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TECHNICAL PROPOSAL

Design Build I-95/Route 630 Reconstruction and Widening

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

VOLUME I

Submitted by:

AUGUST 4, 2016

CORMAN CONSTRUCTION — BranchHighways
A JOINT VENTURE

WRA
Whitman, Requardt & Associates, LLP
1915 100 YEARS 2015

4.1 Letter of Submittal

CORMAN CONSTRUCTION — Branch Highways | WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

12001 Guilford Road
Annapolis Junction, MD 20701

August 4, 2016

Mr. John Daoulas, PE
Alternate Project Delivery Office
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

RE: Letter of Submittal | Design Build | I-95/Route 630 Reconstruction & Widening | Stafford County, VA
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:

4.1.1 Corman-Branch, a Joint Venture (Corman-Branch JV), 12001 Guilford Road, Annapolis Junction, MD 20701, a joint venture between Corman Construction, Inc. and Branch Highways, Inc. is the legal entity who will execute the contract with VDOT and submits the following:

- Ten copies of our Technical Proposal, one with original signatures on the Letter of Submittal.
- One CD-ROM containing the entire Technical Proposal in a single cohesive Adobe PDF file, including the Project Schedule and Narrative.

4.1.2 Corman-Branch, a Joint Venture hereby intends, if selected, to enter into a contract with VDOT for the project per the RFP.

4.1.3 Pursuant to Part 1, Section 8.2, Corman-Branch, a Joint Venture hereby declares that the offer represented by the Technical and Price Proposals will remain in full force and effort for 120 days after the date the Technical Proposal is actually submitted to VDOT (8/4/16).

4.1.4 Point of Contact	Secondary Point of Contact	4.1.5 Principal Officer
Scott Szympruch, PE, Design-Build Project Manager, Corman Mid-Atlantic Corman Construction, Inc. 12001 Guilford Road Annapolis Junction, MD 20701 301-343-5476 -Cell 301-953-0384 Fax sszympruch@cormanconstruction.com	**Lou Robbins, PE, DBIA, Vice President Design-Build** Corman Construction, Inc. 12001 Guilford Road Annapolis Junction, MD 20701 703-772-8566 -Cell 301-953-0384 Fax lrobbins@cormanconstruction.com	**Arthur C. Cox, III, Vice President** Corman Construction, Inc. 12001 Guilford Road Annapolis Junction, MD 20701 410-792-9400 Telephone ccox@cormanconstruction.com

4.1.6 Interim Milestone (I-95 4th Lane –Option 1): 12/1/17 | Final Completion: 7/31/20

4.1.7 An executed Proposal Payment Agreement (Attachment 9.3.1) is in the Appendix.

4.1.8 Certification Regarding Debarment Forms Attachments (Attachments 11.8.6(a) and (b)) are in the Appendix.

Corman-Branch, a Joint Venture 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 VDOT Special Provision for Local Hiring Program for Design-Build Projects (Attachment 11.5.6).

Sincerely,

CORMAN CONSTRUCTION, INC.

Arthur C. Cox, III, Vice President

BRANCH HIGHWAYS, INC.

Patrick K. Bartorillo, President

4.2 Qualifications

CORMAN CONSTRUCTION — Branch Highways | WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

4.2 QUALIFICATIONS

4.2.1 The information and statements made in our SOQ remain true and accurate in accordance with Part 1, Section 11.4. The narrative as provided in our SOQ is wholly incorporated into this technical proposal by reference.

4.2.2 The Corman-Branch JV has added scheduling to team member Dusan Golac's Project Controls/DBE Compliance role who will report to the Construction Manager and added Taylor Sprenkle, PWD from WRA who will work with David Kwasnlewski to coordinate the required permits and report to Design Manager John Maddox, PE. We have also now included DMY Engineering, Inc. as our QA Lab and E.M. Tech, Inc. as our QC Lab.

Due to the significance of the project to VDOT, the Local Governments and community, VDOT has specified a rigorous Public Outreach Program. To supplement our ability to plan and respond to the public, we have selected Seventh Point, Inc. to join our team and support Mike Russell, our Public Relations Manager, in fulfilling the requirements which was approved by VDOT on 7/26/26. Seventh Point is currently leading the Public Outreach program for VDOT's Military Highway Project where Corman (as Lead Joint Venture Partner with Branch subsidiary E.V. Williams) is the Design-Builder.

Mary Wierdorfer, PE, CCM, PMP, LEED AP from KCI has replaced Dow Lasitter as the Quality Assurance Manager, which was approved by VDOT on 5/31/16. Her duties, reporting and authority will be the same as described for Dow in the SOQ. These changes are shown in red on the Organizational Chart **(See Figure 1).**

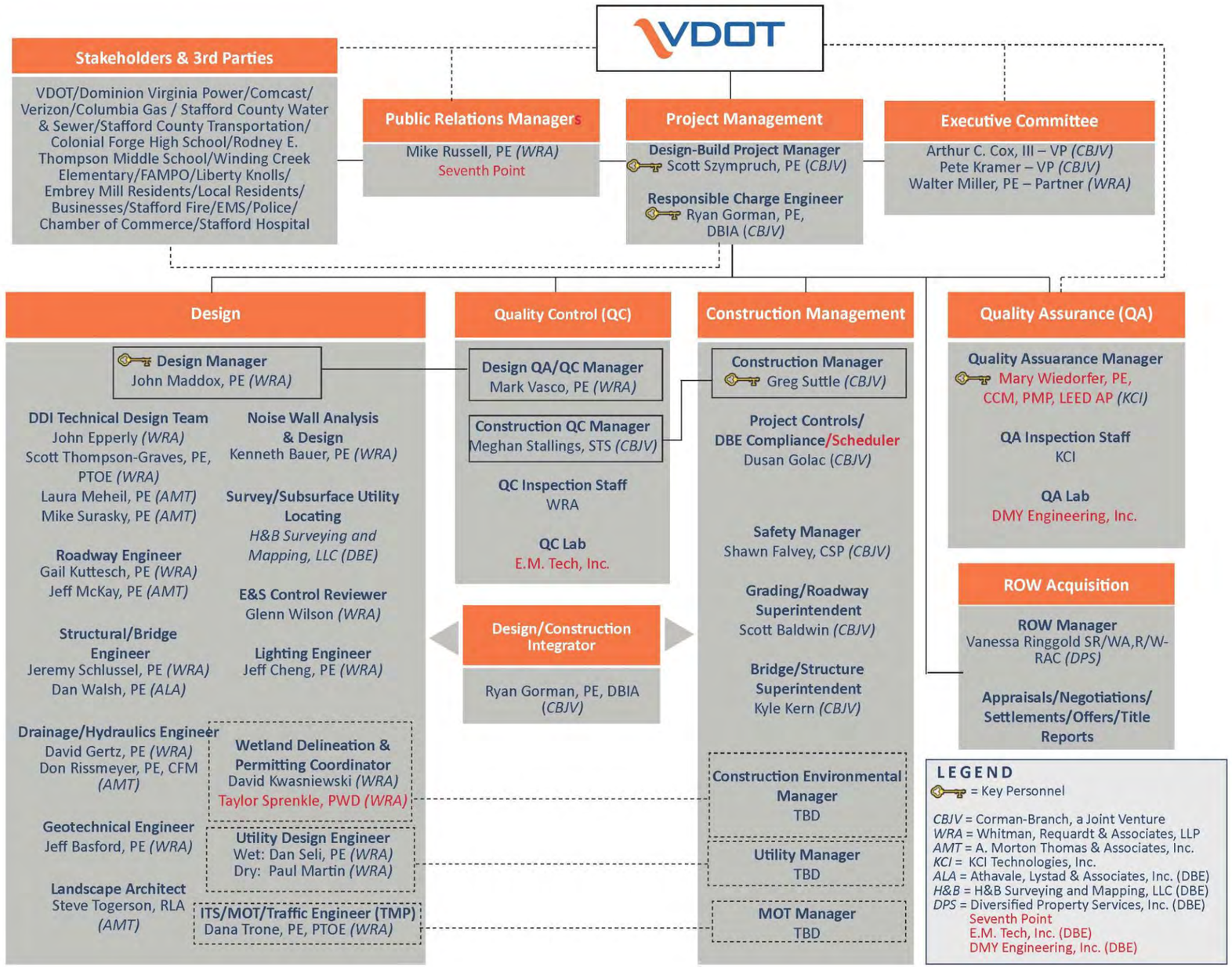


Figure 1: Organizational Chart

4.3 Design Concept

4.3 DESIGN CONCEPT

Introduction | The Corman-Branch | WRA Team: The Corman-Branch JV Team selected WRA to lead the design based on their experience designing interchange, interstate widening, and secondary roadway widening projects, and their successful Design-Build experience working with Corman and Branch on nine separate Design-Build and PPTA projects; one of which is the highly regarded Route 29 Solutions Design-Build contract along with our proposed Responsible Charge Engineer, Ryan Gorman. In turn, WRA chose AMT and ALA as additional design partners based upon their Design-Build knowledge and successful past experience working with the Corman-Branch | WRA Team on Design-Build projects. They will assist the design team in delivering these projects on time based on VDOT's accelerated schedules. WRA and AMT have designed Diverging Diamond Interchanges (DDIs) for VDOT, thereby providing VDOT with a proven alternative interchange design team.

Design team member firms are assigned specific lead roles under Design Manager John Maddox, PE as follows:

WRA	**I-95 / Route 630 Interchange Project, including Commuter Park & Ride Expansion, Option 1: I-95 4th Lane Widening**
AMT	**Route 630 Widening Project**
ALA	**Bridge and Noise Wall Structural Support**

Project Understanding and Element Overview: The project's RFP and Addendums define the **Base Scope** to be the relocation of the I-95 / Route 630 Interchange, including a Diverging Diamond Interchange (DDI); relocation of Route 630 to connect with Hospital Center Boulevard; a base and expanded Park & Ride facility to the south of existing Route 630; and an additional Park & Ride facility to the south of relocated Route 630 for a total of 1,100 spaces. The Base Scope also includes widening Route 630 to the west to Ramoth Church Road.

VDOT is also requesting an **Option 1** to extend a 4th lane on I-95 Southbound from the end of the I-95 Express Lanes – Southern Terminus Extension (currently under design/construction by team members Branch and WRA) to south of the relocated I-95/Route 630 Interchange.

4.3.1 CONCEPTUAL ROADWAY PLANS

Our Conceptual Design for each project element in Volume II meets or consistently exceeds the RFP, VDOT and AASHTO requirements for design with the necessary Design Exceptions and Waivers identified in the RFP to be obtained by VDOT or by our team. Since the RFP identifies the need for additional exceptions and waivers, it is anticipated that they will meet with VDOT approval when submitted. The design meets the general geometry criteria required by Part 2 of the RFP and Attachments 2.2(a) and 2.2(b). Our Conceptual Plans in Volume II illustrate the number and widths of lanes, shoulders, ramps, and shared-use paths. Sidewalk locations are as shown in the RFP Conceptual Plans. The Park & Ride lot layout is detailed as provided in the RFP and approved by FAMPO. Horizontal and vertical geometry is described on the plans along with conceptual drainage and stormwater management features, right of way limits, and sound wall locations. Conceptual Utility Relocation Plans are in Volume II and these impacts are further discussed in Section 4.4.2 of this proposal. Other key features, such as project lighting, ITS, signals are provided as per the RFP.

For each of the three project elements (I-95 / Route 630 Interchange, including Commuter Park & Ride Expansion, Route 630 Widening, and I-95 4th Lane Widening Option), we have explored enhancements that are economically feasible and do not extend the schedule past the RFP's final completion dates. Our enhancements were evaluated on their reduction to future maintenance costs, as well as improving safety and operations of the final facility. The enhancements selected to be included are listed below and the additional cost of these improvements is included in our bid price.

4.3.1.1 I-95 / ROUTE 630 INTERCHANGE RELOCATION AND COMMUTER PARK & RIDE EXPANSION (BASE SCOPE) ENHANCEMENTS:

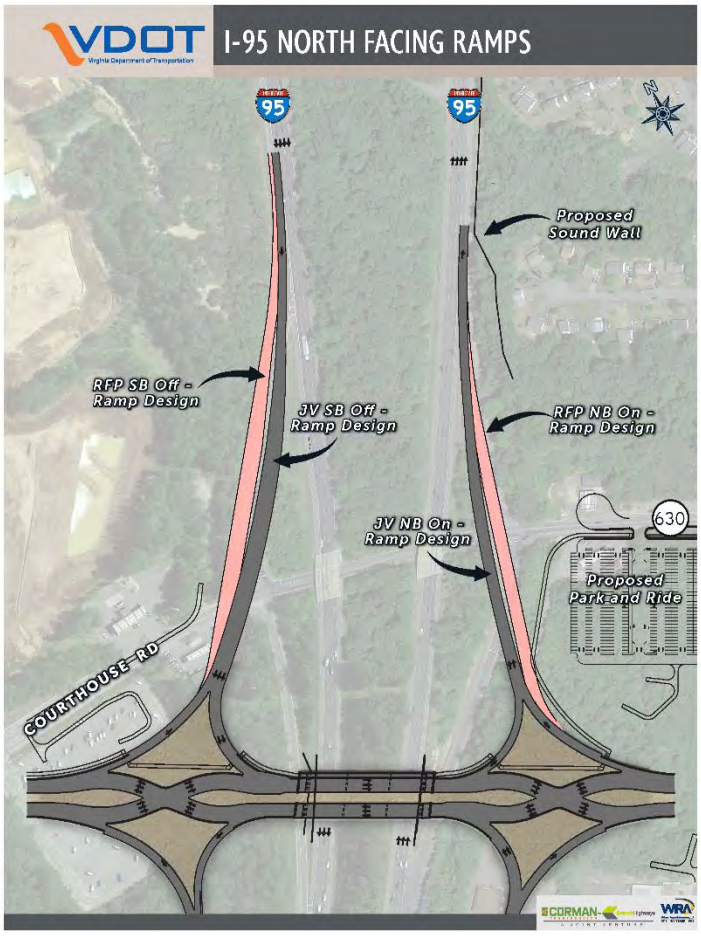


Figure 2: Route 630 I-95 North Facing Ramps

ENHANCEMENT #1: DIVERGING DIAMOND INTERSECTION (DDI) NORTH FACING RAMP ALIGNMENT: Route 630 alignment remains substantially the same as provided in the RFP Conceptual Plans with the following enhancements: the DDI north facing ramp alignments (I-95 NB entrance and SB exit ramps) have been shifted to the inside of the existing ramps to the extent possible while maintaining their length and width. The design provides a single curve with an increased radius with only minor modification to the ramp spur alignments. The reduced super-elevation at the exit and entrance ramps onto I-95 will improve safety, simplify and expedite maintenance of traffic, and improve constructability.

> ***VALUE: Limits conflicts between the new and existing North Facing I-95 Ramps.***

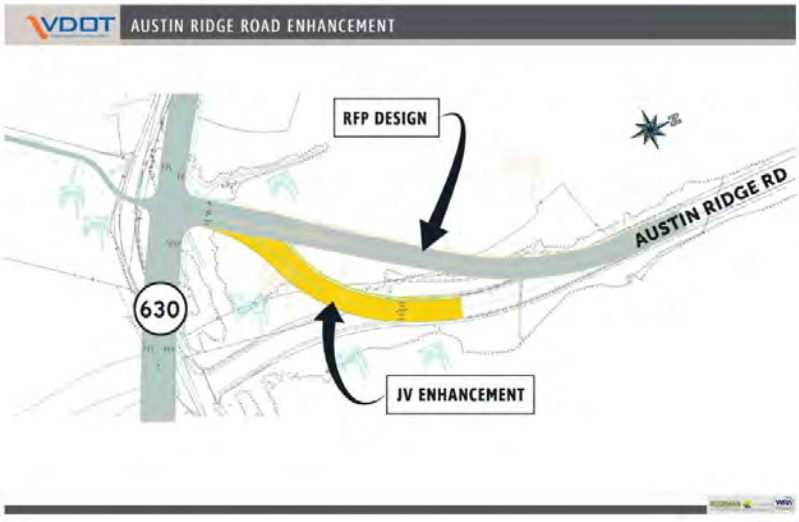


Figure 3: Austin Ridge Drive Enhancement

ENHANCEMENT #2: AUSTIN RIDGE ROAD ALIGNMENT: The Austin Ridge Road alignment was revised to minimize roadway reconstruction by using a compound curve from the existing 1,000-ft. radius curve to a proposed 536-ft. radius curve. The alignment is then reversed with 536-ft. radius curve tying into the intersection with Route 630. The proposed right of way has been modified in this section as allowed by Addendum 1.

> ***VALUE: Minimizing the work to Austin Ridge Road reduces the footprint of the construction impacts, has a positive impact on the construction schedule, lessens ROW impacts, and cost for VDOT.***

ENHANCEMENT #3: WYCHE ROAD: A major enhancement of the Wyche Road intersection is adding a third westbound through lane at the proposed signal, which increases the capacity of the intersection by about 20% and improves traffic operations between the intersection and the DDI interchange by reducing lane changes from two to one when accessing the I-95 northbound entrance ramp. Once implemented, this additional capacity provided by this enhancement will improve public acceptance of the project by reducing delays travelling through the new intersection.

VALUE: Adding a third westbound through lane reduces the required signal timing and queues at the signal and improves traffic operations along the Route 630 corridor. It also improves access to the Park & Ride facilities reducing travel time for motorist and transit operations.

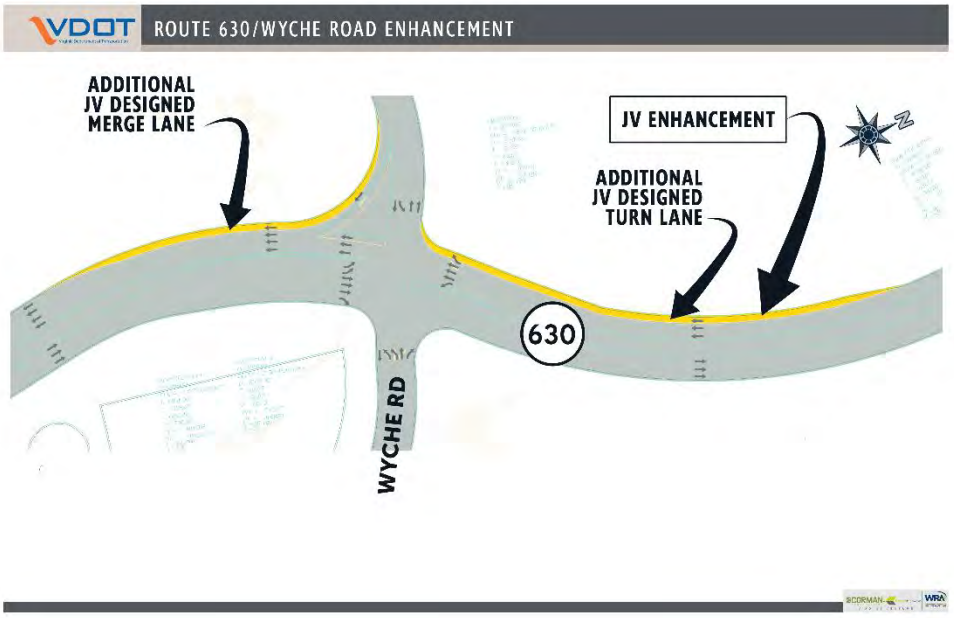


Figure 4: Route 630/Wyche Road Enhancement

ENHANCEMENT #4: SHARED-USE PATH: Our design alters the Shared-Use-Path (SUP) alignment to follow the Route 630 alignment between Austin Ridge Road and the DDI. Proposed crossings at the interchange ramps will be controlled with high-intensity ***activated crosswalks similar to that shown in*** **Figure 5.** DDI intersection designs have considered the location of crosswalks with the alignment of the spurs ramps for safe operations. Future widening of Route 630 will have no impacts to pedestrian and bike facilities and users.

VALUE: Our conceptual design enhances safety for the shared-use path users when compared to a traditional at grade crossing.

Figure 5: High-intensity activated crosswalk

ENHANCEMENT #5: ROUTE 1: The Corman-Branch | WRA Team Design Concepts for Route 1 shifts all widening to the west to eliminate an entire MOT phase that would have impacted traffic operations at the hospital entrance and thru traffic on Route 1. Route 1 is a heavily-traveled corridor with 39,000 ADT and is an alternative route for I-95 motorists during traffic incidents. This design enhancement improves safety by minimizing construction duration that could delay response times to hospital emergencies and reduces the number of temporary MOT and signal phases. It also entirely eliminates ROW and utility impacts to the east of Route 1.

ENHANCEMENT #6: VERTICAL ALIGNMENT: The profile grades in our roadway and Park & Ride Lot designs have been enhanced to balance the earthwork improving safety and cost by reducing the number of trucks accessing Route 630 from the construction work area. The design approach focused on first determining where quality material could be excavated to be used in the proposed embankments. This improves cost by reducing the need to treat poor soils or truck in borrow and accelerates construction of the embankment and pavement subgrade.

The interchange ramp profile designs are adjusted to design the spur intersection details for a smooth transition from the Route 630 profile to the ramp profiles. Ramps to the north (I-95 NB entrance and SB exit ramps) considered the MOT requirement to maintain access to Route 630 during construction and minimize embankment material.

ENHANCEMENT #7: SWM: Our Conceptual Design of I-95/ Route 630 Interchange Relocation takes advantage of the cut/fill slopes to minimize the number of proposed storm sewer pipes and culverts and uses roadside ditches to convey runoff to the outfalls. The major crossing culverts will be shorter and lower pipe classification will be utilized (i.e., from Class IV or V to Class III) due to the lower proposed embankment height. The proposed drainage layout is designed to maximize construction activities in different MOT phases by installing the main drainage trunk lines within the construction work zone allowing the new drainage to convey site runoff prior to shifting traffic patterns. For SWM, we reduced the pollutant load to 30.3 lbs. for our Conceptual Design for the interchange project ***(a reduction of 4.7 lbs. from that noted in the RFP)***. Offsite nutrient credits will be purchased in accordance with the VDOT IIM-LD-195.8 and LD-251. The revised geometric design requires fewer SWM pollutant loads than what was shown in the RFP because of the smaller ROW impacts. The SWM facility locations are adjusted to eliminate the potential underground detention recommended in the RFP and avoid known underground utility conflicts. They are designed and located to minimize future maintenance costs and safety concerns. The revised geometric design enhances the drainage and SWM design by maximizing separation between onsite and off-site runoff and therefore, the proposed SWM facility footprint will be smaller and shallower.

VALUE: These adjustments to the SWM facility locations will facilitate future expansion of the parking lot and reduces the footprint of the proposed improvements.

ENHANCEMENT #8: RIGHT OF WAY: The Corman-Branch | WRA Team's Conceptual Design is shown in Volume II with an overlay of the VDOT RFP Conceptual Plans ROW with the differences highlighted by hatching. Our Conceptual Design Enhancements reduces the required ROW by ***3.19 acres***. This is not only a reduction to the initial costs VDOT will incur during the Design-Build ROW acquisition process, but will maintain more property on the tax rolls while minimizing VDOT's future maintenance obligations.

VALUE: Our concept minimizes ROW impacts reducing VDOT ROW costs, and accelerates property acquisition.

ENHANCEMENT #9: SANITARY FORCE MAIN RELOCATION: The Corman-Branch | WRA Team's Conceptual Design acknowledges the need to construct a sanitary force main for the abandonment of the 8" sanitary sewer under I-95. Our Conceptual Design Enhancement incorporates a revised alignment through the proposed commercial development that is significantly shorter and reduces the required head in the force main reducing long-term maintenance for the system. This design is preferred by Stafford County and has been coordinated with the developer.

ENHANCEMENT #10: ADDITIONAL CCTV CAMERAS: The Corman-Branch | WRA Team proposes additional PTZ CCTV cameras for coverage of the Park & Ride facilities on existing and relocated Route 630 to expand VDOT's monitoring capabilities and improve patron safety. These cameras will also use the proposed fiber optic communications serving CCTV cameras at signalized intersections along relocated Route 630 through the DDI and will become a vital communications link to the Park & Rides for future use that could provide patrons with real time transit route and service information.

4.3.1.2 ROUTE 630 WIDENING (BASE SCOPE) ENHANCEMENTS:

ENHANCEMENT #1: VERTICAL ALIGNMENT: The Route 630 profile has been modified slightly from the RFP Concept Plans between STA. 124+00 and 148+00 and between STA. 168+00 and 177+00 to facilitate connecting roadway tie-in geometry and the construction of MOT crossovers. This adjustment will reduce the impact to the travelling public during construction.

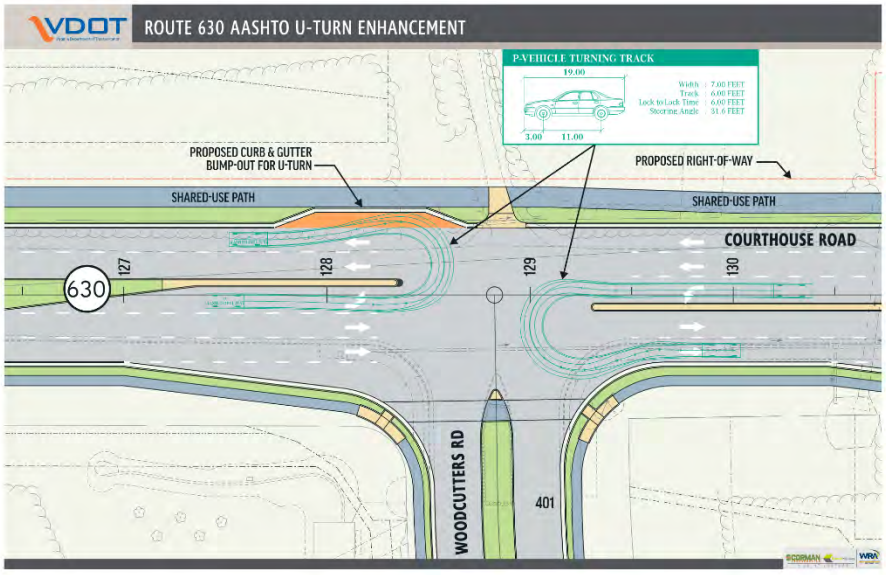


Figure 6: Route 630 U-Turn Enhancement

ENHANCEMENT #2: U-TURN: Where permitted by right of way constraints, the Corman-Branch | WRA Team proposes to bump-out the curb and gutter at median crossovers and intersections to allow for passenger vehicle U-turns at STA. 118+50, 128+25, 141+00, 162+75, 172+00, and 187+50. The U-turn movement with the RFP Conceptual Design did not meet Auto-TURN design requirements for a passenger vehicle design at many locations – we were able to provide for the U-turns at these locations without impacting ROW.

ENHANCEMENT #3: FILL SLOPES AND RETAINING WALL: Our design utilizes steeper fill slopes at these high-fill culvert crossings to reduce grading limits and wetland and stream impacts south of STA. 111+00 to 114+50, 150+50 to 152+00 and 175+75 to 177+75. **(See Figure 7 on the next page).** Steeper slopes are only used in areas to be maintained by VDOT after geotechnical analysis, as per the RFP.

VALUE: Our proposed retaining wall reduces wetland impacts in this area to below 0.33 acres, eliminating the need for an Individual Permit and saving 4-6 months in the project schedule.

Our Conceptual Design incorporates a Std. RW-2 retaining wall between STA. 184+80 and 187+75. This wall reduces wetland impacts substantially, such that the project no longer requires a time consuming Individual Permit from the US Army Corps of Engineers. Our design can be permitted with only DEQ WP-3 and USACE SPGP-1 approvals. This enhancement is significant in that it allows the permit to be obtained in half the time as the Individual Permit. This allows construction to begin earlier and shows the travelling public that improvements are taking place sooner than anticipated by VDOT.

ENHANCEMENT #4: MINIMIZE TYPICAL SECTION FOOTPRINT: Our Conceptual Design uses an 8-ft. (5-ft. in select locations as defined in the VDOT RFP Concept Plans) buffer width for the shared-use path as measured from the face of curb. This will reduce the Route 630 typical section width by 0.50-ft. throughout the length of the widening portion of the project, thus reducing impacts and improving driveway grades. This reduction in typical section width reduces the impacts to adjacent properties, increasing the opportunity for public acceptance of the project and having an overall reduction in long-term maintenance costs associated with the new roadway **(See Figure 7 on the next page).**

VALUE: These reductions in typical section width throughout the length of the widening portion reduce wetland, stream, and grading impacts and improves driveway grades.

As allowed by the RFP, we have reduced the clear zone buffer on the backside of the shared-use path from 3.5-ft. to 3-ft. These reductions narrow the Route 630 typical section footprint by 1-ft.

ENHANCEMENT #5: SWM BASIN LOCATION: Our Conceptual Design realigns SWM Basin #2 at STA. 113+50 right to reduce wetland impacts at this location **(See Figure 7).**

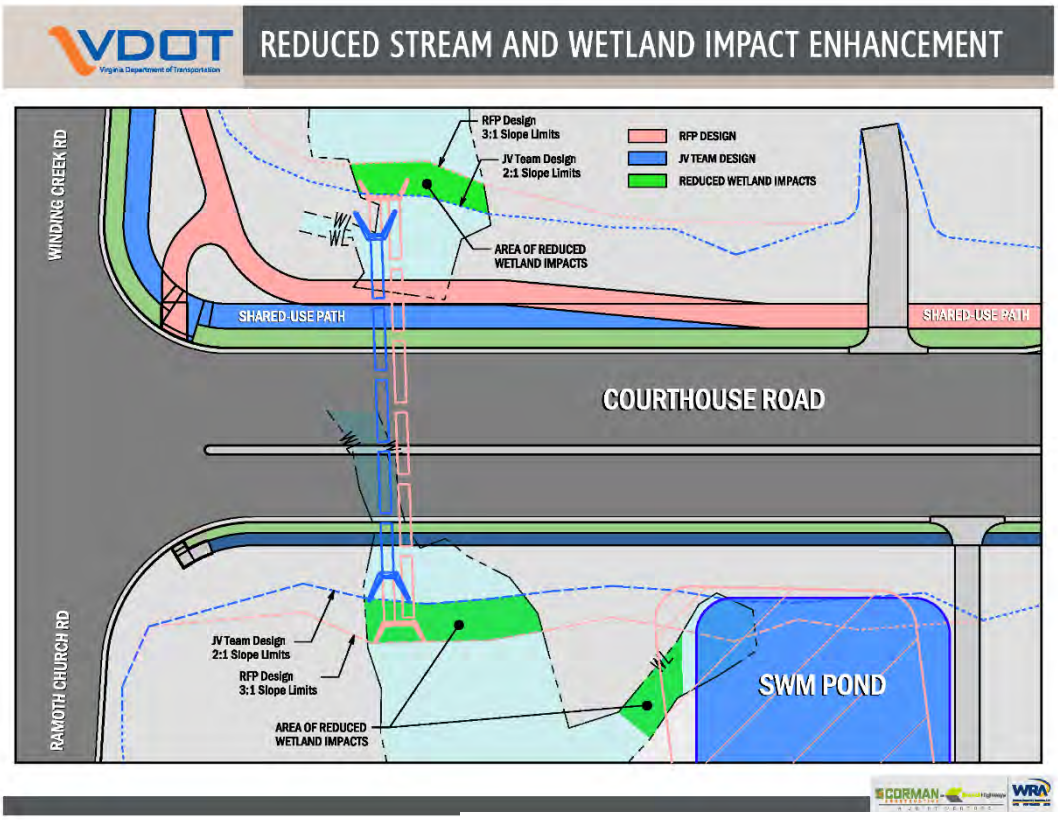


Figure 7: Stream and Wetland Impacts

4.3.1.3 I-95 4TH LANE WIDENING (OPTION 1) ENHANCEMENTS:

ENHANCEMENT #1: MECHANICALLY-STABILIZED SLOPE: Our proposed typical section shows the Corman-Branch | WRA Team's innovative approach eliminate stream impacts and the need to extend existing drainage structures. By utilizing a mechanically-stabilized slope, the slopes can be steepened to 1.5:1 we can minimize the environmental impact, streamline permitting, and reduce long-term maintenance associated with the stream impacts. This enhancement further ensures the 4th Lane will be open by the interim milestone date **(See Figure 10 on Page 20).**

VALUE: Eliminates wetland and stream impacts saving 0.1 acres and 300 LF of stream.

Accelerates construction and minimizes MOT disruption on I-95 southbound.

Eliminates SWM facilities by purchasing SWM credits.

Reduces earthwork in fills minimizing clearing and grubbing saving 7.3 acres of clearing and over 16,400 CY fill.

ENHANCEMENT #2: EXPRESS LANE EXTENSION - SOUTHERN TERMINUS COORDINATION: A critical project element is the option to provide an additional 4th lane on I-95 southbound to merge traffic from the I-95 Express Lane exit lane to the north that is ***currently under design and construction by project team members Branch and WRA***. This will significantly facilitate coordination with the I-95 Express Lane Design-Build project to the north for MOT and noise walls along the I-95 northbound lane, which is adjacent to Transurban's power and backup generator site. Seamless coordination between the two projects will increase

the public's perception that the projects are tightly integrated and coordinated by VDOT to improve their daily commute.

ENHANCEMENT #3: STORMWATER MANAGEMENT: The Corman-Branch | WRA Team's design approach eliminates all SWM ponds by purchasing nutrient credits to address SWM water quality requirements. Existing pipes have been determined adequate and satisfy the requirements of MS-19. The revised geometric design allows the fill slope to be outside the existing FEMA floodplain limits. This will eliminate the time required for a FEMA floodplain revision process. This enhancement also eliminates long-term maintenance associated with any new SWM facilities.

4.3.2 CONCEPTUAL STRUCTURAL PLANS

The Corman-Branch | WRA Team confirms that the proposed bridges will be designed per *AASHTO LRFD Bridge Design Specifications, 7th Edition, 2014,* the most current version of VDOT Modifications (IIM-S&B-80.5), and the additional Substructure and Foundation Criteria attachment. VDOT's Standard Details, including VDOT Design Aids, will be used in developing the bridge plans. These bridges will utilize low-permeability concrete in accordance with the *Special Provisions for Low Permeability Concrete for Design-Build Project.* Corrosion Resistant Reinforcing Steel will be utilized in accordance with VDOT IIM-S&B-81.6.

Route 630 (Courthouse Road) Over I-95 Dual Bridges (B647 and B648): The proposed bridges will be dual three-span structures each consisting of a reinforced concrete deck supported by three-span continuous steel plate girders with span lengths of 113-ft.-2-in., 120-ft., and 100-ft.-2-in. for a total bridge length of 333-ft.-4-in. from end of slab at Abutment A to end of slab at Abutment B. These span lengths accommodate the existing I-95 northbound and southbound traffic (in Spans 1 and 3), a future 4th lane in each direction, and a temporary ramp lane in each direction of I-95 to be utilized during construction. Span 2 will span over the median area of I-95 for future expansion of the I-95 Express Lanes. Conceptual bridge plans (plan, cross section and elevation views) are included in Volume II. Designs comply with the RFP and referenced documents. Proposed enhancements to improve safety, reduce initial and future maintenance costs are shown below. All of these enhancements are included in our Price Proposal.

DESIGN ENHANCEMENTS

- Temporary I-95 on- and off-ramps are included in the end spans of the bridge to accommodate maintenance of traffic at the interchange during construction. The temporary ramps will allow traffic to access the existing Route 630 Interchange while construction proceeds. The ramps will be removed after construction, increasing the offset from the edge of traffic lane to the face of the abutment MSE Walls to 27-ft.-8-inches and 17-ft. at Abutments A and B, respectfully. Permanent TL-5 barriers will be provided in front of the Abutment MSE walls (per VDOT S&B V5P2, Ch. 15). The shorter end spans result in a cost-effective span ratio for the design of the continuous steel plate girders.
- Continuous steel plate girders were selected over pre-stressed concrete bulb-tee beams as the depth requirement for the bulb-tee beams would have required a deeper bridge structure with resulting negative impacts on the roadway profile. A deeper structure would necessitate raising the profile of the bridge, approach roadways and DDI intersections on each end of the bridge – thereby requiring additional fill.
- The bridge skew is made constant for all substructure units. The skew is established to be parallel to the alignment of I-95 northbound (i.e., Abutment B). The two piers and Abutment A are set equal to the skew at Abutment B to make all beam lengths identical, thereby reducing fabrication costs.
- Pile casings will be installed behind the MSE walls in between the bridges to accommodate the installation of steel piles for the future widening. These casings will be located to extend the current abutment design and will be offset from the MSE wall in accordance with VDOT's *Manual of the Structure and Bridge Division, Volume V, Part 2, Chapter 17* to accommodate skew requirements of the MSE wall straps.
- VDOT-standard semi-integral abutment details have been provided at the abutments and the steel plate girders are continuous at the piers to provide for a jointless bridge.

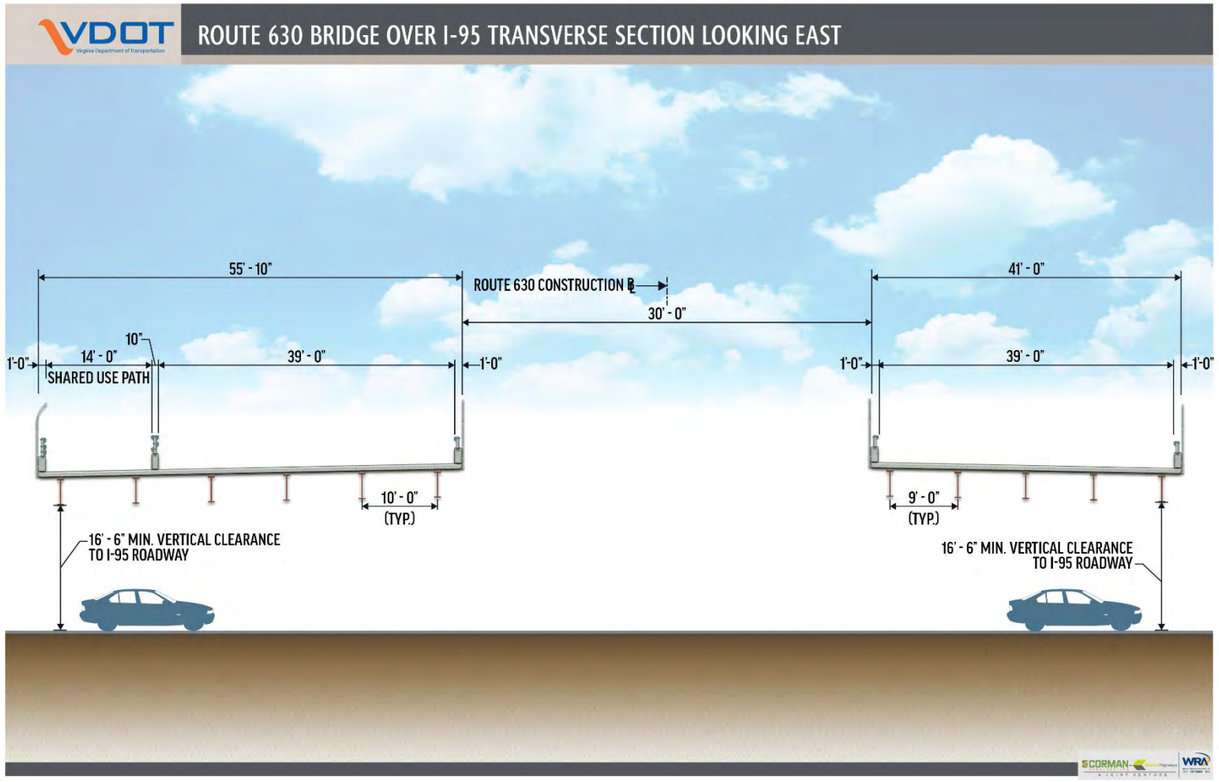


Figure 8: Proposed Transverse Section of the Bridges over I-95

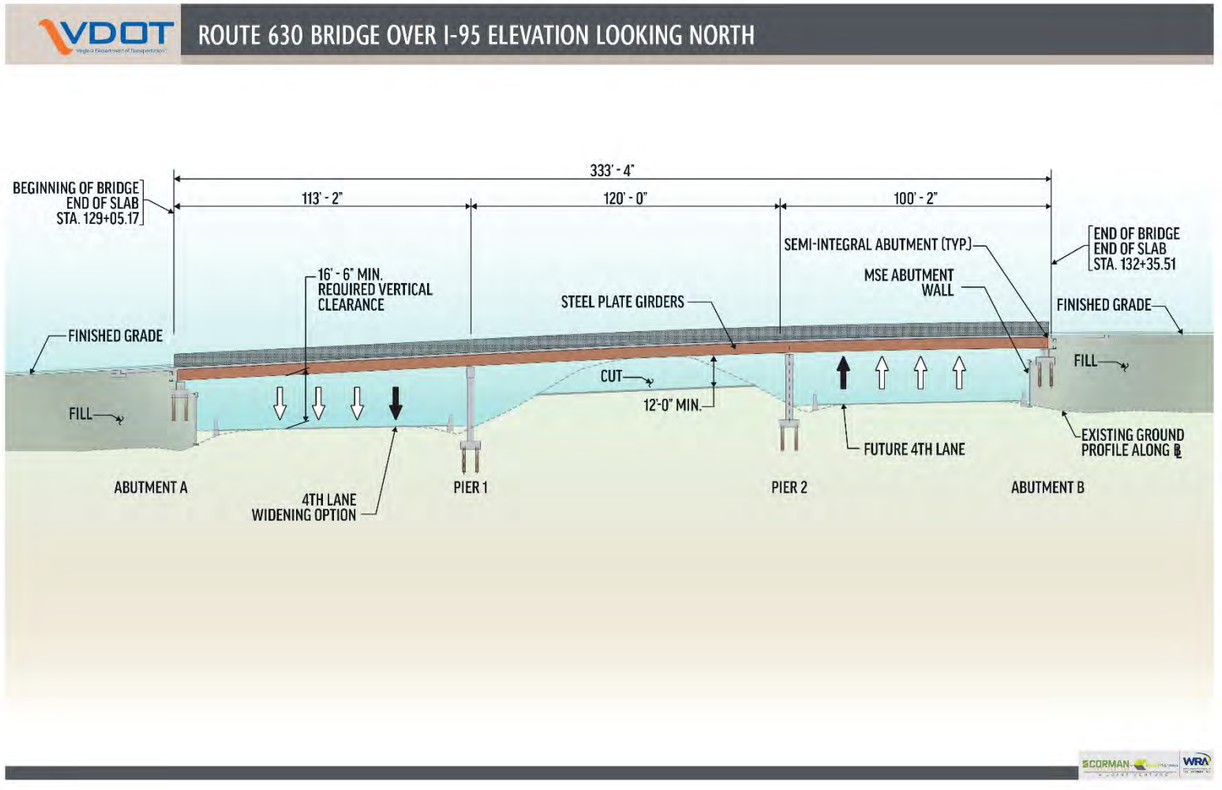


Figure 9: Proposed Elevation View of the Route 630 Bridges over I-95

4.4 Project Approach

4.4 PROJECT APPROACH

4.4.1 ENVIRONMENTAL MANAGEMENT

The Corman-Branch | WRA Team has reviewed the RFP and required permits for obtainable and viable timeframes in our schedule. Critical to the design and construction schedule is securing the environmental clearances. Our Conceptual Design was developed using an integrated approach that linked the designers, environmental staff, and construction experts to ensure that limits of disturbance shown provide adequate space to construct roadway features while achieving a *"permittable"* project. This integrated approach has allowed us to develop solutions to the recognized environmental conditions by reducing the impacts presented in the RFP Conceptual Plans and identifying required permits and environmental commitments.

Our project schedule takes into account the timeframes to acquire all permits. As was performed on the Route 29 Solutions Design-Build contract, our Responsible Charge Engineer (RCE), Ryan Gorman, will integrate himself in the environmental management with a main focus in anticipating and mitigating potential delays. During final design, our environmental staff will continue to collaborate with the designers and the RCE to identify and minimize impacts. By working with Ryan, all construction means and methods are taken into account when preparing permit applications. The following will be performed to ensure that environmental resource impacts have been documented, minimized, and are cleared by the regulatory agencies for construction and that environmental commitments are met during construction.

Identify and Update Environmental Resources: Upon NTP, environmental resource locations within the project corridor will be refined based on our Conceptual Design. Field work and technical services will involve wetland delineations, stream assessments, water quality studies, threatened and endangered species reviews and cultural resource reviews that will be utilized for water quality permitting and environmental compliance monitoring. Should this refinement shed light on unanticipated or unknown resources, the preliminary design will be modified to support avoidance and/or minimization opportunities.

Hazardous Materials Management and Studies: As stated in the RFP, VDOT has already conducted studies to identify hazardous materials that could occur within the project area. Our proposed design does not significantly change the ROW limits; therefore, the VDOT studies remain applicable. These studies identified nine parcels with recognized environmental conditions (RECs) within the project area. The necessary ROW for six of the nine parcels has already been acquired by VDOT; therefore, no additional studies will be required. For the three remaining RECs, (VDOT Parcels 047, 059, and 060), any known hazardous material encountered during construction will be handled per Virginia Solid Waste Management Regulations and VPDES requirements. Phase I Environmental Site Assessments (ESAs) will be conducted per ASTM E 1527-13 for any ROW property acquired by the Corman-Branch | WRA Team on behalf of VDOT. If the Phase I ESAs identify any previously unknown RECs impacted by the project, they will be managed in accordance with the terms of the RFP (Part 4, Article 4).

Spill Prevention, Control, and Countermeasure Plans will also be prepared prior to construction. The Corman-Branch | WRA Team will comply with Hazardous Materials Special Provisions as per the RFP:

Secure the Virginia Dept. of Environmental Quality (VDEQ) Virginia Stormwater Management Program (VSMP): Starting at NTP, the Corman-Branch | WRA Team designs Erosion and Sediment Control and Stormwater Management Plans to meet VSMP permit regulatory requirements. We will consult with the VDEQ to discuss our streamlined permitting approach for each advanced work package and submit a permit application to VDOT to secure VSMP within 30 days of submittal.

Coordinate with Agencies for Threatened and Endangered Species: The Corman-Branch | WRA Team has reviewed the threatened and endangered species studies and coordination conducted by VDOT to date. We also conducted updated database queries to identify the presence of any threatened or endangered species that may

affect the project. The query included the USFWS Information, Planning, and Consultation System (IPAC) database, the Virginia Dept. of Game and Inland Fisheries' Virginia Fish and Wildlife Information Service, and the Virginia Dept. of Conservation and Recreation's online searchable database. According to database queries conducted on June 29, 2016, no new species were identified that were not discussed in the RFP. When coordinating permits, the Corman-Branch | WRA Team will continue coordinating with resource agencies to not impact threatened and endangered species.

According to the RFP, VDOT will conduct surveys for small whorled pogonia during the 2016 survey season. The Corman-Branch | WRA Team assumes that the small whorled pagonia surveys include all areas to be acquired for ROW, and as instructed in the RFP, assumes that small whorled pagonia is not present.

Conduct Coordination for Chesapeake Bay Act Compliance: The Corman-Branch | WRA Team anticipates that the construction, installation, operation, and maintenance of the proposed project and structures will be an allowed use in the Resource Protection Areas (RPAs) because: 1) the roadway will be constructed per an Erosion and Sediment Control Plan consistent with regulations promulgated pursuant to the Erosion and Sediment Control Law (§ 10.1-560 et seq. of the Code of Virginia); 2) the roadway will be constructed in compliance with the Stormwater Management Act (§10.1-603.1 et seq. of the Code of Virginia) and a Stormwater Management Plan will be approved by the Virginia Dept. of Environmental Quality (DEQ); and 3) the road will be designed and constructed to prevent or minimize otherwise minimal encroachment in the RPA and minimize water quality impacts.

Coordinate consistency with the Coastal Zone Management Program: As required by the USACE, to issue a Section 404 permit, we will submit a Coastal Zone Management Act consistency determination package to the VDEQ for review and approval. Coordination ensures that the project is consistent with the enforceable policies of Virginia's Coastal Zone Management Program.

Conduct Avoidance and Minimization: The Corman-Branch | WRA Team has refined the RFP design to further avoid and minimize stream and wetland impacts. As the design advances after Notice to Proceed, we will further look for ways to refine the design to avoid and minimize additional impacts. Regular avoidance and minimization workshops will be held between our design, construction, and environmental staff to capture opportunities to minimize impacts. The Corman-Branch | WRA Team has already minimized impacts by adjusting three main design elements: ***horizontal alignment, vertical alignment, and typical section.***

- I-95 / Route 630 Interchange avoidance and minimized efforts has reduced impacts by 300 LF of stream and 0.2 acres of wetlands.
- Route 630 Widening enhancements include reduced side slopes and a retaining wall to shorten pipe lengths and minimize wetland impacts. For the Route 630 Widening, this has reduced impacts by 158 LF of stream and 0.16 acres of wetlands. Adjustments to the vertical alignment, specifically, lowering the mainline Route 630 profile from approximately STA. 170+00 to STA. 176+00 by about 1.6-ft. reduced wetland impacts in that area. In addition, the following typical section modifications were made to reduce wetland impacts:
  - ✓ Used the standard 3-ft. width for shoulder behind the shared-use path.
  - ✓ Used the standard 8-ft. buffer in front of the shared-use path.
  - ✓ In the following ROW locations to be maintained by VDOT, 2:1 fill slopes were used instead of 3:1 to shorten culverts and reduce wetland impacts:
    - STA 111+00 to 114+50 RT
    - STA 150+50 to 152+00 RT
    - STA 175+75 to 177+75 RT

- ✓ Added a retaining wall between STA 184+80 and 187+75 to reduce the wetland impact to less than 1/3 of an acre at this crossing, thus avoiding the need for an Individual Permit from the USACE for the entire Route 630 Widening project.

- For the I-95 4th Lane Option, avoidance and minimization has been achieved through preliminary design refinements to side slopes to avoid wetlands and streams. This significantly reduced impacts by approximately 300 LF of stream and 0.10 acre of wetlands. Currently, only 30 LF of stream impacts remain with our Conceptual Design.

Secure water quality permits: Within two weeks of Notice to Proceed, the Corman-Branch | WRA Team will hold a Pre-application Meeting with the USACE, VDEQ, and VMRC to discuss scope and identify any agency concerns early on. The purpose of this meeting is to partner with the regulators and to identify any additional studies or design considerations or constraints that would cause delays or additional cost.

There will be four permitting efforts starting at Notice to Proceed conducted concurrently: I-95 / Route 630 Interchange; I-95 4th Lane Widening; the Box Culvert Repair (Va. Str. 2021); and the Route 630 Widening. Conducting concurrent, parallel permitting efforts will eliminate schedule delays. Permits are required from USACE and VDEQ. Because stream crossings do not have drainage areas larger than 5 square miles, no VMRC permits are required.

The Route 630 Interchange will have anticipated impacts to 1.07 acres of wetlands and 2,965 LF of stream which will require Individual Permits from the USACE and DEQ.

The Park & Ride will result in impacts to 0.31 acres of wetlands which will be authorized under a DEQ WP-4 and USACE SPGP-1.

For the I-95 4th Lane Widening Option, the refined design will result in impacts to 30 LF of stream (a reduction of 300 LF from the RFP), which would be authorized under a Nationwide Permit 23 from the USACE.

If the I-95 4th Lane Widening Option is selected by VDOT, the box culvert under Route I-95 (SBL) (Va. Str. 2021) will require repair and scour protection, which will be authorized under a USACE Nationwide Permit 3.

The Route 630 Widening design has been modified to reduce the wetland impacts to 0.54 acres and 242 LF of stream impacts. This design enhancement eliminates the need for an Individual Permit from the USACE. A SPG-1 from USACE and a WP3 from the DEQ will be required.

Construction Support: Once construction begins, the environmental staff will collaborate and support the construction staff to meet environmental commitments and to advise the field construction staff of any issue or construction activity that may impact the standing permit.

4.4.2 UTILITIES

Approach for Utility Coordination, Adjustments and Relocations: The Corman-Branch | WRA Team will provide the utility coordination and relocation design to meet the budget, sequencing, and schedule for wet utilities (In-Plan Relocations) and dry utilities (Out-of-Plan Relocations). To prepare for the utility relocation design and construction work, our utility staff has met with each utility and strategized a work plan, schedule, and cost impacts. We gained valuable insight of the magnitude of the utility impacts, types of facilities involved, and nature of the relocation efforts. Due to the significant impact of utilities, we have examined design alternatives to mitigate them wherever possible and worked with utility owners to coordinate relocations to save time and money. The team will mitigate any potential utility impacts exceeding their estimated times for relocations and the discovery of previously unknown utilities by having the utility coordinator stay involved throughout design and construction. The utility relocation process will be managed by our Responsible Charge Engineer, Ryan Gorman, as was performed successfully on the Route 29 Solutions Design-Build project. We will hold Utility Coordination Meetings with the utility contacts every two weeks during utility relocations, and

any changes from the approved schedule will be immediately conveyed to the construction management team to look for ways to recover time. During construction, the Utility Design Engineer and Utility Manager will coordinate the progress of the utility relocations and any modifications to the original relocation design or schedule. ***With the advantage of our Utility Design Engineer having his office in Fredericksburg, Virginia, he can be called upon quickly to investigate any discoveries of unidentified utilities and contact the affected companies.***

The Corman-Branch | WRA Team has extensive relocation experience with all of the dry utility owners involved on this project. This experience covers the coordination and design of utility relocations, as well as the coordination required during construction of the utility facilities and around these utilities. Our Utility Design Engineers have also provided utility relocation coordination services under annual contract services with VDOT in the Fredericksburg District. The table below shows the coordination and construction experience of the Corman-Branch | WRA Team with each utility owner impacted on this project.

UTILITY RELOCATION EXPERIENCE							
	Columbia Gas	Comcast	Dominion Power	Stafford County Schools	Stafford County Water	Stafford County Sewer	Verizon
Corman-Branch JV	X	X	X	X	X	X	X
WRA-AMT	X	X	X	X	X	X	X

Table 1: Utility Relocation Experience

The following is our interpretation of the required relocations, nature of the work and design considerations developed to reduce utility impacts. Detailed Relocation Plans are in Volume II:

DRY UTILITIES

DRY UTILITY CONFLICTS & MITIGATION		
UTILITY	**CONFLICT**	**MITIGATION**
Columbia Gas	Conflicts with drainage and cut	Lower gas line under new Route 630 at Old Wyche Road due to proposed road cut and for portion affected by cut along back side of Park & Ride lot.
Comcast	On Dominion VA Power poles	Relocate to new Dominion VA Power pole line along Route 630 from I-95 to Cedar Lane.
Dominion VA Power - Distribution	Conflicts with relocated roadway locations and cuts	Relocate new Dominion VA Power pole line along Route 630 and across I-95. Through coordination with the layout and grading of the Park & Ride lot, the team eliminated relocating the Dominion Power facilities around the Park & Ride lot and adjusted existing facilities in place reducing risks, impacts to the Dominion Power facilities and improving construction schedule.

UTILITY	CONFLICT	MITIGATION
Dominion VA Power - Transmission	No conflicts	Protect existing facilities.
PEG Bandwidth	No conflicts	Protect existing facilities.
Stafford County Public Schools	Conflicts with drainage and cuts, need encasement across I-95	Relocate fiber optic cable along south side of Route 630 and then along old Route 630, encased across I-95 Limited Access ROW.
Summit IG	No conflicts	Proposed bridge abutments and fills were adjusted to eliminate relocating Summit IG facilities.
Verizon Virginia	On Verizon poles and conflicts with drainage and cuts	Relocate phone and fiber optic cables along new easement south of Route 630 and then along old Route 630, encased across I-95 Limited Access ROW. Lower cables along Wyche Road at new Route 630, relocate cables and pole line along the western side of Route 1 at intersection with new Route 630.

Table 2: Dry Utility Conflicts & Mitigation

Columbia Gas of Virginia has an 8" gas line running along the eastern side of existing Wyche Road that crosses the relocated Route 630 in a cut section at approximate STA. 141+00 in Limited Access ROW. It is expected that this cut will require lowering the gas line for approximately 200 LF and encasing it. This same gas line also travels through the proposed Park & Ride lot along Florida Rock Drive and northeastward to existing Route 630. Proposed cuts along the back side of the Park & Ride will require relocation of the gas line around the proposed Park & Ride lot. There is also a 6" gas line that runs along the eastern side of Route 1 through the widening section and the intersection with the new Route 630 that does not appear to have any conflicts. There are two different sections of 6" gas line along the widening section of Route 630 that have been relocated by VDOT and should not be in conflict with the new construction.

Comcast has an aerial 6 mm coax cable attached to the Dominion Virginia Power poles through Route 630 Widening which will be relocated before construction begins and are not in conflict. They also have aerial and buried CATV COAX cables on the western side of the Route 630 Interchange between I-95 and Cedar Lane for approximately 2,400 LF. These will need to be relocated in conjunction with the Dominion Virginia Power aerial circuits onto new poles out of the way of construction. Comcast also has aerial cables across existing Route 630 east of I-95 along the northern side of the roadway and along Route 1 on either side of the intersection with the new Route 630. None of these facilities are in conflict.

Dominion Virginia Power – Distribution: They have an aerial power line running the length of Route 630 Widening. This line is being relocated by VDOT ahead of construction and will not pose any conflicts. In the section of the interchange project between Cedar Lane and I-95, Dominion Virginia Power also has an aerial three-phase circuit that will be almost entirely in conflict for approximately 2,400 LF. This will be relocated mostly along the southern side of the roadway west of Austin Ridge Road and north of the roadway to the east. An aerial three-phase circuit crossing the interstate near NBL STA. 2967+00 is in conflict with ramp construction. This will require approximately 1,300 LF of replacement. Aerial lines also cross existing Wyche Road where the new Route 630 crosses and will require relocating poles and adjusting the line for approximately 400 LF. An

additional aerial circuit crosses the proposed Park & Ride Lot and we will coordinate the Park & Ride layout to utilize existing poles/cables across the Park & Ride and minimize relocations of Dominion poles. An additional three-phase aerial power circuit runs along the western side of Route 1 on either side of the intersection with the new Route 630 and will require relocation due to the poles being within the clear zone requirements listed in the RFP. There is an aerial three-phase circuit crossing I-95 over the 4th Lane Widening work at I-95 NBL STA. 3089+00 that is not in conflict with the proposed work.

Dominion Virginia Power – Transmission: There is a buried Dominion Virginia Power – Transmission duct bank that crosses I-95 at the northern end of the 4th Lane Widening project. It is approximately 100-ft. deep at the roadway level and no conflicts exist between it and construction.

PEG Bandwidth has an aerial 24-count fiber optic cable running along the north side of the old Route 630 from the east edge of I-95, where it ties to the Summit IG cable, to the end of the project past the Park & Ride lot. This cable and pole line is not in conflict and should not require any relocation.

Stafford County Public Schools has a buried 96-count fiber optic cable on ROW through the Route 630 Widening. This will be relocated before construction begins and will not be in conflict. This line continues along the southern side of existing Route 630 continuously from Cedar Lane under I-95 and past the new Park & Ride Lot. Some portions of this line will require relocation and encasement as it crosses under the new interchange ramps and through the limited access ROW area. There is also an additional Stafford County Public Schools fiber optic cable, paired with a Stafford Hospital Fiber Optic Cable, running along the east side of Route 1 on either side of the new intersection with new Route 630. These lines are out of conflict with the planned construction and will not require any relocation. AMT is familiar with Stafford County School's personnel and requirements having coordinated and designed relocations of fiber optic lines for them on other projects within the County.

Summit IG has a 432-count Fiber Optic Cable running along the eastern side of I-95 NB throughout the entire project area. Several fibers in this cable are leased by VDOT to carry its' ITS data to the traffic operations centers. Adjustments to the bridge abutments and ramp fills have been coordinated to eliminate impacts to the Summit IG facilities.

Verizon Virginia has buried 24 to 216-count fiber optic cables and 50 to 600-pair copper cables in an easement off of the ROW through Route 630 Widening. This will be relocated by VDOT before construction begins and will not be in conflict. From STA. 196+00 to I-95, Verizon has an aerial pole line with multiple fiber optic and copper cables running mainly along the northern side of existing Route 630. These cables run from 50- to 600-pair for the copper cables and 24- to 216-count for the fiber optic cables. This is almost entirely in conflict. They also have a buried 24-count fiber optic cable running along the south side of existing Route 630 from Cedar Lane to the existing Shell Station at the I-95 SBL onramp. At this point, the copper and fiber optic cables join together in a buried duct bank crossing I-95. Once across I-95, they once again go aerial crossing the I-95 NBL exit ramp. From this point eastward past the Park & Ride lot, there is a combination of aerial and buried phone cables along the southern side of existing Route 630. Nearly all of these facilities are in conflict and will require relocation. Verizon also has buried copper and fiber optic cables running along Wyche Road from existing Route 630 to the new cul-de-sac south of the new Route 630. All of these facilities will be in conflict and require relocations along the new Wyche Road. Verizon also has a pole line with 100-pair copper cables and 96- and 24-count fiber optic cables and buried 1,200-pair copper lines and 144-count fiber optic lines running along the western side of Route 1 on either side of the new Route 630 intersection in the widening area. All of these facilities will be in conflict with the proposed construction and require relocation.

WET UTILITIES: Our team has experience with the Stafford County Utilities Dept. for the past 15 years. In those 15 years, WRA has been responsible for design of Stafford County water and wastewater facilities, as well as completing VDOT Utility relocation designs for Stafford County water and sanitary sewer facilities impacted by VDOT roadway construction projects. WRA has been continuously providing utility relocation design services for VDOT under an annual contract since 1998. This knowledge and longstanding relationships gives us the advantage of knowing the standards and specifications thereby accelerating approvals for relocation designs for water and sanitary sewer facilities. Wet utilities, water and sanitary sewer conflicts will be addressed to minimize roadway construction impacts. Relocating impacted facilities will be coordinated with the roadway sequence of construction and phased accordingly. Below is a Table of the water and wastewater facilities impacted and mitigation:

WET UTILITY CONFLICTS & MITIGATION		
UTILITY	**CONFLICT**	**MITIGATION**
Stafford County Utilities – Route 630 Widening	Water main conflicts with proposed grade changes and drainage.	Relocate water mains and appurtenances as needed.
Stafford County Utilities – Route 630 Widening	VDOT requirements to add low pressure force main and additional gravity sanitary sewer.	Add low pressure force main and additional gravity sanitary sewer as required.
Stafford County Utilities – I-95 / 630 Interchange	Water main conflicts with proposed grade changes and ramps.	Relocate and/or encase water mains and appurtenances across Limited Access ROW.
Stafford County Utilities – I-95 / 630 Interchange	Low-pressure sanitary sewer force main and gravity sewer conflicts with proposed grades and ramps.	Abandon low-pressure sanitary force main and gravity sewer and construct new force main and tie in to allow for abandonment. This allows the existing force main and gravity sewer crossing of I-95 to be abandoned and reduces future maintenance costs and access issues for the two lines. WRA is coordinating force main alignment through proposed development to provide a significantly shorter alignment that will reduce maintenance and operational costs.
Stafford County Utilities – I-95 4th Lane Option	No conflicts with two sanitary trunk sewer crossings of I-95.	None required.
Stafford County Utilities – I-95/630 Interchange	Water line in Wyche Road in conflict with proposed cut	Adjust water main to account for proposed cut.

UTILITY	CONFLICT	MITIGATION
Private sanitary sewer system – I-95/ 630 Interchange	Proposed roadway fill over existing sewer system	Incorporate adjustments to existing gravity sewer and force main into plans to maintain existing level of service. As a betterment, the project team will coordinate with Stafford County if they wish to pursue a total gravity sewer option.

Table 3: Wet Utility Conflict & Mitigation

Stafford County Utilities (Water): The County has approximately 7,000-ft. of existing 12" water main along the Route 630 Widening portion of the project. Approximately 6,000 LF of 12" water and appurtenances need to be relocated due to conflicts with proposed grade changes and drainage structures. Existing water services and branch connections will be transferred to the new relocated sections. Vertical offsets of the existing water main will be utilized where there are only conflicts with the proposed drainage structures and no significant grade changes. The existing 12" water main will remain in service until final tie-ins are made. Existing water meters in conflict will be replaced with new meters, meter boxes and service lines.

On the I-95 / 630 Interchange project, the County has an existing 12" water main along the south side of Route 630 that crosses under I-95. This water main will need to be encased the entire length between limited access lines. A portion the existing 6" water along the west side of Wyche Road will be in conflict with the proposed Route 630 relocation, as well as the proposed commuter parking lot and will be relocated. Water main relocation has been reduced by adjusting curb and gutter and drainage design. Those portions crossing new limited access will be encased.

Stafford County Utilities (Sanitary Sewer): The County has limited sanitary sewer facilities within the Route 630 Widening project. There is an existing 8" sanitary sewer crossing at STA. 122+50 and an existing 21" sanitary sewer crossing at STA. 208+60. Only minor manhole adjustments will be required on these facilities. However, VDOT requires installation of a new low-pressure force main system to serve the Cox property left of STA. 178+00. This requires installing approximately 1,600 L.F. of 2" low pressure force main". In addition, VDOT requires installing approximately 900 LF of 8" sanitary gravity sewer between STA. 192+50 and the existing sanitary sewer manhole in the northeast corner of the intersection with Mine Road. A sanitary service lateral will be provided to serve the English property left of STA. 194+50. The low-pressure force main will connect to the western terminus of the new 8" gravity sewer.

On the I-95 / 630 Interchange project, the County has an existing 8" sanitary sewer running parallel to the existing northbound I-95 off-ramp that can be abandoned. Properties served by this sewer are being taken by this project and no relocations are required. There is an 8" sanitary sewer and a 4" force main along the north side of Route 630 that cross under I-95. The 8" gravity sewer feeds the existing sewer pump station in the northwest quadrant of the existing interchange. The 4" force main is the discharge line from the pump station. Both the 8" sewer and the 4" force main will be abandoned under I-95 by re-routing the force main to the west to tie into the existing 8" sanitary sewer located in Austin Ridge Drive and installing a 2" low-pressure force main to serve the three remaining parcels east of I-95, along the north side of Route 630. The project team has coordinated with the property developer, west of I-95, and Stafford County an alternate force main alignment through the proposed development. The revised alignment provides a significantly shorter relocation route and reduces the required head in the force main providing long term maintenance advantages. Continued access to the pump station will be provided.

There is a private 8" sanitary sewer and 8" sanitary sewer force main from the Paradise Trailer Park that will be impacted by the project. The existing 8" sanitary sewer and 8" sanitary sewer force main will be replaced in the areas where they are impacted by the proposed roadway design to maintain the current level of service for the private system. The project team will coordinate with Stafford County if a full gravity sewer extension to serve the trailer park would be incorporated into this project as a betterment and eliminate the need for the pumping station and force main.

Our utility relocation design has been coordinated with our Roadway and Drainage Design Team to minimize or eliminate utility conflicts. We have also enhanced the Conceptual Design by eliminating the sanitary sewer crossing the interstate and providing service to another offsite connection, modified drainage design to reduce impacts to the water main on Route 1, and coordinated with the developer of the parcel west of I-95 for location of the proposed force main with a shorter route. These enhancements will improve the long-term maintenance requirements, reduce risks, provide better access to the utilities, and reduce potential schedule impacts, number of required easements, and potential schedule impacts while meeting utility owner requirements.

The project team has identified the utility easements and is ready to start acquisition on NTP. Critical easements will be identified and priority assigned to acquire easements critical to the relocation schedule. During relocations, it is critical to "manage" the utility owners to ensure they are aware of their design and relocation schedule and phasing of the road construction so they can concentrate on the critical relocations and not impact the road construction schedule. This is completed through weekly meetings with the utility owners to track progress and identify and resolve issues quickly before they impact the roadway construction schedule.

4.4.3 GEOTECHNICAL

The Corman-Branch | WRA Team has reviewed project elements in the field and the GDR reports provided by VDOT. We have developed Conceptual Designs for each project element that meet or exceed the RFP requirements. Each one has unique existing conditions, design requirements, constructability, and schedule constraints which requires an innovative approach to develop the right solution to achieve VDOT's goals. Throughout the project, grades have been adjusted to optimize earthwork operations, reduce borrow, and reduce high fills. The following sections detail our understanding of the geotechnical risks and describe our plan to mitigate and manage them throughout the project. Geotechnical staff will support the construction staff by being onsite to evaluate soil conditions, undercut, pile installation and other construction activities that require the analysis and oversight of our geotechnical engineers.

VALUE: The Corman-Branch | WRA Team has extensive experience working in similar geotechnical and geologic conditions, i.e., VDOT's I-95 Express Lanes, I-95 Express Lane Southern Terminus Extension, and Fall Hill over I-95 Design-Build projects.

Cut Slopes: The cut slopes on the I-95 / Route 630 Interchange and the Route 630 Widening project are anticipated to encounter Potomac and Calvert clay materials near Austin Ridge Drive, east of the Route 630 bridge abutment and along Ramp B. These residual and softened strength values for the in-situ clay material will require slopes to be flattened in the range of 2.5:1 to 3:1. Additional test borings with undisturbed sampling are needed to further assess the residual and softened strength at critical slope locations.

For the I-95 4th Lane Option, the RFP provided limited geotechnical information. However, existing cut slopes along this section are at 2:1 and appear to be stable. The cut slopes will be analyzed to meet the design requirements. Additional test borings with undisturbed sampling are needed to further assess the residual and softened strength at critical slope locations.

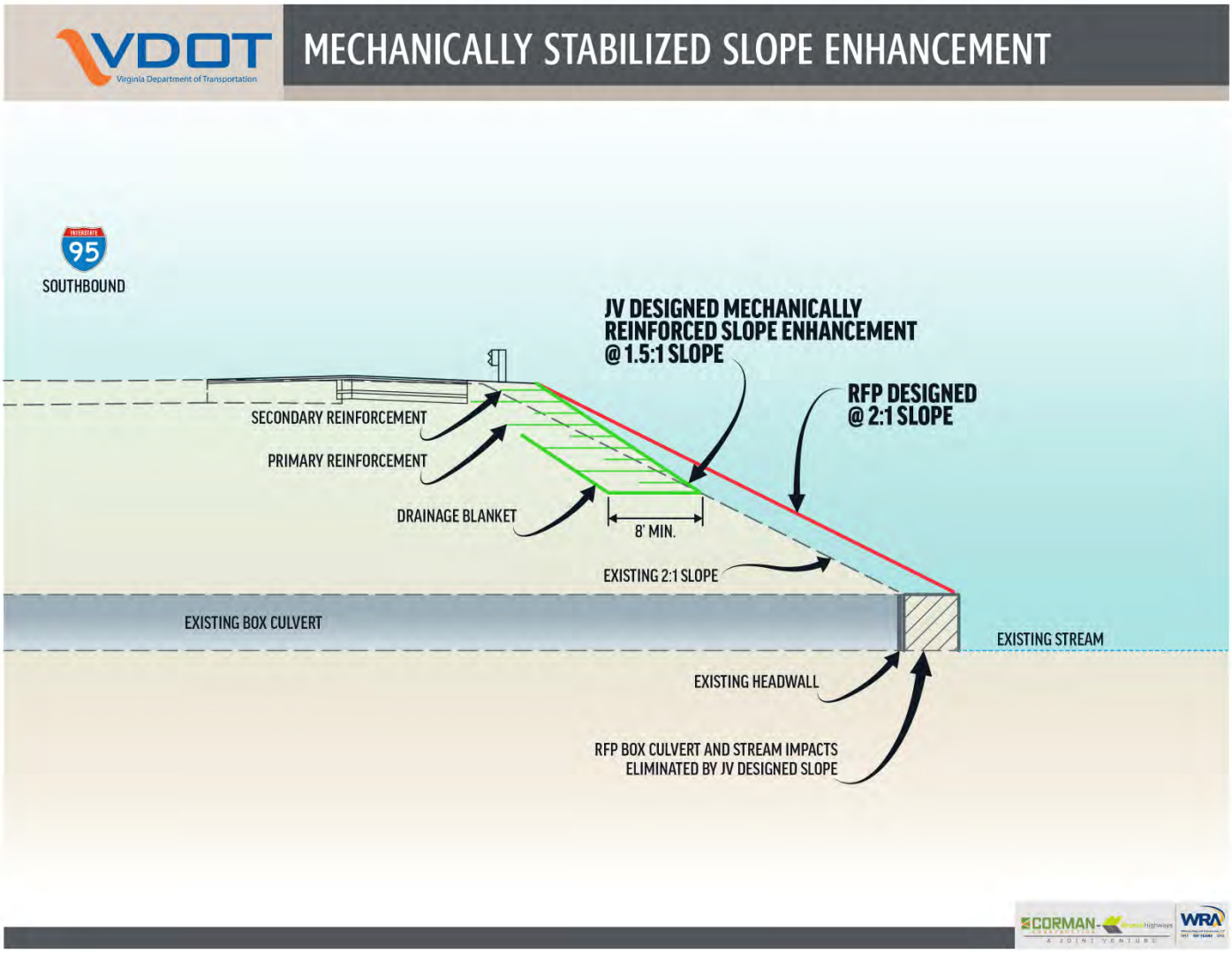


Figure 10: Mechanically-stabilized slopes

Fill Slopes: The fill slopes on the I-95 / Route 630 Interchange and the Route 630 Widening project are designed to be constructed with onsite or borrow material to a finished slope of 2:1 and 3:1. To minimize the amount of borrow required and reduce project cost, our team may utilize a quicklime or hydrated lime treatment to the silty/clay soil to be used in the roadway fill.

VALUE: By using mechanically-stabilized slopes or "green retaining walls", there are no extensions to existing drainage structures on the I-95 4th Lane Option. This eliminates the need for work in streams and streamlines permitting.

Fills for the bridge approach embankments are anticipated to cause settlement in the Potomac Clay of about 2" at the highest fill areas at the bridge abutments. The Potomac Clay underlying the fill area is over consolidated and is anticipated to be within the recompression indices for settlement. Minimal fill settlement is anticipated once the bridge and embankment construction is complete. Additional test borings are needed to further assess the settlement potential of the Potomac Clay under these fill areas.

Fill slopes for the I-95 4th Lane are primarily sliver fills placed adjacent to the existing 2:1 fill slopes from the original I-95 construction. The clay and silt encountered here are re-compacted Potomac soils that were used as fill during the original construction and will be considered to have peak compressive strength. To minimize impact to wetlands and existing drainage structures, mechanically-stabilized slopes will be used within the top 10-ft. of the existing slope.

Bridge abutments and foundation: The proposed bridge carrying Route 630 over I-95 will utilize MSE retaining walls for the abutments with the abutments and piers supported on H-pile foundations. It is anticipated that the approach embankments will experience approximately 2" of settlement within the 20-ft. Potomac Clay layer when constructing the embankment and the bridge. Piles at the abutments will require a design that includes downdrag from this layer. Pile foundations within the fill will use casings to prevent additional downdrag from the proposed fill material. Additional pile casings will be installed behind the new MSE walls in areas of future bridge widening.

Pavement: The minimum pavement sections are described in the RFP and also note that a minimum 8 CBR is required for soil within 2-ft. of subgrade. The cut areas will be tested for the CBR value with undercutting or lime treatment anticipated in areas where highly plastic clays and silts (CH and MH) material is encountered. The final pavements section will be assessed during design.

Acidic Sulfate soils: The existing geotechnical testing confirms that the potential exists for acidic soils to be encountered in the Calvert, Aquia, and Potomac deposits. As Branch mitigated on VDOT's I-95 Express Lanes project, any soil found to have a net neutralizer deficiency of greater than 4 tons per 1,000 tons of soil or a pH lower than 4, will need lime treatment if it is to be placed within 6" of vegetated areas. Any structures to be permanently situated within the acidic onsite material will be designed to resist potential corrosion.

