306 Typical Sections

306.1 General

Typical Section sheets provide detailed cross section depictions of the principal roadway elements that are standard between certain station or milepost limits. These sections are the basis for construction details and information shown on the plan sheets.

306.2 Typical Section Sheet

Typical sections should only show typical conditions that are found within the limits applicable to that section. Non-standard conditions that prevail for short distances should not be shown. Typical sections are to show existing elements that are to be incorporated into the final roadway section, along with the proposed elements.

Show the station limits or milepost of each section below the typical section title. Typical section stationing must cover the entire project. Include transitions from one typical to another in the stationing of one or the other typical section. Sheets that feature more than one typical section should read from the top down, with the sections in the order in which they occur within the project.

Place Typical Section sheets in the plans in the following order:

- (1) Project mainline
- (2) Ramps and service roads (for projects which include an interchange)
- (3) Crossing side roads
- (4) Minor side streets

The FDOT CADD Software contains a number of typical sections that can be used and adjusted to suit the conditions of a particular project. Usually typical sections are not created to scale, but the horizontal dimensions should be proportionate.

For illustrations of various typical sections, see *Exhibits 306-1* through *306-11*.

306.2.1 Half Sections and Details

Half sections and details supplement or support typical sections. They should be placed on the same sheet as the typical section to which they apply. In the event that this is not

possible, additional sheets for details should be placed behind the typical section sheet(s).

Half sections are necessary when changes occur that affect several typical section elements (e.g., number of lanes, border width, ditch or drainage features, clearing and grubbing, R/W width).

Details and partial sections are necessary for the clarification of construction techniques or sequence and to show alternates (e.g., the placement of shoulder gutter in high fill areas, changes in sidewalk location). Judgment is necessary in making decisions about when and where details should be shown.

306.3 Typical Section Information

Include the following information on the typical sections:

- (1) Cross Slopes
 - (a) Express cross slopes of roadway pavement, shoulder surfaces, sidewalks and bridge decks as a decimal part of a foot vertical per foot horizontal. These cross slopes should be rounded to two decimal places, i.e., 0.02, 0.06. Three decimal places may be used when required.
 - (b) Show median and outer slopes by ratio, vertical to horizontal, i.e., 1:4, 1:2.
 - (c) Include either feathering details or notes (or both) when resurfacing without milling in urban curb and gutter sections is specified or when milling depth is less than the overlay thickness.
 - (d) When cross slope correction is necessary, include special milling and layering details showing the method of correction in the plans.
- (2) Location of profile grade point.
- (3) Depict pavement construction in a clear, precise manner by indicating the LBR requirement and the thickness of the subgrade stabilization, subbase or base, as well as thickness for structural course, friction course and shoulder pavement. Use 4 inches for both base extension on rural sections and for stabilization extension on curbed sections.
- (4) Limits of grassing.
- (5) Sidewalk location and width.
- (6) Curb and gutter location and type (show Type E or F, not the dimension).

- (a) On new construction curb and gutter projects which include Asphalt Base, Type B-12.5 only, indicate the asphalt curb pad on the typical section and provide a detail.
- (7) Limits of standard clearing and grubbing.
- (8) R/W line and limits of construction.
- (9) Pavement dimensions.
- (10) For widening projects, provide a dimension for total pavement width (existing and proposed). Show the pavement widening width with an asterisk. Show Note 3, of **FDM 306.5**, as near to this noted asterisk as possible.
- (11) Shoulder dimensions; paved and total width
- (12) Label shoulder treatment on RRR projects (See FDM 210.4.4)

306.4 Required Data

Include the following data for each typical section:

- (1) Traffic data consistent with the data used for pavement design.
 - (a) Current Year and AADT
 - (b) Estimated Opening Year and AADT
 - (c) Estimated Design Year and AADT
 - (d) K, D, T (24 hour) and T (Design Hour) factors.
 - (e) Design Speed: The estimated opening and design year traffic data is not required for skid hazard projects.
- (2) Approved pavement designs described in the order of construction:
 - (a) For new construction start with Option Base Group and end with friction course.
 - (b) For resurfacing projects start with milling depth, then list the structural courses and end with friction course.
- (3) Standard notes. Refer to *FDM 306.5* for standard notes for typical sections.
- (4) Template dimensions:

For widening projects, show the existing pavement width as a \pm dimension, and show the base widening width with an asterisk. Show Note 3, of **FDM 306.5**, as near to this noted asterisk as possible.

<u>NOTE:</u> For typical sections with varying dimensions, clearly indicate the dimensions on the plan-profile sheets.

(5) Identify shoulder treatment where applicable on RRR projects (See *FDM 210.4.4*)

306.5 Standard Notes for Typical Section Sheets

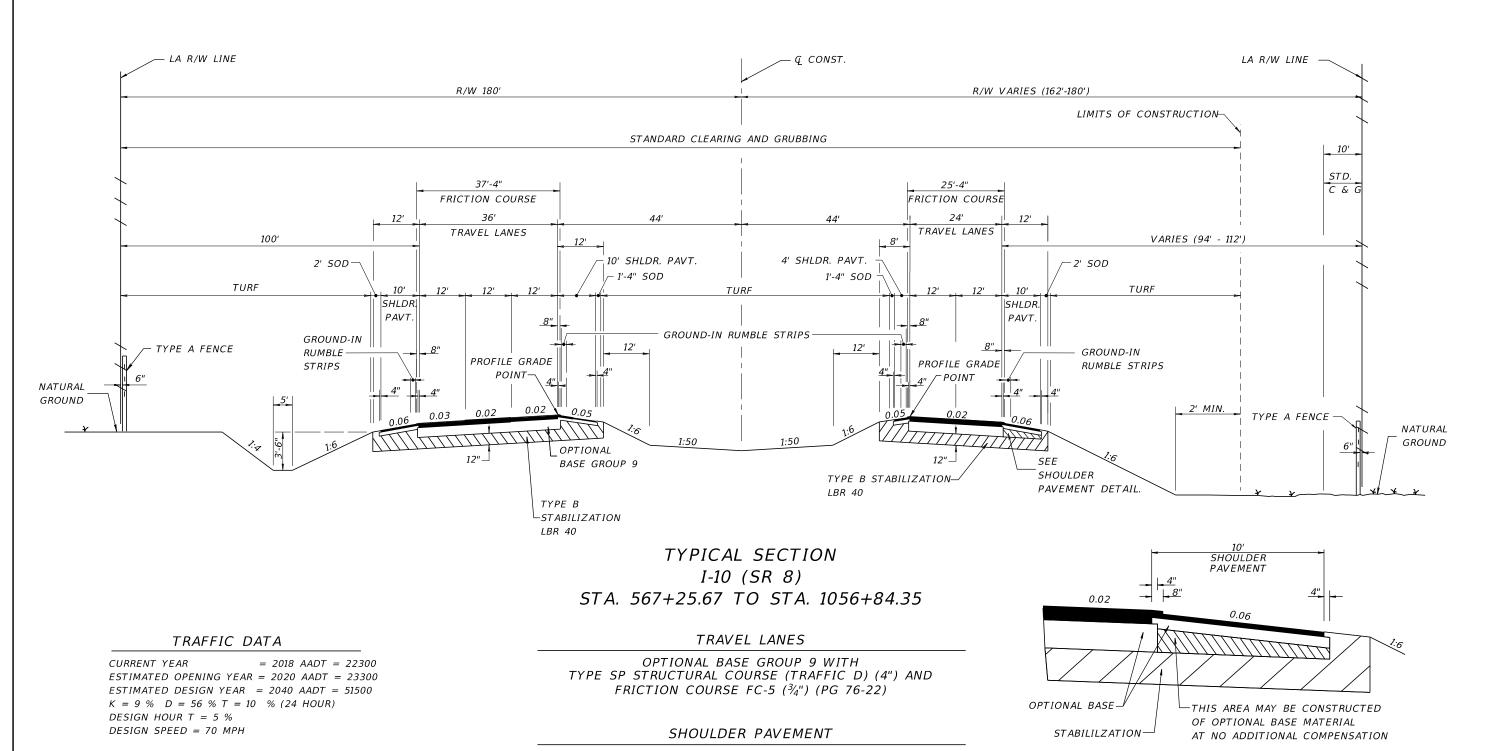
Show the following standard notes on typical section sheets as applicable:

