



Agenda Item

SUBJECT/TITLE: Franklin Boulevard Flood Relief Project and Roadway Options	
Date: September 20, 2011	Requested By: Blueprint 2000 Staff
Contact Person: Wayne Tedder	Type of Item: Discussion

STATEMENT OF ISSUE:

This agenda item provides an update to the TCC and CAC on the Franklin Boulevard Flood Relief Project and the results of the September Intergovernmental Meeting. Alternative roadway cross-sections are provided as related to the reconstruction of Franklin Boulevard after the box culvert construction.

SUPPLEMENTAL INFORMATION:

A meeting was held on September 29 with the City of Tallahassee and Leon County Public Works and Stormwater Departments to discuss the permanent drainage and roadway design. The following sections describe the results of that meeting.

1. Drainage Improvement.

Attachment 1 (3 maps) and Attachment 2 (two tables and graph) are the Model Summary Results and includes flood elevations, flood depth and change in the depth of flooding for a 25 year-8 hour storm event (8.5” rainfall) and also a 100 year-8 hour storm event (11.0” rainfall). The 25 year event is the condition established by both COT and Leon County for the Level of Service for arterial roads. The 100 year event is the flood level used by the Federal Emergency Management Agency (FEMA) and administered by COT under the Flood Insurance program. Four conditions for both events were tabulated for eleven (11) locations on the Saint Augustine Branch (SAB) below South Adams Street to Leon High School (LHS) at the south parking lot. Four conditions are listed below:

- **Existing Condition as of 2009** – The pre-improvement flood stages as a reference condition.
- **Temporary condition with Segment 3A Improvement** – The restrictive conditions necessary to meet a maximum one foot rise in the mapped 100 year flood stage as required by FEMA following the proposed Franklin Boulevard concrete box culvert improvement (Capital Cascades Segment 1) and the Monroe to South Adams Street concrete box culvert improvement (Capital Cascades Segment 3A).

- **Permanent condition with Segment 3A Improvement** – The condition which will result from the proposed Franklin Boulevard concrete box culvert improvement and the Monroe to South Adams Street concrete box culvert improvement.
- **Permanent Condition (Improved to Stearns Street)** – The condition that will result after construction of the planned improvements for SAB from Adams Street to Stearns Street. Provided to show continuity.

Summary of Model Results

Temporary with 3A Improvement

- LHS - reduces the 25 yr parking lot flooding by 13” and the 100 yr by 10”.
- Franklin Boulevard corridor and Lafayette Street intersection - 25 yr. and 100 yr. flooding is reduced to only shallow (6”-12”) intersection flooding created by inadequate side street collection systems. Roadway flooding is short duration (<1 hour) during these events.
- Cascades Park – Flood stages are within the planned flooding stages for the lower sections.
- South Monroe Street @ CSX Underpass – flood depths are reduced 14”-18”, flood depths > 24”

Permanent with 3A Improvement

- LHS - reduces the 25 yr parking lot flooding by 30” and the 100 yr by 24”.
- Franklin Boulevard corridor and Lafayette Street intersection - 25 yr. and 100 yr. flooding is reduced to only shallow (6”-12”) intersection flooding created by inadequate side street collection systems. Some short duration (<1 hour) roadway flooding occurs during a 100 yr. event.
- Cascades Park – Flood stages are within the planned flooding stages in the lower sections.
- South Monroe Street @ CSX Underpass – flood depths are reduced by 14”-18”, but flood depths > 24”

Permanent (Improved to Stearns St.)

- LHS - reduces the 25 yr parking lot flooding by 30” and the 100 yr by 24”.
- Franklin Boulevard corridor and Lafayette Street intersection - 25 yr. and 100 yr. flooding is reduced to only shallow (6-12”) intersection flooding created by inadequate side street collection systems. The short duration (<1 hour) roadway flooding during a 100 yr. event is reduced, not eliminated.
- Cascades Park – Flood stages are within permissible flooding conditions in all sections.
- South Monroe Street @ CSX Underpass – flood depths are reduced to 2” for 25 yr and 7” for 100 yr.

Drainage configuration approved by Leon County Public Works (Tony Park) and COT Public Works (Gabe Menendez):

- Inlet size at Leon High School: 28 sq. ft.
- Staging at Boca Chuba outfall weir 94.5 ft. NAVD 88 100/8 event &
NAVD 88 25/8 event
- Orifice size at Boca Chuba 5 ft. x 2.5 ft.

2. Roadway Design - Change of the Typical Section to provide Sidewalks and Bike Lanes.

According to Blueprint's current cost estimates, the remaining HUD funding would be sufficient to cover the cost of concrete box culvert installation on Franklin Boulevard between Pensacola Street and East Tennessee Street, some closed collection system improvements for surface runoff and some road restoration, but would not cover major road reconstruction required or pedestrian amenities and bike lanes.

It appears that the additional \$1.65 million HUD grant can be secured for Segment 3 (between Monroe Street and South Adams Street), and as a result, some additional work may be possible on Franklin Boulevard. The goal of such additional effort would be to bring the design of Franklin Boulevard reconstruction closer to the ultimate cross section approved in the original Master Plan (2005), and to address drainage of side streets (additional survey and catchment areas drainage studies will be required).

The Invitation For Bid was advertised on September 25, 2011, and the bid package included drainage improvements and Franklin Boulevard northbound lanes reconstruction. Southbound lanes were to be milled and resurfaced. Depending on the amount of the lowest bid and the level of available funding, more work could be done as a change order to the contract.

At the September 19, 2011, IA meeting, the Board approved Blueprint staff's recommended options 1A and 1B of the meeting's Agenda, which included the following project modification and additional funds authorization:

Option 1A: *Authorize the advertisement for Construction Services for the Franklin Boulevard Flood Relief Project at a cost not to exceed \$5,400,000 (\$1,800,000 more than currently authorized), which includes 20% for CE&I services and project contingency.*

1. Authorize the Intergovernmental Management Committee to advertise, negotiate and award a contract with the selected construction firm and if negotiations are unsuccessful be authorized to move to the next firm in sequence.

2. Authorize the IMC to negotiate and approve a scope and fee with the CE&I firm selected under a separate procurement.

Option 1B: *Based on input received through TCC members and City/County staff, authorize Blueprint to redesign the northbound roadway 10 feet to the west (at a cost of up to \$200,000) which will accommodate a 10-foot wide inside lane, 13-foot wide outside lane and a future 6-foot sidewalk, and negotiate a Construction Change Order with the selected construction firm at a*

cost not to exceed \$700,000, bringing the total authorization to \$6,300,000. Direct staff to work with the CRTPA to identify a funding source for the sidewalk on the east side.

Wayne Tedder discussed the above mentioned road modifications on Franklin Boulevard, sketched road typical cross sections for various scenarios, and stated that the additional road reconstruction concepts were suggested by some Commissioners (e.g. two-lane road options). He stressed the importance of preparing the change order soon after award of the contract, and negotiating the price of the changes. He added that DCA has been assured that the original project schedule and timely disbursement of the HUD funds will be adhered to.

Gabe Menendez indicated that the City would also consider reducing the number of Franklin Boulevard travel lanes to two (one in each direction) by leaving the southbound lanes in place and creating a “landscaped area with pedestrian amenities” within the present median and northbound lanes. The project is located within the “multi-modal” area in Tallahassee, where pedestrian amenities and bike lanes are required.

Based on community and political support for sidewalks, bike lanes and reduced travel lanes along Franklin Boulevard, Blueprint will conduct a Public Meeting to identify the preferred public option on October 27, 2011. The purpose of the meeting will be to present options (**4-lane and 2-lane options** – see **Attachments 3, 4 and 5**) to the public, to gauge public preference for any of the presented alternatives and report the findings to the IA for their final decision.

Additional analysis and cost estimating is ongoing and more information will be provided to the Committees prior to or at the October 20 meetings.