The RFP test results provided samples at 11 borings along the alignment. The acid-base accounting tests showed about 50% of the samples with net neutralizer deficiency greater than 4 tons per 1,000 tons that require lime treatment. Samples that showed acidic potential were not in one particular layer that we could define as needing treatment. Most of the borings tested either had one or two samples that showed acidic potential or had pH of less than 4. The data does not cover all areas that are planned for cuts and does not show a definitive trend as to where treatment was needed. Detailed design to mitigate for Acidic soils will be developed post award after geotechnical investigations.

4.4.4 QUALITY ASSURANCE / QUALITY CONTROL (QA/QC)

The Corman-Branch | WRA Team's QA/QC approach creates a partnering environment between VDOT, our field staff, WRA's QC inspectors/testers, and KCI's QA staff. Forming this partnership with a proactive and robust QC/QA testing *and* inspection program starts with a QA/QC Plan tailored for the project at hand – and not one off the shelf. It is in every stakeholder's best interest that the QC:

1. Reduces/eliminates contractor or designer rework;
2. Keeps QA efforts focused and targeted;
3. Limits VDOT's need to assign valuable resources; and,
4. Assures VDOT of a well-maintained, safe construction site with construction and materials meeting specifications.

Our DBPM will instruct QC staff early on that their job extends beyond keeping records and testing materials. It includes traditional duties of a VDOT inspector and being assertive if anything is non-compliant. Catching work items not being completed correctly early sparks instant correction minimizing cost and schedule impacts.

The Corman/Branch | WRA's Team's QA/QC program will be per *VDOT's Minimum Requirements for Quality Assurance and Quality Control on Design Build and Public-Private Transportation Act Projects, January 2012* and include:

1. Integrating design and construction team during design. The Responsible Charge Engineer works in WRA and AMT's offices for constructability reviews and signs off on design submittals. ***VALUE: Minimizes rework during design and construction.***
2. Involving the designers with construction and performing QC. Designer attending monthly progress meetings during construction and visit the site regularly as WRA is currently doing on VDOT's Fall Hill project. ***VALUE: Involving designers in inspecting and resolving construction issues minimizes rework***.
3. Constructability reviews of temporary drainage during design and by QC during construction. ***VALUE: Minimizes safety risks with water or ice standing on the roadway.***
4. Identifying sight distance and design speed issues brought on by temporary construction facilities, traffic controls or staging by rigorous QC during design and construction. ***VALUE: Minimizes safety risks to the traveling public.***
5. Explaining project team members' roles and responsibilities so they understand QA/QC is everyone's obligation and that no work items or inspections are left unassigned. ***VALUE: Raises the bar in making everyone responsible for the quality of their work.***
6. Holding *"All Hands"* meetings with design and construction teams to review lessons learned and stress importance of a strategic and coordinated quality product – Lessons learned are taken from this and other projects VDOT, WRA, AMT, KCI and/or Corman-Branch JV were involved with. ***VALUE: Eliminates repeated mistakes.***
7. Identifying the 20% of issues on past projects that caused 80% of the cost or delay – Continuously review progress and plans to eliminate "*rocks in the road*" early before causing delay or rework. ***VALUE: Perform QC on the items that pose the greatest risk.***
8. Setting the stage for partnering between VDOT reviewers, designers, quality checkers and construction staff. ***VALUE: Collaborating produces a compliant product and limits rework and/or costly review delays.***
9. Integrating the Environmental Compliance Manager and Permitting Team early and involving them during construction. Also, reviewing the Environmental Compliance Matrix during every progress meeting and QC review. ***VALUE: Positions the team to meet environmental permit requirements.***
10. Developing Design Criteria Compliance checklists for design elements early and reviewing designs for compliance regularly. ***VALUE: Minimizes/eliminates rework and ensures compliance with RFP and VDOT requirements.***
11. Using Construction checklists so managers, QC inspectors, and foreman can easily track compliance. Checklists developed by the QA, QC, design and construction staff based upon standard VDOT CEI checklists expanded and customized for this project. ***VALUE: Minimizes/eliminates rework and ensures RFP/VDOT compliance.***
12. Involving stakeholders (VDOT, public, County, Hospital EMS, transit, utilities, etc.) in meetings early on. ***VALUE: Enables us to tackle their concerns head on instead of engaging them when plans reach 60% or higher making it more difficult to accommodate even simple requests without additional cost or delay.***

DESIGN QUALITY

Design QA/QC: To kick-off QA/QC prior to design, the Design Manager, Lead Discipline Engineers, Responsible Charge Engineer/Design/Construction Integrator (RCE/DCI), and Design QA/QC Manager provide criteria and checklists for each design element to staff engineers. They audit it to ensure correct standards are followed, checklists are used, and the work is documented. Regular "*All Hands*" meetings, stressing the importance of quality in the design, keep the quality culture in check. It is also a forum for the Lead Construction and Design firm principals to offer lessons learned on past design-build projects and perspectives on the role quality plays in project success.

The key to project success is an integrated QA/QC process that includes the QC staff, designers, contractors, and the design team's quality control checkers. During design, plans are reviewed, not only by the design QC staff, but by the RCE and construction and QC staff for constructability and ease and efficiency of resulting means and methods. This especially holds true for the impact the design will have on MOT. Items, such as material delivery/storage, workforce accessibility, field office, and crane and other equipment placement will be reviewed to minimize traffic impacts. Plan review checklists will be prepared during constructability reviews and comment sheets will be rechecked for the action taken prior to the plans being issued for construction**.** VDOT Form LD-436 will be filled out and submitted along with the plans for each milestone design submittal. ***Focus will be on temporary drainage and potential sight distance impacts resulting from temporary traffic controls during construction.***

The mission is providing quality designs and construction in the fast-paced delivery of a design-build project. What drives success is effective communication among everyone involved: the owner, permitting agencies, designer, constructor, subcontractors and the construction team. QA/QC design procedure goals:

- ✓ Designs that are safe and meet VDOT guidelines/requirements
- ✓ Conform to RFP, Part 2, Section 2.1.1
- ✓ Design infrastructure that meets requirements, are constructible, durable, economical, and minimize maintenance
- ✓ Meet the design schedule, budget, and construction staging requirements
- ✓ Minimize design costs by working efficiently and avoiding rework
- ✓ Provide an organized and indexed set of design calculations, including design criteria and assumptions
- ✓ Minimize VDOT and other agency reviews

Checking Design Deliverables: It is essential that design deliverables show complete and clear fabrication and construction requirements/details. The Design QA/QC Manager will develop and implement a QA/QC Plan. Processes and procedures will be enforced and documented to minimize VDOT reviews.

Design Preparation: Design deliverables will be prepared under the Lead Discipline (roadway, structural, drainage, geotechnical, etc.) Engineers. Weekly meetings led by the RCE /DCI will be held throughout design with the Design Manager, Lead Discipline Engineers, QC staff, Construction Manager and key construction team member representatives, such as the fabricator and erector. VDOT is welcome to participate. These meetings reduce design and VDOT review times by coordinating design and construction requirements during design, not just at scheduled milestones.

Checking design deliverables come in the form of drawings and calculations. Review starts within the discipline before the deliverable is reviewed by the Design QA & QC Lead, Design Manager, etc. Reviewing each deliverable follows the steps outlined below. At the end of each step, the checkprint stamp is signed which is required on each plan sheet for the drawings and on the cover sheet on each set of calculations.

➔ ***Originator:*** Prepares the deliverable to be checked and is accountable for accuracy and adequacy per design code requirements. It is not intended that the Originator rely on the checking process to complete the deliverable.

➔ ***Checker:*** Independent of the Originator and checks the deliverable. Reviews every aspect, including input for design programs that are a part of the calculation set. Marks up the stamped deliverable set with comments and returns it to the Originator. This is a senior staff member with the experience to check the design of the discipline they are reviewing.

➔ ***Back-checker:*** Reviews the checked deliverable, confirms the items marked for revision are justifiable, and that corrections noted are appropriate. If the Back-checker disagrees with a Checker's correction, they must resolve it prior to the next step. If it cannot be resolved, the Lead Discipline Engineer or Design Manager resolves it.

➔ ***Corrector:*** Addresses comments marked on the checkprint (original deliverable). This can be either the Originator or a CAD Technician.

➔ ***Verifier:*** Reviews the corrected deliverable against the checkprint and verifies the corrections marked on the plan sheet or calculation sheet were addressed. The Verifier is also the Checker.

➔ ***Interdisciplinary Review:*** Once the design deliverable is checked, the Design Manager and RCE organizes the Lead Discipline Engineers (roadway, structural, drainage, utilities, etc.) to review the submittal. Concurrently, the Construction Manager and QC group reviews the submittal for constructability. If there are comments from the Interdisciplinary Review, the checking procedure starts from the beginning for the affected portions of the deliverable.

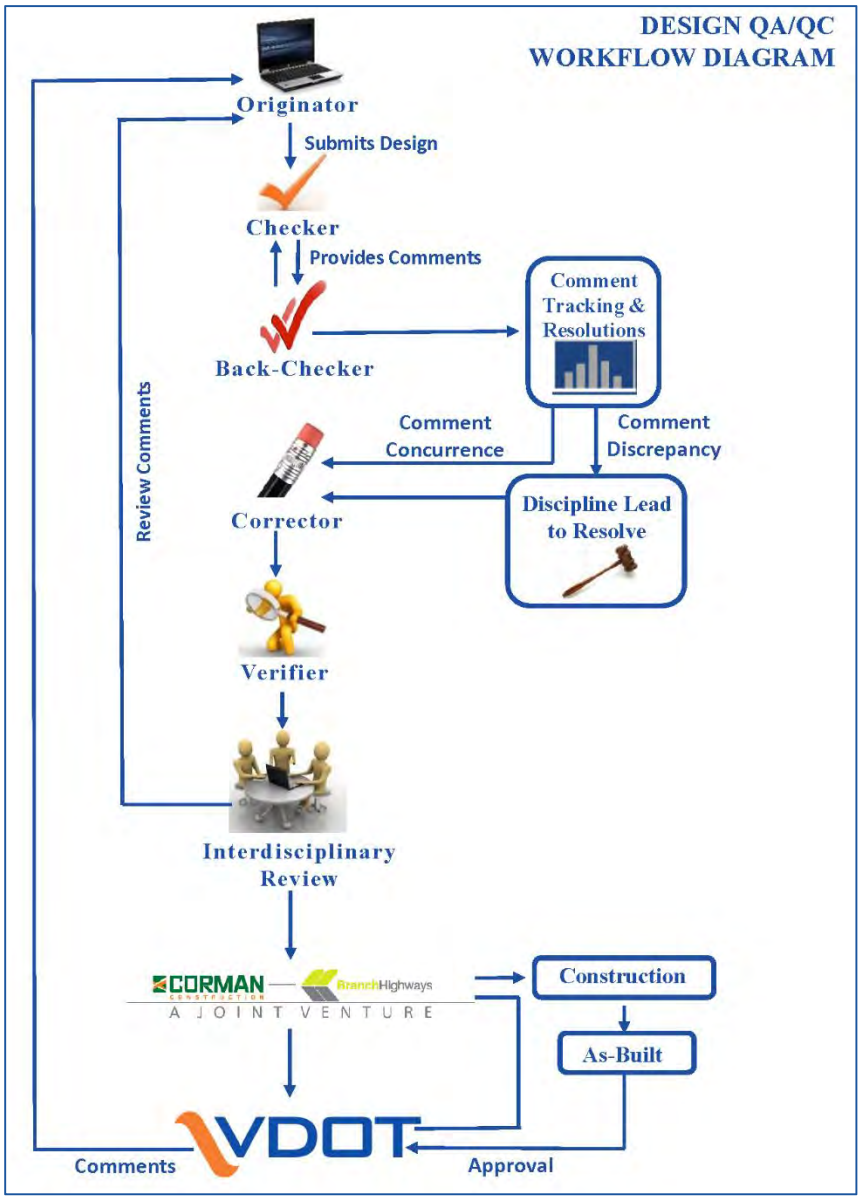


Figure 11: QA/QC Workflow Chart

➔ ***Quality Assurance:*** The Design QA/QC Manager audits and ensures the quality control checking process is being followed by the design team. In addition to the QA/QC design process outlined above, the Design QA/QC Manager and the Design Manager may direct a design peer review on a discipline by a senior technical team member. Comments from this review will also be addressed by following the quality control checking process.

➔ ***Contractor Review:*** As a final deliverable review before submitting to VDOT, the Corman-Branch JV again reviews the plans for constructability, conformance to anticipated means and methods, and completeness of

comment responses. This will be led by our Responsible Charge Engineer, Ryan Gorman, as he performed on the Route 29 Solutions Design-Build contract.

→ ***Submit to VDOT:*** The Lead Discipline Engineer signs a form for each milestone deliverable that QC efforts are compliant and transmits it to the Design Manager and RCE who signs off on it with the QA/QC Manager. Final deliverables are now ready to be signed and sealed by the Lead Discipline Engineer (a Virginia PE) and the DBPM submits it to VDOT for review and/or approval. VDOT (or other reviewing agency) reviews the design and submits comments to the Corman-Branch | WRA Team. Comments are addressed by incorporating changes into the design for the next milestone submittal. This continues throughout design until final plans are submitted to VDOT and approved for construction.

Design changes during construction will be reviewed the same way as the original design. Modifications, such as field-authorized design changes and nonconformance evaluations, will be maintained in a database or marked up and dated on a set of *"Approved for Construction"* plans to track revisions and update the as-built documents.

Records: The Lead Engineer verifies quality control procedures were completed for each discipline. The Design QA/QC Manager and Design Manager are responsible for Design Quality Assurance. Copies of each submittal, including revisions, will be kept throughout the project. The Design Manager maintains final design records of the forms and checkprints in the project files.

The Design QC's role in evaluating design includes reviewing computations, technical accuracy, and conformance to contract documents, form, content and coordination with other disciplines, including roadway, traffic, geotechnical and construction. The Design QA process evaluates whether the designers assessed the design parameters appropriately, applied the correct analyses, and that the designs are by qualified personnel. Design QA will also ensure that the proposed solution meets contract requirements and contract work is completed by applying skill and experience. The Design QA/QC Plan will include discipline-specific design checklists, in addition to VDOT Form LD-436, at all major milestone submissions. Constructability reviews will be by the Construction Manager who will take into account how the phasing of construction activities affect maintenance of traffic. The Design QC Plan will include the Corman-Branch JV as an integral part of the design quality process.

> ***TEAMWORK: The Design QC Plan will include the Corman-Branch JV as an integral part of the design quality process.***

ONE UNIQUE DESIGN QA/QC ELEMENT

I-95 4th LANE WIDENING OPTION: VDOT has requested including a scope option for the potential addition of a 4th lane to I-95 extending from the current I-95 Express Lane Extension – Southern Terminus project (Currently under contract to joint venture partner Branch Highways with Lead Designer WRA through the I-95 / Route 630 Interchange. Due to the nature of this option, there is significantly less information provided by VDOT. The RFP Conceptual Design was prepared at an extremely high level using aerial photographic mapping only with limited field survey, geotechnical or environmental information. If this scope option is included as part of the project, the Quality Control and Quality Assurance Plan will require an additional and ongoing *"high level"* of oversight so it is constructed and functional at the required milestone date. The critical nature of this issue is highlighted due to the need to complete this project element early.

The design team knows the limitations of the initial survey data and the limited design investigations that were completed as part of the RFP Conceptual Design. VDOT's desire to have this 4th lane opened by December 1, 2017 will require initiating the design before completing field survey and geotechnical investigations. To ensure that the interim and final submissions are complete, accurate, and on schedule, there will be additional

interim quality control checks prior to completing any design element as supplemental field information is obtained. These additional interim QC reviews will include all design disciplines to ensure that design efforts are using the latest supplemental information as it is obtained and released to the team. While starting design concurrently with obtaining supplemental field information is not unconventional for a Design-Build project, the compressed schedule for opening the 4th lane combined with the limited information available at Notice to Proceed demands an enhanced quality control focus. Any unexpected changes in the existing conditions are immediately listed on the *"Design Action Item"* check list and incorporated in the design and across all disciplines. Our planned weekly design coordination meetings will review the current action item list as a *"standing agenda item*" so no changes are overlooked. Ryan Gorman, our RCE, will pay special attention to this need for enhanced QC and QA.

As the submittal is completed, formal QC and QA reviews required by the QA/QC Plan will be performed by the assigned QA/QC staff who are completely independent of the design team. These reviews will follow a regimented process that is fully auditable as described earlier in this section.

Construction QA/QC: No matter how on point the design is, its implementation during construction determines success. Effective and aggressive Quality Control, supported by management, will drive the project toward success from VDOT and the community's perspectives, as well as the contractor's profit perspective. This takes pre-planning and effective communication. Prior to construction, while design is still in progress, the DBPM, CM, RCE, QC Manager and QAM will hold a lessons learned planning forum. ***Based upon their collective judgment, they will identify the 20% of work tasks that will cause 80% of the quality challenges.*** Inspection and testing plans (ITPs) will be developed for those critical items and distributed to the Foremen, QC Inspectors, and QA staff to use as a guide in performing and inspecting the work. Based upon past history and shared experiences, additional witness and hold points above those required by VDOT, will be identified and then enforced in the field by the DBPM, RCE, CM and QC Manager and their staff. Documents releasing work at each witness/hold point are identified on the ITPs and documented for review by the QAM or VDOT, as appropriate. Our goal is to perform work *"right the first time"* and if issues are identified, determine the root cause and then correct them.

One project-specific QA/QC Plan goal is to minimize VDOT's effort in performing QA or QC. For an item, such as maintenance of traffic, this takes a structured QA/QC process with preparatory meetings, routine inspections, using checklists, thorough QA/QC documentation, and a communications plan with procedures for stakeholder notifications, incident management, and emergency response.
Our current Staffing Plan assigns an onsite QC Manager with experienced QC inspector(s) to meet operation needs. For example, during paving, VDOT specifications require a minimum of two qualified inspectors per paving operation. For this project, we envision an average of six to eight QC full-time inspectors onsite for the majority of the project when all three project elements are under construction. The inspectors will be VDOT certified for the work they are inspecting. If paving, MOT set ups, or bridge demolition are at night and concurrent daytime work is also required, the number of inspectors would be adjusted to meet actual field needs. Arrangements with a testing laboratory and back-up lab will be made should issues arise during field and laboratory testing. Each will hold certifications to perform material testing on VDOT projects. The same labs will not be used for QC and QA.

Project Document Control and Maintenance: The QA and QC teams will follow VDOT's Design-Build QA/QC Guide, VDOT's Construction Manual and Materials Manual, among others for document control. The QAM monitors the QC Team in preparing and submitting records daily, including daily work, inspection and material test reports. A master set of QA documents (hard and electronic) with submittal, RFI, and photo logs, is maintained by the QAM at the field office with preparatory meeting minutes, completed QA and QC inspection

checklists/test reports, Materials Notebook entries and corresponding materials tests reports, invoices, and TL weigh sheets. A customized tracking log monitors the information.

ONE UNIQUE CONSTRUCTION QA/QC ELEMENT

MAINTENANCE OF TRAFFIC (MOT): The Corman-Branch | WRA Team evaluated the critical construction risks identifying the 20% of the tasks that represent 80% of the risk. The analysis identified construction of the bridge, ROW acquisition, utility relocation and MOT most likely to cause the majority of the risk.

We predict MOT to be the major risk factor on this 20% list having the most impact to VDOT and the public if not implemented correctly. Ineffective MOT can cause tie-ups and congestion to motorists resulting in unfavorable traffic reports and delays. Corman learned firsthand on the Design-Build Hampstead Bypass and Zion Crossroads projects how to handle traffic control when incorporating new intersection designs into existing conditions on heavily-traveled commuter highways and on side roads through local neighborhoods. ***On VDOT's Design-Build Zion Crossroads project, Corman introduced Virginia's first diverging diamond interchange, a non-typical traffic pattern, with minimal impact. Implementing driving videos of the new traffic feature was instrumental in educating the public in navigating this new DDI. Due to its' success, we will be doing the same on Military Highway in Norfolk; Virginia's first Continuous Flow Intersection.*** On this new project, we will also apply the lessons learned on these and other projects to also manage high volumes of suburban commuter/commercial traffic through tight, congested construction zones.

Complex MOT Communications: The I-95 / Route 630 Reconstruction and Widening project involves widening Route 630 and a major relocation of the existing I-95 / Route 630 Interchange to the south along with a new connection to Route 1 to align with the Hospital Center Boulevard. A possible option to add a 4th lane along SB I-95 is also included. The project will require significantly adjusting existing traffic patterns and traffic signal timings, as well as relocating the existing Park & Ride facility just west of the existing interchange. Motorists are in many ways creatures of habit and change needs to be carefully managed. Roadways in the project area are also covered by multiple VDOT Traffic Operations Centers so the normal notification procedures are not necessarily sufficient. Incidents along I-95 are to be reported to NOVA TOC, as well as the Stafford TOC.

To succeed, implementing the planned traffic shifts, signal timing adjustments, and relocation of the Park & Ride must be done right, as planned, and with a well-informed public and VDOT staff. Introducing a Diverging Diamond Interchange, considered unchartered territory to many drivers, further mandates making the public aware of this new concept.

The Corman-Branch | WRA Team will incorporate a MOT/Public Communications Quality Task Force charged with a detailed review of any pending traffic shift or signal timing adjustment. Introducing this Quality Task Force will be incorporated into the QA/QC Plan to expand on the typical QA/QC reviews to include a QA/QC review of the project's Communication Plan.

We will not rely on a single form of communication to inform the public about what to expect. Outreach will have multiple overlapping layers reducing the chance of a driver getting caught off-guard by a major change in their commuting or travel patterns. Our plan will rely on continual and targeted communication and education and its' effectiveness will be measured from personal interviews.

Any adjustments to existing signal, installation of temporary signals, or installation of permanent signals requires specific and timely communication with the VDOT Central Region Operations staff. On a complex and fast moving project, this communication loop is critical and is not typically captured in a project's QA/QC Plan. The Corman-Branch JV's QA/QC Plan WILL include a QC/QA review of this critical step to ensure that

a) communication took place, b) the specific element was captured by ongoing public outreach, and, c) that there are no resulting project delays.

These additional QA/QC reviews will be conducted by the Quality Task Force and documented in accordance with the QA/QC Plan described earlier in this section.

Our QA/QC Team must verify that the Corman-Branch JV and subcontractor personnel follow the approved Traffic Management Plan (TMP). Traffic controls are checked that they are set up per the applicable contractual versions of the *Manual of Uniform Traffic Devices (MUTCD)* and the *Virginia Work Area Protection Manual (VWAPM)*. Confusing and poorly-executed traffic control leads to congestion and delays through the project area which impact driver safety, as well as the construction. We must also be aware of the extremely heavy rush hour timeframes with traffic heading north on I-95 in the morning and south in the evening. ***As part of the approved project-specific QA/QC Plan, a Preparatory Inspection Meeting will be held for Maintenance of Traffic at each traffic switch.*** This meeting is classified as a hold point in the schedule and representatives of the Corman-Branch JV, subcontractor(s), QC and QA managers and inspectors must attend. VDOT representatives and other stakeholders, such as EMS, police, hospital, and other affected public services, will be invited to participate as they facilitate a dialogue between stakeholders.

During construction, the QA/QC Inspection Team will be certified as Intermediate Work Zone Safety Supervisors to monitor Traffic Management Plan (TMP) adherence by assigning a Lead QC Inspector to work with the Team's designated Certified Work Zone Traffic Coordinator. The QA Inspector, working in concert with the QAM, will monitor the Contractor and QC inspection staff for TMP adherence. Monitored/inspected TMP elements include:

- ✓ Project Phasing
- ✓ Temporary Traffic Control Plans
- ✓ Motorist, Pedestrian and Bicyclist Considerations
- ✓ Daily Lane and Shoulder Closure Standards/Set Ups
- ✓ Coordination with Adjacent Construction Projects or Special Events
- ✓ Coordination with Other Stakeholders, Including EMS Responders, Police, Local Schools, and Transit Agencies
- ✓ Equipment and Materials Storage
- ✓ Temporary Signing, Marking, and Signals, including Temporary Concrete Barrier and Temporary Pavement Striping
- ✓ Public Communications
- ✓ Incident Management

QC Inspectors will regularly drive the work zone to confirm that the Temporary Traffic Control (TTC) devices are per plan and operating properly. These inspections will take place after any temporary MOT devices are set up for daily activities and at the end of each work day to confirm the work zone is safe and no unnecessary signage remains in place. Inspectors will also check that devices are clean and have the proper retro-reflectivity. There will be additional inspections when traffic patterns change or in the case of severe weather that can potentially impact devices and/or markings.

4.5 Construction of the Project

4.5 CONSTRUCTION OF THE PROJECT

4.5.1 SEQUENCE OF CONSTRUCTION

Our team has evaluated our project approach and sequence of construction while considering many factors that have the potential to affect the successful outcome of the project. Public/worker safety, emergency response times, environmental impacts, as well as utility relocation/coordination and ROW acquisition were areas that the team focused its approach to minimize their potentially negative effect on the project's successful delivery. We evaluated a number of approaches to phasing and MOT and our segmented approach addresses these items effectively while offering more flexibility in the project schedule to keep construction moving while providing the best value to VDOT.

General Sequencing: The Corman-Branch | WRA Team will submit advanced design packages to facilitate an early construction start in areas of the project that do not have long-lead time ROW acquisition or environmental permitting requirements and are not impacted by final design. These packages will include MOT and clearing on the 630 Widening and the 4th Lane Widening Option, construction of the Park & Ride lot with a temporary traffic signal and advance portions of Wyche Road, new bridge abutments, as well as construction of the temporary ramps at the NB off-ramp and SB on-ramp. If the 4th Lane Widening Option is selected by VDOT, emphasis will be placed on design and construction of this portion first, as an early start will be critical to delivering this element within the specified timeframe. Construction will begin concurrently on the Route 630 Widening as this portion will require limited ROW easement acquisition and utility relocations are well underway along this section.

> ***VALUE: Allows end users the beneficial occupancy of the corridor earlier than anticipated, reduces construction impacts to stakeholders, and reduces construction cost to citizens of the Commonwealth.***

Each project has been broken into major work areas to facilitate planning and construction. Our evaluation of the proposed work has led us to prioritize construction of the four project components generally in the following order:

I-95 4th Lane Widening Option

The 4th Lane Widening Option will be constructed in a single phase with minimal impact to the traveling public. During a nighttime single lane closure, temporary traffic barrier will be installed on the I-95 SB shoulder providing a minimum of 2-ft. from the face of barrier to the travel way. Access to the work zone will be provided from the shoulder utilizing shoulder closures and providing appropriate acceleration and deceleration lengths. It is anticipated that two ingress and egress points will be provided. Our sequencing has divided this element in to three areas of construction. This will allow construction to occur concurrently in all three areas which ensures that the Interim Milestone of December 1, 2017 will be met.

The Corman-Branch | WRA Team understands the urgency in constructing the new 4th Lane on I-95. If this Option is selected by VDOT, priority will be placed on this section of the work to meet the aggressive delivery date. We have had many conversations over the last several months with the Fredericksburg and NOVA Districts about the challenges facing VDOT with the extreme congestion along this section of I-95. Coordination with stakeholders, including the I-95 Express Lanes Extension project, will be crucial in relieving this congestion as soon as possible. Our team brings a unique ability to coordinate this work as team members Branch and WRA are already underway with the design and construction of the Express Lanes project. We have held several meetings to develop our approach to this and our team will be able to coordinate seamlessly with Express Lanes project to ensure these two projects are opened to traffic at the same time. Our approach will be to treat the I-95 4th Lane Widening as an *"extension"* of the Express Lanes Extension project.

Once selected as the Design-Builder, our team will immediately meet weekly with the Branch and WRA I-95 Express Lanes Extension management team to discuss each project's upcoming work and coordinate design and construction operations to expedite the delivery of these projects and open the 4th Lane by the Interim Milestone Date. Additionally, we will use these coordination meetings to develop lessons learned from work already constructed on the Express Lanes Extension and transfer them to the 4th lane design and construction team. This will provide a great benefit by anticipating potential delays earlier and allow our design team to take action well before the construction crews hit the ground. Making these two projects tie together could be challenging if constructed by two separate firms with conflicting priorities. We will focus on the integration of the two projects in-house to complete simultaneously.

Route 630 Widening

Widening Route 630 to the west of the new interchange will begin upon initial approval of the advance work packages previously described. The widening will generally be constructed to maintain traffic on the existing roadway as the adjacent new roadway is constructed in accordance with our Traffic Management Plan and will be performed concurrently with the I-95 4th Lane construction. This work is anticipated to begin early on after award, taking advantage of the prior utility relocation and ROW acquisition work executed by the Department as well as the added benefit of design team structure. This approach was a major consideration in adding additional design firms to our team to ensure that adequate resources are available to advance construction of this work.

The Route 630 reconstruction will be completed in two phases: eastbound Route 630 followed by westbound. From STA 161+00 to STA 170+50 the westbound lanes will be constructed as part of an advanced package as the proposed alignment crosses back and forth over the existing roadway. By completing this section early, the DB Team will be able to minimize the number of traffic shifts to the public. Temporary pavement on the north side of Route 630 will be utilized in select locations in order to provide appropriate protection between the existing Route 630 and the proposed eastbound alignment. Temporary sheeting and shoring will be required between STA 129+25 and STA 132+50 to support the elevation difference between the existing and proposed roadways. Intersections and driveways will be constructed in phases and with the input and concurrence of the stakeholders. ***The profile has been optimized where possible to minimize the length and change in profile of the existing intersections and driveway tie-ins*** **(See Figures 15 and 16 on Pages 42 and 43).**

As part of the initial phase, the proposed sidewalk will be installed in its ultimate alignment on the south side Route 630 near the high school to maintain pedestrian access. Temporary fencing will be installed along the north side of sidewalk to prevent pedestrians and students from entering the work zone.

Phase 1a

1. Install MOT and E&S measures for construction of temporary and proposed pavement along the north side of Route 630 as well as for the installation of temporary and proposed sidewalk in front of Colonial Forge High School.
2. Construct temporary and proposed pavement along the north side of Route 630.
3. Install temporary/proposed sidewalk, curb and gutter, and first few feet of pavement in front of Colonial Forge High School from STA 129+00 to STA 144+50.

Phase 1b

4. Install MOT and E&S measures along south side of Route 630.
5. Shift pedestrians to sidewalk constructed in Phase 1a. Install temporary barrier and/or construction fencing along length of sidewalk relocation.
6. Utilizing temporary and proposed pavement constructed in Phase 1a, shift traffic to the north side of Route 630.
7. Construct proposed roadway improvements along southern half of Route 630 including earthwork, storm sewer, paving, driveway/intersection tie-ins, and guardrail. Maintain access to existing driveways and intersections at all times.

Phase 2

1. Install MOT and E&S measures along north side of Route 630.

2. Shift traffic to pavement constructed along the southern half of Route 630 under Phase 1b.
3. Construct proposed alignment along northern half of route 630 including earthwork, grading, storm sewer, paving, driveway/intersection tie-ins, and guardrail.

I-95 / Route 630 Interchange with Park & Ride Facilities

The team has developed its sequence of construction for the new I-95/Route 630 Interchange with ROW acquisition, permitting, emergency response, and maintenance of traffic as the main focus. The Corman-Branch | WRA Team has developed an innovative three-phase sequence of construction that minimizes impact to interstate and Route 630 traffic while increasing mobility options for the region **(See Figures 13 and 14 on Pages 40 and 41):**

Phase 1: Construction will begin with relocating the existing Park & Ride lot and realigning Wyche Road, constructing temporary ramp alignments to and from I-95 to the South, and advancing bridge work along the median of I-95. These activities create the space necessary to construct the bridge approaches and abutments on either side of I-95, as well as bridge piers in the median. ***Early phasing of the Park & Ride lot will also provide additional commuter parking spaces during construction.*** Critical to relocation of the Park & Ride lot and Wyche Road will be acquisition of ROW. The Corman-Branch | WRA Team understands the process and length of time to acquire the needed ROW and will be prepared to submit early packages immediately after NTP to minimize the time to acquisition. It is advantageous that the majority of the ROW required for the Park & Ride is either already owned by VDOT, the County, or consist of total takes. As part of this approach, we will construct the northern Park & Ride lot in two sections: The first section will include the proposed lot from existing Wyche Road to the east and will be constructed in this phase; the remaining portion of the lot will be built in Phase 2. This will allow commuters access to the new Park & Ride location as early as practical and advance the construction of the DDI embankments. Additionally, we have adjusted the proposed grading in the Park & Ride lot that minimizes the need to relocate utilities to perform construction. Phase 1 will be constructed as follows:

1. Install MOT and E&S measures for construction of temporary ramp tie-ins, relocation of the existing Park & Ride lot, and advanced bridge work along the median of I-95.
2. Construct temporary Route 630 Interchange ramps to/from I-95.
3. Construct a portion of the proposed Park & Ride on the East side of I-95. Install temporary traffic signal along Route 630 at the relocated Park and Ride lot entrance.
4. Construct advanced bridge work along the I-95 median (clearing and grubbing, earthwork, etc.) for installation of bridge piers in Phase 2.

Phase 2: Maintaining traffic along the existing Route 630 alignment and interchange on/off ramps to the North, traffic will be shifted to the temporary ramp alignments constructed under Phase 1. Construction will then begin on the bridge and portions of Route 630 to the east and west of I-95 that are clear of existing utilities. Given proposed alignment and length of Route 630, the Corman-Branch | WRA Team can construct around any utility relocation delays, thereby reducing schedule dependence on utility relocations. Water and sewer relocations will be self-performed to minimize potential for delays. As permitted by the RFP, bridge girders would be set utilizing complete (directional) roadway closures of I-95 to be performed at night and lasting no longer than 30 minutes each. Phase 2 will be constructed as follows:

1. Maintaining traffic along existing Route 630, shift traffic to the temporary ramp alignments constructed in Phase 1.
2. Install approved MOT and SESC measures for remainder of project
3. Coordinate relocation of Verizon poles (by others) along north side of Route 630 from Mine Road to the interchange.
4. Construct proposed improvements for the Route 630 interchange from STA 120+00 to Route 1 including entrance and exit ramps and realigned Wyche Road. Work includes earthwork, storm sewer, paving, pedestrian facilities, intersection tie-ins, noise wall, and guardrail.
5. Construct bridge piers in the median of I-95. Construct MSE Walls and Abutments.

6. Erect bridge girders and bridge superstructure over I-95.
7. Construct proposed roadway improvements along the south side of Route 630 from (Route 630 widening) STA 196+00 to STA 97+00.
8. Construct temporary pavement tie-in from STA 97+00 to STA 99+00.
9. Once Verizon pole relocations are completed, construct proposed improvements along north side of Route 630 from STA 98+00 to STA 117+00 including new Austin Ridge Drive alignment.
10. Install temporary pavement tie-in from existing Route 630 (approx. STA 116+00) to proposed Route 630 STA 120+00.

Phase 3a: Existing Route 630 traffic will be shifted to the relocated interchange using permanent and temporary pavement constructed in Phase 2. Ultimate on/off ramps will be utilized to access I-95 to the South. Existing ramps to/from the North will be detoured across the new Route 630 on temporary ramps while tie-ins to the proposed ramps are constructed across the now detoured existing Route 630. Traffic from the I-95 Southbound ramp will access the relocated Route 630 DDI by a temporary free flow connection. Phase 3 will be constructed as follows:

1. Shift existing Route 630 traffic to relocated interchange (utilizing proposed and temporary pavement constructed under Phase 2).
2. Install ramp detours for SB I-95 off ramp and NB I-95 on ramp**.**
3. Construct proposed improvements from (Route 630 widening) STA 196+00 to STA 99+00 along the north side of Route 630 and STA 117+00 to STA 120+00 (full width).
4. Construct proposed SB I-95 off and NB I-95 on ramps.

Phase 3b

1. Shift I-95 ramp traffic to proposed ramps completed in Phase 3a.
2. Shift traffic to north side of realigned Route 630.
3. Construct southern half of Route 630 from (Route 630 widening) STA 97+00 to STA 117+00.

Ultimate on/off ramps will be utilized to access I-95 to the South. Existing ramps to/from the North will be detoured while tie-ins to the proposed ramps are constructed across existing Route 630. Construction will be accomplished outside the clear zone where possible and utilize concrete barrier with proper end treatments where required for worker and driver safety. Temporary pavement tie-ins and crossovers will be designed to meet full design criteria and placed to reduce construction duration while maintaining full mobility.

Construction Sequencing Considerations: The Corman-Branch | WRA Team considered the challenges associated with each section of the project in relation to public/worker safety geotechnical constraints, environmental impacts, ROW acquisition, staging and storage areas, public involvement, and government approvals in developing our sequence of construction. Our approach to sequencing the project has focused on public safety and limiting disruptions to vehicular and pedestrian traffic every step of the way. Our team has met weekly during the RFP process to create our concept, identify public safety concerns and make changes accordingly to our plan to address issues raised. We will maintain this pattern once selected throughout design and construction. Continuous communication among team members is a vital part of project success. These weekly coordination meetings will provide the forum for the Team to communicate any potential impacts to the public or the project schedule weekly and to allow for transparent mitigation measures to be developed before the schedule is impacted. Meetings will be chaired by the DBPM with the RCE, CM and DM and their staff in attendance.

Public Safety: Our construction team is comprised of two contractors with proven track records in regards to planning and executing work safely. Our team has developed an approach that will combine each firm's extensive experience to address any safety concerns early and aggressively.

Upon Notice of Award, our team will meet individually with stakeholders, including the Stafford County Fire and Rescue Service, the Stafford County Sherriff's office, Stafford County Schools, Virginia State Troopers, and the Stafford Hospital to discuss their concerns and solicit input that will be incorporated into the project's

Traffic Management Plan (TMP), Incident Management Plan, and construction sequencing. We will ensure that key team members are present at these meetings to brainstorm ideas to minimize impacts to each entities' operations while opening lines of communication that will allow for early identification and mitigation of potential impacts. We will create a Safety Task Force for the project comprised of design and construction team members and will meet on site regularly once construction is underway. The main focus of this Task Force is to continually monitor the site to assess the current conditions, identify hazards that may impact the public, and provide proactive mitigation measures.

Our team will use concrete barriers to separate the traveling public from the work. This limits the number of lane closures needed and minimizes flagging operations. It also limits exposure of construction personnel to traffic while allowing minimal impacts to traffic flow.

> ***VALUE: Our team will use concrete barriers to separate the traveling public from the work. This limits the number of lane closures needed and minimizes flagging operations. It also limits exposure of construction personnel to traffic while allowing minimal impacts to traffic.***

Additionally, our team will develop a Site-Specific Safety Plan to address hazards associated with the project and will utilize this as a baseline to which all design and construction will be coordinated. Part of this plan will include the use of beginning and end of shift meetings for each crew called *"Huddles."* This proven form of communication is led by the foreman for each crew and is a forum for crew members to raise safety concerns and incorporate mitigation measures into each day's work plan.

Geotechnical Constraints: Differing site conditions can be a major project risk if unforeseen job conditions arise that could not have been previously anticipated. The Corman-Branch | WRA Team has the foresight to avoid many of the typical changes that occur during construction due to plan error or omission. These types of issues are resolved during the design process as a team of designers and contractors are reviewing and incorporating better, more economical and faster ways of designing and constructing the project. However, the real benefit comes when field conditions are not as they appeared on the plans and a field change is required. By having a past relationship and strong team structure, Corman-Branch JV will have WRA on-site full time as the QC and if a problem arises, a resolution can normally occur that very same day. The RCE will provide continuity by being involved during design and construction.

As described in Section 4.4.3, unsuitable soils are prevalent throughout the project and pose concerns as to their effect on the construction and schedule. It is expected that settlement of the embankments at the bridge abutments will occur and as such, additional time has been incorporated into the schedule. Unsuitable soils are expected to be encountered throughout the new roadway alignment for which additional time will be needed to address these areas by amending the in situ soils or removing and replacing them to achieve the characteristics necessary. Mitigation measures may include lime/cement stabilization, use of geotextile fabrics, surcharging, and/or replacement with select fill and will be finalized once our geotechnical investigations are completed.

Our sequence of construction has been developed with these challenges in mind. Upon award of the project, our team will develop a detailed geotechnical investigation plan that will focus our explorations in close coordination with right of way acquisition. Our team will perform the necessary investigations on each parcel immediately upon their respective clearance. This will allow for early coordination with the project's design as well as provide additional time for the construction team to evaluate and mitigate the cost and schedule impacts. For those portions of the work that can be performed on existing ROW, geotechnical investigations will commence as early as practical following project award.

Environmental Impacts: The Corman-Branch | WRA Team has identified several environmental risks associated with the project as further described in Section 4.4.1. We have made considerable effort to avoid or minimize the impacts to wetlands, streams, and threatened/endangered species by reducing the amount of ROW and SWM facilities required for the project. Our sequencing has considered permitting requirements to

minimize the impacts to the project schedule. Restrictions of permit review periods could extend the approval period thus causing a delay in the schedule. Early submission for permits is necessary to allow as much time as possible for approvals. Acquiring required permits from all affected agencies will require diligent performance by the team and VDOT. A proactive approach will help to incorporate those agencies as stakeholders and generate a partnering approach.

We have taken a conservative approach to the environmental portions of the proposal schedule to allow for maximum time for approvals by project stakeholders.

ROW Acquisition: The Corman-Branch | WRA Team are sensitive to the impacts that a project of this kind have on adjacent property owners and businesses. Acquiring land needed to construct the project can be one of the largest risks to the construction schedule with construction of this magnitude. Right-of-way acquisition and relocations can take several months to negotiate and if eminent domain is necessary even longer. We will hit the ground running as soon as we receive NTP and aggressively complete the Right-of-way and relocation process. In the event of delays in this area we will shift the design focus to other areas of the project to avoid final project completion date impacts. Our team feels that our sequence of construction adequately addresses this risk by taking a two phased approach.

First, the team will take advantage of the fact that the Route 630 Widening and the 4th Lane Option will only require minor additional easements as VDOT has performed all other Fee Simple ROW acquisitions. Design and construction work on these sections of the project were advanced in our sequence so that construction can be completed and beneficial use of these portions by the travelling public can be provided at the earliest point possible. Additionally, portions of the new interchange can be constructed on existing ROW (i.e. bridge substructure work, ramps) and begin as soon as design approval is achieved.

The second phase of our approach was to develop a prioritized list of property acquisitions and sequence our work accordingly to allow the maximum amount of time to acquire the properties while forwarding the project's construction. Work on the northernmost Park and Ride Facility, for example, was advanced as a result of this process as it will be constructed on parcels that are already acquired by VDOT, owned by the County, or are total takes, which take less time to acquire.

Staging/Storage Areas: Staging and storage areas close to the work are imperative to efficient construction operations. Our team has evaluated the project corridor and have identified potential staging locations that will allow the greatest ease of access for the construction crews while minimizing the public's exposure to hazards. To the greatest extent possible, material and equipment storage will be contained in areas behind the barrier service on the Route 630 Widening and 4th Lane Option as well as the bridge construction. The use of ramp gore areas and the I-95 median will be utilized to allow construction access to materials with minimal affect to traffic operations. Our team will develop a Material and Equipment Staging Plan that will be communicated to the construction personnel and material suppliers that will detail delivery locations, ingress/egress points, as well as provide off-site staging locations, so that traffic impacts from material deliveries are kept to a bare minimum. When possible, material deliveries will be coordinated to occur during off-peak hours.

Public Involvement/Stakeholder Coordination and Government Approvals: Our team understands the need to accelerate the delivery of this project. Minimizing delays to commuters along I-95 as well as the local residents and businesses along Route 630 are at the forefront of our phasing of the project. The Team will communicate with stakeholders and government entities on a continual basis throughout the project. Upon contract award, our Team will request formal partnering which we are prepared to facilitate. This will provide for routine integrated communication with VDOT and other designated stakeholders and creates a forum to proactively identify and discuss potential impacts to the project and meet the goals.

In conjunction with our Public Outreach Program, the Team will hold several "Pardon Our Dust Meetings" to solicit further feedback from project stakeholders as well as communicate construction progress and upcoming work. Section 4.5.2 further discusses our approach to stakeholder coordination.

VDOT, Stafford County, USACE, DEQ, and Stafford Schools will all be required to provide key approvals on this project. Our team will meet with each entity to develop a protocol for permit and plan approvals that will ensure the project schedule remains a priority. This will include regularly scheduled communication to provide status updates on key approvals. Key government approval activities have been identified and incorporated into our proposal schedule so that their progress can be monitored on a regular basis. These activities have been prioritized based upon the needs of the project to minimize the impact to the overall project schedule. Durations on the proposal schedule were developed based upon our team's experience and market knowledge to allow the maximum time for approvals by government agencies. Our team will develop a matrix for these activities for review and discussion at our weekly planning meetings and will be communicated to project stakeholders accordingly.

Mitigating Delays and Recovery: The experience that Corman, Branch, and WRA have obtained in working on projects of similar nature will be critical to the timeliness of resolving design and construction hurdles as they occur. This team is familiar with one another, expediting effective decision making. We have successfully managed design on other jobs that enables critical activities, such as utility relocations and environmental permitting, to be prioritized and monitored with the overall design and construction progress accordingly. The Corman-Branch | WRA Team will utilize a rolling design process that enables critical construction phases and activities requiring normally long lead times to be under production simultaneously with final designs. This team prides itself in solving construction and design issues rapidly without sacrificing the quality of the project. This team will aggressively manage all aspects of this project, allowing VDOT to minimize its management and inspection resources required on this job.

In addition to the considerations above, the following risks, issues or problems may cause schedule delay and may require mitigation based on our experience on previous projects of the similar size and complexity:

- ***Utility Relocations*** - There is a risk in schedule delay if the utility companies take longer than anticipated to relocate their utilities with respect to the project. Early utility coordination is a must to mitigate potential damages. Our design team will aggressively work to design and coordinate the utility relocation process to avoid impacts to the project schedule.
- ***Design Approvals*** - There is a risk that the design approval process could exceed that anticipated in our CPM schedule which could shorten the time available for construction. In order to take advantage of the DB process to its greatest extent, we feel it is necessary to develop the construction plans in a manner conducive to staying "one step ahead" of construction. Since plans must be approved and signed for construction by VDOT before anything can start, our plans will be developed and submitted to VDOT as detailed on our CPM. By breaking up the design into packages, we will be able to obtain signature for construction sooner to avoid delays.
- ***Subcontractor Scheduling*** - There is a high workload for priority subcontractors and scheduling will need to be done well in advance to avoid delays to the schedule. We will mitigate potential delays using a partnered approach of open and often communication with subcontractors.
- ***Material Lead Time*** - The Corman-Branch | WRA Team will accelerate design elements associated with longer lead time materials (i.e., Girders, foundations, utility appurtenances, traffic signal poles, etc). This will also expedite the shop drawing process to ensure there are no delays to the project schedule.

4.5.2 TRANSPORTATION MANAGEMENT PLAN

The Route 630 Widening and Interchange Relocation project will include complex sequence of construction and maintenance of traffic. The potential addition of a 4th lane to I-95 in the southbound direction further expands the work zone and that will be encountered daily by thousands of vehicles and the traveling public. ***Continual***, ***Consistent***, and ***Concise*** project updates, planned work activities, and planned lane closures will be delivered weekly to Kelly Hannon, the Fredericksburg Communication Manager and VDOT team members for press release and stakeholder communication. These weekly updates will be combined with a widespread Public Outreach Program to inform the traveling public of the *"bigger picture"* and what can be expected during the

project. Major traffic shifts that will occur during the construction phases should not be a surprise, but rather an anticipated milestone that is delivered as scheduled. Our team understands that Route 630 is a critical link to Stafford and areas West of I-95 and is committed to delivering this project with a construction program that minimizes public impacts and makes safety the core of our design. To accomplish these safety and mobility goals, we have committed to strategies that exceed the requirements of the RFP.

As noted in Part 2, Section 2.10 of the RFP, our Team will prepare a Type C, Category V for Interstate 95 and Type B, Category IV for all other roadways. ***This TMP will be developed by engineers certified in VDOT's Advanced Work Zone Traffic Control training course, and supervised by highly-qualified Professional Traffic Operations Engineers (PTOE), exceeding the RFP requirements.***

Upon initiation of the TMP development, our Team will prepare Temporary Traffic Control Plans (TTC) that will detail the measures to be implemented to safely construct the project. The TTC plans will be developed to depict specific locations of temporary signage, temporary pavement, locations of channelizing devices and temporary barrier, temporary pavement markings, construction ingress/egress points, as well as PCMS locations with specific message development for the various stages of construction. Our TMP will include a comprehensive Incident Management Plan (IMP) per the RFP. Prior to the IMP development, we will meet first responders, VDOT Nova/Stafford TOC, and other pertinent stakeholders to solicit input on location of first responder access points, create a contact list for appropriate personnel, and establish a communication protocol that will minimize response times to the greatest extent possible. Technical highlights of our proposed plan are as follows:

I-95 / Route 630 Interchange

- ✓ Maintain minimum 11-ft. wide travel lanes.
- ✓ Maintain minimum 2-ft. wide shoulders on both sides of interchange ramps, with full paved shoulders provided for incident management wherever possible.
- ✓ No need for flagging operations anticipated.
- ✓ No speed reductions along the ramps are anticipated.
- ✓ Temporary directional closures are anticipated on I-95 to facilitate bridge girder erection.
- ✓ Short-term nightly lane closures are anticipated on I-95 to install traffic barrier on the right shoulder for acceleration/deceleration lane construction, temporary/permanent pavement markings, and mill and overlay operations.
- ✓ Temporary traffic signal/timing modifications may be required at Interchange ramps with Route 630.
- ✓ A temporary detour for traffic along EB Route 630 is anticipated for Phase 3 while permanent ramp connections are finalized.
- ✓ Temporary traffic signal at the entrance to the relocated Park & Ride lot and Route 630 to ensure safety and mobility of drivers going to/from the Park & Ride ***exceeding the requirements of the RFP***. Traffic signal timings will be reviewed and adjusted as necessary to provide coordination between traffic signals during construction.
- ✓ Temporary pavement will be utilized along the ramps to maintain continual access to and from I-95 and Route 1.

Route 630 Widening

- ✓ Maintain existing 11-ft. lane widths along Route 630 at all times; and
- ✓ Provide 2-ft. offset from travel way to face of barrier along Route 630 ***exceeding the requirements of the RFP.***
- ✓ Utilize existing/temporary/proposed traffic signals as necessary to control traffic at signalized intersections.
- ✓ No long term lane closures or detours planned.
- ✓ Maintain minimum lane widths of 11-ft.

- ✓ Time-of-day restrictions will follow Part 2, Section 2.10.3 Lane and Road Closure Restriction of the RFP. Lane closure requests will be submitted to VDOT at least seven days in advance of lane closure and no later than close of business the Wednesday prior.
- ✓ Construction of early works temporary/permanent pavement will be installed under flagging operations during approved lane closure hours. It is our intention to perform this work at night to minimize driver impact ***exceeding the requirements of the RFP.***
- ✓ ***Early relocation of the sidewalk and implementation of safety protocols in front of the Colonial Forge High School for pedestrian mobility and student safety.***
- ✓ Maintain access to adjacent properties at all times. ***Coordination with property owners will happen early and often to ensure partnership during construction.***
- ✓ Flagging operation is anticipated for pavement reconstruction on western end of project from STA 99+00 to STA 103+50. It is our intention to perform this work at night to minimize driver impact ***exceeding the requirements of the RFP.***
- ✓ Use Portable Changeable Message Signs in advance of the work zones along Route 630 to notify the public in advance of traffic shifts between phases.
- ✓ Utilize existing/temporary/proposed traffic signals as necessary to control traffic at signalized intersections.
- ✓ Utilize law enforcement to flag signalized intersections while work is performed in the intersection as required by the VWAPM
- ✓ Proposed speed limit reduction along Route 630: Our team has completed a thorough review of VDOT's TE-350.1 process to determine the appropriate speed limit during construction. Based on this review, we recommend a temporary speed limit reduction along Route 630 through the work zone from 40 mph to 35 mph to increase safety for our construction workers and local residents due to:

    - Lane shifts to from temporary/proposed pavement.
    - Reduced sight distance for property owners entering the roadway during construction.
    - High traffic volumes.

  Prior to implementing the speed reduction, TE-350.1 will be completed and submitted to VDOT's Regional Traffic Engineer for approval.

I-95 4th Lane Widening Option

- ✓ Maintain existing 12-ft. lane widths along I-95 at all times.
- ✓ No long term lane closures, traffic shifts or detours along I-95 are anticipated.
- ✓ Utilize long-term shoulder closures along I-95 for construction of bridge abutments and piers. ***Place temporary barrier a minimum of 2-ft. from the edge of travel way.***
- ✓ No detours or temporary lane closures are anticipated for construction of temporary ramp alignments.
- ✓ Use Portable Changeable Message Signs (PCMS) in advance of the work zone as set forth in Part 2, Section 2.10.6 and the Work Area Protection Manual.

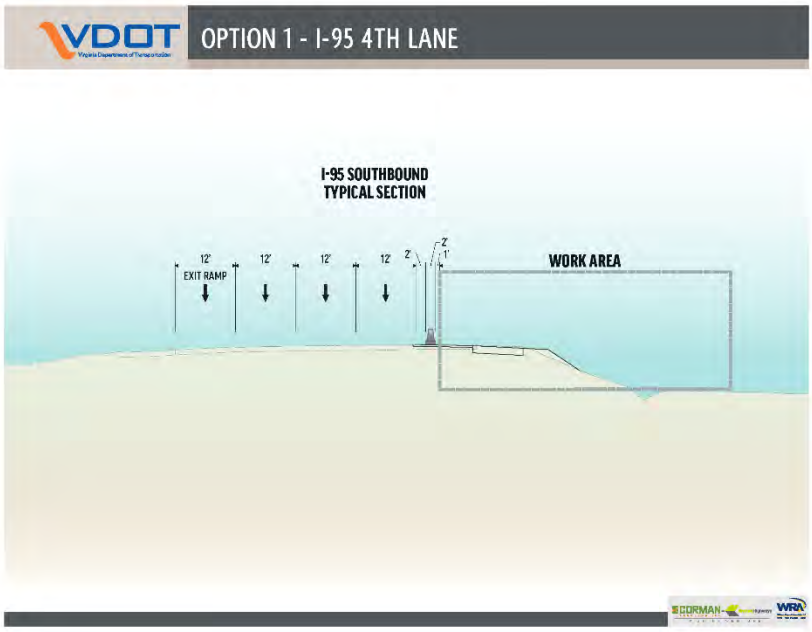


Figure 12: Option 1 I-95 4th Lane Southbound Typical Section

- Temporary lane closures along I-95 for placement of temporary barrier and installation of overhead sign structures will follow Part 2, Section 2.10.3 Lane and Road Closure Restriction of the RFP. ***Lane closure requests will submitted to VDOT at least seven days in advance of lane closure and no later than close of business the Wednesday prior.***

Public Outreach/Project Stakeholders: A substantial public outreach campaign is critical to a successful TMP. Our Public Involvement Team led by Mike Russell, PE and supported by Seventh Point, and working in conjunction with VDOT, will communicate to local citizens, businesses, community groups, public officials, first responders, and schools who could be impacted during construction. Mike will be integrated throughout design and construction which will allow for real time communication with the community.

Our team has extensive experience communicating and conducting community outreach on high-impact highway construction and will inform stakeholders throughout the Project – Military Highway in Norfolk and the Route 29 Solutions Project in Charlottesville are but two current examples. We are committed to maintaining a constant flow of communication to meet the following goals:

1. Effectively engage the community prior to construction to minimize negative impacts and maximize positive outcomes by:
   - Increasing the number of residents and motorists who have a greater understanding of the project through a robust communications plan, including stakeholder meetings, the project website, newspaper, radio, and video advertising.
   - Creating trust with the key stakeholders through a transparent and open environment of information sharing.
   - Offering two-way communications channels, such as a monitored project email account and telephone number.
2. Maintaining a successful partnership and communication between VDOT, Stafford County, and the greater community by:
   - Committing to formal and informal information sharing with project partners and stakeholders.
   - Ensuring stakeholders have or can access project information easily and quickly.
3. Managing project risk by anticipating and addressing community issues that may impact the project schedule by:
   - Anticipating challenges and working together to reach a solution.
   - Promoting open and transparent communication protocols and practices.
   - Providing multiple opportunities for community input and track input for trends and key messages.

There are several areas of stakeholder concern on this project. This is a highly-traveled corridor that provides direct access to Stafford and areas west. While the community is generally supportive of the project, the construction period will impact residents and motorists. Early and frequent communication with residents and motorists regarding their access, noise mitigation, and commute time impact concerns will be key to a successful project. Though impact to existing sidewalk will be limited, communication with Colonial Forge High School will be a priority for the safety of the students during construction. The Corman-Branch | WRA Team has identified key stakeholders in the project area to best address their needs for communication and outreach through the project. The VDOT preferred tools and tactics to communicate with these stakeholders and partners are spelled out clearly in the RFP, however, with VDOT concurrence, we may recommend varying frequency and/or method. **Table 4** outlines the key project stakeholders, the impacts they will experience, and the communications approach for each. Each stakeholder is unique and requires a unique plan to reach the project communication goals.

KEY PROJECT STAKEHOLDERS		
STAKEHOLDER	**IMPACTS**	**COMMUNICATION | MITIGATION STRATEGIES**
Traveling Public	Minimal travel time delays for temporary operations	✓ Monitoring lane closures during allowable hours to minimize excessive delays ✓ Provide 11-ft. (Route 630) and 12-ft, (I-95) lane widths with 2-ft. offset (min.) to face of barrier ✓ Provide Portable Changeable Message signs along Route 630 to inform public of construction activities and dates ✓ Public outreach including: *"Pardon our Dust"* meetings, email marketing, newsletters, newspaper ads, radio ads, movie theater video ads ✓ Access to properties at all times
Local Residents and Businesses Individual Homeowners Liberty Knolls Embrey Mill Residents	Access impacts and noise during construction, including reconstruction of driveways and intersections	✓ Coordination of construction activities with residential groups and individual homeowners ✓ Coordinate community entrance reconstruction with residents and/or HOAs so that work can be scheduled for hours of least impact ✓ Adherence to VDOT noise specifications which establish construction noise limits
Schools Colonial Forge High School Winding Creek Elementary	Potential delay to school buses	✓ Coordination of construction activities directly with school staff ✓ No lane closures during school bus operating hours when possible ✓ Analyze temporary alignments to ensure buses are accommodated using Auto-Turn software ✓ Advance notification of traffic pattern changes
First Responders/Hospital Stafford Hospital Stafford Fire/EMS/Police Virginia State Police	Access and timing Public safety and Incident management	✓ Incident response meetings ✓ Incident management guidebook, including contact information for key personnel ✓ Notifications and coordination of changes in traffic patterns
Government VDOT Stafford County Transportation FAMPO Chamber of Commerce	Travel Delays Public Notifications	✓ Weekly coordination meetings ✓ Notifications of traffic impacts ✓ Coordination through pre-construction and construction meetings
Utility Owners/Agencies Stafford County Water & Sewer Dominion Virginia Power Comcast Verizon Columbia Gas	Utility relocation requirements	✓ Monthly or more frequently, if necessary coordination meetings ✓ Stakeholder outreach meetings
Adjacent Active VDOT Construction Projects UPC#108315 UPC#93225 UPC#108326 UPC#106574 UPC#98847 UPC#103082 UPC#103085 I-95 CCTV Installation I-95 Asphalt PM Projects	Minimal travel time delays for temporary operations	✓ Appropriate coordination meetings ✓ Notifications of traffic impacts ✓ Coordination through pre-construction and construction meetings

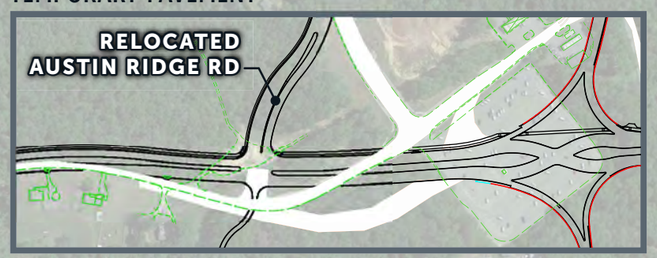
Table 4: Key Project Stakeholders

I-95/ROUTE 630 INTERCHANGE RECONSTRUCTION PHASE 1 & 2

Design-Build | I-95/Route 630 Reconstruction & Widening
C00013558DB83

AREA 5
AREA 6
AREA 7
AREA 8
AREA 9
AREA 10
AUSTIN RIDGE RD
RELOCATED AUSTIN RIDGE RD
MINE RD
COURTHOUSE RD
RED OAK DR
JEFFERSON DAVIS HWY
HOSPITAL BLVD
WYCHE RD
TEMPORARY TRAFFIC SIGNAL
UPC 108573
UPC 108573
4632
13558
UPC
UPC
630
630
INTERSTATE 95
INTERSTATE 95
ROUTE 1
ROUTE 1
N

TEMPORARY PAVEMENT



PHASE OF CONSTRUCTION

LEGEND - EXISTING ROADWAY PHASE 1 PHASE 2 PHASE 2 TEMP PAVEMENT

CORMAN CONSTRUCTION – Branch Highways – A JOINT VENTURE | WRA

ROUTE 630 INTERCHANGE – PHASE 3

Design-Build | I-95/Route 630 Reconstruction & Widening
C00013558DB83

AREA 5

AREA 6

AREA 10

AREA 8

AREA 9

AREA 7

SEE TEMPORARY DETOUR

MINE RD

AUSTIN RIDGE RD

RELOCATED AUSTIN RIDGE RD

COURTHOUSE RD

RED OAK DR

630

JEFFERSON DAVIS HWY

ROUTE 1

HOSPITAL BLVD

UPC 4632

UPC 13558

UPC 108573

MYCHE RD

TEMPORARY DETOUR

RELOCATED AUSTIN RIDGE RD

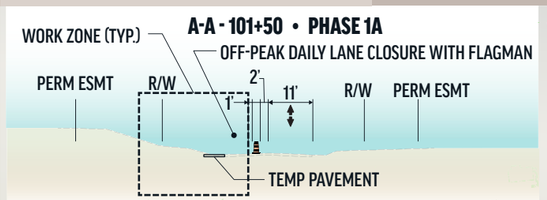
PHASE OF CONSTRUCTION

LEGEND - EXISTING ROADWAY | PHASE 1 & 2 | PHASE 3 | TEMPORARY DETOUR

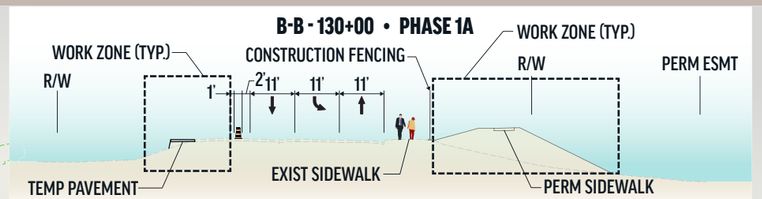
ROUTE 630 WIDENING – PHASE 1

Design-Build | I-95/Route 630 Reconstruction & Widening
C00013558DB83

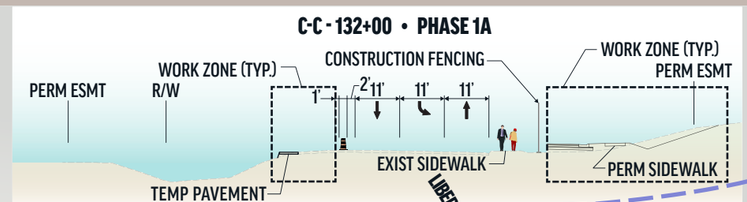
A-A - 101+50 • PHASE 1A



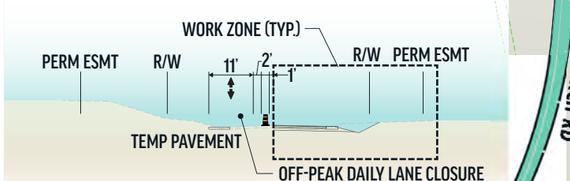
B-B - 130+00 • PHASE 1A



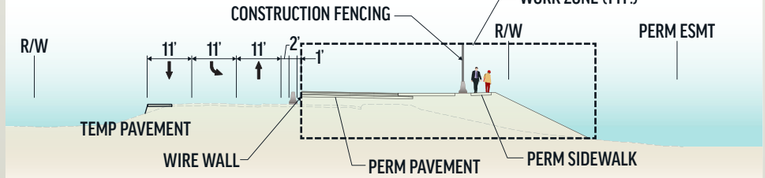
C-C - 132+00 • PHASE 1A



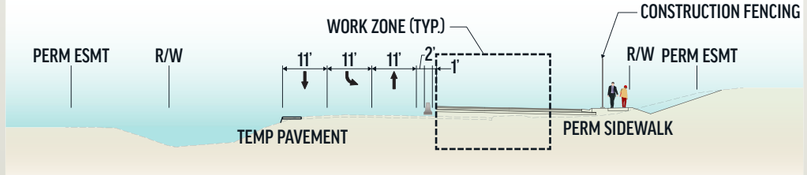
A-A - 101+50 • PHASE 1B



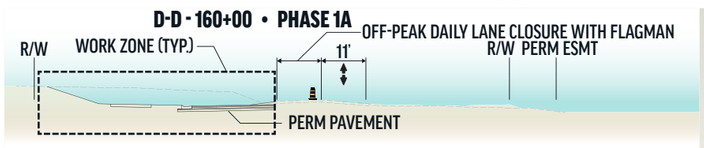
B-B - 130+00 • PHASE 1B



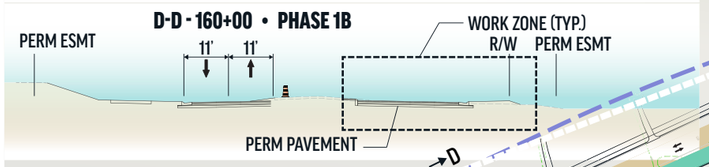
C-C - 132+00 • PHASE 1B



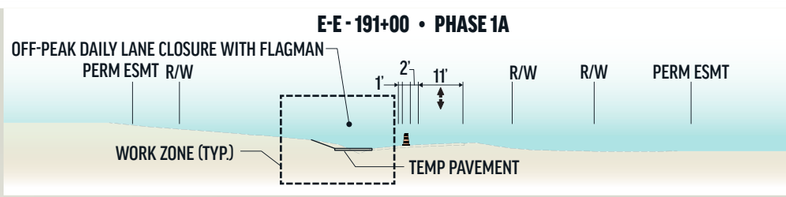
D-D - 160+00 • PHASE 1A



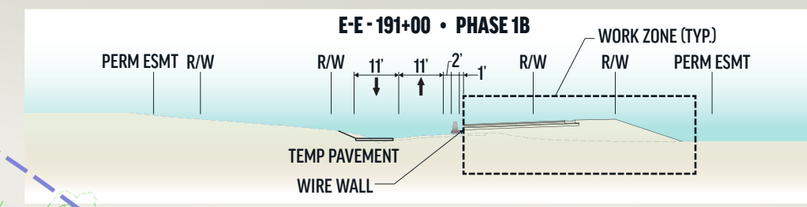
D-D - 160+00 • PHASE 1B



E-E - 191+00 • PHASE 1A



E-E - 191+00 • PHASE 1B



PHASE OF CONSTRUCTION

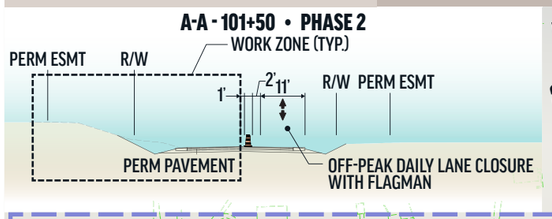
LEGEND - EXISTING ROADWAY PHASE 1A PHASE 1B

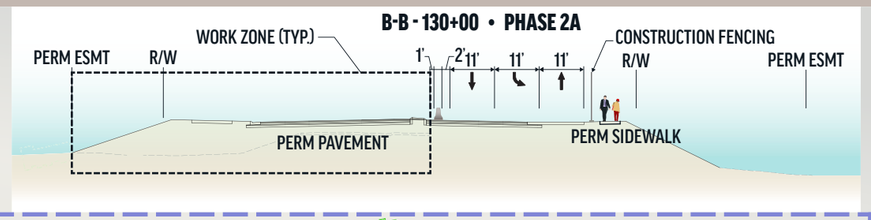
TEMPORARY PAVEMENT

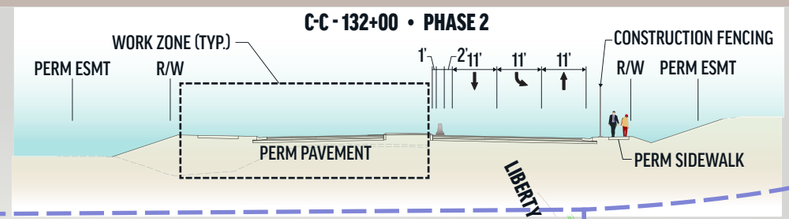
99+00 - 103+75 • 114+25 - 123+00 • 127+00 - 139+50 • 189+00 - 193+00

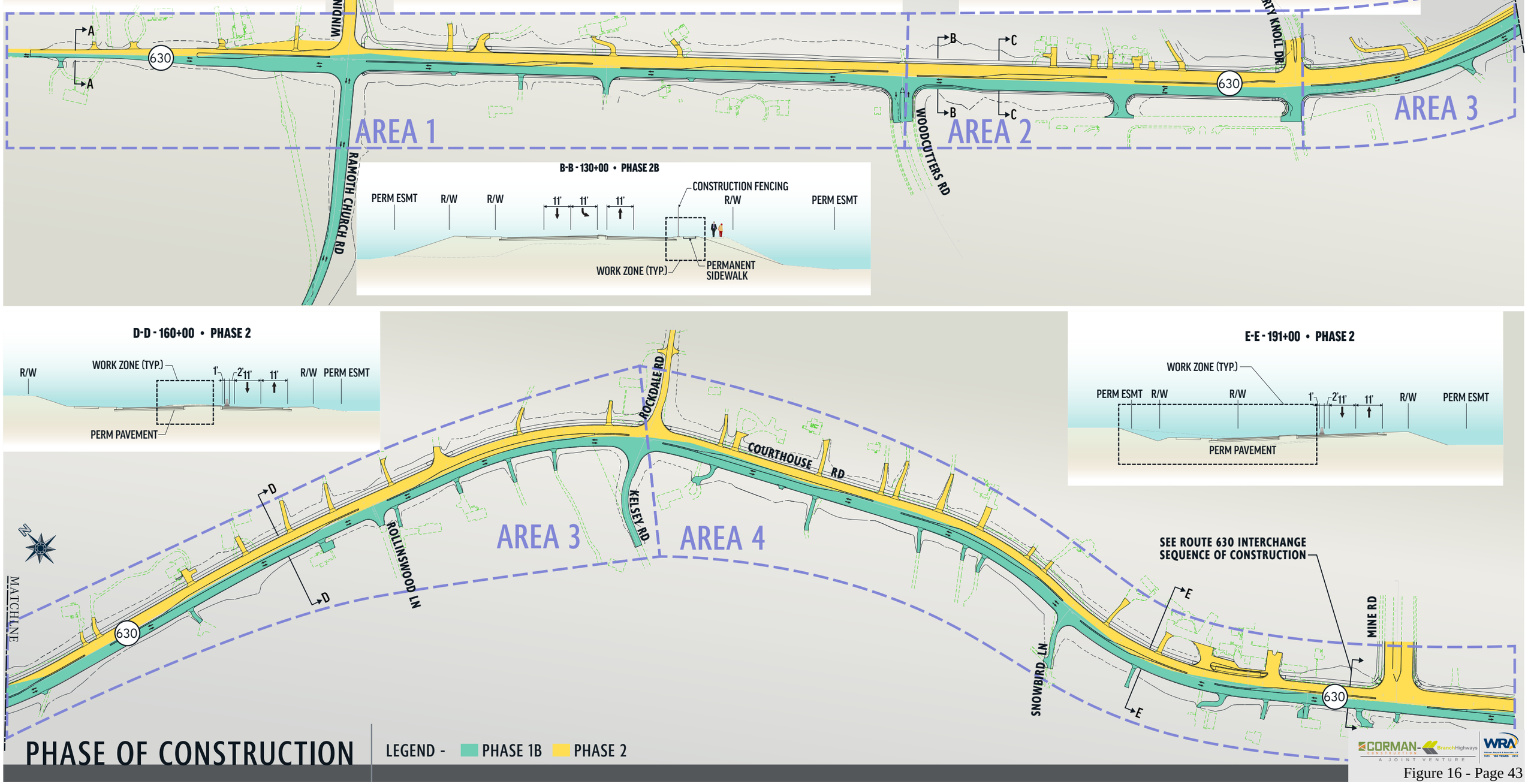
CORMAN CONSTRUCTION – BranchHighways – A JOINT VENTURE

WRA









PHASE OF CONSTRUCTION

LEGEND - PHASE 1B PHASE 2

CORMAN CONSTRUCTION – Branch Highways – A JOINT VENTURE | WRA

4.6 DBE/Local Hiring Program

CORMAN CONSTRUCTION — Branch Highways | WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

4.6 DISADVANTAGED BUSINESS ENTERPRISE (DBE) | LOCAL HIRING PROGRAM

Corman-Branch, a Joint Venture is committed to achieving a 15% DBE participation goal for the entire value of the contract.

Per the RFP, a written statement that Corman-Branch, a Joint Venture 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 VDOT Special Provision for Local Hiring Program for Design-Build Projects (Attachment 11.5.6) is included in our Letter of Submittal.

4.7 Project Schedule

CORMAN CONSTRUCTION — Branch Highways | WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

4.7 PROPOSAL SCHEDULE

The Corman-Branch | WRA Team thoroughly understands the project's requirements, complexities, and milestones and has formulated a strategy for design and construction. The following is our project schedule and narrative which outline the steps to successfully complete this project on time and on budget.

4.7.1 PROPOSAL SCHEDULE

Our Proposal Schedule is in Volume II of our Technical Proposal.

4.7.2 PROPOSAL SCHEDULE NARRATIVE

The Corman-Branch | WRA Team's Proposal Schedule details our plan to accomplish the work per the RFP requirements. Our schedule narrative outlines the sequencing, description and explanation of the critical path, proposed means and methods, and other key assumptions.

KEY MILESTONES

The Corman-Branch | WRA Team is committed to an Interim December 1, 2017 (I-95 4th Lane Widening Option) and July 31, 2020 final completion date. We coordinated the scope to establish a schedule for timely completion, identify potential risks and plan/implement mitigation strategies. Coordinating work between everyone involved is vital for project success. The Corman-Branch | WRA Team will work with VDOT and stakeholders to complete the work and meet the Project Milestones outlined below:

KEY MILESTONE	MILESTONE DATE
Notice of Intent to Award	9/13/2016
CTB Approval / Notice of Award	10/19/2016
Design-Build Contract Execution	11/16/2016
Notice to Proceed	11/18/2016
Interim Completion (4th Lane Widening Option)	12/1/2017
Final Completion Date	7/31/2020

Table 5: Key Milestone Table

WORK BREAKDOWN STRUCTURE

The WBS is a multi-level, hierarchical arrangement of the work to be performed on the project. The Corman-Branch | WRA Team has laid out the WBS to break down the major phases by area (Element) and type of work. The type of work has been broken down per Element and components, such as Milestones, Scope Validation, Environmental / Permitting, ROW, Design, Public Involvement, Utility Relocation, and Construction.

