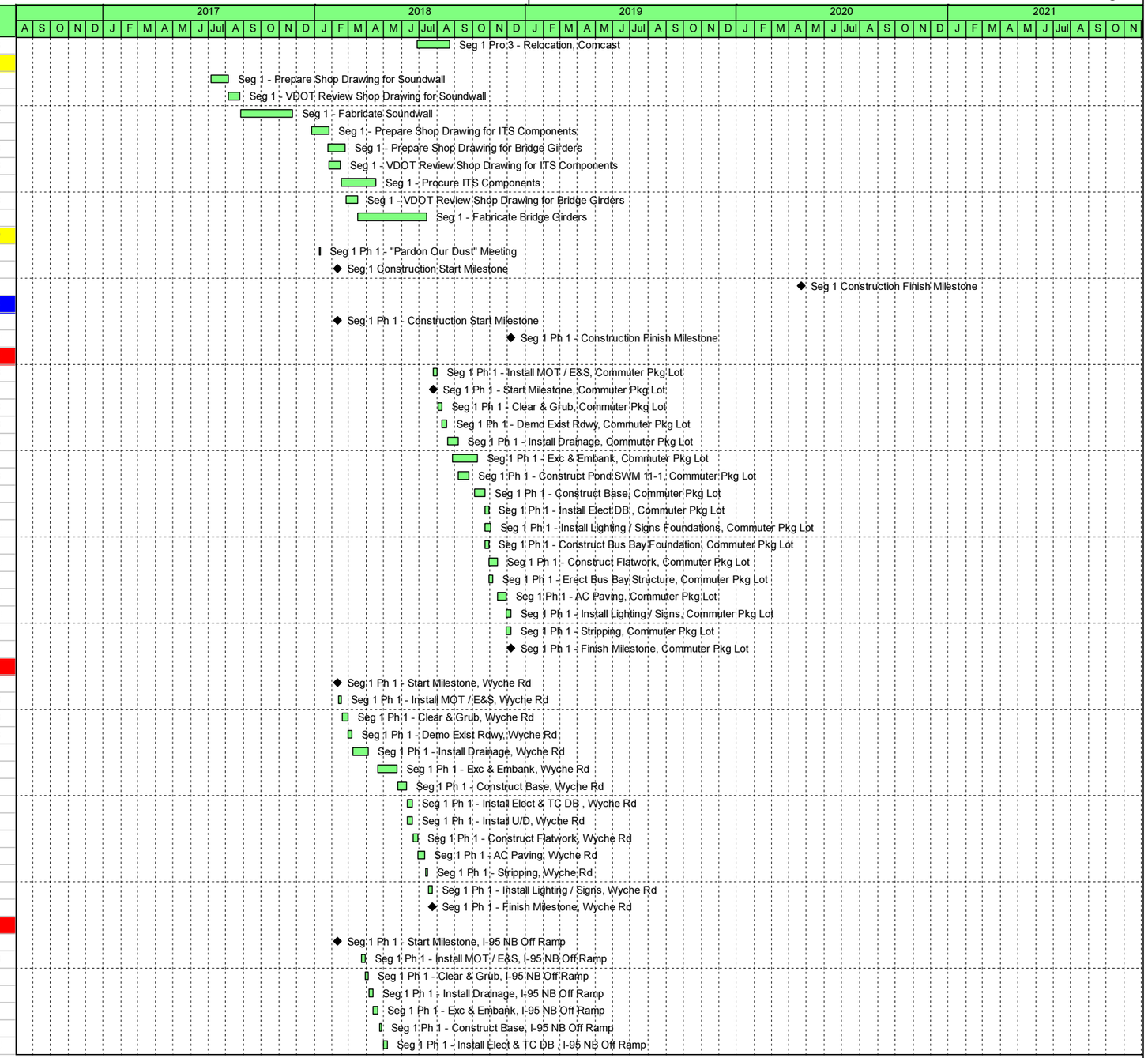


Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

I-95/Route 630 Reconstruction and Widening | Section 4.7 | 01-Aug-16

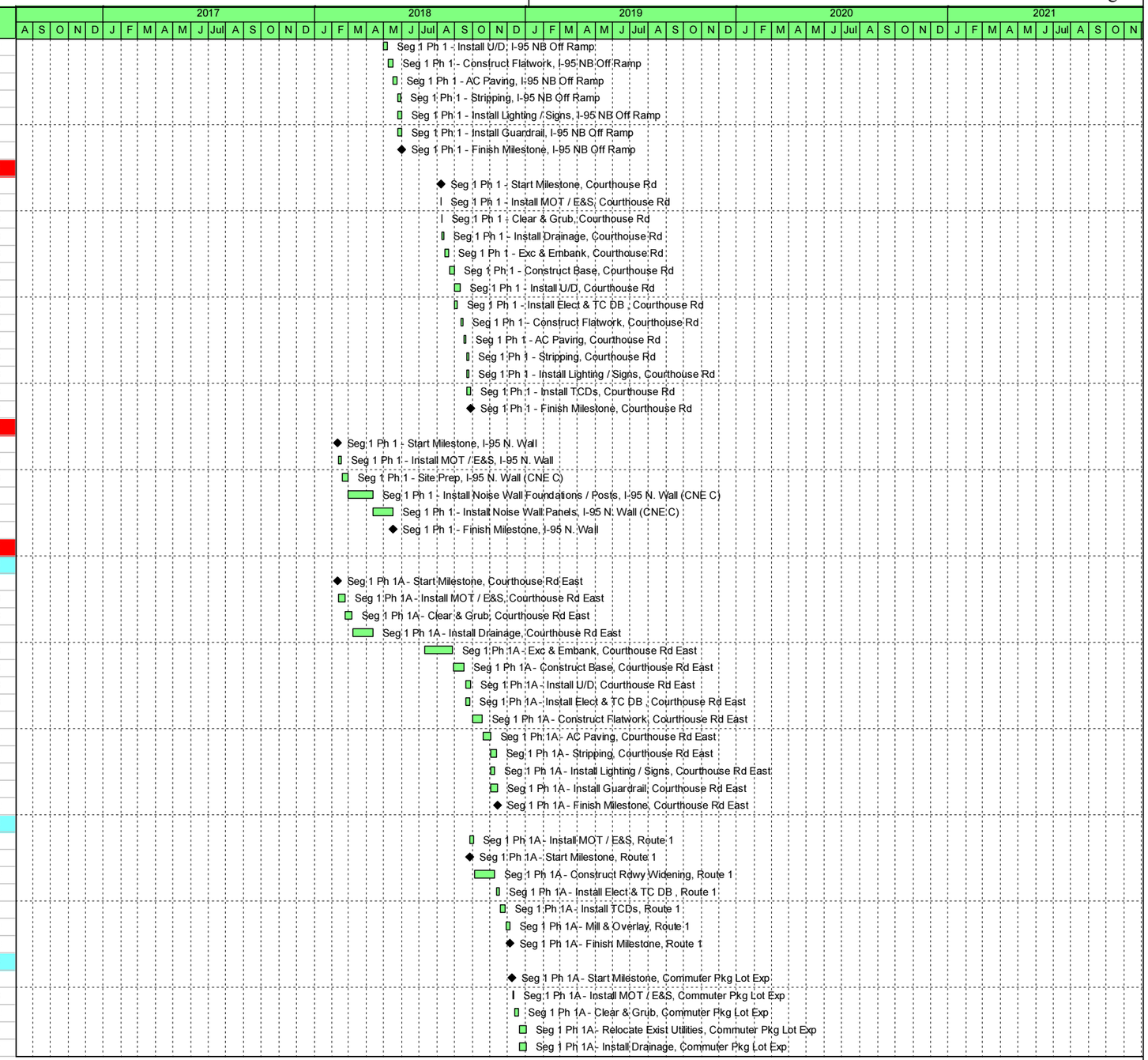
Activity ID	Activity Name	Original Duration	Start	Finish
D100-23	Seg 1 Pro 3 - Relocation, Comcast	40	28-Jun-18	23-Aug-18
Procure		374	06-Jul-17	14-Jul-18
P100-1030	Seg 1 - Prepare Shop Drawing for Soundwall	30	06-Jul-17	04-Aug-17
P100-1040	Seg 1 - VDOT Review Shop Drawing for Soundwall	21	05-Aug-17	25-Aug-17
P100-1050	Seg 1 - Fabricate Soundwall	90	26-Aug-17	23-Nov-17
P100-1000	Seg 1 - Prepare Shop Drawing for ITS Components	30	27-Dec-17	25-Jan-18
P100-1060	Seg 1 - Prepare Shop Drawing for Bridge Girders	30	25-Jan-18	23-Feb-18
P100-1010	Seg 1 - VDOT Review Shop Drawing for ITS Components	21	26-Jan-18	15-Feb-18
P100-1020	Seg 1 - Procure ITS Components	60	16-Feb-18	16-Apr-18
P100-1070	Seg 1 - VDOT Review Shop Drawing for Bridge Girders	21	24-Feb-18	16-Mar-18
P100-1080	Seg 1 - Fabricate Bridge Girders	120	17-Mar-18	14-Jul-18
Construction		488	09-Jan-18	21-May-20
C110-1020	Seg 1 Ph 1 - "Pardon Our Dust" Meeting	2	09-Jan-18	10-Jan-18
C100-1000	Seg 1 Construction Start Milestone	0	10-Feb-18	
C100-1010	Seg 1 Construction Finish Milestone	0		21-Apr-20
Phase 1		226	10-Feb-18	18-Mar-19
C110-1000	Seg 1 Ph 1 - Construction Start Milestone	0	10-Feb-18	
C110-1010	Seg 1 Ph 1 - Construction Finish Milestone	0		07-Dec-18
Commuter Parking Lot		77	25-Jul-18	07-Dec-18
C111-1000	Seg 1 Ph 1 - Install MOT / E&S, Commuter Pkg Lot	5	25-Jul-18	01-Aug-18
C111-1160	Seg 1 Ph 1 - Start Milestone, Commuter Pkg Lot	0	25-Jul-18	
C111-1010	Seg 1 Ph 1 - Clear & Grub, Commuter Pkg Lot	5	02-Aug-18	09-Aug-18
C111-1020	Seg 1 Ph 1 - Demo Exist Rdwy, Commuter Pkg Lot	5	10-Aug-18	17-Aug-18
C111-1030	Seg 1 Ph 1 - Install Drainage, Commuter Pkg Lot	10	20-Aug-18	06-Sep-18
C111-1050	Seg 1 Ph 1 - Exc & Embank, Commuter Pkg Lot	25	28-Aug-18	09-Oct-18
C111-1040	Seg 1 Ph 1 - Construct Pond SWM 11-1, Commuter Pkg Lot	10	07-Sep-18	25-Sep-18
C111-1060	Seg 1 Ph 1 - Construct Base, Commuter Pkg Lot	9	04-Oct-18	22-Oct-18
C111-1070	Seg 1 Ph 1 - Install Elect DB , Commuter Pkg Lot	5	23-Oct-18	29-Oct-18
C111-1090	Seg 1 Ph 1 - Install Lighting / Signs Foundations, Commuter Pkg Lot	9	23-Oct-18	02-Nov-18
C111-1100	Seg 1 Ph 1 - Construct Bus Bay Foundation, Commuter Pkg Lot	5	23-Oct-18	29-Oct-18
C111-1080	Seg 1 Ph 1 - Construct Flatwork, Commuter Pkg Lot	8	30-Oct-18	13-Nov-18
C111-1110	Seg 1 Ph 1 - Erect Bus Bay Structure, Commuter Pkg Lot	5	30-Oct-18	05-Nov-18
C111-1130	Seg 1 Ph 1 - AC Paving, Commuter Pkg Lot	9	14-Nov-18	28-Nov-18
C111-1120	Seg 1 Ph 1 - Install Lighting / Signs, Commuter Pkg Lot	5	29-Nov-18	07-Dec-18
C111-1140	Seg 1 Ph 1 - Stripping, Commuter Pkg Lot	5	29-Nov-18	07-Dec-18
C111-1170	Seg 1 Ph 1 - Finish Milestone, Commuter Pkg Lot	0		07-Dec-18
Wyche Road		92	10-Feb-18	24-Jul-18
C112-1120	Seg 1 Ph 1 - Start Milestone, Wyche Rd	0	10-Feb-18	
C112-1000	Seg 1 Ph 1 - Install MOT / E&S, Wyche Rd	5	12-Feb-18	16-Feb-18
C112-1010	Seg 1 Ph 1 - Clear & Grub, Wyche Rd	5	19-Feb-18	27-Feb-18
C112-1020	Seg 1 Ph 1 - Demo Exist Rdwy, Wyche Rd	5	28-Feb-18	06-Mar-18
C112-1030	Seg 1 Ph 1 - Install Drainage, Wyche Rd	15	08-Mar-18	04-Apr-18
C112-1040	Seg 1 Ph 1 - Exc & Embank, Wyche Rd	20	20-Apr-18	24-May-18
C112-1050	Seg 1 Ph 1 - Construct Base, Wyche Rd	8	25-May-18	08-Jun-18
C112-1060	Seg 1 Ph 1 - Install Elect & TC DB , Wyche Rd	5	11-Jun-18	18-Jun-18
C112-1070	Seg 1 Ph 1 - Install U/D, Wyche Rd	5	11-Jun-18	18-Jun-18
C112-1080	Seg 1 Ph 1 - Construct Flatwork, Wyche Rd	5	20-Jun-18	28-Jun-18
C112-1090	Seg 1 Ph 1 - AC Paving, Wyche Rd	8	29-Jun-18	11-Jul-18
C112-1100	Seg 1 Ph 1 - Stripping, Wyche Rd	2	13-Jul-18	16-Jul-18
C112-1110	Seg 1 Ph 1 - Install Lighting / Signs, Wyche Rd	5	18-Jul-18	24-Jul-18
C112-1130	Seg 1 Ph 1 - Finish Milestone, Wyche Rd	0		24-Jul-18
I-95 NB Off Ramp		64	10-Feb-18	01-Jun-18
C113-1120	Seg 1 Ph 1 - Start Milestone, I-95 NB Off Ramp	0	10-Feb-18	
C113-1000	Seg 1 Ph 1 - Install MOT / E&S, I-95 NB Off Ramp	5	23-Mar-18	29-Mar-18
C113-1010	Seg 1 Ph 1 - Clear & Grub, I-95 NB Off Ramp	3	30-Mar-18	04-Apr-18
C113-1020	Seg 1 Ph 1 - Install Drainage, I-95 NB Off Ramp	5	05-Apr-18	12-Apr-18
C113-1030	Seg 1 Ph 1 - Exc & Embank, I-95 NB Off Ramp	5	13-Apr-18	20-Apr-18
C113-1040	Seg 1 Ph 1 - Construct Base, I-95 NB Off Ramp	4	23-Apr-18	27-Apr-18
C113-1050	Seg 1 Ph 1 - Install Elect & TC DB , I-95 NB Off Ramp	5	30-Apr-18	07-May-18