OPTIONS:

To be determined.

RECOMMENDED ACTION:

To be determined.

ATTACHMENT(S):

Attachment 1 – Flood Maps (3 maps)

Attachment 2 – Model Summary Results (2 tables and graph; not included in CAC Agenda)

Attachment 3 – Four-lane Option A

Attachment 4 – Four-lane Option B

Attachment 5 – Two-lane Option (two graphics)



FRANKLIN BOULEVARD DESIGN

100 YEAR FLOODPLAN Approved CLOMR

LEGEND

- PRE CASCADE PARK DEVELOPMENT FEMA 100 YEAR FLOODPLAIN AS MAPPED BY FEMA BASED ON OLDER TOPOGRAPHIC INFORMATION
- APPROVED CASCADE PARK CLOMR

FFE = 112.65'
CLOMR = 113.11'

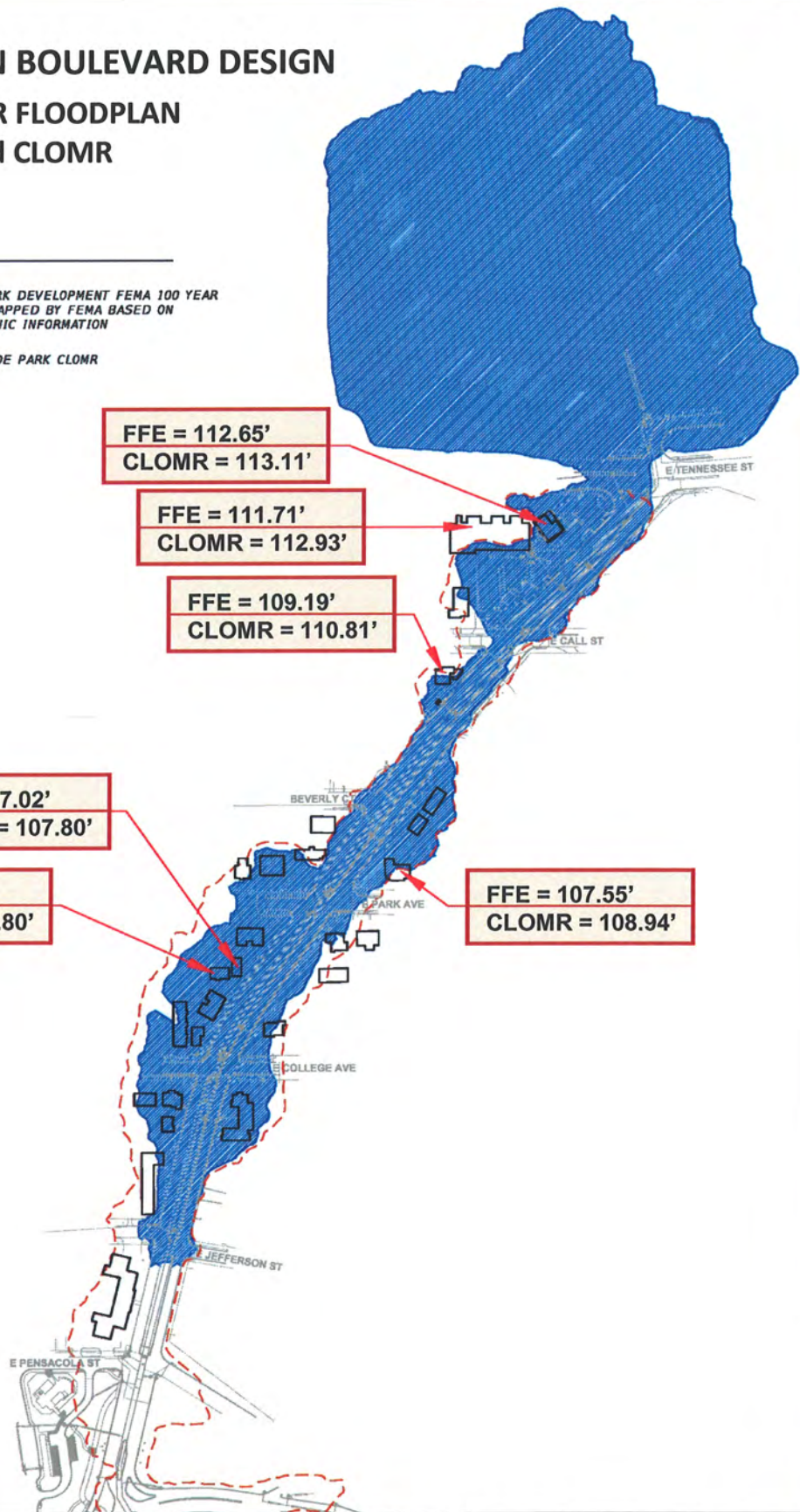
FFE = 111.71'
CLOMR = 112.93'

FFE = 109.19'
CLOMR = 110.81'

FFE = 107.02'
CLOMR = 107.80'

FFE = 106.76'
CLOMR = 107.80'

FFE = 107.55'
CLOMR = 108.94'



1
10/13/11

100 YEAR FLOODPLAIN
CAPITAL CASCADE PARK
APPROVED CLOMR

PREPARED FOR
BLUEPRINT 2006
CAPITAL CASCADE TRAIL
SEGMENT 1 - FRANKLIN BOULEVARD



GENESIS GROUP
FROM VISION TO REALITY
GGI, LLC dba GENESIS GROUP
2507 CALLAWAY ROAD, SUITE 100
TALLAHASSEE, FLORIDA 32303
(850) 224-4400 (850) 681-3600 FAX
FL CA 00009660
FL LB 0006816
FL LC 26000202