- (1) For details and limits of selective clearing and grubbing see _____.
- (2) (Under paved shoulders):

This area may be constructed of base material at no additional compensation.

(3) (On widening projects):

Actual width of base widening may vary due to actual existing pavement width. A uniform width base widening strip may be constructed at no additional compensation.



OPTIONAL BASE GROUP 1 WITH TYPE SP STRUCTURAL COURSE (TRAFFIC D) (1 $\frac{1}{2}$ ")

Exhibit 306-1 4-Lane Limited Access Facility Date: 1/1/18

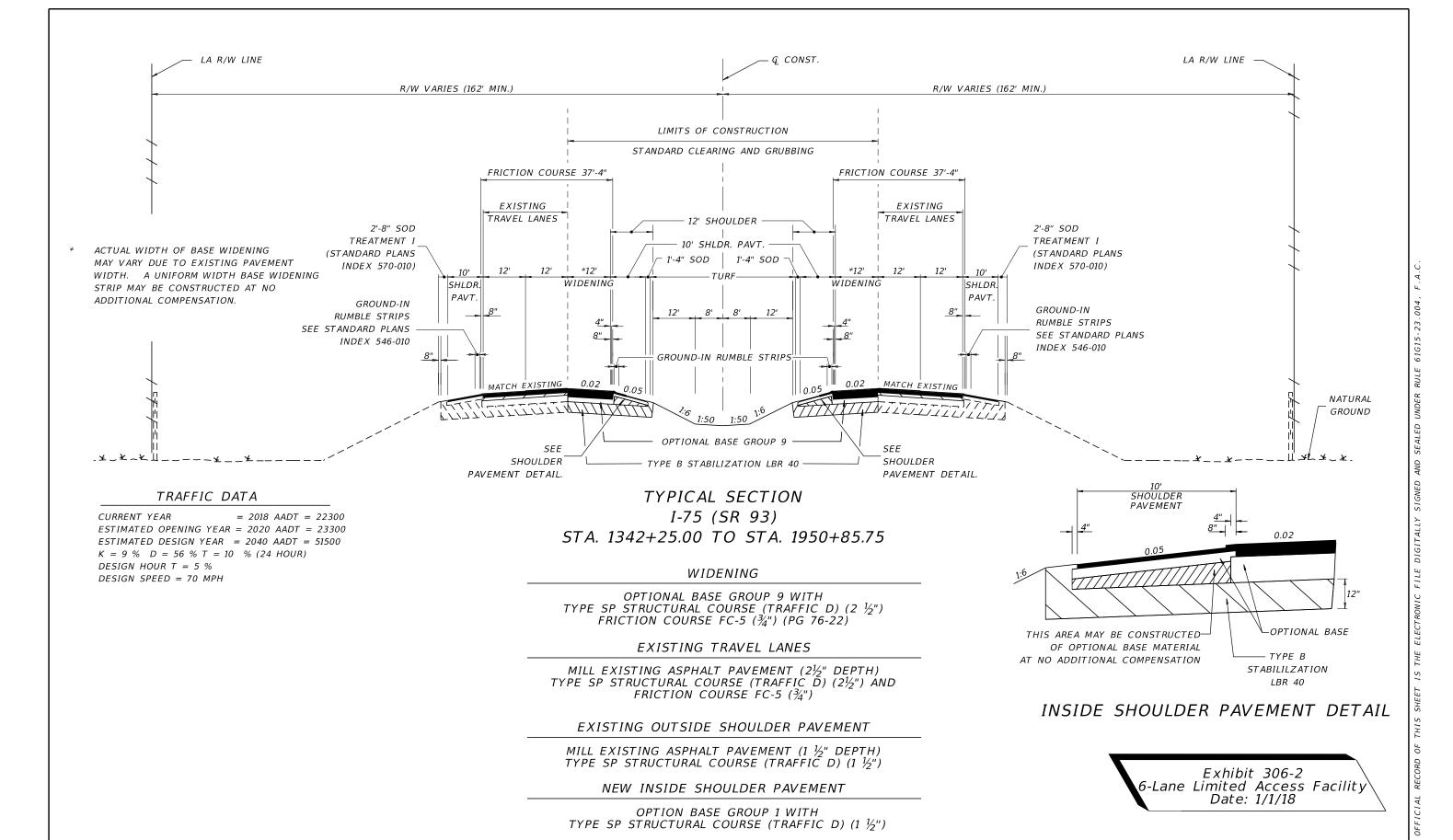
REVISIONS LUKE S. WALKER, P.E. STATE OF FLORIDA DESCRIPTION DATE P.E. NO.: 99991 DEPARTMENT OF TRANSPORTATION ROADWAY ENGINEERS, INC. ROAD NO. COUNTY FINANCIAL PROJECT ID 123 MAIN STREET TALLAHASSEE, FL 32301 123456-1-52-01 BAYCERTIFICATE OF AUTHORIZATION: 12345

TYPICAL SECTION

SHOULDER PAVEMENT DETAIL

SHEET NO.