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

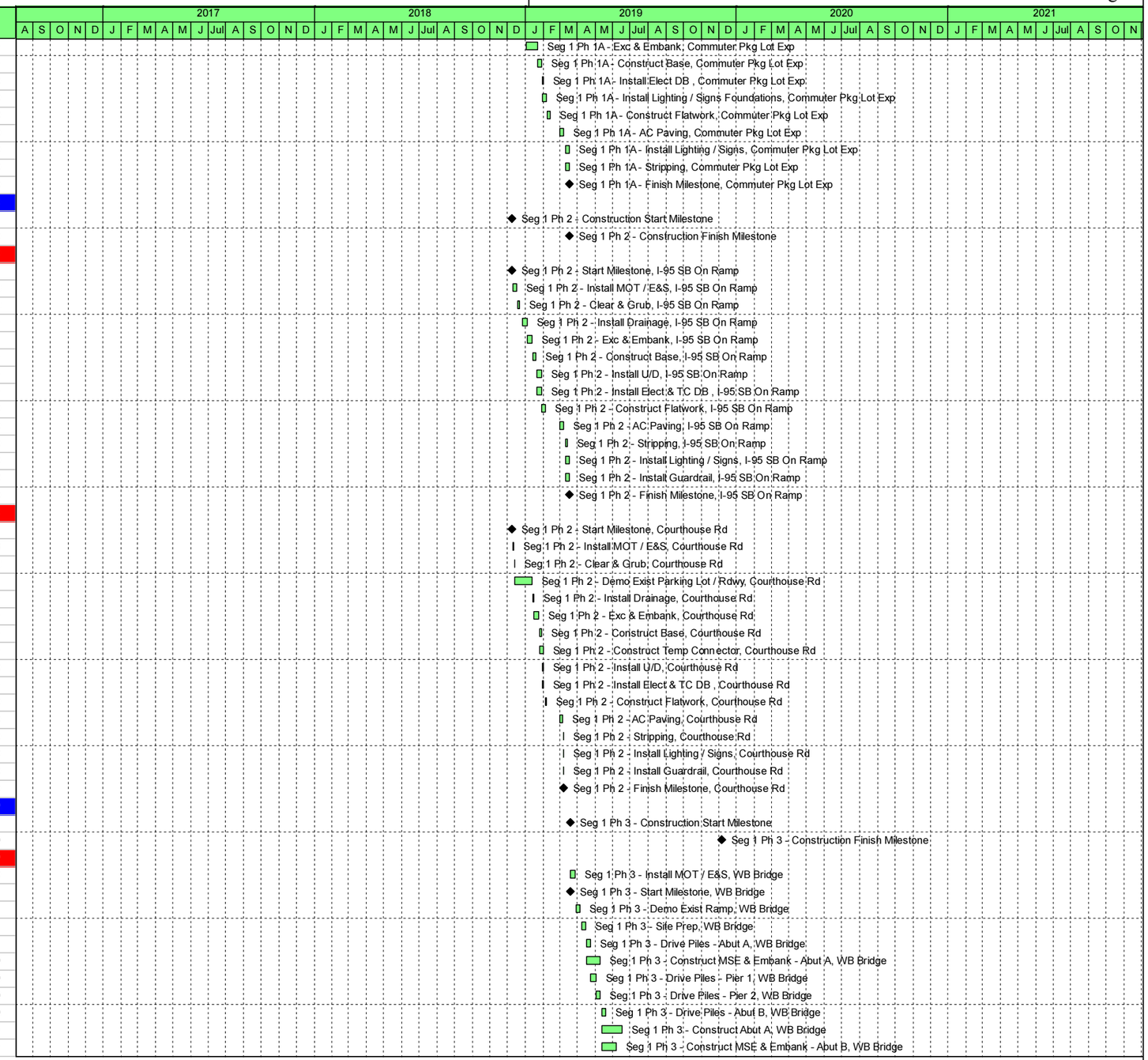
Activity ID	Activity Name	Original Duration	Start	Finish
C113-1060	Seg 1 Ph 1 - Install U/D, I-95 NB Off Ramp	5	30-Apr-18	07-May-18
C113-1070	Seg 1 Ph 1 - Construct Flatwork, I-95 NB Off Ramp	5	08-May-18	16-May-18
C113-1080	Seg 1 Ph 1 - AC Paving, I-95 NB Off Ramp	5	17-May-18	24-May-18
C113-1090	Seg 1 Ph 1 - Stripping, I-95 NB Off Ramp	3	25-May-18	30-May-18
C113-1100	Seg 1 Ph 1 - Install Lighting / Signs, I-95 NB Off Ramp	5	25-May-18	01-Jun-18
C113-1110	Seg 1 Ph 1 - Install Guardrail, I-95 NB Off Ramp	5	25-May-18	01-Jun-18
C113-1130	Seg 1 Ph 1 - Finish Milestone, I-95 NB Off Ramp	0		01-Jun-18
Courthouse Rd Sta 138+00 to 148+00		**29**	**07-Aug-18**	**27-Sep-18**
C114-1120	Seg 1 Ph 1 - Start Milestone, Courthouse Rd	0	07-Aug-18	
C114-1000	Seg 1 Ph 1 - Install MOT / E&S, Courthouse Rd	1	08-Aug-18	08-Aug-18
C114-1010	Seg 1 Ph 1 - Clear & Grub, Courthouse Rd	1	09-Aug-18	09-Aug-18
C114-1020	Seg 1 Ph 1 - Install Drainage, Courthouse Rd	2	10-Aug-18	13-Aug-18
C114-1030	Seg 1 Ph 1 - Exc & Embank, Courthouse Rd	5	14-Aug-18	21-Aug-18
C114-1040	Seg 1 Ph 1 - Construct Base, Courthouse Rd	5	22-Aug-18	30-Aug-18
C114-1050	Seg 1 Ph 1 - Install U/D, Courthouse Rd	5	31-Aug-18	10-Sep-18
C114-1060	Seg 1 Ph 1 - Install Elect & TC DB , Courthouse Rd	2	31-Aug-18	04-Sep-18
C114-1070	Seg 1 Ph 1 - Construct Flatwork, Courthouse Rd	3	11-Sep-18	14-Sep-18
C114-1080	Seg 1 Ph 1 - AC Paving, Courthouse Rd	2	17-Sep-18	20-Sep-18
C114-1090	Seg 1 Ph 1 - Stripping, Courthouse Rd	2	21-Sep-18	24-Sep-18
C114-1100	Seg 1 Ph 1 - Install Lighting / Signs, Courthouse Rd	3	21-Sep-18	25-Sep-18
C114-1110	Seg 1 Ph 1 - Install TCDs, Courthouse Rd	5	21-Sep-18	27-Sep-18
C114-1130	Seg 1 Ph 1 - Finish Milestone, Courthouse Rd	0		27-Sep-18
I-95 Soundwall		**55**	**10-Feb-18**	**17-May-18**
C115-1070	Seg 1 Ph 1 - Start Milestone, I-95 N. Wall	0	10-Feb-18	
C115-1000	Seg 1 Ph 1 - Install MOT / E&S, I-95 N. Wall	5	12-Feb-18	16-Feb-18
C115-1040	Seg 1 Ph 1 - Site Prep, I-95 N. Wall (CNE C)	5	19-Feb-18	27-Feb-18
C115-1050	Seg 1 Ph 1 - Install Noise Wall Foundations / Posts, I-95 N. Wall (CNE C)	25	28-Feb-18	12-Apr-18
C115-1060	Seg 1 Ph 1 - Install Noise Wall Panels, I-95 N. Wall (CNE C)	20	13-Apr-18	17-May-18
C115-1080	Seg 1 Ph 1 - Finish Milestone, I-95 N. Wall	0		17-May-18
Phase 1A		**226**	**10-Feb-18**	**18-Mar-19**
Courthouse Rd Sta 148+00 to 178+00		**155**	**10-Feb-18**	**13-Nov-18**
C116A11	Seg 1 Ph 1A - Start Milestone, Courthouse Rd East	0	10-Feb-18	
C116A1(	Seg 1 Ph 1A - Install MOT / E&S, Courthouse Rd East	7	12-Feb-18	22-Feb-18
C116A1(	Seg 1 Ph 1A - Clear & Grub, Courthouse Rd East	8	23-Feb-18	06-Mar-18
C116A1(	Seg 1 Ph 1A - Install Drainage, Courthouse Rd East	20	08-Mar-18	12-Apr-18
C116A1(	Seg 1 Ph 1A - Exc & Embank, Courthouse Rd East	30	10-Jul-18	28-Aug-18
C116A1(	Seg 1 Ph 1A - Construct Base, Courthouse Rd East	10	30-Aug-18	17-Sep-18
C116A1(	Seg 1 Ph 1A - Install U/D, Courthouse Rd East	7	20-Sep-18	28-Sep-18
C116A1(	Seg 1 Ph 1A - Install Elect & TC DB , Courthouse Rd East	5	20-Sep-18	26-Sep-18
C116A1(	Seg 1 Ph 1A - Construct Flatwork, Courthouse Rd East	10	01-Oct-18	18-Oct-18
C116A1(	Seg 1 Ph 1A - AC Paving, Courthouse Rd East	10	19-Oct-18	01-Nov-18
C116A1(	Seg 1 Ph 1A - Stripping, Courthouse Rd East	4	02-Nov-18	12-Nov-18
C116A11	Seg 1 Ph 1A - Install Lighting / Signs, Courthouse Rd East	3	02-Nov-18	09-Nov-18
C116A11	Seg 1 Ph 1A - Install Guardrail, Courthouse Rd East	5	02-Nov-18	13-Nov-18
C116A11	Seg 1 Ph 1A - Finish Milestone, Courthouse Rd East	0		13-Nov-18
Route 1		**40**	**27-Sep-18**	**05-Dec-18**
C117A1(	Seg 1 Ph 1A - Install MOT / E&S, Route 1	5	27-Sep-18	03-Oct-18
C117A1(	Seg 1 Ph 1A - Start Milestone, Route 1	0	27-Sep-18	
C117A1(	Seg 1 Ph 1A - Construct Rdwy Widening, Route 1	20	04-Oct-18	09-Nov-18
C117A1(	Seg 1 Ph 1A - Install Elect & TC DB , Route 1	5	12-Nov-18	16-Nov-18
C117A1(	Seg 1 Ph 1A - Install TCDs, Route 1	5	19-Nov-18	27-Nov-18
C117A1(	Seg 1 Ph 1A - Mill & Overlay, Route 1	5	28-Nov-18	05-Dec-18
C117A1(	Seg 1 Ph 1A - Finish Milestone, Route 1	0		05-Dec-18
2nd Commuter Parking Lot		**57**	**08-Dec-18**	**18-Mar-19**
C118A11	Seg 1 Ph 1A - Start Milestone, Commuter Pkg Lot Exp	0	08-Dec-18	
C118A1(	Seg 1 Ph 1A - Install MOT / E&S, Commuter Pkg Lot Exp	2	10-Dec-18	11-Dec-18
C118A1(	Seg 1 Ph 1A - Clear & Grub, Commuter Pkg Lot Exp	5	13-Dec-18	19-Dec-18
C118A1(	Seg 1 Ph 1A - Relocate Exist Utilities, Commuter Pkg Lot Exp	5	21-Dec-18	02-Jan-19
C118A1(	Seg 1 Ph 1A - Install Drainage, Commuter Pkg Lot Exp	5	21-Dec-18	02-Jan-19



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

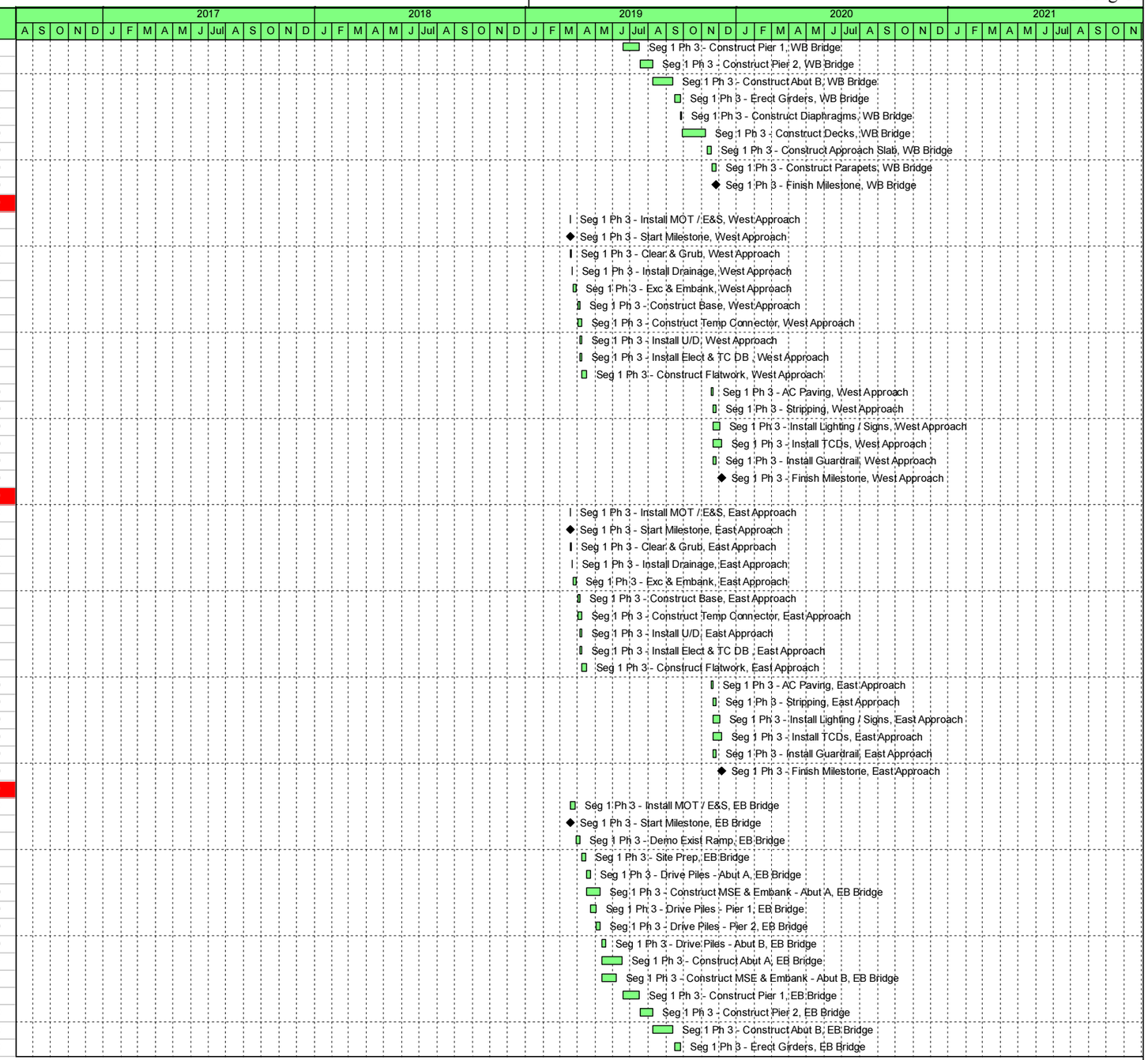
Activity ID	Activity Name	Original Duration	Start	Finish
C118A1(	Seg 1 Ph 1A - Exc & Embank, Commuter Pkg Lot Exp	11	03-Jan-19	21-Jan-19
C118A1(	Seg 1 Ph 1A - Construct Base, Commuter Pkg Lot Exp	5	22-Jan-19	29-Jan-19
C118A1(	Seg 1 Ph 1A - Install Elect DB , Commuter Pkg Lot Exp	3	30-Jan-19	01-Feb-19
C118A1(	Seg 1 Ph 1A - Install Lighting / Signs Foundations, Commuter Pkg Lot Exp	5	30-Jan-19	06-Feb-19
C118A1(	Seg 1 Ph 1A - Construct Flatwork, Commuter Pkg Lot Exp	5	07-Feb-19	13-Feb-19
C118A11	Seg 1 Ph 1A - AC Paving, Commuter Pkg Lot Exp	5	01-Mar-19	08-Mar-19
C118A1(	Seg 1 Ph 1A - Install Lighting / Signs, Commuter Pkg Lot Exp	5	11-Mar-19	18-Mar-19
C118A11	Seg 1 Ph 1A - Stripping, Commuter Pkg Lot Exp	5	11-Mar-19	18-Mar-19
C118A11	Seg 1 Ph 1A - Finish Milestone, Commuter Pkg Lot Exp	0		18-Mar-19
Phase 2		**57**	**08-Dec-18**	**18-Mar-19**
C120-1000	Seg 1 Ph 2 - Construction Start Milestone	0	08-Dec-18	
C120-1010	Seg 1 Ph 2 - Construction Finish Milestone	0		18-Mar-19
I-95 SB On Ramp		**57**	**08-Dec-18**	**18-Mar-19**
C121-1120	Seg 1 Ph 2 - Start Milestone, I-95 SB On Ramp	0	08-Dec-18	
C121-1000	Seg 1 Ph 2 - Install MOT / E&S, I-95 SB On Ramp	5	10-Dec-18	17-Dec-18
C121-1010	Seg 1 Ph 2 - Clear & Grub, I-95 SB On Ramp	3	18-Dec-18	21-Dec-18
C121-1020	Seg 1 Ph 2 - Install Drainage, I-95 SB On Ramp	5	26-Dec-18	03-Jan-19
C121-1030	Seg 1 Ph 2 - Exc & Embank, I-95 SB On Ramp	5	04-Jan-19	11-Jan-19
C121-1040	Seg 1 Ph 2 - Construct Base, I-95 SB On Ramp	4	14-Jan-19	18-Jan-19
C121-1050	Seg 1 Ph 2 - Install U/D, I-95 SB On Ramp	5	21-Jan-19	28-Jan-19
C121-1060	Seg 1 Ph 2 - Install Elect & TC DB , I-95 SB On Ramp	5	21-Jan-19	28-Jan-19
C121-1070	Seg 1 Ph 2 - Construct Flatwork, I-95 SB On Ramp	5	29-Jan-19	04-Feb-19
C121-1080	Seg 1 Ph 2 - AC Paving, I-95 SB On Ramp	5	01-Mar-19	08-Mar-19
C121-1090	Seg 1 Ph 2 - Stripping, I-95 SB On Ramp	3	11-Mar-19	14-Mar-19
C121-1100	Seg 1 Ph 2 - Install Lighting / Signs, I-95 SB On Ramp	5	11-Mar-19	18-Mar-19
C121-1110	Seg 1 Ph 2 - Install Guardrail, I-95 SB On Ramp	5	11-Mar-19	18-Mar-19
C121-1130	Seg 1 Ph 2 - Finish Milestone, I-95 SB On Ramp	0		18-Mar-19
Courthouse Rd		**52**	**08-Dec-18**	**08-Mar-19**
C122-1140	Seg 1 Ph 2 - Start Milestone, Courthouse Rd	0	08-Dec-18	
C122-1000	Seg 1 Ph 2 - Install MOT / E&S, Courthouse Rd	2	10-Dec-18	11-Dec-18
C122-1010	Seg 1 Ph 2 - Clear & Grub, Courthouse Rd	1	13-Dec-18	13-Dec-18
C122-1020	Seg 1 Ph 2 - Demo Exist Parking Lot / Rdwy, Courthouse Rd	15	14-Dec-18	11-Jan-19
C122-1030	Seg 1 Ph 2 - Install Drainage, Courthouse Rd	2	14-Jan-19	15-Jan-19
C122-1040	Seg 1 Ph 2 - Exc & Embank, Courthouse Rd	5	16-Jan-19	24-Jan-19
C122-1050	Seg 1 Ph 2 - Construct Base, Courthouse Rd	3	25-Jan-19	29-Jan-19
C122-1060	Seg 1 Ph 2 - Construct Temp Connector, Courthouse Rd	5	25-Jan-19	31-Jan-19
C122-1070	Seg 1 Ph 2 - Install U/D, Courthouse Rd	3	30-Jan-19	01-Feb-19
C122-1080	Seg 1 Ph 2 - Install Elect & TC DB , Courthouse Rd	2	30-Jan-19	31-Jan-19
C122-1090	Seg 1 Ph 2 - Construct Flatwork, Courthouse Rd	2	04-Feb-19	06-Feb-19
C122-1100	Seg 1 Ph 2 - AC Paving, Courthouse Rd	3	01-Mar-19	06-Mar-19
C122-1110	Seg 1 Ph 2 - Stripping, Courthouse Rd	2	07-Mar-19	08-Mar-19
C122-1120	Seg 1 Ph 2 - Install Lighting / Signs, Courthouse Rd	2	07-Mar-19	08-Mar-19
C122-1130	Seg 1 Ph 2 - Install Guardrail, Courthouse Rd	2	07-Mar-19	08-Mar-19
C122-1150	Seg 1 Ph 2 - Finish Milestone, Courthouse Rd	0		08-Mar-19
Phase 3		**147**	**19-Mar-19**	**06-Dec-19**
C130-1000	Seg 1 Ph 3 - Construction Start Milestone	0	19-Mar-19	
C130-1010	Seg 1 Ph 3 - Construction Finish Milestone	0		06-Dec-19
WB Bridge over I-95		**143**	**19-Mar-19**	**26-Nov-19**
C131-1000	Seg 1 Ph 3 - Install MOT / E&S, WB Bridge	5	19-Mar-19	28-Mar-19
C131-1180	Seg 1 Ph 3 - Start Milestone, WB Bridge	0	19-Mar-19	
C131-1010	Seg 1 Ph 3 - Demo Exist Ramp, WB Bridge	5	29-Mar-19	05-Apr-19
C131-1020	Seg 1 Ph 3 - Site Prep, WB Bridge	5	08-Apr-19	15-Apr-19
C131-1030	Seg 1 Ph 3 - Drive Piles - Abut A, WB Bridge	5	16-Apr-19	23-Apr-19
C131-1110	Seg 1 Ph 3 - Construct MSE & Embank - Abut A, WB Bridge	15	16-Apr-19	10-May-19
C131-1040	Seg 1 Ph 3 - Drive Piles - Pier 1, WB Bridge	5	24-Apr-19	02-May-19
C131-1050	Seg 1 Ph 3 - Drive Piles - Pier 2, WB Bridge	5	03-May-19	10-May-19
C131-1060	Seg 1 Ph 3 - Drive Piles - Abut B, WB Bridge	5	13-May-19	20-May-19
C131-1070	Seg 1 Ph 3 - Construct Abut A, WB Bridge	20	13-May-19	17-Jun-19
C131-1120	Seg 1 Ph 3 - Construct MSE & Embank - Abut B, WB Bridge	15	13-May-19	06-Jun-19