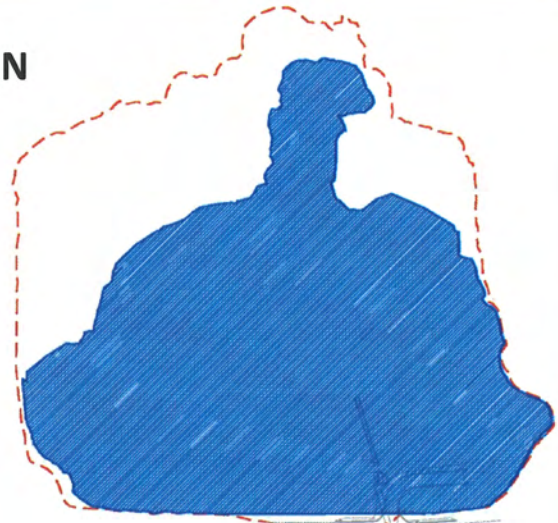


FRANKLIN BOULEVARD DESIGN

100 YEAR FLOODPLAN Temporary Condition

LEGEND

-  APPROVED CASCADE PARK CLOMR
-  TEMPORARY CONDITION



2
10/13/11

**100 YEAR FLOODPLAIN
FRANKLIN BOULEVARD
TEMPORARY CONDITION**

PREPARED FOR
BLUEPRINT 2000
1311 SUBCUTIVE CENTER DRIVE
TALLAHASSEE, FLORIDA 32301
(850) 891-1888 (850) 891-1889 FAX

**CAPITAL CASCADE TRAIL
SEGMENT 1 - FRANKLIN BOULEVARD**

GENESIS GROUP
FROM VISION TO REALITY

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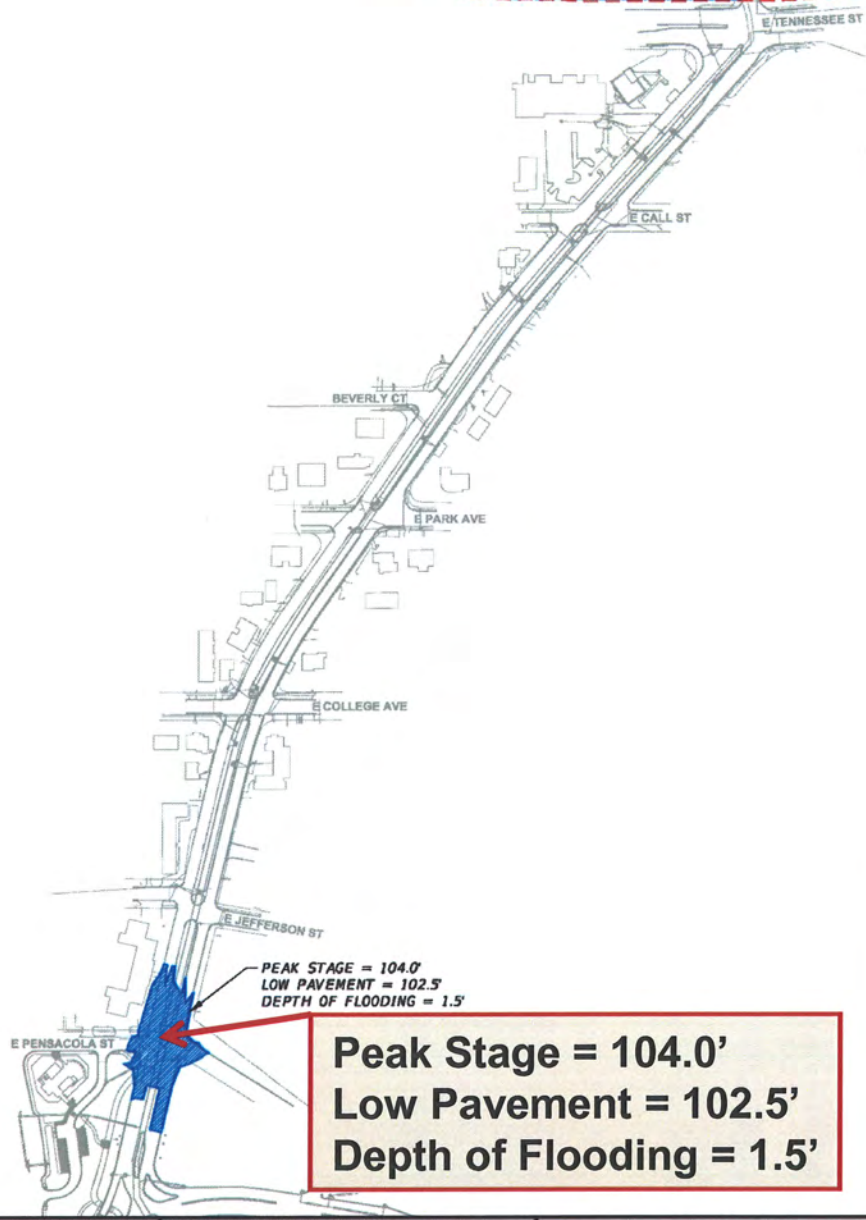
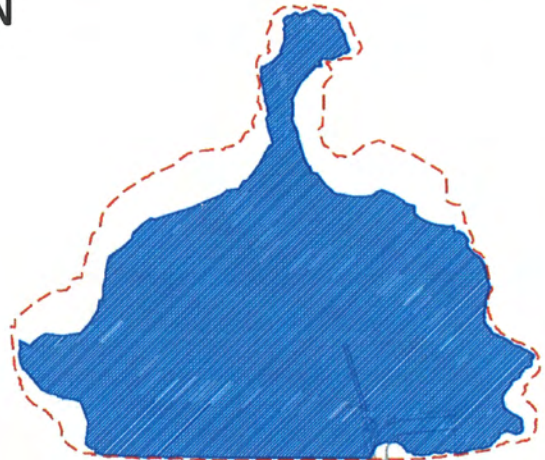


FRANKLIN BOULEVARD DESIGN

100 YEAR FLOODPLAN Permanent Condition

LEGEND

-  TEMPORARY CONDITION
-  PERMANENT CONDITION



Peak Stage = 104.0'
Low Pavement = 102.5'
Depth of Flooding = 1.5'

3
10/13/2011

**100 YEAR FLOODPLAIN
FRANKLIN BOULEVARD
PERMANENT CONDITION**

BLUEPRINT 2000
CAPITAL CASCADE TRAIL
SEGMENT 1 - FRANKLIN BOULEVARD

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**Capital Cascade Trail - Segment 1
Franklin Boulevard Drainage Improvements
Drainage Analysis
October 5, 2011**