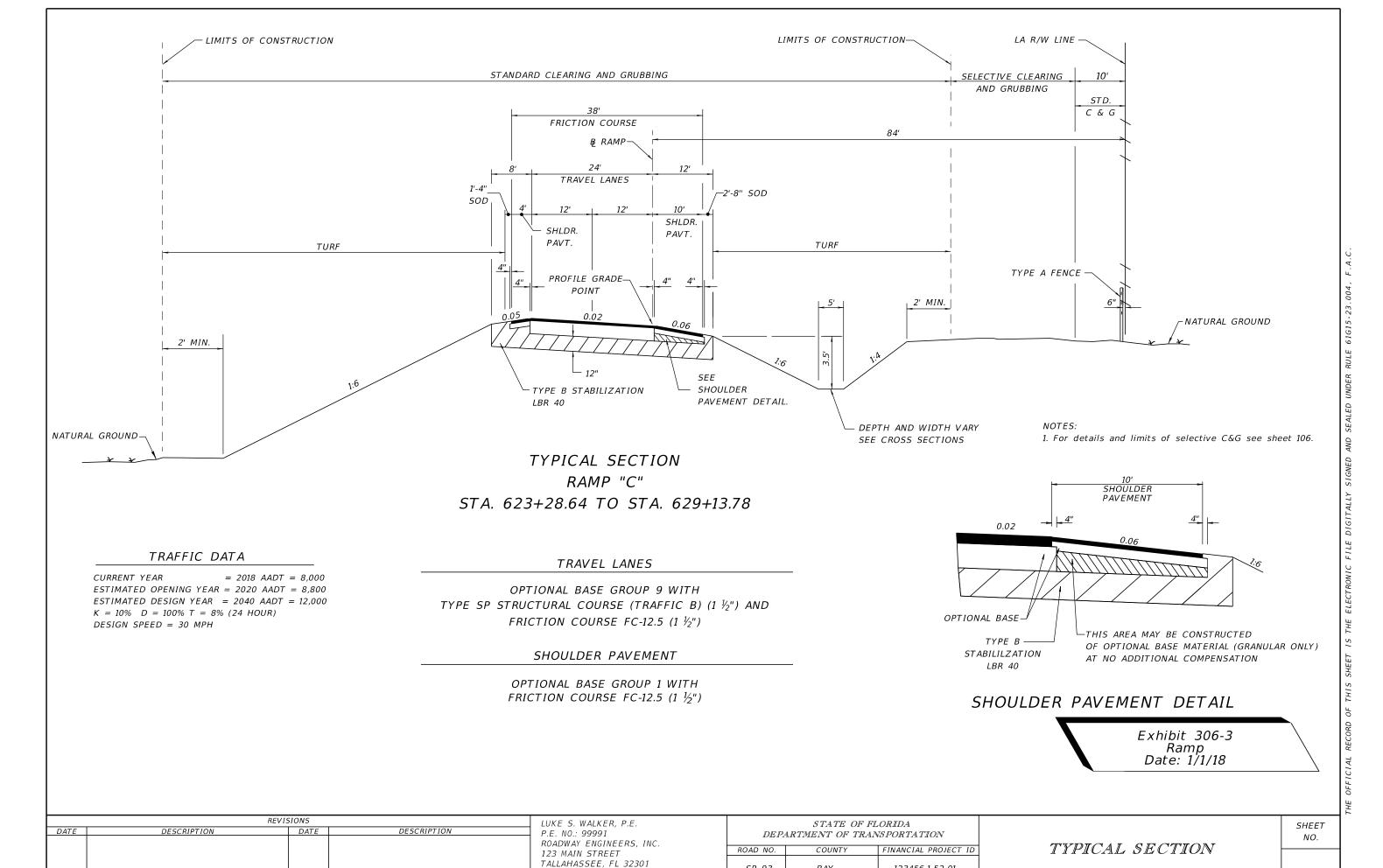
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Γ		REVIS	SIONS		LUKE S. WALKER, P.E.		STATE OF FI	LORIDA
F	DATE	DESCRIPTION	DATE	DESCRIPTION	P.E. NO.: 99991	DEP	ARTMENT OF TRAN	
- 1					ROADWAY ENGINEERS, INC.	2012 110	COUNTY	LEWANGIA BROJECT IS
- 1					123 MAIN STREET	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
					TALLAHASSEE, FL 32301 CERTIFICATE OF AUTHORIZATION: 12345	SR 93	BAY	123456-1-52-01

TYPICAL SECTION

SHEET NO.

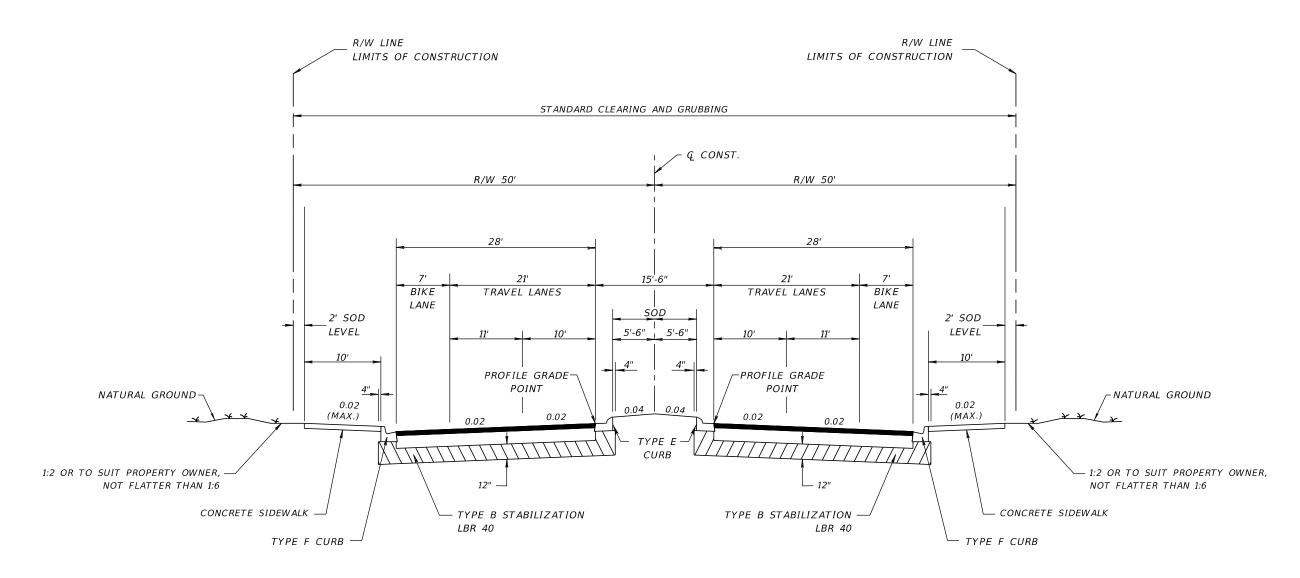


123456-1-52-01

BAY

SR 93

CERTIFICATE OF AUTHORIZATION: 12345



CURRENT YEAR = 2018 AADT = 22800ESTIMATED OPENING YEAR = 2020 AADT = 25800ESTIMATED DESIGN YEAR = 2040 AADT = 30600 K = 6% D = 55% T = 2% (24 HOUR)DESIGN HOUR T = 1%DESIGN SPEED = 30 MPH TYPICAL SECTION

SR 22

STA. 98+40.00 TO STA. 202+33.00

TRAVEL AND BIKE LANES

OPTIONAL BASE GROUP 9 WITH

TYPE SP STRUCTURAL COURSE (TRAFFIC B) (2")