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

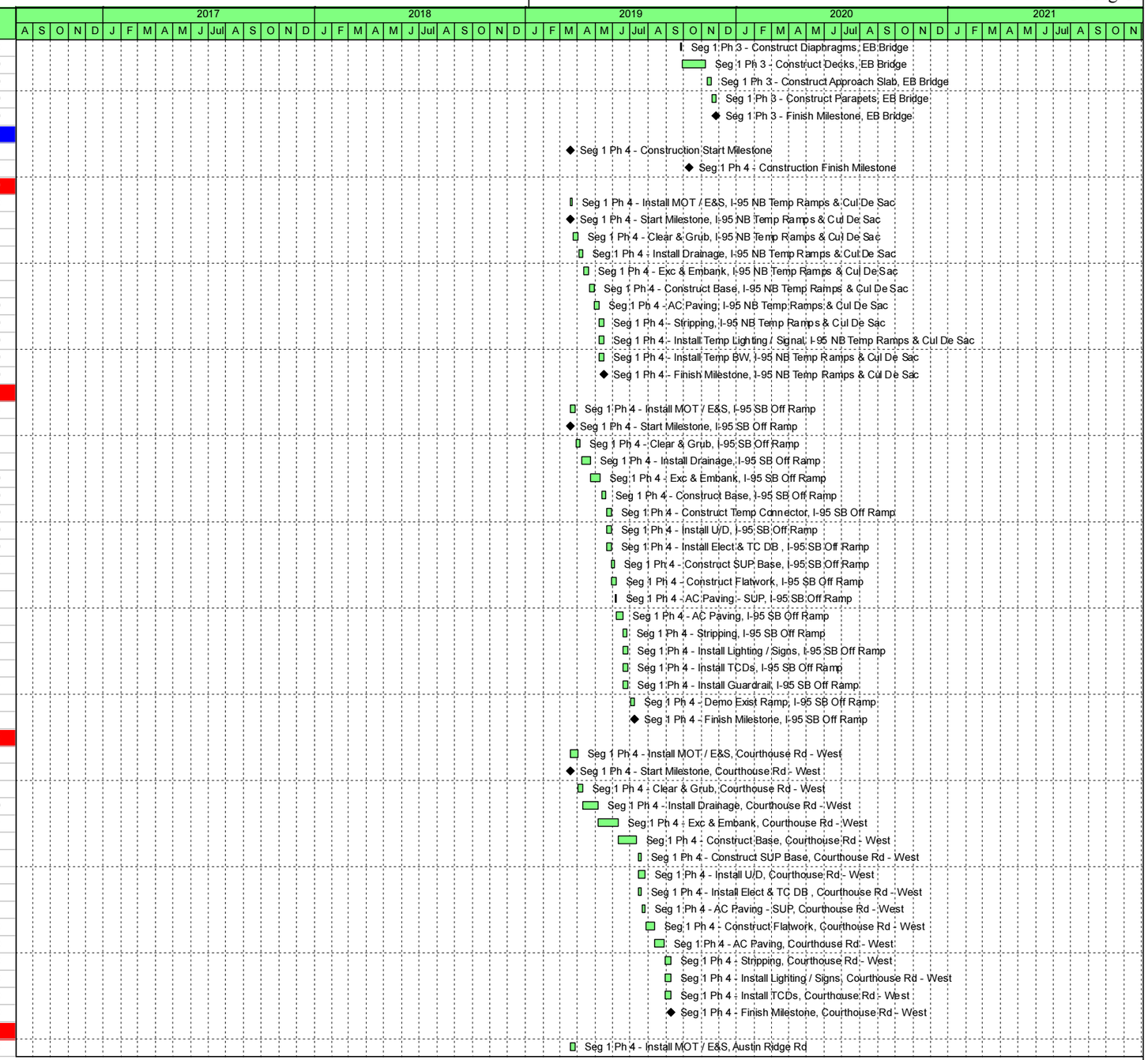
Activity ID	Activity Name	Original Duration	Start	Finish
C131-1080	Seg 1 Ph 3 - Construct Pier 1, WB Bridge	15	18-Jun-19	17-Jul-19
C131-1090	Seg 1 Ph 3 - Construct Pier 2, WB Bridge	15	18-Jul-19	08-Aug-19
C131-1100	Seg 1 Ph 3 - Construct Abut B, WB Bridge	20	09-Aug-19	13-Sep-19
C131-1130	Seg 1 Ph 3 - Erect Girders, WB Bridge	6	16-Sep-19	25-Sep-19
C131-1140	Seg 1 Ph 3 - Construct Diaphragms, WB Bridge	2	26-Sep-19	27-Sep-19
C131-1150	Seg 1 Ph 3 - Construct Decks, WB Bridge	25	30-Sep-19	08-Nov-19
C131-1170	Seg 1 Ph 3 - Construct Approach Slab, WB Bridge	5	11-Nov-19	18-Nov-19
C131-1160	Seg 1 Ph 3 - Construct Parapets, WB Bridge	5	19-Nov-19	26-Nov-19
C131-1190	Seg 1 Ph 3 - Finish Milestone, WB Bridge	0		26-Nov-19
Courthhouse Rd West Approach		**147**	**19-Mar-19**	**06-Dec-19**
C132-1000	Seg 1 Ph 3 - Install MOT / E&S, West Approach	1	19-Mar-19	19-Mar-19
C132-1140	Seg 1 Ph 3 - Start Milestone, West Approach	0	19-Mar-19	
C132-1010	Seg 1 Ph 3 - Clear & Grub, West Approach	1	20-Mar-19	20-Mar-19
C132-1020	Seg 1 Ph 3 - Install Drainage, West Approach	1	22-Mar-19	22-Mar-19
C132-1030	Seg 1 Ph 3 - Exc & Embank, West Approach	3	25-Mar-19	29-Mar-19
C132-1040	Seg 1 Ph 3 - Construct Base, West Approach	3	01-Apr-19	04-Apr-19
C132-1050	Seg 1 Ph 3 - Construct Temp Connector, West Approach	5	01-Apr-19	08-Apr-19
C132-1060	Seg 1 Ph 3 - Install U/D, West Approach	2	05-Apr-19	08-Apr-19
C132-1070	Seg 1 Ph 3 - Install Elect & TC DB , West Approach	2	05-Apr-19	08-Apr-19
C132-1080	Seg 1 Ph 3 - Construct Flatwork, West Approach	5	09-Apr-19	16-Apr-19
C132-1090	Seg 1 Ph 3 - AC Paving, West Approach	3	18-Nov-19	21-Nov-19
C132-1100	Seg 1 Ph 3 - Stripping, West Approach	2	22-Nov-19	25-Nov-19
C132-1110	Seg 1 Ph 3 - Install Lighting / Signs, West Approach	5	22-Nov-19	02-Dec-19
C132-1120	Seg 1 Ph 3 - Install TCDs, West Approach	7	22-Nov-19	06-Dec-19
C132-1130	Seg 1 Ph 3 - Install Guardrail, West Approach	2	22-Nov-19	25-Nov-19
C132-1150	Seg 1 Ph 3 - Finish Milestone, West Approach	0		06-Dec-19
Courthhouse Rd East Approach		**147**	**19-Mar-19**	**06-Dec-19**
C133-1000	Seg 1 Ph 3 - Install MOT / E&S, East Approach	1	19-Mar-19	19-Mar-19
C133-1140	Seg 1 Ph 3 - Start Milestone, East Approach	0	19-Mar-19	
C133-1010	Seg 1 Ph 3 - Clear & Grub, East Approach	1	20-Mar-19	20-Mar-19
C133-1020	Seg 1 Ph 3 - Install Drainage, East Approach	1	22-Mar-19	22-Mar-19
C133-1030	Seg 1 Ph 3 - Exc & Embank, East Approach	3	25-Mar-19	29-Mar-19
C133-1040	Seg 1 Ph 3 - Construct Base, East Approach	3	01-Apr-19	04-Apr-19
C133-1050	Seg 1 Ph 3 - Construct Temp Connector, East Approach	5	01-Apr-19	08-Apr-19
C133-1060	Seg 1 Ph 3 - Install U/D, East Approach	2	05-Apr-19	08-Apr-19
C133-1070	Seg 1 Ph 3 - Install Elect & TC DB , East Approach	2	05-Apr-19	08-Apr-19
C133-1080	Seg 1 Ph 3 - Construct Flatwork, East Approach	5	09-Apr-19	16-Apr-19
C133-1090	Seg 1 Ph 3 - AC Paving, East Approach	3	18-Nov-19	21-Nov-19
C133-1100	Seg 1 Ph 3 - Stripping, East Approach	2	22-Nov-19	25-Nov-19
C133-1110	Seg 1 Ph 3 - Install Lighting / Signs, East Approach	5	22-Nov-19	02-Dec-19
C133-1120	Seg 1 Ph 3 - Install TCDs, East Approach	7	22-Nov-19	06-Dec-19
C133-1130	Seg 1 Ph 3 - Install Guardrail, East Approach	2	22-Nov-19	25-Nov-19
C133-1150	Seg 1 Ph 3 - Finish Milestone, East Approach	0		06-Dec-19
EB Bridge over I-95		**143**	**19-Mar-19**	**26-Nov-19**
C134-1000	Seg 1 Ph 3 - Install MOT / E&S, EB Bridge	5	19-Mar-19	28-Mar-19
C134-1180	Seg 1 Ph 3 - Start Milestone, EB Bridge	0	19-Mar-19	
C134-1010	Seg 1 Ph 3 - Demo Exist Ramp, EB Bridge	5	29-Mar-19	05-Apr-19
C134-1020	Seg 1 Ph 3 - Site Prep, EB Bridge	5	08-Apr-19	15-Apr-19
C134-1030	Seg 1 Ph 3 - Drive Piles - Abut A, EB Bridge	5	16-Apr-19	23-Apr-19
C134-1110	Seg 1 Ph 3 - Construct MSE & Embank - Abut A, EB Bridge	15	16-Apr-19	10-May-19
C134-1040	Seg 1 Ph 3 - Drive Piles - Pier 1, EB Bridge	5	24-Apr-19	02-May-19
C134-1050	Seg 1 Ph 3 - Drive Piles - Pier 2, EB Bridge	5	03-May-19	10-May-19
C134-1060	Seg 1 Ph 3 - Drive Piles - Abut B, EB Bridge	5	13-May-19	20-May-19
C134-1070	Seg 1 Ph 3 - Construct Abut A, EB Bridge	20	13-May-19	17-Jun-19
C134-1120	Seg 1 Ph 3 - Construct MSE & Embank - Abut B, EB Bridge	15	13-May-19	06-Jun-19
C134-1080	Seg 1 Ph 3 - Construct Pier 1, EB Bridge	15	18-Jun-19	17-Jul-19
C134-1090	Seg 1 Ph 3 - Construct Pier 2, EB Bridge	15	18-Jul-19	08-Aug-19
C134-1100	Seg 1 Ph 3 - Construct Abut B, EB Bridge	20	09-Aug-19	13-Sep-19
C134-1130	Seg 1 Ph 3 - Erect Girders, EB Bridge	6	16-Sep-19	25-Sep-19



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

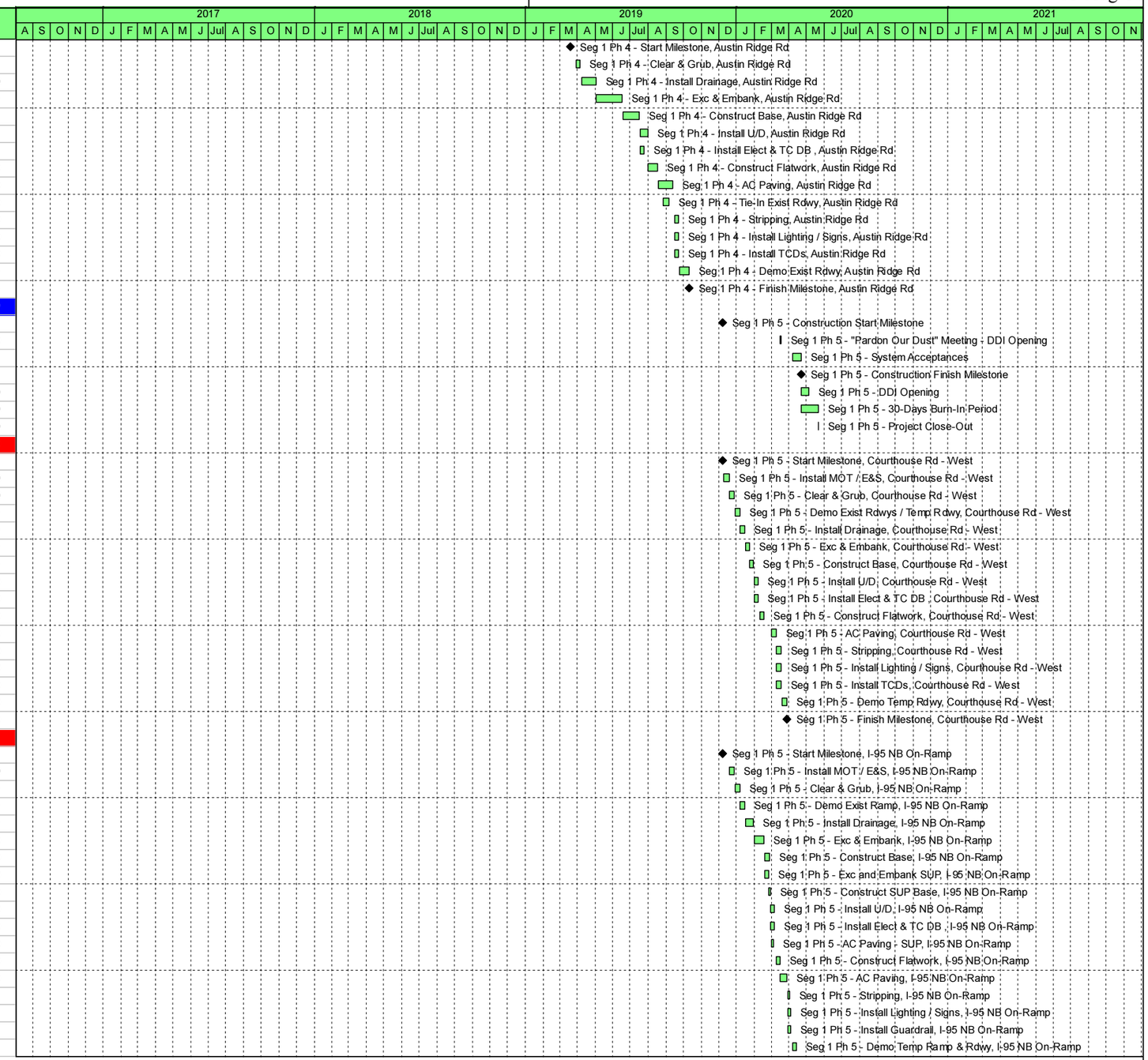
Activity ID	Activity Name	Original Duration	Start	Finish
C134-1140	Seg 1 Ph 3 - Construct Diaphragms, EB Bridge	2	26-Sep-19	27-Sep-19
C134-1150	Seg 1 Ph 3 - Construct Decks, EB Bridge	25	30-Sep-19	08-Nov-19
C134-1170	Seg 1 Ph 3 - Construct Approach Slab, EB Bridge	5	11-Nov-19	18-Nov-19
C134-1160	Seg 1 Ph 3 - Construct Parapets, EB Bridge	5	19-Nov-19	26-Nov-19
C134-1190	Seg 1 Ph 3 - Finish Milestone, EB Bridge	0		26-Nov-19
Phase 4		**115**	**19-Mar-19**	**10-Oct-19**
C140-1000	Seg 1 Ph 4 - Construction Start Milestone	0	19-Mar-19	
C140-1010	Seg 1 Ph 4 - Construction Finish Milestone	0		10-Oct-19
Temp I-95 NB On Ramp & Cul De Sac		**33**	**19-Mar-19**	**16-May-19**
C141-1000	Seg 1 Ph 4 - Install MOT / E&S, I-95 NB Temp Ramps & Cul De Sac	3	19-Mar-19	22-Mar-19
C141-1090	Seg 1 Ph 4 - Start Milestone, I-95 NB Temp Ramps & Cul De Sac	0	19-Mar-19	
C141-1010	Seg 1 Ph 4 - Clear & Grub, I-95 NB Temp Ramps & Cul De Sac	5	25-Mar-19	02-Apr-19
C141-1020	Seg 1 Ph 4 - Install Drainage, I-95 NB Temp Ramps & Cul De Sac	5	04-Apr-19	10-Apr-19
C141-1030	Seg 1 Ph 4 - Exc & Embank, I-95 NB Temp Ramps & Cul De Sac	5	12-Apr-19	19-Apr-19
C141-1040	Seg 1 Ph 4 - Construct Base, I-95 NB Temp Ramps & Cul De Sac	5	22-Apr-19	29-Apr-19
C141-1050	Seg 1 Ph 4 - AC Paving, I-95 NB Temp Ramps & Cul De Sac	5	30-Apr-19	07-May-19
C141-1060	Seg 1 Ph 4 - Stripping, I-95 NB Temp Ramps & Cul De Sac	5	08-May-19	16-May-19
C141-1070	Seg 1 Ph 4 - Install Temp Lighting / Signal, I-95 NB Temp Ramps & Cul De Sa	5	08-May-19	16-May-19
C141-1080	Seg 1 Ph 4 - Install Temp BW, I-95 NB Temp Ramps & Cul De Sac	5	08-May-19	16-May-19
C141-1100	Seg 1 Ph 4 - Finish Milestone, I-95 NB Temp Ramps & Cul De Sac	0		16-May-19
I-95 SB Off Ramp		**61**	**19-Mar-19**	**08-Jul-19**
C142-1000	Seg 1 Ph 4 - Install MOT / E&S, I-95 SB Off Ramp	5	19-Mar-19	28-Mar-19
C142-1180	Seg 1 Ph 4 - Start Milestone, I-95 SB Off Ramp	0	19-Mar-19	
C142-1010	Seg 1 Ph 4 - Clear & Grub, I-95 SB Off Ramp	5	29-Mar-19	05-Apr-19
C142-1020	Seg 1 Ph 4 - Install Drainage, I-95 SB Off Ramp	10	08-Apr-19	23-Apr-19
C142-1030	Seg 1 Ph 4 - Exc & Embank, I-95 SB Off Ramp	10	24-Apr-19	10-May-19
C142-1050	Seg 1 Ph 4 - Construct Base, I-95 SB Off Ramp	5	13-May-19	20-May-19
C142-1060	Seg 1 Ph 4 - Construct Temp Connector, I-95 SB Off Ramp	5	21-May-19	29-May-19
C142-1080	Seg 1 Ph 4 - Install U/D, I-95 SB Off Ramp	5	21-May-19	29-May-19
C142-1090	Seg 1 Ph 4 - Install Elect & TC DB , I-95 SB Off Ramp	5	21-May-19	29-May-19
C142-1070	Seg 1 Ph 4 - Construct SUP Base, I-95 SB Off Ramp	3	30-May-19	03-Jun-19
C142-1100	Seg 1 Ph 4 - Construct Flatwork, I-95 SB Off Ramp	5	30-May-19	06-Jun-19
C142-1120	Seg 1 Ph 4 - AC Paving - SUP, I-95 SB Off Ramp	3	05-Jun-19	07-Jun-19
C142-1110	Seg 1 Ph 4 - AC Paving, I-95 SB Off Ramp	6	07-Jun-19	18-Jun-19
C142-1130	Seg 1 Ph 4 - Stripping, I-95 SB Off Ramp	3	19-Jun-19	24-Jun-19
C142-1140	Seg 1 Ph 4 - Install Lighting / Signs, I-95 SB Off Ramp	5	19-Jun-19	27-Jun-19
C142-1150	Seg 1 Ph 4 - Install TCDs, I-95 SB Off Ramp	5	19-Jun-19	27-Jun-19
C142-1160	Seg 1 Ph 4 - Install Guardrail, I-95 SB Off Ramp	5	19-Jun-19	27-Jun-19
C142-1170	Seg 1 Ph 4 - Demo Exist Ramp, I-95 SB Off Ramp	5	01-Jul-19	08-Jul-19
C142-1190	Seg 1 Ph 4 - Finish Milestone, I-95 SB Off Ramp	0		08-Jul-19
Courthouse Rd - West		**97**	**19-Mar-19**	**09-Sep-19**
C143-1000	Seg 1 Ph 4 - Install MOT / E&S, Courthouse Rd - West	7	19-Mar-19	01-Apr-19
C143-1140	Seg 1 Ph 4 - Start Milestone, Courthouse Rd - West	0	19-Mar-19	
C143-1010	Seg 1 Ph 4 - Clear & Grub, Courthouse Rd - West	5	02-Apr-19	09-Apr-19
C143-1020	Seg 1 Ph 4 - Install Drainage, Courthouse Rd - West	15	10-Apr-19	06-May-19
C143-1030	Seg 1 Ph 4 - Exc & Embank, Courthouse Rd - West	20	07-May-19	10-Jun-19
C143-1040	Seg 1 Ph 4 - Construct Base, Courthouse Rd - West	15	11-Jun-19	12-Jul-19
C143-1050	Seg 1 Ph 4 - Construct SUP Base, Courthouse Rd - West	5	15-Jul-19	19-Jul-19
C143-1060	Seg 1 Ph 4 - Install U/D, Courthouse Rd - West	10	15-Jul-19	26-Jul-19
C143-1070	Seg 1 Ph 4 - Install Elect & TC DB , Courthouse Rd - West	5	15-Jul-19	19-Jul-19
C143-1100	Seg 1 Ph 4 - AC Paving - SUP, Courthouse Rd - West	5	22-Jul-19	26-Jul-19
C143-1080	Seg 1 Ph 4 - Construct Flatwork, Courthouse Rd - West	10	29-Jul-19	12-Aug-19
C143-1090	Seg 1 Ph 4 - AC Paving, Courthouse Rd - West	10	13-Aug-19	29-Aug-19
C143-1110	Seg 1 Ph 4 - Stripping, Courthouse Rd - West	5	30-Aug-19	09-Sep-19
C143-1120	Seg 1 Ph 4 - Install Lighting / Signs, Courthouse Rd - West	5	30-Aug-19	09-Sep-19
C143-1130	Seg 1 Ph 4 - Install TCDs, Courthouse Rd - West	5	30-Aug-19	09-Sep-19
C143-1150	Seg 1 Ph 4 - Finish Milestone, Courthouse Rd - West	0		09-Sep-19
Austin Ridge Rd		**115**	**19-Mar-19**	**10-Oct-19**
C144-1000	Seg 1 Ph 4 - Install MOT / E&S, Austin Ridge Rd	5	19-Mar-19	28-Mar-19