**Temporary Condition Comparison with Cascades Park CLOMR
25-Year, 8-Hour Storm Event**

Node	Location	CLOMR	TEMPORARY CONDITION (Franklin CBC, No Supplemental Pipe, 7.5 sf LHS Orifice, 2.8x2.5 Boca Chuba Orifice, 12x7 BR3, Segment 3A Included)		PERMANENT CONDITION (Franklin CBC, No Supplemental Pipe, Existing 28 sf LHS Orifice, 5.0x2.5 Boca Chuba Orifice, Raised Third Stage Orifice, 12x7BR3, Segment 3A Included)	
		Elevation	Elevation	Δ CLOMR	Elevation	Δ CLOMR
		(ft, NAVD)	(ft, NAVD)	(ft)	(ft, NAVD)	(ft)
LH360.2	South end of paved channel north of Tennessee St.	113.76	112.69	-1.07	111.23	-2.53
LH360	Upstream of Tennessee St. at Terrace St.	112.96	107.96	-5.00	108.93	-4.03
E770			107.47		108.18	
E730			107.01		107.59	
E725			106.96		107.52	
S199			106.80		107.34	
	Under Tennessee St	112.69				
E670			101.83		102.94	
E660	Begin open ditch downstream of Tennessee St.	112.45	101.66	-10.79	102.80	-9.65
E630			101.62		102.77	
E610			101.60		102.75	
E580			101.48		102.66	
	Upstream of Call St.	112.40				
E550			101.11		102.38	
E520	Downstream of Call St.	111.06	101.02	-10.04	102.31	-8.75
E500			100.95		102.25	
E470	Between Call St. and Ped Bridge	110.52	100.64	-9.88	102.03	-8.49
	Upstream of Ped Bridge	109.93				
E450	Downstream of Ped Bridge	109.72	99.96	-9.77	101.60	-8.13
E420	Between Beverly Ct. and Park Ave.	109.55	99.74	-9.81	101.45	-8.10
E410			99.64		101.19	
E390	Upstream of Park Ave.	108.57	98.96	-9.60	100.74	-7.82
E350			98.86		100.73	
E320	Downstream of Park Ave.	107.92	98.84	-9.08	100.74	-7.18
E283			98.60		100.70	
E280	Upstream of College Ave.	107.15	98.53	-8.62	100.66	-6.49
E240			98.48		100.61	
E190	Downstream of College Ave.	107.04	98.44	-8.60	100.60	-6.44
E183			98.33		100.56	
E160	Upstream of Jefferson St.	106.03	98.21	-7.82	100.38	-5.65
E130	Downstream of Jefferson St.	104.65	98.16	-6.48	100.29	-4.35
E125	Upstream of Pensacola St.	98.92	98.01	-0.91	100.06	1.13
E050	Box Culvert Upstream of Pensacola St.	97.77	98.00	0.23	100.03	2.26
E070	Box Culvert Downstream of Pensacola St.	97.67	97.98	0.31	99.99	2.32
E010	Box Culvert Downstream of Pensacola St.	97.61	97.96	0.35	99.96	2.35
BP5	Box Culvert Upstream of Apalachee Parkway	97.38	97.88	0.49	99.83	2.45
BP6	Turn in Box Culvert under Apalachee Parkway	97.24	97.83	0.59	99.75	2.51
BP7	Box Culvert - Lafayettes St & Franklin Blvd	97.08	97.79	0.71	99.66	2.58
BP8	Turn in Box Culvert under Lafayette St.	96.96	97.75	0.80	99.58	2.62
BP9	Box Culvert at 6'x4' Box Connection under Lafayette St.	96.94	97.75	0.81	99.56	2.62
BP10	Box Culvert	96.90	97.72	0.82	99.52	2.61
BP11	Box Cuvert at Lafayette St. Connection	96.82	97.65	0.83	99.42	2.60
BP11A	Box Culvert at Parking Lot	96.74	97.58	0.84	99.33	2.59
BP12	Box Culvert at First Bypass	96.67	97.51	0.85	99.25	2.58
BP13	Bypass Box Culvert	96.30	97.24	0.94	98.66	2.35
BP14	Bypass Box Culvert	96.10	96.96	0.86	98.00	1.90
BP15	Bypass Box Culvert	95.94	96.52	0.58	97.42	1.48
BP16	Bypass Box Culvert	95.78	96.31	0.53	97.15	1.37
BP17	Bypass Box Culvert	95.50	95.94	0.44	96.75	1.25
BP18	Bypass Box Culvert	95.49	95.92	0.43	96.74	1.25
BP19	Bypass Box Culvert	95.16	95.25	0.09	96.02	0.86
BP20	Bypass Box Culvert	94.79	94.72	-0.07	95.35	0.57
BP21	Bypass Box Culvert	94.61	94.33	-0.29	94.72	0.10
BP22	Bypass Box Culvert	94.61	94.32	-0.29	94.70	0.09
BP22A	Bypass Box Culvert	94.61	94.32	-0.30	94.66	0.05
CPP	Smokey Hollow Pond (Upper Pond)	94.63	94.34	-0.30	94.61	-0.02
CP1	Downstream of Upper Pond	94.62	94.32	-0.30	94.59	-0.03
CP2	Between Upper Pond and Gaines Street Crossing	94.62	94.32	-0.30	94.59	-0.03
BR1	Upstream of Gaines St. Crossing	94.62	94.31	-0.30	94.59	-0.03
BR2	Downstream of Gaines St Crossing	94.62	94.31	-0.30	94.59	-0.03
CP3	Between Gaines St and Meridian Plaza	94.62	94.31	-0.30	94.59	-0.03
MM1	Upstream of Meridian Plaza	94.62	94.31	-0.30	94.59	-0.03
MM4	Downstream of Meridian Plaza	94.61	94.30	-0.31	94.57	-0.03
CP6	Between Meridian Plaza and Gadsden St.	94.61	94.30	-0.31	94.57	-0.03
BR3	Upstream of Gadsden St.	94.61	94.30	-0.31	94.57	-0.03
BR4	Downstream Gadsden St Crossing	94.61	94.30	-0.31	94.57	-0.04
CP7	Entrance to Boca Chuba Pond	94.61	94.29	-0.31	94.57	-0.04
BC1	Boca Chuba Pond	94.61	94.29	-0.31	94.57	-0.04
DBP1	Double Bypass Box	93.69	90.54	-3.15	91.15	-2.54
BC2	Down Stream of Pond and Bypass	83.86	83.79	-0.07	84.76	0.90
LH170.2	Upstream of railroad crossing	83.83	83.73	-0.09	84.73	0.90
LH170.1	Downstream of railroad crossing	83.81	83.71	-0.10	84.71	0.90
LH172.2	Entrance to box culvert south of railroad crossing	83.83	83.72	-0.11	84.73	0.90
LH172.3	Between S. Monroe St. and end of box culvert	83.27	82.92	-0.34	84.05	0.79
LH172.1	Between S. Monroe St. and end of box culvert	83.15	82.71	-0.45	83.83	0.68
LH172	Upstream of Monroe St. at box culvert transition	83.29	82.84	-0.46	83.59	0.29
LH170	Upstream end of S. Monroe St.	83.27	82.81	-0.46	83.56	0.28
LH164	In Monroe St. where pipe enters from south	82.32	81.65	-0.66	82.13	-0.18
LH162	In Monroe St. where pipe enters from north	82.66	82.07	-0.58	82.66	0.00
LH160	Downstream end of Monroe St. Crossing	82.28	81.60	-0.68	82.07	-0.20
LH150	Upstream end of Adams St. Crossing	81.87	81.20	-0.67	81.61	-0.26
LH144	In Adams St where pipe enters from south	81.42	81.08	-0.34	81.48	0.05
LH142	In Adams St adjacent to where pipe enters from south	81.13	81.08	-0.05	81.48	0.35

Node	Location	CLOMR	TEMPORARY CONDITION (Franklin CBC, No Supplemental Pipe, 7.5 sf LHS Orifice, 2.8x2.5 Boca Chuba Orifice, 12x7 BR3, Segment 3A Included)		PERMANENT CONDITION (Franklin CBC, No Supplemental Pipe, Existing 28 sf LHS Orifice, 5.0x2.5 Boca Chuba Orifice, Raised Third Stage Orifice, 12x7BR3, Segment 3A Included)	
		Elevation	Elevation	Δ CLOMR	Elevation	Δ CLOMR
		(ft, NAVD)	(ft, NAVD)	(ft)	(ft, NAVD)	(ft)
LH140	Downstream end of Adams St. Crossing	80.40	81.07	0.68	81.47	1.07
LH130	Upstream end of Martin Luther King Jr. Blvd crossing	78.37	79.38	1.01	79.72	1.35
LH120	Downstream end of Martin Luther King Jr. Blvd crossing	77.71	78.61	0.91	78.94	1.24
LH110	Northeast of Hyman Myers Dr. and Famu Way Intersection	76.38	77.16	0.78	77.34	0.97
LH100.1	Upstream end of Hyman Myers Dr. crossing	75.82	76.59	0.77	76.77	0.95
LH100	Downstream end of Hyman Myers Dr. crossing	75.07	75.72	0.65	75.87	0.80
LH095	Between Hyman Myers Dr. and Railroad Ave.	74.50	75.15	0.65	75.30	0.80
LH090	Upstream end of Railroad Ave. crossing (Wahnish Ave.)	73.73	74.39	0.66	74.54	0.82
LH080	Downstream end of Railroad Ave. crossing	73.66	74.31	0.64	74.45	0.79
LH080.2	South of McDonnel Dr.	71.18	71.76	0.58	71.90	0.72
LH080.1	South of McDonnel Dr., east of Conklin St.	70.75	71.30	0.55	71.43	0.68
LH070	South of McDonnel Dr., west of Conklin St.	69.66	70.16	0.50	70.29	0.63
LH060	South of McDonnel Dr., east of Pinellas St.	69.45	69.94	0.49	70.07	0.61
LH050	Upstream end of Cleveland St. crossing	67.37	67.57	0.20	67.67	0.29
LH040	Downstream end of Cleveland St. crossing	66.86	66.83	-0.03	66.89	0.03
LH030	North of Eugenia St. and Disston St. intersection	65.83	64.92	-0.91	65.08	-0.76
LH020	Northwest of Eugenia St. and Disston St. intersection	65.76	64.90	-0.86	65.03	-0.72

Capital Cascade Trail - Segment 1
Franklin Boulevard Drainage Improvements
Drainage Analysis
October 4, 2011

Temporary Condition Comparison with SAB LOMR and Cascades Park CLOMR
100-Year, 8-Hour Storm Event