AND FRICTION COURSE FC-12.5 (TRAFFIC B) (1 ½")

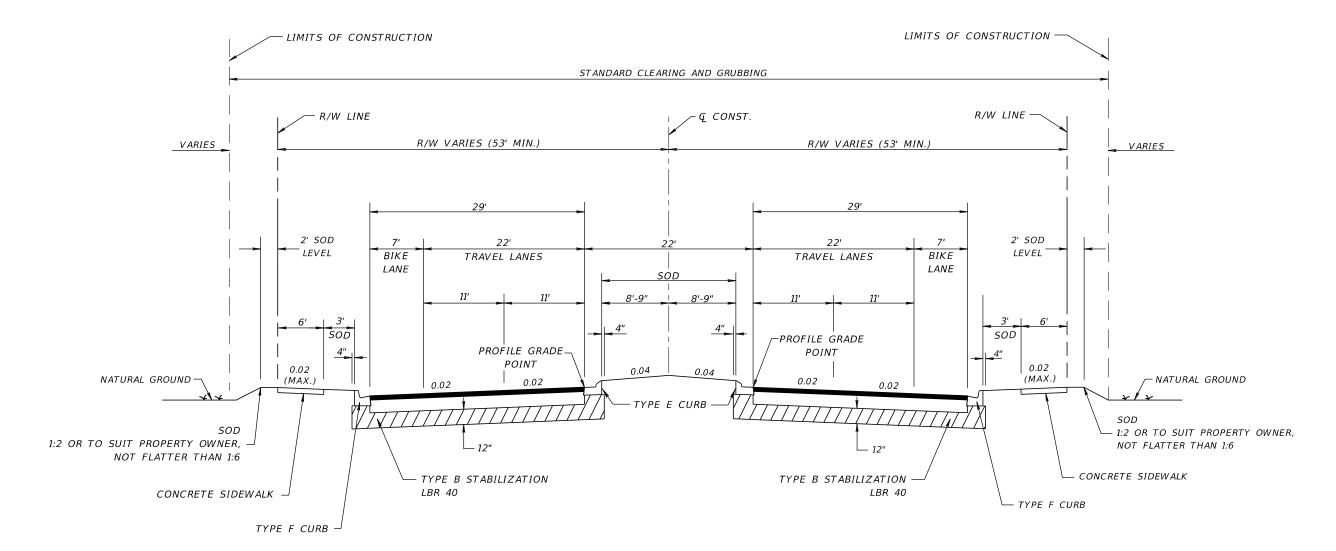
Exhibit 306-4 4-Lane Curbed Date: 1/1/18

REVISIONS LUKE S. WALKER, P.E. STATE OF FLORIDA DESCRIPTION DATE DESCRIPTION P.E. NO.: 99991 DEPARTMENT OF TRANSPORTATION ROADWAY ENGINEERS, INC. ROAD NO. COUNTY FINANCIAL PROJECT ID 123 MAIN STREET TALLAHASSEE, FL 32301 BAY123456-1-52-01 SR 22 CERTIFICATE OF AUTHORIZATION: 12345

TYPICAL SECTION

SHEET NO.

40/00/0047



CURRENT YEAR = 2018 AADT = 22800 ESTIMATED OPENING YEAR = 2020 AADT = 25800 ESTIMATED DESIGN YEAR = 2040 AADT = 30600 K = 6% D = 55% T = 2% (24 HOUR) DESIGN HOUR T = 1% DESIGN SPEED = 40 MPH TYPICAL SECTION

SR 22

STA. 202+33.00 TO STA. 560+50.00

TRAVEL AND BIKE LANES

OPTIONAL BASE GROUP 9 WITH TYPE SP STRUCTURAL COURSE (TRAFFIC B) (1 $\frac{1}{2}$ ") AND FRICTION COURSE FC-12.5 (TRAFFIC B) (1 $\frac{1}{2}$ ")

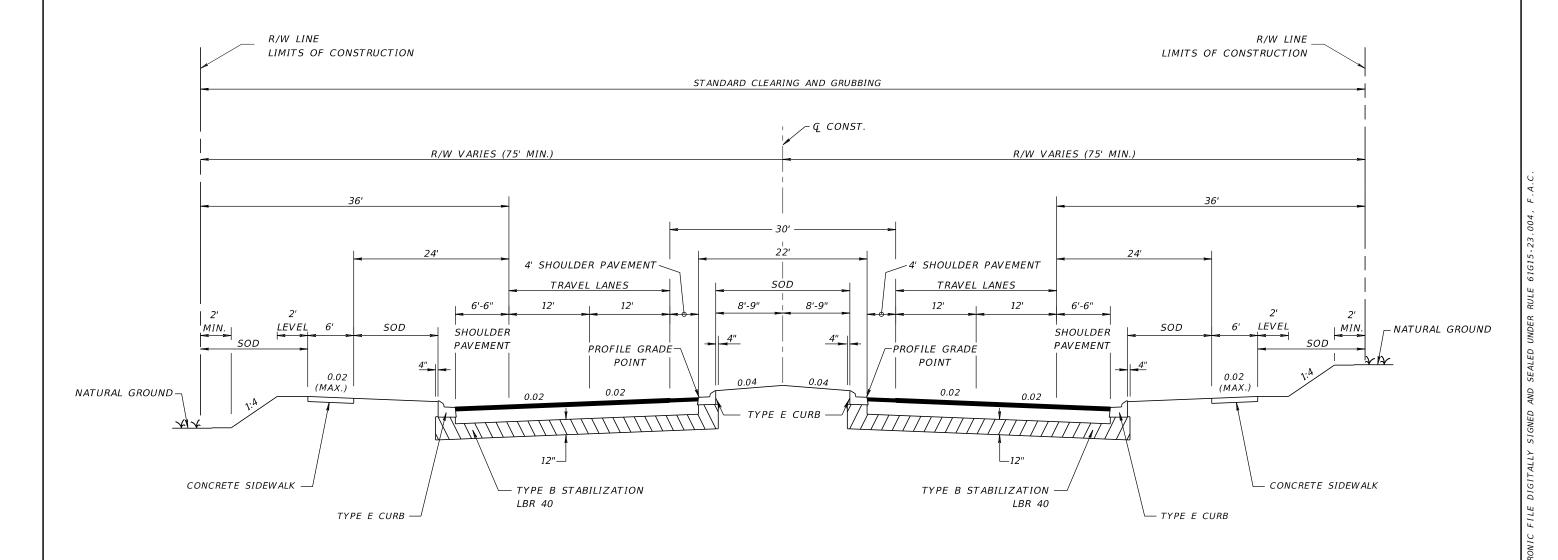
Exhibit 306-5 4-Lane Curbed Date: 1/1/18

REVISIONS LUKE S. WALKER, P.E. STATE OF FLORIDA DESCRIPTION DATE DESCRIPTION P.E. NO.: 99991 DEPARTMENT OF TRANSPORTATION ROADWAY ENGINEERS, INC. ROAD NO. COUNTY FINANCIAL PROJECT ID 123 MAIN STREET TALLAHASSEE, FL 32301 BAY123456-1-52-01 SR 22 CERTIFICATE OF AUTHORIZATION: 12345

TYPICAL SECTION

SHEET NO.