The WBS areas were developed as a collaborative effort between the design and construction teams by looking at the project as a whole, including type of work along the alignment, in addition to design consideration and management of construction. The WBS depicted in the proposal schedule is as follows:

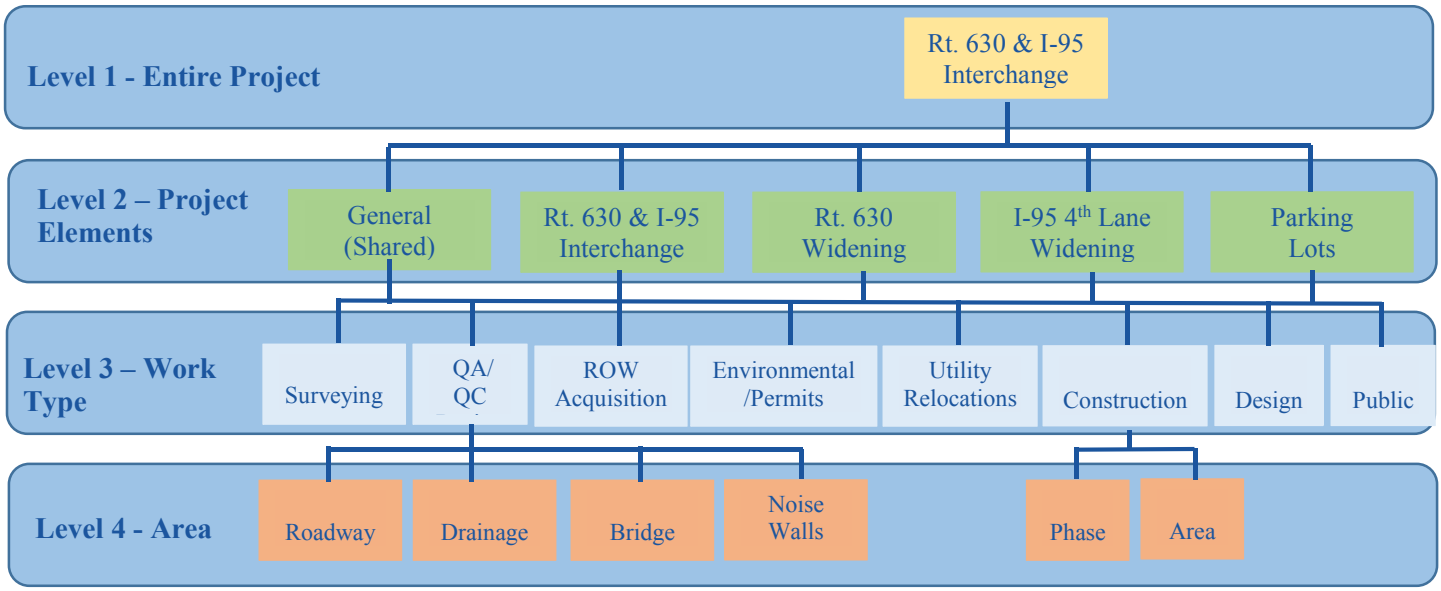


Figure 17: Work Breakdown Structure

CALENDARS

[6] project calendars were used in the schedule and include:

1. **"Seven-Day"** – Calendar Day Calendar based on seven days per week.
2. **"Five-Day Admin"** – Based on five working days per week and includes holiday restrictions. Used for design activities and work not impacted by adverse weather.
3. **"Five-Day Typical"** – Based on five working days per week, holiday restrictions and anticipated weather days. Used for construction activities.
4. **"Five-Day Grade"** Based on the Five-Day Typical with non-working periods from December through February when cold temperatures and wet weather are not favorable for grading work.
5. **"Five-Day Asphalt Paving"** – Based on the Five-Day Typical with non-working periods from December through February when temperatures are expected to be too cold to pave.
6. **"Five-Day Deck Pour"** – Based on the Five-Day Typical with non-working periods from December through February when temperatures are expected to be too cold to pour bridge decks.

ACTIVITY IDENTIFICATION

This schedule utilizes a 'smart' activity identification numbering system which are broken down into three parts as follows:

1. **Project Element:** The first letter in the activity identification number pertains to the Project Element with the abbreviation and order as follows:

   10 = Route 630 / I-95 Interchange Element
   20 = Route 630 Widening Element
   30 = Commuter Parking Lot Element
   40 = I-95 4th Lane Widening Element Option

2. **Type of Work:** Letters two and three in the activity identification number pertain to the types of work with the abbreviations as follows:

MS	Element Milestone
RW	Right-of-Way
EV	Environmental
GD	Design Geotechnical
RD	Design Roadway
SD	Design Structures
PR	Public Relations & Involvement
UR	Utility Relocation
QA	QA/QC Inspection & Testing
CR	Construction Roadway
CS	Construction Structures

3. **Increments:** The last four digits in the activity identification structure are numeric increments starting with zero, incremented in steps of 10. This leaves ample room between activities so that additional activities may be inserted as necessary.

PLAN AND STRATEGY

Design: The design schedule has been integrated into the schedule for each of the four Project Elements. Each Project Element has unique features that require a separate approach to meet VDOT's goals and for the Corman-Branch | WRA Team to take advantage of past VDOT efforts to acquire right of way and relocate existing utilities for an on-time delivery of the project.

The schedule includes the Corman-Branch | WRA Team's internal QC and QA formal reviews for each deliverable to VDOT. QC reviews include a review by an independent qualified reviewer from WRA/AMT and interdisciplinary reviews by all disciplines, Responsible Charge Engineer (RCE), and Construction Manager. Once comments are addressed, there will be an independent QA review via the same process with an independent QA Team. QA Manager, Design Manager and RCE reviews ensure the process has been completed before submitting to VDOT for review/comments.

A QA/QC process will be developed and included in the QC/QA Manual to be approved by VDOT and the QAM. On a project of this magnitude with multiple project elements, the Corman-Branch | WRA Team will embed the RCE and project engineers within WRA/AMT's design groups during design to provide immediate feedback on design options, construction means and methods, and material selection. This approach was successfully utilized by RCE Ryan Gorman on VDOT's Route 29 Solution Design Build Project and WRA who completed the design for the Berkmar Project Element for that same project.

VDOT's 21-day plan reviews have been scheduled for each design submittal. Our strategy is to have VDOT review staff involved with Over the Shoulder reviews during design and monthly review meetings, which will discuss upcoming submittals. This gives VDOT the opportunity to plan for the review staff for each submittal. VDOT's comments will be addressed and the actions taken documented in the Comment Resolution sheets for each plan re-submittal. Before re-submittal, the WRA/AMT design teams will complete the QA/QC process to ensure it can be reviewed and approved timely allowing plans to be released for construction.

Key tasks of each Project Element we have identified in the schedule include:

I-95 / ROUTE 630 INTERCHANGE ELEMENT

- 30% Design Plans
- Release of Right of Way on Total Take Parcels
- VPDES Permit Approval
- USACE Permit
- Approval of Right of Way Plans
- Acquisition of Right of Way and Utility Easements based on Priority List
- Final Plan Approval

COMMUTER PARK & RIDE EXPANSION ELEMENT

- 60% Design Plans
- Release Right of Way on Total Take Parcels
- Utility Relocation at Park & Ride Facility on Existing Route 630
- VPDES Permit Approval
- Final Plan Approval

ROUTE 630 WIDENING ELEMENT

- 60% Plan Submittal / with Confirmation Previously Relocated Utilities were Constructed Properly
- VPDES Permit Approval
- Final Plan Approval
- USACE Permit Approval

I-95 4TH LANE WIDENING ELEMENT OPTION

- 90% Plan Submittal
- VPDES Permit Approval
- Final Plan Approval
- USACE Permit Approval

Environmental / Permitting: The Corman-Branch | WRA Team evaluated the environmental and permitting requirements for each Project Element and the critical elements are included in the project schedules. Per the RFP, each Project Element will be considered a complete and separate project for the environmental and permitting requirements. Below is a brief discussion on each critical environmental concern as it relates to each Project Element:

I-95 / ROUTE 630 INTERCHANGE ELEMENT

VSMP Permit: Obtaining this permit based on the 30% plans is critical to the project schedule for construction of the proposed Park & Ride facility along existing Route 630 which must be completed and in use to open up the western portion of the proposed interchange and Route 630 widening.

USACE Individual Permit and DEQ: Permit will be submitted based on the 60% plan submittal and we anticipate 6 months to coordinate with the agencies and for approval. A Coastal Zone Management Act consistency determination package will also be provided to DEQ for review/approval.

EQ-201: Environmental clearances of the total take parcels will be completed after submitting 30% plans to accelerate the right of way acquisition. The remaining right of way parcel clearances will be completed prior to full right of way authorization.

Noise Wall Analysis: Although the noise wall analysis is not on the critical path, it will need to be focused on once the 30% plans are submitted. We have evaluated the proposed location for the noise wall in the RFP plans and have determined there will be no impact to right of way for construction. This analysis will be completed 90 days after addressing the 30% plans then proceed through the VDOT and FHWA process for final approval and benefitted residents input for the noise wall.

COMMUTER PARK & RIDE EXPANSION ELEMENT

Environmental efforts will be completed with the I-95/Route 630 Interchange Element since these Project Elements are covered under the same NEPA document.

ROUTE 630 WIDENING ELEMENT

VSMP Permit: Permit will be submitted based on 60% plans and is the most critical element in the design schedule. There are several areas identified that early clearing and construction activities could take place along the project: construction of the proposed sidewalk at the High School and relocation of the Verizon facilities on the eastern end of the project. Segments of the temporary pavement needed for shifting traffic could also be accelerated.

USACE Individual Permit and a WP3 from the DEQ: We have reduced the project impact to under that required to obtain an Individual Permit. To confirm this item, we will start at Notice of Intent to award with field work to verify and evaluate wetlands and streams along the project. This is possible due to VDOT owning the right of way and easements. WRA's Permitting Team has extensive experience obtaining permits on design-build projects with aggressive schedules. A Coastal Zone Management Act consistency determination package will also be provided to DEQ for review and approval.

Noise Wall Analysis: Our team has evaluated the minor design changes and will provide documentation verifying no additional noise studies are required.

I-95 4TH LANE WIDENING OPTION ELEMENT

VSMP Permit: Obtaining this permit based on an enhanced design from our Conceptual Plans in Volume II and will be submitted the week after VDOT Notice to Proceed. This allows the Corman-Branch | WRA Team to start construction as soon as the plans are Released for Construction since there is no right of way required and our design eliminates wetland impacts and has only minor stream impacts based on the VDOT's environmental data provided.

USACE Nationwide Permit 23: Our Conceptual Plan designs have significantly reduced project impacts and will be submitted based on the Enhanced Plan submittal within a month of Notice to Proceed. We allowed 90 days in our CPM for the simpler SPGP permit we anticipate.

USACE Nationwide Permit 3: The box culvert under Route I-95 (SBL) (Va. Str. 2021) will require repair and scour protection.

Noise Wall Analysis: This analysis will be an important factor in project success. Based on our review of the existing corridor, recent Public Hearing attendance, and review of the existing noise study, there has been significant changes along the I-95 corridor since the last noise analysis was completed by VDOT. We have provided design and construction of the noise wall currently identified along the I-95 northbound lanes in our schedule and will determine if any additional noise walls along the corridor are feasible and reasonable. If noise barriers are found to be reasonable, we will then determine if local residents and the school board want a noise wall to be constructed.

ROW Acquisition: The right of way acquisition and utility relocations are the critical schedule factors of delivering the entire I-95 / Route 630 Interchange Project on schedule. Our Conceptual Plans in Volume II show the anticipated utility easements needed. Given the uncertainty of right-of-way negotiations, a major focus will be on the right-of-way process from the time of Notice of Intent to Award. We will prioritize the parcel acquisitions in order of importance.

Our strategy is to have appraisals ready for review and approval by the time notice to commence right-of-way acquisition is granted. We will identify early refusals and begin the eminent domain process to prevent project delays. Hold Points for Notice to Commence Right of Way Acquisition and Notice to Commence Construction have been built into our proposal schedule.

The Corman-Branch | WRA Team has reviewed the schedule and prioritized the parcels to complete these efforts simultaneously with appraisal and acquisition teams to accelerate project delivery.

The table below will be maintained in the schedule narrative throughout the Utility Easement acquisition.

PARCEL ID	COMPANY							ROW PHASE		
	Columbia Gas	Comcast	Dominion Power	Stafford County Schools	Stafford County Water	Stafford County Sewer	Verizon	Appraisal Complete	Offer Made	Settled or Certificate Filed
01										
02										
03										
04										
05										
06										
07										
08										
09										
10										

FOR COMPANIES REQUIRING A VDOT UTILITY EASEMENT SHOW THE PARCEL IN RED

Table 6: Utility Easement Acquisitions

Utility Relocations: Utility clearance follows a well-established process in the VDOT Utility Manual. The Corman-Branch | WRA Team identifies entities with utility facilities in the project area and contacts them. VDOT notifies the utilities that we will coordinate with them on behalf of VDOT. A preliminary meeting is held with the utilities to describe the project. Utilities are then listed and a conflict determination is made for each against the preliminary plans. Our designers then seek to minimize utility conflicts through design. A utility field inspection identifies conflicts and cost responsibilities and sets the schedule for utilities to design and perform relocations. Schedule of utility relocations will be coordinated with the roadway construction to ensure utilities are relocated per the roadway sequence to avoid construction delays and impacts.

Utility representatives then submit either a no-conflict letter or a relocation plan and an estimate to the Corman-Branch | WRA Team for approval. Any required easement requests are submitted to us. Upon approval of VDOT and authorization by the Corman-Branch | WRA Team, the utilities perform the relocations. The Corman-Branch | WRA Team inspects the relocations for accuracy. Regular utility coordination meetings are held throughout the utility relocation process to meet the schedules. If payments for relocations are required, they are made by the project team per VDOT policies. Once relocations are complete, utilities apply for land use permits and submit as-built plans. The project team reviews these submissions and upon approval forwards them to VDOT for final approval. Once all utilities have either declared no-conflict or completed relocations, the project team submits a final project utility clearance notification.

Tables such as this will be maintained in the schedule narrative throughout relocations:

COMPANY	MILESTONE								
	UFI Held	Easement Request	Plans Completed	P&E Submitted	P&E Authorized	NTP Given	Start Relocation	Relocation Complete	Final Bill Received
Columbia Gas									
Comcast									
Dominion Power									
Stafford County Schools									
Stafford County Water									
Stafford County Sewer									

***PROPOSED DATES TO BE SHOWN IN RED** ****ACTUAL DATES TO BE SHOWN IN BLACK**

Table 7: Utility Milestones

Construction Sequencing: Construction is scheduled to begin immediately once plans are approved, starting with installing advance warning signs and E&S controls. The construction of each element is as follows:

I-95 / Route 630 Interchange

Phase 1:

1. Install MOT and E&S measures for construction of temporary ramp tie-ins, relocation of the existing Park & Ride lot, and advanced bridge work along the median of I-95.
2. Construct temporary Route 630 Interchange ramps to/from I-95.
3. Construct a portion of the proposed Park & Ride on the East side of I-95. Install temporary traffic signal along Route 630 at the relocated Park and Ride lot entrance.
4. Construct advanced bridge work along the I-95 median (clearing and grubbing, earthwork, etc.) for installation of bridge piers in Phase 2.

Phase 2:

1. Maintaining traffic along existing Route 630, shift traffic to the temporary ramp alignments constructed in Phase 1.
2. Install approved MOT and SESC measures for remainder of project
3. Coordinate relocation of Verizon poles (by others) along north side of Route 630 from Mine Road to the interchange.
4. Construct proposed improvements for the Route 630 interchange from STA 120+00 to Route 1 including entrance and exit ramps and realigned Wyche Road. Work includes earthwork, storm sewer, paving, pedestrian facilities, intersection tie-ins, noise wall, and guardrail.
5. Construct bridge piers in the median of I-95. Construct MSE Walls and Abutments.
6. Erect bridge girders and bridge superstructure over I-95.
7. Construct proposed roadway improvements along the south side of Route 630 from (Route 630 widening) STA 196+00 to STA 97+00.
8. Construct temporary pavement tie-in from STA 97+00 to STA 99+00.
9. Once Verizon pole relocations are completed, construct proposed improvements along north side of Route 630 from STA 98+00 to STA 117+00 including new Austin Ridge Drive alignment.
10. Install temporary pavement tie-in from existing Route 630 (approx. STA 116+00) to proposed Route 630 STA 120+00.

Phase 3a:

1. Shift existing Route 630 traffic to relocated interchange (utilizing proposed and temporary pavement constructed under Phase 2).
2. Install ramp detours for SB I-95 off ramp and NB I-95 on ramp.
3. Construct proposed improvements from (Route 630 widening) STA 196+00 to STA 99+00 along the north side of Route 630 and STA 117+00 to STA 120+00 (full width).
4. Construct proposed SB I-95 off and NB I-95 on ramps.

Phase 3b

1. Shift I-95 ramp traffic to proposed ramps completed in Phase 3a.
2. Shift traffic to north side of realigned Route 630.
3. Construct southern half of Route 630 from (Route 630 widening) STA 97+00 to STA 117+00.

Route 630 Widening

Phase 1a

1. Install MOT and E&S measures for construction of temporary and proposed pavement along the north side of Route 630 as well as for the installation of temporary and proposed sidewalk in front of Colonial Forge High School.
2. Construct temporary and proposed pavement along the north side of Route 630.
3. Install temporary/proposed sidewalk, curb and gutter, and first few feet of pavement in front of Colonial Forge High School from STA 129+00 to STA 144+50.

Phase 1b

4. Install MOT and E&S measures along south side of Route 630.
5. Shift pedestrians to sidewalk constructed in Phase 1a. Install temporary barrier and/or construction fencing along length of sidewalk relocation.
6. Utilizing temporary and proposed pavement constructed in Phase 1a, shift traffic to the north side of Route 630.
7. Construct proposed roadway improvements along southern half of Route 630 including earthwork, storm sewer, paving, driveway/intersection tie-ins, and guardrail. Maintain access to existing driveways and intersections at all times.

Phase 2

1. Install MOT and E&S measures along north side of Route 630.
2. Shift traffic to pavement constructed along the southern half of Route 630 under Phase 1b.
3. Construct proposed alignment along northern half of route 630 including earthwork, grading, storm sewer, paving, driveway/intersection tie-ins, and guardrail.

I-95 4th Lane Widening Option

1. Install MOT signage, barrier wall, and E&S measures.
2. Clear, Grubb, and strip topsoil.
3. Perform cut to fill grading and mechanically stabilized slopes.
4. Place underdrains, stone, and asphalt pavement section.
5. Perform box culvert repairs.
6. Install guard rail and permanent signage.
7. Remove barrier wall
8. Perform final paving, CCTV installations, and construct sound walls.

QA/QC Inspection & Testing: QA/QC activities will be performed as per the contract with tasks included in our proposal schedule as follows:

1. QA/QC Plan Submittal
2. QA/QC Plan Presentation
3. QA/QC review of design packages
4. Preparatory Inspection Meetings
5. Witness and Hold Points
6. VDOT Inspections

CRITICAL PATH

The critical path for the project has been calculated based on the longest path. All of the activities on the critical path are on the Interchange element of the project. Those activities include:

- 30% Roadway Design
- 60% Roadway Design
- ROW Authorization and clearance
- Verizon utility relocations along Route 630 crossing 95
- New Route 630 Construction and implementation
- New I-95 ramp construction and implementation.

KEY ASSUMPTIONS

The Corman-Branch | WRA Team made the following key assumptions on which the Proposal Schedule is based:

- Route 630 Widening utilities were relocated properly
- ROW availability is as specified in the RFP
- Changes not required to Park and Ride Layout provided
- Utility relocations are performed as scheduled
- No Time-of-Year restrictions apply to any project element

PROJECT SCHEDULE DEVELOPMENT AND MANAGEMENT

A Preliminary Proposal Schedule will be updated and submitted to VDOT within 15 days of Notice to Proceed. The Baseline Schedule will be finalized and submitted to VDOT within 90 calendar days of Notice to Proceed and include cost and resource loading, submittals required by the contract, and a definable critical path.

Each month the Preliminary Schedule, will be updated as the Corman-Branch | WRA Team prepares, submits, and receives approval on the Baseline Schedule. Once approved, it will be updated and submitted to VDOT for approval every month until Final Completion. Each update will be accompanied by a narrative report and tables as prescribed in the Design-Build Project Schedule special provision.

The schedule will be constantly reviewed and maintained to avoid slippage, with impacts discussed as part of the monthly partnering process, and mitigation and recovery solutions finalized, if needed. Clear and concise systems to manage the design and construction sequencing and include:

- ✓ Weekly design/construction scheduling and coordination meetings during design
- ✓ Weekly construction scheduling meeting during construction
- ✓ Utility relocation tracking sheets during design and construction
- ✓ ROW progress tracking spreadsheets during design and construction
- ✓ Review/approve tracking spreadsheets of design element submittals
- ✓ Shop drawing status tracking sheets
- ✓ Material submittals and delivery schedules
- ✓ Non-conformance logs by QC and QA for design and construction

- ✓ RFI logs to the Owner and Designer
- ✓ Monthly internal project review meetings by the Corman-Branch | WRA Team's Executive Review Committee
- ✓ Monthly progress/partnering meetings with major stakeholders, including VDOT, the Corman-Branch JV's designers, major subcontractors/vendors, and local businesses. Affected utilities will be invited for the current stage of work.

At the internal weekly meetings, issues/concerns will be identified using the above tracking aids with action items identified and assigned to someone who can resolve it. Three-week, 30-day and 60-day "look-ahead schedules" will be prepared and discussed to analyze schedule and quality impacts. Similar information will be discussed and action items assigned at the Monthly Progress/Partnering meetings with key stakeholders. Other stakeholders may be invited for anticipated issues during upcoming schedule activities.

This project will be administered using our Viewpoint Project Management System which manages the project lifecycle, including design plans, contract management, RFI control, change orders, submittal/transmittal control, meetings, QA/QC documents, issue logs and lists, and more. It will administer the project timely to prevent schedule delays. Viewpoint offers secure remote access by stakeholders via the web. It is designed to give Corman-Branch JV, designers, VDOT, subcontractors, utilities, and vendors access to the project data they need, when they need it, 24/7.

During the utility relocation and construction phases, the Design-Build Project Manager, Construction Manager, Designer of Record, Responsible Charge Engineer, QA Manager, QC Manager, and VDOT will continue to meet weekly for a Construction Scheduling/Coordinating Meeting to coordinate QA, QC, Independent Assurance and Independent Verification inspections. The Construction Manager will review work completed the previous week and outlines the schedule activities for the next two weeks.

Schedule Recovery: If during the course of the Project, changes or unforeseen circumstances arise that impact the project schedule, the Corman-Branch | WRA Team will immediately notify VDOT (and other stakeholders) and put in place a schedule recovery plan, including increasing work shifts, adding crews and resources to construct critical path activities concurrently, changing MOT schemes or modifying the design to remove critical path activities. If an impact is encountered early in the project, schedule recovery may need to be adjusted by any or all of the discipline managers including: design, permitting, right-of-way, utility relocation, and construction. In the event all other design-build disciplines have completed their tasks, re-sequencing the construction schedule by the Construction Manager will be the primary focus to mitigate impacts. In the event additional resources are needed to mitigate delays, Corman and Branch have a large pool of resources to draw from, including crews, equipment, subcontractors, suppliers, and professional expertise.

SUMMARY

The Corman-Branch | WRA Team has developed a Proposal Schedule and Narrative that demonstrates our understanding of the complexities and interrelationships of the technical elements of the project. Our schedule takes into account internal plan reviews, VDOT plan reviews and approvals, environmental permitting, ROW acquisitions, utility relocations, and construction activities.

The Corman-Branch | WRA Team will continuously improve our Proposal Schedule to better serve VDOT, stakeholders, and the traveling public. Once receiving Notice of Award, team members will activate processes and protocols that comply with requirements to make this project a success for VDOT and the citizens of Virginia.

Appendix

CORMAN CONSTRUCTION — Branch Highways

WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

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	
Acknowledgement of RFP, Revisions, and/or Addenda	Attachment 3.6 (Form C-78-RFP)	Sections 3.6, 4.0.1.1	no	
Letter of Submittal	NA	Sections 4.1		
Letter of Submittal on Offeror's letterhead	NA	Section 4.1.1	yes	
Identify the full legal name and address of Offeror	NA	Section 4.1.1	yes	
Authorized representative's original signature	NA	Section 4.1.1	yes	
Declaration of intent	NA	Section 4.1.2	yes	
120 day declaration	NA	Section 4.1.3	yes	
Point of Contact information	NA	Section 4.1.4	yes	
Principal Officer information	NA	Section 4.1.5	yes	
Interim Milestone and Final Completion Date(s)	NA	Section 4.1.6	yes	
Proposal Payment Agreement or Waiver of Proposal Payment	Attachment 9.3.1 or 9.3.2	Section 4.1.7	no	
Certification Regarding Debarment Forms	Attachment 11.8.6(a) Attachment 11.8.6(b)	Section 4.1.8	no	
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	
Organizational chart with any updates since the SOQ submittal clearly identified	NA	Section 4.2.2	yes	
Revised narrative when organizational chart includes updates since the SOQ submittal	NA	Section 4.2.2	yes	
Design Concept	NA	Section 4.3		
Conceptual Roadway, Interstate and Interchange Plans and description	NA	Section 4.3.1.1	yes	
Conceptual Structural Plans and description	NA	Section 4.3.1.2	yes	
Project Approach	NA	Section 4.4		
Environmental Management	NA	Section 4.4.1	yes	
Utilities	NA	Section 4.4.2	yes	
Geotechnical	NA	Section 4.4.3	yes	
Quality Assurance/ Quality Control (QA/QC)	NA	Section 4.4.4	yes	
Construction of Project	NA	Section 4.5		
Sequence of Construction	NA	Section 4.5.1	yes	

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	
Disadvantaged Business Enterprises (DBE)/Local Hiring Program	NA	Section 4.6		
Written statement of percent DBE participation	NA	Section 4.6	yes	
Written statement of percent local worker and/or veteran new hire participation	NA	Section 4.6	yes	
Proposal Schedule	NA	Section 4.7		
Proposal Schedule	NA	Section 4.7	no	
Proposal Schedule Narrative	NA	Section 4.7	no	
Proposal Schedule in electronic format (CD-ROM)	NA	Section 4.7	no	

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
8.4.16	
Arthur C.Cox, III	Vice President
PRINTED NAME	TITLE

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 Corman-Branch, a Joint Venture ("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: _____

[Insert Offeror's Name] Corman-Branch, a Joint Venture

By: _____

Name: Arthur C. Cox, III

Title: Vice President, Corman Construction, Inc.

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.

Signature	7/19/16	Vice President, Corman Construction, Inc.
	Date	Title

Corman-Branch, a Joint Venture
Name of Firm

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

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Signature	7/19/16	Vice President
	Date	Title

Corman Construction, Inc.
Name of Firm

ATTACHMENT 11.8.6(a)
CERTIFICATION REGARDING DEBARMENT
PRIMARY COVERED TRANSACTIONS

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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.

Signature	7/19/16	President
	Date	Title

Branch Highways, 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.

Signature Date

Senior Vice President
Title

Whitman, Requardt & Associates, LLP
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

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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.

June 14, 2016 — Date

Principal — Title

A. Morton Thomas and Associates, 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

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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.

Mary C Weaver — Vice President
Signature — Date 6/14/2016 — 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

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Terrell Lyles 6/15/16 PRESIDENT
Signature Date Title

Athavale, Lystad & Associates, 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

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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.

June 14, 2016
Signature Date

Vice President
Title

H&B Surveying and Mapping, 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

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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.

Patricia E. Dabbick 6/21/2016 President

Signature Date Title

Diversified Property Services, 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

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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.

7/12/2016	Vice President of Public Affairs
Signature Date	Title

Seventh Point Transportation PR

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

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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.

Signature	July 20, 2016	Principal Engineer
	Date	Title

Engineering & Materials Technologies, Inc. (E.M. Tech)
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

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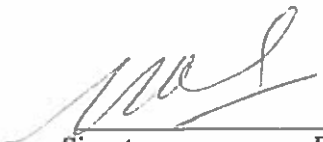


July 19, 2016 — Date

Vice President — Title

DMY Engineering Consultants Inc.

Name of Firm

Original
Copy 1 of 10 Copies

Design Build
I-95/Route 630 Reconstruction and Widening

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

VOLUME II

Submitted by:

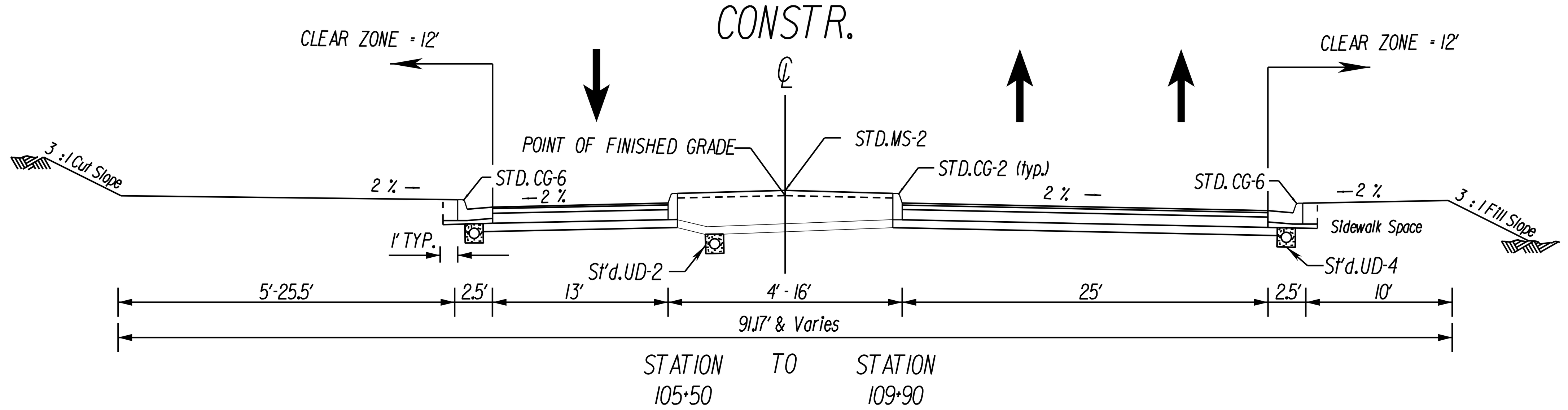
CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

WRA Whitman, Requardt & Associates, LLP
1915 100 YEARS 2015

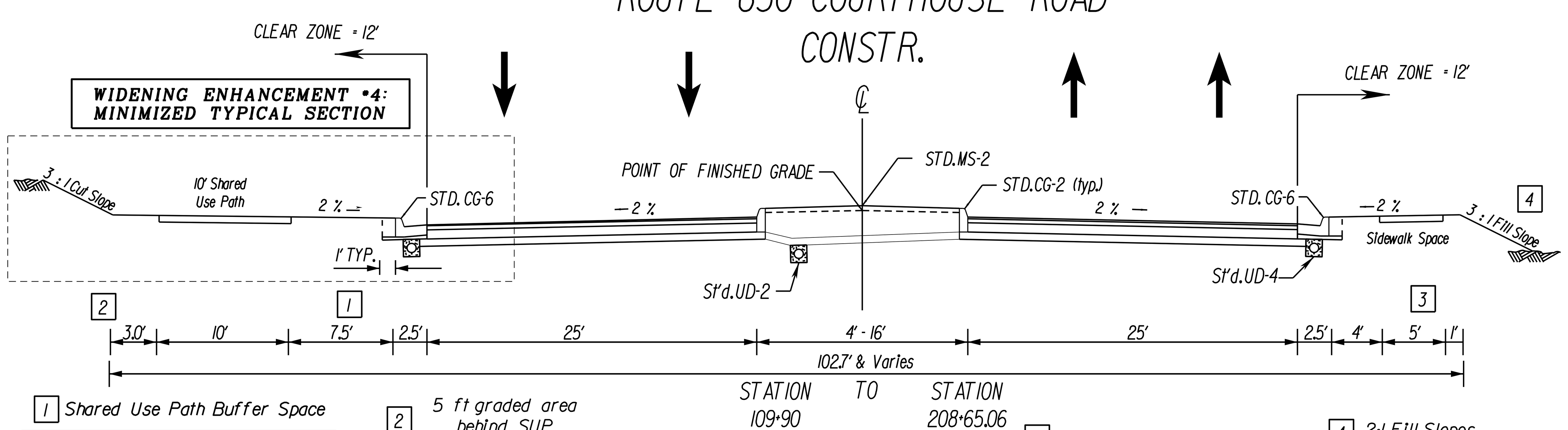
AUGUST 4, 2016

TYPICAL SECTIONS

ROUTE 630 COURTHOUSE ROAD



ROUTE 630 COURTHOUSE ROAD



1 Shared Use Path Buffer Space

STATION	BUFFER (FROM FOC)
111+25 to 113+79 LT	8ft
113+95 to 114+61 LT	8ft
115+11 to 119+09 LT	8ft
119+33 to 121+33 LT	8ft
121+53 to 128+30 LT	8ft
128+91 to 133+70 LT	8ft - 5ft
133+90 to 141+53 LT	5ft - 16ft
142+25 to 144+41 LT	5ft
144+41 to 176+75 LT	5ft - 8ft
176+75 to 177+00 LT	8ft - 5ft
177+00 to 177+30 LT	5ft
177+30 to 190+50 LT	5ft - 8ft
190+50 to 191+00 LT	8ft - 5ft
191+00 to 196+25 LT	5ft
196+25 to 198+80 LT	5ft - 8ft
200+25 to 208+65 LT	5ft

2 5 ft graded area behind SUP in high fill areas

STATION
111+20 to 112+60 LT
129+90 to 132+10 LT
138+40 to 141+60 LT
164+40 to 166+60 LT
173+40 to 174+10 LT
196+40 to 198+40 LT
202+00 to 203+75 LT
205+25 to 206+25 LT

3 Sidewalk Locations

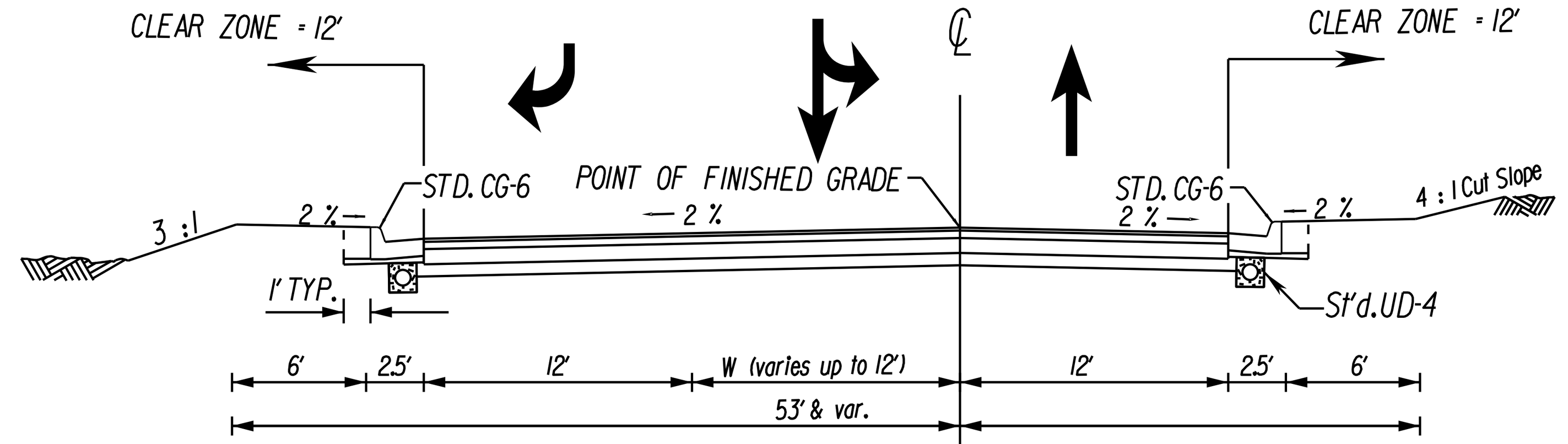
STATION
111+00 to 113+84 RT
114+14 to 116+14 RT
116+30 to 118+58 RT
119+50 to 121+60 RT
121+73 to 128+07 RT
129+40 to 135+55 RT
136+58 to 141+04 RT
142+33 to 144+37 RT

4 2:1 Fill Slopes (RT ONLY)

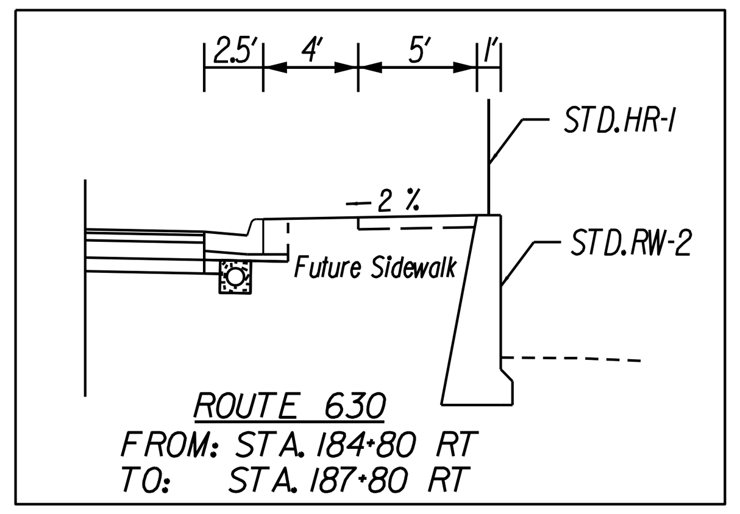
STATION
111+00 to 114+50 RT
150+50 to 152+00 RT
175+75 to 177+75 RT

WIDENING ENHANCEMENT #3: FILL SLOPES

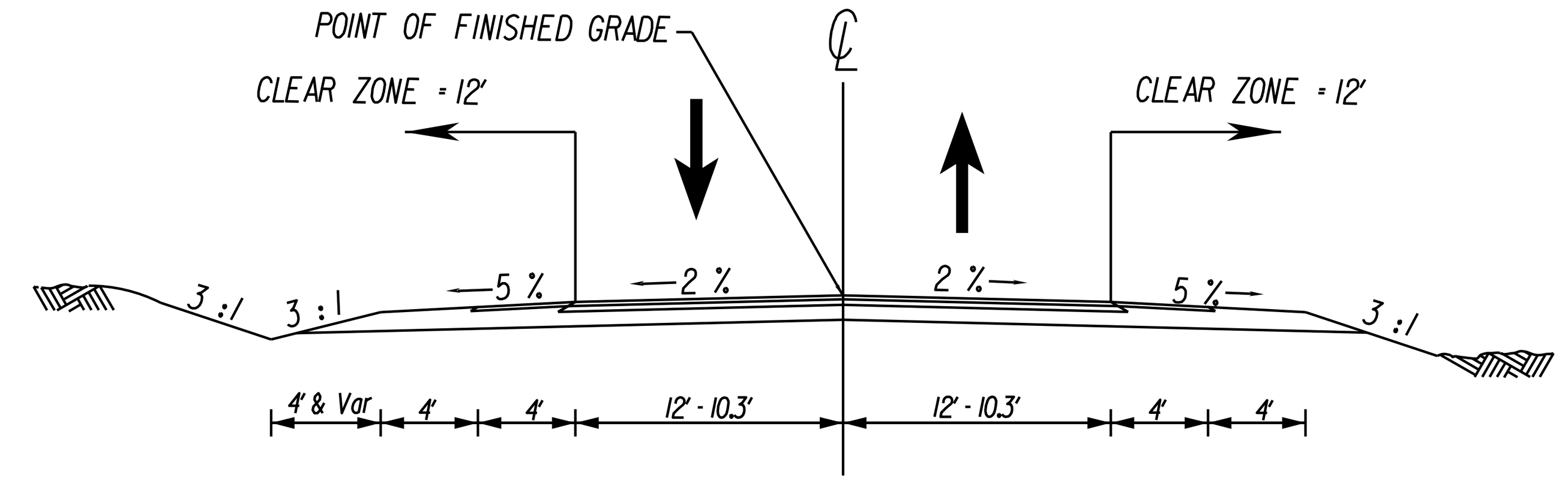
RAMOTH CHURCH ROAD (ROUTE 628 South) CURB AND GUTTER SECTION



WIDENING ENHANCEMENT #3: RETAINING WALL



RAMOTH CHURCH ROAD (ROUTE 628 South) SHOULDER SECTION



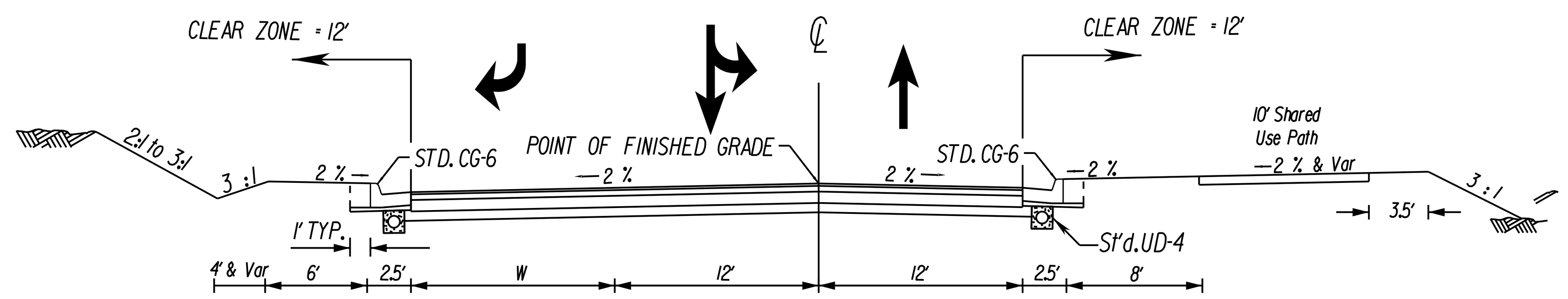
ROUTE 630 PAVEMENT SECTION
① SURFACE - 2" ASPHALT TY SM-12.5D
② INTERMEDIATE - 2" ASPHALT TY IM-19.0A
③ BASE - 4" ASPHALT TY BM-25.0A
④ SUBBASE - 2" STABILIZED OGDL
⑤ SUBBASE - 6" AGGREGATE BASE, TY 1, 21A

SIDE ROADS PAVEMENT SECTION
① SURFACE - 2" ASPHALT TY SM-12.5D
② INTERMEDIATE - 2" ASPHALT TY IM-19.0A
③ BASE - 8" AGGREGATE BASE, TY 1, 21B

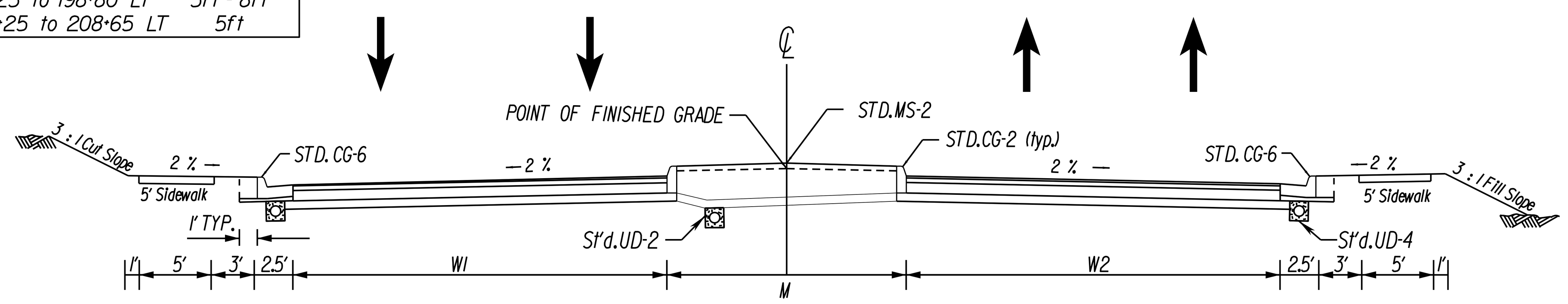
SHARED USE PATH SECTION
① SURFACE - 2" ASPHALT TY SM-9.5A
② BASE - 6" AGGREGATE BASE, TY 1, 21B

SIDEWALK SECTION
① SURFACE - 4" HYDRAULIC CON. CL A3
② BASE - 4" AGGREGATE BASE, TY 1, 21B

WINDING CREEK ROAD (ROUTE 628 North)



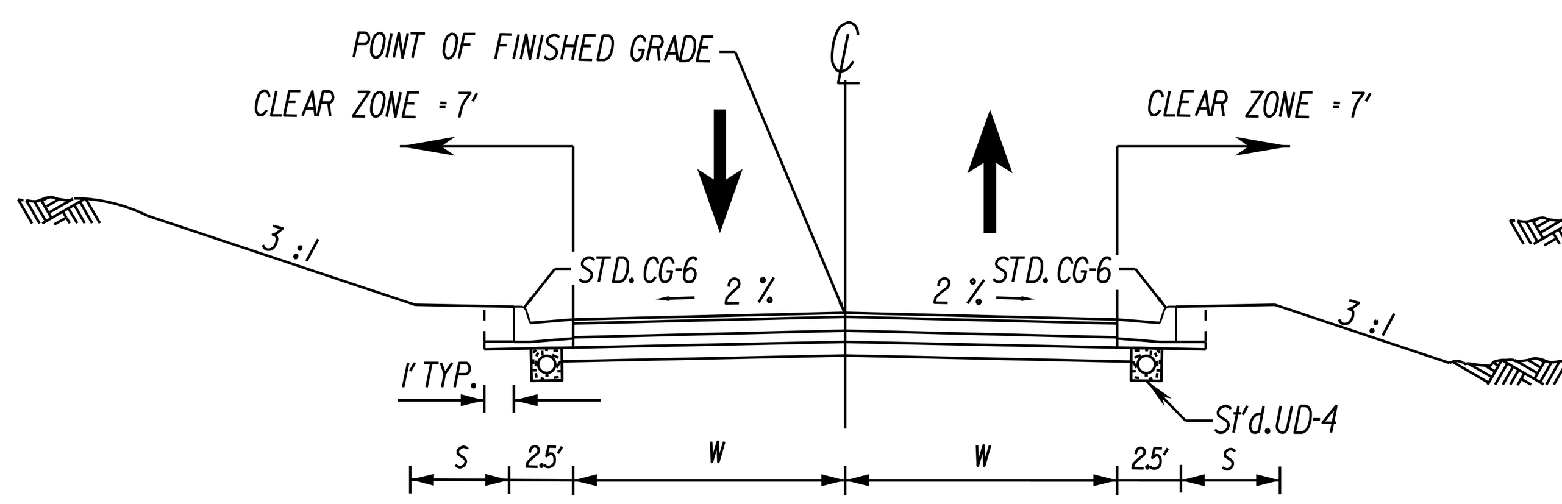
PROPOSED SUBDIVISION ROAD CONNECTIONS



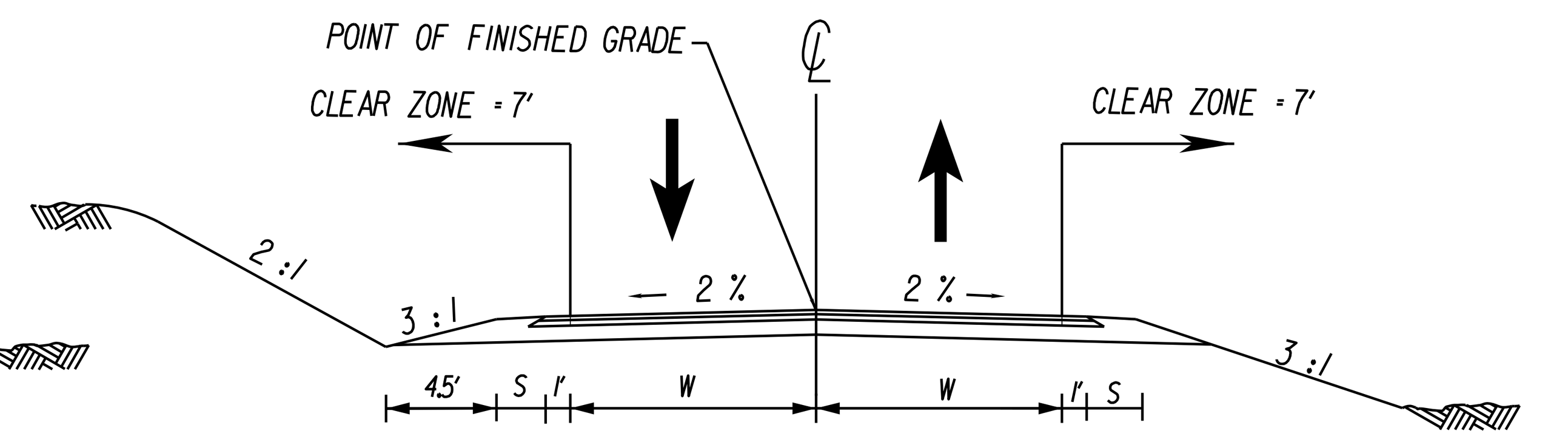
ROADWAY	W1	W2	M
WOODCUTTERS RD.	25'	25'	16'
LIBERTY KNOLLS DR.	25'	17'	10'
MINE RD.	25'	37'	28'

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

CURB AND GUTTER SECTION



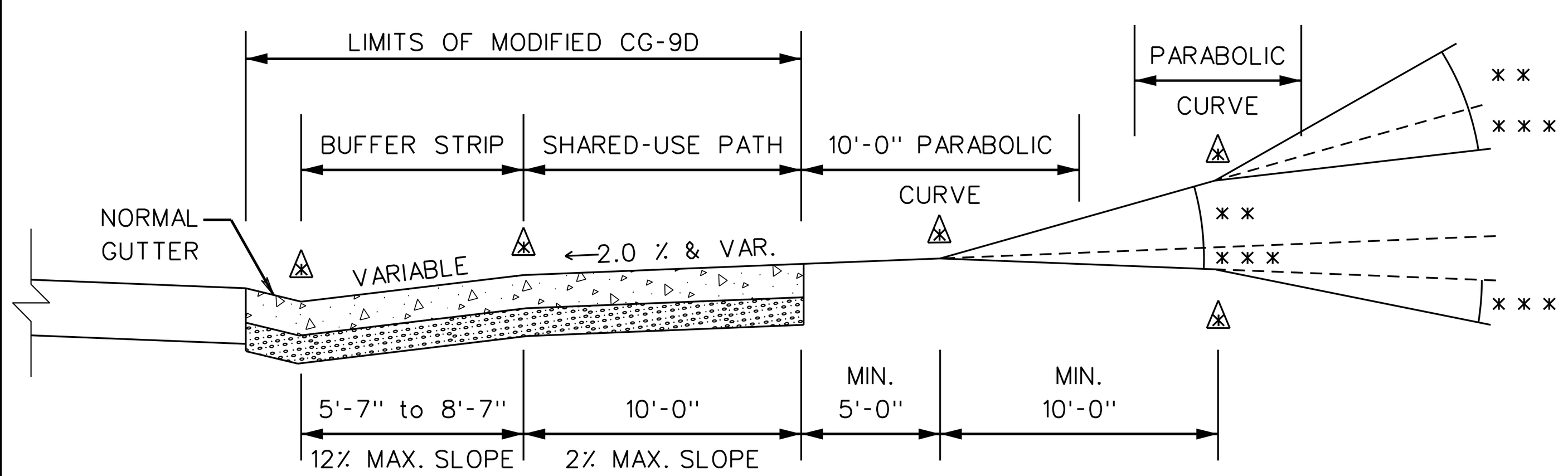
SHOULDER SECTION



ROADWAY	W	S
ROCKDALE ROAD	11' - 9'	4' - 3'
KELSEY ROAD	10.5' - 11'	4' & VAR
REIDS ROAD	9' & VAR	4' - 1'
CEDAR LANE	11' - 10'	2'

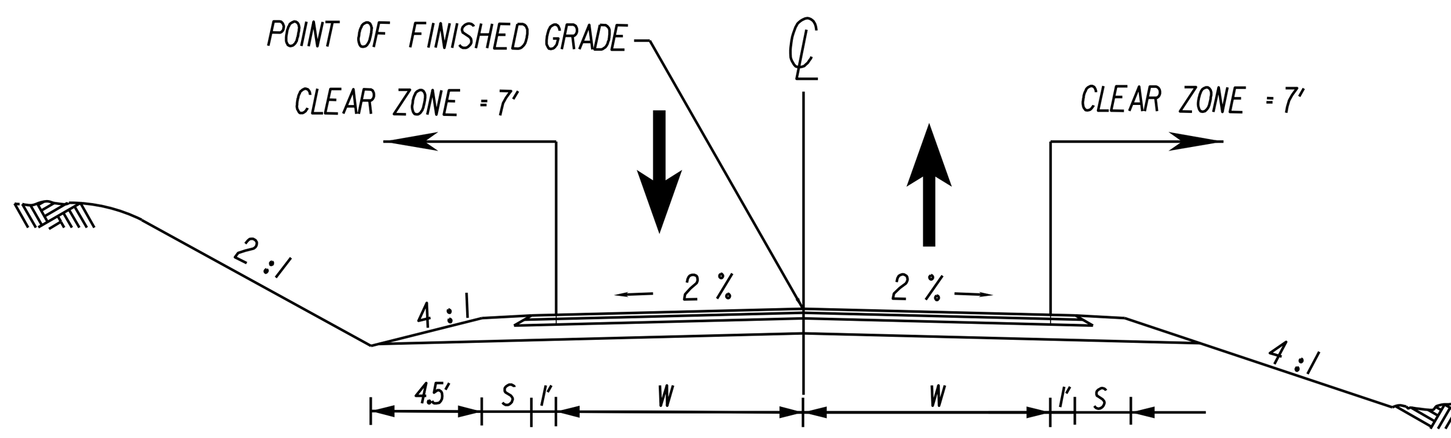
MODIFIED CG-9D DETAIL

FOR ENTRANCES ADJACENT TO SHARED-USE PATH



x x 12 % MAXIMUM INCREASE IN SLOPE AT MINIMUM 10' INTERVALS
x x x 4 % MAXIMUM DECREASE IN SLOPE FOR FIRST 10' INTERVAL AND 8 % MAXIMUM DECREASE FOR SUCCEEDING MINIMUM 10' INTERVALS

EXISTING PRIVATE ROAD CONNECTIONS



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

NOT TO SCALE
TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0630-089-202)
SHEET 45 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE
AMT

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10:19:09 AM
8/2/2016
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TYPICAL SECTIONS

ROUTE 630

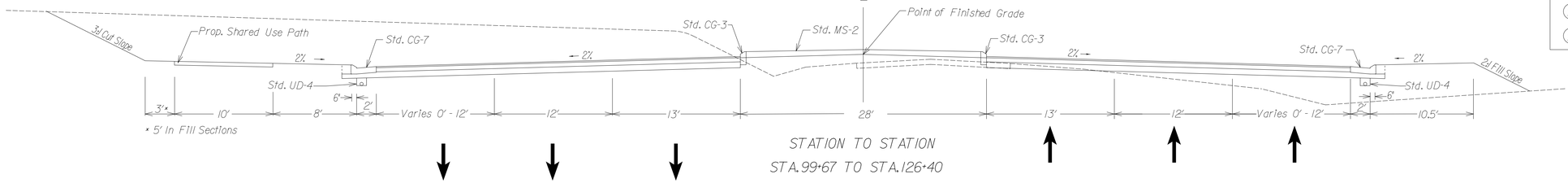
ROUTE 630, WYCHE ROAD, ROUTE 1, AUSTIN RIDGE PAVEMENT SECTION

1. SURFACE - 2" ASPHALT TY SM-12.5D
2. INTERMEDIATE - 2" ASPHALT TY IM-19.0A
3. BASE - 4" ASPHALT TY BM-25.0A
4. SUBBASE - 2" STABILIZED OGDL
5. SUBBABSE - 6" AGGREGATE BASE, TY 1.21A

SHARED USE PATH SECTION

1. SURFACE - 4" HYDRAULIC CON. CL A3
2. BASE - 4" AGGREGATE BASE, TY 1.21B

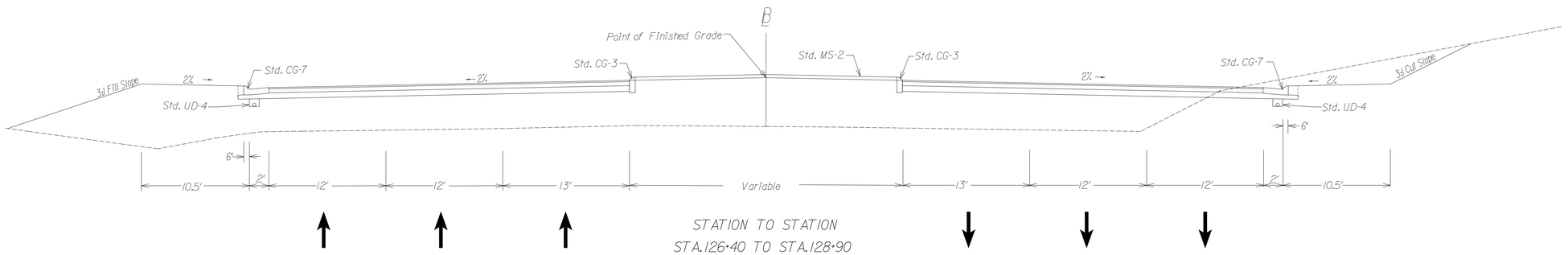
ROUTE 630 WB



ROUTE 630 EB

STATION TO STATION
STA.99+67 TO STA.126+40

ROUTE 630 EB

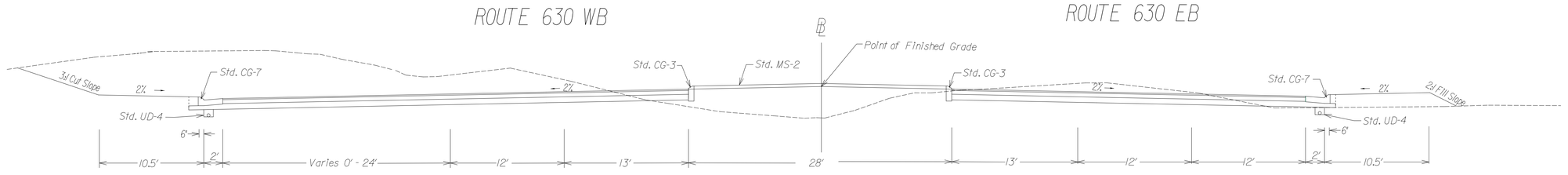


ROUTE 630 WB

STATION TO STATION
STA.126+40 TO STA.128+90
STA.132+54 TO STA.135+30

SEE PAGE 85 FOR BRIDGE TRANSVERSE SECTION

ROUTE 630 WB



ROUTE 630 EB

STATION TO STATION
STA.135+30 TO STA.175+56

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 46 OF 85

CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

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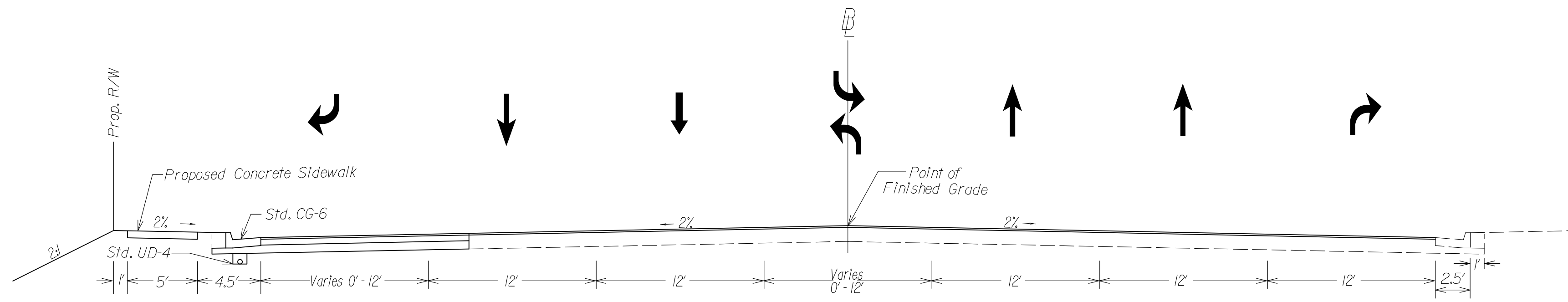
TYPICAL SECTIONS

ROUTE 1



ROUTE 630,WYCHE ROAD,ROUTE 1, AUSTIN RIDGE PAVEMENT SECTION

1. SURFACE - 2" ASPHALT TY SM-12.5D
2. INTERMEDIATE - 2" ASPHALT TY IM-19.0A
3. BASE - 4" ASPHALT TY BM-25.0A
4. SUBBASE - 2" STABILIZED OGDL
5. SUBBABSE - 6" AGGREGATE BASE,TY 1.21A

SIDEWALK SECTION

1. SURFACE - 4" HYDRAULIC CON. CL A3
2. BASE - 4" AGGREGATE BASE,TY 1.21B

MILL AND OVERLAY

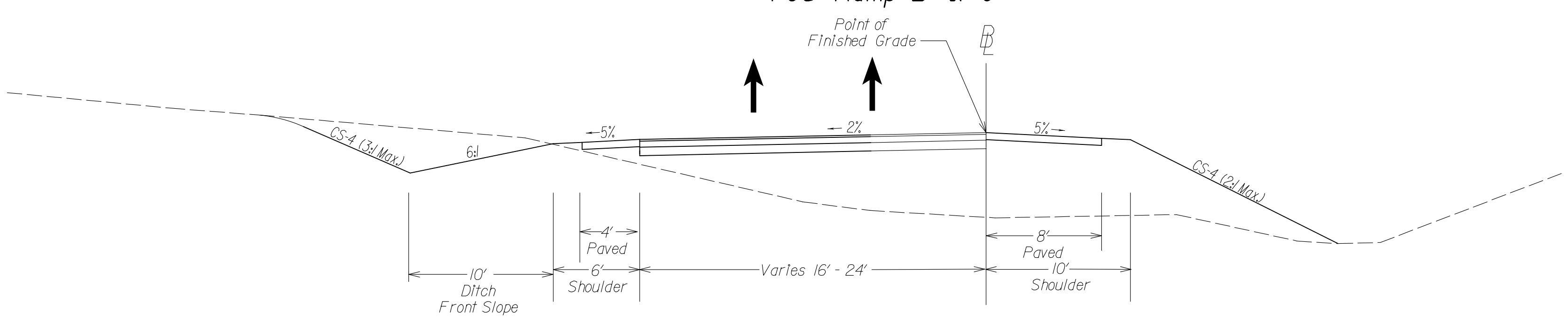
1. 2" MILLING REQ'D.
2. SURFACE - 2" ASPHALT TY SM-12.5D

SIDEWALK LOCATIONS

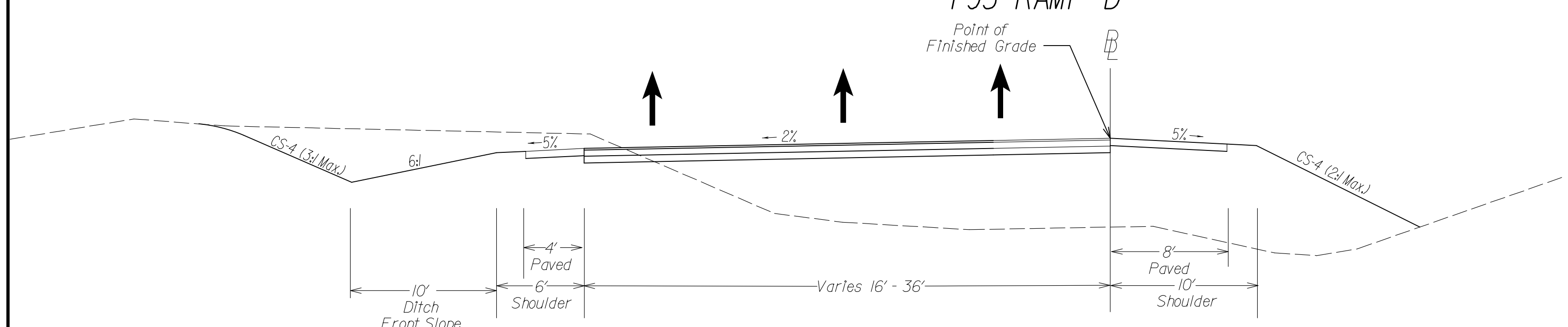
STA. 20+52 LT TO STA. 27+07 LT

RAMPS

I-95 Ramp B & C

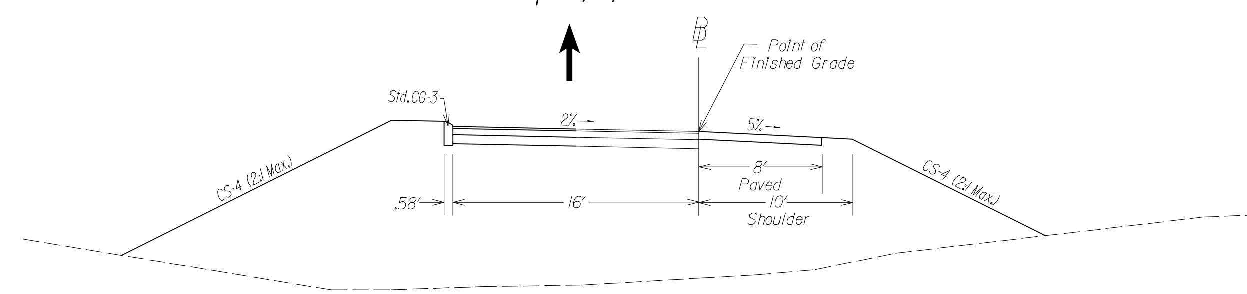


I-95 RAMP D

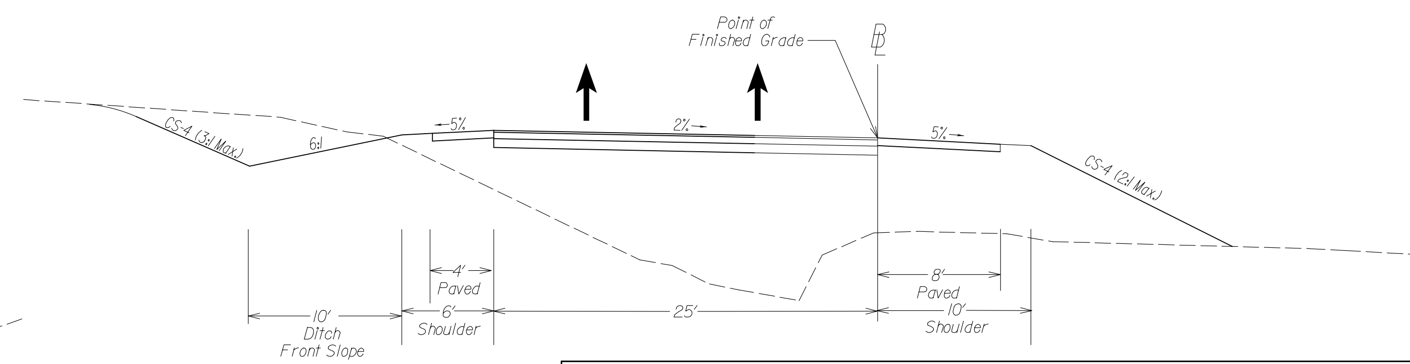


RAMPS

I-95 Ramp A,B,C & D



I-95 RAMP A



TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

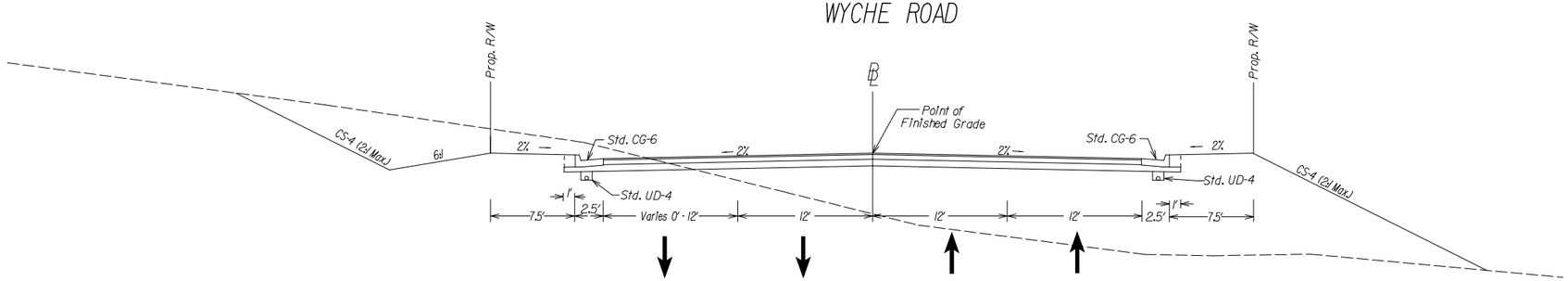
(PROJECT # 0095-089-F09)

SHEET 47 OF 85

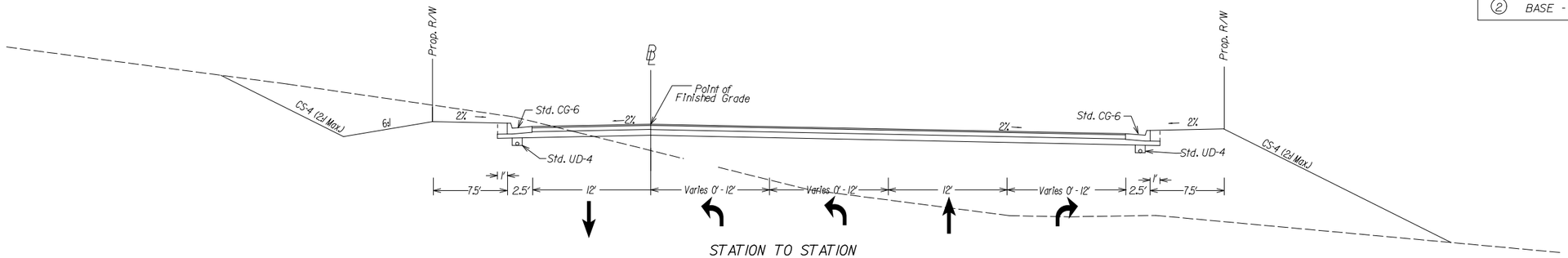
CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE — WRA

TYPICAL SECTIONS

WYCHE ROAD

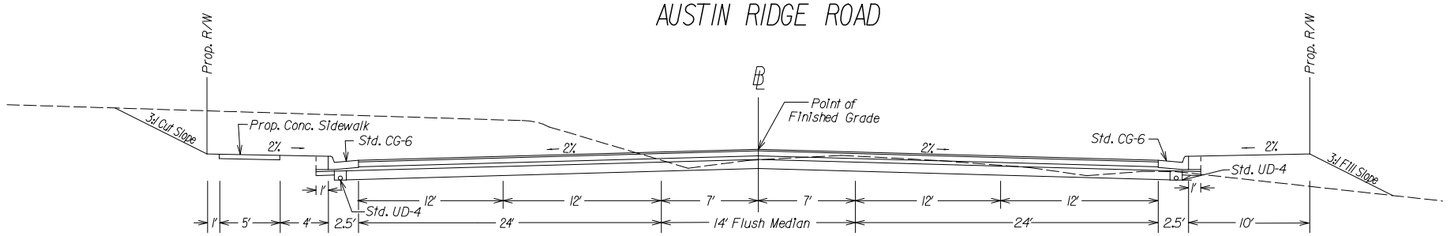


STATION TO STATION
STA.18+68 TO STA.29+14

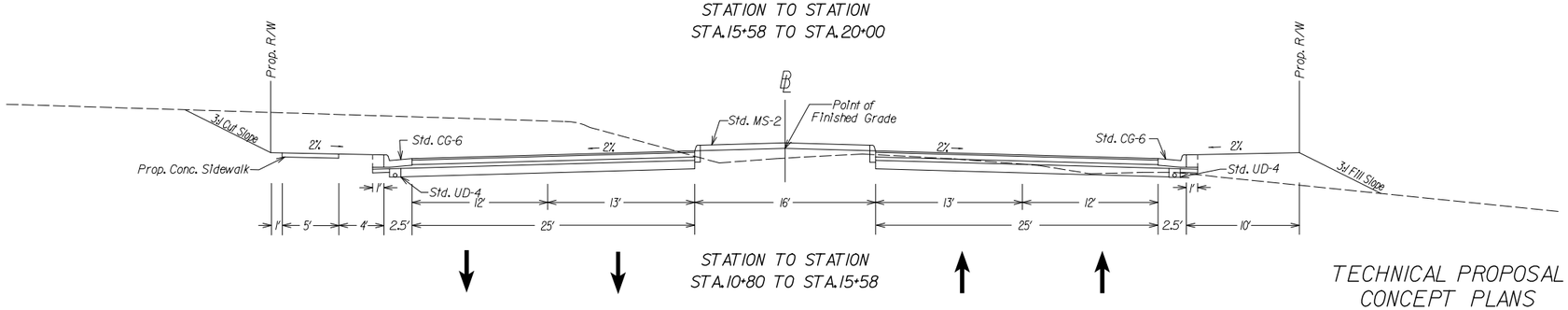


STATION TO STATION
STA.10+00 TO STA.18+68

AUSTIN RIDGE ROAD



STATION TO STATION
STA.15+58 TO STA.20+00



STATION TO STATION
STA.10+80 TO STA.15+58

TECHNICAL PROPOSAL
CONCEPT PLANS

ROUTE 630,WYCHE ROAD,ROUTE 1,
AUSTIN RIDGE PAVEMENT SECTION

1. SURFACE - 2" ASPHALT TY SM-12.5D
2. INTERMEDIATE - 2" ASPHALT TY IM-19.0A
3. BASE - 4" ASPHALT TY BM-25.0A
4. SUBBASE - 2" STABILIZED OGDL
5. SUBBABSE - 6" AGGREGATE BASE,TY 1.21A

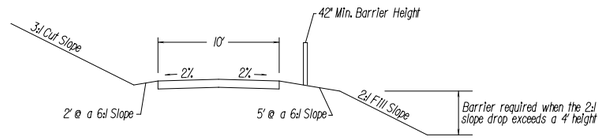
SHARED USE PATH SECTION

1. SURFACE - 2" ASPHALT TY SM-9.5A
2. BASE - 6" AGGREGATE BASE,TY 1.21B

SIDEWALK SECTION

1. SURFACE - 4" HYDRAULIC CON. CL A3
2. BASE - 4" AGGREGATE BASE,TY 1.21B

INDEPENDENT SHARED USE PATH



CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 48 OF 85

CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

WRA

11:07:12 AM dnuckols

8/2/2016

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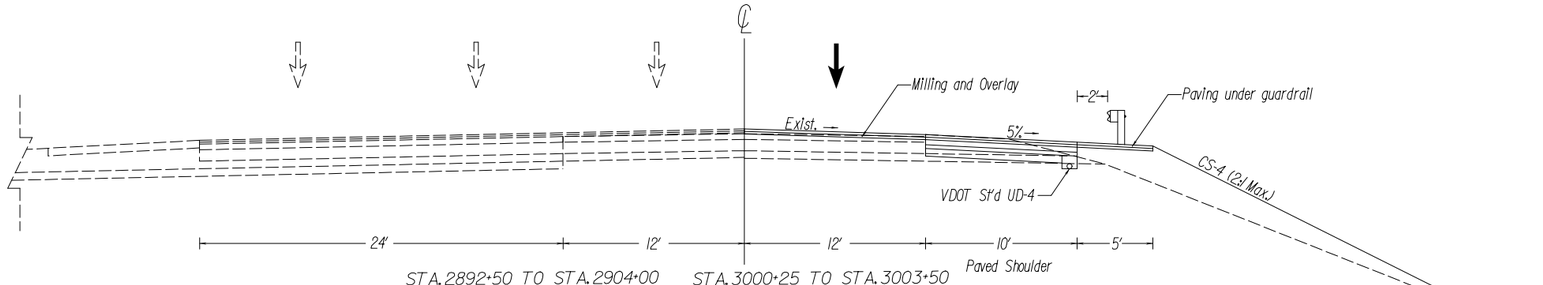
TYPICAL SECTIONS

NOT TO SCALE

I-95 WIDENING

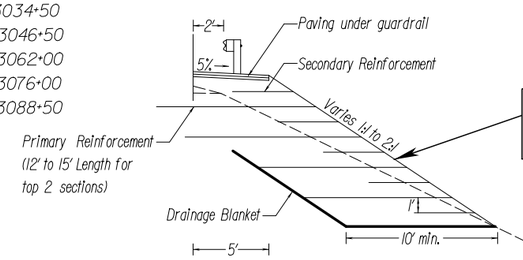
I-95 SOUTHBOUND FILL SECTION



STA. 2892+50 TO STA. 2904+00
STA. 2919+00 TO STA. 2920+00
STA. 2931+00 TO STA. 2932+50
STA. 2938+50 TO STA. 2940+50
STA. 2941+50 TO STA. 2943+00
STA. 2956+00 TO STA. 2957+50
STA. 2967+00 TO STA. 2973+00
STA. 2989+50 TO STA. 2993+00
STA. 2993+50 TO STA. 2994+50
STA. 2999+00 TO STA. 2999+75

STA. 3000+25 TO STA. 3003+50
STA. 3009+00 TO STA. 3010+50
STA. 3018+00 TO STA. 3022+00
STA. 3024+50 TO STA. 3026+50
STA. 3028+50 TO STA. 3029+50
STA. 3031+00 TO STA. 3034+50
STA. 3043+50 TO STA. 3046+50
STA. 3060+00 TO STA. 3062+00
STA. 3075+00 TO STA. 3076+00
STA. 3079+00 TO STA. 3088+50

REINFORCED FILL SECTION

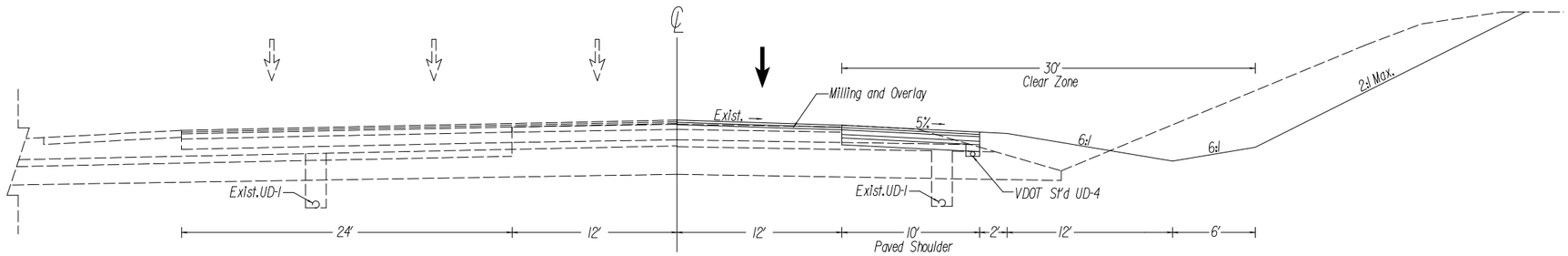


STA. 2904+00 TO STA. 2919+00
STA. 2932+50 TO STA. 2938+50
STA. 2943+00 TO STA. 2945+00
STA. 2981+50 TO STA. 2984+50
STA. 2986+00 TO STA. 2898+50
STA. 2993+00 TO STA. 2993+50
STA. 2999+75 TO STA. 3000+25

STA. 3003+50 TO STA. 3009+00
STA. 3010+50 TO STA. 3018+00
STA. 3022+00 TO STA. 3024+50
STA. 3029+50 TO STA. 3031+00
STA. 3046+50 TO STA. 3060+00
STA. 3076+00 TO STA. 3079+00
STA. 3088+50 TO STA. 3091+00

4TH LANE ENHANCEMENT #1: MECHANICALLY-STABLIIZED SLOPE

I-95 SOUTHBOUND CUT SECTION



STA. 2920+00 TO STA. 2931+00
STA. 2940+50 TO STA. 2941+50
STA. 2945+00 TO STA. 2956+00
STA. 2957+50 TO STA. 2967+00
STA. 2973+00 TO STA. 2981+50
STA. 2994+50 TO STA. 2999+00
STA. 3026+50 TO STA. 3028+50
STA. 3034+50 TO STA. 3043+50
STA. 3062+00 TO STA. 3075+00

NOTES:

1. FOR LIMITS OF MILL AND OVERLAY AND FULL DEPTH PAVEMENT, REFER TO THE PLAN SHEETS.
2. REFER TO GEOTECHNICAL ENGINEERING DATA REPORT FOR PAVEMENT DESIGN.
3. ALL SIDEWALK CURB RAMPS WILL BE CONSTRUCTED PER ADA STANDARDS.