Node	Location	LOMR	CLOMR	TEMPORARY CONDITION (Franklin CBC, No Supplemental Pipe, 7.5 sf LHS Orifice, 2.8x2.5 Boca Chuba Orifice, 12x7 BR3, Segment 3A Included)			PERMANENT CONDITION (Franklin CBC, No Supplemental Pipe, Existing 28 sf LHS Orifice, 5.0x2.5 Boca Chuba Orifice, Raised Third Stage Orifice, 12x7BR3, Segment 3A Included)		
		Elevation	Elevation	Elevation	Δ LOMR	Δ CLOMR	Elevation	Δ LOMR	Δ CLOMR
		(ft, NAVD)	(ft, NAVD)	(ft, NAVD)	(ft)	(ft)	(ft, NAVD)	(ft)	(ft)
LH360.2	South end of paved channel north of Tennessee St.	114.57	114.61	113.74	-0.83	-0.87	112.55	-2.02	-2.06
LH360	Upstream of Tennessee St. at Terrace St.	113.63	113.73	108.55	-5.08	-5.18	110.02	-3.60	-3.71
E770				108.17			109.50		
E730				107.86			109.14		
E725				107.82			109.09		
S199				107.73			108.98		
E670	Under Tennessee St	113.29	113.41	105.65			107.12		
E660	Begin open ditch downstream of Tennessee St.	112.96	113.08	105.56	-7.41	-7.53	106.98	-5.98	-6.10
E630				105.52			106.93		
E610				105.50			106.91		
E580				105.44			106.82		
E550	Upstream of Call St.	112.92	113.05	105.25			106.53		
E520	Downstream of Call St.	111.33	111.31	105.20	-6.13	-6.11	106.48	-4.85	-4.84
E500				105.17			106.43		
E470	Between Call St. and Ped Bridge	110.77	110.76	105.03	-5.75	-5.73	106.22	-4.55	-4.53
E450	Upstream of Ped Bridge	110.18	110.16	104.75			105.85		
E420	Downstream of Ped Bridge	109.98	109.96	104.75	-5.23	-5.21	105.85	-4.12	-4.11
E410	Between Beverly Ct. and Park Ave.		109.77	104.67		-5.11	105.75		-4.02
E390	Upstream of Park Ave.	108.76	108.73	104.39	-4.36	-4.34	105.42	-3.33	-3.31
E350				104.35			105.38		
E320	Downstream of Park Ave.	108.08	108.04	104.34	-3.75	-3.70	105.35	-2.73	-2.69
E283				104.05			105.02		
E280	Upstream of College Ave.	107.70	107.49	103.97	-3.73	-3.52	104.94	-2.77	-2.56
E240				103.93			104.89		
E190	Downstream of College Ave.	107.64	107.41	103.90	-3.74	-3.51	104.86	-2.78	-2.55
E183				103.80			104.77		
E160	Upstream of Jefferson St.	107.19	106.82	103.47	-3.73	-3.36	104.42	-2.77	-2.40
E130	Downstream of Jefferson St.	106.88	105.95	103.38	-3.49	-2.56	104.34	-2.54	-1.61
E125	Upstream of Pensacola St.	106.30	101.59	103.11	-3.20	1.52	104.04	-2.27	2.45
E050	Box Culvert Upstream of Pensacola St.	106.30	102.64	103.09	-3.22	0.45	104.04	-2.27	1.40
E070	Box Culvert Downstream of Pensacola St.	106.28	102.51	103.04	-3.24	0.53	103.99	-2.29	1.48
E010	Box Culvert Downstream of Pensacola St.	106.28	102.45	103.01	-3.27	0.56	103.96	-2.32	1.51
BP5	Box Culvert Upstream of Apalachee Parkway	104.98	102.19	102.86	-2.12	0.67	103.79	-1.19	1.60
BP6	Turn in Box Culvert under Apalachee Parkway	104.10	102.03	102.78	-1.32	0.74	103.69	-0.41	1.65
BP7	Box Culvert - Lafayettes St & Franklin Blvd	103.30	101.86	102.70	-0.60	0.84	103.59	0.29	1.73
BP8	Turn in Box Culvert under Lafayette St.	102.61	101.73	102.63	0.02	0.89	103.50	0.89	1.77
BP9	Box Culvert at 6'x4' Box Connection under Lafayette St.	102.49	101.71	102.62	0.13	0.90	103.49	1.01	1.78
BP10	Box Culvert	102.31	101.67	102.57	0.27	0.91	103.45	1.14	1.78
BP11	Box Culvert at Lafayette St. Connection	101.90	101.58	102.49	0.59	0.91	103.35	1.45	1.78
BP11A	Box Culvert at Parking Lot	101.77	101.48	102.38	0.61	0.90	103.23	1.47	1.75
BP12	Box Culvert at First Bypass	101.65	101.39	102.29	0.64	0.89	103.13	1.48	1.74
BP13	Bypass Box Culvert		100.81	101.64		0.83	102.42		1.61
BP14	Bypass Box Culvert		100.17	100.94		0.77	101.64		1.47
BP15	Bypass Box Culvert		99.61	100.31		0.69	100.95		1.34
BP16	Bypass Box Culvert		99.34	100.00		0.65	100.61		1.27
BP17	Bypass Box Culvert		98.88	99.46		0.58	100.04		1.16
BP18	Bypass Box Culvert		98.86	99.44		0.58	100.01		1.15
BP19	Bypass Box Culvert		98.11	98.39		0.28	98.96		0.85
BP20	Bypass Box Culvert		97.26	97.56		0.30	98.05		0.79
BP21	Bypass Box Culvert		96.91	96.77		-0.14	97.22		0.31
BP22	Bypass Box Culvert		96.90	96.73		-0.17	97.17		0.27
BP22A	Bypass Box Culvert		96.84	96.62		-0.22	97.03		0.19
CPP	Smokey Hollow Pond (Upper Pond)	100.05	96.50	96.41	-3.65	-0.10	96.68	-3.37	0.18
CP1	Downstream of Upper Pond	99.40	96.49	96.39	-3.02	-0.10	96.66	-2.75	0.17
CP2	Between Upper Pond and Gaines Street Crossing	98.67	96.48	96.39	-2.28	-0.10	96.66	-2.01	0.17
BR1	Upstream of Gaines St. Crossing	98.13	96.48	96.39	-1.74	-0.10	96.66	-1.47	0.17
BR2	Downstream of Gaines St Crossing	98.64	96.48	96.39	-2.25	-0.10	96.66	-1.98	0.17
CP3	Between Gaines St and Meridian Plaza	97.58	96.48	96.39	-1.20	-0.09	96.66	-0.93	0.18
MM1	Upstream of Meridian Plaza	97.10	96.48	96.38	-0.71	-0.09	96.66	-0.44	0.18
MM4	Downstream of Meridian Plaza	95.29	96.47	96.38	1.09	-0.09	96.65	1.36	0.18
CP6	Between Meridian Plaza and Gadsden St.	95.24	96.47	96.38	1.14	-0.09	96.65	1.41	0.18
BR3	Upstream of Gadsden St.	94.34	96.47	96.38	2.04	-0.09	96.65	2.31	0.18
BR4	Downstream Gadsden St Crossing	92.79	96.47	96.38	3.59	-0.09	96.64	3.85	0.18
CP7	Entrance to Boca Chuba Pond	91.79	96.47	96.37	4.58	-0.09	96.64	4.85	0.18
BC1	Boca Chuba Pond	90.87	96.47	96.37	5.50	-0.09	96.64	5.77	0.18
DBP1	Double Bypass Box		96.05	93.23		-2.82	93.83		-2.22
BC2	Down Stream of Pond and Bypass	90.55	86.87	87.06	-3.49	0.19	87.90	-2.65	1.04
LH170.2	Upstream of railroad crossing	90.52	86.86	87.04	-3.48	0.18	87.90	-2.63	1.04
LH170.1	Downstream of railroad crossing	88.91	86.86	87.04	-1.88	0.18	87.89	-1.02	1.03
LH172.2	Entrance to box culvert south of railroad crossing	88.85	86.87	87.06	-1.79	0.19	87.90	-0.95	1.04
LH172.3	Between S. Monroe St. and end of box culvert	87.62	85.98	85.89	-1.73	-0.09	86.57	-1.05	0.59
LH172.1	Between S. Monroe St. and end of box culvert	87.58	85.92	85.83	-1.76	-0.10	86.57	-1.02	0.64
LH172	Upstream of Monroe St. at box culvert transition	87.12	85.55	85.36	-1.76	-0.19	86.05	-1.06	0.50
LH170	Upstream end of S. Monroe St.	87.07	85.52	85.32	-1.75	-0.20	86.01	-1.06	0.49
LH164	In Monroe St. where pipe enters from south	84.97	83.88	83.24	-1.73	-0.64	83.72	-1.25	-0.16
LH162	In Monroe St. where pipe enters from north	85.72	84.49	84.01	-1.71	-0.48	84.57	-1.15	0.08
LH160	Downstream end of Monroe St. Crossing	84.83	83.81	83.15	-1.68	-0.66	83.63	-1.20	-0.19
LH150	Upstream end of Adams St. Crossing	84.48	83.43	82.52	-1.97	-0.92	82.94	-1.55	-0.50
LH144	In Adams St where pipe enters from south	83.35	82.61	82.33	-1.02	-0.27	82.74	-0.61	0.13
LH142	In Adams St adjacent to where pipe enters from south	83.05	82.30	82.34	-0.71	0.03	82.74	-0.30	0.44
LH140	Downstream end of Adams St. Crossing	81.61	81.17	82.32	0.71	1.15	82.73	1.11	1.55
LH130	Upstream end of Martin Luther King Jr. Blvd crossing	79.98	79.29	80.55	0.57	1.26	80.89	0.92	1.61
LH120	Downstream end of Martin Luther King Jr. Blvd crossing	79.20	78.56	79.79	0.59	1.23	80.09	0.88	1.53
LH110	Northeast of Hyman Myers Dr. and Famu Way Intersection	77.51	77.21	77.68	0.17	0.47	77.79	0.27	0.58

