PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

GENERAL NOTES

DRAINAGE

D-1 The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific stations, special design bridges and storm sewer systems.

D-2 The horizontal location and invert elevations shown for proposed culverts and storm sewer outfall pipes are based on existing survey data and required design criteria. If during construction, it is found that the horizontal location or invert elevations shown on the plans differ significantly from the horizontal location or elevations of the stream or swale in which the culvert or storm sewer outfall pipe is to be placed, the Engineer shall confer with, and get approval from, the Engineer of Record before installing the culvert or storm sewer outfall pipe.

D-3 The "H" dimensions shown on plans for drop inlets and junction boxes and the "L.F." dimensions shown for manholes are for estimating purposes and are based on the proposed invert elevations shown for the structure and the anticipated top (rim) elevation based on existing or proposed finished grade. The actual "H" or "L.F." dimensions are to be determined by the contractor from field conditions.

D-6 Pipes shall conform to any of the allowable types shown on this sheet, within the applicable height of cover limitations.
For strength, sheet thickness, or class designation; available sizes; height of cover limitations;and other restrictions for a particular pipe type or height of cover, see the VDOT Road and Bridge Standard PC-1. Structural plate pipe may be substituted for corrugated pipe of the same size, provided the substitution complies with the applicable sections of the VDOT Road and Bridge Standards PC-1.

D-10 The proposed riprap may be omitted by the Engineer if the slope designated for placement of riprap is found to be comprised of solid rock or closely consolidated boulders with soundness, size and weight equal to, or exceeding, the specifications for the proposed riprap.

D-12 All existing drainage facilities labeled "To Be Abandoned" shall be left in place, backfilled and plugged in accordance with the VDOT Road and Bridge Standard PP-1. Basis of Payment will be C.Y. of Flowable Backfill.

D-13 Existing drainage facilities being utilized as a part of the drainage system, and designated on the plans "To Be Cleaned Out" shall be cleaned as directed by the Engineer. The cost incidental to this shall be included in the contract price for other items.

D-14 Proposed drop inlets with a height (H) less than the standard minimum shown in the VDOT Road and Bridge Standards shall be considered and paid for as Standard Drop Inlets for the type specified.

D-16 When CG-6 or CG-7 is specified on a radius (such as at a street intersection), the Engineer may approve a decrease in the cross slope of the gutter to facilitate proper drainage.

STORMWATER MANAGEMENT

Contractor will provide Construction record drawings for all permanent SWM Facilities, including approved shop drawings for MTDs, and shall be appropriately signed and sealed by a person registered in the Commonwealth of Virginia as a professional architect, engineer, land surveyor or landscape architect and qualified in the responsible administration of the BMP construction.

S-6 Construction record documentation shall be provided for all permanent SWM Facilities. The registered professional shall certify that all SWM Facilities have been constructed and made functional in accordance with the SWM Plan. The form LD-445D shall be used to document this certification process. The official record drawings for the project include both the plan drawings and record drawing survey.

Any changes to the proposed SWM Plan or BMPs necessitated during the construction phase of the project, that affects the proposed construction details or the BMP design information shown in the construction plans or documentation, shall be coordinated by Project Manager along with the Engineer of Record and VDOT. If as-built documentation for permanent SWM Facilities deviates from the approved plans, the Project Manager should request a review by the Engineer to determine if modifications to the facility are needed prior to acceptance. As-built documentation should be submitted as early as possible but no less than 30 days prior to expected acceptance. Significant deviation from the approved drawings may delay project acceptance. The record set of construction plans and the BMP information tables in the construction plans or documentation are to be formally revised to reflect any authorized/approved changes to the proposed SWM Plan and/or the proposed BMP construction details. All plan revisions shall be completed in accordance with the VDOT Road Design Manual and the VDOT Construction Division's IIM-CD-2013-12.01, signed and sealed in accordance with Department's sealing and signing policy IIM-LD-243 and filed with the record set of construction plans.

Inspection forms specific to the BMP type(s) should be used to document the construction/installation process. A final inspection for SWM Facilities/BMPs shall be conducted by the Project Manager, and VDOT. The inspection shall be conducted prior to final project acceptance to identify any required corrective actions, allowing the contractor to perform these corrective actions. The final inspections should be conducted as early as practicable to allow time for corrective actions. Reinspection may be required after receipt of the as-built documentation.

INCIDENTALS

I-8A Clearing and grubbing shall be confined to those areas needed for construction. No trees or shrubs in ungraded areas shall be cut without the permission of the Engineer.

I-9 When no centerline alignment is shown for a proposed entrance, the entrance shall be constructed in the same location as the existing entrance.

I-12 St'd. RM-2 right of way monuments shall be set by the Contractor.

I-16 The "underground utilities" survey data on this project has been provided by consultant and copies are available from the Department.

I-17 For method of constructing Straight-Line Taper Lanes in curb and/or curb and gutter sections, see typical details on Sheet 2(2).

I-18 All pavement markings and traffic flow arrows shown on the roadway construction plans are schematic only. The actual location and application of pavement markings shall be in accordance with Section 704 of the applicable VDOT Road and Bridge Specifications, MUTCD, sequence of construction/ traffic control plans, pavement marking plan sheets and as directed by the Engineer.

I-19 The following sources, under contract with VDOT, have provided information on this project:

Hydraulic Design	-	Timmons Group
Roadway Design	-	" "
Utility Design	-	" "
Utility Designation	-	" "
Utility Location	-	" "
Survey	-	" "
Bridge Design	-	N/A
Signal Design	-	Timmons Group

If questions or problems arise during construction, please contact the Project Designer. DO NOT CONTACT THE OUTSIDE SOURCES.

I-20 The Official Electronic PDF Version of the plans will override the paper copies or prints of specific layers.

Portions of this plan assembly have been CADD generated. To assist in the preparation of the bid and construction of the project, Microstation format (.dgn) files will be made available to the prime contractor during bids and after award of the contract.

I-21 All electronic plan assemblies will include the construction plans in two formats: PDF files and MicroStation format (.dgn) files. Only the PDF files will be considered as part of the official plan assembly.

The MicroStation format (.dgn) files are furnished only as information for the contractor. These plans are developed in layers (levels) to aid in readability. (See the VDOT CADD Manual for CADD Level Structure). However, the construction items may or may not be in the proper layering scheme as described in the VDOT CADD Manual. The Microstation files will only match the scanned files if all required levels are turned on. A Microstation Software license is required to be able to read these files.

TABLE AI - ALLOWABLE TYPE OF STORM SEWER PIPE
ALLOWABLE PIPE TYPES (UNLESS OTHERWISE SHOWN ON PLANS)

LOCATION	CONCRETE	CORRUGATED STEEL**, ALUMINUM COATED TYPE 2 FULLY CONCRETE LINED	ALUMINUM COATED TYPE 2** STEEL SPIRAL RIB	POLYMER COATED (IO/IO)** CORRUGATED STEEL SPIRAL RIB	POLYMER COATED (IO/IO)** CORRUGATED STEEL DOUBLE WALL (SMOOTH INTERIOR)	ALUMINUM SPIRAL RIB**	POLYVINYLCHLORIDE (PVC) RIBBED PIPE (SMOOTH INTERIOR)	POLYETHYLENE (PE) CORRUGATED TYPE S	POLYPROPYLENE (PP) TYPE D OR S
STATEWIDE U.S.RTE.258	X				X		X	X	X

BRIAN COPELAND
Lic. No. 042458
COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2(1)

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

GRADING

G-1 The grade line denotes top of finished pavement unless shown otherwise on typical sections or plans.

G-2 Earthwork quantities on this project are based on anticipated settlement and may require adjusting during construction.

G-4 The cost of removal of all existing concrete items located in the area to be graded, including, but not limited to the following, shall be included in the price bid for regular excavation: Conc. Pipe Entrance Culverts, Curb, Median, End Sections, End Walls, and Surplus Earthen Material (once all grading operations are complete).

G-5 The excavation of unsuitable material as specified on these plans is based on previously conducted subsurface soil investigation. If, during construction, it is deemed necessary to change the depth more than one foot, or the limits of such excavation, such change is to be made at the direction of the Engineer and measurement and payment shall be made in accordance with Section 303 of the applicable VDOT Road and Bridge Specifications.

G-6 The embankment material for this project shall be a minimum CBR _10_ or as approved by the Materials Engineer.

PAVEMENT

P-2 The pavement materials on this project will be paid for on a tonnage basis. The weight will vary in accordance with the specific gravity of the aggregates and the asphaltic content of the mix actually used to secure the design depth. The weight of the asphalt concrete is based on 95% of the theoretical maximum density. (See IIM-LD-158)

EROSION AND SEDIMENT CONTROL (ESC)

E-1 If the removal of Brush Silt Barrier is specified by the plans or required by the Engineer, the cost of removal and disposal of brush shall be in accordance with Section 109 of the applicable VDOT Road and Bridge Specifications.

E-2 Rock for Check Dams, Inlet Protection, Erosion Control Stone and Riprap shall be in accordance with Section 203 and Section 414 of the applicable VDOT Road and Bridge Specifications.

E-3 The following symbols are used to depict Erosion Control items in the plan assembly:

- EC-2,T1 / EC-2,T2 / EC-2,T3 / EC-2,T4 — Rolled Erosion Control Product, Temporary, St'd. EC-2 Type 1, 2, 3 or 4
- EC-3,T1 / EC-3,T2 / EC-3,T3 — Rolled Erosion Control Product, Permanent, St'd. EC-3 Type 1, 2 or 3
- TSF-A / TSF-B — Temporary Silt Fence, St'd EC-5 Type A or B
- RCD-1 — Rock Check Dam, Type I; St'd EC-4
- RCD-2 — Rock Check Dam, Type II; St'd EC-4
- DD — Temporary Diversion Dike, St'd EC-9
- IP-A / IP-B / IP-C — Inlet Protection, Type A, B, or C; St'd EC-6
- TCD — Temporary Check Dam, St'd EC-16
- SAF — Temporary Safety Fence (Plastic Polyethylene) * NOT INTENDED FOR EROSION CONTROL
- OP — Outlet Protection, St'd EC-1
- SC — Temp. Stream Crossing; St'd EC-14
- LOD — Limits of Disturbance/ Limits of Clearing
- ST — Temp. Sediement Trap; St'd EC-7

E-4 Permanent vegetation shall be established on all denuded areas not otherwise stabilized with non-erodible materials. See the Roadside Development Sheet for details on permanent vegetation establishment.

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TYPICAL SECTIONS

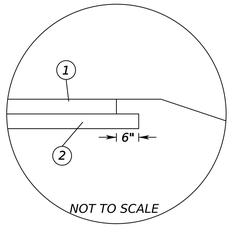
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Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2A

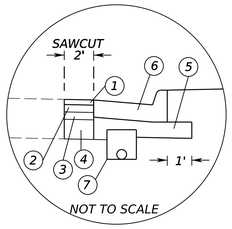
DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

INSET A*



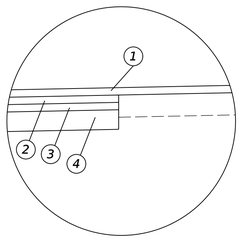
1. 4" HYDRAULIC CEMENT CONC. SIDEWALK
2. 4" AGGREGATE BASE MATERIAL TYPE 1 NO. 21B

INSET B*



1. 2" ASPHALT CONCRETE SURFACE COURSE (VDOT SM-12.5A) at 220 Lbs/S.Y.
2. 3" ASPHALT CONCRETE INTERMEDIATE COURSE (VDOT IM-19.0A)
3. 3" ASPHALT CONCRETE BASE COURSE (VDOT BM-25.0A)
4. 8" AGGREGATE BASE MATERIAL (VDOT TYPE 1 NO. 21 B) UNDER CURB
5. VAR. DEPTH AGGREGATE BASE MATERIAL (VDOT TYPE 1 NO. 21 B) UNDER CURB
6. STD. CG-6 CURB AND GUTTER
7. STD. UD-4 UNDERDRAIN

INSET C*

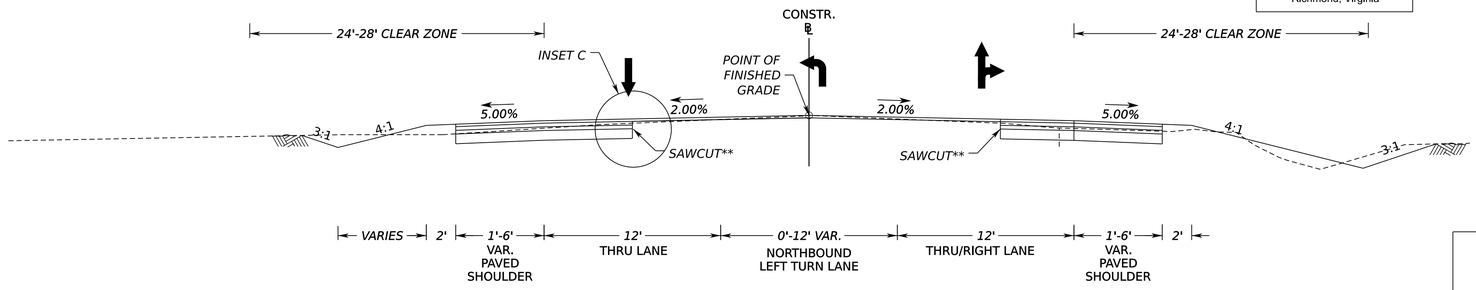


1. 2" ASPHALT CONCRETE SURFACE COURSE (VDOT SM-12.5A) at 220 Lbs/S.Y.
2. 3" ASPHALT CONCRETE INTERMEDIATE COURSE (VDOT IM-19.0A)
3. 3" ASPHALT CONCRETE BASE COURSE (VDOT BM-25.0A)
4. 8" AGGREGATE BASE MATERIAL (VDOT TYPE 1 NO. 21 B) UNDER CURB

NOTES:
** SAWCUT 1' MIN. FROM EX. EDGE OF PAVEMENT OR 2' MIN. FROM EDGE OF PROPOSED CURB AND GUTTER

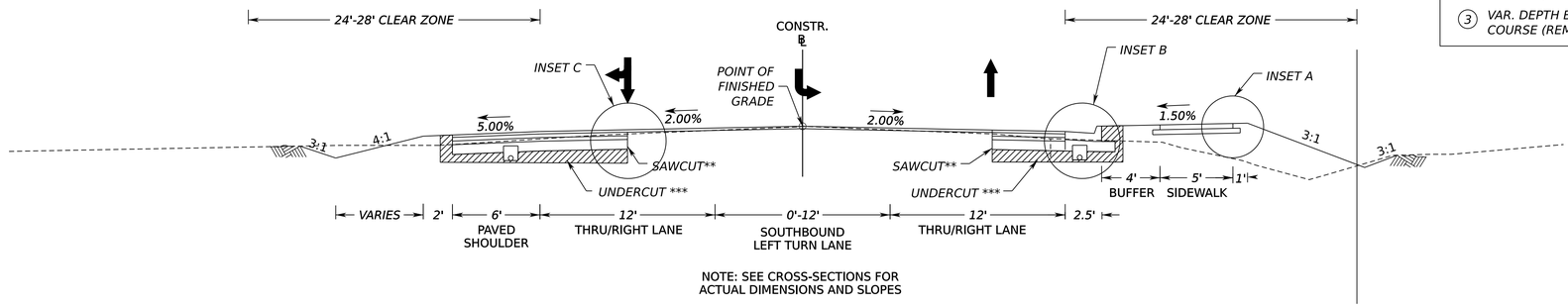
*** BETWEEN STATIONS 17+00 AND 21+00, UNDERCUT TO A DEPTH OF 3 FEET AND BACKFILL WITH 6" OF VDOT NO. 3 STONE, A LAYER OF GEOTEXTILE FABRIC, AND EARTHEN BACKFILL MEETING DESIGN CBR OF 6.2. CONTRACTOR TO TERMINATE UNDERCUT ONCE STABLE SUBGRADE IS ACHEIVED.

S PRINCE BOULEVARD (RTE. 258)
STA. 11+00.00 - STA. 15+68.37



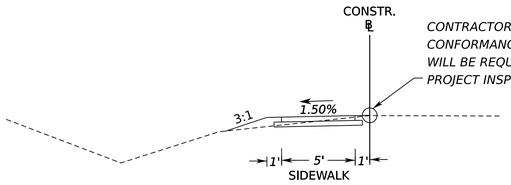
NOTE: SEE CROSS-SECTIONS FOR ACTUAL DIMENSIONS AND SLOPES

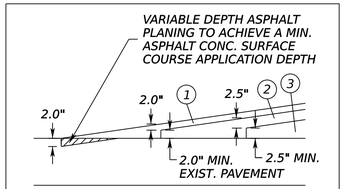
N PRINCE BOULEVARD (RTE. 258)
STA. 17+15.09 - STA. 23+36.10



NOTE: SEE CROSS-SECTIONS FOR ACTUAL DIMENSIONS AND SLOPES

W WINDSOR BLVD (RTE. 460) SIDEWALK
STA. 70+49.84 - STA. 74+17.15





PAVEMENT BUILD-UP WITH OVERLAY

1. ASPHALT CONC. OVERLAY TY. SM-12.5D (2" MIN. DEPTH REQ'D.)
2. VAR. DEPTH IM-19.0A ASPHALT LEVELING COURSE (DEPTHS UP TO 2.5")
3. VAR. DEPTH BM-25.0A ASPHALT LEVELING COURSE (REMAINDER IF NECESSARY)

PRIVATE AND COMMERCIAL ENTRANCES

TYPE I
Crusher Run Aggr.

6" Crusher Run Aggr. 25

TYPE II
Concrete

Concrete Entrance Pavement
7" HES
4" Aggr. Base Mat'l. Ty. I No. 21B

TYPE III
Asphalt

Asphalt Conc. Type SM-9.5A @ 220 Lbs. per S.Y.
4" Aggr. Base Mat'l. Ty. I No. 21B

NOT TO SCALE

TYPE IV
Asphalt Commercial

Asphalt Conc. Type SM-9.5A @ 165 Lbs. per S.Y.
4" Asphalt Conc. Base Course BM-25.0
6" Aggr. Base Mat'l. Ty. I No. 21B

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

PROJECT	SHEET NO.
0460-046-724	2A

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DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

EROSION AND SEDIMENT CONTROL NOTES

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2B(1)

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

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROUTE 258 (PRINCE BOULEVARD) TO PROVIDE LEFT TURN LANES IN BOTH DIRECTIONS AT U.S. RTE 460. THE WIDENING OF U.S. RTE 258 INCORPORATES A SIDEWALK ON THE EASTERN SIDE OF 258 NORTH CONNECTING TO THE MOBILE HOME DEVELOPMENT NORTH OF BELMONT STREET TO ROUTE 460. THE PROJECT ALSO INCLUDES THE CONSTRUCTION OF ONE (1) ONSITE STORMWATER BMP'S AND TRAFFIC SIGNAL IMPROVEMENTS AT RTE 258 AND RTE 460.

APPROXIMATELY 1.55 ACRES OF LAND WILL BE DISTURBED AND GRADED FOR THE COMPLETION OF THIS PROJECT. TRAFFIC WILL BE MAINTAINED AT ALL TIMES DURING THE LIFE OF THIS PROJECT.

EXISTING SITE CONDITIONS

THE SURROUNDING TOPOGRAPHY FOR THE ROUTE 258 WIDENING PROJECT CONSISTS OF MINIMAL SLOPING ROAD GRADES FROM 0.5% TO 4.00% GRADE. THE DRAINAGE ON THE PROJECT IS CONVEYED VIA CLOSED STORM SEWER SYSTEMS AND DITCHES TO FOUR OUTFALLS, ONE (1) OF WHICH INCLUDES AN ONSITE BMP TO CONTROL/TREAT RUNOFF BEFORE LEAVING THE PROJECT AREA. EXISTING LAND USES ALONG ROUTE 258 INCLUDE MOSTLY SUBURBAN RESIDENTIAL WITH A FEW SMALL-SCALE COMMERCIAL DESTINATIONS AT THE INTERSECTION WITH ROUTE 460.

ADJACENT PROPERTY

THE PROJECT AREA IS SURROUNDED BY MOSTLY BUSINESSES AND SOME RESIDENTIAL PROPERTIES.

OFFSITE AREAS

NO OFF-SITE STOCKPILE AREAS ARE NEEDED FOR THIS PROJECT. STOCKPILES WILL BE DETERMINED AND LOCATED BY THE CONTRACTOR AS REQUIRED.

SOIL CONDITIONS

THE PREDOMINANT SOILS FOR THIS PROJECT ARE: 7 KINSTON LOAM, 9 MYATT FINE SANDY LOAM, 10 NAWNEY LOAM, 17B3 SLAGLE SANDY LOAM 2 TO 6 PERCENT SLOPES, SEVERELY ERODED, 18A SLAGLE FINE SANDY LOAM 0 TO 2 PERCENT SLOPES, 18B SLAGLE FINE SANDY LOAM 2 TO 6 PERCENT SLOPES, 21 UDORTHENTS LOAMY, 23 YEMASSEE FINE SANDY LOAM. A COMPLETE GEOTECHNICAL ENGINEERING REPORT HAS BEEN PREPARED FOR THE PROJECT FOR ADDITIONAL SOILS INFORMATION.

CRITICAL EROSION AREAS

CRITICAL AREAS INCLUDE: ANY STEEP SLOPE ALONG THE LENGTH OF THE PROJECT THAT REQUIRES EROSION AND SEDIMENT CONTROL MEASURES OR STABILIZATION. SLOPES THAT REQUIRE STABILIZATION SHOULD HAVE THE PROCEDURE PERFORMED AS SOON AS POSSIBLE AFTER COMPLETION OF THE GRADING IN THAT AREA. THE CONTRACTOR SHALL KEEP THE EXISTING ROADWAY FREE FROM BUILD-UP OF SOIL.

EROSION AND SEDIMENT CONTROL MEASURES

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE MINIMUM STANDARDS OF THE HANDBOOK SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE FROM ISLE OF WIGHT COUNTY.

EROSION AND SEDIMENT CONTROL NARRATIVE

ALL EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THIS PLAN SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE VDOT ROAD AND BRIDGE STANDARDS AND VIRIGNIA EROSION AND SEDIMENT CONTROL HANDBOOK.

THE CONTRACTOR SHALL OBTAIN A LAND DISTURBANCE PERMIT FROM THE ISLE OF WIGHT COUNTY DEPARTMENT OF PUBLIC WORKS PRIOR TO ANY LAND DISTURBING ACTIVITIES AND PROVIDE AT LEAST 48 HOUR ADVANCE NOTIFICATION TO SCHEDULE AN ON-SITE PRE-CONTRUCTION MEETING, WHICH THE CERTIFIED LAND DISTURBER IS REQUIRED TO ATTEND. THE ISLE OF WIGHT COUNTY E&S INSPECTOR HAS THE AUTHORITY TO ADD OR REMOVE ANY E&S MEASURES AS DEEMED NECESSARY DURING CONSTRUCTION AS FIELD CONDITIONS MAY DICTATE. ONCE CONSTRUCTION HAS COMMENCED, THE CONTRACTOR SHALL INSPECT AND REPAIR ALL E&S MEASURES AFTER EACH RAINFALL EVENT AND AT LEAST ONCE EVERY 7 DAYS. IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, VDOT ROAD AND BRIDGE STANDARDS, VDOT SPECIFICATIONS AND E&S NOTES AND DETAILS SHOWN IN THIS PLAN, PERFORM CONSTRUCTION OPERATIONS IN THE SEQUENCE OF STEPS TO FOLLOW.

STEP 1
INSTALL ALL REQUIRED CONSTRUCTION SIGNAGE, STRIPING, AND OTHER TEMPORARY TRAFFIC CONTROL DEVICES AS DESCRIBED IN THE MAINTENANCE OF TRAFFIC (MOT) PLANS BASED ON THE SPECIFIC PHASE OF CONSTRUCTION TO BE IMPLEMENTED IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA WORK AREA PROTECTION MANUAL. THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AS DESCRIBED BELOW MAY BE COMPLETED FOR THE ENTIRE PROJECT OR WITH PHASED INSTALLATION TO MATCH MOT PLANS AS APPROVED BY COUNTY INSPECTOR.

STEP 2:
INSTALL PERIMETER SILT FENCE, PERIMETER SAFETY FENCE, CHECK DAMS AND CULVERT INLET PROTECTION OVER EXISTING CULVERT INLETS AS SEEN IN PHASE 1 PLAN SHEETS.

STEP 3:
REMOVE AND STOCKPILE TOPSOIL WITHIN THE LIMITS OF DISTURBANCE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN ENSURING ALL DENUDED AREAS ARE CONTAINED BY SEDIMENT TRAPPING DEVICES. PERFORM INITIAL GRADING ACTIVITIES WITH INSTALLATION OF STORM SEWER PIPES/INLETS AND CULVERTS. INSTALL INLET PROTECTION OVER ALL PROPOSED STRUCTURES AS SHOWN IN THE PHASE 2 E&S PLANS.

STEP 4:
CONTINUE GRADING OPERATIONS ONCE STORM SEWER IS IN PLACE WITH E&S MEASURES ENSURING POSITIVE DRAINAGE TO SEDIMENT TRAPPING DEVICES AT ALL TIMES. FOR GRADING OF OPEN DRAINAGE DITCH SECTIONS, INSTALL CHECK DAMS IN THE LOCATIONS SHOWN. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF EXCAVATIONS. FOR AREAS TO BE LEFT UNSTABILIZED FOR UP TO 30 DAYS, TEMPORARY SEEDING SHALL BE REQUIRED.

STEP 5:
ONCE ROADWAY CURB & GUTTER AND OTHER PERIMETER CONCRETE ITEMS HAVE BEEN INSTALLED WITH PHASE 2 E&S MEASURES REMAINING IN PLACE, PREPARE SUBGRADE AND INSTALL SUBBASE AGGREGATE BASE MATERIALS AND ASPHALT COURSES UP TO INTERMEDIATE COURSE.

STEP 6:
PERFORM MILL AND OVERLAY OPERATION AND INSTALLATION OF SURFACE COURSE OF ASPHALT IN ACCORANCE WITH SEQUENCE OF CONSTRUCTION PLAN AND CROSS-SECTIONS. INSTALL PERMANENT PAVEMENT STRIPING AND SIGNAGE, AS WELL AS PERMANENT SEEDING OF ALL GRADED AREAS.

STEP 7:
ONCE ALL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABALIZED AND APPROVAL IS GRANTED BY THE ISLE OF WIGHT COUNTY E&S INSPECTOR, THE CONTRACTOR MAY REMOVE ALL E&S MEASURES AND TRAFFIC CONTROL DEVICES.

Outlet Protection Calculations

Structure	2 Year Velocity (fps)	EC-1 Class	Thickness (inch)	Culvert Type	Span (ft)	Rise (ft)	Flow Area (ft^2)	Type of Installation	OP Width (ft)	OP Length (ft)	OP Weight (ton)
4-3	9.55	I	26	Circular	3	3	7.07	B	9.00	15.00	22.00
4-4	6.11	AI	20	Circular	1.25	1.25	1.23	A	3.75	3.75	2.00
4-5	1.51	AI	20	Circular	1.25	1.25	1.23	A	3.75	3.75	2.00
4-6	8.46	I	26	Circular	1.5	1.5	1.77	A	4.50	4.50	4.00
4-8	9.05	I	26	Circular	1.25	1.25	1.23	A	3.75	3.75	3.00

LEGEND

- TSF-A / TSF-B — Temporary Silt Fence, St'd EC-5 Type A or B
- SAF — Temporary Safety Fence (Plastic Polyethylene)
- IP-A / IP-B / IP-C — Inlet Protection, Type A, B, or C; St'd EC-6
- OP — Outlet Protection, St'd EC-1
- RCD-2 — Rock Check Dam, Type II; St'd EC-4

PROJECT	SHEET NO.
0460-046-724	2B(1)

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ROADSIDE DEVELOPMENT

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
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Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2C

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

CORE MIX

MIX	LBS./ ACRES	DESCRIPTION
1	▲	⚹ 100% CERTIFIED FINE FESCUE
2	▲	100% CERTIFIED TALL FESCUE
3	▲	50% CERTIFIED TALL FESCUE ⚹ 50% CERTIFIED FINE FESCUE
4	▲	50% ORCHARDGRASS 50% CERTIFIED KENTUCKY BLUEGRASS
5	▲	100% BERMUDAGRASS
C 1, 2 & 3	▲	CUSTOM MIX
T1	▲	50% CERTIFIED TALL FESCUE 50% BARLEY, WINTER RYE OR WINTER WHEAT
T2	▲	50% FOXTAIL MILLET 50% CERTIFIED TALL FESCUE

ADDITIVES

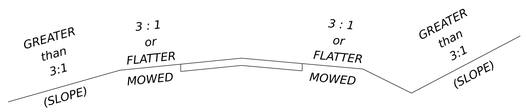
TYPE	LBS./ ACRES	DESCRIPTION
A	▲	100% LOVEGRASS
B	▲	100% BARLEY, WINTER RYE OR WINTER WHEAT
C	▲	100% FOXTAIL MILLET
D	▲	100% ANNUAL RYEGRASS
E	▲	100% BLUE GRAMA
F	▲	100% ALFALFA
G	▲	100% WHITE CLOVER
H	▲	** 100% CROWN VETCH (LEGUME)
I	▲	** 100% SEPICEA LESPEDEZA (LEGUME)
J	▲	** 100% BIRDSFOOT TREFOIL (LEGUME)
K	▲	POLLINATOR SEED MIX

⚹ FINE FESCUES INCLUDE CHEWINGS, CREEPING RED, HARD, SHEEP. SEE SEEDING SCHEDULE FOR TYPE(S) SPECIFIED FOR THIS PROJECT.

▲ ALL RATES TO BE SPECIFIED BY THE DISTRICT ROADSIDE MANAGER

** THESE ADDITIVES ARE NOT TO BE USED IN AREAS THAT WILL BE MOWED. (SLOPES 3:1 OR FLATTER)

SECTION OF SEED LOCATIONS



SEEDING SCHEDULE

CODES LISTED IN TABLE REFER TO THE LISTS OF CORE MIXES & ADDITIVES, WHICH SHOW SEED NAMES & APPLICATION RATES FOR THIS PROJECT.	SLOPES SEED MIX WITH ADDITIVE	MOWED SEED MIX WITH ADDITIVE	SLOPES SEED MIX WITH ADDITIVE	MOWED SEED MIX WITH ADDITIVE	SLOPES SEED MIX WITH ADDITIVE	MOWED SEED MIX WITH ADDITIVE	SLOPES SEED MIX WITH ADDITIVE	MOWED SEED MIX WITH ADDITIVE
	SPRING MONTH & DATE		SUMMER MONTH & DATE		FALL MONTH & DATE		WINTER/DORMANT MONTH & DATE	
	3/1 - 5/15		5/16 - 9/15		9/16 - 11/15		11/16 - 2/29	
PROJECT NUMBERS AND/OR LOCATION								
TEMPORARY SEED								
⚹ SPECIFIED TYPE(S) OF FINE FESCUE								

NOTES:

APPROXIMATELY 0.69 ACRES WILL BE DISTURBED ON THIS PROJECT AND WILL REQUIRE THE ESTABLISHMENT OF GRASSES AND/OR LEGUMES.

⚹ NOTES FOR FIELD USE ONLY

OVERSEEDING RATES SHALL BE 100 PERCENT OF THE SEED MIXTURE SUPPLIED WITHOUT FERTILIZER.

THE ENGINEER WILL REQUIRE THE CONTRACTOR TO PERFORM SUPPLEMENTAL SEEDING WHEN LESS THAN 75 PERCENT UNIFORM STAND OF THE PERMANENT GRASS SPECIFIED IN THE MIXTURES IS OBTAINED. (ANNUAL SPECIES SUCH AS, RYE AND MILLET ARE TEMPORARY VARIETIES AND REQUIRE SUPPLEMENTAL SEEDING.)

NOTES APPLY TO SCHEDULE

RECOMMENDATIONS FOR THE APPLICATION OF SEED MIXTURES (CORE MIX AND ADDITIVES), FERTILIZER, LIME, ETC. SHALL BE OBTAINED FROM THE DISTRICT ROADSIDE MANAGER.

ALL SEED, FERTILIZER, LIME, MULCH, ETC. MUST BE IN CONFORMANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS AND ANY APPLICABLE INFORMATIONAL & INSTRUCTIONAL MEMORANDA.

REGULAR SEED SHALL BE APPLIED AT THE RATES SHOWN IN THE CORE MIX, ADDITIVES, AND WHERE APPLICABLE, CUSTOM SEED MIX TABLES. SEEDING QUANTITIES SHOWN IN THE ROADSIDE DEVELOPMENT SUMMARY TABLE ARE BASED ON THE HIGHEST "NORMAL" SEEDING RATE FOR EACH CORE MIX (BY SEASON FOR BOTH MOWED AREAS AND NON-MOWED SLOPES), WITH A 25% INCREMENTAL ADJUSTMENT TO ACCOUNT FOR SEEDING PROGRESSION, SEEDING AFTER SIGN OR GUARDRAIL INSTALLATION, AND OTHER MINOR UNPLANNED DISTURBANCES.

REGULAR SEED SHALL BE FERTILIZED AT THE RATES SHOWN IN THE FERTILIZER SUMMARY TABLE. THE TOTAL FERTILIZER QUANTITIES SHOWN IN THE TABLES INCLUDES THE 25% INCREMENTAL ADJUSTMENT DESCRIBED ABOVE.

OVERSEEDING RATES SHALL BE 100% OF THE REGULAR SEED RATE WITHOUT THE INCREMENTAL ADJUSTMENT.

OVERSEEDING SHALL ONLY INCLUDE FERTILIZER ONCE, AT THE RATE SHOWN IN THE FERTILIZER SUMMARY TABLE. ADDITIONAL OVERSEEDING MAY BE DONE WITH NO FERTILIZER APPLIED, OR A SOIL TEST MAY BE PERFORMED TO DETERMINE THE SPECIFIC NUTRIENTS NECESSARY TO ESTABLISH THE GRASSES AND/OR LEGUMES.

THE ENGINEER WILL REQUIRE THE CONTRACTOR TO PERFORM SUPPLEMENTAL SEEDING WHEN LESS THAN 75% UNIFORM STAND OF THE PERMANENT GRASS (AND LEGUMES) SPECIFIED IN THE MIXTURES IS OBTAINED. (ANNUAL SPECIES SUCH AS RYE AND MILLET ARE TEMPORARY VARIETIES AND REQUIRE SUPPLEMENTAL SEEDING.)

LEGUME SEED SHALL BE INOCULATED WITH THE APPROPRIATE STRAIN AND RATE OF BACTERIA. FOR HYDROSEEDING, USE FIVE TIMES (5X) THE AMOUNT OF INOCULANT RECOMMENDED BY THE MANUFACTURER.

THE DATE SEED IS APPLIED SHALL BE USED TO DETERMINE WHETHER TO USE HULLED OR UNHULLED SEED FOR BERMUDAGRASS.

SPRING & SUMMER (3/16 TO 9/15): USE HULLED SEED, FALL & WINTER (9/16 TO 3/15): USE UNHULLED SEED.

EROSION CONTROL MULCH, AS DIRECTED BY THE ENGINEER, IS TO BE USED ON AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN 14 DAYS DURING THE DORMANT PERIOD (11/1 TO 3/15)

WHEN EROSION CONTROL MULCH IS USED, IT SHALL PROVIDE 100% COVERAGE OF ALL DENUDED AREAS.

HECP SHALL BE APPLIED ACCORDING TO THE MANUFACTERUER'S SPECIFICATIONS (OR RECOMMENDATIONS).

PER SECTION 603.03(e) OF THE VDOT SPECIFICATIONS, WHERE HECP TYPE 3 OR HECP TYPE 4 IS SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL UTILIZE THE RESPECTIVE EC-2 FOR EROSION CONTROL (EXCEPT FOR TEMPORARY SEEDING). FOR HECP TYPE 3, THE CONTRACTOR SHALL EITHER A) INSTALL HECP, TYPE 3 AT A RATE OF 1,000 LBS/ACRE ALONG WITH THE INSTALLATION OF EC-2, TYPE 3 OR B) INSTALL HECP TYPE 3 AT A RATE OF 3,000 LBS/ACRE. FOR HECP TYPE 4, THE CONTRACTOR SHALL EITHER A) INSTALL HECP, TYPE 4 AT A RATE OF 1,000 LBS/ACRE ALONG WITH THE INSTALLATION OF EC-2, TYPE 4 OR B) INSTALL HECP, TYPE 4 AT A RATE OF 3,500 LBS/ACRE. NO OTHER SUBSTITUTIONS WILL BE CONSIDERED ON THIS PROJECT FOR HECP TYPE 3 OR 4. ANY ADDITIONAL COSTS NECESSARY TO MEET THIS REQUIREMENT SHALL BE INCLUDED IN THE BID PRICE FOR THE RESPECTIVE HECP.

ROADSIDE DEVELOPMENT SUMMARY

PROJECT NUMBERS AND/OR LOCATION DESC.	REGULAR SEED	OVER SEEDING	LEGUME SEED	LEGUME OVER SEEDING	TEMPORARY SEED	TOPSOIL 2" CLASS A	LIME	FERTILIZER N NITROGEN	FERTILIZER P PHOSPHORUS	FERTILIZER K POTASSIUM	HECP (TYPE 1)	HECP (TYPE 2)	HECP (TYPE 3)	HECP (TYPE 4)
	LBS.	LBS.	LBS.	LBS.	LBS.	ACRES	TONS	LBS.	LBS.	LBS.	S. Y.	S. Y.	S. Y.	S. Y.
0460-046-724	103	83	12	10	69	0.69	3.08	66	90	45	1245	2668	3536	
TOTAL	103	83	12	10	69	0.69	3.08	66	90	45	1245	2668	3536	

⊗ DENOTES ITEM(S) TO BE PAID FOR ON THE BASIS OF PLAN QUANTITIES IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE CURRENT ROAD AND BRIDGE SPECIFICATIONS.

	PROJECT	SHEET NO.
	0460-046-724	2C

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2D(1)

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

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET (1)

The information contained in the SWPPP General Information sheets is intended to comply with the requirements of the General VPDES Permit For Discharges Of Stormwater From Construction Activities (VAR10) (the CGP) issued July 1, 2024 and VDOT's approved Annual ESC and SWM Standards and Specifications.

The SWPPP General Information sheets are to be completed and included in the construction plan set (or other such documents) for land disturbance activities that disturb an area equal to or greater than 10,000 square feet outside the Chesapeake Bay Preservation Area, or equal to or greater than 2,500 square feet in the area defined as Tidewater, Virginia in the Virginia Chesapeake Bay Preservation Act.

The VDOT RLD (as defined in the latest IIM-LD-242) will ensure that the information shown on the SWPPP General Information sheets is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the land disturbing (construction) activity. The updated/revised sheets shall be maintained with the designated record set of plans (or other such documents)for the land disturbance (construction) activity.

I certify under penalty of law that I have read and understand this document and that this document and all attachments were prepared in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I further certify that this document and all other documents related to the SWPPP, as identified on the SWPPP General Information Sheets, are maintained at the activity site, or at a location convenient to the activity site where no on-site facilities are available, and such documents will be made available for review upon request in accordance with the provisions of the General VPDES Permit for Discharges of Stormwater from Construction Activities (VAR10) when applicable. Where the SWPPP documents are not stored on-site, a copy of such documents shall be in the possession of those with day to day operational control over the implementation of the SWPPP whenever they are on site.

