DRAINAGE TECHNICAL MEMORANDUM

Phase IIR Submittal

SR 80 from N of Captain Hendry Dr to W of Forrey Dr

FPID 447878-1-52-01 | Hendry County, FL

JUNE 2025

PREPARED FOR:

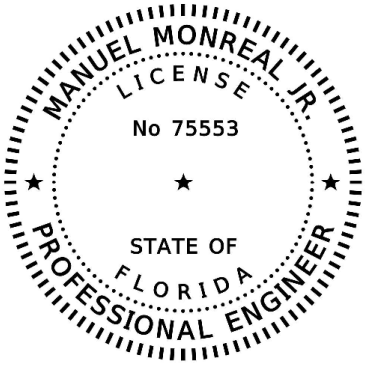
FLORIDA DEPARTMENT OF TRANSPORTATION (D1)
801 N Broadway Avenue,
Bartow, FL 33830

PREPARED BY:

PATEL, GREENE & ASSOCIATES, LLC
215 East Main Street
Bartow, Florida 33830
Phone: 863-533-7317
Contact: Manuel Monreal JR., PE

SIGNATURE PAGE

PROJECT:	**SR 80 from N of Captain Hendry Dr to W of Forrey Dr**
PROJECT NUMBER:	**FPID 447878-1-52-01**
SCOPE OF RESPONSIBILITY:	**Drainage Technical Memorandum**
SECTION(S) / PAGE RANGE(S):	Report (pg. 1) and Appendix C



This item has been digitally signed and sealed by:

On the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Patel, Greene & Associates, LLC
215 East Main Street
Bartow, FL 33830
Manuel Monreal JR., P.E. No. 75553

TABLE OF CONTENTS

APPENDICES

1.0 PROJECT DESCRIPTION

The project consists of median modifications, milling and resurfacing, signing and pavement marking replacement, and signal upgrades along State Road (SR) 80 (Hickpochee Avenue) from north of Captain Hendry Drive to west of Forrey Drive, in Hendry County. For the location of the 2.117-mile project, please refer to the Project Location Map provided in **Appendix A**. The purpose of this technical memorandum is to outline the drainage analysis and calculations developed as part of the design process.

Within the project limits, SR 80 is a 4-lane east-west roadway with an urban typical section and bike lanes and sidewalk on both sides. The design speed ranges from 35 to 45 miles per hour. SR 80 is a Strategic Intermodal System (SIS) facility, with a Context Classification of C3C – Suburban Commercial.

The elevations in this report are located on the North American Vertical Datum of 1988 (NAVD 88). The conversion factor to transform from National Geodetic Vertical Datum (NGVD 29) to NAVD 88 is (-) 1.257 feet. See **Appendix A** for VERTCON Results.

2.0 EXISTING DRAINAGE CONDITIONS

The existing drainage system along SR 80 is comprised of a closed conveyance system with stormwater runoff conveyed by curb and gutter and collected by curb inlets. Please refer to **Appendix B** for Historical Drainage Maps. The project is located within the jurisdiction of South Florida Water Management District, and the proposed project limits fall within Waterbody Identification Numbers (WBID) 3235B1 (Caloosahatchee River Above Townsend Canal) and 3235B2 (Caloosahatchee River Between S-79 and S-78). These WBIDs are not listed as impaired waterbodies on the Florida Department of Environmental Protection (FDEP) Comprehensive Verified List.

The project also traverses through various Federal Emergency Management Agency's (FEMA) Flood Hazard Zones with varying Base Flood Elevations (BFE) and over one Regulatory FEMA Floodway. The FEMA Flood Insurance Rate Map (FIRM) panels for this project are 12051C0039D and 12051C0043D, with an effective date of 07/06/2015. Please refer to **Appendix B** for the FEMA Flood Zone Map and FEMA FIRM panels.

3.0 PROPOSED DRAINAGE DESIGN AND IMPROVEMENTS

The proposed roadway improvements include a new traffic separator to improve safety. For portions of the roadway within a super-elevated section the proposed separator was prone to blocking runoff which sheet flows towards the existing curb and gutter. To alleviate ponding adjacent to the traffic separator, drainage slots were added. These slots were analyzed for hydraulic capacity and spacing was designed to adhere to FDOT spread criteria. Please refer to **Appendix C** for the Spread Calculations.

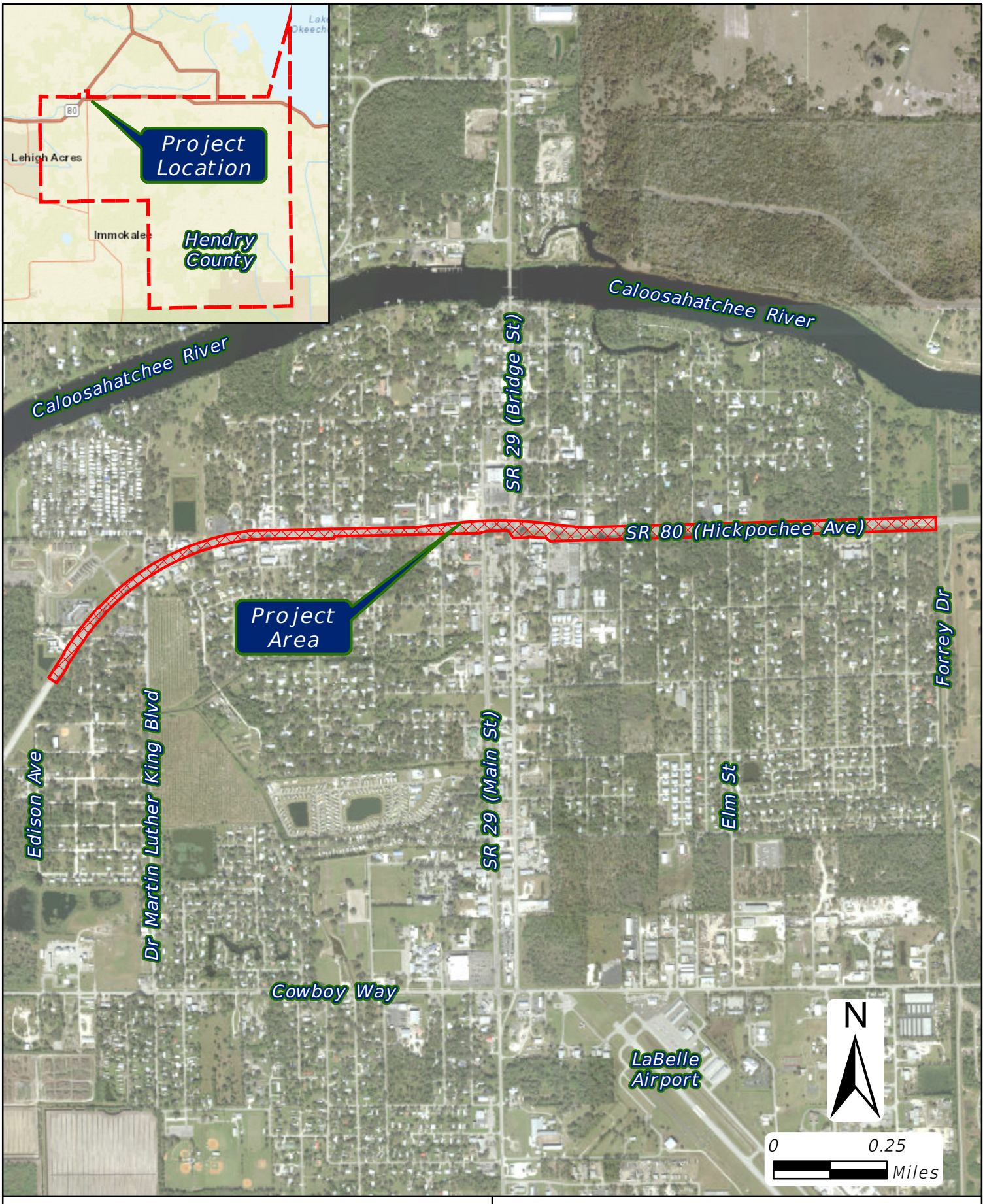
In conjunction with the proposed traffic separators, it was necessary to overbuild a portion of the existing left turn lanes to provide a uniform cross-slope to the existing outside curb and gutter, which previously drained towards the proposed traffic separator and to the opposing curb and gutter. Please refer to **Appendix D** for the proposed Typical Sections. As a result of the change in drainage patterns, the existing curb inlets were also analyzed for spread and the results provided in **Appendix C**.

4.0 CONCLUSION

The proposed roadway improvements will not generate additional runoff to the WBIDs, and no new impacts to the FEMA Flood Hazard Zones or the Regulatory FEMA Floodway are proposed. The project qualifies for a permit exemption under Florida Administrative Code (FAC) 62-330.051(4)(c). The proposed traffic separator slots account for the median modifications through the super-elevated section of SR 80 to meet spread criteria, per Section 3.9.1 of the FDOT Drainage Manual. Also, the proposed overbuild areas do not cause the existing curb inlets to violate spread criteria. In closing, there are no adverse drainage impacts to State Road 80 (Hickpochee Avenue) or to the surrounding areas.