I-95 PAVEMENT SECTION

1. SURFACE - 2" ASPHALT TY SM-12.5E
2. INTERMEDIATE - 2" ASPHALT TY IM-19.0A
3. BASE - 4" ASPHALT TY BM-25.0A
4. SUBBASE - 3" STABILIZED OGDL
5. SUBBABSE - 6" AGGREGATE BASE, TY 1.2IA

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 49 OF 85

CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

WRA

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8/2/2016

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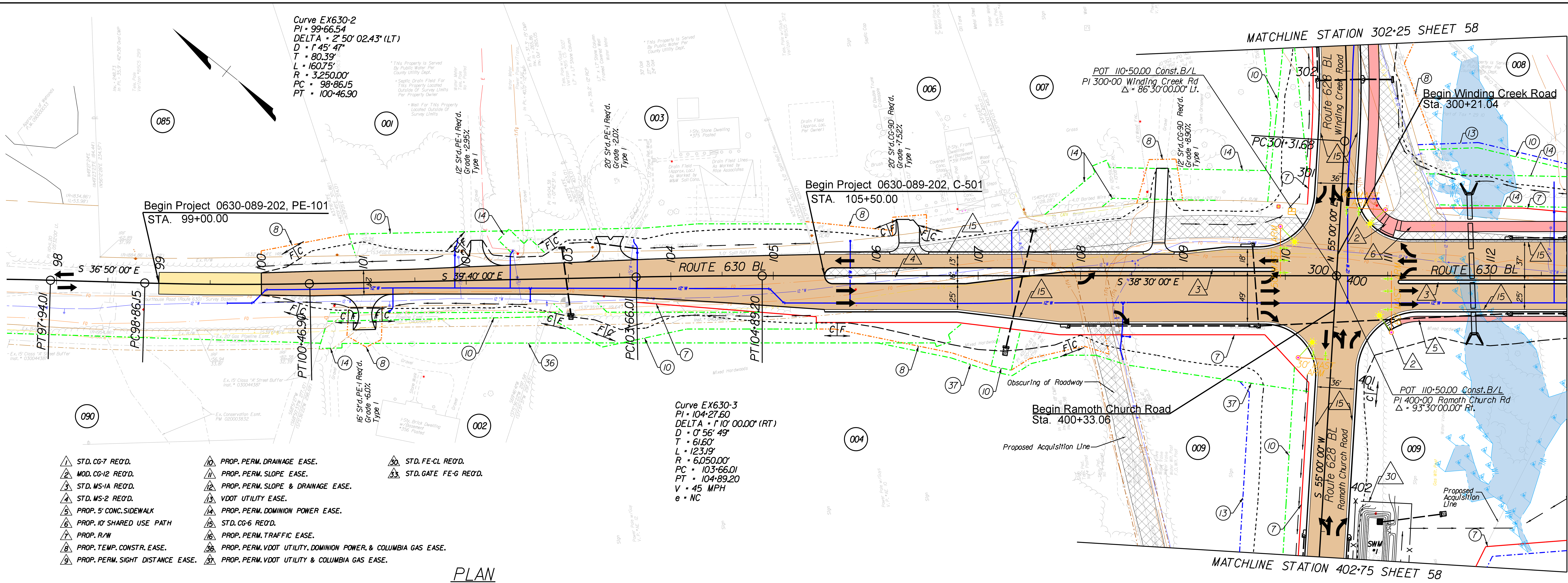
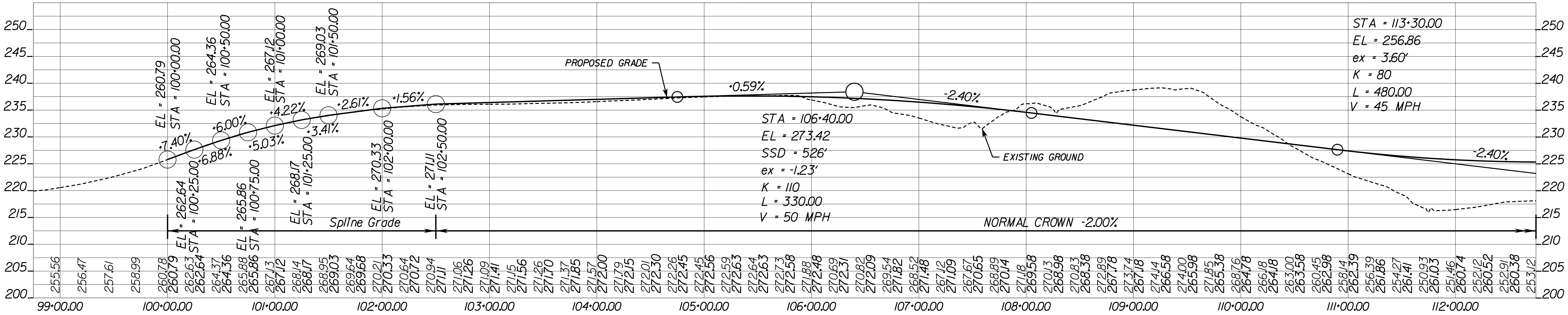


PLAN



ROUTE 630 PROFILE

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- EXISTING WATER
- EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- EXISTING CABLE TV
- EXISTING TELEPHONE
- EXISTING TRAFFIC CONTROL
- EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd.		
Traffic Signal Sign — Pole Mounted		
Video Detection Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING (PROJECT # 0630-089-202)

SHEET 50 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE — AMT

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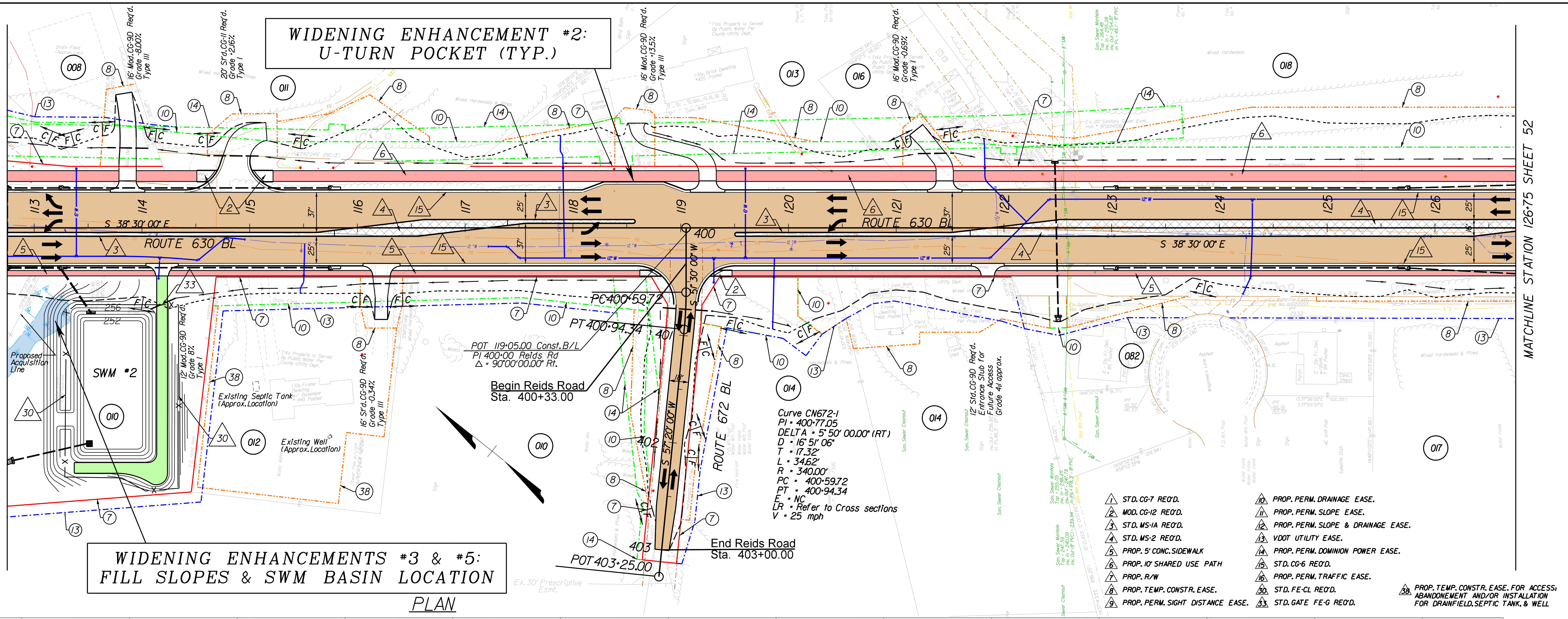
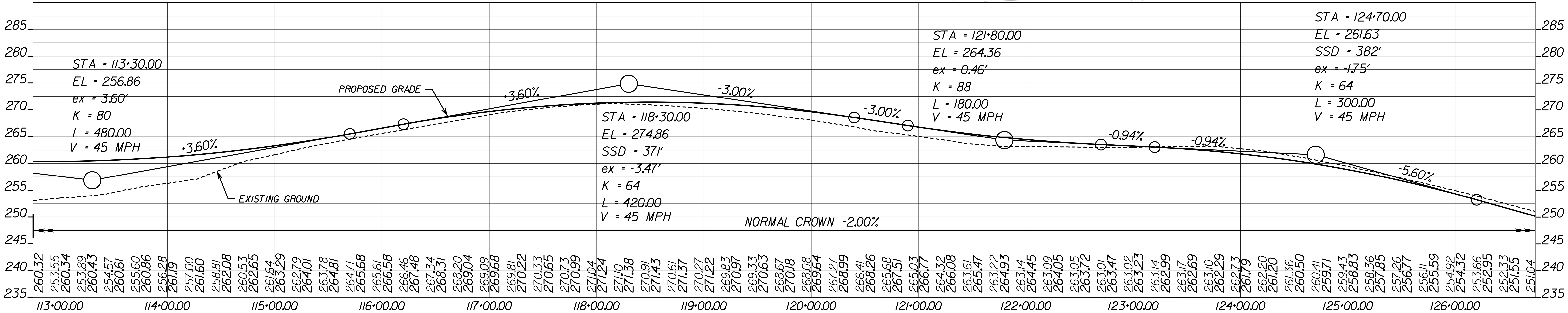


PLAN



ROUTE 630 PROFILE

LEGEND:

Line	Description
	EXISTING RIGHT OF WAY
	EXISTING EASEMENT
	PROPOSED RIGHT OF WAY
	PROPOSED TEMPORARY EASEMENT
	PROPOSED PERMANENT EASEMENT
	PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
	PROPOSED INGRESS/EGRESS EASEMENT
	PROPOSED SOUND WALL/RETAINING WALL
24"W	EXISTING WATER
E	EXISTING ELECTRIC
FO	EXISTING FIBER OPTIC
CATV	EXISTING CABLE TV
T/Tg	EXISTING TELEPHONE
TC	EXISTING TRAFFIC CONTROL
Unk	EXISTING UNKNOWN UTILITY

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (St'd. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd.		
Traffic Signal Sign — Pole Mounted		
Video Detection Camera		
Junction Box (St'd. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0630-089-202)
SHEET 51 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE — AMT

Plotted By: locaIuser
10:19:34 AM
8/2/2016
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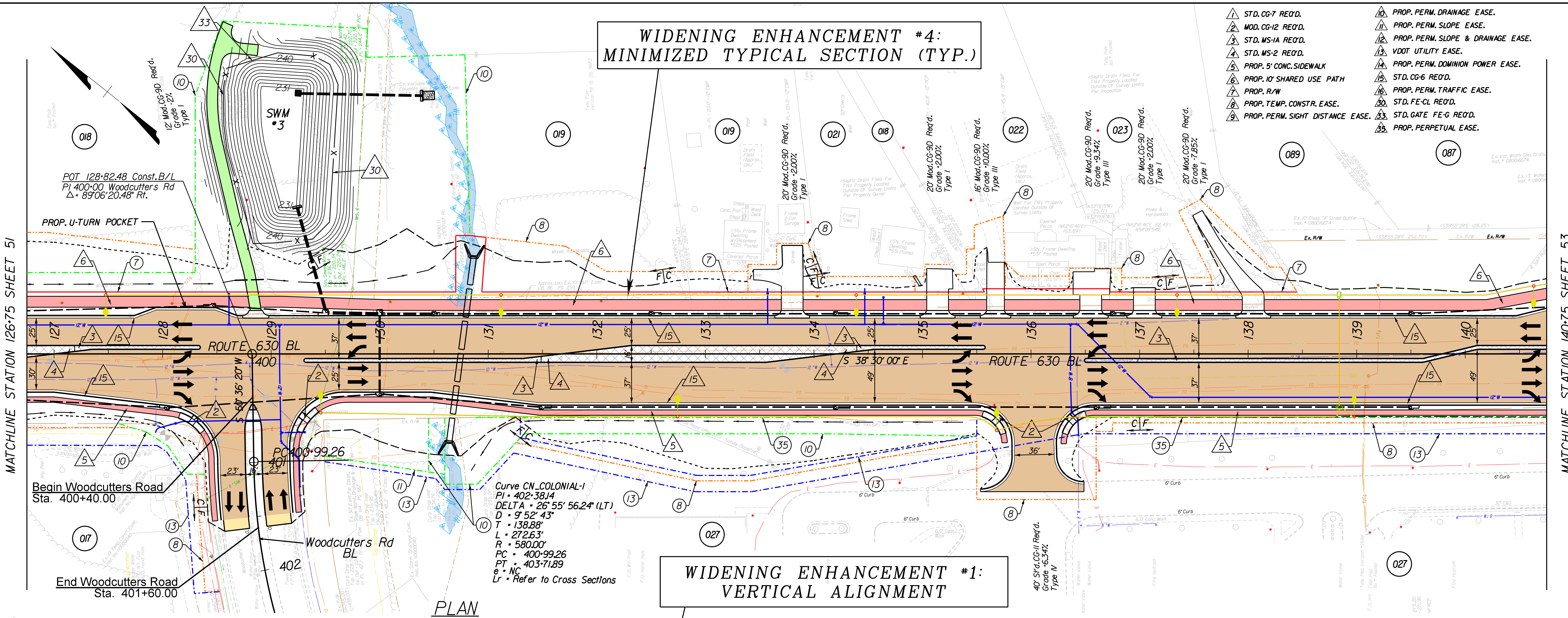
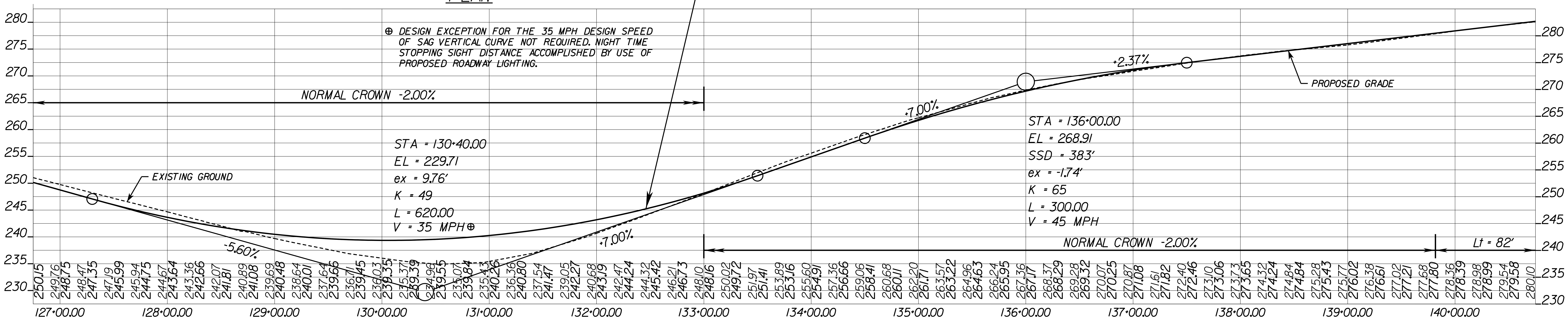


WIDENING ENHANCEMENT #4: MINIMIZED TYPICAL SECTION (TYP.)
WIDENING ENHANCEMENT #1: VERTICAL ALIGNMENT
1 STD. CG-7 REQ'D.
2 MOD. CG-12 REQ'D.
3 STD. MS-1A REQ'D.
4 STD. MS-2 REQ'D.
5 PROP. 5' CONC. SIDEWALK
6 PROP. 10' SHARED USE PATH
7 PROP. R/W
8 PROP. TEMP. CONSTR. EASE.
9 PROP. PERM. SIGHT DISTANCE EASE.
10 PROP. PERM. DRAINAGE EASE.
11 PROP. PERM. SLOPE EASE.
12 PROP. PERM. SLOPE & DRAINAGE EASE.
13 VDOT UTILITY EASE.
14 PROP. PERM. DOMINION POWER EASE.
15 STD. CG-6 REQ'D.
16 PROP. PERM. TRAFFIC EASE.
30 STD. FE-CL REQ'D.
33 STD. GATE FE-G REQ'D.
35 PROP. PERPETUAL EASE.
MATCHLINE STATION 126+75 SHEET 51
MATCHLINE STATION 140+75 SHEET 53
ROUTE 630 BL
S 38° 30' 00" E
SWM #3
PROP. U-TURN POCKET
POT 128+82.48 Const. B/L
PI 400+00 Woodcutters Rd
Δ = 89°06'20.48" Rt.
Begin Woodcutters Road Sta. 400+40.00
End Woodcutters Road Sta. 401+60.00
Woodcutters Rd BL
PC 400+99.26
Curve CN_COLONIAL-1
PI = 402+38.14
DELTA = 26° 55' 56.24" (LT)
D = 9° 52' 43"
T = 138.88'
L = 272.63'
R = 580.00'
PC = 400+99.26
PT = 403+71.89
e = NC
Lr = Refer to Cross Sections
PLAN



DESIGN EXCEPTION FOR THE 35 MPH DESIGN SPEED OF SAG VERTICAL CURVE NOT REQUIRED. NIGHT TIME STOPPING SIGHT DISTANCE ACCOMPLISHED BY USE OF PROPOSED ROADWAY LIGHTING.
NORMAL CROWN -2.00%
EXISTING GROUND
-5.60%
+7.00%
+2.37%
PROPOSED GRADE
STA = 130+40.00
EL = 229.71
ex = 9.76'
K = 49
L = 620.00
V = 35 MPH
STA = 136+00.00
EL = 268.91
SSD = 383'
ex = -1.74'
K = 65
L = 300.00
V = 45 MPH
Lt = 82'
127+00.00
128+00.00
129+00.00
130+00.00
131+00.00
132+00.00
133+00.00
134+00.00
135+00.00
136+00.00
137+00.00
138+00.00
139+00.00
140+00.00

ROUTE 630 PROFILE

LEGEND:

EXISTING RIGHT OF WAY	EXISTING WATER
EXISTING EASEMENT	EXISTING ELECTRIC
PROPOSED RIGHT OF WAY	EXISTING FIBER OPTIC
PROPOSED TEMPORARY EASEMENT	EXISTING CABLE TV
PROPOSED PERMANENT EASEMENT	EXISTING TELEPHONE
PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT	EXISTING TRAFFIC CONTROL
PROPOSED INGRESS/EGRESS EASEMENT	EXISTING UNKNOWN UTILITY
PROPOSED SOUND WALL/RETAINING WALL	

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C DENOTES CONSTRUCTION LIMITS IN CUT
- F DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (St'd. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
Video Detection Camera		
Junction Box (St'd. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

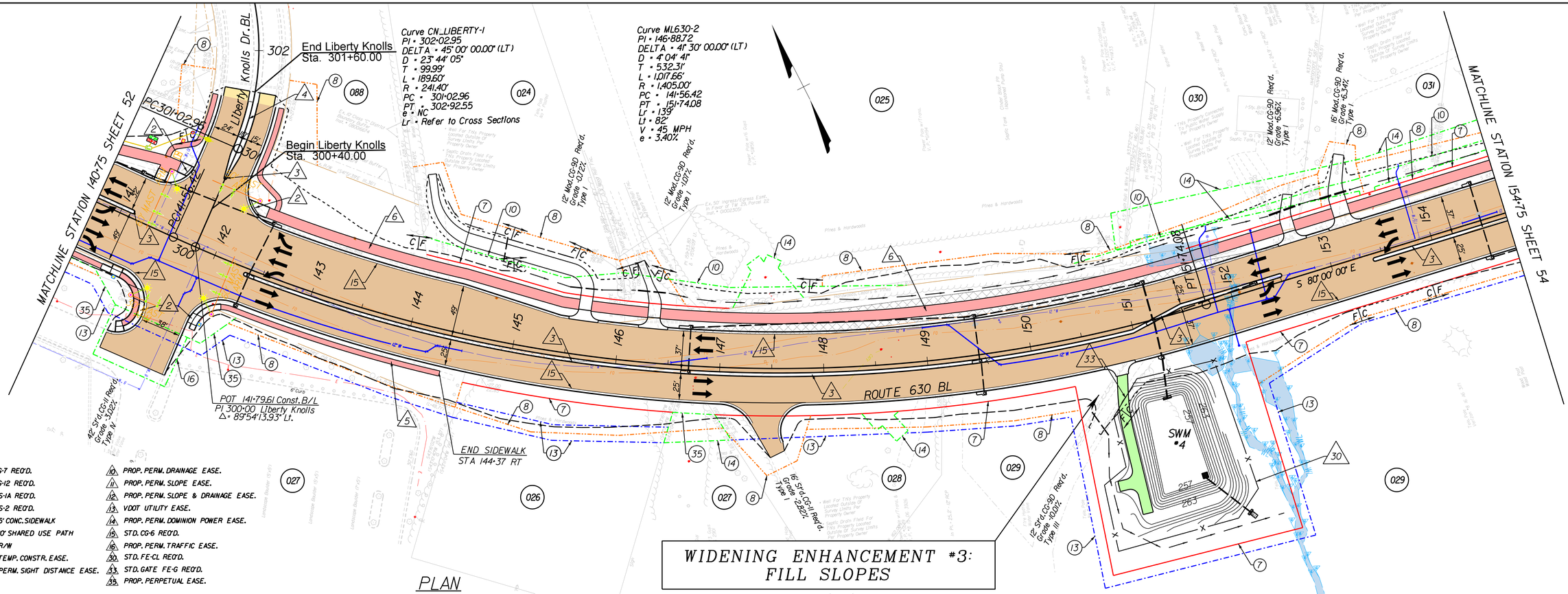
TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0630-089-202)
SHEET 52 OF 85

CORMAN CONSTRUCTION | BranchHighways
A JOINT VENTURE
AMT

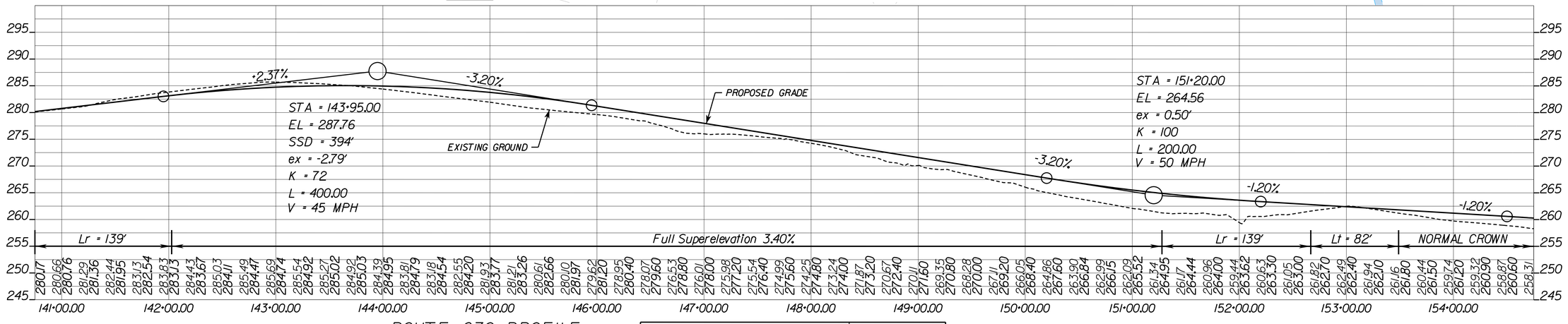
8/2/2016 d4632052.dgn
10:19:35 AM Plotted By: localuser



1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. PERM. SLOPE EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD. CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
30. STD. FE-CL REQ'D.
33. STD. GATE FE-G REQ'D.
35. PROP. PERPETUAL EASE.

PLAN

WIDENING ENHANCEMENT #3: FILL SLOPES



ROUTE 630 PROFILE

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mtd. / Pole Mounted		
Video Detection Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0630-089-202)

SHEET 53 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE

AMT

Plotted By: tcotluser 10:09:36 AM

8/2/2016 d4632053.dgn

MATCHLINE STATION 154+75 SHEET 53

MATCHLINE STATION 168+00 SHEET 55

ROUTE 630 BL

S 80° 00' 00" E

S 74° 30' 00" E

S 15° 30' 00" W

S 21° 00' 00" W

Rollinswood Lane BL

PROP. U-TURN POCKET

POT 163+24.93 Const.B/L
PI 400+00 Rollinswood Ln
Δ = 90°00'00.00" Rt.

POT 402+50.00

PC 156+73.44

PT 162+54.19

PC 400+60.40

PT 400+93.04

PC 168+41.72

Begin Rollinswood Lane
Sta. 400+33.00

End Rollinswood Lane
Sta. 400+75.00

Do Not Disturb

FLC

CF

Curve ML630-3
PI = 159+64.04
DELTA = 5° 30' 00.00" (RT)
D = 0° 56' 49"
T = 290.60'
L = 580.76'
R = 6,050.00'
PC = 156+73.44
PT = 162+54.19
V = 45 MPH
e = NC

Curve ML630-4
PI = 170+60.47
DELTA = 41° 00' 00.00" (RT)
D = 5° 06' 57"
T = 418.75'
L = 801.46'
R = 1,120.00'
PC = 166+41.72
PT = 174+43.18
Lr = 151'
Lt = 82'
V = 45 MPH
e = 3.70%

Curve CN_ROLL-1
PI = 400+76.74
DELTA = 5° 30' 00.00" (RT)
D = 16° 51' 06"
T = 16.33'
L = 32.64'
R = 340.00'
PC = 400+60.40
PT = 400+93.04
E & LR = Refer to Cross sections
V > 25 mph

16' Mod.CG-9D Req'd. Grade -0.87% Type III

16' Mod.CG-9D Req'd. Grade -6.09% Type I

16' Mod.CG-9D Req'd. Grade -9.00% Type III

16' Mod.CG-9D Req'd. Grade -10.00% Type III

12' Mod.CG-9D Req'd. Grade -7.08% Type III

30' Std.CG-11 Req'd. Grade -6.05% Type III

12' Std.CG-9D Req'd. Grade -5.00% Type III

20' Std.CG-9D Req'd. Grade -5.23% Type III

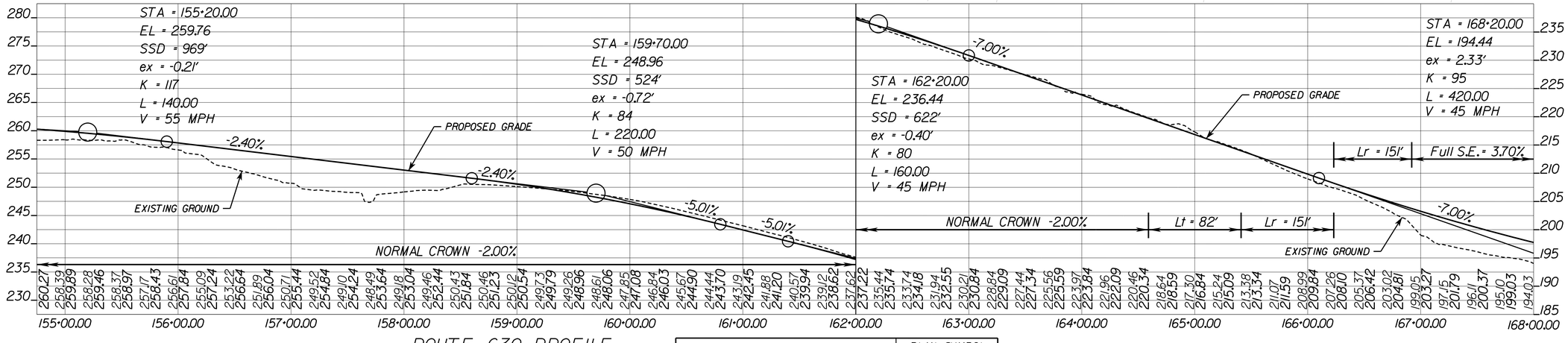
12' Std.CG-9D Req'd. Grade -16.62% Type III

12' Std.CG-9D Req'd. Grade -4.02% Type I

12' Std.CG-9D Req'd. Grade -7.44% Type III

1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. PERM. SLOPE EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD. CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.

PLAN



ROUTE 630 PROFILE

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C ____ DENOTES CONSTRUCTION LIMITS IN CUT
- F ____ DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mtd. / Pole Mounted		
Video Detection Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE
0 50' 100'

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0630-089-202)

SHEET 54 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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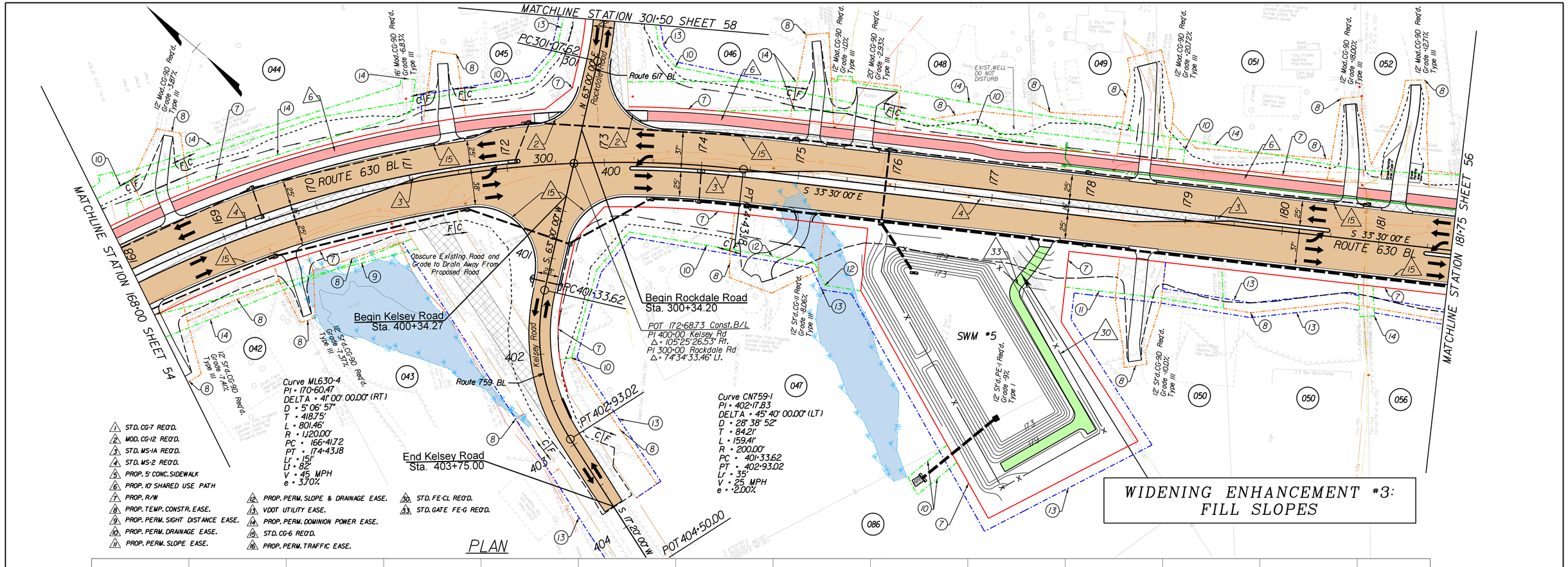
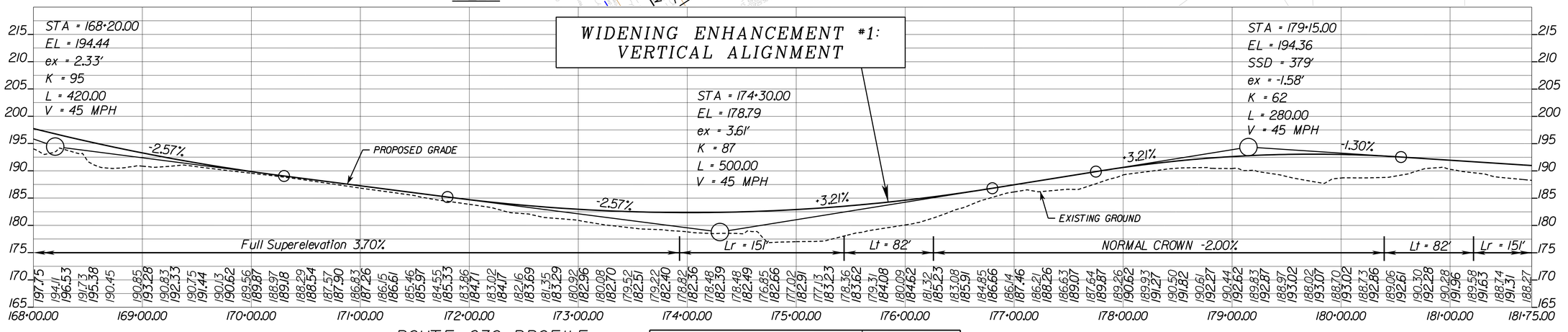
Plotted By: tcochuser
10:19:37 AM
8/2/2016
d4632054.dgn





LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W EXISTING WATER
- E EXISTING ELECTRIC
- FO EXISTING FIBER OPTIC
- CATV EXISTING CABLE TV
- T/Tg EXISTING TELEPHONE
- TC EXISTING TRAFFIC CONTROL
- Unk EXISTING UNKNOWN UTILITY

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C DENOTES CONSTRUCTION LIMITS IN CUT
- F DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mtd. / Pole Mounted		
Video Detection Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0630-089-202)

SHEET 55 OF 85

CORMAN CONSTRUCTION – Branch Highways – A JOINT VENTURE

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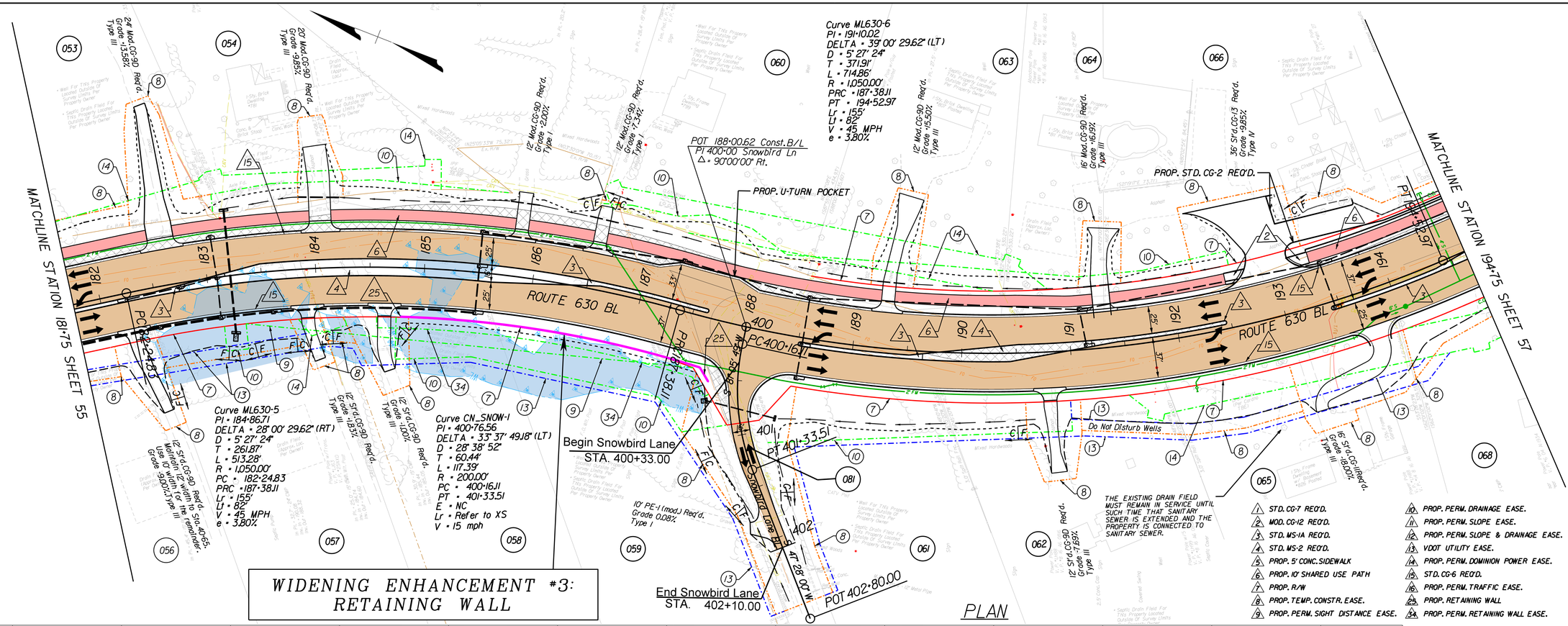
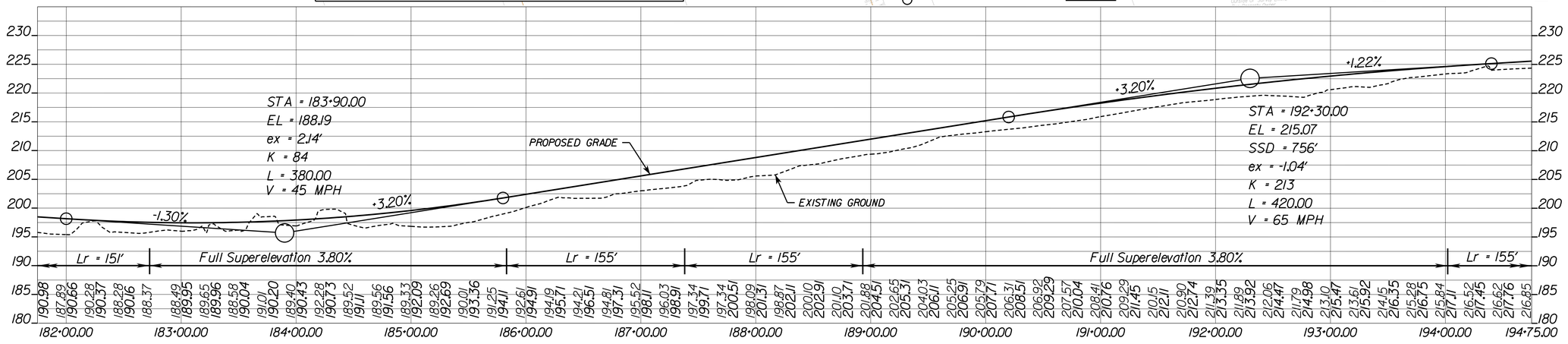
Plotted By: tcotluser
10:09:39 AM
8/2/2016
d4632055.dgn



WIDENING ENHANCEMENT #3: RETAINING WALL

PLAN



ROUTE 630 PROFILE

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
Video Detection Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. PERM. SLOPE EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD. CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
23. PROP. RETAINING WALL
34. PROP. PERM. RETAINING WALL EASE.

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0630-089-202)

SHEET 56 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE

AMT

Plotted By: tacoluser
10:59:40 AM
8/2/2016
d4632056.dgn

ROUTE 630 PROFILE

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM		PLAN SYMBOL: PROPOSED	PLAN SYMBOL: EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)			
Pedestal Pole and Foundation (St'd. PF-2)			
Traffic Signal Head			
Pedestrian Signal Head			
Traffic Signal Sign	Mast Arm or Span Wire Mt'd.		
	Pole Mounted		
Video Detection Camera			
Junction Box (St'd. as noted on plans)			
Signal Luminaire (250 W)			
Controller Cabinet & Foundation			

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

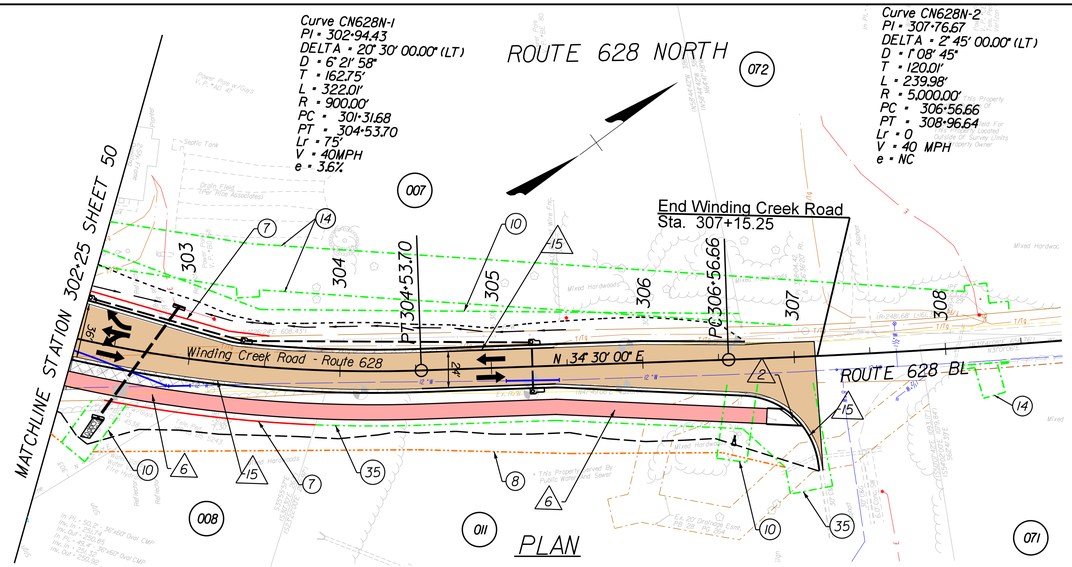
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING (PROJECT # 0630-089-202)

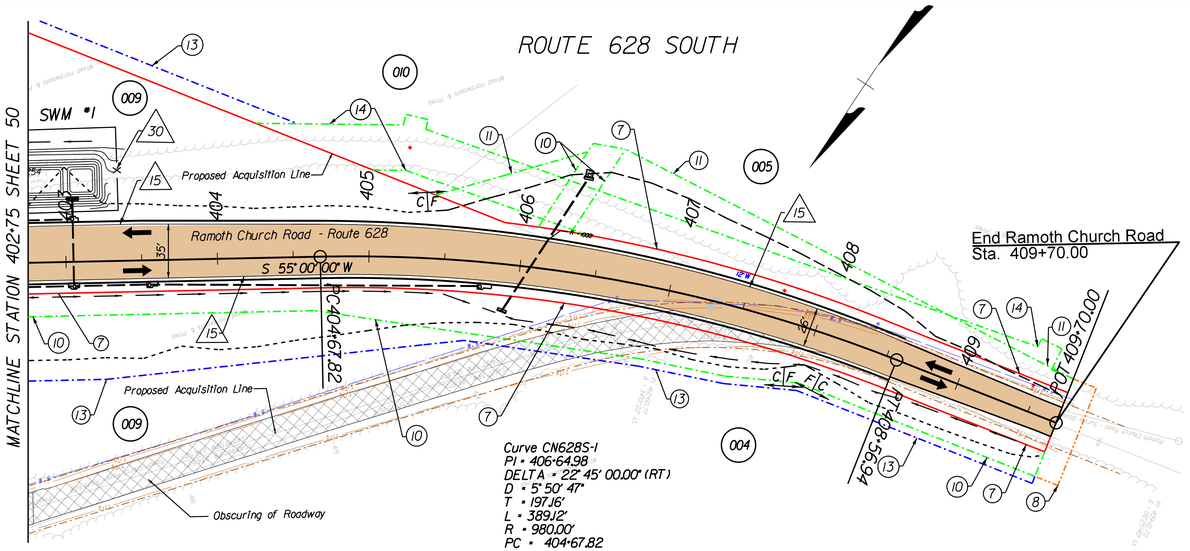
SHEET 57 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE

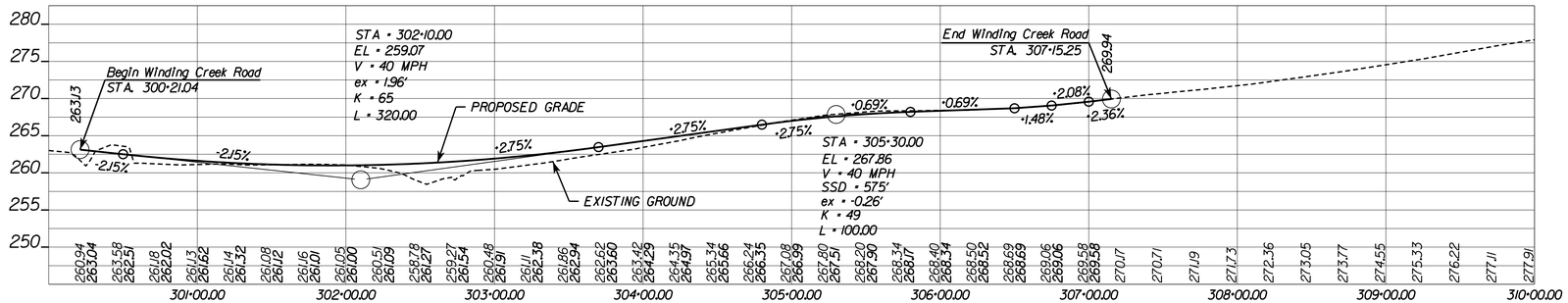
AMT

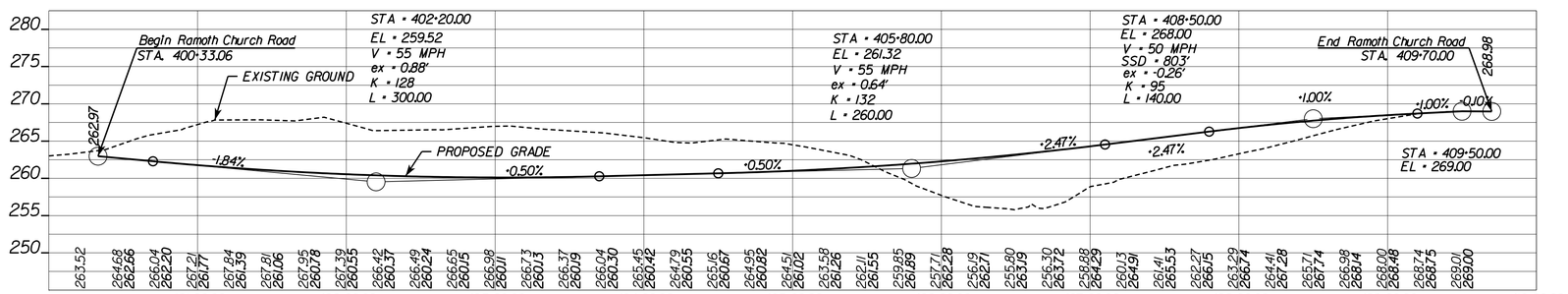
Plotted By: tocoluser 10:19:42 AM 8/2/2016 d4632057.dgn

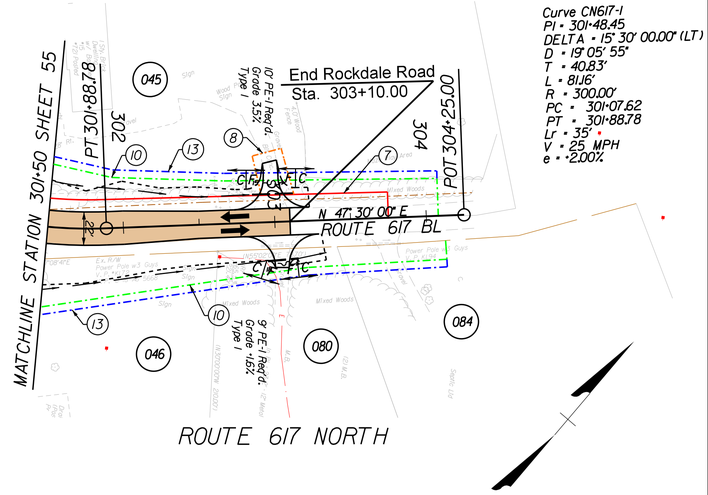




1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. PERM. SLOPE EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD. CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
30. STD. FE-CL REQ'D.
33. STD. GATE FE-G REQ'D.
35. PROP. PERPETUAL EASE.







LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C ____ DENOTES CONSTRUCTION LIMITS IN CUT
- F ____ DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd.		
Traffic Signal Sign — Pole Mounted		
Video Detection Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

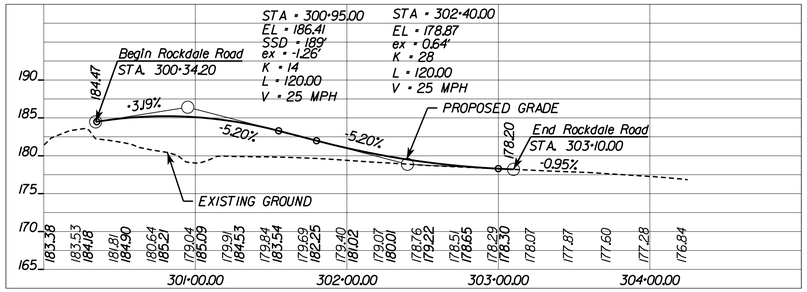
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0630-089-202)

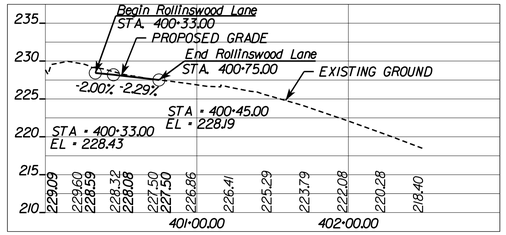
SHEET 58 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE — AMT

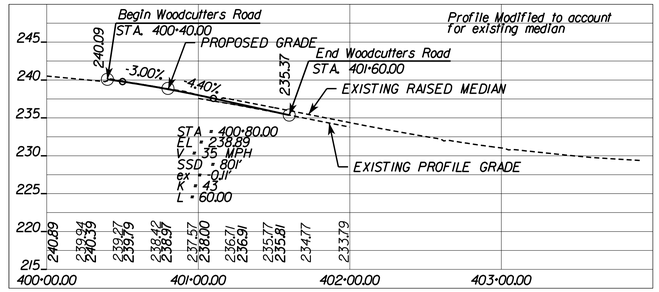
Plotted By: tcoduser
10:09:43 AM
8/2/2016
d4632058.dgn



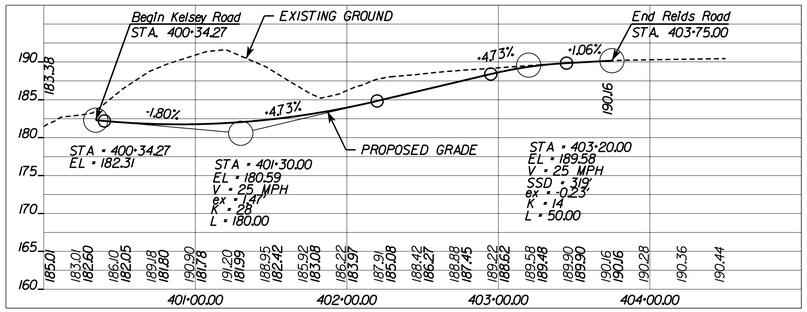
ROCKDALE ROAD (ROUTE 617) PROFILE



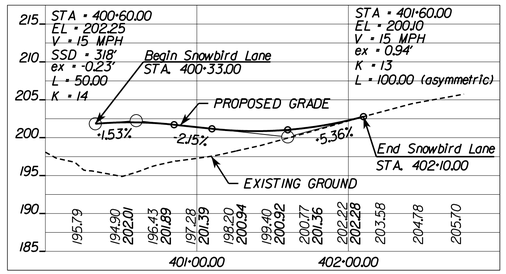
ROLLINSWOOD LANE PROFILE



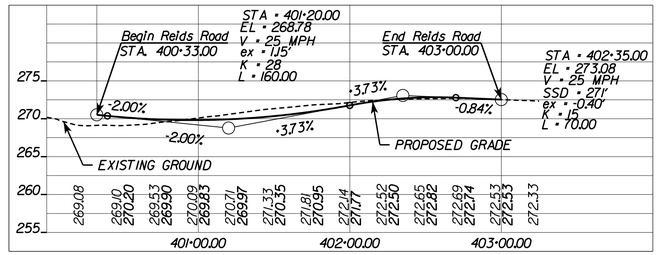
WOODCUTTERS ROAD PROFILE



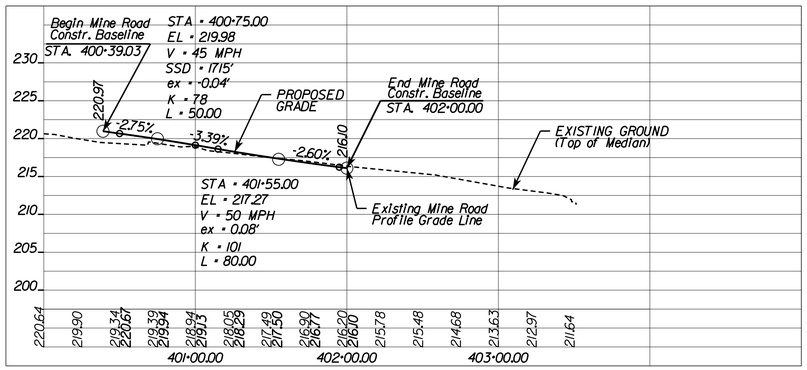
KELSEY ROAD (ROUTE 759) PROFILE



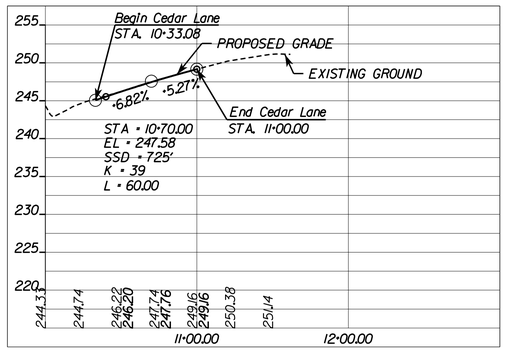
SNOWBIRD LANE PROFILE



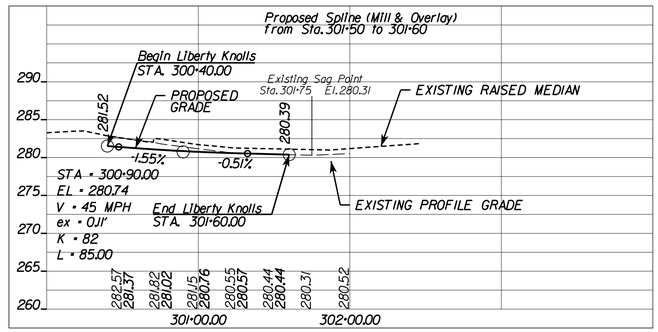
REIDS ROAD (ROUTE 672) PROFILE



MINE ROAD PROFILE



CEDAR LANE (ROUTE 732) PROFILE



LIBERTY KNOLLS DRIVE PROFILE

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 "W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY

- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd.		
Traffic Signal Sign — Pole Mounted		
Video Detection Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0630-089-202)
SHEET 59 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

AMT

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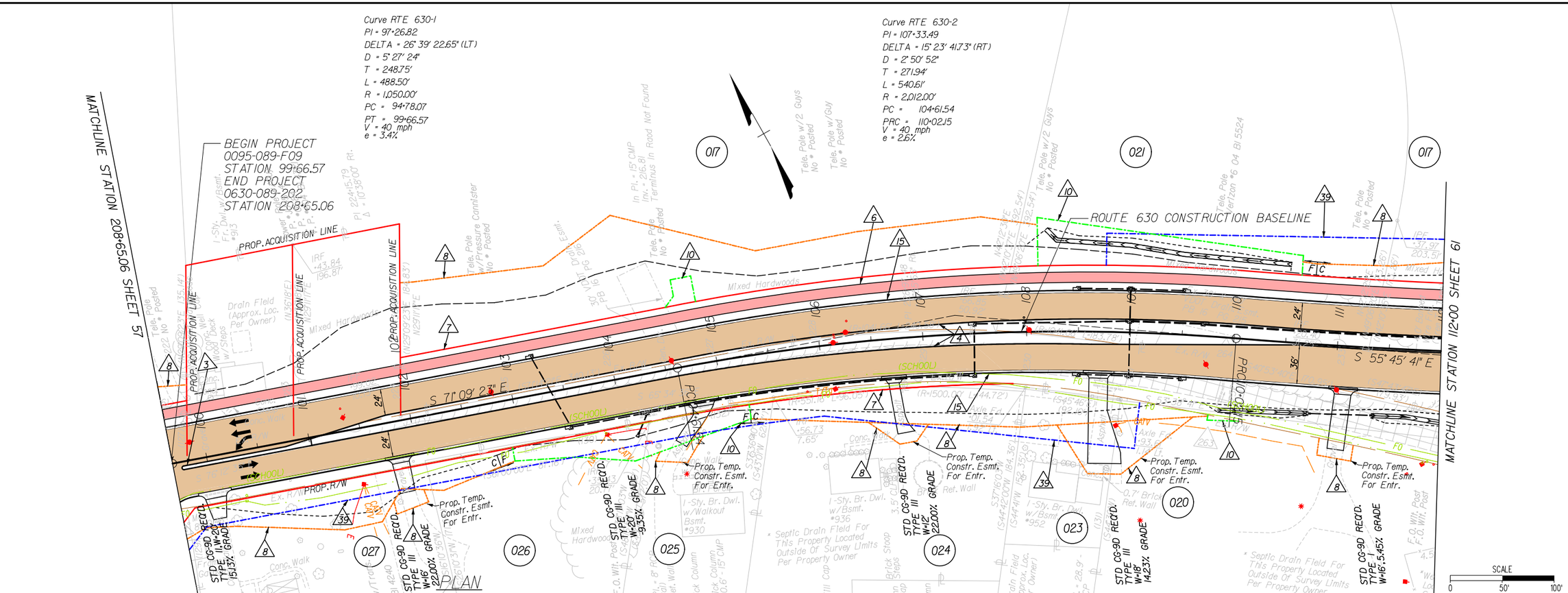

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 "W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. SLOPE EASE. EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD.CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
17. STD. GR-9 REQ'D.
18. STD. GR-2 REQ'D.
19. STD. GR-FOA-1, TY. 2 REQ'D.
20. STD. CG-3 REQ'D.
21. STD. GR-11 REQ'D.
22. STD. GR-FOA-1, TYPE 1 REQ'D.
23. STD. GR-FOA-1, TYPE 2 REQ'D.
24. SPECIAL DESIGN FOA
25. PROP. RETAINING WALL
26. PROP. PERM. SANITARY SEWER EASE.
27. PROP. PERM. WATER EASE.
28. STD. GR-2A REQ'D.
29. RECTANGULAR RAPID FLASHING BEACON STD. FE-CL
30. PIER PROTECTION SYSTEM
31. STD. GR-FOA-2, TYPE 1 REQ'D.
32. STD. GATE FE-G REQ'D.
33. PROP. PERM. RETAINING WALL EASE.
34. PROP. PERPETUAL EASE.
35. PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
36. PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
37. PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
38. PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 60 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE

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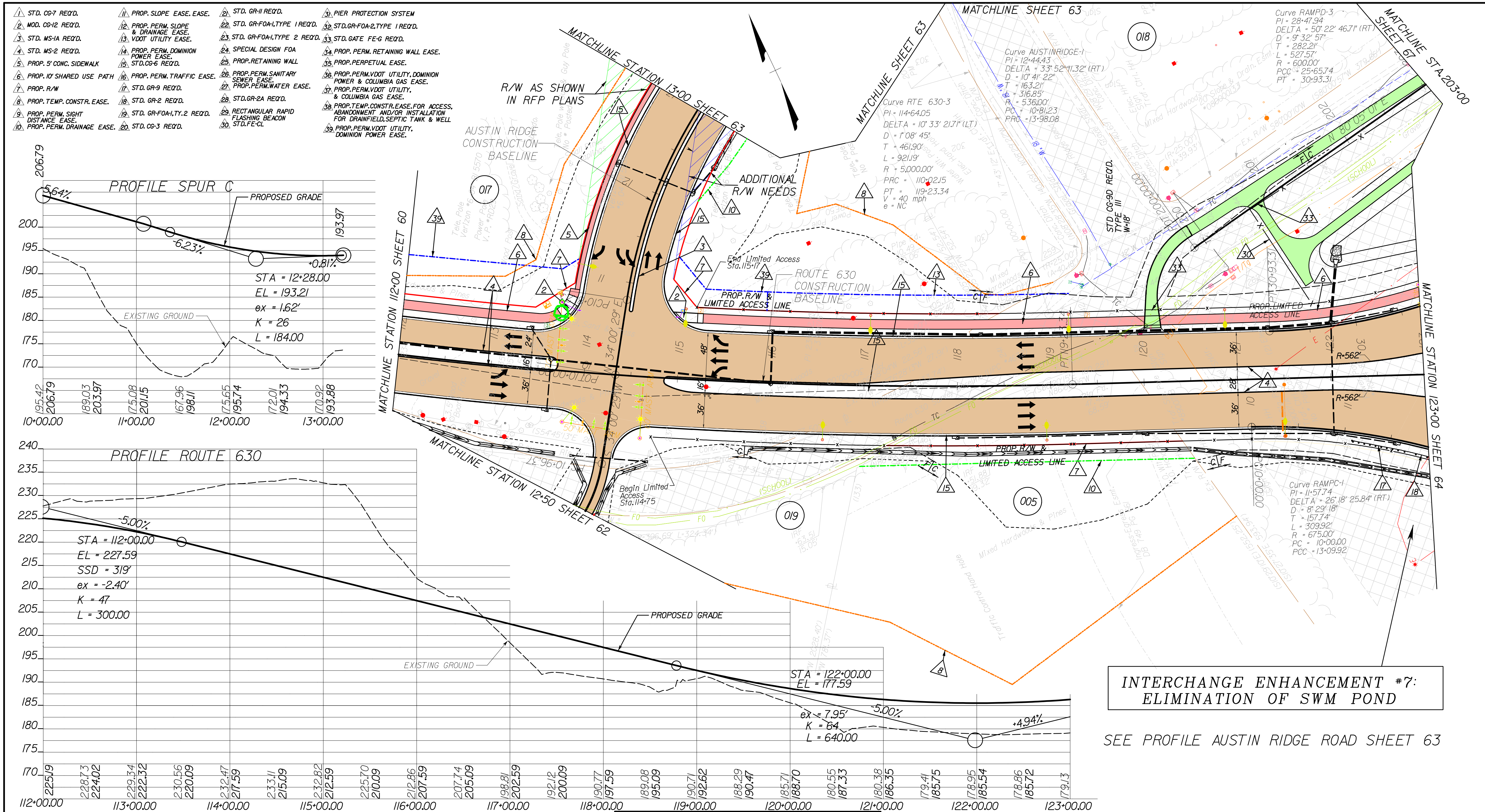
1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. SLOPE EASE. EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD.CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
17. STD. GR-9 REQ'D.
18. STD. GR-2 REQ'D.
19. STD. GR-FOA-1, TY. 2 REQ'D.
20. STD. CG-3 REQ'D.
21. STD. GR-11 REQ'D.
22. STD. GR-FOA-1, TYPE 1 REQ'D.
23. STD. GR-FOA-1, TYPE 2 REQ'D.
24. SPECIAL DESIGN FOA
25. PROP. RETAINING WALL
26. PROP. PERM. SANITARY SEWER EASE.
27. PROP. PERM. WATER EASE.
28. STD. GR-2A REQ'D.
29. RECTANGULAR RAPID FLASHING BEACON
30. STD. FE-CL
31. PIER PROTECTION SYSTEM
32. STD. GR-FOA-2, TYPE 1 REQ'D.
33. STD. GATE FE-G REQ'D.
34. PROP. PERM. RETAINING WALL EASE.
35. PROP. PERPETUAL EASE.
36. PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37. PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38. PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39. PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.