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

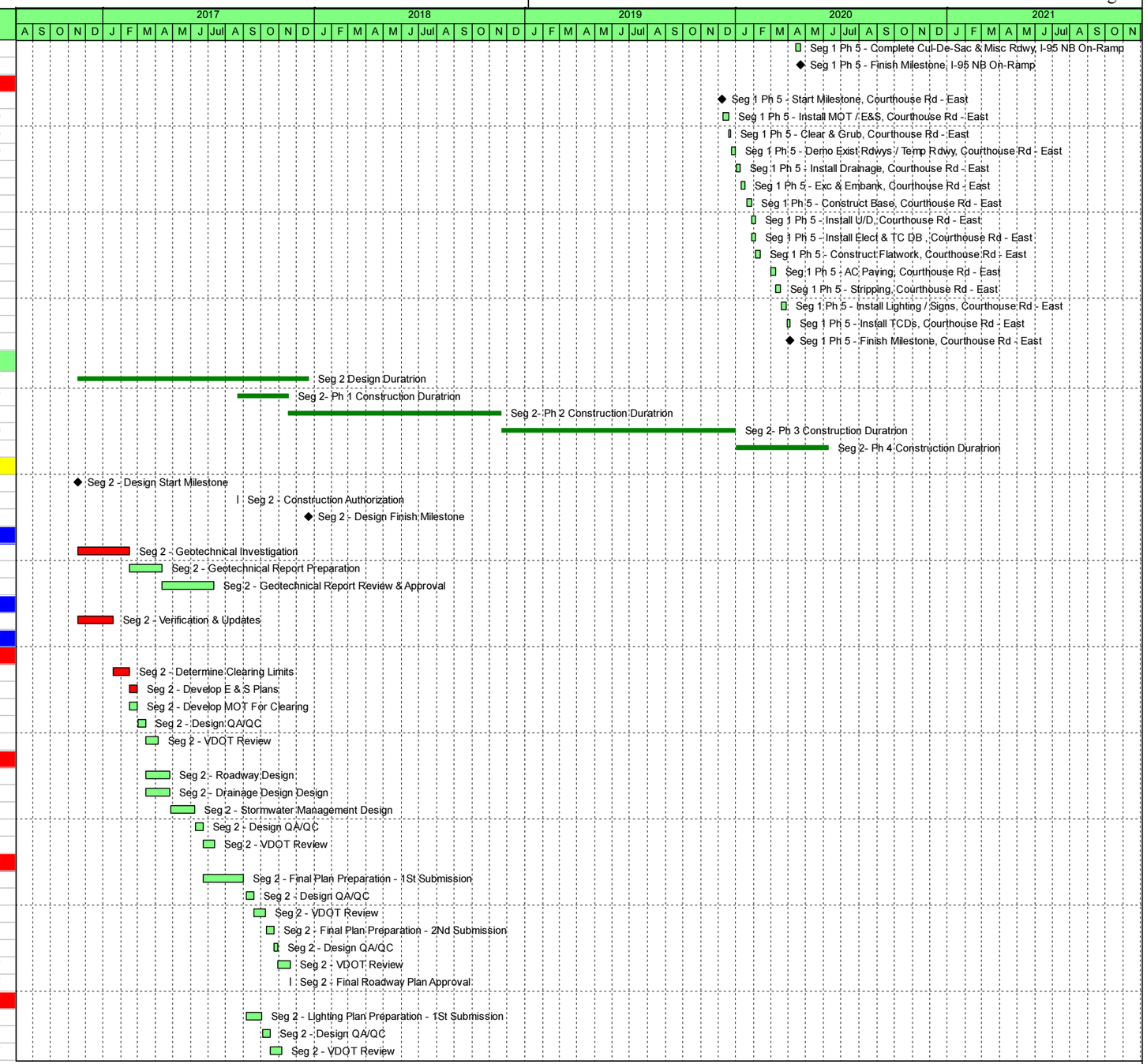
Activity ID	Activity Name	Original Duration	Start	Finish
C144-1140	Seg 1 Ph 4 - Start Milestone, Austin Ridge Rd	0	19-Mar-19	
C144-1010	Seg 1 Ph 4 - Clear & Grub, Austin Ridge Rd	5	29-Mar-19	05-Apr-19
C144-1020	Seg 1 Ph 4 - Install Drainage, Austin Ridge Rd	15	08-Apr-19	02-May-19
C144-1030	Seg 1 Ph 4 - Exc & Embank, Austin Ridge Rd	25	03-May-19	17-Jun-19
C144-1040	Seg 1 Ph 4 - Construct Base, Austin Ridge Rd	15	18-Jun-19	17-Jul-19
C144-1050	Seg 1 Ph 4 - Install U/D, Austin Ridge Rd	10	18-Jul-19	31-Jul-19
C144-1060	Seg 1 Ph 4 - Install Elect & TC DB , Austin Ridge Rd	5	18-Jul-19	24-Jul-19
C144-1070	Seg 1 Ph 4 - Construct Flatwork, Austin Ridge Rd	10	01-Aug-19	16-Aug-19
C144-1080	Seg 1 Ph 4 - AC Paving, Austin Ridge Rd	15	19-Aug-19	13-Sep-19
C144-1120	Seg 1 Ph 4 - Tie-In Exist Rdwy, Austin Ridge Rd	5	27-Aug-19	05-Sep-19
C144-1090	Seg 1 Ph 4 - Stripping, Austin Ridge Rd	5	16-Sep-19	23-Sep-19
C144-1100	Seg 1 Ph 4 - Install Lighting / Signs, Austin Ridge Rd	5	16-Sep-19	23-Sep-19
C144-1110	Seg 1 Ph 4 - Install TCDs, Austin Ridge Rd	5	16-Sep-19	23-Sep-19
C144-1130	Seg 1 Ph 4 - Demo Exist Rdwy, Austin Ridge Rd	10	25-Sep-19	10-Oct-19
C144-1150	Seg 1 Ph 4 - Finish Milestone, Austin Ridge Rd	0		10-Oct-19
Phase 5		**95**	**07-Dec-19**	**21-May-20**
C150-1000	Seg 1 Ph 5 - Construction Start Milestone	0	07-Dec-19	
C150-1020	Seg 1 Ph 5 - "Pardon Our Dust" Meeting - DDI Opening	2	17-Mar-20	18-Mar-20
C150-1040	Seg 1 Ph 5 - System Acceptances	10	06-Apr-20	21-Apr-20
C150-1010	Seg 1 Ph 5 - Construction Finish Milestone	0		21-Apr-20
C150-1030	Seg 1 Ph 5 - DDI Opening	14	22-Apr-20	05-May-20
C150-1050	Seg 1 Ph 5 - 30-Days Burn-In Period	30	22-Apr-20	21-May-20
C150-1060	Seg 1 Ph 5 - Project Close-Out	1	21-May-20	21-May-20
Courthouse Rd - West		**63**	**07-Dec-19**	**27-Mar-20**
C151-1130	Seg 1 Ph 5 - Start Milestone, Courthouse Rd - West	0	07-Dec-19	
C151-1000	Seg 1 Ph 5 - Install MOT / E&S, Courthouse Rd - West	5	09-Dec-19	19-Dec-19
C151-1010	Seg 1 Ph 5 - Clear & Grub, Courthouse Rd - West	5	20-Dec-19	27-Dec-19
C151-1020	Seg 1 Ph 5 - Demo Exist Rdwys / Temp Rdwy, Courthouse Rd - West	5	30-Dec-19	06-Jan-20
C151-1030	Seg 1 Ph 5 - Install Drainage, Courthouse Rd - West	5	07-Jan-20	15-Jan-20
C151-1040	Seg 1 Ph 5 - Exc & Embank, Courthouse Rd - West	5	16-Jan-20	22-Jan-20
C151-1050	Seg 1 Ph 5 - Construct Base, Courthouse Rd - West	5	24-Jan-20	30-Jan-20
C151-1060	Seg 1 Ph 5 - Install U/D, Courthouse Rd - West	5	31-Jan-20	07-Feb-20
C151-1070	Seg 1 Ph 5 - Install Elect & TC DB , Courthouse Rd - West	5	31-Jan-20	07-Feb-20
C151-1080	Seg 1 Ph 5 - Construct Flatwork, Courthouse Rd - West	5	10-Feb-20	17-Feb-20
C151-1090	Seg 1 Ph 5 - AC Paving, Courthouse Rd - West	5	02-Mar-20	09-Mar-20
C151-1100	Seg 1 Ph 5 - Stripping, Courthouse Rd - West	5	10-Mar-20	17-Mar-20
C151-1110	Seg 1 Ph 5 - Install Lighting / Signs, Courthouse Rd - West	5	10-Mar-20	17-Mar-20
C151-1120	Seg 1 Ph 5 - Install TCDs, Courthouse Rd - West	5	10-Mar-20	17-Mar-20
C151-1150	Seg 1 Ph 5 - Demo Temp Rdwy, Courthouse Rd - West	5	19-Mar-20	27-Mar-20
C151-1140	Seg 1 Ph 5 - Finish Milestone, Courthouse Rd - West	0		27-Mar-20
I-95 NB On Ramp		**78**	**07-Dec-19**	**21-Apr-20**
C152-1180	Seg 1 Ph 5 - Start Milestone, I-95 NB On-Ramp	0	07-Dec-19	
C152-1000	Seg 1 Ph 5 - Install MOT / E&S, I-95 NB On-Ramp	5	20-Dec-19	27-Dec-19
C152-1010	Seg 1 Ph 5 - Clear & Grub, I-95 NB On-Ramp	5	30-Dec-19	06-Jan-20
C152-1020	Seg 1 Ph 5 - Demo Exist Ramp, I-95 NB On-Ramp	5	07-Jan-20	15-Jan-20
C152-1030	Seg 1 Ph 5 - Install Drainage, I-95 NB On-Ramp	10	16-Jan-20	30-Jan-20
C152-1040	Seg 1 Ph 5 - Exc & Embank, I-95 NB On-Ramp	10	31-Jan-20	17-Feb-20
C152-1060	Seg 1 Ph 5 - Construct Base, I-95 NB On-Ramp	7	18-Feb-20	27-Feb-20
C152-1140	Seg 1 Ph 5 - Exc and Embank SUP, I-95 NB On-Ramp	5	18-Feb-20	25-Feb-20
C152-1150	Seg 1 Ph 5 - Construct SUP Base, I-95 NB On-Ramp	3	26-Feb-20	28-Feb-20
C152-1070	Seg 1 Ph 5 - Install U/D, I-95 NB On-Ramp	5	28-Feb-20	06-Mar-20
C152-1080	Seg 1 Ph 5 - Install Elect & TC DB , I-95 NB On-Ramp	5	28-Feb-20	06-Mar-20
C152-1160	Seg 1 Ph 5 - AC Paving - SUP, I-95 NB On-Ramp	3	02-Mar-20	05-Mar-20
C152-1090	Seg 1 Ph 5 - Construct Flatwork, I-95 NB On-Ramp	5	09-Mar-20	16-Mar-20
C152-1100	Seg 1 Ph 5 - AC Paving, I-95 NB On-Ramp	6	17-Mar-20	27-Mar-20
C152-1110	Seg 1 Ph 5 - Stripping, I-95 NB On-Ramp	3	30-Mar-20	01-Apr-20
C152-1120	Seg 1 Ph 5 - Install Lighting / Signs, I-95 NB On-Ramp	5	30-Mar-20	03-Apr-20
C152-1170	Seg 1 Ph 5 - Install Guardrail, I-95 NB On-Ramp	5	30-Mar-20	03-Apr-20
C152-1130	Seg 1 Ph 5 - Demo Temp Ramp & Rdwy, I-95 NB On-Ramp	5	06-Apr-20	13-Apr-20



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

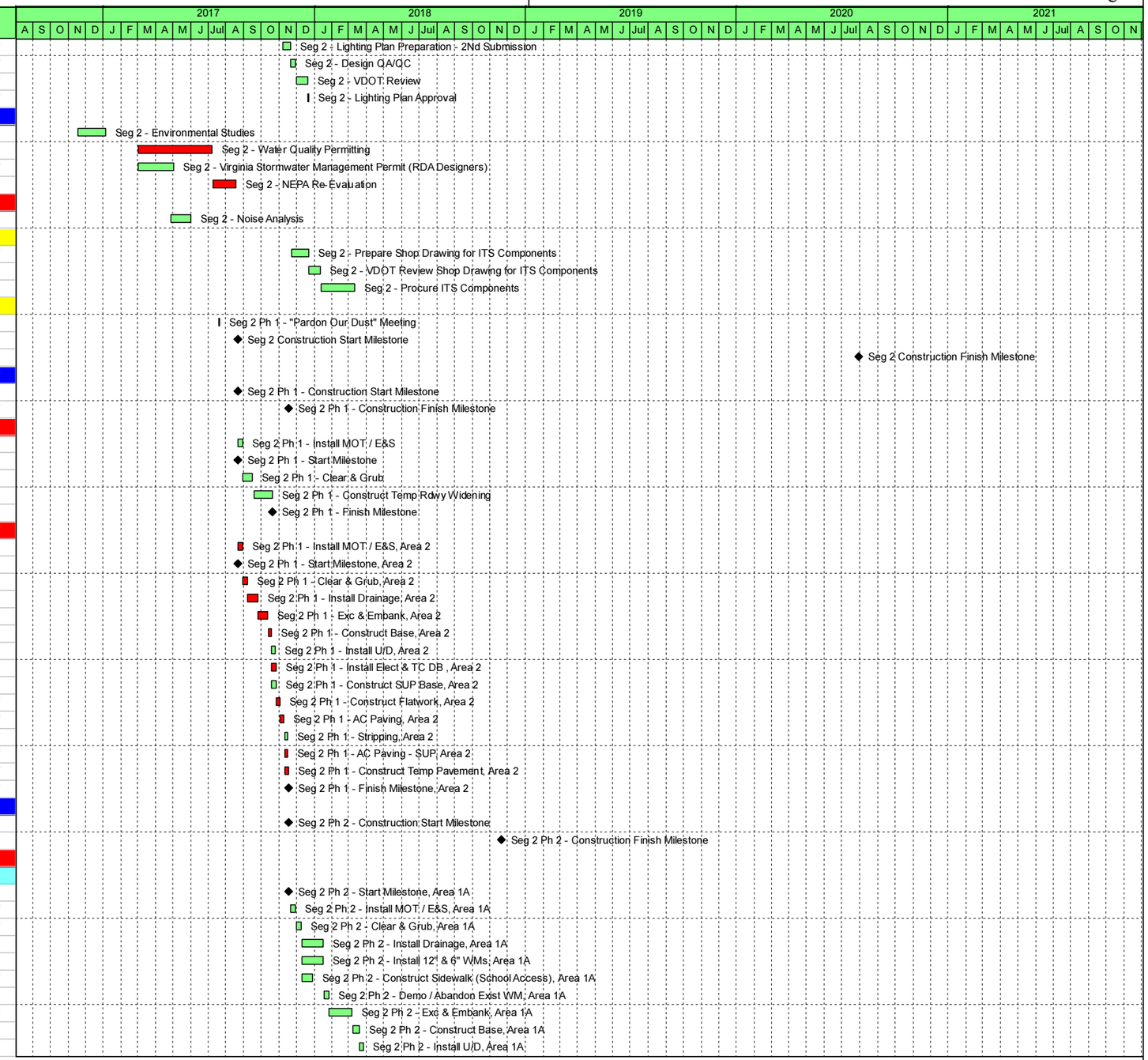
Activity ID	Activity Name	Original Duration	Start	Finish
C152-1200	Seg 1 Ph 5 - Complete Cul-De-Sac & Misc Rdwy, I-95 NB On-Ramp	5	14-Apr-20	21-Apr-20
C152-1190	Seg 1 Ph 5 - Finish Milestone, I-95 NB On-Ramp	0		21-Apr-20
Courthouse Rd - East		68	07-Dec-19	03-Apr-20
C153-1130	Seg 1 Ph 5 - Start Milestone, Courthouse Rd - East	0	07-Dec-19	
C153-1000	Seg 1 Ph 5 - Install MOT / E&S, Courthouse Rd - East	5	09-Dec-19	19-Dec-19
C153-1010	Seg 1 Ph 5 - Clear & Grub, Courthouse Rd - East	2	20-Dec-19	23-Dec-19
C153-1020	Seg 1 Ph 5 - Demo Exist Rdwys / Temp Rdwy, Courthouse Rd - East	5	24-Dec-19	31-Dec-19
C153-1030	Seg 1 Ph 5 - Install Drainage, Courthouse Rd - East	5	02-Jan-20	08-Jan-20
C153-1040	Seg 1 Ph 5 - Exc & Embank, Courthouse Rd - East	5	10-Jan-20	17-Jan-20
C153-1050	Seg 1 Ph 5 - Construct Base, Courthouse Rd - East	5	20-Jan-20	27-Jan-20
C153-1060	Seg 1 Ph 5 - Install U/D, Courthouse Rd - East	5	28-Jan-20	03-Feb-20
C153-1070	Seg 1 Ph 5 - Install Elect & TC DB , Courthouse Rd - East	5	28-Jan-20	03-Feb-20
C153-1080	Seg 1 Ph 5 - Construct Flatwork, Courthouse Rd - East	5	04-Feb-20	12-Feb-20
C153-1090	Seg 1 Ph 5 - AC Paving, Courthouse Rd - East	5	02-Mar-20	09-Mar-20
C153-1100	Seg 1 Ph 5 - Stripping, Courthouse Rd - East	5	10-Mar-20	17-Mar-20
C153-1110	Seg 1 Ph 5 - Install Lighting / Signs, Courthouse Rd - East	5	19-Mar-20	27-Mar-20
C153-1120	Seg 1 Ph 5 - Install TCDs, Courthouse Rd - East	5	30-Mar-20	03-Apr-20
C153-1140	Seg 1 Ph 5 - Finish Milestone, Courthouse Rd - East	0		03-Apr-20
R-630 Widening		756	18-Nov-16	29-Jul-20
A200-1000	Seg 2 Design Duratrion	399	18-Nov-16	21-Dec-17
A200-1010	Seg 2- Ph 1 Construction Duratrion	88	22-Aug-17	17-Nov-17
A200-1020	Seg 2- Ph 2 Construction Duratrion	368	18-Nov-17	20-Nov-18
A200-1030	Seg 2- Ph 3 Construction Duratrion	406	21-Nov-18	31-Dec-19
A200-1040	Seg 2- Ph 4 Construction Duratrion	161	01-Jan-20	09-Jun-20
Design		221	18-Nov-16	22-Dec-17
D200-1450	Seg 2 - Design Start Milestone	0	18-Nov-16	
D200-1480	Seg 2 - Construction Authorization	1	21-Aug-17	21-Aug-17
D200-1460	Seg 2 - Design Finish Milestone	0	22-Dec-17	
Geotechnical		131	18-Nov-16	11-Jul-17
D200-1010	Seg 2 - Geotechnical Investigation	60	18-Nov-16	15-Feb-17
D200-1020	Seg 2 - Geotechnical Report Preparation	40	16-Feb-17	12-Apr-17
D200-1030	Seg 2 - Geotechnical Report Review & Approval	90	13-Apr-17	11-Jul-17
Survey		40	18-Nov-16	18-Jan-17
D200-1050	Seg 2 - Verification & Updates	40	18-Nov-16	18-Jan-17
Roadway Design		190	19-Jan-17	21-Dec-17
Clearing & Grubbing/E & S Plans		46	19-Jan-17	05-Apr-17
D200-1080	Seg 2 - Determine Clearing Limits	20	19-Jan-17	15-Feb-17
D200-1090	Seg 2 - Develop E & S Plans	10	16-Feb-17	01-Mar-17
D200-1100	Seg 2 - Develop MOT For Clearing	10	16-Feb-17	01-Mar-17
D200-1110	Seg 2 - Design QA/QC	10	02-Mar-17	15-Mar-17
D200-1120	Seg 2 - VDOT Review	21	16-Mar-17	05-Apr-17
Grading & Drainage Plans		65	16-Mar-17	13-Jul-17
D200-1140	Seg 2 - Roadway Design	30	16-Mar-17	26-Apr-17
D200-1150	Seg 2 - Drainage Design Design	30	16-Mar-17	26-Apr-17
D200-1160	Seg 2 - Stormwater Management Design	30	27-Apr-17	08-Jun-17
D200-1170	Seg 2 - Design QA/QC	10	09-Jun-17	22-Jun-17
D200-1180	Seg 2 - VDOT Review	21	23-Jun-17	13-Jul-17
Final Roadway Plans		87	23-Jun-17	21-Nov-17
D200-1200	Seg 2 - Final Plan Preparation - 1St Submission	50	23-Jun-17	01-Sep-17
D200-1210	Seg 2 - Design QA/QC	10	05-Sep-17	18-Sep-17
D200-1220	Seg 2 - VDOT Review	21	19-Sep-17	09-Oct-17
D200-1230	Seg 2 - Final Plan Preparation - 2Nd Submission	10	10-Oct-17	23-Oct-17
D200-1240	Seg 2 - Design QA/QC	5	24-Oct-17	30-Oct-17
D200-1250	Seg 2 - VDOT Review	21	31-Oct-17	20-Nov-17
D200-1260	Seg 2 - Final Roadway Plan Approval	1	21-Nov-17	21-Nov-17
Lighting		59	05-Sep-17	21-Dec-17
D200-1280	Seg 2 - Lighting Plan Preparation - 1St Submission	20	05-Sep-17	02-Oct-17
D200-1290	Seg 2 - Design QA/QC	10	03-Oct-17	16-Oct-17
D200-1300	Seg 2 - VDOT Review	21	17-Oct-17	06-Nov-17