Appendix A

A-1 Project Location Map



Patel, Greene & Associates, LLC
215 East Main Street
Bartow, Florida 33830
Manuel Monreal, Jr., P.E. No. 75553

Project Location Map

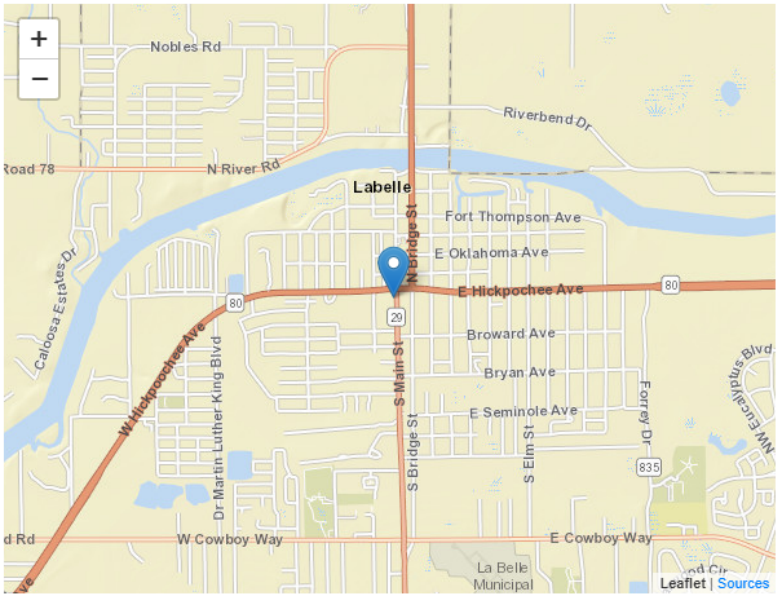
SR 80 from N of Captain Hendry Dr to W of Forrey Dr

Financial Project ID.: 447878-1-52-01

Date: 3/22/2024

Appendix A

A-2 VERTCON Results



Transformed Coordinate

Input Coordinate		Output Coordinate		Total Change + Uncertainty	
Latitude	N26° 45' 40.20787" N264540.20787 26.7611688526	Latitude	N26° 45' 40.20787" N264540.20787 26.7611688526	Latitude	0.00000" ±0.000000" (0.000 m ±0.0000 m)*
Longitude	E278° 33' 40.87326" W0812619.12674 -81.4386463165	Longitude	E278° 33' 40.87326" W0812619.12674 -81.4386463165	Longitude	0.00000" ±0.000000" (0.000 m ±0.0000 m)*
Ellipsoid Height (usft)	Not given	Ellipsoid Height (usft)	Not given	Ellipsoid Height	Not given
Orthometric Height (usft)	0.000	Orthometric Height (usft)	-1.257	Orthometric Height	-1.257 usft ±0.026 usft
Reference Frame	NAD83(2011)	Reference Frame	NAD83(2011)		
Geopotential Datum	NGVD29	Geopotential Datum	NAVD88		

*Approximate value to aid interpretation and not an actual distance. See **TM NOS NGS 82** for more details.

Appendix B

B-1 Historical Drainage Maps

PROJECT NO. 07010-3523 SHEET NO.

CALOOSAHATCHEE RIVER

POND #1

POND #2

POND #3

STA. EQUATION
542+45.81 BK=
84+79.25 AHD.

STA. 540+00.00
BEGIN PROJECT

CITY LIMITS

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 80

EXHIBIT No. 7
ALTERNATE 2
PROPOSED STORM SEWER
(TRUNK LINES ONLY)
Prepared By - BHR, Tampa

Scale: 1" = 400'

Photodate: 9-1-98

PROJECT NO. 07010-3523 | SHEET NO.

CALOOSAHATCHEE RIVER

LEGEND

- BASIN BOUNDARY
- SUBBASIN BOUNDARY
- P11 — SUBBASIN IDENTITY
- SUBBASIN NUMBER
- BASIN NUMBER
- 3.17 AC. — SUBBASIN AREA
- FLOW DIRECTION

POND #1

POND #2

POND #3

STA. EQUATION
542+45.81 BK =
84+79.25 AHD

STA. 540+00.00
BEGIN PROJECT

P11 3.17 AC.
P12 4.28 AC.
P13 8.86 AC.
P14 6.34 Ac.
P15 5.97 Ac.
P21 10.11 AC
P22 12.39 AC.
P23 36.12 AC.
P24 8.91 AC.
P25 8.64 AC.
P31 16.07 AC.
P32 1.70 AC.
P33 38.61 Ac.
P34 37.66 Ac.
P35 2.12 AC.
P36 28.98 Ac.
P37 19.53 Ac.
P38 4.74 Ac.

FLORIDA DEPARTMENT OF TRANSPORTATION

S.R. 80

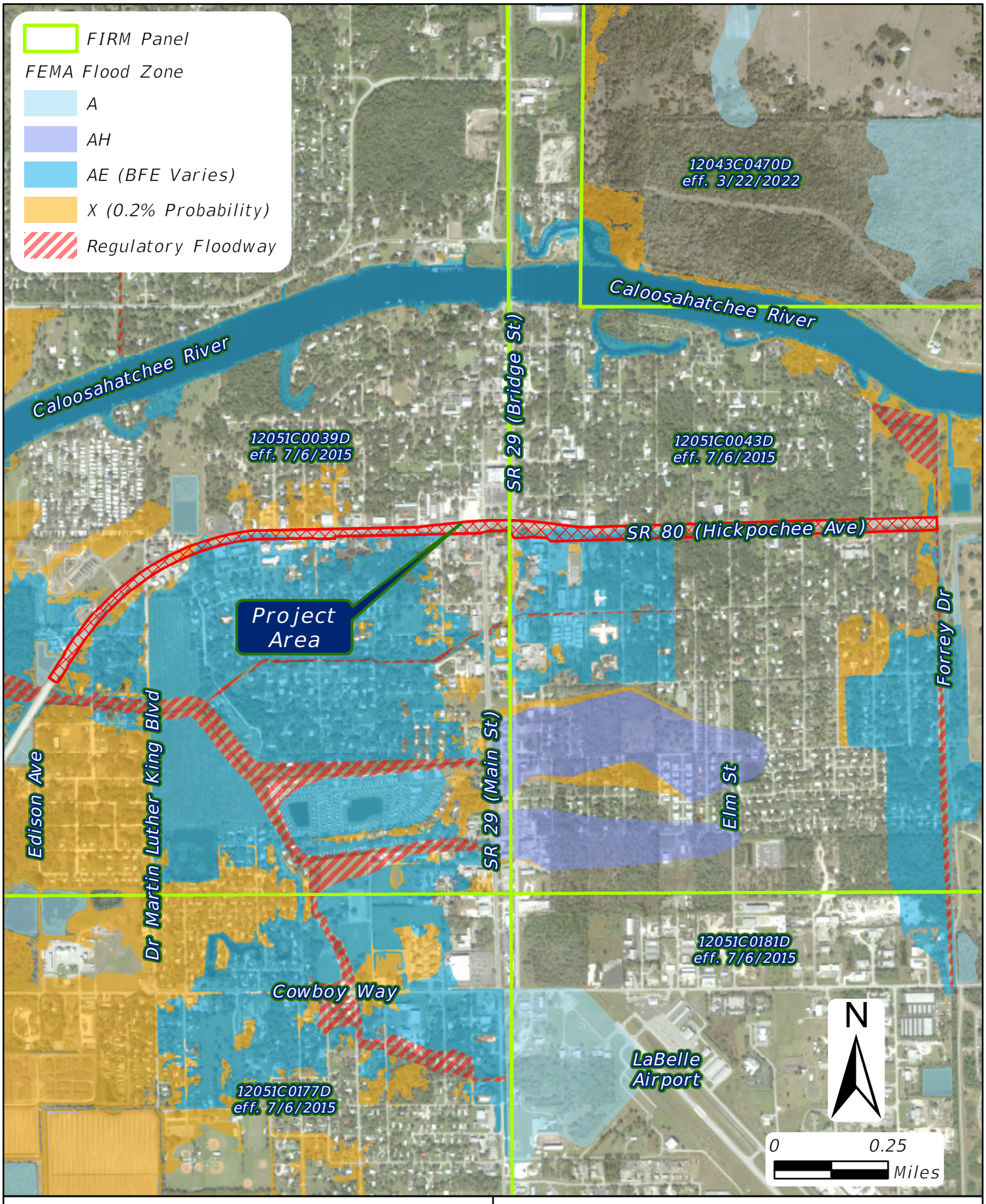
DRAINAGE MAP
PRE AND POST-DEVELOPMENT
EXHIBIT No. 4

Scale: 1" 400'
Photodate: 9-1-88

Prepared By - BHR, Tampa

Appendix B

B-2 FEMA Flood Zone Map



Patel, Greene & Associates, LLC
215 East Main Street
Bartow, Florida 33830
Manuel Monreal, Jr., P.E. No. 75553

FEMA Flood Zone Map

SR 80 from N of Captain Hendry Dr to W of Forrey Dr

Financial Project ID.: 447878-1-52-01

Date: 3/22/2024

Appendix B

B-3 FEMA FIRM Panels

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Florida State Plane East zone (FIPS 0901). The **horizontal datum** was the North American Datum of 1983 (NAD 83), GRS1980 Spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland, 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov/.