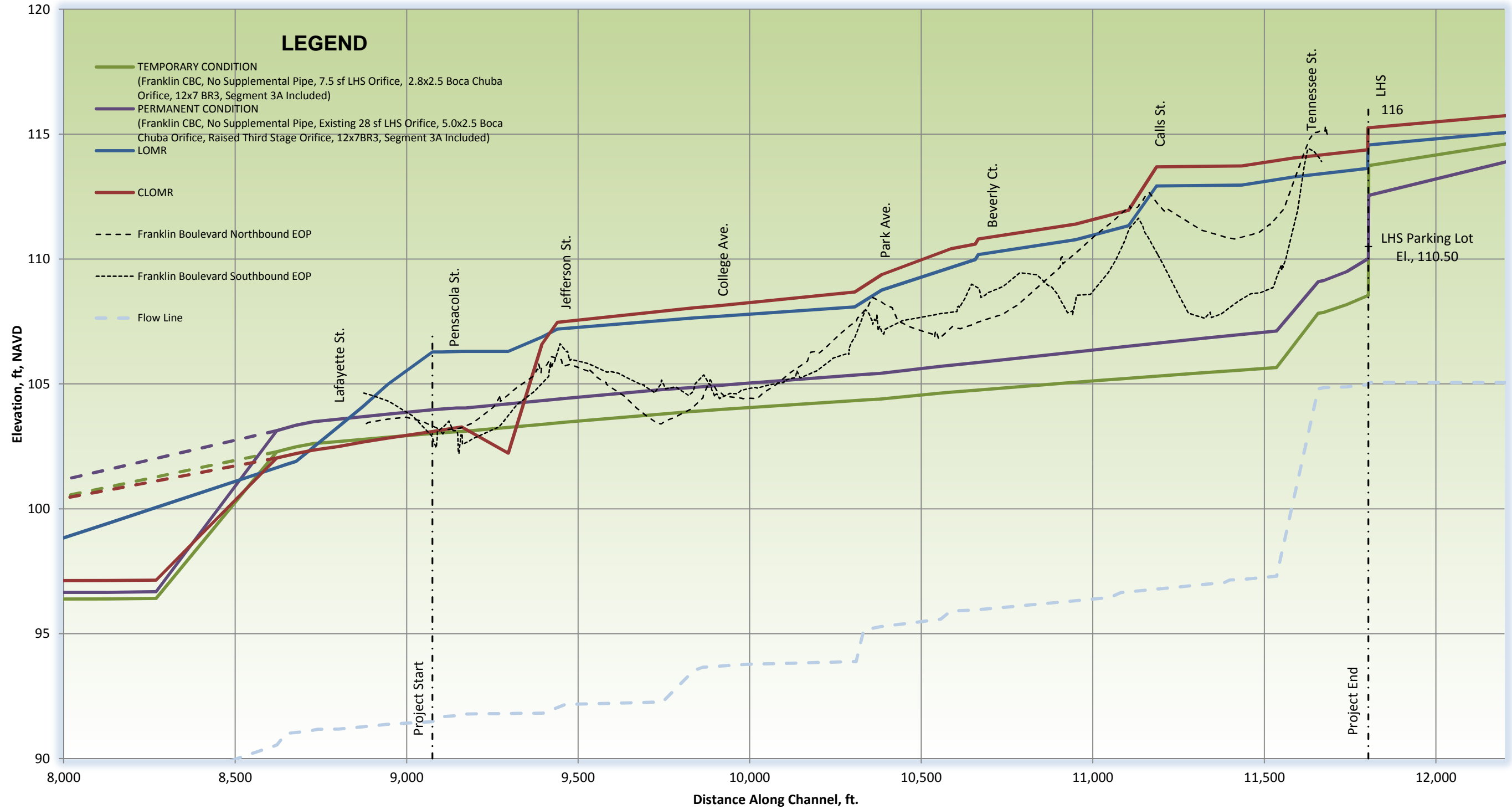
Node	Location	LOMR	CLOMR	TEMPORARY CONDITION (Franklin CBC, No Supplemental Pipe, 7.5 sf LHS Orifice, 2.8x2.5 Boca Chuba Orifice, 12x7 BR3, Segment 3A Included)			PERMANENT CONDITION (Franklin CBC, No Supplemental Pipe, Existing 28 sf LHS Orifice, 5.0x2.5 Boca Chuba Orifice, Raised Third Stage Orifice, 12x7BR3, Segment 3A Included)		
		Elevation	Elevation	Elevation	Δ LOMR	Δ CLOMR	Elevation	Δ LOMR	Δ CLOMR
		(ft, NAVD)	(ft, NAVD)	(ft, NAVD)	(ft)	(ft)	(ft, NAVD)	(ft)	(ft)
LH100.1	Upstream end of Hyman Myers Dr. crossing	76.94	76.64	77.10	0.16	0.47	77.21	0.27	0.57
LH100	Downstream end of Hyman Myers Dr. crossing	76.02	75.77	76.17	0.15	0.40	76.26	0.23	0.49
LH095	Between Hyman Myers Dr. and Railroad Ave.	75.46	75.20	75.60	0.14	0.40	75.69	0.23	0.49
LH090	Upstream end of Railroad Ave. crossing (Wahnish Ave.)	74.72	74.45	74.86	0.15	0.41	74.95	0.24	0.50
LH080	Downstream end of Railroad Ave. crossing	74.62	74.36	74.77	0.14	0.40	74.85	0.23	0.49
LH080.2	South of McDonnel Dr.	72.16	71.91	72.31	0.15	0.41	72.37	0.21	0.46
LH080.1	South of McDonnel Dr., east of Conklin St.	71.70	71.46	71.83	0.14	0.38	71.88	0.18	0.43
LH070	South of McDonnel Dr., west of Conklin St.	70.62	70.38	70.75	0.13	0.37	70.80	0.17	0.42
LH060	South of McDonnel Dr., east of Pinellas St.	70.41	70.17	70.54	0.13	0.37	70.58	0.17	0.41
LH050	Upstream end of Cleveland St. crossing	68.27	68.06	68.35	0.08	0.30	68.38	0.11	0.33
LH040	Downstream end of Cleveland St. crossing	67.58	67.34	67.58	0.00	0.24	67.62	0.03	0.27
LH030	North of Eugenia St. and Disston St. intersection	66.45	66.15	66.40	-0.05	0.25	66.43	-0.02	0.29
LH020	Northwest of Eugenia St. and Disston St. intersection	66.21	66.03	66.25	0.05	0.22	66.28	0.08	0.25