INTERCHANGE ENHANCEMENT #7: ELIMINATION OF SWM POND

SEE PROFILE AUSTIN RIDGE ROAD SHEET 63

TRAFFIC ITEM		PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)			
Pedestal Pole and Foundation (St'd. PF-2)			
Traffic Signal Head			
Pedestrian Signal Head			
Traffic Signal Sign	Mast Arm or Span Wire Mt'd.		
	Pole Mounted		
ITS CCTV Camera			
Junction Box (St'd. as noted on plans)			
Signal Luminaire (250 W)			
Controller Cabinet & Foundation			

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING (PROJECT # 0095-089-F09)

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE — WRA

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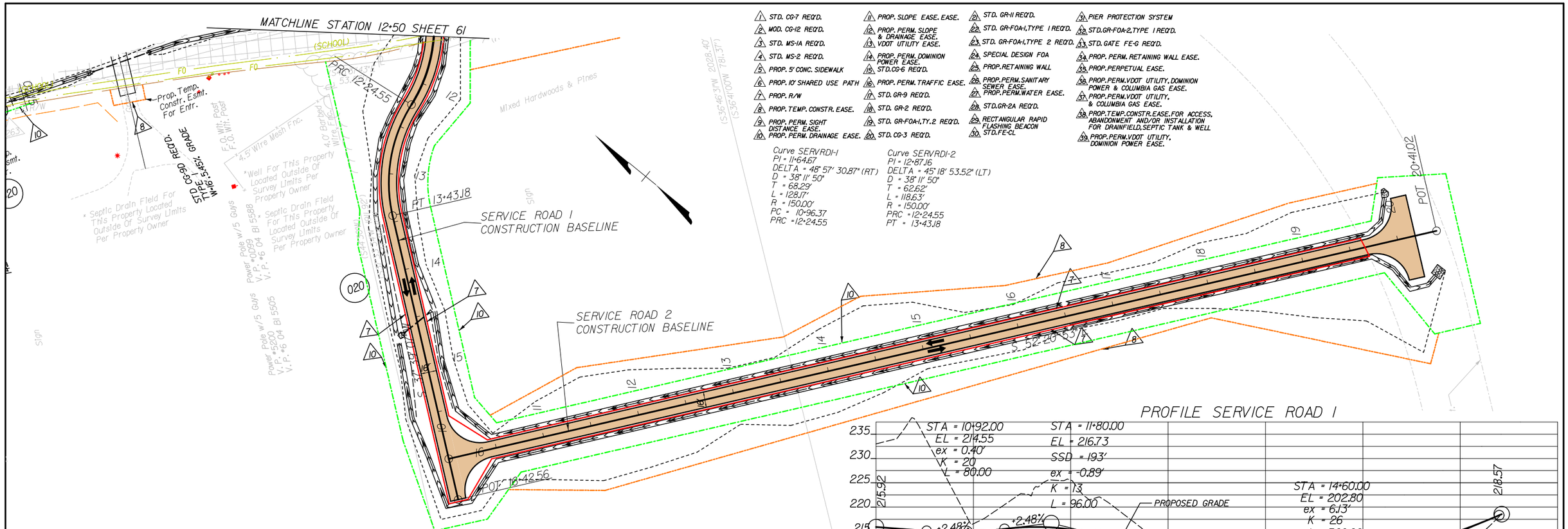

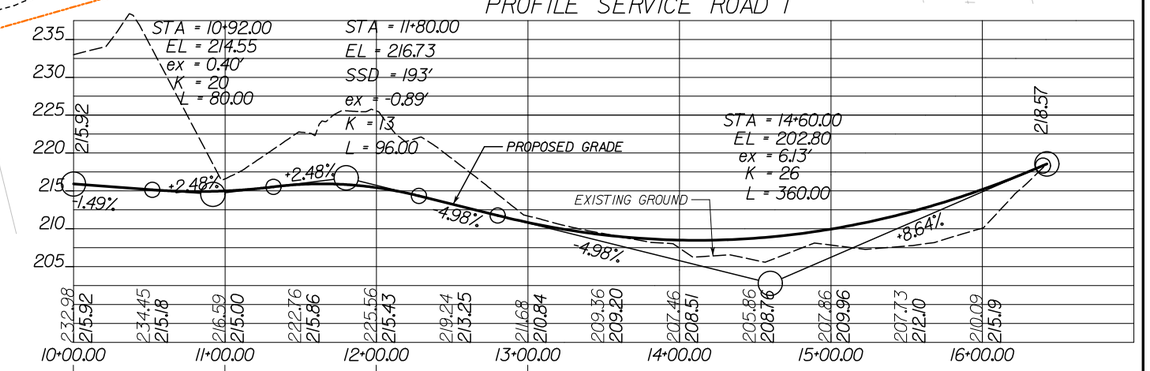

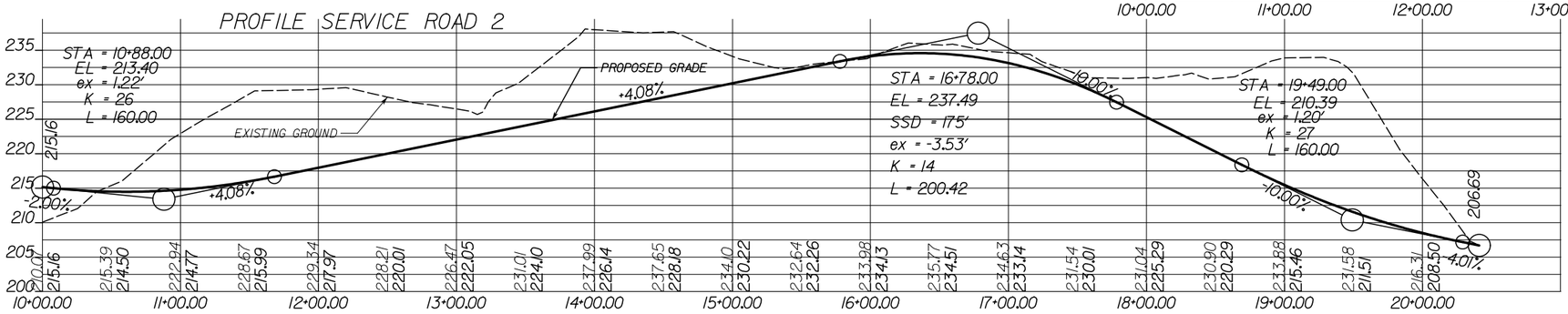

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 'W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
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- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

SCALE 0 50' 100'

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 62 OF 85

CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

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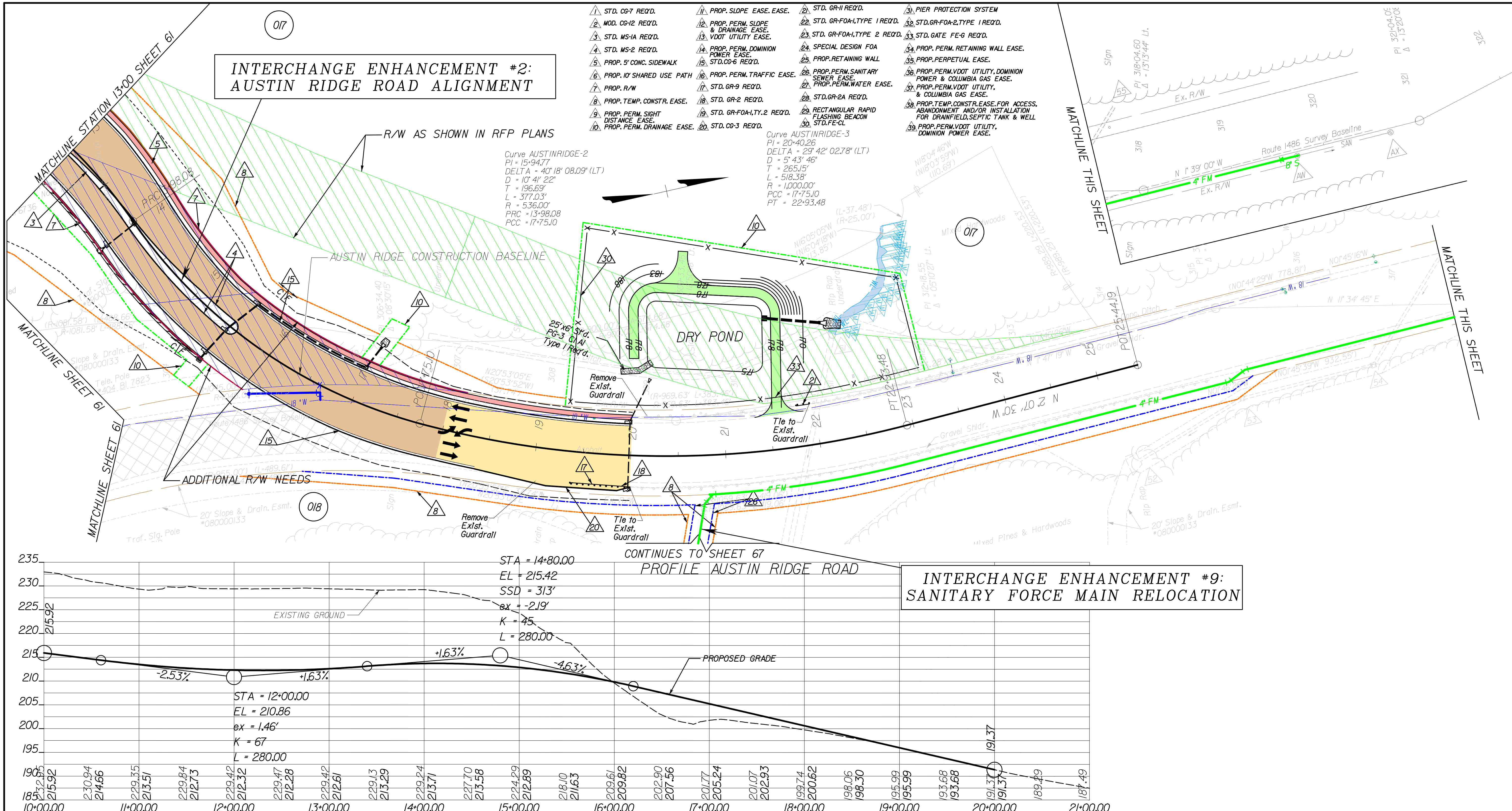

INTERCHANGE ENHANCEMENT #2:
AUSTIN RIDGE ROAD ALIGNMENT
1 STD. CG-7 REQ'D.
2 MOD. CG-12 REQ'D.
3 STD. MS-1A REQ'D.
4 STD. MS-2 REQ'D.
5 PROP. 5' CONC. SIDEWALK
6 PROP. 10' SHARED USE PATH
7 PROP. R/W
8 PROP. TEMP. CONSTR. EASE.
9 PROP. PERM. SIGHT DISTANCE EASE.
10 PROP. PERM. DRAINAGE EASE.
11 PROP. SLOPE EASE. EASE.
12 PROP. PERM. SLOPE & DRAINAGE EASE.
13 VDOT UTILITY EASE.
14 PROP. PERM. DOMINION POWER EASE.
15 STD. CG-6 REQ'D.
16 PROP. PERM. TRAFFIC EASE.
17 STD. GR-9 REQ'D.
18 STD. GR-2 REQ'D.
19 STD. GR-FOA-1, TY. 2 REQ'D.
20 STD. CG-3 REQ'D.
21 STD. GR-11 REQ'D.
22 STD. GR-FOA-1, TYPE 1 REQ'D.
23 STD. GR-FOA-1, TYPE 2 REQ'D.
24 SPECIAL DESIGN FOA
25 PROP. RETAINING WALL
26 PROP. PERM. SANITARY SEWER EASE.
27 PROP. PERM. WATER EASE.
28 STD. GR-2A REQ'D.
29 RECTANGULAR RAPID FLASHING BEACON
30 STD. FE-CL
31 PIER PROTECTION SYSTEM
32 STD. GR-FOA-2, TYPE 1 REQ'D.
33 STD. GATE FE-G REQ'D.
34 PROP. PERM. RETAINING WALL EASE.
35 PROP. PERPETUAL EASE.
36 PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37 PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38 PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39 PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.
Curve AUSTINRIDGE-2
PI = 15+94.77
DELTA = 40° 18' 08.09" (LT)
D = 10° 41' 22"
T = 196.69'
L = 377.03'
R = 536.00'
PRC = 13+98.08
PCC = 17+75.10
Curve AUSTINRIDGE-3
PI = 20+40.26
DELTA = 29° 42' 02.78" (LT)
D = 5° 43' 46"
T = 265.15'
L = 518.38'
R = 1,000.00'
PCC = 17+75.10
PT = 22+93.48
R/W AS SHOWN IN RFP PLANS
AUSTIN RIDGE CONSTRUCTION BASELINE
MATCHLINE STATION 13+00 SHEET 61
MATCHLINE SHEET 61
MATCHLINE THIS SHEET
DRY POND
25'x6' Std. PG-3 Cl. AI Type I Req'd.
Remove Exist. Guardrail
Tie to Exist. Guardrail
ADDITIONAL R/W NEEDS
CONTINUES TO SHEET 67
017
018
N 2° 07' 30" W
Route 1486 Survey Baseline
4" FM
PROFILE AUSTIN RIDGE ROAD
STA = 14+80.00
EL = 215.42
SSD = 313'
ex = -2.19'
K = 45
L = 280.00
EXISTING GROUND
PROPOSED GRADE
-2.53%
+1.63%
+1.63%
-4.63%
STA = 12+00.00
EL = 210.86
ex = 1.46'
K = 67
L = 280.00
191.37
10+00.00
11+00.00
12+00.00
13+00.00
14+00.00
15+00.00
16+00.00
17+00.00
18+00.00
19+00.00
20+00.00
21+00.00
INTERCHANGE ENHANCEMENT #9:
SANITARY FORCE MAIN RELOCATION

LEGEND:

— —	EXISTING RIGHT OF WAY	—24"W—	EXISTING WATER	(green)	ACCESS ROADS
— · —	EXISTING EASEMENT	— E —	EXISTING ELECTRIC	(yellow)	MILL AND OVERLAY
——	PROPOSED RIGHT OF WAY	— FO —	EXISTING FIBER OPTIC	(tan)	FULL DEPTH PROPOSED PAVEMENT
- - -	PROPOSED TEMPORARY EASEMENT	— CATV —	EXISTING CABLE TV	(pink)	CONCRETE SIDEWALK/SHARED USE PATH
- · -	PROPOSED PERMANENT EASEMENT	— T/Tg —	EXISTING TELEPHONE	(hatched)	PAVEMENT DEMOLITION
- · -	PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT	— TC —	EXISTING TRAFFIC CONTROL	C	DENOTES CONSTRUCTION LIMITS IN CUT
- · -	PROPOSED INGRESS/EGRESS EASEMENT	— Unk —	EXISTING UNKNOWN UTILITY	F	DENOTES CONSTRUCTION LIMITS IN FILL
——	PROPOSED SOUND WALL/RETAINING WALL				

SCALE 0 50' 100'

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 63 OF 85

CORMAN CONSTRUCTION | BranchHighways
A JOINT VENTURE

WRA

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INTERCHANGE ENHANCEMENT #4: SHARED-USE PATH

MATCHLINE STATION 123+00 SHEET 61

MATCHLINE STATION 25+50 SHEET 67

MATCHLINE STATION 14+50 SHEET 68

MATCHLINE STATION 138+00 SHEET 69

MATCHLINE STATION 29+00 SHEET 66

MATCHLINE STATION 16+00 SHEET 65

MATCHLINE STATION 25+02 SHEET 70

DRY POND

SPUR A CONSTRUCTION BASELINE

SPUR B CONSTRUCTION BASELINE

SPUR C CONSTRUCTION BASELINE

SPUR D CONSTRUCTION BASELINE

ROUTE 630 CONSTRUCTION BASELINE

S 86 19 03 E

Curve RAMPA-1
PI = 12+04.97
DELTA = 37° 41' 55" (RT)
D = 9° 32'
T = 204.02'
L = 392.02'
R = 600.00'
PC = 10+00.00
PCC = 13+95.02

Curve RAMPB-2
PI = 30+01.00
DELTA = 57° 34' 07.06" (RT)
D = 12° 43' 57"
T = 247.23'
L = 452.14'
R = 450.00'
PC = 28+49.77
PCC = 33+01.91

Curve RAMPC-1
PI = 11+57.74
DELTA = 26° 18' 25.84" (RT)
D = 8° 29' 18"
T = 157.74'
L = 309.92'
R = 675.00'
PC = 10+00.00
PCC = 13+09.92

Curve RAMPC-2
PI = 15+03.36
DELTA = 61° 31' 12.90" (RT)
D = 17° 37' 46"
T = 193.43'
L = 348.96'
R = 325.00'
PCC = 13+09.92
PT = 16+58.89

Curve SPURA-1
PI = 12+69.14
DELTA = 106° 46' 16.63" (LT)
D = 28° 38' 52"
T = 269.14'
L = 372.69'
R = 200.00'
PC = 10+00.00
PT = 13+72.69

Curve SPURB-1
PI = 12+87.26
DELTA = 110° 18' 23.54" (LT)
D = 28° 38' 52"
T = 287.26'
L = 385.04'
R = 200.00'
PC = 10+00.00
PT = 13+85.04

Curve SPURC-1
PI = 12+07.73
DELTA = 92° 10' 21.26" (LT)
D = 28° 38' 52"
T = 207.73'
L = 321.74'
R = 200.00'
PC = 10+00.00
PT = 13+21.74

Curve SPURD-1
PI = 12+84.51
DELTA = 109° 47' 15.53" (LT)
D = 28° 38' 52"
T = 284.51'
L = 383.23'
R = 200.00'
PC = 10+00.00
PT = 13+83.23

Tie to Exist. Guardrail

Remove Exist. Guardrail

1 STD. CG-7 REQ'D.
2 MOD. CG-12 REQ'D.
3 STD. MS-1A REQ'D.
4 STD. MS-2 REQ'D.
5 PROP. 5' CONC. SIDEWALK
6 PROP. 10' SHARED USE PATH
7 PROP. R/W
8 PROP. TEMP. CONSTR. EASE.
9 PROP. PERM. SIGHT DISTANCE EASE.
10 PROP. PERM. DRAINAGE EASE.
11 PROP. SLOPE EASE. EASE.
12 PROP. PERM. SLOPE & DRAINAGE EASE.
13 VDOT UTILITY EASE.
14 PROP. PERM. DOMINION POWER EASE.
15 STD.CG-6 REQ'D.
16 PROP. PERM. TRAFFIC EASE.
17 STD. GR-9 REQ'D.
18 STD. GR-2 REQ'D.
19 STD. GR-FOA-I,TY.2 REQ'D.
20 STD. CG-3 REQ'D.
21 STD. GR-II REQ'D.
22 STD. GR-FOA-I,TYPE 1 REQ'D.
23 STD. GR-FOA-I,TYPE 2 REQ'D.
24 SPECIAL DESIGN FOA
25 PROP. RETAINING WALL
26 PROP. PERM. SANITARY SEWER EASE.
27 PROP. PERM. WATER EASE.
28 STD. GR-2A REQ'D.
29 RECTANGULAR RAPID FLASHING BEACON
30 STD. FE-CL
31 PIER PROTECTION SYSTEM
32 STD. GR-FOA-2, TYPE 1 REQ'D.
33 STD. GATE FE-G REQ'D.
34 PROP. PERM. RETAINING WALL EASE.
35 PROP. PERPETUAL EASE.
36 PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37 PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38 PROP. TEMP. CONSTR. EASE FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39 PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.

PROFILE ROUTE 630

PROPOSED GRADE

EXISTING GROUND

+4.94%

STA = 132+00.00
EL = 227.00
SSD = 310'
ex = -2.71'
K = 44
L = 310.00

-2.04%

STA = 136+45.00
EL = 217.92
ex = 2.39'
K = 64
L = 350.00

+3.43%

PROFILE RAMP C

PROPOSED GRADE

EXISTING GROUND

+0.63%

STA = 13+35.83
EL = 185.87
ex = 0.55'
K = 51
L = 150.00

+3.57%

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Pedestal Pole and Foundation (St'd. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (St'd. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 "W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

SCALE 0 50' 100'

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 64 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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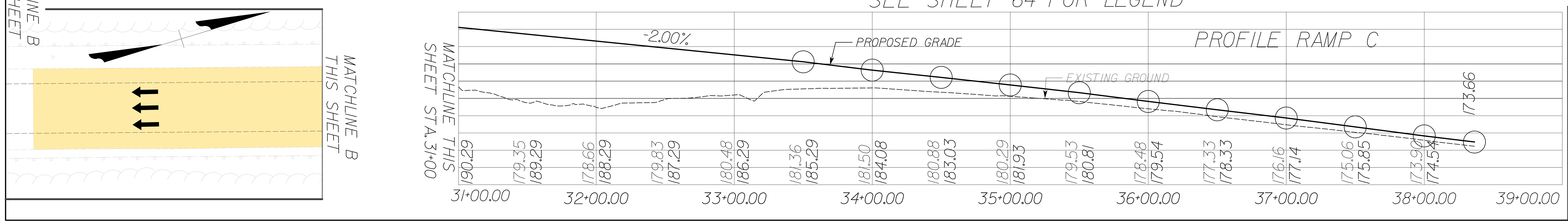


CONCEPTUAL PLAN AND PROFILE

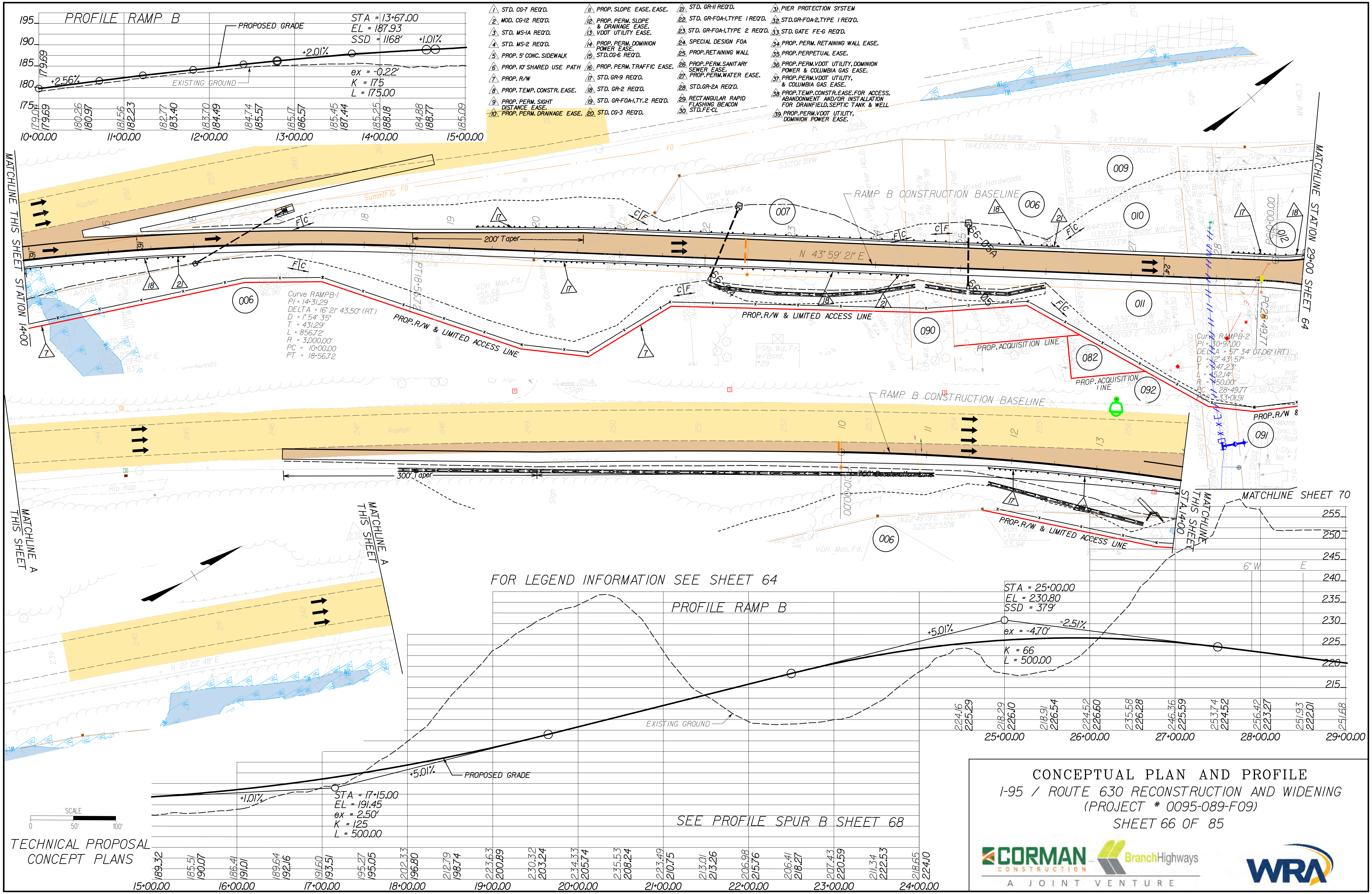
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 65 OF 85

CORMAN CONSTRUCTION · Branch Highways · WRA

A JOINT VENTURE


PROFILE RAMP B
PROPOSED GRADE
EXISTING GROUND
STA = 13+67.00
EL = 187.93
SSD = 1168'
+2.01%
+1.01%
+2.56%
ex = -0.22'
K = 175
L = 175.00
10+00.00
11+00.00
12+00.00
13+00.00
14+00.00
15+00.00
1 STD. CG-7 REQ'D.
2 MOD. CG-12 REQ'D.
3 STD. MS-1A REQ'D.
4 STD. MS-2 REQ'D.
5 PROP. 5' CONC. SIDEWALK
6 PROP. 10' SHARED USE PATH
7 PROP. R/W
8 PROP. TEMP. CONSTR. EASE.
9 PROP. PERM. SIGHT DISTANCE EASE.
10 PROP. PERM. DRAINAGE EASE.
11 PROP. SLOPE EASE. EASE.
12 PROP. PERM. SLOPE & DRAINAGE EASE.
13 VDOT UTILITY EASE.
14 PROP. PERM. DOMINION POWER EASE.
15 STD.CG-6 REQ'D.
16 PROP. PERM. TRAFFIC EASE.
17 STD. GR-9 REQ'D.
18 STD. GR-2 REQ'D.
19 STD. GR-FOA-1, TY.2 REQ'D.
20 STD. CG-3 REQ'D.
21 STD. GR-11 REQ'D.
22 STD. GR-FOA-1, TYPE 1 REQ'D.
23 STD. GR-FOA-1, TYPE 2 REQ'D.
24 SPECIAL DESIGN FOA
25 PROP. RETAINING WALL
26 PROP. PERM. SANITARY SEWER EASE.
27 PROP. PERM. WATER EASE.
28 STD. GR-2A REQ'D.
29 RECTANGULAR RAPID FLASHING BEACON
30 STD. FE-CL
31 PIER PROTECTION SYSTEM
32 STD. GR-FOA-2, TYPE 1 REQ'D.
33 STD. GATE FE-6 REQ'D.
34 PROP. PERM. RETAINING WALL EASE.
35 PROP. PERPETUAL EASE.
36 PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37 PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38 PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39 PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.
MATCHLINE THIS SHEET STATION 14+00
MATCHLINE STATION 29+00 SHEET 64
RAMP B CONSTRUCTION BASELINE
N 43° 59' 21" E
200' Taper
300' Taper
Curve RAMPB-1
PI = 14+31.29
DELTA = 16° 21' 43.50" (RT)
D = 1° 54' 35"
T = 431.29'
L = 856.72'
R = 3,000.00'
PC = 10+00.00
PT = 18+56.72
Curve RAMPB-2
PI = 30+97.00
DELTA = 57° 34' 07.06" (RT)
D = 12° 43' 57"
T = 247.23'
L = 452.14'
R = 450.00'
PC = 28+49.77
PROP. R/W & LIMITED ACCESS LINE
PROP. ACQUISITION LINE
PROP. R/W
006
007
009
010
011
012
082
090
091
092
MATCHLINE SHEET 70
MATCHLINE THIS SHEET STA 14+00
MATCHLINE A THIS SHEET
FOR LEGEND INFORMATION SEE SHEET 64
PROFILE RAMP B
STA = 25+00.00
EL = 230.80
SSD = 379'
+5.01%
-2.51%
ex = -4.70'
K = 66
L = 500.00
STA = 17+15.00
EL = 191.45
ex = 2.50'
K = 125
L = 500.00
+1.01%
+5.01%
PROPOSED GRADE
EXISTING GROUND
SEE PROFILE SPUR B SHEET 68
15+00.00
16+00.00
17+00.00
18+00.00
19+00.00
20+00.00
21+00.00
22+00.00
23+00.00
24+00.00
25+00.00
26+00.00
27+00.00
28+00.00
29+00.00
SCALE
0
50'
100'
TECHNICAL PROPOSAL
CONCEPT PLANS
CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 66 OF 85
CORMAN CONSTRUCTION
BranchHighways
A JOINT VENTURE
WRA
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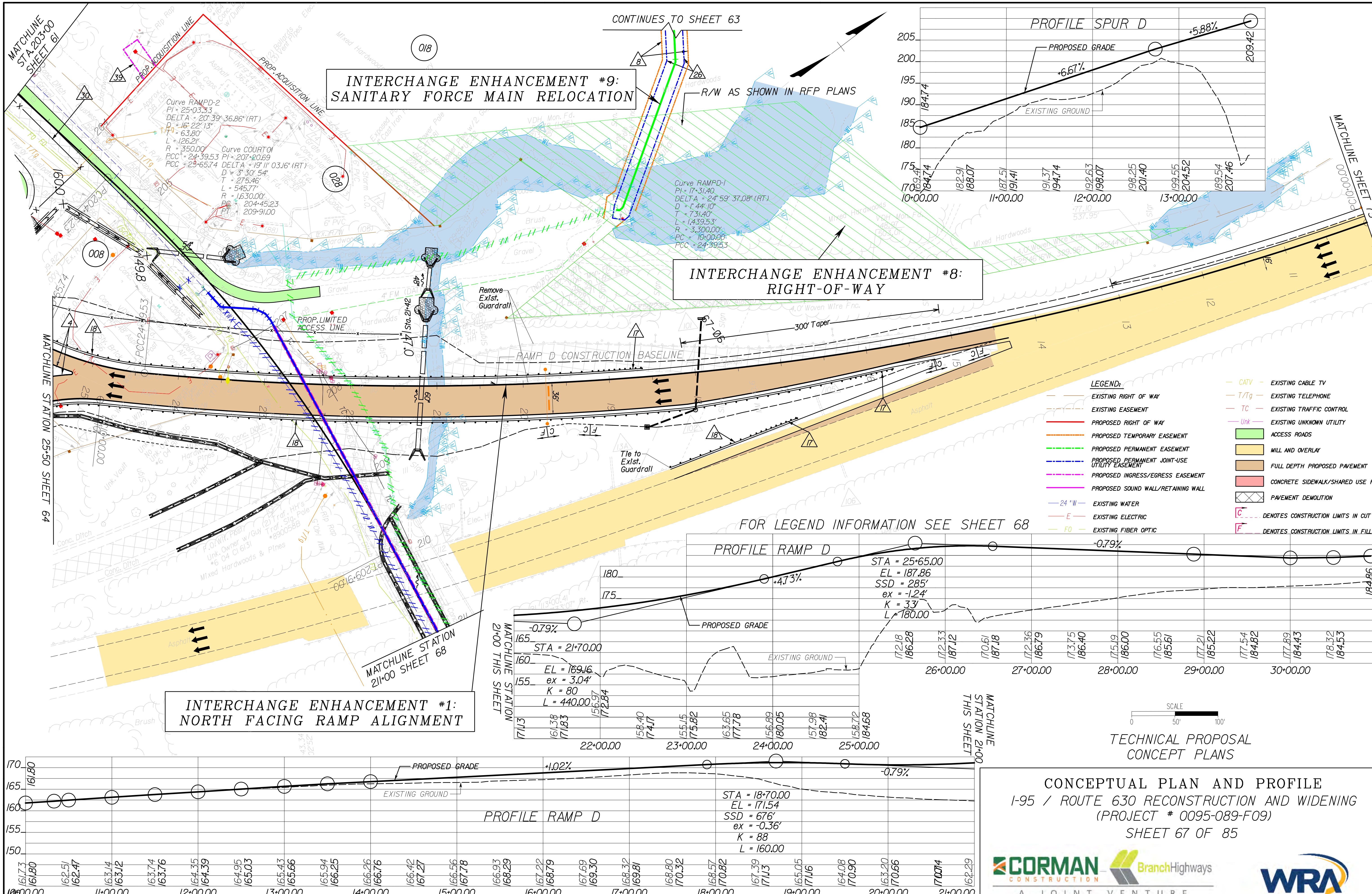

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 67 OF 85

CORMAN CONSTRUCTION | BranchHighways | A JOINT VENTURE | WRA

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MATCHLINE STATION 211+00 SHEET 67

MATCHLINE STATION 14+50 SHEET 64

MATCHLINE SHEET 71 STATION 217+00

MATCHLINE SHEET 75 STATION 5006+00

RAMP A CONSTRUCTION BASELINE

Curve RAMPA-2
PI = 14+92.14
DELTA = 35° 52' 41.71" (RT)
D = 19° 05' 55"
T = 97.12'
L = 187.86'
R = 300.00'
PCC = 13+95.02
PCC = 15+82.88

200' Taper
Curve RAMPA-3
PI = 22+22.76
DELTA = 19° 07' 00.80" (RT)
D = 1° 30' 28"
T = 639.89'
L = 1267.88'
R = 3,800.00'
PCC = 15+82.88
PT = 28+50.76

1700' Acceleration Lane

Remove Exist. Guardrail

Begin Proposed Noise Wall

Remove Exist.

PROP. LIMITED ACCESS LINE

Sta. 20+69

PROFILE SPUR B

STA = 11+35.00
EL = 219.58
ex = 0.91'
K = 27
L = 140.00

STA = 12+30.00
EL = 223.08
SSD = 352'
ex = -0.21'
K = 15
L = 50.00

EXISTING GROUND

PROPOSED GRADE

-2.26%
-1.50%
+3.68%
+0.38%

PROFILE RAMP A

PROPOSED GRADE

-3.86%
-5.53%

STA = 12+50.00
EL = 218.50
SSD = 697'
ex = -0.21'
K = 60
L = 100.00

EXISTING GROUND

PROFILE RAMP A

PROPOSED GRADE

-5.53%
-1.21%

STA = 18+00.00
EL = 188.09
ex = 2.43'
K = 104
L = 450.00

EXISTING GROUND

PROFILE SPUR A

PROPOSED GRADE

2.35%
-7.63%
-5.15%

EXISTING GROUND

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. T.EMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. SLOPE EASE. EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD.CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
17. STD. GR-9 REQ'D.
18. STD. GR-2 REQ'D.
19. STD. GR-FOA-1,TY.2 REQ'D.
20. STD. CG-3 REQ'D.
21. STD. GR-11 REQ'D.
22. STD. GR-FOA-1,TYPE 1 REQ'D.
23. STD. GR-FOA-1,TYPE 2 REQ'D.
24. SPECIAL DESIGN FOA
25. PROP. RETAINING WALL
26. PROP. PERM. SANITARY SEWER EASE. PROP. PERM. WATER EASE.
27. STD. GR-2A REQ'D.
28. RECTANGULAR RAPID FLASHING BEACON
30. STD. FE-CL
31. PIER PROTECTION SYSTEM
32. STD. GR-FOA-2, TYPE 1 REQ'D.
33. STD. GATE FE-G REQ'D.
34. PROP. PERM. RETAINING WALL EASE.
35. PROP. PERPETUAL EASE.
36. PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37. PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38. PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39. PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.

SCALE
0 50' 100'

TECHNICAL PROPOSAL
CONCEPT PLANS

INTERCHANGE ENHANCEMENT #1: NORTH FACING RAMP ALIGNMENT

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 68 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE

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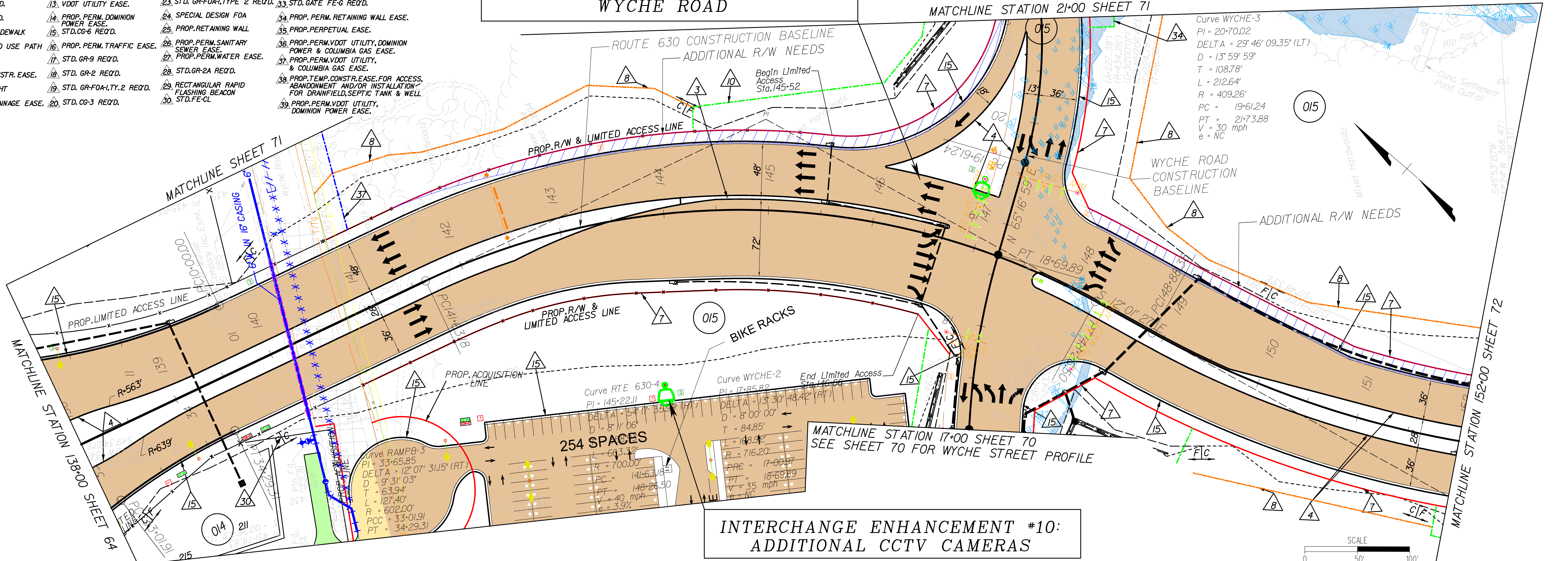
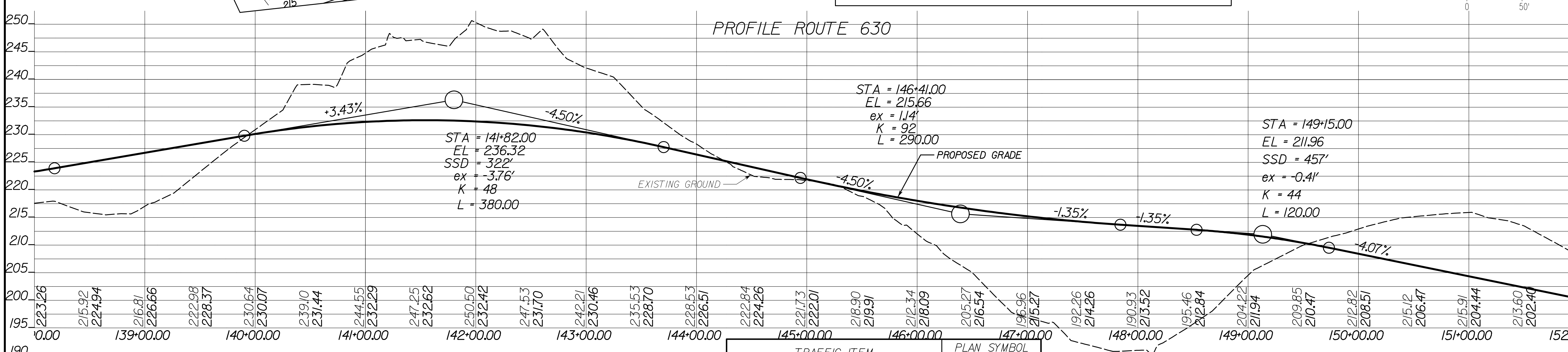
1 STD. CG-7 REQ'D.	11 PROP. SLOPE EASE. EASE.	21 STD. GR-II REQ'D.	31 PIER PROTECTION SYSTEM
2 MOD. CG-12 REQ'D.	12 PROP. PERM. SLOPE & DRAINAGE EASE.	22 STD. GR-FOA-I, TYPE I REQ'D.	32 STD. GR-FOA-2, TYPE I REQ'D.
3 STD. MS-IA REQ'D.	13 VDOT UTILITY EASE.	23 STD. GR-FOA-I, TYPE 2 REQ'D.	33 STD. GATE FE-G REQ'D.
4 STD. MS-2 REQ'D.	14 PROP. PERM. DOMINION POWER EASE.	24 SPECIAL DESIGN FOA	34 PROP. PERM. RETAINING WALL EASE.
5 PROP. 5' CONC. SIDEWALK	15 STD. CG-6 REQ'D.	25 PROP. RETAINING WALL	35 PROP. PERPETUAL EASE.
6 PROP. 10' SHARED USE PATH	16 PROP. PERM. TRAFFIC EASE.	26 PROP. PERM. SANITARY SEWER EASE.	36 PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
7 PROP. R/W	17 STD. GR-9 REQ'D.	27 PROP. PERM. WATER EASE.	37 PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
8 PROP. TEMP. CONSTR. EASE.	18 STD. GR-2 REQ'D.	28 STD. GR-2A REQ'D.	38 PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
9 PROP. PERM. SIGHT DISTANCE EASE.	19 STD. GR-FOA-I, TY. 2 REQ'D.	29 RECTANGULAR RAPID FLASHING BEACON	39 PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.
10 PROP. PERM. DRAINAGE EASE.	20 STD. CG-3 REQ'D.	30 STD. FE-CL	

INTERCHANGE ENHANCEMENT #3: WYCHE ROAD

INTERCHANGE ENHANCEMENT #10: ADDITIONAL CCTV CAMERAS



MATCHLINE STATION 21+00 SHEET 71
ROUTE 630 CONSTRUCTION BASELINE
ADDITIONAL R/W NEEDS
Begin Limited Access Sta. 145+52
PROP. R/W & LIMITED ACCESS LINE
MATCHLINE SHEET 71
Curve WYCHE-3
PI = 20+70.02
DELTA = 29° 46' 09.35" (LT)
D = 13° 59' 59"
T = 108.78'
L = 212.64'
R = 409.26'
PC = 19+61.24
PT = 21+73.88
V = 30 mph
e = NC
WYCHE ROAD CONSTRUCTION BASELINE
ADDITIONAL R/W NEEDS
PROP. LIMITED ACCESS LINE
PROP. R/W & LIMITED ACCESS LINE
BIKE RACKS
PROP. ACQUISITION LINE
254 SPACES
Curve RTE 630-4
PI = 145+22.11
DELTA = 54° 17' 35.59" (RT)
D = 8° 11' 06"
L = 663.32'
R = 700.00'
PC = 141+63.18
PT = 148+26.50
V = 40 mph
e = 3.9%
Curve WYCHE-2
PI = 17+85.82
DELTA = 13° 30' 48.42" (RT)
D = 8° 00' 00"
T = 84.85'
L = 168.92'
R = 716.20'
PRC = 17+00.97
PT = 18+69.89
V = 35 mph
e = NC
End Limited Access Sta. 146+66
Curve RAMPB-3
PI = 33+65.85
DELTA = 12° 07' 31.15" (RT)
D = 9° 31' 03"
T = 63.94'
L = 127.40'
R = 602.00'
PCC = 33+01.91
PT = 34+29.31
MATCHLINE STATION 17+00 SHEET 70
SEE SHEET 70 FOR WYCHE STREET PROFILE
MATCHLINE STATION 138+00 SHEET 64
MATCHLINE STATION 152+00 SHEET 72
N 65° 16' 59" E
PT 18+69.89
SCALE
0 50' 100'



PROFILE ROUTE 630
+3.43%
-4.50%
STA = 141+82.00
EL = 236.32
SSD = 322'
ex = -3.76'
K = 48
L = 380.00
EXISTING GROUND
STA = 146+41.00
EL = 215.66
ex = 1.14'
K = 92
L = 290.00
PROPOSED GRADE
-4.50%
-1.35%
-1.35%
STA = 149+15.00
EL = 211.96
SSD = 457'
ex = -0.41'
K = 44
L = 120.00
-4.07%
250
245
240
235
230
225
220
215
210
205
200
195
190
139+00.00
140+00.00
141+00.00
142+00.00
143+00.00
144+00.00
145+00.00
146+00.00
147+00.00
148+00.00
149+00.00
150+00.00
151+00.00
152+0

TRAFFIC ITEM		PLAN SYMBOL: PROPOSED	PLAN SYMBOL: EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)			
Pedestal Pole and Foundation (St'd. PF-2)			
Traffic Signal Head			
Pedestrian Signal Head			
Traffic Signal Sign	Mast Arm or Span Wire Mt'd.		
	Pole Mounted		
ITS CCTV Camera			
Junction Box (St'd. as noted on plans)			
Signal Luminaire (250 W)			
Controller Cabinet & Foundation			

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- G — EXISTING GAS LINE
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING (PROJECT # 0095-089-F09)

SHEET 69 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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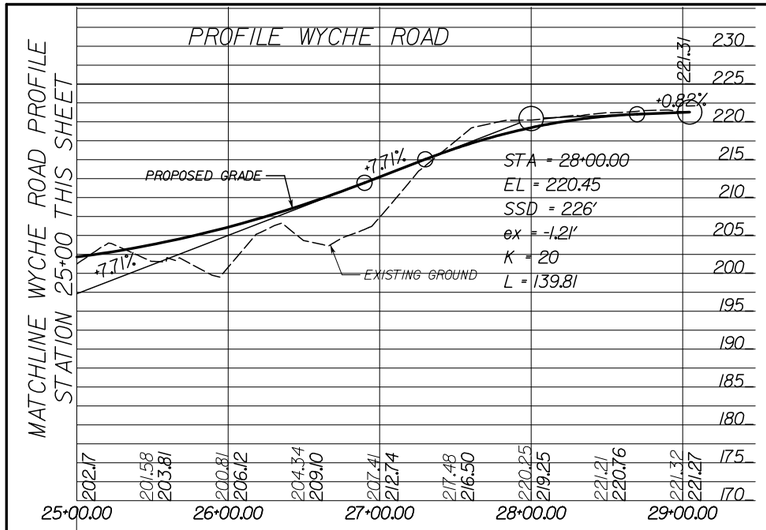

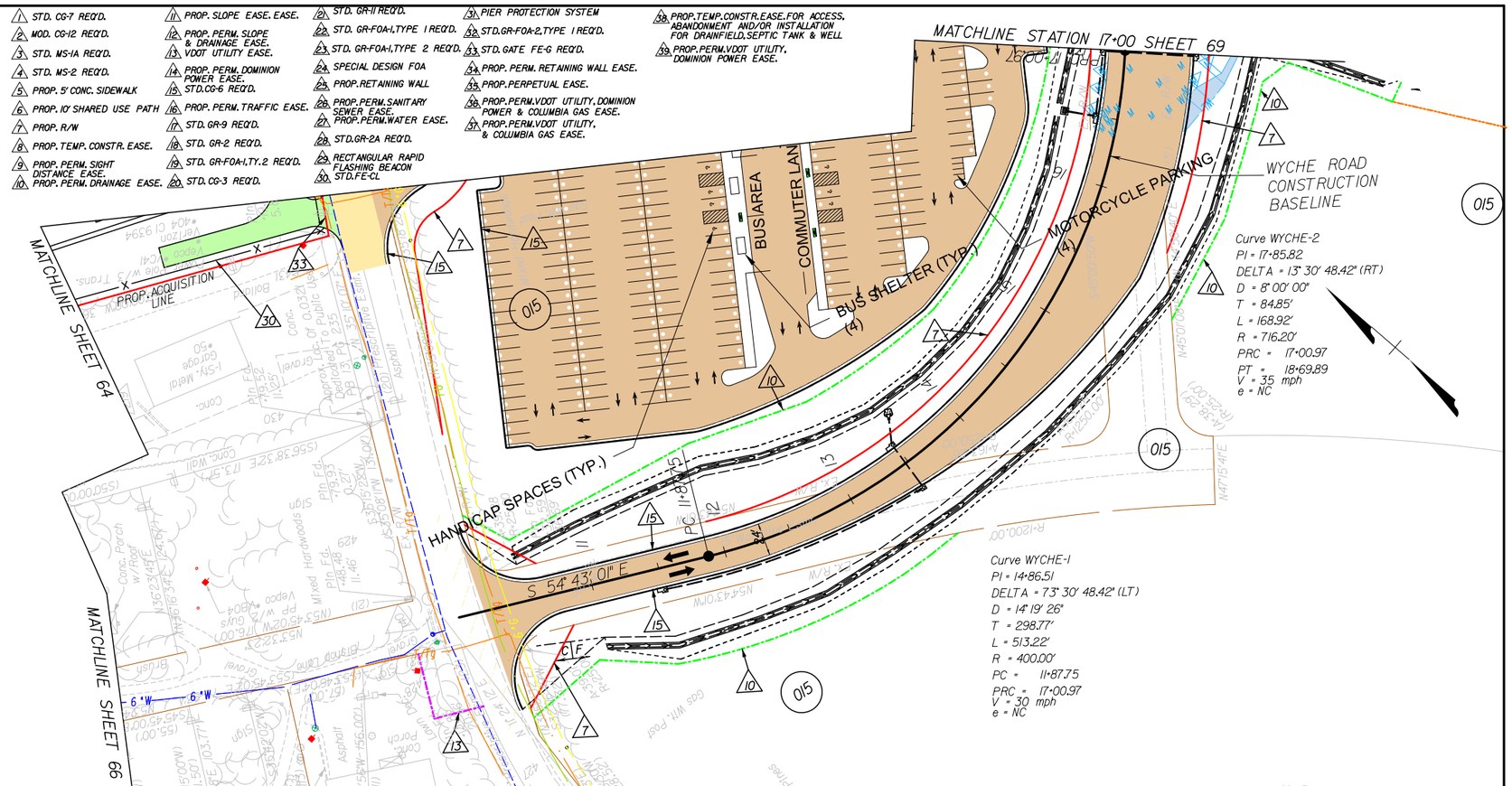

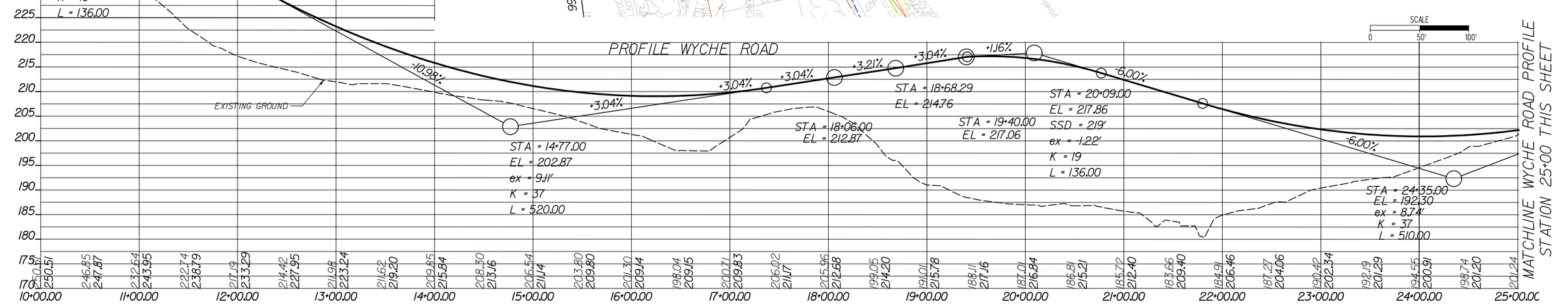

1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. SLOPE EASE. EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE. VDOT UTILITY EASE.
13. PROP. PERM. DOMINION POWER EASE. STD.CG-6 REQ'D.
14. PROP. PERM. TRAFFIC EASE.
15. STD. GR-9 REQ'D.
16. STD. GR-2 REQ'D.
17. STD. GR-F0A-1,TY.2 REQ'D.
18. STD. CG-3 REQ'D.
19. STD. GR-11 REQ'D.
20. STD. GR-F0A-1,TYPE 1 REQ'D.
21. STD. GR-F0A-1,TYPE 2 REQ'D.
22. SPECIAL DESIGN F0A
23. PROP. RETAINING WALL
24. PROP. PERM. SANITARY SEWER EASE. PROP. PERM. WATER EASE.
25. STD. GR-2A REQ'D.
26. RECTANGULAR RAPID FLASHING BEACON
27. STD. FE-CL
28. PIER PROTECTION SYSTEM
29. STD. GR-F0A-2, TYPE 1 REQ'D.
30. STD. GATE FE-G REQ'D.
31. PROP. PERM. RETAINING WALL EASE.
32. PROP. PERPETUAL EASE.
33. PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
34. PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
35. PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
36. PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 "W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- G — EXISTING GAS LINE
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 70 OF 85

TECHNICAL PROPOSAL
CONCEPT PLANS

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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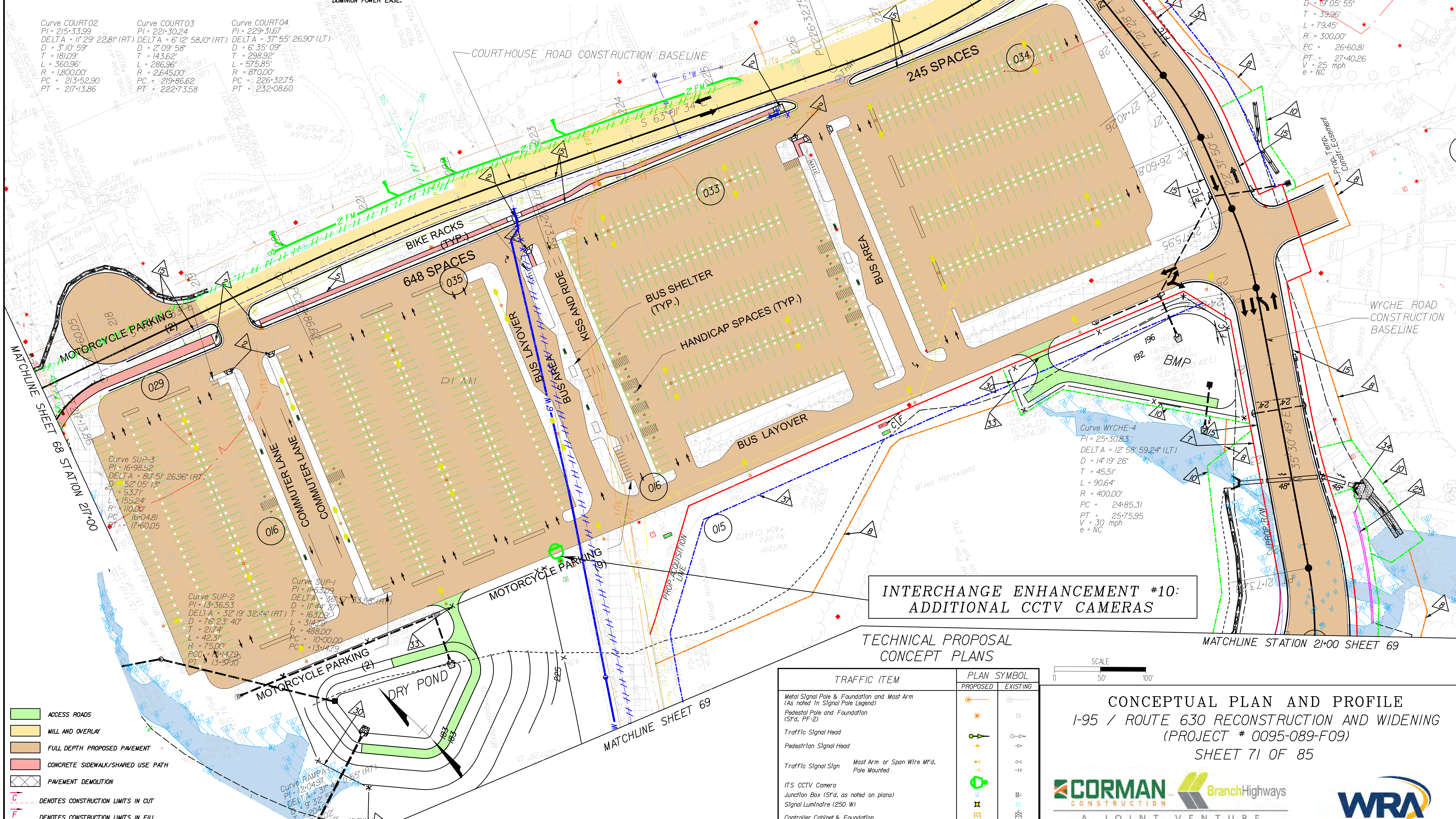
1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. SLOPE EASE. EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD. CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
17. STD. GR-9 REQ'D.
18. STD. GR-2 REQ'D.
19. STD. GR-FOA-1, TY. 2 REQ'D.
20. STD. CG-3 REQ'D.
21. STD. GR-11 REQ'D.
22. STD. GR-FOA-1, TYPE 1 REQ'D.
23. STD. GR-FOA-1, TYPE 2 REQ'D.
24. SPECIAL DESIGN FOA
25. PROP. RETAINING WALL
26. PROP. PERM. SANITARY SEWER EASE.
27. PROP. PERM. WATER EASE.
28. STD. GR-2A REQ'D.
29. RECTANGULAR RAPID FLASHING BEACON
30. STD. FE-CL
31. PIER PROTECTION SYSTEM
32. STD. GR-FOA-2, TYPE 1 REQ'D.
33. STD. GATE FE-G REQ'D.
34. PROP. PERM. RETAINING WALL EASE.
35. PROP. PERPETUAL EASE.
36. PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37. PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38. PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39. PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.

LEGEND:

EXISTING RIGHT OF WAY
EXISTING EASEMENT
PROPOSED RIGHT OF WAY
PROPOSED TEMPORARY EASEMENT
PROPOSED PERMANENT EASEMENT
PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
PROPOSED INGRESS/EGRESS EASEMENT
PROPOSED SOUND WALL/RETAINING WALL

24" W — EXISTING WATER
E — EXISTING ELECTRIC
FO — EXISTING FIBER OPTIC
CATV — EXISTING CABLE TV
T/Tg — EXISTING TELEPHONE
TC — EXISTING TRAFFIC CONTROL
Unk — EXISTING UNKNOWN UTILITY
— EXISTING GAS LINE



Curve COURT02
PI = 215+33.99
DELTA = 11° 29' 22.81" (RT)
D = 3° 10' 59"
T = 181.09'
L = 360.96'
R = 1,800.00'
PC = 213+52.90
PT = 217+13.86
Curve COURT03
PI = 221+30.24
DELTA = 6° 12' 58.10" (RT)
D = 2° 09' 58"
T = 143.62'
L = 286.96'
R = 2,645.00'
PC = 219+86.62
PT = 222+73.58
Curve COURT04
PI = 229+31.67
DELTA = 37° 55' 26.90" (LT)
D = 6° 35' 09"
T = 298.92'
L = 575.85'
R = 870.00'
PC = 226+32.75
PT = 232+08.60
COURTHOUSE ROAD CONSTRUCTION BASELINE
Curve WYCHE-5
PI = 27+00.77
DELTA = 15° 10' 22.47" (LT)
D = 19° 05' 55"
T = 39.96'
L = 79.45'
R = 300.00'
PC = 26+60.81
PT = 27+40.26
V = 25 mph
e = NC
245 SPACES
648 SPACES
BIKE RACKS (TYP.)
MOTORCYCLE PARKING (2)
BUS SHELTER (TYP.)
HANDICAP SPACES (TYP.)
BUS AREA
BUS LAYOVER
KISS AND RIDE
COMMUTER LANE
MOTORCYCLE PARKING (9)
MOTORCYCLE PARKING (2)
DRY POND
BMP
WYCHE ROAD CONSTRUCTION BASELINE
Curve WYCHE-4
PI = 25+30.83
DELTA = 12° 58' 59.24" (LT)
D = 14° 19' 26"
T = 45.51'
L = 90.64'
R = 400.00'
PC = 24+85.31
PT = 25+75.95
V = 30 mph
e = NC
Curve SUP-3
PI = 16+98.52
DELTA = 80° 51' 26.96" (RT)
Curve SUP-2
PI = 13+36.53
DELTA = 32° 19' 32.44" (RT)
Curve SUP-1
MATCHLINE SHEET 68 STATION 217+00
MATCHLINE SHEET 69
MATCHLINE STATION 21+00 SHEET 69
PROP. ACQUISITION LINE

INTERCHANGE ENHANCEMENT #10:
ADDITIONAL CCTV CAMERAS

TECHNICAL PROPOSAL
CONCEPT PLANS

ACCESS ROADS
MILL AND OVERLAY
FULL DEPTH PROPOSED PAVEMENT
CONCRETE SIDEWALK/SHARED USE PATH
PAVEMENT DEMOLITION
C — DENOTES CONSTRUCTION LIMITS IN CUT
F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

SCALE 0 50' 100'

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 71 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE — WRA

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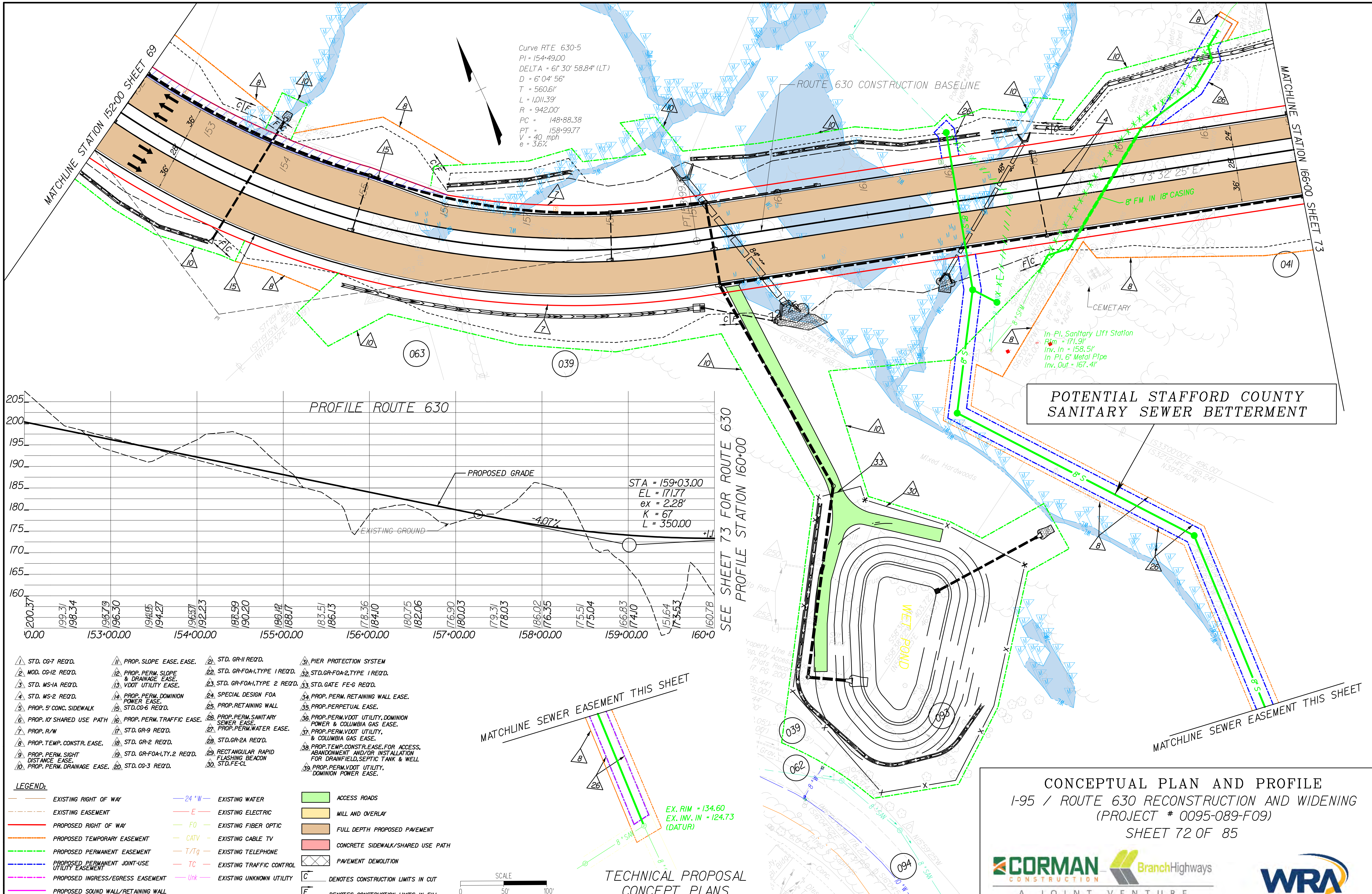

MATCHLINE STATION 152+00 SHEET 69
MATCHLINE STATION 160+00 SHEET 73
Curve RTE 630-5
PI = 154+49.00
DELTA = 61° 30' 58.84" (LT)
D = 6° 04' 56"
T = 560.61'
L = 1,011.39'
R = 942.00'
PC = 148+88.38
PT = 158+99.77
V = 40 mph
e = 3.6%
ROUTE 630 CONSTRUCTION BASELINE
S 73° 32' 25" E
8" FM IN 18" CASING
CEMETARY
In Pl. Sanitary Lift Station
Rim = 171.9'
Inv. In = 158.51'
In Pl. 6" Metal Pipe
Inv. Out = 167.41'
POTENTIAL STAFFORD COUNTY SANITARY SEWER BETTERMENT
WET POND
PROFILE ROUTE 630
PROPOSED GRADE
EXISTING GROUND
STA = 159+03.00
EL = 171.77
ex = 2.28'
K = 67
L = 350.00
-4.07%
SEE SHEET 73 FOR ROUTE 630 PROFILE STATION 160+00
153+00.00
154+00.00
155+00.00
156+00.00
157+00.00
158+00.00
159+00.00
MATCHLINE SEWER EASEMENT THIS SHEET
EX. RIM = 134.60
EX. INV. IN = 124.73
(DATUM)
1 STD. CG-7 REQ'D.
2 MOD. CG-12 REQ'D.
3 STD. MS-1A REQ'D.
4 STD. MS-2 REQ'D.
5 PROP. 5' CONC. SIDEWALK
6 PROP. 10' SHARED USE PATH
7 PROP. R/W
8 PROP. TEMP. CONSTR. EASE.
9 PROP. PERM. SIGHT DISTANCE EASE.
10 PROP. PERM. DRAINAGE EASE.
11 PROP. SLOPE EASE. EASE.
12 PROP. PERM. SLOPE & DRAINAGE EASE.
13 VDOT UTILITY EASE.
14 PROP. PERM. DOMINION POWER EASE.
15 STD. CG-6 REQ'D.
16 PROP. PERM. TRAFFIC EASE.
17 STD. GR-9 REQ'D.
18 STD. GR-2 REQ'D.
19 STD. GR-FOA-1, TY. 2 REQ'D.
20 STD. CG-3 REQ'D.
21 STD. GR-11 REQ'D.
22 STD. GR-FOA-1, TYPE 1 REQ'D.
23 STD. GR-FOA-1, TYPE 2 REQ'D.
24 SPECIAL DESIGN FOA
25 PROP. RETAINING WALL
26 PROP. PERM. SANITARY SEWER EASE.
27 PROP. PERM. WATER EASE.
28 STD. GR-2A REQ'D.
29 RECTANGULAR RAPID FLASHING BEACON
30 STD. FE-CL
31 PIER PROTECTION SYSTEM
32 STD. GR-FOA-2, TYPE 1 REQ'D.
33 STD. GATE FE-G REQ'D.
34 PROP. PERM. RETAINING WALL EASE.
35 PROP. PERPETUAL EASE.
36 PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37 PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38 PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39 PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.
LEGEND:
EXISTING RIGHT OF WAY
EXISTING EASEMENT
PROPOSED RIGHT OF WAY
PROPOSED TEMPORARY EASEMENT
PROPOSED PERMANENT EASEMENT
PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
PROPOSED INGRESS/EGRESS EASEMENT
PROPOSED SOUND WALL/RETAINING WALL
24"W EXISTING WATER
E EXISTING ELECTRIC
FO EXISTING FIBER OPTIC
CATV EXISTING CABLE TV
T/Tg EXISTING TELEPHONE
TC EXISTING TRAFFIC CONTROL
Unk EXISTING UNKNOWN UTILITY
ACCESS ROADS
MILL AND OVERLAY
FULL DEPTH PROPOSED PAVEMENT
CONCRETE SIDEWALK/SHARED USE PATH
PAVEMENT DEMOLITION
C DENOTES CONSTRUCTION LIMITS IN CUT
F DENOTES CONSTRUCTION LIMITS IN FILL
SCALE
0 50' 100'
TECHNICAL PROPOSAL CONCEPT PLANS
CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 72 OF 85
CORMAN CONSTRUCTION
BranchHighways
A JOINT VENTURE
WRA
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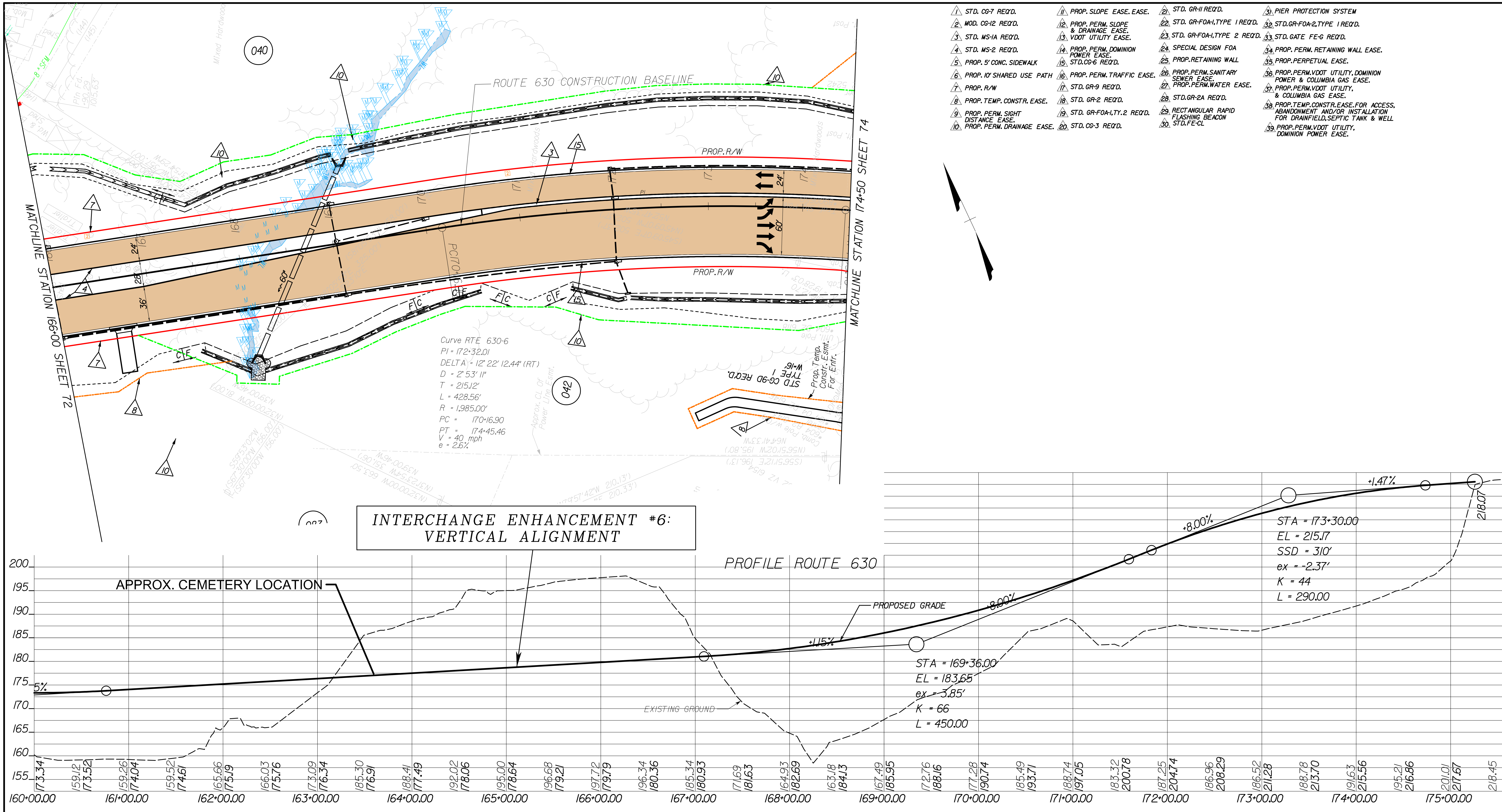


1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. SLOPE EASE. EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD. CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
17. STD. GR-9 REQ'D.
18. STD. GR-2 REQ'D.
19. STD. GR-FOA-1, TY. 2 REQ'D.
20. STD. CG-3 REQ'D.
21. STD. GR-11 REQ'D.
22. STD. GR-FOA-1, TYPE 1 REQ'D.
23. STD. GR-FOA-1, TYPE 2 REQ'D.
24. SPECIAL DESIGN FOA
25. PROP. RETAINING WALL
26. PROP. PERM. SANITARY SEWER EASE.
27. PROP. PERM. WATER EASE.
28. STD. GR-2A REQ'D.
29. RECTANGULAR RAPID FLASHING BEACON
30. STD. FE-CL
31. PIER PROTECTION SYSTEM
32. STD. GR-FOA-2, TYPE 1 REQ'D.
33. STD. GATE FE-G REQ'D.
34. PROP. PERM. RETAINING WALL EASE.
35. PROP. PERPETUAL EASE.
36. PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
37. PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
38. PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
39. PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- FO — EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM		PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)			
Pedestal Pole and Foundation (St'd. PF-2)			
Traffic Signal Head			
Pedestrian Signal Head			
Traffic Signal Sign	Mast Arm or Span Wire Mt'd.		
	Pole Mounted		
ITS CCTV Camera			
Junction Box (St'd. as noted on plans)			
Signal Luminaire (250 W)			
Controller Cabinet & Foundation			

SCALE 0 50' 100'

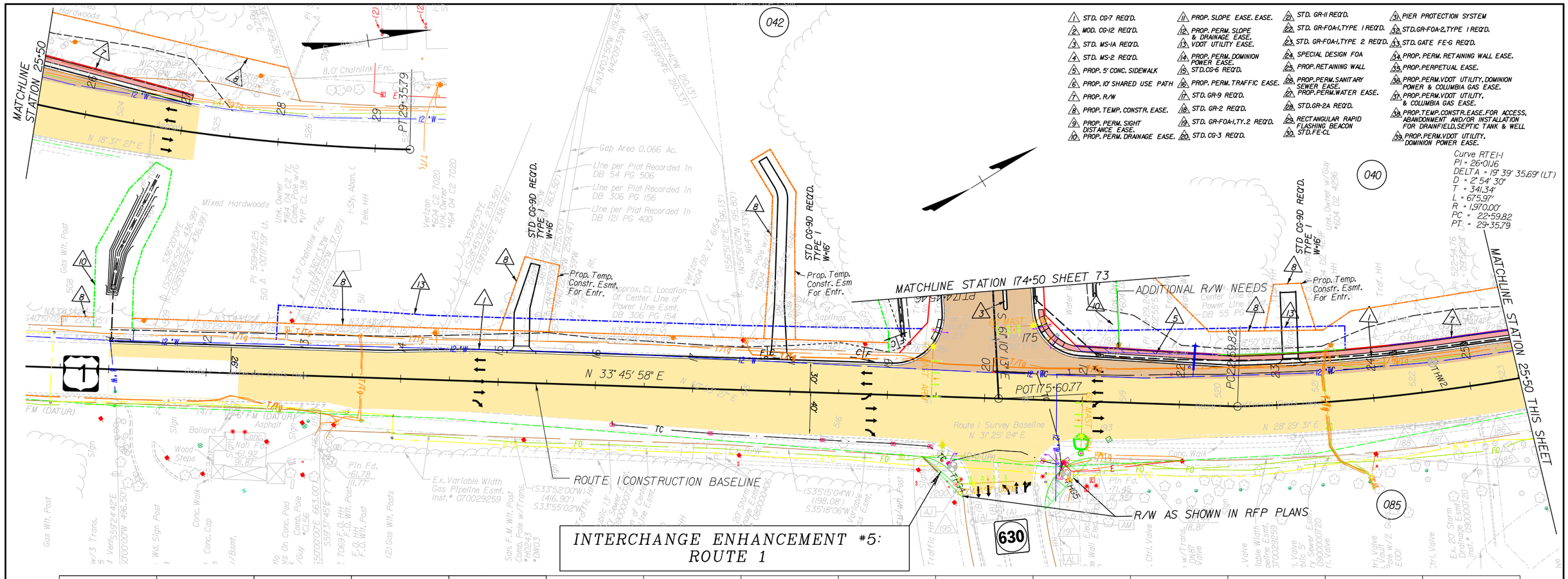
TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

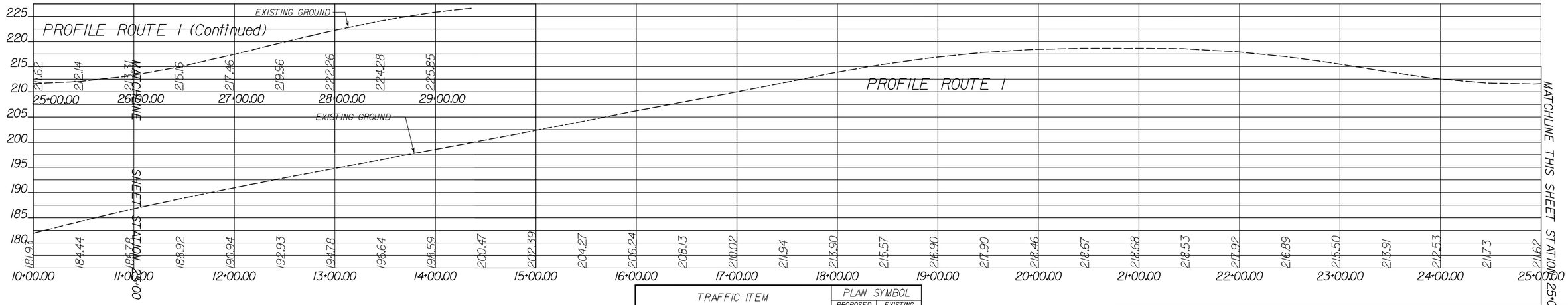
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING (PROJECT # 0095-089-F09)

SHEET 73 OF 85

CORMAN CONSTRUCTION | Branch Highways — A JOINT VENTURE | WRA



1. STD. CG-7 REQ'D.
2. MOD. CG-12 REQ'D.
3. STD. MS-1A REQ'D.
4. STD. MS-2 REQ'D.
5. PROP. 5' CONC. SIDEWALK
6. PROP. 10' SHARED USE PATH
7. PROP. R/W
8. PROP. TEMP. CONSTR. EASE.
9. PROP. PERM. SIGHT DISTANCE EASE.
10. PROP. PERM. DRAINAGE EASE.
11. PROP. SLOPE EASE. EASE.
12. PROP. PERM. SLOPE & DRAINAGE EASE.
13. VDOT UTILITY EASE.
14. PROP. PERM. DOMINION POWER EASE.
15. STD.CG-6 REQ'D.
16. PROP. PERM. TRAFFIC EASE.
17. STD. GR-9 REQ'D.
18. STD. GR-2 REQ'D.
19. STD. GR-FOA-I,TY.2 REQ'D.
20. STD. CG-3 REQ'D.
21. STD. GR-II REQ'D.
22. STD. GR-FOA-I,TYPE I REQ'D.
23. STD. GR-FOA-I,TYPE 2 REQ'D.
24. SPECIAL DESIGN FOA
25. PROP. RETAINING WALL
26. PROP. PERM. SANITARY SEWER EASE. PROP. PERM. WATER EASE.
27. STD.GR-2A REQ'D.
28. RECTANGULAR RAPID FLASHING BEACON
29. STD.FE-CL
30. PIER PROTECTION SYSTEM
31. STD.GR-FOA-2,TYPE I REQ'D.
32. STD. GATE FE-G REQ'D.
33. PROP. PERM. RETAINING WALL EASE.
34. PROP. PERPETUAL EASE.
35. PROP. PERM. VDOT UTILITY, DOMINION POWER & COLUMBIA GAS EASE.
36. PROP. PERM. VDOT UTILITY, & COLUMBIA GAS EASE.
37. PROP. TEMP. CONSTR. EASE. FOR ACCESS, ABANDONMENT AND/OR INSTALLATION FOR DRAINFIELD, SEPTIC TANK & WELL
38. PROP. PERM. VDOT UTILITY, DOMINION POWER EASE.



LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W EXISTING WATER
- E EXISTING ELECTRIC
- FO EXISTING FIBER OPTIC
- CATV EXISTING CABLE TV
- T/Tg EXISTING TELEPHONE
- TC EXISTING TRAFFIC CONTROL
- Unk EXISTING UNKNOWN UTILITY
- G EXISTING GAS LINE
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C DENOTES CONSTRUCTION LIMITS IN CUT
- F DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

TECHNICAL PROPOSAL CONCEPT PLANS

SCALE 0 50' 100'

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 74 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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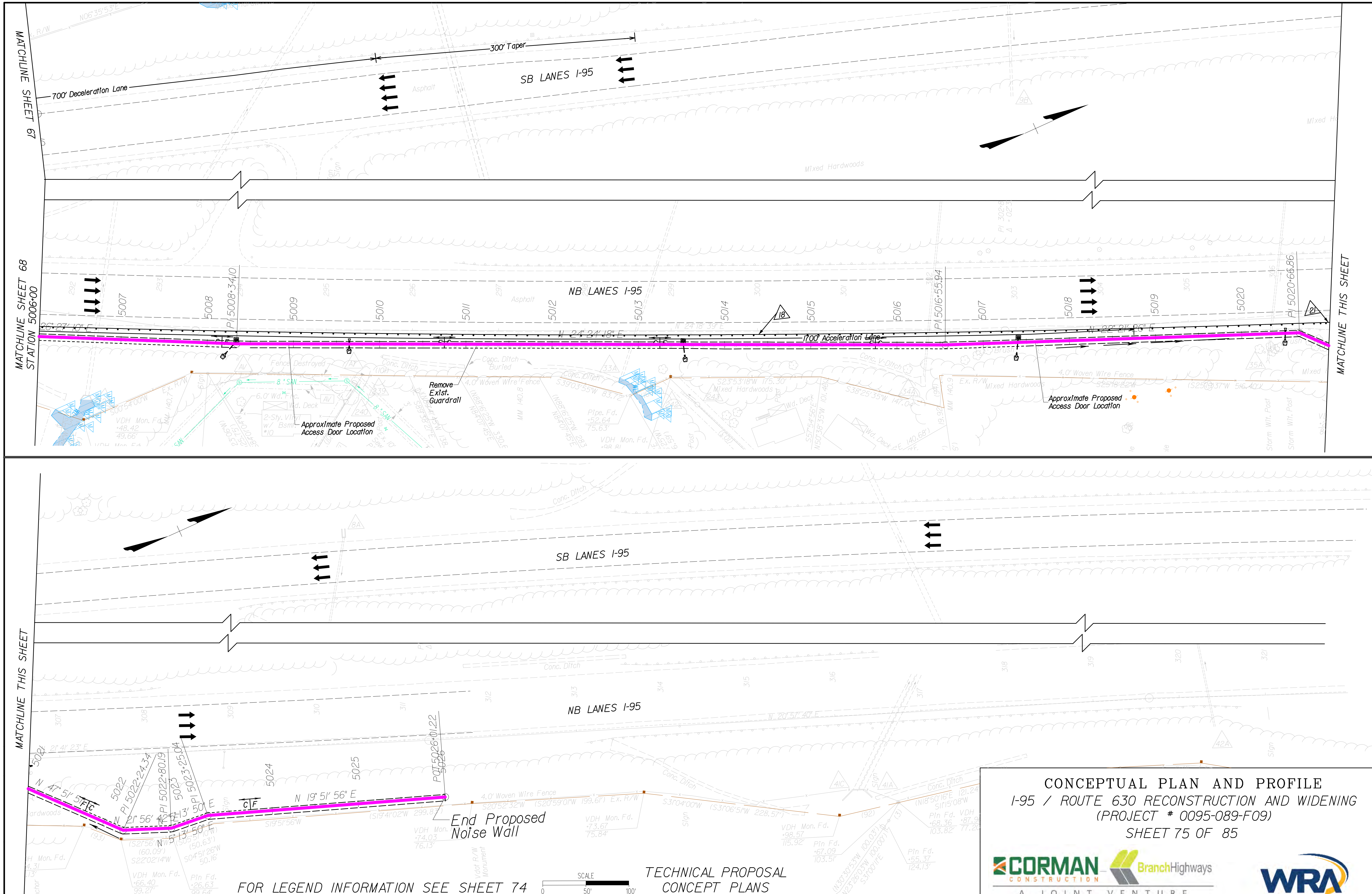

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 75 OF 85

CORMAN CONSTRUCTION
BranchHighways
A JOINT VENTURE
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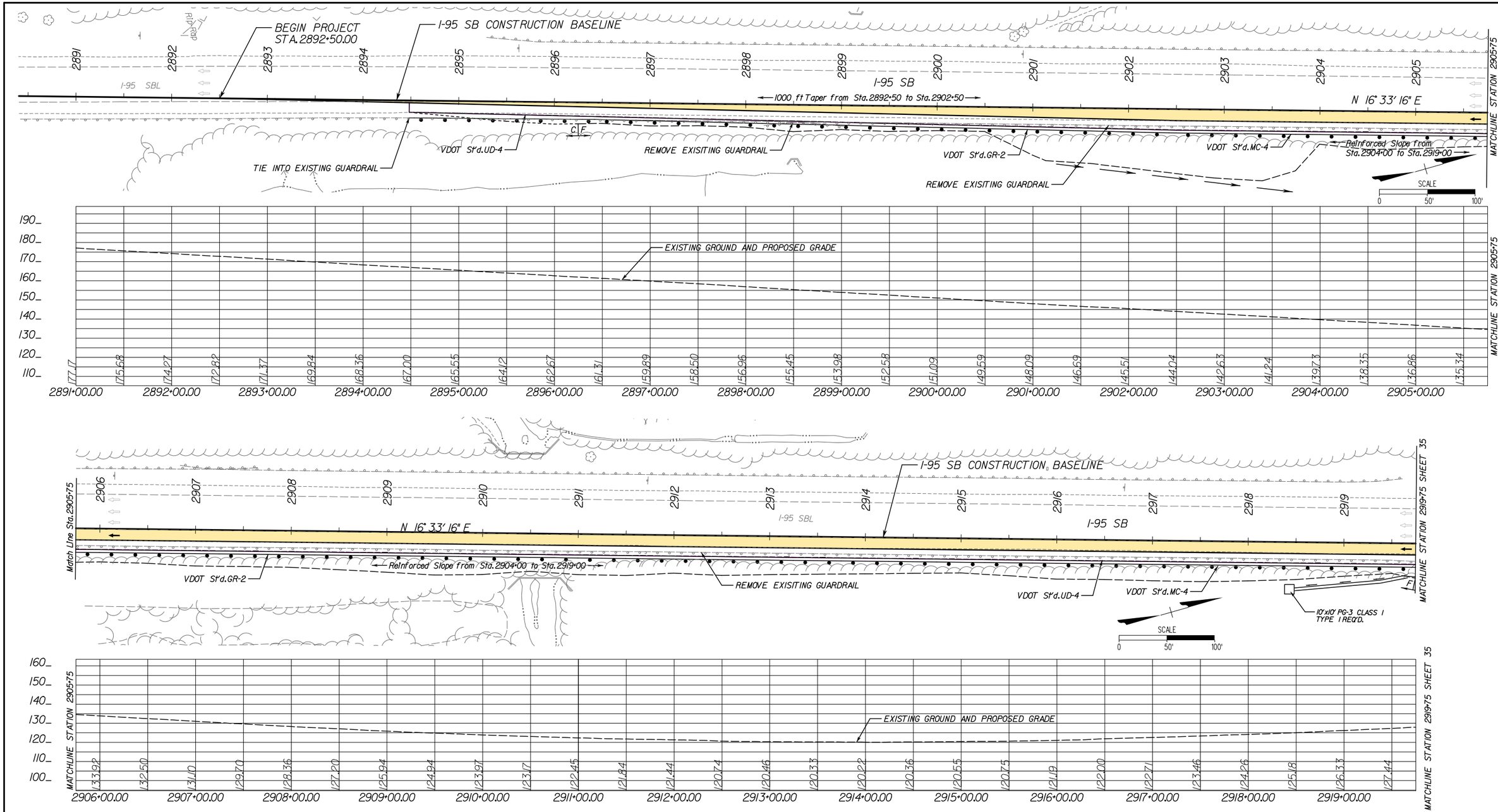

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 76 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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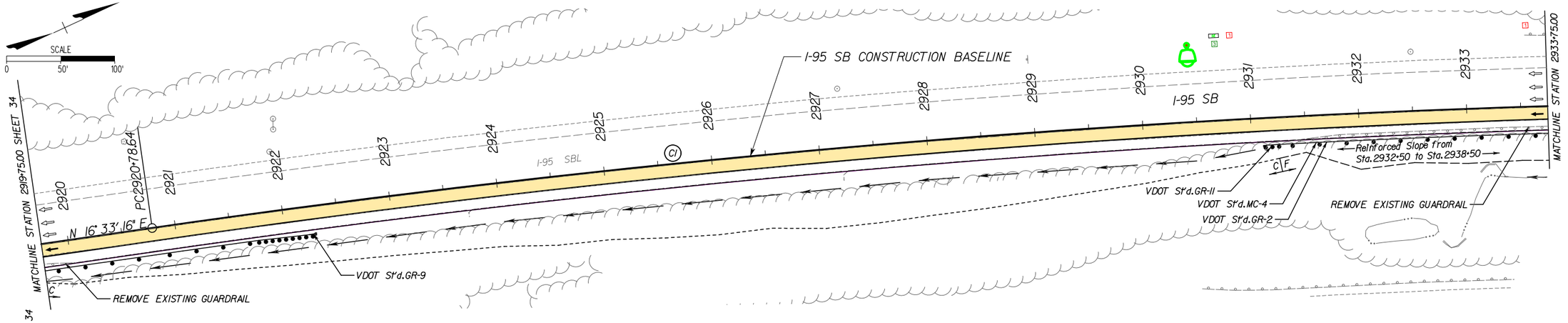

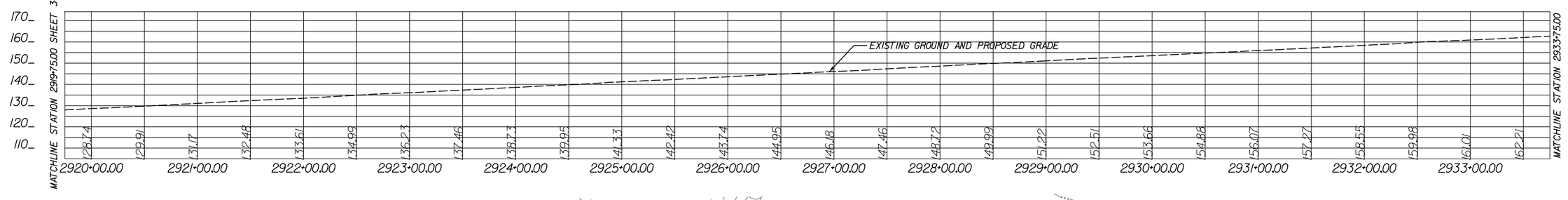

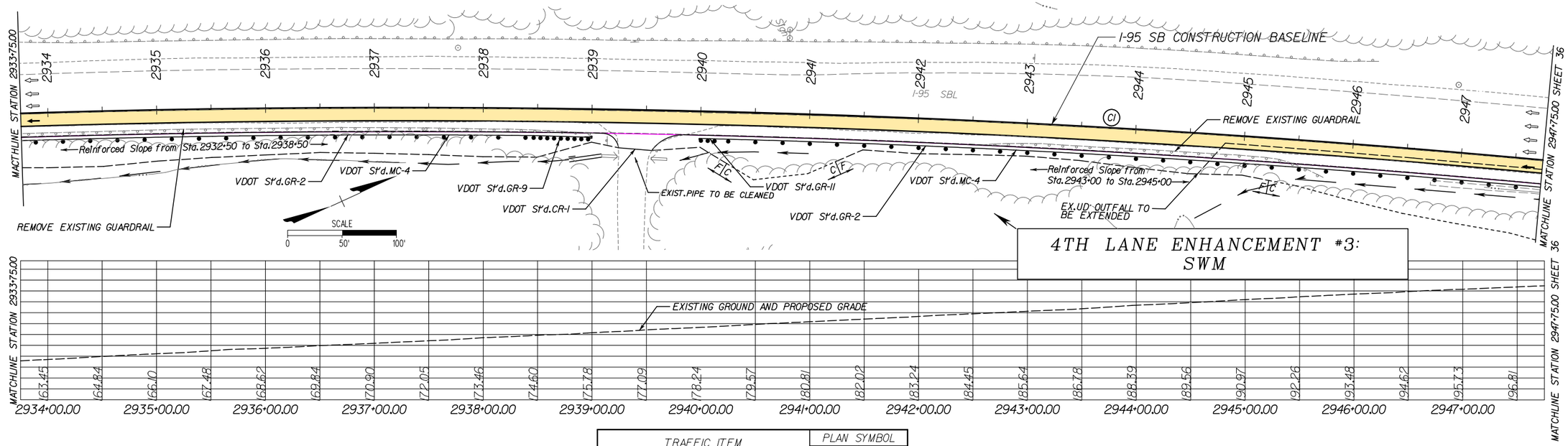

4TH LANE ENHANCEMENT #3: SWM

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 'W — EXISTING WATER
- E — EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

(C1) Curve 95SBL-1
PI = 2935+96.11
DELTA = 15° 05' 13.00" (RT)
D = 0° 30' 00"
T = 1,517.47'
L = 3,017.39'
R = 11,459.16'
PC = 2920+78.64
PT = 2950+96.03

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 77 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE

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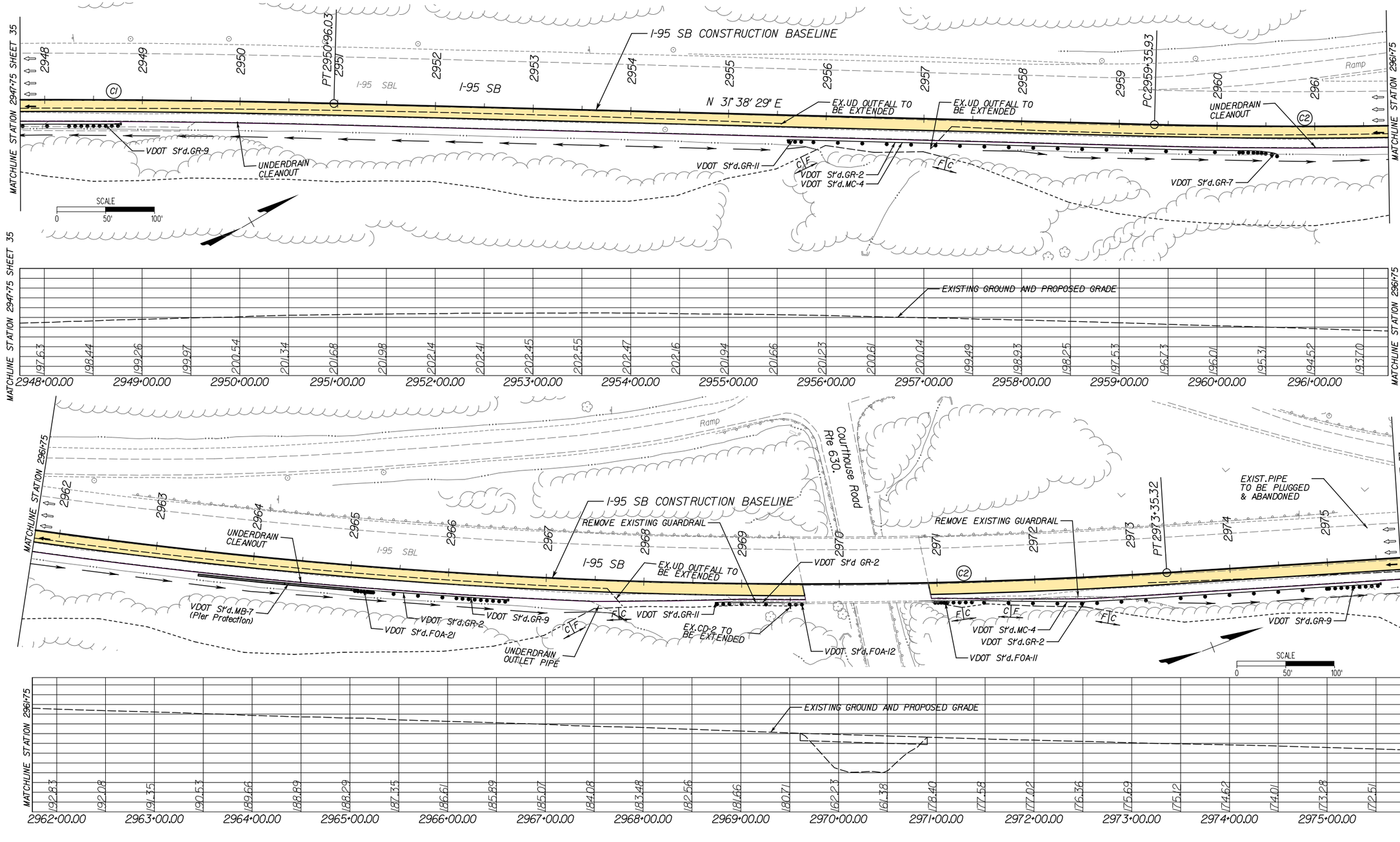

C1 Curve 95SBL-1
PI = 2935+96.11
DELTA = 15° 05' 13.00" (RT)
D = 0° 30' 00"
T = 1,517.47'
L = 3,017.39'
R = 11,459.16'
PC = 2920+78.64
PT = 2950+96.03

C2 Curve 95SBL-2
PI = 2966+39.12
DELTA = 13° 59' 38.00" (LT)
D = 1° 00' 00"
T = 703.19'
L = 1,399.39'
R = 5,729.58'
PC = 2959+35.93
PT = 2973+35.32

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 'W — EXISTING WATER
- E — EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 78 OF 85

CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

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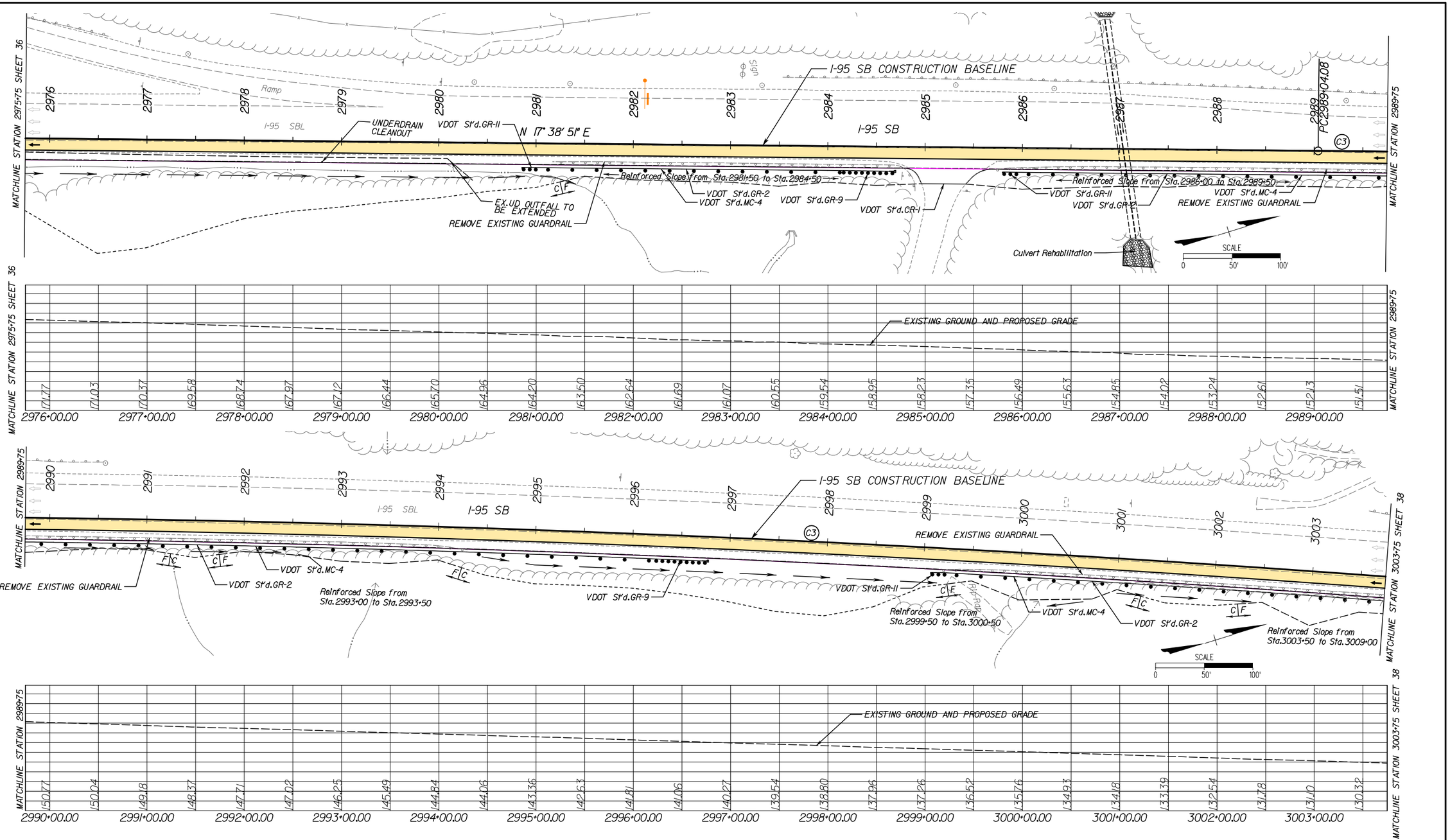

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Pedestal Pole and Foundation (Sᵗd. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mᵗd.		
Traffic Signal Sign — Pole Mounted		
ITS CCTV Camera		
Junction Box (Sᵗd. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 "W — EXISTING WATER
- E — EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

(C3) Curve 95SBL-3
PI = 3006+45.81
DELTA = 8° 41' 31.00" (RT)
D = 0° 15' 00"
T = 1,741.73'
L = 3,476.78'
R = 22,918.31'
PC = 2989+04.08
PT = 3023+80.85

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 79 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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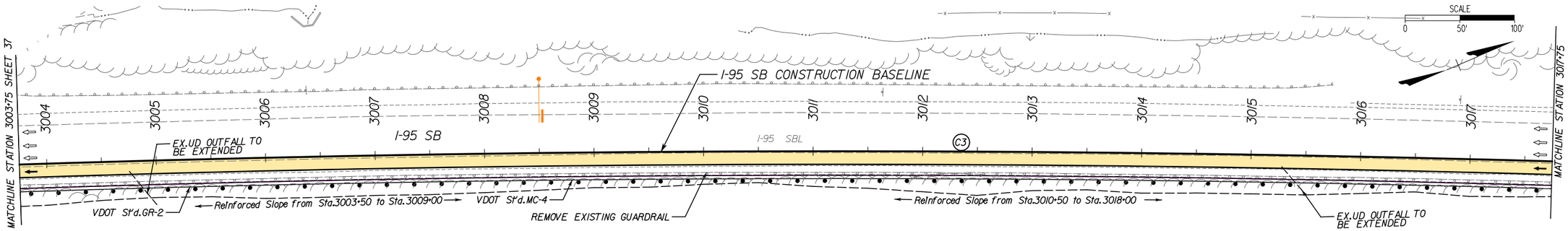

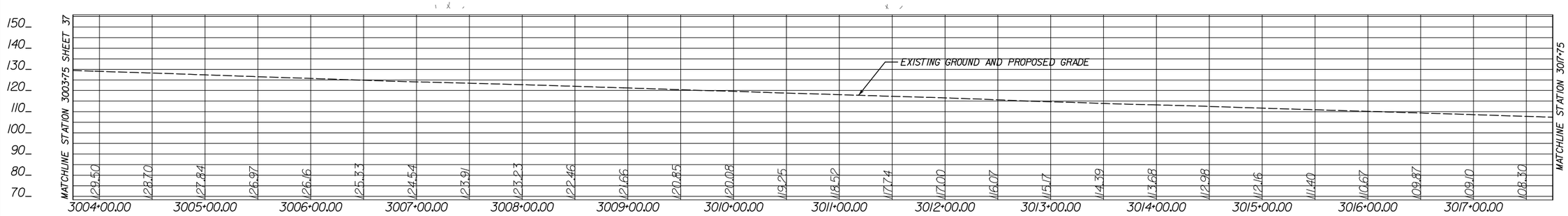

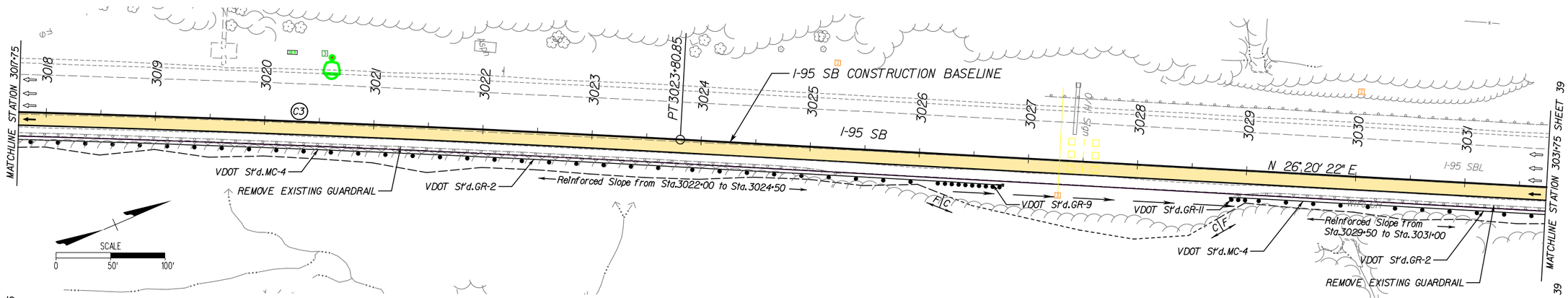

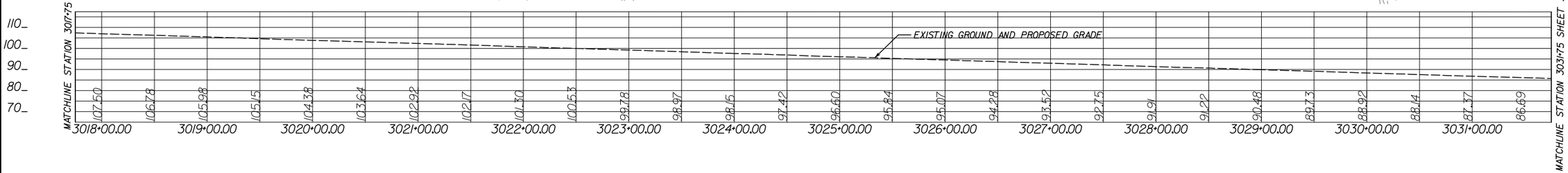

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 'W — EXISTING WATER
- E — EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
- CONCRETE SIDEWALK/SHARED USE PATH
- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
- F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL	
	PROPOSED	EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

C3 Curve 95SBL-3
PI = 3006+45.81
DELTA = 8° 41' 31.00" (RT)
D = 0° 15' 00"
T = 1,741.73'
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TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE
I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)
SHEET 80 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE

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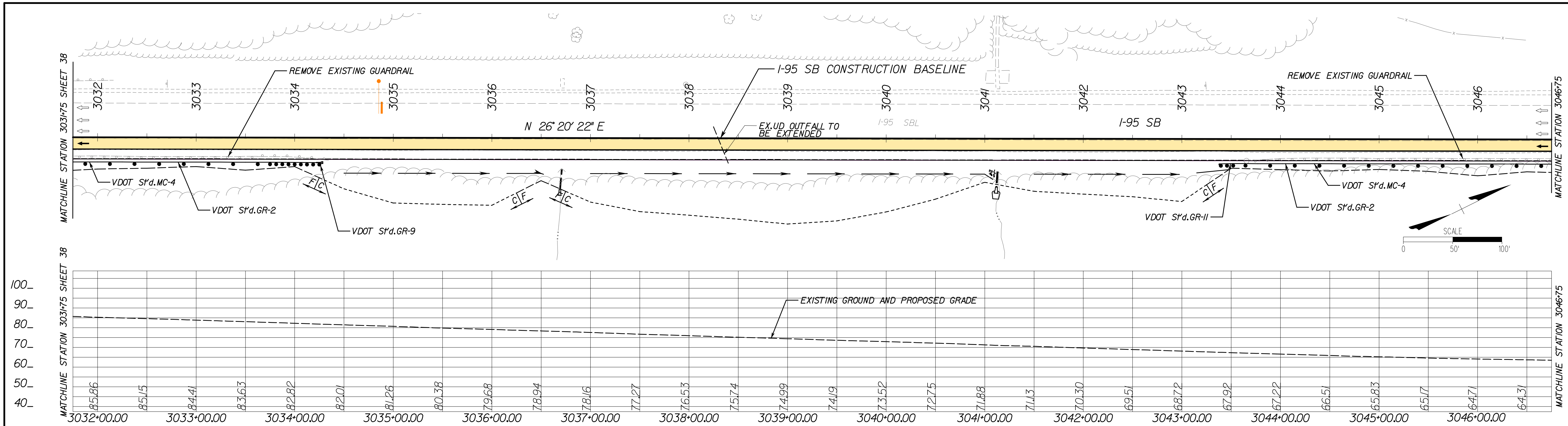

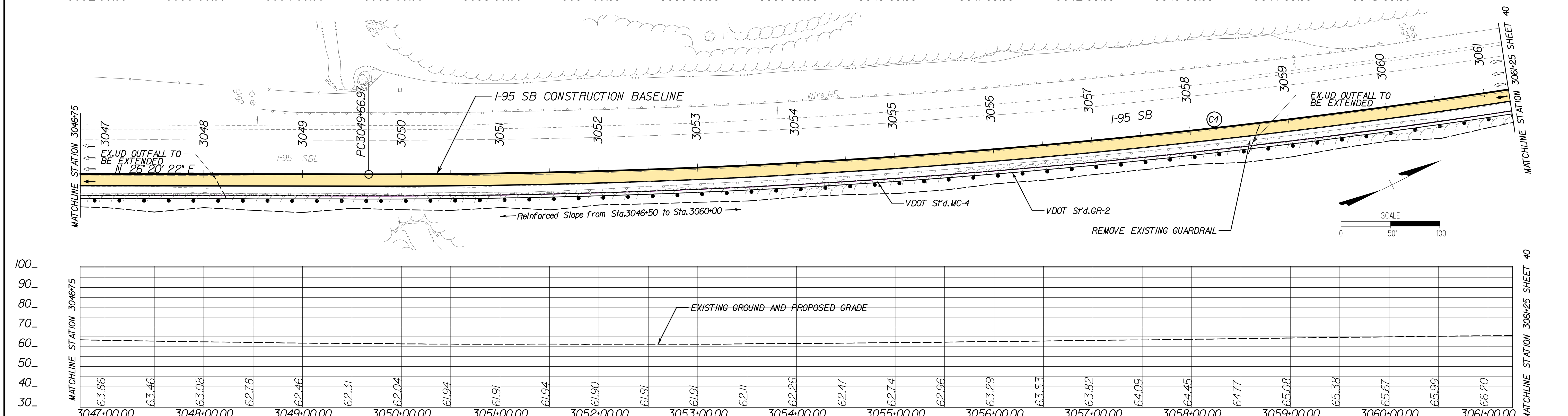

LEGEND:

EXISTING RIGHT OF WAY	EXISTING WATER
EXISTING EASEMENT	EXISTING ELECTRIC
PROPOSED RIGHT OF WAY	EXISTING FIBER OPTIC
PROPOSED TEMPORARY EASEMENT	EXISTING CABLE TV
PROPOSED PERMANENT EASEMENT	EXISTING TELEPHONE
PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT	EXISTING TRAFFIC CONTROL
PROPOSED INGRESS/EGRESS EASEMENT	EXISTING UNKNOWN UTILITY
PROPOSED SOUND WALL/RETAINING WALL	

ACCESS ROADS
MILL AND OVERLAY
FULL DEPTH PROPOSED PAVEMENT
CONCRETE SIDEWALK/SHARED USE PATH
PAVEMENT DEMOLITION
C — DENOTES CONSTRUCTION LIMITS IN CUT
F — DENOTES CONSTRUCTION LIMITS IN FILL

TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted in Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mtd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

(C4) Curve 95SBL-4
PI = 3072+85.52
DELTA = 33° 45' 57.00" (LT)
D = 0° 45' 00"
T = 2,318.55'
L = 4,502.11'
R = 7,639.44'
PC = 3049+66.97
PT = 3094+69.08

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING
(PROJECT # 0095-089-F09)

SHEET 81 OF 85

CORMAN CONSTRUCTION — Branch Highways — A JOINT VENTURE — WRA

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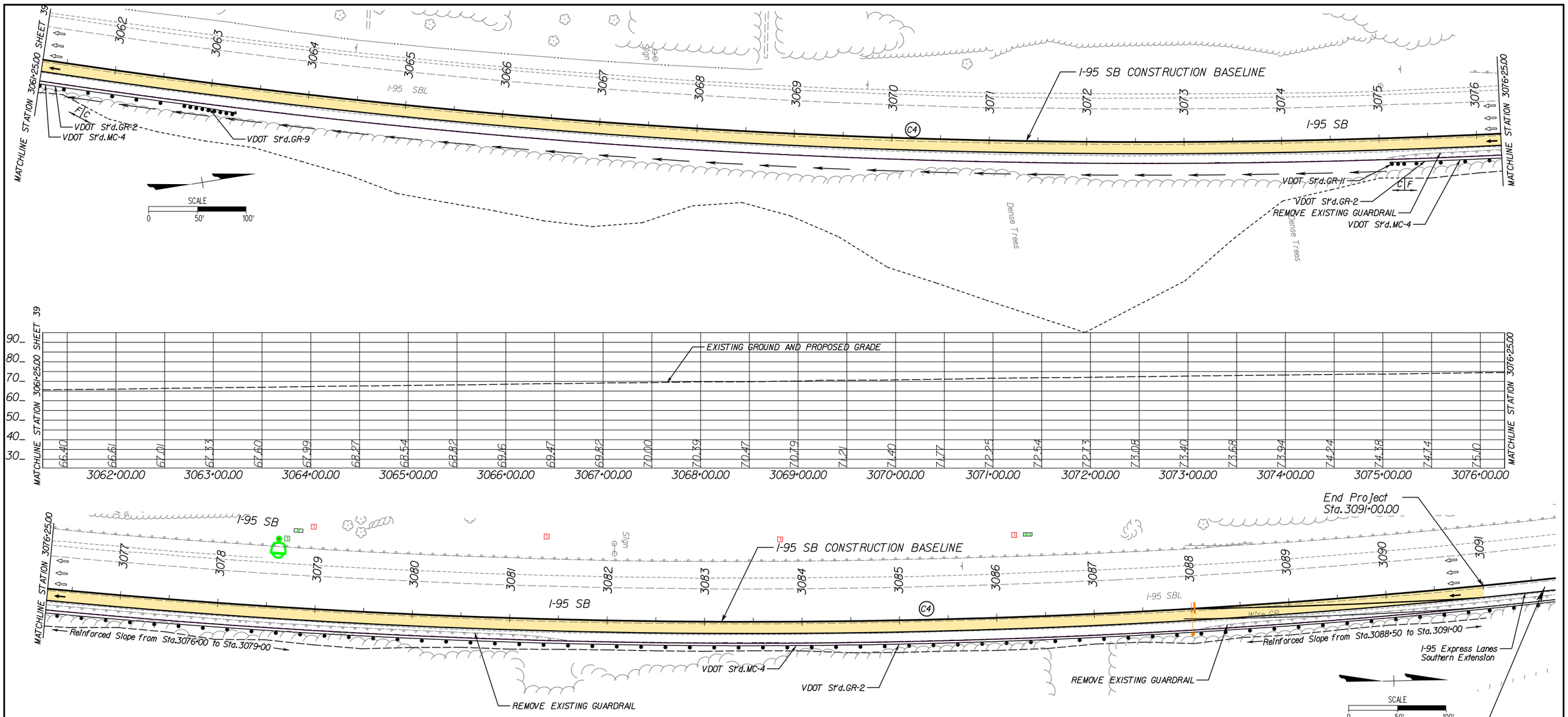

4TH LANE ENHANCEMENT #2: EXPRESS LANE EXTENSION

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24 "W — EXISTING WATER
- E — EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
- MILL AND OVERLAY
- FULL DEPTH PROPOSED PAVEMENT
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- PAVEMENT DEMOLITION
- C — DENOTES CONSTRUCTION LIMITS IN CUT
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TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Metal Signal Pole & Foundation and Mast Arm (As noted In Signal Pole Legend)		
Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

C4 Curve 95SBL-4
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DELTA = 33° 45' 57.00" (LT)
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TECHNICAL PROPOSAL CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 82 OF 85

CORMAN CONSTRUCTION — BranchHighways — A JOINT VENTURE

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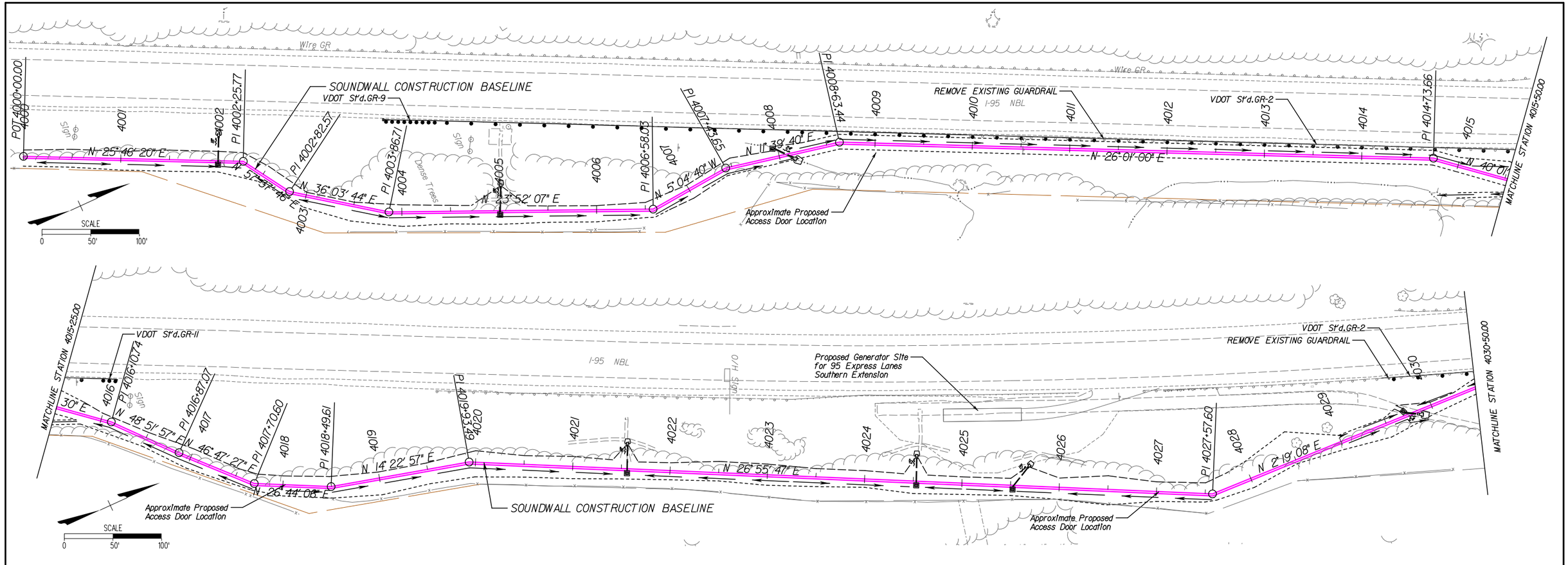

LEGEND:

- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- PROPOSED RIGHT OF WAY
- PROPOSED TEMPORARY EASEMENT
- PROPOSED PERMANENT EASEMENT
- PROPOSED PERMANENT JOINT-USE UTILITY EASEMENT
- PROPOSED INGRESS/EGRESS EASEMENT
- PROPOSED SOUND WALL/RETAINING WALL
- 24"W — EXISTING WATER
- E — EXISTING ELECTRIC
- EXISTING FIBER OPTIC
- CATV — EXISTING CABLE TV
- T/Tg — EXISTING TELEPHONE
- TC — EXISTING TRAFFIC CONTROL
- Unk — EXISTING UNKNOWN UTILITY
- ACCESS ROADS
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- C — DENOTES CONSTRUCTION LIMITS IN CUT
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TRAFFIC ITEM	PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
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Pedestal Pole and Foundation (Std. PF-2)		
Traffic Signal Head		
Pedestrian Signal Head		
Traffic Signal Sign — Mast Arm or Span Wire Mt'd. / Pole Mounted		
ITS CCTV Camera		
Junction Box (Std. as noted on plans)		
Signal Luminaire (250 W)		
Controller Cabinet & Foundation		

TECHNICAL PROPOSAL
CONCEPT PLANS

CONCEPTUAL PLAN AND PROFILE

I-95 / ROUTE 630 RECONSTRUCTION AND WIDENING

(PROJECT # 0095-089-F09)

SHEET 83 OF 85

CORMAN CONSTRUCTION – BranchHighways
A JOINT VENTURE

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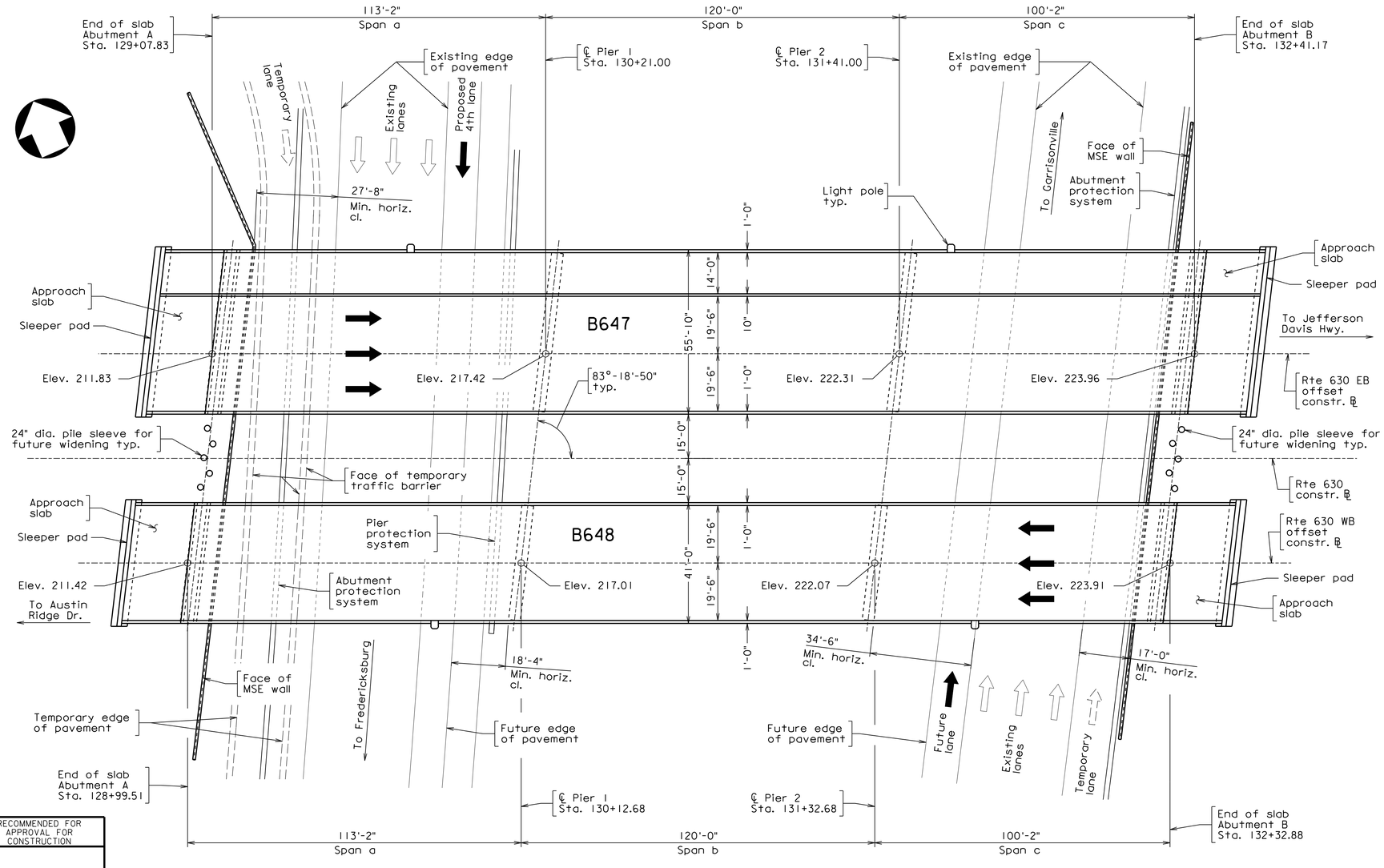
STATE	FEDERAL AID		STATE		SHEET
	ROUTE	PROJECT	ROUTE	PROJECT	NO.
VA.	——	NH-095-2()	630	0095-089-F09, B647, B648	84
NBIS Number: 000000000029983 (EBL) 000000000029984 (WBL)			UPC No. 13558		
Federal Oversight Code: FO			FHWA Construction and Scour Code:		



PLAN

DESIGN EXCEPTION(S):

Reduced offset of abutments from 30'-0" required to values as shown on plan. Pier protection system is provided (42" BPPS Standard) where required.

GENERAL NOTES:

Width: 39'-0" EB roadway and 14'-0" shared use path; Overall EB bridge width is 53'-10" face-to-face of rails. 39'-0" WB face-to-face of rails.

Span layout: 111'-8" - 120'-0" - 98'-8"

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.

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RECOMMENDED FOR APPROVAL FOR CONSTRUCTION
VDOT PROJECT MANAGER
DISTRICT CONSTRUCTION MANAGER
ATHAVALE, LYSTAD & ASSOC. Inc. McLean, Virginia STRUCTURAL ENGINEER

PLANS BY:	Consultant
COORDINATED:	..
SUPERVISED:	..
DESIGNED:	..
DRAWN:	..
CHECKED:	..

CORMAN CONSTRUCTION — BranchHighways
A JOINT VENTURE

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Scale: 1" = 20'-0"

No.	Description	Date
REVISIONS		
For Table of Revisions, see Sheet 4.		

VDOT

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF TRANSPORTATION

PROPOSED BRIDGE ON

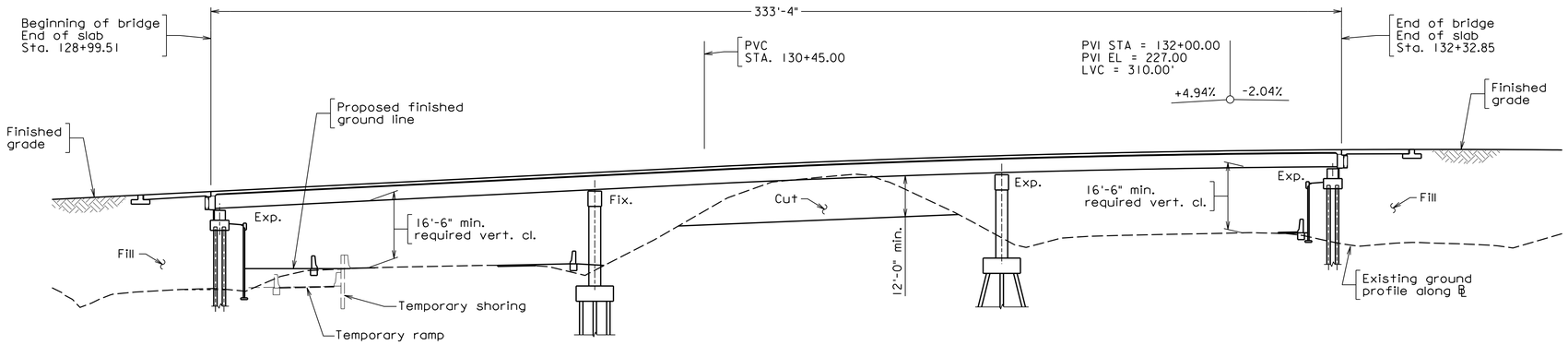
RTE. 630 EB AND WB (COURTHOUSE ROAD) OVER I-95
STAFFORD CO. - 0.6 MI. W. OF RTE. 1
PROJ. 0095-089-F09, B647, B648

Recommended for Approval: _____ Date
State Structure and Bridge Engineer

Approved: _____ Date
For Chief Engineer

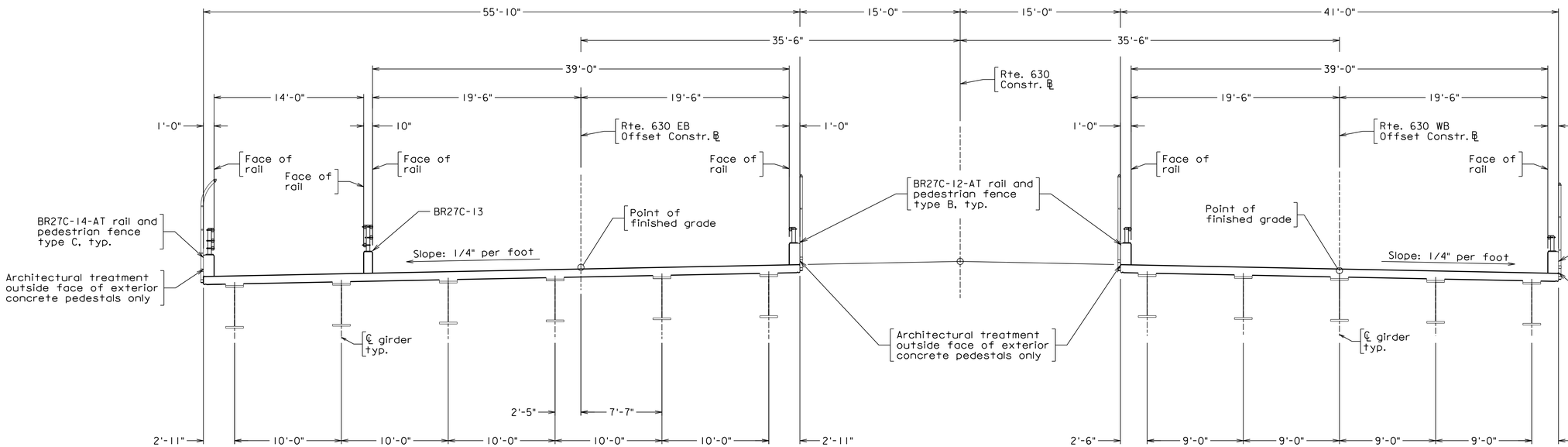
Date: August 2016

STATE	FEDERAL AID		STATE		SHEET NO.
	ROUTE	PROJECT	ROUTE	PROJECT	
VA.	—	—	630	0095-089-F09, B647, B648	85



ABUTMENT A PIER 1 PIER 2 ABUTMENT B

DEVELOPED SECTION ALONG RTE. 630 WBL OFFSET CONSTR. ℄



RTE. 630 EB TRANSVERSE SECTION RTE. 630 WB

Scale: 3/16" = 1'-0"

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ATHAVALE, LYSTAD & ASSOC. Inc.
McLean, Virginia
STRUCTURAL ENGINEER

CORMAN CONSTRUCTION — BranchHighways
A JOINT VENTURE

PRELIMINARY PLANS
THESE PLANS NOT TO BE USED FOR CONSTRUCTION

Scale: 1" = 20'-0" unless otherwise noted

No.	Description	Date
	Revisions	

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION
STRUCTURE AND BRIDGE DIVISION

DEVELOPED SECTION ALONG ℄ ROUTE 630 (COURTHOUSE ROAD) EBL AND TRANSVERSE SECTION

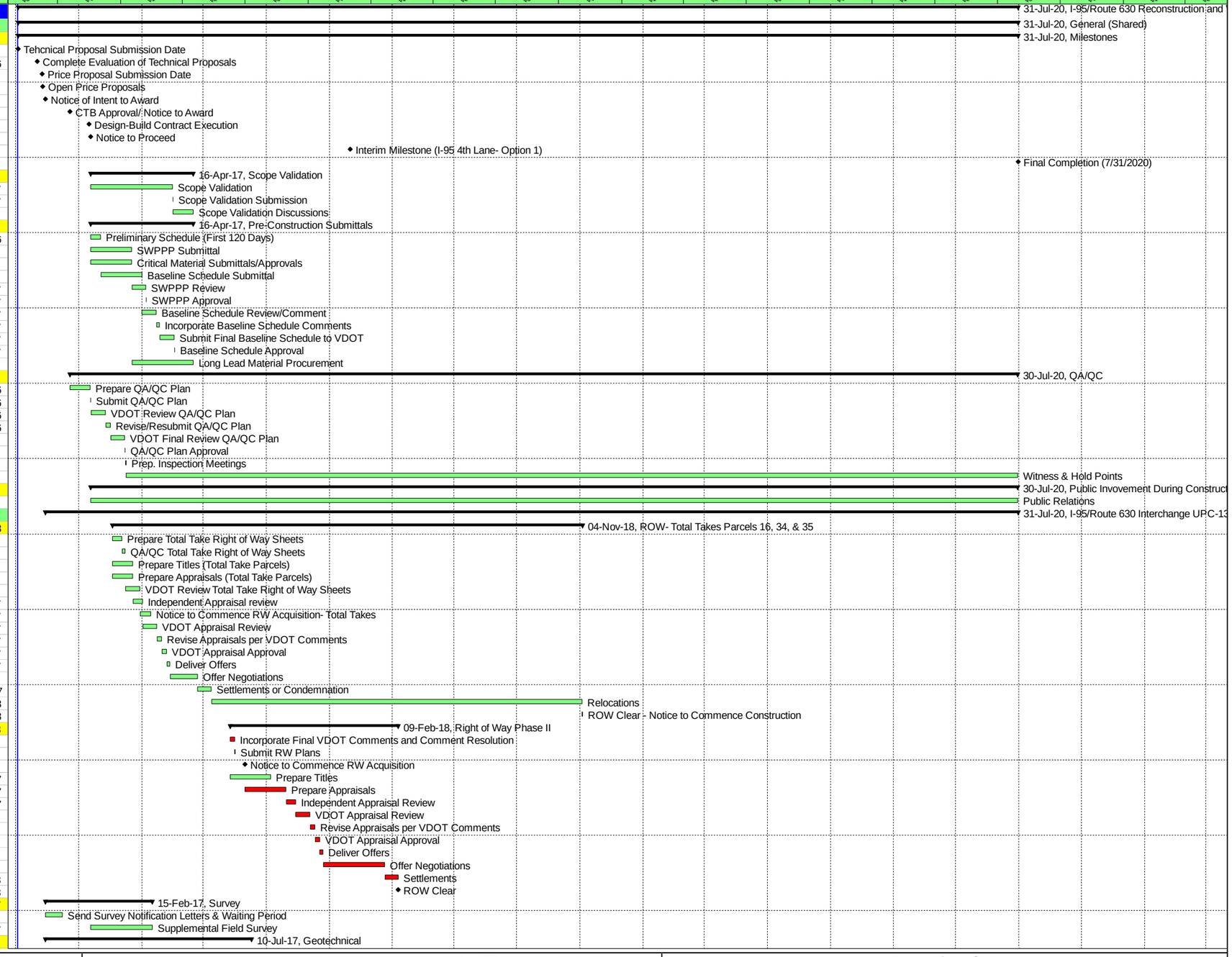
Designed:	Date	Plan No.	Sheet No.
Drawn:	Aug. 2016		85 of 85
Checked:			

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
I-95/Route 630 Reconstruction and Widening		853	04-Aug-16	31-Jul-20
General (Shared)		1458	04-Aug-16	31-Jul-20
Milestones		1458	04-Aug-16	31-Jul-20
MS-1000	Tehcnical Proposal Submission Date	0	04-Aug-16	
MS-1010	Complete Evaluation of Technical Proposals	0		01-Sep-16
MS-1020	Price Proposal Submission Date	0	08-Sep-16	
MS-1030	Open Price Proposals	0	09-Sep-16	
MS-1040	Notice of Intent to Award	0	13-Sep-16	
MS-1050	CTB Approval/ Notice to Award	0	19-Oct-16*	
MS-1060	Design-Build Contract Execution	0	16-Nov-16	
MS-1070	Notice to Proceed	0	18-Nov-16	
MS-1080	Interim Milestone (I-95 4th Lane- Option 1)	0		01-Dec-17
MS-1100	Final Completion (7/31/2020)	0		31-Jul-20
Scope Validation		150	18-Nov-16	16-Apr-17
SV-1000	Scope Validation	120	18-Nov-16	17-Mar-17
SV-1020	Scope Validation Submission	0	18-Mar-17	18-Mar-17
SV-1010	Scope Validation Discussions	30	18-Mar-17	16-Apr-17
Pre-Construction Submittals		150	18-Nov-16	16-Apr-17
PC-1000	Preliminary Schedule (First 120 Days)	15	18-Nov-16	02-Dec-16
PC-1060	SWPPP Submittal	60	18-Nov-16	16-Jan-17
PC-1090	Critical Material Submittals/Approvals	60	18-Nov-16	16-Jan-17
PC-1010	Baseline Schedule Submittal	60	03-Dec-16	31-Jan-17
PC-1070	SWPPP Review	21	17-Jan-17	06-Feb-17
PC-1080	SWPPP Approval	1	07-Feb-17	07-Feb-17
PC-1020	Baseline Schedule Review/Comment	21	01-Feb-17	21-Feb-17
PC-1030	Incorporate Baseline Schedule Comments	5	22-Feb-17	26-Feb-17
PC-1040	Submit Final Baseline Schedule to VDOT	21	27-Feb-17	19-Mar-17
PC-1050	Baseline Schedule Approval	1	20-Mar-17	20-Mar-17
PC-1100	Long Lead Material Procurement	90	17-Jan-17	16-Apr-17
QA/QC		1381	19-Oct-16	30-Jul-20
QA-1000	Prepare QA/QC Plan	30	19-Oct-16	17-Nov-16
QA-1010	Submit QA/QC Plan	1	18-Nov-16	18-Nov-16
QA-1020	VDOT Review QA/QC Plan	21	19-Nov-16	09-Dec-16
QA-1030	Revise/Resubmit QA/QC Plan	7	10-Dec-16	16-Dec-16
QA-1040	VDOT Final Review QA/QC Plan	21	17-Dec-16	06-Jan-17
QA-1050	QA/QC Plan Approval	1	07-Jan-17	07-Jan-17
QA-1060	Prep. Inspection Meetings	1	08-Jan-17	08-Jan-17
QA-1070	Witness & Hold Points	1299	09-Jan-17	30-Jul-20
Public Invovement During Construction		1351	18-Nov-16	30-Jul-20
PR-1000	Public Relations	1351	18-Nov-16	30-Jul-20
I-95/Route 630 Interchange UPC-13558		831	13-Sep-16	31-Jul-20
ROW- Total Takes Parcels 16, 34, & 35		685	20-Dec-16	04-Nov-18
10RW-1000	Prepare Total Take Right of Way Sheets	14	20-Dec-16	02-Jan-17
10RW-1010	QA/QC Total Take Right of Way Sheets	5	03-Jan-17	07-Jan-17
10RW-1040	Prepare Titles (Total Take Parcels)	30	20-Dec-16	18-Jan-17
10RW-1050	Prepare Appraisals (Total Take Parcels)	30	20-Dec-16	18-Jan-17
10RW-1020	VDOT Review Total Take Right of Way Sheets	21	08-Jan-17	28-Jan-17
10RW-1060	Independent Appraisal review	14	19-Jan-17	01-Feb-17
10RW-1030	Notice to Commence RW Acquisition- Total Takes	16	29-Jan-17	13-Feb-17
10RW-1070	VDOT Appraisal Review	21	02-Feb-17	22-Feb-17
10RW-1080	Revise Appraisals per VDOT Comments	7	23-Feb-17	01-Mar-17
10RW-1090	VDOT Appraisal Approval	7	02-Mar-17	08-Mar-17
10RW-1100	Deliver Offers	5	09-Mar-17	13-Mar-17
10RW-1110	Offer Negotiations	40	14-Mar-17	22-Apr-17
10RW-1120	Settlements or Condemnation	20	23-Apr-17	12-May-17
10RW-1270	Relocations	540	13-May-17	03-Nov-18
10RW-1130	ROW Clear - Notice to Commence Construction	1	04-Nov-18	04-Nov-18
Right of Way Phase II		246	09-Jun-17	09-Feb-18
10RW-1140	Incorporate Final VDOT Comments and Comme	7	09-Jun-17	15-Jun-17
10RW-1150	Submit RW Plans	1	16-Jun-17	16-Jun-17
10RW-1160	Notice to Commence RW Acquisition	0	01-Jul-17	
10RW-1170	Prepare Titles	60	09-Jun-17	07-Aug-17
10RW-1180	Prepare Appraisals	60	01-Jul-17	29-Aug-17
10RW-1190	Independent Appraisal Review	14	30-Aug-17	12-Sep-17
10RW-1200	VDOT Appraisal Review	21	13-Sep-17	03-Oct-17
10RW-1210	Revise Appraisals per VDOT Comments	7	04-Oct-17	10-Oct-17
10RW-1220	VDOT Appraisal Approval	7	11-Oct-17	17-Oct-17
10RW-1230	Deliver Offers	5	18-Oct-17	22-Oct-17
10RW-1240	Offer Negotiations	90	23-Oct-17	20-Jan-18
10RW-1250	Settlements	20	21-Jan-18	09-Feb-18
10RW-1260	ROW Clear	0		09-Feb-18
Survey		156	13-Sep-16	15-Feb-17
10RD-1000	Send Survey Notification Letters & Waiting Period	25	13-Sep-16	07-Oct-16
10RD-1010	Supplemental Field Survey	90	18-Nov-16	15-Feb-17
Geotechnical		301	13-Sep-16	10-Jul-17



Remaining Level of Effort — Summary

Actual Work

Remaining Work

Critical Remaining Work

Milestone

Date Last Modified: 28-Jul-16

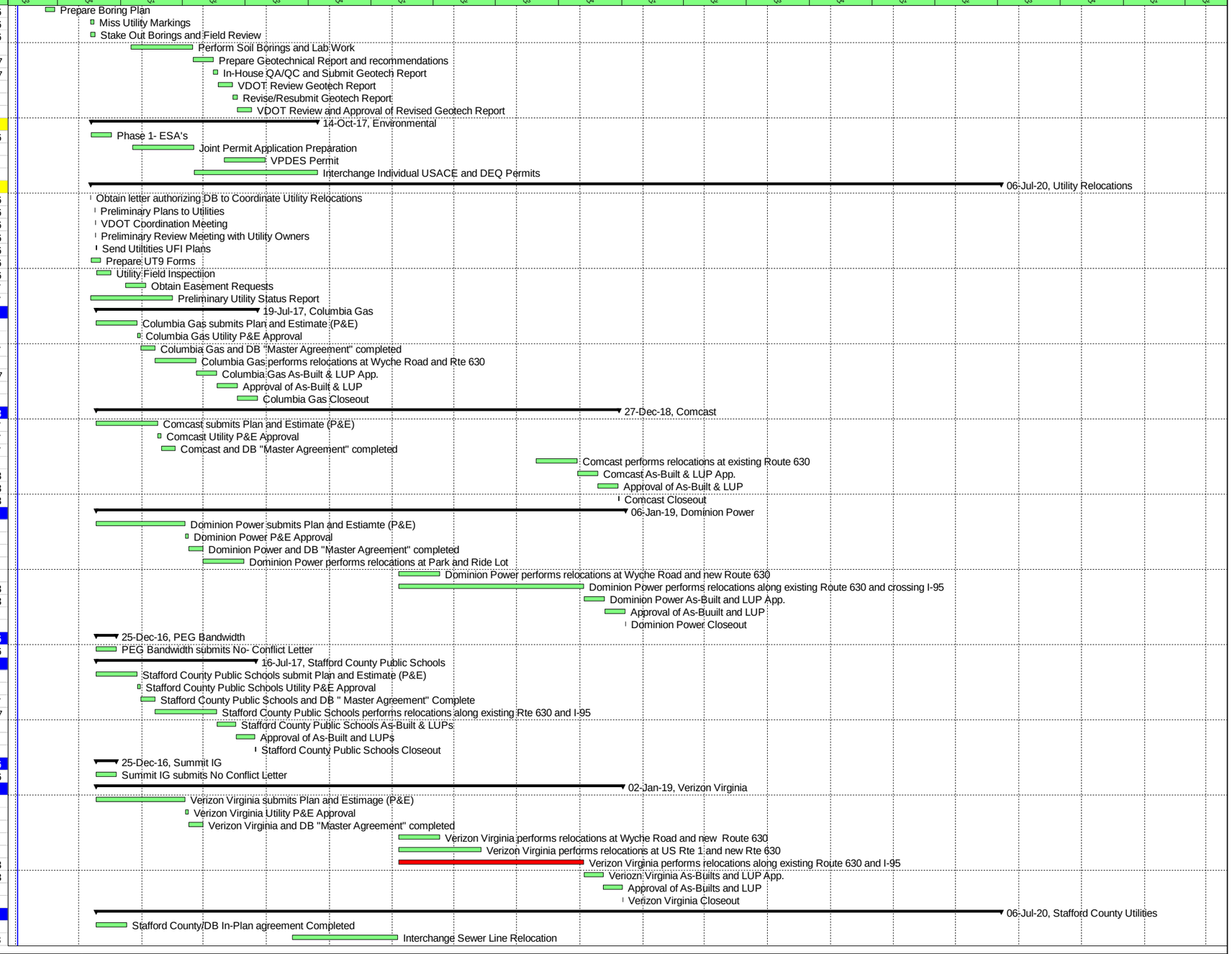
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10GD-1000	Prepare Boring Plan	14	13-Sep-16	26-Sep-16
10GD-1020	Miss Utility Markings	5	18-Nov-16	22-Nov-16
10GD-1010	Stake Out Borings and Field Review	7	18-Nov-16	24-Nov-16
10GD-1030	Perform Soil Borings and Lab Work	90	16-Jan-17	15-Apr-17
10GD-1040	Prepare Geotechnical Report and recommendatic	30	16-Apr-17	15-May-17
10GD-1050	In-House QA/QC and Submit Geotech Report	7	16-May-17	22-May-17
10GD-1060	VDOT Review Geotech Report	21	23-May-17	12-Jun-17
10GD-1070	Revise/Resubmit Geotech Report	7	13-Jun-17	19-Jun-17
10GD-1080	VDOT Review and Approval of Revised Geotech	21	20-Jun-17	10-Jul-17
Environmental		330	19-Nov-16	14-Oct-17
10EV-1030	Phase 1- ESA's	30	19-Nov-16	18-Dec-16
10EV-1000	Joint Permit Application Preparation	90	18-Jan-17	17-Apr-17
10EV-1020	VPDES Permit	60	01-Jun-17	30-Jul-17
10EV-1010	Interchange Individual USACE and DEQ Permits	180	18-Apr-17	14-Oct-17
Utility Relocations		776	18-Nov-16	06-Jul-20
10UR-1000	Obtain letter authorizing DB to Coordinate Utility F	1	18-Nov-16	18-Nov-16
10UR-1010	Preliminary Plans to Utilities	1	24-Nov-16	24-Nov-16
10UR-1020	VDOT Coordination Meeting	1	25-Nov-16	25-Nov-16
10UR-1030	Preliminary Review Meeting with Utility Owners	1	25-Nov-16	25-Nov-16
10UR-1040	Send Utiltities UFI Plans	1	26-Nov-16	26-Nov-16
10UR-1060	Prepare UT9 Forms	14	19-Nov-16	02-Dec-16
10UR-1050	Utility Field Inspectiion	21	27-Nov-16	17-Dec-16
10UR-1070	Obtain Easement Requests	30	08-Jan-17	06-Feb-17
10UR-1080	Preliminary Utility Status Report	120	18-Nov-16	17-Mar-17
Columbia Gas		236	26-Nov-16	19-Jul-17
10UR-1090	Columbia Gas submits Plan and Estimate (P&E)	60	26-Nov-16	24-Jan-17
10UR-1100	Columbia Gas Utility P&E Approval	5	25-Jan-17	29-Jan-17
10UR-1110	Columbia Gas and DB "Master Agreement" comp	21	30-Jan-17	19-Feb-17
10UR-1130	Columbia Gas performs relocations at Wyche Ro	60	20-Feb-17	20-Apr-17
10UR-1440	Columbia Gas As-Built & LUP App.	30	21-Apr-17	20-May-17
10UR-1450	Approval of As-Built & LUP	30	21-May-17	19-Jun-17
10UR-1460	Columbia Gas Closeout	30	20-Jun-17	19-Jul-17
Comcast		762	26-Nov-16	27-Dec-18
10UR-1140	Comcast submits Plan and Estimate (P&E)	90	26-Nov-16	23-Feb-17
10UR-1150	Comcast Utility P&E Approval	5	24-Feb-17	28-Feb-17
10UR-1160	Comcast and DB "Master Agreement" completed	21	01-Mar-17	21-Mar-17
10UR-1170	Comcast performs relocations at existing Route 6	60	29-Aug-18	27-Oct-18
10UR-1470	Comcast As-Built & LUP App.	30	28-Oct-18	26-Nov-18
10UR-1480	Approval of As-Built & LUP	30	27-Nov-18	26-Dec-18
10UR-1500	Comcast Closeout	1	27-Dec-18	27-Dec-18
Dominion Power		772	26-Nov-16	06-Jan-19
10UR-1180	Dominion Power submits Plan and Estiamte (P&E	130	26-Nov-16	04-Apr-17
10UR-1190	Dominion Power P&E Approval	5	05-Apr-17	09-Apr-17
10UR-1200	Dominion Power and DB "Master Agreement" cor	21	10-Apr-17	30-Apr-17
10UR-1210	Dominion Power performs relocations at Park anc	60	01-May-17	29-Jun-17
10UR-1230	Dominion Power performs relocations at Wyche F	60	10-Feb-18	10-Apr-18
10UR-1220	Dominion Power performs relocations along existi	270	10-Feb-18	06-Nov-18
10UR-1260	Dominion Power As-Built and LUP App.	30	07-Nov-18	06-Dec-18
10UR-1270	Approval of As-Buuilt and LUP	30	07-Dec-18	05-Jan-19
10UR-1490	Dominion Power Closeout	1	06-Jan-19	06-Jan-19
PEG Bandwidth		30	26-Nov-16	25-Dec-16
10UR-1240	PEG Bandwidth submits No- Conflict Letter	30	26-Nov-16	25-Dec-16
Stafford County Public Schools		233	26-Nov-16	16-Jul-17
10UR-1290	Stafford County Public Schools submit Plan and E	60	26-Nov-16	24-Jan-17
10UR-1300	Stafford County Public Schools Utility P&E Appro	5	25-Jan-17	29-Jan-17
10UR-1310	Stafford County Public Schools and DB " Master	21	30-Jan-17	19-Feb-17
10UR-1320	Stafford County Public Schools performs relocatic	90	20-Feb-17	20-May-17
10UR-1510	Stafford County Public Schools As-Built & LUPs	28	21-May-17	17-Jun-17
10UR-1520	Approval of As-Built and LUPs	28	18-Jun-17	15-Jul-17
10UR-1530	Stafford County Public Schools Closeout	1	16-Jul-17	16-Jul-17
Summit IG		30	26-Nov-16	25-Dec-16
10UR-1330	Summit IG submits No Conflict Letter	30	26-Nov-16	25-Dec-16
Verizon Virginia		768	26-Nov-16	02-Jan-19
10UR-1370	Verizon Virginia submits Plan and Estimage (P&E	130	26-Nov-16	04-Apr-17
10UR-1380	Verizon Virginia Utility P&E Approval	5	05-Apr-17	09-Apr-17
10UR-1390	Verizon Virginia and DB "Master Agreement" cor	21	10-Apr-17	30-Apr-17
10UR-1420	Verizon Virginia performs relocations at Wyche R	60	10-Feb-18	10-Apr-18
10UR-1430	Verizon Virginia performs relocations at US Rte 1	120	10-Feb-18	09-Jun-18
10UR-1410	Verizon Virginia performs relocations along existir	270	10-Feb-18	06-Nov-18
10UR-1540	Veriozn Virginia As-Builts and LUP App.	28	07-Nov-18	04-Dec-18
10UR-1550	Approval of As-Builts and LUP	28	05-Dec-18	01-Jan-19
10UR-1560	Verizon Virginia Closeout	1	02-Jan-19	02-Jan-19
Stafford County Utilities		772	26-Nov-16	06-Jul-20
10UR-1280	Stafford County/DB In-Plan agreement Complete	45	26-Nov-16	09-Jan-17
10UR-1350	Interchange Sewer Line Relocation	90	08-Sep-17	08-Feb-18



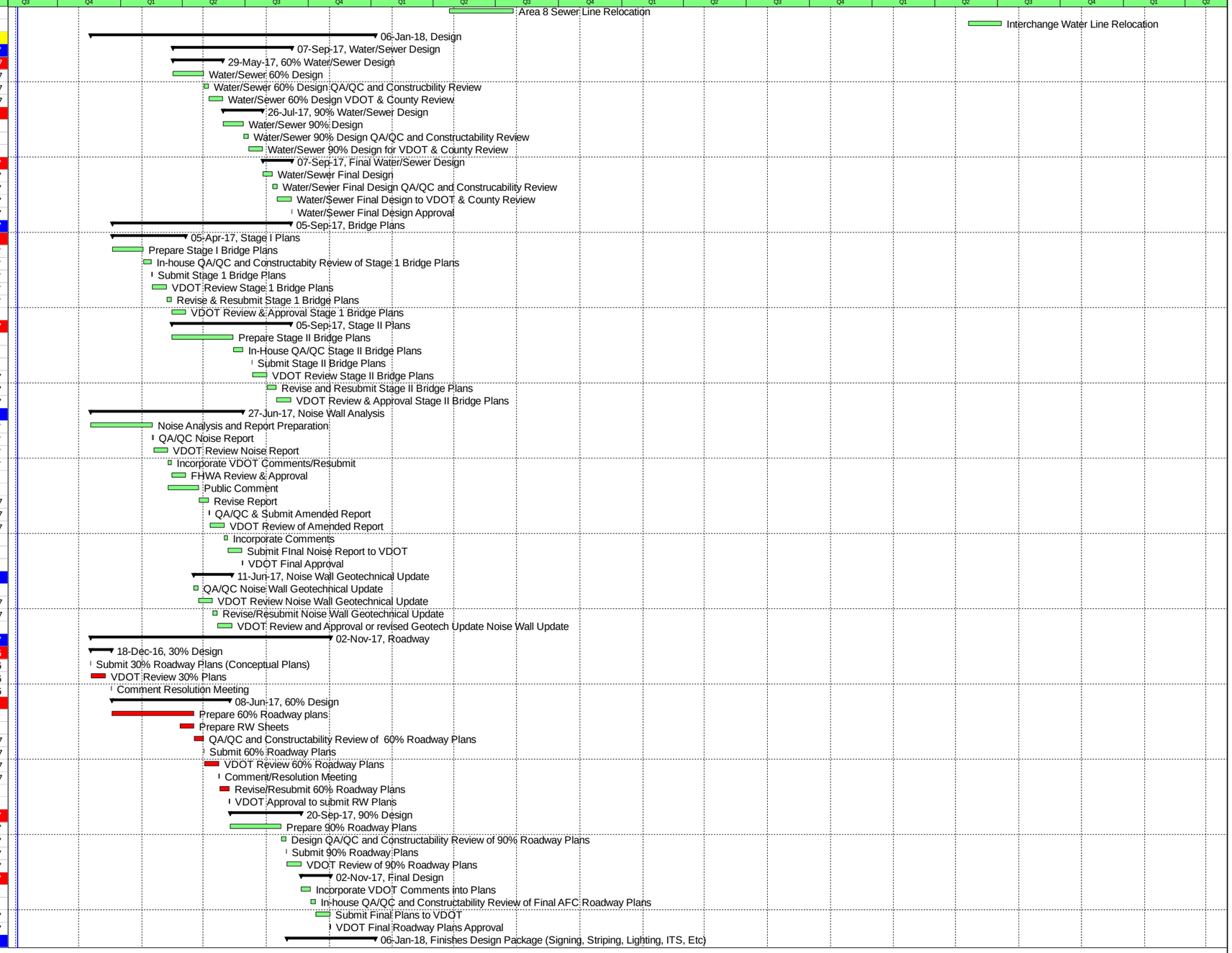
Remaining Level of Effort — Summary
Actual Work
Remaining Work
Critical Remaining Work
Milestone