* or ** Duly Authorized Representative Signature"

Signature: _____
Printed Name: _____
Date:_____

(1) See Section 1, Item 12 relating to delegation of authority, and form LD-445H (Delegation of Authority).

ACRONYMS

ACE - Area Construction Engineer
AS&S - Annual Standards and Specifications
BMP - Best Management Practice
CBPA - Chesapeake Bay Preservation Act
CGP - General VPDES Permit For Discharges of Stormwater from Construction Activities (VAR10)
DEQ - Department of Environmental Quality
DHE - District Hydraulic Engineer
EPA - U.S. Environmental Protection Agency
ESC - Erosion and Sediment Control
IIM - Instructional and Informational Memorandum
NPDES - National Pollutant Discharge Elimination System
R&B - Road and Bridge
RLD - Responsible Land Disturber
SWM - Stormwater Management
SWPPP - Stormwater Pollution Prevention Plan
TMDL - Total Maximum Daily Load
VDOT - Virginia Department of Transportation
VESMP - Virginia Erosion and Stormwater Management Program
VPDES - Virginia Pollutant Discharge Elimination System
WLA - Waste Load Allocation

SECTION I GENERAL INFORMATION

1. Activity Description - The PURPOSE OF THIS PROJECT IS TO WIDEN ROUTE 258 (PRINCE BOULEVARD) TO PROVIDE LEFT TURN LANES IN BOTH DIRECTIONS AT U.S. ROUTE 460. THE WIDENING OF U.S. RTE 258 INCORPORATES A SIDEWALK ON THE EASTERN SIDE OF 258 NORTH.

2. This land disturbance (construction) activity site is located in Chesterfield County and approximately 1.55 acres will be disturbed by excavation, grading or other construction activities.

3. (Include one of the following notes as appropriate)

A. This proposed activity disturbs one acre or greater and requires coverage under the CGP as issued by the DEQ. A copy of the CGP (VAR10), the registration information (Registration Statement, LD-445 & LD-445C forms) and the permit coverage letter received from DEQ shall be maintained with other SWPPP documents for this land disturbing activity.

~~B. This proposed activity disturbs less than one acre and is exempt from coverage under the CGP as issued by the DEQ.~~

~~C.This proposed activity is exempt from coverage under the CGP as issued by the DEQ because it is considered a routine maintenance activity (i.e., the proposed activity is intended to maintain the original line and grade, hydraulic capacity or original construction of the project or involves the paving of an existing roadway with a compacted or impervious surface and the reestablishment of associated ditches and shoulders).~~

** 4. The location of support facilities that will be covered under the CGP coverage for this land disturbance (construction) activity shall be provided by the contractor and identified on a legible map. Support facilities shall include, but not be limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle washing, maintenance, storage and fueling areas, storage areas for fertilizers, fuels or chemicals, concrete wash out areas, sanitary waste facilities and any other areas that may involve land disturbance or pollutant-generating activities of its own. Must also include areas where polymers, flocculants, or other stormwater treatment chemicals will be used or stored. Only support facilities within the VDOT ROW and easements are covered under this CGP.

** 5. Written Evidence of permit coverage shall be provided by the contractor for all support activities located outside of VDOT right of way or easement in the form of the CGP coverage letter: (List VPDES Permit * or Letter from VESMP Authority stating coverage not needed)

Impaired waters, TMDLs, Exceptional waters, and Turbidity Monitoring

6. Does stormwater from this land disturbing activity discharge into surface waters that have been identified as impaired in the 2022 305(b)/303(d) Water Quality Assessment Integrated Report for Benthic Macroinvertebrates Bioassessments? (See latest DEQ Environmental Mapper)

☒ No
☐ Yes
List impaired water(s) here:

7. Does stormwater from this land disturbing activity discharge into a watershed with a TMDL waste load allocation established prior to July 1, 2024 for sediment, total suspended solids, turbidity, nitrogen or phosphorus, including all surface waters within the Chesapeake Bay Watershed?

☐ No
☒ Yes
List TMDL(s) and pollutant(s) here:
Chesapeake Bay (Sediment, Nitrogen, and Phosphorus)

8. Does stormwater from this land-disturbing activity discharge stormwater to surface waters that have been identified as Exceptional in 9VAC25-260-30.A.3.c of the Water Quality Standards regulation?

☒ No
☐ Yes
List name of surface waters:

9. If "NO" was answered in note 6, 7, and 8, then items a, b, c and d (below) shall be implemented and adhered to for this land-disturbing activity.
If "Yes" was answered in note 6, 7, or 8, then the requirements of Part I B.4.a or Part I.B.5, as applicable, of the Construction General Permit shall be implemented and the operator shall ensure the following SWPPP requirements are adhered to for this land-disturbing activity:
a. Permanent or temporary soil stabilization shall be applied to denuded areas within seven (7) days after final grade is reached on any portion of the construction site.
b. Temporary and permanent stabilization will be applied as noted and in accordance with ESC Minimum Standards 1 and 3.
c. Nutrients (e.g., fertilizers) shall be applied in accordance with manufacturers recommendations or an approved nutrient management plan and shall not be applied during rainfall events: Nutrients are being applied per the projects Roadside Development sheet.
d. Inspections shall be conducted at a frequency of (i) at least once every four (4) business days or (ii) at least once every (5) business days and no later than 24 hours following a measurable storm event. In the event that a measurable storm event occurs when there are more than 24 hours between business days, the inspection shall be conducted on the next business day: and Inspections are being completed at least every four (4) business days (C-107s are completed on Mondays and Thursdays) Representative inspections used by utility line installation, pipeline construction, or other similar linear construction activities shall inspect all outfalls.
e. Turbidity Monitoring Requirement - Undertake one of the methods identified In Part II.B.8. of the CGP for controlling and documenting construction dewatering discharges.

10. Locations of surface waters and locations where concentrated stormwater is discharged from this land disturbance (construction) activity are identified in the construction plan set (or other such site maps) for this land disturbance(construction) activity. (List name of surface waters and locations here if not shown in construction plan or other such documents).

11. The ESC and SWM plans (where applicable) for this land disturbance (construction) activity have been developed in accordance with VDOT's Annual Erosion and Sediment Control and Stormwater Management Standards and Specifications as approved by the DEQ.

12. List the RLD and other responsible parties for the land disturbance activity: (required for erosion and sediment control). The following individual(s) are "duly authorized" to sign all reports required by the CGP including the SWPPP General Information Sheets and Inspection Reports (C-107). Reference form LD-445H for Duly Authorized Representatives (form LD-445H for the project is hereby incorporated by reference into this SWPPP). These individual(s) has/have overall responsibility or the environmental matters for the project: (required only for permitted projects):

Name	Position	Qualifications (if required)	Responsibility
	RLD		Certify the SWPPP (with date & sig.)
	Certified Contractor		Sign (C-107) Inspection Form Part 1
	Certified Inspector		Sign (C-107) Inspection Form Part 1
	Certified Inspector		Sign (C-107) Inspection Form Part 2

* 13. The name of the VDOT individual(s) responsible for the oversight inspection in accordance with IIM-LD-256 on these land disturbance construction activities as identified on these SWPPP General Information Sheets. The following individual(s) are "duly authorized' to sign all reports required by the CGP including the SWPPP General Information Sheets and Inspection Reports (C-107). Reference for LD-445H for Duly Authorized Representatives (form LD-445H for the project is hereby incorporated by reference into this SWPPP). The names will be updated and maintained with the other SWPPP documents for this land disturbance activity.

VDOT Individuals	Position	Qualifications (if required)	Responsibility
	NPDES		NPDES coordinator or designee(s) responsible for the oversight inspection in accordance with IIM-LD-256
	Dist. Hyd. Engineer		District Hydraulic Engineer or designee(s)responsible for the review & the coordination approval of ESC SWM plan modification(s).
	ACE		Project Manager during Construction

* 14. The ESC and P2 inspections for this land disturbing (construction) activity shall follow (Select Schedule 1 or 2, if schedule *2 is used, void note *15) as defined in R&B Specifications identified on the title sheet except for Section 107 an Inspection Requirements Rain gauge notes apply only to Inspection Schedule 1.

If the operator must make the same repairs more than two times to the same control at the same location, even if the fix can be completed by the close of the next business day, the operator shall either:

- Complete work to fix any subsequent repeat occurrences of this same problem under the corrective action procedures in Part II H, including keeping any records of the condition and how it was corrected under Part II C: or
- Document in the inspection report under Part II G why the specific reoccurrence of this same problem should still be addressed as a routine maintenance fix.

** 15. The location of the on-site rain gage that will be used to determine the occurrence of a measurable storm event for the purposes of ESC and Pollution Prevention inspections will be provided by the contractor and identified on the record set of plans or in other appropriate SWPPP documents for this land disturbance activity: (List location of rain gage).

The rain gage shall be observed daily at " " to determine the occurrence of a measurable storm event (i.e., 0.25 inches of rainfall or greater in a 24 hour period). A log book shall be maintained to record observation information which shall include (1) the date, (2) the time, (3) whether or not rainfall is occurring at the time of the observation, (4) the amount of accumulated rainfall in the gage, if any, and (5) whether or not an inspection is required based on the amount of accumulated rainfall in the gage.

A discharge caused by snow melt (from a snow event producing 3.25 inches or more of snow within a 24-hour period). The operator is required to conduct one inspection once the discharge of snow melt occurs. Additional inspections are only required if, following the discharge from the first snow melt, there is a discharge from a separate storm event.

If there is no rainfall occurring at the time of the observation, the observation information shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage. If there is rainfall occurring at the time of the observation, the observation information is to be noted in the log book. The rain gage is not to be emptied but left to accumulate additional rainfall until the conclusion of the rainfall event. At the conclusion of the rainfall event, an observation of the rain gage shall be made and the observation information shall be noted in the log book and the rain gage emptied and replaced. An inspection is required if there is 0.25 inches or more accumulation noted in the rain gage.

16. The following VDOT documents are applicable to a) permitted projects b) non-permitted projects in Chesapeake Bay Preservation Areas (CBPA) with 2,500 S.F. to 1.0 acre of land disturbance c) non-permitted projects requiring a SWPPP and d) Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP:

VDOT LD-445: Permitted projects, CBPA projects and Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP and ESC projects > 10,000 s.f. but <1 acre.
VDOT LD-445A: Permitted projects only.
VDOT LD-445C: Projects that require a permit, ESC Plan, SWM, or SWPPP.
VDOT LD-445D: Permitted projects, CBPA projects and Non-permitted, Non-CBPA with BMP projects that have a water quantity BMP.
VDOT LD-445F: Emergency work projects (when applicable)
VDOT LD-445H: Permitted projects only.
VDOT C-107 Part I (All projects that require a SWPPP).
VDOT C-107 Part II (Only for Permitted Projects).
VDOT LD-445I: AS&S Approval Form (when applicable)
VDOT LD-445J: Off-site Support/ Material Disposal Area Activities Tracking Form

Revised 7/25/24

* Denotes information that is to be provided/completed by the RLD.

** Denotes information that is to be provided/completed by the contractor.

	PROJECT	SHEET NO.
	0460-046-724	2D(1)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET (2)

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2D(2)

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

SECTION II EROSION AND SEDIMENT CONTROL

✻✻ 1. The intended sequence and timing of activities that disturb soils at the site (e.g., grubbing, excavation, grading, utilities and infrastructure installation, etc.) shall be provided by the contractor in accordance with the current edition of Section 108 of the VDOT R&B Specifications identified on the title sheet and shall be included with the other SWPPP documents for this land disturbance (construction) activity.

2. Existing and proposed drainage patterns on the construction site and approximate slopes anticipated before and after major grading activities are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

3. Areas of soil disturbance and areas of the site which will not be disturbed are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

4. Locations of major structural and nonstructural ESC measures intended to filter, settle or similarly remove sediment are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

5. Locations where stabilization practices are expected to occur are identified in the construction plan set (or other such documents) for this land disturbance (construction) activity.

6. A description of interim and permanent stabilization practices for the site are identified in the applicable sections of the documents identified in the Note 1 of Section IV.

✻✻ 7. A record of the dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the construction site, and when stabilization measures are initiated will be provided by the contractor and maintained with the record set of plans or other SWPPP documents for this land disturbance (construction) activity: (List how this will be tracked and the location)

8. A description and schedule of procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good and effective operating conditions are identified in the current edition of Sections 107 and 303 of the VDOT R&B Specifications identified on the title sheet.

9. Nutrients shall be applied in accordance with the current edition of Sections 603, 604 and 605 of the VDOT Road and Bridge Specifications identified on the title sheet. Nutrients shall not be applied during rainfall events. Top soil shall be applied in accordance with the current edition of section 602 of the Road and Bridge Specifications identified on the title sheet.

10. All engineering calculations supporting the design of erosion and sediment control measures proposed for this land disturbance (construction) activity are contained in the project drainage file located in the (insert appropriate location, i.e., VDOT Central Office Hydraulics Section or the VDOT (specify) District Hydraulics Section or the VDOT (specify) Residency Office) and will be made available for review upon request during normal business hours.

11. The temporary erosion and siltation control items shown on the ESC Plan for this land disturbing (construction) activity are intended to provide a general plan for controlling erosion and sediment within the project limits. The ESC Plan is based on field conditions at the time of plan development and an assumed sequence of construction for the project. The contractor, in conjunction with the VDOT Project Engineer and/or ESC Inspector, shall adjust the location, quantity and type of erosion and sediment control items required based on the actual field conditions encountered at the time of construction and the actual scheduling and sequencing of the construction activities. Significant changes to the proposed ESC Plan (e.g., those that require an engineering analysis, elimination of a perimeter control, change to ESC concept that would affect the quantity or direction of flow of water) shall be submitted to the applicable District Hydraulics Engineer for review and approval. Any changes to the proposed ESC Plan must be noted on the designated record set of plans which shall be retained on the project site and made available upon request during normal business hours. Changes noted on the designated record set of plans must address certification language with initial and date by duly authorized personnel.

12. The areas beyond the project's construction limits are to be protected from siltation. Perimeter controls such as silt fence, diversion dikes, turbidity curtains, etc. shall be installed prior to any grubbing operations or other earth moving activities.

13. Temporary earthen structures such as dikes and berms are to be stabilized immediately upon installation. Stabilization may include temporary or permanent seeding, riprap, aggregate, sod, mulching, and/or soil stabilization blankets and matting in conjunction with seeding.

14. All channel relocations are to be constructed during the earliest stage of construction and shall be constructed in accordance with all applicable permit requirements and shall be constructed in the dry wherever possible. Stabilization or vegetation shall be established before flow is redirected through the constructed area as directed by the Engineer.

15. The contractor shall plan and implement his land disturbance operations in order to:
   a. Control the volume and velocity of stormwater runoff within the site to minimize erosion.
   b. Control the peak flow rates, volume and velocity of stormwater discharges to minimize erosion at outlets and in downstream channels.
   c. Minimize the amount of soil exposed.
   d. Minimize the disturbance of steep slopes.
   e. Minimize sediment discharge from the site.
   f. Provide and maintain natural buffers around surface waters, direct stormwater runoff to vegetated areas and maximize stormwater infiltration, unless infeasible.
   g. Minimize soil compaction (except ~~in~~ those areas where compaction is required by the contract documents) and preserve topsoil where feasible.

✻✻ 16. The name of the individual(s) or contractor(s) responsible for the installation and maintenance of the erosion and sediment control measures shall be supplied by the contractor and maintained with the other SWPPP documents for this land disturbance (construction) activity.

17. Soil stockpiles temporarily placed within the project area or on VDOT right of way or easement shall be identified, stabilized, and protected with sediment trapping measures.

18. A construction entrance or other approved measure shall be installed at all locations where construction vehicular traffic access routes intersect a paved or a public road in order to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or a public road surface, the road shall be cleaned thoroughly at the end of each work day by shoveling or sweeping. Removed sediment shall be disposed of in accordance with Section 106.04 of the R&B Specifications identified on the title sheet. Construction entrances shall be maintained as necessary, including the addition of additional rock, as part of routine maintenance.

19. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation (exception/variance/deviation request and DEQ approval) must be maintained with the SWPPP.

The following exceptions to the Water Quantity criteria of the VESMP Regulation have been approved by the DEQ for this land disturbance (construction) activity: (list all approved variances, exceptions, deviations and include a brief description of the variance, the date approved and the approving DEQ Office).

Type(1)	Regulation Modified(2)	Approval Date(3)	Description

(1) Type of modification (Variance from ESC regulations, or Deviation from published guidance)
(2) Section of Regulation or Guidance Document Modified (e.g. ESC Min. Std. 15)
(3) Date that variance/exception/deviation was approved by DEQ.
(4) Description and request

SECTION III POST CONSTRUCTION STORMWATER MANAGEMENT

Choose the appropriate note 1A or 1B that is applicable to the proposed post construction SWM Plan for this land disturbance (construction) activity. (Delete, strike through or mark as NA those notes not applicable.)

1. (Include one of the following notes as appropriate)

✻ A. This land disturbance activity is grandfathered under Section 9VAC25-875-490 of the VESMP Regulations and utilizes the technical criteria (Formerly Part IIC of the technical criteria) contained in Artcle 4 (9VAC25-875-670, et seq.) of the VESMP Regulations.

✻ B. This land disturbance activity utilizes the technical criteria contained in Article 3 (9VAC25-875-570, et seq.) of the VESMP Regulations (Formerly Part IIB of the technical criteria).

2. An exception for (number) pounds of phosphorus removal has been granted for this land disturbance activity by the DEQ in its letter dated (date).

3. Any variance, exception or deviation approved by DEQ must be listed below and supporting documentation (exception/variance/deviation request and DEQ approval) must be maintained with the SWPPP.

The following exceptions to the Water Quantity criteria of the VESMP Regulation have been approved by the DEQ for this land disturbance activity: (list all approved variances, exceptions/deviations and include a brief description, the date approved and the approving DEQ Office)

Type(1)	Regulation Modified(2)	Approval Date(3)	Description

(1) Type of modification (Variance, or Exception from SWM Regulations or Deviation from published guidance)
(2) Section of Regulation or Guidance Document Modified (e.g. ESC Min. Std. 15)
(3) Date that variance/exception/deviation was approved by DEQ.
(4) Description of request

4. The permanent on-site SWM facilities or off-site strategies proposed to meet the water quality/quantity requirements for this land disturbance (construction) activity are listed in Section VI.

5. A description of all post-construction stormwater management measures that will be installed during the construction process to control pollutants in stormwater discharges after construction operations have been completed is included in the construction plan set (or other such documents) for this land disturbance (construction) activity.

6. All engineering calculations supporting the design of the post-construction stormwater management measures for this land disturbance (construction) activity, including an explanation of the technical basis used to select the practices, are contained in the project drainage file located in the (insert appropriate location, i.e., VDOT Central Office Hydraulics Section or the VDOT (specify) District Hydraulics Section or the VDOT (specify) Residency Office) and will be made available for review upon request during normal working business hours.

✻ Denotes information that is to be provided/ completed by the RLD.

✻✻ Denotes information that is to be provided/completed by the contractor.

Revised 7/25/24
SWPPP Sheet 2 of 4

PROJECT	SHEET NO.
0460-046-724	2D(2)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET (3)

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2D(3)

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

The information contained in the SWPPP General Information sheets is intended to comply with the requirements of the General VPDES Permit For Discharges Of Stormwater From Construction Activities (the CGP) issued July 1, 2024 and VDOT's approved Annual ESC and SWM Standards and Specifications.

The SWPPP General Information sheets are to be completed and included in the construction plan set (or other such documents) for land disturbance (construction) activities that disturb an area equal to or greater than 10,000 square feet outside the Chesapeake Bay Preservation Area, or equal to or greater than 2,500 square feet in the area defined as Tidewater, Virginia in the Virginia Chesapeake Bay Preservation Act.

The VDOT RLD will ensure that the information shown on the SWPPP General Information sheets is updated/revised as necessary in order to reflect changes that may occur during the construction phase of the land disturbing (construction) activity. The updated/revised sheets shall be maintained with the designated record set of plans (or other such documents) for the land disturbance (construction) activity.

SECTION IV SWPPP

1. All documents related to the SWPPP for this land disturbance (construction) activity shall be maintained at the activity site and shall be readily available for review upon request during normal business hours. Such documents include, but are not limited to, the construction plans (or other such documents), the ESC Plan, the Pollution Prevention Plan, the post construction SWM Plan (if applicable), the VDOT R&B Standards and Specifications, Supplemental Specifications, Special Provisions and Special Provision Copied Notes. Documents related to stormwater pollution prevention which are not a part of those documents referenced above, such as copies of the CGP coverage letter (when applicable) and the CGP (when applicable) and those required to be developed by the contractor for pollution prevention associated with any support facilities being included in the CGP coverage for this land disturbance (construction) activity are to be maintained at the activity site with the other SWPPP documents for this land disturbance (construction) activity. Where no facilities are available at the activity site to maintain the SWPPP documents, they are to be kept by or with the designated RLD at a location convenient to the activity site where they would be made available for review upon request during normal business hours.

2. The SWPPP and any subsequent amendments, modifications and updates shall be signed and certified as necessary to comply with the CGP, and shall be implemented from commencement of land disturbance until termination of CGP coverage or completion of land disturbance (construction) activities where no CGP coverage is required.

✱✱ 3. For all support facilities that will be included in the CGP coverage for this land disturbance (construction) activity, the contractor shall develop a SWPPP in accordance with, but not limited to, Section 106 and 107 of the VDOT Road and Bridge Specifications identified on the title sheet. The SWPPP for the support facilities shall be maintained with and become a component of the SWPPP for this land disturbance (construction) activity. Support facilities shall include, but not be limited to, borrow and disposal areas, construction and waste material storage areas, equipment and vehicle washing, maintenance, storage and fueling areas, storage areas for fertilizers, fuels or chemicals, concrete wash out areas, sanitary waste facilities and any other areas that may generate a stormwater or non-stormwater discharge directly related to the construction site.

4. For those land disturbing (construction) activities requiring coverage under the CGP, the SWPPP shall be made available for review upon the request of the DEQ, the EPA, the VESMP Authority, the VESCP Authority, local government officials or the operator of a municipal separate storm sewer system (MS4) receiving discharge from the construction site.

✱ 5. For those land disturbing (construction) activities requiring coverage under the CGP, the VDOT RLD shall post, or have posted, a copy of the CGP coverage letter and a copy of a completed LD-445A form, noting the name and contact information for the VDOT person responsible for the land disturbing (construction) activity and its SWPPP, outside the project's construction office along with other Federal and State mandated information. The copy of the notice of coverage letter shall be visible such that it can be readily viewed from a public right-of-way. Where there is no construction office (e.g., a maintenance activity), the permit coverage letter and the LD-445A form are to be maintained with the other SWPPP documents for the land disturbing (construction) activity.

6. The SWPPP shall be made available for review by the public upon request. Such reviews shall be at a time and publicly accessible location convenient to the public and shall be scheduled during normal business hours and no less than once per month.

SECTION V - POLLUTION PREVENTION PLAN

1. The following non-stormwater discharges from this land disturbing (construction) activity and any support facilities covered by this permit are prohibited:
   a. Wastewater from concrete washouts.
   b. Wastewater from the washout or clean out of stucco, paint, from release oils, curing compounds and other construction materials.
   c. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance.
   d. Oils, toxic substances or hazardous substances from spills or other releases.
   e. Soaps, solvents or detergents used in equipment and vehicle washing.
   f. There shall be no discharge of floating solids or visible foam in other than trace amounts.

2. The following non-stormwater discharges from this land disturbing (construction) activity and any support facilities are allowed when discharged in compliance with this CGP:
   a. Discharges from emergency fire fighting activities.
   b. Fire hydrant flushings managed to avoid an instream impact.
   c. Waters used to wash vehicles or equipment, provided no soaps, solvents or detergents are used and the wash water is filtered, settled or similarly treated prior to discharge.
   d. Water used to control dust that is filtered, settled or similarly treated prior to discharge.
   e. Potable water including uncontaminated waterline flushings managed in a manner to avoid stream impacts.
   f. Routine external building wash down, provided no soaps, solvents or detergents are used, external building surfaces do not contain hazardous substances, and the wash water is filtered, settled or similarly treated prior to discharge.
   g. Pavement wash waters, provided spills or leaks of toxic or hazardous materials have not occurred (unless all spilled or leaked material is removed prior to washing), soaps, solvents or detergents are not used and the wash water is filtered, settled or similarly treated prior to discharge.
   h. Uncontaminated air conditioning or compressor condensate.
   i. Uncontaminated ground water or spring water.
   j. Foundation or footing drains, provided flows are not contaminated with process materials such as solvents or contaminated groundwater.
   k. Uncontaminated excavation dewatering, including dewatering trenches and excavations that are filtered, settled or similarly treated prior to discharge.
   l. Landscape irrigation.

✱✱ 3. The contractor shall develop a Pollution Prevention Plan to address any operations that have a potential to generate a pollutant that may reasonably be expected to affect the quality of stormwater discharges from this land disturbance (construction) activity. The Pollution Prevention Plan shall be developed in accordance with, but not limited to, Sections 106 and 107 of the VDOT Road and Bridge Specifications identified on the title sheet and shall include a narrative with appropriate plan detail and shall:
   a. Identify the potential pollutant-generating activities and the pollutant that is expected to be exposed to stormwater.
   b. Describe the location where the potential pollutant-generating activities will occur, or if identified on the record set of plans, reference the record set of plans.
   c. Identify all non-stormwater discharges, as described in note two of this section, that are or will be commingled with stormwater discharges from the construction activity, including any on-site support activities.
   d. Identify the person(s) or contractor(s) responsible for implementing and maintaining the pollution prevention practices for each pollutant-generating activity.
   e. Describe the pollution prevention practices and procedures that will be implemented to:
      1) Prevent and respond to leaks, spills, and other releases, including procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases, and procedures for reporting leaks, spills, and other releases in accordance with Section 107 of the VDOT Road and Bridge Specifications identified on the title sheet and the requirements within the CGP.
      2) Prevent the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities.
      3) Prevent the discharge of soaps, solvents, detergents, and wash water from construction materials, including procedures for the clean-up of stucco, paint, form release oils, and curing compounds.
      4) Minimize the discharge of pollutants from vehicle and equipment washing, wheel wash water, and other types of washing.
      5) Direct concrete wash water into a leakproof container or leakproof settling basin designed so that no overflows can occur due to inadequate sizing or precipitation. Hardened concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wastes. Liquid concrete wastes shall be removed and disposed of in a manner consistent with the handling of other construction wash waters and shall not be discharged to surface waters, disposed of through infiltration, or otherwise disposed of on the ground.
      6) Minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials, and wastes including building products (such as asphalt sealants, copper flashing, roofing materials, adhesives, and concrete admixtures), pesticides, herbicides, insecticides, fertilizers, landscape materials, construction and domestic wastes (such as packaging materials), scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.
      7) Prevent the discharge of fuels, oils, and other petroleum products, hazardous or toxic wastes, waste concrete and sanitary wastes.
      8) Address any other discharge from any potential pollutant-generating activity not listed herein.
      9) Minimize the exposure of waste materials to precipitation by closing or covering waste containers during precipitation events and at the end of the business day, or implementing other similarly effective practices. Minimization of exposure is not required in case where the exposure to precipitation will not result in a discharge of pollutants.
      10) Describe and implement procedures for providing pollution prevention awareness (including but not limited to prevention practices, disposal practices and appropriate disposal locations) for all applicable wastes (including any wash water), to appropriate personnel.

✱ Denotes information that is to be provided/completed by the RLD.

✱✱ Denotes information that is to be provided/completed by the contractor.

Revised 7/25/24
SWPPP Sheet 3 of 4

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
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STORMWATER POLLUTION PREVENTION PLAN (SWPPP) GENERAL INFORMATION SHEET (4)

BRIAN COPELAND
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COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	2D(4)

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

SECTION VI - PERMANENT BMP INFORMATION △

✳ Denotes information that is to be completed by the RLD.
( ) See note referenced by number in parentheses.

INSTALLED BMP INFORMATION
(VDOT Owned/Operated)

Plan Sheet(s)	✳ Date BMP Made Functional	Type of BMP Installed (See Table A, C, or D)	Geographic Location (County or City)	Latitude/Longitude (1) LAT	Latitude/Longitude (1) LONG	VA 6th Order HUC (7)	Receiving Water (2)	Name of Impaired Water (9)	Acres Treated Per BMP (3) Impervious	Acres Treated Per BMP (3) Pervious	Acres Treated Per BMP (3) TOTAL	✳ BMP Maintenance ID Number (10)	BMP Maintenance and Inspection Manual (11) SECTION
4		DETENTION	ISLE OF WIGHT	36.8129	-76.7501	JL-46	LAKE PRINCE		2.30	2.08	4.38		

ALTERNATIVE BMP INFORMATION

Plan Sheet(s)	Date	Type of BMP Installed (See Table B)	Geographic Location (County or City) (5)	Latitude/Longitude (1) (5) LAT	Latitude/Longitude (1) (5) LONG	VA 6th Order HUC (5) (7)	Receiving Water (2)	Name of Impaired Water (9)

Perpetual Nutrient Credits Acquired for Project

Name of Nutrient Credit Generating Entity (6)	Nutrient Credits (lbs./TP./year) Acquired (6) (12)
	0.73

△ Any changes to the proposed SWM Plan or BMPs necessitated during the construction phase of the project that affects the proposed construction details or potentially affects the information shown in the BMP Tables A and/or B shall be coordinated by the VDOT RLD with the appropriate VDOT District Hydraulics Engineer. The construction plans and the BMP Tables A and/or B are to be formally revised to reflect any authorized/ approved changes to the proposed SWM Plan and/or the proposed BMP construction details. All plan revisions shall be completed in accordance with the Road Design Manual and the Construction Division IIM-CD-2013-12.01, signed and sealed in accordance with Department's sealing and signing policy IIM-LD-243 and filed with the construction record drawings maintained in the VDOT Central Office Plan File Room (ProjectWise). Prior to submitting for termination of coverage under the CGP, the RLD shall have the District Maintenance Division (Infrastructure Manager or Designee) along with the ACE, DHE, and the NPDES coordinator review the BMPs installed with the project for acceptance of maintenance responsibility and to obtain a Maintenance ID number for each BMP listed in BMP Table A. The RLD shall use the information in BMP Tables A and B along with the assigned Maintenance ID number and the date that the BMP became functional as a permanent control measure (for BMPs in Table A only) to complete the LD-445D form when certifying the construction of the BMPs and submitting for termination of coverage under the CGP.

Table A: Permanent BMP Types
(1999 Va. SWM Handbook)
Bio-retention Basin
Bio-retention Filter
Constructed Stormwater Wetlands
Extended Detention Basin
Extended Detention Basin Enhanced
Grassed Swale
Infiltration Basin
Infiltration Trench
Manufactured Treatment Device (MTD) (8)
Retention Basin I
Retention Basin II
Retention Basin III
Sand Filter
Vegetated Filter Strip
Other Approved Types (List Type)
Detention Basin

Table B: Alternative BMP Types
Comprehensive SWM Plan (Regional) Facility
Pollutant Loading Pro Rata Share Program
Other Approved Options (List Type) (4)

Table C: Permanent BMP Types
(BMP Clearing House)
Sheet Flow to Vegetated Filter Strip (Level Spreader)
Grass Channel
Soil Compost Amendment
Permeable Pavement (Level 1)
Permeable Pavement (Level 2)
Infiltration Practice (Level 1)
Infiltration Practice (Level 2)
Bioretention (Level 1)
Bioretention (Level 2)
Dry Swale (Level 1)
Dry Swale (Level 2)
Wet Swale (Level 1)
Wet Swale (Level 2)
Filtering Practice (Level 1)
Filtering Practice (Level 2)
Constructed Wetlands (Level 1)
Constructed Wetlands (Level 2)
Extended Detention Pond (Level 1)
Extended Detention Pond (Level 2)
Wet Pond (Level 1)
Wet Pond (Level 2)
Manufactured Treatment Device (MTD)(8)
Other Approved Types (List Type)

*Table D: Permanent Post-Construction BMP Types
(Virginia Stormwater Management Handbook, Ver. 1.0)
Constructed Wetland
Wet Pond
Extended Detention Pond
Rainwater Harvesting
Grass Channel
Dry Swale
Wet Swale
Regenerative Stormwater Conveyance
Rooftop/Impervious Surface Disconnection
Vegetated Roof
Permeable Pavement
Infiltration Practices
Bioretention
Filtering Practices
Sheet Flow to Vegetated Filter Strip/ Conserved Open Space
Soil Compost Amendment
Tree Planting
Earthen Embankment
Principal Spillway
Vegetated Emergency Spillway
Pretreatment
Quantity-Only Approach to BMPs
MTD-H Hydrodynamic Devices
MTD-F Filtering Devices
MTD-B Biofilter Devices

*Designer may not mix methods from Tables A, B and C with methods from Table D.

NOTES:
(1) In decimal degrees to the nearest one ten-thousandth of a degree.
(2) For streams with no names, list "(Unnamed Tributary to downstream name)".
(3) Show acres treated to the nearest one hundredths acre.
(4) Include agreements with off-site BMP owners.
(5) Information pertains to the alternative BMP option location, where applicable.
Exception - Not required for nutrient credit purchase option.
(6) Applies to the purchase of nutrient credits only.
(7) Virginia 6th Order HUC (VAHU6) Example - YO30.
(8) Final approved shop drawings of Manufactured Treatment Devices (MTDs) are to be included with the BMP information submitted with the LD-445D form.
(9) List the name of any impaired water to which the BMP discharges. The determination of impaired water shall be based on those surface waters identified as impaired in the 2022 305(b)/303(d) Water Quality Assessment Integrated Report for Benthic Macroinvertebrates Bioassessments and shall be the first named waterbody to which the BMP discharges.
(10) BMP Maintenance ID Number is to be assigned by the District Maintenance Division at permit termination or project completion. This ID number shall be assigned prior to the permit close out process and entered by the area construction engineer under this column, per IIM-LD-195.
(11) Provide the section of the manual that pertains to the type of BMP. The manual can be found at https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/technical-guidance-documents/maintenance/VDOT_-BMP_-Manual_acc.pdf in the Maintenance selections. Example: Section 4 would be noted for the maintenance and inspection manual for a Bioretention I infiltration BMP.
(12) Nutrient credits purchased to the nearest one hundredth pound.
(13) If level spreader is utilized as part of sheet flow to vegetative filter strip, report under that BMP type Table C.
(14) If several level spreaders are in close proximity, they may be combined for recording purposes; however each level spreader shall have individual lat/longs reported.

Revised 7/25/24
SWPPP Sheet 4 of 4

PROJECT	SHEET NO.
0460-046-724	2D(4)

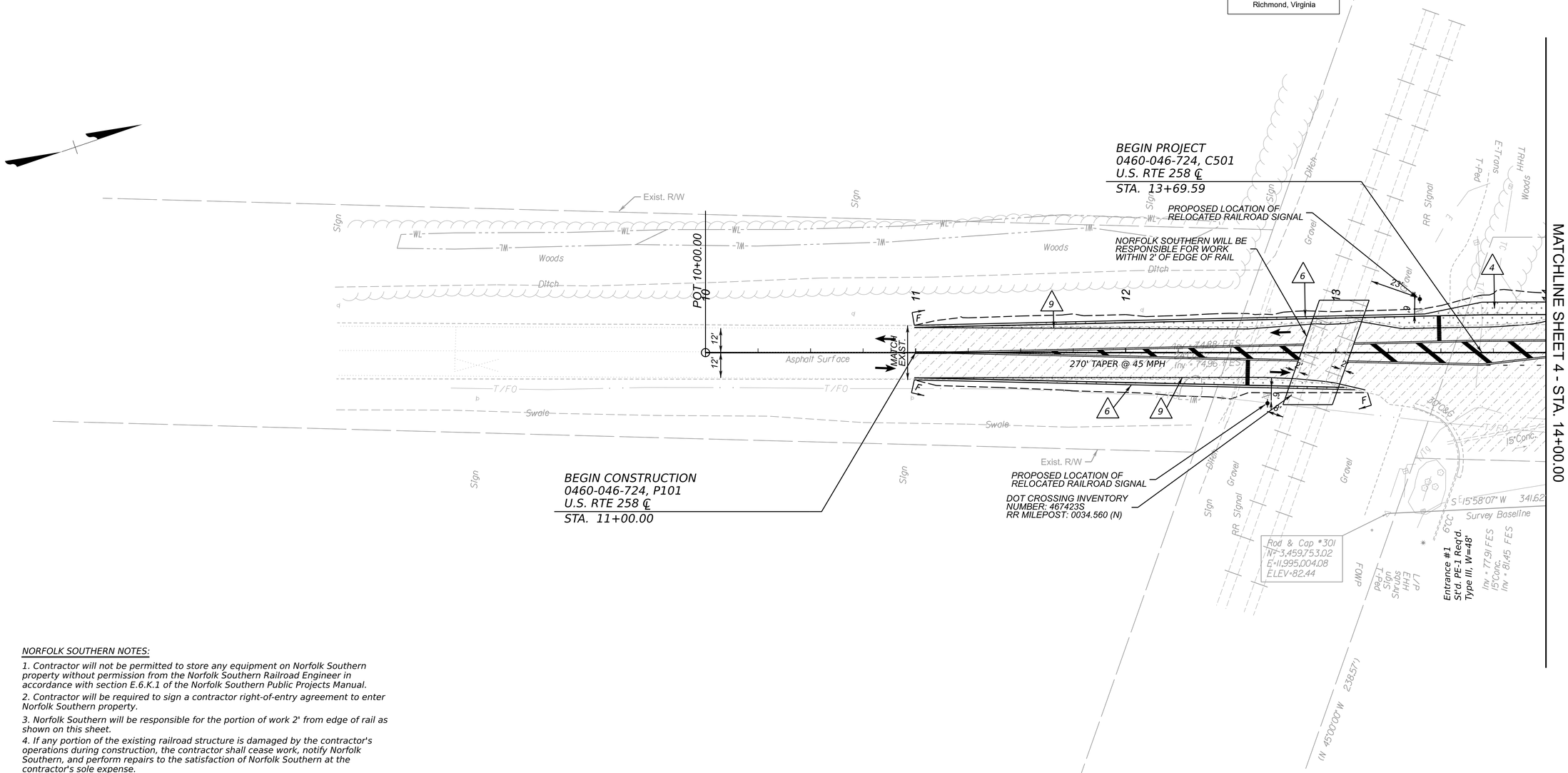
PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
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SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
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Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	3

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



NORFOLK SOUTHERN NOTES:

1. Contractor will not be permitted to store any equipment on Norfolk Southern property without permission from the Norfolk Southern Railroad Engineer in accordance with section E.6.K.1 of the Norfolk Southern Public Projects Manual.
2. Contractor will be required to sign a contractor right-of-entry agreement to enter Norfolk Southern property.
3. Norfolk Southern will be responsible for the portion of work 2' from edge of rail as shown on this sheet.
4. If any portion of the existing railroad structure is damaged by the contractor's operations during construction, the contractor shall cease work, notify Norfolk Southern, and perform repairs to the satisfaction of Norfolk Southern at the contractor's sole expense.

LEGEND

1. Prop. 5' Conc. Sidewalk
2. Prop. St'd. CG-12, Type B, Curb Ramp Req'd.
3. Prop. St'd. CG-6 Req'd.
4. Prop. 6' Paved Shoulder
5. Prop. St'd. CG-2 Req'd.
6. Prop. 1' Paved Shoulder
7. Prop. UD-4
8. Prop. EW-12
9. Prop. Sawcut
10. Prop. St'd. SI-2 Sign Island

Denotes New Concrete
Denotes Pavement Resurfacing
Denotes New Pavement
Denotes Demolition

C ---- Denotes Construction Limits in Cuts
F ---- Denotes Construction Limits in Fills
EC-2 TYPE 1 LINING

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

Mainline Profile	3A
ESC Plan	3B
Entrance Profiles	7

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	3

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

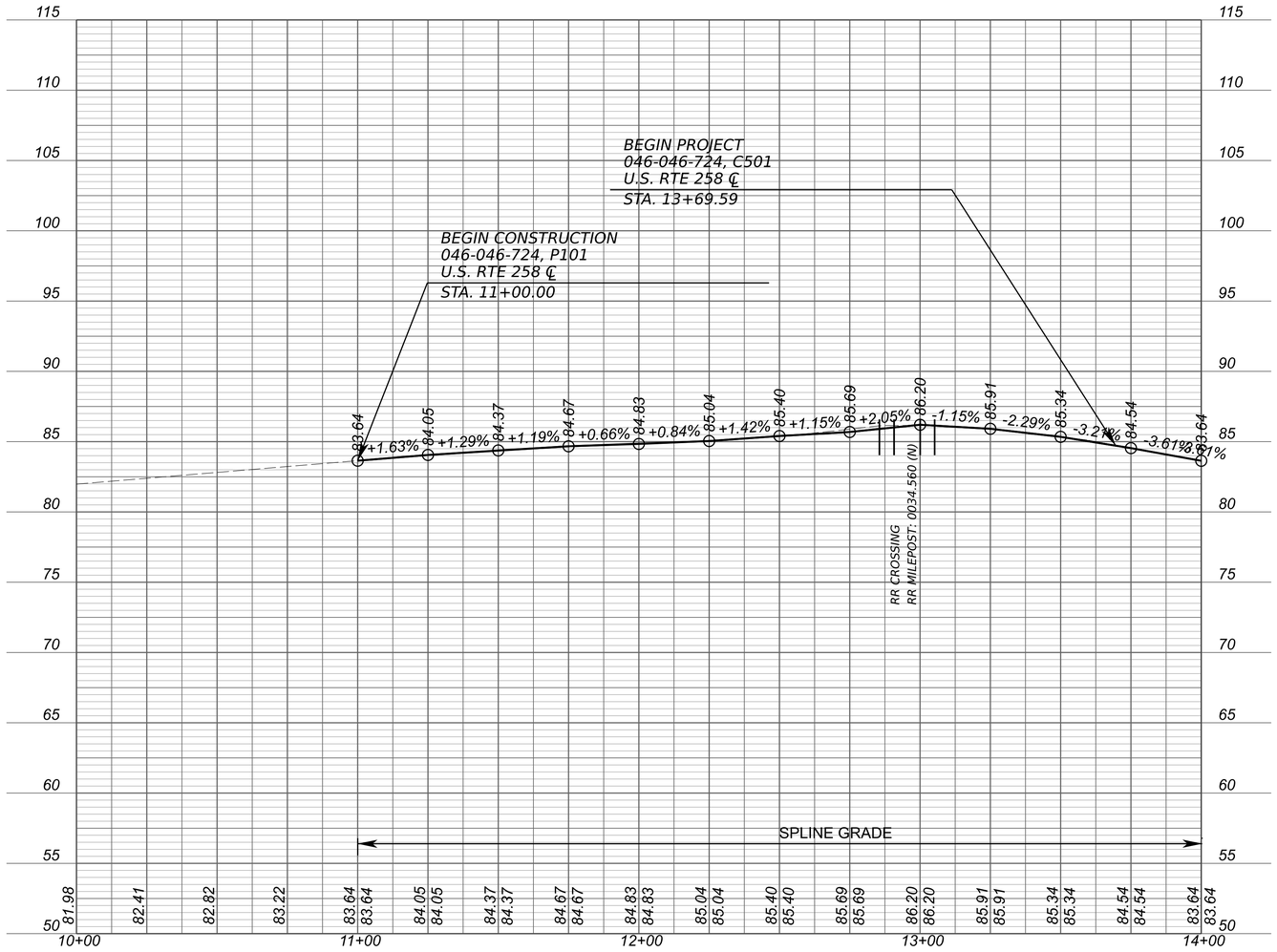
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Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	3A

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

S PRINCE BLVD (US RTE 258)



HORIZONTAL SCALE: 1" = 25'
VERTICAL SCALE: 1" = 5'

PROJECT	SHEET NO.
0460-046-724	3A

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
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EROSION & SEDIMENT CONTROL PLAN

COMMONWEALTH OF VIRGINIA
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Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	3B

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

NOW OR FORMERLY
WILLIAM H.GOODMAN ESTATE
C/O LOWELL GOODMAN
D.B.131 PG.246
P.B.5 PG.50
PARCEL ID: 53-01-056
37.74 ACRES PER TAX RECORDS

NOW OR FORMERLY
CLYDE A.BRACEY,SR.ESTATE
C/O NANCY PRUDEN
D.B.145 PG.163
D.B.153 PG.163 (COMM.OF VA)
PARCEL ID: 54B-01-262
18.10 ACRES PER TAX RECORDS

NOW OR FORMERLY
CCJ LLC
INST.#100001982
P.C.2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

NORFOLK SOUTHERN RAILWAY COMPANY
VARIABLE WIDTH RIGHT OF WAY

MATCHLINE SHEET 4B - STA. 14+00.00

POT 10+00.00

Exist. R/W
Sign
Woods
Ditch
Swale
80ft
12'
Asphalt Surface
MATCH EXIST.
TSF-A
LOD
IP-C
RR Signal
Gravel
Grass
Shrubs
Inv = 74.88 FES
24"Conc.
Inv = 74.96 FES
Inv = 77.91 FES
15"Conc.
Inv = 81.45 FES
30"CMP
6"CC
(N 45°00'00"W 2.38.57')

LEGEND

TSF-A / TSF-B	Temporary Silt Fence, St'd EC-5 Type A or B	IP-A / IP-B / IP-C — Inlet Protection, Type A, B, or C; St'd EC-6
SAF	Temporary Safety Fence (Plastic Polyethylene)	OP — Outlet Protection, St'd EC-1
		RCD-2 — Rock Check Dam, Type II; St'd EC-4

SCALE 0 25' 50'

PROJECT	SHEET NO.
0460-046-724	3B

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

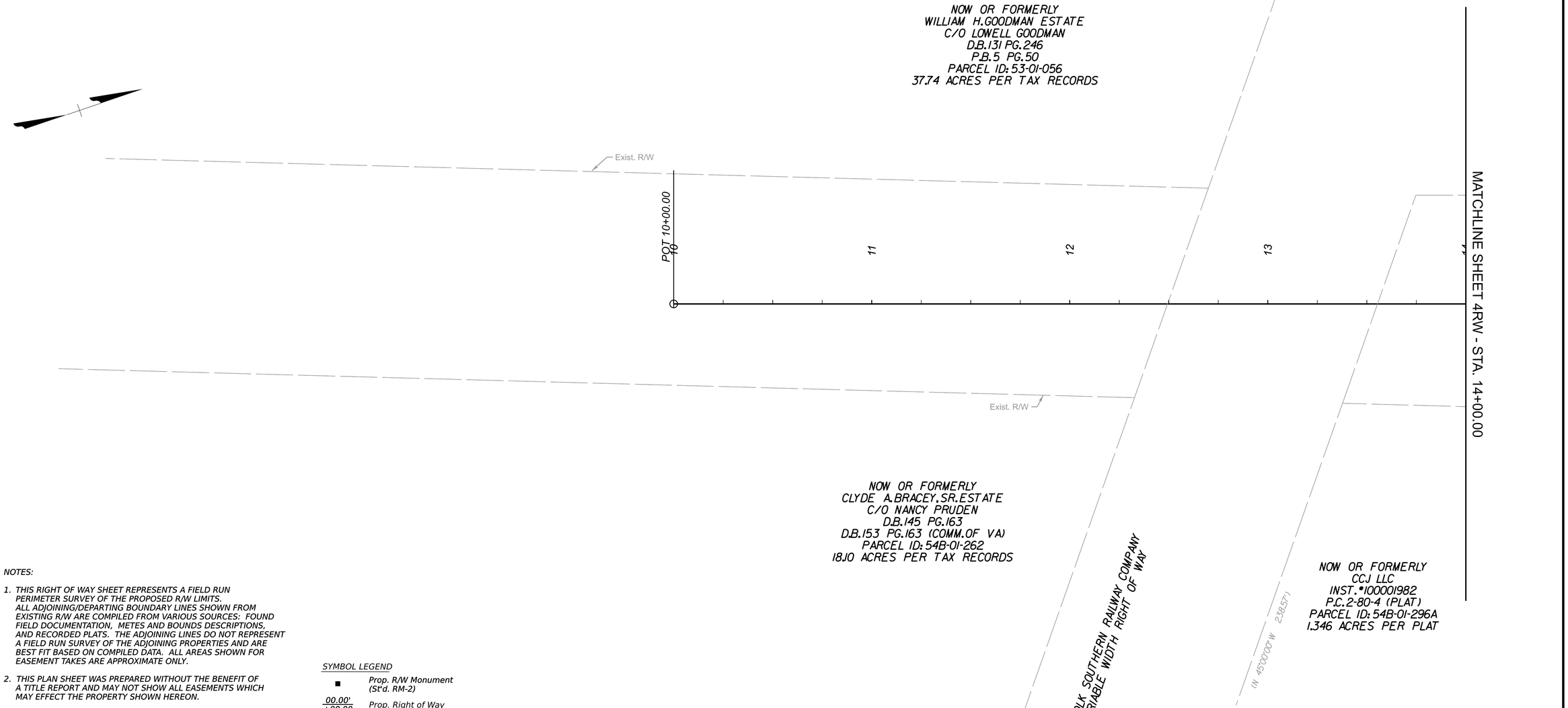
COMMONWEALTH OF VIRGINIA
William R. Herx
Lic. No. 2947
LAND SURVEYOR

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	3RW

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

NO PROPOSED RIGHT OF WAY THIS SHEET



NOTES:

1. THIS RIGHT OF WAY SHEET REPRESENTS A FIELD RUN PERIMETER SURVEY OF THE PROPOSED R/W LIMITS. ALL ADJOINING/DEPARTING BOUNDARY LINES SHOWN FROM EXISTING R/W ARE COMPILED FROM VARIOUS SOURCES: FOUND FIELD DOCUMENTATION, METES AND BOUNDS DESCRIPTIONS, AND RECORDED PLATS. THE ADJOINING LINES DO NOT REPRESENT A FIELD RUN SURVEY OF THE ADJOINING PROPERTIES AND ARE BEST FIT BASED ON COMPILED DATA. ALL AREAS SHOWN FOR EASEMENT TAKES ARE APPROXIMATE ONLY.
2. THIS PLAN SHEET WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY NOT SHOW ALL EASEMENTS WHICH MAY EFFECT THE PROPERTY SHOWN HEREON.
3. NO DESIGNATION OR LOCATION OF SUBSURFACE UTILITIES WAS PERFORMED DURING PREPARATION OF THIS PLAT.
4. ALL OF THE PROPERTIES PHYSICAL IMPROVEMENTS ARE NOT SHOWN HEREON.
5. BEARING AND DISTANCES IN PARENTHESIS ARE RECORD PLAT DATA.
6. THE INFORMATION SHOWN ON THIS PLAN SHEET WAS COMPILED FROM EXISTING LAND RECORDS AND DOES NOT REPRESENT A BOUNDARY SURVEY.
7. PROPERTY INFORMATION IS BASED ON DEEDS AND PLATS OF RECORD AND PHYSICAL EVIDENCE FOUND. ALL MONUMENTATION TO BE SET UPON COMPLETION OF CONSTRUCTION.

SYMBOL LEGEND

- ■ Prop. R/W Monument (St'd. RM-2)
- 00.00' / +00.00 Prop. Right of Way
- (00.00' / +00.00) Prop. Temp. (Constr., Entr. Reconstr.) Ease.
- [00.00' / +00.00] Prop. Perm. (Slope, Drainage) Ease.
- [[00.00' / +00.00]] Prop. Perm. (San. Sewer, Water) Ease.

Note: Figures in brackets and dot-dashed lines denote Permanent Easements.

Note: Figures in parenthesis dot-dot-dashed lines denote Temporary Easements.

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	3RW

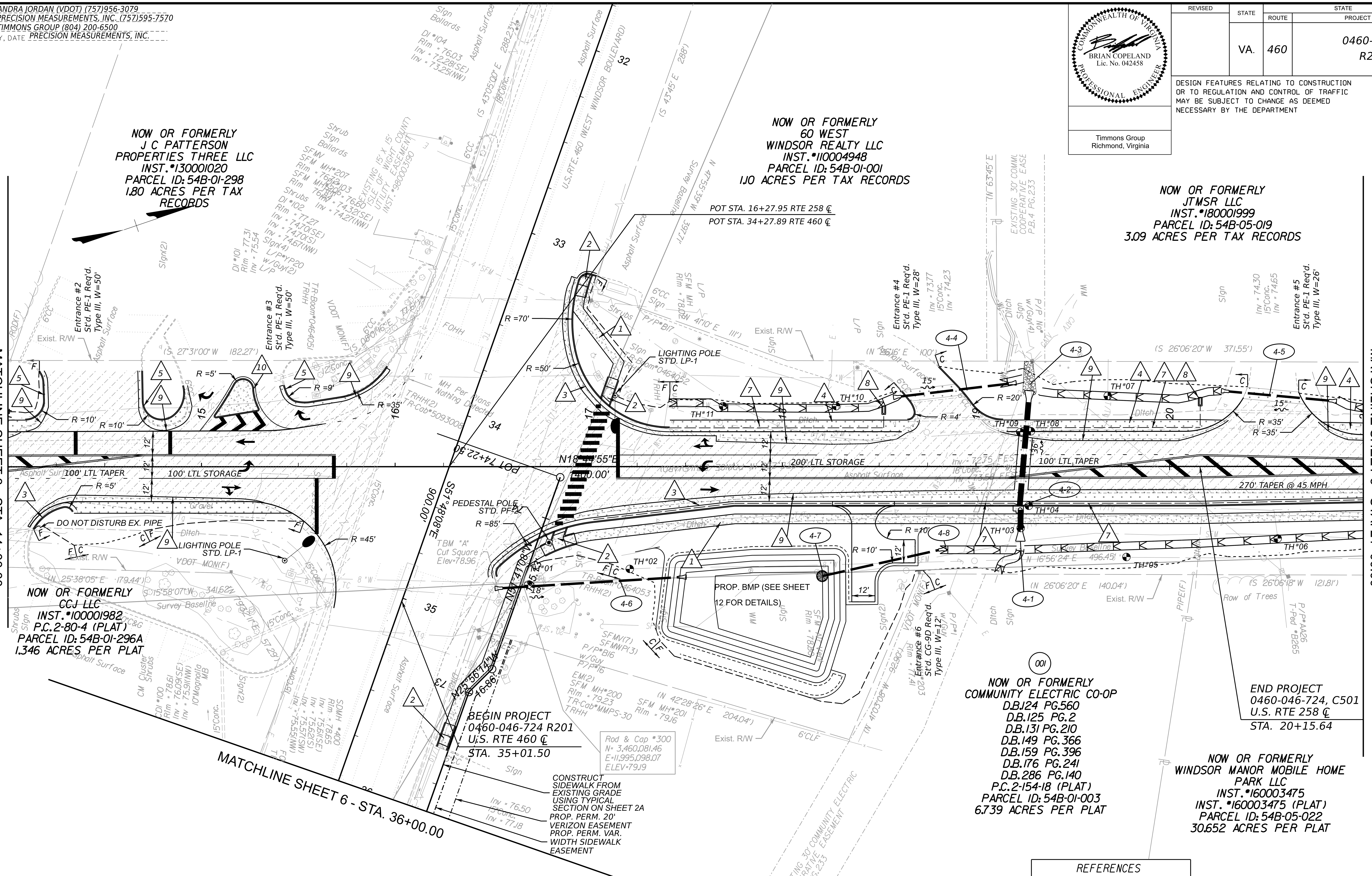
PROJECT MANAGER: CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE: PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY: TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE: PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	ROUTE	PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	4

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



LEGEND #
1. Prop. 5' Conc. Sidewalk
2. Prop. St'd. CG-12, Type B, Curb Ramp Req'd.
3. Prop. St'd. CG-6 Req'd.
4. Prop. 6' Paved Shoulder
5. Prop. St'd. CG-2 Req'd.
6. Prop. 1' Paved Shoulder
7. Prop. UD-4
8. Prop. EW-12
9. Prop. Sawcut
10. Prop. St'd. SI-2 Sign Island

Denotes New Concrete
Denotes Pavement Resurfacing
Denotes New Pavement
Denotes Demolition
Denotes Construction Limits in Cuts
Denotes Construction Limits in Fills
EC-2 TYPE 1 LINING

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

Mainline Profile	4A
ESC Plan	4B
Entrance Profiles	7

SCALE 0 25' 50'

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
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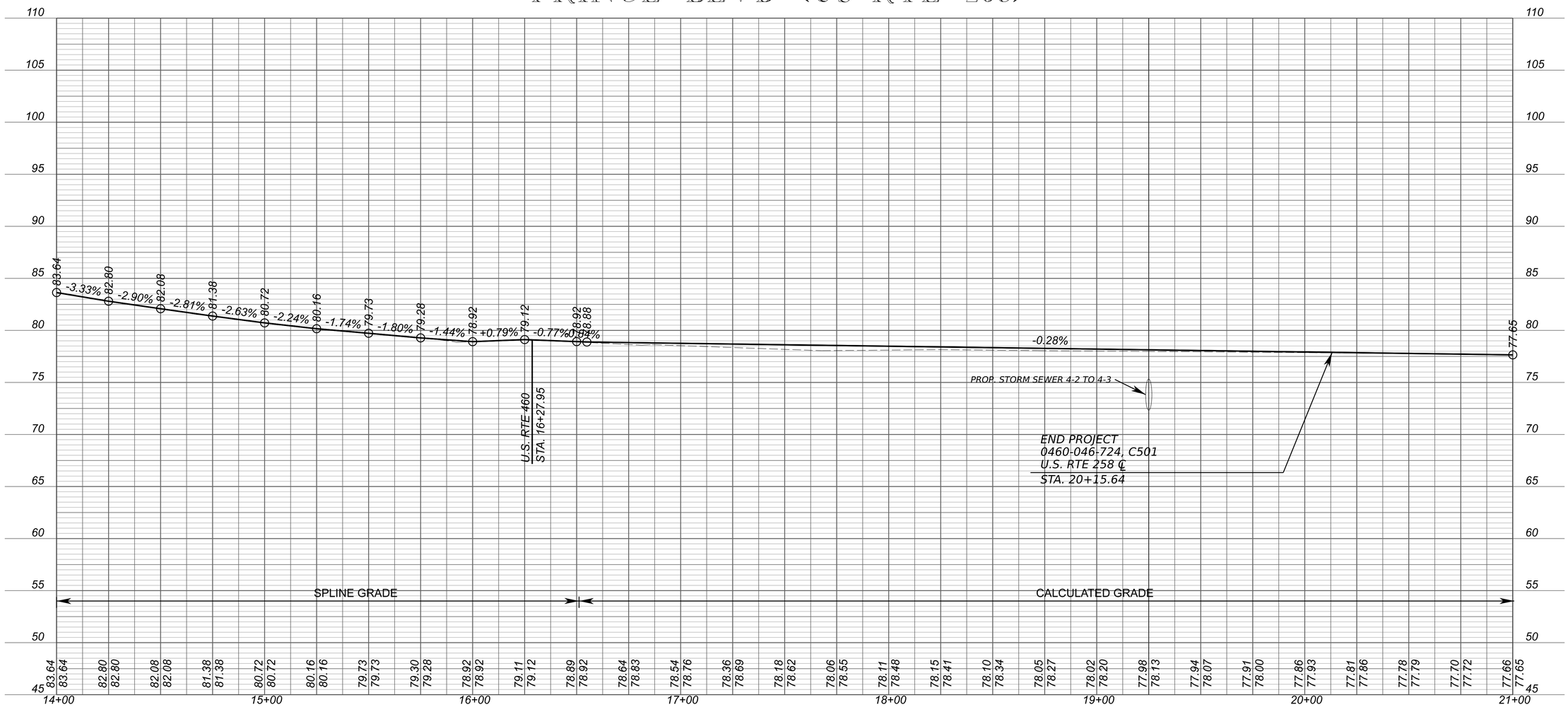
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	4A

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

PRINCE BLVD (US RTE 258)



HORIZONTAL SCALE: 1" = 25'
VERTICAL SCALE: 1" = 5'

PROJECT	SHEET NO.
0460-046-724	4A

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

EROSION & SEDIMENT CONTROL PLAN

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	4B

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

NOW OR FORMERLY
J C PATTERSON PROPERTIES THREE LLC
INST.#130001020
PARCEL ID: 54B-01-298
1.80 ACRES PER TAX RECORDS

NOW OR FORMERLY
60 WEST WINDSOR REALTY LLC
INST.#110004948
PARCEL ID: 54B-01-001
1.10 ACRES PER TAX RECORDS

NOW OR FORMERLY
JTMSR LLC
INST.#180001999
PARCEL ID: 54B-05-019
3.09 ACRES PER TAX RECORDS

NOW OR FORMERLY
CCJ LLC
INST.#100001982
P.C. 2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

NOW OR FORMERLY
COMMUNITY ELECTRIC CO-OP
D.B. 124 PG. 560
D.B. 125 PG. 2
D.B. 131 PG. 210
D.B. 149 PG. 366
D.B. 159 PG. 396
D.B. 176 PG. 241
D.B. 286 PG. 140
P.C. 2-154-18 (PLAT)
PARCEL ID: 54B-01-003
6.739 ACRES PER PLAT

NOW OR FORMERLY
WINDSOR MANOR MOBILE HOME PARK LLC
INST.#160003475
INST.#160003475 (PLAT)
PARCEL ID: 54B-05-022
30.652 ACRES PER PLAT

PROP. BMP (SEE SHEET 12 FOR DETAILS)

MATCHLINE SHEET 3B - STA. 14+00.00

MATCHLINE SHEET 5B - STA. 21+00.00

MATCHLINE SHEET 6A - STA. 36+00.00

LEGEND

- TSF-A / TSF-B — Temporary Silt Fence, St'd EC-5 Type A or B
- SAF — Temporary Safety Fence (Plastic Polyethylene)
- IP-A / IP-B / IP-C — Inlet Protection, Type A, B, or C; St'd EC-6
- OP — Outlet Protection, St'd EC-1
- RCD-2 — Rock Check Dam, Type II; St'd EC-4

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	4B

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

NO PROPOSED RIGHT OF WAY THIS SHEET

NOW OR FORMERLY
J C PATTERSON
PROPERTIES THREE LLC
INST.#130001020
PARCEL ID: 54B-01-298
1.80 ACRES PER TAX
RECORDS

NOW OR FORMERLY
60 WEST
WINDSOR REALTY LLC
INST.#110004948
PARCEL ID: 54B-01-001
1.10 ACRES PER TAX RECORDS

NOW OR FORMERLY
JTMSR LLC
INST.#180001999
PARCEL ID: 54B-05-019
3.09 ACRES PER TAX RECORDS

NOW OR FORMERLY
CCJ LLC
INST.#100001982
P.C. 2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

001
NOW OR FORMERLY
COMMUNITY ELECTRIC CO-OP
D.B.124 PG.560
D.B.125 PG.2
D.B.131 PG.210
D.B.149 PG.366
D.B.159 PG.396
D.B.176 PG.241
D.B.286 PG.140
P.C. 2-154-18 (PLAT)
PARCEL ID: 54B-01-003
6.739 ACRES PER PLAT

NOW OR FORMERLY
WINDSOR MANOR MOBILE HOME
PARK LLC
INST.#160003475
INST.#160003475 (PLAT)
PARCEL ID: 54B-05-022
30.652 ACRES PER PLAT

MATCHLINE SHEET 3RW - STA. 14+00.00

MATCHLINE SHEET 5RW - STA. 21+00.00

MATCHLINE SHEET 6RW - STA. 36+00.00

(S 43°05'00" E 288.23')
(S 43°45' E 288')
(N 8°34'45" E 308')
EXISTING 15'X 15' ISLE OF WIGHT COUNTY UTILITY EASEMENT INST.#060003190
EXISTING 30' COMMUNITY ELECTRIC COOPERATIVE EASEMENT P.B.4 PG.233
RO(F)
VDOT MON(F)
(S 91°10'30" E 77.6')
(N 4°10' E 111')
(S 27°31'00" W 182.27')
(N 26°16' E 100')
(S 26°06'20" W 371.55')
Exist. R/W
POT 74+22.50
N18°44'55"E
1400.00'
S51°48'08"E
900.00'
N51°41'08"W
105.13'
N25°56'14"W
146.86'
59.69ft +01.50
59.18ft +20.40
52.30ft +35.19
(N 42°28'26" E 204.04')
(N 25°38'05" E 179.44')
(N 79°32'11" E 57.29')
(N 26°06'20" E 140.04')
(S 26°06'18" W 121.81')
(N 4°03'08" W 92.90')
PIPE(F)
EXISTING 30' COMMUNITY ELECTRIC COOPERATIVE EASEMENT P.B.4 PG.233
32
33
34
35
74
73
15
16
17
18
19
20

NOTES:

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SYMBOL LEGEND

- ■ Prop. R/W Monument (St'd. RM-2)
- 00.00' / +00.00 Prop. Right of Way
- (00.00' / +00.00) Prop. Temp. (Constr., Entr. Reconstr.) Ease.
- [00.00' / +00.00] Prop. Perm. (Slope, Drainage) Ease.
- [[00.00' / +00.00]] Prop. Perm. (San. Sewer, Water) Ease.

Note: Figures in brackets and dot-dashed lines denote Permanent Easements.

Note: Figures in parenthesis dot-dot-dashed lines denote Temporary Easements.

PROP. PERM. VAR. WIDTH SIDEWALK EASEMENT

APPROXIMATE AREAS

PARCEL NO.	TAX PARCEL ID	FEE TAKING R/W	PRESCR. EASEMENTS	EASEMENTS				
				PERMANENT	UTILITY			TEMPORARY
				SIDEWALK	DOMINION ENERGY	VERIZON	PUBLIC UTILITY	CONSTR.
		ACRES		SQ FT.	SQ FT.	SQ FT.	SQ FT.	SQ FT.
001	54B-01-003	0.000	-	3844		-	-	

COMMONWEALTH OF VIRGINIA
William R. Herx
Lic. No. 2947
LAND SURVEYOR

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	4RW

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

SCALE 0 25' 50'

PROJECT	SHEET NO.
0460-046-724	4RW

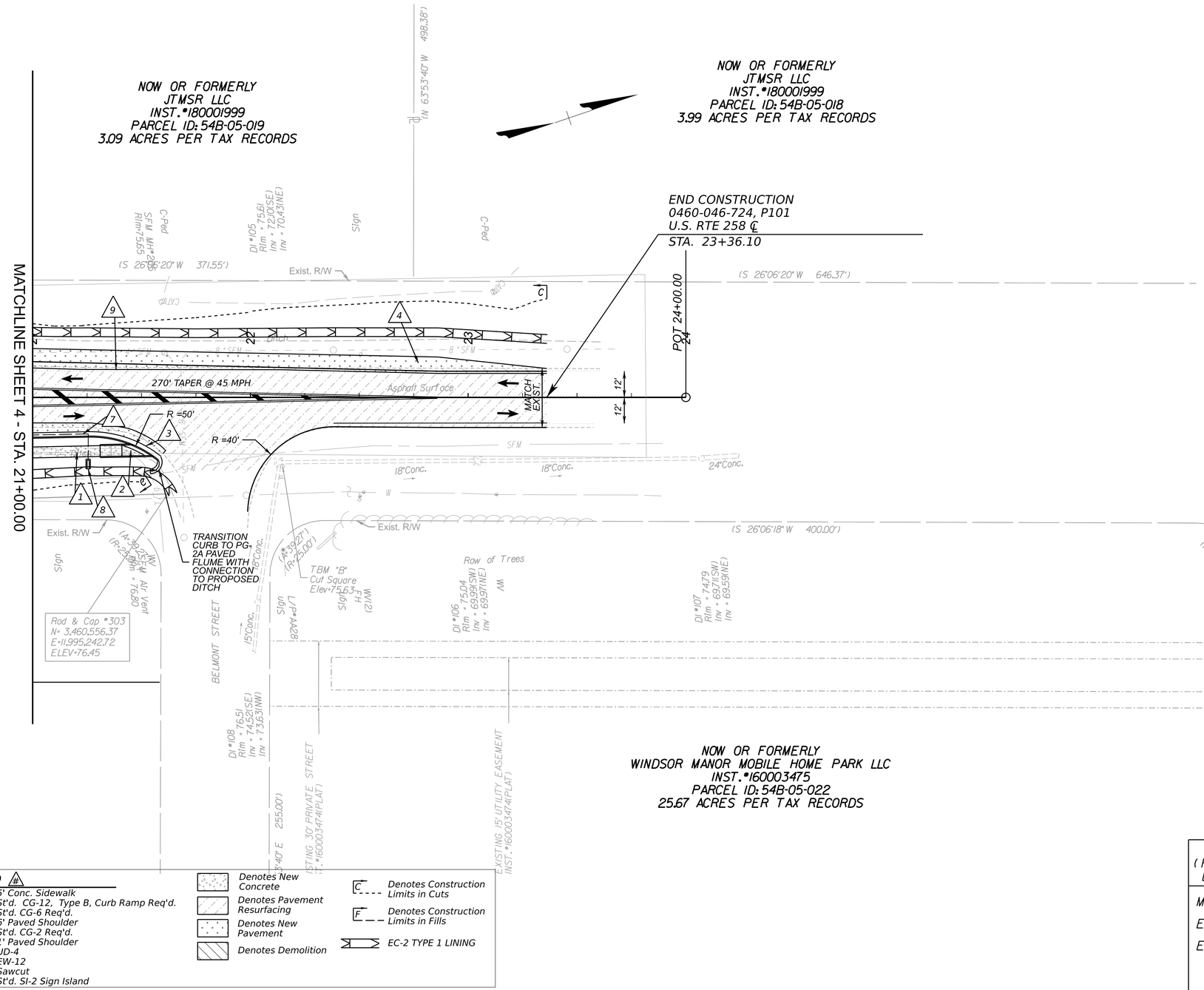
PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
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SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	5

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



LEGEND

1. Prop. 5' Conc. Sidewalk
2. Prop. St'd. CG-12, Type B, Curb Ramp Req'd.
3. Prop. St'd. CG-6 Req'd.
4. Prop. 6' Paved Shoulder
5. Prop. St'd. CG-2 Req'd.
6. Prop. 1' Paved Shoulder
7. Prop. UD-4
8. Prop. EW-12
9. Prop. Sawcut
10. Prop. St'd. SI-2 Sign Island

Denotes New Concrete
Denotes Pavement Resurfacing
Denotes New Pavement
Denotes Demolition

C ---- Denotes Construction Limits in Cuts
F ---- Denotes Construction Limits in Fills
EC-2 TYPE 1 LINING

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

Mainline Profile	5A
ESC Plan	5B
Entrance Profiles	7

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	5

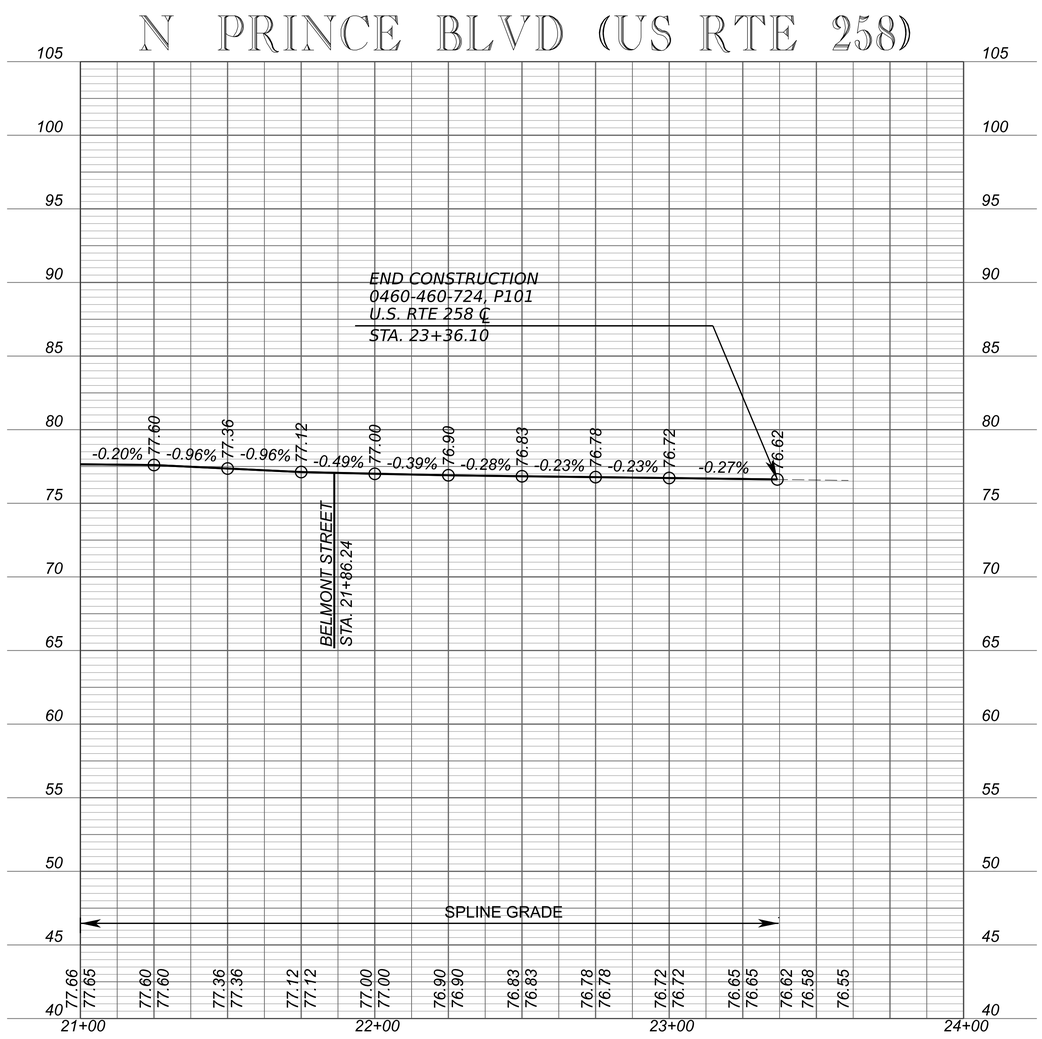
PROJECT MANAGER: CANDRA JORDAN (VDOT) (757)956-3079
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COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
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PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	5A

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



HORIZONTAL SCALE: 1" = 25'
VERTICAL SCALE: 1" = 5'

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
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EROSION & SEDIMENT CONTROL PLAN

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
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Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	5B

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

MATCHLINE SHEET 4B - STA. 21+00.00

NOW OR FORMERLY
JTMSR LLC
INST.#180001999
PARCEL ID: 54B-05-019
3.09 ACRES PER TAX RECORDS

NOW OR FORMERLY
JTMSR LLC
INST.#180001999
PARCEL ID: 54B-05-018
3.99 ACRES PER TAX RECORDS

NOW OR FORMERLY
WINDSOR MANOR MOBILE HOME PARK LLC
INST.#160003475
PARCEL ID: 54B-05-022
25.67 ACRES PER TAX RECORDS

(N 63°53'40" W 498.38')
(S 26°06'20" W 371.55')
(S 26°06'20" W 646.37')
(S 26°06'18" W 400.00')
(N 63°53'40" W 255.00')
(S 63°53'40" E 255.00')

SAF
LOD
RCD-2
Exist. R/W
Ditch
Asphalt Surface
MATCH EXIST.
POT 24+00.00
22
23
24
12'
18"Conc.
24"Conc.
15"Conc.
(A=39.27')
(R=25.00')
Sign
Row of Trees
BELMONT STREET
EXISTING 30' PRIVATE STREET INST.#160003474(PLAT)
EXISTING 15' UTILITY EASEMENT INST.#160003474(PLAT)
DI #105 Rim = 75.61 Inv = 72.10(SE) Inv = 70.43(NE)
DI #106 Rim = 75.04 Inv = 69.99(SW) Inv = 69.91(NE)
DI #107 Rim = 74.79 Inv = 69.71(SW) Inv = 69.59(NE)
DI #108 Rim = 76.51 Inv = 74.52(SE) Inv = 73.63(NW)
75ft
70ft
65ft
80ft

LEGEND

TSF-A / TSF-B	Temporary Silt Fence, St'd EC-5 Type A or B	
SAF	Temporary Safety Fence (Plastic Polyethylene)	
IP-A / IP-B / IP-C		Inlet Protection, Type A, B, or C; St'd EC-6
OP		Outlet Protection, St'd EC-1
RCD-2		Rock Check Dam, Type II; St'd EC-4

SCALE 0 25' 50'

PROJECT	SHEET NO.
0460-046-724	5B

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
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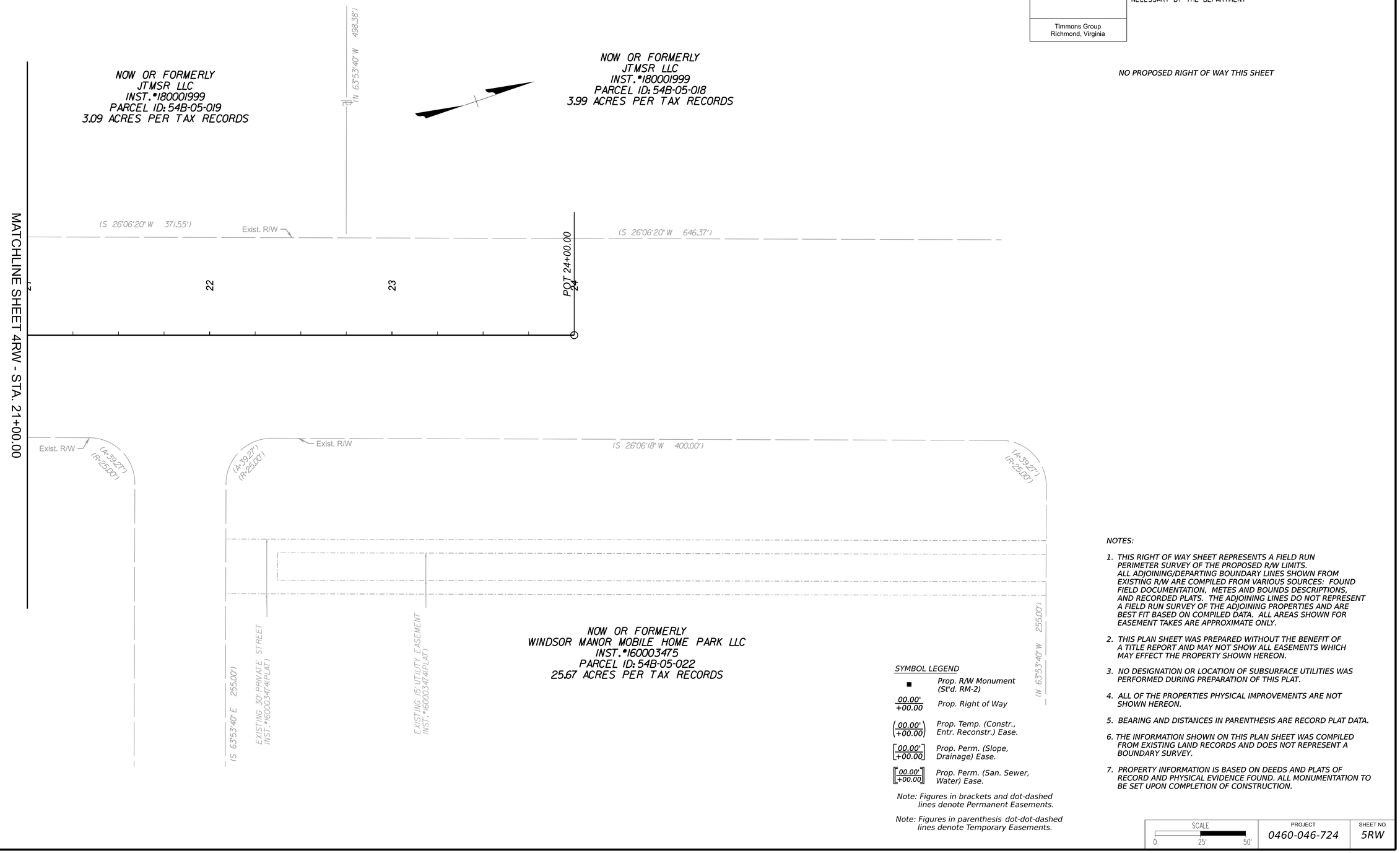
COMMONWEALTH OF VIRGINIA
William R. Herx
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LAND SURVEYOR

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REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	5RW

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

NO PROPOSED RIGHT OF WAY THIS SHEET



SYMBOL LEGEND

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- 00.00' / +00.00 Prop. Right of Way
- (00.00' / +00.00) Prop. Temp. (Constr., Entr. Reconstr.) Ease.
- [00.00' / +00.00] Prop. Perm. (Slope, Drainage) Ease.
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SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	5RW

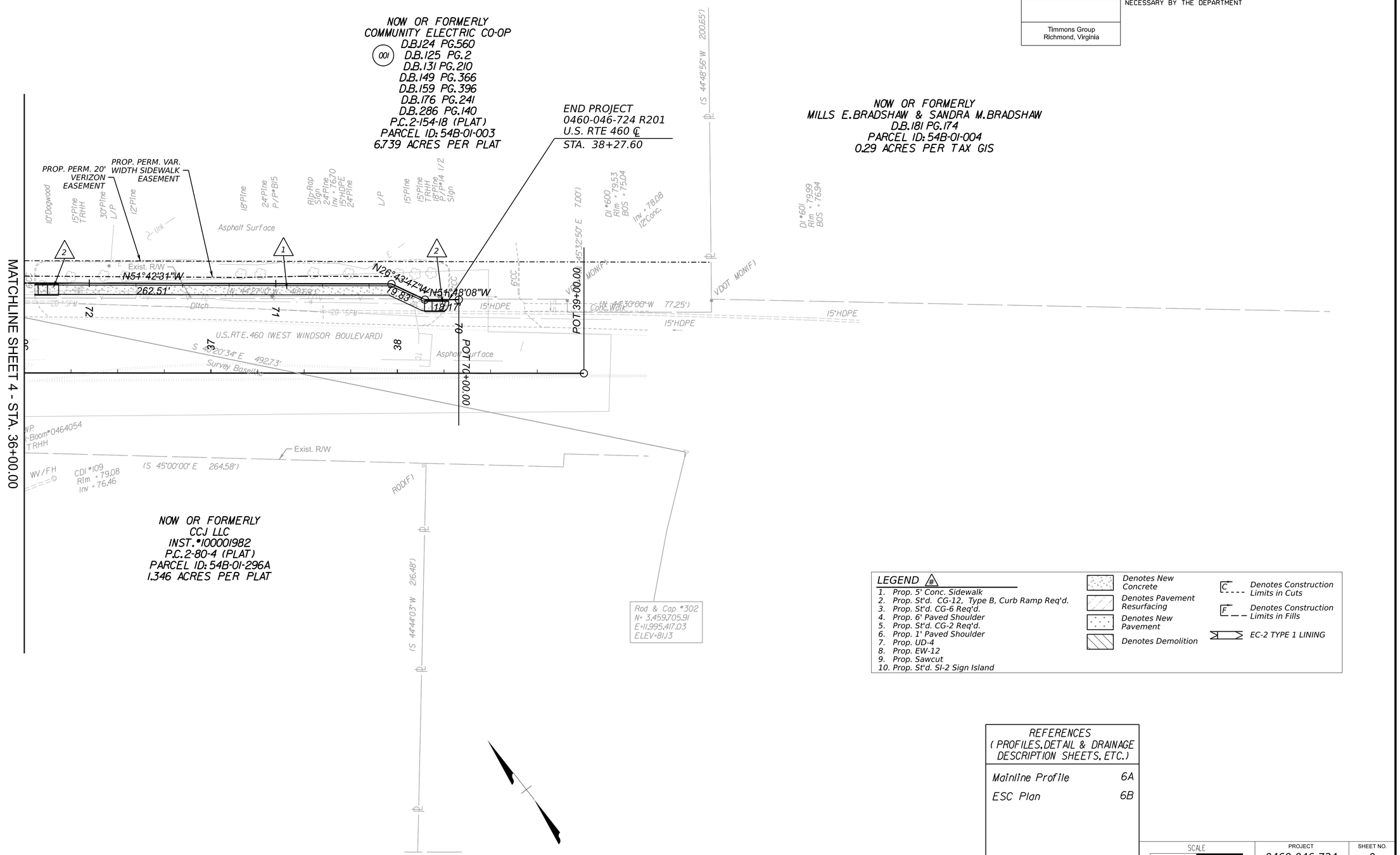
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PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	6

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



LEGEND

1. Prop. 5' Conc. Sidewalk
2. Prop. St'd. CG-12, Type B, Curb Ramp Req'd.
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4. Prop. 6' Paved Shoulder
5. Prop. St'd. CG-2 Req'd.
6. Prop. 1' Paved Shoulder
7. Prop. UD-4
8. Prop. EW-12
9. Prop. Sawcut
10. Prop. St'd. SI-2 Sign Island

Denotes New Concrete
Denotes Pavement Resurfacing
Denotes New Pavement
Denotes Demolition
Denotes Construction Limits in Cuts
Denotes Construction Limits in Fills
EC-2 TYPE 1 LINING

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

Mainline Profile	6A
ESC Plan	6B

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	6

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

EROSION & SEDIMENT CONTROL PLAN

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	6A

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

'OW OR FORMERLY
UNITY ELECTRIC CO-OP
D.B.124 PG.560
D.B.125 PG.2
D.B.131 PG.210
D.B.149 PG.366
D.B.159 PG.396
D.B.176 PG.241
D.B.286 PG.140
P.C.2-154-18 (PLAT)
PARCEL ID: 54B-01-003
6.739 ACRES PER PLAT

END PROJECT
0460-046-724 R201
U.S. RTE 460 ℄
STA. 38+27.60

NOW OR FORMERLY
MILLS E.BRADSHAW & SANDRA M.BRADSHAW
D.B.181 PG.174
PARCEL ID: 54B-01-004
0.29 ACRES PER TAX GIS

MATCHLINE SHEET 4B - STA. 36+00.00

NOW OR FORMERLY
CCJ LLC
INST.#100001982
P.C.2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

LEGEND

- TSF-A / TSF-B — Temporary Silt Fence, St'd EC-5 Type A or B
- SAF — Temporary Safety Fence (Plastic Polyethylene)
- IP-A / IP-B / IP-C — Inlet Protection, Type A, B, or C; St'd EC-6
- OP — Outlet Protection, St'd EC-1
- RCD-2 — Rock Check Dam, Type II; St'd EC-4

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	6A

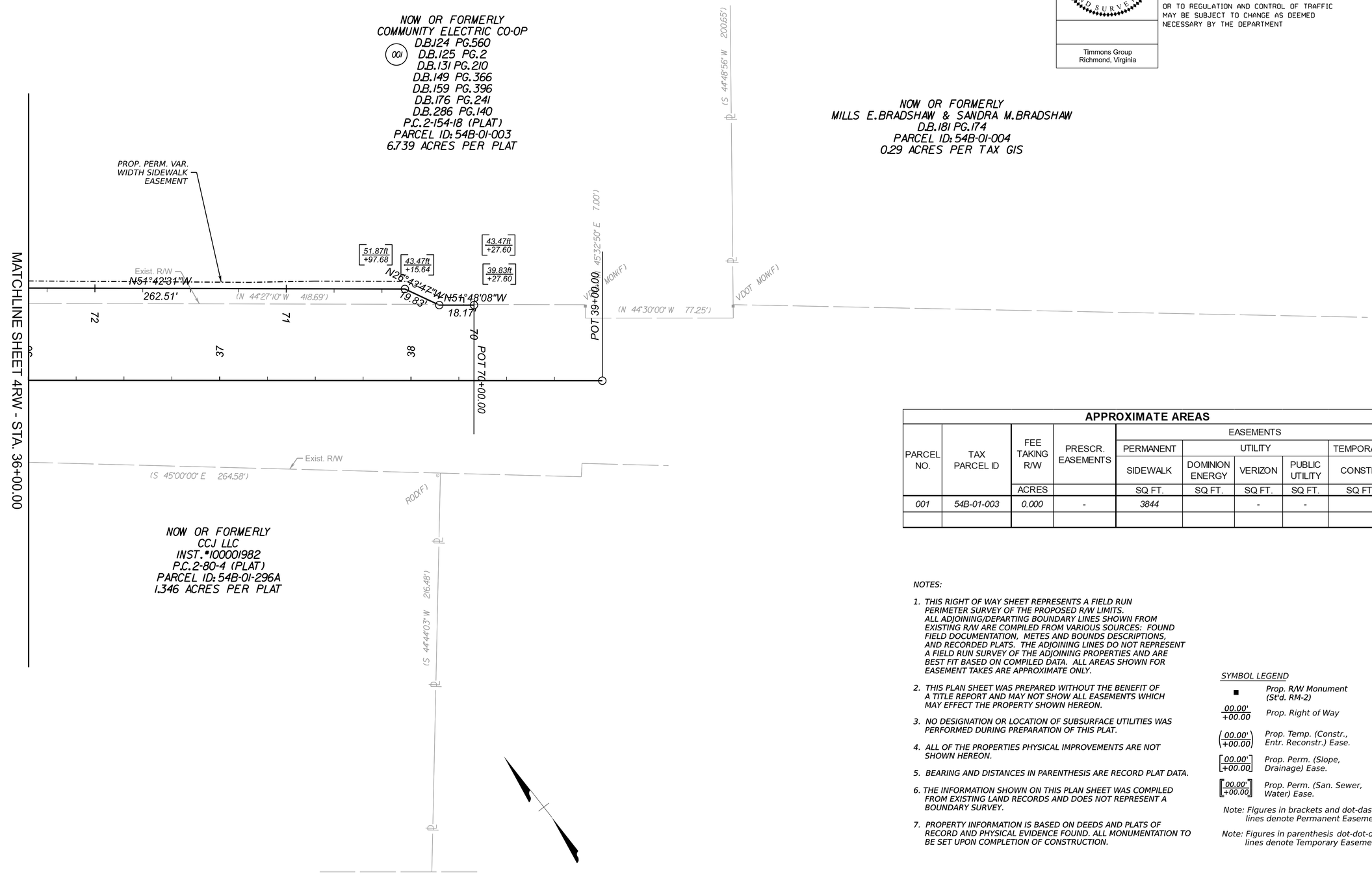
PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
William R. Herx
Lic. No. 2947
LAND SURVEYOR

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	6RW

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



APPROXIMATE AREAS

PARCEL NO.	TAX PARCEL ID	FEE TAKING R/W	PRESCR. EASEMENTS	EASEMENTS				
				PERMANENT	UTILITY			TEMPORARY
				SIDEWALK	DOMINION ENERGY	VERIZON	PUBLIC UTILITY	CONSTR.
		ACRES		SQ FT.	SQ FT.	SQ FT.	SQ FT.	SQ FT.
001	54B-01-003	0.000	-	3844		-	-	

NOTES:

1. *THIS RIGHT OF WAY SHEET REPRESENTS A FIELD RUN PERIMETER SURVEY OF THE PROPOSED R/W LIMITS. ALL ADJOINING/DEPARTING BOUNDARY LINES SHOWN FROM EXISTING R/W ARE COMPILED FROM VARIOUS SOURCES: FOUND FIELD DOCUMENTATION, METES AND BOUNDS DESCRIPTIONS, AND RECORDED PLATS. THE ADJOINING LINES DO NOT REPRESENT A FIELD RUN SURVEY OF THE ADJOINING PROPERTIES AND ARE BEST FIT BASED ON COMPILED DATA. ALL AREAS SHOWN FOR EASEMENT TAKES ARE APPROXIMATE ONLY.*
2. *THIS PLAN SHEET WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND MAY NOT SHOW ALL EASEMENTS WHICH MAY EFFECT THE PROPERTY SHOWN HEREON.*
3. *NO DESIGNATION OR LOCATION OF SUBSURFACE UTILITIES WAS PERFORMED DURING PREPARATION OF THIS PLAT.*
4. *ALL OF THE PROPERTIES PHYSICAL IMPROVEMENTS ARE NOT SHOWN HEREON.*
5. *BEARING AND DISTANCES IN PARENTHESIS ARE RECORD PLAT DATA.*
6. *THE INFORMATION SHOWN ON THIS PLAN SHEET WAS COMPILED FROM EXISTING LAND RECORDS AND DOES NOT REPRESENT A BOUNDARY SURVEY.*
7. *PROPERTY INFORMATION IS BASED ON DEEDS AND PLATS OF RECORD AND PHYSICAL EVIDENCE FOUND. ALL MONUMENTATION TO BE SET UPON COMPLETION OF CONSTRUCTION.*

SYMBOL LEGEND

- ■ *Prop. R/W Monument (St'd. RM-2)*
- *00.00' +00.00* *Prop. Right of Way*
- *(00.00' +00.00)* *Prop. Temp. (Constr., Entr. Reconstr.) Ease.*
- *[00.00' +00.00]* *Prop. Perm. (Slope, Drainage) Ease.*
- *[[00.00' +00.00]]* *Prop. Perm. (San. Sewer, Water) Ease.*

Note: Figures in brackets and dot-dashed lines denote Permanent Easements.

Note: Figures in parenthesis dot-dot-dashed lines denote Temporary Easements.

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	6RW

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

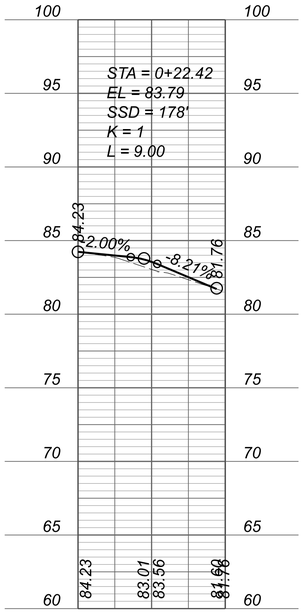
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

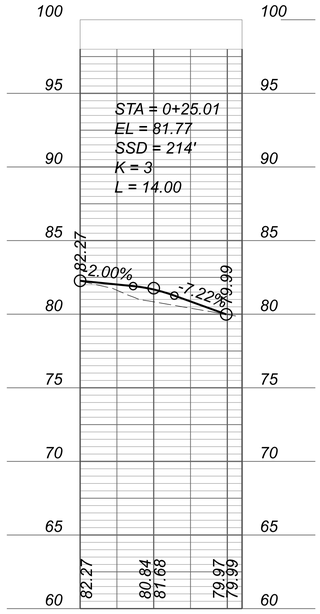
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	7

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

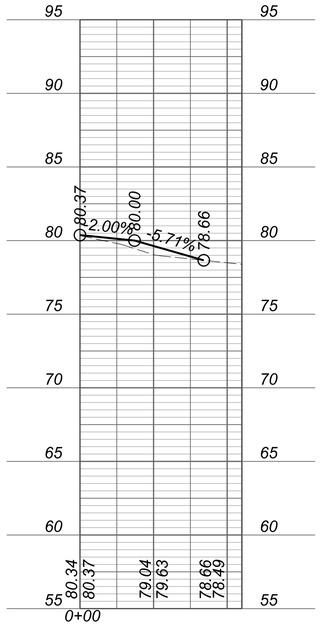
ENTRANCE #1



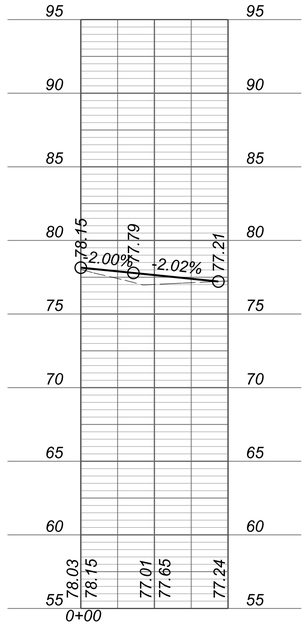
ENTRANCE #2



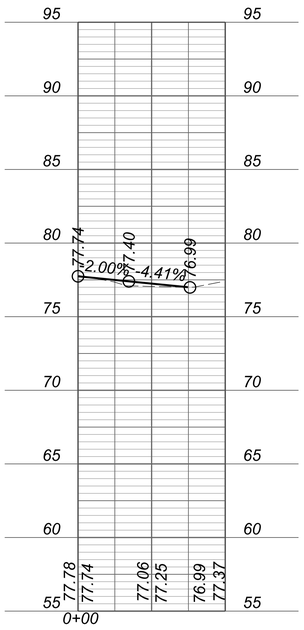
ENTRANCE #3



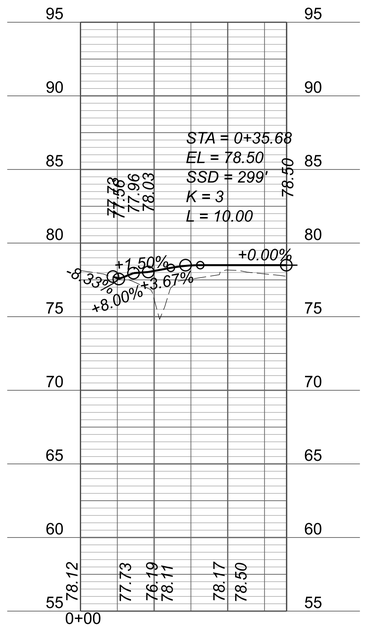
ENTRANCE #4



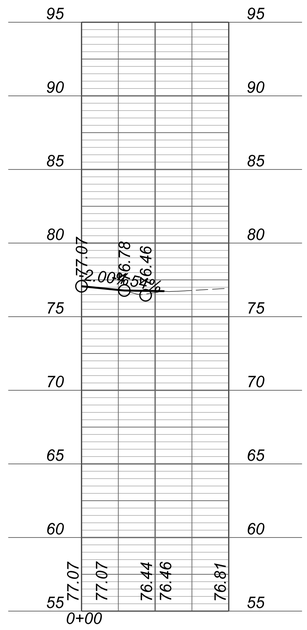
ENTRANCE #5



ENTRANCE #6 - BMP ACCESS



BELMONT STREET



	PROJECT	SHEET NO.
	0460-046-724	7

6/5/2026
4:00:48 PM

dll5528_08x.dgn
Plotted By: Katie.Settle

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

DRAINAGE AREA MAP

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	8(3)

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

NOW OR FORMERLY
WILLIAM H.GOODMAN ESTATE
C/O LOWELL GOODMAN
D.B.131 PG.246
P.B.5 PG.50
PARCEL ID: 53-01-056
37.74 ACRES PER TAX RECORDS

OF #1
35.38 Ac.

MATCHLINE SHEET 8(4) - STA. 14+00.00

Exist. R/W

POT 10+00.00

100 | 0.43
0.19 Ac.

MATCH EXIST.

12'
12'
2'
2'
6'
6'
23'
6'

80ft
85ft
150'

NOW OR FORMERLY
CLYDE A.BRACEY,SR.ESTATE
C/O NANCY PRUDEN
D.B.145 PG.163
D.B.153 PG.163 (COMM.OF VA)
PARCEL ID: 54B-01-262
18JO ACRES PER TAX RECORDS

NOW OR FORMERLY
CCJ LLC
INST.#100001982
P.C.2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

NORFOLK SOUTHERN RAILWAY COMPANY
VARIABLE WIDTH RIGHT OF WAY

(N 45°00'00"W 238.57')

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	8(3)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

DRAINAGE AREA MAP

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	8(4)

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

NOW OR FORMERLY
J C PATTERSON
PROPERTIES THREE LLC
INST.#130001020
PARCEL ID: 54B-01-298
1.80 ACRES PER TAX RECORDS

NOW OR FORMERLY
60 WEST
WINDSOR REALTY LLC
INST.#110004948
PARCEL ID: 54B-01-001
1.10 ACRES PER TAX RECORDS

POT STA. 16+27.95 RTE 258 ℄
POT STA. 34+27.89 RTE 460 ℄

NOW OR FORMERLY
JTMSR LLC
INST.#180001999
PARCEL ID: 54B-05-019
3.09 ACRES PER TAX RECORDS

MATCHLINE SHEET 8(3) - STA. 14+00.00

MATCHLINE SHEET 8(5) - STA. 21+00.00

MATCHLINE SHEET 8(6) - STA. 36+00.00

NOW OR FORMERLY
CCJ LLC
INST.#100001982
P.C. 2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

NOW OR FORMERLY
COMMUNITY ELECTRIC CO-OP
D.B.124 PG.560
D.B.125 PG.2
D.B.131 PG.210
D.B.149 PG.366
D.B.159 PG.396
D.B.176 PG.241
D.B.286 PG.140
P.C. 2-154-18 (PLAT)
PARCEL ID: 54B-01-003
6.739 ACRES PER PLAT

NOW OR FORMERLY
WINDSOR MANOR MOBILE HOME
PARK LLC
INST.#160003475
INST.#160003475 (PLAT)
PARCEL ID: 54B-05-022
30.652 ACRES PER PLAT

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	8(4)

Cell Revised 12/11/12

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

DRAINAGE AREA MAP

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	8(5)

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

NOW OR FORMERLY
JTMSR LLC
INST.#180001999
PARCEL ID: 54B-05-019
3.09 ACRES PER TAX RECORDS

NOW OR FORMERLY
JTMSR LLC
INST.#180001999
PARCEL ID: 54B-05-018
3.99 ACRES PER TAX RECORDS

305 | 0.51 | 0.20 Ac.

400 | 0.48 | 0.46 Ac.

POT 24+00.00

MATCHLINE SHEET 8(4) - STA. 21+00.00

(S 26°06'20" W 371.55')

(S 26°06'20" W 646.37')

(S 26°06'18" W 400.00')

(N 63°53'40" W 498.38')

(S 63°53'40" E 255.00')

(N 63°53'40" W 255.00')

Exist. R/W

(A=39.27')
(R=25.00')

75ft

MATCH EXIST.

12'

EXISTING 30' PRIVATE STREET
INST.#160003474(PLAT)

EXISTING 15' UTILITY EASEMENT
INST.#160003474(PLAT)

NOW OR FORMERLY
WINDSOR MANOR MOBILE HOME PARK LLC
INST.#160003475
PARCEL ID: 54B-05-022
25.67 ACRES PER TAX RECORDS

80ft

65ft

70ft

75ft

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	8(5)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

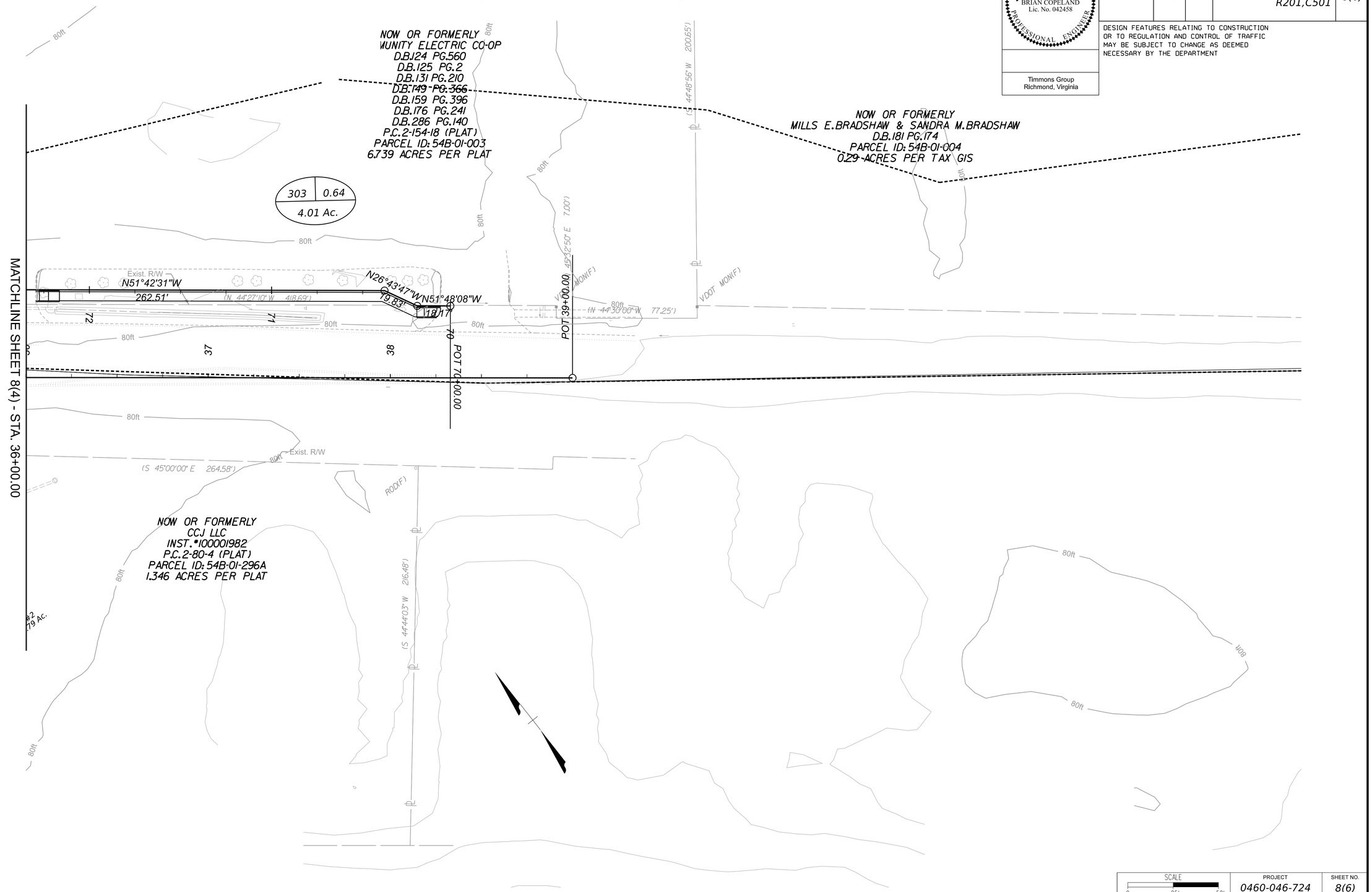
DRAINAGE AREA MAP

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	8(6)

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



SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	8(6)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

STORM SEWER PROFILES & DRAINAGE DESCRIPTIONS

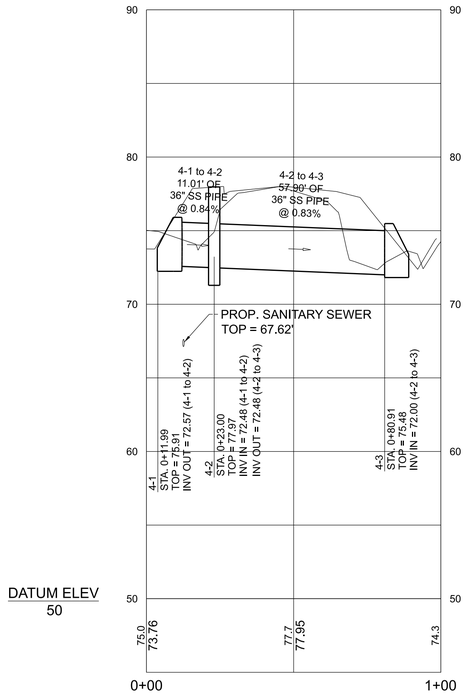
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

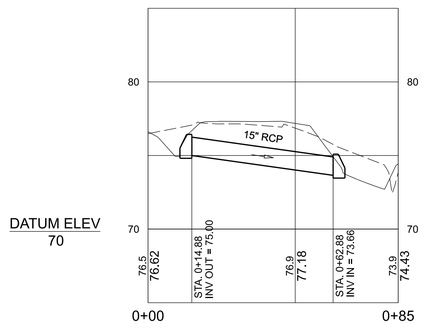
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	9

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

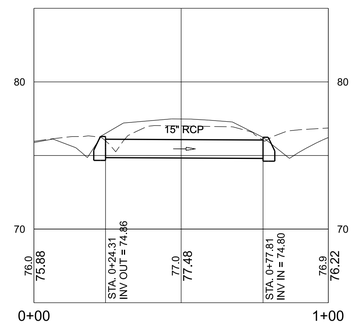
4-1 TO 4-3



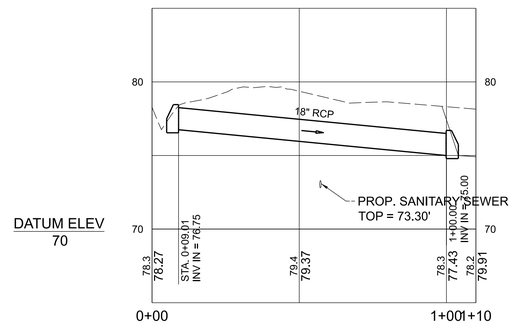
4-4



4-5



4-6



4-1 — 4-2
11' - 36" Storm Sewer Pipe Req'd (Cover = 2')
Inv. (in) = 72.57' Inv. (out) = 72.48'

4-1
1 St'd. 36" ES-1 Req'd
Inv. = 72.57'

4-2
1 St'd. DI-3B Req'd
L = 4', H = 6.2', Inv. = 71.79'
St'd. IS-1 Req'd., St'd. ST-1 Req'd.,
1 UD-4 Connection Req'd.

4-2 — 4-3
58' - 36" Storm Sewer Pipe Req'd (Cover = 2')
Inv. (in) = 72.48"' Inv. (out) = 72.00'

4-3
1 St'd. 36" ES-1 Req'd
Inv. = 72.00'
22 tons of EC-1 Class I Req'd.
Type B Installation

4-4
48' - 15" Pipe Req'd. (Cover = 1')
Inv. (in) = 125.45' Inv. (out) =
2 St'd. 15" ES-1 Req'd.
2 tons of EC-1 Class AI Req'd.
Type A Installation

4-5
54' - 15" Pipe Req'd. (Cover = 1')
Inv. (in) = 74.86' Inv. (out) = 74.80'
2 St'd. 15" ES-1 Req'd.
2 tons of EC-1 Class AI Req'd.
Type A Installation

4-6
91' - 18" Pipe Req'd. (Cover = 2')
Inv. (in) = 76.75' Inv. (out) = 75.00'
2 St'd. 18" ES-1 Req'd.
4 tons of EC-1 Class I Req'd.
Type A Installation

4-7
1 St'd. 60" Dia. SWM-1 Req'd.
Riser Top = 77.00'
9" Orifice = 74.00'
See Sheet 12 for Details

4-2 — 4-3
62' - 15" Storm Sewer Pipe Req'd (Cover = 2')
Inv. (in) = 74.00"' Inv. (out) = 73.40'

4-8
1 St'd. 15" ES-1 Req'd
Inv. = 74.30'
3 tons of EC-1 Class I Req'd.
Type A Installation

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
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SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
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PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	10(1)

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

DRAINAGE CALCULATIONS

DRAINAGE AREA ANALYSIS

460/258 Intersection

Structure No.	Area Number	Total Area (Acres)	Land Cover C = 0.90	Land Cover C = 0.25	Land Cover C = 0.30	C-Factor	Time of Concentration, T_c (minutes) Overland Flow (200' max)* Length	Height	Slope	T_c	Channel Flow** Length	Height	Slope	T_c	Total T_c	Intensity, I (in/hr) 2-Year	10-Year	25-Year	50-Year	100-Year	Peak Flow, Q (cfs) 2-Year	10-Year	25-Year	50-Year	100-Year
Outfall	100	0.19	0.05	0.12	0.02	0.43	30.19	6.01	19.91%	3.0	114	3.5	3.06%	1.2	5.0	6.2	8.2	9.0	9.9	10.7	0.50	0.66	0.81	0.96	1.08
Outfall	200	3.34	2.54		0.80	0.76	200	3.79	1.90%	5.9	470.7	4.1	0.88%	5.8	11.6	4.6	6.2	6.9	7.6	8.2	11.74	15.74	19.24	22.96	25.92
4-1	300	6.34	4.26		2.08	0.70	200	1.31	0.66%	7.7	910.04	5.16	0.57%	11.2	18.9	3.7	5.0	5.6	6.2	6.7	16.44	22.38	27.47	32.91	37.29
4-2	301	0.20	0.17		0.03	0.81	47.83	1.09	2.28%	2.9	245.92	0.36	0.15%	7.0	9.9	5.0	6.6	7.4	8.0	8.7	0.80	1.07	1.31	1.56	1.76
BMP	302	0.29	0.02		0.27	0.34	80.16	0.6	0.75%	10.5	219.6	4.25	1.94%	2.4	13.0	4.4	6.0	6.6	7.3	7.9	0.44	0.59	0.72	0.86	0.97
4-6	303	4.01	2.30		1.71	0.64	82.56	1.06	1.28%	5.1	1311.36	5.58	0.43%	16.4	21.5	3.4	4.7	5.3	5.8	6.3	8.88	12.14	14.93	17.92	20.33
Ditch	304	5.89	2.07		3.82	0.51	188.89	0.73	0.39%	11.4	824.79	5.75	0.70%	9.6	21.1	3.5	4.8	5.3	5.8	6.4	10.47	14.31	17.59	21.10	23.94
4-5	305	0.20	0.07		0.13	0.51	118.06	2.22	1.88%	7.0	44.05	1.31	2.97%	0.6	7.6	5.5	7.3	8.1	8.8	9.5	0.56	0.74	0.90	1.08	1.21
4-4	306	0.40	0.27		0.13	0.71	108.85	2.23	2.05%	4.8	119.79	1.75	1.46%	1.7	5.0	6.2	8.2	9.0	9.9	10.7	1.74	2.30	2.80	3.34	3.76
Outfall	307	0.22	0.11		0.11	0.60	Not Used in Intensity Calculation								5.0	6.2	8.2	9.0	9.9	10.7	0.82	1.08	1.31	1.56	1.76
Outfall	400	0.46	0.14		0.32	0.48	126.03	1.65	1.31%	8.1	291.33	3.63	1.25%	3.5	11.6	4.6	6.2	6.9	7.6	8.2	1.03	1.38	1.69	2.02	2.28

*Seelye Method, VDOT Drainage Manual App. 6-D1

**Kirpich Method, VDOT Drainage Manual App. 6-D5

ROADSIDE DITCH CALCULATIONS

Project Name: 460/258 Intersection
Road Names: US Rte 258
Side:

Designed By: TG

Area Number	Sta From	Sta To	T_c (min)	C Value	Area (ac.)	CA (accum)	I_2 (in/hr)	Q_2 (cfs)	Slope* (ft/ft)	Max V=4.0 fps Jute(Sod) (n=0.028) *Vel.*	R_H	Shear	Paved (n=0.013) *Vel.*	Depth	I_{10} (in/hr)	Q_{10} (cfs)	$Depth_{10}$ (ft)	Minimum Design (Depth)	Minimum Design (Type)
	L Ditch - 17+25 to Str. 4-4																		
306	17+25	Str. 4-4	5.0	0.71	0.40	0.28	6.2	1.74	0.008	***1.2 fps***	***0.3 ft***	*0.14 psf*	-	-	8.2	2.30	**0.72 ft**	**10"**	EC-2 Type 1 Lined V-Ditch
	L Ditch - 21+00 to Outfall 3																		
305	21+00	Str. 4-5	7.6	0.51	0.20	0.10	5.5	0.56	0.041	***1.7 fps***	***0.2 ft***	*0.38 psf*	-	-	7.3	0.74	**0.34 ft**	6"	EC-2 Type 1 Lined V-Ditch
307	Str. 4-5	Outfall	5.0	0.60	0.22	0.23	6.2	1.45	0.008	***1.2 fps***	***0.3 ft***	*0.15 psf*	-	-	8.2	1.91	**0.67 ft**	8"	EC-2 Type 1 Lined V-Ditch
	R Ditch - 21+50 - 19+25																		
304	21+50	19+25	21.1	0.51	5.89	3.01	3.5	10.47	0.009	***2.0 fps***	***0.6 ft***	*0.33 psf*	-	-	4.8	14.31	**1.38 ft**	18"	EC-2 Type 1 Lined V-Ditch
	L Ditch - 21+00 to Outfall 4																		
400	21+00	Outfall	11.6	0.48	0.46	0.22	4.6	1.03	0.008	***1.0 fps***	***0.3 ft***	*0.12 psf*	-	-	6.2	1.38	**0.59 ft**	8"	EC-2 Type 1 Lined V-Ditch
	R Ditch - 18+85 to 19+25																		
BMP OUT	18+85	19+25	Flow values from Pondpack					11.13	0.010	***2.1 fps***	***0.6 ft***	*0.37 psf*	-	-		22.24	**1.60 ft**	20"	EC-2 Type 1 Lined V-Ditch

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	10(2)

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

INLET SPREAD CALCULATIONS

ROUTE Rte 258 **PROJECT** Rte 460/258 Turn Lanes **DESIGNER:** TG **DATE** 8/1/2024
CHECKED: **UNITSENGLISH**

INLET																											Sag Inlets Only					
NUMBER	TYPE	LENGTH (FT;M)	STATION	DRAINAGE AREA (AC;HA)	C	CA	SCA	I (IN/HR; mm/HR)	Q INCR (CFS; CMS)	Qc CARRYOVER (CFS; CMS)	QT GUTTER FLOW (CFS; CMS)	S GUTTER SLOPE (FT/FT; M/M)	Sx CROSS SLOPE (FT/FT; M/M)	T (SPREAD) (FT; M)	W (GUTTER WIDTH) (FT;M)	W/T	Sw (GUTTER SLOPE) (FT/FT; M/M)	Sw/Sx	Eo (App. 9C-8)	a	Sw	Se	COMPUTED LENGTH L (FT; M)	L SPECIFIED LENGTH (FT;M)	L/LT	E (App. 9C-18)	Q INTERCEPTED (CFS; CMS) or dlh	Qb CARRYOVER (CFS; CMS)	Depth at Curb (IN; MM)	Allowable Ponding Depth d (FT; M)	Height of Curb Opening h (FT; M)	dlh	Depth at Inlet (IN; MM)	T SPREAD @ SAG (FT; M)	REMARKS
4-2	DI-3B	4.000	19+25	0.200	0.81	0.162																												
			14.000'RIGHT				0.162	4	0.648	0	0.648	0.0051	0.0200	4.433	2.000	0.45116	0.0833	4.165	0.926	3.52	0.1466	0.1558	4.241	4.000	0.943	0.994	0.644	0.004	2.583					

STORM SEWER CALCULATIONS

4-1 to 4-3
STORM SEWER DESIGN COMPUTATIONS

PROJECT: Rte 258 Turn Lanes
LOCATION:
COUNTY: Isle of Wigth

Designed by:

Checked by:

STORM FREQUENCY 10

UNITS ENGLISH

PIPE NO	FROM POINT REFERENCE	FROM POINT STA.	TO POINT REFERENCE	TO POINT STA.	DRAIN. AREA "A" Acre	RUNOFF COEFF. "C"	CA INCRE-MENT	CA ADDTL CA	CA ACCUM-ULATED	TOTAL INLET TIME Minutes	RAIN FALL In/Hr	RUNOFF Q CFS	INVERT ELEVATIONS UPPER END	INVERT ELEVATIONS LOWER END	LENGTH of Pipe Ft.	SLOPE Ft./Ft.	SIZE (Dia. Or Span/Rise) In.	SHAPE	Capacity CFS	Friction Slope Ft./Ft.	VEL Vn Ft/Sec	FLOW TIME Min.	REMARKS
	(1)		(2)		(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		(15)		(16)	(17)	(18)
4-1 to 4-2	4-1		4-2		16.530	0.610	10.083	0.000	10.083	21.500	4.707	47.462	72.573	72.480	11.012	0.008	36.000	Circular	61.131	0.005	9.576	0.019	
4-2 to 4-3	4-2		4-3		0.200	0.810	0.162	0.000	10.245	21.519	4.705	48.203	72.480	72.000	57.903	0.008	36.000	Circular	60.728	0.005	9.552	0.101	

HYDRAULIC GRADE LINE ANALYSIS

4-1 to 4-3
HYDRAULIC GRADE LINE ANALYSIS

PROJECT: Rte 258 Turn Lanes

DESIGNED BY:

Checked:

INCIDENCE PROBABILITY **10** **Year**

INLET OR JUNCTION	INLET STATION	OUTLET WATER SURFACE ELEV.	DIA. PIPE Do (In)	DESIGN DISCH. Qo (CFS)	LENGTH PIPE Lo (Ft)	FRICTION SLOPE, Sfo (FT/FT)	FRICTION LOSS Hf (Ft)	JUNCTION LOSS Vo	Ho (Ft)	Qi	Vi	QiVi	Vi*2/2g	Hi	Angle	HΔ	Ht	1.3 Ht	0.5 Ht	FINAL H (Ft)	Inlet Water Surface Elevation	Rim Elev	Comments
4-2		74.40	36	48.20	57.90	0.0052	0.30	9.55	0.35	47.46	9.58	454.49	1.42	0.50	0.71	0.00	0.85	0	FALSE	1.15	75.55	77.97	OK -2.416
4-1		74.97	36	47.46	11.01	0.0051	0.06	9.58	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.46274	FALSE	0.52	75.49	75.91	OK -0.418

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
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SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

POND OUTPUTS

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	10(3)

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

Subsection: Master Network Summary

Catchments Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
MP#1 DA Onsite	Post-Development 1 Year	1	0.062	11.950	1.12
MP#1 DA Onsite	Post-Development 2 Year	2	0.085	11.900	1.54
MP#1 DA Onsite	Post-Development 10 Year	10	0.160	11.900	2.92
MP#1 DA Onsite	Post-Development 100 Year	100	0.313	11.900	5.57
Bypass DA	Post-Development 1 Year	1	2.081	12.100	26.64
Bypass DA	Post-Development 2 Year	2	2.726	12.100	34.59
Bypass DA	Post-Development 10 Year	10	4.739	12.100	58.57
Bypass DA	Post-Development 100 Year	100	8.662	12.100	103.41
MP #1 DA Offsite	Post-Development 1 Year	1	0.634	12.000	9.81
MP #1 DA Offsite	Post-Development 2 Year	2	0.825	12.000	12.65
MP #1 DA Offsite	Post-Development 10 Year	10	1.419	12.000	21.16
MP #1 DA Offsite	Post-Development 100 Year	100	2.571	12.000	37.04

Node Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)
Outfall 3	Post-Development 1 Year	1	2.764	12.100	29.80
Outfall 3	Post-Development 2 Year	2	3.622	12.100	46.23
Outfall 3	Post-Development 10 Year	10	6.300	12.050	80.64
Outfall 3	Post-Development 100 Year	100	11.519	12.050	142.02

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)

Subsection: Master Network Summary

Pond Summary

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (hours)	Peak Flow (ft^3/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
MP#1 (IN)	Post-Development 1 Year	1	0.696	12.000	10.82	(N/A)	(N/A)
MP#1 (OUT)	Post-Development 1 Year	1	0.683	12.150	5.06	76.98	0.222
MP#1 (IN)	Post-Development 2 Year	2	0.910	12.000	14.00	(N/A)	(N/A)
MP#1 (OUT)	Post-Development 2 Year	2	0.896	12.100	11.64	77.10	0.235
MP#1 (IN)	Post-Development 10 Year	10	1.579	12.000	23.60	(N/A)	(N/A)
MP#1 (OUT)	Post-Development 10 Year	10	1.560	11.950	23.69	77.23	0.248
MP#1 (IN)	Post-Development 100 Year	100	2.883	12.000	41.56	(N/A)	(N/A)
MP#1 (OUT)	Post-Development 100 Year	100	2.858	12.000	41.48	77.38	0.264

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SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	10(4)

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

CULVERT CALCULATIONS

PROJECT Rte 460/258 Turn Lanes
ROAD Rte 258 **COUNTY** Isle of Wight
CULVERT 4-4 VA
NOAA Station Suffolk Lake Kilby

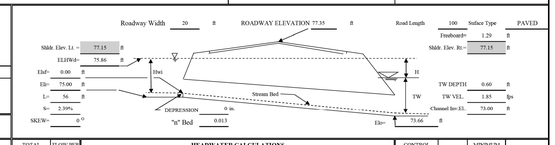
SHEET OF
UNITS **ENGLISH**

CULVERT DESIGN FORM LD-269
DESIGNER: TG DATE: 4/23/2024
REVIEWER: DATE:

HYDROLOGICAL DATA
Method: RATIONAL
Drainage Area: 0.4 Acres
Time of Concentration 5 Minutes

DESIGN FLOWS

R.I. (years)	FLOW (cfs)	
10	Design	2.31
2	Check	1.76
100	Max.	3.79



CULVERT DESCRIPTION:
TYPE: **Single/Multiple Conforming**

Inlet Edge Description:					TOTAL	FLOW PER	HEADWATER CALCULATIONS										CONTROL		MINIMUM	
Square edge w/headwall					FLOW	BARREL	INLET CONTROL				OUTLET CONTROL						HEADWATER	OUTLET	SHOULDER	COMMENTS
Single / Multiple Conforming / Broken Back Culverts					Q	Q/N	HWi/D	HWi	FALL	ELHWi	TW	dc	(dc+D)/2	ho	ke	H	ELHWo	ELEV	VEL	ELEV.	
MATERIAL	SHAPE	Size (in)	N	Mannings n	cfs	cfs		ft	ft	ft	ft	ft	ft	ft		ft	ft	ft	fps	ft	
Concrete	Circular	15	1	0.01	2.31	2.3	0.69	0.86	0.00	75.86	0.60	0.61	0.93	0.93	0.50	0.15	74.74	75.86	6.62		
					1.76	1.8	0.58	0.73	0.00	75.73	0.54	0.53	0.89	0.89	0.50	0.09	74.64	75.73	6.11		
					3.79	3.8	0.96	1.20	0.00	76.20	0.72	0.79	1.02	1.02	0.50	0.41	75.09	76.20	7.58		

Broken Back Culvert

LENGTH	Elev.	SKEW°

TAILWATER DATA:

Channel Shape	Trianguilar		
Bottom Width, ft	0.00	"n" =	0.035
Side Slope Lt. (H:1V)	4.00		
Side Slope Rt. (H:1V)	3.00		
Channel Slope, ft/ft	0.0100		

	Distance	Elevation	"n" =

TAILWATER RESULTS:

	Discharge	Elevation	Flow depth	Velocity	Shear force
	cfs	ft	ft	fps	PSF
Design	73.60	0.60	1.85	0.37	
Check	73.54	0.54	1.73	0.34	
Max.	73.72	0.72	2.09	0.45	

ROADWAY DATA:

Roadway Width, ft	20
Surface Type	PAVED
Top of Road Elevation, ft	77.35
Length of Road, ft	100

ROADWAY OVERTOPPING:

	Discharge	Overtopping Discharge	Overtopping Elevation
	cfs	cfs	ft
Design	0	0	0.00
Check	0	0	0.00
Max.	0	0	0.00

TECHNICAL FOOTNOTES:
(1) USE Q/NB FOR BOX CULVERTS
(2) HWi/D = HW/D OR HWo/D FROM DESIGN CHARTS
(3) FALL = HW1 - (ELHWd - ELsf); FALL IS ZERO FOR CULVERTS ON GRADE
(4) ELhi = HWi + ELi (INVERT OF INLET CONTROL SECTION)
(5) TW BASED ON DOWNSTREAM CONTROL OR FLOW DEPTH IN CHANNEL
(6) ho = TW or (dc + D/2) (WHICHEVER IS GREATER)
(7) H = [1 + ke + (29n²L)/R^1.33]v²/2g

SUBSCRIPT DEFINITIONS:

HWd	DESIGN HEADWATER	i	INLET
HWi	HW IN INLET CONTROL	o	OUTLET
HWo	HW IN OUTLET CONTROL	sf	Streambed @ culvert face

COMMENTS / DISCUSSION:

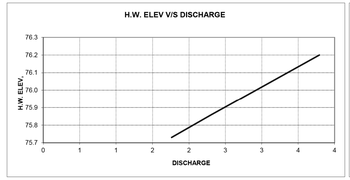
CULVERT BARREL SELECTED
SIZE: n:
SHAPE: MATERIAL:
ENTRANCE:

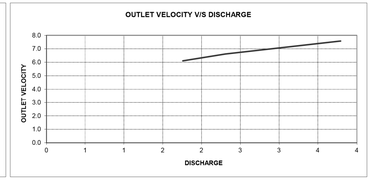
CULVERTSOFT by ENSOFTEC, INC.

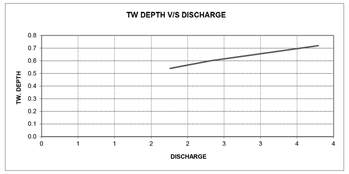
PROJECT Rte 460/258 Turn Lanes
ROAD Rte 258 **COUNTY** Isle of Wight
CULVERT 4-4 VA
NOAA Station Suffolk Lake Kilby

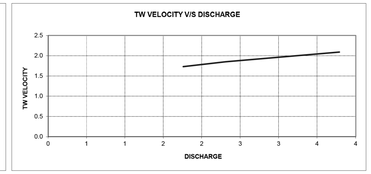
SHEET OF
UNITS **ENGLISH**

CULVERT DESIGN FORM LD-269
DESIGNER: TG DATE: 4/23/2024
REVIEWER: DATE:









CULVERTSOFT by ENSOFTEC, INC.

PROJECT Rte 460/258 Turn Lanes
ROAD Rte 258 **COUNTY** Isle of Wight
CULVERT 4-5 VA
NOAA Station Suffolk Lake Kilby

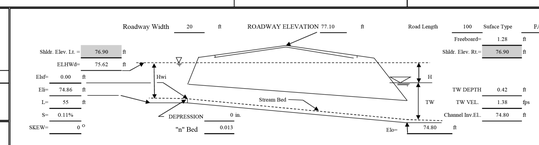
SHEET OF
UNITS **ENGLISH**

CULVERT DESIGN FORM LD-269
DESIGNER: TG DATE: 4/23/2024
REVIEWER: DATE:

HYDROLOGICAL DATA
Method: RATIONAL
Drainage Area: 0.2 Acres
Time of Concentration 5 Minutes

DESIGN FLOWS

R.I. (years)	FLOW (cfs)	
10	Design	0.83
2	Check	0.63
100	Max.	1.36



CULVERT DESCRIPTION:
TYPE: **Single/Multiple Conforming**

Inlet Edge Description:					TOTAL	FLOW PER	HEADWATER CALCULATIONS										CONTROL		MINIMUM	
Square edge w/headwall					FLOW	BARREL	INLET CONTROL				OUTLET CONTROL						HEADWATER	OUTLET	SHOULDER	COMMENTS
Single / Multiple Conforming / Broken Back Culverts					Q	Q/N	HWi/D	HWi	FALL	ELHWi	TW	dc	(dc+D)/2	ho	ke	H	ELHWo	ELEV	VEL	ELEV.	
MATERIAL	SHAPE	Size (in)	N	Mannings n	cfs	cfs		ft	ft	ft	ft	ft	ft	ft		ft	ft	ft	fps	ft	
Concrete	Circular	15	1	0.01	0.83	0.8	0.61	0.49	0.00	75.35	0.42	0.36	0.81	0.80	0.50	0.02	75.62	75.62	1.63		
					0.63	0.6	0.58	0.42	0.00	75.28	0.38	0.31	0.78	0.78	0.50	0.01	75.59	75.59	1.51		
					1.36	1.4	0.68	0.64	0.00	75.50	0.50	0.46	0.86	0.86	0.50	0.05	75.71	75.71	1.84		

Broken Back Culvert

LENGTH	Elev.	SKEW°

TAILWATER DATA:

Channel Shape	Trianguilar		
Bottom Width, ft	0.00	"n" =	0.035
Side Slope Lt. (H:1V)	3.00		
Side Slope Rt. (H:1V)	4.00		
Channel Slope, ft/ft	0.0090		

	Distance	Elevation	"n" =

TAILWATER RESULTS:

	Discharge	Elevation	Flow depth	Velocity	Shear force
	cfs	ft	ft	fps	PSF
Design	75.22	0.42	1.38	0.23	
Check	75.18	0.38	1.28	0.21	
Max.	75.30	0.50	1.56	0.28	

ROADWAY DATA:

Roadway Width, ft	20
Surface Type	PAVED
Top of Road Elevation, ft	77.1
Length of Road, ft	100

ROADWAY OVERTOPPING:

	Discharge	Overtopping Discharge	Overtopping Elevation
	cfs	cfs	ft
Design	0	0	0.00
Check	0	0	0.00
Max.	0	0	0.00

TECHNICAL FOOTNOTES:
(1) USE Q/NB FOR BOX CULVERTS
(2) HWi/D = HW/D OR HWo/D FROM DESIGN CHARTS
(3) FALL = HW1 - (ELHWd - ELsf); FALL IS ZERO FOR CULVERTS ON GRADE
(4) ELhi = HWi + ELi (INVERT OF INLET CONTROL SECTION)
(5) TW BASED ON DOWNSTREAM CONTROL OR FLOW DEPTH IN CHANNEL
(6) ho = TW or (dc + D/2) (WHICHEVER IS GREATER)
(7) H = [1 + ke + (29n²L)/R^1.33]v²/2g

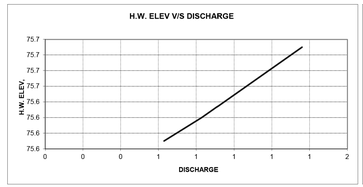
SUBSCRIPT DEFINITIONS:

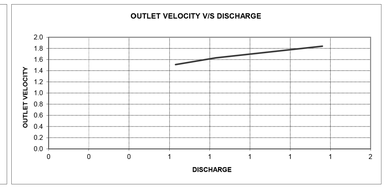
HWd	DESIGN HEADWATER	i	INLET
HWi	HW IN INLET CONTROL	o	OUTLET
HWo	HW IN OUTLET CONTROL	sf	Streambed @ culvert face

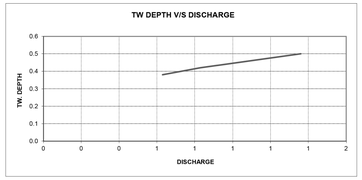
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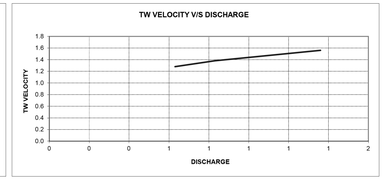
CULVERT BARREL SELECTED
SIZE: n:
SHAPE: MATERIAL:
ENTRANCE:

CULVERTSOFT by ENSOFTEC, INC.









CULVERTSOFT by ENSOFTEC, INC.

	PROJECT	SHEET NO.
	0460-046-724	10(4)

PROJECT MANAGER: CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE: PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY: TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE: PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	10(5)

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

CULVERT CALCULATIONS

CULVERT DESIGN FORM LD-269

PROJECT	**Rte 460/258 Turn Lanes**			SHEET	OF
ROAD	**Rte 258**	**COUNTY**	Isle of Wight	UNITS	**ENGLISH**
CULVERT	4-6		VA		
NOAA Station	16+50	Suffolk Lake Kilby			

DESIGNER: TG DATE: 8/1/2024
REVIEWER: DATE:

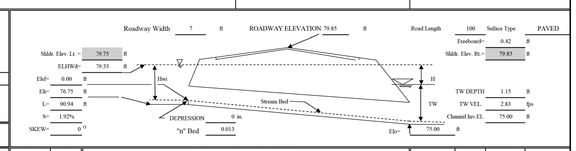
HYDROLOGICAL DATA

Method: RATIONAL
Drainage Area: 4.01 Acres
Time of Concentration 25 Minutes

DESIGN FLOWS

R.I. (years)		FLOW (cfs)
10	Design	11.16
2	Check	8.11
100	Max.	18.80

CULVERT DESCRIPTION:
TYPE: Single/Multiple Conforming



Inlet Edge Description:
Square edge w/headwall

Single / Multiple Conforming / Broken Back Culverts

MATERIAL	SHAPE	Size (in)	N	Mannings n	TOTAL FLOW Q cfs	FLOW PER BARREL Q/N cfs	HW/D	HWi	FALL	EL(HW)	TW	dc	(dc+D)/2	ho	ke	H	EL(HWo	CONTROL HEADWATER ELEV ft	OUTLET VEL fps	MINIMUM SHOULDER ELEV. ft	COMMENTS
								HEADWATER CALCULATIONS													
								INLET CONTROL						OUTLET CONTROL							
Concrete	Circular	18	1	0.01	11.16	11.2	1.72	2.58	0.00	79.33	1.15	1.28	1.39	1.39	0.50	1.95	78.34	79.33	9.08		
					8.11	8.1	1.21	1.82	0.00	78.57	1.02	1.10	1.30	1.30	0.50	1.03	77.33	78.57	8.46		
					18.80	18.8	2.11	3.17	0.00	79.92	1.39	1.46	1.48	1.48	0.50	3.10	79.58	79.92	7.40		

Broken Back Culvert

LENGTH	Elev.	SKEW

TAILWATER DATA:

Channel Shape	Triangular		
Bottom Width, ft	0.00	"n" =	0.035
Side Slope Lt. (H:1V)	3.00		
Side Slope Rt (H:1V)	3.00		
Channel Slope, ft/ft	0.0100		

Distance								
Elevation								
"n" =								

TAILWATER RESULTS:

	Discharge	Elevation	Flow depth	Velocity	Shear force
	cfs	ft	ft	fps	PSF
Design	76.15	1.15	2.83	0.72	
Check	76.02	1.02	2.61	0.64	
Max.	76.40	1.39	3.22	0.87	

ROADWAY DATA:

Roadway Width, ft	7
Surface Type	PAVED
Top of Road Elevation, ft	79.85
Length of Road, ft	100

ROADWAY OVERTOPPING:

	Discharge	Overtopping Discharge	Overtopping Elevation
	cfs	cfs	ft
Design	0		0.00
Check	0		0.00
Max.	6		79.92

TECHNICAL FOOTNOTES:

(1) USE Q/NB FOR BOX CULVERTS
(2) HW/D = HW/D OR HWi/D FROM DESIGN CHARTS
(3) FALL = HW1 - (EL(HW)d - ELsf); FALL IS ZERO FOR CULVERTS ON GRADE
(4) ELhi = HWi + ELs (INVERT OF INLET CONTROL SECTION)
(5) TW BASED ON DOWNSTREAM CONTROL OR FLOW DEPTH IN CHANNEL
(6) ho = TW or (dc + D/2) (WHICHEVER IS GREATER)
(7) $H = [1 + ke + (29n^2L)/R^{(4/3)}]v^2/2g$

SUBSCRIPT DEFINITIONS:

HWd	DESIGN HEADWATER	i	INLET
HWi	HW IN INLET CONTROL	o	OUTLET
HWo	HW IN OUTLET CONTROL	sf	Streambed
			@ culvert face

COMMENTS / DISCUSSION:

CULVERT BARREL SELECTED

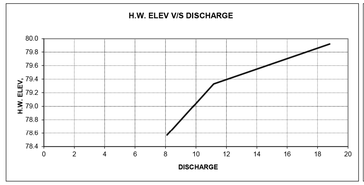
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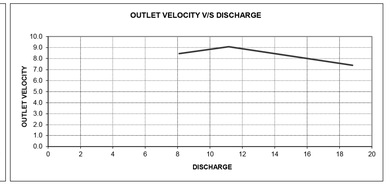
CULVERTSOFT by ENSOFTEC, INC.

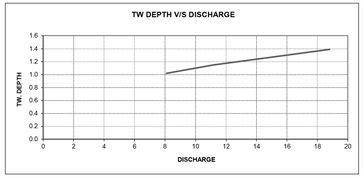
CULVERT DESIGN FORM LD-269

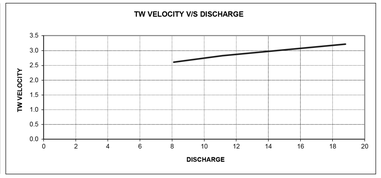
PROJECT	**Rte 460/258 Turn Lanes**			SHEET	OF
ROAD	**Rte 258**	**COUNTY**	Isle of Wight	UNITS	**ENGLISH**
CULVERT	4-6		VA		
NOAA Station	16+50	Suffolk Lake Kilby			

DESIGNER: TG DATE: 8/1/2024
REVIEWER: DATE:









CULVERTSOFT by ENSOFTEC, INC.

VRRM

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

☐ 2011 BMP Standards and Specifications ☑ 2013 Draft BMP Standards and Specifications

Project Name: 460/258 Intersection
Date: 8/1/2024
Linear Development Project? Yes

CLEAR ALL

data input cells
constant values
calculation cells
final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 1.55

Maximum reduction required:	20%
The site's net increase in impervious cover (acres) is:	0.32
Post-Development TP Load Reduction for Site (lb/yr):	0.73

Check:
BMP Design Specifications List: 2013 Draft Stds & Specs
Linear project? Yes
Land cover areas entered correctly? ✓
Total disturbed area entered? ✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) --undisturbed, forest cover status				0.01	0.01
Managed Turf (acres) -- disturbed, graded for pasture, other turf to be mowed/managed			0.13	1.29	1.42
Impervious Cover (acres)			0.01	0.11	0.12
					1.55

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) --undisturbed, managed Turf (acres) -- disturbed, graded for pasture, other turf to be mowed/managed					0.00
Impervious Cover (acres)			0.09	1.02	1.11
			0.05	0.39	0.44
Area Check	OK.	OK.	OK.	OK.	1.55

Constants	
Normal Rainfall (inches)	43
Total Nitrogen (Lbs/Acre/yr)	1.68
Total Phosphorus (TP) (lb/Acre/yr)	0.26
Total Nitrogen (TN) (lb/Acre/yr)	1.68
Target TP Load (lb/ acre/ yr)	0.41
(1 - unit less correction factor)	0.90

Runoff Coefficients (Rv)	A Soils	B Soils	C Soils	D Soils
Forest/ Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.25	0.29
Impervious Cover	0.95	0.95	0.95	0.95

LAND COVER SUMMARY – PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	Listed	Adjusted*
Forest/ Open Space Cover (acres)	0.01	0.00
Weighted Rv(forest)	0.05	0.00
%forest	1%	0%
Managed Turf Cover (acres)	1.42	1.11
Weighted Rv(turf)	0.25	0.25
%Managed Turf	92%	90%
Impervious Cover (acres)	0.12	0.12
Rv(impervious)	0.95	0.95
%impervious	8%	10%
Total Site Area (acres)	1.55	1.23
Site Rv	0.30	0.32

LAND COVER SUMMARY – POST DEVELOPMENT

Land Cover Summary-Post (Final)	
Post-ReDev. & New Impervious	
Forest/ Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
%forest	0%
Managed Turf Cover (acres)	1.11
Weighted Rv (turf)	0.25
%Managed Turf	72%
Impervious Cover (acres)	0.44
Rv(impervious)	0.95
%impervious	28%
Final Site Area (acres)	1.55
Final Post-Dev Site Rv	0.45

Land Cover Summary-Post	
Post-ReDevelopment	
Forest/ Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
%forest	0%
Managed Turf Cover (acres)	1.11
Weighted Rv (turf)	0.25
%Managed Turf	90%
ReDev. Impervious Cover (acres)	0.12
Rv(impervious)	0.95
%impervious	10%
Total ReDev. Imp Area (acres)	1.23
ReDev Site Rv	0.32

Land Cover Summary-Post	
Post-Development New Impervious	
New Impervious Cover (acres)	0.32
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0388	0.0324
Pre-ReDevelopment Treatment Volume (cubic feet)	1,690	1,411
Pre-ReDevelopment TP Load (lb/yr)	**1.06**	**0.89**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.69	0.72
Baseline TP Load (lb/ yr) (0.41 lbs/acre/yr -applied to pre-redevelopment acreage (excluding previous land/proposed for new impervious cover)		0.50

Final Post-Development Treatment Volume (acre-ft)	0.0077	
Final Post-Development Treatment Volume (cubic feet)	2,515	
Final Post-Development TP Load (lb/yr)	**1.58**	
Final Post-Development TP Load per acre (lb/acre/yr)		1.02

Post-ReDevelopment Treatment Volume (acre-ft)	0.0324
Post-ReDevelopment Treatment Volume (cubic feet)	1,411
Post-ReDevelopment Load (TP) (lb/yr)*	**0.89**
Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.72
Max. Reduction Required (Reduce Pre-ReDevelopment Load)	20%
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.18**

Post-Development Treatment Volume (acre-ft)	0.0253
Post-Development Treatment Volume (cubic feet)	1,104
Post-Development TP Load (lb/yr)	**0.69**
TP Load Reduction Required for New Impervious Area (lb/yr)	**0.56**

*Adjusted Land Cover Summary:
Pre ReDevelopment land cover minus previous land cover (forest/open space or managed Turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/acre).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.74
Linear Project TP Load Reduction Required (lb/yr):	0.73

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr):	7.60	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr):	11.30

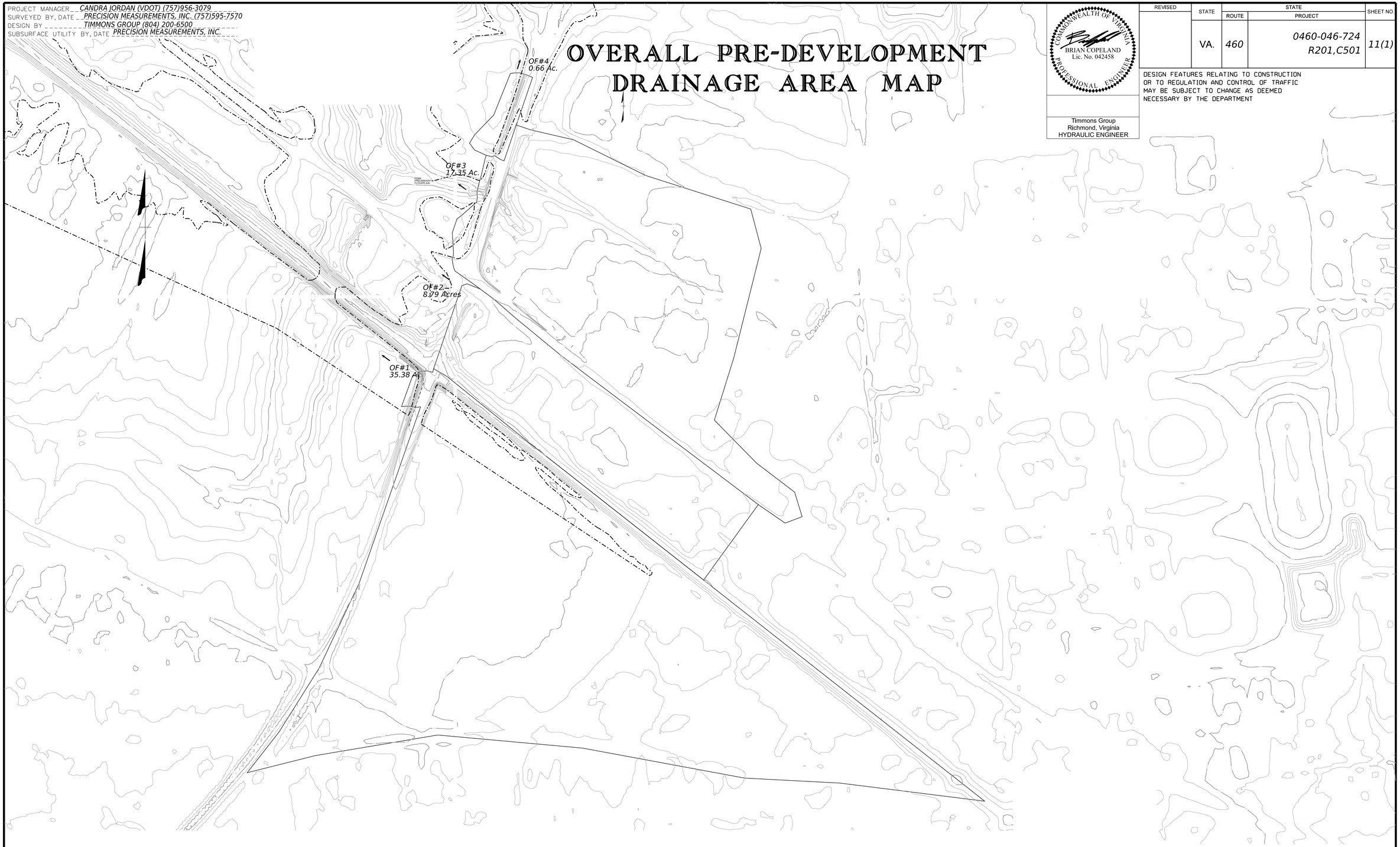
PROJECT	SHEET NO.
0460-046-724	10(5)

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Plotted By: Katie.Settle

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

OVERALL PRE-DEVELOPMENT DRAINAGE AREA MAP



COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia
HYDRAULIC ENGINEER

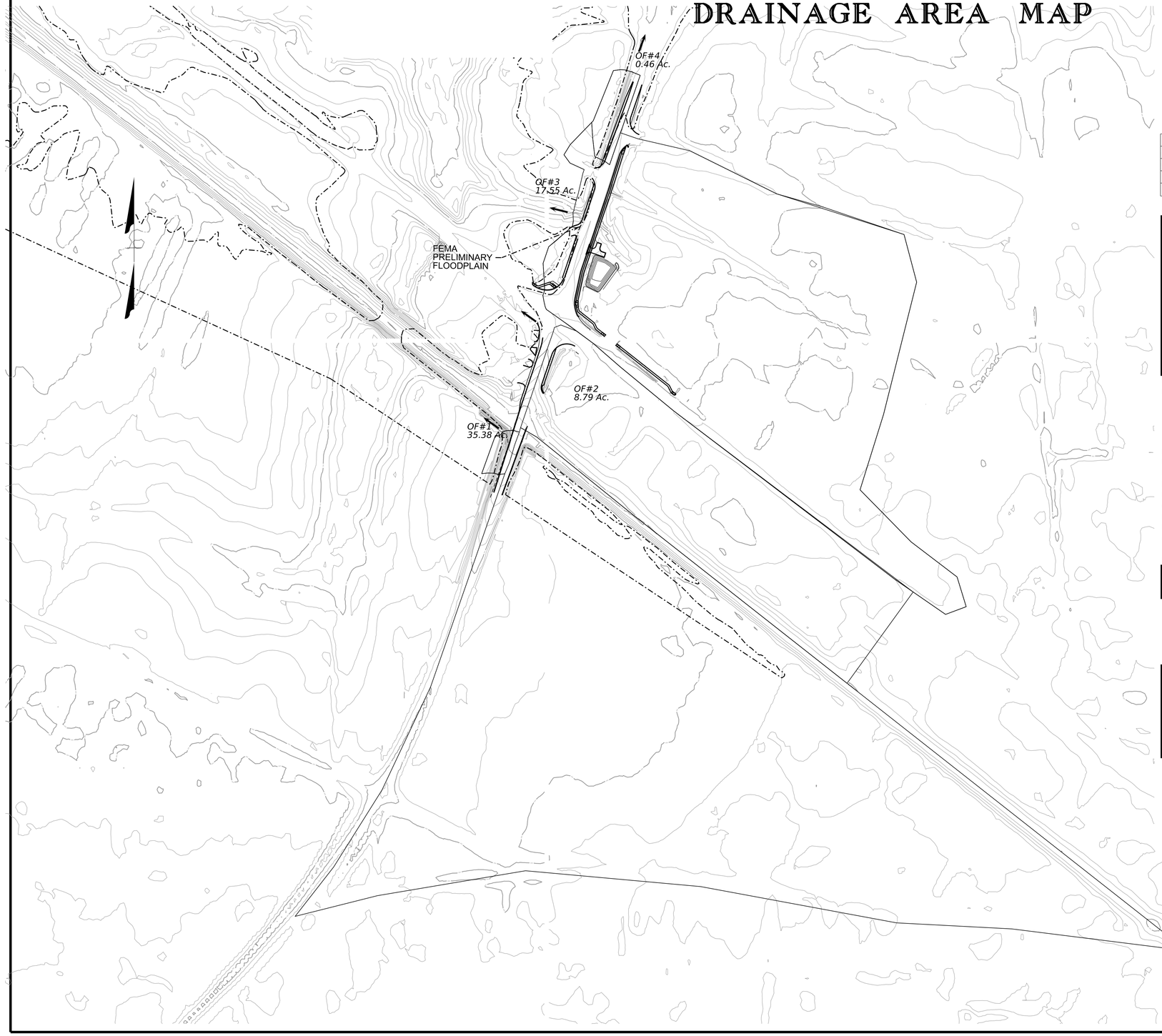
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	11(1)

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

SCALE	PROJECT	SHEET NO.
0 150' 300'	0460-046-724	11(1)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

OVERALL POST-DEVELOPMENT DRAINAGE AREA MAP



COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	11(2)

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

1% ANALYSIS SUMMARY (CHANNEL + FLOOD PROTECTION)

	OF #1	OF #2
Outfall Type	Man-Made	Man-Made
Overall Drainage Area (Ac.)	35.38	8.76
Disturbed Area Within Drainage Area (Ac.)	0.09	0.08
Ratio	0.2544%	0.9132%

CHANNEL PROTECTION SUMMARY (1-YEAR STORM)

	OF #3	OF #4
Outfall Type	Natural	Man-Made
$Rv_{pre\ (on\text{-}site)}$ (ac-ft)	0.1153	0.0243
$Rv_{pre\ (off\text{-}site)}$ (ac-ft)	2.6312	0.0732
$Rv_{post\ (on\text{-}site)}$ (ac-ft)	0.1396	0.0295
$Rv_{post\ (off\text{-}site)}$ (ac-ft)	2.6458	0.0457
$Q_{pre\ (on\text{-}site)}$ (cfs)	2.08	0.44
$Q_{post\ (on\text{-}site)}$ (cfs)	2.52	0.54
Energy Balance (cfs)	29.81	2.13
$Q_{post\ (on\text{-}site)} + Q_{post\ (off\text{-}site)}$ (cfs)	31.28	1.26
Attenuation Req'd?	Yes	No
$Q1_{post}$ (routed)	29.80	N/A

NOTE: Peak flows developed using PondPack
NOTE: Improvement factor of 0.8 used for all outfalls

$$Q_{p_{allowable}} \leq \left[IF \times Q_{p_{pre(on-site)}}\left(\frac{RV_{pre\ (on-site)}}{RV_{post\ (on-site)}}\right)\right] + \left[Q_{p_{pre(off-site)}}\left(\frac{RV_{pre\ (off-site)}}{RV_{post\ (off-site)}}\right)\right]$$

Rows A thru D are the applicable volume of runoff from the 1 year storm
Row E is the peak flow from the 1 year storm generated by the site in the pre-developed condition
Row F is the peak flow from the 1 year storm generated by the site in the post-developed condition
Row G is the result of the energy balance equation using the above rows as input
Row H is the peak flow from the 1 year storm for the entire contributing drainage area in the post-developed condition
Row I checks if energy balance is met. "No" means no attenuation is required to meet energy balance.
Row J is is the 1 year storm at the outfall after accounting for the attenuation from BMP's. Row J must be less than Row G to meet energy balance.

FLOOD PROTECTION SUMMARY (10-YEAR STORM)

	OF #3	OF #4
Pre-Development 10-yr	68.37	3.00
Post-Development 10-yr	80.64*	2.33

*Structure 4-3 outfalls into a FEMA mapped floodplain. The proposed storm sewer system and ditches provide enough capacity to contain the 10-year storm to the outfall which is within the mapped floodplain, satisfying the flood protection requirement for Outfall #3.

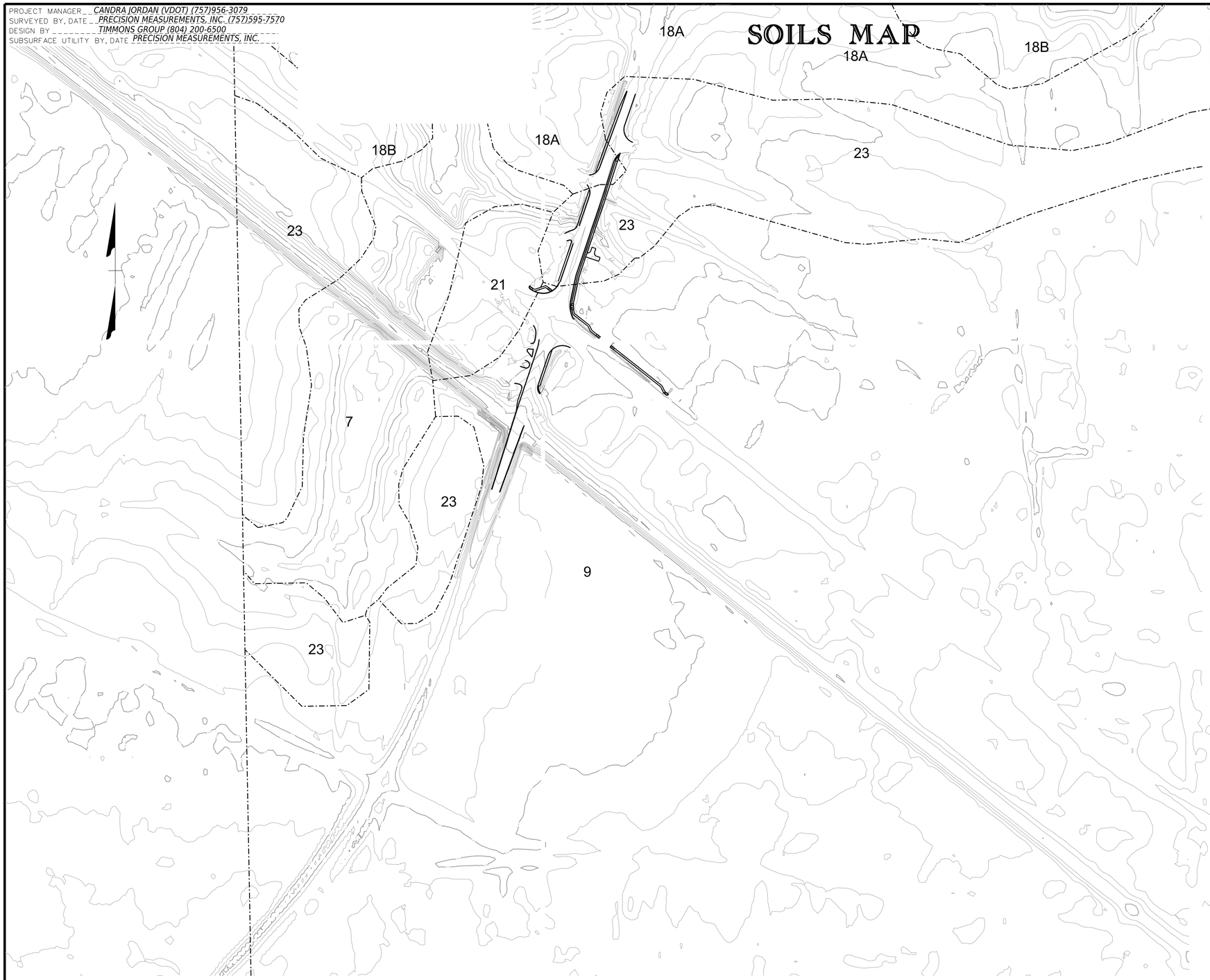
Water Quality

Water quality compliance calculations for this linear development project have been developed per **subsection 2** for development on prior developed lands, **subdividion d**, of the water quality design criteria requirements. The phosphorous load reduction needed for this project is **0.73 lbs/yr (See VRRM Spreadsheet Sheet 10(5))**. Per subsection B of the offsite compliance options section, because the post-construction phosphorus control requirement is anticipated to be less than 10 pounds per year for this project, offsite options are permitted.

SCALE	PROJECT	SHEET NO.
0 150' 300'	0460-046-724	11(2)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

SOILS MAP



COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia
HYDRAULIC ENGINEER

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	11(3)

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

Hydrologic Soil Group—Isle of Wight County, Virginia — Rte 460/258

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
7	Kinston loam	B/D	27.2	9.2%
9	Myatt fine sandy loam	B/D	161.1	54.5%
10	Nawney loam	B/D	20.4	6.9%
17B3	Slagle sandy loam, 2 to 6 percent slopes, severely eroded	C	12.2	4.1%
18A	Slagle fine sandy loam, 0 to 2 percent slopes	C	17.5	5.9%
18B	Slagle fine sandy loam, 2 to 6 percent slopes	C	13.8	4.7%
21	Udorthents, loamy		2.7	0.9%
23	Yemassee fine sandy loam	B/D	40.4	13.7%
Totals for Area of Interest			**295.3**	**100.0%**

USDA **Natural Resources Conservation Service** — Web Soil Survey, National Cooperative Soil Survey — 3/18/2024, Page 3 of 4

SCALE
0 150' 300'

PROJECT 0460-046-724

SHEET NO. 11(3)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

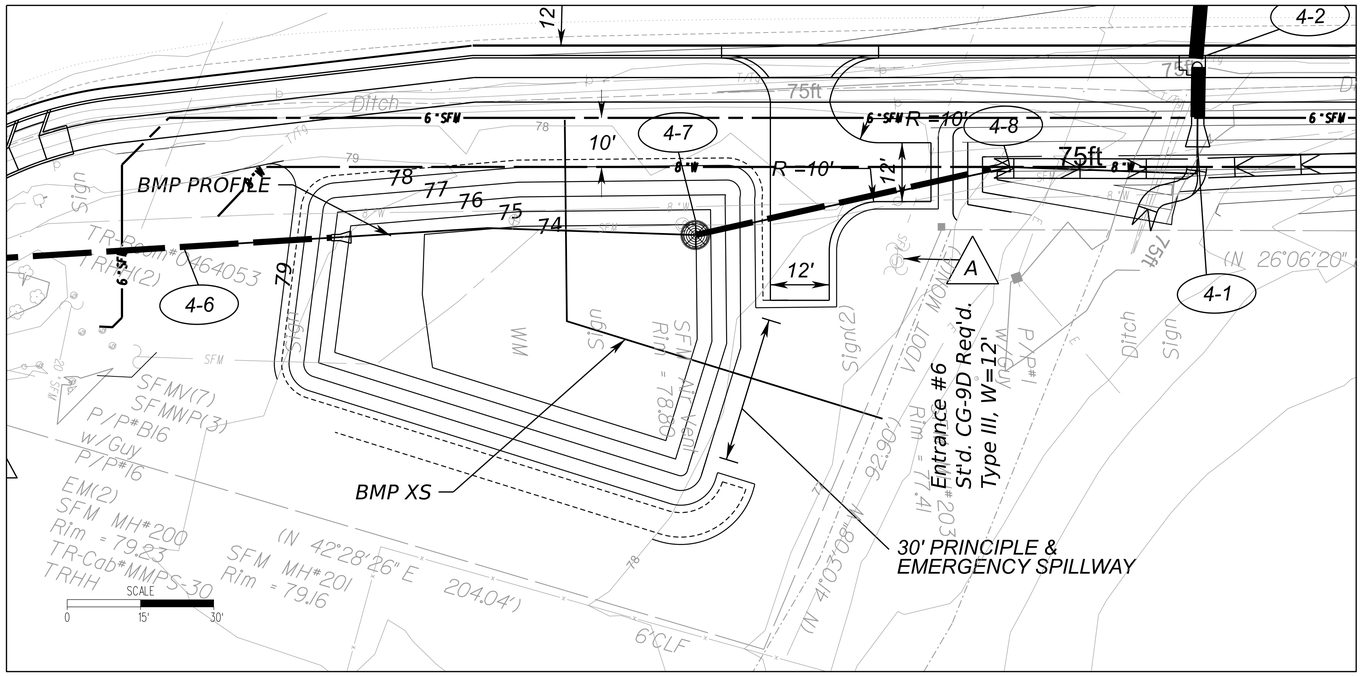
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	12(1)

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

BMP DETAILS



PROPOSED BASIN ROUTING AND SUMMARY

APPROX. FOOTPRINT = 5800 SF
TOTAL STORAGE =18590 CF

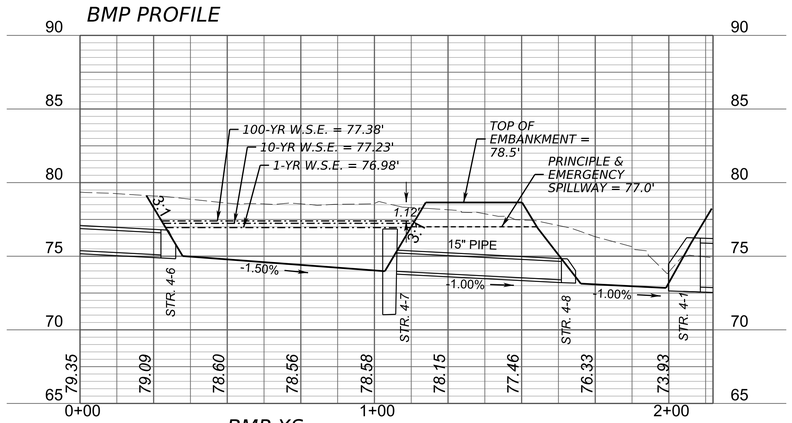
1 - YEAR STORM
PEAK FLOW IN = 10.82 CFS
PEAK FLOW OUT = 5.06 CFS

2 - YEAR STORM
PEAK FLOW IN = 14.00 CFS
PEAK FLOW OUT = 11.64 CFS

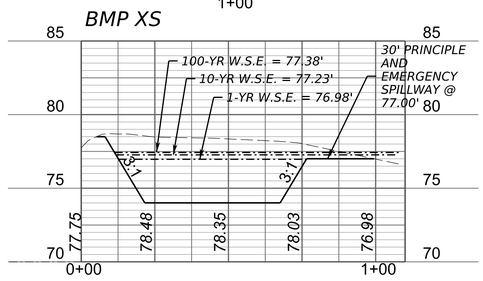
10 - YEAR STORM
PEAK FLOW IN = 23.60 CFS
PEAK FLOW OUT = 23.69 CFS

100 - YEAR STORM
PEAK FLOW IN = 41.56 CFS
PEAK FLOW OUT = 41.48 CFS

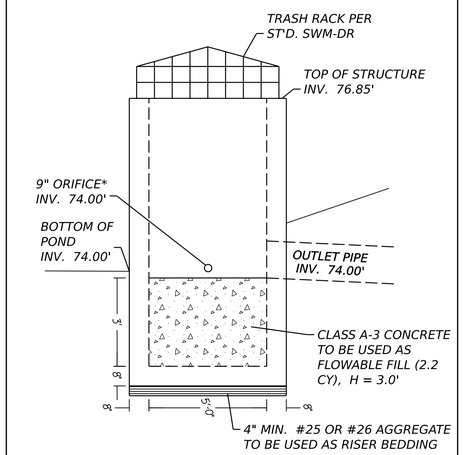
BMP PROFILE



BMP XS



STRUCTURE 4-7
SWM-1 RISER DETAIL



SEE VDOT STANDARD SWM-1 AND SWM-DR FOR ADDITIONAL DETAILS. DIMENSIONS AND MATERIALS NOT SHOWN ON THIS SHEET SHALL BE PER THE STANDARDS.

** SEE VDOT STANDARD SWM-DR FOR ORIFICE METAL PLATE AND DEBRIS RACK DETAIL.*

RISER AND OUTLET PIPE CHARACTERISTICS

RISER STR. TYPE = VDOT ST'D. SWM-1
RISER STR. TOP ELEV. = 76.85'
RISER STR. DIAMETER = 60"
9" ORIFICE @ 74.00'

OUTLET PIPE DIAMETER = 24 IN.
UPSTREAM INV. = 74.00'
DOWNSTREAM INV. = 73.40'
LENGTH = 61.2'

PROJECT	SHEET NO.
0460-046-724	12(1)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	13(1)

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

GENERAL NOTES

1. Unless otherwise approved by the Engineer, existing traffic signs which are to be relocated shall remain in place until the new sign structure is in place.
2. The removal or modification of existing sign panels, structures, or foundations shall conform to section 510 of the specifications.
3. New materials and items required to complete the removal or modification of existing items shall be submitted to the Engineer for review and approval in accordance with section 105 of the specifications.
4. All existing and proposed sign locations are approximate and shall be field verified by the contractor. All proposed sign locations shall be according to VDOT standards and shall be approved by the Engineer.
5. All striping, where matching to existing, shall be done in a manner approved by the Engineer.
6. Definition of Symbols:



"A" indicates the type of structure or sign panel. (see "Definition of Types")

EXAMPLE:



Sign Panel 0-100 S.F.
Relocate existing sign panel, Type ( )



U - Type Steel Post EA.
Remove and dispose of sign structure, Type ( )

7. Raised pavement markers shall be installed according to the standard details.
8. Existing pavement markings and/or markers that conflict with the proposed markings and/or markers shawn herein shall be eradicated.
9. For lane and shoulder widths, see Roadway Plans and Typical Sections.
10. Proposed signs and pavement marking shall be according to VDOT standards.
11. Cost of Class A3 concrete foundation required for wood posts shall be included with the cost of the wood post.
12. Existing signs to be removed within project limits unless otherwise noted on plans.

SIGNING LEGEND

EXISTING	PROPOSED	
☼	●	GROUND MOUNTED SIGN STRUCTURES (SINGLE POST)
		SIGN PANEL

SIGN LABELS

Proposed Sign Assemblies



denotes Sign Assembly No.
denotes Text No.

Relocated Sign Assemblies



denotes Sign Assembly No.
denotes Text No.

Sign Relocation or Payable Sign Disposal/Salvage



denotes Existing Sign Structure and/or Sign Panel Type

STRUCTURE & SIGN PANEL
GM - Ground Mounted
OM - Overhead Mounted
CM - Cantilever Mounted

SIGN PANEL
SP-GM - Ground Mounted Sign Panel
SP-OH - Overhead Mounted Sign Panel

STRUCTURE ONLY
ST-GM - Ground Mounted

denotes Action and Measurement & Payment Item
A - Remove & Dispose
B - Remove & Salvage
C - Relocate
D - Overlay Sign Panel

Signs noted on plans to be removed that do not have an accompanying sign label shall not be measured separately for payment. Removal and disposal for such signs shall be incidental to other contract items.

*ACTION DESCRIPTIONS

G. REMOVE AND DISPOSE OF SIGN STRUCTURE, TYPE ( ),
will be measured in units of each and paid for at the contract unit price per each, which price shall be full compensation for removal and disposal of sign panels, posts and foundations to at least two feet below existing ground line, backfilling and restoration (topsoiling and seeding), and for all materials, labor, tools, equipment and incidentals necessary to complete the work.

H. REMOVE AND SALVAGE OF SIGN STRUCTURE, TYPE ( ),
will be measured in units of each and paid for at the contract unit price per each, which price shall be full compensation for removal and salvage of sign panels, posts and foundations to at least two feet below existing ground line, backfilling and restoration (topsoiling and seeding), and for all materials, labor, tools, equipment and incidentals necessary to complete the work.

Q. RELOCATE EXISTING SIGN PANEL, TYPE ( ),
will be measured in units of each and paid for at the contract unit price per each, which price shall be full compensation for removing existing panel, refurbishing framing members, furnishing and installing necessary back panels, erecting existing sign panel to new breakway posts, and for all materials, labor, tools, equipment and incidentals necessary to complete the work.

S. REMOVE AND DISPOSE OF EXISTING SIGN PANEL, TYPE ( ),
will be measured in units of each and paid for at the contract unit price per each, which price shall be full compensation for removing and disposing of sign panels, and for all materials, labor, tools, equipment, and incidentals necessary to complete the work.

*The cost of all action descriptions listed above shall be included in lump sum contract price.

DEFINITION OF TYPES

TYPE	DESCRIPTION	SIZE
DP-1	O/H Double Pole	50 - 75 L.F.
DP-2	O/H Double Pole	76 - 101 L.F.
DP-3	O/H Double Pole	102 - 127 L.F.
DP-4	O/H Double Pole	128 - 153 L.F.
DP-5	O/H Double Pole	154 - 179 L.F.
DP-6	O/H Double Pole	180 - 205 L.F.
DC-1	O/H Double Pole & Cantilever	75 - 100 L.F.
DC-2	O/H Double Pole & Cantilever	101 - 126 L.F.
DC-3	O/H Double Pole & Cantilever	127 - 152 L. F.
DC-4	O/H Double Pole & Cantilever	153 - 178 L. F.
DC-5	O/H Double Pole & Cantilever	179 - 204 L.F.
DC-6	O/H Double Pole & Cantilever	205 - 230 L.F.
CS-1	O/H Single Arm Cantilever	25 - 40 L.F.
CS-2	O/H Single Arm Cantilever	41 - 60 L.F.
CD-1	O/H Double Arm Cantilever	50 - 74 L.F.
CD-2	O/H Double Arm Cantilever	75 - 125 L.F.
CD-3	O/H Double Arm Cantilever	126 - 175 L.F.
CD-4	O/H Double Arm Cantilever	176 - 225 L.F.
BM	O/H Bridge Mount	*EA.*
I	Non-breakaway Single Metal Pole	*EA.*
II	Non-breakaway Two Metal Poles	*EA.*
III	Non-breakaway Three Metal Poles	*EA.*
V	Breakaway Single Round Metal Pole	*EA.*
VA	Breakaway Single Metal Pole	*EA.*
VIA	Breakaway Two Metal Pole	*EA.*
VIA3	Breakaway Three Metal Pole	*EA.*
VI1A	3 1/2" Rolled Rail Steel Pole	*EA.*
WP-1	Single Wood Post	*EA.*
WP-2	Two Wood Posts	*EA.*
SP-1	Sign Panel	0 - 100 S.F.
SP-2	Sign Panel	101 - 200 S.F.
SP-3	Sign Panel	201 - 300 S.F.
SP-4	Sign Panel	301 - 400 S.F.
SP-5	Sign Panel	401 - 500 S.F.
SP-6	Sign Panel	501 - 600 S.F.
STP-1	Square Tube Sign Post	*EA.*

SCALE	PROJECT	SHEET NO.
0 5' 10'	0460-046-724	13(1)

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

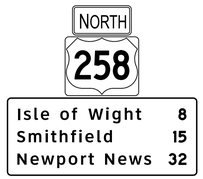
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	13(2)

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

SIGN SCHEDULE

TEXT NO.	SIGN ASSEMBLY NO(s).	TEXT	SIGN ASSEMBLY COMPONENTS: MUTCD ST'D.	PANEL SIZE W	PANEL SIZE H	QTY.	SIGN PANEL AREA (s.f.) per ASSEMBLY	SIGN PANEL AREA (s.f.) ALL ASSEMBLIES	PROP. SIGN STRUCTURE ST'D.	REMARKS
1	301, 302		OM3-R	12"	36"	2	3.00	6.00	2" 14 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 4'
			OM3-L	12"	36"	2	3.00	6.00		OM3-L SHALL BE MOUNTED ON BACK SIDE OF SIGN POST
2	401		W10-1	30"	30"	1	6.25	6.25	2 1/2" 12 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
3	402, 403, 404		R8-3	24"	24"	6	2.00	6.00	2" 14 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
4	405		M3-4	24"	12"	1	2.00	4.00	2 1/2" 10 GAUGE STP-1	TYPE B FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
			M3-2	24"	12"	1	2.00	4.00		
			M1-4	24"	24"	2	4.00	8.00		
			M6-1L	21"	15"	1	2.19	2.19		
			M6-1R	21"	15"	1	2.19	2.19		
5	409		M3-1	24"	12"	1	2.00	2.00	2 1/2" 10 GAUGE WITH 2 3/16" 10 GA. INNER POST (DOUBLE POST) STP-1	TYPE B FOUNDATION REQ'D. MOUNTING HEIGHT = 7' SEE SHEET 13(2A) FOR D2-3 SIGN DETAILS
			M1-4	24"	24"	1	4.00	4.00		
			D2-3	102"	42"	1	29.75	29.75		

TEXT NO.	SIGN ASSEMBLY NO(s).	TEXT	SIGN ASSEMBLY COMPONENTS: MUTCD ST'D.	PANEL SIZE W	PANEL SIZE H	QTY.	SIGN PANEL AREA (s.f.) per ASSEMBLY	SIGN PANEL AREA (s.f.) ALL ASSEMBLIES	PROP. SIGN STRUCTURE ST'D.	REMARKS
6	407, 408		R1-1	30"	30"	2	6.25	12.50	2 1/2" 12 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
7	501		R2-1	24"	30"	1	5.00	5.00	2" 14 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
8	502		D1-3	84"	42"	1	24.50	24.50	2 1/2" 10 GAUGE WITH 2 3/16" 10 GA. INNER POST (DOUBLE POST) STP-1	TYPE B FOUNDATION REQ'D. MOUNTING HEIGHT = 7' SEE SHEET 13(2A) FOR D1-3 SIGN DETAILS
			EM1-1a	24"	24"	1	4.00	4.00		
9	303		D14-V1	36"	24"	1	6.00	6.00	2 1/2" 12 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
10	409		R1-2	36"	36"	1	9.00	9.00	2 1/2" 12 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
11	410		R4-7B	24"	30"	1	5.00	5.00	2" 14 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'
12	411, 412		R5-1	36"	36"	2	9.00	18.00	2 1/2" 12 GAUGE STP-1	TYPE A FOUNDATION REQ'D. MOUNTING HEIGHT = 7'

NOTES:

1) ALL SIGNS SHALL BE ORIENTATED AS SHOWN ON THE PLANS.
2) SIGN COLOR COMBINATIONS SHALL BE IN ACCORDANCE WITH THE FHWA SHS BOOK AND THE 2011 VIRGINIA SHS BOOK OR AS NOTED IN THE PLANS.
3) ALL POSITIVE CONTRAST GUIDE AND SPECIFIC SERVICE SIGNS SHALL UTILIZE FABRICATION LETTER TYPE L-3 OR L-4 UNLESS OTHERWISE NOTED IN THE REMARKS. ALL OTHER SIGNS SHALL UTILIZE FABRICATION LETTER TYPE L-1 OR L-2 UNLESS OTHERWISE NOTED IN THE REMARKS.
4) ALL BLACK SHEETING SHALL BE NON-REFLECTIVE.
5) SIGN STRUCTURES SHALL BE INSTALLED PER THE NOTED SIGN ST'D.
6) ALL ST'D. STP-1 STRUCTURES TO BE SINGLE POST UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL DEVICE PLANS
SIGNING AND PAVEMENT MARKINGS
SIGN SCHEDULE

ISLE OF WIGHT COUNTY

PROJECT	SHEET NO.
0460-046-724	13(2)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

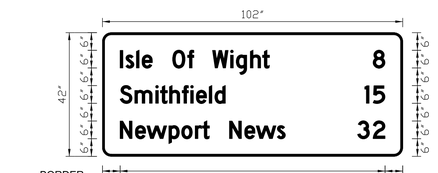
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	13(2A)

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

SIGN DETAIL
1:25



Panel Style: guide_con_destination_3-line.ssi
Dimensions are in inches hundredths
Letter locations are panel edge to lower left corner

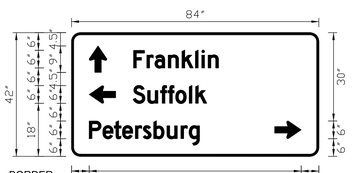
SIGN NUMBER	D2-3
WIDTH x HGHT.	102" x 42"
BORDER WIDTH	0.75"
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

LETTER POSITIONS (X)

																				LENGTH	SERIES/SIZE
I	s	l	e		O	f		W	i	g	h	t		8							D 2000
6"	7.92"	11.52"	13.44"	17.22"	23.82"	28.92"	31.2"	37.38"	43.5"	45.42"	50.22"	54.36"		91.92"						90.00"	6"/4.5"
S	m	i	t	h	f	i	e	l	d		1	5									D 2000
6"	10.98"	18.06"	19.68"	22.74"	27.06"	29.94"	31.86"	36.24"	38.16"		89.1"	91.92"								90.00"	6"/4.5"
N	e	w	P	o	r	t		N	e	w	s		3	2							D 2000
6"	11.16"	15.06"	22.56"	26.88"	31.5"	33.96"	36.42"	43.14"	48.3"	52.2"	59.34"		86.64"	91.92"						90.00"	6"/4.5"

SIGN DETAIL
1:25



Panel Style: guide_con_destination.ssi
Dimensions are in inches hundredths
Letter locations are panel edge to lower left corner

SIGN NUMBER	D1-3
WIDTH x HGHT.	84" x 42"
BORDER WIDTH	0.75"
CORNER RADIUS	3"
MOUNTING	Ground
BACKGROUND	TYPE: Reflective
	COLOR: Green
LEGEND/BORDER	TYPE: Reflective
	COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT
AR_Type D		6"	28.5"	6"	9"
AR_Type D	90"	6"	18"	6"	9"
AR_Type D	270"	69"	6"	6"	9"

LETTER POSITIONS (X)

																				LENGTH	SERIES/SIZE
F	r	a	n	k	l	i	n														D 2000
21.07"	25.57"	28.27"	32.83"	37.51"	42.07"	44.23"	46.39"													28.86"	6"/4.5"
S	u	f	f	o	l	k															D 2000
20.89"	25.81"	30.19"	32.71"	35.35"	39.97"	42.13"														25.08"	6"/4.5"
P	e	t	e	r	s	b	u	r	g												D 2000
6"	10.62"	14.46"	17.28"	21.66"	24.3"	27.9"	32.4"	37.14"	39.9"											37.5"	6"/4.5"

TRAFFIC CONTROL DEVICE PLANS

SIGNING AND PAVEMENT MARKINGS
SIGN FIGURE DETAILS

ISLE OF WIGHT COUNTY

PROJECT	SHEET NO.
0460-046-724	13(2A)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	13(3)

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

MATCHLINE SHEET 13(4) - STA. 14+00.00

NOW OR FORMERLY
WILLIAM H.GOODMAN ESTATE
C/O LOWELL GOODMAN
D.B.131 PG.246
P.B.5 PG.50
PARCEL ID: 53-01-056
37.74 ACRES PER TAX RECORDS

NOW OR FORMERLY
CLYDE A.BRACEY,SR.ESTATE
C/O NANCY PRUDEN
D.B.145 PG.163
D.B.153 PG.163 (COMM.OF VA)
PARCEL ID: 54B-01-262
18.10 ACRES PER TAX RECORDS

NORFOLK SOUTHERN RAILWAY COMPANY
VARIABLE WIDTH RIGHT OF WAY

NOW OR FORMERLY
CCJ LLC
INST.#100001982
P.C.2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

Exist. R/W

POT 10+00.00

MATCH EXIST.

GM A

301 1

303 9

302 1

ADJUST TO HIGHWAY SUBDIVISION BUREAU OF RIGHT OF WAY

10 11 12 13

12' 12'

23' 9' 9' 9' 9' 18'

A B C D E F G H J

(N 45°00'00"W 2385.57')

LEGEND

A. Type B, Class II Railroad Crossing Symbol
B. Type B, Class II Double Yellow Pavement Line Marking, 4" Width
C. Type B, Class II White Pavement Line Marking, 4" Width
D. Type B, Class II White Pavement Line Marking, 4" Width (2' Dash 6' Skip)
E. Type B, Class II White Pavement Line Marking, 8" Width (Bar Pairs)
F. Type B, Class II Yellow Pavement Line Marking, 24" Width (12' Spacing)
G. Type B, Class II White Pavement Line Marking, 24" Width
H. Type B, Class II Pavement Marking Arrow
J. Type B, Class II White Yield Markings, 24" x 36"

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	13(3)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	13(4)

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

MATCHLINE SHEET 13(3) - STA. 14+00.00

MATCHLINE SHEET 13(5) - STA. 21+00.00

MATCHLINE SHEET 13(6) - STA. 36+00.00

NOW OR FORMERLY
J C PATTERSON
PROPERTIES THREE LLC
INST.•130001020
PARCEL ID: 54B-01-298
1.80 ACRES PER TAX
RECORDS

NOW OR FORMERLY
60 WEST
WINDSOR REALTY LLC
INST.•110004948
PARCEL ID: 54B-01-001
1.10 ACRES PER TAX RECORDS

NOW OR FORMERLY
JTMSR LLC
INST.•180001999
PARCEL ID: 54B-05-019
3.09 ACRES PER TAX RECORDS

NOW OR FORMERLY
CCJ LLC
INST.•100001982
P.C. 2-80-4 (PLAT)
PARCEL ID: 54B-01-296A
1.346 ACRES PER PLAT

NOW OR FORMERLY
COMMUNITY ELECTRIC CO-OP
D.B.124 PG.560
D.B.125 PG.2
D.B.131 PG.210
D.B.149 PG.366
D.B.159 PG.396
D.B.176 PG.241
D.B.286 PG.140
P.C. 2-154-18 (PLAT)
PARCEL ID: 54B-01-003
6.739 ACRES PER PLAT

NOW OR FORMERLY
WINDSOR MANOR MOBILE HOME
PARK LLC
INST.•160003475
INST.•160003475 (PLAT)
PARCEL ID: 54B-05-022
30.652 ACRES PER PLAT

RELOCATE EXISTING STREET NAME SIGN ASSEMBLY ON NEW STP-1 POST

EXISTING 15'X 15' ISLE OF WIGHT COUNTY UTILITY EASEMENT INST.•960003190

EXISTING 30' COMMUNITY ELECTRIC COOPERATIVE EASEMENT P.B.4 PG.233

ISLE OF WIGHT 8
SMITHFIELD 15
NEWPORT NEWS 32

LEGEND

A. Type B, Class II Railroad Crossing Symbol
B. Type B, Class II Double Yellow Pavement Line Marking, 4" Width
C. Type B, Class II White Pavement Line Marking, 4" Width
D. Type B, Class II White Pavement Line Marking, 4" Width (2' Dash 6' Skip)
E. Type B, Class II White Pavement Line Marking, 8" Width (Bar Pairs)
F. Type B, Class II Yellow Pavement Line Marking, 24" Width (12' Spacing)
G. Type B, Class II White Pavement Line Marking, 24" Width
H. Type B, Class II Pavement Marking Arrow
J. Type B, Class II White Yield Markings, 24" x 36"

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	13(4)

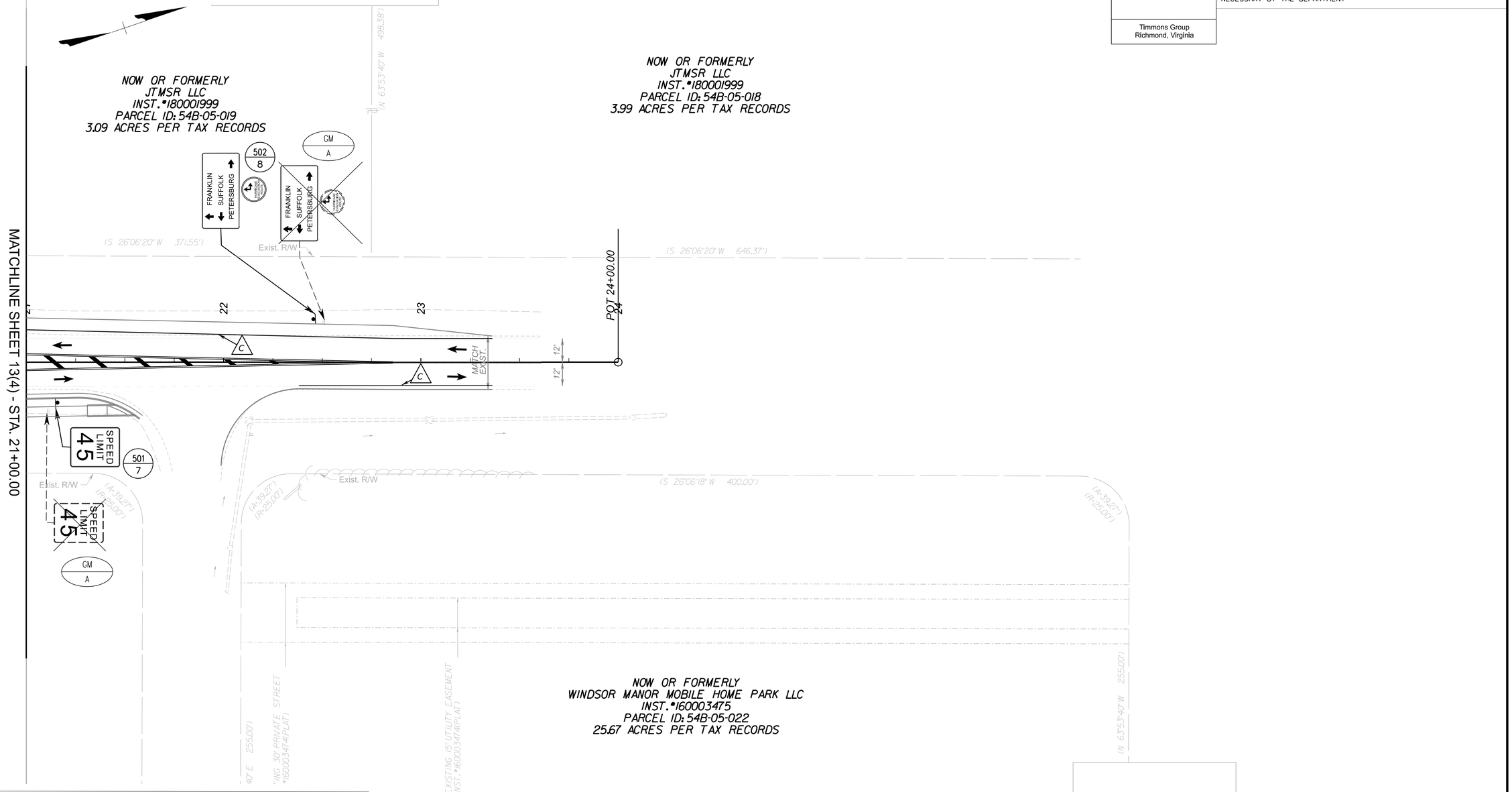
PROJECT MANAGER: CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE: PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY: TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE: PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	13(5)

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



LEGEND ⚠#

A. Type B, Class II Railroad Crossing Symbol
B. Type B, Class II Double Yellow Pavement Line Marking, 4" Width
C. Type B, Class II White Pavement Line Marking, 4" Width
D. Type B, Class II White Pavement Line Marking, 4" Width (2' Dash 6' Skip)
E. Type B, Class II White Pavement Line Marking, 8" Width (Bar Pairs)
F. Type B, Class II Yellow Pavement Line Marking, 24" Width (12' Spacing)
G. Type B, Class II White Pavement Line Marking, 24" Width
H. Type B, Class II Pavement Marking Arrow
J. Type B, Class II White Yield Markings, 24" x 36"

SCALE	PROJECT	SHEET NO.
0 25' 50'	0460-046-724	13(5)

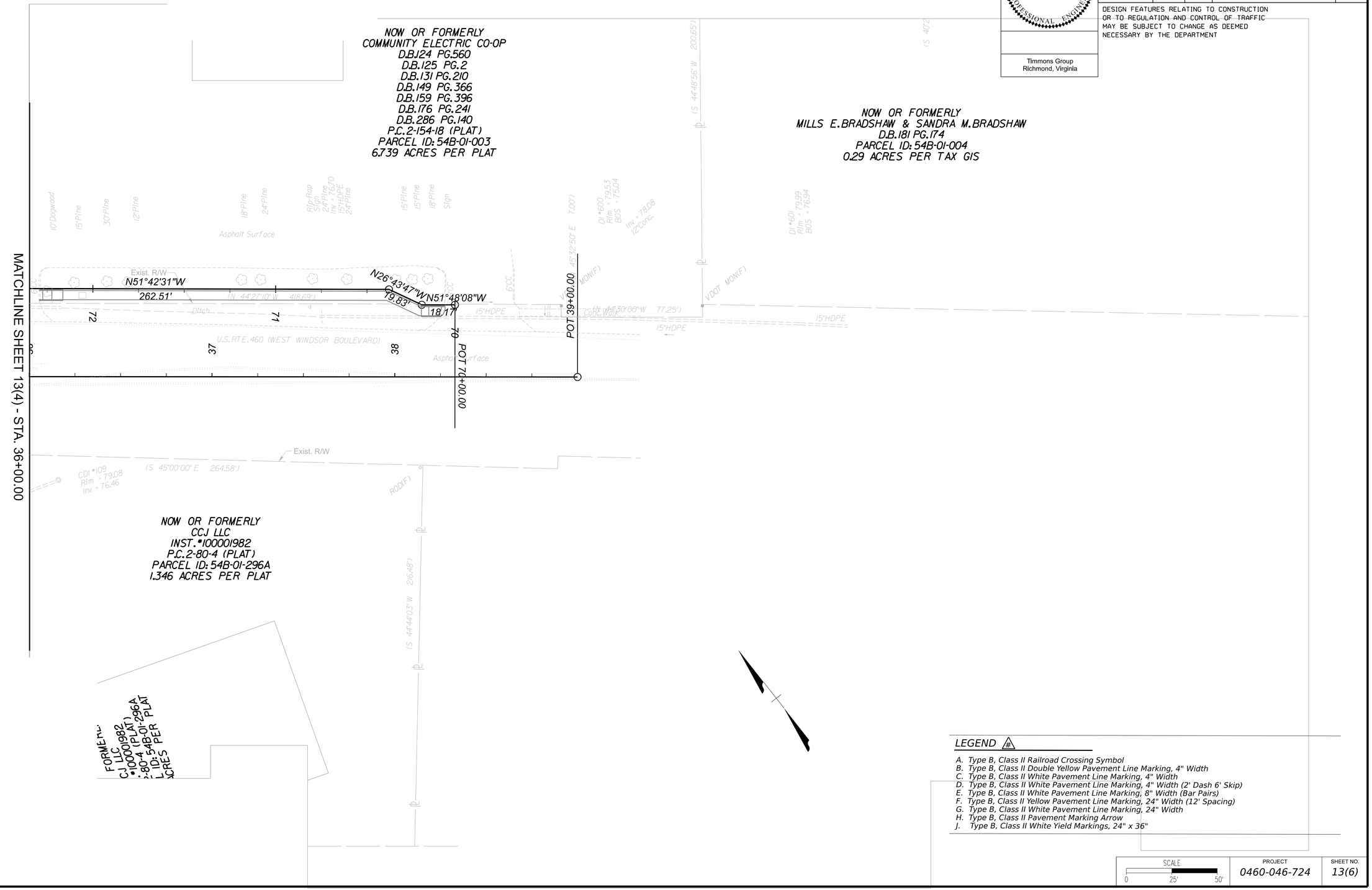
PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	13(6)

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



LEGEND

A. Type B, Class II Railroad Crossing Symbol
B. Type B, Class II Double Yellow Pavement Line Marking, 4" Width
C. Type B, Class II White Pavement Line Marking, 4" Width
D. Type B, Class II White Pavement Line Marking, 4" Width (2' Dash 6' Skip)
E. Type B, Class II White Pavement Line Marking, 8" Width (Bar Pairs)
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REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
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UTILITY NOTES & DETAILS

GENERAL NOTES

1. THE DEVELOPER SHALL SUBMIT TWO (2) SETS OF AS-BUILT PLANS AND ONE (1) CD/DVD WITH AS-BUILT AUTOCAD DRAWINGS AND PDF FILES OF EACH PLAN SHEET TO THE STORMWATER DIVISION FOR ALL STORM SEWER, PUBLIC SANITARY SEWER, PUBLIC WATER AND BMPS. AS A PART OF FINAL INSPECTION, DEVELOPER SHALL HIRE AN INDEPENDENT TELEVISION INSPECTION SERVICE TO PERFORM A CLOSED-CIRCUIT TELEVISION INSPECTION OF ALL NEWLY CONSTRUCTED STORM SEWERS AND SANITARY SEWERS UNLESS OTHERWISE DIRECTED BY THE STORMWATER DIVISION. A VIDEO/DVD OF THE INSPECTION SHALL BE PRODUCED AND DELIVERED TO THE COUNTY IN COLOR FORMAT, TOGETHER WITH A TYPED LOG OF THE INSPECTION.

2. All WATER AND SEWER UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WTH THE LATEST VERSION OF ISLE OF WIGHT COUNTY CONSTRUCTION SPECIFICATIONS AND STANDARDS.

3. ALL CONSTRUCTION METHODS, MATERIALS, TESTING AND STERILIZATION SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF PUBLIC UTILITIES COUNTY OF ISLE OF WIGHT VIRGINIA, AS WELL AS CURRENT STANDARDS AND SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF HEALTH AND THE HAMPTON ROADS SANITATION DISTRICT. TESTING SHALL INCLUDE BUT NOT BE LIMITED TO SOAKING WATERMAIN FOR A PERIOD OF 24 HOURS, HYDROSTATIC PRESSURIZATION TO 150 PSI MAINTAINED FOR 2 HOURS WITH LEAKAGE NOT TO EXCEED WHAT IS STATED IN AWWA C600-93. FLUSHING THE MAIN SHALL INCLUDE BUT NOT BE LIMITED TO FULL FLUSHING THE MAIN WITH NO RESTRICTIONS WITH FINISHED WATER AT A VELOCITY OF NOT LESS THAN 2.5 FPS THEN DISINFECTING IN ACCORDANCE WITH AWWA C651-99 OR LATEST EDITION. EVERY 1200 FEET OF WATER MAIN SHALL UNDERGO (2) CONSECUTIVE DAYS OF NEGATIVE BACTERIOLOGICAL SAMPLING, COLLECTED NO LESS THAN 24 HOURS APART. THE ENTIRE DISINFECTION PROCESS SHALL BE IN ACCORDANCE WITH DIRECTIVES FROM THE VIRGINIA DEPARTMENT OF HEALTH. THE WATERMAIN CAN ONLY BE PUT INTO SERVICE ONCE ALL INSPECTIONS AND TESTING IS COMPLETED AND A LETTER OF CERTIFICATION WITH BACTIERLOGICAL SAMPLES ARE SENT TO VIRGINIA DEPARTMENT OF HEALTH BY THE CONTRACTOR.

4. DUCTILE IRON PIPE SHALL BE CENTRIFUGALLY CAST PIPE MANUFACTURED IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.51. DUCTILE IRON PIPE SHALL BE CEMENT-MORTAR LINED INSIDE IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.4-90. CEMENT FOR THE MORTAR SHALL BE TYPE II PORTLAND CEMENT. THE STANDARD SEAL COAT OF BITUMINOUS MATERIAL SHALL BE APPLIED TO THE EXTERIOR OF THE PIPE. DUCTILE IRON PIPE SHALL BE CLASS 50 (MIN.).

5. JOINTS FOR DUCTILE IRON PIPE SHALL BE ONE OF THE FOLLOWING,

A. RUBBER GASKET (PUSH-ON) TYPE JOINT. RUBBER GASKET TYPE JOINTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.00 AND DESIGNED TO LOCK AGAINST DISPLACEMENT WITHOUT CAULKING. THE GASKET SHALL BE A RESILIENT RUBBER OF HEAVY SECTION, HIGH DUROMETER, AND SINGLE MOLDED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE PIPE Manufacturer's RECOMMNEDATIONS. THE GASKET LUBRICANT SHALL BE A NON-TOXIC, TASTELESS, ODORLESS GREASE THAT WILL NOT SUPPORT BACTERIA. EACH GASKET LUBRICANT CONTAINER SHALL BE LABELED WITH THE TRADE NAME AND THE PIPE MANUFACTURER'S NAME.

B. MECHANICAL JOINT. STANDARD MECHANICAL JOINTS SHALL BE MANUFACTURED IN ACCORDANCE 111TH ANSI SPECIFICATIONS A21.00 (AWWA SPECIFICATIONS C111-9D). THE MECHANICAL JOINT BOLTS SHALL BE A U.S. STANDARD SIZE, HIGH STRENGTH, CORROSION RESISTANT STEEL ALLOY WITH HEXAGON NUTS. MECHANICAL JOINTS SHALL BE USED FOR THE CONNECTION OF ALL FITTINGS, VALVES, AND HYDRANTS FITTINGS SHALL BE MANUFACTURED OF DUCTILE IRON AND SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ANSI SPECIFICATIONS A21.10-90 (AWWA SPECIFICATIONS C110-93). FITTINGS SHALL BE COMPATIBLE WITH THE PIPE AND SHALL PROVIDE AT LEAST EQUAL RESISTANCE TO INTERNAL AND EXTERNAL LOADS ON THE PIPE, FITTINGS SHALL BE BITUMINOUS COATED ON THE OUTSIDE AND CEMENT MORTAR LINED ON THE INSIDE ACCORDING TO ANSI SPECIFICATIONS A21.4-9D (AWWA SPECIFICATIONS C104-9D). ALL BOLTS ARE TO BE TORQUED TO A MINIMUM OF 90LBS.

6. WATER MAINS AND SEWER FORCE MAINS SHALL HAVE A MINIMUM COVER OF 36" UNLESS OTHERWISE NOTED ON THE PLANS. (MEASURED FROM ESTABLISHED FINISHED GRADE TO TOP OF PIPE.)

7. ALL TEES, BENDS, PLUGS, CAPS AND FIRE HYDRANTS SHALL BE SUBSTANTIALLY ANCHORED TO PREVENT ANY MOVEMENT BY PROVIDING ADEQUATE THRUST RESTRAINT. THE CONTRACTOR SHALL INSTALL A BED OF 57 STONE UNDER ALL FITINGS, VALVES AND HYDRANTS AND INCASE AFTER INSTALLED ALL FITTINGS, VALVES AND HYDRANTS WITH 57 STONE CHOCKED IN PLACE.

8. VALVE BOXES SHALL BE INSTALLED FOR ALL VALVES WHICH ARE BURIED BENEATH FINISHED GRADE ELEVATION. VALVE BOXES SHALL BE CAPITAL FOUNDRY NPN-15

9. ALL WATERMAIN SEWER FORCEMAIN AIR RELEASE VALVE ASSEMBLIES SHALL BE MANUAL AND
INSTALLED AT HIGH POINTS IN THE LINE OR WHERE REQUIRED OTHERWISE. EACH ASSEMBLY SHALL CONSIST OF AN APPROVED TWO-INCH CORPORATION STOP, A RISER PIPE OF SUITABLE LENGTH, AND A TWO-INCH STAINLESS STEEL BALL VALVE. THE AIR RELEASE VALVE ASSEMBLY ENCLOSURE OR CHAMBER SHALL HAVE A CAST IRON FRAME AND COVER EQUAL TO DEWEY BROTHERS OF VIRGINIA, INC., MODEL B-1200.

10. BLOW-OFF ASSEMBLIES SHALL BE INSTALUED AT ALL PIPE DEAD ENDS AND LOW POINTS IN THE LINE OR WHERE OTHERWISE REQUIRED. THE BLOW-OFF ASSEMBLY PIPEWORK AND VALVING SHALL BE APPROPRIATELY SIZED AND SHALL CONFORM IN ALL RESPECTS TO THE APPLICABLE PORTIONS OF ISLE OF WIGHT COUNTY'S CONSTRUCTION SPECIFICATIONS THE BLOW-OFF ASSEMBLY ENCLOSURE OR CHAMBER SHALL HAVE A CAST IRON FRAME AND COVER EQUAL TO DEWEY BROTHERS OF VIRGINIA, INC., MODEL 8-1200. THE TWO TYPES OF ASSEMBLY ENCLOSURES SHALL BE AS GRAPHICALLY INDICATED IN THE CONSTRUCTION STANDARDS. IN NO INSTANCE SHALL THE DRAIN OR THE OUTLET BE CONNECTED TO A SANITARY SEWER. NEITHER THE AIR RELEASE VALVE ASSEMBLY NOR THE BLOW-OFF ASSEMBLY SHALL BE INSTALLED UNDER PAVEMENT SUBJECT TO VEHICULAR TRAFFIC.

11. UNLESS OTHERWISE SPECIFIED, A MINIMUM VERTICAL SEPARATION OF 18" SHALL BE MAINTAINED BETWEEN ALL SANITARY SEWERS AND WATER LINES. THE LENGTH OF THE WATER LINE SHALL BE CENTERED ON THE CROSSING WHERE THE WATER LINE CROSSES OVER THE SANITARY SEWER. WHERE CLEARANCE IS LESS THAN 18" BUT GREATER THAN 12", THE SANITARY SEWER SHALL BE DUCTILE IRON PIPE. WHEN THE WATER LINE CROSSES UNDER THE SANITARY SEWER, 18" MINIMUM CLEARANCE MUST BE MAINTAINED, AND SANITARY SEWER SHALL BE DUCTILE IRON PIPE. HORIZONTAL SEPARATION OF SANITARY MAINS AND WATER MAINS SHALL BE 10', UNLESS OTHERWISE SPECIFIED.

12. A MINIMUM VERTICAL SEPARATION OF 12" SHALL BE MAINTAINED BETWEEN STORM SEWERS AND WATER LINES, UNLESS OTHERWISE SPECIFIED.

13. THE CONTRACTOR SHALL USE ONLY APPROVED BY ISLE OF WIGHT COUNTY MATERIAL IN THE BACKFILL OF UTILITY TRENCHES.

14. ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE DEPARTMENT OF PUBLIC UTILITIES, COUNTY OF ISLE OF WIGHT, VIRGINIA (DPU), AS WELL AS CURRENT STANDARDS AND SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF HEALTH AND THE HAMPTON ROADS SANITATION DISTRICT. DPU'S CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR CONSTRUCTION SPECIFICATIONS AND STANDARD FOR WATERWORKS AND SANITARY SEWERAGE FACILITIES, A COPY OF WHICH MUST BE PURCHASED FROM DPU AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCE TO VDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATIONS OF VDOT.

15. SUB-SURFACE UTILITY WARNING TAPE AS MANUFACTURED BY THE GRIFFOLYN COMPANY, OR EQUAL, 4 INCHES WIDE OR WIDER SHALL BE PLACED AT AN ELEVATION NOT LESS THAN 6-INCHES NOR MORE THAN 12-INCHES BELOW THE PROPOSED FINISHED GRADE
ABOVE NON-CONDUCTIVE SEWER, WATER AND SEWER FORCE MAINS IN PUBLIC RIGHTS-OF-WAY OR EASEMENTS. THE TAPE SHALL BE OF A DURABLE, METALIZED, PLASTIC FILM SIMILAR TO "TERRA-TAPE D" FOR IDENTIFICATION BY ELECTRONIC PIPE LOCATING DE'.1CE AS WELL AS '1SUAL I DEN TI FICA TION. THE TAPE FOR SEWER FORCE MAIN LINE SHALL BE BRIGHT GREEN WITH THE FOLLOWING IMPRINTED LEGEND "CAUTION-SEWER LINE BELOW". THE TAPE FOR WATER LINES SHALL BE BRIGHT BLUE WITH THE FOLLOWING IMPRINTED LEGEND "CAUTIONWATER LINE BELOW."

16. ALL PVC AND DUCTILE IRON WATERLINES AND SANITARY SEWER FORCE MAIN SHALL BE AFFIXED WITH CONDUCTIVE 10 GAUGE SOLID TRACER WIRE AND TAPED TO TOP OF PIPE IN 5 FOOT INCREMENTS DURING INSTALLATION.TRACER WIRE SHALL BE BROUGHT UP IN ALL VALVEBOXES, AIR RELEASE BOXES AND HYDRANTS. WIRE SHALL BE BLUE ON WATERMAINS AND SERVICE LINES AND GREEN FOR SEWER AS REQUIRED BY THE DEPARTMENT OF PUBLIC UTILITIES. WIRE SHALL BE INSTALLED ALONG THE PIPE AS DIRECT BURIAL INSULATED COVER WIRE FOR PURPOSES OR POSITIVE IDENTIFICATION AND LOCATION, AS REQUIRED BY THE DEPARTMENT OF PUBLIC UTILITIES.

17. PLUGS TO BE INSTALLED ON AUL OPEN DEAD-END SEWER LINES AT ELEVATION SHOWN ON THE PLANS.

18. CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC UTILITIES AT (757) 365-6319 AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK. TWO WEEKS NOTICE IS REQUIRED BY PUBLIC UTILITIES PRIOR TO CONNECTION TO EXISTING SANITARY SEWER FORCE MAIN.

19. THE PROPOSED SANITARY FORCE MAIN WITHIN THE RIGHT-OF-WAY WILL BE OWNED AND MAINTAINED BY ISLE OF WIGHT COUNTY. THIS INCLUDES ALL GRAVITY SEWER FACILITY UP TO THE CLEAN OUT AT THE RIGHT-OF-WAY LINE AND ALL SANITARY FORCEMAIN. THE PROPOSED WATER MAIN WITHIN THE RIGHT-OF-WAY WILL BE OWNED AND MAINTAINED BY THE TOWN OF WINDSOR. THIS INCLUDES ALL WATER LINES UP TO THE METER LOCATED AT THE RIGHT-OF-WAY LINES.

20. ALL SANITARY SEWER FORCE MAIN AIR RELEASE VALVE ASSEMBLIES SHALL BE INSTALLED AS MANUAL AIR RELEASE VALVES.

21. FIRE HYDRANTS AND GATE VALVES SHALL BE MANUFACTURED BY KENNEDY VALVE COMPANY AND ALL TO OPEN LEFT. KENNEDY FIRE HYDRANTS ARE TO BE PAINTED FROM THE FACORY KENNEDY YELLOW.

22. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH 8 MIL POLYWRAP AND SECURED WITH DUCT TAPE.

23. ALL MECHANICAL JOINT AND BELL RESTRAINT NUTS AND BOLTS SHALL BE FLUOROPYMER STAR-BLUE.

24. NO MORE THAN 4000 LF OF WATERMAIN OR SEWER FORCEMAIN MAY BE TESTED AT ANY GIVEN TIME.

25. ALL EXCAVATIONS ARE TO BE BACKFILLED AT THE END OF EACH DAY. A MECHANCIAL PLUG OR CAP IS TO BE USED TO SECURE THE END OF THE PIPE. NO MORE THAN 200 LF OF DITCH CAN BE OPEN AT ANY GIVEN TIME.

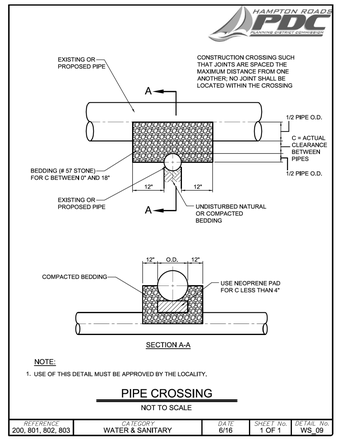
26. CONTRACTOR TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH ISLE OF WIGHT COUNTY STAFF ONLY AFTER ALL MATERIAL SUBMITTALS ARE RECEIVED AND APPROVED.

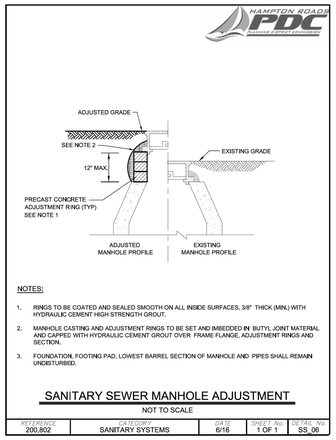
27. FIRE HYDRANTS SHALL HAVE REFLECTIVE SPRING-LOADED BARREL MOUNTED MARKER FLAG. ALL VALVES AND AIR RELEASE VALVES SHALL HAVE BLUE FIBERGLASS MARKER POST WITH REFLECTIVE TAPE IDENTIFYING WATER VALVE.

28. UTILIITY STAKEOUT IS TO BE PERFORMED BY A LICENSED SURVEYOR.

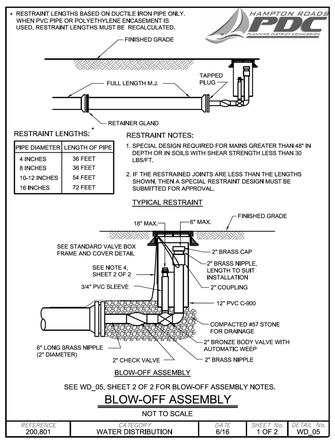
29. ONLY SELECT FILL APPROVED BY ISLE OF WIGHT COUNTY INSPECTOR IS TO BE USED WITHIN 1' ON BOTH SIDES AND TOP OF SEWER FORCE MAIN.

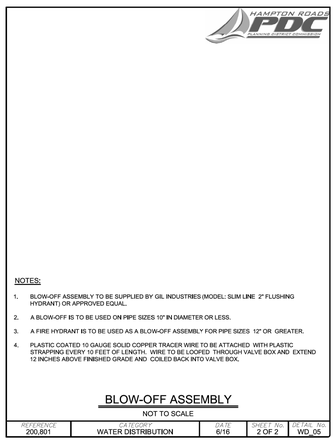
SANITARY FORCEMAIN DETAILS

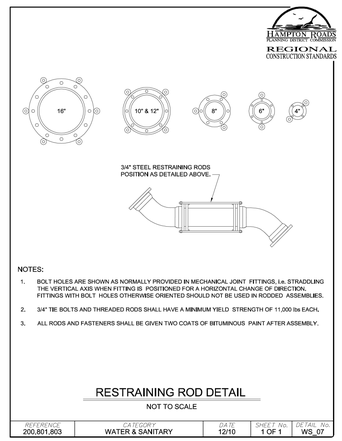




WATERLINE DETAILS







PROJECT	SHEET NO.
0460-046-724	14(1)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
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DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

UTILITY PLAN

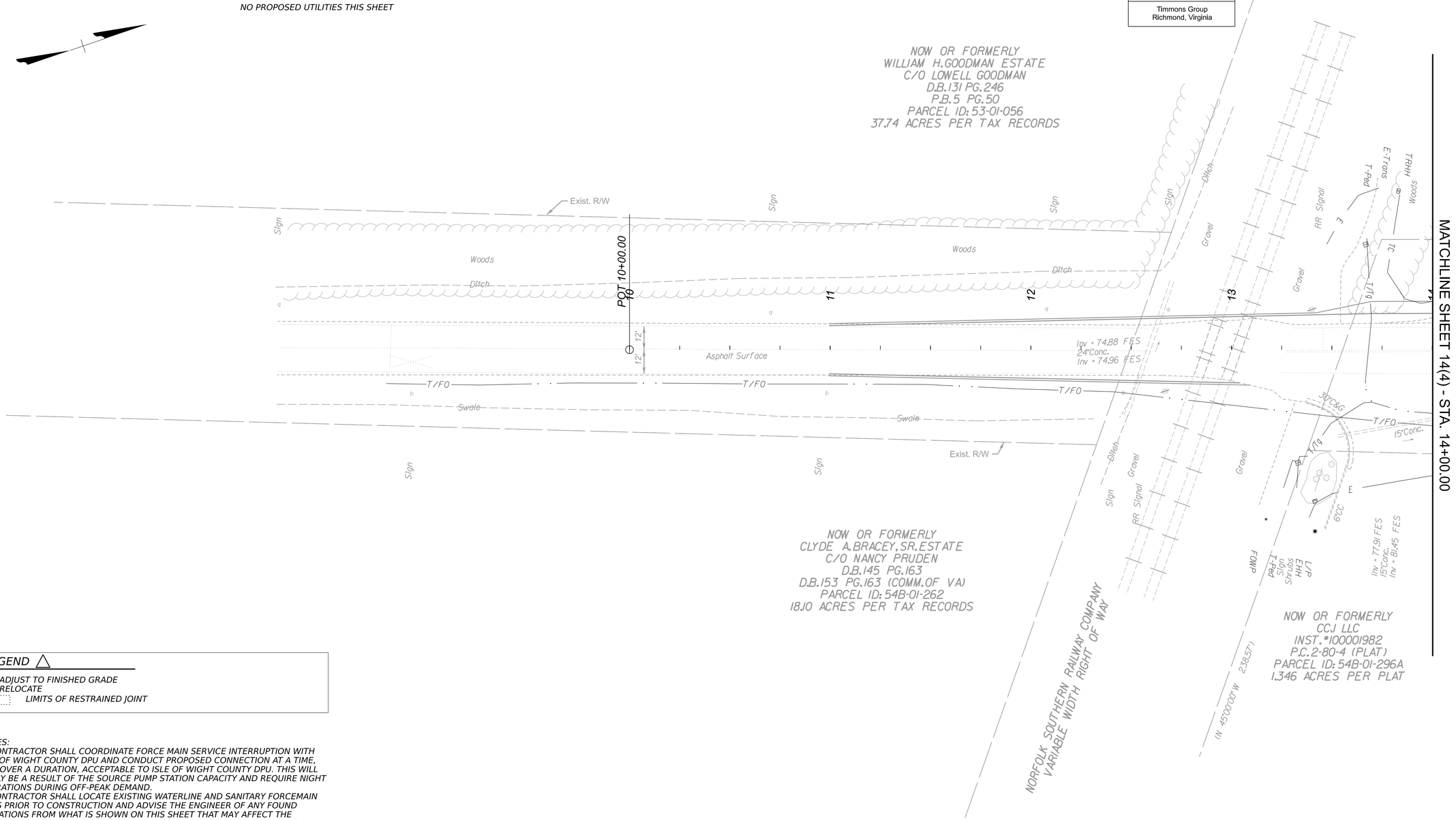
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	VA.	460	0460-046-724 R201,C501	14(3)

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NO PROPOSED UTILITIES THIS SHEET



LEGEND △
A - ADJUST TO FINISHED GRADE
R - RELOCATE
LIMITS OF RESTRAINED JOINT

NOTES:
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0 25' 50'	0460-046-724	14(3)

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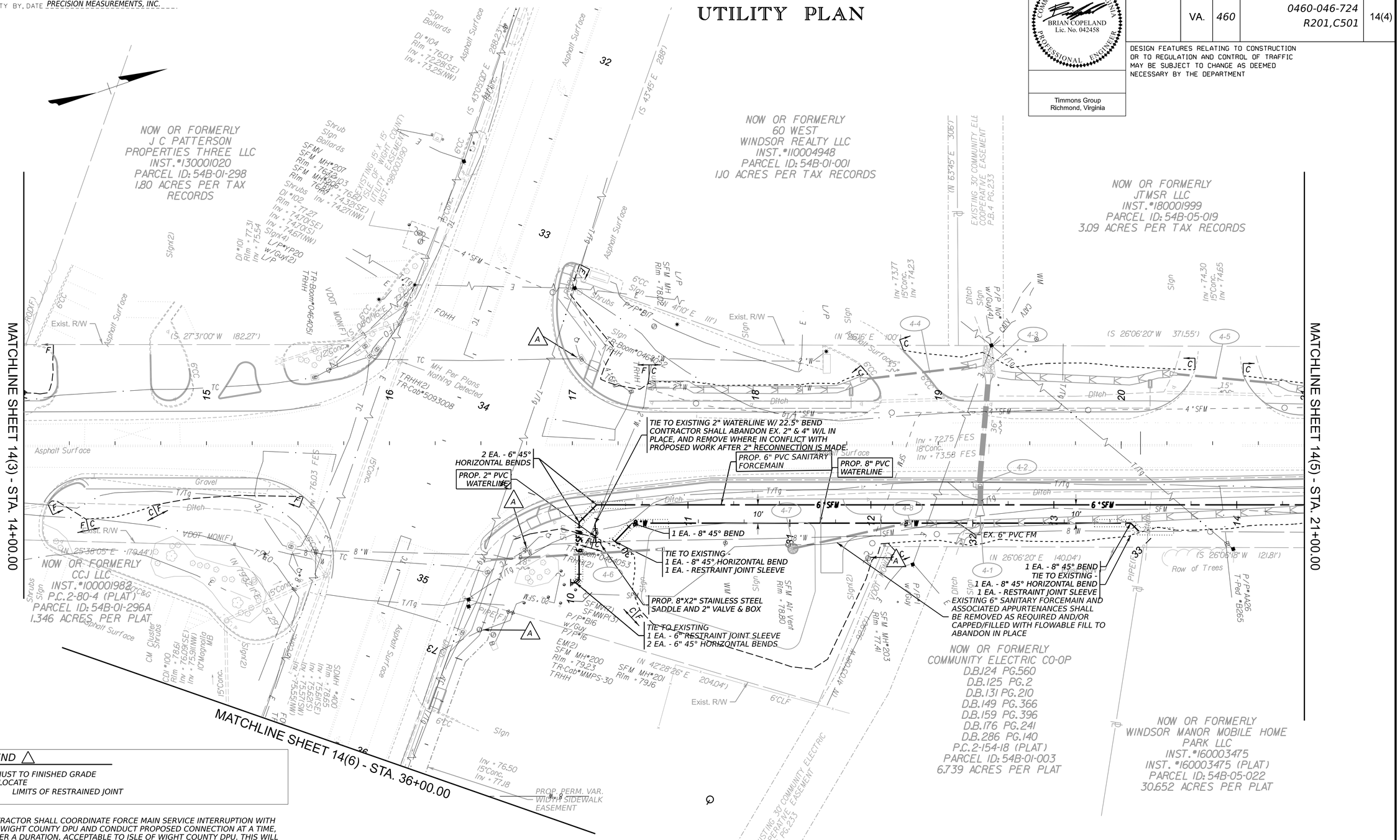
UTILITY PLAN

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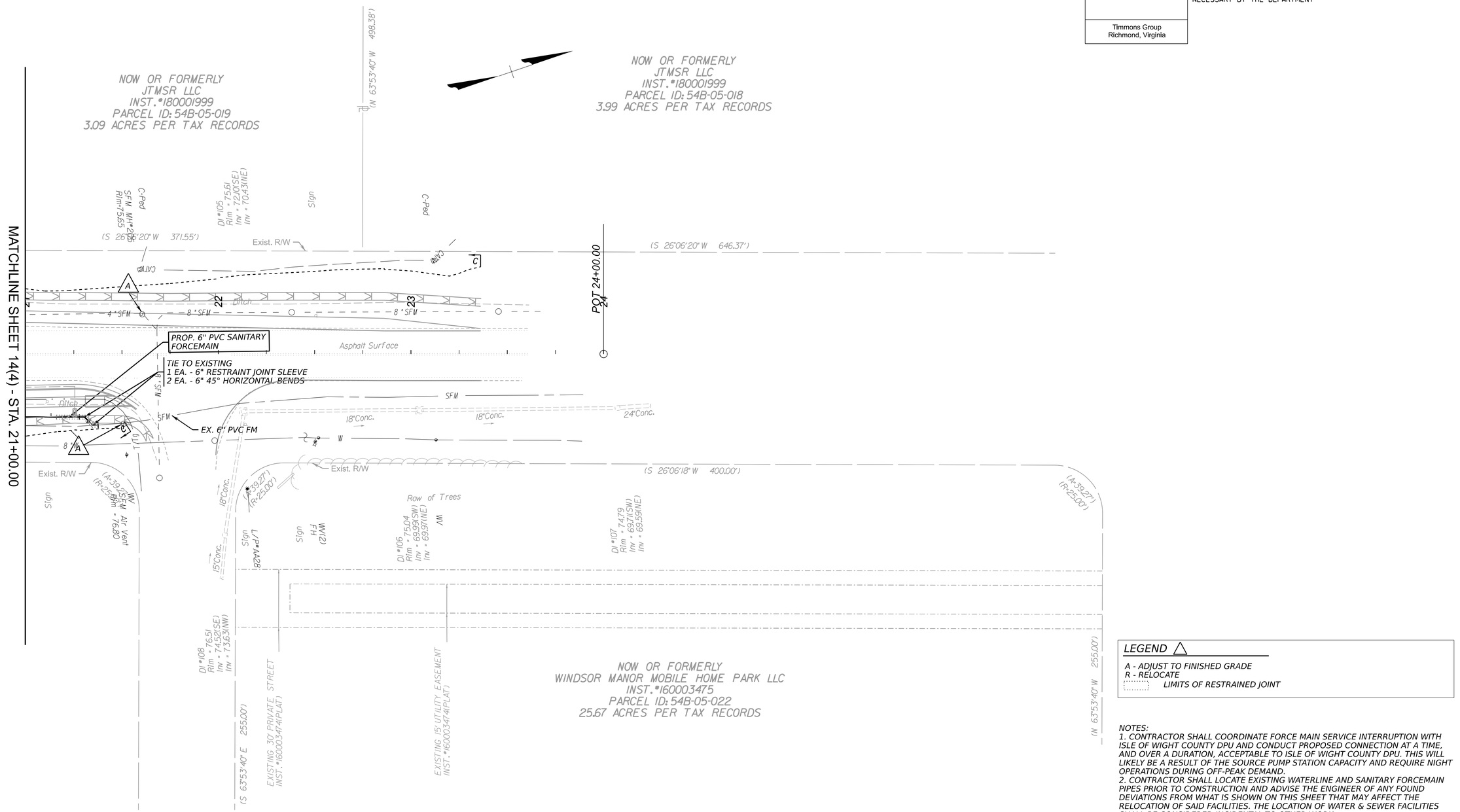
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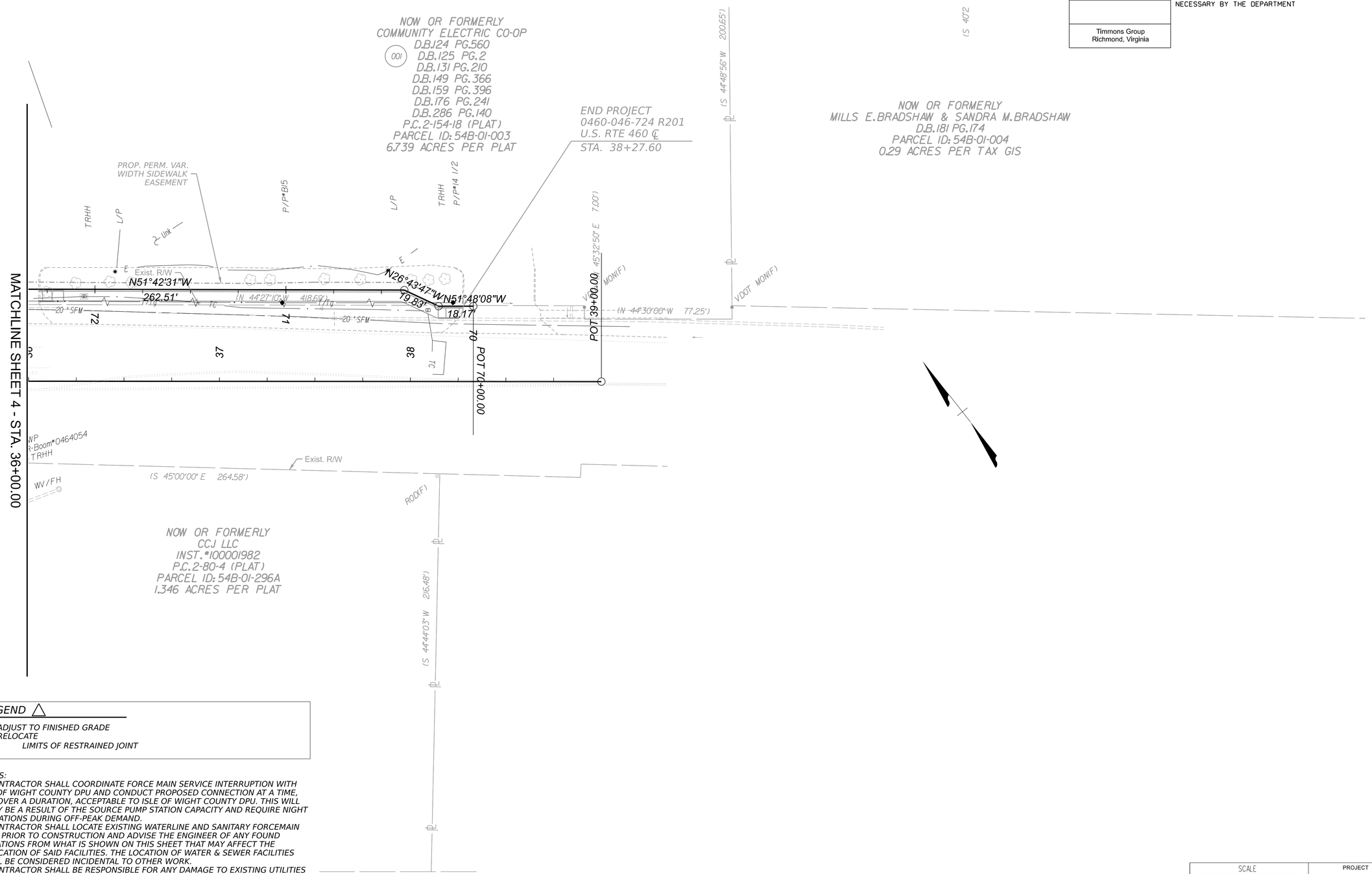
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DESIGN BY: TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE: PRECISION MEASUREMENTS, INC.

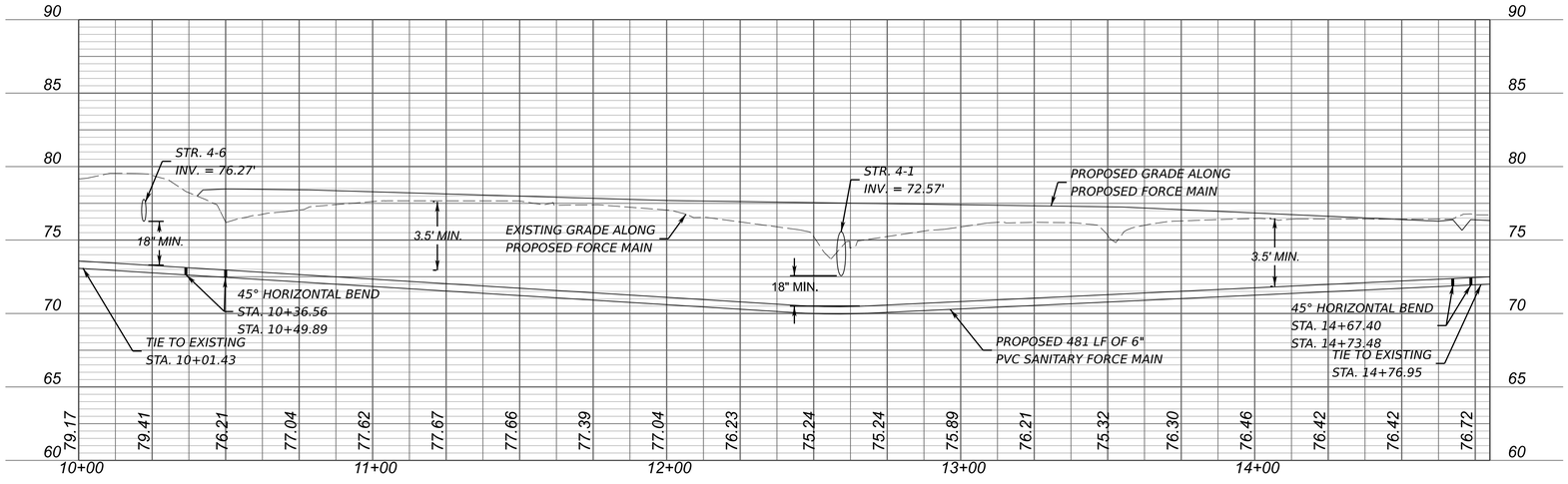
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
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Richmond, Virginia

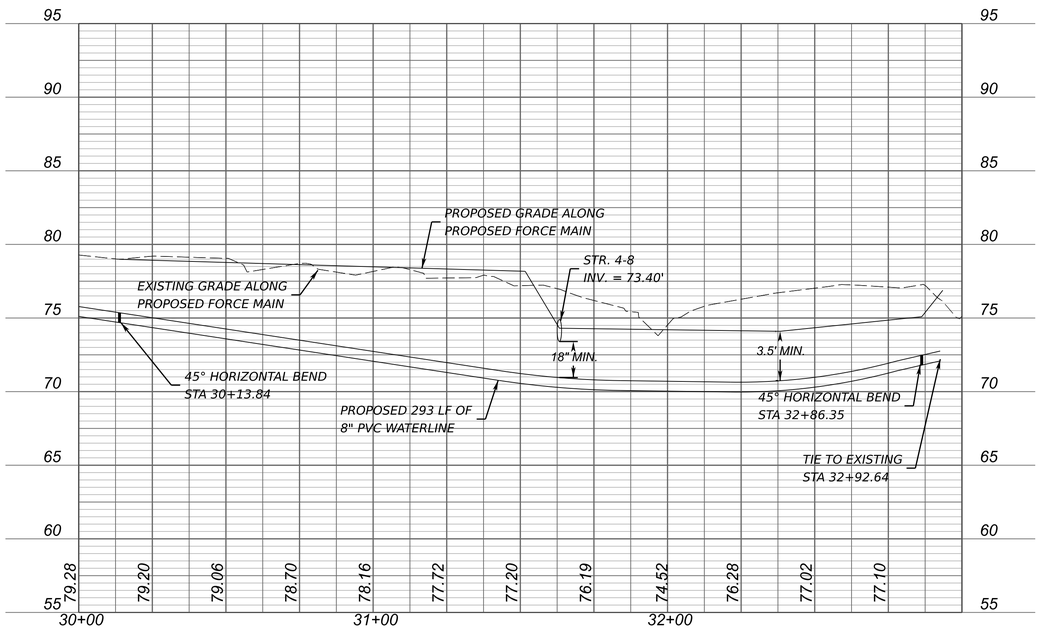
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	14(7)

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

SANITARY FORCE MAIN PROFILE



WATERLINE PROFILE



	PROJECT	SHEET NO.
	0460-046-724	14(7)

PROJECT MANAGER CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
ANDREW LANE SMITH
Lic. No. 053606
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	I5(I)

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

GENERAL NOTES - TRAFFIC SIGNALS

GENERAL SIGNAL

1. The following items and operations shall conform to the standard listed below:
   a. Pedestrian Pushbutton — PA-2 or PA-3
   b. Conduit Installation — EC1-1 or Bored
   c. Pedestal Pole & Foundation — PF-2
   d. Lighting Pole — LP-1
   e. Lighting Pole Foundation — LF-1
   f. Signal Head Hangers — SM-3

2. All traffic signal work shall be in conformance with the most current version of the following documents or revisions thereof:
   a. Virginia Manual on Uniform Traffic Control Devices (VaMUTCD)
   b. VDOT Road and Bridge Standards
   c. VDOT Road and Bridge Specifications and Supplement
   d. Virginia Work Area Protection Manual
   e. All special provisions supplemental specifications and special provision copied notes included in the Contract

3. Pavement markings shown on the Signal Plans are for representational purposes only. Actual pavement markings shall be in accordance with the Pavement Marking Plans.

4. The Contractor shall immediately report all discrepancies between the plans and Contract Specifications to the Engineer for clarification.

5. The Contractor shall be responsible to return all disturbed areas,landscaping (trees, shrubs,flowers,etc.) and fencing to their original state at the completion of all work. All costs for this work shall be included in the bid price for other items and no separate measurement and payment will be made.

6. All utility locations shown on these plans are approximate and may not be accurate or complete.The Contractor shall be responsible for ensuring that all utilities within the project limits are identified and located before beginning work.The Contractor shall comply with the Virginia "Underground Utility Damage Prevention Act" and the State Corporation Commission's "Rules for Enforcement of the Act." If the Contractor is aware of any utilities within the project limits that are not identified by the notification center, the Contractor shall contact the utility owner(s) at least 72 hours prior to any excavation. The Contractor shall contact VDOT Hampton Roads District Asset Management to determine the extent and location of VDOT owned equipment within the project limits. If the Contractor perceives a conflict between utilities and the proposed work,the Contractor shall notify the engineer immediately so the conflict may be reviewed.

7. The Contractor shall be responsible for repairing or replacing,at their own expense, any existing utilities,pavement,concrete items,etc.that are damaged or disturbed during construction.

8. Final inspection by VDOT personnel of the traffic signals will not be conducted until all traffic signal work is complete. VDOT Hampton Roads District Asset Management shall be notified directly when the Contractor is ready for the traffic signal work to be inspected.

9. Once traffic signal construction begins,the Contractor will assume complete maintenance responsibility. Once traffic signal work and final inspection are complete and the thirty (30) day test period has been satisfied,VDOT will assume maintenance.

10. The Contractor is responsible for maintaining existing communication between the traffic signal controller and the VDOT Hampton Roads District TOC at all times during construction. The Contractor shall contact VDOT Hampton Roads District Traffic Operations for coordination.

11. The engineer shall submit signal timings,including clearance timings and timing for all construction phases (if applicable) to VDOT Hampton Roads District Traffic Operations for review and approval for implementation at least four (4) weeks prior to signal activation. Contractor shall request signal timings from the engineer.

12. All catalog cuts/shop drawings for equipment and material shall be submitted to VDOT Hampton Roads District Traffic Engineering for review and approval.

13. All equipment is to be installed within the existing or proposed right of way or easement.

14. Contractor shall contact VDOT Hampton Roads District Asset Management 72 hours prior to the commencement of construction.

15. The traffic signal shall not be placed into flashing or full color operation without the prior notification and approval from VDOT Hampton Roads District Asset Management and Hampton Roads District Traffic Engineering. No traffic signal shall be placed into operation until the location is 100% complete. This includes any necessary pavement marking and signage adjustment shown on the plans. The Contractor shall notify the ACE/CM who shall notify VDOT Hampton Roads District Asset Management. VDOT Hampton Roads District Asset Management requires a minimum of 48 hours advance notice.

16. Contractor shall return salvaged traffic signal equipment to VDOT Hampton Roads District Asset Management. Contact TBD to coordinate equipment return.

17. Contact VDOT for Utility Locate (757) 361-3033 or (757) 361-3038 a minimum of 72 hours in advance of excavation within the ROW. All areas of the VDOT R/W disturbed by this work shall be restored,stabilized,and seeded prior to acceptance

CONDUIT, CABLE, AND ELECTRICAL

18. All unused wire in signal heads shall be capped individually using crimp type caps.

DETECTORS

19. The location of video detection equipment and zones shown on the plans are approximate. Contractor shall coordinate location of video detection equipment with VDOT Hampton Roads District Asset Management prior to final placement of video detection cameras.

20. Vehicle detection shall be maintained during all phases of construction.

SIGNAL POLES, MAST ARMS, AND ARM EQUIPMENT

21. Emergency preemption detectors and video detectors shall be located as shown on the plans.however,may be field adjusted as necessary to provide optimal detection capabilities. Wiring shall be adjusted as necessary if the detector locations are modified. The Contractor shall contact VDOT Hampton Roads District Asset Management with any questions regarding OPTICOM.

22. During construction and when not in use,new traffic signal heads including high visibility backplates and overhead traffic signal signage shall be covered with a durable non-transparent cover upon installation. The Contractor shall maintain covers until the new traffic signal system is operational,per Section 703.03.

23. Traffic signal heads and mast arm signs may be field adjusted no more than 2' in either direction on the mast arms, provided they remain within the designated travel lane assignments. If further adjustment is needed,the Contractor shall contact VDOT Hampton Roads District Traffic Engineering.

24. Traffic signal heads (vehicle and pedestrian) shall be cast aluminum. All vehicle signal heads shall have aluminum composite high visibility backplates. All traffic signal heads sections shall be LED.

CONTROLLER CABINET AND FOUNDATION

25. Contact VDOT Hampton Roads District Traffic Operations 72 hour notice in advance of disconnecting the controller communication for any reason.

26. The Contractor is responsible for obtaining VDOT digital key fobs for individuals to access the traffic signal cabinet(s) during the project. Individuals must pass a VDOT background check to obtain a VDOT key fob.Key fob requests and cabinet access requests (including locations and start/end dates) should be sent to the VDOT Hampton Roads District (John Bisnett 540-529-5742) for processing at least 30 days in advance.

STANDARD TRAFFIC SIGNAL LEGEND

PLAN 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)		
Light Pole and Foundation (Std.LF-1)		
Traffic Signal Head — w/ Backplate		
Traffic Signal Head — w/o Backplate		
Pedestrian Signal Head		
Pedestrian Pushbutton & Sign	P.B.	P.B.
Traffic Signal Sign — Mast Arm or Span Wire Mt'd.		
Traffic Signal Sign — Pole Mounted		
Emergency Vehicle Pre-emption (EVP) Sensor		
w/ Conf.Light		
w/o Conf.Light		
CCTV Camera		
Junction Box (Std.as noted on plans)	J	J
Signal Luminaire (LED as noted on plans) and Arm		
Vehicle Loop Detector (Size as noted on plans)	6' x 20'	6' x 20'
Conduit		

PLAN ITEM		PLAN SYMBOL PROPOSED	PLAN SYMBOL EXISTING
Electrical Service Meter Base		MB	MB
Electrical Service Safety Switch (Disconnect)		SS	SD
Controller Cabinet	Ground Mounted		
Controller Cabinet	Pole Mounted		
Master Controller Cabinet	Ground Mounted	MC	MC
Master Controller Cabinet	Pole Mounted	MC	MC
Controller Cabinet & Foundation	Std.CF-1	CF 1	CF 1
Controller Cabinet & Foundation	Std.CF-3	CF 3	CF 3
Controller Cabinet & Foundation	Std.CF-5	CF 5	CF 5
Master Controller Cabinet & Foundation	Std.CF-1	MC 1	MC 1
Master Controller Cabinet & Foundation	Std.CF-3	MC 3	MC 3
Master Controller Cabinet & Foundation	Std.CF-4	MC 4	MC 4
Auxiliary Communication Cabinet			

LABELS

Signal Pole or Controller	A	Proposed Signal Head	2	Signal Phasing	Ø2
Cable and Conduit	A	Existing Signal Head	2	Pedestrian Phasing	P2
Junction Box	S3	Proposed Pedestrian Signal Head	P2		
		Existing Pedestrian Signal Head	P2		

Sign	S-1
Video Detection Camera	VDC-1
Hybrid Vehicle Detector	HVD-1
Emergency Preemption Detector	EVP-1

INDEX OF SHEETS

Sheet No.:	Sheet Description:
I5(I)	Index of Sheets, General Notes, & Legend
I5(2)	Summary of Quantities
I5(3)	Traffic Signal Modification Plan
I5(4)	Lighting Photometric Plan
I5(5)	Standard Pedestrian Actuation Installation Details

POINTS OF CONTACT

VDOT Hampton Roads District Asset Management
Contact: Chris Leeds
Phone: 757-592-8008

VDOT Hampton Roads District Traffic Engineering
Contact: Steve Stanley
Phone: 757-818-1985

TRAFFIC CONTROL DEVICE PLANS

TRAFFIC SIGNAL
INDEX OF SHEETS, GENERAL NOTES & LEGEND(S)
ISLE OF WIGHT COUNTY

PROJECT	SHEET NO.
0460-046-724	I5(I)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

COMMONWEALTH OF VIRGINIA
ANDREW LANE SMITH
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PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	15(2)

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

			TCD Discipline	SIGNALS																																
			Summary Notes		①																															
			Item Description	NS Modify Exist. Controller Cabinet	NS Relocate Existing Mast Arm Signal	Pedestal Pole PF-2 12'	Concrete Foundation PF-2	12/1 Conductor Cable	14/4 Conductor Cable	14/7 Conductor Cable	14/1 Conductor Cable Enclosed	14/2 Conductor Cable Shielded	Concrete Foundation LF-1 TY. A	Lighting Pole LP-1 30' Mntg Ht	Conduit Metal 1"	Conduit PVC 2"	Trench Excavation EC1-1	NS Traffic Signalization Accessible Ped Push Button (PA-2)	NS Luminaire Arm 12'	Sign Panel	Traffic Signal Head Section 12" HVS Backplate	Hanger Assembly SMB-3, One Way	Loop Saw Cut ⅜"	Loop Saw Cut ⅝"	Remove Existing Signal Head	Pedestrian Signal Head SP-8	NS Hanger Assembly Mast Arm Hanger Assembly, SM-3 (In-Line)	NS Luminaire Conventional Luminaire 173 W, LED, Type III	NS Luminaire Conventional Luminaire 173 W, LED, Type IV								
			ITEM NO.	510SX20-0031	510SX20-0042	700SC20-0067	700SD20-0069	700SD20-0109	700SD20-0112	700SD20-0114	700SD20-0118	700SD20-0120	700SD20-0149	700SD20-0218	700SD20-0183	700SD20-0194	700SD20-0197	700SX20-0010	700SX20-0030	701SD20-0001	703SD20-0007	703SD20-0039	703SD20-0042	703SD20-0043	703SD20-0046	703SD20-0060	703SX20-0004	703SX20-0001	703SX20-0001								
			UNIT	EA	EA	EA	EA	LF	LF	LF	LF	LF	EA	EA	LF	LF	LF	EA	EA	SF	EA	EA	LF	LF	EA	EA	EA	EA	EA								
Int. No.	Intersection		SHEET NO.																																	
1	W.Windsor Blvd & Prince Blvd.	15(3)		1	2	1	1	1,100	555	1,150	1,810	900	2	2	90	80	65	2	2	24.25	14	2	530	110	2	2	4	1	1								
	TOTAL			1	2	1	1	1,100	555	1,150	1,810	900	2	2	90	80	110	2	2	24.25	14	2	530	110	2	2	4	1	1								

SUMMARY NOTES

① Pay Item shall include the cost of removing and disposing of the existing signal head hanger and furnishing and installing a new SM-3 hanger

TRAFFIC CONTROL DEVICE PLANS

TRAFFIC SIGNAL MODIFICATION
SUMMARY OF QUANTITIES

ISLE OF WIGHT COUNTY

PROJECT	SHEET NO.
0460-046-724	15(2)

PROJECT MANAGER: CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE: PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY: TIMMONS GROUP (804) 200-6500
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COMMONWEALTH OF VIRGINIA
ANDREW LANE SMITH
Lic. No. 053606
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	15(3)

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

Signal Pole & Controller Legend

(ALL DIMENSIONS ARE TO FLANGE PLATE)

Ⓘ EXISTING ATC CONTROLLER CABINET & FOUNDATION (CF-4) (TO REMAIN)

Ⓐ EXISTING MAST ARM POLE (TO REMAIN)
Existing 49' Arm Perpendicular to S.Prince Blvd
Signal Placement: 25'(R), 33'(*), 39'(x), 41'(*)
Sign Placement: 37.5'(*)
Video Detector: 29'(*)
Emergency Preemption Detector: 20.5', 22'
CCTV Camera: 3'
Existing Electrical Service, SE-3, Type A on Signal Pole.

Ⓑ EXISTING MAST ARM POLE (TO REMAIN)
Existing 65' Arm Perpendicular to W.Windsor Blvd
Signal Placement: 30', 41', 53'
Sign Placement: 50'
Emergency Preemption Detector: 21.5'

Ⓒ EXISTING MAST ARM POLE (TO REMAIN)
Existing 60' Arm Perpendicular to N.Prince Blvd
Signal Placement: 33.5'(R), 41.5'(*), 48'(x), 49.5'(*)
Sign Placement: 46'(*)
Video Detector: 38'(*)

Ⓓ EXISTING MAST ARM POLE (TO REMAIN)
Existing 65' Arm Perpendicular to W.Windsor Blvd
Signal Placement: 27', 38', 49'
Sign Placement: 46'
Emergency Preemption Detector: 16'
Wireless Broadband Antenna: 13'

Ⓔ LIGHTING POLE (LP-1), 30' MOUNTING HEIGHT
12' Luminaire Arm Perpendicular to N.Prince Blvd
Luminaire Type: 76W LED, Type III
Install Pedestrian Signal Head, SP-8, on Lighting Pole (SMB-3)
Install Accessible Pedestrian Actuation, PA-2, on Lighting Pole

Ⓕ PEDESTAL POLE (PF-2), 10'
Install Pedestrian Signal Head, SP-8, on Pedestal Pole (SMB-3)
Install Accessible Pedestrian Actuation, PA-2, on Pedestal Pole

Ⓖ LIGHTING POLE (LP-1), 30' MOUNTING HEIGHT
12' Luminaire Arm 135° to S.Prince Blvd
Luminaire Type: 76W LED, Type IV

All Equipment on Exisitng Poles is Existing to Remain Except as Noted:
(x) denotes Removed Equipment
(R) denotes Relocated Equipment
(*) denotes New Equipment

CABLE AND CONDUIT LEGEND

Ⓐ 1 - 4" Conduit
2 - 14/7c
2 - 14/7c(*)
4 - 14/4c
2 - 14/4c(*)
2 - 14/2c(S)XPBX(*)
1 - CAT5e (Comm.)
1 - CAT5e (CCTV)
1 - EGC
1 - 4" Conduit
8 - 14/2c(S)
2 - 14/2c(S)X(*)
1 - EGC
1 - 4" Conduit
4 - EPDC
1 - 14/2c (RR PreEmpt)
1 - 12 Strand SMFO
2 - 2" Conduit (SPARE)

Ⓑ 1 - 4" Conduit
1 - 14/7c
1 - 14/7c(*)
2 - 14/4c
1 - 14/4c(*)
4 - 14/2c(S)
1 - 14/2c(S)XPBX(*)
1 - 14/2c(S)X(*)
2 - 12/1c(*)
1 - EPDC
1 - CAT5e (Comm.)
1 - EGC

Ⓒ 1 - 4" Conduit
1 - 14/7c(*)
1 - 14/4c
1 - 14/4c(*)
3 - 14/2c(S)
1 - 14/2c(S)XPBX(*)
1 - EGC

Ⓓ 1 - 4" Conduit
1 - 14/7c
1 - 14/4c
1 - 14/4c(*)
1 - 14/2c(S)
1 - 14/2c(S)X(*)
1 - 14/2c(S)XPBX(*)
2 - 12/1c(*)
1 - EPDC
1 - EGC

Ⓔ 1 - 3" Conduit
1 - 14/7c(*)
1 - 14/4c
1 - 14/4c(*)
1 - 14/2c(S)XPBX(*)
1 - EGC

Ⓕ 1 - 4" Conduit
1 - 14/7c(*)
1 - 14/4c
2 - EPDC
4 - 12/1c(*)
1 - EGC
1 - 2" Conduit
1 - CAT5e (CCTV)
1 - 1" Conduit
1 - EGC

Ⓖ 1 - 4" Conduit
1 - 14/7c
1 - 14/4c
1 - EPDC
1 - EGC
1 - 2" Conduit
1 - CAT5e (Comm)
1 - 1" Conduit
1 - EGC

Ⓗ 1 - 4" Conduit
1 - 14/7c(*)
1 - 14/4c
1 - EGC
1 - 2" Conduit (SPARE)
1 - 1" Conduit
1 - EGC

Ⓘ 1 - 4" Conduit
1 - 14/7c
1 - 14/4c
1 - EPDC
1 - EGC
1 - 2" Conduit (SPARE)
1 - 1" Conduit
1 - EGC

Ⓚ 1 - 2" Conduit(*)
2 - 12/1c(*)
1 - EGC(*)

Ⓛ 1 - 2" Conduit(*)
1 - 14/4c(*)
1 - 14/2c(S)XPBX(*)
1 - EGC(*)

Ⓜ 1 - 2" Conduit(*)
1 - 14/4c(*)
1 - 14/2c(S)XPBX(*)
2 - 12/1c(*)
1 - EGC(*)

Ⓝ 1 - 2" Conduit
3 - 14/2c(S)

Ⓟ 1 - 2" Conduit
2 - 14/2c(S)

Ⓠ 1 - 1" Conduit
1 - 14/1c

Ⓡ 2 - 1" Conduit
1 - 14/1c

Ⓢ 2 - 1" Metal Conduit(*)
1 - 14/1c(*)

Ⓣ 1 - 2" Conduit
1 - 14/2c (RR PreEmpt)

Ⓤ 1 - 2" Conduit
1 - 12 Strand SMFO
1 - EGC

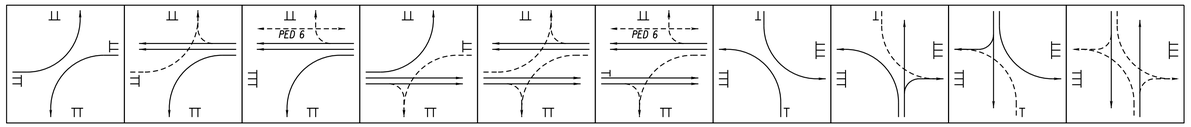
Ⓥ 1 - 2" Conduit
1 - 36 Strand SMFO

Ⓦ 1 - 1" Conduit
1 - EGC

Ⓧ 1 - 2" Conduit
3 - 8/1c (Power)
1 - EGC

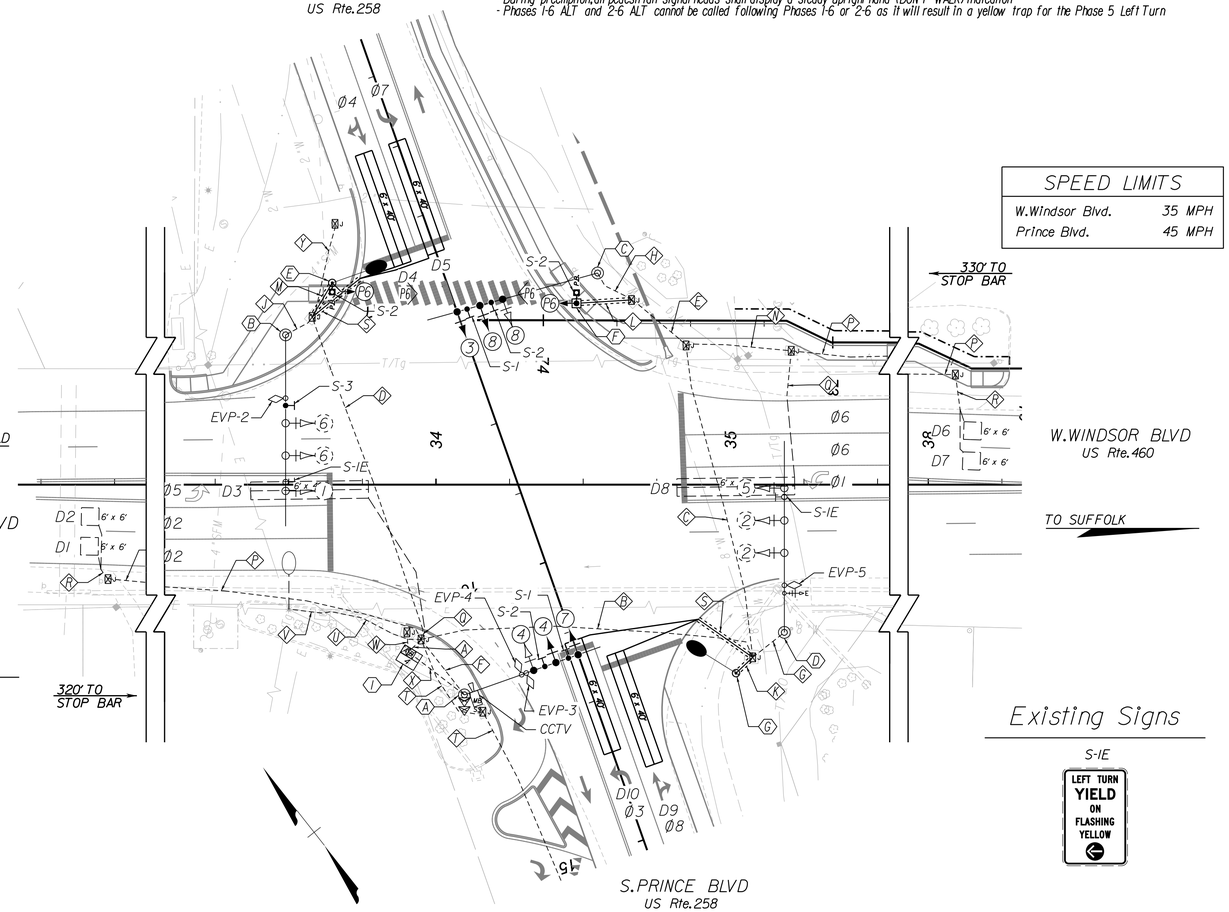
All Cable/Conduit is exisitng except as noted by (*)
(S) Denotes "Shielded Cable"
(PB) Denotes "Push Button"
EGC Denotes "Equipment Grounding Conductor"
EPDC Denotes "Emergency Preemption Detector Cable"
2 - 12/1c used for each Luminaire. Cables shall terminate on separate breakers for each luminaire in the service disconnect box adjacent to the breaker feeding the signal

Phasing Diagram



Ø1-5 | Ø1-6 EVP-6 | Ø1-6 ALT P6 EVP-6 | Ø2-5 EVP-2 | Ø2-6 | Ø2-6 ALT P6 | Ø3-7 | Ø3-8 EVP-3 | Ø4-7 EVP-4 | Ø4-8

PHASING NOTES:
- During preemption, all pedestrian signal heads shall display a steady upright hand (DON'T WALK) indication
- Phases 1-6 ALT and 2-6 ALT cannot be called following Phases 1-6 or 2-6 as it will result in a yellow trap for the Phase 5 Left Turn



SPEED LIMITS

W.Windsor Blvd.	35 MPH
Prince Blvd.	45 MPH

Color Sequence Chart

	SIGNAL	PHASES								FLASH
		1-5	1-6	2-5	2-6	3-7	3-8	4-7	4-8	
SIGNALS	1	→G	→G	→FY	→FY					→R
	2			G	G					Y
	3					→G	→G	→FY	→FY	→R
	4							G	G	R
	5	→G	→FY	→G	→FY					→R
	6		G		G					Y
	7					→G	→FY	→G	→FY	→R
	8						G		G	R
	P6	DW	W	DW	W	DW	DW	DW	DW	BLANK

- Empty box denotes RED indication (Red Ball or Red Arrow as appropriate)

Existing Signs

S-IE

Proposed Signs

S-1


R10-12a
(30" x 36")
QUANTITY - 2 EA.

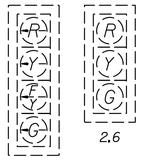
S-2

R3-6R
(30" x 36")
QUANTITY - 2 EA.

S-3


R10-15
(30" x 30")
QUANTITY - 1 EA.

Existing Signals



1.5 | 2.6

Removed Signals



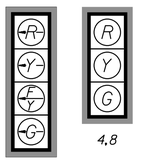
3A, 4A

Relocated Signals



4.8

Proposed Signals



3.7 | 4.8

SP-8

P6

SCALE
0 25' 50'

TRAFFIC CONTROL DEVICE PLANS

TRAFFIC SIGNAL MODIFICATION PLAN

US ROUTE 460 (W WINDSOR BLVD) &
US ROUTE 258 (PRINCE BLVD)
ISLE OF WIGHT COUNTY

PROJECT	SHEET NO.
0460-046-724	15(3)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
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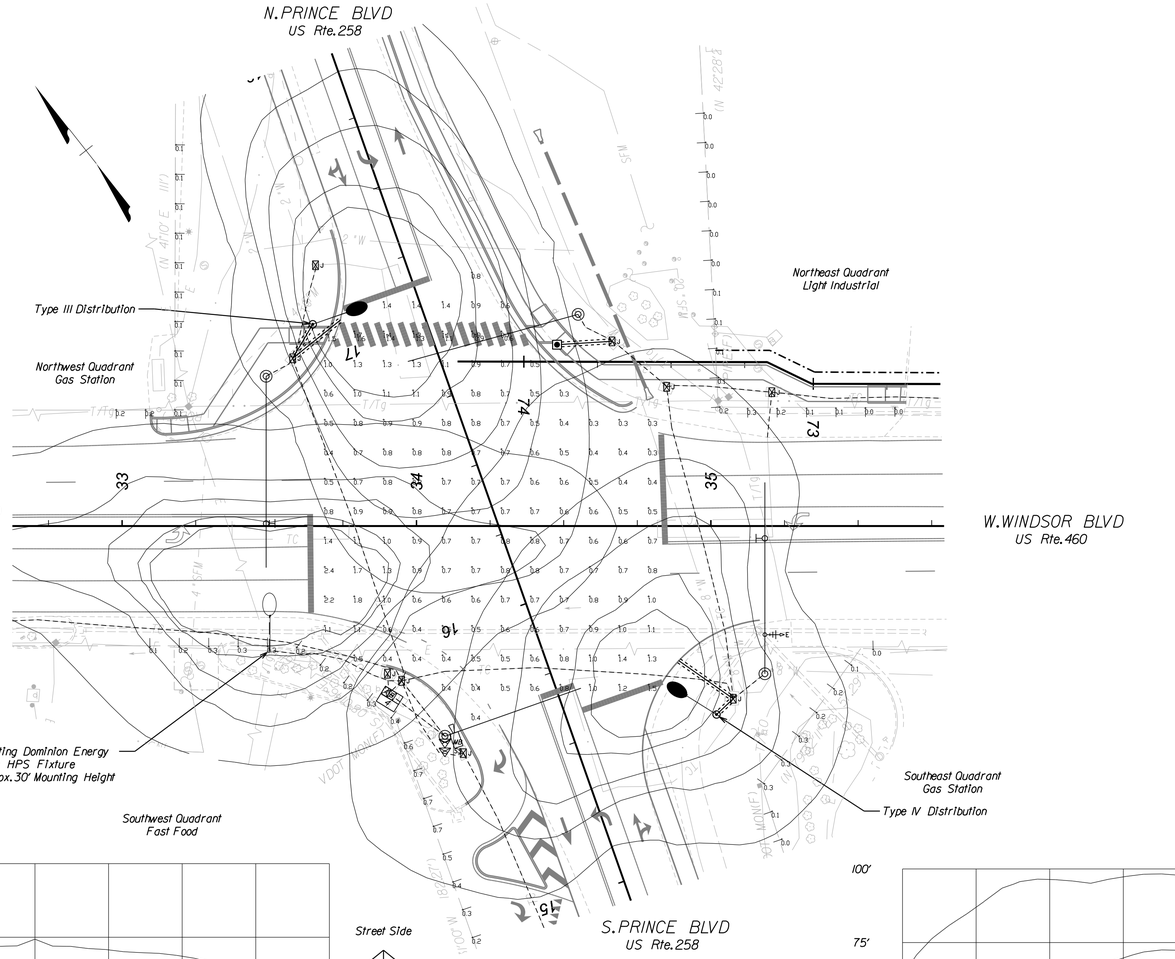
Timmons Group
Richmond, Virginia

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	15(4)

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

LIGHTING INFORMATION

12' Luminaire Arm - QTY.2
Mounting Height - 30'
Max.Wattage - 73W
Min.Lumens - 12,209
Color Temperature CCT - 4000K
BUG Rating - B2-U0-G2
IES Type III,Type IV Medium



Lighting Summary

Lighting Criteria	Units	AVG	MAX	MIN	AVG/MIN	MAX/MIN
Intersection	fc	0.8	2.1	0.3	2.53	7.00
P6 Crossing	fc	1.2	1.6	0.6	2.00	2.67

CRITERIA IS BASED ON IES RP-8-22, CHAPTER 12.3.2.2 (PARTIAL INTERSECTION LIGHTING)
CROSSWALKS MEASURED IN MIDDLE OF CROSSWALK

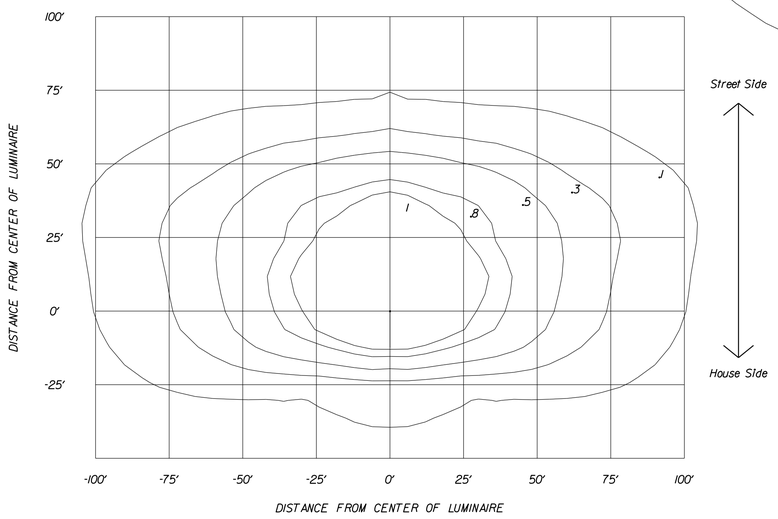
- INTERSECTION CRITERIA: PARTIAL
- ROAD CLASSIFICATION: MAJOR
- PAVEMENT CLASSIFICATION: R2 & R3
- UNIFORMITY RATIO (AVG/MIN): 3.0
- AVERAGE ILLUINANCE: 0.8 fc

Light Trespass Summary

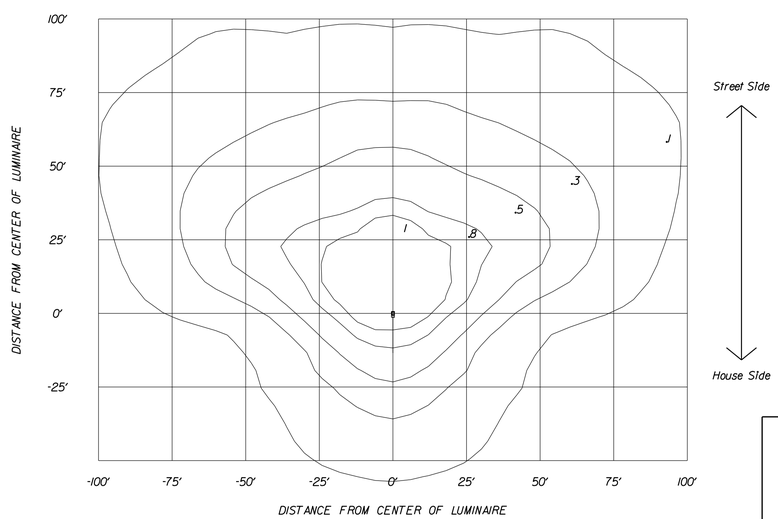
Quadrant	Light Zone	MAX SPILL (fc)	DESIGN SPILL (fc)
Northwest	3	0.2	0.7
Northeast	2	0.3	0.3
Southwest	3	0.7	0.7
Southeast	3	0.3	0.7

LIGHT TRESSPASS CRITERIA IS BASED ON VDOT's IIM-TE-390 MEMORANDUM

- Light Zone 2 Is for light industrial uses
- Light Zone 3 Is for gas stations and fast-food/fast-casual restaurants



ISOFOOTCANDLE DIAGRAM
Max 73 Watts / Min 12,209 Lumens, LED Roadway Luminaire
Type III Distribution, 2-0-2 BUG Rating, 4000K CCT, LLF = 0.86
30' Mounting Height



ISOFOOTCANDLE DIAGRAM
Max 73 Watts / Min 12,209 Lumens, LED Roadway Luminaire
Type IV Distribution, 2-0-2 BUG Rating, 4000K CCT, LLF = 0.86
30' Mounting Height

SCALE
0 25' 50'

TRAFFIC CONTROL DEVICE PLANS

LIGHTING PHOTOMETRIC PLAN

US ROUTE 460 (W WINDSOR BLVD) &
US ROUTE 258 (PRINCE BLVD)
ISLE OF WIGHT COUNTY

PROJECT	SHEET NO.
0460-046-724	15(4)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _____ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

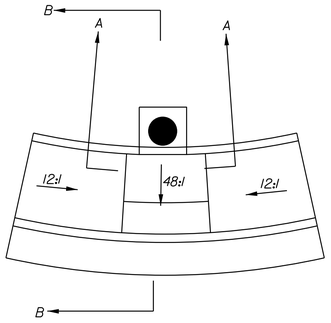
COMMONWEALTH OF VIRGINIA
ANDREW LANE SMITH
Lic. No. 053606
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

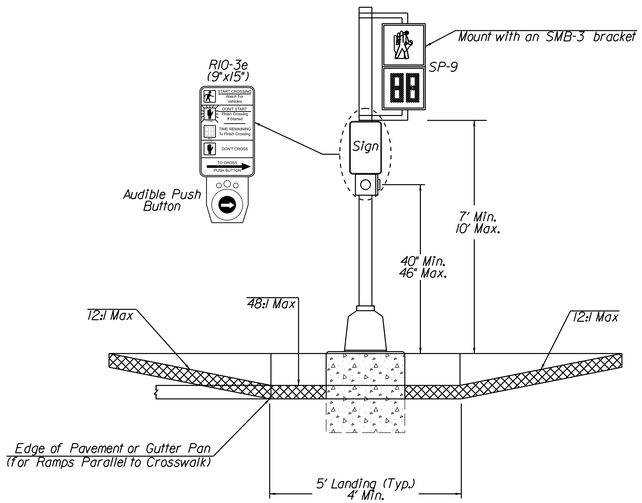
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 P101,R201,C501	15(5)

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

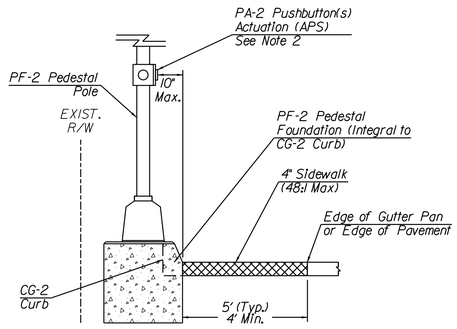
PF-2 & LF-1



PF-2/LF-1 PLAN VIEW DETAIL



SECTION A-A
PF-2/LF-1 FOUNDATION INSTALLATION
BACK OF CURB - OUTSIDE SIDEWALK



SECTION B-B
PF-2/LF-1 FOUNDATION INSTALLATION
BACK OF CURB - OUTSIDE SIDEWALK

Notes:

1.) Signs and pushbuttons shall be parallel to the associated crosswalk.
2.) Speech Message example: "Broad Street. Walk sign is on to cross Broad Street."
3.) Pushbutton mounting extenders may be used if the reach for the pushbutton is more than 10" behind the edge of curb.

TRAFFIC CONTROL DEVICE PLANS

STANDARD PEDESTRIAN ACTUATION INSTALLATION DETAILS

ISLE OF WIGHT COUNTY

PROJECT	SHEET NO.
0460-046-724	15(5)

PROJECT MANAGER _ CANDRA JORDAN (VDOT) (757)956-3079
SURVEYED BY, DATE _ PRECISION MEASUREMENTS, INC. (757)595-7570
DESIGN BY _ TIMMONS GROUP (804) 200-6500
SUBSURFACE UTILITY BY, DATE PRECISION MEASUREMENTS, INC.

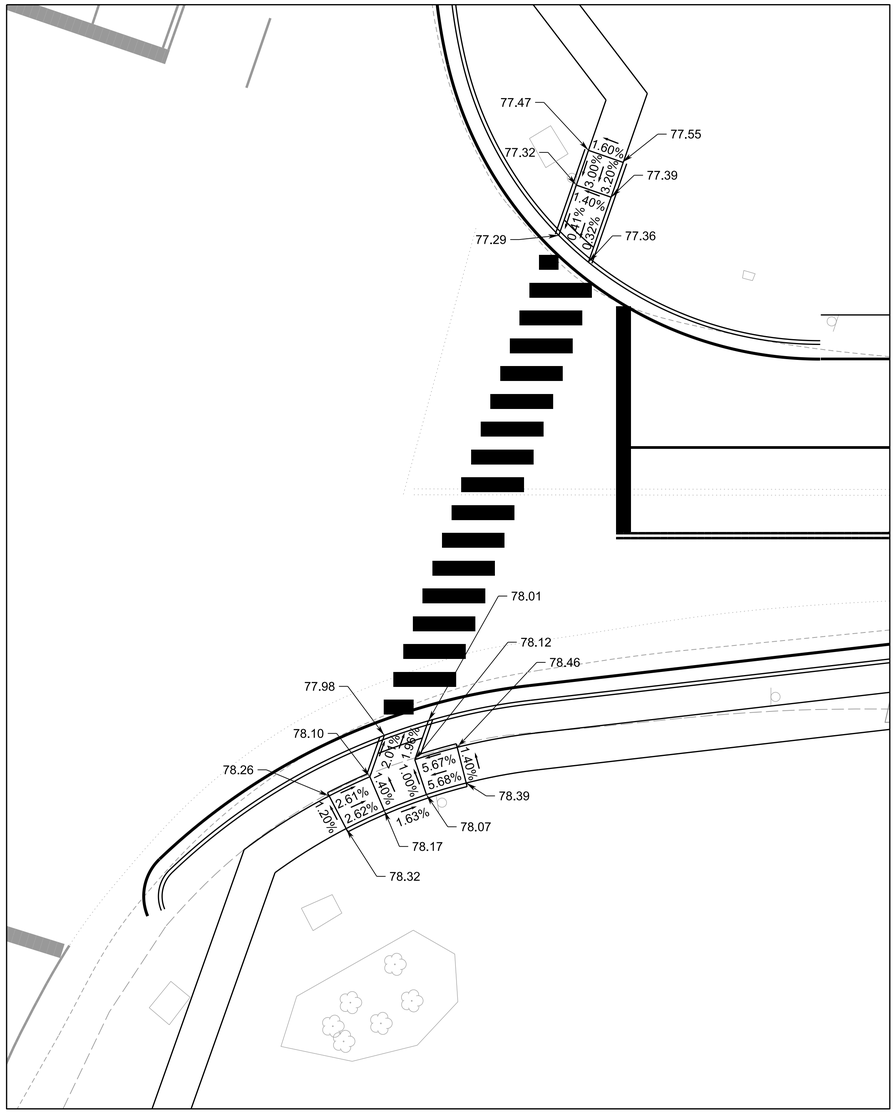
COMMONWEALTH OF VIRGINIA
BRIAN COPELAND
Lic. No. 042458
PROFESSIONAL ENGINEER

Timmons Group
Richmond, Virginia

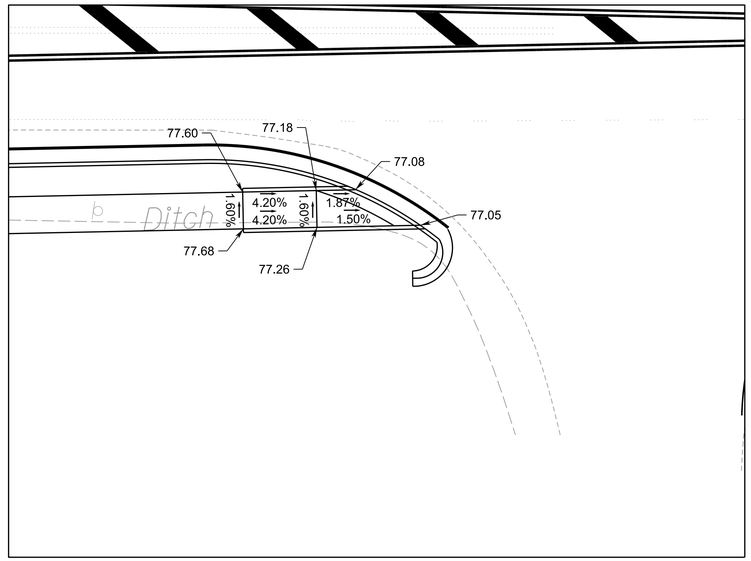
REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	460	0460-046-724 R201,C501	16(1)

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

GEOMETRY PLAN



460/258 CROSSWALK



BELMONT STREET

NOTE:
ALL ELEVATIONS SHOWN ON THIS SHEET ARE BOTTOM OF CURB ELEVATIONS (TOP OF FINISHED GRADE CONCRETE SURFACE IMMEDIATELY IN FRON OF THE CURB). TOP OF RAMP CURBING SHALL MATCH EXISTING GRADE.

ALL ELEVATIONS HAVE BEEN ESTABLISHED ASSUMING FLOW LINE AND TIE-IN ELEVATIONS MATCH EXISTING FIELD ELEVATIONS. IF FIELD ELEVATIONS DIFFER, CONTRACTOR SHALL SUBMIT ELEVATION ADJUSTMENT PLAN FOR REVIEW/APPROVAL BY THE ENGINEER, OR GAIN WRITTEN FIELD APPROVAL BY VDOT PRIOR TO POURING CONCRETE.

ALL WORK SHALL BE BUILT IN ACCORDANCE WITH THE VDOT CG-12 STANDARD AND THAT THE CONSTRUCTED GRADES SHALL NOT EXCEED THE MAXIMUM GRADES SHOWN IN THE STANDARD (NO TOLERANCE).