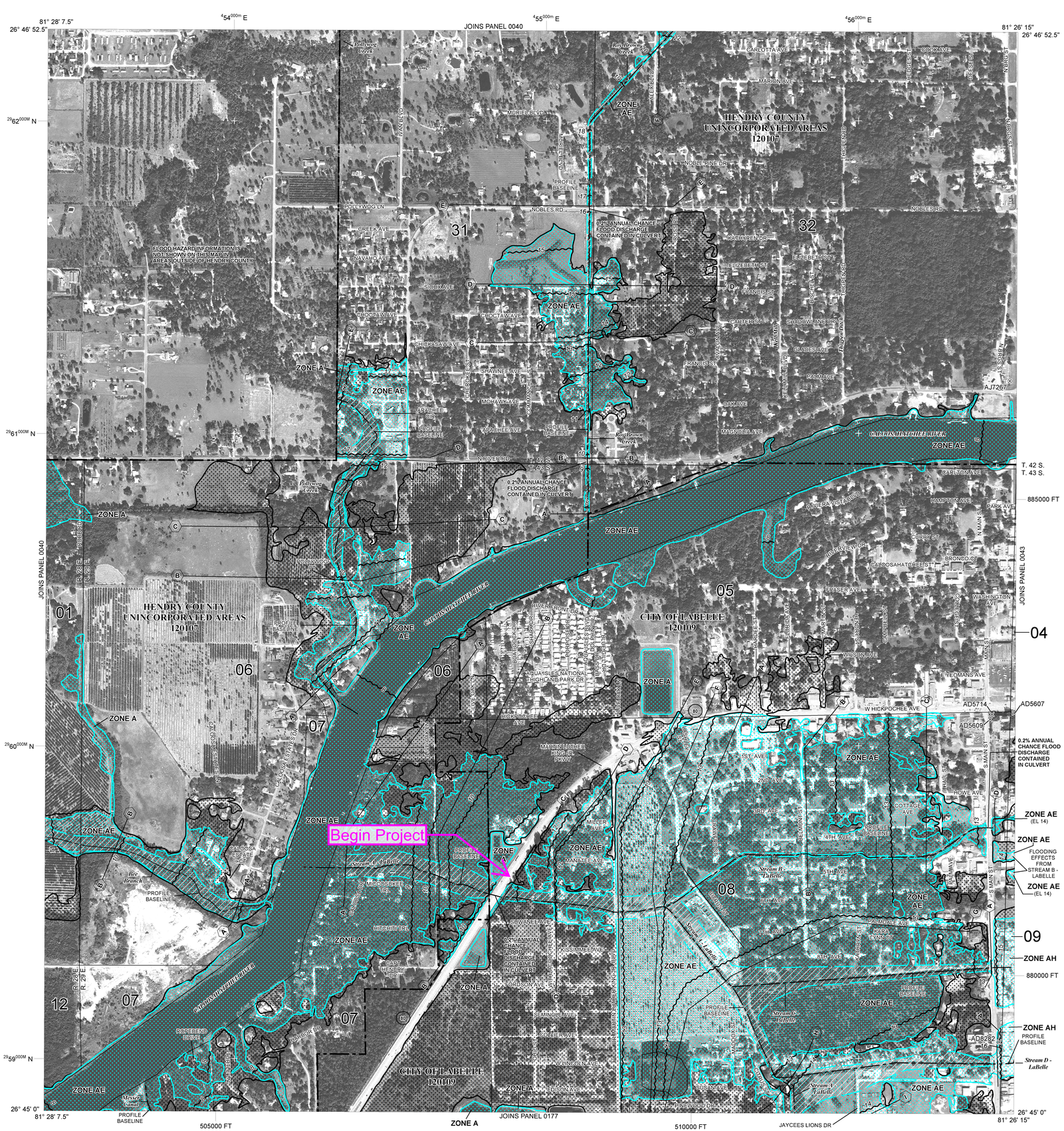
Base Map information shown on this FIRM was derived from NGS, SFWMD, USGS, US Census Bureau, Hendry County GIS Dept. Big Cypress Indian Res., and was provided in digital format using source material at a scale of 1:20,000 or larger.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.



SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain Boundary
- Floodway Boundary
- Zone D Boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- Culvert
- Bridge
- Footbridge
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 4989000m N — 1000-meter Universal Transverse Mercator grid ticks, zone 17
- 4989000FT — 5000-foot grid values: Florida State Plane Coordinate System, East zone (FIPS Zone 0901), Transverse Mercator
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
July 6, 2015
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0039D

FIRM
FLOOD INSURANCE RATE MAP

HENDRY COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 39 OF 650
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HENDRY COUNTY	120107	0039	D
LABELLE, CITY OF	120109	0039	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12051C0039D
EFFECTIVE DATE

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Florida State Plane East zone (FIPS 0901). The **horizontal datum** was the North American Datum of 1983 (NAD 83), GRS1980 Spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland, 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov/.

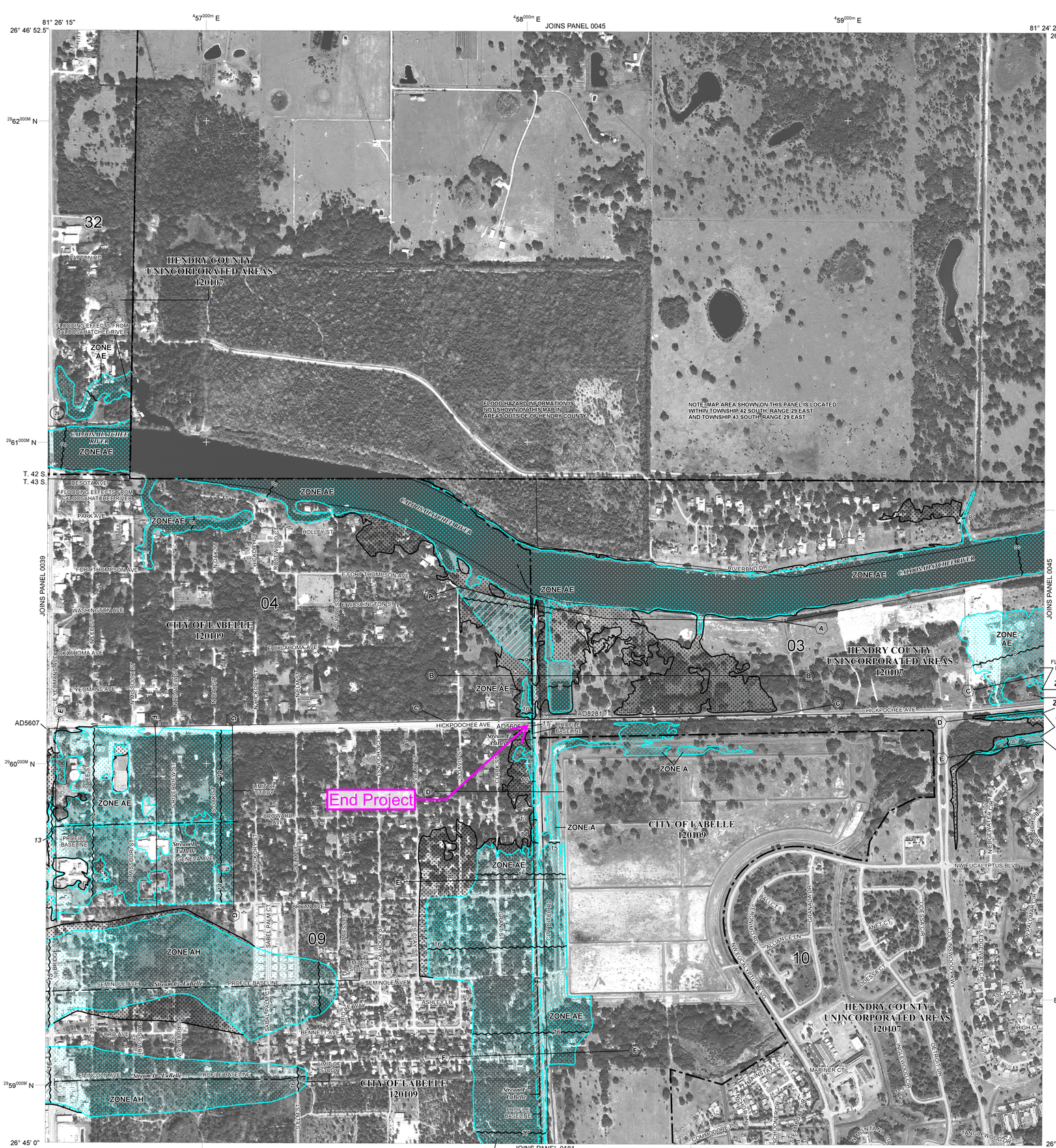
Base Map information shown on this FIRM was derived from NGS, SFWMD, USGS, US Census Bureau, Hendry County GIS Dept. Big Cypress Indian Res., and was provided in digital format using source material at a scale of 1:20,000 or larger.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.



SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain Boundary
- Floodway Boundary
- Zone D Boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Limit of Moderate Wave Action
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- Culvert
- Bridge
- Footbridge
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 4989000m N — 1000-meter Universal Transverse Mercator grid ticks, zone 17
- 4989000FT — 5000-foot grid values: Florida State Plane Coordinate System, East zone (FIPS Zone 0901), Transverse Mercator
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
July 6, 2015
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0043D

FIRM
FLOOD INSURANCE RATE MAP

HENDRY COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 43 OF 650
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HENDRY COUNTY	120107	0043	D
LABELLE, CITY OF	120109	0043	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12051C0043D
EFFECTIVE DATE

Appendix C
Spread Calculations

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 106+00

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0102 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.071 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.04 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.152 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.071 ft.
Cross Sectional Area at allowable depth	0.096 sf
Q_{free}	0.059 cfs
Number of slots	1
Total Flow	0.059 cfs
Check	Total Runoff is greater than Total Flow
Slot Efficiency	39%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 106+25

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0080 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.056 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.03 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.114 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.056 ft.
Cross Sectional Area at allowable depth	0.071 sf
Q_{free}	0.039 cfs
Number of slots	1
Total Flow	0.039 cfs
Check	Total Runoff is greater than Total Flow
Slot Efficiency	34%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 106+50

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0119 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.083 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.03 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.114 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.083 ft.
Cross Sectional Area at allowable depth	0.117 sf
Q_{free}	0.077 cfs
Number of slots	1
Total Flow	0.077 cfs
Check	Total Runoff is greater than Total Flow
Slot Efficiency	68%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 106+75

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0124 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.087 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.03 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.114 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.087 ft.
Cross Sectional Area at allowable depth	0.123 sf
Q_{free}	0.083 cfs
Number of slots	1
Total Flow	0.083 cfs
Check	Total Runoff is greater than Total Flow
Slot Efficiency	73%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 107+00

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0153 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.107 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.03 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.114 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.107 ft.
Cross Sectional Area at allowable depth	0.162 sf
Q_{free}	0.122 cfs
Number of slots	1
Total Flow	0.122 cfs
Check	Total Flow is greater than Total Runoff
Slot Efficiency	100%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 107+25

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0117 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.082 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.03 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.114 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.082 ft.
Cross Sectional Area at allowable depth	0.114 sf
Q_{free}	0.075 cfs
Number of slots	1
Total Flow	0.075 cfs
Check	Total Runoff is greater than Total Flow
Slot Efficiency	66%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 107+50

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0152 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.106 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.03 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.114 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.106 ft.
Cross Sectional Area at allowable depth	0.161 sf
Q_{free}	0.121 cfs
Number of slots	1
Total Flow	0.121 cfs
Check	Total Flow is greater than Total Runoff
Slot Efficiency	100%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 107+75

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0183 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.128 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.03 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.114 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.128 ft.
Cross Sectional Area at allowable depth	0.207 sf
Q_{free}	0.170 cfs
Number of slots	1
Total Flow	0.170 cfs
Check	Total Flow is greater than Total Runoff
Slot Efficiency	100%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 108+00

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0209 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.146 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.08 ac	Measured in CADD.
Runoff Coefficient	0.95	

Runoff (Q) $Q = C * I * A$ **0.304 cfs**

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.146 ft.
Cross Sectional Area at allowable depth	0.249 sf
Q_{free}	0.219 cfs
Number of slots	1
Total Flow	0.219 cfs

Check: Total Runoff is greater than Total Flow

Slot Efficiency: 72% **Slot in Sumped Condition** Use 100%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 1109+00

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.
Roadway Cross Slope	0.0267 ft./ft.
Allowable Hydraulic Head	**0.187 ft.**

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.04 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.152 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.187 ft.
Cross Sectional Area at allowable depth	0.355 sf
Q_{free}	0.353 cfs
Number of slots	1
Total Flow	0.353 cfs
Check	Total Flow is greater than Total Runoff
Slot Efficiency	100%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 1109+50

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.
Roadway Cross Slope	0.0307 ft./ft.
Allowable Hydraulic Head	**0.215 ft.**

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.05 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.190 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.215 ft.
Cross Sectional Area at allowable depth	0.437 sf
Q_{free}	0.465 cfs
Number of slots	1
Total Flow	0.465 cfs
Check	Total Flow is greater than Total Runoff
Slot Efficiency	100%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 1110+00

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.
Roadway Cross Slope	0.0273 ft./ft.
Allowable Hydraulic Head	**0.191 ft.**

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.05 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.190 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.191 ft.
Cross Sectional Area at allowable depth	0.366 sf
Q_{free}	0.368 cfs
Number of slots	1
Total Flow	0.368 cfs
Check	Total Flow is greater than Total Runoff
Slot Efficiency	100% **Slot in Sumped Condition**

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 1110+50

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.
Roadway Cross Slope	0.0265 ft./ft.
Allowable Hydraulic Head	**0.186 ft.**

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.06 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.228 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a / 12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.186 ft.
Cross Sectional Area at allowable depth	0.351 sf
Q_{free}	0.347 cfs
Number of slots	1
Total Flow	0.347 cfs
Check	Total Flow is greater than Total Runoff
Slot Efficiency	100%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 5/29/2025
Checked By: ENS
Date: 6/2/2025

Traffic Separator Slot Capacity

Sta. 1111+10

Weir Calculation

Determine Allowable Hydraulic Head

Allowable Spread Width*	7.0 ft.	
Roadway Cross Slope	0.0240 ft./ft.	**Slot in area of super-elevation transition.**
Allowable Hydraulic Head	**0.168 ft.**	

*45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 1.5' (gutter) = 7'

Hydrology

Rainfall Intensity	4.0 in./hr.	
Drainage Area Width	NA	
Drainage Area Length	NA	
Drainage Area	0.09 ac	Measured in CADD.
Runoff Coefficient	0.95	
Runoff (Q) $Q = C * I * A$	**0.342 cfs**	

Hydraulics

where:

C_w = 1.25 (2.3 in English Units)
L = Length of curb opening, m (ft)
W = Lateral width of depression, m (ft)
d = Depth at curb measured from the normal cross slope, m (ft), i.e., $d = T S_x$

The weir equation is applicable to depths at the curb approximately equal to the height of the opening plus the depth of the depression. Thus, the limitation on the use of Equation 4-28 for a depressed curb-opening inlet is:

$d \le h + a/(1000)$ ($d \le h + a/12$, in English units) (4-29)

where:

h = Height of curb-opening inlet, m (ft)
a = Depth of depression, mm (in)

Experiments have not been conducted for curb-opening inlets with a continuously depressed gutter, but it is reasonable to expect that the effective weir length would be as great as that for an inlet in a local depression. Use of Equation 4-28 will yield conservative estimates of the interception capacity.

The weir equation for curb-opening inlets without depression becomes:

$Q_i = C_w L d^{1.5}$ (4-30)

(HEC-22 equation 4-30)

	Traffic Separator Slot (Trapezoidal Weir, Type I)
C_w	2.3
Weir Length at bottom	1.00 ft.
Weir Length at top	2.50 ft.
Total Weir Depth	0.42 ft.
Side Slope (H:V)	4.80
Allowable Weir Depth	0.168 ft.
Cross Sectional Area at allowable depth	0.303 sf
Q_{free}	0.286 cfs
Number of slots	1
Total Flow	0.286 cfs
Check	Total Runoff is greater than Total Flow
Slot Efficiency	84%

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 6/1/2025
Checked By: ENS
Date: 6/2/2025

Subject: FPID 447878-1-52-01, SR 80 from N of Captain Hendry Dr to W of Forrey Dr
Traffic Separator and Median Slot Spread Calculations

Spread Equation (from FDOT Design Guides, Chapter 6.3):
Spread (T) = [(Q * n)/(0.56 * Sx^(5/3) * S^(1/2))]^(3/8)

Definitions:

E=% Intercepted (App. A: Storm Drain Handbook)
Q_i=E*Q
Q_{by}=Q - Q_i

Flow Q = c * i * A
Runoff Coefficient (c) = 0.95 for impervious
0.45 for pervious
0.85 for off-site
Intensity (i) = 4 in/hr
Manning's (n) = 0.016
Allowable Spread = 7 ft Design Speed = 45 mph, Keep half of lane clear, 11' (lane width)/2 + 1.5' (gutter)=7'

Structure No.	Baseline	Station	Side	Allowable Spread (ft)	Area (ac)	Q (cfs)	Upstream Structure No.	Qby (from upstr.) (cfs)	Total Q (cfs)	Spread T (ft)	Cross Slope (Sx) (ft/ft)	Longitudinal Slope (S)** (ft/ft)	Inlet Efficiency (E)	Intercepted Flow (Qi) (cfs)	Q By-pass (Qby) (cfs)
106+00*	SR 80	106+00	RT	7.0	0.04 0.00 0.00	0.15 0.00 0.00	Ref N/A	0.00	0.15	6.8	0.0102	0.0030	39%	0.06	0.09
106+25*	SR 80	106+25	RT	7.0	0.03 0.00 0.00	0.11 0.00 0.00	Ref 106+00	0.09	0.21	8.9	0.0080	0.0030	34%	0.07	0.14
106+50*	SR 80	106+50	RT	7.0	0.03 0.00 0.00	0.11 0.00 0.00	Ref 106+25	0.14	0.25	7.4	0.0119	0.0030	68%	0.17	0.08
106+75*	SR 80	106+75	RT	7.0	0.03 0.00 0.00	0.11 0.00 0.00	Ref 106+50	0.08	0.19	6.6	0.0124	0.0030	73%	0.14	0.05
107+00*	SR 80	107+00	RT	7.0	0.03 0.00 0.00	0.11 0.00 0.00	Ref 106+75	0.05	0.17	5.5	0.0153	0.0030	100%	0.17	0.00
107+25*	SR 80	107+25	RT	7.0	0.03 0.00 0.00	0.11 0.00 0.00	Ref 107+00	0.00	0.11	5.6	0.0117	0.0030	66%	0.08	0.04
107+50*	SR 80	107+50	RT	7.0	0.03 0.00 0.00	0.11 0.00 0.00	Ref 107+25	0.04	0.15	5.3	0.0152	0.0030	100%	0.15	0.00
107+75*	SR 80	107+75	RT	7.0	0.03 0.00 0.00	0.11 0.00 0.00	Ref 107+50	0.00	0.11	4.2	0.0183	0.0030	100%	0.11	0.00
1109+00	SR 80	1109+00	LT	7.0	0.04 0.00 0.00	0.15 0.00 0.00	Ref N/A	0.00	0.15	3.7	0.0267	0.0030	100%	0.15	0.00

Subject: FPID 447878-1-52-01, SR 80 from N of Captain Hendry Dr to W of Forrey Dr
Traffic Separator and Median Slot Spread Calculations

Spread Equation (from FDOT Design Guides, Chapter 6.3):
Spread (T) = [(Q * n)/(0.56 * Sx^(5/3) * S^(1/2))]^(3/8)

Definitions:

E=% Intercepted (App. A: Storm Drain Handbook)
Q_i=E*Q
Q_{by}=Q - Q_i
Flow Q = c * i * A
Runoff Coefficient (c) = 0.95 for impervious
0.45 for pervious
0.85 for off-site
Intensity (i) = 4 in/hr
Manning's (n) = 0.016
Allowable Spread = 7 ft Design Speed = 45 mph, Keep half of lane clear, 11' (lane width)/2 + 1.5' (gutter)=7'

Structure No.	Baseline	Station	Side	Allowable Spread (ft)	Area (ac)	Q (cfs)	Upstream Structure No.	Qby (from upstr.) (cfs)	Total Q (cfs)	Spread T (ft)	Cross Slope (Sx) (ft/ft)	Longitudinal Slope (S)** (ft/ft)	Inlet Efficiency (E)	Intercepted Flow (Qi) (cfs)	Q By-pass (Qby) (cfs)
1109+50	SR 80	1109+50	LT	7.0	0.05 0.00 0.00	0.19 0.00 0.00	Ref 1109+00	0.00	0.19	3.7	0.0307	0.0030	100%	0.19	0.00
1110+50	SR 80	1110+50	LT	7.0	0.06 0.00 0.00	0.23 0.00 0.00	Ref 1111+10	0.05	0.28	4.7	0.0265	0.0030	100%	0.28	0.00
1111+10*	SR 80	1111+10	LT	7.0	0.09 0.00 0.00	0.34 0.00 0.00	Ref N/A	0.00	0.34	5.4	0.0240	0.0030	84%	0.29	0.05

*Slot located in area of super-elevation transition.
**Longitudinal Slope based on asbuilts "07010-3523_SR 80_FP1941351_MP 8.330_MP 10.302."

Patel, Greene & Associates, LLC

Designed By: MMJ
Date: 6/1/2025
Checked By: ENS
Date: 6/2/2025

Subject: FPID 447878-1-52-01, SR 80 from N of Captain Hendry Dr to W of Forrey Dr
Existing Curb Inlet Spread Calculations - Overbuild Areas

Spread Equation (from FDOT Design Guides, Chapter 6.3):
Spread (T) = [(Q * n)/(0.56 * Sx^(5/3) * S^(1/2))]^(3/8)

Definitions:

E=% Intercepted (App. A: Storm Drain Handbook)
Q_i=E*Q
Q_{by}=Q - Q_i
Flow Q = c * i * A
Runoff Coefficient (c) = 0.95 for impervious
0.45 for pervious
0.85 for off-site
Intensity (i) = 4 in/hr
Manning's (n) = 0.016
Allowable Spread = 12 ft 45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 5' (bike lane) + 1.5' (gutter) = 12'

Structure No. (Overbuild Area)	Baseline	Station	Side	Allowable Spread (ft)	Area (ac)	Q (cfs)	Upstream Structure No.	Qby (from upstr.) (cfs)	Total Q (cfs)	Spread T (ft)	Cross Slope (Sx) (ft/ft)	Longitudinal Slope (S)* (ft/ft)	Inlet Efficiency (E)	Intercepted Flow (Qi) (cfs)	Q By-pass (Qby) (cfs)
EX - 90+00 (85+51 - 90+00)	SR 80	90+00.00	LT	12.0	0.48 0.00 0.00	1.82 0.00 0.00	Ref N/A	0.0	1.8	9.1	0.0282	0.0031	100%	1.8	0.0
EX - 93+00 (93+00 - 95+35)	SR 80	93+00.00	RT	12.0	0.26 0.00 0.00	0.99 0.00 0.00	Ref N/A	0.0	1.0	7.1	0.0291	0.0030	100%	1.0	0.0
EX - 101+00 (97+80 - 101+00)	SR 80	101+00.00	LT	12.0	0.36 0.00 0.00	1.37 0.00 0.00	Ref N/A	0.0	1.4	7.5	0.0323	0.0030	100%	1.4	0.0
EX - 1111+10 (1111+10 - 1114+47)	SR 80	1111+10.00	RT	12.0	0.47 0.00 0.00	1.79 0.00 0.00	Ref N/A	0.0	1.8	7.4	0.0386	0.0030	100%	1.8	0.0
EX - 1114+47 (1114+47 - 1116+17)	SR 80	1114+47.00	RT	12.0	0.18 0.00 0.00	0.68 0.00 0.00	Ref N/A	0.0	0.7	5.9	0.0317	0.0030	100%	0.7	0.0
EX - 1119+00 (1117+50 - 1119+00)	SR 80	1119+00.00	LT	12.0	0.18 0.00 0.00	0.68 0.00 0.00	Ref N/A	0.0	0.7	7.2	0.0230	0.0030	100%	0.7	0.0
EX - 1122+50 (1119+05 - 1122+50)	SR 80	1122+50.00	RT	12.0	0.37 0.00 0.00	1.41 0.00 0.00	Ref N/A	0.0	1.4	8.1	0.0291	0.0030	100%	1.4	0.0
EX - 1128+77 (1127+50 - 1128+77)	SR 80	1128+77.00	LT	12.0	0.15 0.00 0.00	0.57 0.00 0.00	Ref N/A	0.0	0.6	6.2	0.0263	0.0030	100%	0.6	0.0
EX - 1131+00 (1129+64 - 1131+00)	SR 80	1131+00.00	LT	12.0	0.16 0.00 0.00	0.61 0.00 0.00	Ref N/A	0.0	0.6	5.6	0.0317	0.0030	100%	0.6	0.0
EX - 1152+24 (1150+40 - 1152+24)	SR 80	1152+24.00	RT	12.0	0.21 0.00 0.00	0.80 0.00 0.00	Ref N/A	0.0	0.8	6.9	0.0260	0.0033	100%	0.8	0.0
EX - 1156+30 (1153+29 - 1156+30)	SR 80	1156+30.00	LT	12.0	0.34 0.00 0.00	1.29 0.00 0.00	Ref N/A	0.0	1.3	7.9	0.0283	0.0033	100%	1.3	0.0

Note: All contributing areas considered impervious for spread analysis.

Subject: FPID 447878-1-52-01, SR 80 from N of Captain Hendry Dr to W of Forrey Dr
Existing Curb Inlet Spread Calculations - Overbuild Areas

Spread Equation (from FDOT Design Guides, Chapter 6.3):
Spread (T) = [(Q * n)/(0.56 * Sx^(5/3) * S^(1/2))]^(3/8)

Definitions:

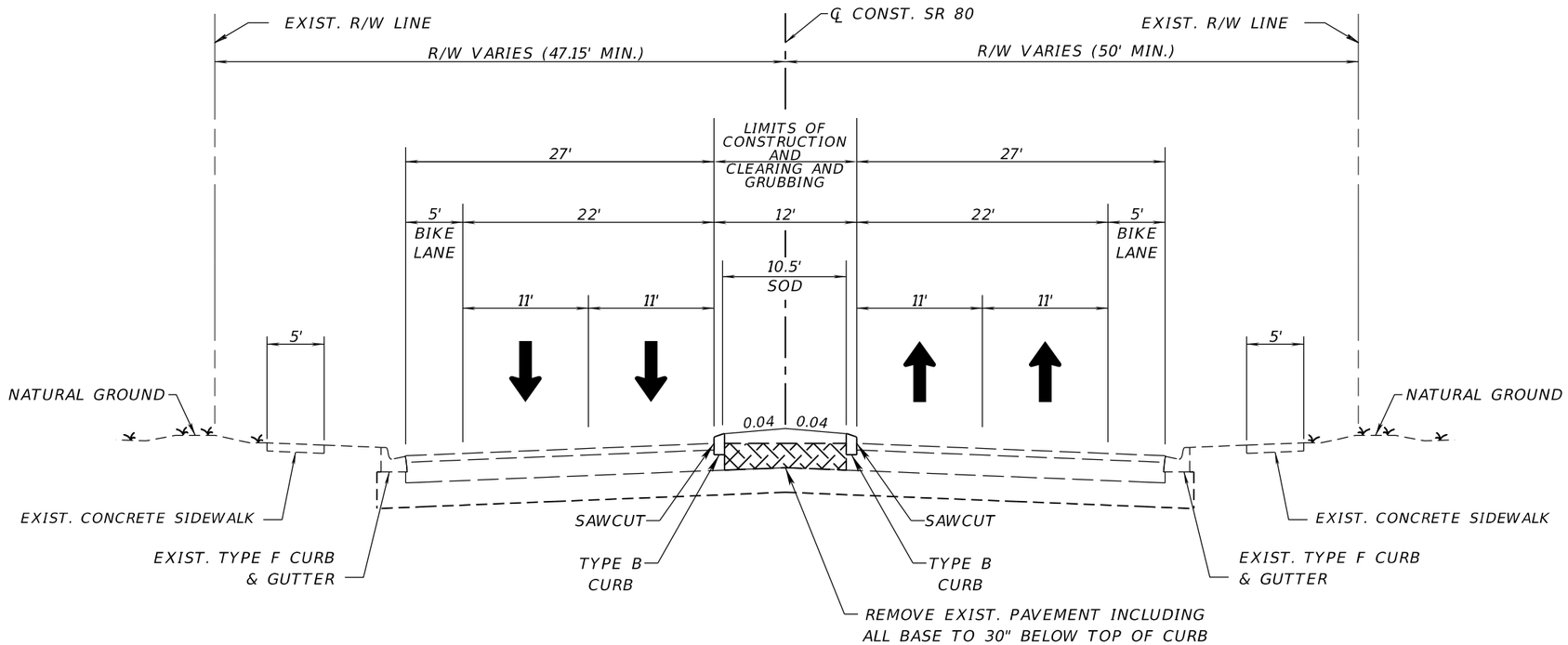
E=% Intercepted (App. A: Storm Drain Handbook)
Q_i=E*Q
Q_{by}=Q - Q_i
Flow Q = c * i * A
Runoff Coefficient (c) = 0.95 for impervious
0.45 for pervious
0.85 for off-site
Intensity (i) = 4 in/hr
Manning's (n) = 0.016
Allowable Spread = 12 ft 45 mph Design Speed, Keep 1/2 Lane Clear: 11' (lane width)/2 + 5' (bike lane) + 1.5' (gutter) = 12'

Structure No. (Overbuild Area)	Baseline	Station	Side	Allowable Spread (ft)	Area (ac)	Q (cfs)	Upstream Structure No.	Qby (from upstr.) (cfs)	Total Q (cfs)	Spread T (ft)	Cross Slope (Sx) (ft/ft)	Longitudinal Slope (S)* (ft/ft)	Inlet Efficiency (E)	Intercepted Flow (Qi) (cfs)	Q By-pass (Qby) (cfs)
EX - 1163+59 (1161+17 - 1163+59)	SR 80	1163+59.00	RT	12.0	0.26 0.00 0.00	0.99 0.00 0.00	Ref N/A	0.0	1.0	7.4	0.0273	0.0030	100%	1.0	0.0
EX - 1164+80 (1163+59 - 1164+80)	SR 80	1164+80.00	RT	12.0	0.15 0.00 0.00	0.57 0.00 0.00	Ref N/A	0.0	0.6	6.3	0.0255	0.0030	100%	0.6	0.0
EX - 1166+05 (1166+05 - 1167+97)	SR 80	1166+05.00	LT	12.0	0.22 0.00 0.00	0.84 0.00 0.00	Ref N/A	0.0	0.8	6.9	0.0274	0.0030	100%	0.8	0.0
EX - 1174+35 (1174+35 - 1178+17)	SR 80	1174+35.00	LT	12.0	0.42 0.00 0.00	1.60 0.00 0.00	Ref N/A	0.0	1.6	8.8	0.0276	0.0030	100%	1.6	0.0
EX - 1181+40 (1178+17 - 1181+40)	SR 80	1181+40.00	RT	12.0	0.36 0.00 0.00	1.37 0.00 0.00	Ref N/A	0.0	1.4	9.0	0.0242	0.0030	100%	1.4	0.0
EX - 1183+05 (1183+05 - 1186+40)	SR 80	1183+05.00	LT	12.0	0.37 0.00 0.00	1.41 0.00 0.00	Ref N/A	0.0	1.4	7.3	0.0329	0.0035	100%	1.4	0.0

*Longitudinal Slope based on asbuilts "07010-3523_SR 80_FP1941351_MP 8.330_MP 10.302."

Note: All contributing areas considered impervious for spread analysis.

Appendix D
Typical Sections



NOTE:
*MILLING AND RESURFACING TO MATCH EXISTING CROSS SLOPES UNLESS SPECIFIED OTHERWISE. SEE PLANS FOR LOCATIONS.

**SEE TYPICAL SECTION DETAIL SHEET FOR OVERBUILD DETAILS AND LOCATIONS.

TYPICAL SECTION
SR 80
STA. 537+23.65 TO STA. 1191+57.35

TRAVEL LANES, TURN LANES AND SIDE STREETS*

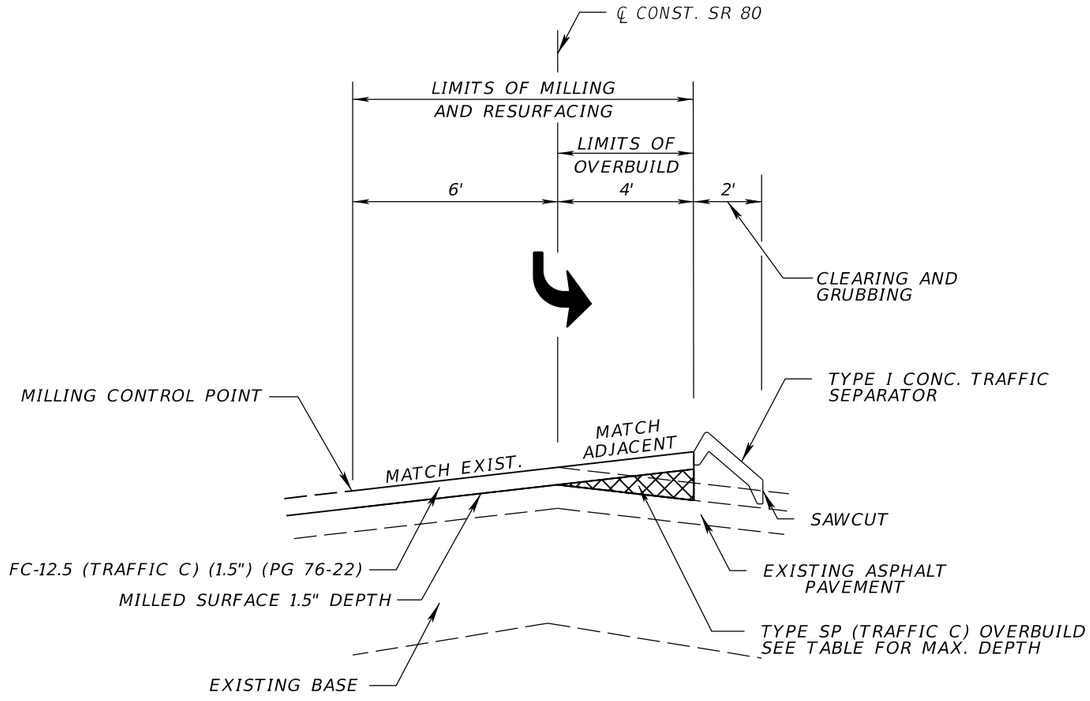
MILL EXISTING ASPHALT PAVEMENT (1.5")
OVERBUILD WITH SP 12.5 STRUCTURAL COURSE (TRAFFIC C)**
RESURFACE WITH FRICTION COURSE FC-12.5 (TRAFFIC C) (1.5") (PG 76-22)

TRAFFIC DATA

CURRENT YEAR = 2023 AADT = 24,000
ESTIMATED OPENING YEAR = 2025 AADT = 26,000
ESTIMATED DESIGN YEAR = 2025 AADT = 26,000
K = 9% D = 55.8% T = 8.1% (24 HOUR)
DESIGN HOUR T = 4.0%
DESIGN SPEED = 45 MPH STA. 1079+57.00 TO STA. 1117+16.36
35 MPH STA. 1117+16.36 TO STA. 1152+80.36
45 MPH STA. 1152+80.36 TO STA. 1191+34.76
CONTEXT CLASSIFICATION = C3C STA. 1079+57.00 TO STA. 1093+19.27
C2T STA. 1093+19.27 TO STA. 1191+34.76

REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			TYPICAL SECTION	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	KRIS KARANXHA, P.E. LICENSE NUMBER: 92368 FLORIDA TRANSPORTATION ENGINEERING, INC. 12550 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		3
					SR 80	HENDRY	447878-1-52-01		

6/19/2025 8:27:11 AM USER: Manny.Monreal
Z:\Projects\FDOT\447878152O1\Roadway\TYPSRD02.dgn



OVERBUILD AND RESURFACING DETAIL

NTS

(WB DIRECTIONAL MEDIAN OPENING SHOWN.
EB MEDIAN DIRECTIONAL OPENING IS MIRROR IMAGE.)

OVERBUILD DETAILS

LOCATION		EXIST. SLOPE (%)	PROPOSED SLOPE (%)	MAX. DEPTH OF OVERBUILD (IN.)	WIDTH OF OVERBUILD (FT.)	AREA OF OVERBUILD (SQ. FT.)
STATION	LANE					
86+22.59	WESTBOUND - LEFT TURN LANE	(-)0.5	EXIST. SLOPE	–	–	–
86+40.00	WESTBOUND - LEFT TURN LANE	(-)0.8	(+) 0.8	0.7	3.8	0.2
86+72.50	WESTBOUND - LEFT TURN LANE	(-)0.9	EXIST. SLOPE	–	–	–
86+51.50	WESTBOUND - LEFT TURN LANE	(-)1.0	EXIST. SLOPE	–	–	–
87+00.00	WESTBOUND - LEFT TURN LANE	(-)1.0	(+)1.0	1.1	4.0	0.2
88+00.00	WESTBOUND - LEFT TURN LANE	(-)0.5	(+)0.8	0.7	4.0	0.1
89+00.00	WESTBOUND - LEFT TURN LANE	(-)1.0	(+)1.3	1.1	4.0	0.2
89+28.07	WESTBOUND - LEFT TURN LANE	(-)0.7	EXIST. SLOPE	–	–	–
93+25.56	EASTBOUND - LEFT TURN LANE	(-)0.3	EXIST. SLOPE	–	–	–
94+00.00	EASTBOUND - LEFT TURN LANE	(-)1.0	(+)1.0	1.0		0.2
95+00.00	EASTBOUND - LEFT TURN LANE	(-)2.3	(+)1.3	1.6	4.0	0.3
95+80.00	EASTBOUND - LEFT TURN LANE	(-)1.5	EXIST. SLOPE	–	–	–
97+31.00	WESTBOUND - LEFT TURN LANE	(-)0.6	EXIST. SLOPE	–	–	–
98+00.00	WESTBOUND - LEFT TURN LANE	(-)0.1	(+)2.0	1.0	4.0	0.2
99+00.00	WESTBOUND - LEFT TURN LANE	(-)1.3	(+)2.0	1.7	4.0	0.3
99+86.57	WESTBOUND - LEFT TURN LANE	(-)1.2	EXIST. SLOPE	–	–	–
105+17.94	WESTBOUND - LEFT TURN LANE	(-)0.7	EXIST. SLOPE	–	–	–
105+33.00	WESTBOUND - LEFT TURN LANE	(-)1.1	0.0	0.5	4.0	0.1
105+47.00	WESTBOUND - LEFT TURN LANE	(-)1.3	EXIST. SLOPE	–	–	–
1112+20.00	EASTBOUND - LEFT TURN LANE	(-)0.6	EXIST. SLOPE	–	–	–
1113+00.00	EASTBOUND - LEFT TURN LANE	(-)0.3	(+)0.2	0.6	4.0	0.1
1114+00.00	EASTBOUND - LEFT TURN LANE	(-)0.5	(+)1.0	0.7	4.0	0.1
1115+00.00	EASTBOUND - LEFT TURN LANE	(-)0.8	(+)0.8	0.7	4.0	0.1
1115+52.00	EASTBOUND - LEFT TURN LANE	(-)1.8	EXIST. SLOPE	–	–	–
1117+18.95	WESTBOUND - LEFT TURN LANE	(-)0.5	EXIST. SLOPE	–	–	–
1117+34.00	WESTBOUND - LEFT TURN LANE	(-)0.6	(+)0.3	0.4	4.0	0.1
1117+48.00	WESTBOUND - LEFT TURN LANE	(-)0.5	EXIST. SLOPE	–	–	–
1117+69.00	WESTBOUND - LEFT TURN LANE	(-)1.3	EXIST. SLOPE	–	–	–
1118+00.00	WESTBOUND - LEFT TURN LANE	(-)0.8	(+)0.8	0.8	4.0	0.1
1119+00.00	WESTBOUND - LEFT TURN LANE	(-)0.8	(+)1.0	0.9	4.0	0.2
1119+57.50	WESTBOUND - LEFT TURN LANE	(-)0.7	EXIST. SLOPE	–	–	–
1120+69.00	EASTBOUND - LEFT TURN LANE	(+)1.7	EXIST. SLOPE	–	–	–
1121+00.00	EASTBOUND - LEFT TURN LANE	(-)0.3	(+)2.0	1.1	4.0	0.2
1122+00.00	EASTBOUND - LEFT TURN LANE	(-)0.2	(+)1.5	0.8	4.0	0.1
1122+51.50	EASTBOUND - LEFT TURN LANE	(+)0.9	EXIST. SLOPE	–	–	–
1122+72.50	EASTBOUND - LEFT TURN LANE	(-)1.0	EXIST. SLOPE	–	–	–
1123+00.00	EASTBOUND - LEFT TURN LANE	(-)1.8	(+)0.1	0.1	0.6	0.1
1123+01.55	EASTBOUND - LEFT TURN LANE	(-)1.0	EXIST. SLOPE	–	–	–
1127+57.90	WESTBOUND - LEFT TURN LANE	(-)0.4	EXIST. SLOPE	–	–	–
1127+73.00	WESTBOUND - LEFT TURN LANE	(-)0.3	(+)0.5	0.4	4.2	0.1
1127+88.00	WESTBOUND - LEFT TURN LANE	(-)0.1	EXIST. SLOPE	–	–	–
1128+09.00	WESTBOUND - LEFT TURN LANE	(-)0.2	EXIST. SLOPE	–	–	–
1129+00.00	WESTBOUND - LEFT TURN LANE	(-)0.2	(+)1.2	0.8	5.7	0.2
1130+00.00	WESTBOUND - LEFT TURN LANE	(-)1.3	(+)1.3	2.2	6.9	0.6
1130+24.61	WESTBOUND - LEFT TURN LANE	(-)1.2	EXIST. SLOPE	–	–	–
1150+15.80	EASTBOUND - LEFT TURN LANE	(-)0.7	EXIST. SLOPE	–	–	–
1151+00.00	EASTBOUND - LEFT TURN LANE	(-)1.0	(+)1.0	1.0	4.0	0.2
1152+00.00	EASTBOUND - LEFT TURN LANE	(-)1.8	(+)1.5	1.6	4.0	0.3
1152+33.50	EASTBOUND - LEFT TURN LANE	(-)2.2	EXIST. SLOPE	–	–	–
1152+54.50	EASTBOUND - LEFT TURN LANE	(-)1.4	EXIST. SLOPE	–	–	–

6/19/2025 8:27:10 AM USER: Manny Monreal
Z:\Projects\FDOT\447878152O1\Roadway\TYPSRD02.dgn

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD
KRIS KARANXHA, P.E.
LICENSE NUMBER: 92368
FLORIDA TRANSPORTATION ENGINEERING, INC.
12550 TELECOM DRIVE
TEMPLE TERRACE, FLORIDA 33637

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 80	HENDRY	447878-1-52-01

TYPICAL SECTION DETAIL

SHEET NO. 4

OVERBUILD DETAILS Cont.

LOCATION		EXIST. SLOPE (%)	PROPOSED SLOPE (%)	MAX. DEPTH OF OVERBUILD (IN.)	WIDTH OF OVERBUILD (FT.)	AREA OF OVERBUILD (SQ. FT.)
STATION	LANE					
1152+64.00	EASTBOUND - LEFT TURN LANE	(-)1.0	(+)1.6	1.0	3.1	0.1
1152+74.10	EASTBOUND - LEFT TURN LANE	(-)0.9	EXIST. SLOPE	–	–	–
1152+88.90	WESTBOUND - LEFT TURN LANE	(-)1.3	EXIST. SLOPE	–	–	–
1153+00.00	WESTBOUND - LEFT TURN LANE	(-)0.1	(+)0.6	0.6	3.3	0.1
1153+08.50	WESTBOUND - LEFT TURN LANE	(-)1.0	EXIST. SLOPE	–	–	–
1153+29.50	WESTBOUND - LEFT TURN LANE	(-)0.9	EXIST. SLOPE	–	–	–
1154+00.00	WESTBOUND - LEFT TURN LANE	(-)1.3	(+)1.0	1.1	4.0	0.2
1155+00.00	WESTBOUND - LEFT TURN LANE	(-)0.8	(+)1.0	1.0	4.0	0.2
1155+84.09	WESTBOUND - LEFT TURN LANE	(-)0.9	EXIST. SLOPE	–	–	–
1162+37.38	EASTBOUND - LEFT TURN LANE	(-)1.0	EXIST. SLOPE	–	–	–
1163+00.00	EASTBOUND - LEFT TURN LANE	(-)1.8	(+)1.8	1.6	4.0	0.3
1164+00.00	EASTBOUND - LEFT TURN LANE	(-)1.5	(+)1.8	1.6	4.0	0.3
1164+92.50	EASTBOUND - LEFT TURN LANE	(-)0.9	EXIST. SLOPE	–	–	–
1165+13.50	EASTBOUND - LEFT TURN LANE	(-)0.9	EXIST. SLOPE	–	–	–
1165+23.00	EASTBOUND - LEFT TURN LANE	(-)0.9	(+)0.8	0.6	3.1	0.1
1165+33.10	EASTBOUND - LEFT TURN LANE	(-)0.8	EXIST. SLOPE	–	–	–
1165+48.40	WESTBOUND - LEFT TURN LANE	(-)0.7	EXIST. SLOPE	–	–	–
1165+58.00	WESTBOUND - LEFT TURN LANE	(-)1.0	(+)1.0	0.7	3.0	0.1
1165+68.00	WESTBOUND - LEFT TURN LANE	(-)1.0	EXIST. SLOPE	–	–	–
1165+89.00	WESTBOUND - LEFT TURN LANE	(-)1.4	EXIST. SLOPE	–	–	–
1166+00.00	WESTBOUND - LEFT TURN LANE	(-)1.3	(+)1.3	1.3	4.0	0.2
1167+00.00	WESTBOUND - LEFT TURN LANE	(-)1.5	(+)1.3	1.3	4.0	0.2
1168+00.00	WESTBOUND - LEFT TURN LANE	(-)1.5	(+)2.0	1.8	4.0	0.3
1168+44.00	WESTBOUND - LEFT TURN LANE	(-)0.8	EXIST. SLOPE	–	–	–
1173+78.94	WESTBOUND - LEFT TURN LANE	0.0	EXIST. SLOPE	–	–	–
1174+00.00	WESTBOUND - LEFT TURN LANE	(-)0.1	(+)0.3	0.3	4.0	0.1
1174+07.50	WESTBOUND - LEFT TURN LANE	(-)0.2	EXIST. SLOPE	–	–	–
1174+28.50	WESTBOUND - LEFT TURN LANE	(-)0.5	EXIST. SLOPE	–	–	–
1175+00.00	WESTBOUND - LEFT TURN LANE	(-)1.2	(+)0.8	1.0	4.0	0.2
1176+00.00	WESTBOUND - LEFT TURN LANE	(-)0.8	(+)0.5	0.7	4.0	0.1
1176+83.50	WESTBOUND - LEFT TURN LANE	(-)1.5	EXIST. SLOPE	–	–	–
1178+93.50	EASTBOUND - LEFT TURN LANE	0.0	EXIST. SLOPE	–	–	–
1179+00.00	EASTBOUND - LEFT TURN LANE	0.0	(+)1.5	0.4	1.3	0.1
1180+00.00	EASTBOUND - LEFT TURN LANE	(-)1.3	(+)2.3	1.8	4.0	0.3
1181+00.00	EASTBOUND - LEFT TURN LANE	(-)1.3	(+)2.3	1.7	4.0	0.3
1181+48.50	EASTBOUND - LEFT TURN LANE	(-)1.1	EXIST. SLOPE	–	–	–
1181+69.50	EASTBOUND - LEFT TURN LANE	(-)1.5	EXIST. SLOPE	–	–	–
1181+79.00	EASTBOUND - LEFT TURN LANE	(-)1.4	(+)1.7	1.2	3.1	0.1
1181+89.10	EASTBOUND - LEFT TURN LANE	(-)1.2	EXIST. SLOPE	–	–	–
1182+15.90	WESTBOUND - LEFT TURN LANE	(-)1.3	EXIST. SLOPE	–	–	–
1182+26.00	WESTBOUND - LEFT TURN LANE	(-)1.3	(+)2.5	1.4	3.1	0.2
1182+35.50	WESTBOUND - LEFT TURN LANE	(-)1.3	EXIST. SLOPE	–	–	–
1182+56.50	WESTBOUND - LEFT TURN LANE	(-)1.2	EXIST. SLOPE	–	–	–
1183+00.00	WESTBOUND - LEFT TURN LANE	(-)1.0	(+)2.3	1.6	4.0	0.3
1184+00.00	WESTBOUND - LEFT TURN LANE	(-)1.0	(+)2.0	1.5	4.0	0.3
1185+00.00	WESTBOUND - LEFT TURN LANE	(-)1.3	(+)2.2	1.0	2.3	0.1
1185+11.50	WESTBOUND - LEFT TURN LANE	(-)1.1	EXIST. SLOPE	–	–	–

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

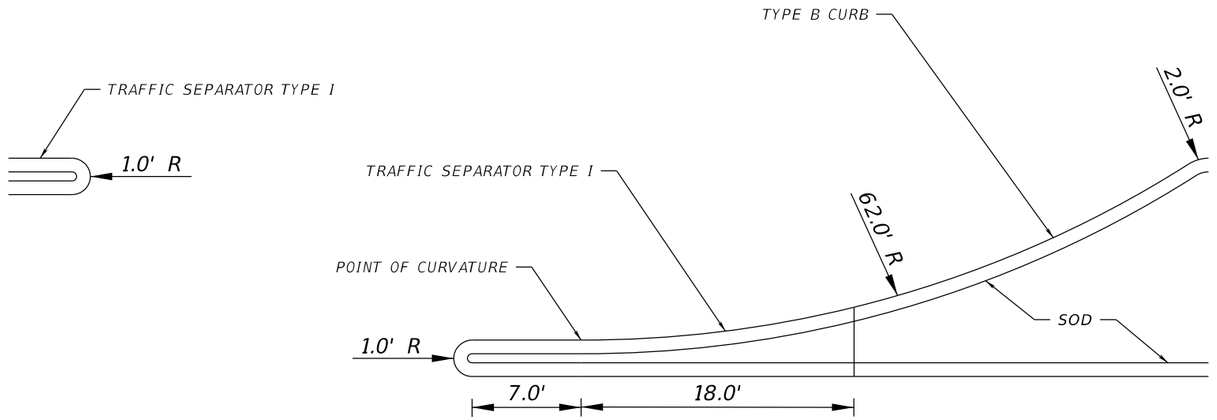
ENGINEER OF RECORD
KRIS KARANXHA, P.E.
LICENSE NUMBER: 92368
FLORIDA TRANSPORTATION ENGINEERING, INC.
12550 TELECOM DRIVE
TEMPLE TERRACE, FLORIDA 33637

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 80	HENDRY	447878-1-52-01

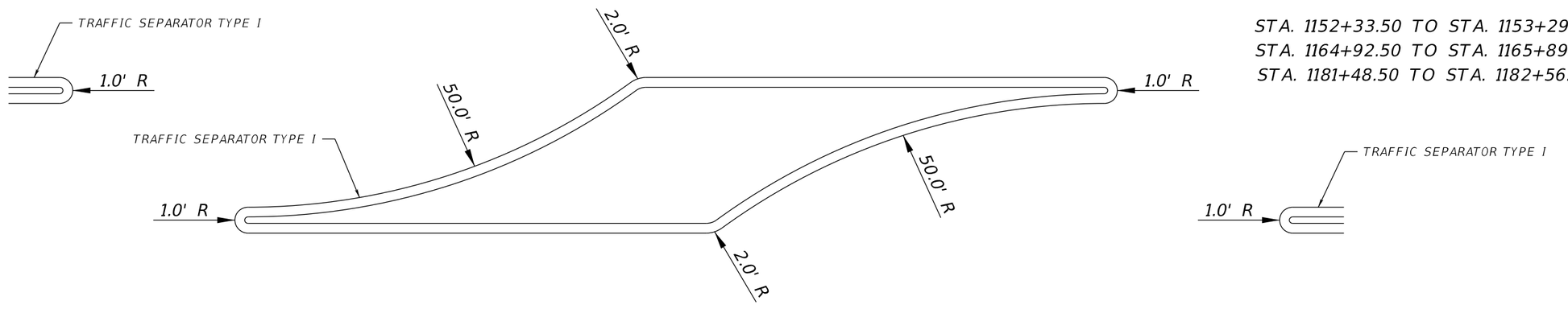
TYPICAL SECTION DETAIL

SHEET NO. 5



STA. 86+10.00 TO STA. 86+72.50
STA. 105+05.50 TO STA. 105+68.00
STA. 1115+52.00 TO STA. 1116+14.50
STA. 1117+6.50 TO STA. 1117+69.00
STA. 1122+51.50 TO STA. 1123+14.00
STA. 1127+88.00 TO STA. 1128+9.00
STA. 1173+66.50 TO STA. 1174+28.50

DIRECTIONAL MEDIAN OPENING (NTS)

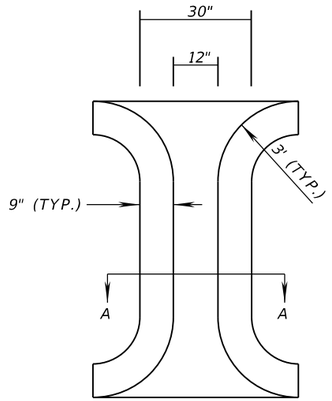


STA. 1152+33.50 TO STA. 1153+29.50
STA. 1164+92.50 TO STA. 1165+89.00
STA. 1181+48.50 TO STA. 1182+56.50

TWO-WAY DIRECTIONAL MEDIAN OPENING (NTS)

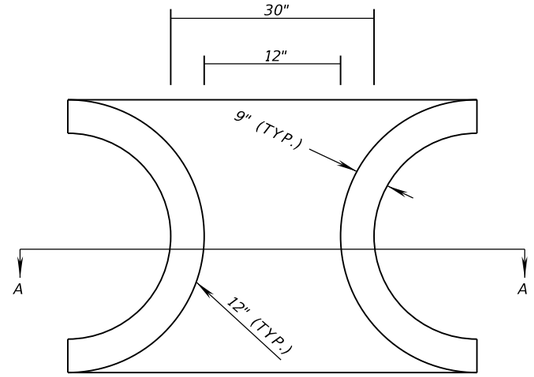
REVISIONS				ENGINEER OF RECORD	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			MEDIAN DETAIL	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	KRIS KARANXHA, P.E. LICENSE NUMBER: 92368 FLORIDA TRANSPORTATION ENGINEERING, INC. 12550 TELECOM DRIVE TEMPLE TERRACE, FLORIDA 33637	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		6
					SR 80	HENDRY	447878-1-52-01		

6/19/2025 8:27:10 AM USER: Manny Monreal
Z:\Projects\FDOT\447878152O1\Roadway\TYPSRD02.dgn



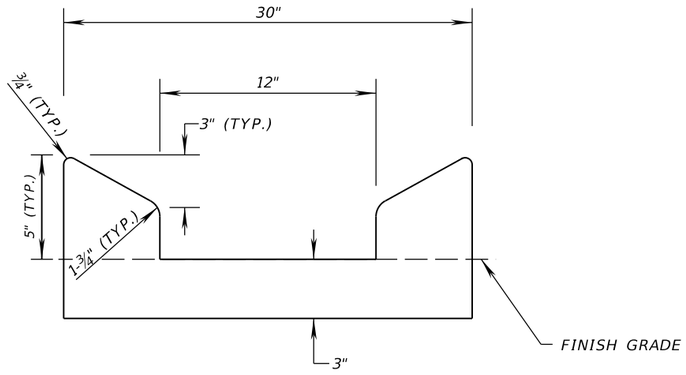
CONCRETE MEDIAN FLUME DETAIL

NTS



DRAINAGE SLOT DETAIL FOR CONCRETE TRAFFIC SEPARATOR

NTS

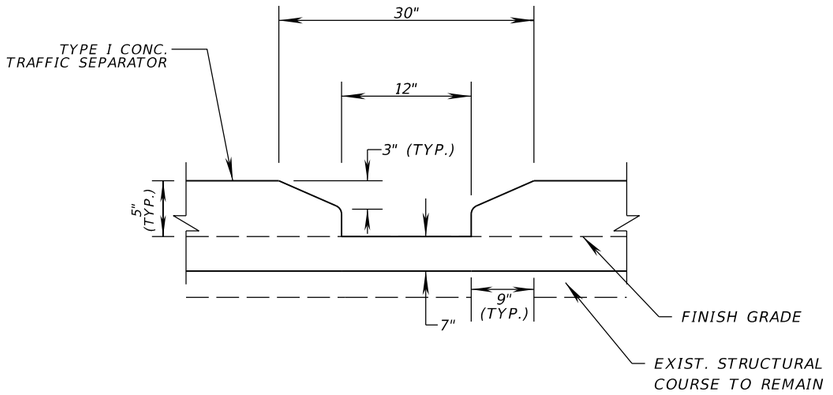


SECTION A-A

NTS

CENTER OF FLUME LOCATIONS

STA. 1109+00.00	STA. 1109+50.00
STA. 1110+00.00	STA. 1110+50.00
	STA. 1111+10.00



SECTION A-A

NTS

CENTER OF DRAINAGE SLOT LOCATIONS

STA. 106+00.00	STA. 106+25.00
STA. 106+50.00	STA. 106+75.00
STA 107+00.00	STA. 107+25.00
STA. 107+50.00	STA. 107+75.00
STA. 108+00.00	STA. 1112+00.00
	STA. 1112+10.00

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

ENGINEER OF RECORD

KRIS KARANXHA, P.E.
LICENSE NUMBER: 92368
FLORIDA TRANSPORTATION ENGINEERING, INC.
12550 TELECOM DRIVE
TEMPLE TERRACE, FLORIDA 33637

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 80	HENDRY	447878-1-52-01

MEDIAN DETAIL

SHEET NO. 7

6/19/2025 8:27:09 AM USER: Manny.Monreal
Z:\Projects\FDOT\44787815201\Roadway\TYPSRD02.dgn

Z:\Projects\FDOT\44787815201\Roadway\TYPSRD02.dgn : DRAINAGE SLOT DETAIL
USER: Manny.Monreal 6/19/2025 8:27:09 AM

Appendix E

Phase II ERC Comments

Submittal Report

Financial Project:	447878-1-52-01	Submittal Type:	PLANS
Submittal Phase:	PHASE II	Submittal Staff Type:	CONSULTANT
Received Date:	1/4/2024	Response Due Date:	2/29/2024
Grace Period:	0	District:	FIRST
Status:	CLOSED	Create Date:	1/4/2024
Create User Id:	KNAKNPN	Last Update:	3/8/2024
		Last Update User Id:	KNAKNPN

Description:

447878-1-52-01, Phase II Plans Submittal:

This email shall serve as a transmittal letter for a Phase II plans review. Please provide Phase II comments for this project. Plans and supporting documents can be found in the ERC under the Documents tab.

Threads:

No	Status	Current Holder	Reference	Categories
58	COMMENT RESOLVED			DRAINAGE

Created By	Created On	Version	Delegate For
Anthony Celani	1/31/2024	1	

No drainage analysis//design documentation was provided in the submittal. Spread calculations are needed for any drainage slots within raised concrete median. Spread calculations are also needed for any overbuild areas that will change the drainage path towards the curb inlets. Any violations of spread will require additional drainage slots in median and/or additional outside curb inlets.

Kris Karanxha	2/27/2024	1

A tech memo with spread calculations will be provided for future submittals.

Ryan L Patterson	3/7/2024	1

Thank you very much for your comment. The EOR has taken your documented comment and has placed the updated information within their Phase II-R Submission.

No	Status	Current Holder	Reference	Categories
59	RESPONSE ACCEPTED		Roadway Plans Sheet	DRAINAGE

Created By	Created On	Version	Delegate For
Ryan Molloy	1/31/2024	1	

Proposed traffic separator and overbuild in the areas listed below will change the amount of flow area going to the existing curb inlets. Spread calculations need to be completed to ensure allowable spread is maintained per criteria in section 3.9.1 of the FDOT Drainage Manual. No spread calcs were provided with this submittal.

STA: 87+00 - 89+00
STA: 94+00 - 95+00
STA: 98+00 - 99+00
STA: 101+00 - 102+00
STA: 106+00
STA: 1118+00 - 1119+00
STA: 1121+00 - 1122+00
STA: 1151+00 - 1152+00
STA: 1154+00 - 1155+00
STA: 1163+00 - 1164+00
STA: 1166+00 - 1168+00
STA: 1175+00 - 1176+00
STA: 1180+00 - 1181+00
STA: 1183+00 - 1184+00

Kris Karanxha	2/23/2024	1

A drainage tech memo with spread calculations will be provided for future submittals.

Ryan Molloy	3/6/2024	1

Response Accepted & Comment Closed