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10UR-1570	Area 8 Sewer Line Relocation	60	25-Apr-18	26-Jul-18
10UR-1340	Interchange Water Line Relocation	30	20-May-20	06-Jul-20
Design		415	18-Nov-16	06-Jan-18
Water/Sewer Design		174	18-Mar-17	07-Sep-17
60% Water/Sewer Design		73	18-Mar-17	29-May-17
10UR-1700	Water/Sewer 60% Design	45	18-Mar-17	01-May-17
10UR-1710	Water/Sewer 60% Design QA/QC and Constrcub	7	02-May-17	08-May-17
10UR-1720	Water/Sewer 60% Design VDOT & County Revie	21	09-May-17	29-May-17
90% Water/Sewer Design		58	30-May-17	26-Jul-17
10UR-1730	Water/Sewer 90% Design	30	30-May-17	28-Jun-17
10UR-1740	Water/Sewer 90% Design QA/QC and Constructa	7	29-Jun-17	05-Jul-17
10UR-1750	Water/Sewer 90% Design for VDOT & County Re	21	06-Jul-17	26-Jul-17
Final Water/Sewer Design		43	27-Jul-17	07-Sep-17
10UR-1760	Water/Sewer Final Design	14	27-Jul-17	09-Aug-17
10UR-1770	Water/Sewer Final Design QA/QC and Construca	7	10-Aug-17	16-Aug-17
10UR-1780	Water/Sewer Final Design to VDOT & County Re	21	17-Aug-17	06-Sep-17
10UR-1790	Water/Sewer Final Design Approval	1	07-Sep-17	07-Sep-17
Bridge Plans		260	20-Dec-16	05-Sep-17
Stage I Plans		107	20-Dec-16	05-Apr-17
10SD-1000	Prepare Stage I Bridge Plans	45	20-Dec-16	02-Feb-17
10SD-1010	In-house QA/QC and Constructabity Review of St	12	03-Feb-17	14-Feb-17
10SD-1020	Submit Stage 1 Bridge Plans	1	15-Feb-17	15-Feb-17
10SD-1030	VDOT Review Stage 1 Bridge Plans	21	16-Feb-17	08-Mar-17
10SD-1040	Revise & Resubmit Stage 1 Bridge Plans	7	09-Mar-17	15-Mar-17
10SD-1050	VDOT Review & Approval Stage 1 Bridge Plans	21	16-Mar-17	05-Apr-17
Stage II Plans		174	16-Mar-17	05-Sep-17
10SD-1060	Prepare Stage II Bridge Plans	90	16-Mar-17	13-Jun-17
10SD-1070	In-House QA/QC Stage II Bridge Plans	14	14-Jun-17	27-Jun-17
10SD-1080	Submit Stage II Bridge Plans	1	11-Jul-17	11-Jul-17
10SD-1090	VDOT Review Stage II Bridge Plans	21	12-Jul-17	01-Aug-17
10SD-1100	Revise and Resubmit Stage II Bridge Plans	14	02-Aug-17	15-Aug-17
10SD-1110	VDOT Review & Approval Stage II Bridge Plans	21	16-Aug-17	05-Sep-17
Noise Wall Analysis		222	18-Nov-16	27-Jun-17
40NA-1040	Noise Analysis and Report Preparation	90	18-Nov-16	15-Feb-17
40NA-1050	QA/QC Noise Report	2	16-Feb-17	17-Feb-17
40NA-1060	VDOT Review Noise Report	21	18-Feb-17	10-Mar-17
40NA-1070	Incorporate VDOT Comments/Resubmit	5	11-Mar-17	15-Mar-17
40NA-1080	FHWA Review & Approval	21	16-Mar-17	05-Apr-17
40NA-1090	Public Comment	45	11-Mar-17	24-Apr-17
40NA-1100	Revise Report	14	25-Apr-17	08-May-17
40NA-1110	QA/QC & Submit Amended Report	2	09-May-17	10-May-17
40NA-1120	VDOT Review of Amended Report	21	11-May-17	31-May-17
40NA-1130	Incorporate Comments	5	01-Jun-17	05-Jun-17
40NA-1140	Submit FInal Noise Report to VDOT	21	06-Jun-17	26-Jun-17
40NA-1150	VDOT Final Approval	1	27-Jun-17	27-Jun-17
Noise Wall Geotechnical Update		56	17-Apr-17	11-Jun-17
40NA-1000	QA/QC Noise Wall Geotechnical Update	7	17-Apr-17	23-Apr-17
40NA-1010	VDOT Review Noise Wall Geotechnical Update	21	24-Apr-17	14-May-17
40NA-1020	Revise/Resubmit Noise Wall Geotechnical Updat	7	15-May-17	21-May-17
40NA-1030	VDOT Review and Approval or revised Geotech U	21	22-May-17	11-Jun-17
Roadway		350	18-Nov-16	02-Nov-17
30% Design		31	18-Nov-16	18-Dec-16
10RD-1030	Submit 30% Roadway Plans (Conceptual Plans)	1	18-Nov-16	18-Nov-16
10RD-1040	VDOT Review 30% Plans	21	19-Nov-16	09-Dec-16
10RD-1050	Comment Resolution Meeting	1	18-Dec-16	18-Dec-16
60% Design		172	19-Dec-16	08-Jun-17
10RD-1060	Prepare 60% Roadway plans	120	19-Dec-16	17-Apr-17
10RD-1070	Prepare RW Sheets	21	28-Mar-17	17-Apr-17
10RD-1080	QA/QC and Constructability Review of 60% Roa	14	18-Apr-17	01-May-17
10RD-1090	Submit 60% Roadway Plans	1	02-May-17	02-May-17
10RD-1100	VDOT Review 60% Roadway Plans	21	03-May-17	23-May-17
10RD-1110	Comment/Resolution Meeting	1	24-May-17	24-May-17
10RD-1120	Revise/Resubmit 60% Roadway Plans	14	25-May-17	07-Jun-17
10RD-1130	VDOT Approval to submit RW Plans	1	08-Jun-17	08-Jun-17
90% Design		104	09-Jun-17	20-Sep-17
10RD-1140	Prepare 90% Roadway Plans	75	09-Jun-17	22-Aug-17
10RD-1150	Design QA/QC and Constructability Review of 90	7	23-Aug-17	29-Aug-17
10RD-1160	Submit 90% Roadway Plans	1	30-Aug-17	30-Aug-17
10RD-1170	VDOT Review of 90% Roadway Plans	21	31-Aug-17	20-Sep-17
Final Design		43	21-Sep-17	02-Nov-17
10RD-1180	Incorporate VDOT Comments into Plans	14	21-Sep-17	04-Oct-17
10RD-1190	In-house QA/QC and Constructability Review of F	7	05-Oct-17	11-Oct-17
10RD-1200	Submit Final Plans to VDOT	21	12-Oct-17	01-Nov-17
10RD-1210	VDOT Final Roadway Plans Approval	1	02-Nov-17	02-Nov-17
Finishes Design Package (Signing, Striping, Lighting, ITS, Etc)		129	31-Aug-17	06-Jan-18



Remaining Level of Effort — Summary

Actual Work

Remaining Work

Critical Remaining Work

Milestone

CORMAN CONSTRUCTION — BranchHighways

WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

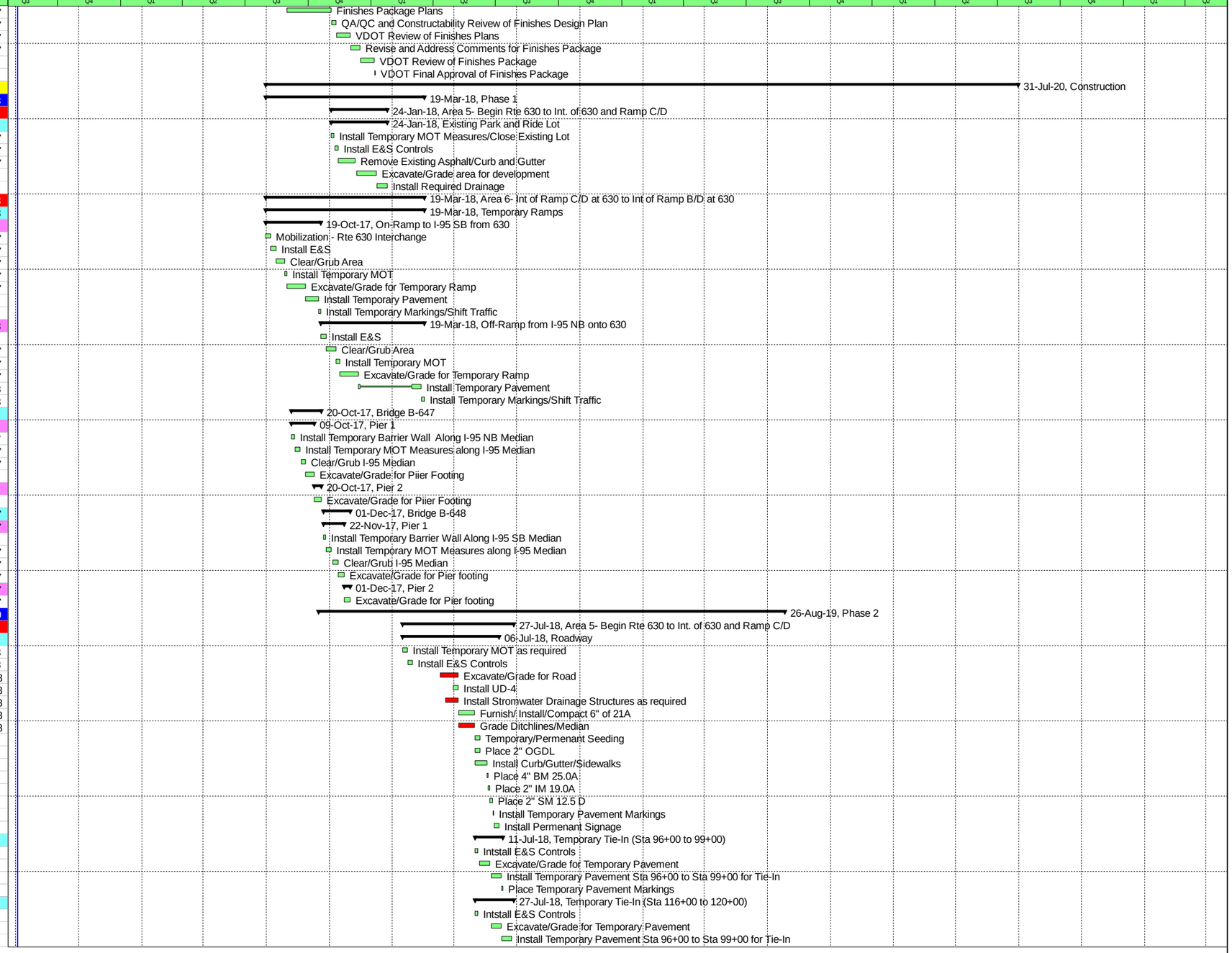
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10RD-1220	Finishes Package Plans	65	31-Aug-17	03-Nov-17
10RD-1230	QA/QC and Constructability Reivew of Finishes D	7	04-Nov-17	10-Nov-17
10RD-1240	VDOT Review of Finishes Plans	21	11-Nov-17	01-Dec-17
10RD-1250	Revise and Address Comments for Finishes Pacl	14	02-Dec-17	15-Dec-17
10RD-1260	VDOT Review of Finishes Package	21	16-Dec-17	05-Jan-18
10RD-1270	VDOT Final Approval of Finishes Package	1	06-Jan-18	06-Jan-18
Construction		655	31-Jul-17	31-Jul-20
Phase 1		128	31-Jul-17	19-Mar-18
Area 5- Begin Rte 630 to Int. of 630 and Ramp C/D		46	03-Nov-17	24-Jan-18
Existing Park and Ride Lot		46	03-Nov-17	24-Jan-18
10CR-10(	Install Temporary MOT Measures/Close Existing	3	03-Nov-17	07-Nov-17
10CR-10	Install E&S Controls	3	09-Nov-17	13-Nov-17
10CR-10:	Remove Existing Asphalt/Curb and Gutter	15	14-Nov-17	08-Dec-17
10CR-10:	Excavate/Grade area for development	15	11-Dec-17	08-Jan-18
10CR-10-	Install Required Drainage	10	09-Jan-18	24-Jan-18
Area 6- Int of Ramp C/D at 630 to Int of Ramp B/D at 630		128	31-Jul-17	19-Mar-18
Temporary Ramps		128	31-Jul-17	19-Mar-18
On-Ramp to I-95 SB from 630		46	31-Jul-17	19-Oct-17
10CR-2	Mobilization - Rte 630 Interchange	5	31-Jul-17	07-Aug-17
10CR-1	Install E&S	5	07-Aug-17	15-Aug-17
10CR-1	Clear/Grub Area	8	15-Aug-17	28-Aug-17
10CR-1	Install Temporary MOT	3	28-Aug-17	31-Aug-17
10CR-1	Excavate/Grade for Temporary Ramp	15	31-Aug-17	27-Sep-17
10CR-1	Install Temporary Pavement	12	27-Sep-17	16-Oct-17
10CR-1	Install Temporary Markings/Shift Traffic	2	16-Oct-17	19-Oct-17
Off-Ramp from I-95 NB onto 630		82	19-Oct-17	19-Mar-18
10CR-1	Install E&S	5	19-Oct-17	27-Oct-17
10CR-1	Clear/Grub Area	8	27-Oct-17	10-Nov-17
10CR-1	Install Temporary MOT	3	10-Nov-17	16-Nov-17
10CR-1	Excavate/Grade for Temporary Ramp	15	16-Nov-17	13-Dec-17
10CR-1	Install Temporary Pavement	12	13-Dec-17	14-Mar-18
10CR-1	Install Temporary Markings/Shift Traffic	3	15-Mar-18	19-Mar-18
Bridge B-647		25	06-Sep-17	20-Oct-17
Pier 1		19	06-Sep-17	09-Oct-17
10CS-1	Install Temporary Barrier Wall Along I-95 NB Mec	4	06-Sep-17	11-Sep-17
10CS-1	Install Temporary MOT Measures along I-95 Med	5	12-Sep-17	19-Sep-17
10CS-1	Clear/Grub I-95 Median	5	21-Sep-17	27-Sep-17
10CS-1	Excavate/Grade for Piier Footing	7	27-Sep-17	09-Oct-17
Pier 2		7	09-Oct-17	20-Oct-17
10CS-1	Excavate/Grade for Piier Footing	7	09-Oct-17	20-Oct-17
Bridge B-648		23	23-Oct-17	01-Dec-17
Pier 1		18	23-Oct-17	22-Nov-17
10CS-1	Install Temporary Barrier Wall Along I-95 SB Med	3	23-Oct-17	26-Oct-17
10CS-1	Install Temporary MOT Measures along I-95 Med	5	27-Oct-17	03-Nov-17
10CS-1	Clear/Grub I-95 Median	5	06-Nov-17	13-Nov-17
10CS-1	Excavate/Grade for Pier footing	5	13-Nov-17	22-Nov-17
Pier 2		5	22-Nov-17	01-Dec-17
10CS-1	Excavate/Grade for Pier footing	5	22-Nov-17	01-Dec-17
Phase 2		397	16-Oct-17	26-Aug-19
Area 5- Begin Rte 630 to Int. of 630 and Ramp C/D		92	15-Feb-18	27-Jul-18
Roadway		80	15-Feb-18	06-Jul-18
10CR-11	Install Temporary MOT as required	5	15-Feb-18	22-Feb-18
10CR-11	Install E&S Controls	5	23-Feb-18	01-Mar-18
10CR-11	Excavate/Grade for Road	15	11-Apr-18	07-May-18
10CR-12	Install UD-4	5	30-Apr-18	07-May-18
10CR-12	Install Stromwater Drainage Structures as require	10	19-Apr-18	07-May-18
10CR-12	Furnish/ Install/Compact 6" of 21A	15	08-May-18	31-May-18
10CR-12	Grade Ditchlines/Median	15	08-May-18	31-May-18
10CR-13	Temporary/Permenant Seeding	5	01-Jun-18	08-Jun-18
10CR-12	Place 2" OGDL	5	01-Jun-18	08-Jun-18
10CR-12	Install Curb/Gutter/Sidewalks	10	01-Jun-18	18-Jun-18
10CR-12	Place 4" BM 25.0A	2	18-Jun-18	20-Jun-18
10CR-12	Place 2" IM 19.0A	2	20-Jun-18	22-Jun-18
10CR-12	Place 2" SM 12.5 D	2	22-Jun-18	26-Jun-18
10CR-12	Install Temporary Pavement Markings	2	27-Jun-18	28-Jun-18
10CR-13	Install Permenant Signage	5	29-Jun-18	06-Jul-18
Temporary Tie-In (Sta 96+00 to 99+00)		25	01-Jun-18	11-Jul-18
10CR-13	Intstall E&S Controls	3	01-Jun-18	05-Jun-18
10CR-13	Excavate/Grade for Temporary Pavement	10	07-Jun-18	22-Jun-18
10CR-13	Install Temporary Pavement Sta 96+00 to Sta 99-	10	25-Jun-18	09-Jul-18
10CR-13	Place Temporary Pavement Markings	2	10-Jul-18	11-Jul-18
Temporary Tie-In (Sta 116+00 to 120+00)		35	01-Jun-18	27-Jul-18
10CR-13	Intstall E&S Controls	3	01-Jun-18	05-Jun-18
10CR-13	Excavate/Grade for Temporary Pavement	10	25-Jun-18	09-Jul-18
10CR-13	Install Temporary Pavement Sta 96+00 to Sta 99-	10	10-Jul-18	24-Jul-18



Remaining Level of Effort — Summary
Actual Work
Remaining Work
Critical Remaining Work
Milestone

CORMAN CONSTRUCTION — BranchHighways — WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

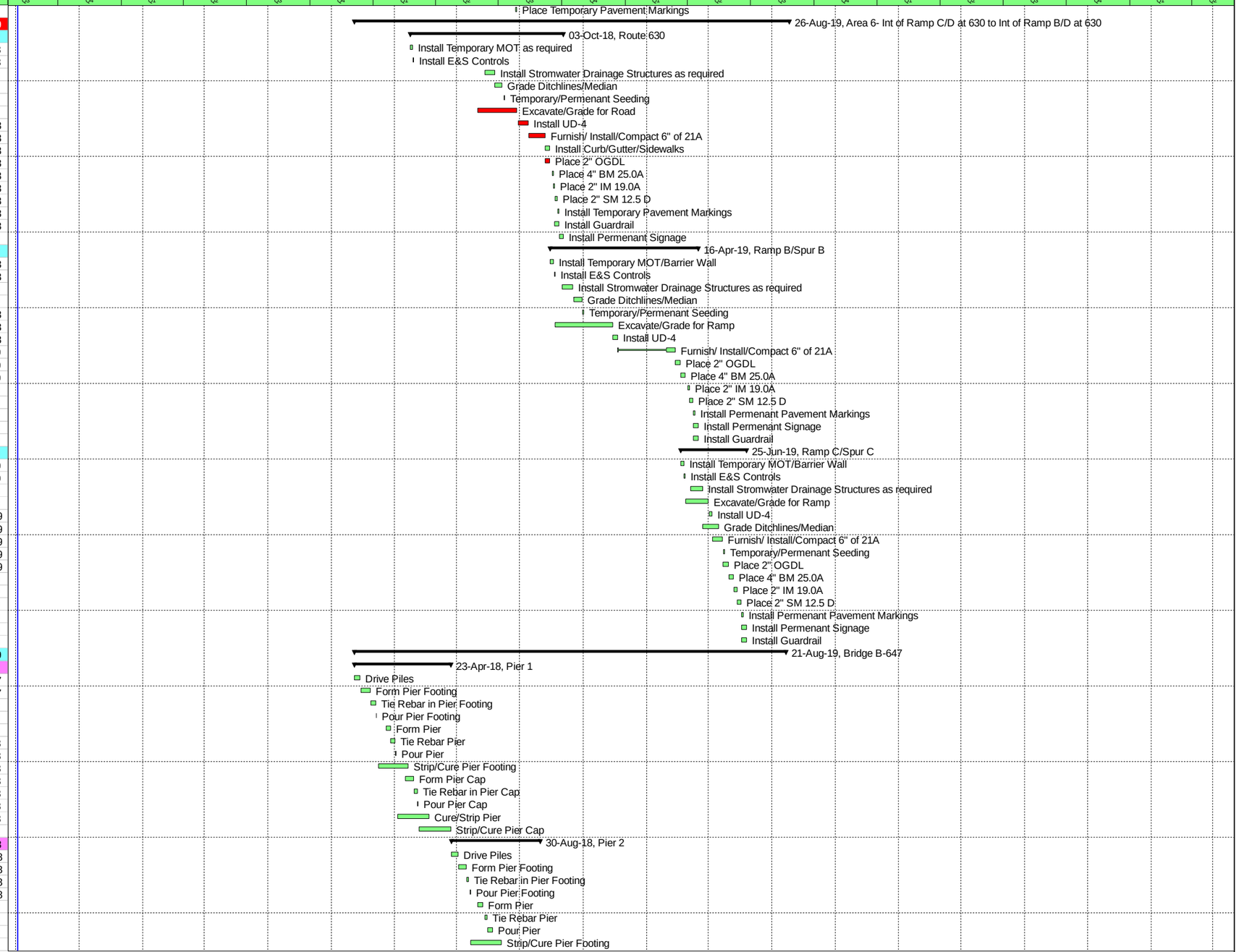
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10CR-13!	Place Temporary Pavement Markings	2	26-Jul-18	27-Jul-18
Area 6- Int of Ramp C/D at 630 to Int of Ramp B/D at 630		371	04-Dec-17	26-Aug-19
Route 630		126	23-Feb-18	03-Oct-18
10CR-14(	Install Temporary MOT as required	2	23-Feb-18	26-Feb-18
10CR-14	Install E&S Controls	2	27-Feb-18	28-Feb-18
10CR-14-	Install Stromwater Drainage Structures as require	10	11-Jun-18	25-Jun-18
10CR-14:	Grade Ditchlines/Median	8	26-Jun-18	06-Jul-18
10CR-15!	Temporary/Permenant Seeding	2	09-Jul-18	10-Jul-18
10CR-14:	Excavate/Grade for Road	35	01-Jun-18	27-Jul-18
10CR-14(	Install UD-4	10	30-Jul-18	13-Aug-18
10CR-14!	Furnish/ Install/Compact 6" of 21A	15	14-Aug-18	06-Sep-18
10CR-14'	Install Curb/Gutter/Sidewalks	4	07-Sep-18	13-Sep-18
10CR-14(	Place 2" OGDL	5	07-Sep-18	13-Sep-18
10CR-14!	Place 4" BM 25.0A	2	17-Sep-18	18-Sep-18
10CR-15(	Place 2" IM 19.0A	2	19-Sep-18	20-Sep-18
10CR-15	Place 2" SM 12.5 D	2	21-Sep-18	24-Sep-18
10CR-15:	Install Temporary Pavement Markings	2	25-Sep-18	26-Sep-18
10CR-15-	Install Guardrail	5	20-Sep-18	26-Sep-18
10CR-15:	Install Permenant Signage	5	27-Sep-18	03-Oct-18
Ramp B/Spur B		128	14-Sep-18	16-Apr-19
10CR-15(	Install Temporary MOT/Barrier Wall	3	14-Sep-18	18-Sep-18
10CR-15'	Install E&S Controls	2	20-Sep-18	21-Sep-18
10CR-16(	Install Stromwater Drainage Structures as require	10	01-Oct-18	16-Oct-18
10CR-15!	Grade Ditchlines/Median	8	18-Oct-18	30-Oct-18
10CR-17(	Temporary/Permenant Seeding	2	31-Oct-18	01-Nov-18
10CR-15!	Excavate/Grade for Ramp	50	21-Sep-18	13-Dec-18
10CR-16:	Install UD-4	5	13-Dec-18	20-Dec-18
10CR-16	Furnish/ Install/Compact 6" of 21A	10	20-Dec-18	14-Mar-19
10CR-16:	Place 2" OGDL	3	14-Mar-19	21-Mar-19
10CR-16-	Place 4" BM 25.0A	3	22-Mar-19	28-Mar-19
10CR-16!	Place 2" IM 19.0A	3	01-Apr-19	03-Apr-19
10CR-16(	Place 2" SM 12.5 D	3	04-Apr-19	08-Apr-19
10CR-16'	Install Permenant Pavement Markings	2	09-Apr-19	11-Apr-19
10CR-16!	Install Permenant Signage	5	09-Apr-19	16-Apr-19
10CR-16!	Install Guardrail	5	09-Apr-19	16-Apr-19
Ramp C/Spur C		62	22-Mar-19	25-Jun-19
10CR-17	Install Temporary MOT/Barrier Wall	3	22-Mar-19	26-Mar-19
10CR-17:	Install E&S Controls	2	27-Mar-19	28-Mar-19
10CR-17!	Install Stromwater Drainage Structures as require	10	05-Apr-19	22-Apr-19
10CR-17:	Excavate/Grade for Ramp	20	29-Mar-19	30-Apr-19
10CR-17'	Install UD-4	3	02-May-19	06-May-19
10CR-17-	Grade Ditchlines/Median	15	23-Apr-19	15-May-19
10CR-17(	Furnish/ Install/Compact 6" of 21A	10	07-May-19	21-May-19
10CR-18-	Temporary/Permenant Seeding	2	23-May-19	24-May-19
10CR-17!	Place 2" OGDL	5	22-May-19	30-May-19
10CR-17!	Place 4" BM 25.0A	3	31-May-19	06-Jun-19
10CR-18(	Place 2" IM 19.0A	3	07-Jun-19	11-Jun-19
10CR-18	Place 2" SM 12.5 D	3	12-Jun-19	17-Jun-19
10CR-18:	Install Permenant Pavement Markings	2	18-Jun-19	20-Jun-19
10CR-18:	Install Permenant Signage	5	18-Jun-19	25-Jun-19
10CR-18!	Install Guardrail	5	18-Jun-19	25-Jun-19
Bridge B-647		368	04-Dec-17	21-Aug-19
Pier 1		83	04-Dec-17	23-Apr-18
10CS-1	Drive Piles	6	04-Dec-17	12-Dec-17
10CS-1	Form Pier Footing	8	14-Dec-17	27-Dec-17
10CS-1	Tie Rebar in Pier Footing	3	28-Dec-17	04-Jan-18
10CS-1	Pour Pier Footing	1	05-Jan-18	05-Jan-18
10CS-1	Form Pier	5	19-Jan-18	25-Jan-18
10CS-1	Tie Rebar Pier	5	26-Jan-18	01-Feb-18
10CS-1	Pour Pier	1	02-Feb-18	02-Feb-18
10CS-1	Strip/Cure Pier Footing	28	08-Jan-18	20-Feb-18
10CS-1	Form Pier Cap	8	16-Feb-18	28-Feb-18
10CS-1	Tie Rebar in Pier Cap	3	01-Mar-18	05-Mar-18
10CS-1	Pour Pier Cap	1	06-Mar-18	06-Mar-18
10CS-1	Cure/Strip Pier	28	05-Feb-18	22-Mar-18
10CS-1	Strip/Cure Pier Cap	28	08-Mar-18	23-Apr-18
Pier 2		84	24-Apr-18	30-Aug-18
10CS-1	Drive Piles	8	24-Apr-18	03-May-18
10CS-1	Form Pier Footing	8	04-May-18	15-May-18
10CS-1	Tie Rebar in Pier Footing	3	16-May-18	18-May-18
10CS-1	Pour Pier Footing	1	21-May-18	21-May-18
10CS-1	Form Pier	5	01-Jun-18	08-Jun-18
10CS-1	Tie Rebar Pier	3	11-Jun-18	14-Jun-18
10CS-1	Pour Pier	5	15-Jun-18	22-Jun-18
10CS-1	Strip/Cure Pier Footing	28	22-May-18	05-Jul-18



Remaining Level of Effort — Summary

Actual Work

Remaining Work

Critical Remaining Work

Milestone

CORMAN CONSTRUCTION — BranchHighways

WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

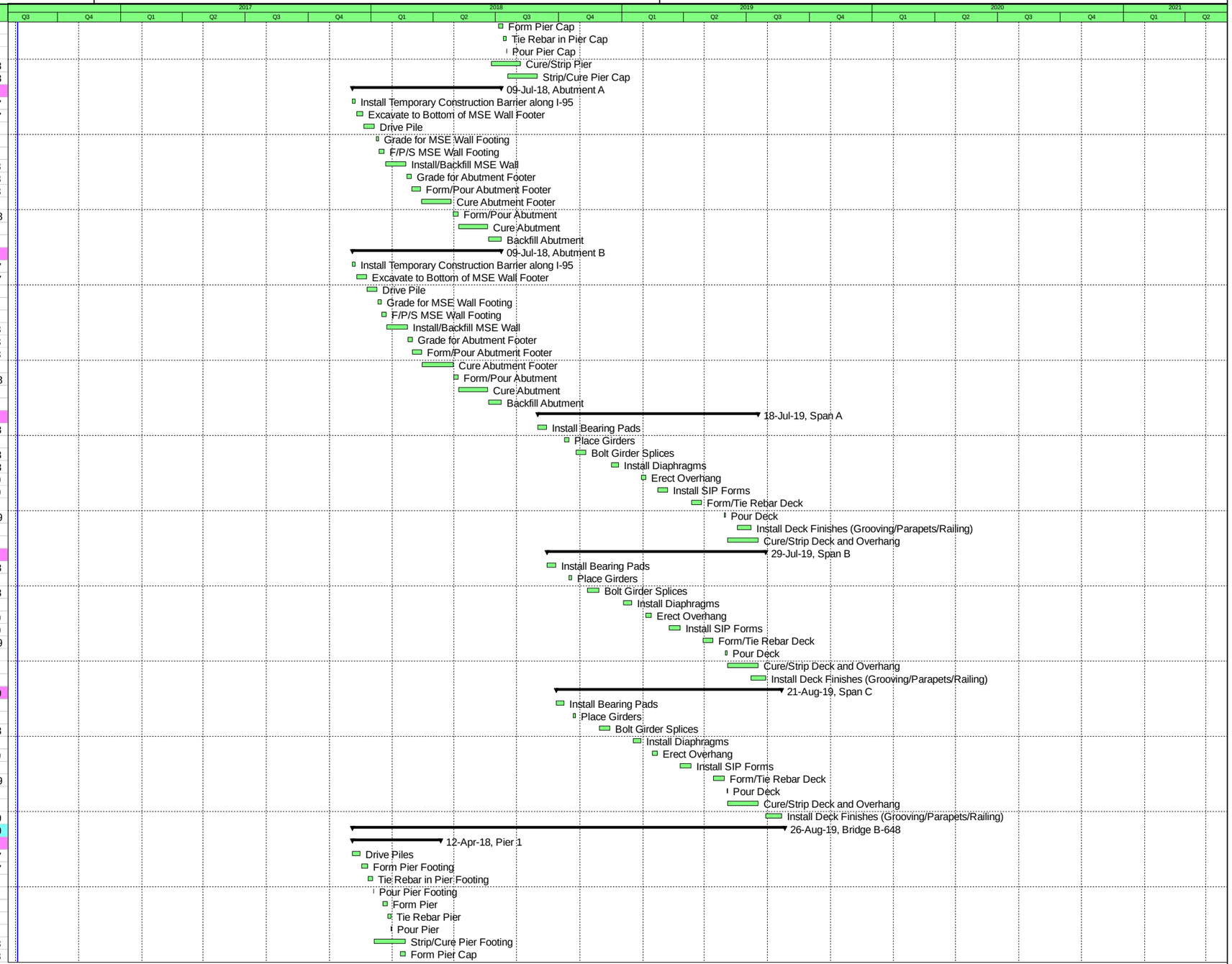
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10CS-1	Form Pier Cap	5	05-Jul-18	11-Jul-18
10CS-1	Tie Rebar in Pier Cap	3	12-Jul-18	16-Jul-18
10CS-1	Pour Pier Cap	1	17-Jul-18	17-Jul-18
10CS-1	Cure/Strip Pier	28	25-Jun-18	06-Aug-18
10CS-1	Strip/Cure Pier Cap	28	19-Jul-18	30-Aug-18
Abutment A		133	04-Dec-17	09-Jul-18
10CS-1	Install Temporary Construction Barrier along I-95	4	04-Dec-17	08-Dec-17
10CS-1	Excavate to Bottom of MSE Wall Footer	6	11-Dec-17	19-Dec-17
10CS-1	Drive Pile	8	21-Dec-17	05-Jan-18
10CS-1	Grade for MSE Wall Footing	3	08-Jan-18	11-Jan-18
10CS-1	F/P/S MSE Wall Footing	5	12-Jan-18	19-Jan-18
10CS-1	Install/Backfill MSE Wall	20	22-Jan-18	20-Feb-18
10CS-1	Grade for Abutment Footer	5	22-Feb-18	28-Feb-18
10CS-1	Form/Pour Abutment Footer	8	01-Mar-18	13-Mar-18
10CS-1	Cure Abutment Footer	28	15-Mar-18	27-Apr-18
10CS-1	Form/Pour Abutment	6	30-Apr-18	07-May-18
10CS-1	Cure Abutment	28	08-May-18	19-Jun-18
10CS-1	Backfill Abutment	12	21-Jun-18	09-Jul-18
Abutment B		133	04-Dec-17	09-Jul-18
10CS-1	Install Temporary Construction Barrier along I-95	4	04-Dec-17	08-Dec-17
10CS-1	Excavate to Bottom of MSE Wall Footer	8	11-Dec-17	25-Dec-17
10CS-1	Drive Pile	8	26-Dec-17	09-Jan-18
10CS-1	Grade for MSE Wall Footing	3	11-Jan-18	15-Jan-18
10CS-1	F/P/S MSE Wall Footing	4	16-Jan-18	22-Jan-18
10CS-1	Install/Backfill MSE Wall	20	23-Jan-18	22-Feb-18
10CS-1	Grade for Abutment Footer	5	23-Feb-18	01-Mar-18
10CS-1	Form/Pour Abutment Footer	8	02-Mar-18	15-Mar-18
10CS-1	Cure Abutment Footer	28	16-Mar-18	30-Apr-18
10CS-1	Form/Pour Abutment	5	01-May-18	07-May-18
10CS-1	Cure Abutment	28	08-May-18	19-Jun-18
10CS-1	Backfill Abutment	12	21-Jun-18	09-Jul-18
Span A		194	31-Aug-18	18-Jul-19
10CS-1	Install Bearing Pads	8	31-Aug-18	13-Sep-18
10CS-1	Place Girders	4	09-Oct-18	15-Oct-18
10CS-1	Bolt Girder Splices	10	26-Oct-18	09-Nov-18
10CS-1	Install Diaphragms	8	17-Dec-18	27-Dec-18
10CS-1	Erect Overhang	5	29-Jan-19	04-Feb-19
10CS-1	Install SIP Forms	10	22-Feb-19	08-Mar-19
10CS-1	Form/Tie Rebar Deck	10	12-Apr-19	26-Apr-19
10CS-1	Pour Deck	1	30-May-19	31-May-19
10CS-1	Install Deck Finishes (Grooving/Parapets/Railing)	12	18-Jun-19	08-Jul-19
10CS-1	Cure/Strip Deck and Overhang	28	04-Jun-19	18-Jul-19
Span B		194	14-Sep-18	29-Jul-19
10CS-1	Install Bearing Pads	8	14-Sep-18	26-Sep-18
10CS-1	Place Girders	3	16-Oct-18	19-Oct-18
10CS-1	Bolt Girder Splices	10	12-Nov-18	28-Nov-18
10CS-1	Install Diaphragms	8	03-Jan-19	15-Jan-19
10CS-1	Erect Overhang	5	05-Feb-19	12-Feb-19
10CS-1	Install SIP Forms	10	11-Mar-19	26-Mar-19
10CS-1	Form/Tie Rebar Deck	10	29-Apr-19	13-May-19
10CS-1	Pour Deck	1	31-May-19	03-Jun-19
10CS-1	Cure/Strip Deck and Overhang	28	04-Jun-19	18-Jul-19
10CS-1	Install Deck Finishes (Grooving/Parapets/Railing)	15	08-Jul-19	29-Jul-19
Span C		203	27-Sep-18	21-Aug-19
10CS-1	Install Bearing Pads	8	27-Sep-18	08-Oct-18
10CS-1	Place Girders	3	22-Oct-18	25-Oct-18
10CS-1	Bolt Girder Splices	10	29-Nov-18	14-Dec-18
10CS-1	Install Diaphragms	8	17-Jan-19	28-Jan-19
10CS-1	Erect Overhang	5	14-Feb-19	21-Feb-19
10CS-1	Install SIP Forms	10	27-Mar-19	11-Apr-19
10CS-1	Form/Tie Rebar Deck	10	14-May-19	30-May-19
10CS-1	Pour Deck	1	03-Jun-19	04-Jun-19
10CS-1	Cure/Strip Deck and Overhang	28	04-Jun-19	18-Jul-19
10CS-1	Install Deck Finishes (Grooving/Parapets/Railing)	15	29-Jul-19	21-Aug-19
Bridge B-648		371	04-Dec-17	26-Aug-19
Pier 1		77	04-Dec-17	12-Apr-18
10CS-1	Drive Piles	8	04-Dec-17	15-Dec-17
10CS-1	Form Pier Footing	5	18-Dec-17	26-Dec-17
10CS-1	Tie Rebar in Pier Footing	3	27-Dec-17	02-Jan-18
10CS-1	Pour Pier Footing	1	04-Jan-18	04-Jan-18
10CS-1	Form Pier	5	18-Jan-18	24-Jan-18
10CS-1	Tie Rebar Pier	3	25-Jan-18	29-Jan-18
10CS-1	Pour Pier	1	30-Jan-18	30-Jan-18
10CS-1	Strip/Cure Pier Footing	28	05-Jan-18	19-Feb-18
10CS-1	Form Pier Cap	5	12-Feb-18	19-Feb-18



Remaining Level of Effort — Summary

Actual Work

Remaining Work

Critical Remaining Work

Milestone

CORMAN CONSTRUCTION — BranchHighways

WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

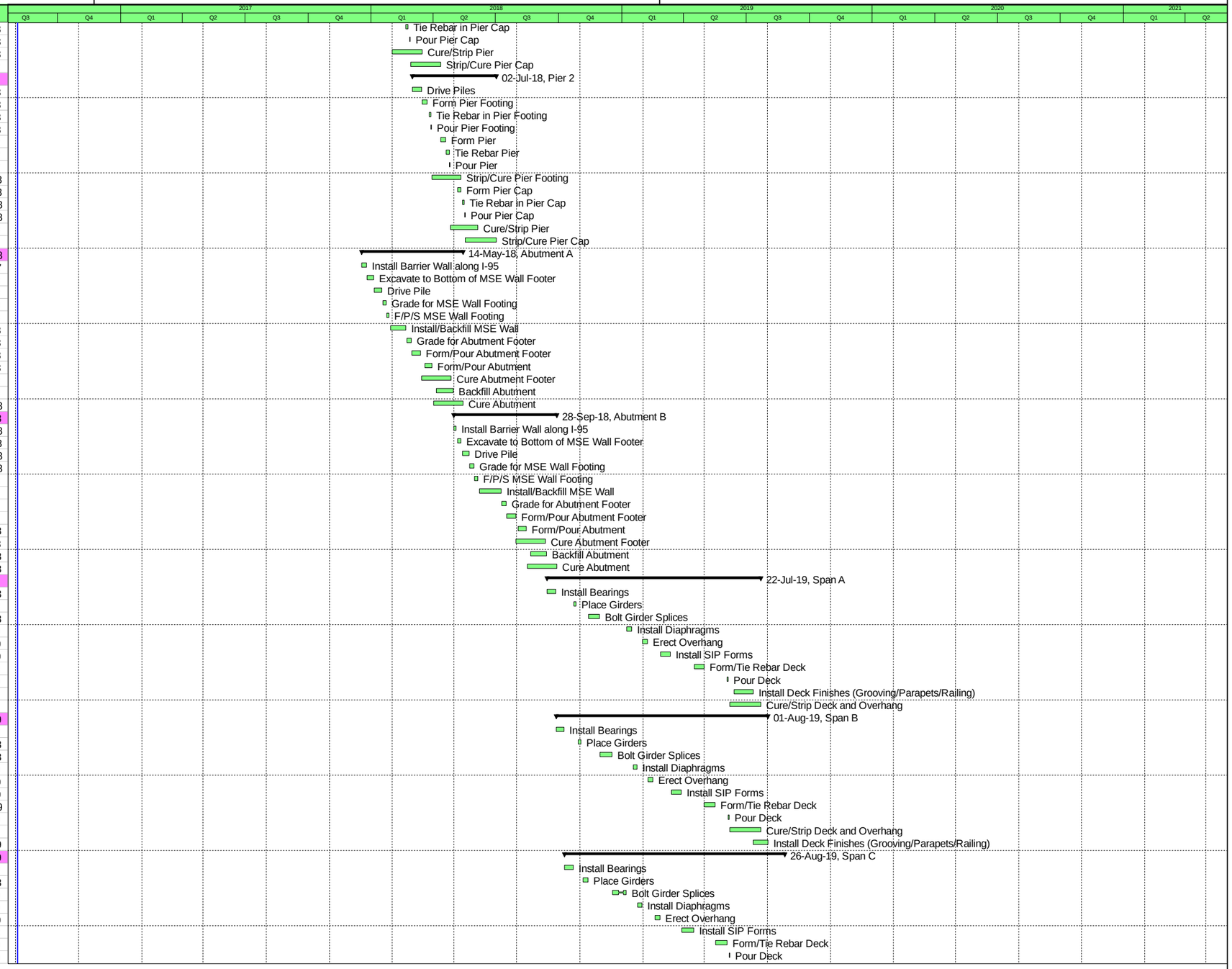
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10CS-2	Tie Rebar in Pier Cap	3	20-Feb-18	23-Feb-18
10CS-2	Pour Pier Cap	1	26-Feb-18	26-Feb-18
10CS-1	Cure/Strip Pier	28	31-Jan-18	16-Mar-18
10CS-2	Strip/Cure Pier Cap	28	27-Feb-18	12-Apr-18
Pier 2		77	02-Mar-18	02-Jul-18
10CS-2	Drive Piles	8	02-Mar-18	15-Mar-18
10CS-2	Form Pier Footing	5	16-Mar-18	23-Mar-18
10CS-2	Tie Rebar in Pier Footing	3	26-Mar-18	28-Mar-18
10CS-2	Pour Pier Footing	1	29-Mar-18	29-Mar-18
10CS-2	Form Pier	5	12-Apr-18	19-Apr-18
10CS-2	Tie Rebar Pier	3	20-Apr-18	24-Apr-18
10CS-2	Pour Pier	1	25-Apr-18	25-Apr-18
10CS-2	Strip/Cure Pier Footing	28	30-Mar-18	11-May-18
10CS-2	Form Pier Cap	5	07-May-18	11-May-18
10CS-2	Tie Rebar in Pier Cap	3	14-May-18	16-May-18
10CS-2	Pour Pier Cap	1	17-May-18	17-May-18
10CS-2	Cure/Strip Pier	28	26-Apr-18	05-Jun-18
10CS-2	Strip/Cure Pier Cap	28	18-May-18	02-Jul-18
Abutment A		90	18-Dec-17	14-May-18
10CS-2	Install Barrier Wall along I-95	4	18-Dec-17	25-Dec-17
10CS-2	Excavate to Bottom of MSE Wall Footer	5	26-Dec-17	04-Jan-18
10CS-2	Drive Pile	7	05-Jan-18	16-Jan-18
10CS-2	Grade for MSE Wall Footing	3	18-Jan-18	22-Jan-18
10CS-2	F/P/S MSE Wall Footing	4	23-Jan-18	26-Jan-18
10CS-2	Install/Backfill MSE Wall	15	29-Jan-18	20-Feb-18
10CS-2	Grade for Abutment Footer	5	22-Feb-18	28-Feb-18
10CS-2	Form/Pour Abutment Footer	8	01-Mar-18	13-Mar-18
10CS-2	Form/Pour Abutment	8	20-Mar-18	30-Mar-18
10CS-2	Cure Abutment Footer	28	15-Mar-18	27-Apr-18
10CS-2	Backfill Abutment	15	06-Apr-18	30-Apr-18
10CS-2	Cure Abutment	28	02-Apr-18	14-May-18
Abutment B		97	01-May-18	28-Sep-18
10CS-2	Install Barrier Wall along I-95	4	01-May-18	04-May-18
10CS-2	Excavate to Bottom of MSE Wall Footer	5	07-May-18	11-May-18
10CS-2	Drive Pile	8	14-May-18	23-May-18
10CS-2	Grade for MSE Wall Footing	4	24-May-18	30-May-18
10CS-2	F/P/S MSE Wall Footing	4	31-May-18	05-Jun-18
10CS-2	Install/Backfill MSE Wall	20	07-Jun-18	09-Jul-18
10CS-2	Grade for Abutment Footer	5	10-Jul-18	16-Jul-18
10CS-2	Form/Pour Abutment Footer	8	17-Jul-18	30-Jul-18
10CS-2	Form/Pour Abutment	8	03-Aug-18	14-Aug-18
10CS-2	Cure Abutment Footer	28	31-Jul-18	11-Sep-18
10CS-2	Backfill Abutment	15	21-Aug-18	13-Sep-18
10CS-2	Cure Abutment	28	16-Aug-18	28-Sep-18
Span A		189	14-Sep-18	22-Jul-19
10CS-2	Install Bearings	8	14-Sep-18	26-Sep-18
10CS-2	Place Girders	3	23-Oct-18	26-Oct-18
10CS-2	Bolt Girder Splices	10	13-Nov-18	29-Nov-18
10CS-2	Install Diaphragms	5	08-Jan-19	15-Jan-19
10CS-2	Erect Overhang	5	31-Jan-19	07-Feb-19
10CS-2	Install SIP Forms	10	26-Feb-19	12-Mar-19
10CS-2	Form/Tie Rebar Deck	10	16-Apr-19	30-Apr-19
10CS-2	Pour Deck	1	03-Jun-19	04-Jun-19
10CS-2	Install Deck Finishes (Grooving/Parapets/Railing)	18	13-Jun-19	11-Jul-19
10CS-2	Cure/Strip Deck and Overhang	28	07-Jun-19	22-Jul-19
Span B		190	27-Sep-18	01-Aug-19
10CS-2	Install Bearings	8	27-Sep-18	08-Oct-18
10CS-2	Place Girders	5	29-Oct-18	02-Nov-18
10CS-2	Bolt Girder Splices	10	30-Nov-18	17-Dec-18
10CS-2	Install Diaphragms	5	17-Jan-19	23-Jan-19
10CS-2	Erect Overhang	5	08-Feb-19	15-Feb-19
10CS-2	Install SIP Forms	10	14-Mar-19	28-Mar-19
10CS-2	Form/Tie Rebar Deck	10	01-May-19	16-May-19
10CS-2	Pour Deck	1	04-Jun-19	06-Jun-19
10CS-2	Cure/Strip Deck and Overhang	28	07-Jun-19	22-Jul-19
10CS-2	Install Deck Finishes (Grooving/Parapets/Railing)	15	11-Jul-19	01-Aug-19
Span C		199	09-Oct-18	26-Aug-19
10CS-2	Install Bearings	8	09-Oct-18	22-Oct-18
10CS-2	Place Girders	5	05-Nov-18	12-Nov-18
10CS-2	Bolt Girder Splices	10	18-Dec-18	07-Jan-19
10CS-2	Install Diaphragms	5	24-Jan-19	30-Jan-19
10CS-2	Erect Overhang	5	18-Feb-19	25-Feb-19
10CS-2	Install SIP Forms	10	29-Mar-19	15-Apr-19
10CS-2	Form/Tie Rebar Deck	10	17-May-19	03-Jun-19
10CS-2	Pour Deck	1	06-Jun-19	07-Jun-19



Remaining Level of Effort — Summary
Actual Work
Remaining Work
Critical Remaining Work
Milestone

CORMAN CONSTRUCTION — BranchHighways — WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

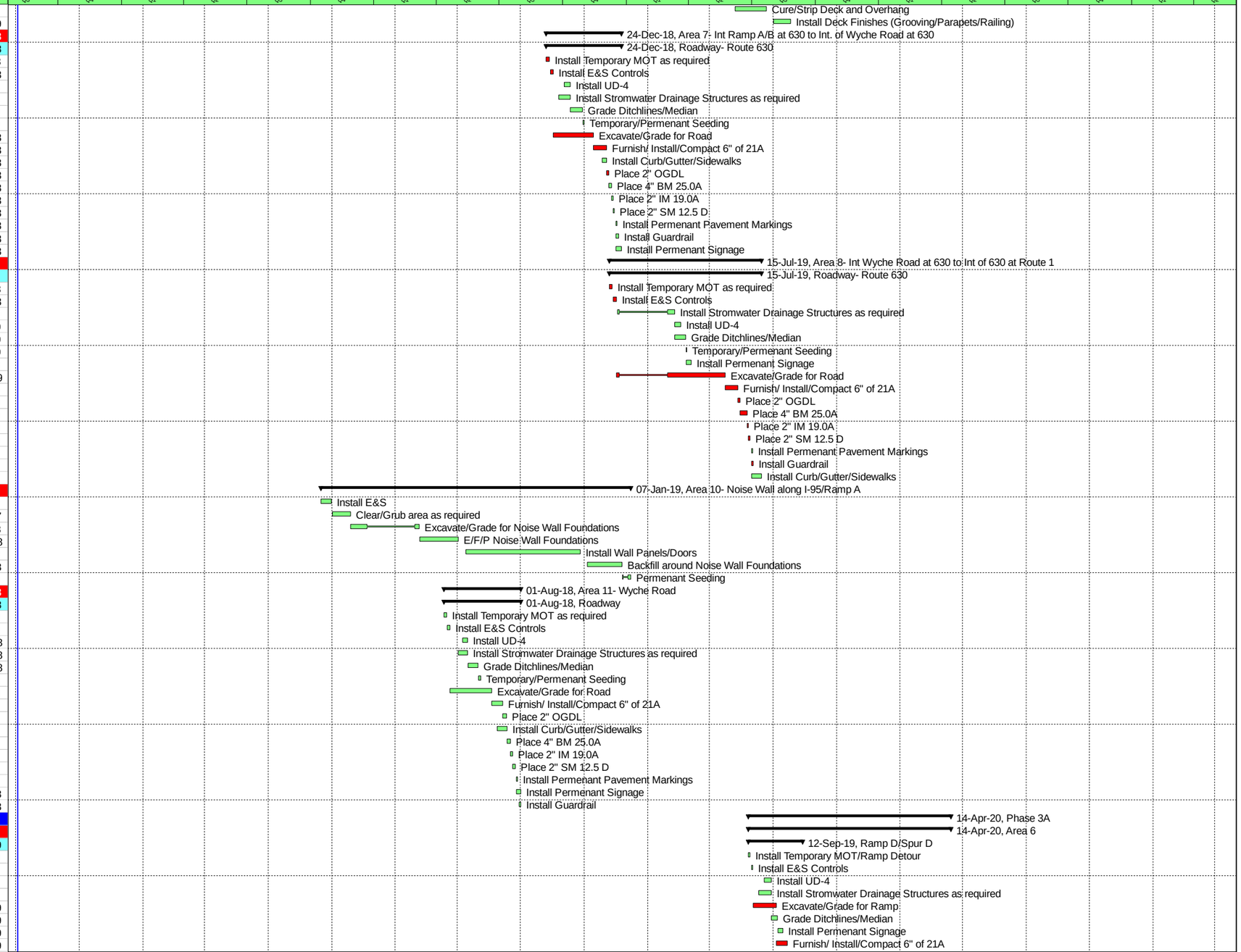
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10CS-2	Cure/Strip Deck and Overhang	28	07-Jun-19	22-Jul-19
10CS-2	Install Deck Finishes (Grooving/Parapets/Railing)	15	01-Aug-19	26-Aug-19
Area 7- Int Ramp A/B at 630 to Int. of Wyche Road at 630		61	07-Sep-18	24-Dec-18
Roadway- Route 630		61	07-Sep-18	24-Dec-18
10CR-18	Install Temporary MOT as required	3	07-Sep-18	11-Sep-18
10CR-18	Install E&S Controls	3	13-Sep-18	17-Sep-18
10CR-19	Install UD-4	5	03-Oct-18	11-Oct-18
10CR-19	Install Stromwater Drainage Structures as require	10	25-Sep-18	11-Oct-18
10CR-18	Grade Ditchlines/Median	10	11-Oct-18	29-Oct-18
10CR-20	Temporary/Permenant Seeding	2	30-Oct-18	31-Oct-18
10CR-18	Excavate/Grade for Road	35	17-Sep-18	14-Nov-18
10CR-19	Furnish/ Install/Compact 6" of 21A	10	14-Nov-18	03-Dec-18
10CR-19	Install Curb/Gutter/Sidewalks	5	27-Nov-18	03-Dec-18
10CR-19	Place 2" OGDL	3	03-Dec-18	06-Dec-18
10CR-19	Place 4" BM 25.0A	2	06-Dec-18	10-Dec-18
10CR-19	Place 2" IM 19.0A	2	10-Dec-18	12-Dec-18
10CR-19	Place 2" SM 12.5 D	2	12-Dec-18	14-Dec-18
10CR-19	Install Permenant Pavement Markings	2	17-Dec-18	18-Dec-18
10CR-20	Install Guardrail	3	17-Dec-18	20-Dec-18
10CR-19	Install Permenant Signage	5	17-Dec-18	24-Dec-18
Area 8- Int Wyche Road at 630 to Int of 630 at Route 1		138	07-Dec-18	15-Jul-19
Roadway- Route 630		138	07-Dec-18	15-Jul-19
10CR-20	Install Temporary MOT as required	3	07-Dec-18	11-Dec-18
10CR-20	Install E&S Controls	3	13-Dec-18	17-Dec-18
10CR-20	Install Stromwater Drainage Structures as require	8	19-Dec-18	11-Mar-19
10CR-20	Install UD-4	5	11-Mar-19	20-Mar-19
10CR-20	Grade Ditchlines/Median	10	11-Mar-19	27-Mar-19
10CR-21	Temporary/Permenant Seeding	2	28-Mar-19	29-Mar-19
10CR-21	Install Permenant Signage	5	28-Mar-19	04-Apr-19
10CR-20	Excavate/Grade for Road	55	17-Dec-18	23-May-19
10CR-20	Furnish/ Install/Compact 6" of 21A	10	23-May-19	11-Jun-19
10CR-20	Place 2" OGDL	3	11-Jun-19	14-Jun-19
10CR-21	Place 4" BM 25.0A	6	14-Jun-19	24-Jun-19
10CR-21	Place 2" IM 19.0A	2	24-Jun-19	26-Jun-19
10CR-21	Place 2" SM 12.5 D	2	26-Jun-19	28-Jun-19
10CR-21	Install Permenant Pavement Markings	2	01-Jul-19	02-Jul-19
10CR-21	Install Guardrail	3	01-Jul-19	03-Jul-19
10CR-21	Install Curb/Gutter/Sidewalks	10	01-Jul-19	15-Jul-19
Area 10- Noise Wall along I-95/Ramp A		247	16-Oct-17	07-Jan-19
10CS-2700	Install E&S	10	16-Oct-17	31-Oct-17
10CS-2710	Clear/Grub area as required	15	02-Nov-17	28-Nov-17
10CS-2720	Excavate/Grade for Noise Wall Foundations	20	28-Nov-17	07-Mar-18
10CS-2730	E/F/P Noise Wall Foundations	35	08-Mar-18	02-May-18
10CS-2750	Install Wall Panels/Doors	105	14-May-18	26-Oct-18
10CS-2770	Backfill around Noise Wall Foundations	30	05-Nov-18	25-Dec-18
10CS-2780	Permenant Seeding	5	26-Dec-18	07-Jan-19
Area 11- Wyche Road		64	12-Apr-18	01-Aug-18
Roadway		64	12-Apr-18	01-Aug-18
10CR-21	Install Temporary MOT as required	3	12-Apr-18	16-Apr-18
10CR-21	Install E&S Controls	3	17-Apr-18	20-Apr-18
10CR-22	Install UD-4	5	09-May-18	16-May-18
10CR-22	Install Stromwater Drainage Structures as require	10	02-May-18	16-May-18
10CR-22	Grade Ditchlines/Median	10	17-May-18	31-May-18
10CR-23	Temporary/Permenant Seeding	2	01-Jun-18	04-Jun-18
10CR-22	Excavate/Grade for Road	35	20-Apr-18	20-Jun-18
10CR-22	Furnish/ Install/Compact 6" of 21A	10	20-Jun-18	06-Jul-18
10CR-22	Place 2" OGDL	3	06-Jul-18	11-Jul-18
10CR-22	Install Curb/Gutter/Sidewalks	10	28-Jun-18	12-Jul-18
10CR-22	Place 4" BM 25.0A	2	12-Jul-18	17-Jul-18
10CR-22	Place 2" IM 19.0A	2	17-Jul-18	20-Jul-18
10CR-22	Place 2" SM 12.5 D	2	20-Jul-18	24-Jul-18
10CR-23	Install Permenant Pavement Markings	2	26-Jul-18	27-Jul-18
10CR-23	Install Permenant Signage	5	26-Jul-18	01-Aug-18
10CR-23	Install Guardrail	3	30-Jul-18	01-Aug-18
Phase 3A		183	26-Jun-19	14-Apr-20
Area 6		183	26-Jun-19	14-Apr-20
Ramp D/Spur D		50	26-Jun-19	12-Sep-19
10CR-23	Install Temporary MOT/Ramp Detour	3	26-Jun-19	28-Jun-19
10CR-23	Install E&S Controls	2	01-Jul-19	02-Jul-19
10CR-24	Install UD-4	5	19-Jul-19	29-Jul-19
10CR-23	Install Stromwater Drainage Structures as require	10	11-Jul-19	29-Jul-19
10CR-23	Excavate/Grade for Ramp	20	03-Jul-19	05-Aug-19
10CR-23	Grade Ditchlines/Median	7	29-Jul-19	07-Aug-19
10CR-24	Install Permenant Signage	5	08-Aug-19	15-Aug-19
10CR-23	Furnish/ Install/Compact 6" of 21A	10	05-Aug-19	21-Aug-19



Remaining Level of Effort — Summary

Actual Work

Remaining Work

Critical Remaining Work

Milestone

CORMAN CONSTRUCTION — BranchHighways

WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

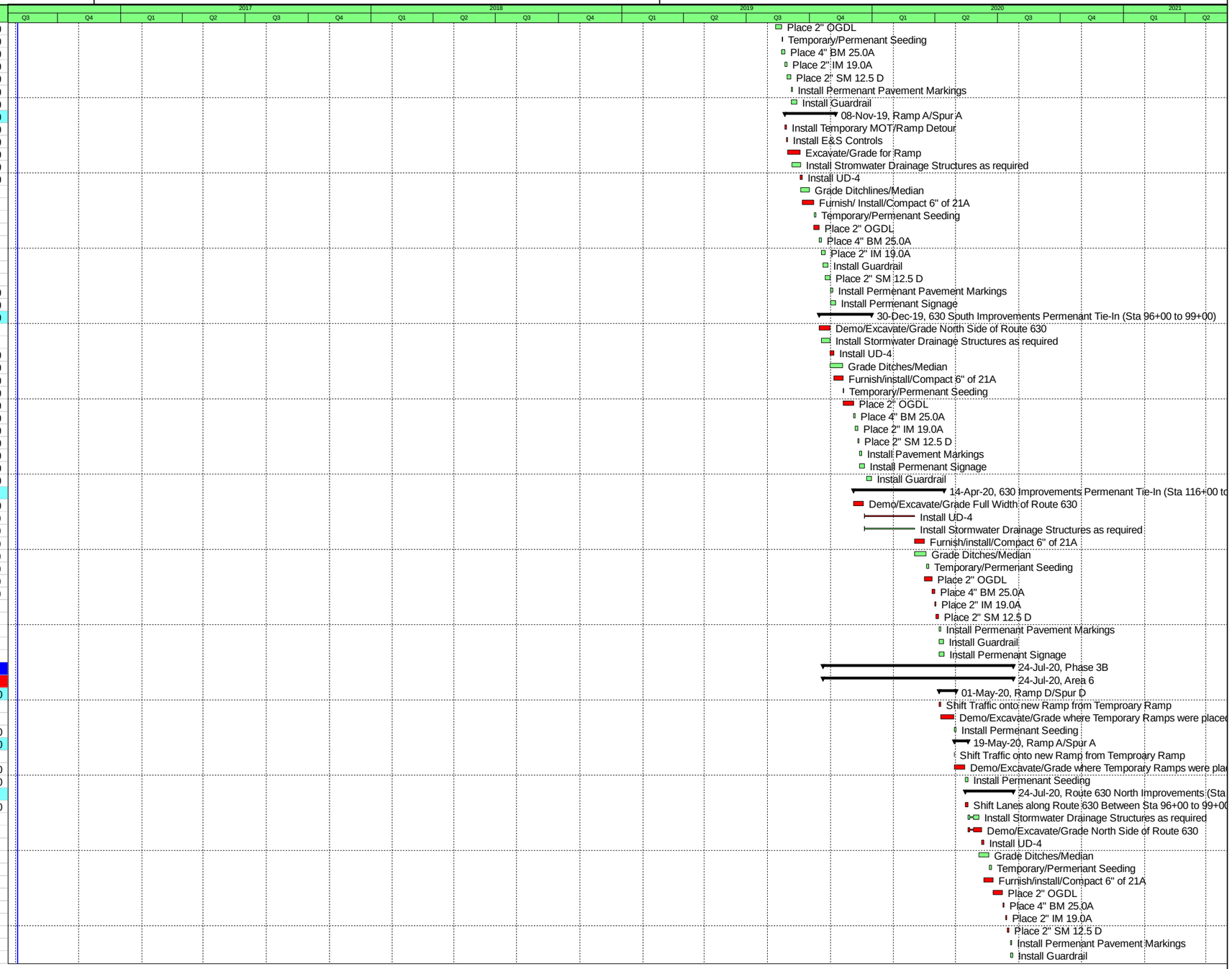
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10CR-24	Place 2" OGDL	5	12-Aug-19	21-Aug-19
10CR-24	Temporary/Permenant Seeding	2	22-Aug-19	23-Aug-19
10CR-24	Place 4" BM 25.0A	3	21-Aug-19	26-Aug-19
10CR-24	Place 2" IM 19.0A	3	26-Aug-19	29-Aug-19
10CR-24	Place 2" SM 12.5 D	3	29-Aug-19	04-Sep-19
10CR-24	Install Permenant Pavement Markings	2	05-Sep-19	06-Sep-19
10CR-24	Install Guardrail	5	05-Sep-19	12-Sep-19
Ramp A/Spur A		50	26-Aug-19	08-Nov-19
10CR-24	Install Temporary MOT/Ramp Detour	3	26-Aug-19	28-Aug-19
10CR-25	Install E&S Controls	2	29-Aug-19	30-Aug-19
10CR-25	Excavate/Grade for Ramp	10	30-Aug-19	17-Sep-19
10CR-25	Install Stromwater Drainage Structures as require	8	05-Sep-19	18-Sep-19
10CR-25	Install UD-4	3	17-Sep-19	20-Sep-19
10CR-25	Grade Ditchlines/Median	8	18-Sep-19	01-Oct-19
10CR-25	Furnish/ Install/Compact 6" of 21A	10	20-Sep-19	07-Oct-19
10CR-26	Temporary/Permenant Seeding	2	08-Oct-19	10-Oct-19
10CR-25	Place 2" OGDL	5	07-Oct-19	15-Oct-19
10CR-25	Place 4" BM 25.0A	3	15-Oct-19	18-Oct-19
10CR-25	Place 2" IM 19.0A	3	18-Oct-19	24-Oct-19
10CR-26	Install Guardrail	5	21-Oct-19	28-Oct-19
10CR-25	Place 2" SM 12.5 D	3	24-Oct-19	31-Oct-19
10CR-26	Install Permenant Pavement Markings	2	01-Nov-19	04-Nov-19
10CR-26	Install Permenant Signage	5	01-Nov-19	08-Nov-19
630 South Improvements Permenant Tie-In (Sta 96+00 to 99+00)		43	15-Oct-19	30-Dec-19
10CR-26	Demo/Excavate/Grade North Side of Route 630	10	15-Oct-19	31-Oct-19
10CR-26	Install Stormwater Drainage Structures as require	8	18-Oct-19	31-Oct-19
10CR-26	Install UD-4	3	31-Oct-19	05-Nov-19
10CR-26	Grade Ditches/Median	10	31-Oct-19	18-Nov-19
10CR-26	Furnish/install/Compact 6" of 21A	8	05-Nov-19	19-Nov-19
10CR-27	Temporary/Permenant Seeding	2	19-Nov-19	20-Nov-19
10CR-26	Place 2" OGDL	8	19-Nov-19	04-Dec-19
10CR-27	Place 4" BM 25.0A	2	04-Dec-19	06-Dec-19
10CR-27	Place 2" IM 19.0A	2	06-Dec-19	10-Dec-19
10CR-27	Place 2" SM 12.5 D	2	10-Dec-19	12-Dec-19
10CR-27	Install Pavement Markings	2	13-Dec-19	16-Dec-19
10CR-27	Install Permenant Signage	5	13-Dec-19	20-Dec-19
10CR-27	Install Guardrail	4	23-Dec-19	30-Dec-19
630 Improvements Permenant Tie-In (Sta 116+00 to 120+00)		81	04-Dec-19	14-Apr-20
10CR-27	Demo/Excavate/Grade Full Width of Route 630	10	04-Dec-19	18-Dec-19
10CR-28	Install UD-4	3	18-Dec-19	02-Mar-20
10CR-27	Install Stormwater Drainage Structures as require	8	11-Dec-19	02-Mar-20
10CR-28	Furnish/install/Compact 6" of 21A	8	02-Mar-20	16-Mar-20
10CR-27	Grade Ditches/Median	10	02-Mar-20	19-Mar-20
10CR-28	Temporary/Permenant Seeding	2	20-Mar-20	23-Mar-20
10CR-28	Place 2" OGDL	8	16-Mar-20	27-Mar-20
10CR-28	Place 4" BM 25.0A	2	27-Mar-20	31-Mar-20
10CR-28	Place 2" IM 19.0A	2	31-Mar-20	02-Apr-20
10CR-28	Place 2" SM 12.5 D	2	02-Apr-20	06-Apr-20
10CR-28	Install Permenant Pavement Markings	2	07-Apr-20	09-Apr-20
10CR-28	Install Guardrail	4	07-Apr-20	13-Apr-20
10CR-28	Install Permenant Signage	5	07-Apr-20	14-Apr-20
Phase 3B		175	21-Oct-19	24-Jul-20
Area 6		175	21-Oct-19	24-Jul-20
Ramp D/Spur D		17	07-Apr-20	01-May-20
10CR-29	Shift Traffic onto new Ramp from Temproary Ram	2	07-Apr-20	09-Apr-20
10CR-30	Demo/Excavate/Grade where Temporary Ramps	10	09-Apr-20	28-Apr-20
10CR-30	Install Permenant Seeding	3	29-Apr-20	01-May-20
Ramp A/Spur A		14	29-Apr-20	19-May-20
10CR-30	Shift Traffic onto new Ramp from Temproary Ram	1	29-Apr-20	29-Apr-20
10CR-30	Demo/Excavate/Grade where Temporary Ramps	10	29-Apr-20	14-May-20
10CR-30	Install Permenant Seeding	3	15-May-20	19-May-20
Route 630 North Improvements (Sta 96+00 to 99+00)		46	15-May-20	24-Jul-20
10CR-30	Shift Lanes along Route 630 Between Sta 96+00	3	15-May-20	19-May-20
10CR-30	Install Stormwater Drainage Structures as require	8	19-May-20	04-Jun-20
10CR-30	Demo/Excavate/Grade North Side of Route 630	10	19-May-20	08-Jun-20
10CR-30	Install UD-4	3	08-Jun-20	11-Jun-20
10CR-31	Grade Ditches/Median	10	04-Jun-20	18-Jun-20
10CR-31	Temporary/Permenant Seeding	2	19-Jun-20	22-Jun-20
10CR-30	Furnish/install/Compact 6" of 21A	8	11-Jun-20	24-Jun-20
10CR-31	Place 2" OGDL	8	24-Jun-20	08-Jul-20
10CR-31	Place 4" BM 25.0A	2	09-Jul-20	10-Jul-20
10CR-31	Place 2" IM 19.0A	2	13-Jul-20	14-Jul-20
10CR-31	Place 2" SM 12.5 D	2	15-Jul-20	17-Jul-20
10CR-31	Install Permenant Pavement Markings	2	20-Jul-20	21-Jul-20
10CR-31	Install Guardrail	4	20-Jul-20	23-Jul-20



Remaining Level of Effort — Summary
Actual Work
Remaining Work
Critical Remaining Work
Milestone

CORMAN CONSTRUCTION — BranchHighways
WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