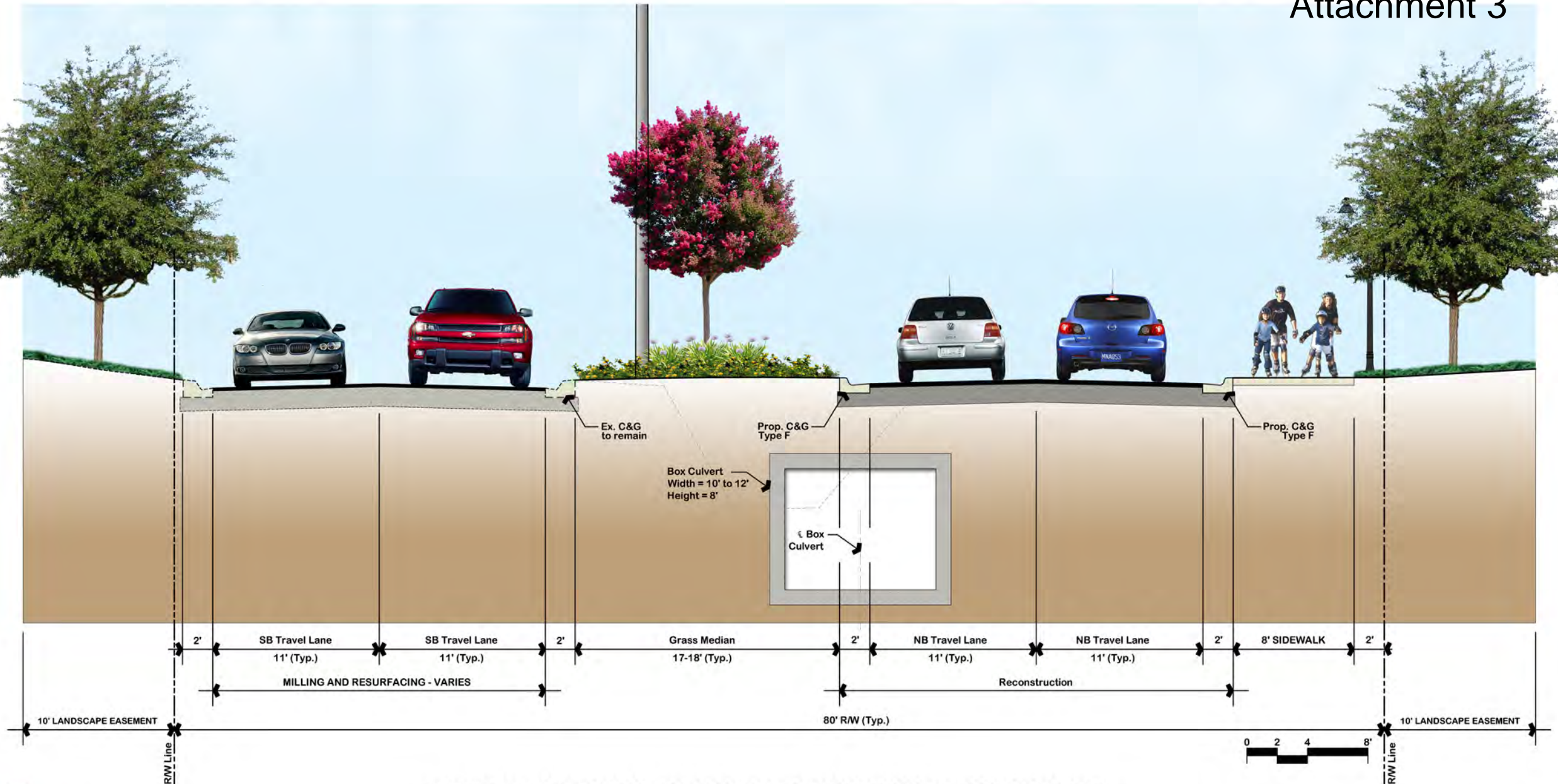
Capital Cascade Trail - Segment 1

Franklin Boulevard Drainage Improvements

HGL Comparison of the Temporary Condition with SAB LOMR and Cascades Park CLOMR

100-Year, 8-Hour Storm Event



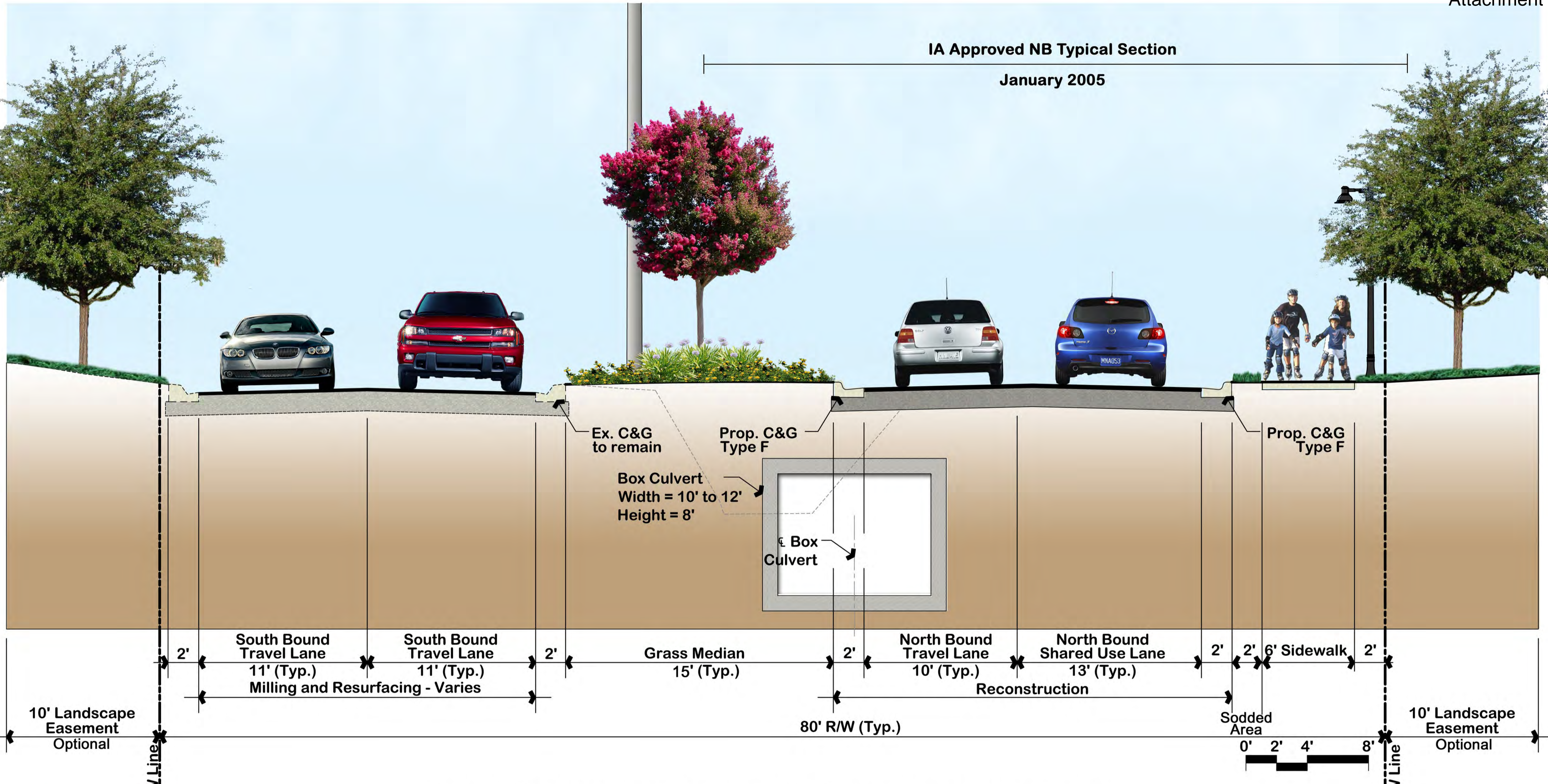


FRANKLIN BOULEVARD ROADWAY IMPROVEMENTS
PHASE 1: OPTION A - TYPICAL SECTION



IA Approved NB Typical Section

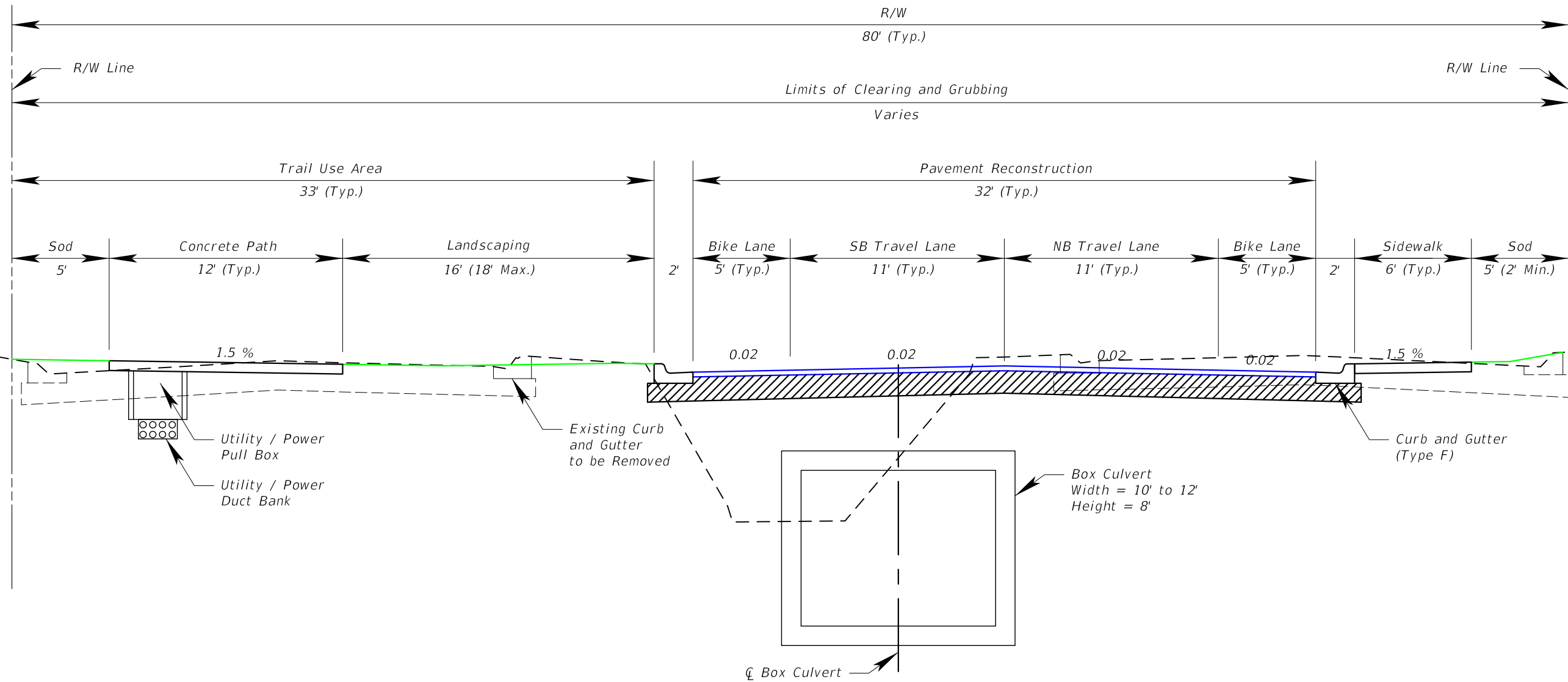
January 2005



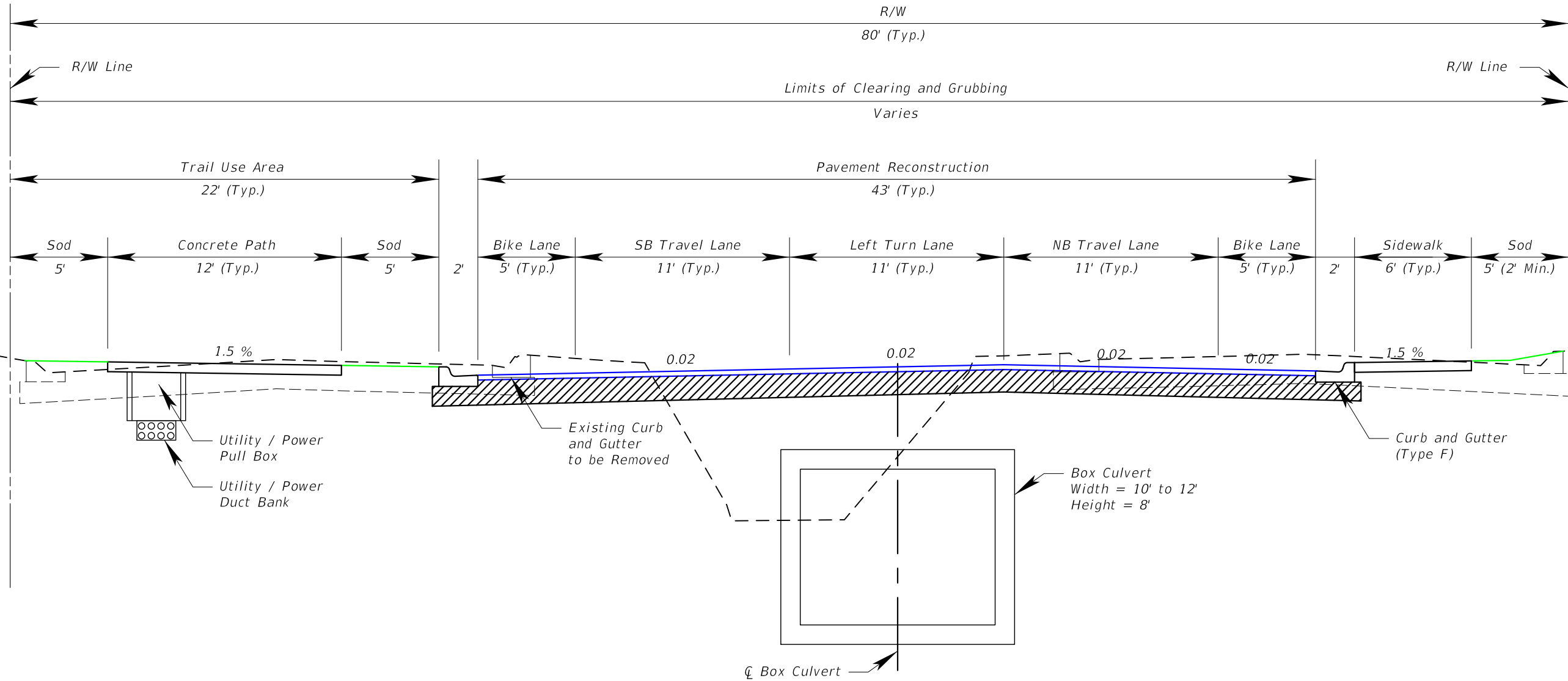
FRANKLIN BOULEVARD ROADWAY IMPROVEMENTS

PHASE 2: TYPICAL SECTION

Attachment 5



SURVEY FRANKLIN BOULEVARD
 STA. 233+50.00 TO STA. 258+50.00



SURVEY FRANKLIN BOULEVARD
 STA. 233+50.00 TO STA. 258+50.00