10/6/2017 1/26/12 04



CURRENT YEAR = 2018 AADT = 22800ESTIMATED OPENING YEAR = 2020 AADT = 25800ESTIMATED DESIGN YEAR = 2040 AADT = 30600 K = 6% D = 55% T = 2% (24 HOUR)DESIGN HOUR T = 1%DESIGN SPEED = 50 MPH TYPICAL SECTION

SR 22

STA. 560+50.00 TO STA. 882+25.00

TRAVEL LANES AND SHOULDER PAVEMENT

OPTIONAL BASE GROUP 9 WITH

TYPE SP STRUCTURAL COURSE (TRAFFIC B) (2 $\frac{1}{2}$ ")

AND FRICTION COURSE FC-12.5 (1 $\frac{1}{2}$ ")

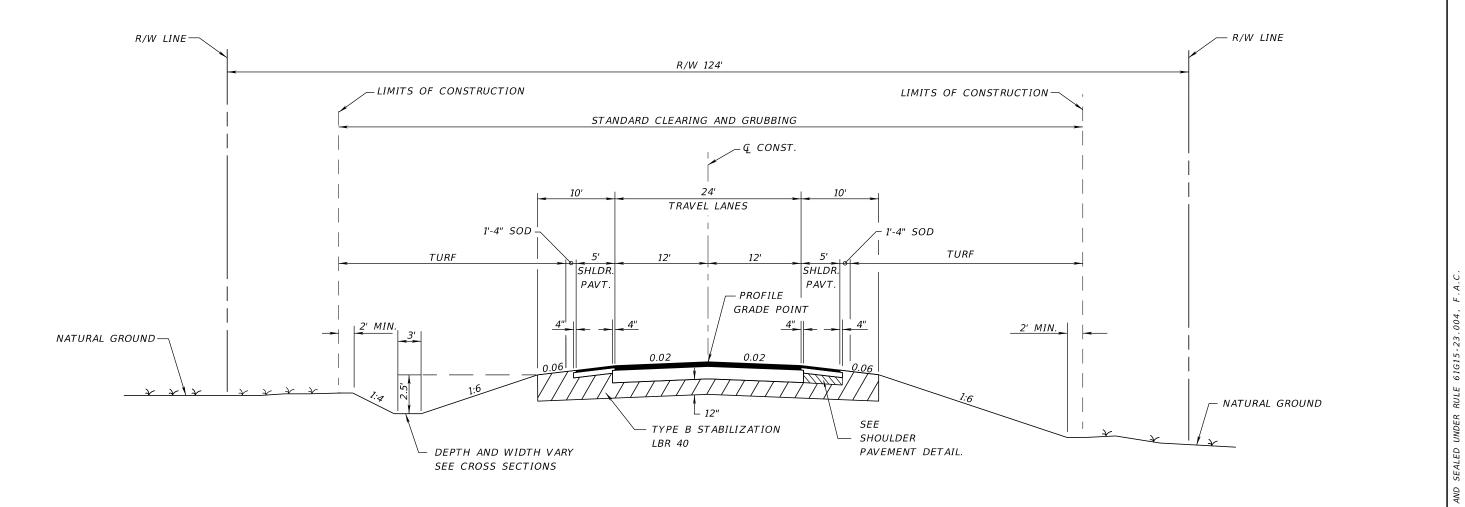
Exhibit 306-6 4-Lane High Speed Curbed Date: 1/1/18

REVISIONS LUKE S. WALKER, P.E. STATE OF FLORIDA DESCRIPTION DATE DESCRIPTION DATE P.E. NO.: 99991 DEPARTMENT OF TRANSPORTATION ROADWAY ENGINEERS, INC. ROAD NO. COUNTY FINANCIAL PROJECT ID 123 MAIN STREET TALLAHASSEE, FL 32301 BAY123456-1-52-01 SR 22 CERTIFICATE OF AUTHORIZATION: 12345

TYPICAL SECTION

SHEET NO.

40.100.100.47



TYPICAL SECTION SR 22 STA. 10+00.00 TO STA. 98+40.00

TRAFFIC DATA

CURRENT YEAR = 2018 AADT = 6800ESTIMATED OPENING YEAR = 2020 AADT = 7600ESTIMATED DESIGN YEAR = 2040 AADT = 12000K = 6% D = 55% T = 2% (24 HOUR) DESIGN HOUR T = 1%DESIGN SPEED = 55 MPH

TRAVEL LANES

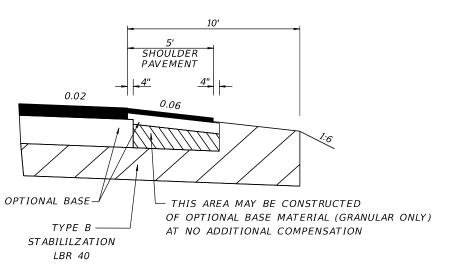
OPTIONAL BASE GROUP 8 WITH

TYPE SP STRUCTURAL COURSE (TRAFFIC C) (2")

AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1 ½")

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 1 WITH FRICTION COURSE FC-12.5 (TRAFFIC C) (1 $\frac{1}{2}$ ")



SHOULDER PAVEMENT DETAIL

Exhibit 306-7 2-Lane Flush Shoulder Date: 1/1/18

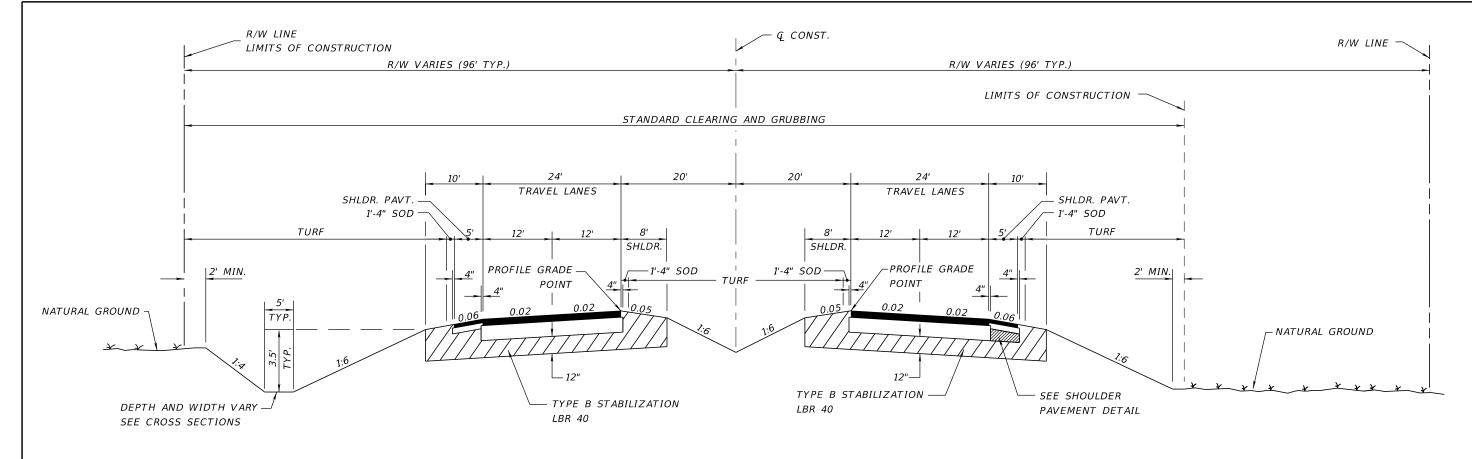
	REV I	SIONS		LUKE S. WALKER, P.E.	STATE OF FLORIDA		
DATE	DESCRIPTION	DATE	DESCRIPTION	P.E. NO.: 99991	DEP.	ARTMENT OF TRA	
				ROADWAY ENGINEERS, INC. 123 MAIN STREET	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
				TALLAHASSEE, FL 32301 CERTIFICATE OF AUTHORIZATION: 12345	SR 22	BAY	123456-1-52-01

TYPICAL SECTION

SHEET NO.

11/16/2017 4:28:41

THE OFFICIAL RECORD OF THIS SHEET IS THE ELE



CURRENT YEAR = 2018 AADT = 22300ESTIMATED OPENING YEAR = 2020 AADT = 23300ESTIMATED DESIGN YEAR = 2040 AADT = 51500K = 9% D = 56% T = 10% (24 HOUR) DESIGN HOUR T = 5%

DESIGN SPEED = 55 MPH

OPTIONAL BASE

THIS AREA MAY BE CONSTRUCTED

OF OPTIONAL BASE MATERIAL (GRANULAR ONLY)

AT NO ADDITIONAL COMPENSATION

TYPICAL SECTION SR 22 STA. 63+65.42 TO STA. 328+65.14

TRAVEL LANES

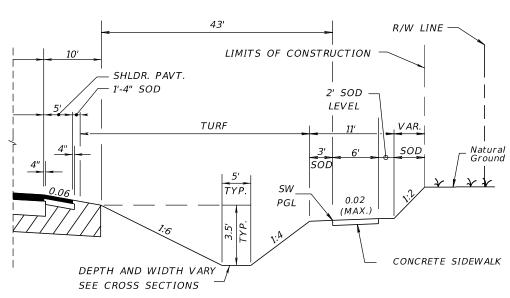
OPTIONAL BASE GROUP 9 WITH

TYPE SP STRUCTURAL COURSE (TRAFFIC D) (3 $\frac{1}{2}$ ")

AND FRICTION COURSE FC-5 ($\frac{3}{4}$ ") (PG 76-22)

SHOULDER PAVEMENT

OPTIONAL BASE GROUP 1 WITH TYPE SP STRUCTURAL COURSE (TRAFFIC D) (1 $\frac{1}{2}$ ") AND FRICTION COURSE FC-5 ($\frac{3}{4}$ ") (PG 76-22)



TYPICAL SECTION STA. 157+75.40 TO STA. 215+45.22

Exhibit 306-8 4-Lane Flush Shoulder Date: 1/1/18

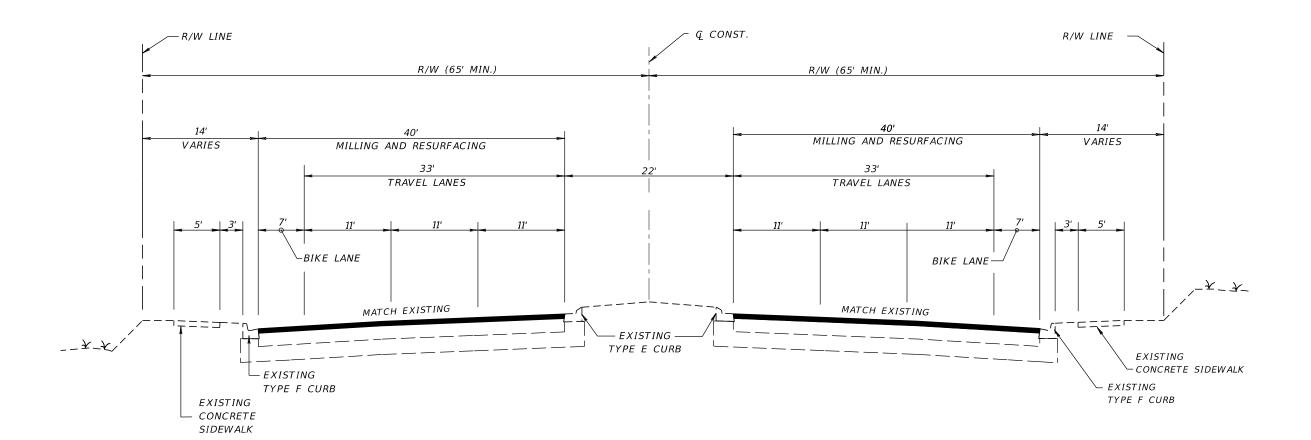
SHOULDER PAVEMENT DETAIL

	F	REVISIONS		LUKE S. WALKER, P.E.	STATE OF FLORIDA			
DATE	DESCRIPTION	DATE	DESCRIPTION	P.E. NO.: 99991	DEP_{A}	ARTMENT OF TRAI		
				ROADWAY ENGINEERS, INC. 123 MAIN STREET	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				TALLAHASSEE, FL 32301 CERTIFICATE OF AUTHORIZATION: 12345	SR 22	BAY	123456-1-52-01	

TYPICAL SECTION

SHEET NO.

11/16/2017 4:29:39 P



TYPICAL SECTION SR 22

STA. 101+21.00 TO STA. 221+44.00

TRAFFIC DATA

CURRENT YEAR = 2018 AADT = 22800ESTIMATED OPENING YEAR = 2020 AADT = 25800ESTIMATED DESIGN YEAR = 2040 AADT = 30600K = 6% D = 55% T = 2% (24 HOUR) DESIGN HOUR T = 1%DESIGN SPEED = 45 MPH

TRAVEL AND BIKE LANES

MILL EXISTING ASPHALT PAVEMENT (1 ½" AVG. DEPTH)

FRICTION COURSE FC-12.5 (TRAFFIC C) (1 ½")

Exhibit 306-9 6-Lane Curbed Date: 1/1/18

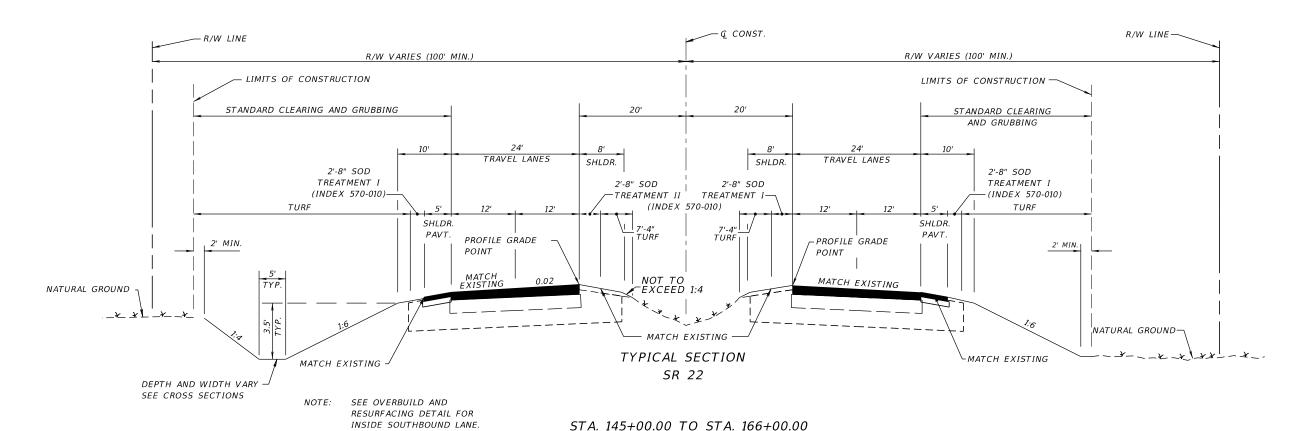
REVISIONS LUKE S. WALKER, P.E. STATE OF FLORIDA DESCRIPTION P.E. NO.: 99991 DEPARTMENT OF TRANSPORTATION ROADWAY ENGINEERS, INC. ROAD NO. COUNTY FINANCIAL PROJECT ID 123 MAIN STREET TALLAHASSEE, FL 32301 SR 22 BAY123456-1-52-01 CERTIFICATE OF AUTHORIZATION: 12345

TYPICAL SECTION

SHEET NO.

9/26/2017 1:42:31 PM

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGN



CURRENT YEAR = 2018 AADT = 18100 ESTIMATED OPENING YEAR = 2020 AADT = 21000 ESTIMATED DESIGN YEAR = 2036 AADT = 38900 K = 11% D = 58% T = 22% (24 HOUR) DESIGN HOUR T = 11% DESIGN SPEED = 60 MPH POSTED SPEED = 55 MPH

SOUTHBOUND INSIDE TRAVEL LANE

MILL EXISTING ASPHALT PAVEMENT FOR SLOPE (3" AVG. DEPTH)

TYPE SP STRUCTURAL COURSE (TRAFFIC D) (1 ½")

TYPE SP STRUCTURAL COURSE (TRAFFIC D) (VARIES)

AND FRICTION COURSE FC-5 (¾") (PG 76-22)

SOUTHBOUND OUTSIDE TRAVEL LANE NORTHBOUND TRAVEL LANES

MILL EXISTING ASPHALT PAVEMENT FOR SLOPE (1 ½" AVG. DEPTH)

TYPE SP STRUCTURAL COURSE (TRAFFIC D) (1 ½")

AND FRICTION COURSE FC-5 (¾") (PG 76-22)

OUTSIDE SHOULDER PAVEMENT

MILL EXISTING ASPHALT PAVEMENT FOR SLOPE (1 ½" AVG. DEPTH)

TYPE SP STRUCTURAL COURSE (TRAFFIC D) (1 ½")

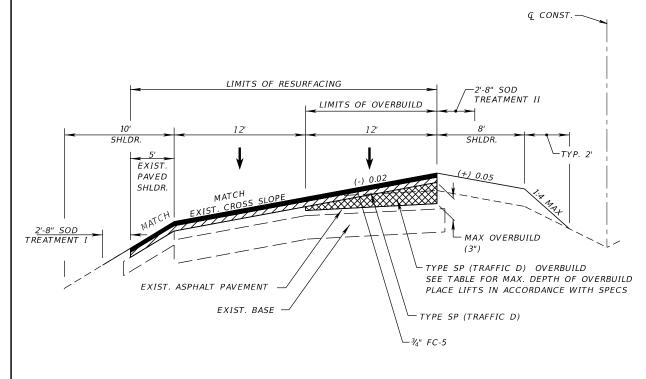
AND FRICTION COURSE FC-5 (¾") (PG 76-22)

Exhibit 306-10A 4-Lane Flush Shoulder Date: 1/1/18

	REV	ISIONS		LUKE S. WALKER, P.E.	STATE OF FLORIDA			
DATE	DESCRIPTION	DATE	DESCRIPTION	P.E. NO.: 99991			TRANSPORTATION	
				ROADWAY ENGINEERS, INC.				
				123 MAIN STREET	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				TALLAHASSEE, FL 32301	SR 22	BAY	123456-1-52-01	

TYPICAL SECTION

SHEET NO.



OVERBUILD AND RESURFACING DETAIL

STA. 145+00.00 TO STA. 166+00.00

SR 22 SOUTHBOUND LANES

MAX. DEPTH WIDTH AVG. DEPTH AREA OF												
	LOCATION	EXIST.	PROPOSED	MAX. DEPTH	WIDTH OF	AVG. DEPTH OF	AREA OF					
STATION	LANE	SLOPE (%)	SLOPE (%)	OVERBUILD (IN.)	OVERBUILD (FT.)	OVERBUILD (IN.)	OVERBUILD (SQ. FT.)					
145+00.00	SOUTHBOUND - INSIDE	(+) 1.6	EXIST.	0.0	12.0	0.0	0.0					
146+00.00	SOUTHBOUND - INSIDE	(+) 1.0	(-) 2.0	5.1	12.0	2.8	2.8					
147+00.00	SOUTHBOUND - INSIDE	(+) 1.6	(-) 2.0	5.8	12.0	3.1	6.1					
148+00.00	SOUTHBOUND - INSIDE	(+) 0.9	(-) 2.0	4.7	12.0	2.5	2.5					
149+00.00	SOUTHBOUND - INSIDE	(+) 0.4	(-) 2.0	3.9	12.0	2.2	2.2					
150+00.00	SOUTHBOUND - INSIDE	(+) 0.9	(-) 2.0	4.5	12.0	2.5	2.5					
151+00.00	SOUTHBOUND - INSIDE	(+) 0.4	(-) 2.0	3.5	12.0	1.9	1.9					
152+00.00	SOUTHBOUND - INSIDE	(+) 0.3	(-) 2.0	3.8	12.0	2.1	2.1					
153+00.00	SOUTHBOUND - INSIDE	(+) 0.0	(-) 2.0	3.4	12.0	1.9	1.9					
154+00.00	SOUTHBOUND - INSIDE	(+) 0.6	(-) 2.0	4.2	12.0	2.3	2.3					
155+00.00	SOUTHBOUND - INSIDE	(+) 1.2	(-) 2.0	5.2	12.0	2.8	2.8					
156+00.00	SOUTHBOUND - INSIDE	(+) 1.4	(-) 2.0	5.6	12.0	3.0	3.0					
157+00.00	SOUTHBOUND - INSIDE	(+) 0.8	(-) 2.0	4.7	12.0	2.9	2.9					
158+00.00	SOUTHBOUND - INSIDE	(+) 1.1	(-) 2.0	5.6	12.0	3.0	3.0					
159+00.00	SOUTHBOUND - INSIDE	(+) 1.0	(-) 2.0	4.9	12.0	2.6	2.6					
160+00.00	SOUTHBOUND - INSIDE	(+) 1.2	(-) 2.0	5.4	12.0	2.9	2.9					
161+00.00	SOUTHBOUND - INSIDE	(+) 2.2	(-) 2.0	7.5	12.0	4.1	4.1					
162+00.00	SOUTHBOUND - INSIDE	(+) 2.2	(-) 2.0	7.1	12.0	3.8	3.8					
163+00.00	SOUTHBOUND - INSIDE	(+) 1.2	(-) 2.0	5.4	12.0	2.9	2.9					
164+00.00	SOUTHBOUND - INSIDE	(+) 0.8	(-) 2.0	4.7	12.0	2.5	2.5					
165+00.00	SOUTHBOUND - INSIDE	(+) 0.6	(-) 2.0	4.6	12.0	2.4	2.4					
166+00.00	SOUTHBOUND - INSIDE	(+) 1.5	EXIST.	0.0	12.0	0.0	0.0					

THE MINIMUM DESIRABLE CROSS SLOPE SHALL BE 1.5%. NOTE: THE AREA OF OVERBUILD IS BASED ON MIN. 3/8" OVERBUILD LIFT THICKNESS.

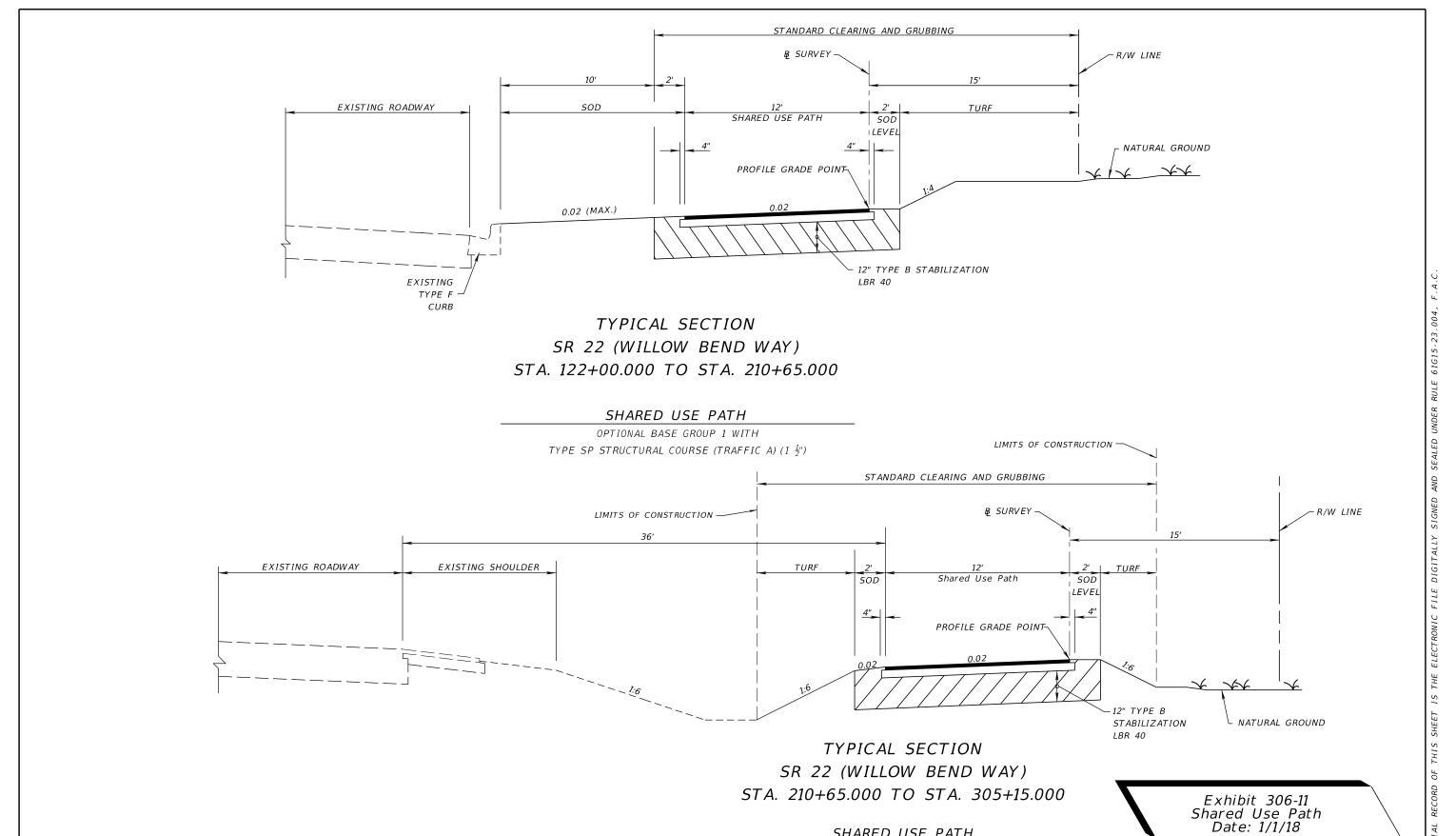
Include the subtotals in the Summary of Pavement sheet as a line item named "Summary of Overbuild". Do not include contingency quantities associated with overbuild.

Exhibit 306-10B Overbuild Details Date: 1/1/18

	REVIS	SIONS		LUKE S. WALKER, P.E.		STATE OF F	LORIDA
DATE	DESCRIPTION	DATE	DESCRIPTION	P.E. NO.: 99991	DEPARTMENT OF TRANSPORT		NSPORTATION
				ROADWAY ENGINEERS, INC. 123 MAIN STREET	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
				TALLAHASSEE, FL 32301 CERTIFICATE OF AUTHORIZATION: 12345	SR 22	BAY	123456-1-52-01

TYPICAL SECTION

SHEET



SHARED USE PATH

OPTIONAL BASE GROUP 1 WITH TYPE SP STRUCTURAL COURSE (TRAFFIC A) $(1 \frac{1}{2})$

	REV	SIONS		LUKE S. WALKER, P.E.		STATE OF FI	LORIDA
DATE	DESCRIPTION	DATE	DESCRIPTION	P.E. NO.: 99991	DEP	ARTMENT OF TRAN	VSPORTATION
				ROADWAY ENGINEERS, INC.			T
				123 MAIN STREET	ROAD NO.	COUNTY	FINANCIAL PROJECT ID
				TALLAHASSEE, FL 32301 CERTIFICATE OF AUTHORIZATION: 12345	SR 22	BAY	123456-1-52-01

TYPICAL SECTION