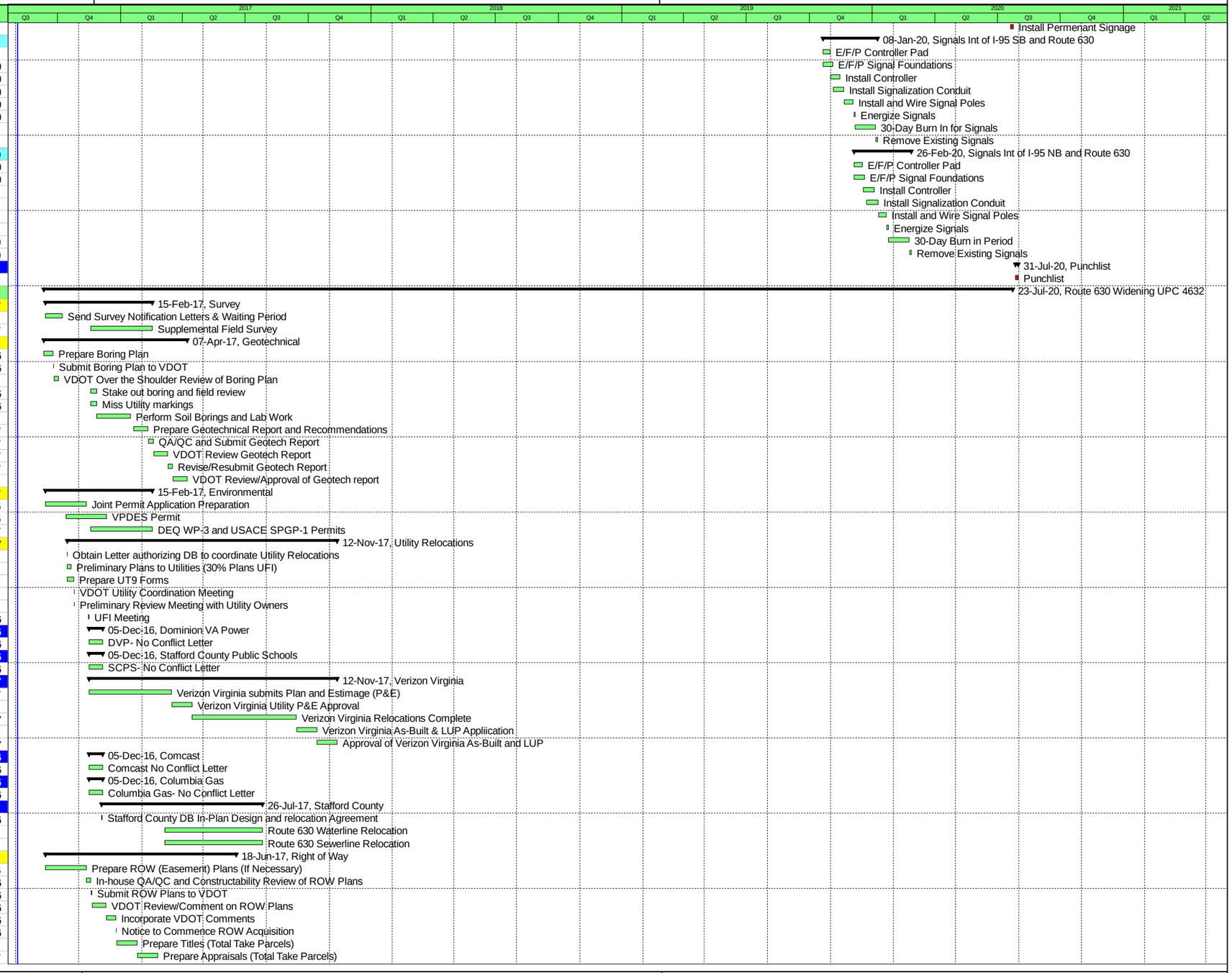
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
10CR-31(	Install Permenant Signage	5	20-Jul-20	24-Jul-20
Signals Int of I-95 SB and Route 630		45	21-Oct-19	08-Jan-20
10CR-31!	E/F/P Controller Pad	8	21-Oct-19	31-Oct-19
10CR-32(	E/F/P Signal Foundations	10	21-Oct-19	04-Nov-19
10CR-32:	Install Controller	8	01-Nov-19	14-Nov-19
10CR-32	Install Signalization Conduit	10	05-Nov-19	20-Nov-19
10CR-32:	Install and Wire Signal Poles	7	21-Nov-19	03-Dec-19
10CR-32-	Energize Signals	2	05-Dec-19	06-Dec-19
10CR-32!	30-Day Burn In for Signals	30	06-Dec-19	05-Jan-20
10CR-32(	Remove Existing Signals	3	06-Jan-20	08-Jan-20
Signals Int of I-95 NB and Route 630		50	05-Dec-19	26-Feb-20
10CR-32'	E/F/P Controller Pad	8	05-Dec-19	17-Dec-19
10CR-32(	E/F/P Signal Foundations	10	05-Dec-19	20-Dec-19
10CR-33(	Install Controller	8	19-Dec-19	03-Jan-20
10CR-32!	Install Signalization Conduit	10	23-Dec-19	09-Jan-20
10CR-33	Install and Wire Signal Poles	7	10-Jan-20	21-Jan-20
10CR-33:	Energize Signals	2	22-Jan-20	24-Jan-20
10CR-33:	30-Day Burn in Period	30	24-Jan-20	23-Feb-20
10CR-33-	Remove Existing Signals	3	24-Feb-20	26-Feb-20
Punchlist		5	27-Jul-20	31-Jul-20
10CR-3350	Punchlist	5	27-Jul-20	31-Jul-20
Route 630 Widening UPC 4632		826	11-Sep-16	23-Jul-20
Survey		156	13-Sep-16	15-Feb-17
20RD-1000	Send Survey Notification Letters & Waiting Perioc	25	13-Sep-16	07-Oct-16
20RD-1020	Supplemental Field Survey	90	18-Nov-16	15-Feb-17
Geotechnical		209	11-Sep-16	07-Apr-17
20GD-1000	Prepare Boring Plan	14	11-Sep-16	24-Sep-16
20GD-1010	Submit Boring Plan to VDOT	1	25-Sep-16	25-Sep-16
20GD-1020	VDOT Over the Shoulder Review of Boring Plan	7	26-Sep-16	02-Oct-16
20GD-1030	Stake out boring and field review	9	18-Nov-16	26-Nov-16
20GD-1040	Miss Utility markings	9	18-Nov-16	26-Nov-16
20GD-1050	Perform Soil Borings and Lab Work	50	27-Nov-16	15-Jan-17
20GD-1060	Prepare Geotechnical Report and Recommendat	21	20-Jan-17	09-Feb-17
20GD-1070	QA/QC and Submit Geotech Report	8	10-Feb-17	17-Feb-17
20GD-1080	VDOT Review Geotech Report	21	18-Feb-17	10-Mar-17
20GD-1090	Revise/Resubmit Geotech Report	7	11-Mar-17	17-Mar-17
20GD-1100	VDOT Review/Approval of Geotech report	21	18-Mar-17	07-Apr-17
Environmental		156	13-Sep-16	15-Feb-17
20ED-1000	Joint Permit Application Preparation	60	13-Sep-16	11-Nov-16
20ED-1020	VPDES Permit	60	13-Oct-16	11-Dec-16
20ED-1010	DEQ WP-3 and USACE SPGP-1 Permits	90	18-Nov-16	15-Feb-17
Utility Relocations		216	15-Oct-16	12-Nov-17
20UR-1130	Obtain Letter authorizing DB to coordinate Utility I	0	15-Oct-16	15-Oct-16
20UR-1140	Preliminary Plans to Utilities (30% Plans UFI)	6	15-Oct-16	20-Oct-16
20UR-1150	Prepare UT9 Forms	10	15-Oct-16	24-Oct-16
20UR-1160	VDOT Utility Coordination Meeting	1	25-Oct-16	25-Oct-16
20UR-1170	Preliminary Review Meeting with Utility Owners	1	25-Oct-16	25-Oct-16
20UR-1180	UFI Meeting	1	15-Nov-16	15-Nov-16
Dominion VA Power		20	16-Nov-16	05-Dec-16
20UR-1050	DVP- No Conflict Letter	20	16-Nov-16	05-Dec-16
Stafford County Public Schools		20	16-Nov-16	05-Dec-16
20UR-1070	SCPS- No Conflict Letter	20	16-Nov-16	05-Dec-16
Verizon Virginia		362	16-Nov-16	12-Nov-17
20UR-1090	Verizon Virginia submits Plan and Estimage (P&E	120	16-Nov-16	15-Mar-17
20UR-1100	Verizon Virginia Utility P&E Approval	30	16-Mar-17	14-Apr-17
20UR-1110	Verizon Virginia Relocations Complete	152	15-Apr-17	13-Sep-17
20UR-1120	Verizon Virginia As-Built & LUP Appliication	30	14-Sep-17	13-Oct-17
20UR-1190	Approval of Verizon Virginia As-Built and LUP	30	14-Oct-17	12-Nov-17
Comcast		20	16-Nov-16	05-Dec-16
20UR-1030	Comcast No Conflict Letter	20	16-Nov-16	05-Dec-16
Columbia Gas		20	16-Nov-16	05-Dec-16
20UR-1010	Columbia Gas- No Conflict Letter	20	16-Nov-16	05-Dec-16
Stafford County		129	04-Dec-16	26-Jul-17
20UR-1000	Stafford County DB In-Plan Design and relocatior	1	04-Dec-16	04-Dec-16
20UR-1200	Route 630 Waterline Relocation	90	06-Mar-17	26-Jul-17
20UR-1210	Route 630 Sewerline Relocation	90	06-Mar-17	26-Jul-17
Right of Way		279	13-Sep-16	18-Jun-17
20RW-1000	Prepare ROW (Easement) Plans (If Necessary)	60	13-Sep-16	11-Nov-16
20RW-1010	In-house QA/QC and Constructability Review of F	7	12-Nov-16	18-Nov-16
20RW-1020	Submit ROW Plans to VDOT	1	19-Nov-16	19-Nov-16
20RW-1030	VDOT Review/Comment on ROW Plans	21	20-Nov-16	10-Dec-16
20RW-1040	Incorporate VDOT Comments	14	11-Dec-16	24-Dec-16
20RW-1050	Notice to Commence ROW Acquisition	1	25-Dec-16	25-Dec-16
20RW-1060	Prepare Titles (Total Take Parcels)	30	26-Dec-16	24-Jan-17
20RW-1070	Prepare Appraisals (Total Take Parcels)	30	25-Jan-17	23-Feb-17



Remaining Level of Effort — Summary
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CORMAN CONSTRUCTION — BranchHighways — WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

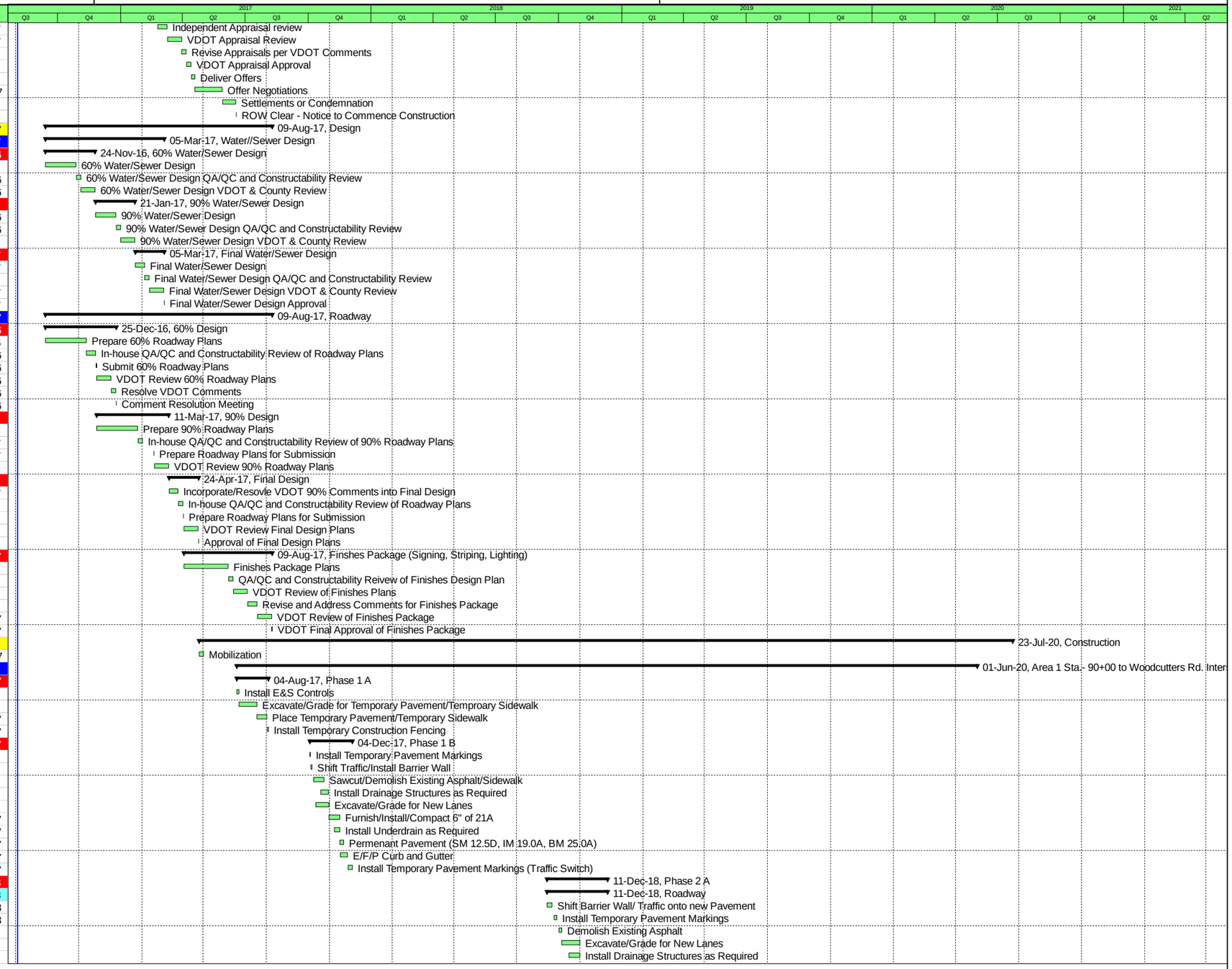
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
20RW-1080	Independent Appraisal review	14	24-Feb-17	09-Mar-17
20RW-1090	VDOT Appraisal Review	21	10-Mar-17	30-Mar-17
20RW-1100	Revise Appraisals per VDOT Comments	7	31-Mar-17	06-Apr-17
20RW-1110	VDOT Appraisal Approval	7	07-Apr-17	13-Apr-17
20RW-1120	Deliver Offers	5	14-Apr-17	18-Apr-17
20RW-1130	Offer Negotiations	40	19-Apr-17	28-May-17
20RW-1140	Settlements or Condemnation	20	29-May-17	17-Jun-17
20RW-1150	ROW Clear - Notice to Commence Construction	1	18-Jun-17	18-Jun-17
Design		331	13-Sep-16	09-Aug-17
Water//Sewer Design		174	13-Sep-16	05-Mar-17
60% Water/Sewer Design		73	13-Sep-16	24-Nov-16
20UR-1400	60% Water/Sewer Design	45	13-Sep-16	27-Oct-16
20UR-1410	60% Water/Sewer Design QA/QC and Constructa	7	28-Oct-16	03-Nov-16
20UR-1420	60% Water/Sewer Design VDOT & County Revie	21	04-Nov-16	24-Nov-16
90% Water/Sewer Design		58	25-Nov-16	21-Jan-17
20UR-1430	90% Water/Sewer Design	30	25-Nov-16	24-Dec-16
20UR-1440	90% Water/Sewer Design QA/QC and Constructa	7	25-Dec-16	31-Dec-16
20UR-1450	90% Water/Sewer Design VDOT & County Revie	21	01-Jan-17	21-Jan-17
Final Water/Sewer Design		43	22-Jan-17	05-Mar-17
20UR-1460	Final Water/Sewer Design	14	22-Jan-17	04-Feb-17
20UR-1470	Final Water/Sewer Design QA/QC and Construct	7	05-Feb-17	11-Feb-17
20UR-1480	Final Water/Sewer Design VDOT & County Revie	21	12-Feb-17	04-Mar-17
20UR-1490	Final Water/Sewer Design Approval	1	05-Mar-17	05-Mar-17
Roadway		331	13-Sep-16	09-Aug-17
60% Design		104	13-Sep-16	25-Dec-16
20RD-1140	Prepare 60% Roadway Plans	60	13-Sep-16	11-Nov-16
20RD-1150	In-house QA/QC and Constructability Review of F	14	12-Nov-16	25-Nov-16
20RD-1160	Submit 60% Roadway Plans	1	26-Nov-16	26-Nov-16
20RD-1170	VDOT Review 60% Roadway Plans	21	27-Nov-16	17-Dec-16
20RD-1180	Resolve VDOT Comments	7	18-Dec-16	24-Dec-16
20RD-1190	Comment Resolution Meeting	1	25-Dec-16	25-Dec-16
90% Design		105	27-Nov-16	11-Mar-17
20RD-1200	Prepare 90% Roadway Plans	60	27-Nov-16	25-Jan-17
20RD-1210	In-house QA/QC and Constructability Review of S	7	26-Jan-17	01-Feb-17
20RD-1220	Prepare Roadway Plans for Submission	1	18-Feb-17	18-Feb-17
20RD-1230	VDOT Review 90% Roadway Plans	21	19-Feb-17	11-Mar-17
Final Design		44	12-Mar-17	24-Apr-17
20RD-1240	Incorporate/Resovle VDOT 90% Comments into	14	12-Mar-17	25-Mar-17
20RD-1250	In-house QA/QC and Constructability Review of F	7	26-Mar-17	01-Apr-17
20RD-1260	Prepare Roadway Plans for Submission	1	02-Apr-17	02-Apr-17
20RD-1270	VDOT Review Final Design Plans	21	03-Apr-17	23-Apr-17
20RD-1280	Approval of Final Design Plans	1	24-Apr-17	24-Apr-17
Finshes Package (Signing, Striping, Lighting)		129	03-Apr-17	09-Aug-17
20RD-1290	Finishes Package Plans	65	03-Apr-17	06-Jun-17
20RD-1300	QA/QC and Constructability Reivew of Finishes D	7	07-Jun-17	13-Jun-17
20RD-1310	VDOT Review of Finishes Plans	21	14-Jun-17	04-Jul-17
20RD-1320	Revise and Address Comments for Finishes Pacl	14	05-Jul-17	18-Jul-17
20RD-1330	VDOT Review of Finishes Package	21	19-Jul-17	08-Aug-17
20RD-1340	VDOT Final Approval of Finishes Package	1	09-Aug-17	09-Aug-17
Construction		703	25-Apr-17	23-Jul-20
20CR-1000	Mobilization	5	25-Apr-17	01-May-17
Area 1 Sta.- 90+00 to Woodcutters Rd. Intersection		639	19-Jun-17	01-Jun-20
Phase 1 A		29	19-Jun-17	04-Aug-17
20CR-1010	Install E&S Controls	3	19-Jun-17	22-Jun-17
20CR-1020	Excavate/Grade for Temporary Pavement/Tempr	15	22-Jun-17	18-Jul-17
20CR-1030	Place Temporary Pavement/Temporary Sidewalk	10	18-Jul-17	01-Aug-17
20CR-1040	Install Temporary Construction Fencing	3	02-Aug-17	04-Aug-17
Phase 1 B		34	03-Oct-17	04-Dec-17
20CR-1050	Install Temporary Pavement Markings	2	03-Oct-17	04-Oct-17
20CR-1060	Shift Traffic/Install Barrier Wall	2	05-Oct-17	06-Oct-17
20CR-1070	Sawcut/Demolish Existing Asphalt/Sidewalk	10	09-Oct-17	24-Oct-17
20CR-1090	Install Drainage Structures as Required	7	19-Oct-17	30-Oct-17
20CR-1080	Excavate/Grade for New Lanes	10	12-Oct-17	31-Oct-17
20CR-1100	Furnish/Install/Compact 6" of 21A	10	31-Oct-17	16-Nov-17
20CR-1120	Install Underdrain as Required	5	08-Nov-17	16-Nov-17
20CR-1130	Permenant Pavement (SM 12.5D, IM 19.0A, BM	3	16-Nov-17	21-Nov-17
20CR-1110	E/F/P Curb and Gutter	5	17-Nov-17	27-Nov-17
20CR-1140	Install Temporary Pavement Markings (Traffic Sw	5	28-Nov-17	04-Dec-17
Phase 2 A		50	14-Sep-18	11-Dec-18
Roadway		50	14-Sep-18	11-Dec-18
20CR-115	Shift Barrier Wall/ Traffic onto new Pavement	5	14-Sep-18	21-Sep-18
20CR-116	Install Temporary Pavement Markings	5	24-Sep-18	28-Sep-18
20CR-117	Demolish Existing Asphalt	5	01-Oct-18	05-Oct-18
20CR-118	Excavate/Grade for New Lanes	15	05-Oct-18	31-Oct-18
20CR-119	Install Drainage Structures as Required	10	15-Oct-18	31-Oct-18



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CORMAN CONSTRUCTION — BranchHighways

WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

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I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

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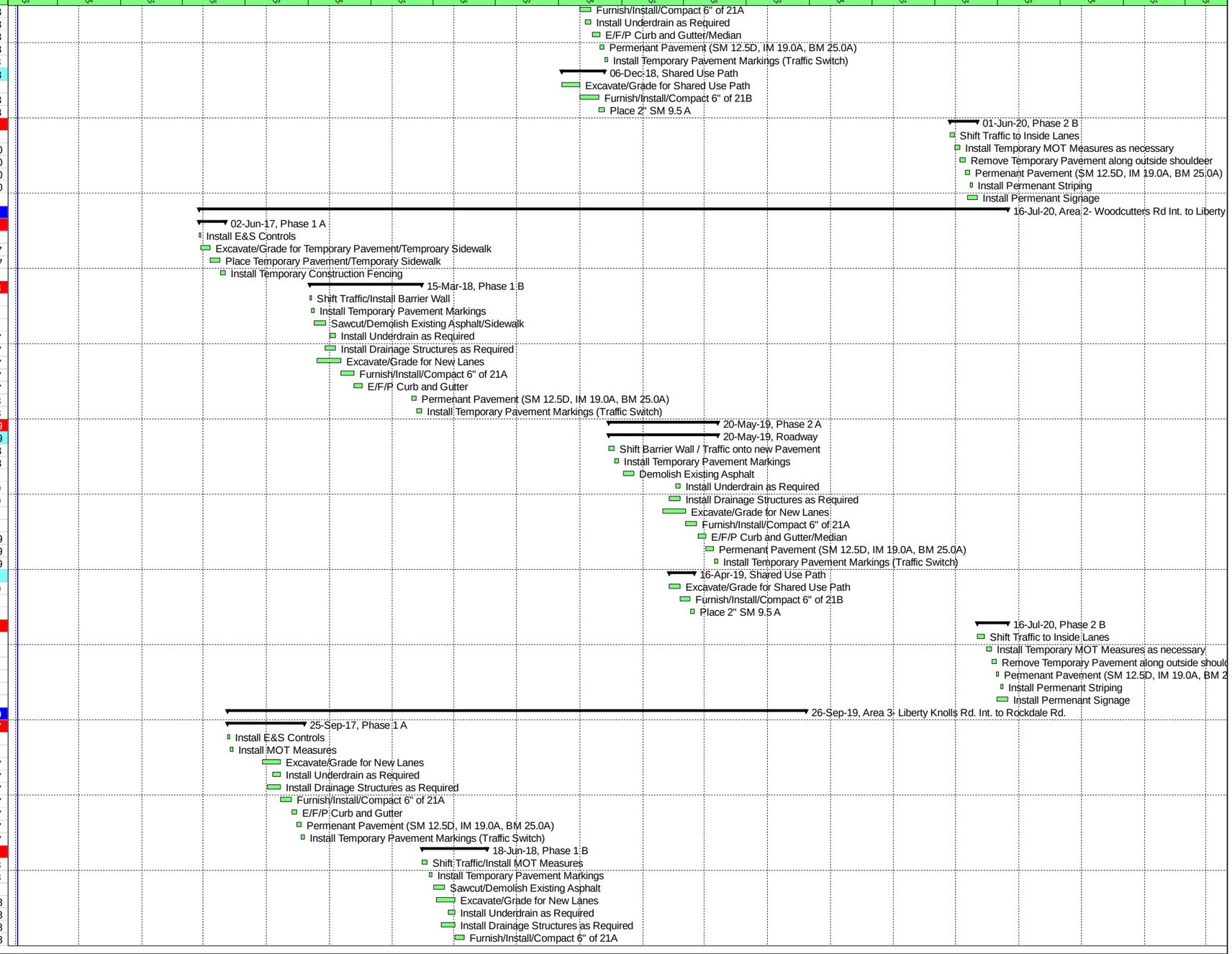
Activity ID	Activity Name	Original Duration	Start	Finish
20CR-12(	Furnish/Install/Compact 6" of 21A	10	31-Oct-18	16-Nov-18
20CR-12	Install Underdrain as Required	5	08-Nov-18	16-Nov-18
20CR-12:	E/F/P Curb and Gutter/Median	8	19-Nov-18	30-Nov-18
20CR-12:	Permenant Pavement (SM 12.5D, IM 19.0A, BM	3	30-Nov-18	05-Dec-18
20CR-12-	Install Temporary Pavement Markings (Traffic Sw	3	07-Dec-18	11-Dec-18
Shared Use Path		34	05-Oct-18	06-Dec-18
20CR-12!	Excavate/Grade for Shared Use Path	15	05-Oct-18	31-Oct-18
20CR-12(	Furnish/Install/Compact 6" of 21B	15	31-Oct-18	28-Nov-18
20CR-12'	Place 2" SM 9.5 A	6	28-Nov-18	06-Dec-18
Phase 2 B		25	23-Apr-20	01-Jun-20
20CR-1280	Shift Traffic to Inside Lanes	5	23-Apr-20	29-Apr-20
20CR-1290	Install Temporary MOT Measures as necessary	5	30-Apr-20	07-May-20
20CR-1300	Remove Temporary Pavement along outside shou	5	07-May-20	15-May-20
20CR-1310	Permenant Pavement (SM 12.5D, IM 19.0A, BM	3	15-May-20	21-May-20
20CR-1320	Install Permenant Striping	2	22-May-20	25-May-20
20CR-1330	Install Permenant Signage	10	18-May-20	01-Jun-20
Area 2- Woodcutters Rd Int. to Liberty Knolls Rd. Int.		698	25-Apr-17	16-Jul-20
Phase 1 A		22	25-Apr-17	02-Jun-17
20CR-1340	Install E&S Controls	3	25-Apr-17	27-Apr-17
20CR-1350	Excavate/Grade for Temporary Pavement/Tempr	10	27-Apr-17	11-May-17
20CR-1360	Place Temporary Pavement/Temporary Sidewalk	10	11-May-17	25-May-17
20CR-1370	Install Temporary Construction Fencing	5	26-May-17	02-Jun-17
Phase 1 B		89	03-Oct-17	15-Mar-18
20CR-1380	Shift Traffic/Install Barrier Wall	3	03-Oct-17	05-Oct-17
20CR-1390	Install Temporary Pavement Markings	2	06-Oct-17	09-Oct-17
20CR-1400	Sawcut/Demolish Existing Asphalt/Sidewalk	10	10-Oct-17	26-Oct-17
20CR-1440	Install Underdrain as Required	5	01-Nov-17	09-Nov-17
20CR-1420	Install Drainage Structures as Required	10	25-Oct-17	09-Nov-17
20CR-1410	Excavate/Grade for New Lanes	20	13-Oct-17	17-Nov-17
20CR-1430	Furnish/Install/Compact 6" of 21A	10	17-Nov-17	06-Dec-17
20CR-1450	E/F/P Curb and Gutter	7	07-Dec-17	18-Dec-17
20CR-1460	Permenant Pavement (SM 12.5D, IM 19.0A, BM	5	01-Mar-18	07-Mar-18
20CR-1470	Install Temporary Pavement Markings (Traffic Sw	5	08-Mar-18	15-Mar-18
Phase 2 A		99	13-Dec-18	20-May-19
Roadway		99	13-Dec-18	20-May-19
20CR-14!	Shift Barrier Wall / Traffic onto new Pavement	5	13-Dec-18	20-Dec-18
20CR-14!	Install Temporary Pavement Markings	5	21-Dec-18	27-Dec-18
20CR-15(	Demolish Existing Asphalt	10	03-Jan-19	18-Jan-19
20CR-15-	Install Underdrain as Required	5	20-Mar-19	26-Mar-19
20CR-15:	Install Drainage Structures as Required	10	11-Mar-19	26-Mar-19
20CR-15	Excavate/Grade for New Lanes	20	01-Mar-19	03-Apr-19
20CR-15:	Furnish/Install/Compact 6" of 21A	10	04-Apr-19	19-Apr-19
20CR-15!	E/F/P Curb and Gutter/Median	10	22-Apr-19	03-May-19
20CR-15(	Permenant Pavement (SM 12.5D, IM 19.0A, BM	6	03-May-19	14-May-19
20CR-15'	Install Temporary Pavement Markings (Traffic Sw	3	16-May-19	20-May-19
Shared Use Path		25	11-Mar-19	16-Apr-19
20CR-15!	Excavate/Grade for Shared Use Path	10	11-Mar-19	26-Mar-19
20CR-15(	Furnish/Install/Compact 6" of 21B	10	27-Mar-19	10-Apr-19
20CR-16(	Place 2" SM 9.5 A	3	11-Apr-19	16-Apr-19
Phase 2 B		30	02-Jun-20	16-Jul-20
20CR-1610	Shift Traffic to Inside Lanes	8	02-Jun-20	12-Jun-20
20CR-1620	Install Temporary MOT Measures as necessary	5	15-Jun-20	22-Jun-20
20CR-1630	Remove Temporary Pavement along outside shou	5	23-Jun-20	29-Jun-20
20CR-1640	Permenant Pavement (SM 12.5D, IM 19.0A, BM	3	29-Jun-20	02-Jul-20
20CR-1650	Install Permenant Striping	3	06-Jul-20	09-Jul-20
20CR-1660	Install Permenant Signage	10	30-Jun-20	16-Jul-20
Area 3- Liberty Knolls Rd. Int. to Rockdale Rd.		492	05-Jun-17	26-Sep-19
Phase 1 A		65	05-Jun-17	25-Sep-17
20CR-1670	Install E&S Controls	3	05-Jun-17	08-Jun-17
20CR-1680	Install MOT Measures	3	09-Jun-17	13-Jun-17
20CR-1690	Excavate/Grade for New Lanes	15	26-Jul-17	21-Aug-17
20CR-1720	Install Underdrain as Required	5	10-Aug-17	21-Aug-17
20CR-1700	Install Drainage Structures as Required	10	02-Aug-17	21-Aug-17
20CR-1710	Furnish/Install/Compact 6" of 21A	10	21-Aug-17	06-Sep-17
20CR-1730	E/F/P Curb and Gutter	5	07-Sep-17	14-Sep-17
20CR-1740	Permenant Pavement (SM 12.5D, IM 19.0A, BM	3	14-Sep-17	20-Sep-17
20CR-1750	Install Temporary Pavement Markings (Traffic Sw	3	21-Sep-17	25-Sep-17
Phase 1 B		52	16-Mar-18	18-Jun-18
20CR-1760	Shift Traffic/Install MOT Measures	5	16-Mar-18	23-Mar-18
20CR-1770	Install Temporary Pavement Markings	5	26-Mar-18	30-Mar-18
20CR-1780	Sawcut/Demolish Existing Asphalt	10	02-Apr-18	17-Apr-18
20CR-1790	Excavate/Grade for New Lanes	15	06-Apr-18	02-May-18
20CR-1820	Install Underdrain as Required	5	23-Apr-18	02-May-18
20CR-1800	Install Drainage Structures as Required	10	13-Apr-18	02-May-18
20CR-1810	Furnish/Install/Compact 6" of 21A	10	03-May-18	16-May-18



Remaining Level of Effort Summary
Actual Work
Remaining Work
Critical Remaining Work
Milestone

CORMAN CONSTRUCTION — BranchHighways — WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

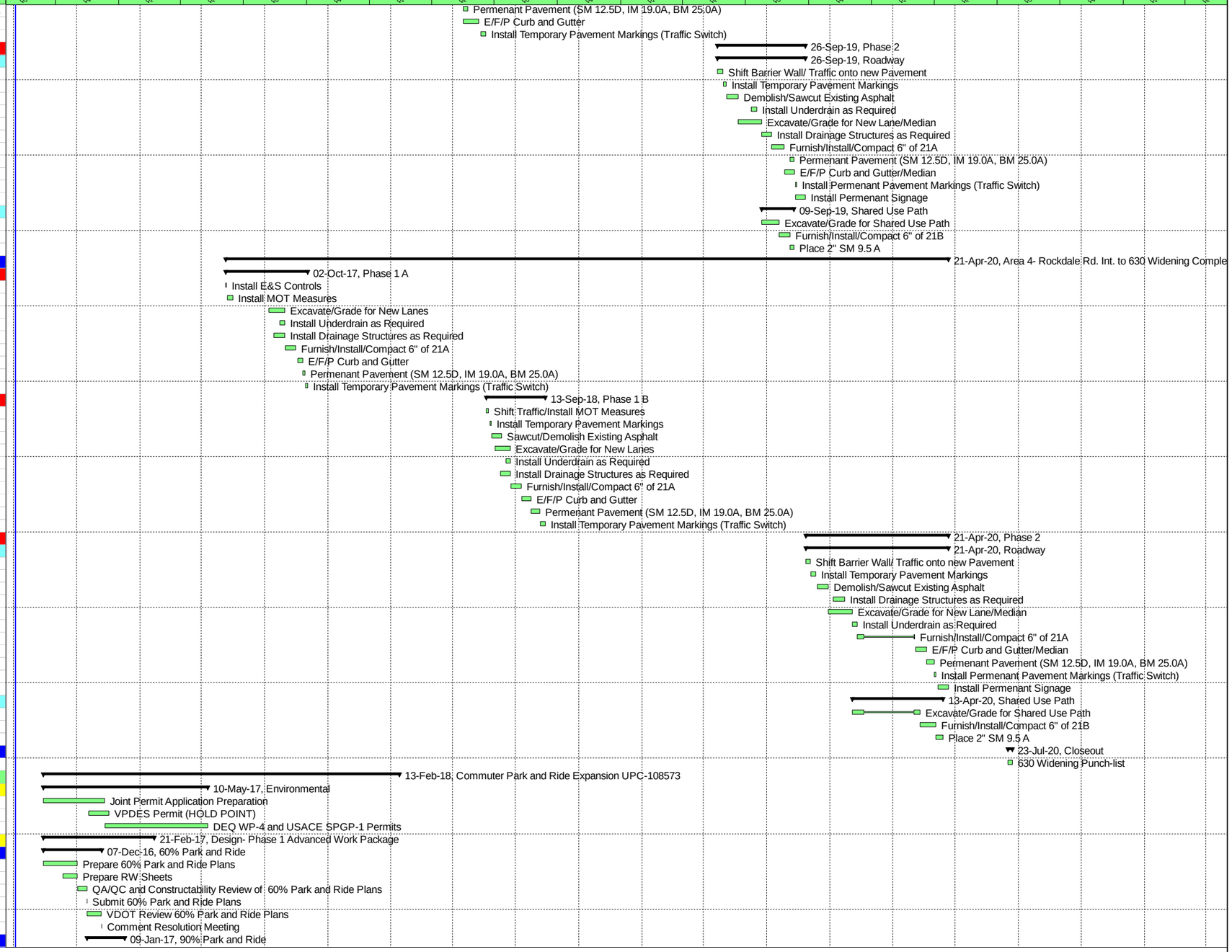
VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
20CR-1840	Permenant Pavement (SM 12.5D, IM 19.0A, BM	5	17-May-18	23-May-18
20CR-1830	E/F/P Curb and Gutter	15	17-May-18	08-Jun-18
20CR-1850	Install Temporary Pavement Markings (Traffic Sw	5	11-Jun-18	18-Jun-18
Phase 2		83	21-May-19	26-Sep-19
Roadway		83	21-May-19	26-Sep-19
20CR-18(	Shift Barrier Wall/ Traffic onto new Pavement	5	21-May-19	29-May-19
20CR-18	Install Temporary Pavement Markings	3	30-May-19	03-Jun-19
20CR-18	Demolish/Sawcut Existing Asphalt	10	04-Jun-19	20-Jun-19
20CR-19	Install Underdrain as Required	5	09-Jul-19	17-Jul-19
20CR-18	Excavate/Grade for New Lane/Median	20	20-Jun-19	24-Jul-19
20CR-19(	Install Drainage Structures as Required	10	24-Jul-19	08-Aug-19
20CR-19	Furnish/Install/Compact 6" of 21A	10	08-Aug-19	26-Aug-19
20CR-19	Permenant Pavement (SM 12.5D, IM 19.0A, BM	3	04-Sep-19	09-Sep-19
20CR-19	E/F/P Curb and Gutter/Median	10	27-Aug-19	10-Sep-19
20CR-19	Install Permenant Pavement Markings (Traffic Sw	2	12-Sep-19	13-Sep-19
20CR-19(	Install Permenant Signage	10	12-Sep-19	26-Sep-19
Shared Use Path		29	24-Jul-19	09-Sep-19
20CR-19	Excavate/Grade for Shared Use Path	15	24-Jul-19	19-Aug-19
20CR-19	Furnish/Install/Compact 6" of 21B	10	19-Aug-19	04-Sep-19
20CR-19	Place 2" SM 9.5 A	3	04-Sep-19	09-Sep-19
Area 4- Rockdale Rd. Int. to 630 Widening Completion		621	05-Jun-17	21-Apr-20
Phase 1 A		68	05-Jun-17	02-Oct-17
20CR-2000	Install E&S Controls	2	05-Jun-17	06-Jun-17
20CR-2010	Install MOT Measures	5	08-Jun-17	15-Jun-17
20CR-2020	Excavate/Grade for New Lanes	15	07-Aug-17	30-Aug-17
20CR-2050	Install Underdrain as Required	5	23-Aug-17	30-Aug-17
20CR-2030	Install Drainage Structures as Required	10	14-Aug-17	30-Aug-17
20CR-2040	Furnish/Install/Compact 6" of 21A	10	31-Aug-17	15-Sep-17
20CR-2060	E/F/P Curb and Gutter	5	18-Sep-17	25-Sep-17
20CR-2070	Permenant Pavement (SM 12.5D, IM 19.0A, BM	3	25-Sep-17	28-Sep-17
20CR-2080	Install Temporary Pavement Markings (Traffic Sw	2	29-Sep-17	02-Oct-17
Phase 1 B		51	19-Jun-18	13-Sep-18
20CR-2090	Shift Traffic/Install MOT Measures	3	19-Jun-18	22-Jun-18
20CR-2100	Install Temporary Pavement Markings	2	25-Jun-18	26-Jun-18
20CR-2110	Sawcut/Demolish Existing Asphalt	10	27-Jun-18	11-Jul-18
20CR-2120	Excavate/Grade for New Lanes	15	02-Jul-18	24-Jul-18
20CR-2150	Install Underdrain as Required	5	18-Jul-18	24-Jul-18
20CR-2130	Install Drainage Structures as Required	10	10-Jul-18	24-Jul-18
20CR-2140	Furnish/Install/Compact 6" of 21A	10	25-Jul-18	09-Aug-18
20CR-2160	E/F/P Curb and Gutter	8	10-Aug-18	23-Aug-18
20CR-2170	Permenant Pavement (SM 12.5D, IM 19.0A, BM	8	23-Aug-18	05-Sep-18
20CR-2180	Install Temporary Pavement Markings (Traffic Sw	5	06-Sep-18	13-Sep-18
Phase 2		128	27-Sep-19	21-Apr-20
Roadway		128	27-Sep-19	21-Apr-20
20CR-21(	Shift Barrier Wall/ Traffic onto new Pavement	5	27-Sep-19	03-Oct-19
20CR-22(	Install Temporary Pavement Markings	5	04-Oct-19	11-Oct-19
20CR-22	Demolish/Sawcut Existing Asphalt	10	14-Oct-19	29-Oct-19
20CR-22	Install Drainage Structures as Required	10	05-Nov-19	22-Nov-19
20CR-22	Excavate/Grade for New Lane/Median	20	29-Oct-19	03-Dec-19
20CR-22	Install Underdrain as Required	5	03-Dec-19	10-Dec-19
20CR-22	Furnish/Install/Compact 6" of 21A	10	10-Dec-19	03-Mar-20
20CR-22(	E/F/P Curb and Gutter/Median	10	05-Mar-20	20-Mar-20
20CR-22	Permenant Pavement (SM 12.5D, IM 19.0A, BM	6	20-Mar-20	31-Mar-20
20CR-22	Install Permenant Pavement Markings (Traffic Sw	3	01-Apr-20	03-Apr-20
20CR-22	Install Permenant Signage	10	06-Apr-20	21-Apr-20
Shared Use Path		81	03-Dec-19	13-Apr-20
20CR-23(	Excavate/Grade for Shared Use Path	20	03-Dec-19	11-Mar-20
20CR-23	Furnish/Install/Compact 6" of 21B	15	11-Mar-20	03-Apr-20
20CR-23	Place 2" SM 9.5 A	5	03-Apr-20	13-Apr-20
Closeout		5	17-Jul-20	23-Jul-20
20CR-2330	630 Widening Punch-list	5	17-Jul-20	23-Jul-20
Commuter Park and Ride Expansion UPC-108573		284	13-Sep-16	13-Feb-18
Environmental		240	13-Sep-16	10-May-17
30EV-1000	Joint Permit Application Preparation	90	13-Sep-16	11-Dec-16
30EV-1020	VPDES Permit (HOLD POINT)	30	18-Nov-16	17-Dec-16
30EV-1010	DEQ WP-4 and USACE SPGP-1 Permits	150	12-Dec-16	10-May-17
Design- Phase 1 Advanced Work Package		161	13-Sep-16	21-Feb-17
60% Park and Ride		85	13-Sep-16	07-Dec-16
30RD-1000	Prepare 60% Park and Ride Plans	50	13-Sep-16	01-Nov-16
30RD-1010	Prepare RW Sheets	21	12-Oct-16	01-Nov-16
30RD-1020	QA/QC and Constructability Review of 60% Park	14	02-Nov-16	15-Nov-16
30RD-1030	Submit 60% Park and Ride Plans	0	16-Nov-16	16-Nov-16
30RD-1040	VDOT Review 60% Park and Ride Plans	21	16-Nov-16	06-Dec-16
30RD-1050	Comment Resolution Meeting	0	07-Dec-16	07-Dec-16
90% Park and Ride		55	16-Nov-16	09-Jan-17



Remaining Level of Effort — Summary

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CORMAN CONSTRUCTION — BranchHighways — WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

VDOT Contract No. C0001355DB83

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

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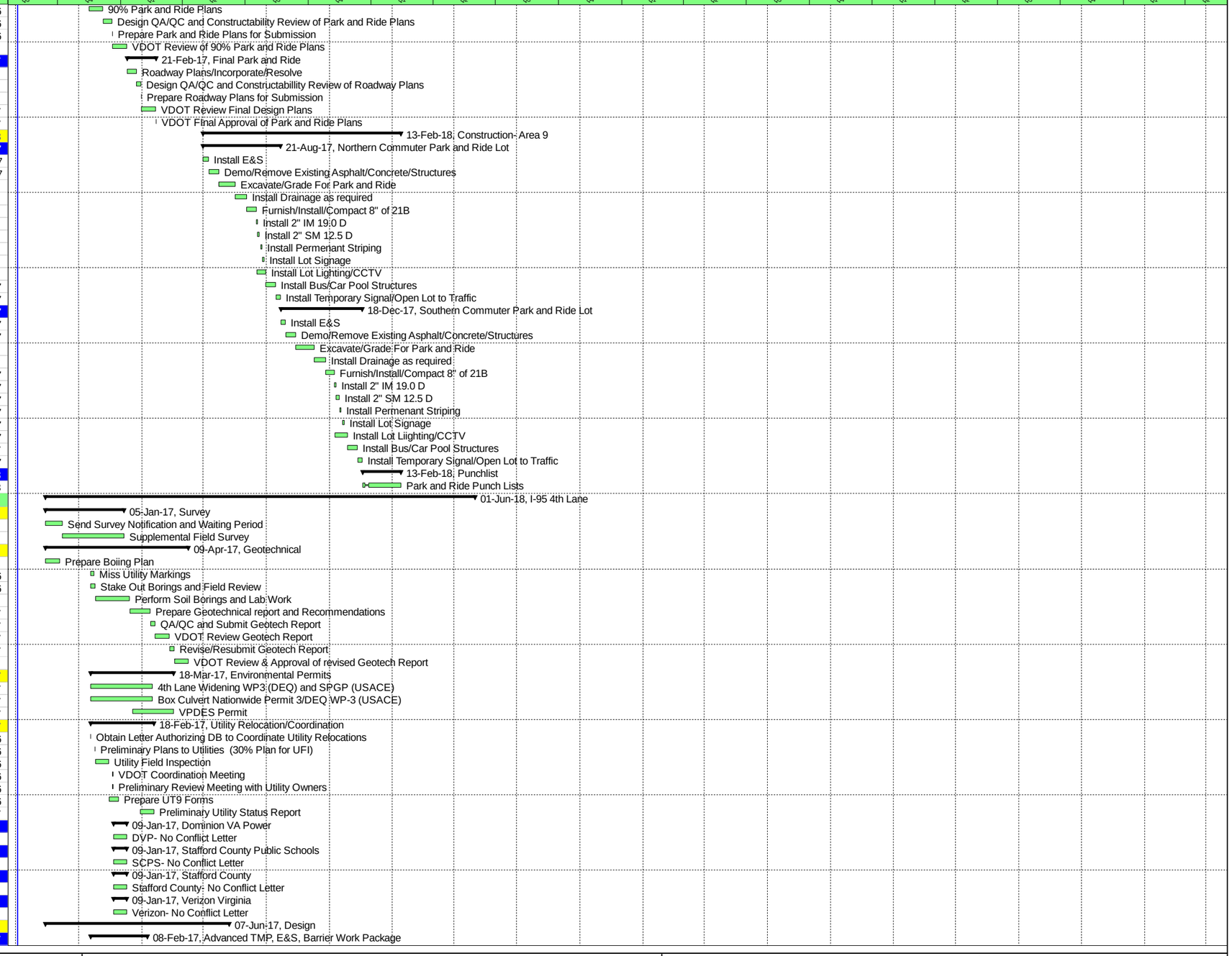
Activity ID	Activity Name	Original Duration	Start	Finish
30RD-1070	90% Park and Ride Plans	20	16-Nov-16	05-Dec-16
30RD-1080	Design QA/QC and Constructability Review of Pa	14	06-Dec-16	19-Dec-16
30RD-1090	Prepare Park and Ride Plans for Submission	0	20-Dec-16	20-Dec-16
30RD-1100	VDOT Review of 90% Park and Ride Plans	21	20-Dec-16	09-Jan-17
Final Park and Ride		42	10-Jan-17	21-Feb-17
30RD-1110	Roadway Plans/Incorporate/Resolve	14	10-Jan-17	23-Jan-17
30RD-1120	Design QA/QC and Constructabillity Review of R	7	24-Jan-17	30-Jan-17
30RD-1130	Prepare Roadway Plans for Submission	0	31-Jan-17	31-Jan-17
30RD-1140	VDOT Review Final Design Plans	21	31-Jan-17	20-Feb-17
30RD-1150	VDOT FInal Approval of Park and Ride Plans	0	21-Feb-17	21-Feb-17
Construction- Area 9		159	01-May-17	13-Feb-18
Northern Commuter Park and Ride Lot		64	01-May-17	21-Aug-17
30CR-1000	Install E&S	5	01-May-17	08-May-17
30CR-1010	Demo/Remove Existing Asphalt/Concrete/Structu	10	09-May-17	23-May-17
30CR-1020	Excavate/Grade For Park and Ride	15	23-May-17	16-Jun-17
30CR-1030	Install Drainage as required	10	16-Jun-17	03-Jul-17
30CR-1040	Furnish/Install/Compact 8" of 21B	8	03-Jul-17	17-Jul-17
30CR-1050	Install 2" IM 19.0 D	2	17-Jul-17	19-Jul-17
30CR-1060	Install 2" SM 12.5 D	2	19-Jul-17	21-Jul-17
30CR-1070	Install Permenant Striping	2	24-Jul-17	25-Jul-17
30CR-1080	Install Lot Signage	3	26-Jul-17	28-Jul-17
30CR-1085	Install Lot Lighting/CCTV	10	18-Jul-17	31-Jul-17
30CR-1090	Install Bus/Car Pool Structures	10	31-Jul-17	14-Aug-17
30CR-1100	Install Temporary Signal/Open Lot to Traffic	4	15-Aug-17	21-Aug-17
Southern Commuter Park and Ride Lot		66	22-Aug-17	18-Dec-17
30CR-1110	Install E&S	5	22-Aug-17	28-Aug-17
30CR-1120	Demo/Remove Existing Asphalt/Concrete/Structu	10	29-Aug-17	12-Sep-17
30CR-1130	Excavate/Grade For Park and Ride	15	12-Sep-17	09-Oct-17
30CR-1140	Install Drainage as required	10	09-Oct-17	26-Oct-17
30CR-1150	Furnish/Install/Compact 8" of 21B	8	26-Oct-17	08-Nov-17
30CR-1160	Install 2" IM 19.0 D	2	08-Nov-17	10-Nov-17
30CR-1170	Install 2" SM 12.5 D	2	10-Nov-17	15-Nov-17
30CR-1180	Install Permenant Striping	2	16-Nov-17	17-Nov-17
30CR-1190	Install Lot Signage	3	20-Nov-17	22-Nov-17
30CR-1195	Install Lot Liighting/CCTV	10	09-Nov-17	27-Nov-17
30CR-1200	Install Bus/Car Pool Structures	10	27-Nov-17	11-Dec-17
30CR-1210	Install Temporary Signal/Open Lot to Traffic	4	12-Dec-17	18-Dec-17
Punchlist		30	19-Dec-17	13-Feb-18
30CR-1220	Park and Ride Punch Lists	30	19-Dec-17	13-Feb-18
I-95 4th Lane		344	13-Sep-16	01-Jun-18
Survey		115	13-Sep-16	05-Jan-17
40RD-1000	Send Survey Notification and Waiting Period	25	13-Sep-16	07-Oct-16
40RD-1250	Supplemental Field Survey	90	08-Oct-16	05-Jan-17
Geotechnical		209	13-Sep-16	09-Apr-17
40GD-1000	Prepare Boiing Plan	21	13-Sep-16	03-Oct-16
40GD-1020	Miss Utility Markings	5	18-Nov-16	22-Nov-16
40GD-1010	Stake Out Borings and Field Review	7	18-Nov-16	24-Nov-16
40GD-1030	Perform Soil Borings and Lab Work	50	25-Nov-16	13-Jan-17
40GD-1040	Prepare Geotechnical report and Recommendatic	30	14-Jan-17	12-Feb-17
40GD-1050	QA/QC and Submit Geotech Report	7	13-Feb-17	19-Feb-17
40GD-1060	VDOT Review Geotech Report	21	20-Feb-17	12-Mar-17
40GD-1070	Revise/Resubmit Geotech Report	7	13-Mar-17	19-Mar-17
40GD-1080	VDOT Review & Approval of revised Geotech Re	21	20-Mar-17	09-Apr-17
Environmental Permits		121	18-Nov-16	18-Mar-17
40ED-1000	4th Lane Widening WP3 (DEQ) and SPGP (USA	90	18-Nov-16	15-Feb-17
40ED-1010	Box Culvert Nationwide Permit 3/DEQ WP-3 (US	90	18-Nov-16	15-Feb-17
40ED-1020	VPDES Permit	60	18-Jan-17	18-Mar-17
Utility Relocation/Coordination		93	18-Nov-16	18-Feb-17
40UR-1060	Obtain Letter Authorizing DB to Coordinate Utility	1	18-Nov-16	18-Nov-16
40UR-1070	Preliminary Plans to Utilities (30% Plan for UFI)	1	24-Nov-16	24-Nov-16
40UR-1100	Utility Field Inspection	20	25-Nov-16	14-Dec-16
40UR-1080	VDOT Coordination Meeting	1	20-Dec-16	20-Dec-16
40UR-1090	Preliminary Review Meeting with Utility Owners	1	20-Dec-16	20-Dec-16
40UR-1110	Prepare UT9 Forms	14	15-Dec-16	28-Dec-16
40UR-1120	Preliminary Utility Status Report	21	29-Jan-17	18-Feb-17
Dominion VA Power		20	21-Dec-16	09-Jan-17
40UR-1000	DVP- No Conflict Letter	20	21-Dec-16	09-Jan-17
Stafford County Public Schools		20	21-Dec-16	09-Jan-17
40UR-1040	SCPS- No Conflict Letter	20	21-Dec-16	09-Jan-17
Stafford County		20	21-Dec-16	09-Jan-17
40UR-1020	Stafford County- No Conflict Letter	20	21-Dec-16	09-Jan-17
Verizon Virginia		20	21-Dec-16	09-Jan-17
40UR-1130	Verizon- No Conflict Letter	20	21-Dec-16	09-Jan-17
Design		268	13-Sep-16	07-Jun-17
Advanced TMP, E&S, Barrier Work Package		83	18-Nov-16	08-Feb-17



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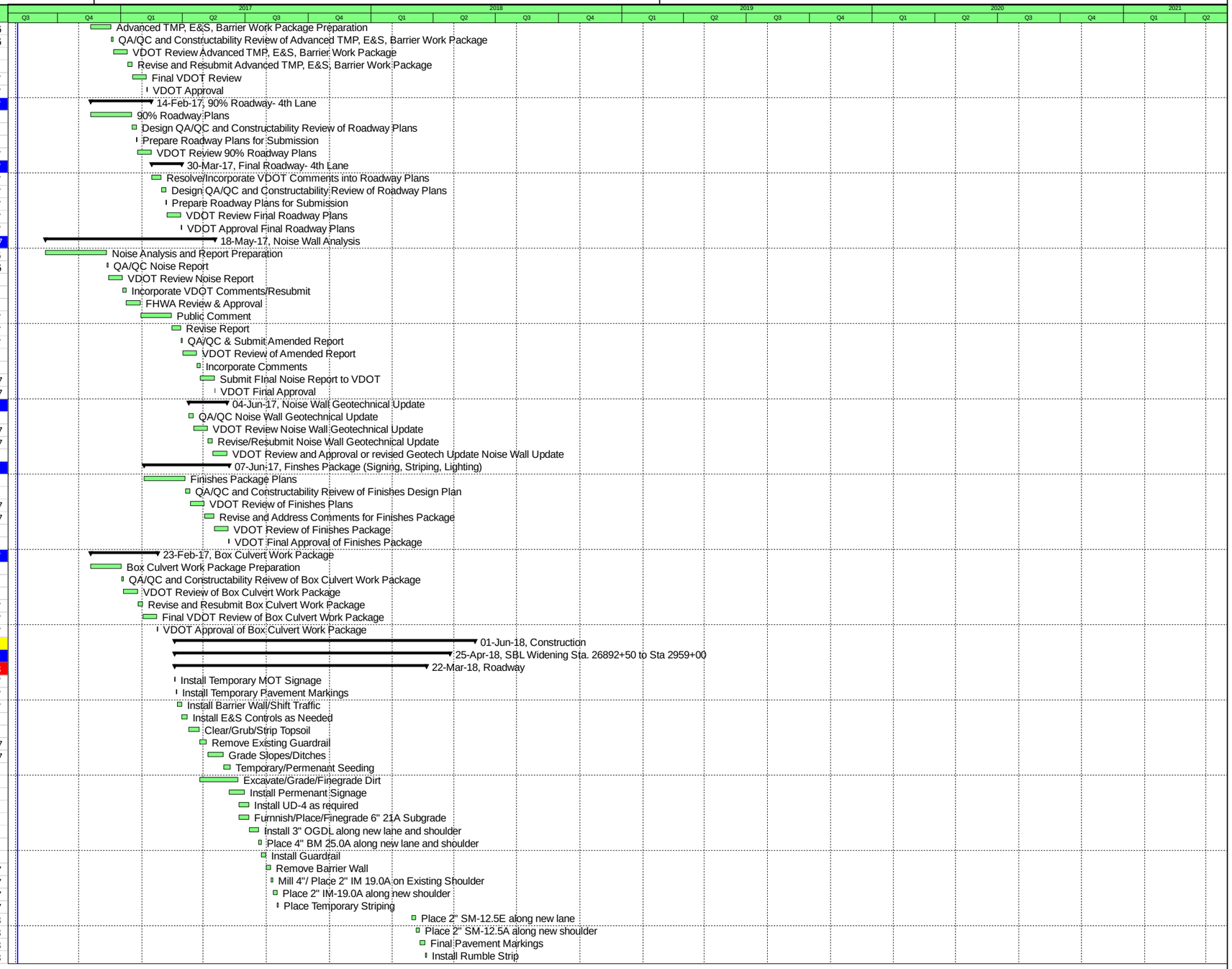
CORMAN CONSTRUCTION — BranchHighways — WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

I-95 / Route 630 Reconstruction & Widening

Proposal Schedule

Due Date: August 4, 2016

Activity ID	Activity Name	Original Duration	Start	Finish
40RD-1020	Advanced TMP, E&S, Barrier Work Package Pre	30	18-Nov-16	17-Dec-16
40RD-1030	QA/QC and Constructability Review of Advanced	3	18-Dec-16	20-Dec-16
40RD-1040	VDOT Review Advanced TMP, E&S, Barrier Wor	21	21-Dec-16	10-Jan-17
40RD-1050	Revise and Resubmit Advanced TMP, E&S, Barr	7	11-Jan-17	17-Jan-17
40RD-1060	Final VDOT Review	21	18-Jan-17	07-Feb-17
40RD-1070	VDOT Approval	1	08-Feb-17	08-Feb-17
90% Roadway- 4th Lane		89	18-Nov-16	14-Feb-17
40RD-1110	90% Roadway Plans	60	18-Nov-16	16-Jan-17
40RD-1130	Design QA/QC and Constructability Review of Rc	7	17-Jan-17	23-Jan-17
40RD-1140	Prepare Roadway Plans for Submission	1	24-Jan-17	24-Jan-17
40RD-1150	VDOT Review 90% Roadway Plans	21	25-Jan-17	14-Feb-17
Final Roadway- 4th Lane		44	15-Feb-17	30-Mar-17
40RD-1160	Resolve/Incorporate VDOT Comments into Road	14	15-Feb-17	28-Feb-17
40RD-1170	Design QA/QC and Constructability Review of Rc	7	01-Mar-17	07-Mar-17
40RD-1180	Prepare Roadway Plans for Submission	1	08-Mar-17	08-Mar-17
40RD-1190	VDOT Review Final Roadway Plans	21	09-Mar-17	29-Mar-17
40RD-1200	VDOT Approval Final Roadway Plans	1	30-Mar-17	30-Mar-17
Noise Wall Analysis		248	13-Sep-16	18-May-17
40NA-1200	Noise Analysis and Report Preparation	90	13-Sep-16	11-Dec-16
40NA-1210	QA/QC Noise Report	2	12-Dec-16	13-Dec-16
40NA-1220	VDOT Review Noise Report	21	14-Dec-16	03-Jan-17
40NA-1230	Incorporate VDOT Comments/Resubmit	5	04-Jan-17	08-Jan-17
40NA-1240	FHWA Review & Approval	21	09-Jan-17	29-Jan-17
40NA-1250	Public Comment	45	30-Jan-17	15-Mar-17
40NA-1260	Revise Report	14	16-Mar-17	29-Mar-17
40NA-1270	QA/QC & Submit Amended Report	2	30-Mar-17	31-Mar-17
40NA-1280	VDOT Review of Amended Report	21	01-Apr-17	21-Apr-17
40NA-1290	Incorporate Comments	5	22-Apr-17	26-Apr-17
40NA-1300	Submit Final Noise Report to VDOT	21	27-Apr-17	17-May-17
40NA-1310	VDOT Final Approval	1	18-May-17	18-May-17
Noise Wall Geotechnical Update		56	10-Apr-17	04-Jun-17
40NA-1160	QA/QC Noise Wall Geotechnical Update	7	10-Apr-17	16-Apr-17
40NA-1170	VDOT Review Noise Wall Geotechnical Update	21	17-Apr-17	07-May-17
40NA-1180	Revise/Resubmit Noise Wall Geotechnical Updat	7	08-May-17	14-May-17
40NA-1190	VDOT Review and Approval or revised Geotech U	21	15-May-17	04-Jun-17
Finshes Package (Signing, Striping, Lighting)		124	04-Feb-17	07-Jun-17
40RD-1010	Finishes Package Plans	60	04-Feb-17	04-Apr-17
40RD-1120	QA/QC and Constructability Reivew of Finishes D	7	05-Apr-17	11-Apr-17
40RD-1210	VDOT Review of Finishes Plans	21	12-Apr-17	02-May-17
40RD-1220	Revise and Address Comments for Finishes Pacl	14	03-May-17	16-May-17
40RD-1240	VDOT Review of Finishes Package	21	17-May-17	06-Jun-17
40RD-1230	VDOT Final Approval of Finishes Package	1	07-Jun-17	07-Jun-17
Box Culvert Work Package		98	18-Nov-16	23-Feb-17
40SD-1000	Box Culvert Work Package Preparation	45	18-Nov-16	01-Jan-17
40SD-1010	QA/QC and Constructability Reivew of Box Culve	3	02-Jan-17	04-Jan-17
40SD-1020	VDOT Review of Box Culvert Work Package	21	05-Jan-17	25-Jan-17
40SD-1030	Revise and Resubmit Box Culvert Work Package	7	26-Jan-17	01-Feb-17
40SD-1040	Final VDOT Review of Box Culvert Work Packag	21	02-Feb-17	22-Feb-17
40SD-1050	VDOT Approval of Box Culvert Work Package	1	23-Feb-17	23-Feb-17
Construction		243	20-Mar-17	01-Jun-18
SBL Widening Sta. 26892+50 to Sta 2959+00		222	20-Mar-17	25-Apr-18
Roadway		203	20-Mar-17	22-Mar-18
40CR-1000	Install Temporary MOT Signage	2	20-Mar-17	21-Mar-17
40CR-1010	Install Temporary Pavement Markings	1	23-Mar-17	23-Mar-17
40CR-1020	Install Barrier Wall/Shift Traffic	5	24-Mar-17	30-Mar-17
40CR-1030	Install E&S Controls as Needed	5	31-Mar-17	07-Apr-17
40CR-1040	Clear/Grub/Strip Topsoil	10	10-Apr-17	25-Apr-17
40CR-1050	Remove Existing Guardrail	7	26-Apr-17	05-May-17
40CR-1070	Grade Slopes/Ditches	15	08-May-17	30-May-17
40CR-1100	Temporary/Permenant Seeding	7	31-May-17	09-Jun-17
40CR-1060	Excavate/Grade/Finegrade Dirt	35	26-Apr-17	20-Jun-17
40CR-1200	Install Permenant Signage	15	08-Jun-17	30-Jun-17
40CR-1090	Install UD-4 as required	10	22-Jun-17	06-Jul-17
40CR-1080	Furnnish/Place/Finegrade 6" 21A Subgrade	10	22-Jun-17	06-Jul-17
40CR-1110	Install 3" OGDL along new lane and shoulder	10	07-Jul-17	20-Jul-17
40CR-1130	Place 4" BM 25.0A along new lane and shoulder	2	20-Jul-17	24-Jul-17
40CR-1120	Install Guardrail	5	25-Jul-17	31-Jul-17
40CR-1180	Remove Barrier Wall	5	01-Aug-17	07-Aug-17
40CR-1140	Mill 4"/ Place 2" IM 19.0A on Existing Shoulder	3	08-Aug-17	10-Aug-17
40CR-1150	Place 2" IM-19.0A along new shoulder	4	11-Aug-17	16-Aug-17
40CR-1920	Place Temporary Striping	1	17-Aug-17	18-Aug-17
40CR-1160	Place 2" SM-12.5E along new lane	4	01-Mar-18	06-Mar-18
40CR-1170	Place 2" SM-12.5A along new shoulder	4	07-Mar-18	12-Mar-18
40CR-1190	Final Pavement Markings	5	13-Mar-18	20-Mar-18
40CR-1890	Install Rumble Strip	1	21-Mar-18	22-Mar-18



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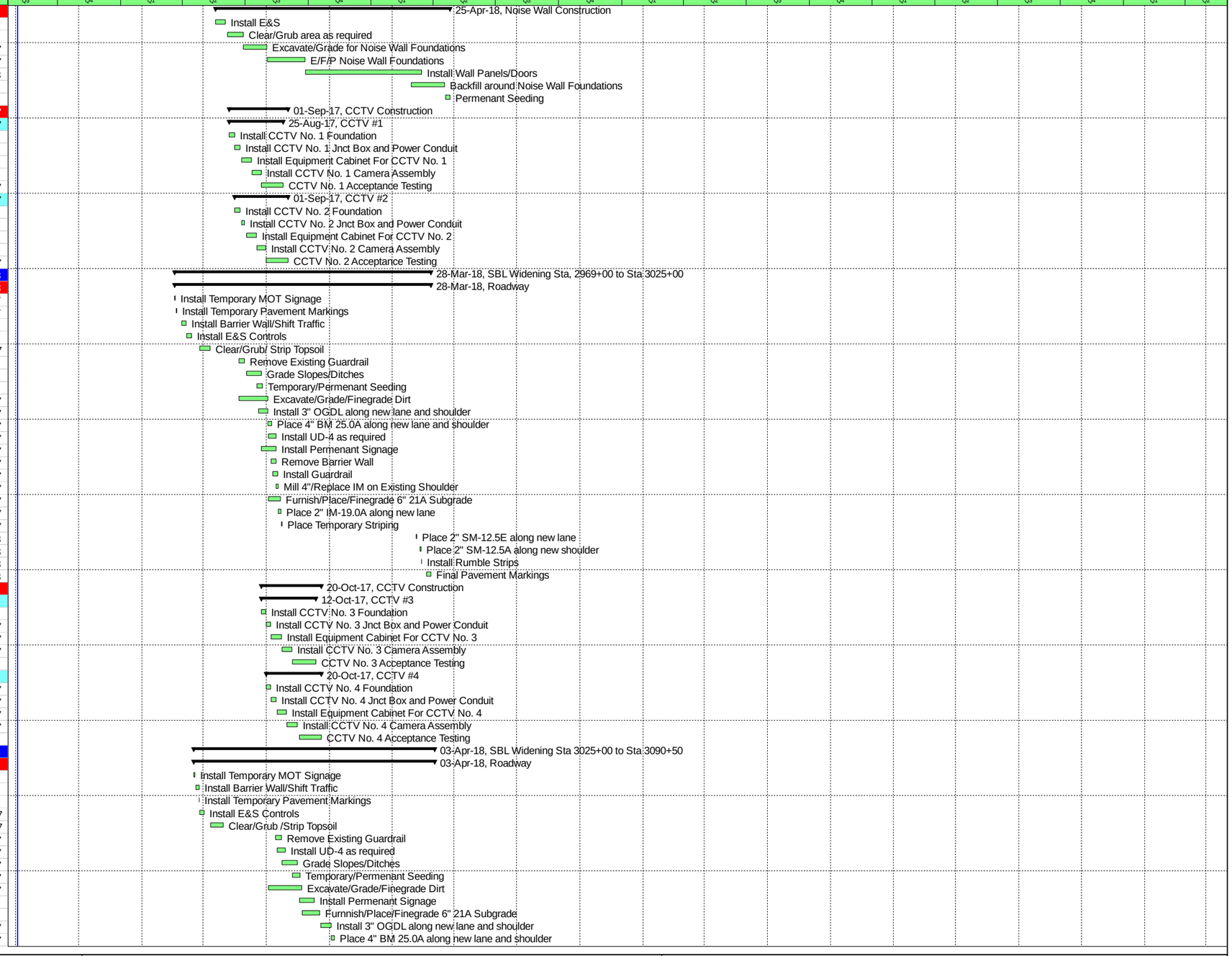
Activity ID	Activity Name	Original Duration	Start	Finish
Noise Wall Construction		188	19-May-17	25-Apr-18
40CS-2790	Install E&S	10	19-May-17	02-Jun-17
40CS-2800	Clear/Grub area as required	15	05-Jun-17	28-Jun-17
40CS-2810	Excavate/Grade for Noise Wall Foundations	20	28-Jun-17	01-Aug-17
40CS-2860	E/F/P Noise Wall Foundations	35	02-Aug-17	26-Sep-17
40CS-2820	Install Wall Panels/Doors	100	27-Sep-17	15-Mar-18
40CS-2840	Backfill around Noise Wall Foundations	30	28-Feb-18	17-Apr-18
40CS-2850	Permenant Seeding	5	19-Apr-18	25-Apr-18
CCTV Construction		57	08-Jun-17	01-Sep-17
CCTV #1		52	08-Jun-17	25-Aug-17
40CR-12	Install CCTV No. 1 Foundation	5	08-Jun-17	15-Jun-17
40CR-12	Install CCTV No. 1 Jnct Box and Power Conduit	5	16-Jun-17	23-Jun-17
40CR-12	Install Equipment Cabinet For CCTV No. 1	10	26-Jun-17	10-Jul-17
40CR-12	Install CCTV No. 1 Camera Assembly	10	11-Jul-17	24-Jul-17
40CR-12	CCTV No. 1 Acceptance Testing	22	25-Jul-17	25-Aug-17
CCTV #2		52	16-Jun-17	01-Sep-17
40CR-12	Install CCTV No. 2 Foundation	5	16-Jun-17	23-Jun-17
40CR-12	Install CCTV No. 2 Jnct Box and Power Conduit	5	26-Jun-17	30-Jun-17
40CR-12	Install Equipment Cabinet For CCTV No. 2	10	03-Jul-17	17-Jul-17
40CR-12	Install CCTV No. 2 Camera Assembly	10	18-Jul-17	31-Jul-17
40CR-13	CCTV No. 2 Acceptance Testing	22	01-Aug-17	01-Sep-17
SBL Widening Sta. 2969+00 to Sta 3025+00		207	20-Mar-17	28-Mar-18
Roadway		207	20-Mar-17	28-Mar-18
40CR-1310	Install Temporary MOT Signage	2	20-Mar-17	21-Mar-17
40CR-1320	Install Temporary Pavement Markings	1	23-Mar-17	23-Mar-17
40CR-1330	Install Barrier Wall/Shift Traffic	4	31-Mar-17	06-Apr-17
40CR-1340	Install E&S Controls	5	07-Apr-17	14-Apr-17
40CR-1350	Clear/Grub/ Strip Topsoil	10	26-Apr-17	11-May-17
40CR-1360	Remove Existing Guardrail	7	22-Jun-17	30-Jun-17
40CR-1380	Grade Slopes/Ditches	15	03-Jul-17	24-Jul-17
40CR-1390	Temporary/Permenant Seeding	7	18-Jul-17	26-Jul-17
40CR-1370	Excavate/Grade/Finegrade Dirt	30	22-Jun-17	03-Aug-17
40CR-1420	Install 3" OGDL along new lane and shoulder	10	21-Jul-17	03-Aug-17
40CR-1430	Place 4" BM 25.0A along new lane and shoulder	2	03-Aug-17	08-Aug-17
40CR-1410	Install UD-4 as required	7	04-Aug-17	15-Aug-17
40CR-1510	Install Permenant Signage	15	25-Jul-17	15-Aug-17
40CR-1490	Remove Barrier Wall	5	08-Aug-17	15-Aug-17
40CR-1440	Install Guardrail	5	10-Aug-17	17-Aug-17
40CR-1450	Mill 4"/Replace IM on Existing Shoulder	3	15-Aug-17	18-Aug-17
40CR-1400	Furnish/Place/Finegrade 6" 21A Subgrade	10	04-Aug-17	21-Aug-17
40CR-1460	Place 2" IM-19.0A along new lane	2	18-Aug-17	22-Aug-17
40CR-1930	Place Temporary Striping	1	23-Aug-17	24-Aug-17
40CR-1470	Place 2" SM-12.5E along new lane	2	07-Mar-18	08-Mar-18
40CR-1480	Place 2" SM-12.5A along new shoulder	2	13-Mar-18	14-Mar-18
40CR-1880	Install Rumble Strips	1	15-Mar-18	15-Mar-18
40CR-1500	Final Pavement Markings	5	22-Mar-18	28-Mar-18
CCTV Construction		57	25-Jul-17	20-Oct-17
CCTV #3		52	25-Jul-17	12-Oct-17
40CR-15	Install CCTV No. 3 Foundation	5	25-Jul-17	31-Jul-17
40CR-15	Install CCTV No. 3 Jnct Box and Power Conduit	5	01-Aug-17	07-Aug-17
40CR-15	Install Equipment Cabinet For CCTV No. 3	10	08-Aug-17	23-Aug-17
40CR-15	Install CCTV No. 3 Camera Assembly	10	24-Aug-17	07-Sep-17
40CR-15	CCTV No. 3 Acceptance Testing	22	08-Sep-17	12-Oct-17
CCTV #4		52	01-Aug-17	20-Oct-17
40CR-15	Install CCTV No. 4 Foundation	5	01-Aug-17	07-Aug-17
40CR-15	Install CCTV No. 4 Jnct Box and Power Conduit	5	08-Aug-17	15-Aug-17
40CR-15	Install Equipment Cabinet For CCTV No. 4	10	17-Aug-17	30-Aug-17
40CR-16	Install CCTV No. 4 Camera Assembly	10	31-Aug-17	15-Sep-17
40CR-16	CCTV No. 4 Acceptance Testing	22	18-Sep-17	20-Oct-17
SBL Widening Sta 3025+00 to Sta 3090+50		193	17-Apr-17	03-Apr-18
Roadway		193	17-Apr-17	03-Apr-18
40CR-1620	Install Temporary MOT Signage	2	17-Apr-17	18-Apr-17
40CR-1630	Install Barrier Wall/Shift Traffic	4	20-Apr-17	25-Apr-17
40CR-1640	Install Temporary Pavement Markings	1	25-Apr-17	25-Apr-17
40CR-1645	Install E&S Controls	5	26-Apr-17	02-May-17
40CR-1650	Clear/Grub /Strip Topsoil	12	12-May-17	30-May-17
40CR-1690	Remove Existing Guardrail	7	14-Aug-17	23-Aug-17
40CR-1710	Install UD-4 as required	8	17-Aug-17	28-Aug-17
40CR-1670	Grade Slopes/Ditches	15	24-Aug-17	15-Sep-17
40CR-1680	Temporary/Permenant Seeding	7	08-Sep-17	19-Sep-17
40CR-1660	Excavate/Grade/Finegrade Dirt	30	04-Aug-17	21-Sep-17
40CR-1810	Install Permenant Signage	15	18-Sep-17	09-Oct-17
40CR-1700	Furnish/Place/Finegrade 6" 21A Subgrade	17	22-Sep-17	17-Oct-17
40CR-1720	Install 3" OGDL along new lane and shoulder	10	19-Oct-17	03-Nov-17
40CR-1740	Place 4" BM 25.0A along new lane and shoulder	3	03-Nov-17	08-Nov-17



Remaining Level of Effort — Summary

Actual Work

Remaining Work

Critical Remaining Work

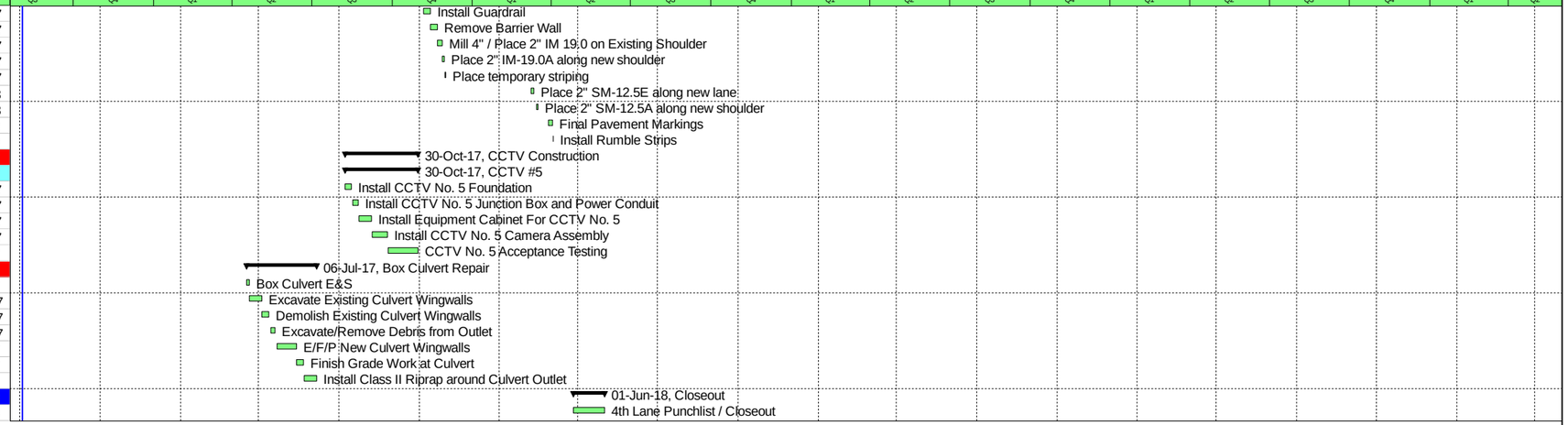
Milestone

CORMAN CONSTRUCTION — BranchHighways — WRA Whitman, Requardt & Associates, LLP 1915 100 YEARS 2015

Date Last Modified: 28-Jul-16

VDOT Contract No. C0001355DB83

Activity ID	Activity Name	Original Duration	Start	Finish
40CR-1730	Install Guardrail	5	06-Nov-17	13-Nov-17
40CR-1790	Remove Barrier Wall	5	14-Nov-17	21-Nov-17
40CR-1750	Mill 4" / Place 2" IM 19.0 on Existing Shoulder	3	21-Nov-17	27-Nov-17
40CR-1760	Place 2" IM-19.0A along new shoulder	2	27-Nov-17	29-Nov-17
40CR-1910	Place temporary striping	1	30-Nov-17	01-Dec-17
40CR-1770	Place 2" SM-12.5E along new lane	2	09-Mar-18	12-Mar-18
40CR-1780	Place 2" SM-12.5A along new shoulder	2	15-Mar-18	16-Mar-18
40CR-1800	Final Pavement Markings	3	29-Mar-18	02-Apr-18
40CR-1900	Install Rumble Strips	1	03-Apr-18	03-Apr-18
CCTV Construction		52	08-Aug-17	30-Oct-17
CCTV #5		52	08-Aug-17	30-Oct-17
40CR-18:	Install CCTV No. 5 Foundation	5	08-Aug-17	15-Aug-17
40CR-18:	Install CCTV No. 5 Junction Box and Power Cond	5	17-Aug-17	23-Aug-17
40CR-18-	Install Equipment Cabinet For CCTV No. 5	10	24-Aug-17	07-Sep-17
40CR-18:	Install CCTV No. 5 Camera Assembly	10	08-Sep-17	25-Sep-17
40CR-18(	CCTV No. 5 Acceptance Testing	22	26-Sep-17	30-Oct-17
Box Culvert Repair		45	17-Apr-17	06-Jul-17
40CS-1000	Box Culvert E&S	3	17-Apr-17	20-Apr-17
40CS-1010	Excavate Existing Culvert Wingwalls	10	20-Apr-17	04-May-17
40CS-1020	Demolish Existing Culvert Wingwalls	5	05-May-17	12-May-17
40CS-1030	Excavate/Remove Debris from Outlet	5	15-May-17	19-May-17
40CS-1040	E/F/P New Culvert Wingwalls	15	22-May-17	13-Jun-17
40CS-1050	Finish Grade Work at Culvert	5	13-Jun-17	21-Jun-17
40CS-1060	Install Class II Riprap around Culvert Outlet	10	22-Jun-17	06-Jul-17
Closeout		26	26-Apr-18	01-Jun-18
40CR-1870	4th Lane Punchlist / Closeout	26	26-Apr-18	01-Jun-18



Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary