

PROJECT MANAGER Anne Geiger, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY Adam Welschenbach, (703) 368-7373

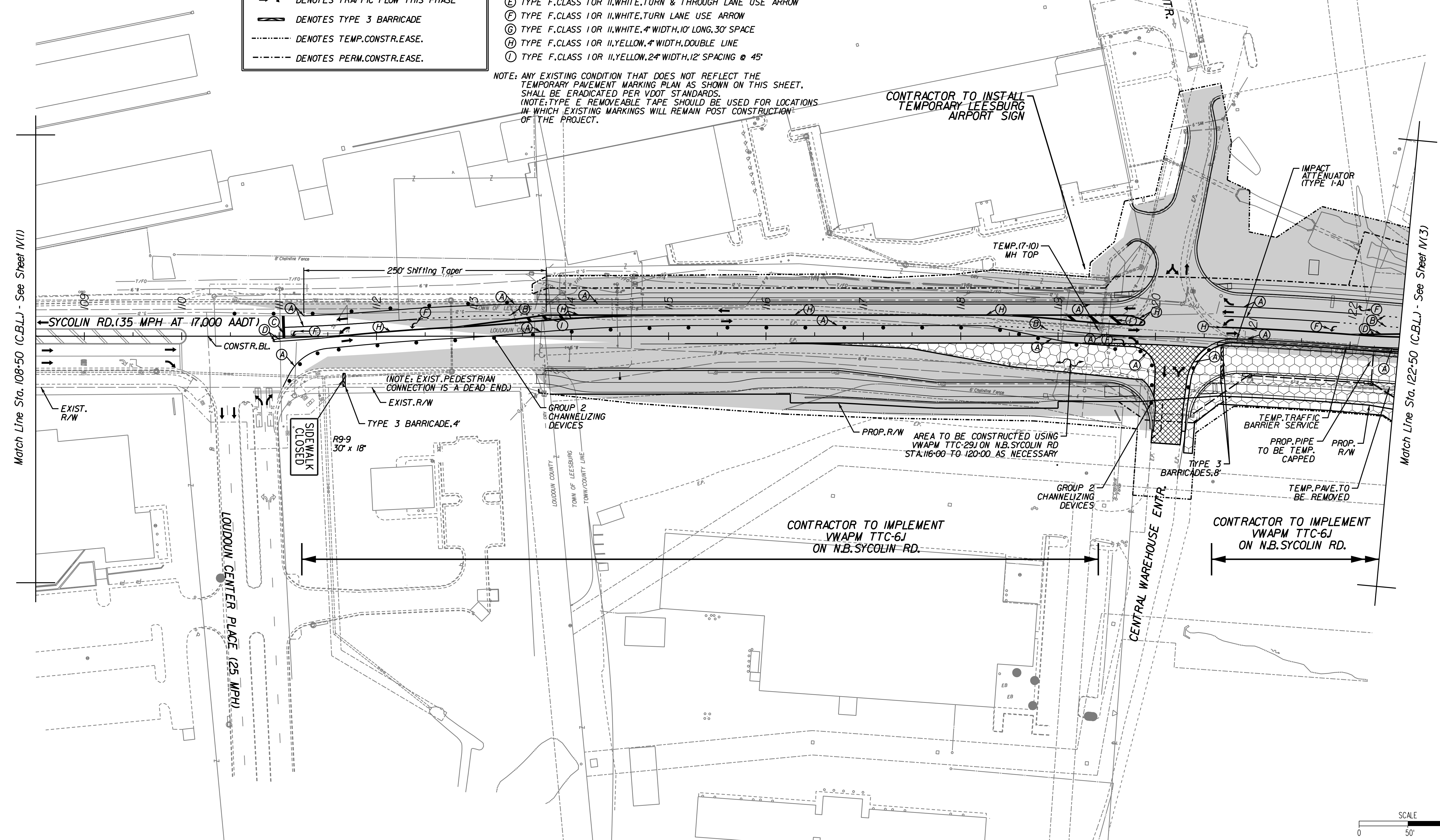
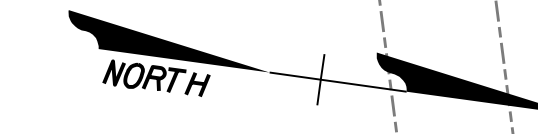
TMP/SOC LEGEND	
	DENOTES TEMP. OR PERM. CONSTR. PREVIOUS PHASE SEE PHASE NOTES.
	DENOTES TEMP. PAVE. WIDENING THIS PHASE
	DENOTES PERM. CONSTR. THIS PHASE
	DENOTES TEMP. AND/OR FINAL CONSTR. UNDER TRAFFIC (SEE PHASE NOTES)
	DENOTES TRAFFIC BARRIER SERVICE
	DENOTES IMPACT ATTENUATOR
	DENOTES GROUP 2 CHANNELIZING DEVICES
	DENOTES TRAFFIC FLOW THIS PHASE
	DENOTES TYPE 3 BARRICADE
	DENOTES TEMP. CONSTR. EASE.
	DENOTES PERM. CONSTR. EASE.

TMP/SOC PHASE NOTES
 1. LANE CLOSURES TO OCCUR ONLY WHEN WORK ZONE IS ACTIVE (SEE NOTE 1C SHEET IS)
 2. WHEN CONSTR. ZONE IS NON-ACTIVE A 6J WEDGE SHALL BE INSTALLED. SEE GENERAL NOTE NO. 11 SHEET IS FOR DETAILS ON WEDGE.

PAVE. MARKING LEGEND	
	TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH
	TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 2' LONG, 4" SPACE
	TYPE F, CLASS 1 OR II, WHITE, 24" WIDTH
	TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH
	TYPE F, CLASS 1 OR II, WHITE, TURN & THROUGH LANE USE ARROW
	TYPE F, CLASS 1 OR II, WHITE, TURN LANE USE ARROW
	TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 10' LONG, 30' SPACE
	TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH, DOUBLE LINE
	TYPE F, CLASS 1 OR II, YELLOW, 24" WIDTH, 12' SPACING @ 45°

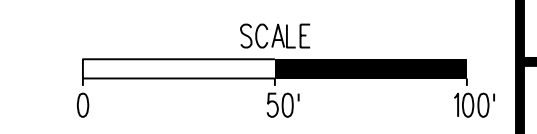
NOTE: ANY EXISTING CONDITION THAT DOES NOT REFLECT THE TEMPORARY PAVEMENT MARKING PLAN AS SHOWN ON THIS SHEET, SHALL BE ERADICATED PER VDOT STANDARDS.
 (NOTE: TYPE E REMOVEABLE TAPE SHOULD BE USED FOR LOCATIONS IN WHICH EXISTING MARKINGS WILL REMAIN POST CONSTRUCTION OF THE PROJECT.)

TMP/SOC PHASE 3



Match Line Sta. 108+50 (C.B.L.) - See Sheet IV(1)

Match Line Sta. 122+50 (C.B.L.) - See Sheet IV(3)



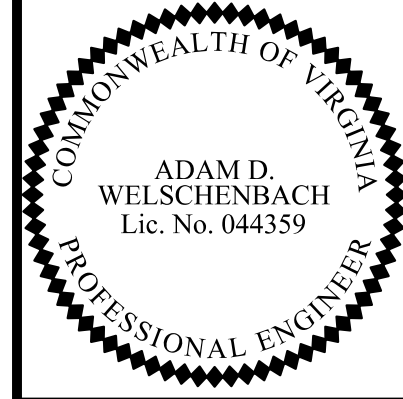
100% PLANS

ENGINEER:
Rinker Design Associates, P.C.
 Engineering • Surveying • Land Planning • Transportation • Environmental Services
 6000 Decoye Blvd., Suite 200, Manassas Virginia 20108 on the web @ www.rinkerd.com
 Telephone: (703) 368-7373 Fax: (703) 375-5443
 To Make Your Vision Reality

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV**
 FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
 TRANSPORTATION MANAGEMENT PLAN
 AND SEQUENCE OF CONSTRUCTION

Loudoun County, Virginia

Town of Leesburg
 SUBMISSION DATE: 02/21/2018



Adam Welschenbach
 2018.02.22 18:12:22 -05'00'

ASSOCIATED PLAN
 C.I.P. NUMBER: **TLCI-2016-0002**
 VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: TBD

Sheet
 1V(2) of 20

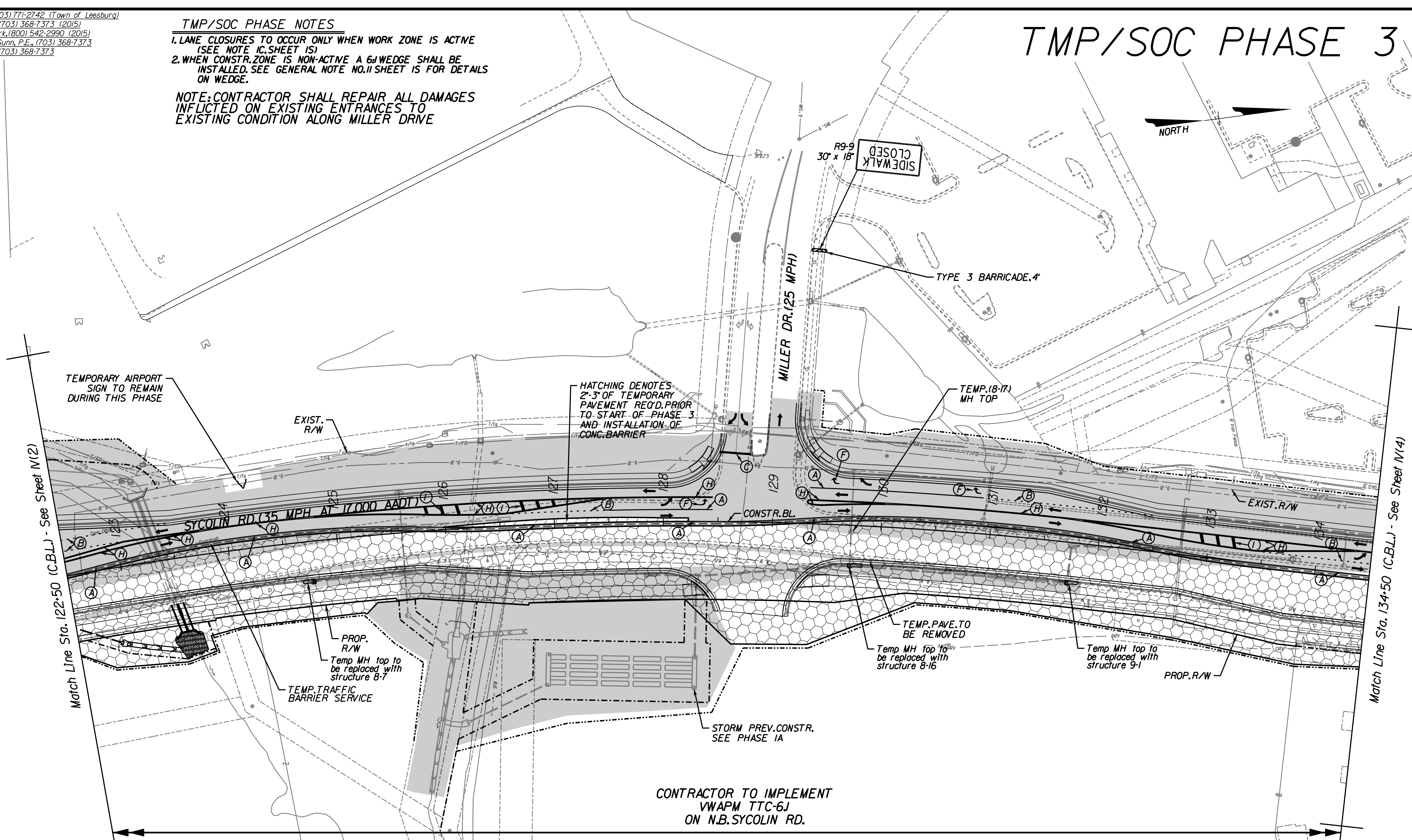
PROJECT MANAGER: Anne Gelaer, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Adam Welschenbach, (703) 368-7373

TMP/SOC PHASE NOTES

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2. WHEN CONSTR. ZONE IS NON-ACTIVE A 6' WEDGE SHALL BE INSTALLED. SEE GENERAL NOTE NO. 11 SHEET IS FOR DETAILS ON WEDGE.

NOTE: CONTRACTOR SHALL REPAIR ALL DAMAGES INFLECTED ON EXISTING ENTRANCES TO EXISTING CONDITION ALONG MILLER DRIVE

TMP/SOC PHASE 3



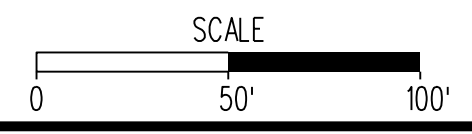
CONTRACTOR TO IMPLEMENT VWAPM TTC-6J ON N.B. SYCOLIN RD.

PAVE. MARKING LEGEND

- (A) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH
- (B) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 2' LONG, 4" SPACE
- (C) TYPE F, CLASS 1 OR II, WHITE, 24" WIDTH
- (D) TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH
- (E) TYPE F, CLASS 1 OR II, WHITE, TURN & THROUGH LANE USE ARROW
- (F) TYPE F, CLASS 1 OR II, WHITE, TURN LANE USE ARROW
- (G) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (H) TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH, DOUBLE LINE
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NOTE: ANY EXISTING CONDITION THAT DOES NOT REFLECT THE TEMPORARY PAVEMENT MARKING PLAN AS SHOWN ON THIS SHEET, SHALL BE ERADICATED PER VDOT STANDARDS. (NOTE: TYPE F REMOVEABLE TAPE SHOULD BE USED FOR LOCATIONS IN WHICH EXISTING MARKINGS WILL REMAIN POST CONSTRUCTION OF THE PROJECT.)

TMP/SOC LEGEND	
	VAR. DEPTH PAVE. BUILD-UP REQ'D. (USE TTC-23J TO CONSTR.)
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	DENOTES TEMP. PAVE. WIDENING THIS PHASE
	DENOTES PERM. CONSTR. THIS PHASE
	DENOTES TEMP. AND/OR FINAL CONSTR. UNDER TRAFFIC (SEE PHASE NOTES)
	DENOTES TRAFFIC BARRIER SERVICE
	DENOTES IMPACT ATTENUATOR
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	DENOTES TRAFFIC FLOW THIS PHASE
	DENOTES TYPE 3 BARRICADE
	DENOTES TEMP. CONSTR. EASE.
	DENOTES PERM. CONSTR. EASE.



ENGINEER:
Rinker Design Associates, P.C.
 Engineering - Surveying - Land Planning - Transportation - Environmental Services
 6000 Decatur Road, Suite 200, Manassas, Virginia 20108
 Telephone: (703) 368-7373 Fax: (703) 375-5443
 www.rinker.com
 to Make Your Vision Reality

PROJECT MANAGER: MARK A. GUNN, P.E.

PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
TRANSPORTATION MANAGEMENT PLAN AND SEQUENCE OF CONSTRUCTION
 Loudoun County, Virginia

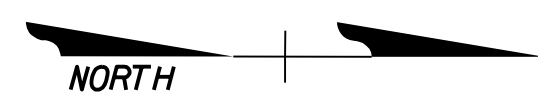
Town of Leesburg
 SUBMISSION DATE: 04/13/2018

COMMONWEALTH OF VIRGINIA
 ADAM D. WELSCHENBACH
 Lic. No. 044359
 PROFESSIONAL ENGINEER

ASSOCIATED PLAN
 C.I.P. NUMBER: TLCl-2016-0002
 VDOT PROJ. NO. U000-253-312
 TOWN NUMBER: TBD

Sheet 1V(3) of 20

TMP/SOC PHASE 3



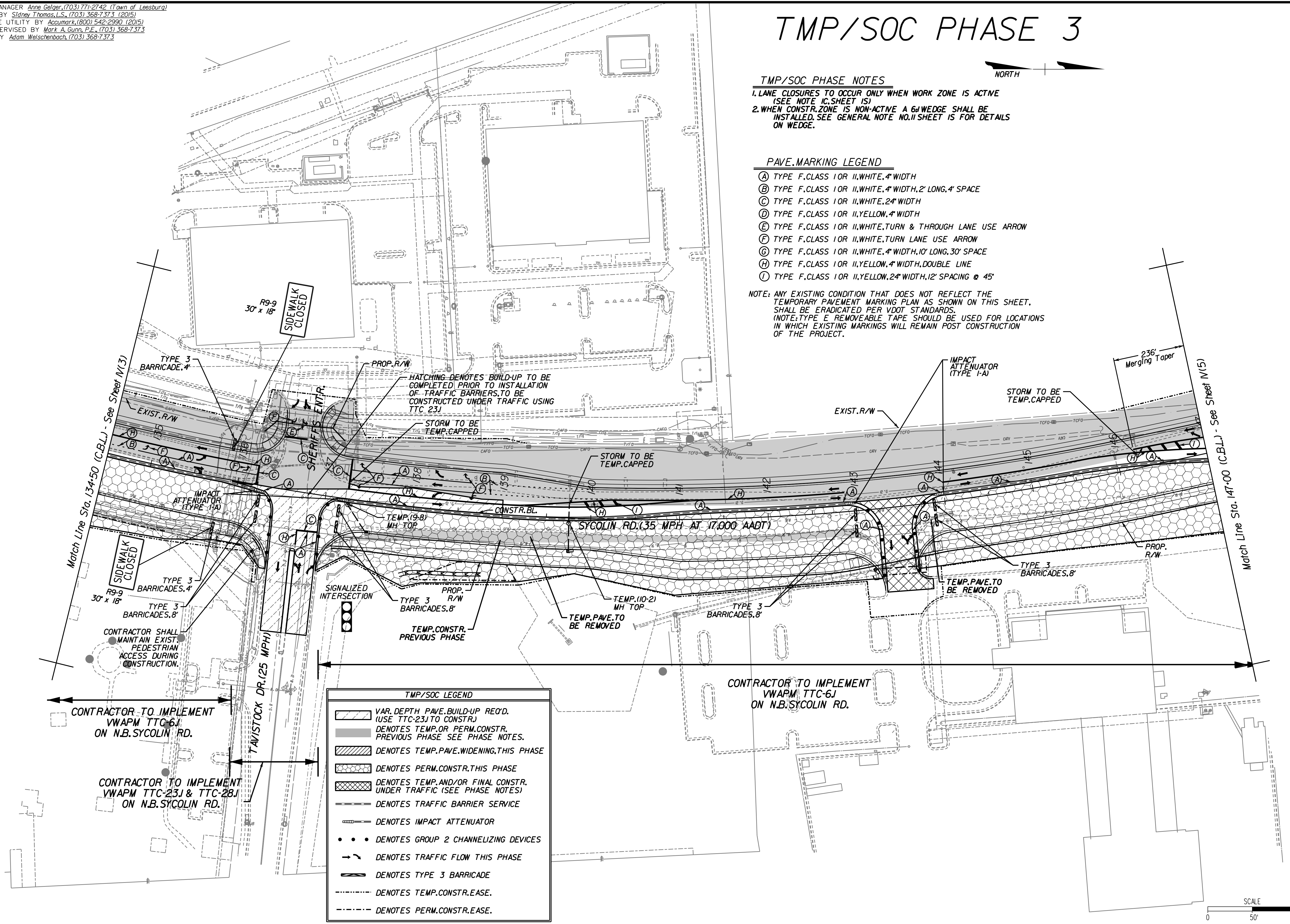
TMP/SOC PHASE NOTES

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PAVE. MARKING LEGEND

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- (B) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 2' LONG, 4' SPACE
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- (F) TYPE F, CLASS 1 OR II, WHITE, TURN LANE USE ARROW
- (G) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 10' LONG, 30' SPACE
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	DENOTES IMPACT ATTENUATOR
	DENOTES GROUP 2 CHANNELIZING DEVICES
	DENOTES TRAFFIC FLOW THIS PHASE
	DENOTES TYPE 3 BARRICADE
	DENOTES TEMP. CONSTR. EASE.
	DENOTES PERM. CONSTR. EASE.

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**

TRANSPORTATION MANAGEMENT PLAN AND SEQUENCE OF CONSTRUCTION

Town of Leesburg
Loudoun County, Virginia

ENGINEER: **Rinker Design Associates, P.C.**
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 Telephone: (703) 368-7373 Fax: (703) 370-5443
 E-mail: info@rinker.com

PROJECT MANAGER: MARK A. GUNN, P.E.

PROFESSIONAL ENGINEER

ADAM D. WELSCHENBACH
Lic. No. 044359

Adam Welschenbach
2018.02.22 18:11:35 -05'00'

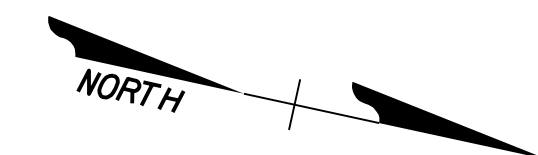
ASSOCIATED PLAN NUMBER: **TLCI-2016-0002**

VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: TBD

SCALE

TMP/SOC PHASE 3



TMP/SOC PHASE NOTES

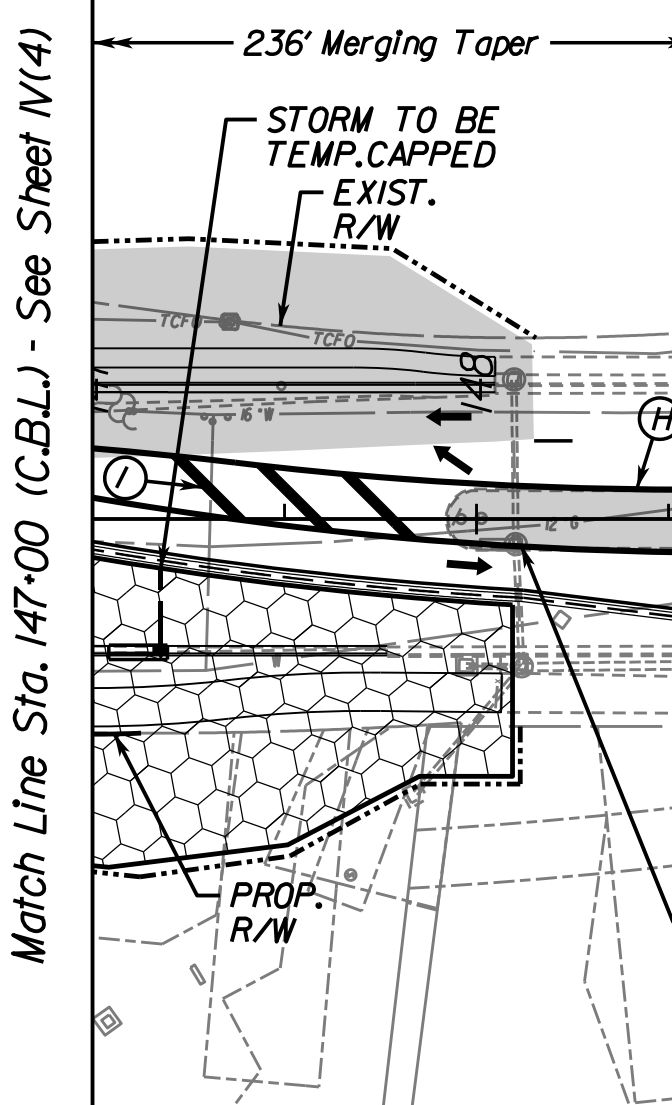
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PAVE. MARKING LEGEND

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- (C) TYPE F, CLASS 1 OR II, WHITE, 24" WIDTH
- (D) TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH
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Match Line Sta. 147+00 (C.B.L.) - See Sheet IV(14)



CONTRACTOR TO IMPLEMENT VWAPM TTC-6J ON N.B. SYCOLIN RD.

TYPE 3 BARRICADE, 4'

R9-9 30' x 18' SIDEWALK CLOSED

SIGNALIZED INTERSECTION

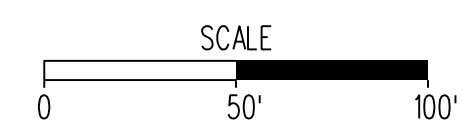
TYPE 3 BARRICADE, 4'

R9-9 30' x 18' SIDEWALK CLOSED

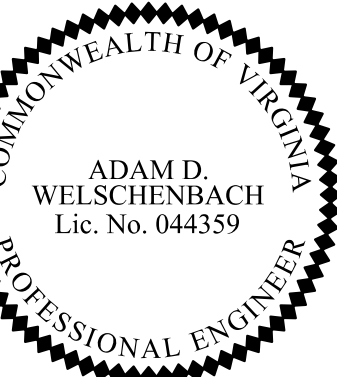
TOLBERT LANE (35 MPH)

SYCOLIN RD. (35 MPH AT 17,000 AADT)

TMP/SOC LEGEND	
	DENOTES TEMP. OR PERM. CONSTR. PREVIOUS PHASE SEE PHASE NOTES.
	DENOTES TEMP. PAVE. WIDENING, THIS PHASE
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	DENOTES TRAFFIC FLOW THIS PHASE
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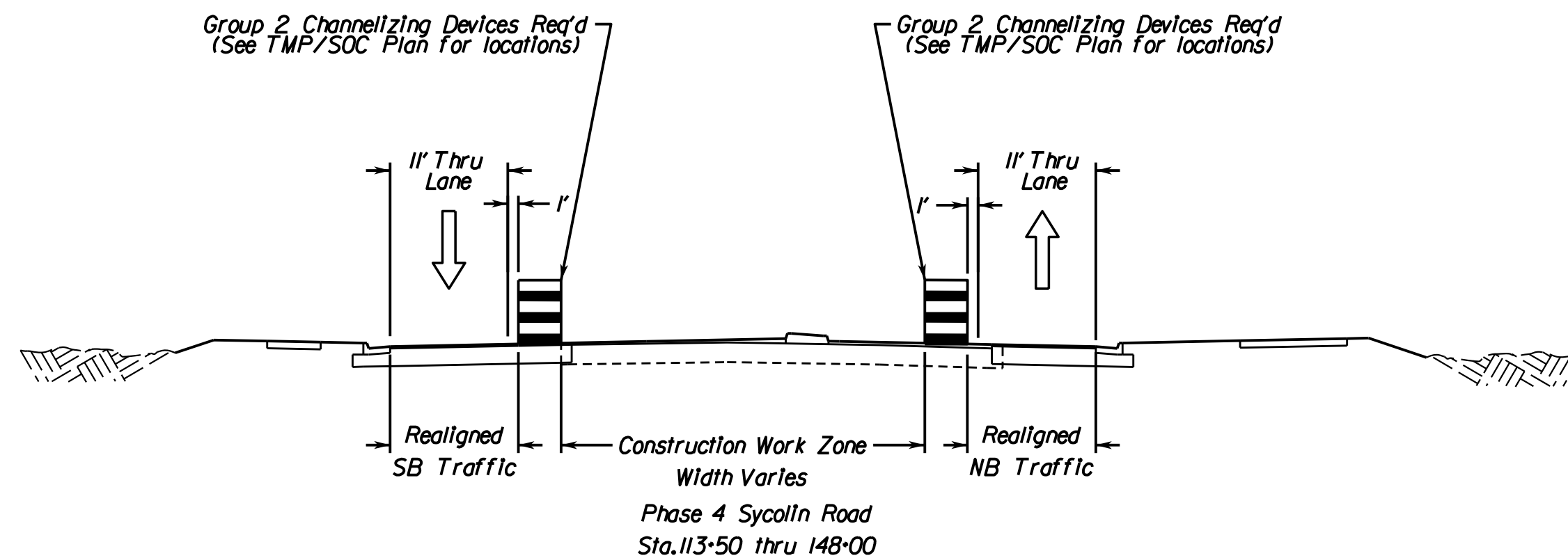
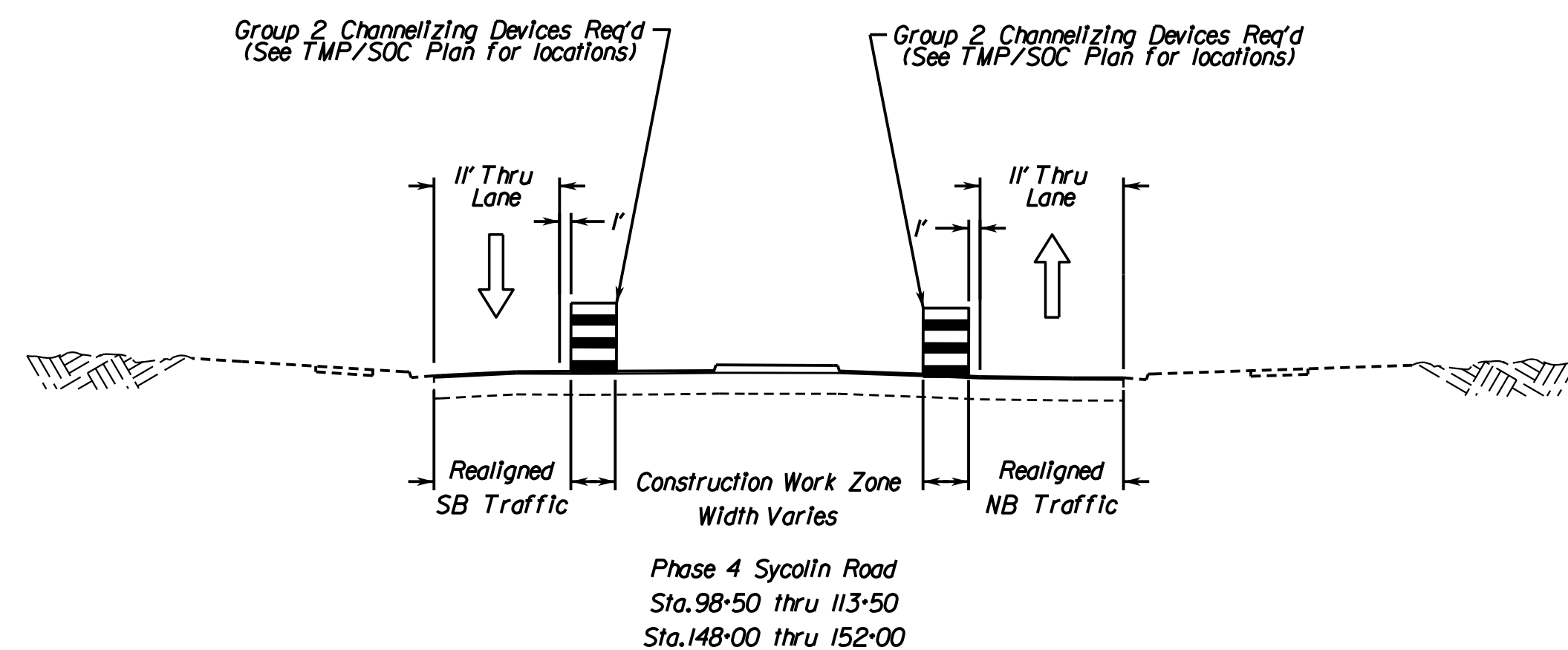
100% PLANS



Adam Welschenbach
 2018.02.22 18:10:32 -05'00"

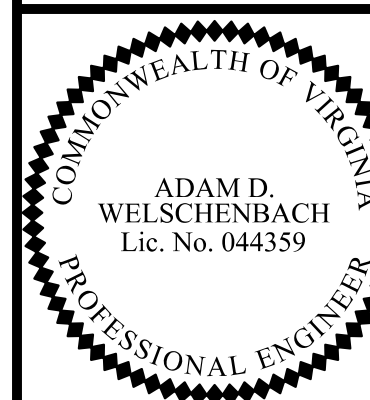
PROJECT MANAGER *Anne Gelaer*, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY *Sidney Thomas, L.S.*, (703) 368-7373 (2015)
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 DESIGN SUPERVISED BY *Mark A. Gunn, P.E.*, (703) 368-7373
 DESIGNED BY *Adam Welschenbach*, (703) 368-7373

TMP/SOC PHASE 4 TYPICAL SECTIONS (Not to Scale)



PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV**
 FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
 TRANSPORTATION MANAGEMENT PLAN
 AND SEQUENCE OF CONSTRUCTION

Town of Leesburg
 Loudoun County, Virginia
 SUBMISSION DATE: 02/21/2018

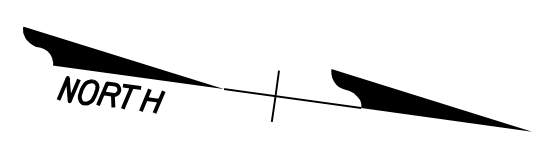


Adam Welschenbach
 2018.02.22 18:10:08 -05'00"

ASSOCIATED PLAN
 C.I.P. NUMBER: **TLCI-2016-0002**
 VDOT PROJ. NO. **U000-253-312**
 TOWN NUMBER: TBD

PROJECT MANAGER *Anne Geisler*, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY *Sidney Thomas, L.S.*, (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY *Accumark*, (800) 542-2990 (2015)
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 DESIGNED BY *Adam Welschenbach*, (703) 368-7373

TMP/SOC PHASE 4



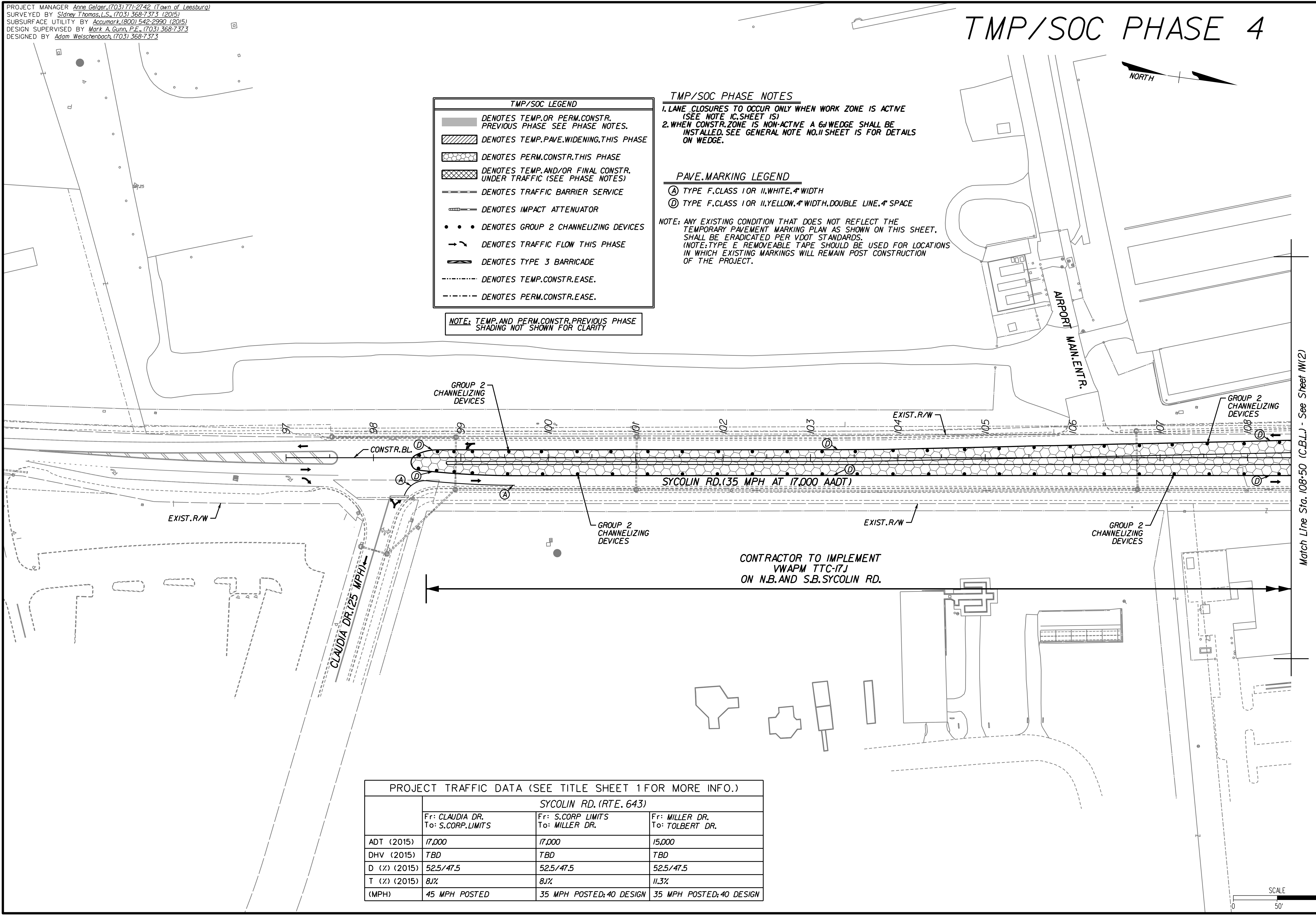
TMP/SOC LEGEND	
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	DENOTES TEMP. PAVE. WIDENING, THIS PHASE
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	DENOTES GROUP 2 CHANNELIZING DEVICES
	DENOTES TRAFFIC FLOW THIS PHASE
	DENOTES TYPE 3 BARRICADE
	DENOTES TEMP. CONSTR. EASE.
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NOTE: TEMP. AND PERM. CONSTR. PREVIOUS PHASE SHADING NOT SHOWN FOR CLARITY

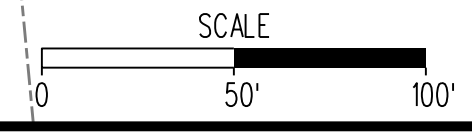
TMP/SOC PHASE NOTES
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PAVE. MARKING LEGEND
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NOTE: ANY EXISTING CONDITION THAT DOES NOT REFLECT THE TEMPORARY PAVEMENT MARKING PLAN AS SHOWN ON THIS SHEET, SHALL BE ERADICATED PER VDOT STANDARDS. (NOTE: TYPE E REMOVEABLE TAPE SHOULD BE USED FOR LOCATIONS IN WHICH EXISTING MARKINGS WILL REMAIN POST CONSTRUCTION OF THE PROJECT.)

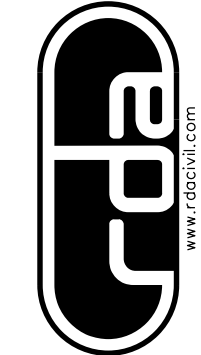


PROJECT TRAFFIC DATA (SEE TITLE SHEET 1 FOR MORE INFO.)			
SYCOLIN RD. (RTE. 643)			
	Fr: CLAUDIA DR. To: S.CORP. LIMITS	Fr: S.CORP. LIMITS To: MILLER DR.	Fr: MILLER DR. To: TOLBERT DR.
ADT (2015)	17,000	17,000	15,000
DHV (2015)	TBD	TBD	TBD
D (%) (2015)	52.5/47.5	52.5/47.5	52.5/47.5
T (%) (2015)	8.1%	8.1%	11.3%
(MPH)	45 MPH POSTED	35 MPH POSTED; 40 DESIGN	35 MPH POSTED; 40 DESIGN



100% PLANS

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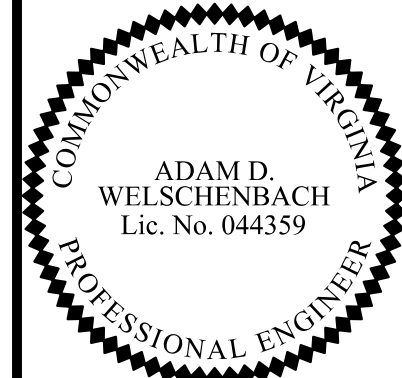


PROJECT MANAGER: MARK A. GUNN, P.E.

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV**
 FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
 TRANSPORTATION MANAGEMENT PLAN
 AND SEQUENCE OF CONSTRUCTION

Loudoun County, Virginia

Town of Leesburg
 SUBMISSION DATE: 02/21/2018



Adam Welschenbach
 2018.02.22 18:09:44 -05'00'

ASSOCIATED PLAN
 C.I.P. NUMBER: **TLCI-2016-0002**
 VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: TBD

Sheet
1W(1) of 20

SCALE
 0 50' 100'

PROJECT MANAGER Anne Gelaer, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY Sidney Thomas, L.S., (703) 368-7373 (2015)
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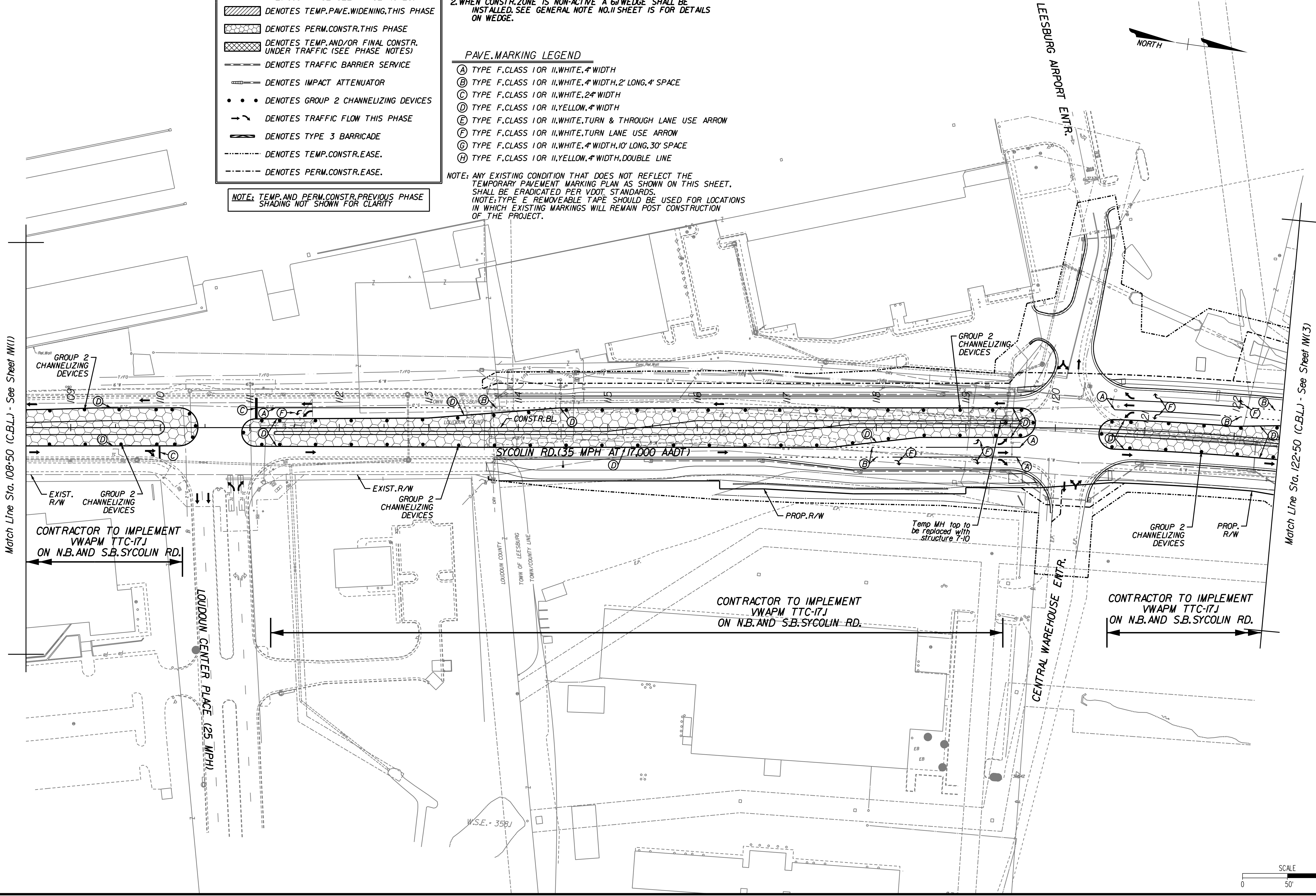
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	TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 2' LONG, 4" SPACE
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	TYPE F, CLASS 1 OR II, WHITE, TURN LANE USE ARROW
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TMP/SOC PHASE 4



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PROJECT MANAGER: MARK A. GUNN, P.E.

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Sheet
1W(2) of 20
 TOWN NUMBER: TBD

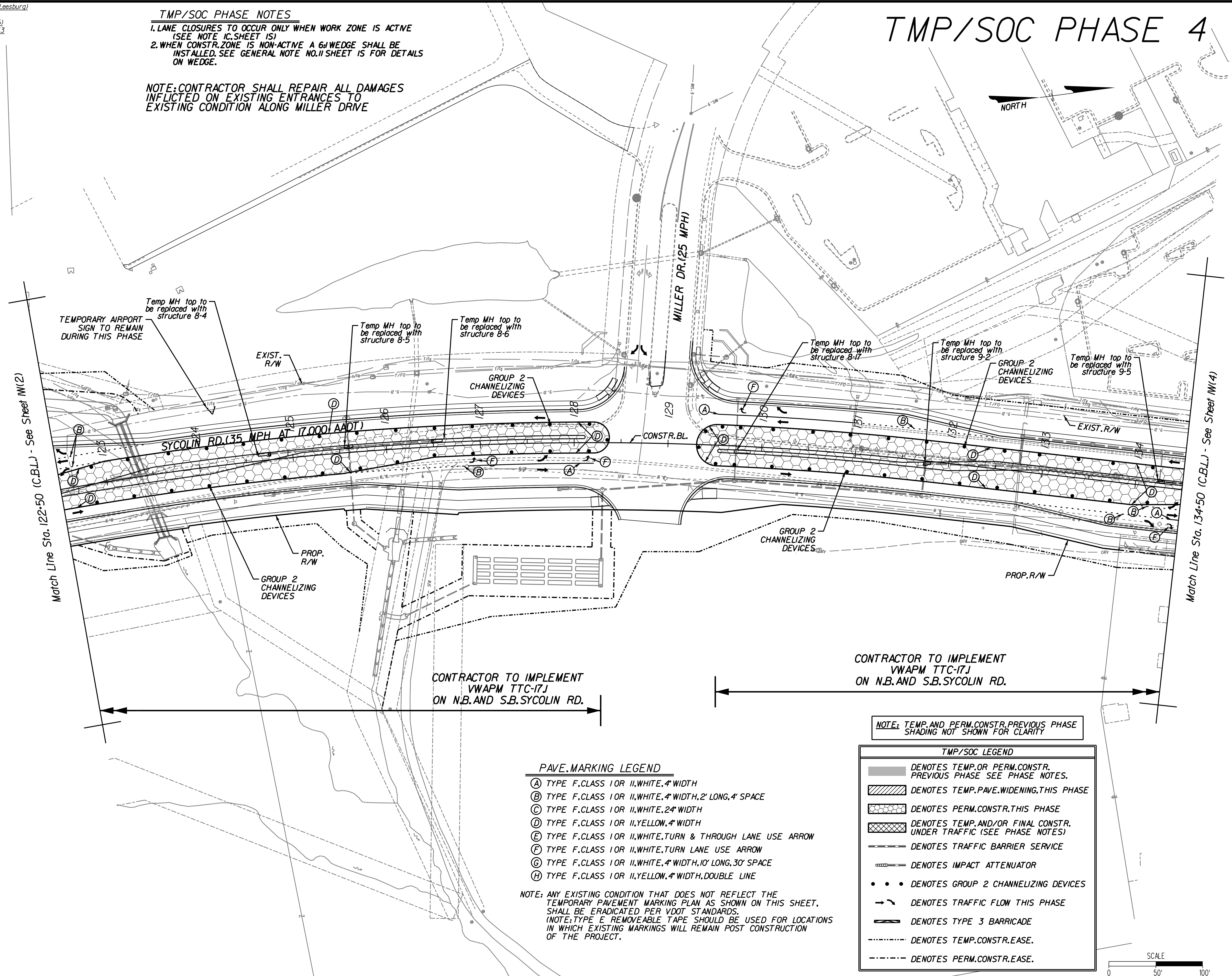
PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Adam Welschenbach, (703) 368-7373

TMP/SOC PHASE NOTES

1. LANE CLOSURES TO OCCUR ONLY WHEN WORK ZONE IS ACTIVE (SEE NOTE 1C SHEET IS)
2. WHEN CONSTR. ZONE IS NON-ACTIVE A 6" WEDGE SHALL BE INSTALLED. SEE GENERAL NOTE NO. 11 SHEET IS FOR DETAILS ON WEDGE.