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

Activity ID	Activity Name	Original Duration	Start	Finish
D200-1310	Seg 2 - Lighting Plan Preparation - 2Nd Submission	10	07-Nov-17	20-Nov-17
D200-1320	Seg 2 - Design QA/QC	5	21-Nov-17	29-Nov-17
D200-1330	Seg 2 - VDOT Review	21	30-Nov-17	20-Dec-17
D200-1340	Seg 2 - Lighting Plan Approval	1	21-Dec-17	21-Dec-17
Environmental		190	18-Nov-16	18-Aug-17
D200-1490	Seg 2 - Environmental Studies	30	18-Nov-16	04-Jan-17
D200-1360	Seg 2 - Water Quality Permitting	90	02-Mar-17	07-Jul-17
D200-1380	Seg 2 - Virginia Stormwater Management Permit (RDA Designers)	45	02-Mar-17	03-May-17
D200-1370	Seg 2 - NEPA Re-Evaluation	30	10-Jul-17	18-Aug-17
Noise Analysis		25	27-Apr-17	01-Jun-17
D200-1400	Seg 2 - Noise Analysis	25	27-Apr-17	01-Jun-17
Procure		111	22-Nov-17	12-Mar-18
P200-1000	Seg 2 - Prepare Shop Drawing for ITS Components	30	22-Nov-17	21-Dec-17
P200-1010	Seg 2 - VDOT Review Shop Drawing for ITS Components	21	22-Dec-17	11-Jan-18
P200-1020	Seg 2 - Procure ITS Components	60	12-Jan-18	12-Mar-18
Construction		621	19-Jul-17	29-Jul-20
C200-1020	Seg 2 Ph 1 - "Pardon Our Dust" Meeting	2	19-Jul-17	20-Jul-17
C200-1000	Seg 2 Construction Start Milestone	0	22-Aug-17	
C200-1010	Seg 2 Construction Finish Milestone	0		29-Jul-20
Phase 1		52	22-Aug-17	17-Nov-17
C210-1010	Seg 2 Ph 1 - Construction Start Milestone	0	22-Aug-17	
C210-1020	Seg 2 Ph 1 - Construction Finish Milestone	0		17-Nov-17
Area 1 - Temp Rdwy Sta 124+50 to 139+25		35	22-Aug-17	20-Oct-17
C211-1000	Seg 2 Ph 1 - Install MOT / E&S	5	22-Aug-17	29-Aug-17
C211-1030	Seg 2 Ph 1 - Start Milestone	0	22-Aug-17	
C211-1010	Seg 2 Ph 1 - Clear & Grub	10	30-Aug-17	15-Sep-17
C211-1020	Seg 2 Ph 1 - Construct Temp Rdwy Widening	20	18-Sep-17	20-Oct-17
C211-1040	Seg 2 Ph 1 - Finish Milestone	0		20-Oct-17
Area 2 - R-630 Sta 160+50 to 170+50		52	22-Aug-17	17-Nov-17
C212-1000	Seg 2 Ph 1 - Install MOT / E&S, Area 2	5	22-Aug-17	29-Aug-17
C212-1120	Seg 2 Ph 1 - Start Milestone, Area 2	0	22-Aug-17	
C212-1010	Seg 2 Ph 1 - Clear & Grub, Area 2	5	30-Aug-17	07-Sep-17
C212-1020	Seg 2 Ph 1 - Install Drainage, Area 2	10	08-Sep-17	25-Sep-17
C212-1030	Seg 2 Ph 1 - Exc & Embank, Area 2	10	26-Sep-17	11-Oct-17
C212-1040	Seg 2 Ph 1 - Construct Base, Area 2	3	13-Oct-17	18-Oct-17
C212-1050	Seg 2 Ph 1 - Install U/D, Area 2	4	19-Oct-17	25-Oct-17
C212-1060	Seg 2 Ph 1 - Install Elect & TC DB , Area 2	5	19-Oct-17	26-Oct-17
C212-1140	Seg 2 Ph 1 - Construct SUP Base, Area 2	5	19-Oct-17	26-Oct-17
C212-1070	Seg 2 Ph 1 - Construct Flatwork, Area 2	5	27-Oct-17	02-Nov-17
C212-1080	Seg 2 Ph 1 - AC Paving, Area 2	4	03-Nov-17	09-Nov-17
C212-1090	Seg 2 Ph 1 - Stripping, Area 2	4	10-Nov-17	16-Nov-17
C212-1150	Seg 2 Ph 1 - AC Paving - SUP, Area 2	3	10-Nov-17	15-Nov-17
C212-1160	Seg 2 Ph 1 - Construct Temp Pavement, Area 2	5	10-Nov-17	17-Nov-17
C212-1130	Seg 2 Ph 1 - Finish Milestone, Area 2	0		17-Nov-17
Phase 2		263	18-Nov-17	04-Mar-19
C220-1000	Seg 2 Ph 2 - Construction Start Milestone	0	18-Nov-17	
C220-1010	Seg 2 Ph 2 - Construction Finish Milestone	0		20-Nov-18
Area 1 - R-630 Sta 108+25 to 162+75		101	18-Nov-17	18-May-18
Area 1A - Sta 108+25 to 128+25		87	18-Nov-17	25-Apr-18
C221A1	Seg 2 Ph 2 - Start Milestone, Area 1A	0	18-Nov-17	
C221A1	Seg 2 Ph 2 - Install MOT / E&S, Area 1A	5	20-Nov-17	29-Nov-17
C221A1	Seg 2 Ph 2 - Clear & Grub, Area 1A	5	30-Nov-17	08-Dec-17
C221A1	Seg 2 Ph 2 - Install Drainage, Area 1A	20	11-Dec-17	16-Jan-18
C221A1	Seg 2 Ph 2 - Install 12" & 6" WMs, Area 1A	20	11-Dec-17	16-Jan-18
C221A1	Seg 2 Ph 2 - Construct Sidewalk (School Access), Area 1A	10	11-Dec-17	29-Dec-17
C221A1	Seg 2 Ph 2 - Demo / Abandon Exist WM, Area 1A	5	17-Jan-18	25-Jan-18
C221A1	Seg 2 Ph 2 - Exc & Embank, Area 1A	25	26-Jan-18	06-Mar-18
C221A1	Seg 2 Ph 2 - Construct Base, Area 1A	5	08-Mar-18	19-Mar-18
C221A1	Seg 2 Ph 2 - Install U/D, Area 1A	5	20-Mar-18	27-Mar-18



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

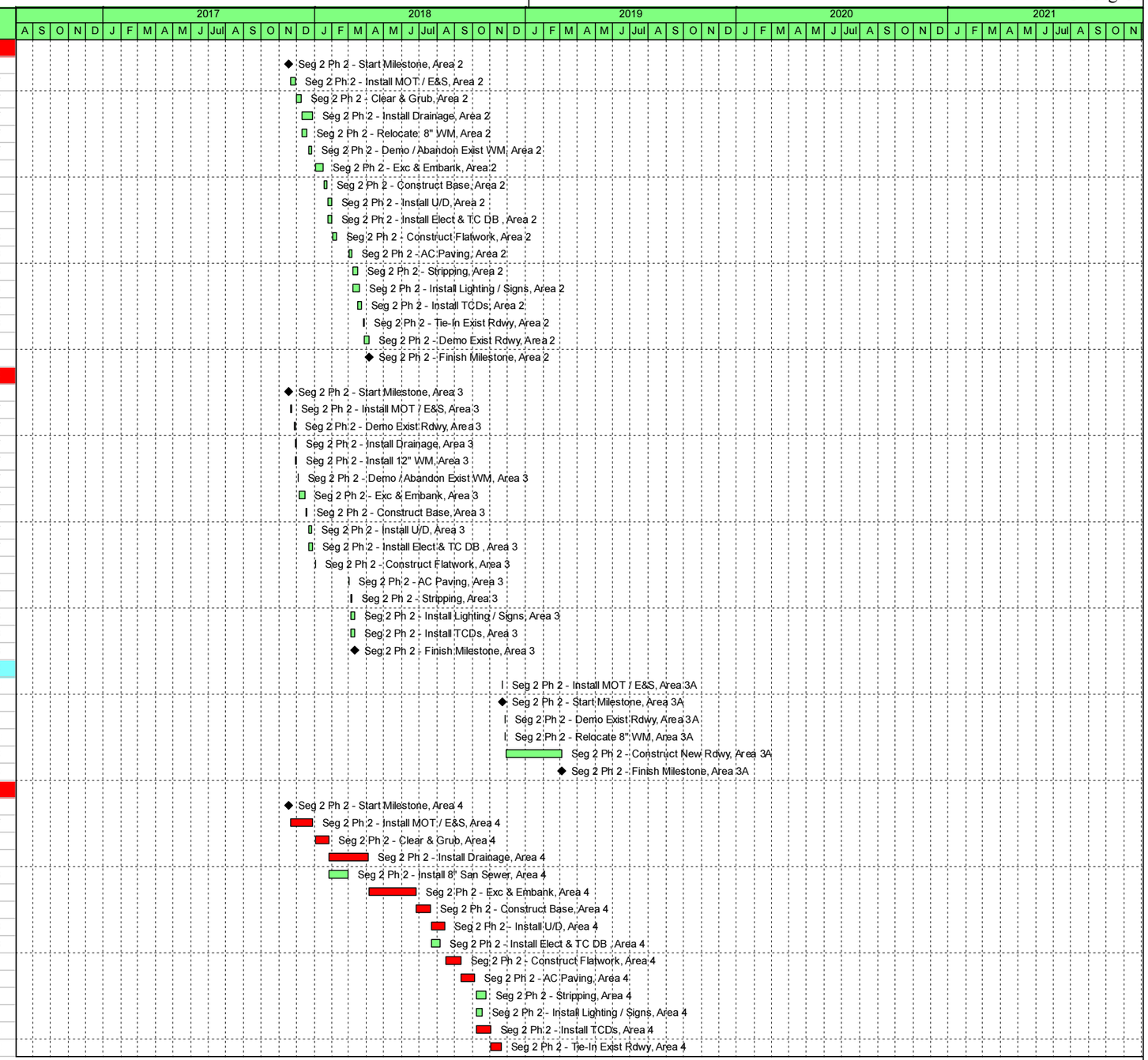
LANE

Activity ID	Activity Name	Original Duration	Start	Finish
C221A1(	Seg 2 Ph 2 - Install Elect & TC DB , Area 1A	5	20-Mar-18	27-Mar-18
C221A1(	Seg 2 Ph 2 - Construct Flatwork, Area 1A	5	28-Mar-18	04-Apr-18
C221A1'	Seg 2 Ph 2 - AC Paving, Area 1A	7	05-Apr-18	16-Apr-18
C221A1'	Seg 2 Ph 2 - Stripping, Area 1A	5	17-Apr-18	25-Apr-18
C221A1'	Seg 2 Ph 2 - Install Lighting / Signs, Area 1A	5	17-Apr-18	25-Apr-18
C221A1'	Seg 2 Ph 2 - Install TCDs, Area 1A	5	17-Apr-18	25-Apr-18
C221A1'	Seg 2 Ph 2 - Finish Milestone, Area 1A	0		25-Apr-18
Area 1B - Sta 128+75 to 135+80		**68**	**18-Nov-17**	**23-Mar-18**
C221B1'	Seg 2 Ph 2 - Start Milestone, Area 1B	0	18-Nov-17	
C221B1(	Seg 2 Ph 2 - Install MOT / E&S, Area 1B	5	20-Nov-17	29-Nov-17
C221B1(	Seg 2 Ph 2 - Clear & Grub, Area 1B	5	30-Nov-17	08-Dec-17
C221B1(	Seg 2 Ph 2 - Install Drainage, Area 1B	10	11-Dec-17	29-Dec-17
C221B1'	Seg 2 Ph 2 - Construct Sidewalk (School Access), Area 1B	5	11-Dec-17	19-Dec-17
C221B1(	Seg 2 Ph 2 - Exc & Embank, Area 1B	10	02-Jan-18	16-Jan-18
C221B1(	Seg 2 Ph 2 - Construct Base, Area 1B	2	17-Jan-18	19-Jan-18
C221B1(	Seg 2 Ph 2 - Install U/D, Area 1B	2	22-Jan-18	23-Jan-18
C221B1(	Seg 2 Ph 2 - Install Elect & TC DB , Area 1B	5	22-Jan-18	29-Jan-18
C221B1(	Seg 2 Ph 2 - Construct Flatwork, Area 1B	5	30-Jan-18	05-Feb-18
C221B1(	Seg 2 Ph 2 - AC Paving, Area 1B	3	01-Mar-18	05-Mar-18
C221B1(	Seg 2 Ph 2 - Stripping, Area 1B	3	06-Mar-18	09-Mar-18
C221B1'	Seg 2 Ph 2 - Install Lighting / Signs, Area 1B	5	06-Mar-18	16-Mar-18
C221B1'	Seg 2 Ph 2 - Install TCDs, Area 1B	5	16-Mar-18	23-Mar-18
C221B1'	Seg 2 Ph 2 - Finish Milestone, Area 1B	0		23-Mar-18
Area 1C - Sta 136+20 to 141+60		**90**	**18-Nov-17**	**30-Apr-18**
C221C1'	Seg 2 Ph 2 - Start Milestone, Area 1C	0	18-Nov-17	
C221C1(	Seg 2 Ph 2 - Install MOT / E&S, Area 1C	5	20-Nov-17	29-Nov-17
C221C1(	Seg 2 Ph 2 - Clear & Grub, Area 1C	5	30-Nov-17	08-Dec-17
C221C1(	Seg 2 Ph 2 - Install 12" WM, Area 1C	5	11-Dec-17	19-Dec-17
C221C1'	Seg 2 Ph 2 - Construct Sidewalk (School Access), Area 1C	5	11-Dec-17	19-Dec-17
C221C1(	Seg 2 Ph 2 - Demo / Abandon Exist WM, Area 1C	2	22-Dec-17	26-Dec-17
C221C1(	Seg 2 Ph 2 - Install Drainage, Area 1C	10	19-Feb-18	06-Mar-18
C221C1(	Seg 2 Ph 2 - Exc & Embank, Area 1C	10	08-Mar-18	27-Mar-18
C221C1(	Seg 2 Ph 2 - Construct Base, Area 1C	2	28-Mar-18	29-Mar-18
C221C1(	Seg 2 Ph 2 - Install U/D, Area 1C	2	30-Mar-18	02-Apr-18
C221C1(	Seg 2 Ph 2 - Install Elect & TC DB , Area 1C	5	30-Mar-18	06-Apr-18
C221C1(	Seg 2 Ph 2 - Construct Flatwork, Area 1C	5	09-Apr-18	16-Apr-18
C221C1'	Seg 2 Ph 2 - AC Paving, Area 1C	3	17-Apr-18	20-Apr-18
C221C1'	Seg 2 Ph 2 - Stripping, Area 1C	3	23-Apr-18	26-Apr-18
C221C1'	Seg 2 Ph 2 - Install Lighting / Signs, Area 1C	5	23-Apr-18	30-Apr-18
C221C1'	Seg 2 Ph 2 - Install TCDs, Area 1C	5	23-Apr-18	30-Apr-18
C221C1'	Seg 2 Ph 2 - Finish Milestone, Area 1C	0		30-Apr-18
Area 1D - Sta 142+00 to 162+75		**101**	**18-Nov-17**	**18-May-18**
C221D1'	Seg 2 Ph 2 - Start Milestone, Area 1D	0	18-Nov-17	
C221D1'	Seg 2 Ph 2 - Construct Sidewalk (School Access), Area 1D	10	20-Nov-17	08-Dec-17
C221D1(	Seg 2 Ph 2 - Install MOT / E&S, Area 1D	5	11-Dec-17	19-Dec-17
C221D1(	Seg 2 Ph 2 - Clear & Grub, Area 1D	5	22-Dec-17	29-Dec-17
C221D1(	Seg 2 Ph 2 - Install 12" WM, Area 1D	10	02-Jan-18	16-Jan-18
C221D1(	Seg 2 Ph 2 - Install Drainage, Area 1D	20	17-Jan-18	16-Feb-18
C221D1(	Seg 2 Ph 2 - Demo / Abandon Exist WM, Area 1D	5	17-Jan-18	25-Jan-18
C221D1(	Seg 2 Ph 2 - Exc & Embank, Area 1D	25	19-Feb-18	04-Apr-18
C221D1(	Seg 2 Ph 2 - Construct Base, Area 1D	5	05-Apr-18	12-Apr-18
C221D1(	Seg 2 Ph 2 - Install U/D, Area 1D	5	13-Apr-18	20-Apr-18
C221D1(	Seg 2 Ph 2 - Install Elect & TC DB , Area 1D	5	13-Apr-18	20-Apr-18
C221D1(	Seg 2 Ph 2 - Construct Flatwork, Area 1D	5	23-Apr-18	30-Apr-18
C221D1'	Seg 2 Ph 2 - AC Paving, Area 1D	6	01-May-18	09-May-18
C221D1'	Seg 2 Ph 2 - Stripping, Area 1D	5	11-May-18	18-May-18
C221D1'	Seg 2 Ph 2 - Install Lighting / Signs, Area 1D	5	11-May-18	18-May-18
C221D1'	Seg 2 Ph 2 - Install TCDs, Area 1D	5	11-May-18	18-May-18
C221D1'	Seg 2 Ph 2 - Finish Milestone, Area 1D	0		18-May-18

Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

Activity ID	Activity Name	Original Duration	Start	Finish
Area 2 - Ramath Church Rd		**76**	**18-Nov-17**	**05-Apr-18**
C222-1150	Seg 2 Ph 2 - Start Milestone, Area 2	0	18-Nov-17	
C222-1000	Seg 2 Ph 2 - Install MOT / E&S, Area 2	5	20-Nov-17	29-Nov-17
C222-1010	Seg 2 Ph 2 - Clear & Grub, Area 2	5	30-Nov-17	08-Dec-17
C222-1020	Seg 2 Ph 2 - Install Drainage, Area 2	10	11-Dec-17	29-Dec-17
C222-1030	Seg 2 Ph 2 - Relocate 8" WM, Area 2	5	11-Dec-17	19-Dec-17
C222-1040	Seg 2 Ph 2 - Demo / Abandon Exist WM, Area 2	3	22-Dec-17	27-Dec-17
C222-1050	Seg 2 Ph 2 - Exc & Embank, Area 2	10	02-Jan-18	16-Jan-18
C222-1060	Seg 2 Ph 2 - Construct Base, Area 2	4	17-Jan-18	23-Jan-18
C222-1070	Seg 2 Ph 2 - Install U/D, Area 2	4	25-Jan-18	30-Jan-18
C222-1080	Seg 2 Ph 2 - Install Elect & TC DB , Area 2	5	25-Jan-18	31-Jan-18
C222-1090	Seg 2 Ph 2 - Construct Flatwork, Area 2	5	01-Feb-18	08-Feb-18
C222-1100	Seg 2 Ph 2 - AC Paving, Area 2	4	01-Mar-18	06-Mar-18
C222-1110	Seg 2 Ph 2 - Stripping, Area 2	4	08-Mar-18	16-Mar-18
C222-1120	Seg 2 Ph 2 - Install Lighting / Signs, Area 2	5	08-Mar-18	19-Mar-18
C222-1130	Seg 2 Ph 2 - Install TCDs, Area 2	5	16-Mar-18	23-Mar-18
C222-1140	Seg 2 Ph 2 - Tie-In Exist Rdwy, Area 2	3	26-Mar-18	28-Mar-18
C222-1170	Seg 2 Ph 2 - Demo Exist Rdwy, Area 2	5	29-Mar-18	05-Apr-18
C222-1160	Seg 2 Ph 2 - Finish Milestone, Area 2	0		05-Apr-18
Area 3 - R-630 Sta 162+75 to 168+10		**263**	**18-Nov-17**	**04-Mar-19**
C223-1150	Seg 2 Ph 2 - Start Milestone, Area 3	0	18-Nov-17	
C223-1000	Seg 2 Ph 2 - Install MOT / E&S, Area 3	2	20-Nov-17	22-Nov-17
C223-1010	Seg 2 Ph 2 - Demo Exist Rdwy, Area 3	2	27-Nov-17	28-Nov-17
C223-1020	Seg 2 Ph 2 - Install Drainage, Area 3	2	29-Nov-17	30-Nov-17
C223-1030	Seg 2 Ph 2 - Install 12" WM, Area 3	3	29-Nov-17	01-Dec-17
C223-1040	Seg 2 Ph 2 - Demo / Abandon Exist WM, Area 3	1	04-Dec-17	04-Dec-17
C223-1050	Seg 2 Ph 2 - Exc & Embank, Area 3	5	05-Dec-17	15-Dec-17
C223-1060	Seg 2 Ph 2 - Construct Base, Area 3	2	18-Dec-17	19-Dec-17
C223-1070	Seg 2 Ph 2 - Install U/D, Area 3	2	22-Dec-17	26-Dec-17
C223-1080	Seg 2 Ph 2 - Install Elect & TC DB , Area 3	5	22-Dec-17	29-Dec-17
C223-1090	Seg 2 Ph 2 - Construct Flatwork, Area 3	2	02-Jan-18	03-Jan-18
C223-1100	Seg 2 Ph 2 - AC Paving, Area 3	2	01-Mar-18	02-Mar-18
C223-1110	Seg 2 Ph 2 - Stripping, Area 3	2	05-Mar-18	06-Mar-18
C223-1120	Seg 2 Ph 2 - Install Lighting / Signs, Area 3	5	05-Mar-18	12-Mar-18
C223-1130	Seg 2 Ph 2 - Install TCDs, Area 3	5	05-Mar-18	12-Mar-18
C223-1160	Seg 2 Ph 2 - Finish Milestone, Area 3	0		12-Mar-18
Area 3A - Rollingwood Ln		**58**	**21-Nov-18**	**04-Mar-19**
C223A1(	Seg 2 Ph 2 - Install MOT / E&S, Area 3A	1	21-Nov-18	21-Nov-18
C223A1(	Seg 2 Ph 2 - Start Milestone, Area 3A	0	21-Nov-18	
C223A1(	Seg 2 Ph 2 - Demo Exist Rdwy, Area 3A	1	26-Nov-18	26-Nov-18
C223A1(	Seg 2 Ph 2 - Relocate 8" WM, Area 3A	1	27-Nov-18	27-Nov-18
C223A1(	Seg 2 Ph 2 - Construct New Rdwy, Area 3A	5	28-Nov-18	04-Mar-19
C223A1(	Seg 2 Ph 2 - Finish Milestone, Area 3A	0		04-Mar-19
Area 4 - R-630 Sta 168+10 to Cedar Ln		**205**	**18-Nov-17**	**20-Nov-18**
C224-1140	Seg 2 Ph 2 - Start Milestone, Area 4	0	18-Nov-17	
C224-1000	Seg 2 Ph 2 - Install MOT / E&S, Area 4	20	20-Nov-17	29-Dec-17
C224-1010	Seg 2 Ph 2 - Clear & Grub, Area 4	15	02-Jan-18	25-Jan-18
C224-1020	Seg 2 Ph 2 - Install Drainage, Area 4	40	26-Jan-18	04-Apr-18
C224-1030	Seg 2 Ph 2 - Install 8" San Sewer, Area 4	20	26-Jan-18	27-Feb-18
C224-1040	Seg 2 Ph 2 - Exc & Embank, Area 4	45	05-Apr-18	25-Jun-18
C224-1050	Seg 2 Ph 2 - Construct Base, Area 4	15	26-Jun-18	20-Jul-18
C224-1060	Seg 2 Ph 2 - Install U/D, Area 4	15	23-Jul-18	14-Aug-18
C224-1070	Seg 2 Ph 2 - Install Elect & TC DB , Area 4	10	23-Jul-18	06-Aug-18
C224-1080	Seg 2 Ph 2 - Construct Flatwork, Area 4	15	16-Aug-18	11-Sep-18
C224-1090	Seg 2 Ph 2 - AC Paving, Area 4	15	12-Sep-18	05-Oct-18
C224-1100	Seg 2 Ph 2 - Stripping, Area 4	10	08-Oct-18	25-Oct-18
C224-1110	Seg 2 Ph 2 - Install Lighting / Signs, Area 4	5	08-Oct-18	18-Oct-18
C224-1120	Seg 2 Ph 2 - Install TCDs, Area 4	15	08-Oct-18	01-Nov-18
C224-1130	Seg 2 Ph 2 - Tie-In Exist Rdwy, Area 4	10	02-Nov-18	20-Nov-18



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

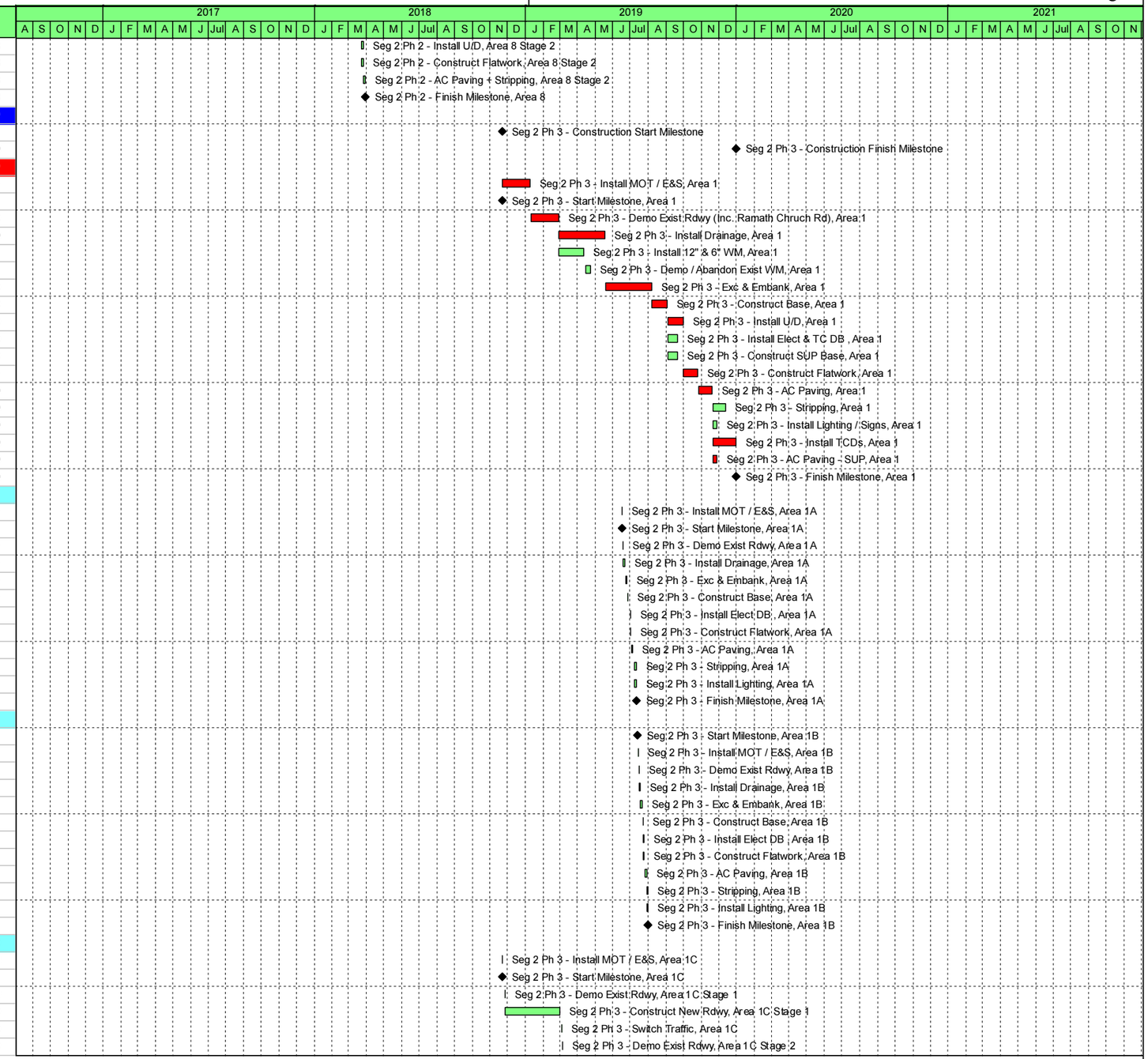
LANE

Activity ID	Activity Name	Original Duration	Start	Finish
C224-1150	Seg 2 Ph 2 - Finish Milestone, Area 4	0		20-Nov-18
Area 5 - Reids Rd		**62**	**18-Nov-17**	**09-Mar-18**
C225-1050	Seg 2 Ph 2 - Start Milestone, Area 5	0	18-Nov-17	
C225-1000	Seg 2 Ph 2 - Install MOT / E&S, Area 5	2	20-Nov-17	22-Nov-17
C225-1020	Seg 2 Ph 2 - Construct New Rdwy, Area 5	10	27-Nov-17	09-Mar-18
C225-1060	Seg 2 Ph 2 - Finish Milestone, Area 5	0		09-Mar-18
Area 6 - Kelsy Rd		**78**	**18-Nov-17**	**09-Apr-18**
C226-1150	Seg 2 Ph 2 - Start Milestone, Area 6	0	18-Nov-17	
C226-1000	Seg 2 Ph 2 - Install MOT / E&S, Area 6	2	20-Nov-17	22-Nov-17
C226-1010	Seg 2 Ph 2 - Clear & Grub, Area 6	2	27-Nov-17	28-Nov-17
C226-1020	Seg 2 Ph 2 - Install Drainage, Area 6	3	29-Nov-17	01-Dec-17
C226-1030	Seg 2 Ph 2 - Relocate 8" San Sewer, Area 6	3	29-Nov-17	01-Dec-17
C226-1040	Seg 2 Ph 2 - Exc & Embank, Area 6	5	04-Dec-17	12-Dec-17
C226-1050	Seg 2 Ph 2 - Construct Base, Area 6	2	15-Dec-17	18-Dec-17
C226-1060	Seg 2 Ph 2 - Install U/D, Area 6	2	19-Dec-17	22-Dec-17
C226-1070	Seg 2 Ph 2 - Install Elect & TC DB , Area 6	5	22-Dec-17	29-Dec-17
C226-1080	Seg 2 Ph 2 - Construct Flatwork, Area 6	2	02-Jan-18	03-Jan-18
C226-1090	Seg 2 Ph 2 - AC Paving, Area 6	2	01-Mar-18	02-Mar-18
C226-1100	Seg 2 Ph 2 - Stripping, Area 6	2	05-Mar-18	06-Mar-18
C226-1110	Seg 2 Ph 2 - Install Lighting / Signs, Area 6	2	05-Mar-18	06-Mar-18
C226-1120	Seg 2 Ph 2 - Install TCDs, Area 6	5	16-Mar-18	23-Mar-18
C226-1130	Seg 2 Ph 2 - Tie-In Exist Rdwy, Area 6	5	26-Mar-18	30-Mar-18
C226-1140	Seg 2 Ph 2 - Demo Exist Rdwy, Area 6	5	02-Apr-18	09-Apr-18
C226-1160	Seg 2 Ph 2 - Finish Milestone, Area 6	0		09-Apr-18
Area 7 - Snowbird Ln		**78**	**18-Nov-17**	**09-Apr-18**
C227-1160	Seg 2 Ph 2 - Start Milestone, Area 7	0	18-Nov-17	
C227-1000	Seg 2 Ph 2 - Install MOT / E&S, Area 7	2	20-Nov-17	22-Nov-17
C227-1010	Seg 2 Ph 2 - Clear & Grub, Area 7 Stage 1	2	27-Nov-17	28-Nov-17
C227-1020	Seg 2 Ph 2 - Install Drainage, Area 7 Stage 1	3	29-Nov-17	01-Dec-17
C227-1030	Seg 2 Ph 2 - Exc & Embank, Area 7 Stage 1	5	04-Dec-17	12-Dec-17
C227-1040	Seg 2 Ph 2 - Construct Base, Area 7 Stage 1	2	15-Dec-17	18-Dec-17
C227-1050	Seg 2 Ph 2 - Install U/D, Area 7 Stage 1	2	19-Dec-17	22-Dec-17
C227-1060	Seg 2 Ph 2 - Construct Flatwork, Area 7 Stage 1	2	19-Dec-17	22-Dec-17
C227-1070	Seg 2 Ph 2 - AC Paving, Area 7 Stage 1	2	01-Mar-18	02-Mar-18
C227-1080	Seg 2 Ph 2 - Switch Traffic, Area 7	1	05-Mar-18	05-Mar-18
C227-1090	Seg 2 Ph 2 - Demo Exist Rdwy, Area 7 Stage 2	2	06-Mar-18	08-Mar-18
C227-1100	Seg 2 Ph 2 - Install Drainage, Area 7 Stage 2	5	09-Mar-18	20-Mar-18
C227-1110	Seg 2 Ph 2 - Exc & Embank, Area 7 Stage 2	5	22-Mar-18	28-Mar-18
C227-1120	Seg 2 Ph 2 - Construct Base, Area 7 Stage 2	2	29-Mar-18	30-Mar-18
C227-1130	Seg 2 Ph 2 - Install U/D, Area 7 Stage 2	2	02-Apr-18	04-Apr-18
C227-1140	Seg 2 Ph 2 - Construct Flatwork, Area 7 Stage 2	2	02-Apr-18	04-Apr-18
C227-1150	Seg 2 Ph 2 - AC Paving + Stripping, Area 7 Stage 2	3	05-Apr-18	09-Apr-18
C227-1170	Seg 2 Ph 2 - Finish Milestone, Area 7	0		09-Apr-18
Area 8 - Woodcutter Rd		**72**	**18-Nov-17**	**29-Mar-18**
C228-1170	Seg 2 Ph 2 - Start Milestone, Area 8	0	18-Nov-17	
C228-1000	Seg 2 Ph 2 - Install MOT / E&S, Area 8	2	20-Nov-17	22-Nov-17
C228-1010	Seg 2 Ph 2 - Demo Exist Rdwy, Area 8 Stage 1	2	27-Nov-17	28-Nov-17
C228-1020	Seg 2 Ph 2 - Install Drainage, Area 8 Stage 1	2	29-Nov-17	30-Nov-17
C228-1030	Seg 2 Ph 2 - Relocate Exist 12" WM, Area 8 Stage 1	5	29-Nov-17	05-Dec-17
C228-1040	Seg 2 Ph 2 - Exc & Embank, Area 8 Stage 1	2	08-Dec-17	11-Dec-17
C228-1050	Seg 2 Ph 2 - Construct Base, Area 8 Stage 1	2	12-Dec-17	15-Dec-17
C228-1060	Seg 2 Ph 2 - Install U/D, Area 8 Stage 1	2	18-Dec-17	19-Dec-17
C228-1070	Seg 2 Ph 2 - Construct Flatwork, Area 8 Stage 1	2	18-Dec-17	19-Dec-17
C228-1080	Seg 2 Ph 2 - AC Paving, Area 8 Stage 1	2	01-Mar-18	02-Mar-18
C228-1090	Seg 2 Ph 2 - Switch Traffic, Area 8	1	05-Mar-18	05-Mar-18
C228-1100	Seg 2 Ph 2 - Demo Exist Rdwy, Area 8 Stage 2	2	06-Mar-18	08-Mar-18
C228-1110	Seg 2 Ph 2 - Install Drainage, Area 8 Stage 2	2	09-Mar-18	12-Mar-18
C228-1120	Seg 2 Ph 2 - Exc & Embank, Area 8 Stage 2	2	16-Mar-18	19-Mar-18
C228-1130	Seg 2 Ph 2 - Construct Base, Area 8 Stage 2	2	20-Mar-18	22-Mar-18

Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

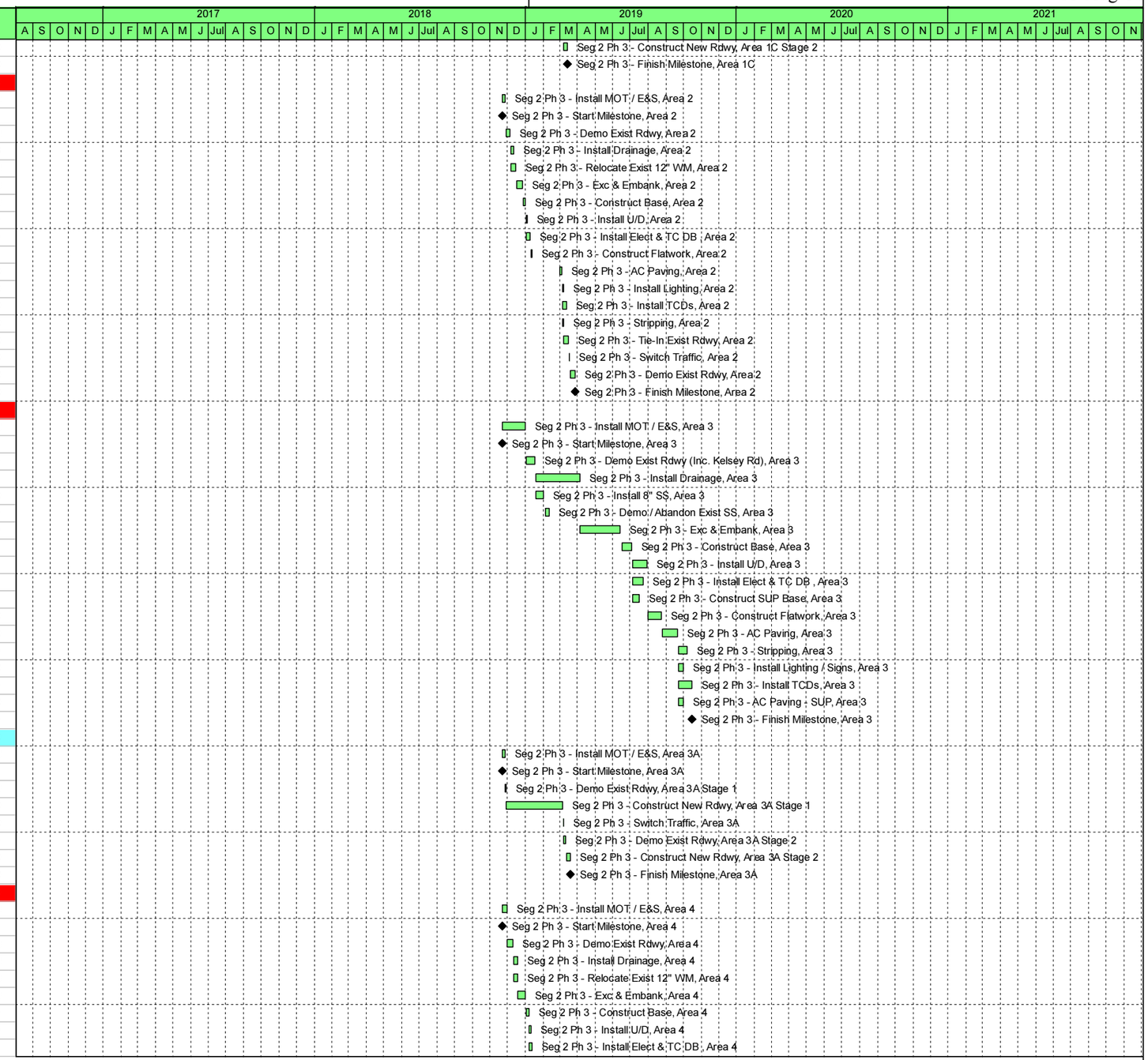
Activity ID	Activity Name	Original Duration	Start	Finish
C228-1140	Seg 2 Ph 2 - Install U/D, Area 8 Stage 2	2	23-Mar-18	26-Mar-18
C228-1150	Seg 2 Ph 2 - Construct Flatwork, Area 8 Stage 2	2	23-Mar-18	26-Mar-18
C228-1160	Seg 2 Ph 2 - AC Paving + Stripping, Area 8 Stage 2	3	27-Mar-18	29-Mar-18
C228-1180	Seg 2 Ph 2 - Finish Milestone, Area 8	0		29-Mar-18
Phase 3		**225**	**21-Nov-18**	**31-Dec-19**
C230-1000	Seg 2 Ph 3 - Construction Start Milestone	0	21-Nov-18	
C230-1010	Seg 2 Ph 3 - Construction Finish Milestone	0		31-Dec-19
Area 1 - R-630 Sta 100+00 to 160+20		**225**	**21-Nov-18**	**31-Dec-19**
C231-1000	Seg 2 Ph 3 - Install MOT / E&S, Area 1	25	21-Nov-18	08-Jan-19
C231-1140	Seg 2 Ph 3 - Start Milestone, Area 1	0	21-Nov-18	
C231-1010	Seg 2 Ph 3 - Demo Exist Rdwy (Inc. Ramath Chruch Rd), Area 1	30	10-Jan-19	27-Feb-19
C231-1020	Seg 2 Ph 3 - Install Drainage, Area 1	45	28-Feb-19	17-May-19
C231-1030	Seg 2 Ph 3 - Install 12" & 6" WM, Area 1	25	28-Feb-19	12-Apr-19
C231-1040	Seg 2 Ph 3 - Demo / Abandon Exist WM, Area 1	5	15-Apr-19	22-Apr-19
C231-1050	Seg 2 Ph 3 - Exc & Embank, Area 1	45	20-May-19	07-Aug-19
C231-1060	Seg 2 Ph 3 - Construct Base, Area 1	15	08-Aug-19	03-Sep-19
C231-1070	Seg 2 Ph 3 - Install U/D, Area 1	15	05-Sep-19	30-Sep-19
C231-1080	Seg 2 Ph 3 - Install Elect & TC DB , Area 1	10	05-Sep-19	20-Sep-19
C231-1160	Seg 2 Ph 3 - Construct SUP Base, Area 1	10	05-Sep-19	20-Sep-19
C231-1090	Seg 2 Ph 3 - Construct Flatwork, Area 1	15	01-Oct-19	25-Oct-19
C231-1100	Seg 2 Ph 3 - AC Paving, Area 1	15	28-Oct-19	19-Nov-19
C231-1110	Seg 2 Ph 3 - Stripping, Area 1	10	21-Nov-19	13-Dec-19
C231-1120	Seg 2 Ph 3 - Install Lighting / Signs, Area 1	5	21-Nov-19	27-Nov-19
C231-1130	Seg 2 Ph 3 - Install TCDs, Area 1	20	21-Nov-19	31-Dec-19
C231-1170	Seg 2 Ph 3 - AC Paving - SUP, Area 1	5	21-Nov-19	27-Nov-19
C231-1150	Seg 2 Ph 3 - Finish Milestone, Area 1	0		31-Dec-19
Area 1A - School Access West		**13**	**17-Jun-19**	**12-Jul-19**
C231A1(	Seg 2 Ph 3 - Install MOT / E&S, Area 1A	1	17-Jun-19	17-Jun-19
C231A1'	Seg 2 Ph 3 - Start Milestone, Area 1A	0	17-Jun-19*	
C231A1(	Seg 2 Ph 3 - Demo Exist Rdwy, Area 1A	1	18-Jun-19	18-Jun-19
C231A1(	Seg 2 Ph 3 - Install Drainage, Area 1A	2	19-Jun-19	21-Jun-19
C231A1(	Seg 2 Ph 3 - Exc & Embank, Area 1A	2	24-Jun-19	25-Jun-19
C231A1(	Seg 2 Ph 3 - Construct Base, Area 1A	1	27-Jun-19	27-Jun-19
C231A1(	Seg 2 Ph 3 - Install Elect DB , Area 1A	2	01-Jul-19	02-Jul-19
C231A1(	Seg 2 Ph 3 - Construct Flatwork, Area 1A	2	01-Jul-19	02-Jul-19
C231A1(	Seg 2 Ph 3 - AC Paving, Area 1A	2	03-Jul-19	05-Jul-19
C231A1(	Seg 2 Ph 3 - Stripping, Area 1A	2	08-Jul-19	12-Jul-19
C231A1(	Seg 2 Ph 3 - Install Lighting, Area 1A	2	08-Jul-19	12-Jul-19
C231A1'	Seg 2 Ph 3 - Finish Milestone, Area 1A	0		12-Jul-19
Area 1B - School Access East		**13**	**13-Jul-19**	**31-Jul-19**
C231B1'	Seg 2 Ph 3 - Start Milestone, Area 1B	0	13-Jul-19	
C231B1(	Seg 2 Ph 3 - Install MOT / E&S, Area 1B	1	15-Jul-19	15-Jul-19
C231B1(	Seg 2 Ph 3 - Demo Exist Rdwy, Area 1B	1	16-Jul-19	16-Jul-19
C231B1(	Seg 2 Ph 3 - Install Drainage, Area 1B	2	17-Jul-19	18-Jul-19
C231B1(	Seg 2 Ph 3 - Exc & Embank, Area 1B	2	19-Jul-19	22-Jul-19
C231B1(	Seg 2 Ph 3 - Construct Base, Area 1B	1	23-Jul-19	23-Jul-19
C231B1(	Seg 2 Ph 3 - Install Elect DB , Area 1B	2	24-Jul-19	25-Jul-19
C231B1(	Seg 2 Ph 3 - Construct Flatwork, Area 1B	2	24-Jul-19	25-Jul-19
C231B1(	Seg 2 Ph 3 - AC Paving, Area 1B	2	26-Jul-19	29-Jul-19
C231B1(	Seg 2 Ph 3 - Stripping, Area 1B	2	30-Jul-19	31-Jul-19
C231B1(	Seg 2 Ph 3 - Install Lighting, Area 1B	2	30-Jul-19	31-Jul-19
C231B1'	Seg 2 Ph 3 - Finish Milestone, Area 1B	0		31-Jul-19
Area 1C - Liberty Knolls Dr		**64**	**21-Nov-18**	**14-Mar-19**
C231C1(	Seg 2 Ph 3 - Install MOT / E&S, Area 1C	1	21-Nov-18	21-Nov-18
C231C1'	Seg 2 Ph 3 - Start Milestone, Area 1C	0	21-Nov-18	
C231C1(	Seg 2 Ph 3 - Demo Exist Rdwy, Area 1C Stage 1	1	26-Nov-18	26-Nov-18
C231C1(	Seg 2 Ph 3 - Construct New Rdwy, Area 1C Stage 1	5	27-Nov-18	01-Mar-19
C231C1(	Seg 2 Ph 3 - Switch Traffic, Area 1C	1	04-Mar-19	04-Mar-19
C231C1(	Seg 2 Ph 3 - Demo Exist Rdwy, Area 1C Stage 2	1	06-Mar-19	06-Mar-19



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

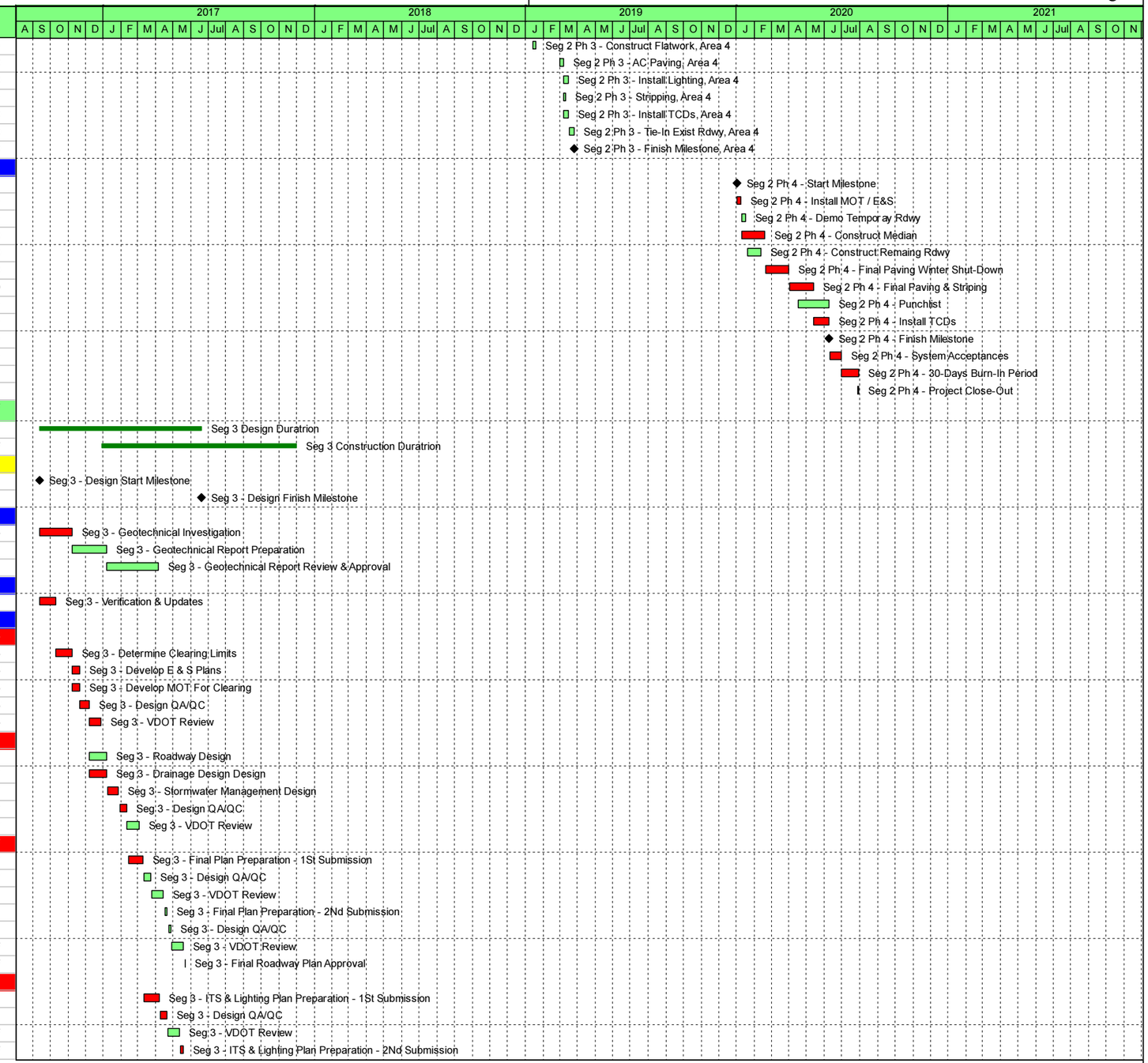
Activity ID	Activity Name	Original Duration	Start	Finish
C231C1(	Seg 2 Ph 3 - Construct New Rdwy, Area 1C Stage 2	5	07-Mar-19	14-Mar-19
C231C1(	Seg 2 Ph 3 - Finish Milestone, Area 1C	0		14-Mar-19
Area 2 - Winding Creek Rd		**71**	**21-Nov-18**	**28-Mar-19**
C232-1000	Seg 2 Ph 3 - Install MOT / E&S, Area 2	3	21-Nov-18	27-Nov-18
C232-1210	Seg 2 Ph 3 - Start Milestone, Area 2	0	21-Nov-18	
C232-1010	Seg 2 Ph 3 - Demo Exist Rdwy, Area 2	5	28-Nov-18	05-Dec-18
C232-1020	Seg 2 Ph 3 - Install Drainage, Area 2	3	07-Dec-18	11-Dec-18
C232-1030	Seg 2 Ph 3 - Relocate Exist 12" WM, Area 2	5	07-Dec-18	14-Dec-18
C232-1040	Seg 2 Ph 3 - Exc & Embank, Area 2	5	17-Dec-18	26-Dec-18
C232-1050	Seg 2 Ph 3 - Construct Base, Area 2	2	28-Dec-18	31-Dec-18
C232-1060	Seg 2 Ph 3 - Install U/D, Area 2	3	02-Jan-19	04-Jan-19
C232-1070	Seg 2 Ph 3 - Install Elect & TC DB , Area 2	5	02-Jan-19	08-Jan-19
C232-1080	Seg 2 Ph 3 - Construct Flatwork, Area 2	2	10-Jan-19	11-Jan-19
C232-1090	Seg 2 Ph 3 - AC Paving, Area 2	2	01-Mar-19	04-Mar-19
C232-1200	Seg 2 Ph 3 - Install Lighting, Area 2	3	06-Mar-19	08-Mar-19
C232-1230	Seg 2 Ph 3 - Install TCDs, Area 2	5	06-Mar-19	12-Mar-19
C232-1240	Seg 2 Ph 3 - Stripping, Area 2	2	06-Mar-19	07-Mar-19
C232-1100	Seg 2 Ph 3 - Tie-In Exist Rdwy, Area 2	5	08-Mar-19	15-Mar-19
C232-1110	Seg 2 Ph 3 - Switch Traffic, Area 2	1	18-Mar-19	18-Mar-19
C232-1120	Seg 2 Ph 3 - Demo Exist Rdwy, Area 2	5	19-Mar-19	28-Mar-19
C232-1220	Seg 2 Ph 3 - Finish Milestone, Area 2	0		28-Mar-19
Area 3 - R-630 Sta 171+20 to Cedar Ln		**185**	**21-Nov-18**	**16-Oct-19**
C233-1000	Seg 2 Ph 3 - Install MOT / E&S, Area 3	20	21-Nov-18	31-Dec-18
C233-1140	Seg 2 Ph 3 - Start Milestone, Area 3	0	21-Nov-18	
C233-1010	Seg 2 Ph 3 - Demo Exist Rdwy (Inc. Kelsey Rd), Area 3	10	02-Jan-19	16-Jan-19
C233-1020	Seg 2 Ph 3 - Install Drainage, Area 3	45	18-Jan-19	04-Apr-19
C233-1030	Seg 2 Ph 3 - Install 8" SS, Area 3	10	18-Jan-19	01-Feb-19
C233-1040	Seg 2 Ph 3 - Demo / Abandon Exist SS, Area 3	5	04-Feb-19	11-Feb-19
C233-1050	Seg 2 Ph 3 - Exc & Embank, Area 3	40	05-Apr-19	13-Jun-19
C233-1060	Seg 2 Ph 3 - Construct Base, Area 3	10	17-Jun-19	03-Jul-19
C233-1070	Seg 2 Ph 3 - Install U/D, Area 3	15	05-Jul-19	30-Jul-19
C233-1080	Seg 2 Ph 3 - Install Elect & TC DB , Area 3	10	05-Jul-19	23-Jul-19
C233-1160	Seg 2 Ph 3 - Construct SUP Base, Area 3	5	05-Jul-19	16-Jul-19
C233-1090	Seg 2 Ph 3 - Construct Flatwork, Area 3	15	31-Jul-19	23-Aug-19
C233-1100	Seg 2 Ph 3 - AC Paving, Area 3	15	26-Aug-19	20-Sep-19
C233-1110	Seg 2 Ph 3 - Stripping, Area 3	10	23-Sep-19	07-Oct-19
C233-1120	Seg 2 Ph 3 - Install Lighting / Signs, Area 3	5	23-Sep-19	30-Sep-19
C233-1130	Seg 2 Ph 3 - Install TCDs, Area 3	15	23-Sep-19	16-Oct-19
C233-1170	Seg 2 Ph 3 - AC Paving - SUP, Area 3	5	23-Sep-19	30-Sep-19
C233-1150	Seg 2 Ph 3 - Finish Milestone, Area 3	0		16-Oct-19
Area 3A - Mine Rd		**67**	**21-Nov-18**	**19-Mar-19**
C233A1(	Seg 2 Ph 3 - Install MOT / E&S, Area 3A	2	21-Nov-18	26-Nov-18
C233A1(	Seg 2 Ph 3 - Start Milestone, Area 3A	0	21-Nov-18	
C233A1(	Seg 2 Ph 3 - Demo Exist Rdwy, Area 3A Stage 1	2	27-Nov-18	28-Nov-18
C233A1(	Seg 2 Ph 3 - Construct New Rdwy, Area 3A Stage 1	5	29-Nov-18	06-Mar-19
C233A1(	Seg 2 Ph 3 - Switch Traffic, Area 3A	1	07-Mar-19	07-Mar-19
C233A1(	Seg 2 Ph 3 - Demo Exist Rdwy, Area 3A Stage 2	2	08-Mar-19	11-Mar-19
C233A1(	Seg 2 Ph 3 - Construct New Rdwy, Area 3A Stage 2	5	12-Mar-19	19-Mar-19
C233A1(	Seg 2 Ph 3 - Finish Milestone, Area 3A	0		19-Mar-19
Area 4 - Rockdale Rd		**70**	**21-Nov-18**	**25-Mar-19**
C234-1000	Seg 2 Ph 3 - Install MOT / E&S, Area 4	5	21-Nov-18	29-Nov-18
C234-1210	Seg 2 Ph 3 - Start Milestone, Area 4	0	21-Nov-18	
C234-1010	Seg 2 Ph 3 - Demo Exist Rdwy, Area 4	5	30-Nov-18	10-Dec-18
C234-1020	Seg 2 Ph 3 - Install Drainage, Area 4	5	11-Dec-18	18-Dec-18
C234-1030	Seg 2 Ph 3 - Relocate Exist 12" WM, Area 4	5	11-Dec-18	18-Dec-18
C234-1040	Seg 2 Ph 3 - Exc & Embank, Area 4	5	19-Dec-18	31-Dec-18
C234-1050	Seg 2 Ph 3 - Construct Base, Area 4	4	02-Jan-19	07-Jan-19
C234-1060	Seg 2 Ph 3 - Install U/D, Area 4	2	08-Jan-19	10-Jan-19
C234-1070	Seg 2 Ph 3 - Install Elect & TC DB , Area 4	3	08-Jan-19	11-Jan-19



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

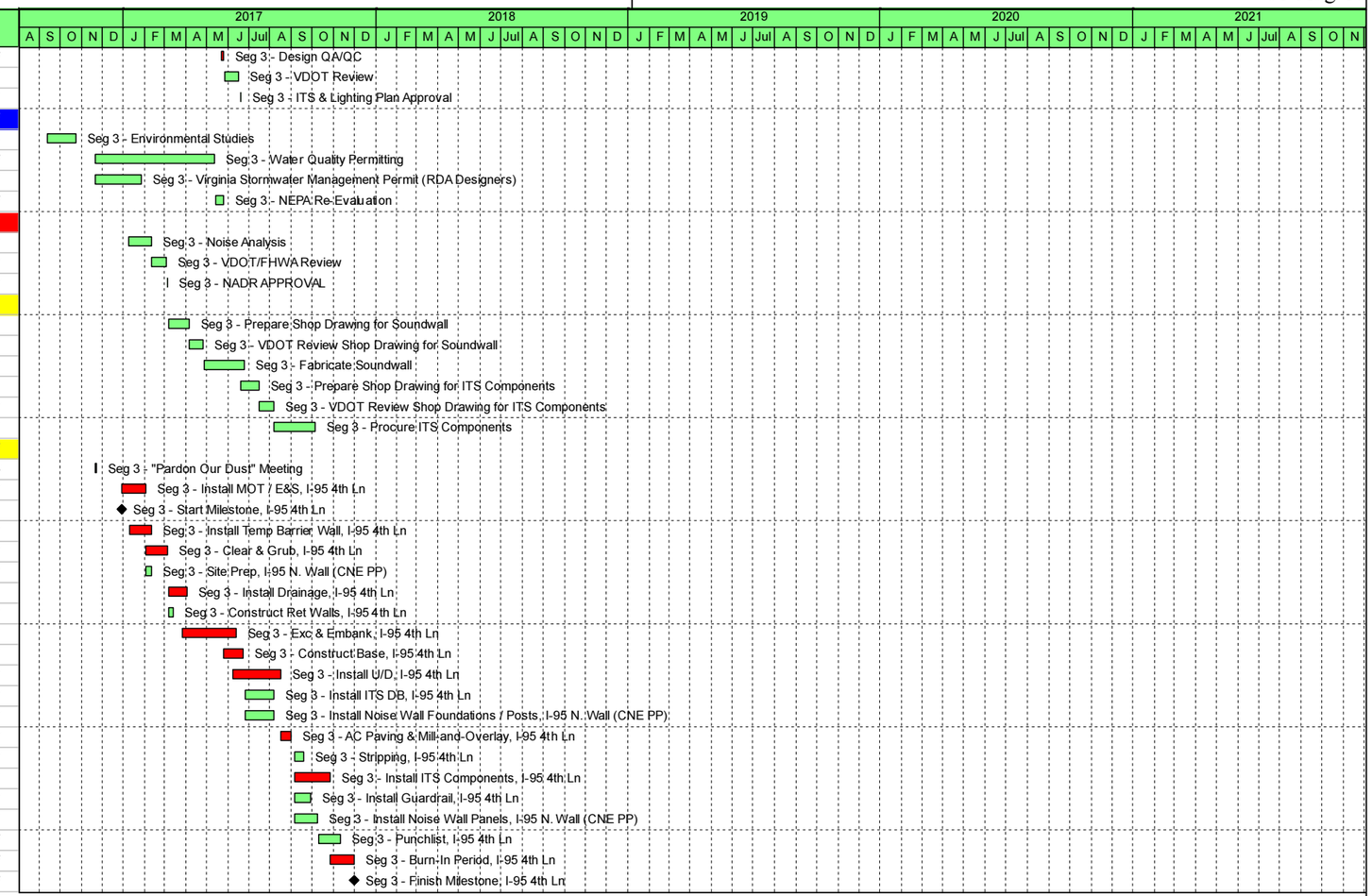
Activity ID	Activity Name	Original Duration	Start	Finish
C234-1080	Seg 2 Ph 3 - Construct Flatwork, Area 4	4	14-Jan-19	18-Jan-19
C234-1090	Seg 2 Ph 3 - AC Paving, Area 4	4	01-Mar-19	07-Mar-19
C234-1200	Seg 2 Ph 3 - Install Lighting, Area 4	5	08-Mar-19	15-Mar-19
C234-1230	Seg 2 Ph 3 - Stripping, Area 4	2	08-Mar-19	11-Mar-19
C234-1240	Seg 2 Ph 3 - Install TCDs, Area 4	5	08-Mar-19	15-Mar-19
C234-1100	Seg 2 Ph 3 - Tie-In Exist Rdwy, Area 4	5	18-Mar-19	25-Mar-19
C234-1220	Seg 2 Ph 3 - Finish Milestone, Area 4	0		25-Mar-19
Phase 4		**120**	**01-Jan-20**	**29-Jul-20**
C241-1060	Seg 2 Ph 4 - Start Milestone	0	01-Jan-20	
C241-1000	Seg 2 Ph 4 - Install MOT / E&S	5	02-Jan-20	08-Jan-20
C241-1010	Seg 2 Ph 4 - Demo Temporay Rdwy	5	10-Jan-20	17-Jan-20
C241-1030	Seg 2 Ph 4 - Construct Median	25	10-Jan-20	19-Feb-20
C241-1020	Seg 2 Ph 4 - Construct Remaing Rdwy	15	20-Jan-20	12-Feb-20
C241-1100	Seg 2 Ph 4 - Final Paving Winter Shut-Down	41	20-Feb-20	31-Mar-20
C241-1050	Seg 2 Ph 4 - Final Paving & Striping	25	01-Apr-20	12-May-20
C241-1080	Seg 2 Ph 4 - Punchlist	30	17-Apr-20	09-Jun-20
C241-1040	Seg 2 Ph 4 - Install TCDs	15	13-May-20	09-Jun-20
C241-1070	Seg 2 Ph 4 - Finish Milestone	0		09-Jun-20
C241-1110	Seg 2 Ph 4 - System Acceptances	10	11-Jun-20	29-Jun-20
C241-1090	Seg 2 Ph 4 - 30-Days Burn-In Period	30	30-Jun-20	29-Jul-20
C241-1120	Seg 2 Ph 4 - Project Close-Out	1	29-Jul-20	29-Jul-20
I-95 4th Lane		**250**	**13-Sep-16**	**30-Nov-17**
A300-1000	Seg 3 Design Duratrion	280	13-Sep-16	19-Jun-17
A300-1010	Seg 3 Construction Duratrion	336	30-Dec-16	30-Nov-17
Design		**157**	**13-Sep-16**	**20-Jun-17**
D300-1450	Seg 3 - Design Start Milestone	0	13-Sep-16	
D300-1460	Seg 3 - Design Finish Milestone	0	20-Jun-17	
Geotechnical		**116**	**13-Sep-16**	**06-Apr-17**
D300-1010	Seg 3 - Geotechnical Investigation	40	13-Sep-16	07-Nov-16
D300-1020	Seg 3 - Geotechnical Report Preparation	40	08-Nov-16	06-Jan-17
D300-1030	Seg 3 - Geotechnical Report Review & Approval	90	07-Jan-17	06-Apr-17
Survey		**20**	**13-Sep-16**	**10-Oct-16**
D300-1050	Seg 3 - Verification & Updates	20	13-Sep-16	10-Oct-16
Roadway Design		**141**	**11-Oct-16**	**19-Jun-17**
Clearing & Grubbing/E & S Plans		**43**	**11-Oct-16**	**28-Dec-16**
D300-1080	Seg 3 - Determine Clearing Limits	20	11-Oct-16	07-Nov-16
D300-1090	Seg 3 - Develop E & S Plans	10	08-Nov-16	21-Nov-16
D300-1100	Seg 3 - Develop MOT For Clearing	10	08-Nov-16	21-Nov-16
D300-1110	Seg 3 - Design QA/QC	10	22-Nov-16	07-Dec-16
D300-1120	Seg 3 - VDOT Review	21	08-Dec-16	28-Dec-16
Grading & Drainage Plans		**50**	**08-Dec-16**	**03-Mar-17**
D300-1140	Seg 3 - Roadway Design	20	08-Dec-16	06-Jan-17
D300-1150	Seg 3 - Drainage Design Design	20	08-Dec-16	06-Jan-17
D300-1160	Seg 3 - Stormwater Management Design	15	09-Jan-17	27-Jan-17
D300-1170	Seg 3 - Design QA/QC	10	30-Jan-17	10-Feb-17
D300-1180	Seg 3 - VDOT Review	21	11-Feb-17	03-Mar-17
Final Roadway Plans		**58**	**13-Feb-17**	**22-May-17**
D300-1200	Seg 3 - Final Plan Preparation - 1St Submission	20	13-Feb-17	10-Mar-17
D300-1210	Seg 3 - Design QA/QC	10	13-Mar-17	24-Mar-17
D300-1220	Seg 3 - VDOT Review	21	25-Mar-17	14-Apr-17
D300-1230	Seg 3 - Final Plan Preparation - 2Nd Submission	5	17-Apr-17	21-Apr-17
D300-1240	Seg 3 - Design QA/QC	5	24-Apr-17	28-Apr-17
D300-1250	Seg 3 - VDOT Review	21	29-Apr-17	19-May-17
D300-1260	Seg 3 - Final Roadway Plan Approval	1	22-May-17	22-May-17
ITS & Lighting		**55**	**13-Mar-17**	**19-Jun-17**
D300-1280	Seg 3 - ITS & Lighting Plan Preparation - 1St Submission	20	13-Mar-17	07-Apr-17
D300-1290	Seg 3 - Design QA/QC	10	10-Apr-17	21-Apr-17
D300-1300	Seg 3 - VDOT Review	21	22-Apr-17	12-May-17
D300-1310	Seg 3 - ITS & Lighting Plan Preparation - 2Nd Submission	5	15-May-17	19-May-17



Remaining Level of Effort | Remaining Work | ◆ Milestone
Actual Work | Critical Remaining Work

LANE

Activity ID	Activity Name	Original Duration	Start	Finish
D300-1320	Seg 3 - Design QA/QC	5	22-May-17	26-May-17
D300-1330	Seg 3 - VDOT Review	21	27-May-17	16-Jun-17
D300-1340	Seg 3 - ITS & Lighting Plan Approval	1	19-Jun-17	19-Jun-17
Environmental		**145**	**13-Sep-16**	**26-May-17**
D300-1470	Seg 3 - Environmental Studies	30	13-Sep-16	24-Oct-16
D300-1360	Seg 3 - Water Quality Permitting	120	22-Nov-16	12-May-17
D300-1380	Seg 3 - Virginia Stormwater Management Permit (RDA Designers)	45	22-Nov-16	27-Jan-17
D300-1370	Seg 3 - NEPA Re-Evaluation	10	15-May-17	26-May-17
Noise Analysis		**36**	**09-Jan-17**	**06-Mar-17**
D300-1400	Seg 3 - Noise Analysis	25	09-Jan-17	10-Feb-17
D300-1430	Seg 3 - VDOT/FHWA Review	21	11-Feb-17	03-Mar-17
D300-1440	Seg 3 - NADR APPROVAL	1	06-Mar-17	06-Mar-17
Procure		**213**	**07-Mar-17**	**05-Oct-17**
C300-1000	Seg 3 - Prepare Shop Drawing for Soundwall	30	07-Mar-17	05-Apr-17
C300-1010	Seg 3 - VDOT Review Shop Drawing for Soundwall	21	06-Apr-17	26-Apr-17
C300-1020	Seg 3 - Fabricate Soundwall	60	27-Apr-17	25-Jun-17
P300-100	Seg 3 - Prepare Shop Drawing for ITS Components	28	19-Jun-17	16-Jul-17
P300-110	Seg 3 - VDOT Review Shop Drawing for ITS Components	21	17-Jul-17	06-Aug-17
P300-120	Seg 3 - Procure ITS Components	60	07-Aug-17	05-Oct-17
Construction		**210**	**22-Nov-16**	**30-Nov-17**
C311-1180	Seg 3 - "Pardon Our Dust" Meeting	2	22-Nov-16	23-Nov-16
C311-1000	Seg 3 - Install MOT / E&S, I-95 4th Ln	20	30-Dec-16	01-Feb-17
C311-1160	Seg 3 - Start Milestone, I-95 4th Ln	0	30-Dec-16	
C311-1020	Seg 3 - Install Temp Barrier Wall, I-95 4th Ln	20	10-Jan-17	10-Feb-17
C311-1040	Seg 3 - Clear & Grub, I-95 4th Ln	20	03-Feb-17	06-Mar-17
C311-1200	Seg 3 - Site Prep, I-95 N. Wall (CNE PP)	5	03-Feb-17	10-Feb-17
C311-1050	Seg 3 - Install Drainage, I-95 4th Ln	15	07-Mar-17	03-Apr-17
C311-1060	Seg 3 - Construct Ret Walls, I-95 4th Ln	5	07-Mar-17	14-Mar-17
C311-1070	Seg 3 - Exc & Embank, I-95 4th Ln	45	27-Mar-17	13-Jun-17
C311-1080	Seg 3 - Construct Base, I-95 4th Ln	15	26-May-17	23-Jun-17
C311-1090	Seg 3 - Install U/D, I-95 4th Ln	40	08-Jun-17	16-Aug-17
C311-1100	Seg 3 - Install ITS DB, I-95 4th Ln	25	26-Jun-17	07-Aug-17
C311-1210	Seg 3 - Install Noise Wall Foundations / Posts, I-95 N. Wall (CNE PP)	25	26-Jun-17	07-Aug-17
C311-1110	Seg 3 - AC Paving & Mill-and-Overlay, I-95 4th Ln	10	17-Aug-17	01-Sep-17
C311-1120	Seg 3 - Stripping, I-95 4th Ln	8	05-Sep-17	18-Sep-17
C311-1130	Seg 3 - Install ITS Components, I-95 4th Ln	30	05-Sep-17	26-Oct-17
C311-1140	Seg 3 - Install Guardrail, I-95 4th Ln	15	05-Sep-17	29-Sep-17
C311-1220	Seg 3 - Install Noise Wall Panels, I-95 N. Wall (CNE PP)	20	05-Sep-17	09-Oct-17
C311-1150	Seg 3 - Punchlist, I-95 4th Ln	20	10-Oct-17	10-Nov-17
C311-1190	Seg 3 - Burn-In Period, I-95 4th Ln	20	27-Oct-17	30-Nov-17
C311-1170	Seg 3 - Finish Milestone, I-95 4th Ln	0		30-Nov-17



Remaining Level of Effort | Remaining Work | ◆ Milestone
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