NOTE: CONTRACTOR SHALL REPAIR ALL DAMAGES INFLICTED ON EXISTING ENTRANCES TO EXISTING CONDITION ALONG MILLER DRIVE

TMP/SOC PHASE 4



CONTRACTOR TO IMPLEMENT VWAPM TTC-17J ON N.B. AND S.B. SYCOLIN RD.

CONTRACTOR TO IMPLEMENT VWAPM TTC-17J ON N.B. AND S.B. SYCOLIN RD.

PAVE. MARKING LEGEND

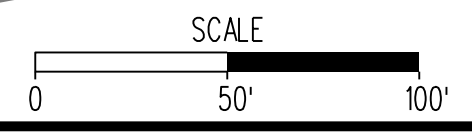
- (A) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH
- (B) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (C) TYPE F, CLASS 1 OR II, WHITE, 2" WIDTH
- (D) TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH
- (E) TYPE F, CLASS 1 OR II, WHITE, TURN & THROUGH LANE USE ARROW
- (F) TYPE F, CLASS 1 OR II, WHITE, TURN LANE USE ARROW
- (G) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 10' LONG, 30' SPACE
- (H) TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH, DOUBLE LINE

NOTE: ANY EXISTING CONDITION THAT DOES NOT REFLECT THE TEMPORARY PAVEMENT MARKING PLAN AS SHOWN ON THIS SHEET, SHALL BE ERADICATED PER VDOT STANDARDS. (NOTE: TYPE E REMOVEABLE TAPE SHOULD BE USED FOR LOCATIONS IN WHICH EXISTING MARKINGS WILL REMAIN POST CONSTRUCTION OF THE PROJECT.)

NOTE: TEMP. AND PERM. CONSTR. PREVIOUS PHASE SHADING NOT SHOWN FOR CLARITY

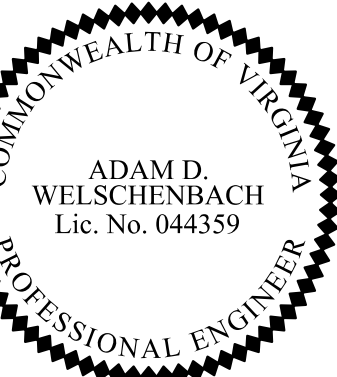
TMP/SOC LEGEND

- DENOTES TEMP. OR PERM. CONSTR. PREVIOUS PHASE SEE PHASE NOTES.
- DENOTES TEMP. PAVE. WIDENING, THIS PHASE
- DENOTES PERM. CONSTR. THIS PHASE
- DENOTES TEMP. AND/OR FINAL CONSTR. UNDER TRAFFIC (SEE PHASE NOTES)
- DENOTES TRAFFIC BARRIER SERVICE
- DENOTES IMPACT ATTENUATOR
- DENOTES GROUP 2 CHANNELIZING DEVICES
- DENOTES TRAFFIC FLOW THIS PHASE
- DENOTES TYPE 3 BARRICADE
- DENOTES TEMP. CONSTR. EASE.
- DENOTES PERM. CONSTR. EASE.



ENGINEER:
Rinker Design Associates, P.C.
 Engineering - Surveying - Land Planning - Transportation - Environmental Services
 6000 DeSotoe Blvd., Suite 200, Manassas Virginia 20108 on the web @ www.rinker.com
 Telephone: (703) 368-7373 Fax: (703) 375-5443
 E-mail: info@rinker.com
 to Make Your Vision Reality

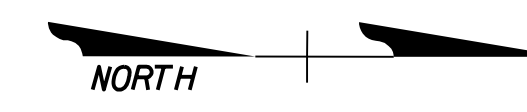
PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV**
 FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
 TRANSPORTATION MANAGEMENT PLAN
 AND SEQUENCE OF CONSTRUCTION
 Loudoun County, Virginia



Adam Welschenbach
 2018.02.22 18:08:50 -05'00'

ASSOCIATED PLAN
 C.I.P. NUMBER: **TLCI-2016-0002**
 VDOT PROJ. NO. **U000-253-312**
 TOWN NUMBER: TBD

TMP/SOC PHASE 4



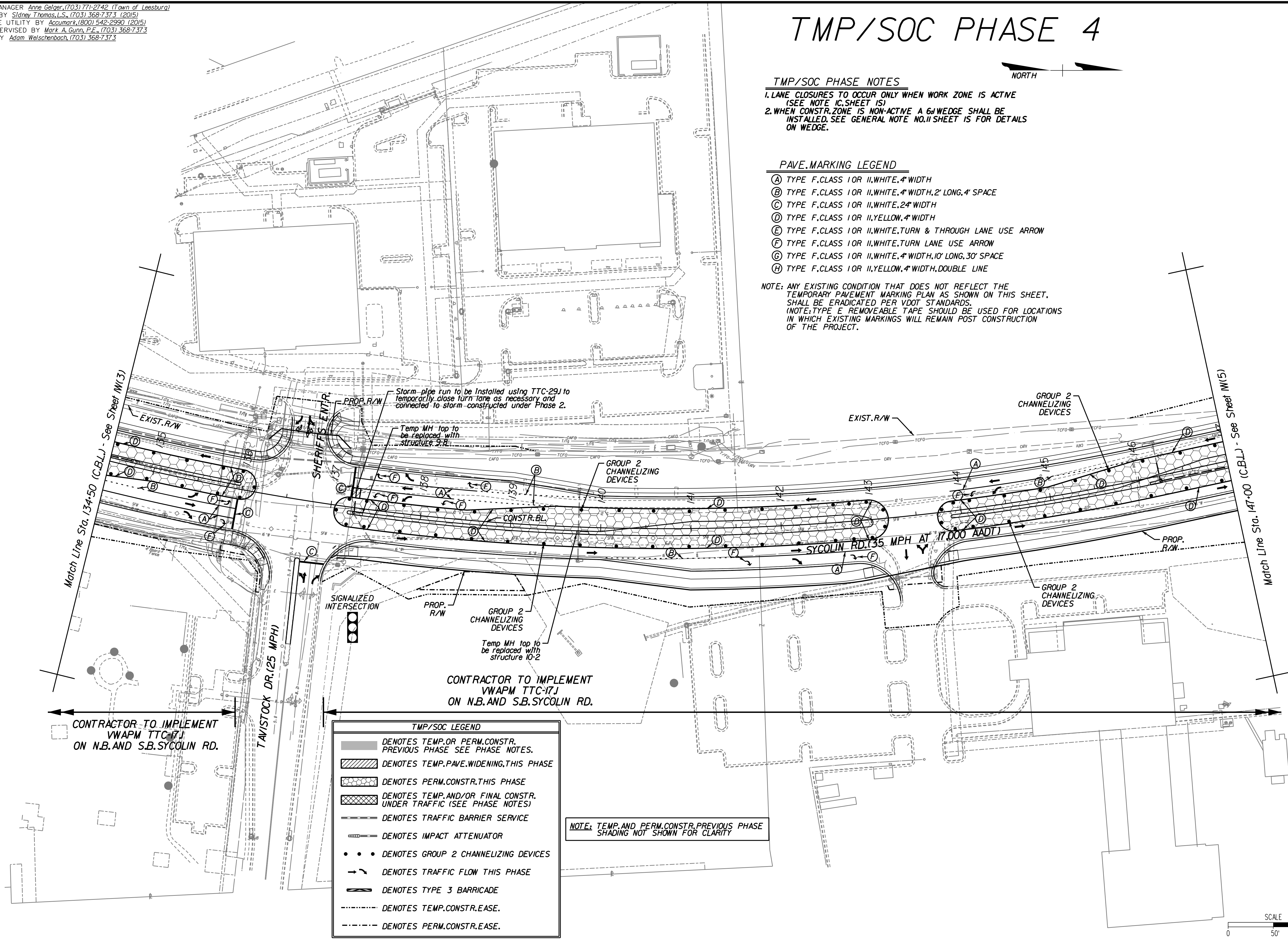
TMP/SOC PHASE NOTES

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- (B) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 2' LONG, 4' SPACE
- (C) TYPE F, CLASS 1 OR II, WHITE, 24" WIDTH
- (D) TYPE F, CLASS 1 OR II, YELLOW, 4" WIDTH
- (E) TYPE F, CLASS 1 OR II, WHITE, TURN & THROUGH LANE USE ARROW
- (F) TYPE F, CLASS 1 OR II, WHITE, TURN LANE USE ARROW
- (G) TYPE F, CLASS 1 OR II, WHITE, 4" WIDTH, 10' LONG, 30' SPACE
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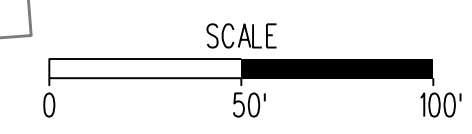


CONTRACTOR TO IMPLEMENT VWAPM TTC-7J ON N.B. AND S.B. SYCOLIN RD.

CONTRACTOR TO IMPLEMENT VWAPM TTC-17J ON N.B. AND S.B. SYCOLIN RD.

TMP/SOC LEGEND	
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	DENOTES TEMP. PAVE. WIDENING, THIS PHASE
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	DENOTES TEMP. CONSTR. EASE.
	DENOTES PERM. CONSTR. EASE.

NOTE: TEMP. AND PERM. CONSTR. PREVIOUS PHASE SHADING NOT SHOWN FOR CLARITY



ENGINEER:
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 6000 Decoye Blvd., Suite 200, Manassas, Virginia 20108
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 www.rinker.com
 to Make Your Vision Reality

PROJECT MANAGER: MARK A. GUNN, P.E.

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV**
 FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
 TRANSPORTATION MANAGEMENT PLAN
 AND SEQUENCE OF CONSTRUCTION

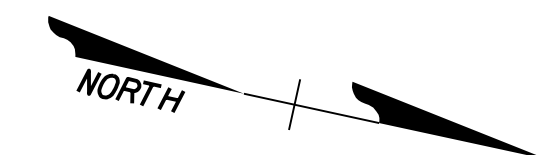
Loudoun County, Virginia
 Town of Leesburg
 SUBMISSION DATE: 02/21/2018

ASSOCIATED PLAN NUMBER: **TLCI-2016-0002**
 C.I.P. NUMBER: **U000-253-312**
 VDOT PROJ. NO. **U000-253-312**

Sheet **1W(4)** of 20
 TOWN NUMBER: TBD

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Adam Welschenbach, (703) 368-7373

TMP/SOC PHASE 4



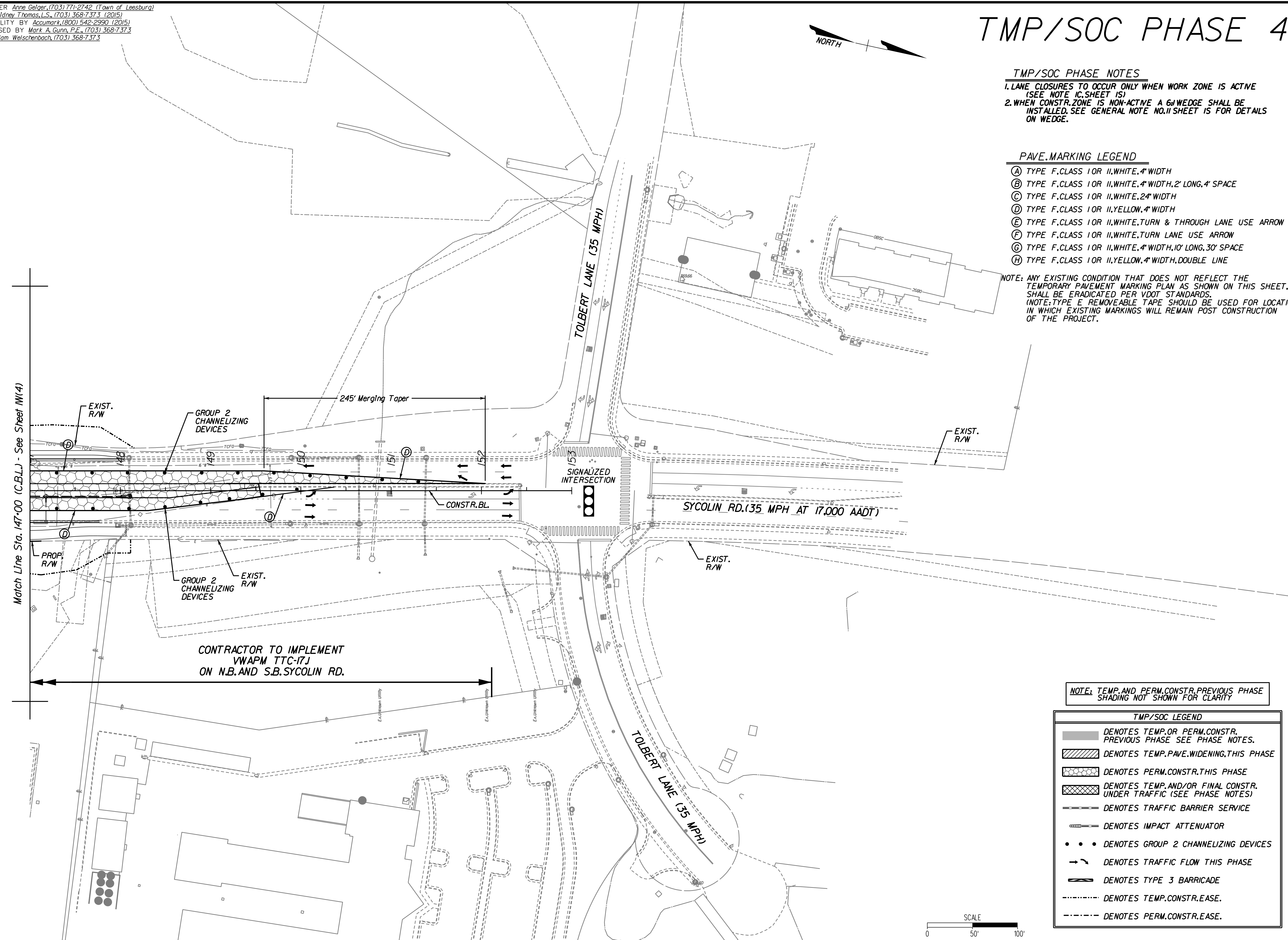
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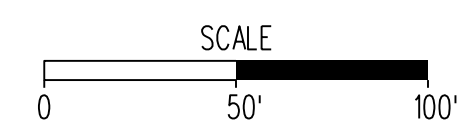


Match Line Sta. 147+00 (C.B.L.) - See Sheet M(14)

CONTRACTOR TO IMPLEMENT VWAPM TTC-17J ON N.B. AND S.B. SYCOLIN RD.

NOTE: TEMP. AND PERM. CONSTR. PREVIOUS PHASE SHADING NOT SHOWN FOR CLARITY

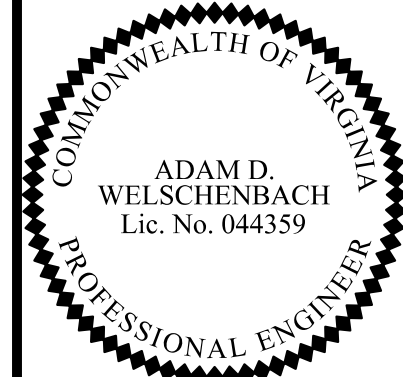
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	DENOTES TYPE 3 BARRICADE
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	DENOTES PERM. CONSTR. EASE.



100% PLANS

PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
 TRANSPORTATION MANAGEMENT PLAN AND SEQUENCE OF CONSTRUCTION

Town of Leesburg
 Loudoun County, Virginia
 SUBMISSION DATE: 02/21/2018



Adam Welschenbach
 2018.02.22 18:08:00 -05'00"

ASSOCIATED PLAN NUMBER: TLCI-2016-0002
 C.I.P. NUMBER: U000-253-312
 VDOT PROJ. NO. U000-253-312
 TOWN NUMBER: TBD

PROJECT MANAGER Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY Accumark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY Sahab Qadiri, P.E., (703) 368-7373

VDOT GENERAL NOTES

GRADING

- G-1 The grade line denotes top of finished pavement unless shown otherwise on typical sections or plans.
- 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: sidewalk, curb & gutter, paved ditch, small footings, and small block or brick items.
- G-6 The borrow material for this project shall be a minimum CBR 10 or as approved by the Materials Engineer. All borrow materials shall have a liquid limit (LL) value of less than 45 and plasticity index (PI) value of less than 20 in their natural state.
- G-7 Material from regular excavation which is suitable for stabilization with hydraulic cement (lime) shall be placed in the top portion of the subgrade.

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 applicable District Drainage Engineer 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-7 All pipe on this project shall be Reinforced Conc. Pipe. For strength, sheet thickness, or class designation; available sizes; height of cover limitations; and other restrictions for a particular pipe type or height cover, see 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. Pipes with less than standard minimum finished height of cover shall be noted as such in the drainage description for the pipe. Specific pipe bedding and cover requirements are provided in the applicable PB-1 and PC-1 standard drawings of the VDOT Road and Bridge Standards.
- 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.
- D-17 St'd. SL-1 Safety Slab locations are based on the assumed use of precast structures. If cast-in-place structures are utilized, and the interior chamber dimensions (length and width, or diameter) are less than 4 feet, the safety slabs shall not be installed.

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.

INCIDENTALS

- I-5 That portion of the right of way lying within the Clear Zone or within a minimum of 10 feet from the edge of pavement or surfacing or within the limits of the construction slopes beyond 10 feet, shall be cleared and grubbed in accordance with the applicable VDOT Road and Bridge Specifications, Section 301, where sufficient right of way or construction easement is provided.

- I-6 Certain trees shall be preserved as noted on plans or as directed by the Engineer.
- I-7 Where Standard slope roundoffs would damage trees, bushes or other desirable vegetation, they shall be omitted when so ordered by 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-14 Salvaged guardrail materials not used in the new construction shall become the property of the Contractor and shall be disposed of at a licensed landfill, recycled or be retained 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 2A(5).
- 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 14 thru 14(4), and as directed by the Engineer.
- I-19 The following outside sources, under contract with the Town of Leesburg, have provided information on this project.

Hydraulic Design	-	Rinker Design Associates
Roadway Design	-	Rinker Design Associates
Utility Design	-	Rinker Design Associates
Utility Designation	-	Accumark
Utility Location	-	Accumark
Survey	-	Rinker Design Associates; Quantum Spatial
Bridge Design	-	N/A
Traffic Design	-	Rinker Design Associates
Landscape Design	-	TWS Design Inc.

If questions or problems arise during construction, please contact the Construction Engineer. 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.

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 | Denotes Protective Covering, St'd. EC-2 |
| | EC-3A | Denotes Soil Stabilization Mat. St'd. EC-3 Type A, B or C |
| | EC-3B | |
| | EC-3C | |
| | TFB | Denotes Temporary Filter Barrier, St'd EC-5 |
| | TSF | Denotes Temporary Silt Fence, St'd EC-5 |
| | TDC | Denotes Temporary Diversion Channel, St'd EC-12 |
| | DD | Denotes Temporary Diversion Dike, St'd EC-9 |
| | TC-I | Denotes Turbidity Curtain, Type - Impervious |
| | TC-P | Denotes Turbidity Curtain, Type - Pervious |
| | RCD-1 | Denotes Rock Check Dam, Type I; St'd EC-4 |
| | RCD-2 | Denotes Rock Check Dam, Type II; St'd EC-4 |
| | IP-A | Denotes Inlet Protection, Type A; St'd EC-6 |
| | IP-B | Denotes Inlet Protection, Type B; St'd EC-6 |

ASSOCIATED PLAN C.I.P. NUMBER: TLCI-2016-0002 VDOT PROJ. NO. U000-253-312	PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E. VDOT GENERAL NOTES	TOWN NUMBER: TBD SUBMISSION DATE: 04/13/2018
ENGINEER: Rinker Design Associates, P.C. Engineering - Surveying - Land Planning - Transportation - Environmental Services 6000 Decoye Blvd., Suite 200, Manassas Virginia 20108 on the web @ www.rinker.com Telephone: (703) 368-7373 Fax: (703) 370-5443 E-mail: info@rinker.com		
PROJECT MANAGER: MARK A. GUNN, P.E.		
Loudoun County, Virginia		

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 DESIGN SUPERVISED BY Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY Sahab Qadiri, P.E., (703) 368-7373

TOWN OF LEESBURG CONSTRUCTION NOTES

NOTES:

1. UNLESS OTHERWISE NOTED OR SHOWN HEREIN, ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE SUPPLIED AND INSTALLED IN STRICT CONFORMANCE WITH THE RULES, SPECIFICATIONS AND/OR REGULATIONS CONTAINED IN:
 THE VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD & BRIDGE SPECIFICATIONS AS AMENDED TO DATE.
 THE VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK, LATEST EDITION. (VESCH)
 THE TOWN OF LEESBURG DESIGN AND CONSTRUCTION STANDARDS MANUAL. (DCSM)
 THE DEPARTMENT OF JUSTICE FEDERAL REGISTER IMPLEMENTING TITLE III OF THE AMERICANS WITH DISABILITIES ACT, PUBLIC LAW 101-336 FOR NONDISCRIMINATION ON THE BASIS OF DISABILITY BY PUBLIC ACCOMMODATION.
2. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION RULES AND REGULATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS AND/OR RECONSTRUCTION OF ALL UTILITY COVER (MANHOLE FRAMES AND COVERS, VALVE BOX COVERS, ETC.) TO MATCH THE FINISHED GRADES OF THE AREAS AFFECTED BY THE CONSTRUCTION.
4. THE CONTRACTOR MUST HAVE THE APPROVED CONSTRUCTION DRAWINGS IN POSSESSION PRIOR TO THE START OF CONSTRUCTION. AT LEAST ONE (1) COPY OF THE APPROVED PLANS, WITH REVISIONS, MUST BE KEPT ON-SITE AT ALL TIMES.
5. ALL UNDERGROUND UTILITIES WITHIN THE STREET RIGHTS-OF-WAY SHALL BE INSTALLED TO THE REQUIRED DISTANCE BEYOND THE RIGHT-OF-WAY LINE PRIOR TO THE INSTALLATION OF ANY SUBBASE MATERIAL, CURB & GUTTER OR SIDEWALK.
6. ALL BLASTING SHALL CONFORM TO THE REQUIREMENTS OF ARTICLE 9, SECTION 9-740 OF THE DCSM.
7. REFER TO THE LATEST EDITION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS FOR CONSTRUCTION DETAILS NOT SHOWN OR CONTAINED HEREIN.
8. UNLESS OTHERWISE NOTED HEREIN V.D.O.T. STANDARD IS-1 SHAPING SHALL BE APPLIED TO THE INVERTS OF ALL STORM DRAINAGE STRUCTURES EXCEPT THE FIRST STRUCTURE IN A RUN (SEE DCSM).
9. UNLESS OTHERWISE NOTED OR SHOWN HEREIN ALL COMMERCIAL/RESIDENTIAL STREET ENTRANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH V.D.O.T. STANDARD CG-11.
10. ALL STRIPING AND SIGNAGE SHOWN HEREIN IS TO BE SUPPLIED AND INSTALLED IN CONFORMANCE WITH THE SPECIFICATIONS AND/OR REQUIREMENTS CONTAINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS (M.U.T.C.D.) AND THE VIRGINIA SUPPLEMENTS THERE TO AS WELL AS THE TOWN OF LEESBURG DCSM.
11. STANDARD GUARDRAILS AND HANDRAILS SHALL BE INSTALLED AT THOSE LOCATIONS AS DESIGNATED ON THIS PLAN SET AND AT ANY ADDITIONAL LOCATIONS DEEMED NECESSARY BY THE TOWNS' INSPECTOR AT TIME OF FINAL FIELD INSPECTION.
12. NOT USED.
13. ALL UTILITIES THAT ARE TO BE PLACED UNDER EXISTING STREETS SHALL BE BORED OR JACKED IN ACCORDANCE WITH ALL V.D.O.T. SPECIFICATIONS AND STANDARDS. OPEN CUTTING SHALL ONLY BE PERMITTED WITH PRIOR WRITTEN APPROVAL BY THE DIRECTOR OF PUBLIC WORKS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS AND UTILITIES WHICH OCCUR AS A RESULT OF PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO EXISTING RIGHT-OF-WAY.
15. A SMOOTHING GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE CURB AND GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTERS AND/OR THE PONDING OF ANY WATER ON THE ROADWAY.
16. ALL CONTROLLED FILL, BASE, AND SUBBASE MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD A, AND WITHIN PLUS OR MINUS 2% OF OPTIMUM MOISTURE, FOR THE FULL WIDTH OF ANY DEDICATED RIGHT-OF-WAY OR PERPETUAL STREET EASEMENT. DENSITY MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER. CONTROLLED FILLS SHALL BE COMPACTED IN NO GREATER THAN EIGHT-INCH LIFTS (LOOSE THICKNESS) TO THE SPECIFIED DENSITY, BEGINNING FROM THE EXISTING GROUND SURFACE, UNLESS OTHERWISE APPROVED IN WRITING BY A QUALIFIED SOILS ENGINEER AND THE DIRECTOR OF PUBLIC WORKS.
17. STORM SEWER AND CULVERT PIPE SHALL BE REINFORCED CONCRETE CLASS III PIPE TO CONFORM TO THE CURRENT AASHTO DESIGNATION M170, UNLESS OTHERWISE DESIGNATED ON THESE PLANS.
18. ALL MATERIALS AND CONSTRUCTION WILL CONFORM TO CURRENT SPECIFICATION AND STANDARDS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION AND THE TOWN OF LEESBURG.
19. APPROVAL OF THIS PLAN DOES NOT RELIEVE THE CONTRACTOR FROM OBTAINING ALL FEDERAL, STATE AND LOCAL PERMITS, SUCH AS BUT NOT LIMITED TO: ALL TOWN OF LEESBURG PERMITS, LOUDOUN COUNTY PERMITS, AND REQUIRED CORPS OF ENGINEERS AND/OR DEQ PERMITS. COPIES OF THESE APPROVED PERMITS SHALL BE FURNISHED AT THE PRE-CONSTRUCTION CONFERENCE. ANY CHANGES TO APPROVED CONSTRUCTION PLANS REQUIRED TO SATISFY THESE PERMITS SHALL REQUIRE A FORMAL PLAN REVISION TO BE SUBMITTED AND APPROVED BY THE TOWN PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.
20. THE PERMANENT TRAFFIC PAVEMENT MARKINGS AND SIGNS SHOWN ON THESE DRAWINGS ARE CONCEPTUAL. PRIOR TO THE INSTALLATION OF THE PAVEMENT MARKINGS AND SIGNS THE CONTRACTOR SHALL HAVE A REGISTERED PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE COMMONWEALTH OF VIRGINIA PREPARE AND SUBMIT A DETAILED STRIPING AND SIGNAGE PLAN TO THE DIRECTOR OF PUBLIC WORKS OR HIS DESIGNEE FOR APPROVAL.
21. A BUILDING PERMIT BY THE LOUDOUN COUNTY DEPARTMENT OF BUILDING AND DEVELOPMENT IS REQUIRED FOR RETAINING WALLS.
22. WHEN WORKING IN THE PUBLIC RIGHT-OF-WAY (R.O.W.), A PERMIT IS REQUIRED FROM THE DIRECTOR OF PUBLIC WORKS.

23. ALL BACKFILL FOR PUBLICLY MAINTAINED UTILITY OR STORM SEWER SHALL MEET VDOT REQUIREMENTS AND PROJECT SPECIFICATIONS. ALL OTHERS SHALL MEET GEOTECHNICAL RECOMMENDATIONS.
24. APPROVAL FROM THE DIRECTOR OF PUBLIC WORKS IS REQUIRED FOR ALL BORROW MATERIAL BROUGHT TO THE SITE.
25. ALL DITCHES ARE TO BE STABILIZED TO THE SATISFACTION OF THE TOWN OF LEESBURG AND/OR LOUDOUN COUNTY THROUGH THE USE OF SEEDING, RIP-RAP AND/OR PAVED DITCH.
26. NOT USED.
27. ANY UNUSUAL SUBSURFACE CONDITIONS ENCOUNTERED DURING THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE TOWN AND THE ENGINEER OF RECORD. WORK SHALL CEASE IN THE VICINITY UNTIL AN ADEQUATE DESIGN SOLUTION CAN BE DETERMINED BY THE ENGINEER OF RECORD AND APPROVED BY THE TOWN.
28. DURING ROUGH GRADING OF THE SITE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL ENGINEER IF GROUND WATER SEEPAGE IS IDENTIFIED. IDENTIFICATION OF SUCH GROUND WATER MAY REQUIRE THAT (ADDITIONAL) UNDERDRAINS OR COMBINATION DRAINS BE INSTALLED TO PROTECT THE INTEGRITY OF THE FILL SLOPES AND/OR FINAL PAVEMENT.
29. STREET SURFACES SHALL BE MAINTAINED IN A CLEANED CONDITION, MUD AND DUST FREE AT ALL TIMES. ADEQUATE MEANS SHALL BE PROVIDED TO CLEAN TRUCKS AND OTHER EQUIPMENT USING THE COMPLETED STREETS.
30. ALL GAS LINES REQUIRE A MINIMUM OF 1 FOOT VERTICAL AND 5 FEET HORIZONTAL SEPARATION. CONSTRUCTION WITHIN 10 FEET OF THE GAS LINE REQUIRES A GAS LINE REPRESENTATIVE TO BE PRESENT DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE GAS COMPANY PRIOR TO CONSTRUCTION.
31. THE CONTRACTOR WILL BE RESPONSIBLE FOR CLEARING THE SITE TO THE LIMITS SHOWN ON THE DRAWING. THIS WILL INCLUDE, BUT IS NOT LIMITED TO THE REMOVAL AND DISPOSAL OF ANY EXISTING PAVEMENT, FENCES, BUILDING DEBRIS AND TRASH ON THE SITE. DISPOSAL SHALL BE OFFSITE AND AT THE CONTRACTOR'S EXPENSE.
32. ALL DISTURBED RIGHT-OF-WAY MONUMENTS ARE TO BE REPLACED AND VERIFIED BY A CERTIFIED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
33. THERE ARE NO KNOWN ARCHEOLOGICAL, NATURAL OR HISTORICAL FEATURES AND/OR LANDMARKS ON THIS SITE.
34. THERE IS NO VISIBLE EVIDENCE OF ANY GRAVES, OBJECTS OR STRUCTURES MARKING PLACES OF BURIAL ON THE SITE.
35. THERE ARE NO AREAS OF CONTAMINATION, OR OTHER ADVERSE ENVIRONMENTAL CONDITIONS ON THIS SITE.
36. THIS SITE DOES NOT LIE WITHIN THE AIRPORT NOISE ZONE LIMITS OF LDN 65 AS DEFINED BY THE AIRPORT MASTER PLAN AND ANY OTHER NOISE ABATEMENT DISTRICT OF CORRIDOR AS DEFINED BY THE DCSM OR Z.O.
37. THERE ARE NO MAPPED FEMA 100 YEAR FLOODPLAIN ON THIS SITE.
38. ALL FINAL PAVEMENT DESIGNS SHALL BE APPROVED BY THE DIRECTOR OF PUBLIC WORKS PRIOR TO INSTALLATION.
39. THE CONTRACTOR SHALL PROVIDE AN "AS-BUILT" SURVEY AS REQUIRED BY THE DCSM, ARTICLE 10, 10.150.

ASSOCIATED PLAN
 C.I.P. NUMBER: **TLCI-2016-0002**
 VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: TBD

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**
 TOWN OF LEESBURG CONSTRUCTION NOTES

ENGINEER: **Rinker Design Associates, P.C.**
 Engineering • Surveying • Land Planning • Transportation • Environmental Services
 6000 Decoye Blvd., Suite 200, Manassas, Virginia 20108 on the web @ www.rinkrad.com
 Telephone: (703) 368-7373 Fax: (703) 375-5443
 E-mail: info@rinkrad.com
 to Make Your Vision Reality

PROJECT MANAGER: **MARK A. GUNN, P.E.**

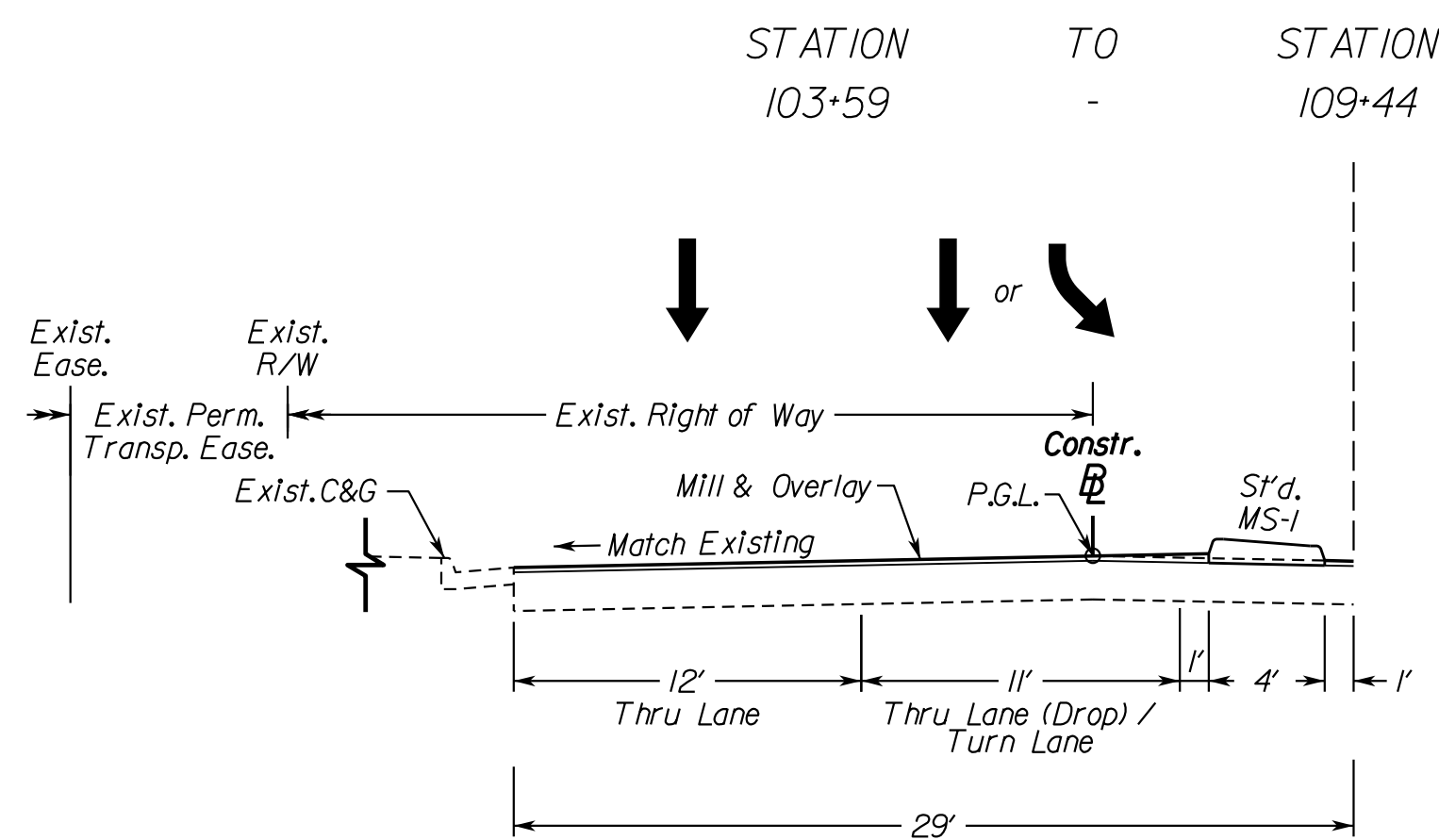
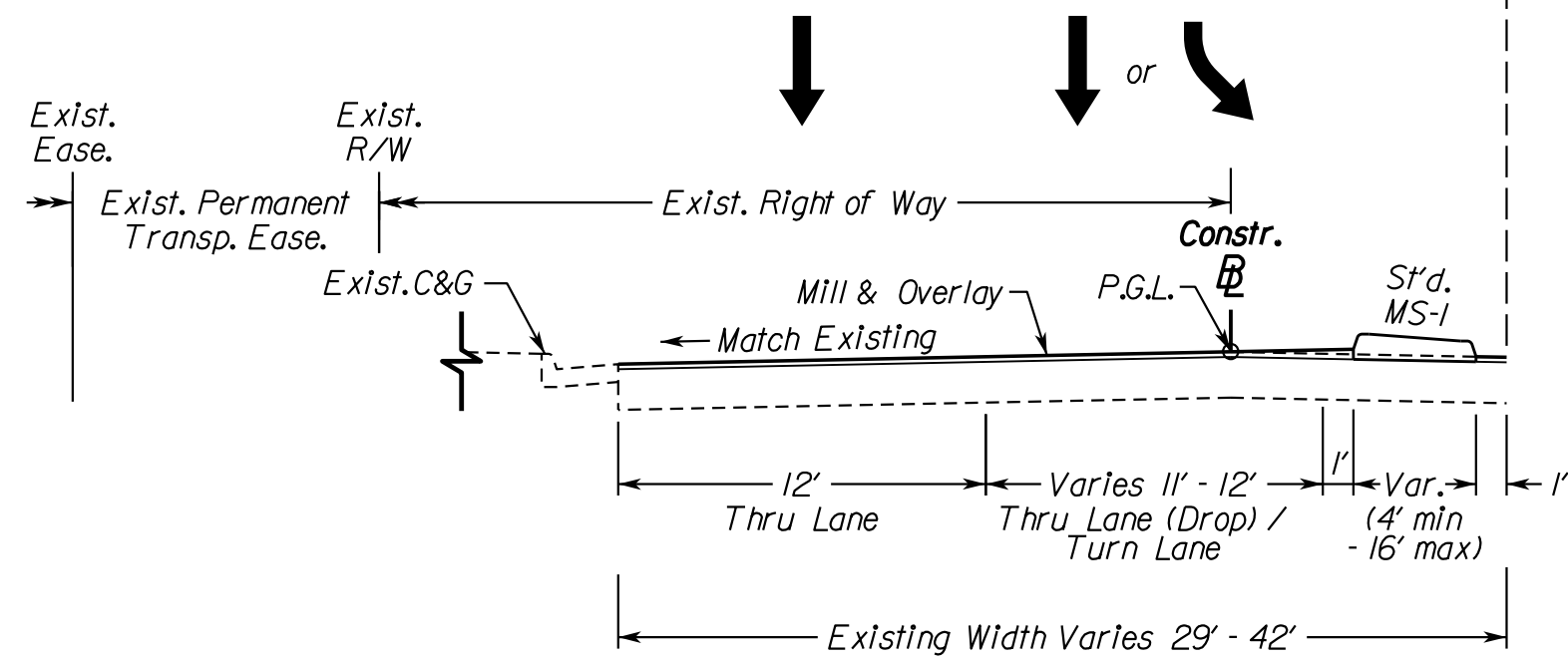
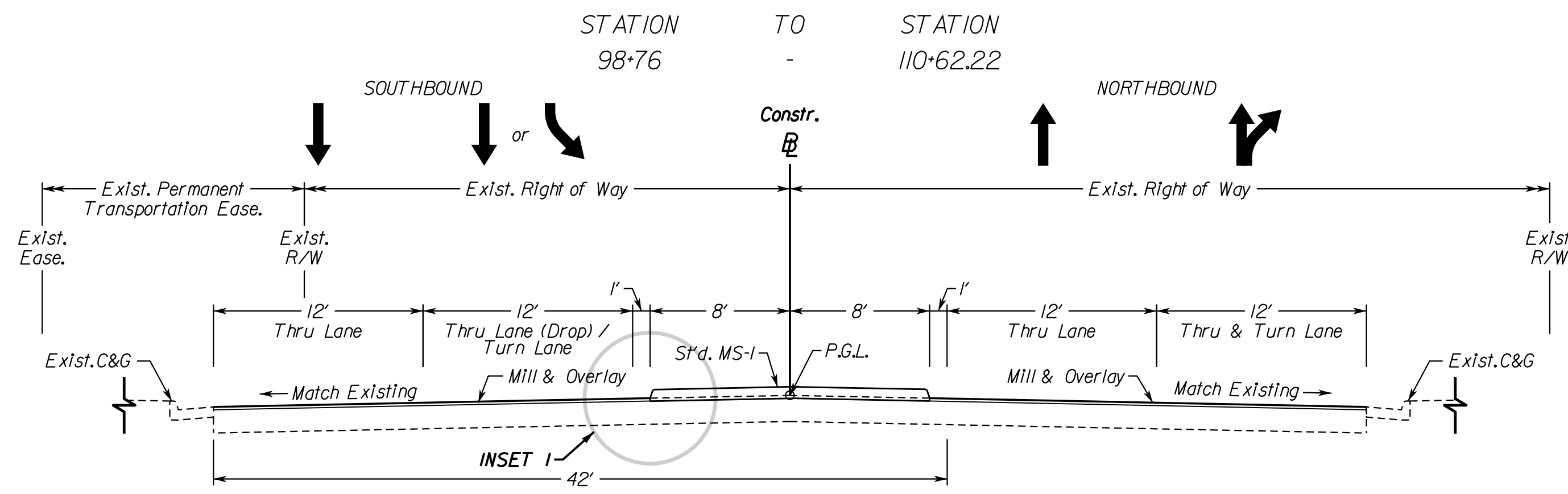


TYPICAL SECTIONS & DETAILS

(Not to Scale)

Sycolin Road, Rte. 625 (Loudoun County)

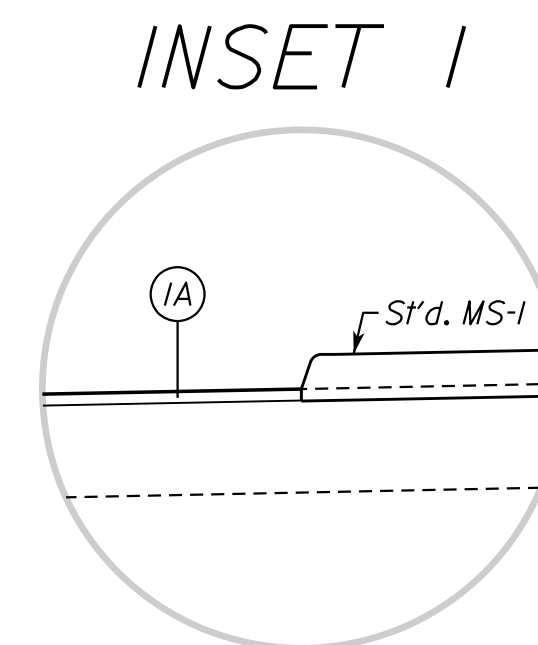
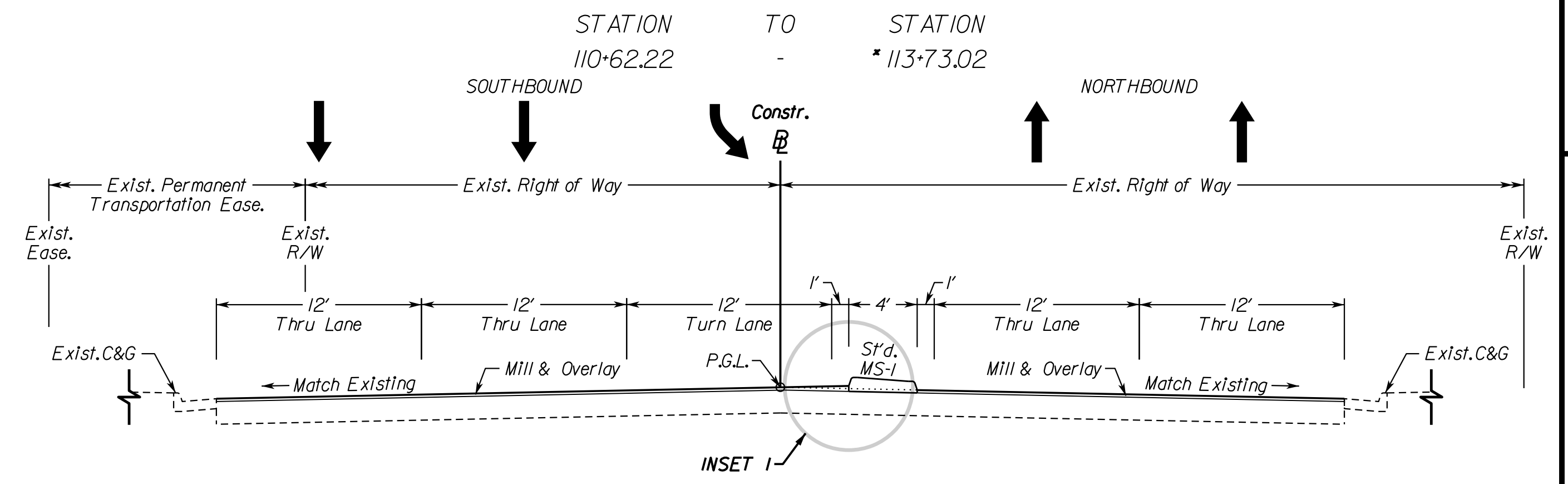
Normal Crown, 2 Lane Curb Section VDOT St'd. GS-7; V-45 (Posted)



STATION TO STATION
98+76 - 103+59

Sycolin Road, Rte. 625 (Loudoun County)

Normal Crown, 4 Lane Curb Section w/ S.B. Left Turn Lane VDOT St'd. GS-7; V-45 (Posted)



See Sheet 2A(6) for details and treatment at Pavement Widening and Build-up locations.

ROADWAY PAVEMENT DESIGN LEGEND

- ① Surface Course - (2") Asphalt Concrete Type SM-9.5D @ 220 lbs/sq.yd.
- ①A Mill - (2" depth), Overlay - (Var. Depth, 2" Min.) Asphalt Concrete Type SM-9.5D
- ② Intermediate Course - (2") Asphalt Concrete Type IM-19.0A @ 220 lbs/sq.yd.
- ③ Base Course - (6") Asphalt Concrete Base Course Type BM-25.0A
- ④ Pavement Build-Up - (Variable Depth) Asphalt Concrete Type IM-19.0A and/or BM-25.0A (BM-25.0A: 2.5" min. - 4" max. lift thickness) -- See Sheet 2A(6) for Pavement Build-up Details.
- ⑤ Subbase Course - (12" min.) Aggregate Base Material Type I NO.21B
For Pavement Widening:
Sloping away from exist. pvtl. - ad just depth to match or exceed ad jacent exist. aggr. base course
Sloping towards exist. pvtl. - ad just depth to match ad jacent exist. aggr. base course
- ⑤A Subbase Course - (Var. Depth, 6" Min.) Aggregate Base Material Type I NO.21B. For Curb & Gutter, Aggregate Base Material to be extended 1' (min.) behind back of curb.

SHARED USE PATH & SIDEWALK PAVEMENT LEGEND

- ④ Surface Course - (4") Hydraulic Cement Conc. Class A3
- ④ Surface Course - (2") Asphalt Concrete Type SM-9.5A @ 220 lbs/sq.yd.
- ④ Subbase Course - (4") Aggregate Base Material Type I NO.21A, extended 6" on each side of Sidewalk
- ④ Subbase Course - (6") Aggregate Base Material Type I NO.21A, extended 6" on each side of the S.U.P.

Notes:

1. Proposed pavement widening shall be in accordance with VDOT St'd WP-2.
2. See Plans for underdrain locations.
3. In all areas with a raised grass median (i.e. MS-2), a S't'd. UD-2 underdrain or a S't'd. UD-4 underdrain beneath the curb on both sides of the median must be provided.
4. See Profile and Cross-sections for roadway cross-slopes.

* Denotes Town of Leesburg Corporate Limits

** See Plans and Cross-sections for Location of Pavement Widening and/or Full-depth Pavement

*** In superelevated sections where pavement slopes towards the median, S't'd UD-4 is required at the MS-1A and MS-2 medians, as shown.

**** See roadway profile or cross-sections for slopes.

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sahab Qadiri, P.E., (703) 368-7373

- Notes:**
- Proposed pavement widening shall be in accordance with VDOT S'd WP-2.
 - See Plans for underdrain locations.
 - In all areas with a raised grass median (i.e. MS-2), a S'd. UD-2 underdrain or a S'd. UD-4 underdrain beneath the curb on both sides of the median must be provided.
 - See Profile and Cross-sections for roadway cross-slopes.

- Denotes Town of Leesburg Corporate Limits
- See Plans and Cross-sections for Location of Pavement Widening and/or Full-depth Pavement
- In super-elevated sections where pavement slopes towards the median, S'd UD-4 is required at the MS-1A and MS-2 medians, as shown.
- See roadway profile or cross-sections for slopes.

See Sheet 2A(6) for details and treatment at Pavement Widening and Build-up locations.

TYPICAL SECTIONS & DETAILS

(Not to Scale)

Sycolin Road, Rte. 643 (Town of Leesburg)

Normal Crown, 4 Lane Curb Section
 VDOT S'd. GS-7; V-40 (Design)

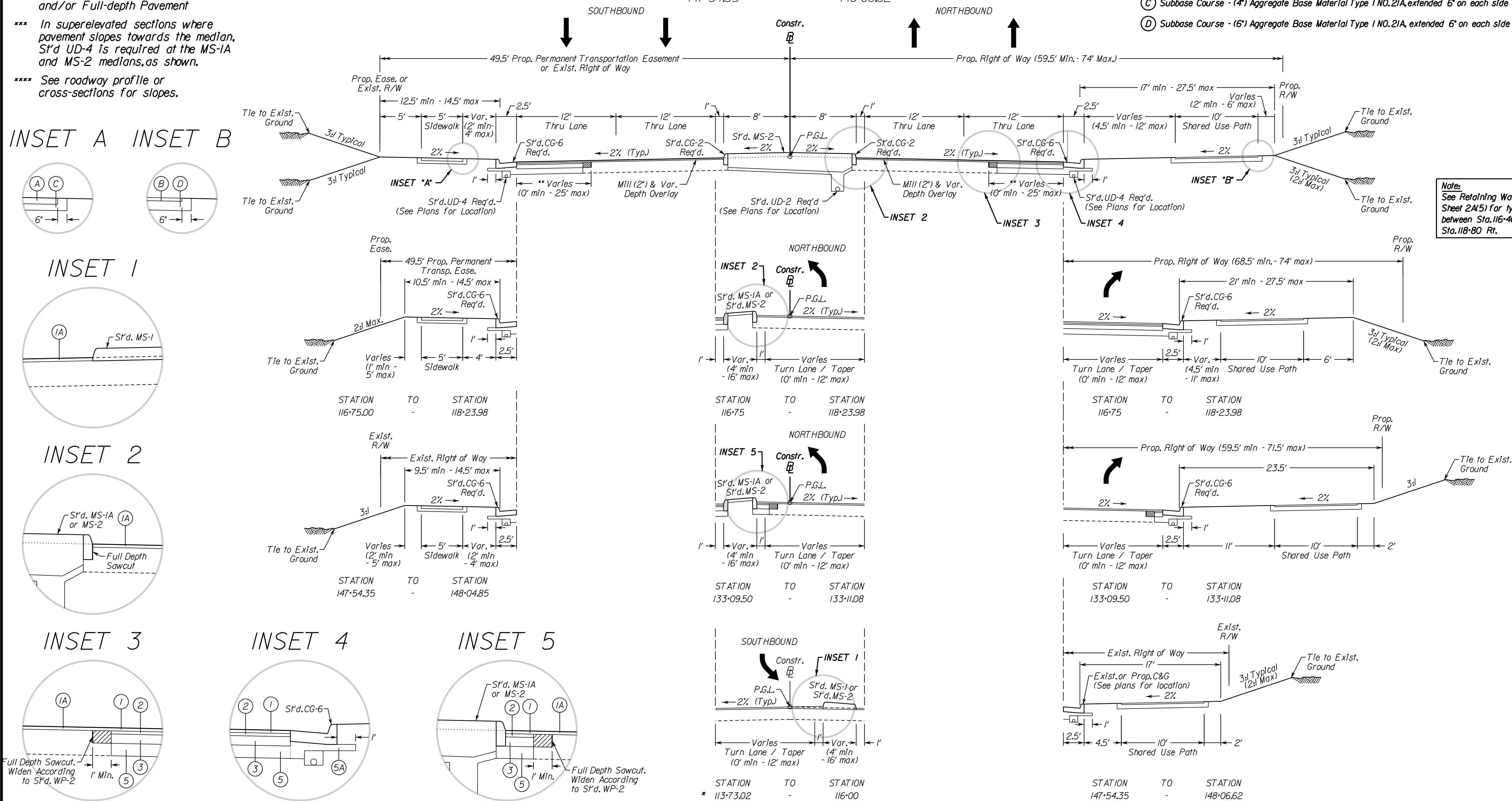
STATION	TO	STATION
* 113+73.02	-	118+23.98
133+09.50	-	133+11.08
147+54.35	-	148+06.62

ROADWAY PAVEMENT DESIGN LEGEND

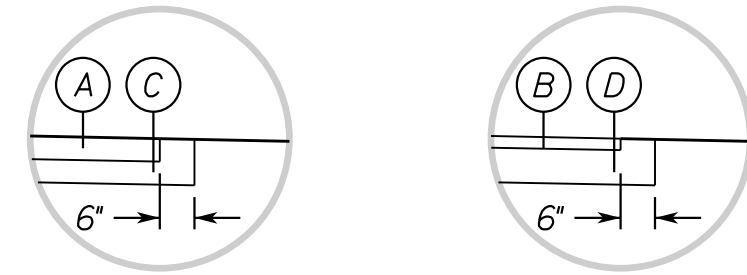
- ① Surface Course - (2") Asphalt Concrete Type SM-9.5D @ 220 lbs/sq.yd.
- ①A Mill (2" depth), Overlay - (Var. Depth, 2" Min.) Asphalt Concrete Type SM-9.5D
- ② Intermediate Course - (2") Asphalt Concrete Type IM-19.0A @ 220 lbs/sq.yd.
- ③ Base Course - (6") Asphalt Concrete Base Course Type BM-25.0A
- ④ Pavement Build-Up - (Variable Depth) Asphalt Concrete Type IM-19.0A and/or BM-25.0A (BM-25.0A: 2.5" min. - 4" max. If 1" thickness) -- See Sheet 2A(6) for Pavement Build-up Details.
- ⑤ Subbase Course - (12" min.) Aggregate Base Material Type I NO.21B
For Pavement Widening:
Sloping away from exist. pvt. - ad just depth to match or exceed adjacent exist. aggr. base course
Sloping towards exist. pvt. - ad just depth to match adjacent exist. aggr. base course
- ⑤A Subbase Course - (Var. Depth, 6" Min.) Aggregate Base Material Type I NO.21B. For Curb & Gutter, Aggregate Base Material to be extended 1' (min.) behind back of curb.

SHARED USE PATH & SIDEWALK PAVEMENT LEGEND

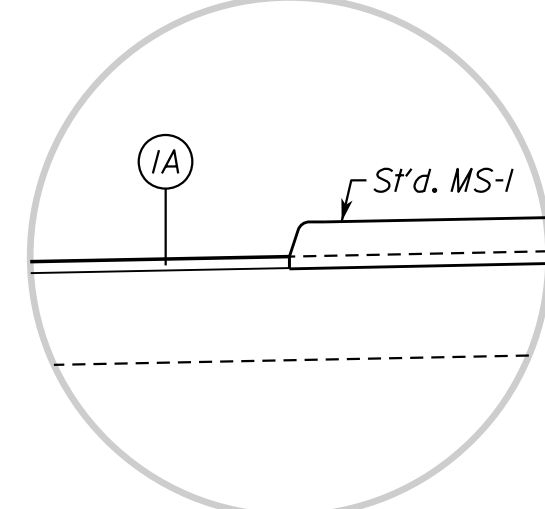
- Ⓐ Surface Course - (4") Hydraulic Cement Conc. Class A3
- Ⓑ Surface Course - (2") Asphalt Concrete Type SM-9.5A @ 220 lbs/sq.yd.
- Ⓒ Subbase Course - (4") Aggregate Base Material Type I NO.21A, extended 6' on each side of Sidewalk
- Ⓓ Subbase Course - (6") Aggregate Base Material Type I NO.21A, extended 6' on each side of the S.U.P.



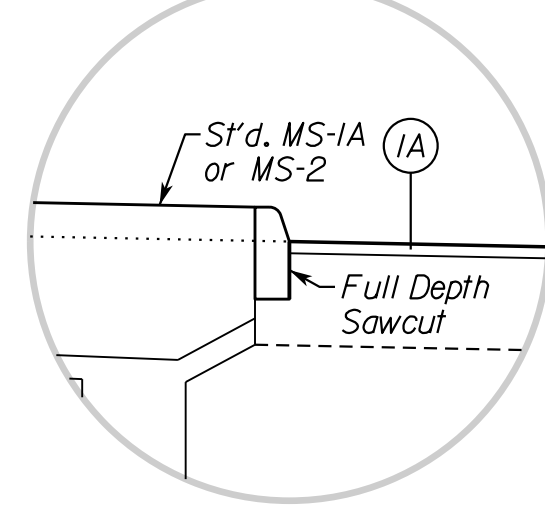
INSET A INSET B



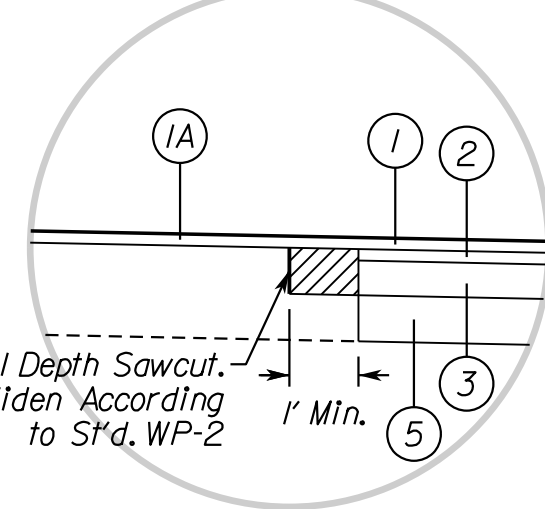
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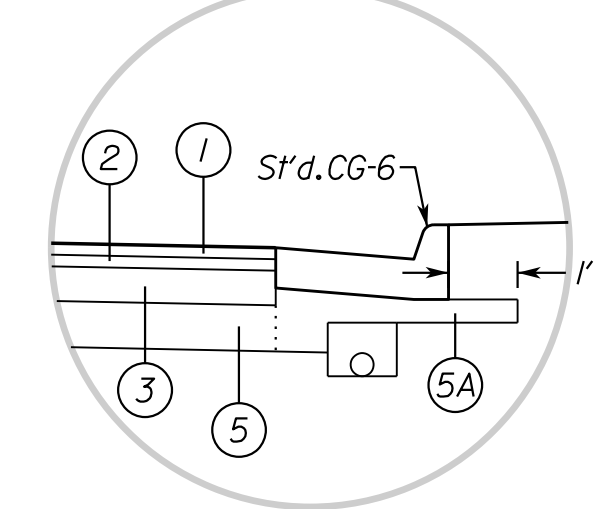
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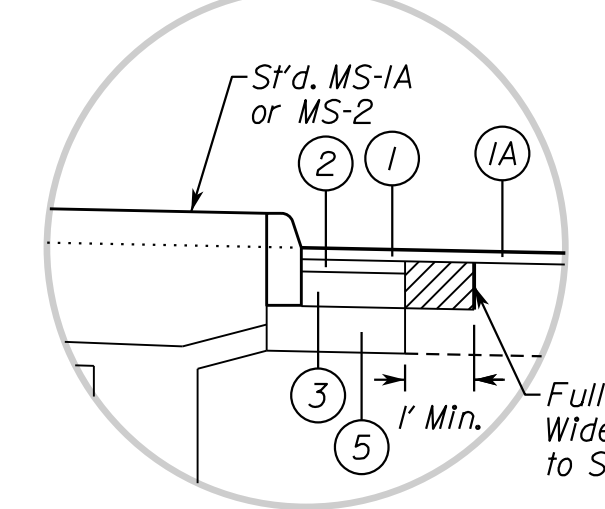
INSET 3



INSET 4



INSET 5



Note:
 See Retaining Wall Detail on Sheet 2A(5) for typical section between Sta. 116+40 Rt. and Sta. 118+80 Rt.

100% PLANS

PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.

TOWN OF LEESBURG

Loudoun County, Virginia

ASSOCIATED PLAN

C.I.P. NUMBER: TLCl-2016-0002

VDOT PROJ. NO. U000-253-312

TOWN NUMBER: TBD

ENGINEER: Rinker Design Associates, P.C.

PROJECT MANAGER: MARK A. GUNN, P.E.

COMMONWEALTH OF VIRGINIA

MARK A. GUNN

Lic. No. 038323

PROFESSIONAL ENGINEER

2018.02.22 18:31:31 -05'00'

Sheet 2A(1) of 20

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: Accumark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sahab Qadiri, P.E., (703) 368-7373

- Notes:**
- Proposed pavement widening shall be in accordance with VDOT S'd WP-2.
 - See Plans for underdrain locations.
 - In all areas with a raised grass median (i.e. MS-2), a S'd. UD-2 underdrain or a S'd. UD-4 underdrain beneath the curb on both sides of the median must be provided.
 - See Profile and Cross-sections for roadway cross-sections.

TYPICAL SECTIONS & DETAILS

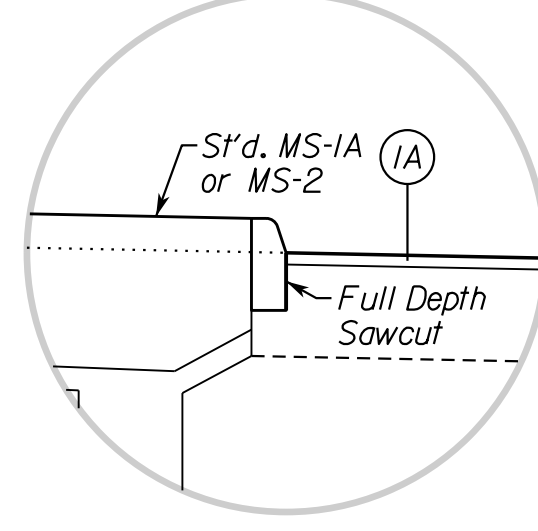
(Not to Scale)

Sycolin Road, Rte. 643 (Town of Leesburg)

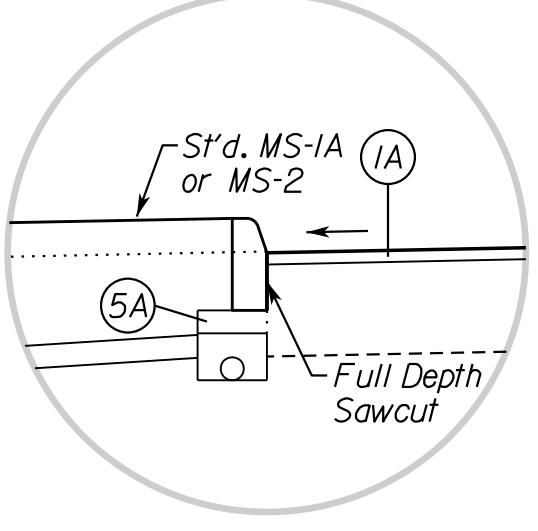
Superelevated Left, 4 Lane Curb Section VDOT S'd. GS-7; V-40 (Design)

- ROADWAY PAVEMENT DESIGN LEGEND**
- Surface Course - (2") Asphalt Concrete Type SM-9.5D @ 220 lbs/sq.yd.
 - MIII - (2' depth), Overlay - (Var. Depth, 2" Min.) Asphalt Concrete Type SM-9.5D
 - Intermediate Course - (2") Asphalt Concrete Type IM-19.0A @ 220 lbs/sq.yd.
 - Base Course - (6") Asphalt Concrete Base Course Type BM-25.0A
 - Pavement Build-Up - (Variable Depth) Asphalt Concrete Type IM-19.0A and/or BM-25.0A (BM-25.0A; 2.5" min., 4" max. III thickness) -- See Sheet 2A(6) for Pavement Build-up Details.
 - Subbase Course - (12" min.) Aggregate Base Material Type I NO.21B
For Pavement Widening:
Sloping away from exist. pmt. - ad just depth to match or exceed ad jacent exist. agr. base course
Sloping towards exist. pmt. - ad just depth to match ad jacent exist. agr. base course
 - Subbase Course - (Var. Depth, 6" Min.) Aggregate Base Material Type I NO.21B. For Curb & Gutter, Aggregate Base Material to be extended 1' (min.) behind back of curb.
- SHARED USE PATH & SIDEWALK PAVEMENT LEGEND**
- Surface Course - (4") Hydraulic Cement Conc. Class A3
 - Surface Course - (2") Asphalt Concrete Type SM-9.5A @ 220 lbs/sq.yd.
 - Subbase Course - (4") Aggregate Base Material Type I NO.21A, extended 6' on each side of Sidewalk
 - Subbase Course - (6") Aggregate Base Material Type I NO.21A, extended 6' on each side of the S.U.P.

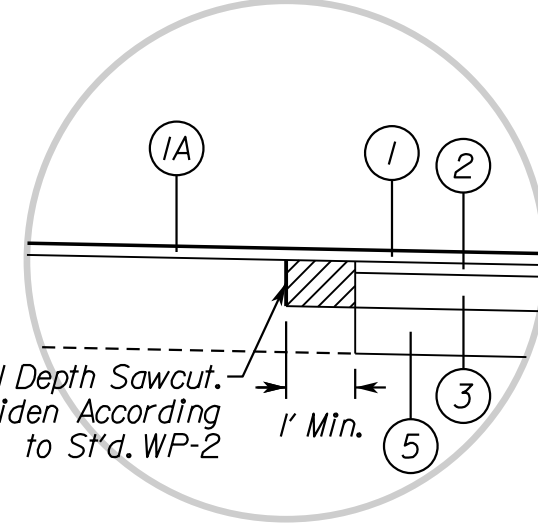
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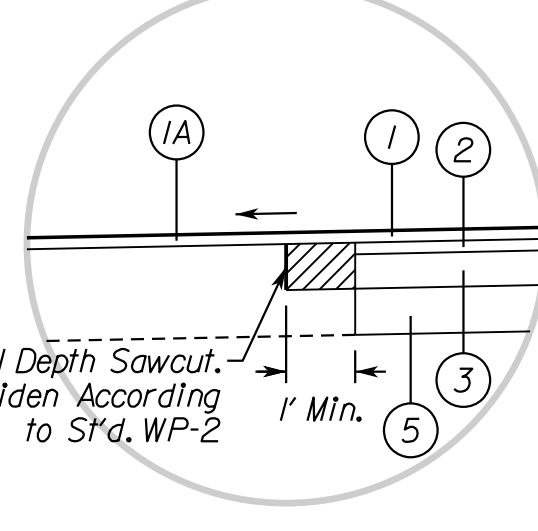
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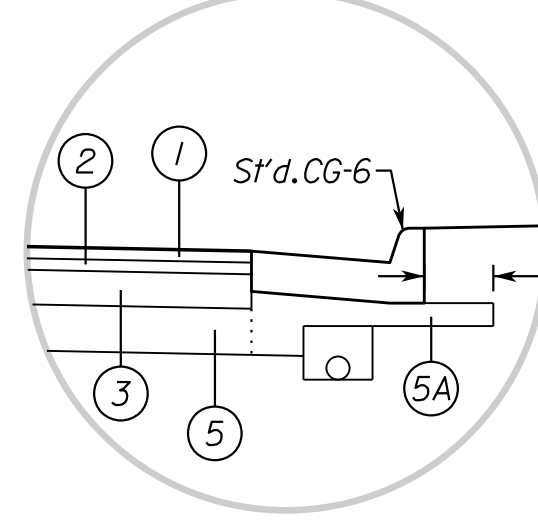
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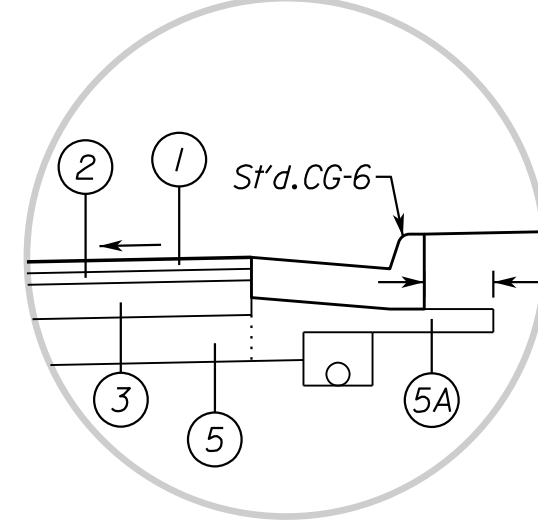
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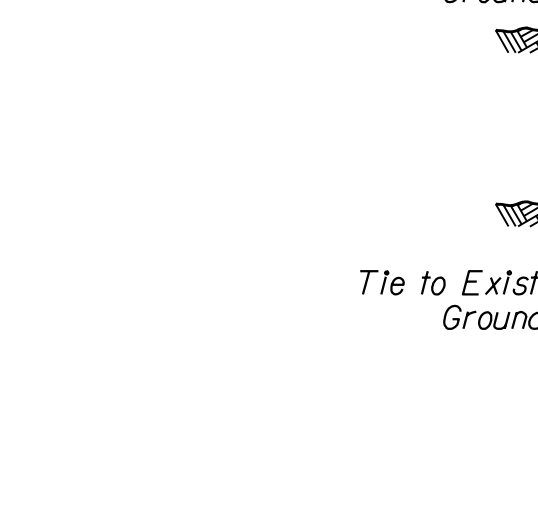
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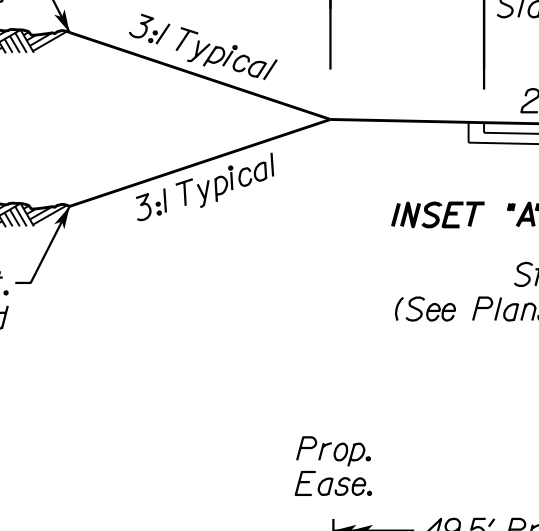
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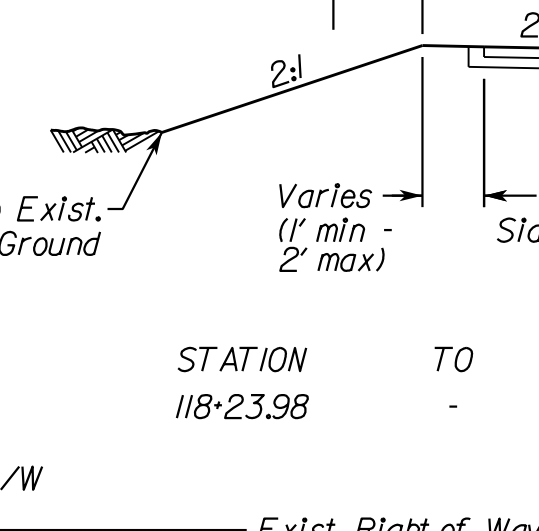
INSET 2A



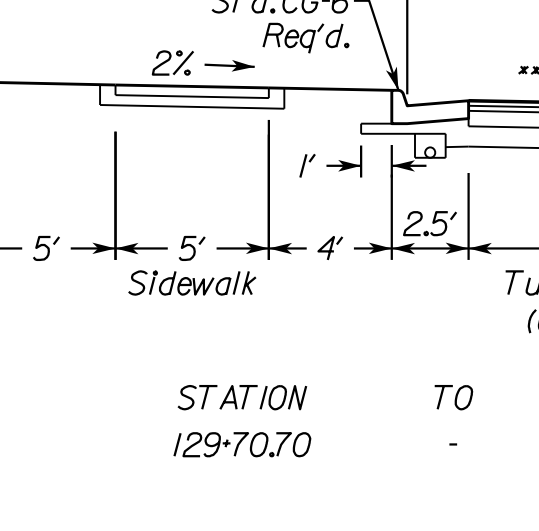
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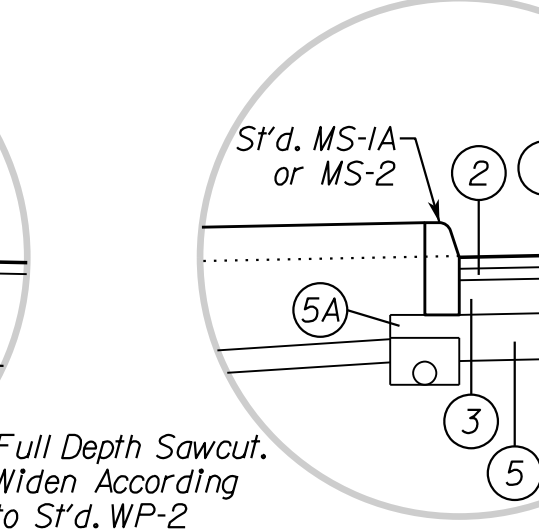
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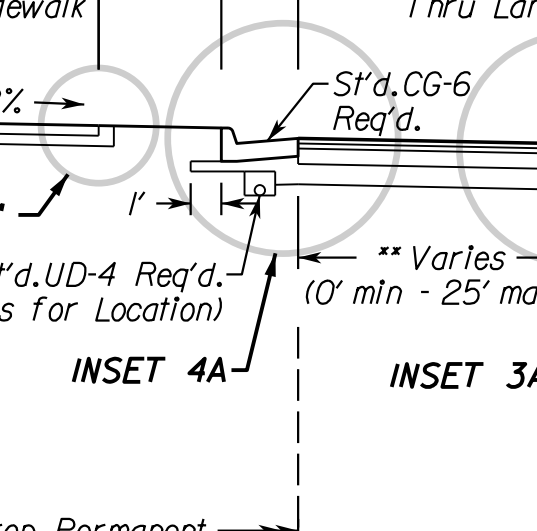
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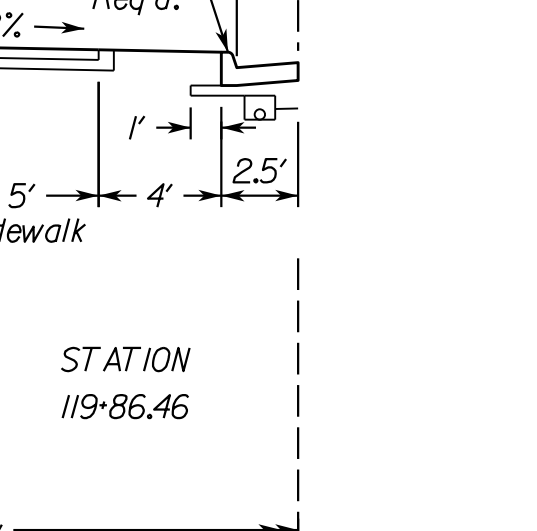
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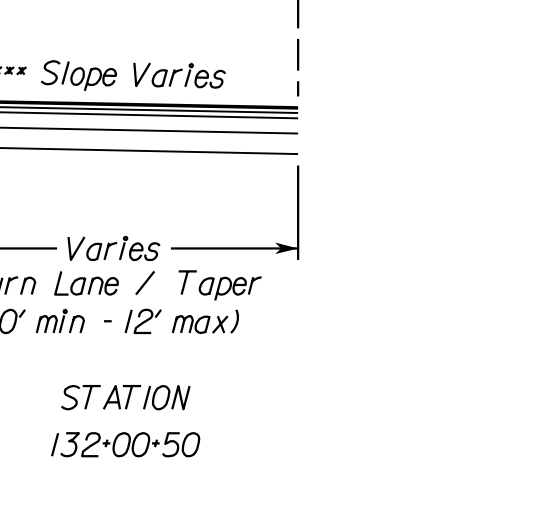
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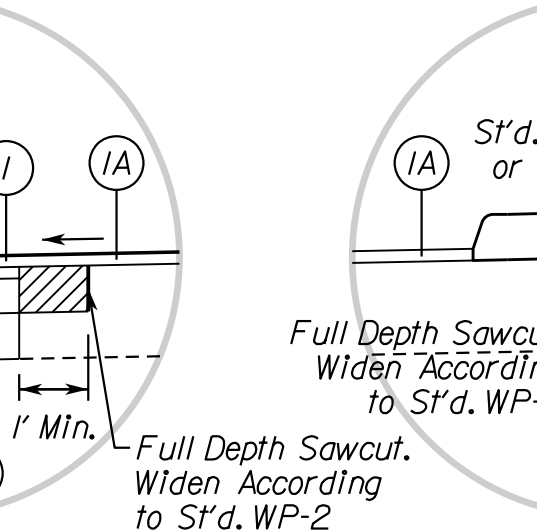
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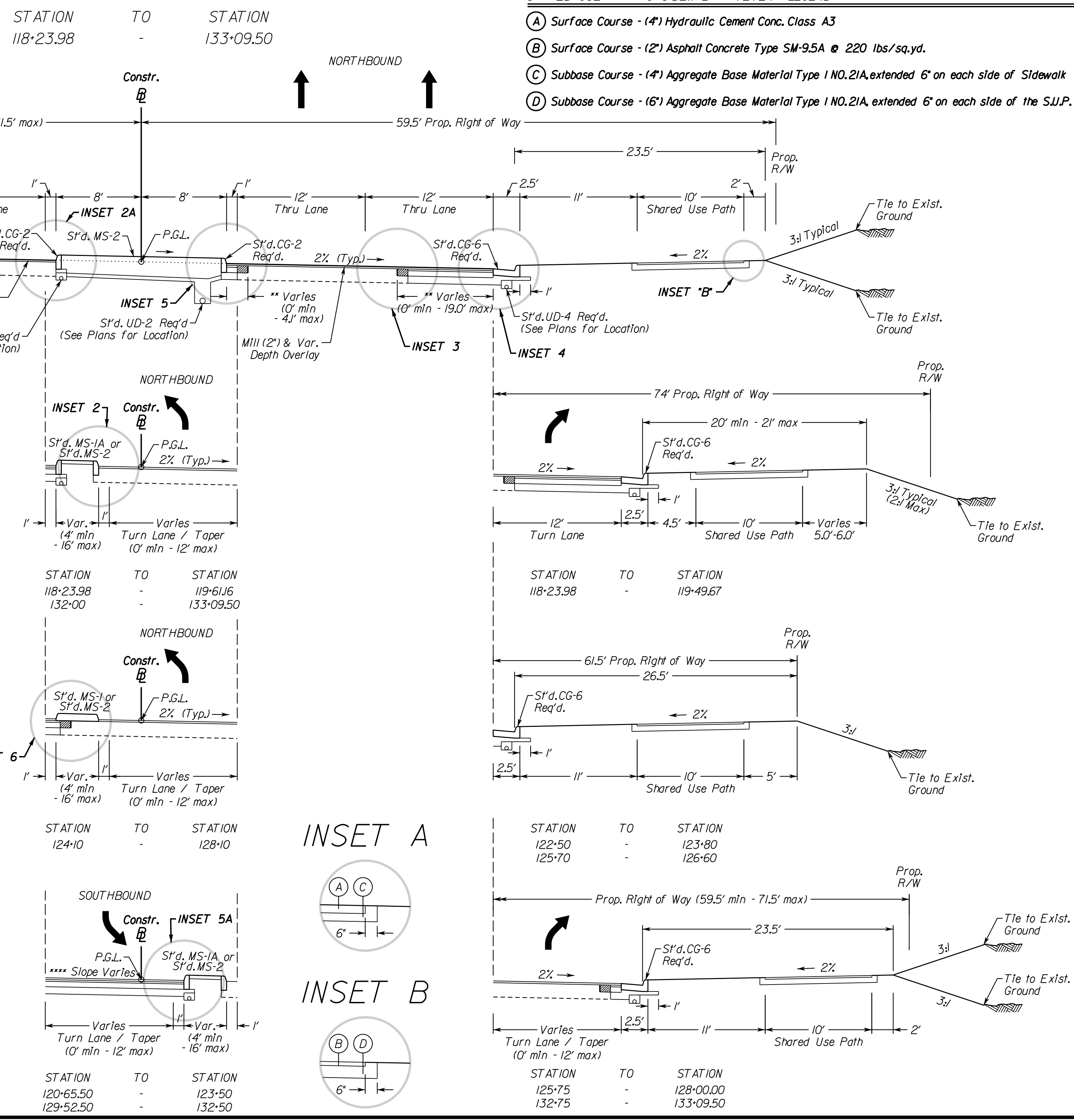
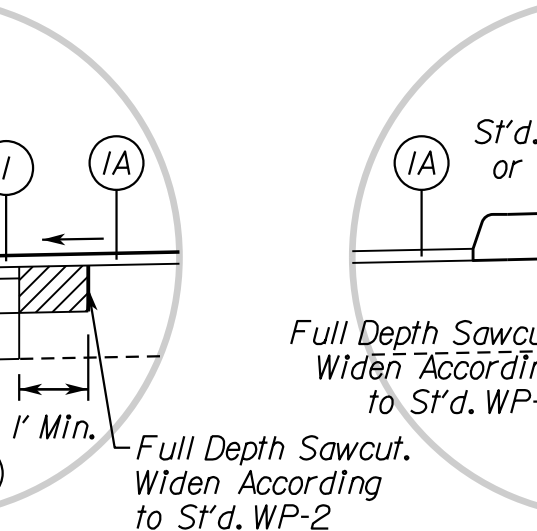
INSET 5



INSET 5A



INSET 6



100% PLANS

CD&Rinker Design Associates, P.C.

ENGINEER: **Mark A. Gunn**, P.E.
 Lic. No. 038323
 PROFESSIONAL ENGINEER

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**

TOWN OF LEESBURG
 Loudoun County, Virginia

ASSOCIATED PLAN: **TLCI-2016-0002**
 C.I.P. NUMBER: **U000-253-312**
 VDOT PROJ. NO. **U000-253-312**

2018.02.22 18:31:48 -05'00'

Sheet 2A(2) of 20

TOWN NUMBER: TBD

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: Accumark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sohaib Qadir, P.E., (703) 368-7373

TYPICAL SECTIONS & DETAILS

(Not to Scale)

Sycolin Road, Rte. 643 (Town of Leesburg)

Superelevated Right, 4 Lane Curb Section VDOT Std. GS-7; V=40 (Design)

STATION TO STATION
 133+11.08 - 147+54.35

ROADWAY PAVEMENT DESIGN LEGEND

- ① Surface Course - (2") Asphalt Concrete Type SM-9.5D @ 220 lbs/sq.yd.
- ①A Mill - (2" depth), Overlay - (Var. Depth, 2" Min.) Asphalt Concrete Type SM-9.5D
- ② Intermediate Course - (2") Asphalt Concrete Type IM-19.0A @ 220 lbs/sq.yd.
- ③ Base Course - (6") Asphalt Concrete Base Course Type BM-25.0A
- ④ Pavement Build-Up - (Variable Depth) Asphalt Concrete Type IM-19.0A and/or BM-25.0A (BM-25.0A: 2.5" min. - 4" max. If 1" thickness) -- See Sheet 2A(6) for Pavement Build-up Details.
- ⑤ Subbase Course - (12" min.) Aggregate Base Material Type I NO.21B
For Pavement Widening:
Sloping away from exist. pvt. - ad just depth to match or exceed ad jacent exist. aggr. base course
Sloping towards exist. pvt. - ad just depth to match ad jacent exist. aggr. base course
- ⑤A Subbase Course - (Var. Depth, 6" Min.) Aggregate Base Material Type I NO.21B. For Curb & Gutter, Aggregate Base Material to be extended 1' (min.) behind back of curb.

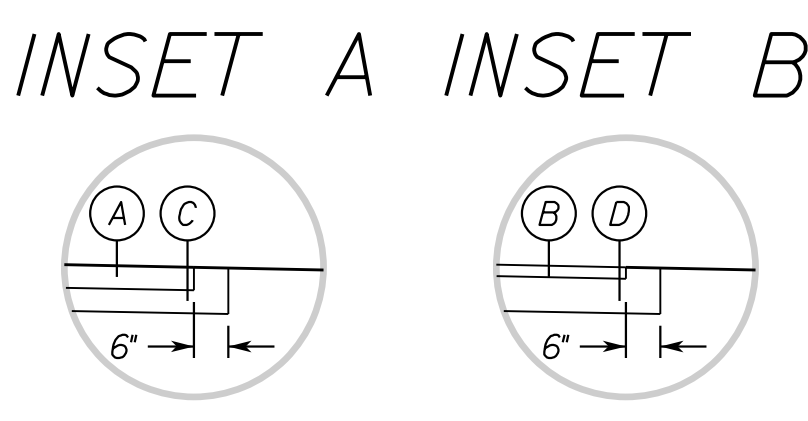
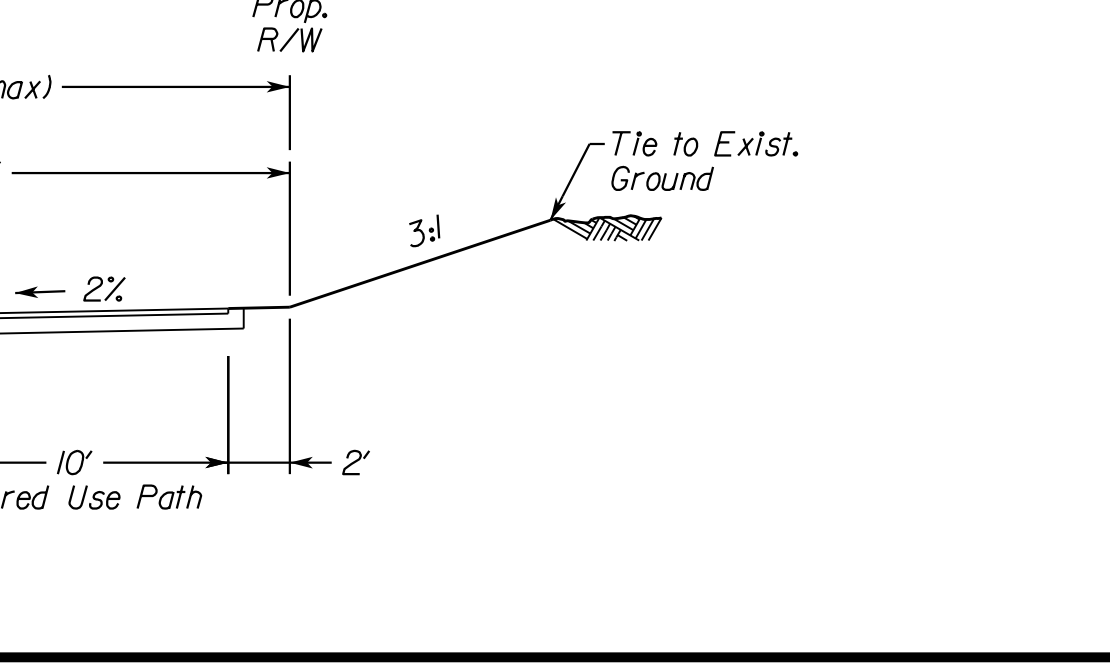
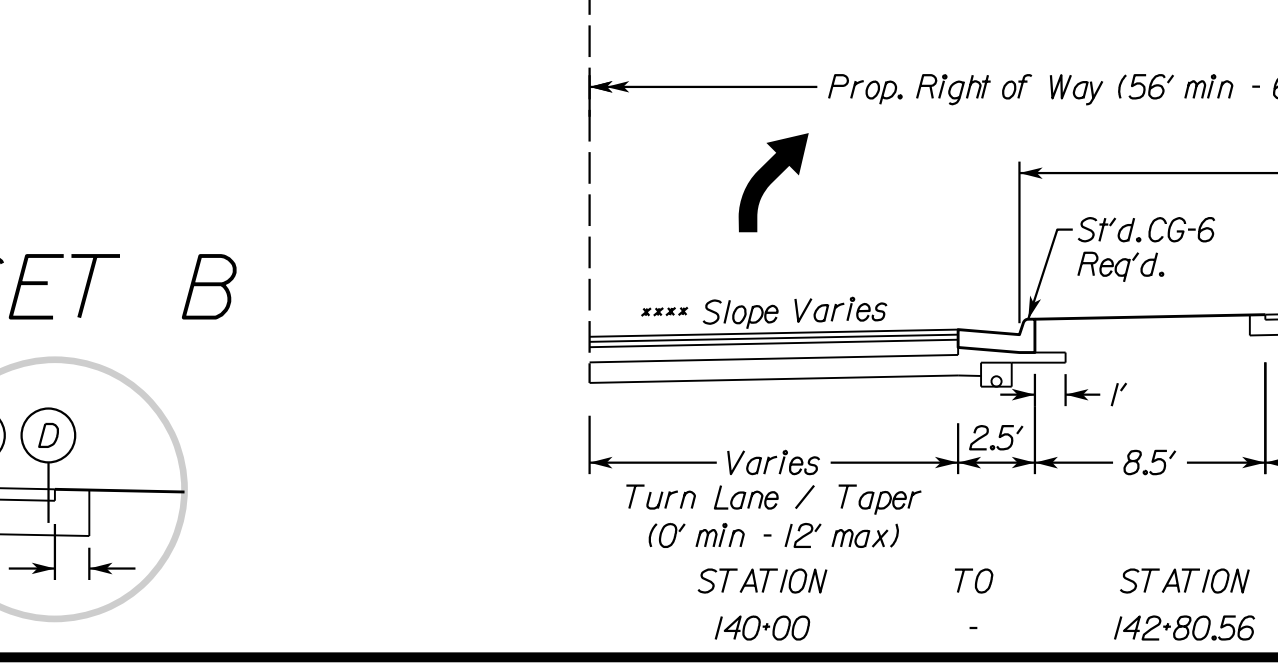
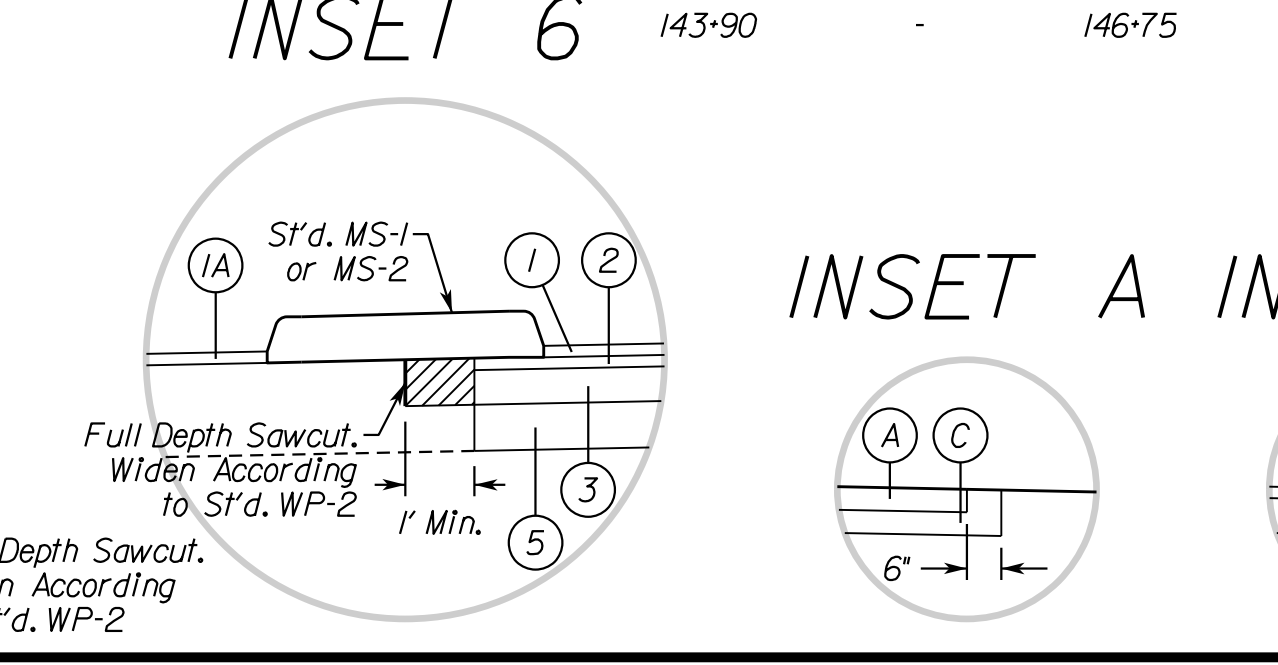
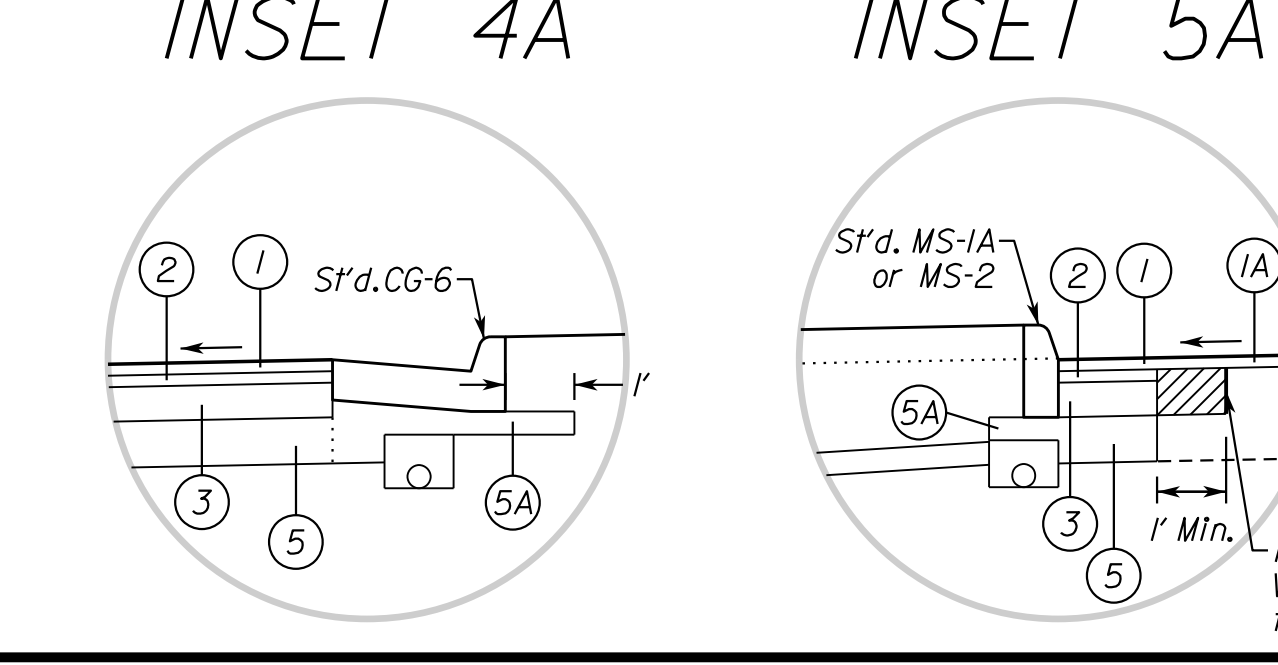
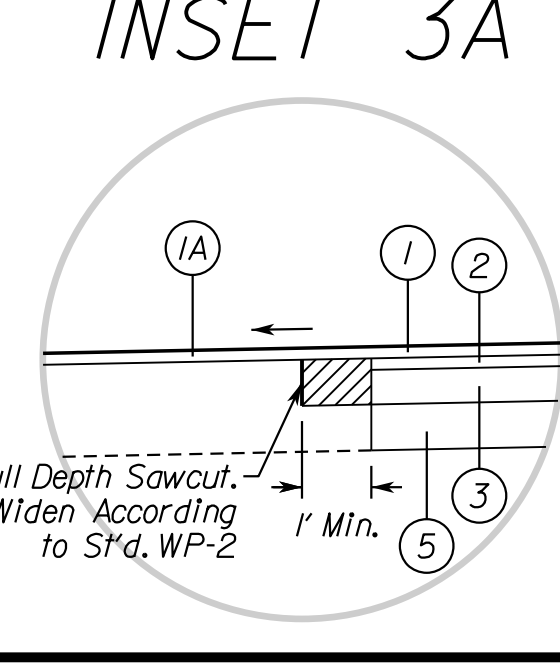
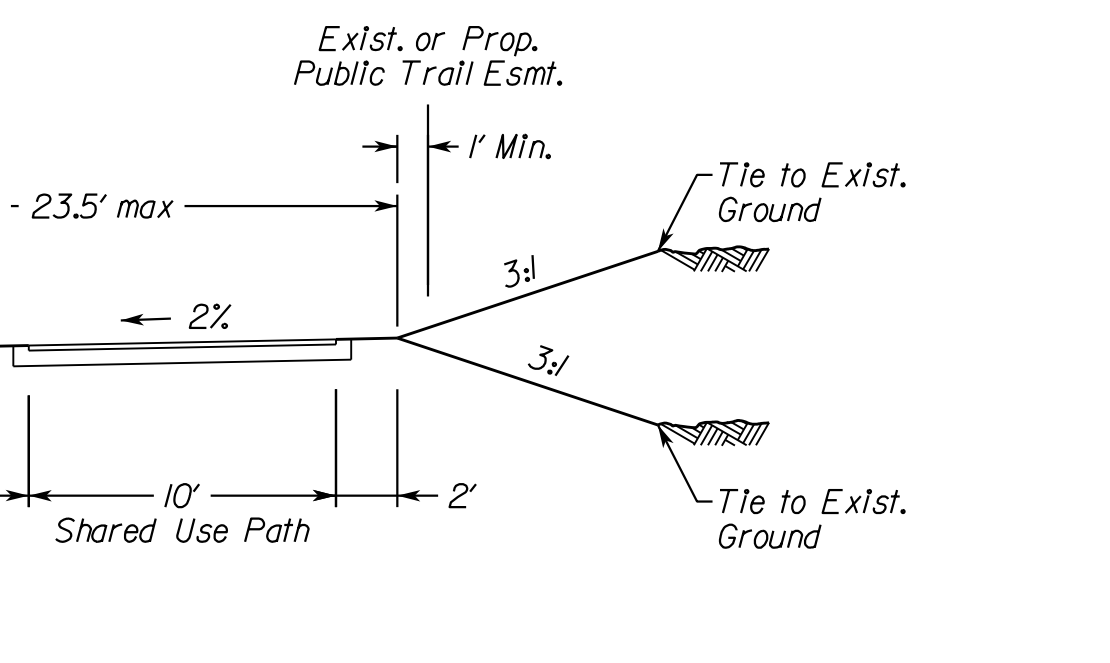
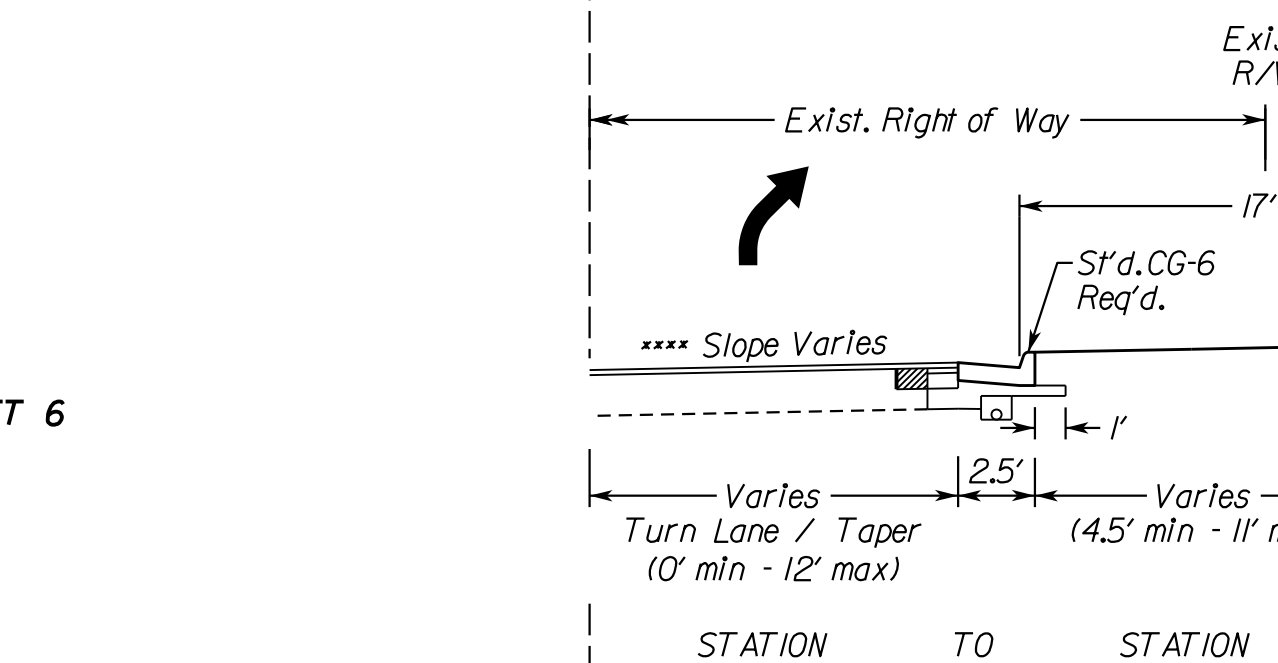
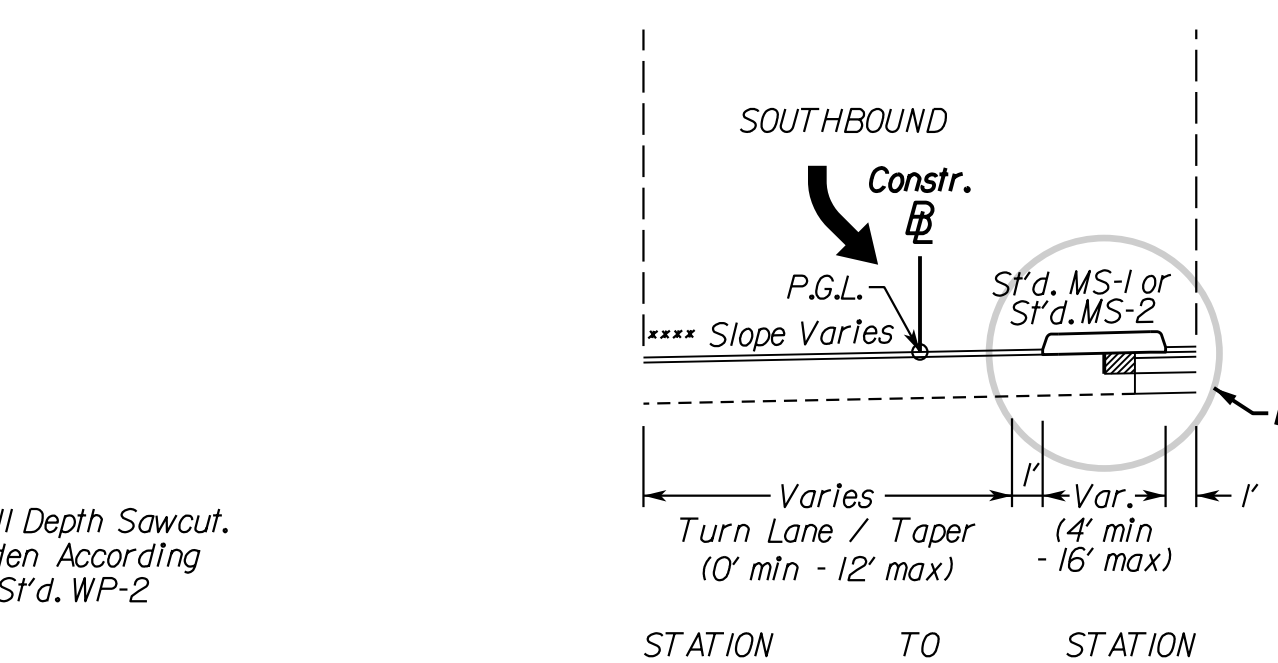
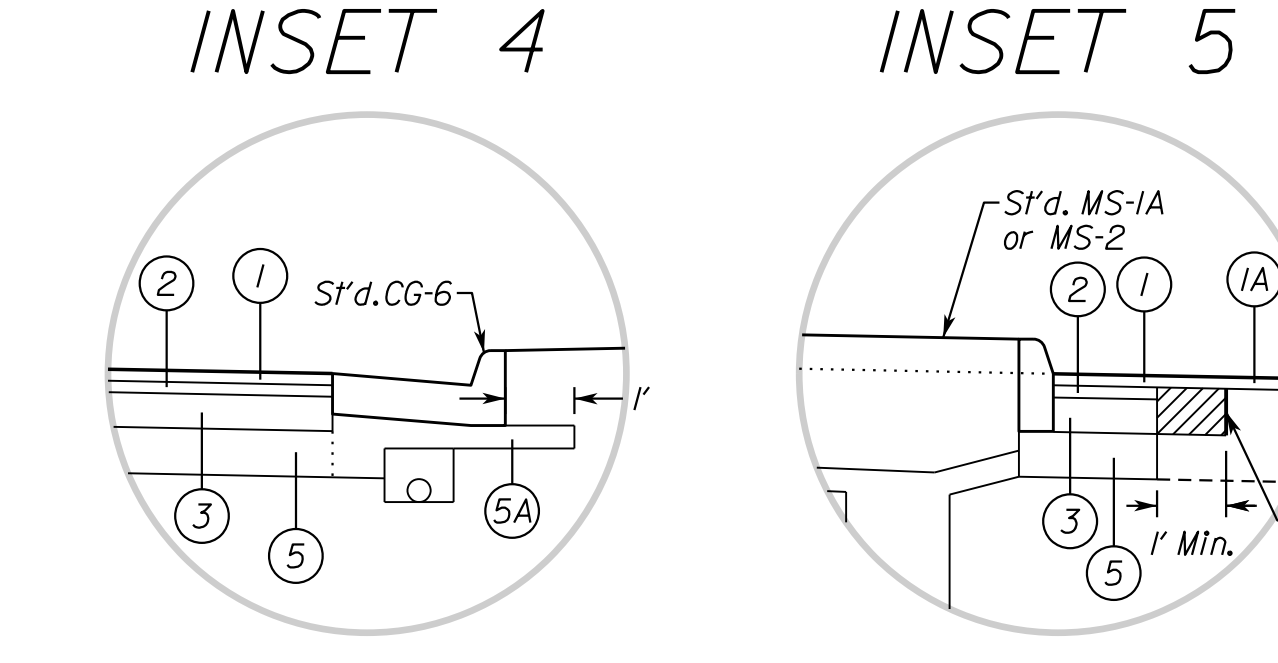
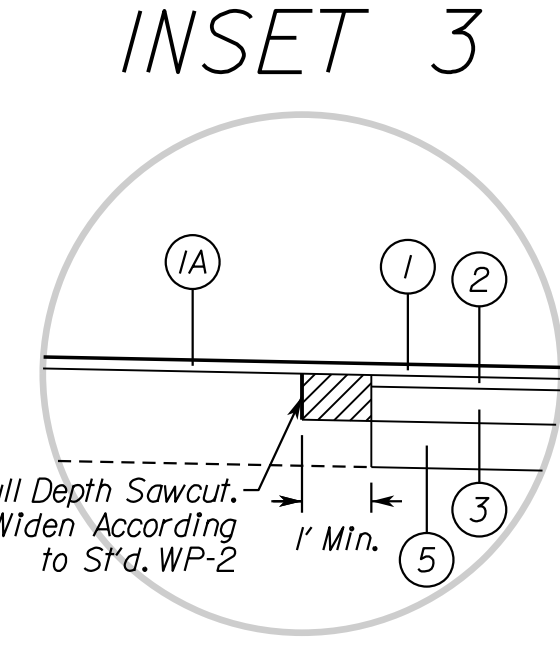
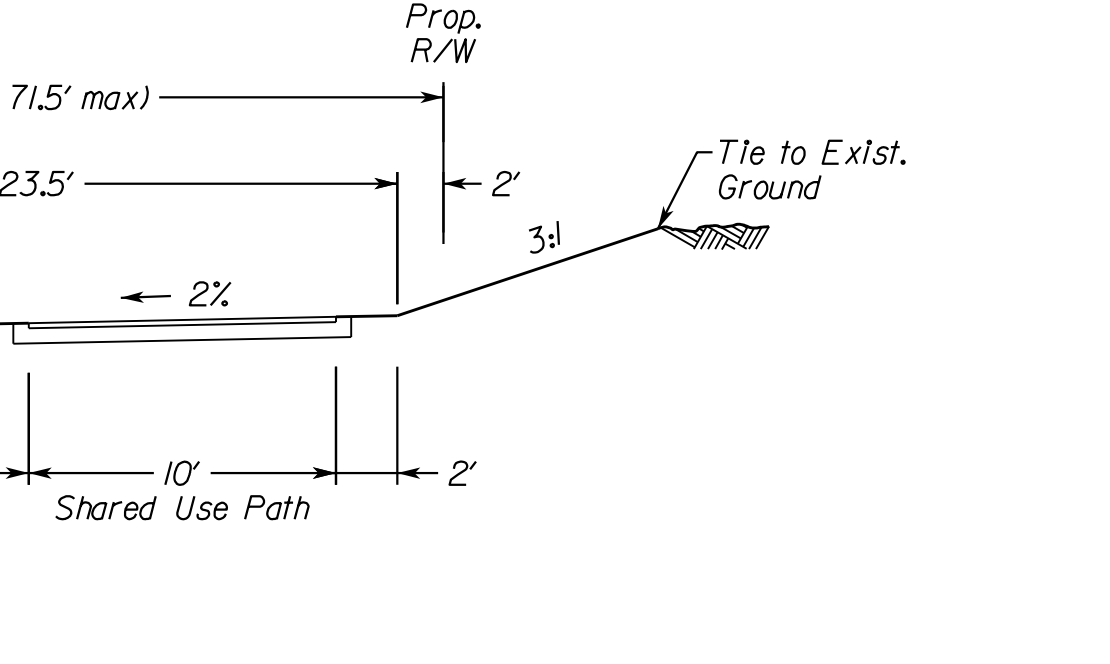
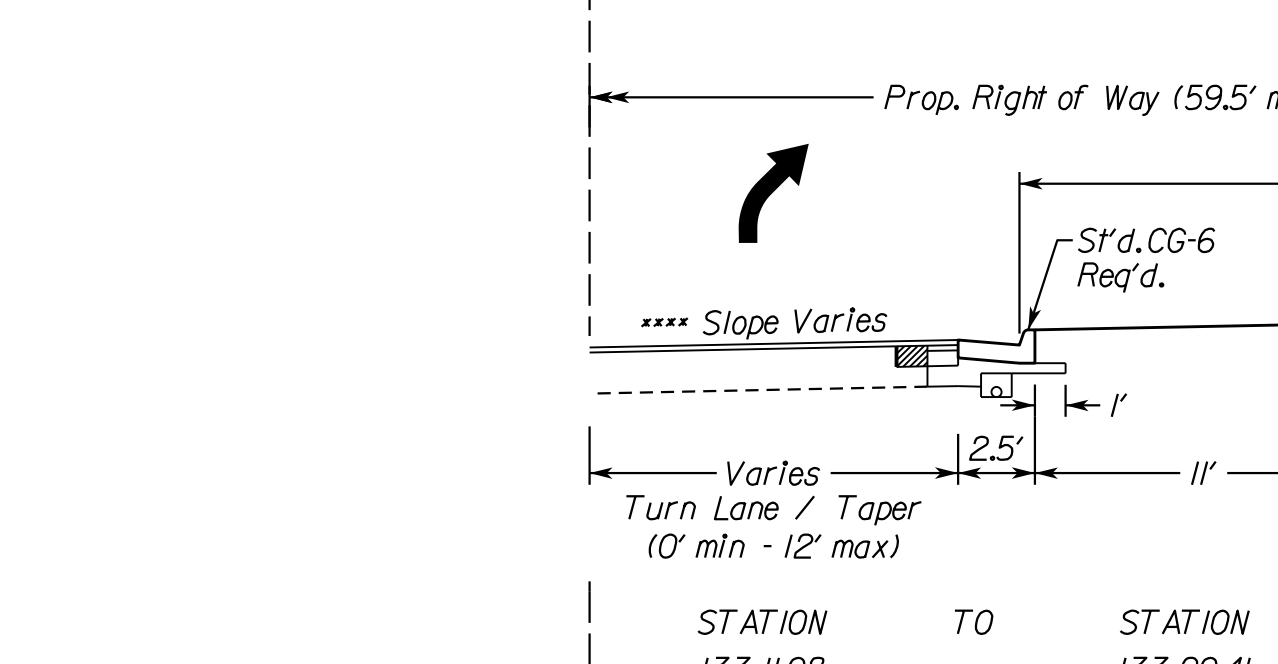
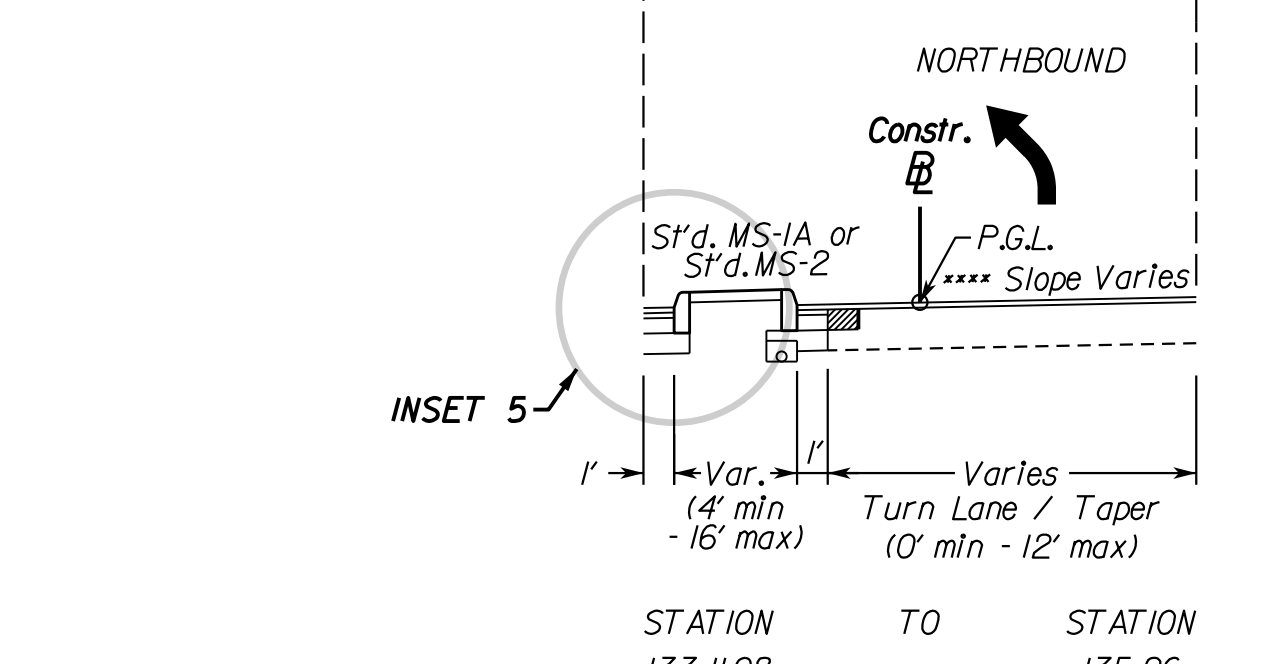
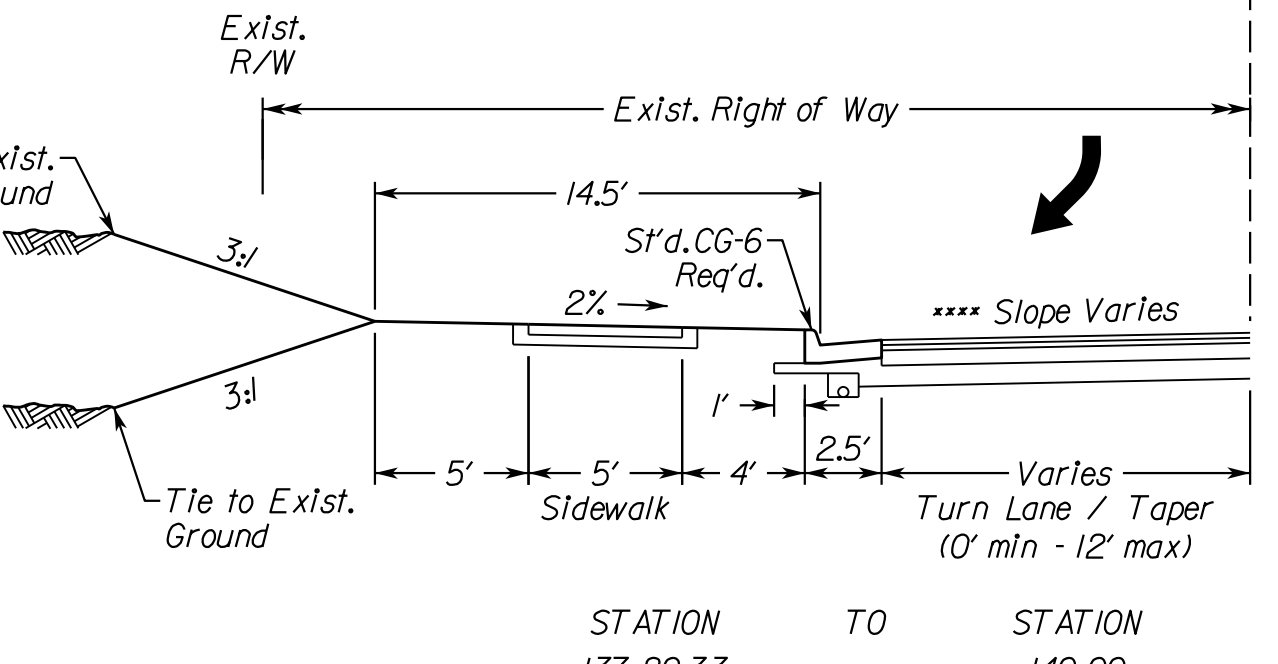
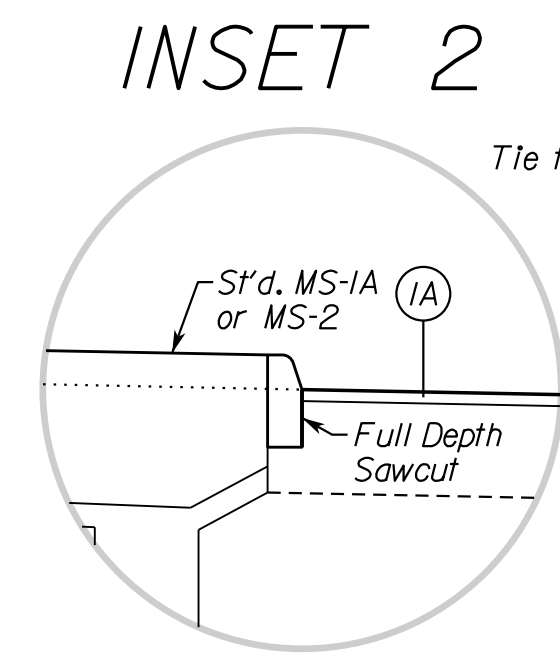
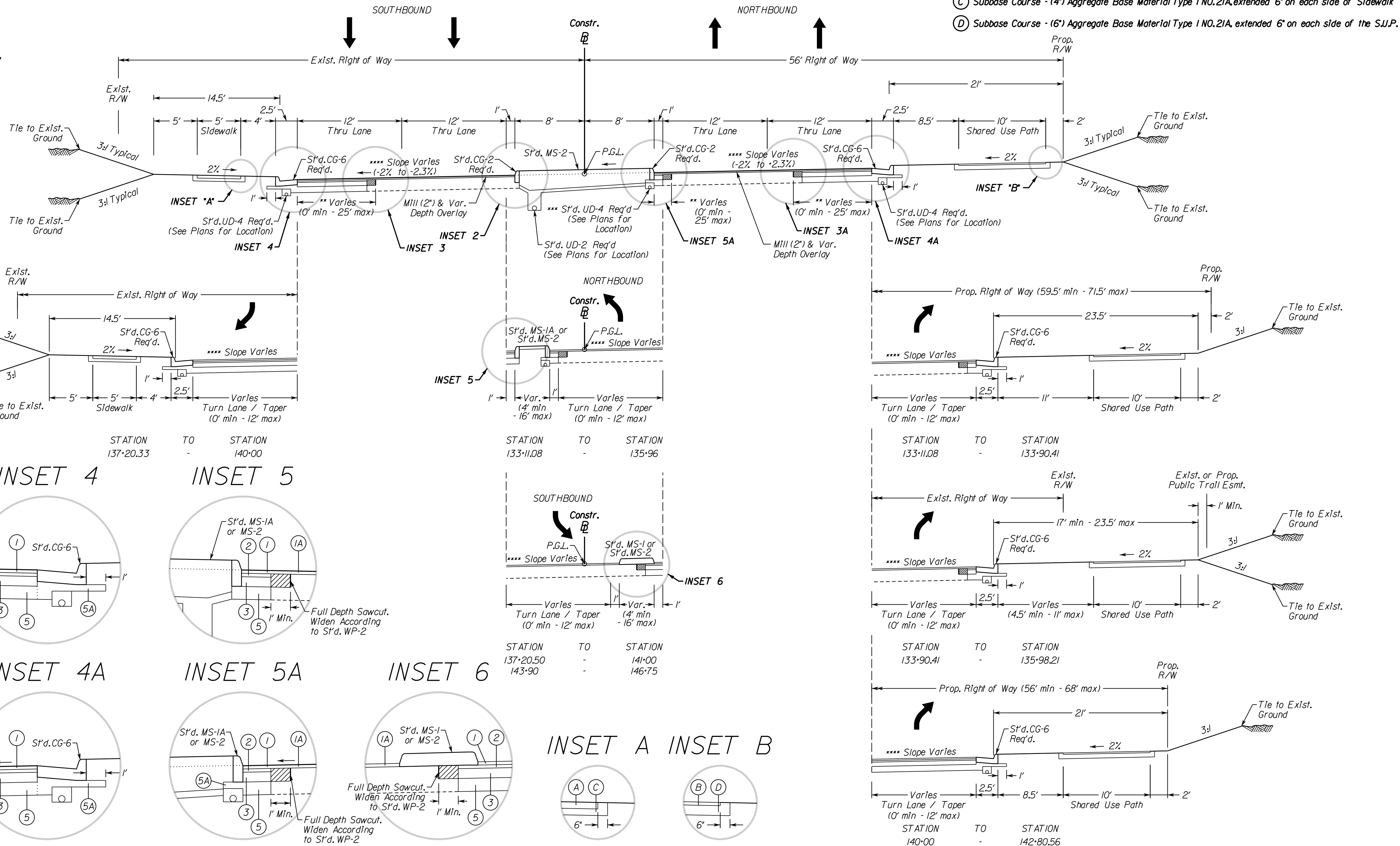
SHARED USE PATH & SIDEWALK PAVEMENT LEGEND

- ① Surface Course - (4") Hydraulic Cement Conc. Class A3
- ② Surface Course - (2") Asphalt Concrete Type SM-9.5A @ 220 lbs/sq.yd.
- ③ Subbase Course - (4") Aggregate Base Material Type I NO.21A, extended 6" on each side of Sidewalk
- ④ Subbase Course - (6") Aggregate Base Material Type I NO.21A, extended 6" on each side of the S.U.P.

- Notes:**
1. Proposed pavement widening shall be in accordance with VDOT Std WP-2.
 2. See Plans for underdrain locations.
 3. In all areas with a raised grass median (i.e. MS-2), a Std. UD-2 underdrain or a Std. UD-4 underdrain beneath the curb on both sides of the median must be provided.
 4. See Profile and Cross-sections for roadway cross-slopes.

- * Denotes Town of Leesburg Corporate Limits
- ** See Plans and Cross-sections for Location of Pavement Widening and/or Full-depth Pavement
- *** In superelevated sections where pavement slopes towards the median, Std UD-4 is required at the MS-1A and MS-2 medians, as shown.
- **** See roadway profile or cross-sections for slopes.

See Sheet 2A(6) for details and treatment at Pavement Widening and Build-up locations.



100% PLANS

PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.

Town of Leesburg

Loudoun County, Virginia

ASSOCIATED PLAN NUMBER: TLCI-2016-0002

C.I.P. NUMBER: U000-253-312

VDOT PROJ. NO. U000-253-312

TOWN NUMBER: TBD

ENGINEER: Rinker Design Associates, P.C.

PROJECT MANAGER: MARK A. GUNN, P.E.

Submission Date: 02/21/2018

Sheet 2A(3) of 20

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sahab Qadir, P.E., (703) 368-7373

- Notes:**
- Proposed pavement widening shall be in accordance with VDOT Std WP-2.
 - See Plans for underdrain locations.
 - In all areas with a raised grass median (i.e. MS-2), a Std. UD-2 underdrain or a Std. UD-4 underdrain beneath the curb on both sides of the median must be provided.
 - See Profile and Cross-sections for roadway cross-slopes.

- * Denotes Town of Leesburg Corporate Limits
- ** See Plans and Cross-sections for Location of Pavement Widening and/or Full-depth Pavement
- *** In superelevated sections where pavement slopes towards the median, Std UD-4 is required at the MS-1A and MS-2 medians, as shown.
- **** See roadway profile or cross-sections for slopes.

See Sheet 2A(6) for details and treatment at Pavement Widening and Build-up locations.

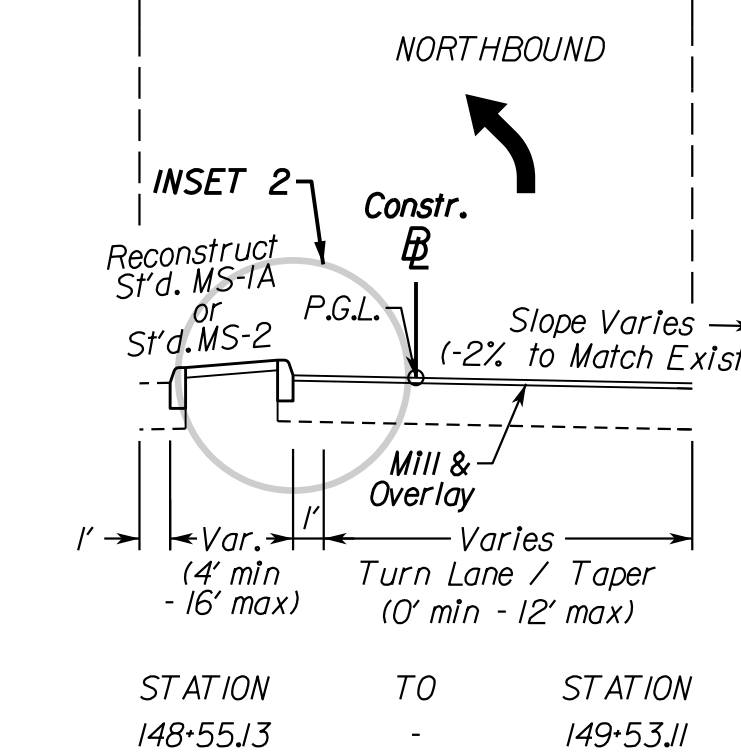
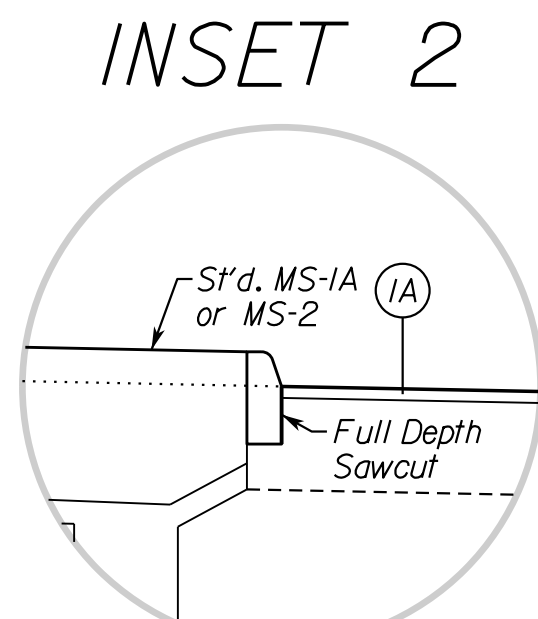
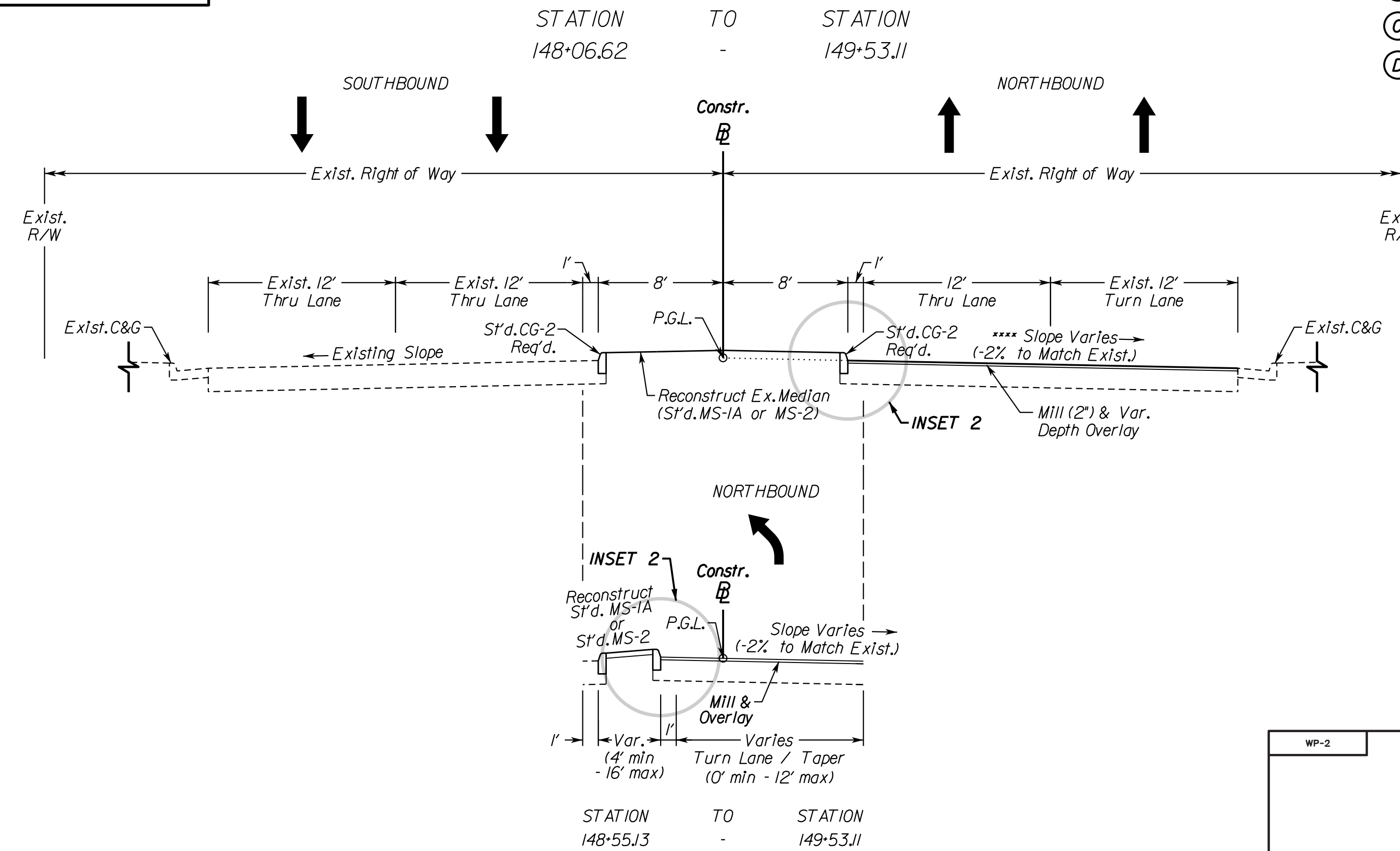
TYPICAL SECTIONS & DETAILS

(Not to Scale)

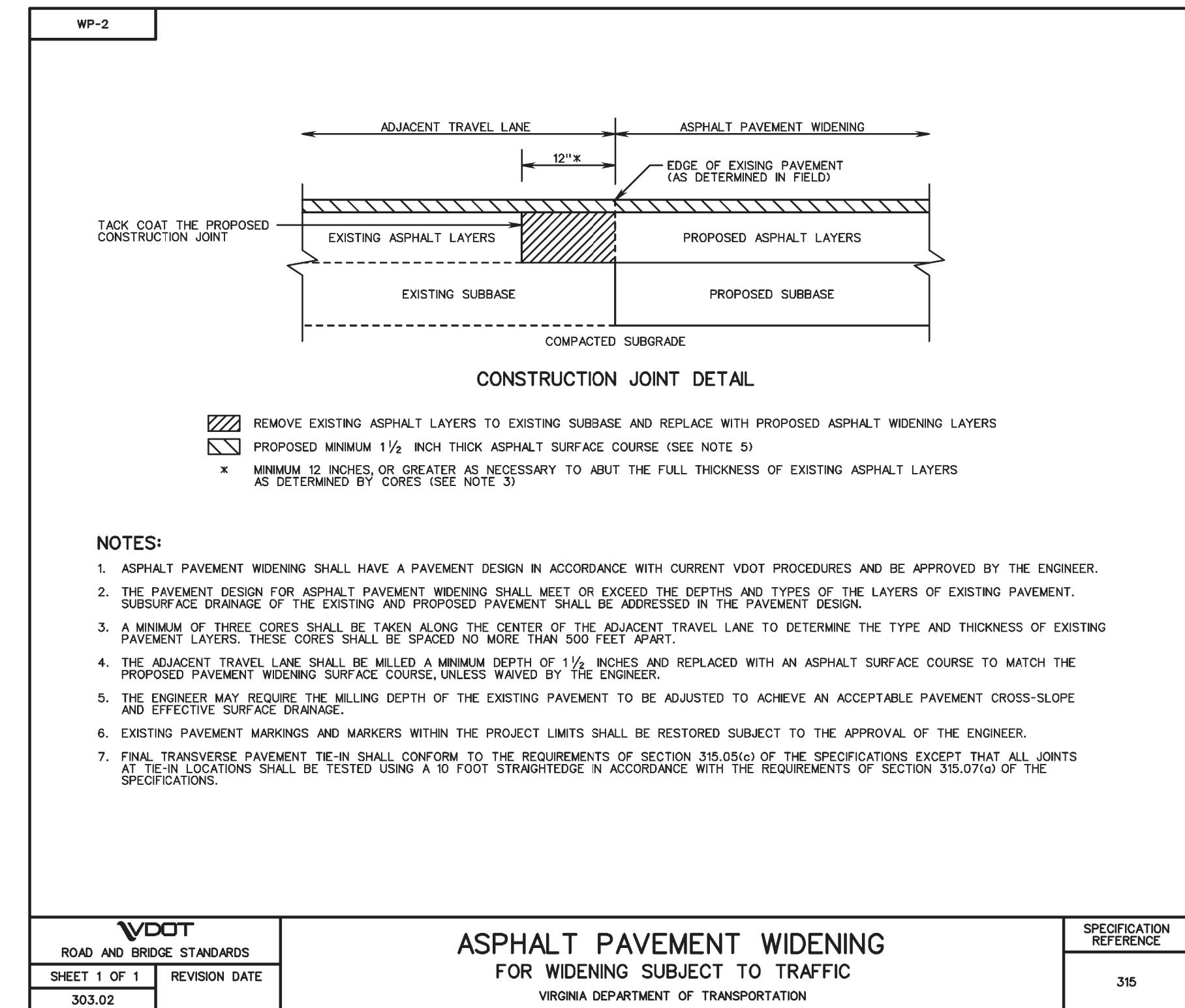
Sycolin Road, Rte. 643 (Town of Leesburg)

Normal Crown, 4 Lane Curb Section

VDOT Std. GS-7; V-40 (Design)



- ROADWAY PAVEMENT DESIGN LEGEND**
- ① Surface Course - (2") Asphalt Concrete Type SM-9.5D @ 220 lbs/sq.yd.
 - ①A Mill - (2" depth), Overlay - (Var. Depth, 2" Min.) Asphalt Concrete Type SM-9.5D
 - ② Intermediate Course - (2") Asphalt Concrete Type IM-19.0A @ 220 lbs/sq.yd.
 - ③ Base Course - (6") Asphalt Concrete Base Course Type BM-25.0A
 - ④ Pavement Build-Up - (Variable Depth) Asphalt Concrete Type IM-19.0A and/or BM-25.0A (BM-25.0A: 2.5" min. - 4" max. lift thickness) -- See Sheet 2A(6) for Pavement Build-up Details.
 - ⑤ Subbase Course - (12" min.) Aggregate Base Material Type I NO.21B
For Pavement Widening:
Sloping away from exist. pmt. - ad just depth to match or exceed ad jacent exist. aggr. base course
Sloping towards exist. pmt. - ad just depth to match ad jacent exist. aggr. base course
 - ⑤A Subbase Course - (Var. Depth, 6" Min.) Aggregate Base Material Type I NO.21B. For Curb & Gutter, Aggregate Base Material to be extended 1' (min.) behind back of curb.
- SHARED USE PATH & SIDEWALK PAVEMENT LEGEND**
- ① Surface Course - (4") Hydraulic Cement Conc. Class A3
 - ② Surface Course - (2") Asphalt Concrete Type SM-9.5A @ 220 lbs/sq.yd.
 - ③ Subbase Course - (4") Aggregate Base Material Type I NO.21A, extended 6" on each side of Sidewalk
 - ④ Subbase Course - (6") Aggregate Base Material Type I NO.21A, extended 6" on each side of the S.U.P.



PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.

TYPICAL SECTIONS AND DETAILS

Town of Leesburg

Submission DATE: 02/21/2018

MARK A. GUNN
Lic. No. 038323
PROFESSIONAL ENGINEER

ENGINEER: Rinker Design Associates, P.C.
Engineering - Surveying - Land Planning - Transportation - Environmental Services
8000 Chesapeake Blvd., Suite 200, Manassas Virginia 20108 on the web @ www.rinker.com
Telephone: (703) 368-7373 Fax: (703) 370-5443
E-mail: info@rinker.com
to Make Your Vision Reality

ASSOCIATED PLAN

C.I.P. NUMBER: TLCl-2016-0002

VDOT PROJ. NO. U000-253-312

TOWN NUMBER: TBD

Sheet 2A(4) of 20

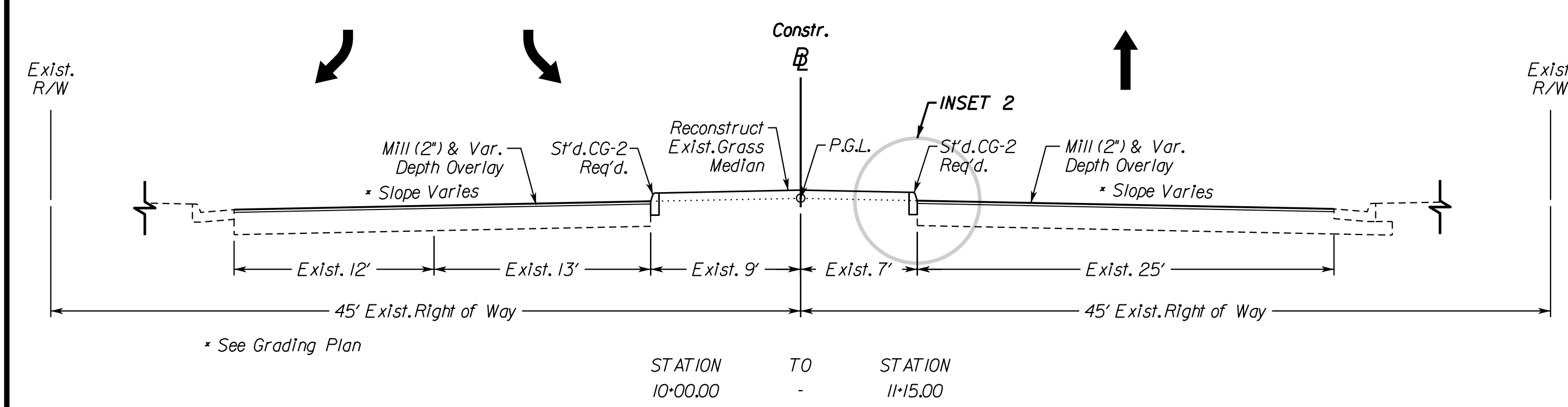
PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sohaib Qadir, P.E., (703) 368-7373

TYPICAL SECTIONS & DETAILS

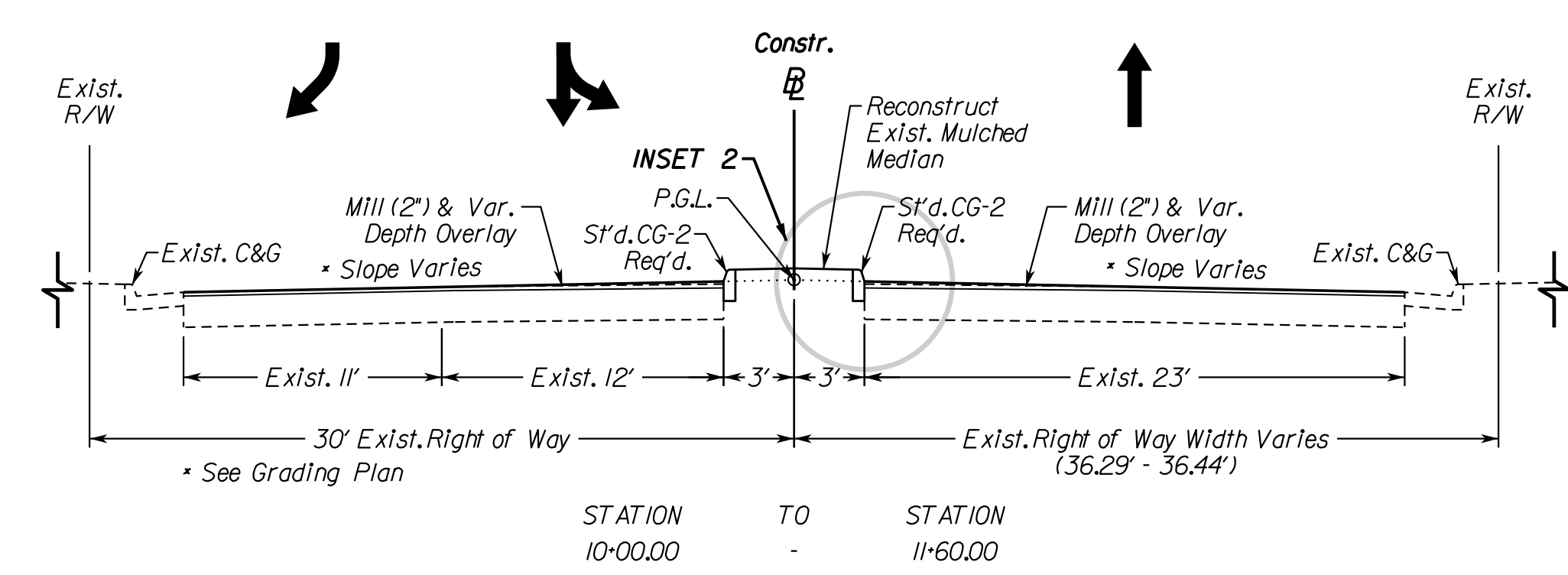
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See Sheet 2A(6) for details and treatment at Pavement Widening and Build-up locations.

Miller Dr. S.E.
Typical Section
(Not to Scale)



Tavistock Dr. S.E.
Typical Section
(Not to Scale)



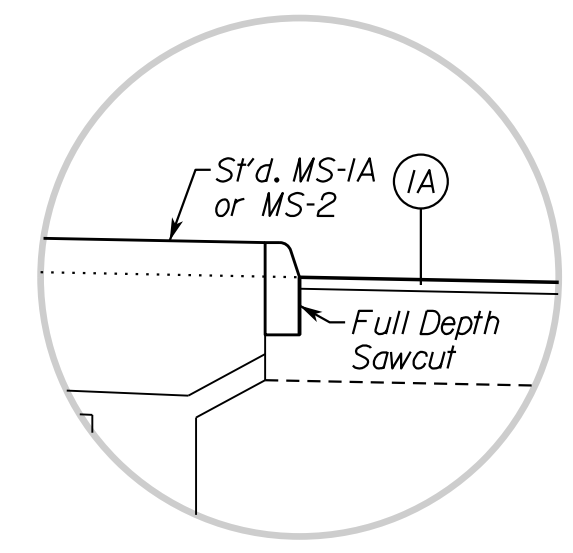
ROADWAY PAVEMENT DESIGN LEGEND

- 1 Surface Course - (2") Asphalt Concrete Type SM-9.5D @ 220 lbs/sq.yd.
- 1A Mill - (2" depth), Overlay - (Var. Depth, 2" Min.) Asphalt Concrete Type SM-9.5D
- 2 Intermediate Course - (2") Asphalt Concrete Type IM-19.0A @ 220 lbs/sq.yd.
- 3 Base Course - (6") Asphalt Concrete Base Course Type BM-25.0A
- 4 Pavement Build-Up - (Variable Depth) Asphalt Concrete Type IM-19.0A and/or BM-25.0A (BM-25.0A: 2.5" min. - 4" max. 11ft thickness) -- See Sheet 2A(6) for Pavement Build-up Details.
- 5 Subbase Course - (12" min.) Aggregate Base Material Type 1 NO. 21B
For Pavement Widening:
Sloping away from exist. pvtl. - ad just depth to match or exceed adjacent exist. aggr. base course
Sloping towards exist. pvtl. - ad just depth to match adjacent exist. aggr. base course
- 5A Subbase Course - (Var. Depth, 6" Min.) Aggregate Base Material Type 1 NO. 21B. For Curb & Gutter, Aggregate Base Material to be extended 1' (min.) behind back of curb.

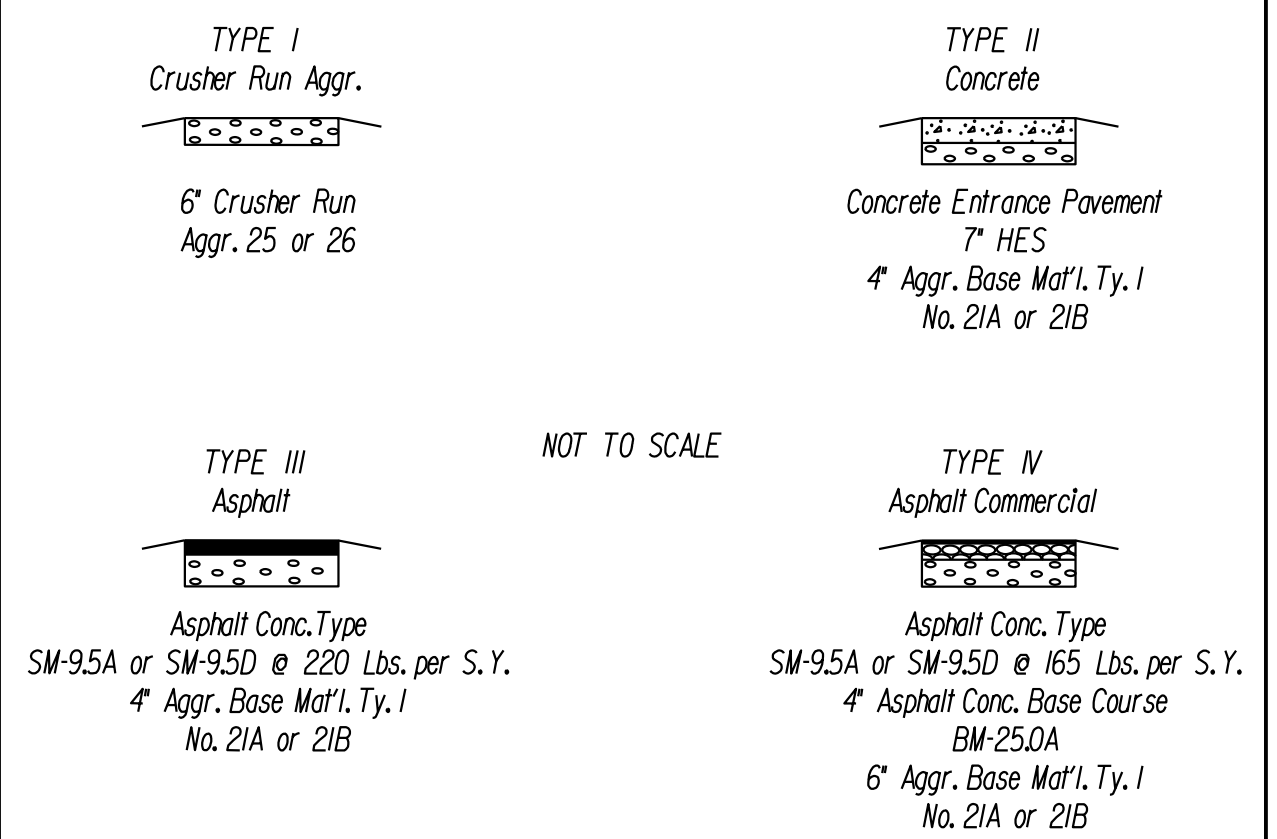
SHARED USE PATH & SIDEWALK PAVEMENT LEGEND

- A Surface Course - (4") Hydraulic Cement Conc. Class A3
- B Surface Course - (2") Asphalt Concrete Type SM-9.5A @ 220 lbs/sq.yd.
- C Subbase Course - (4") Aggregate Base Material Type 1 NO. 21A, extended 6' on each side of Sidewalk
- D Subbase Course - (6") Aggregate Base Material Type 1 NO. 21A, extended 6' on each side of the S.U.P.

INSET 2

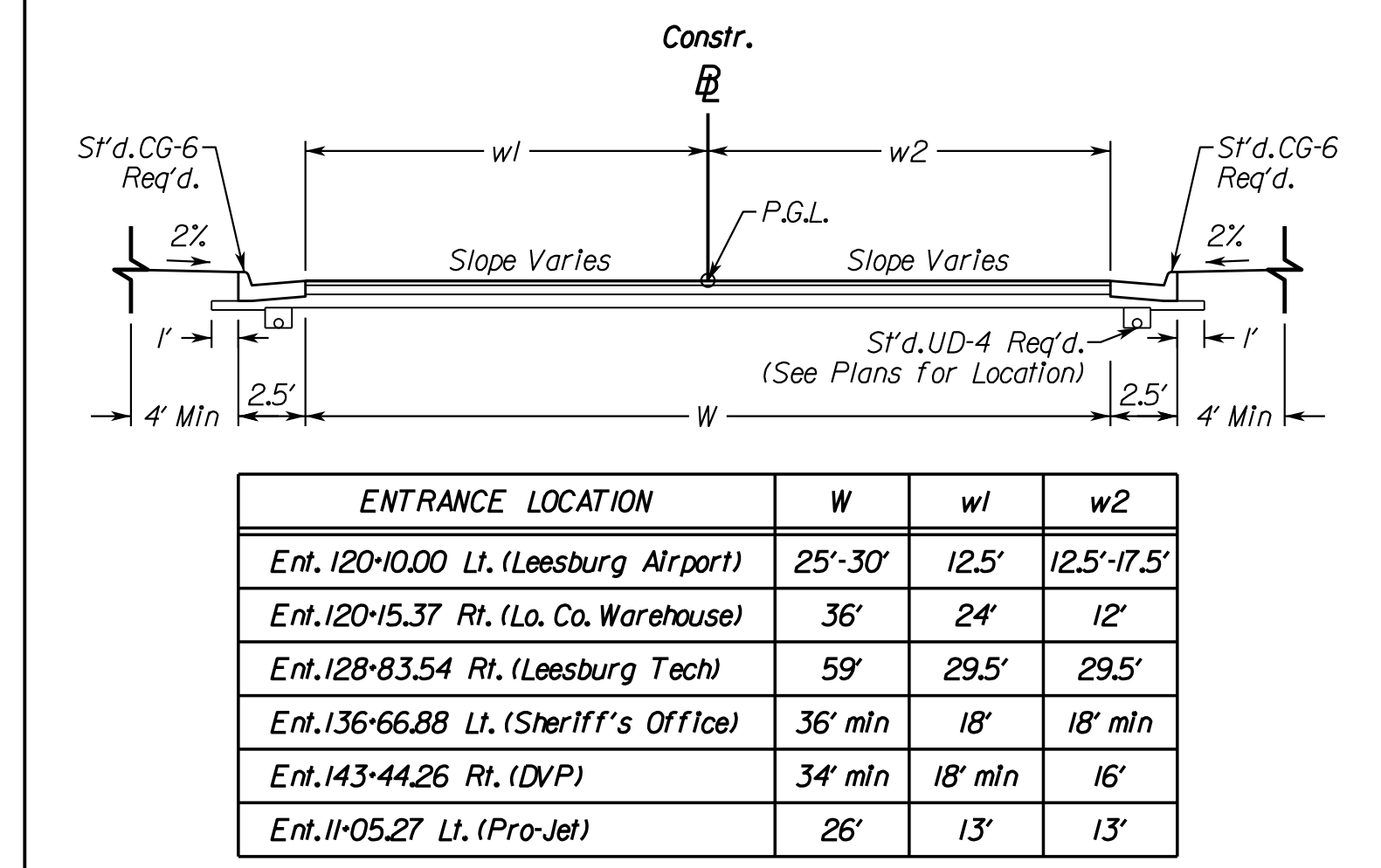


PAVEMENT SECTIONS
PRIVATE AND COMMERCIAL ENTRANCES



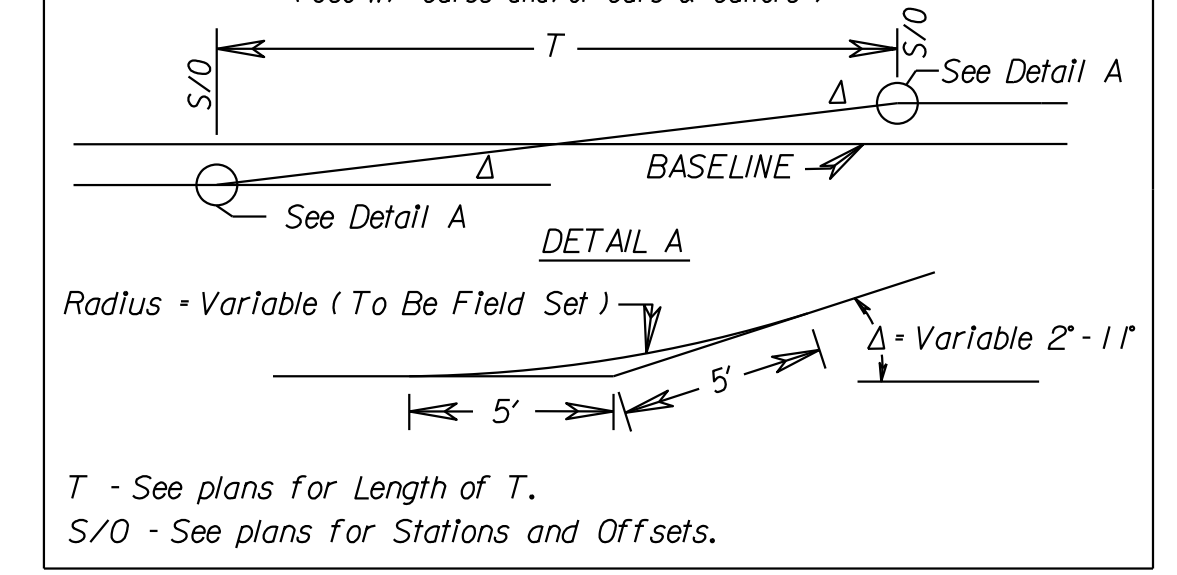
The type of entrance (I, II, III, IV) to be constructed will be determined by the existing condition at the time of construction.

Type IV Entrance (Commercial)
Typical Section
(Not to Scale)

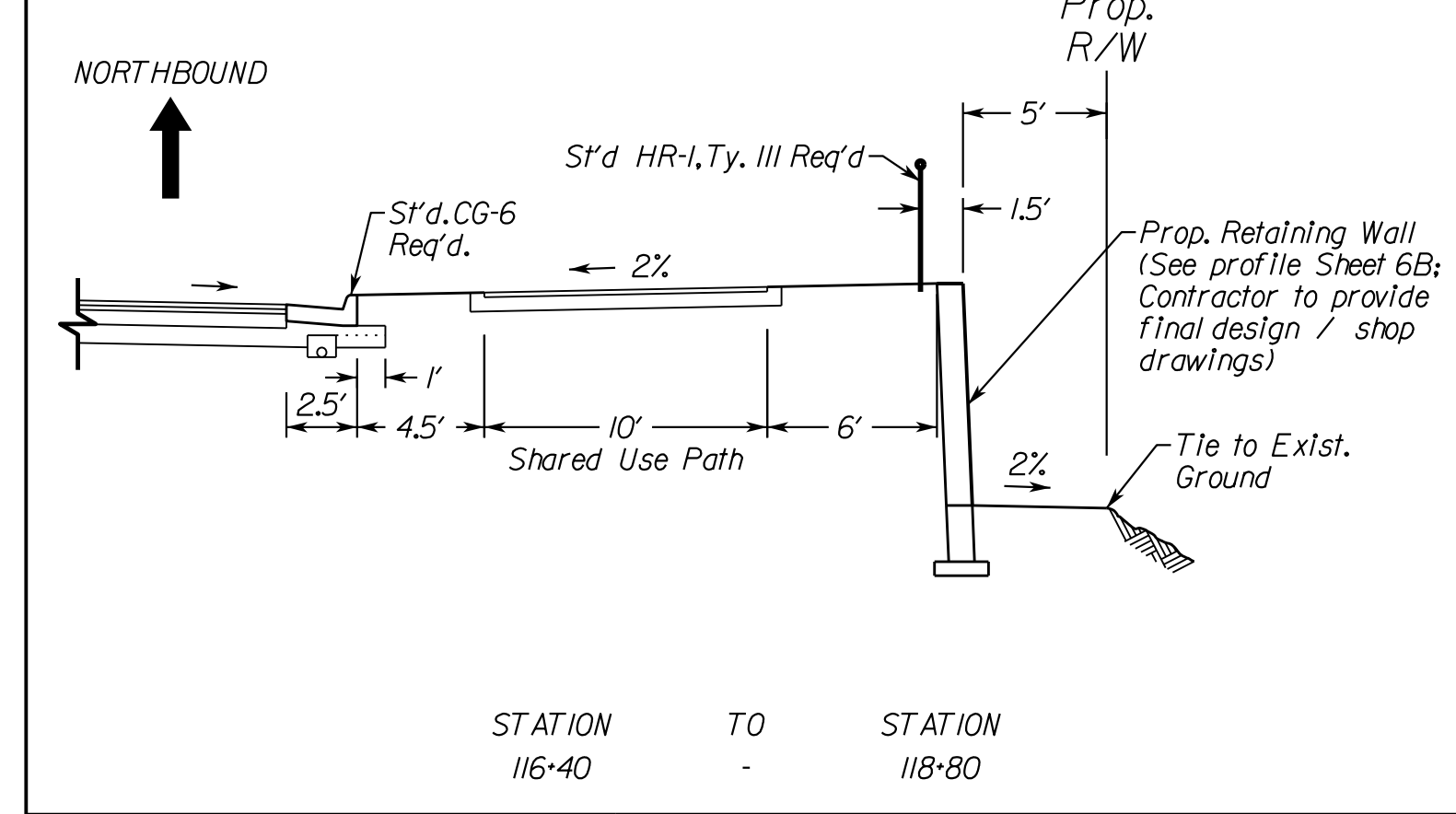


ENTRANCE LOCATION	W	w1	w2
Ent. 120+10.00 Lt. (Leesburg Airport)	25'-30'	12.5'	12.5'-17.5'
Ent. 120+15.37 Rt. (Lo. Co. Warehouse)	36'	24'	12'
Ent. 128+83.54 Rt. (Leesburg Tech)	59'	29.5'	29.5'
Ent. 136+66.88 Lt. (Sheriff's Office)	36' min	18'	18' min
Ent. 143+44.26 Rt. (DVP)	34' min	18' min	16'
Ent. 11+05.27 Lt. (Pro-Jet)	26'	13'	13'

TYPICAL STRAIGHT - LINE TAPER LANE
(Use W/ Curbs and/or Curb & Gutters)



Sycolin Road, Route 643
Retaining Wall Detail
(Not to Scale)



PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV**
FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.

PROJECT MANAGER: MARK A. GUNN, P.E.

ENGINEER: **Rinker Design Associates, P.C.**
Engineering - Surveying - Land Planning - Transportation - Environmental Services
6000 Decoye Blvd., Suite 200, Manassas, Virginia 20108
Telephone: (703) 368-7373 Fax: (703) 368-7343
www.rinker.com
to Make Your Vision Reality

PROJECT MANAGER: MARK A. GUNN, P.E.

TOWN OF LEESBURG
SUBMISSION DATE: 02/21/2018

Loudoun County, Virginia

ASSOCIATED PLAN NUMBER: **TLCI-2016-0002**

VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: TBD

Sheet 2A(5) of 20

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: Accumark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sahab Qadiri, P.E., (703) 368-7373

Legends:

- Denotes Prop. Pvmt. Widening in Areas of Pavement Build-Up (See Note 2)
- Denotes Pavement Widening According to S'd. WP-2

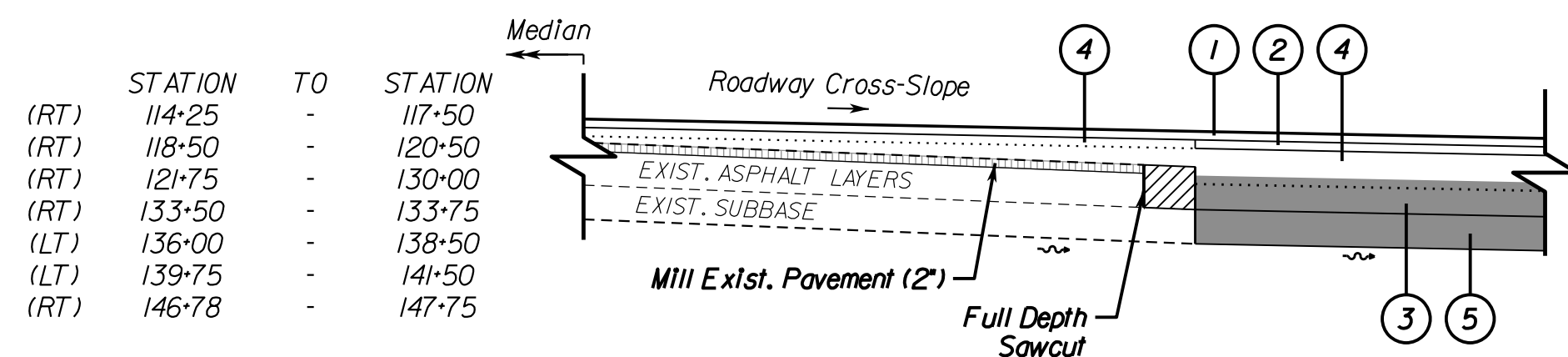
- Pavement Build-up Notes:**
- Existing pavement shall be milled 2" prior to pavement build-up.
 - Proposed pavement widening shall be performed per VDOT S'd WP-2 prior to pavement build-up.
 - A minimum 2-inch layer of IM-19.0A layer shall be provided, if not present, for any pavement widening and/or build-up areas subjected to traffic.

TYPICAL SECTIONS & DETAILS

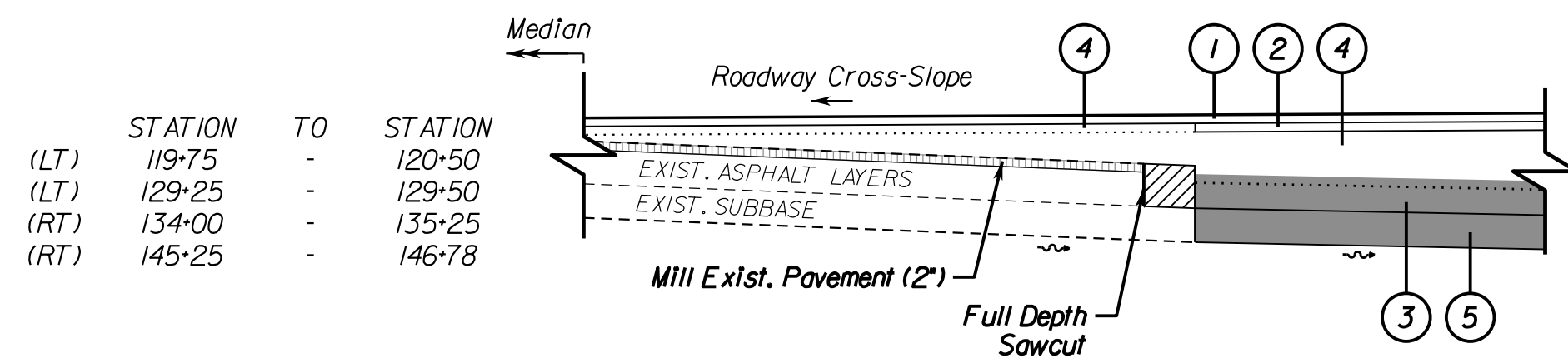
(Not to Scale)

General Pavement Widening and Build-Up Details (Special Conditions):

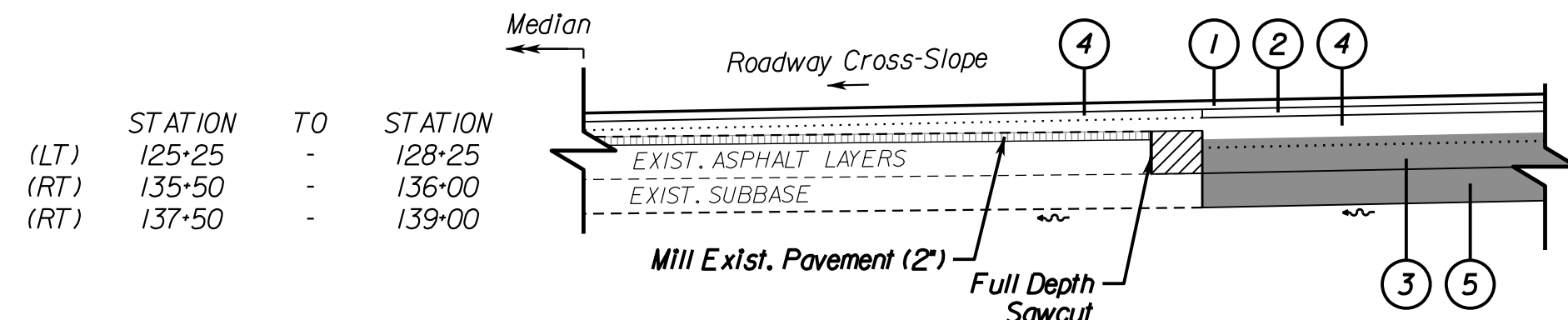
Condition G1: Pavement Widening & Build-up on Low-Side



Condition G2: Pavement Widening & Build-up on High-Side
(Exist. Pvmt. Slopes Away from Median)



Condition G3: Pavement Widening & Build-up on High-Side
(Exist. Pvmt. Slopes Toward Median)



ROADWAY PAVEMENT DESIGN LEGEND

- Surface Course - (2") Asphalt Concrete Type SM-9.5D @ 220 lbs/sq.yd.
- (A) Mill - (2" depth), Overlay - (Var. Depth, 2" Min.) Asphalt Concrete Type SM-9.5D
- Intermediate Course - (2") Asphalt Concrete Type IM-19.0A @ 220 lbs/sq.yd.
- Base Course - (6") Asphalt Concrete Base Course Type BM-25.0A
- Pavement Build-Up - (Variable Depth) Asphalt Concrete Type IM-19.0A and/or BM-25.0A (BM-25.0A: 2.5" min., 4" max. lift thickness; See Note 3 of "Pavement Build-Up Notes.")
- Subbase Course - (12" min.) Aggregate Base Material Type I NO. 21B
For Pavement Widening:
Sloping away from exist. pvmt. - adjust depth to match or exceed adjacent exist. aggr. base course
Sloping towards exist. pvmt. - adjust depth to match adjacent exist. aggr. base course
- (5A) Subbase Course - (Var. Depth, 6" Min.) Aggregate Base Material Type I NO. 21B. For Curb & Gutter, Aggregate Base Material to be extended 1' (min.) behind back of curb.

SHARED USE PATH & SIDEWALK PAVEMENT LEGEND

- Surface Course - (4") Hydraulic Cement Conc. Class A3
- Surface Course - (2") Asphalt Concrete Type SM-9.5A @ 220 lbs/sq.yd.
- Subbase Course - (4") Aggregate Base Material Type I NO. 21A, extended 6' on each side of Sidewalk
- Subbase Course - (6") Aggregate Base Material Type I NO. 21A, extended 6' on each side of the S.J.P.

Notes:

- Proposed pavement widening shall be in accordance with VDOT S'd WP-2.
- See Plans for underdrain locations.
- In all areas with a raised grass median (i.e. MS-2), a S'd. UD-2 underdrain or a S'd. UD-4 underdrain beneath the curb on both sides of the median must be provided.
- See Profile and Cross-sections for roadway cross-slopes.

* Denotes Town of Leesburg Corporate Limits

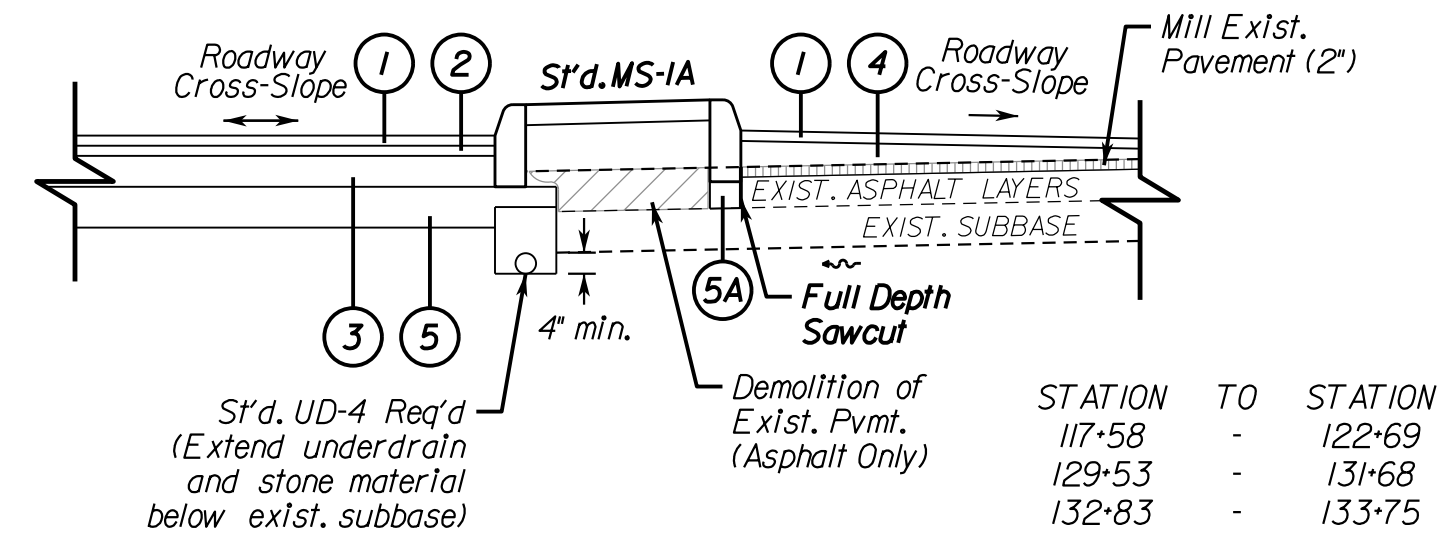
** See Plans and Cross-sections for Location of Pavement Widening and/or Full-depth Pavement

*** In super-elevated sections where pavement slopes towards the median, S'd UD-4 is required at the MS-1A and MS-2 medians, as shown.

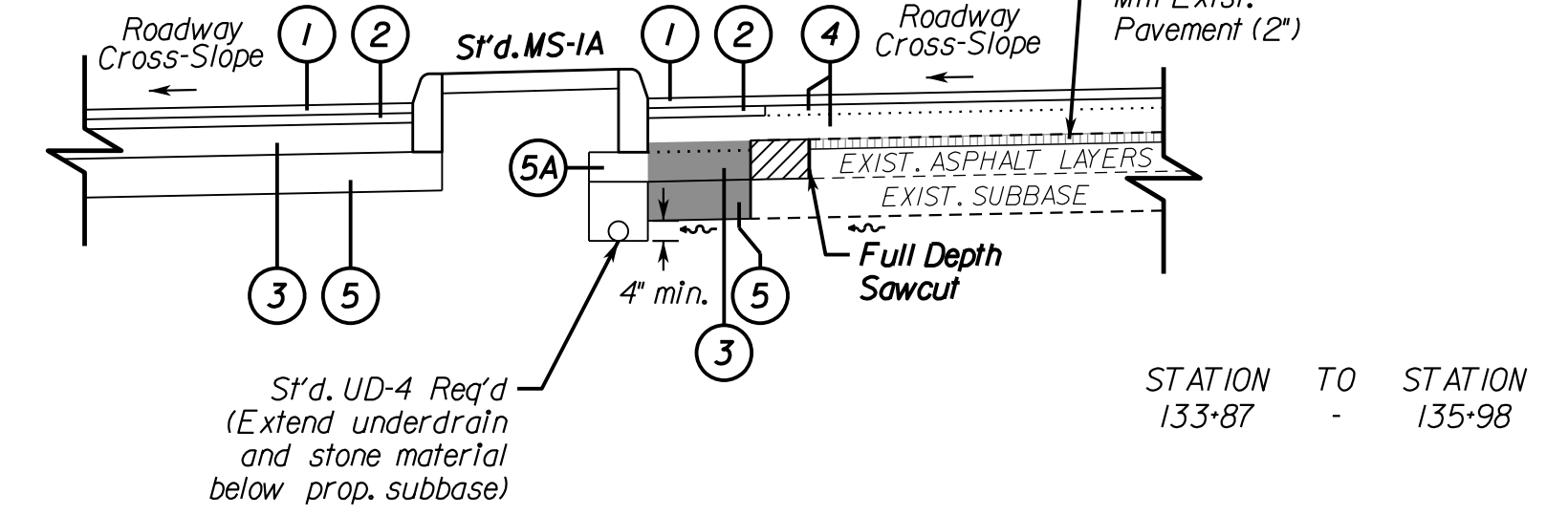
**** See roadway profile or cross-sections for slopes.

Median Pavement Widening and Build-Up Details (Special Conditions):

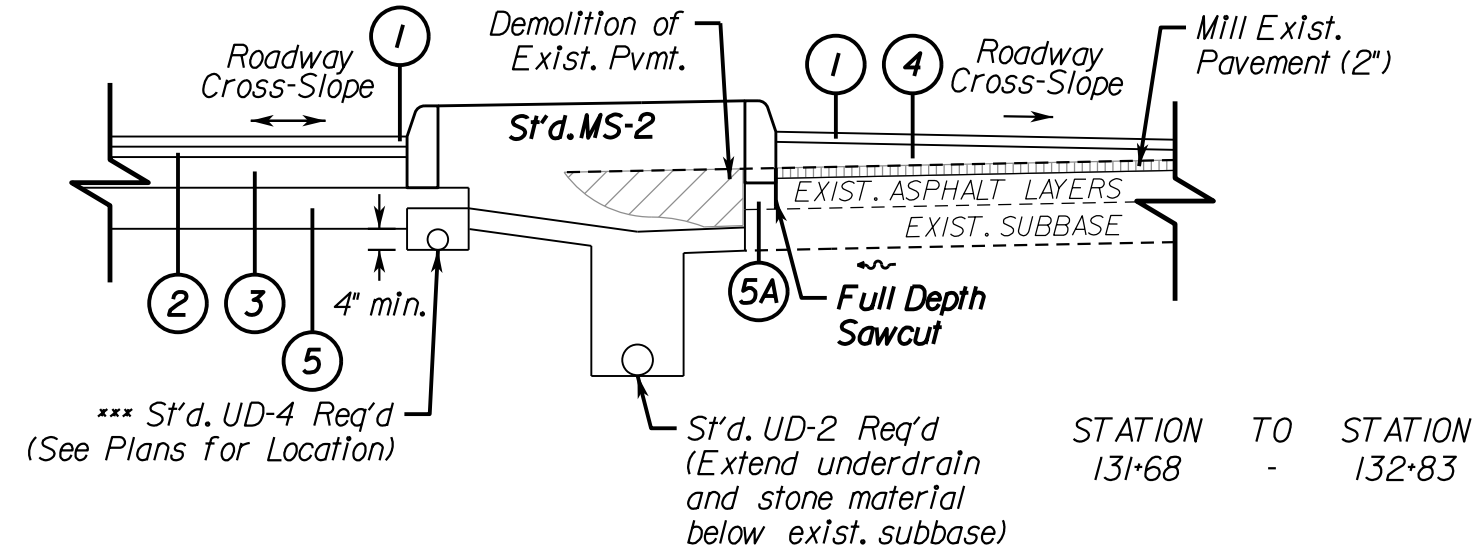
Condition M1: Pavement Build-up on Low-Side or Normal Crown
(Exist. Pvmt. Slopes Toward MS-1A Median)



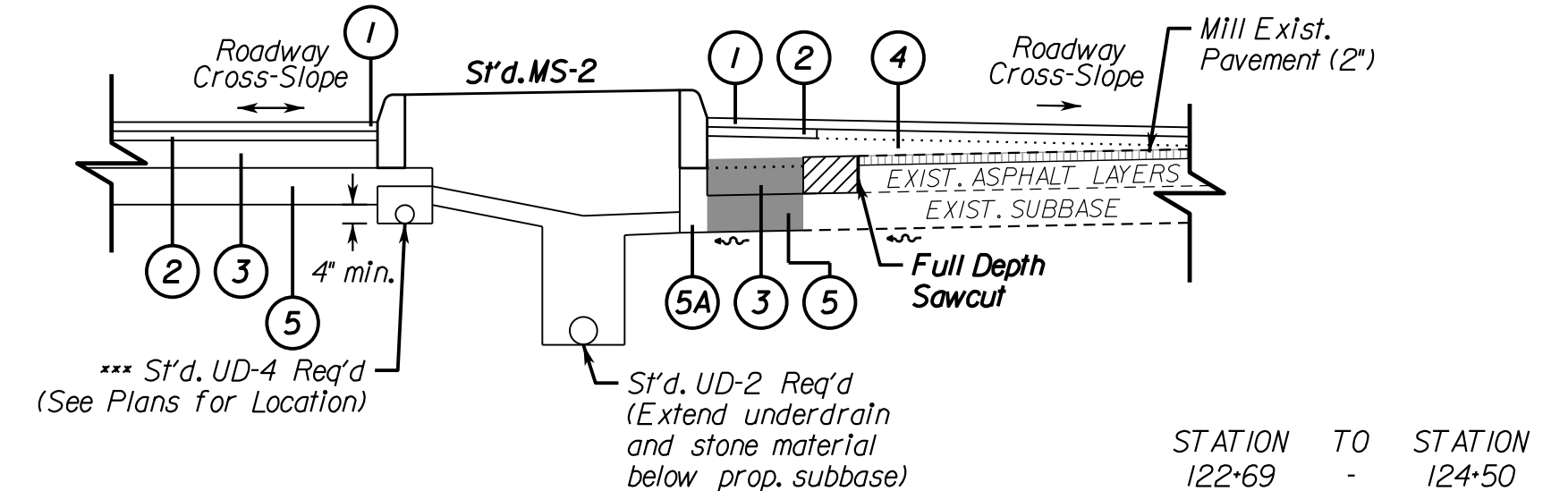
Condition M2: Pavement Widening on High-Side
(Exist. Pvmt. Slopes Toward MS-1A Median)



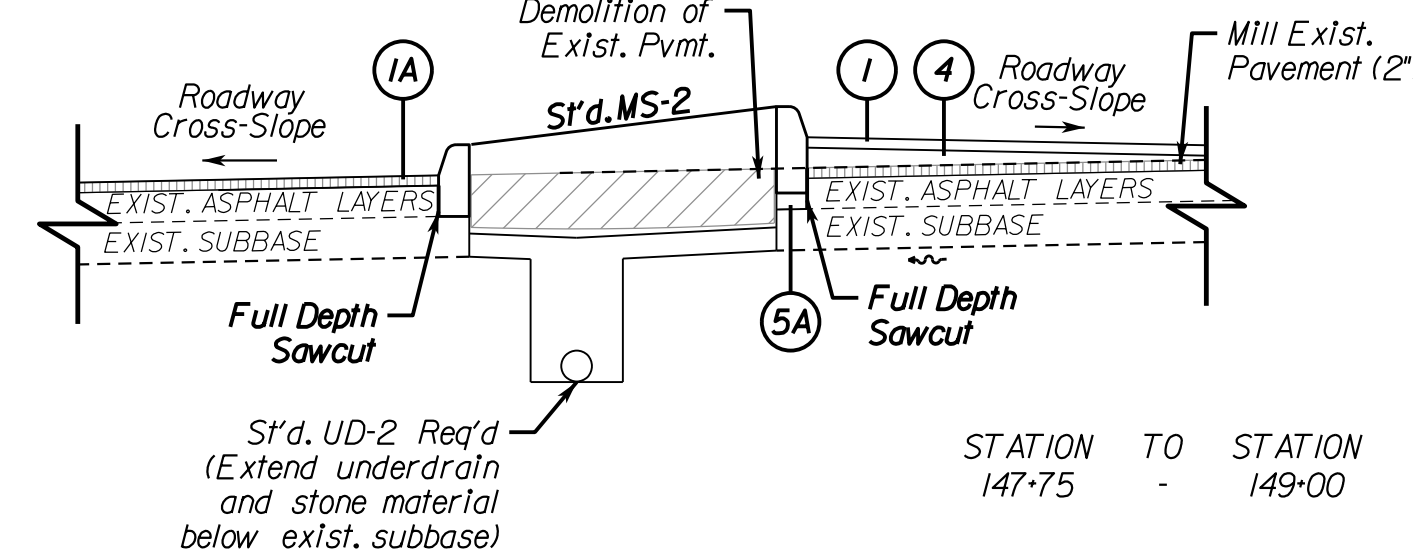
Condition M3: Pavement Build-up on Low-Side or Normal Crown
(Exist. Pvmt. Slopes Toward MS-2 Median)



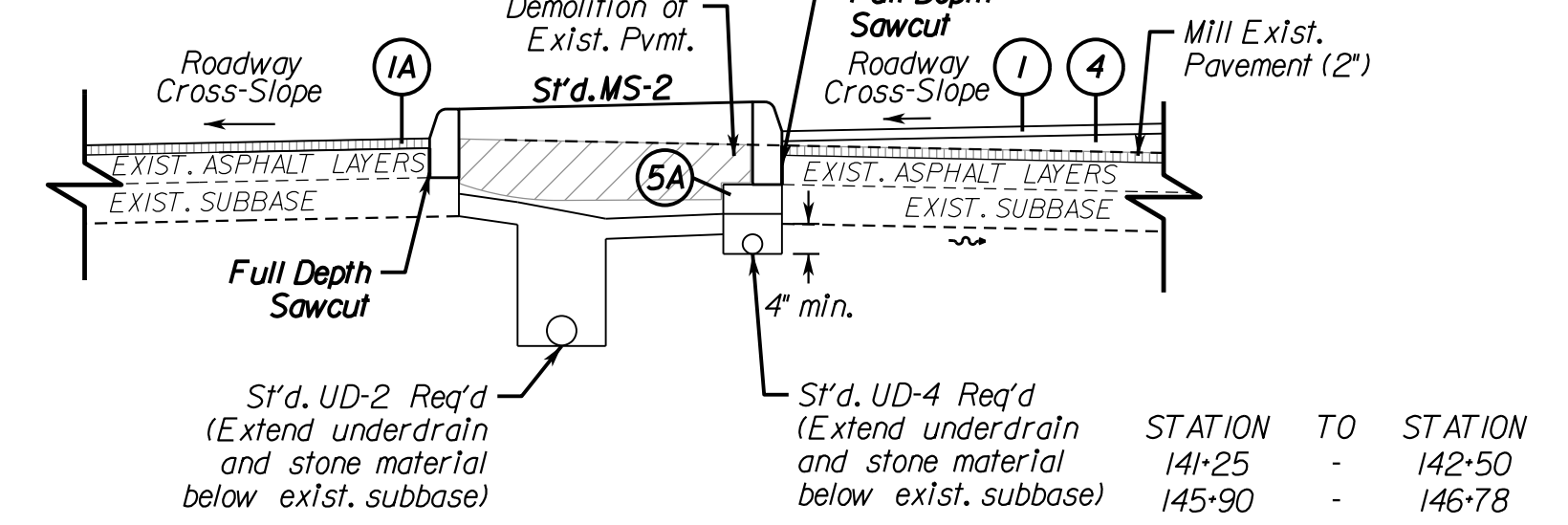
Condition M3A: Pavement Widening & Build-up on Low-side or Normal Crown
(Exist. Pvmt. Slopes Toward MS-2 Median)



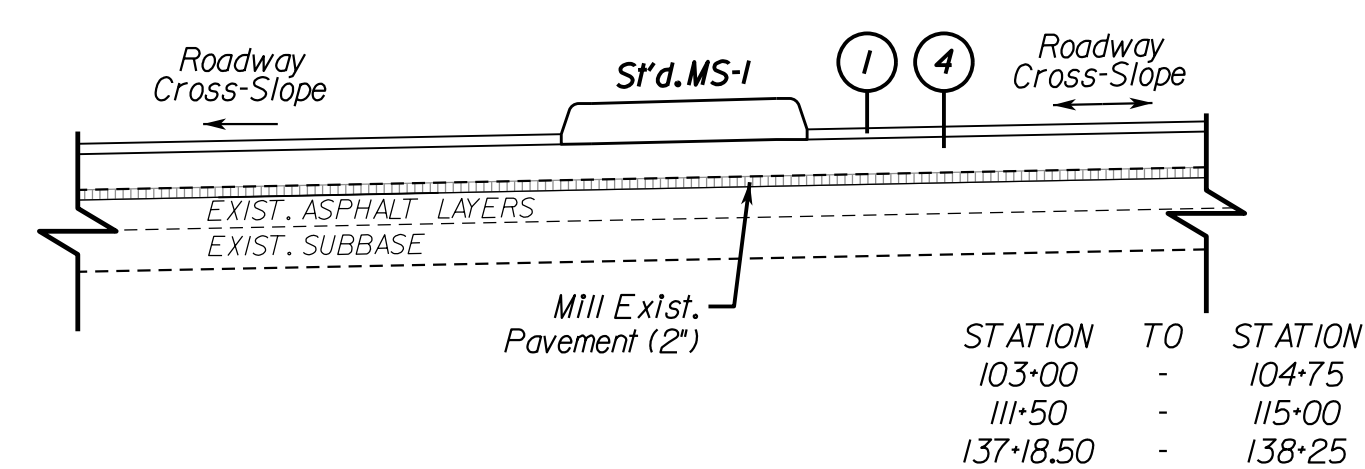
Condition M4: Pavement Build-up on Normal Crown
(Exist. Pvmt. Slopes Toward MS-2 Median)



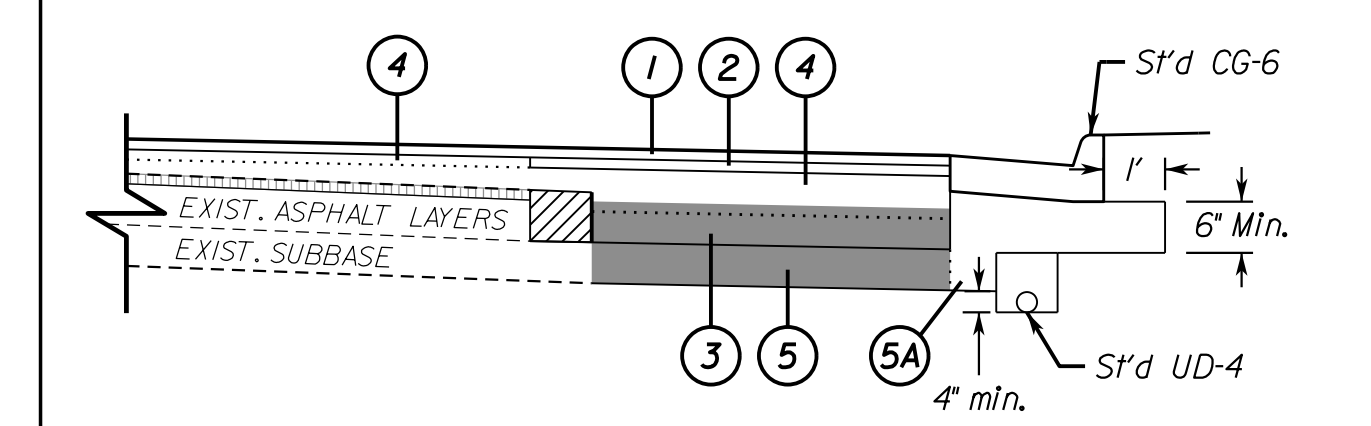
Condition M5: Pavement Build-up on High-Side
(Exist. Pvmt. Slopes Away from MS-2 Median)



Condition M6: Pavement Build-up with MS-1 Median



Curb & Gutter Detail for Pavement Build-up



PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV**
FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.

TYPICAL SECTIONS AND DETAILS

Loudoun County, Virginia

ASSOCIATED PLAN NUMBER: **TLCI-2016-0002**
VDOT PROJ. NO. **U000-253-312**

ENGINEER: **Rinker Design Associates, P.C.**
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8000 Chesapeake Blvd., Suite 200, Manassas Virginia 20108 on the web @ www.rinker.com
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to Make Your Vision Reality

PROJECT MANAGER: **MARK A. GUNN, P.E.**

Mark A. Gunn
2018.02.22 18:32:55 -05'00'

Sheet 2A(6) of 20

TOWN NUMBER: TBD

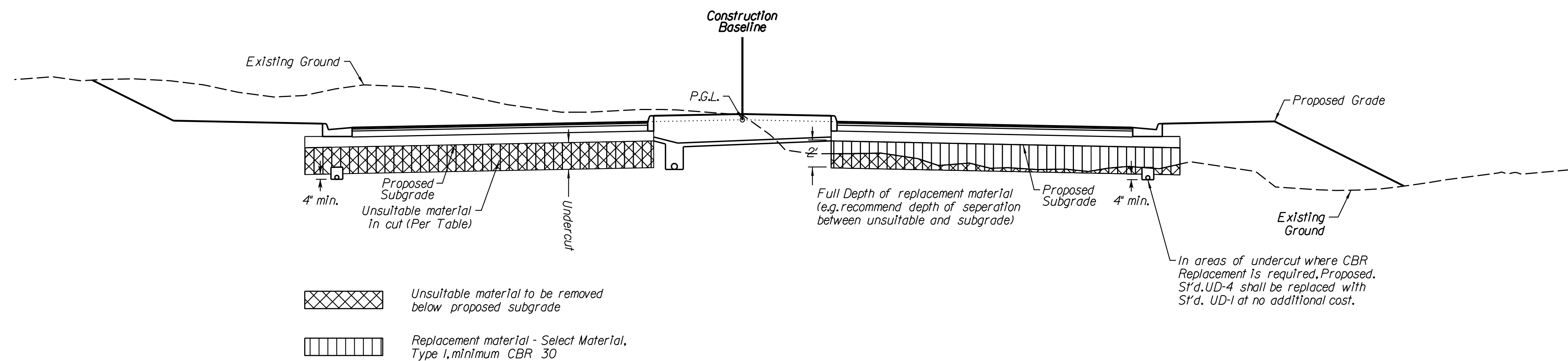
PROJECT MANAGER: Anne Gelaer, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
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TYPICAL SECTIONS & DETAILS

(Not to Scale)

SYCOLIN ROAD (ROUTE 643)

Generalized Method of Removing Unsuitable Material
 Normal Crown Section (Not to Scale)



Unsuitable material to be removed below proposed subgrade
 Replacement material - Select Material, Type I, minimum CBR 30

Summary of Unsuitable Material at Subgrade (Cut Areas)

Station		Widening Locations	Recommended Treatment	Alternate Treatment	Reason
From	To				
Proposed Sycolin Road Widening, Phase IV					
118+00	120+00	Left	2 Ft. Undercut **	In-place Stabilization ***	Excessively Moist Subgrade Soils
124+00	128+00	Left	2 Ft. Undercut **	In-place Stabilization ***	Excessively Moist Subgrade Soils
127+00	131+00	Right	2 Ft. Undercut **	In-place Stabilization ***	Excessively Moist Subgrade Soils
136+00	138+00	Left	2 Ft. Undercut **	In-place Stabilization ***	Excessively Moist Subgrade Soils
137+00	139+00	Right	2 Ft. Undercut **	In-place Stabilization ***	Excessively Moist Subgrade Soils
140+00	142+00	Left	2 Ft. Undercut **	In-place Stabilization ***	Excessively Moist Subgrade Soils
141+00	143+00	Right	2 Ft. Undercut **	In-place Stabilization ***	Excessively Moist Subgrade Soils
143+00	145+00	Right	2 Ft. Undercut *	-	Highly Plastic/High Swell
146+00	148+00	Left	2 Ft. Undercut *	-	Highly Plastic/High Swell

- * Unsuitable material to be removed 2' below subgrade and replaced with VDOT Select Material Type I, minimum CBR 30.
- ** Soils to be removed, and either to be dried out and replaced, or replaced with drier soils.
- *** Improve in-place using lime or cement treatment.

PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV
 FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.

TOWN OF LEESBURG
 Loudoun County, Virginia

PROFESSIONAL ENGINEER
 MARK A. GUNN
 Lic. No. 038323

ASSOCIATED PLAN
 C.I.P. NUMBER: TLCl-2016-0002
 VDOT PROJ. NO. U000-253-312

TOWN NUMBER: TBD

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 to Make Your Vision Reality

PROJECT MANAGER: MARK A. GUNN, P.E.

SUBMISSION DATE: 02/21/2018

PROJECT MANAGER *Anne Geisler, (703) 771-2742 (Town of Leesburg)*
 SURVEYED BY *Sidney Thomas, L.S., (703) 368-7373 (2015)*
 SUBSURFACE UTILITY BY *Accumark, (800) 542-2990 (2015)*
 DESIGN SUPERVISED BY *Mark A. Gunn, P.E., (703) 368-7373*
 DESIGNED BY *Sahab Qadiri, P.E., (703) 368-7373*

GEOTECHNICAL RECOMMENDATIONS

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6.0 GEOTECHNICAL RECOMMENDATIONS

6.1. PAVEMENT

We have used the traffic data provided by RDA to perform the pavement design. The provided design traffic data are summarized in the following table.

Table 6-1: Design Traffic Data

	Sycolin Road	Temporary Pavement
Design Life (years)	20	1
Initial Design Year	2019	2019
ADT (2019)	16,236	16,236
ADT (2039)	24,126	16,561
Growth Rate	2	2
Percent Cars/Passenger Vehicles	88.7%	88.7%
Percent Single Unit Trucks and Buses	10.5%	10.5%
Percent Tractor Trailer Trucks	0.8%	0.8%
Total Calculated Design Lane ESALs	3,685,390	151,679

The design CBR value for the pavement design was derived from the 5 CBR tests on the soil samples collected along the proposed roadway areas. The laboratory CBR values ranged from 14.5 to 22.7. We recommend a design CBR value of 6.7 be used for this project.

The pavement design was performed in accordance with the *Guidelines for 1993 AASHTO Pavement Design*, which was published by VDOT and revised in July 2011. Detailed pavement design including the traffic load information and calculations are attached to this report in Appendix D.

We recommend the full depth pavement widening for the mainline using the section in the following table:

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Table 6-2: Full Depth Pavement Recommendations

Roadway Stations	Pavement Section	Remarks
Sycolin Road	Surface Course (SM-9.5D) = 2" Intermediate Course (IM-19.0A) = 2" Base Course (BM-25.0A) = 6" Subbase Course (21B) = 12"	Applies to widening and reconstruction

The pavement construction should be performed in accordance with VDOT standard detail WP-2 for asphalt pavement widening.

VDOT standard UD-4 edge drains should be installed beneath the curb and gutter of all new pavements. VDOT standard UD-2 median drains should be installed in all new raised grass median areas. The underdrain pipes should be either connected to existing underdrain or storm structures.

The existing pavement may be resurfaced by milling and overlay of 2 inches of SM-9.5D with the exception of the airport access road, which only showed 4.5 inches of asphalt pavement in the pavement core. We recommend the airport access road pavement, where it will be used as future Sycolin Road, be reconstructed using the above recommended full depth pavement section.

Temporary pavements will be needed to maintain traffic during construction. A design life of 12 months was used for the temporary pavement. Where new temporary pavement is to be constructed, we recommend that the pavement sections to consist of the following:

Table 6-3: Temporary Pavement Section

Temporary Pavement Section	Surface Course (SM-9.5D) = 1.5" Base Course (BM-25.0A) = 3" Subbase Course (21B) = 6"
----------------------------	---

6.2. SITE PREPARATION

Site preparation should consist of any proposed demolition, removing existing underground utilities, existing structures, topsoil and vegetation, and any other soft or unsuitable material from the proposed construction areas. Utilities such as pipes should be removed entirely or abandoned by filling the pipe with grout to prevent future migration of soils into the pipe. Voids resulting from the removal of tree stumps should be filled with compacted structural fill. Disposal of demolition debris should be performed in accordance with local, state and federal regulations. Additional requirements included in *Section 301 – Clearing and Grubbing of the VDOT 2007 Road and Bridge Specifications* should be followed.

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6.3. EARTHWORK

The earthwork for the proposed roadway construction should be performed in accordance with *Section 303 – Earthwork of the VDOT 2007 Road and Bridge Specifications*. Additional site specific recommendations are discussed in the following paragraphs.

6.3.1. SUBGRADE PREPARATION

Following the site preparation and any required excavation, the newly exposed roadway subgrade should be evaluated by an authorized representative of the Geotechnical Engineer of Record. During this evaluation, we recommend that all subgrade areas be proof-rolled using a fully loaded tandem axle dump truck (10-ton minimum) or similar rubber-tired vehicle. The proofrolling should be performed in such a pattern that the entire subgrade areas are loaded with at least one pass. Areas that are not accessible to proofrolling may be evaluated using other suitable methods such as a steel probe rod.

If the subgrade exhibits excessive deflections or pumping when proof-rolled or soft subgrade is detected by probing, an appropriate remedial measure would be recommended by the Geotechnical Engineer of Record at that time. Potential problem subgrade areas as identified by this soil investigation and the recommended remedial measures are detailed in the following paragraphs. The stabilized subgrade areas should be again evaluated and approved by the Geotechnical Engineer of Record prior to fill placement or pavement installation.

6.3.2. UNSUITABLE SOILS

The recommendations below are for potentially unsuitable soils focused within the upper 5 feet below the proposed pavement. Soils below this depth were generally not considered as they will likely be below the zone of influence of the pavement. Unsuitable soils generally include soils that have excessive moisture, high plasticity (Liquid Limits greater than 50%), soils with low SPT N-values (generally less than 5 bpf), low CBR value (less than 6.7), and soils that contains excessive debris or organics. Thicker topsoil and root matter than what was encountered in the borings should be anticipated in wooded areas. The unsuitable pavement subgrade soils at the soil test boring locations are summarized in Table B2 – Summary of Pavement Subgrade Soil Conditions in Appendix B. The types and extent of the unsuitable soils are discussed in detail in the following paragraphs and were estimated based on individual soil test borings and laboratory test results.

Highly Plastic or High Swell (>5%) Subgrade Soils:

The soils at the proposed subgrade were found to be highly plastic soils (CH and MH soils) with Liquid Limits greater than 50% in some areas. We recommend that the top 2 feet of the in-situ subgrade soils in these areas be removed and replaced with VDOT Select Material Type I (minimum CBR 30). The removed soils should not be used as roadway embankment fill, but may be used to flatten slopes

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Loudoun County, Virginia

Town of Leesburg
 SUBMISSION DATE: 02/21/2018

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upon approval be the Geotechnical Engineer of Record. The approximate locations where highly plastic soils are encountered at the proposed subgrade are:

Table 6-4: List of Areas with Highly Plastic Soil Subgrade

Roadway Stations	Widening Locations
143+00 to 145+00	Right
146+00 to 148+00	Left

Low CBR Subgrade Soils:

Low CBR (<6.7) soils were not encountered at the proposed subgrade elevations in any of the borings.

Soft or Very Loose Subgrade Soils:

Soft or very loose soils (SPT N-Values less than 5 bpf) were not encountered at the proposed subgrade elevations in any of the borings. If encountered during construction, the soft/loose subgrade soils should be densified in place.

Excessively Moist Subgrade Soils:

We have considered that soils with moisture content of greater than 120% of the optimum moisture contents to be excessively moist. In general, excessive moisture may be more or less depending on the amount of recent precipitation at the time construction is performed. Along some parts of the project alignment, the soils at/near the proposed subgrade were found to be excessively moist. This condition has the potential to cause pumping problems during subgrade and base construction. We recommend that upon completion of any necessary excavation in these areas, 2 feet of subgrade soils from beneath the proposed pavement and shoulders be removed, and either dried out and replaced, or replaced with drier soils. Alternatively, the subgrade may be improved in-place using lime or cement treatment. If lime or cement treatment is considered, bulk samples of the material should be obtained of areas requiring treatment to determine the required lime and cement content as well as the method of hydration and compaction required. The approximate locations where excessive moisture contents will likely be encountered are:

Table 6-5: List of Areas with Excessively Moist Subgrade

Roadway Stations	Widening Locations
118+00 to 120+00	Left
124+00 to 128+00	Left
127+00 to 131+00	Right
136+00 to 138+00	Left

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137+00 to 139+00	Right
140+00 to 142+00	Left
141+00 to 143+00	Right

6.3.3. COMPACTED FILL

All engineered fills including roadway embankment and backfill around structures should have a Liquid Limit less than 45 and a Plasticity Index less than 20. Additionally, any borrow material to be used within 3 feet of the pavement subgrade elevation should have a minimum CBR value of 10. Before field operations begin, a representative sample of each proposed engineered fill should be collected and tested to determine its Atterberg Limits, gradation, maximum dry density, optimum moisture content, and natural moisture content. The test results will be used to evaluate the suitability of each proposed engineered fill for quality control purposes during fill placement.

Engineered fill materials should be placed in lifts not exceeding 8 inches in loose thickness for roadway embankments. In confined areas such as utility trenches, portable compaction equipment and thin lifts of 3 to 4 inches will likely be required to achieve the specified degrees of compaction. The engineered fill should be moisture conditioned to within 20 percent of the optimum moisture content and compacted to a minimum of 95 percent of the maximum dry density obtained in accordance with VTM-1, Standard Proctor Method. The top 6 inches of soil supporting pavements, sidewalks, or gutters should be compacted to a minimum of 100 percent of the maximum dry density in accordance with VTM-1, Standard Proctor Method.

6.3.4. CUT AND FILL SLOPES

Most of the proposed construction for the new pavement will take place at or near existing grades. Where new cut and fill slopes are to be constructed, we recommend the slopes be no steeper than 2H: 1V. Soil slopes should be covered for protection from rain. Surface run-off should be diverted away from the slopes. For erosion protection, a cover of grass or other vegetation should be established on permanent soil slopes as soon as possible. Temporary erosion protection of slopes should meet state and/or local requirements.

Where fill materials will be placed to widen existing fills, or placed upon sloping ground, the soil subgrade should be scarified and the new fill benched or keyed into the existing material in accordance with Section 303.04 (h) – *Embankments of the VDOT 2007 Road and Bridge Specifications*.

6.4. DRAINAGE STRUCTURES

Two drainage structures are planned as part of the proposed construction. The following table is a summary of the drainage structures with a size of 36 inches or greater.

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Table 6-6: Summary of Drainage Pipes and Culvert

Structure I.D.	Approximate Location	Structure Dimensions	Approximate Invert Elevation	Reference Borings
7-9	Sta. 123+25 Left & Right	Double 5'x3' (approximately 90')	358.34' to 359.75'	CL-01 and CL-02
8-9 to 8-11	Sta. 126+25 Right	54" RCP (approximately 50')	350.25' to 350.68'	CL-03

The proposed culvert should be constructed in accordance with Section 302 – *Drainage Structures of the VDOT 2007 Road and Bridge Specifications* and the standard detail PB-1 of the *VDOT 2008 Road and Bridge Standards*. Additional foundation recommendations are provided as follows:

Fat CLAY (CH) was encountered in Boring CL-01 at the proposed invert elevation. Highly plastic soils (CH or MH) are unsuitable for direct support of drainage structures. We recommend that the highly plastic soils be undercut a minimum of 24" and replaced with compacted VDOT No. 25 or 26 bedding materials. This condition will likely be encountered on the left side of the roadway along the Double 5'x3' box culvert extension (Structure 7-9).

IGM was encountered in Borings CL-03 at or above the proposed invert elevations of Structures 8-9 to 8-11. Difficult excavation involving a large trackhoe equipped with a hoe ram may be needed to achieve the proposed grades. A minimum 6 inches of bedding materials consisting of compacted VDOT No. 25 or 26 should be maintained between the structure and subgrade. If groundwater was encountered above the proposed foundation subgrade during construction, we recommend that a layer of #57 stone be placed to a minimum of 6 inches above the groundwater prior to placing the regular bedding materials.

6.5. STORMWATER MANAGEMENT FACILITIES

One underground stormwater detention facility is proposed as part of the construction. The detention facility features quadruple 54-inch reinforced concrete pipes (RCP). The following table provides a summary of the facility.

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 Loudoun County, Virginia
 SUBMISSION DATE: 02/21/2018

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Table 6-7: Summary of Stormwater Detention Facility

Structure I.D.	Approximate Location	Structure Dimensions	Approximate Invert Elevation	Reference Borings
8-22 to 8-23	Sta. 126+65 to 127+90, Right	Quadruple 54" RCP (approximately 125')	355.0' to 355.75'	SWM-03, SWM-04 and CL-03

The proposed underground detention facility should be constructed in accordance with *Section 302 - Drainage Structures* of the *VDOT 2007 Road and Bridge Specifications* and the standard detail PB-1 of the *VDOT 2008 Road and Bridge Standards*.

IGM and auger refusal materials was encountered above the proposed structure invert elevation in Borings SWM-03 and SWM-04. Difficult excavation involving a large trackhoe equipped with a hoe ram may be needed to achieve the proposed grades. A minimum 6 inches of bedding materials consisting of compacted VDOT No. 25 or 26 should be maintained between the structure and subgrade. If groundwater was encountered above the proposed foundation subgrade during construction, we recommend that a layer of #57 stone be placed to a minimum of 6 inches above the groundwater prior to placing the regular bedding materials.



Dulles, VA
Washington, DC
Gaithersburg, MD

June 10, 2016

Mr. Mark Gunn, P.E.
 Rinker Design Associates, P.C.
 9385 Discovery Boulevard, Suite 200
 Manassas, Virginia 20109

Reference: Addendum Letter - Minor Structure Report for Retaining Wall RW #1
Sycolin Road Widening Phase IV
 VDOT Project No. U000-253-312, P101, R201, C501
 Leesburg, Virginia
 DMY Project No. 01.02095.01

Dear Mr. Gunn:

DMY Engineering Consultants Inc. (DMY) is pleased to submit this addendum letter to our Geotechnical Engineering Report dated August 21, 2015 (latest revision May 25, 2016) for the above-referenced project. This letter presents a minor structure report for Retaining Wall RW #1.

1.0 PROJECT INFORMATION

Retaining Wall RW #1 is proposed on the east side of Sycolin Road from Station 116+50 to Station 118+80. The height of the retaining wall varies from 7 to 16 feet (from bottom of footing to top of wall) with an exposed height varying from 0 to 11 feet. The proposed retaining wall is located on an existing 2H:1V slope with height varying from 12 to 17 feet. The type of retaining wall was not determined at the time of report preparation. It appears that either a segmental block MSE wall or a cantilever concrete wall is suitable. The retaining wall and associated soil boring information is summarized in the following table:

Table 1-1: Summary of Retaining Wall

Wall ID	Location	Retaining Wall Type	Max. Exposed Wall Height (feet)	Reference Borings
RW #1	Sycolin Road Sta. 116+50 to 118+80, Right	MSE/Cantilever	11	RW-1 through RW-5

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The description of the proposed project given above is based on the information provided to us by the project team and information gathered during our site reconnaissance. If any of the assumptions or project information is incorrect or changed, DMY should be informed so that we may revise our geotechnical recommendations, if necessary.

2.0 SITE GEOLOGY AND SUBSURFACE CONDITIONS

2.1. Site Geology

Based on a review of the Virginia Geologic Map Data available through USGS's online resources (<http://mrdata.usgs.gov/geology/state/state.php?state=VA>), the project site is located within the Culpeper Basin of Northern Virginia and is underlain by Newark Supergroup including Sandstone, Siltstone and Shale of the Upper Triassic Age.

In the Culpeper Basin, residual soils have developed from the in-place chemical and physical weathering of the underlying parent bedrock. The soils associated with this geology typically consist of sandy clays, silts, and silty sand materials along with varying amounts of weathered rock fragments. With increasing depth, soil increases in granularity and strength, gradually transitions into highly weathered or Intermediate Geomaterials, and eventually transitions into competent bedrock.

The subsurface profile may be altered by man, by excavating or filling, or by effects of water through the process of erosion or alluvial deposition.

2.2. Subsurface Conditions

A total of five (5) Standard Penetration Test (SPT) borings (RW-1 through RW-5) were drilled at the proposed retaining wall. The borings were drilled by a track-mounted CME-55 drill rig using the hollow stem auger method with automatic hammer. The approximate locations of the borings are shown on the attached Boring Location Plan. The subsurface conditions encountered at the boring locations are shown in the attached boring logs.

Surficial Materials

About 4 inches of topsoil was encountered in all borings.

Residual Soils

Immediately beneath the surficial soils, residual soils were encountered in all borings. The encountered residual soils in the borings consisted of soft to stiff sandy SILT (ML) and medium dense to very dense silty SAND (SM) and clayey SAND (SC) with SPT N-values ranging from 4 to 67 blows per foot (bpf). Varying amounts of rock fragments were present in the soil samples.

Intermediate Geomaterials (IGM)

IGM is defined as natural residual soils having a minimum SPT N-value of 50 blows per 6 inches of penetration. IGM was encountered in all borings and consisted of very dense silty SAND (SM) with varying amounts of rock fragments.

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Town of Leesburg
 Loudoun County, Virginia
 SUBMISSION DATE: 02/21/2018

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Auger Refusal Materials

Auger refusal was encountered in Borings RW-1 through RW-4 at depths ranging 7.5 to 16 feet below site grade corresponding to EL 358.1 to EL 378.0 feet. Auger refusal materials could be parent bedrock, boulder, or lens of rock.

Groundwater

Groundwater was not encountered either during drilling or at 24 hours after drilling completion. It should be noted that groundwater levels fluctuate with seasonal and climatic variations and may be different at other times and locations than those stated in this letter.

3.0 RETAINING WALL RECOMMENDATIONS

The soil parameters used for the evaluation are summarized in the following table. These parameters were selected based on our current subsurface exploration, *VDOT's Soil Design Parameters for Sound Barrier Walls, Retaining Walls, and Non-Critical Slopes*, our prior experience in similar soils and geologies, and laboratory testing results. The laboratory testing results are included in the attachment.

Table 3-1: Summary Soil Parameters

Soil Stratum	Soil Classification	Range of SPT N ₆₀ (bpf)	Cohesion, c (psf)	Friction Angle, φ (degree)	Moist Unit Weight (pcf)	Saturated Unit Weight (pcf)
New Fill	ML, SC, or SM	-	50	30	115	122
Residual-I	ML & SC	4 to 15	250	20	110	117
Residual-II	SM & SC	25 to 67	100	34	130	137
IGM	SM	50/6" to 50/1"	250	36	132	139

We have evaluated the wall foundation bearing capacity and settlement at the maximum wall height location. In our evaluation, we assumed a minimum footing width (for cantilever wall) or a minimum reinforcement length (for MSE wall) of 9.6 feet at the location of maximum wall height. The nominal and factored foundation bearing capacity was determined to be 10,920 PSF and 4,914 PSF, respectively. A resistance factor of 0.45 was used. The detailed calculations are attached to the end of this letter.

A detailed global stability analysis was not performed; however, considering the dense to very dense nature of the onsite soils, the presence of shallow auger refusal materials, and our engineering experience of nearby sites with similar geology, global stability is not considered an issue at this site.

Based on our subsurface exploration data and our analyses, no undercut and replacement are required. IGM was encountered at or above the proposed foundation elevations. Difficult excavation involving a large trackhoe equipped with a hoe ram is likely needed to achieve the proposed grades.

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All new footings should be placed at a minimum depth of 30 inches below finished grade to provide adequate frost cover protection acceptable for this region. Heavy earthwork equipment should maintain a minimum horizontal distance away from the walls of one foot per foot of vertical wall height. Lighter compaction equipment should be used close to the walls.

During construction, the bearing capacity at the final footing excavation should be documented in the field by an authorized representative of the Geotechnical Engineer of Record to check that the in situ bearing capacity at the bottom of each footing excavation is adequate for the design loads.

4.0 LIMITATIONS

The recommendations provided are based in part on project information provided to us and are only applied to the specific project and site discussed in this letter. If the project information section in this letter contains incorrect information or if additional information is available, DMY should be contacted to review our recommendations. We can then modify our recommendations for the proposed project.

Regardless of the thoroughness of a subsurface investigation, there is always a possibility that subsurface conditions may vary from those documented during a subsurface exploration at specific locations. In addition, the construction process itself may alter subsurface conditions. Therefore, experienced geotechnical personnel should be engaged to observe and document the construction procedures used and the conditions encountered. Unanticipated conditions and inadequate procedures should be reported to the design team along with timely recommendations. We recommend that DMY be retained to provide this service based upon our familiarity with the project, the subsurface conditions, and the intent of the recommendations.

We have prepared this letter for use by the design professionals for design purposes in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made as to the professional advice included in this letter.

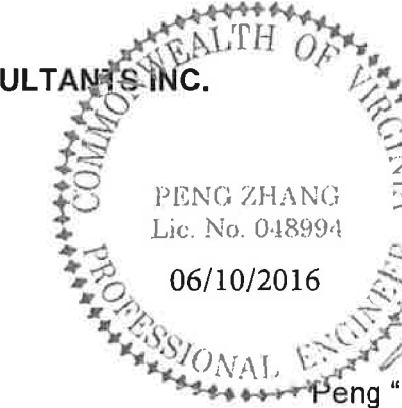
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We appreciate the opportunity to be of service to you on this project and please do not hesitate to contact the undersigned if you have any questions regarding the information in this letter. We look forward to serving as your geotechnical engineer on the remainder of this project and on future projects.

Respectfully,

DMY ENGINEERING CONSULTANTS INC.


 Paul Li, PhD, PE
 Project Engineer



Peng "Paul" Zhang, PE
 Vice President

Attachments: Boring Location Plan
 Boring Logs
 Laboratory Test Results
 Retaining Wall Calculations

ASSOCIATED PLAN
 C.I.P. NUMBER: **TLCI-2016-0002**
 VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: TBD

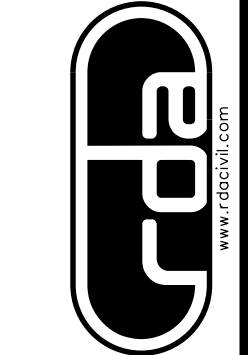
Sheet
2B(3) of 20

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**
 GEOTECHNICAL RECOMMENDATIONS

Loudoun County, Virginia

Town of Leesburg
 SUBMISSION DATE: 02/21/2018

ENGINEER:
Rinker Design Associates, P.C.
 Engineering • Surveying • Land Planning • Transportation • Environmental Services
 6000 Decoye Blvd., Suite 200, Manassas Virginia 20108 on the web @ www.radaa.com
 Telephone: (703) 368-7373 Fax: (703) 375-5443
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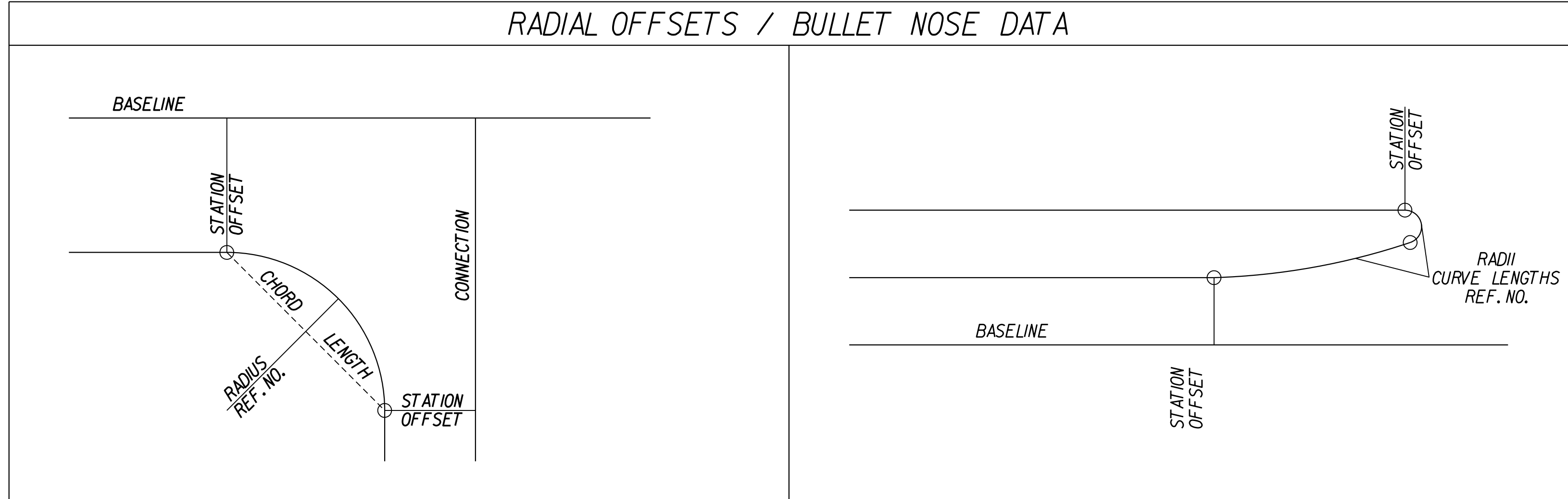


PROJECT MANAGER: MARK A. GUNN, P.E.

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: Accumark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sahab Dadir, P.E., (703) 368-7373

RADIAL OFFSET AND BULLET NOSE DATA

RADIAL OFFSETS / BULLET NOSE DATA



LOCATION (REF. NO.)	BASELINE			CONNECTION			RADIUS LENGTH	CHORD LENGTH	CURVE LENGTH	LOCATION (REF. NO.)	BASELINE			RADIUS LENGTH	CHORD LENGTH	CURVE LENGTH
	SHEET - ITEM	STATION	OFFSET	STATION	OFFSET	FEET					FEET	FEET	SHEET - ITEM			
7-2	119-56.98	35.00 LT	10-64.18	14.61 LT	45.00	53.41	57.18	3-1	98-85.00	4.00 RT	98-85.00	8.00 RT	2.00	4.00	6.28	
7-3	10-64.18	14.61 LT	10-36.86	15.14 LT	25.00	34.44	37.99	5-1	109-97.00	8.00 LT	109-97.00	8.00 RT	8.00	16.00	25.13	
7-4	10-36.86	15.14 LT	10-46.11	19.33 LT	10.00	10.16	10.65	5-2	111-29.00	4.00 RT	111-29.00	8.00 RT	2.00	4.00	6.28	
7-6	12-35.59	14.50 RT	12-45.59	24.62 RT	10.00	14.22	15.82	7-1	119-61.00	4.00 LT	119-61.00	8.00 LT	2.00	4.00	6.28	
7-7	120-83.57	47.00 LT	11-07.02	19.50 RT	45.00	69.82	79.91	7-8	120-65.50	4.00 RT	120-65.50	8.00 RT	2.00	4.00	6.28	
7-9	119-49.67	47.00 RT	10-95.96	17.00 RT	45.00	65.87	73.90	8-1	128-10.00	4.00 LT	128-10.00	8.00 LT	2.00	4.00	6.28	
7-10	120-88.98	35.00 RT	10-80.84	26.01 LT	50.00	68.84	75.93	8-3	10-62.81	8.17 LT	10-68.29	8.51 LT	75.00	5.49	5.49	
7-11	10-46.32	15.00 RT	10-55.39	20.77 RT	10.00	10.75	11.35	8-4	10-60.14	4.71 LT	10-62.81	8.17 LT	3.00	4.37	4.89	
7-12	11-45.27	14.50 LT	10-39.50	15.00 RT	25.00	35.36	39.27	8-5	10-61.47	3.66 RT	10-64.01	6.16 RT	3.00	3.56	3.82	
8-2	128-04.51	35.00 LT	10-79.02	35.80 LT	50.00	67.62	74.26	8-6	10-64.01	6.16 RT	10-75.82	6.90 RT	75.00	11.83	11.84	
8-7	129-70.70	47.00 LT	11-01.13	34.08 RT	50.00	72.01	80.40	8-8	129-55.00	4.00 RT	129-55.00	8.00 RT	2.00	4.00	6.28	
8-9	129-67.23	35.00 RT	10-86.05	31.50 LT	50.00	71.62	79.83	9-1	135-96.00	4.00 LT	135-96.00	8.00 LT	2.00	4.00	6.28	
8-10	127-99.52	47.00 RT	10-82.40	34.01 RT	50.00	59.65	63.91	9-6	137-20.50	4.00 RT	137-20.50	8.00 RT	2.00	4.00	6.28	
9-2	136-07.39	35.00 LT	10-72.92	20.00 LT	35.00	51.03	57.18	9-8	10-66.99	3.16 RT	10-66.96	2.77 LT	2.97	5.93	9.32	
9-3	10-82.61	20.00 LT	10-90.50	21.05 LT	30.00	6.96	7.98	10-1	142-96.98	8.00 RT	142-99.03	1.56 LT	5.00	9.78	13.60	
9-4	10-72.14	20.99 RT	11-01.32	30.67 RT	29.00	30.74	32.40	10-2	142-99.03	1.56 LT	142-69.00	8.00 LT	75.00	30.66	30.87	
9-5	137-20.33	47.00 LT	10-72.14	20.99 RT	35.00	42.73	45.96	10-3	143-90.00	4.00 RT	143-90.00	8.00 RT	2.00	4.00	6.28	
9-7	135-98.21	47.00 RT	10-92.22	28.31 RT	50.00	67.87	74.59									
9-9	137-48.77	35.00 RT	10-87.28	27.92 RT	50.00	71.17	79.19									
10-4	142-80.56	47.00 RT	10-93.38	18.08 RT	45.00	63.97	71.16									
10-5	144-02.99	35.00 RT	10-61.12	21.03 LT	45.00	48.84	51.63									
10-6	10-61.12	21.03 LT	10-81.54	34.94 LT	15.00	24.70	29.02									

PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.

RADIAL OFFSET AND BULLET NOSE DATA

PROJECT MANAGER: MARK A. GUNN, P.E.

ENGINEER: Rinker Design Associates, P.C.

Engineering • Surveying • Land Planning • Transportation • Environmental Services

6000 Decoye Blvd., Suite 200, Manassas, Virginia 20108 on the web @ www.radark.com

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Town of Leesburg

Loudoun County, Virginia

SUBMISSION DATE: 02/21/2018

Mark A. Gunn
2018.02.22 18:34:22 -05'00'

ASSOCIATED PLAN

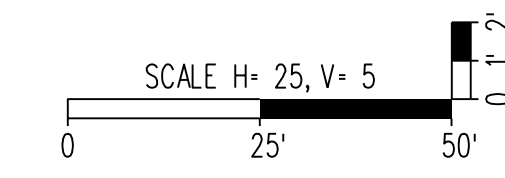
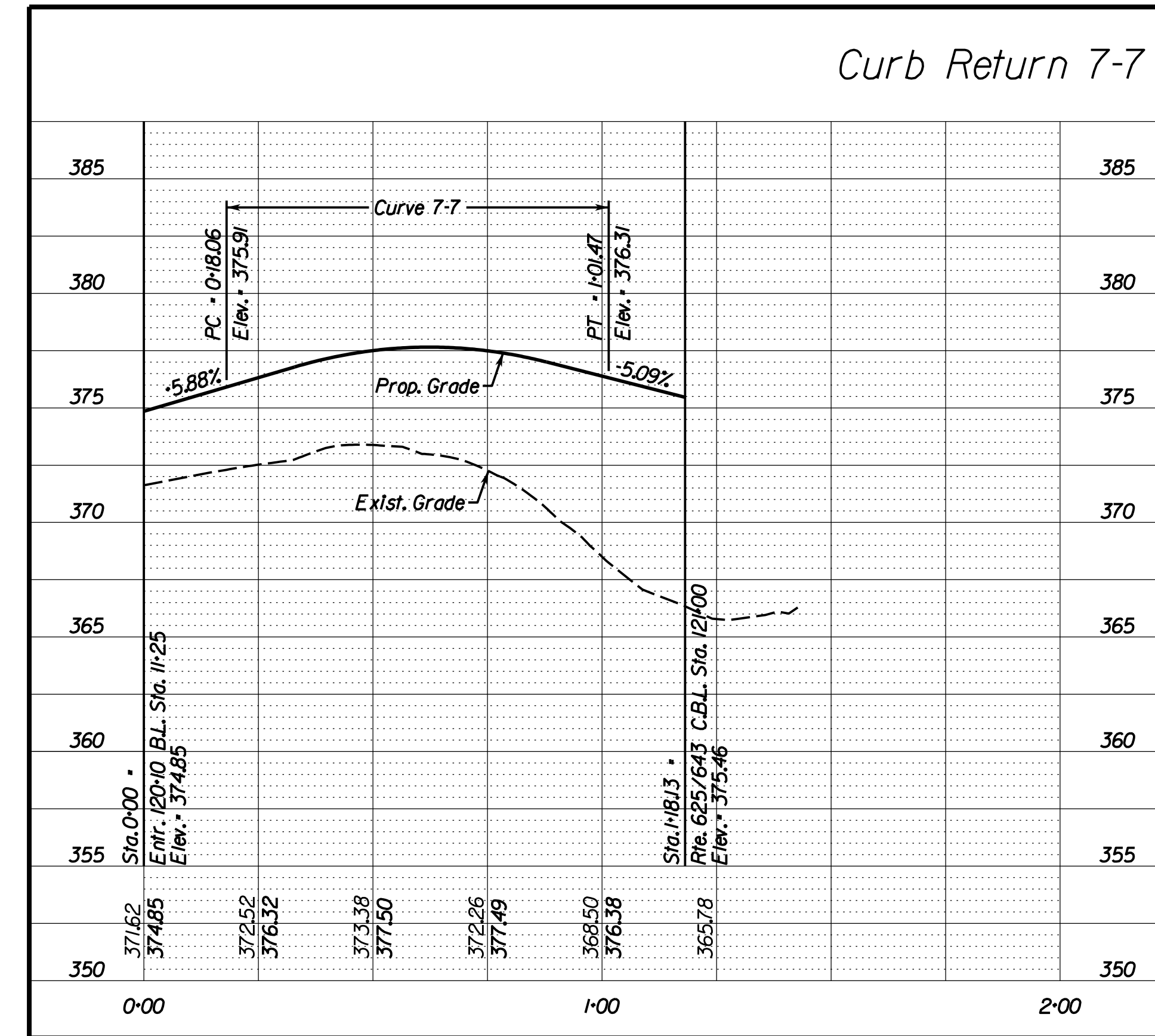
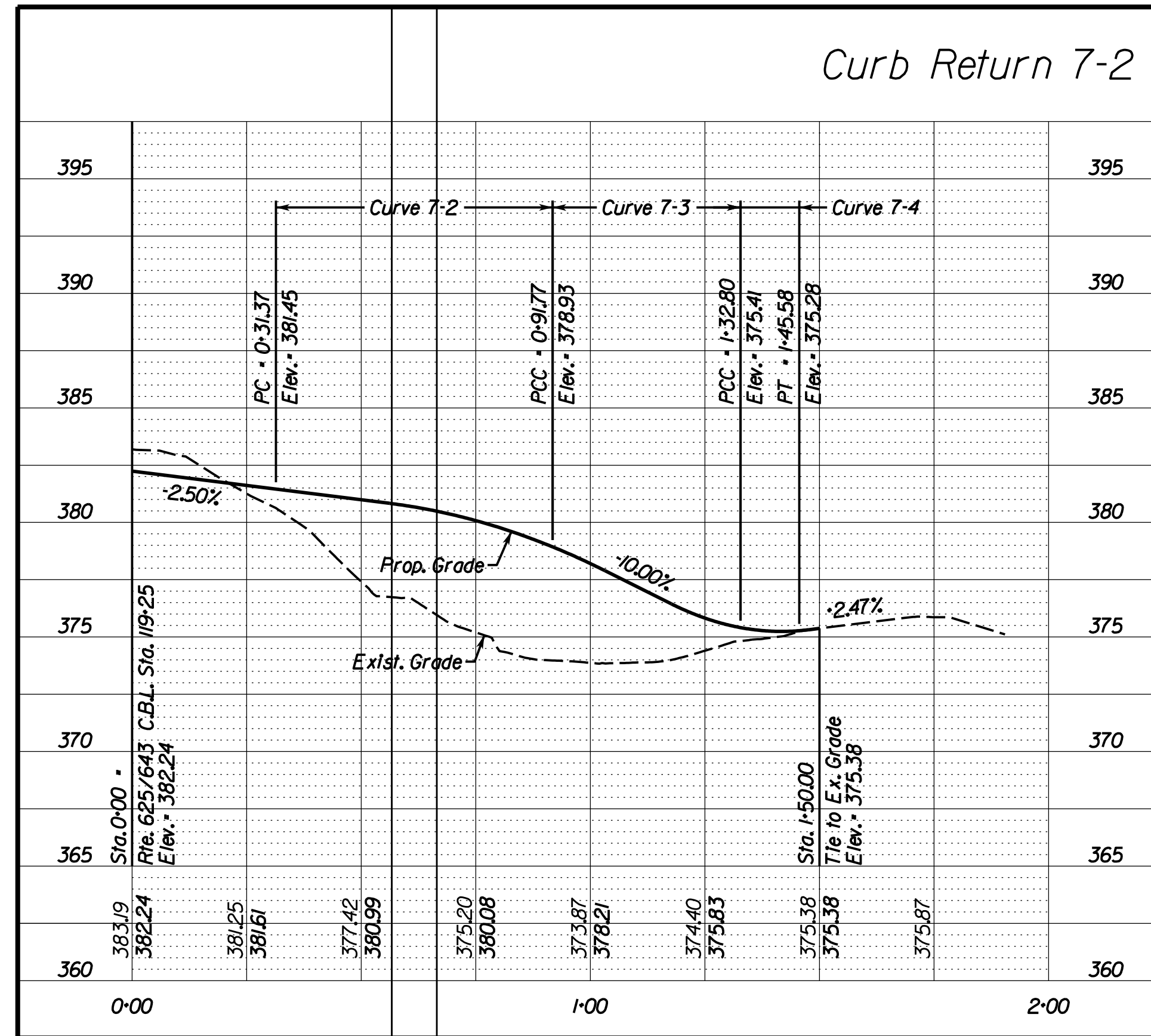
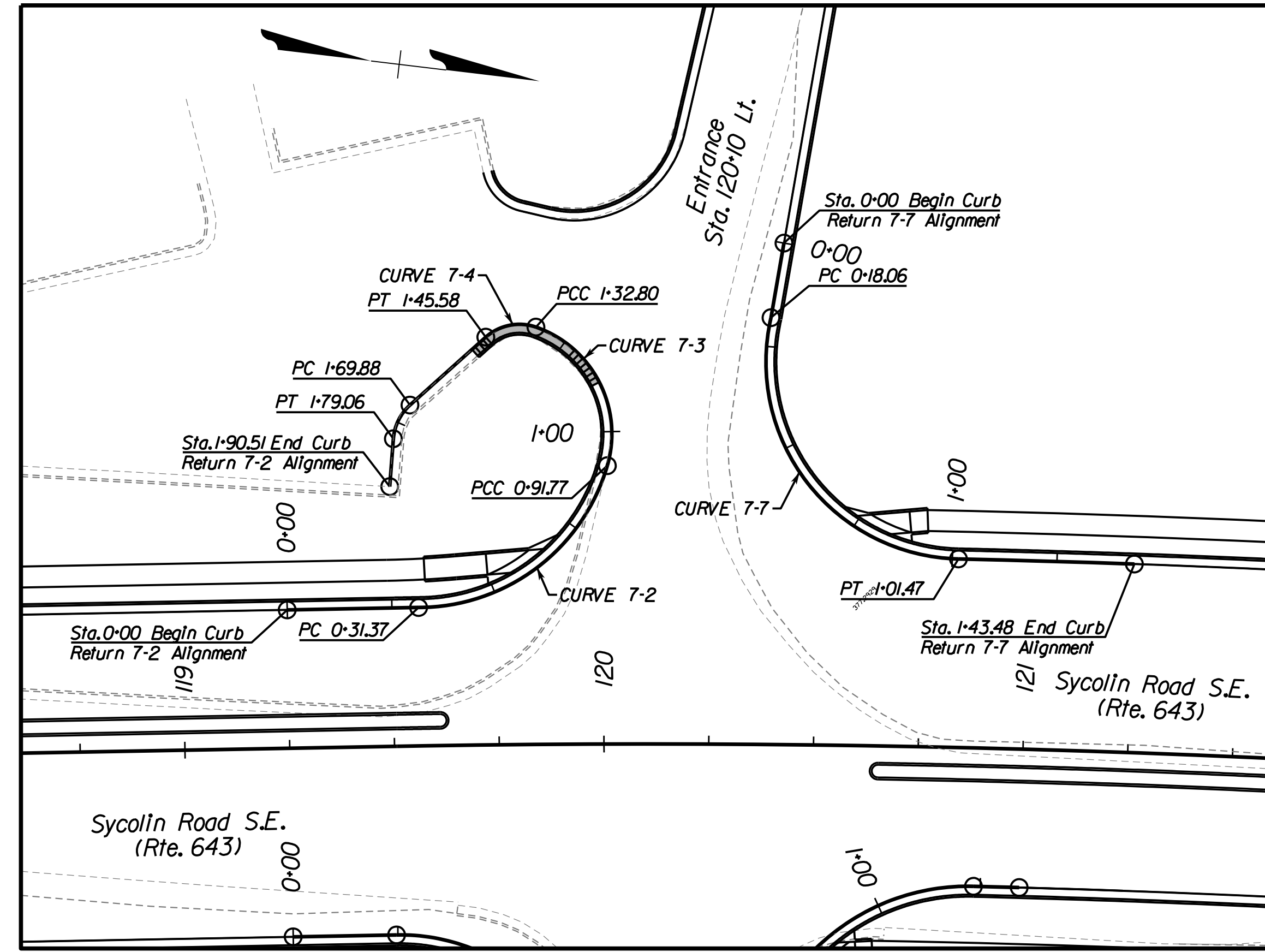
C.I.P. NUMBER: TLCl-2016-0002

VDOT PROJ. NO. U000-253-312

TOWN NUMBER: TBD

PROJECT MANAGER: Anne Gelaer, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
 DESIGN SUPERVISED BY: Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY: Sahab Dadfar, P.E., (703) 368-7373

CURB RETURN PROFILES



100% PLANS

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**

ENGINEER: **Rinker Design Associates, P.C.**
 Engineering • Surveying • Land Planning • Transportation • Environmental Services
 6005 Decoye Blvd., Suite 200, Manassas, Virginia 20108 on the web @ www.rada.com
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 E-mail: info@rada.com mark.gunn@rada.com
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PROJECT MANAGER: MARK A. GUNN, P.E.

ASSOCIATED PLAN NUMBER: **TLCI-2016-0002**

C.I.P. NUMBER: **U000-253-312**

VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: TBD

Town of Leesburg

Loudoun County, Virginia

SUBMISSION DATE: 02/21/2018



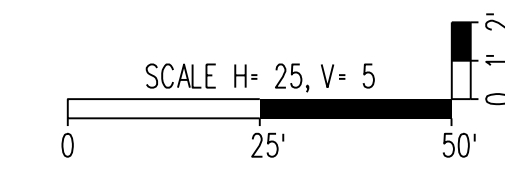
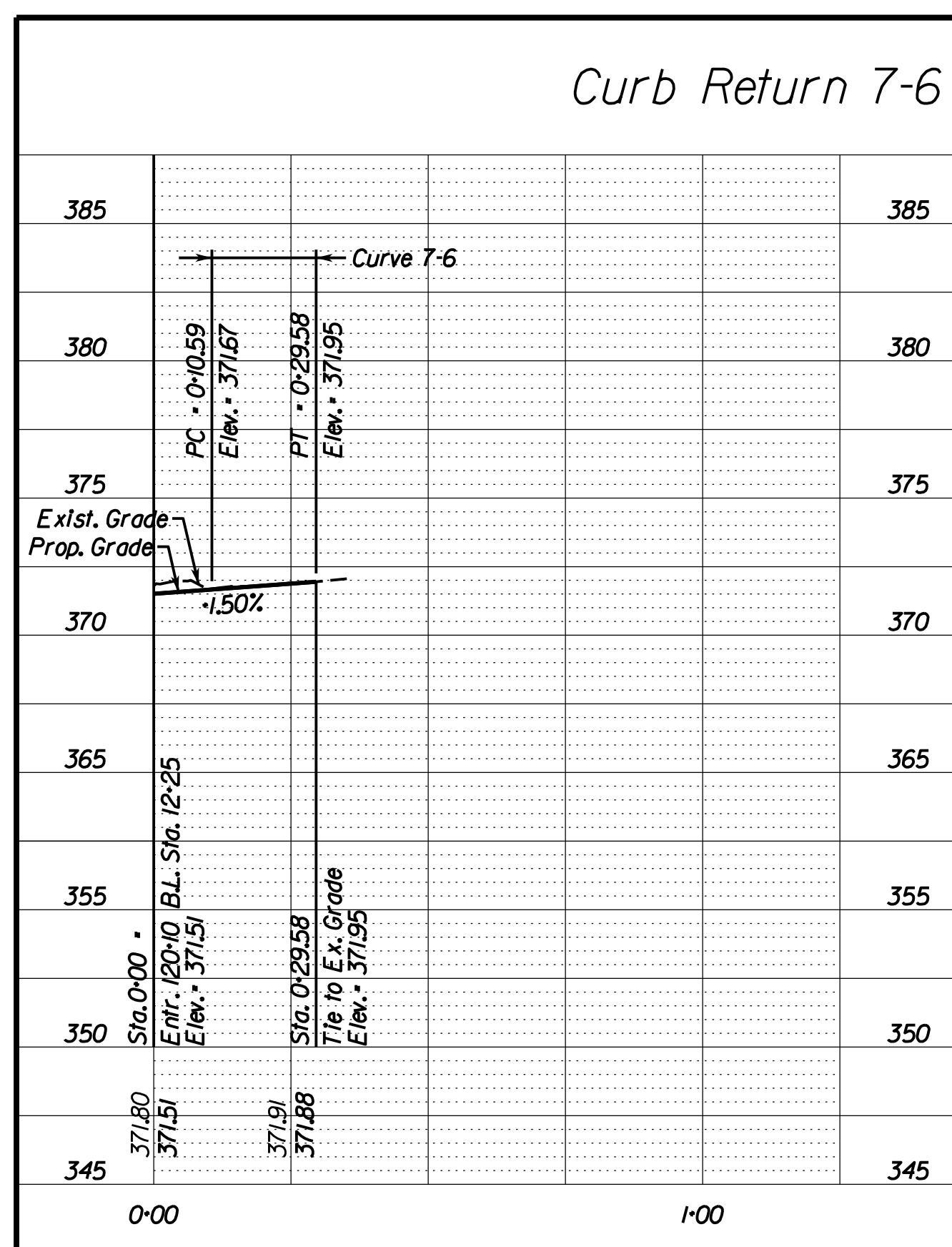
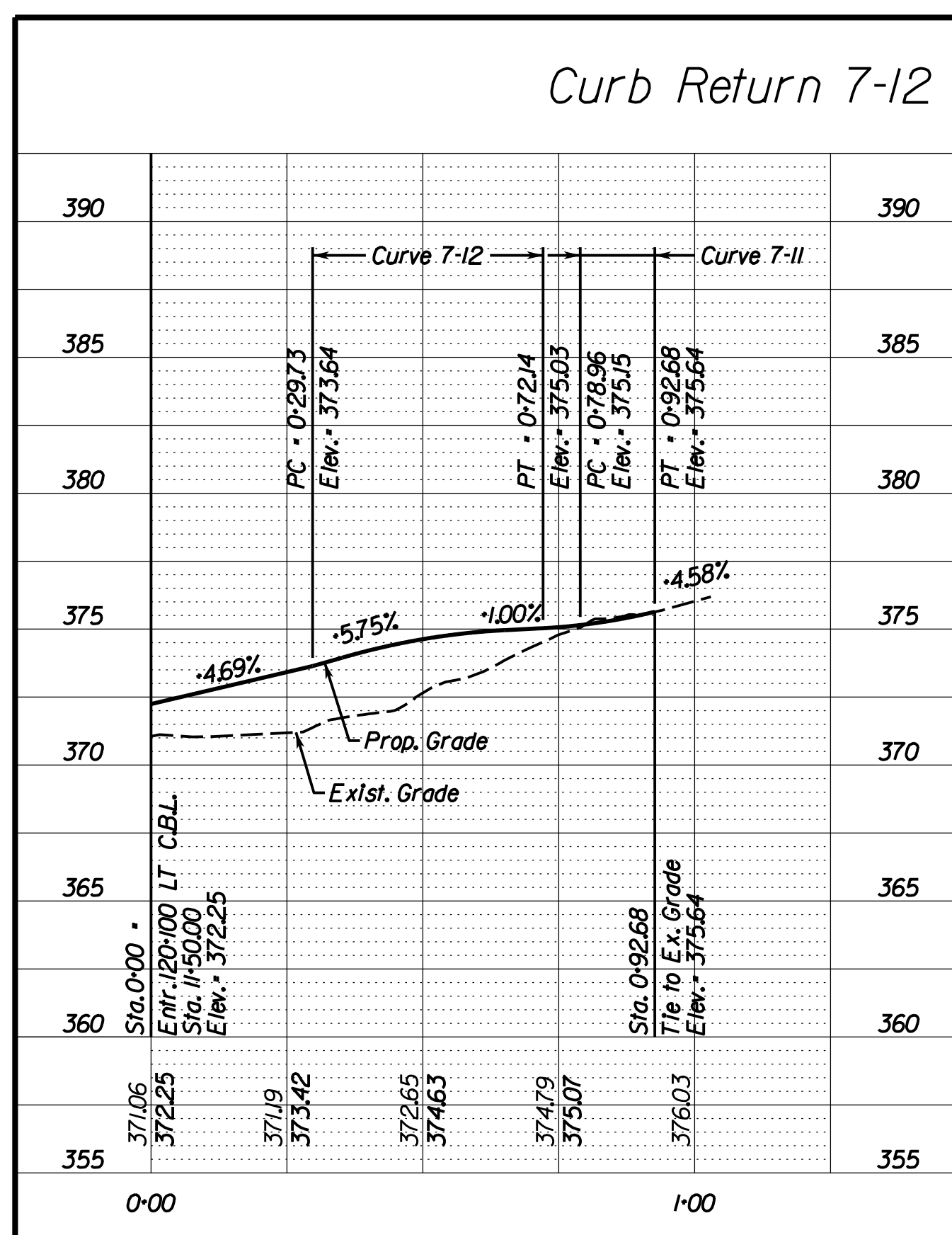
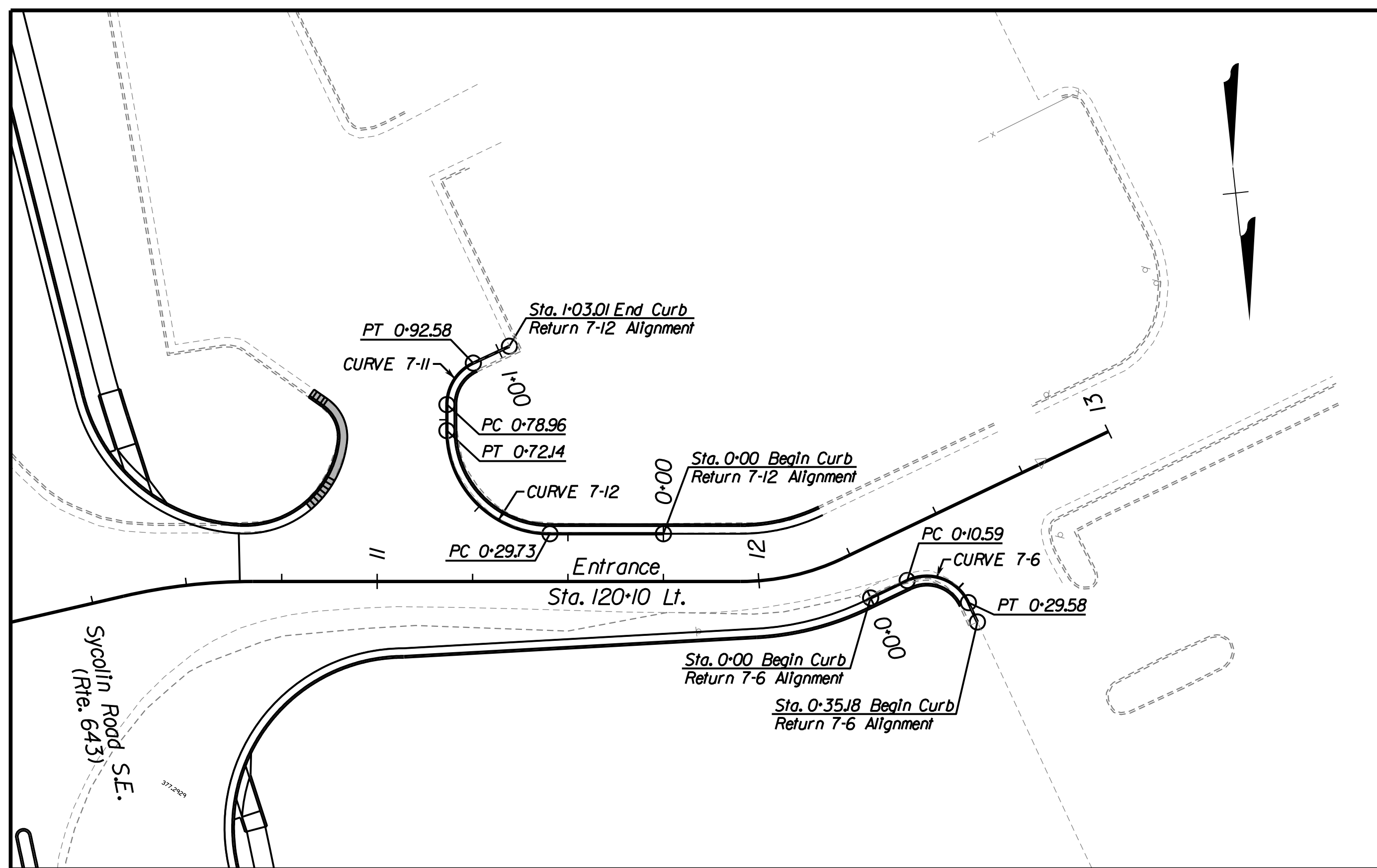
Mark A. Gunn
 2018.02.22 18:34:38 -05'00'

Sheet 28(1) of 20

SCALE H= 25, V= 5

PROJECT MANAGER: Anne Geisler, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
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CURB RETURN PROFILES



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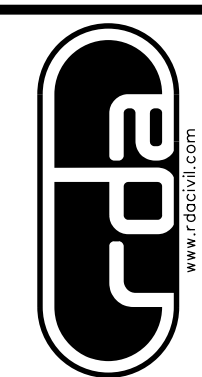
PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV
FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
CURB RETURN PROFILES
Town of Leesburg Loudoun County, Virginia
 SUBMISSION DATE: 02/21/2018

PROJECT MANAGER: MARK A. GUNN, P.E.

ASSOCIATED PLAN: TLCI-2016-0002
 C.I.P. NUMBER: U000-253-312
 VDOT PROJ. NO.: U000-253-312
 TOWN NUMBER: TBD

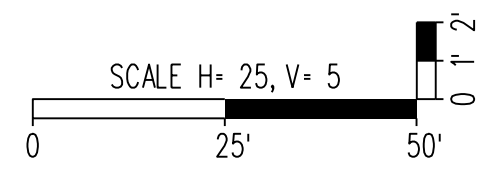
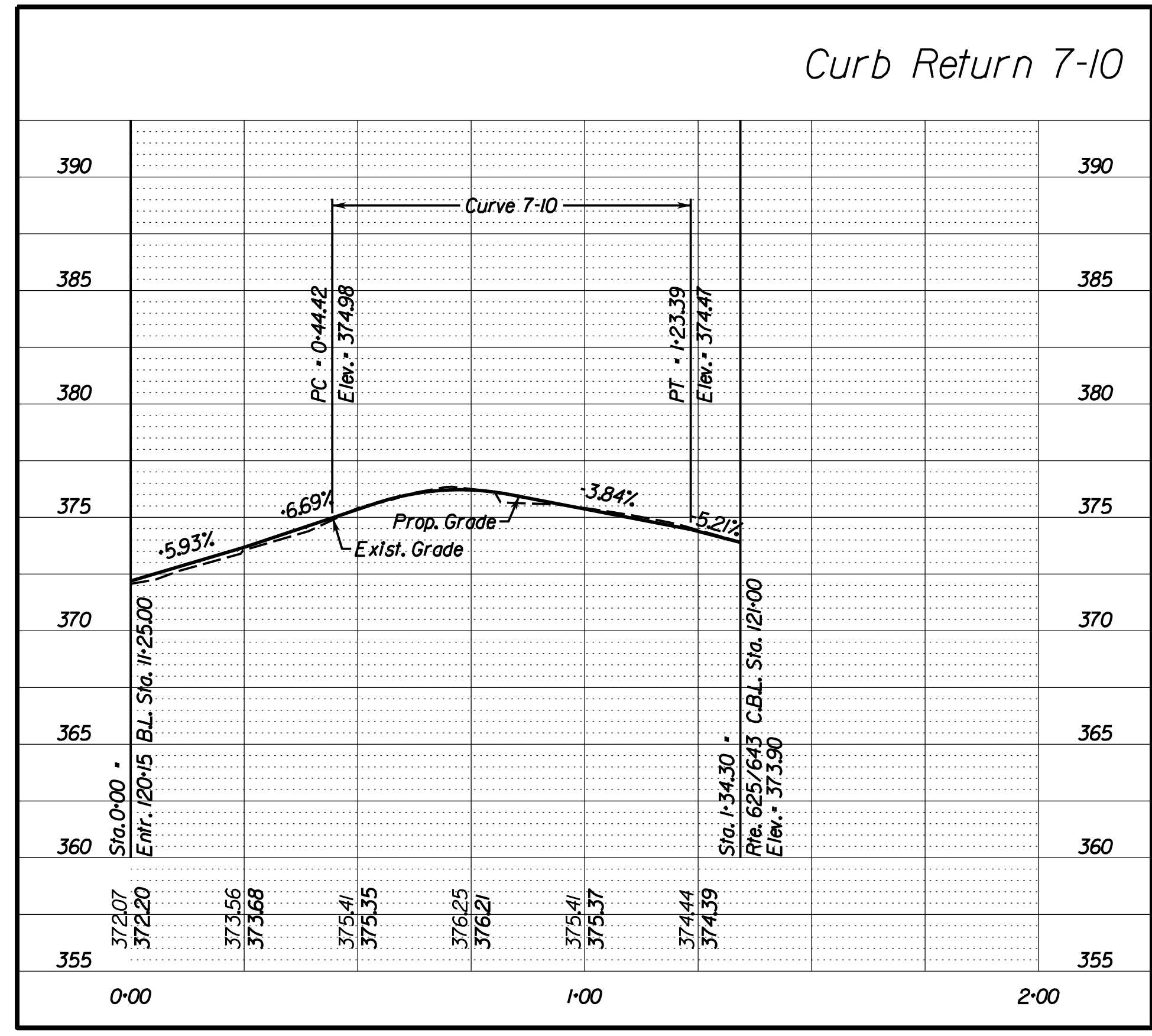
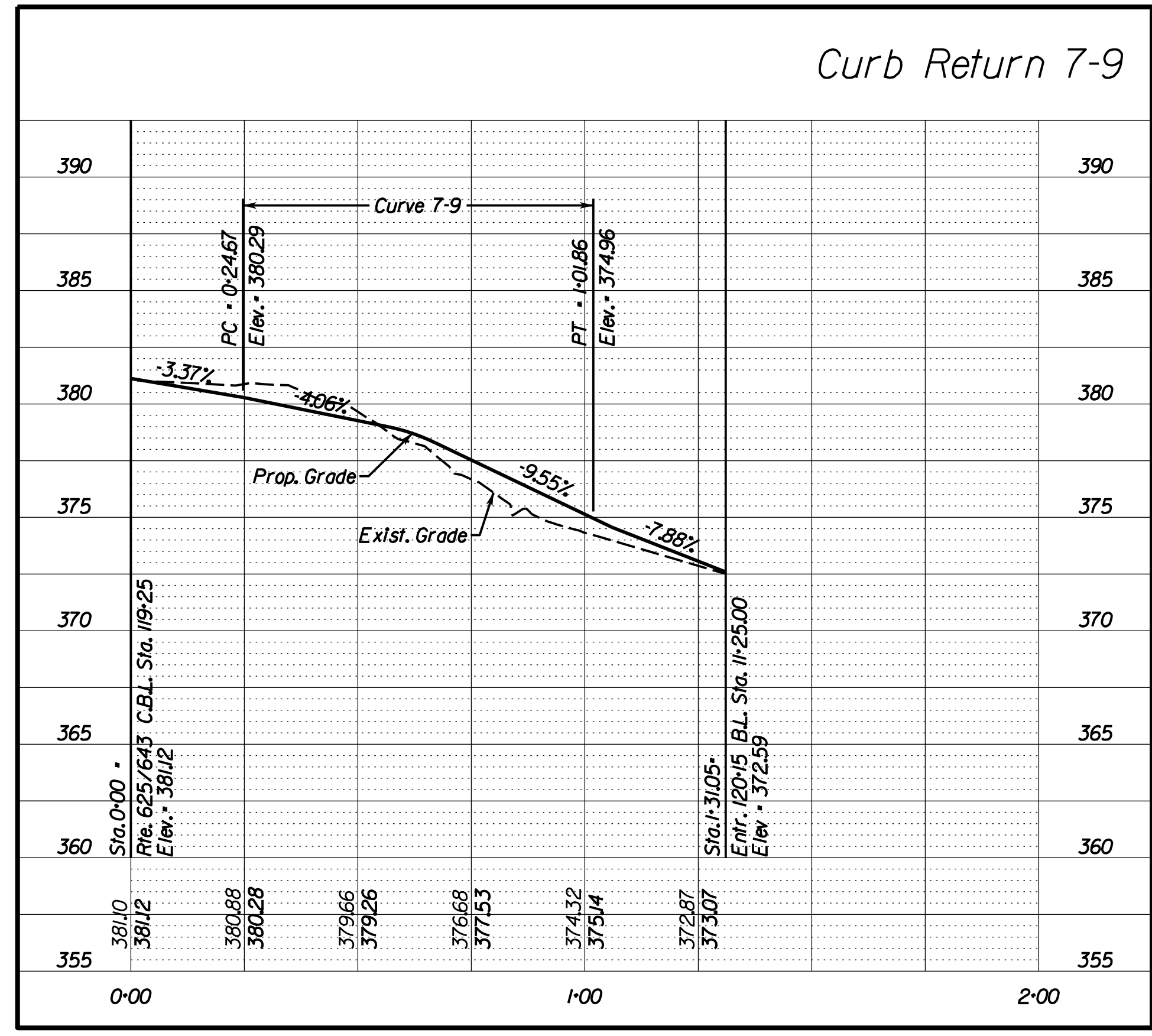
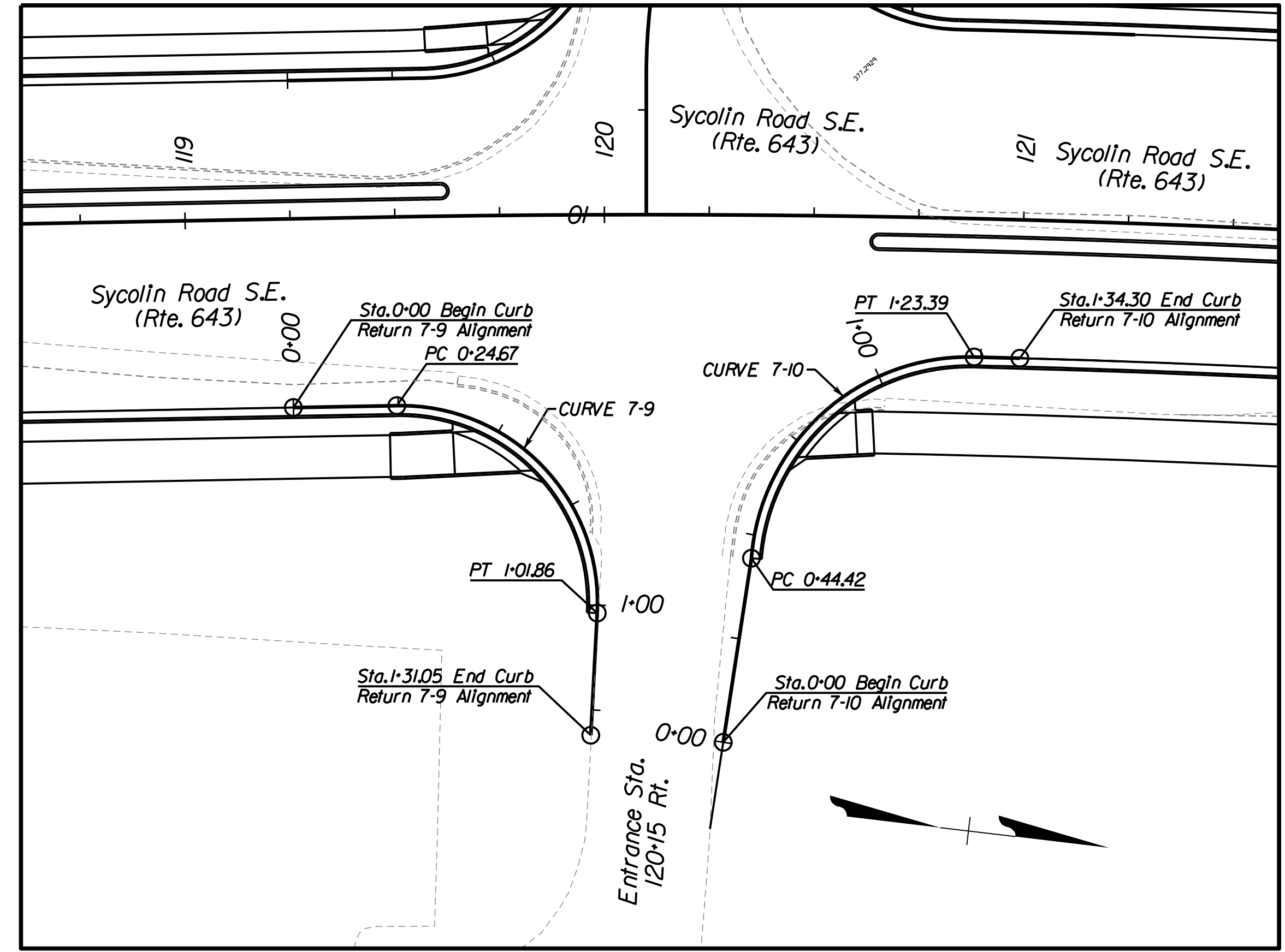
Sheet 2B(2) of 20

ENGINEER:
Rinker Design Associates, P.C.
 Engineering - Surveying - Land Planning - Transportation - Environmental Services
 6000 Decoy Road, Suite 200, Manassas Virginia 20108 on the web @ www.rinker.com
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 E-mail: info@rinker.com
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PROJECT MANAGER: Anne Gelfer, (703) 771-2742 (Town of Leesburg)
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 DESIGNED BY: Sahab Qadiri, P.E., (703) 368-7373

CURB RETURN PROFILES



100% PLANS

MARK A. GUNN
 Lic. No. 038323
 PROFESSIONAL ENGINEER

PROJECT NAME: SYCOLLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
 CURB RETURN PROFILES
 Loudoun County, Virginia
 Town of Leesburg
 SUBMISSION DATE: 02/21/2018

ENGINEER: Rinker Design Associates, P.C.
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 10000 West Lakeshore, Suite 100, Leesburg, VA 20181
 Phone: (703) 368-7373 Fax: (703) 368-7373
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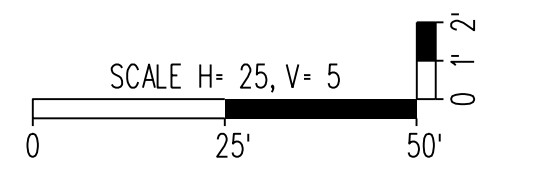
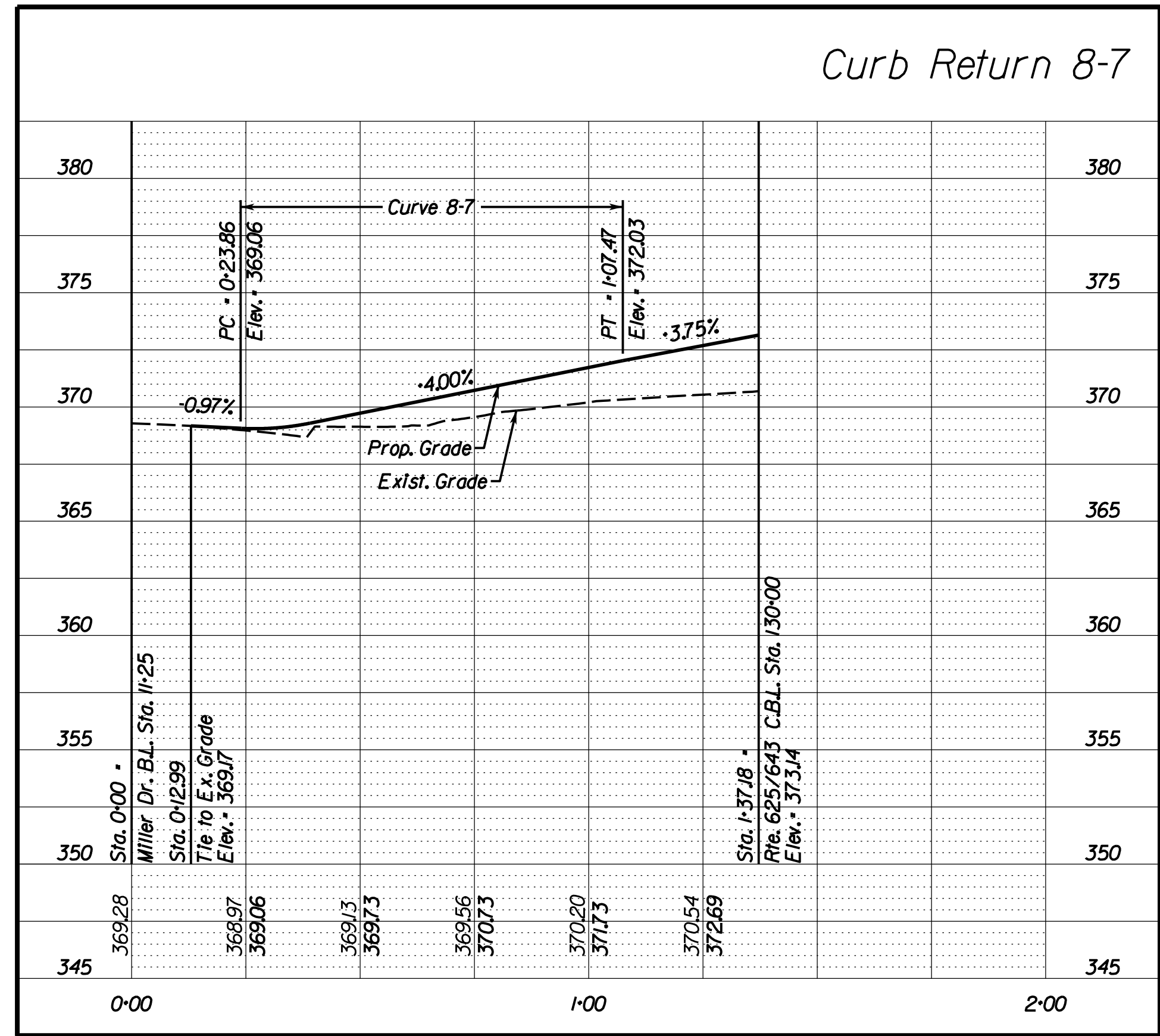
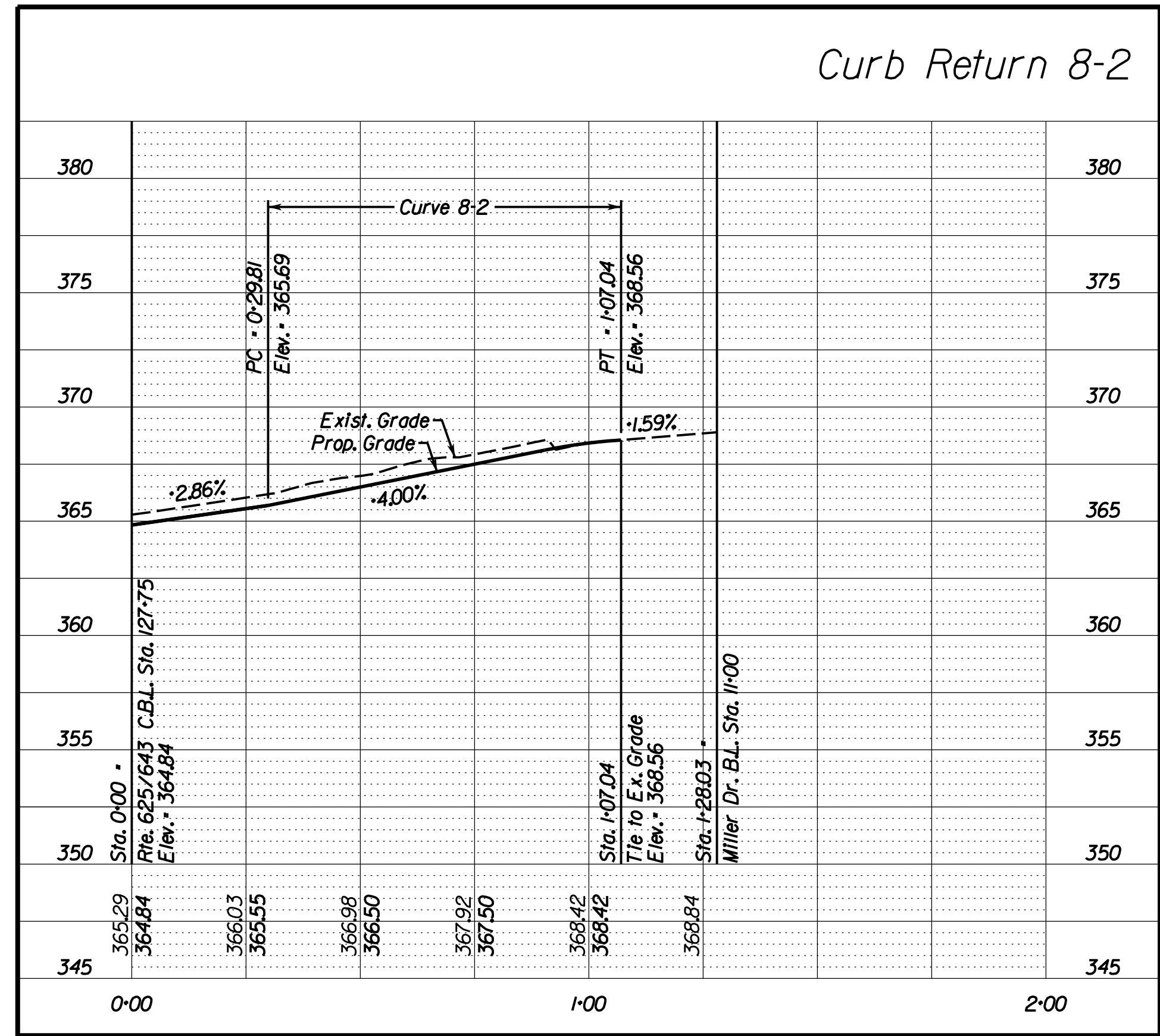
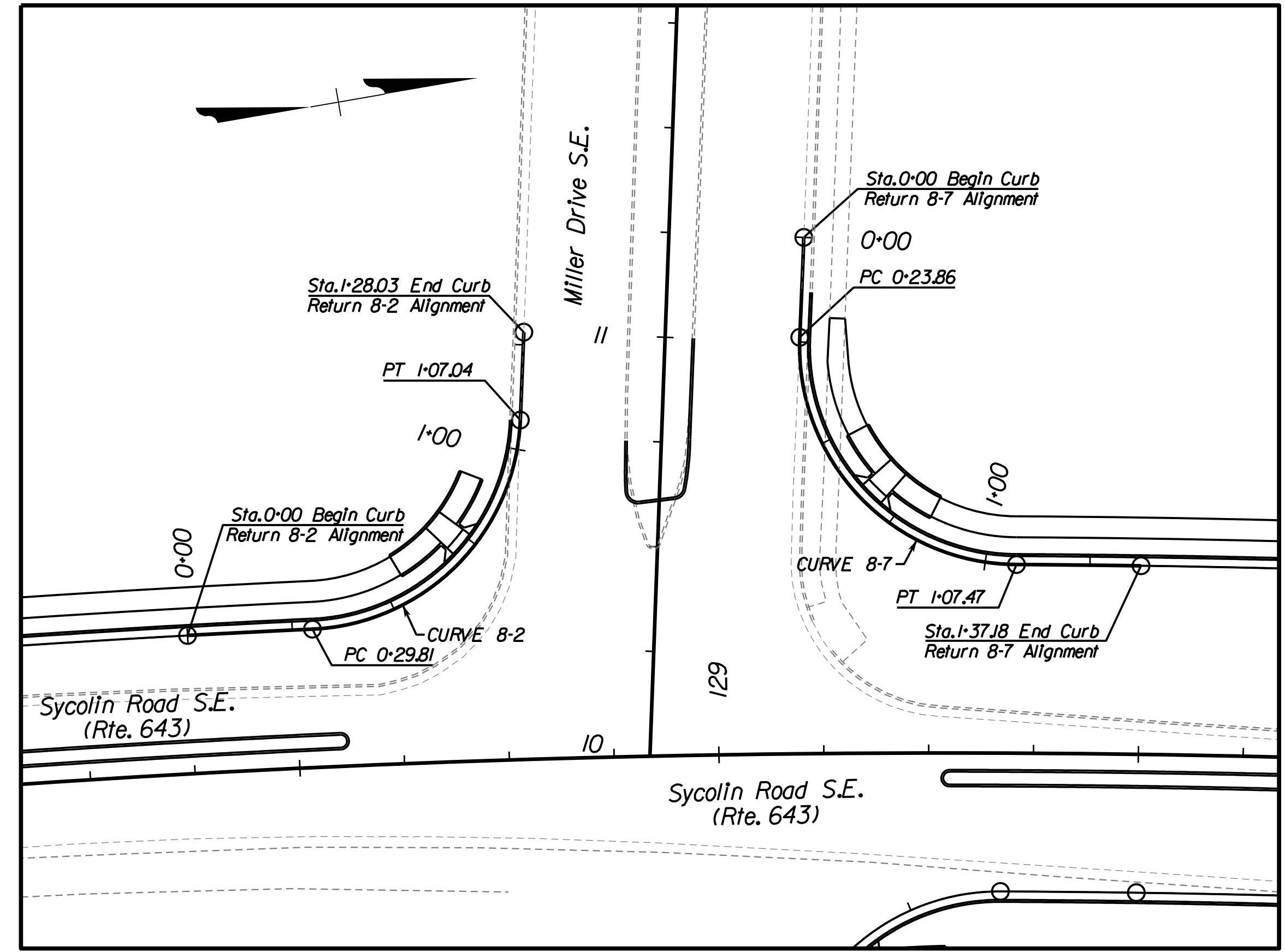
PROJECT MANAGER: MARK A. GUNN, P.E.

ASSOCIATED PLAN: TLCI-2016-0002
 C.I.P. NUMBER: U000-253-312
 VDOT PROJ. NO. U000-253-312
 TOWN NUMBER: TBD

Sheet 2E(3) of 20

PROJECT MANAGER *Anne Gelfer, (703) 771-2742 (Town of Leesburg)*
 SURVEYED BY *Sidney Thomas, L.S., (703) 368-7373 (2015)*
 SUBSURFACE UTILITY BY *Accumark, (800) 542-2990 (2015)*
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CURB RETURN PROFILES



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CRDA

ENGINEER:
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 6000 Oceanway Blvd., Suite 200, Manassas, Virginia 20108 on the web @ www.rinker.com
 Telephone: (703) 368-7373 Fax: (703) 375-5443
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PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**
 CURB RETURN PROFILES
 Loudoun County, Virginia

Town of Leesburg
 SUBMISSION DATE: 02/21/2018

PROJECT MANAGER: **MARK A. GUNN, P.E.**

Mark A Gunn
 2018.02.22 18:35:19 -05'00'

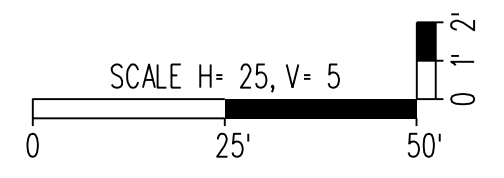
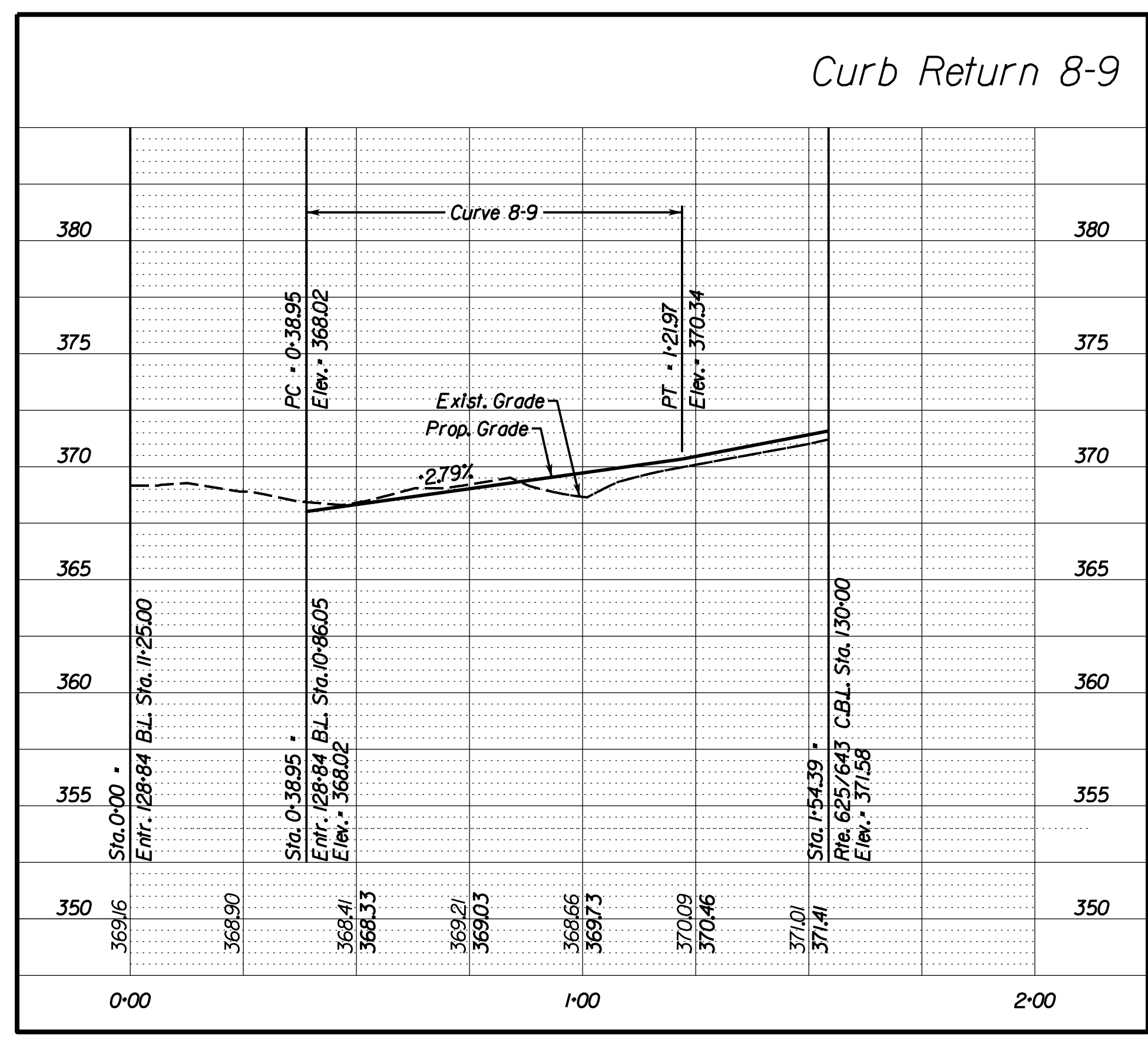
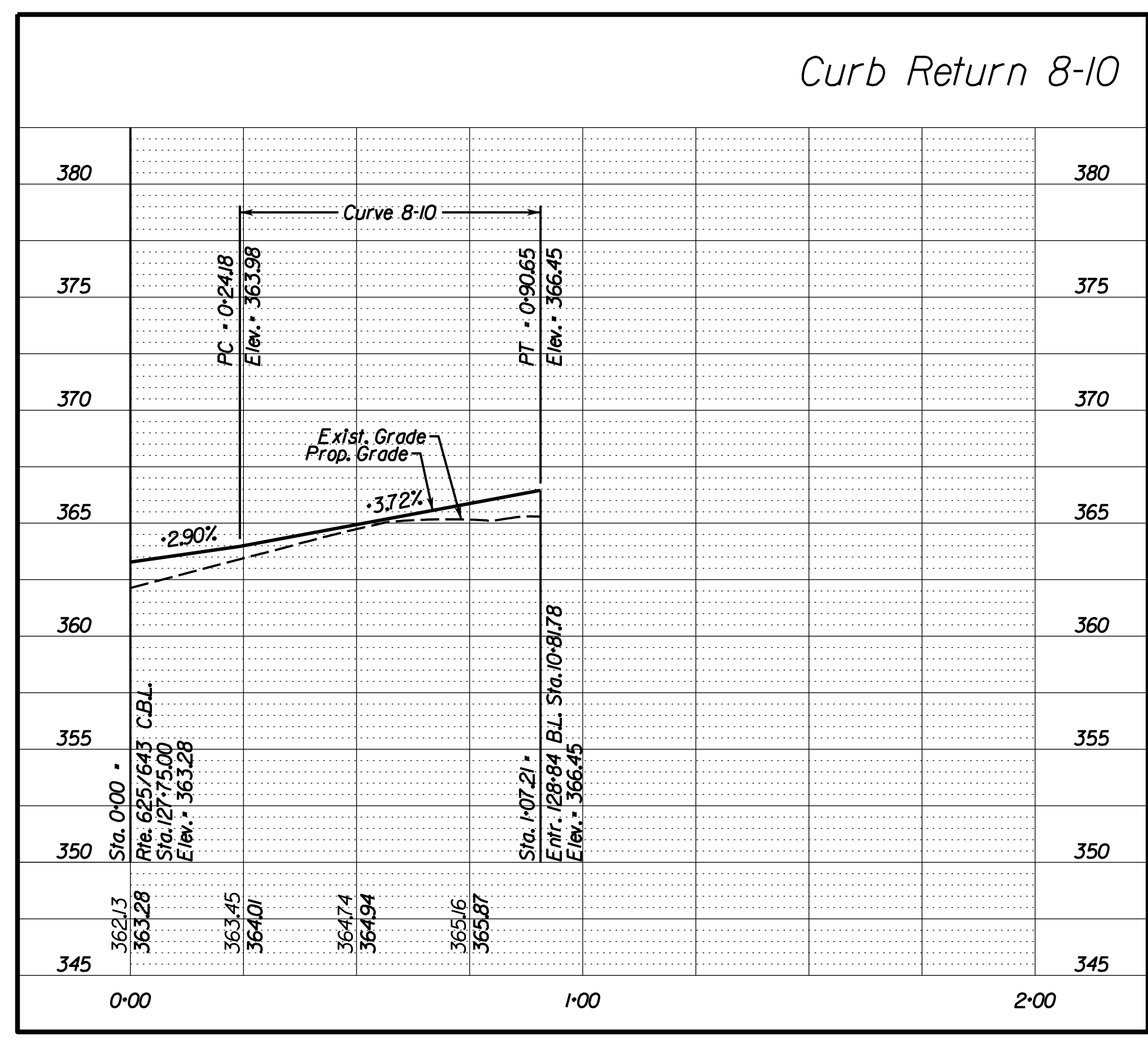
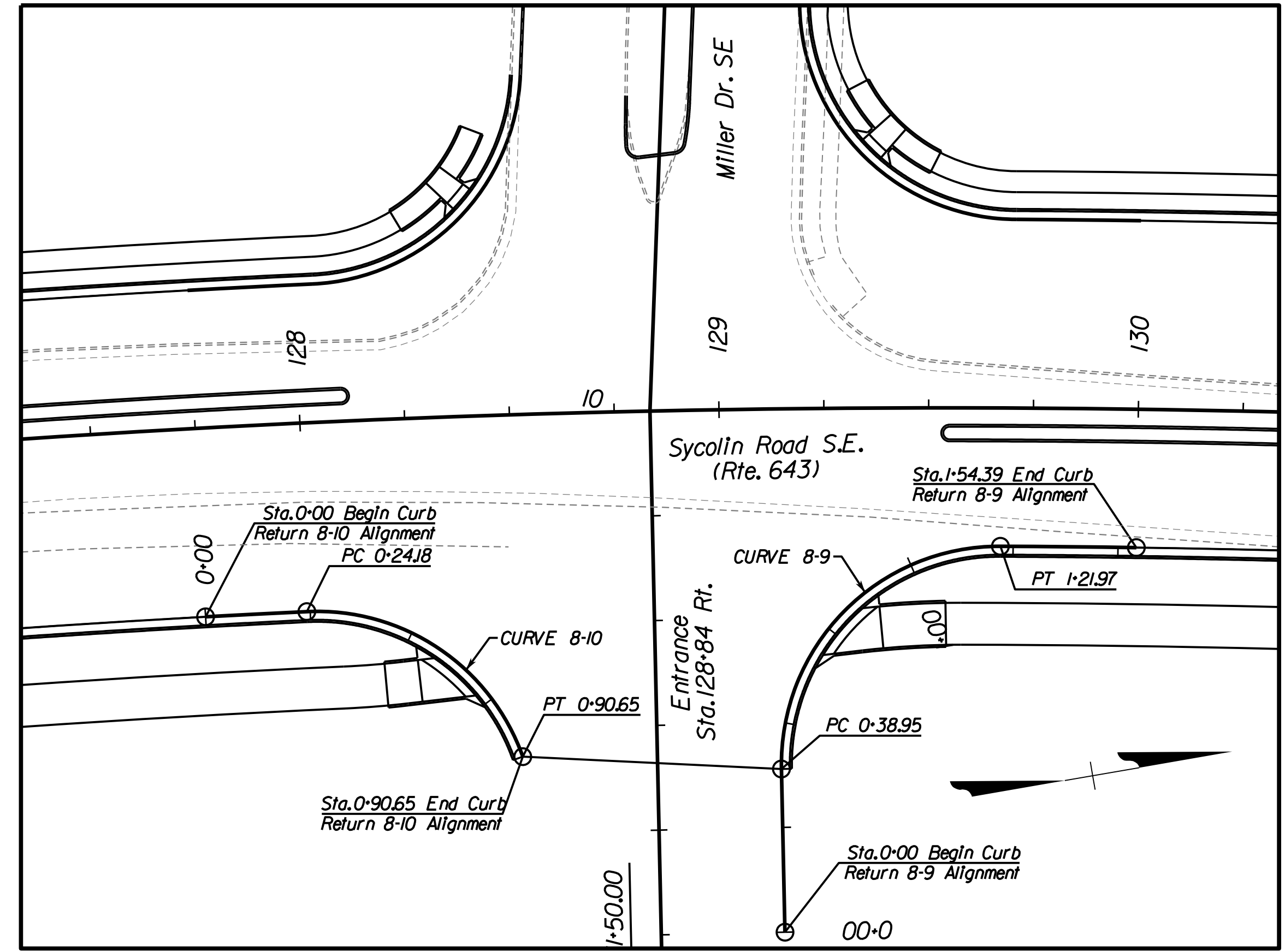
ASSOCIATED PLAN
 C.I.P. NUMBER: **TLCI-2016-0002**
 VDOT PROJ. NO. **U000-253-312**

TOWN NUMBER: **TBD**

Sheet
 28(4) of 20

PROJECT MANAGER: Anne Gelfer, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
 SUBSURFACE UTILITY BY: AccuMark, (800) 542-2990 (2015)
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CURB RETURN PROFILES



100% PLANS

PROJECT NAME: **SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**

CURB RETURN PROFILES

Town of Leesburg
Loudoun County, Virginia

ASSOCIATED PLAN: TLCl-2016-0002
 C.I.P. NUMBER: U000-253-312
 VDOT PROJ. NO. U000-253-312

TOWN NUMBER: TBD

ENGINEER:
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 6000 Decoy Road, Leesburg, VA 20181
 Phone: (703) 368-7373 Fax: (703) 368-5443
 www.rinker.com

PROJECT MANAGER: MARK A. GUNN, P.E.

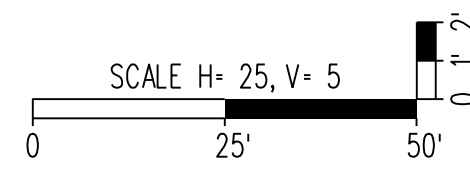
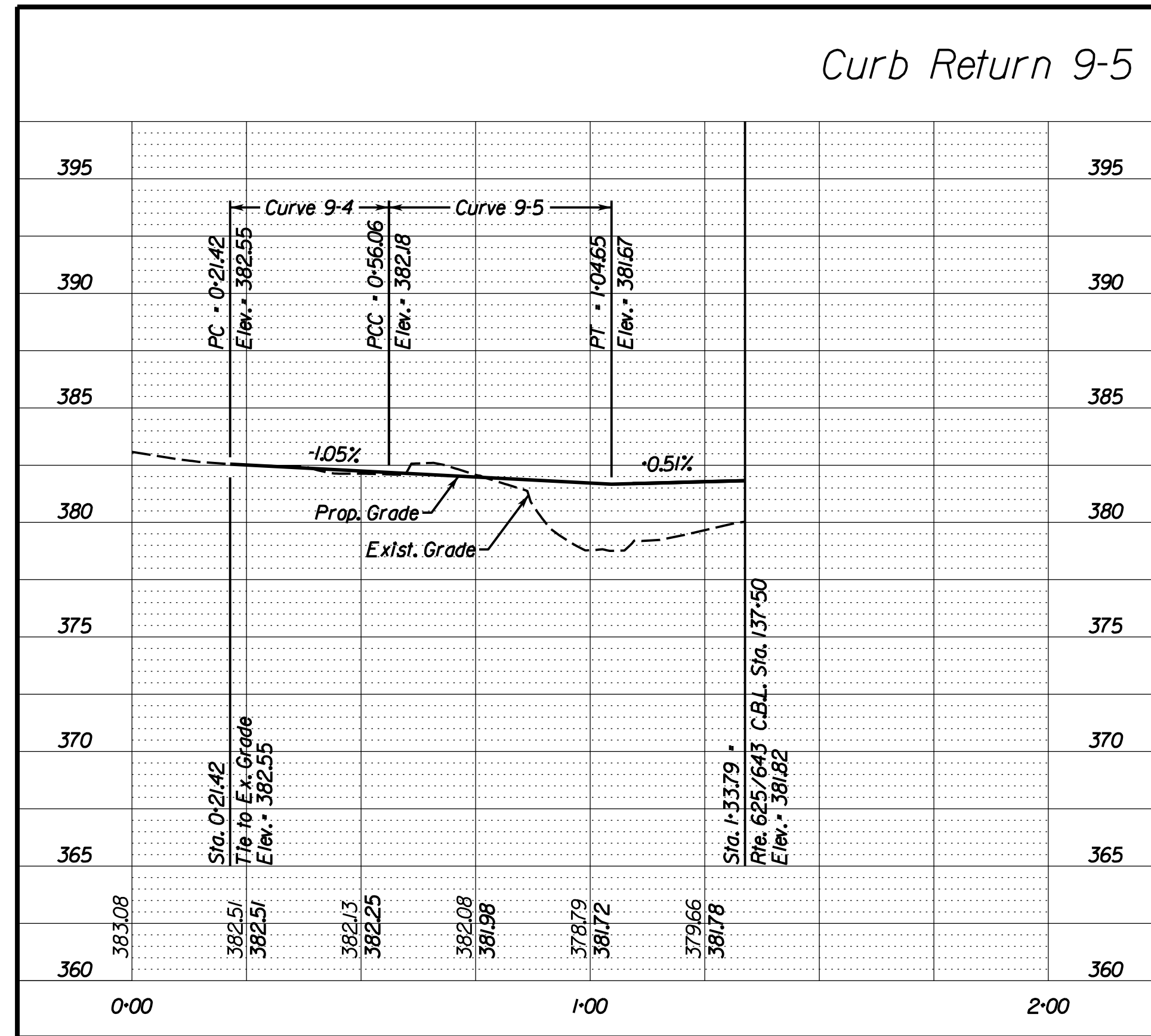
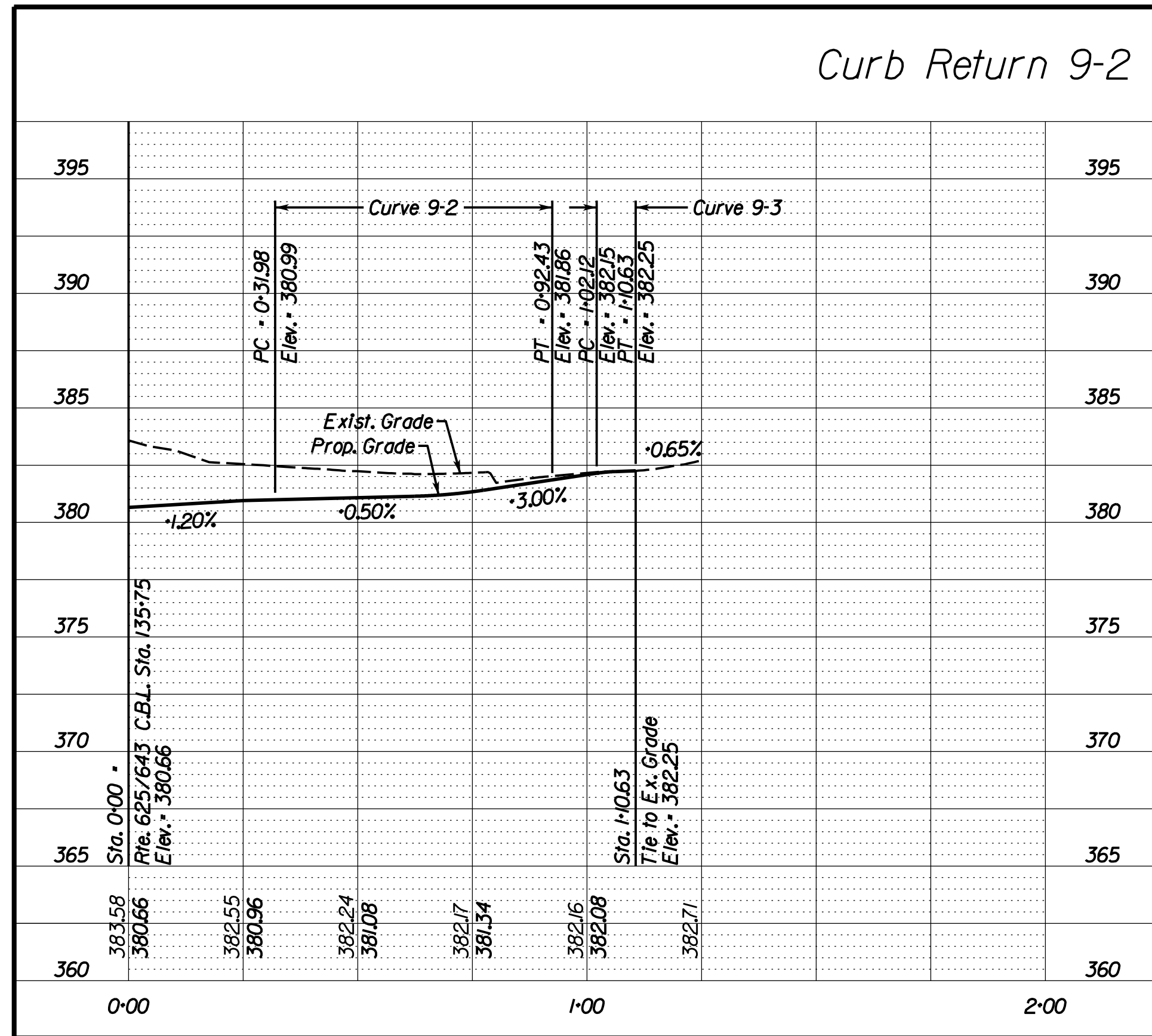
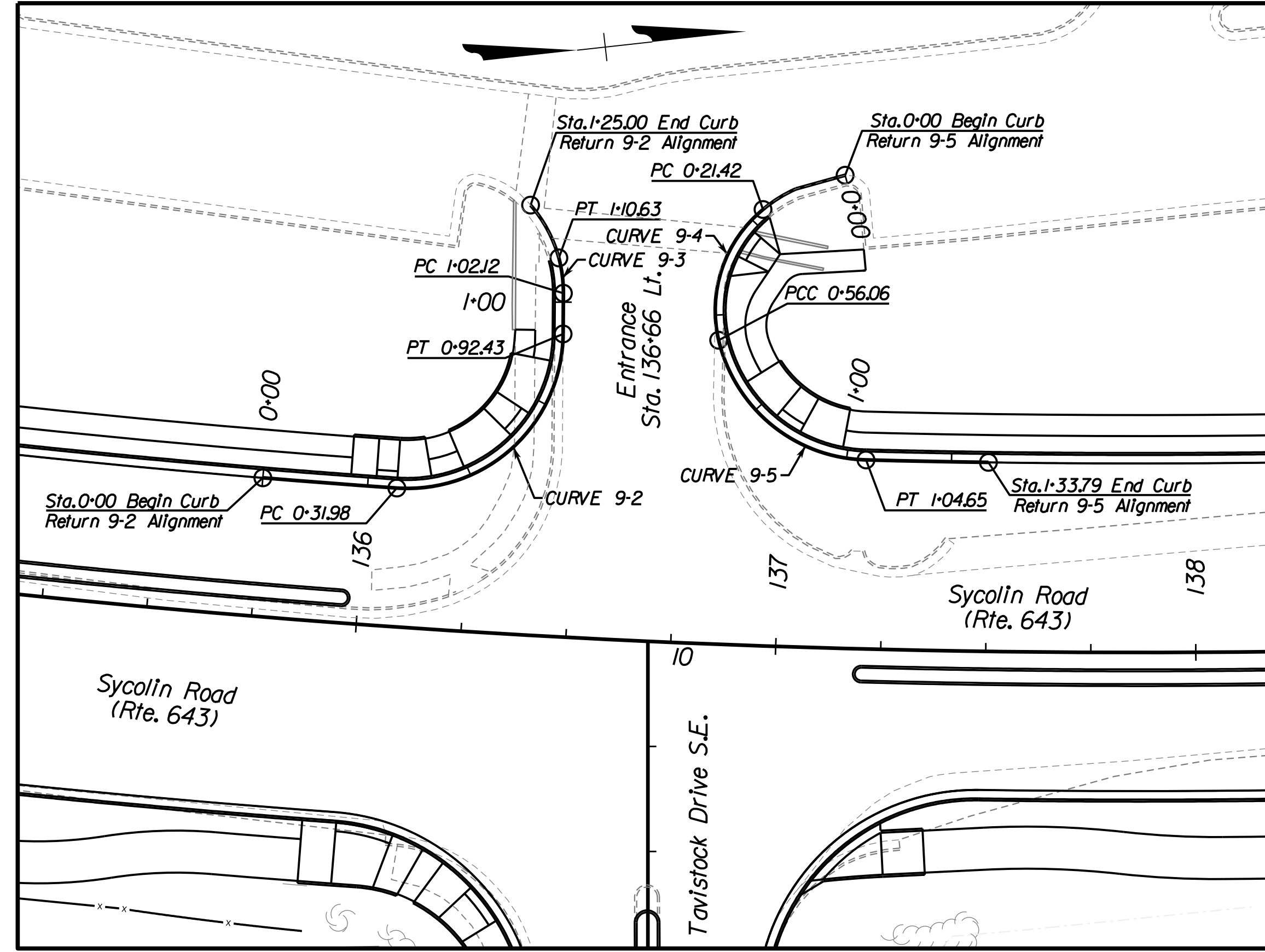
COMMONWEALTH OF VIRGINIA
 MARK A. GUNN
 Lic. No. 038323
 PROFESSIONAL ENGINEER

Mark A Gunn
2018.02.22 18:35:34 -05'00'

SUBMISSION DATE: 02/21/2018

PROJECT MANAGER *Anne Gelaer, (703) 771-2742 (Town of Leesburg)*
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CURB RETURN PROFILES



100% PLANS

PROJECT NAME: **SYCOLLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**
 CURB RETURN PROFILES
 Loudoun County, Virginia
 Town of Leesburg
 SUBMISSION DATE: 02/21/2018

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 E-mail: info@rinker.com mark.gunn@rinker.com
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PROJECT MANAGER: **MARK A. GUNN, P.E.**

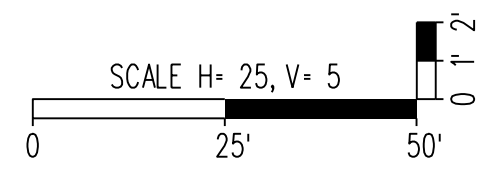
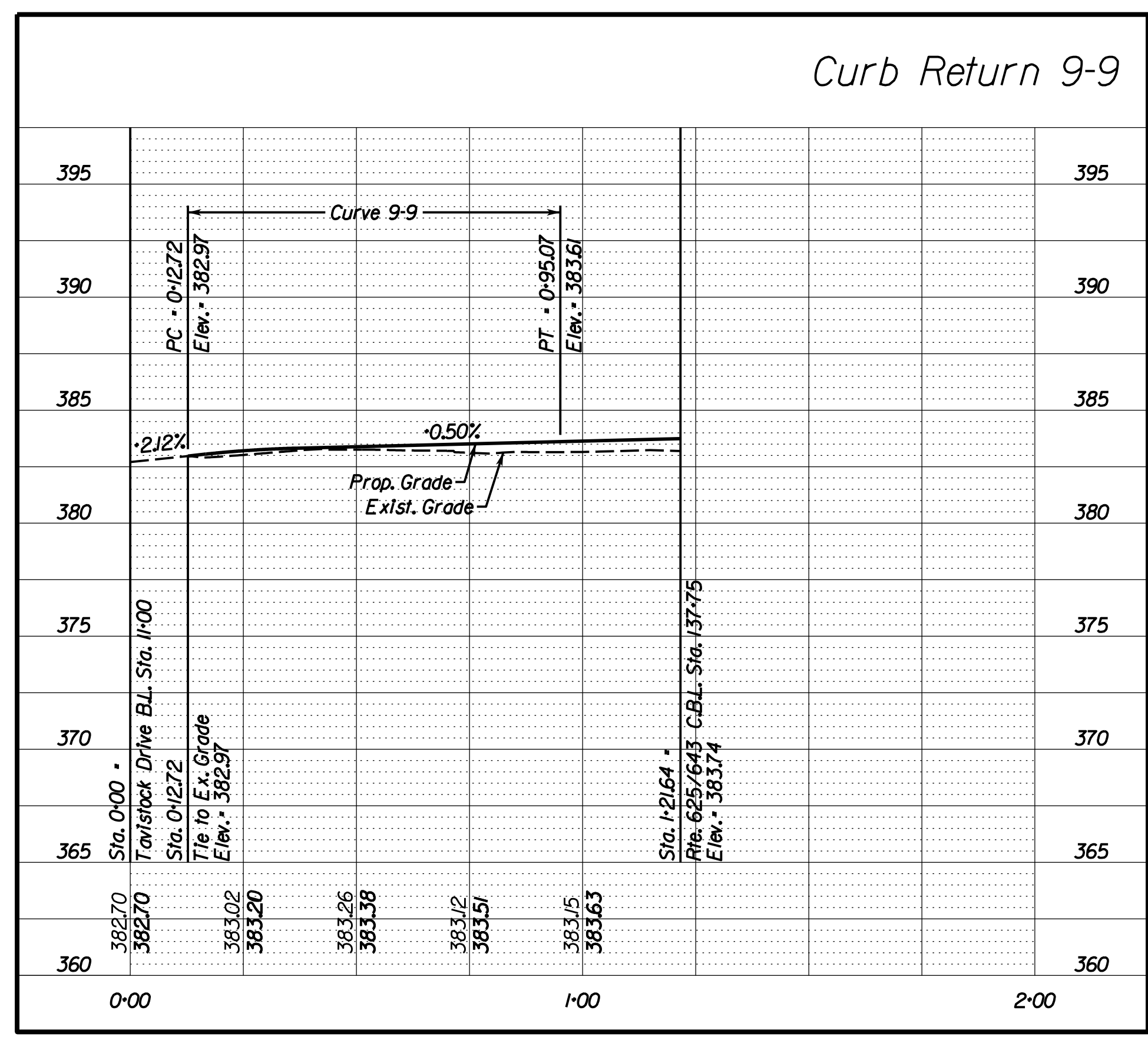
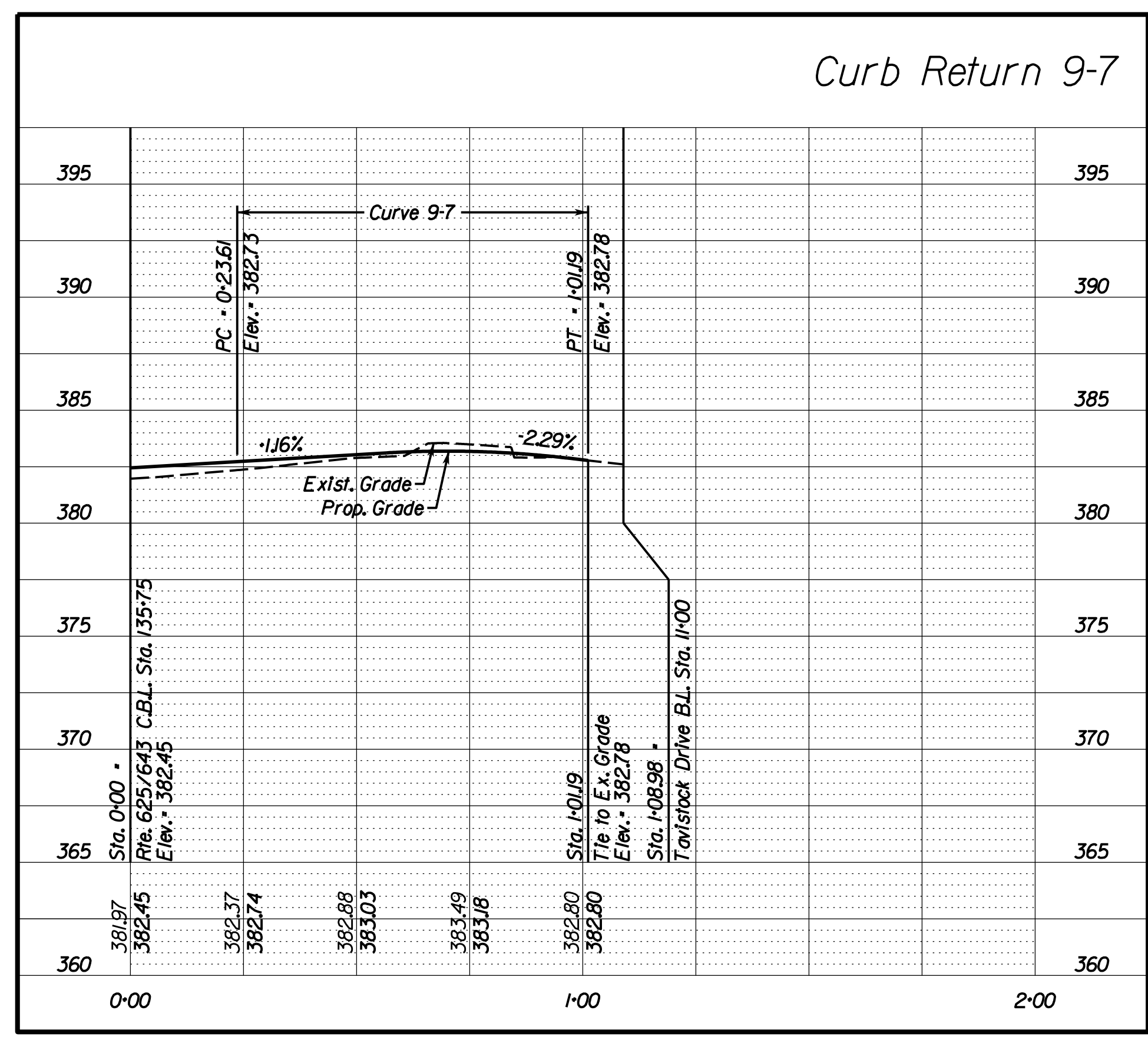
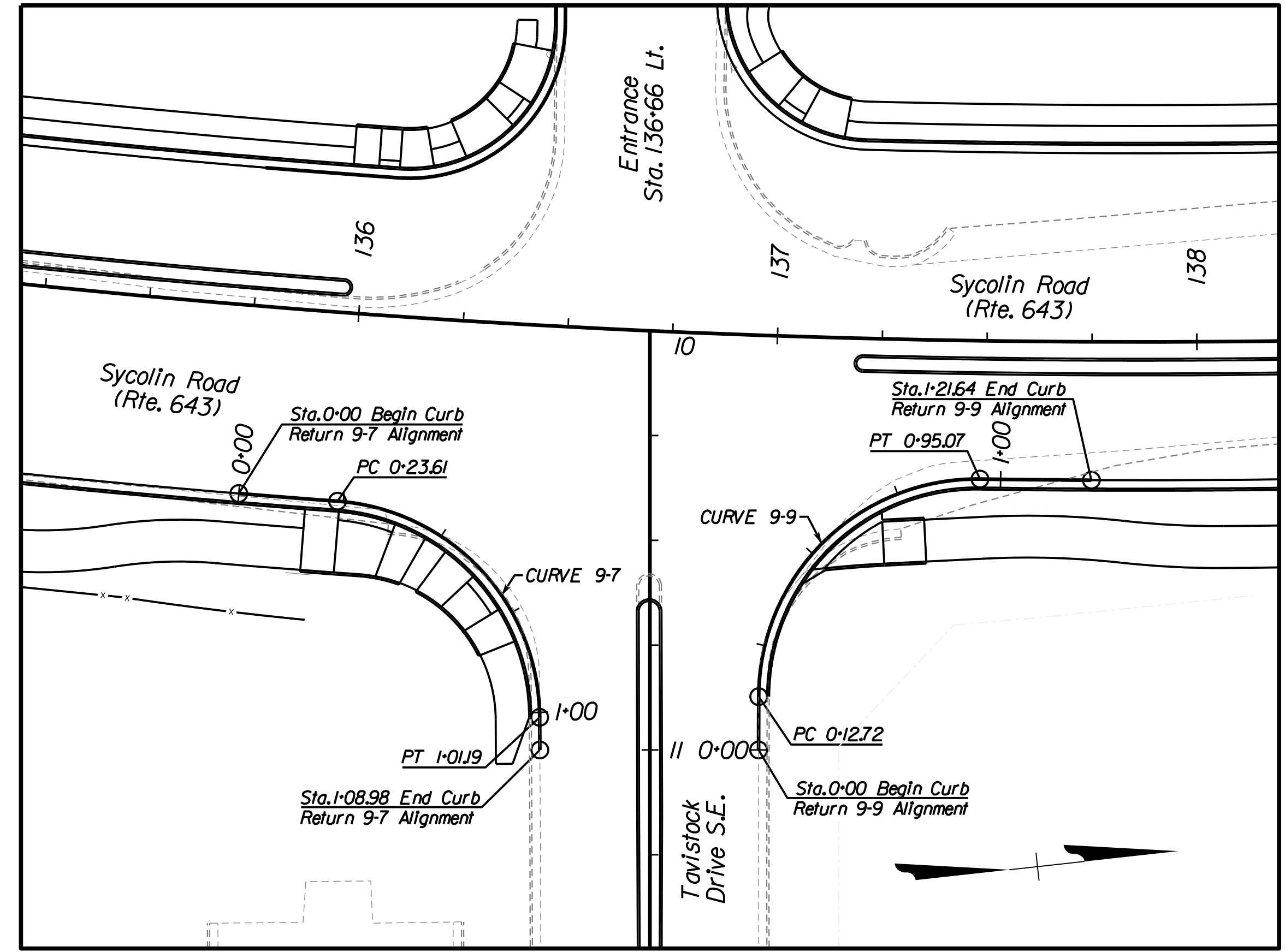
ASSOCIATED PLAN NUMBER: **TLCI-2016-0002**
 C.I.P. NUMBER: **U000-253-312**
 VDOT PROJ. NO. **U000-253-312**
 TOWN NUMBER: TBD

Mark A Gunn
 2018.02.22 18:35:48 -05'00'
 COMMONWEALTH OF VIRGINIA
 MARK A. GUNN
 Lic. No. 038323
 PROFESSIONAL ENGINEER

Sheet
 28(6) of 20

PROJECT MANAGER: Anne Gelfer, (703) 771-2742 (Town of Leesburg)
 SURVEYED BY: Sidney Thomas, L.S., (703) 368-7373 (2015)
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CURB RETURN PROFILES



100% PLANS

ASSOCIATED PLAN
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 TOWN NUMBER: TBD

PROJECT NAME: SYCOLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.
CURB RETURN PROFILES
 Loudoun County, Virginia
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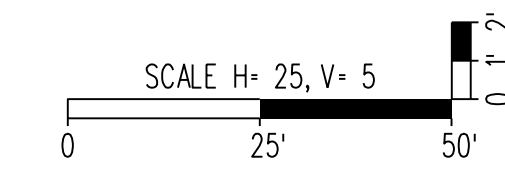
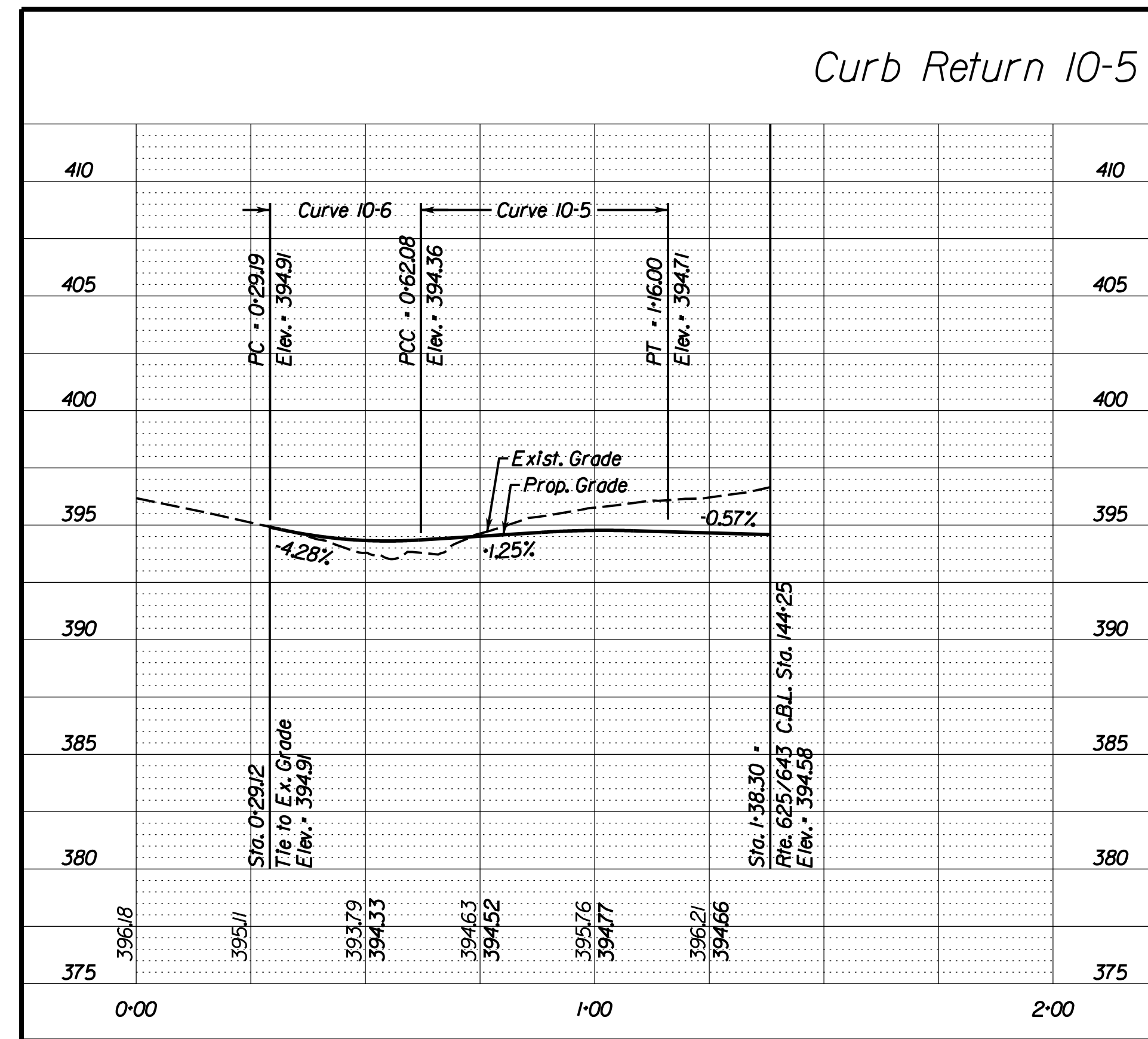
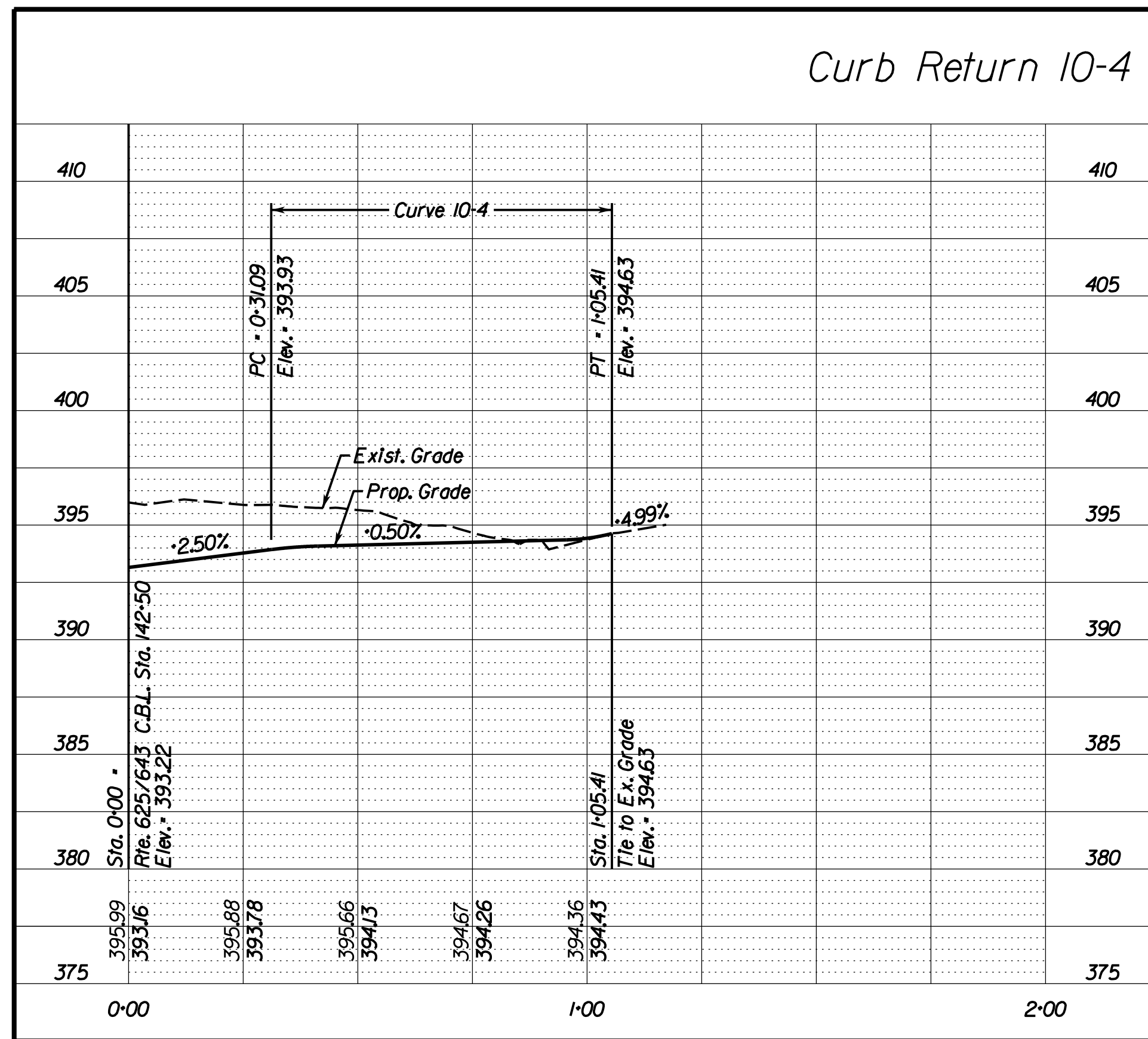
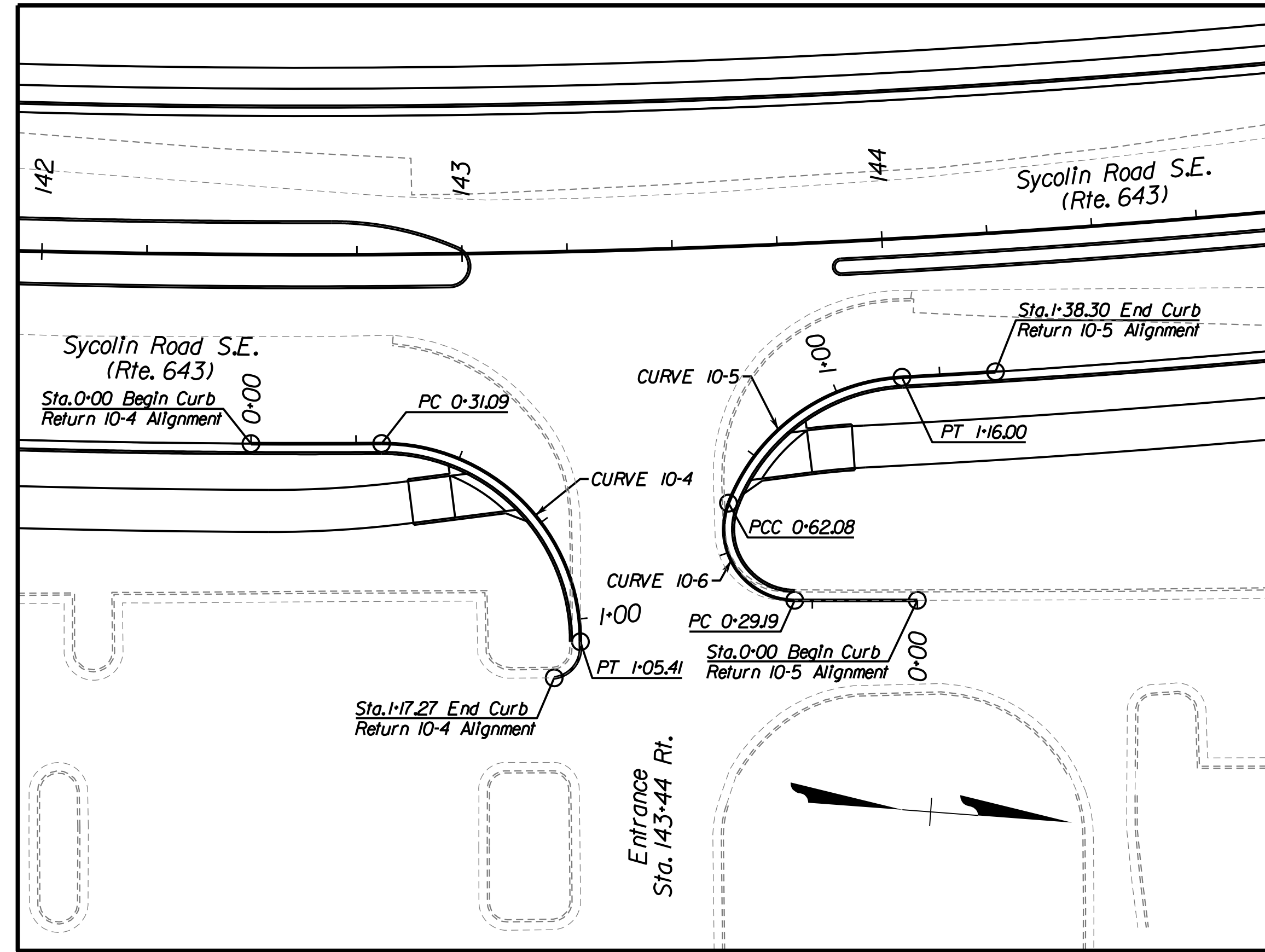
PROJECT MANAGER: MARK A. GUNN, P.E.

Mark A Gunn
 2018.02.22 18:36:02 -05'00'

Sheet
 28(7) of 20

PROJECT MANAGER Anne Gaefer, (703) 771-2742 (Town of Leesburg)
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 DESIGN SUPERVISED BY Mark A. Gunn, P.E., (703) 368-7373
 DESIGNED BY Sahab Dadr, P.E., (703) 368-7373

CURB RETURN PROFILES



100% PLANS

PROJECT NAME: **SYCOLLIN ROAD WIDENING PHASE IV FROM CLAUDIA DRIVE TO TOLBERT LANE S.E.**

PROJECT NUMBER: **TBD**

ASSOCIATED PLAN NUMBER: **TLCI-2016-0002**

C.I.P. NUMBER: **U000-253-312**

VDOT PROJ. NO.: **U000-253-312**

DATE: **2018.02.22 18:36:16 -05'00'**

ENGINEER: **Rinker Design Associates, P.C.**
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 to Make Your Vision Reality

PROJECT MANAGER: **MARK A. GUNN, P.E.**

Town of Leesburg
 Loudoun County, Virginia
 Submission Date: 02/21/2018

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